

Thredbo 17

Sunday 4 to Thursday 8 September 2022

Key Policy and Research Recommendations

from the 17th iteration of the International Conference Series on Competition and Ownership in Land Passenger Transport (the Thredbo Series)



Table of Contents

Conference Workshop Themes 2

Summary of Recommendations 3

Workshop One..... 4

Workshop Two 6

Workshop Three 10

Workshop Four..... 12

Workshop Five 13

Workshop Six..... 10

Workshop Seven 10

Conference Workshop Themes

The 17th International Conference on Competition and Ownership in Land Passenger Transport (the Thredbo Series) was held in Sydney, Australia in September 2022. The conference followed in the footsteps of previous conferences by bringing together academics, government officials, consultants, policy makers, politicians, students and public transport operators to review trends in ownership and competition issues in public transport.

Workshop 1	Regulatory regimes: national and comparative regulation of public transport
Workshop 2	Contracting and concessions: governance of the relationship between authorities and operators (split into 2a and 2b)
Workshop 3	Infrastructure, services and urban development
Workshop 4	Optimising the impact of technological innovation on achieving sustainable public transport outcomes
Workshop 5	New service models: Governing emerging mobility services
Workshop 6	Micromobility movement in urban transport
Workshop 7	Sustainable transport systems designed to meet the needs of both users and residents

The papers and workshops had a strong emphasis on policy and lessons that can be learnt from international experiences. Below is an overview of each workshop as well as policy and future research recommendations that warrant further discussion and investigation and which will be of interest to industry professionals, operators, regulators and academics.

Summary of Recommendations

1. All the main stakeholders need to be genuinely involved in the design of tender (or other selection) processes and of service contracts.
2. There is scope for a Centre of Excellence in Public Transport Regulation and there is a continued requirement for the documentation of both good and bad practices.
3. An optimal planning of contracts would need to clearly distinguish between commitments stated in policy documents as quantifiable performance indicators and broad declarations of goals with non-quantifiable policy priorities.
4. Barriers to participation in competitive tendering need to be lowered. Processes need to be streamlined, more intuitive and avoid unnecessary burdens on bidders.
5. Trust in the processes of competitive tendering needs to be strengthened, with more scrutiny of outcomes.
6. Greater attention must be paid to how innovation is dealt with in tendering processes and in contracts. The openness, flexibility and management of risk required for innovation do not sit well with standard public procurement and the associated contracts.
7. Processes and decisions associated with contracting should be evidence-based, using evidence that is relevant to the context.
8. Policymakers should dare to set more aggressive growth targets for active transport and public transport.
9. Policymakers should encourage integrated transport and land use plans, rather than separate plans, particularly given developments in active mobility and electrifying the transport system.
10. When planning and implementing new systems, the focus should be on desired outcomes at the community level. This requires encouragement to work with inclusive institutional design.
11. A pressing need is to ensure that there is sufficient public transport capacity in the “current normal”.
12. Encourage greater sharing of data, information, best practice in sustainable mobility
13. More infrastructure type measures need to be developed as part of transport policies as a way to encourage and integrate micromobility, soft measures need to be set up in educational and enforcement structures to continuously raise awareness, increase skills and encourage beneficial and equitable adoption of micromobility.
14. Ensure a clearer definition of objectives for sustainable and resilient transport systems designed to meet the needs of both users and residents – set out what a measure is trying to achieve.
15. Improve data and evidence on user needs to inform policy and measure outcomes.
16. Ensure a wider range of stakeholder involvement in decision making. Advocate for public-private-people collaborations when developing, implementing, and evaluating policies for mobility service systems
17. Focus on how modes contribute to seamless end to end journeys, including first/last mile, rather than independent consideration of each mode.
18. Promote innovation to improve societal outcomes - achieve transport system efficiency whilst improving accessibility, support decision making to enable choice.
19. Importance of using pricing as part of the allocation model, using price as a signal including fare discounts and road user charging to ensure consistent pricing across modes whilst maintaining affordability to achieve mobility targets.
20. Encourage greater sharing of data, information, best practice in sustainable mobility

1. Regulatory regimes: national and comparative regulation of public transport

Overview

This workshop considered whether there was a need for a fourth way (or ways) to organise and regulate public transport to complement the three existing models of classic regulation, deregulation and limited competition. This was particularly viewed from the perspective of what constitutes a good (public) transport authority.



Policy Recommendations

- A good transport authority should have a clear vision and be experienced (or have the ability to acquire experience), well resourced, decisive and consistent. They should avoid silo mentalities, have good corporate memory and be flexible in the face of disruption. The sense was that the perfect authority was out there somewhere but had yet to be found.
- However, it is also unlikely that the solution would involve just one body. Some regulatory activities could be undertaken by an independent agency and there was discussion of the role of IPART in New South Wales and of what is currently the Office of Rail and Road (ORR) in Great Britain.
- There should be stakeholder involvement at the strategic planning and the tactical contract design stages. This could include associations of authorities, operators and citizens, either separately or jointly. The importance of co-creation between stakeholders and the principles of inclusive design were stressed.
- There were perceived to be potential benefits of (controlled) in-the-market competition, yardstick competition (possibly in combination with negotiated contracts) and mixed regimes of various hues. There was believed to be scope for continued experimentation as regulatory cycles evolve.

- There was a recognition that success requires trust between politicians, transport authority officers and operators through clear mandates, common interests and appropriate investments of time.
- There remains scope for a Centre of Excellence in Public Transport regulation and there is a continued requirement for the documentation of both good and bad practices.

Future Research Recommendations

- The need for a clarification of distinctions between tendering and franchising (and their efficacy). Evidence from the evolving regulatory systems in Great Britain and elsewhere should be informative.
- The taxonomies of competition that have been reviewed should be extended (for example by studying competition in both capital and product markets as in Hartley et al., 1991). They should also be tested in other contexts, such as the deregulation of express coaches.
- The impacts of infrastructure provision and access charging on outcomes should be further studied and where appropriate incorporated into the taxonomies above.
- There is believed to be a need for assessments (both qualitative and quantitative) of the relative performance of transport authorities and public transport authorities, both with and without Independent Regulators.
- For a given institutional design, the 'optimal' allocation of STO activities between public authorities, private operators and intermediaries need to be determined. Appropriate pathways for evolution over time need to be established.
- There needs to be a consideration of the extent that the STO framework links to realist evaluation of policy objectives, inputs, processes, outputs, outcomes and impacts, building on the work of Pawson and Tilley (1997).
- There is also scope for an assessment of the levels of trust engendered by different delivery models (such as competitive tenders and negotiated contracts) and how that varies with notions of institutional maturity.
- There should be consideration of the relationships between levels of regulations and levels of disruption and the impacts on innovation.
- Lastly, it is recommended that the theory of public value should be developed and applied to public transport, building on the work of Mark H. Moore (Moore, 1995).

2. Contracting and concessions: governance of the relationship between authorities and operators

Overview

A key focus for 2a was the interaction between authorities, operators and other corporate actors involved in public transport, with particular reference to how long-established contracting practices are surviving. Workshop 2b focused on one of the traditional topics in the conference series, contracting public transport services. In-depth discussions concentrated on a better contracting framework for informal sectors and on improving stakeholder relationships.



Policy Recommendations – 2a

Policymakers are recommended to clearly distinguish (and adapt policies) between risks under legally binding agreements and genuinely unforeseen contingencies in incomplete contracts. Risks may be expressed as probabilities (with an attached calculated cost) and can be shared and put in a contract (as long as they are not too costly). Uncertainties may instead have to be treated outside the contract. Optimal governance in public transport rests on three self-enforcing pillars to deal with risks and uncertainty: strategic, tactical and operational.

At the strategic level, public transport policies are exposed to risks and uncertainties coming from the higher government levels. An optimal transport planning would need to clearly distinguish between, on the one hand, commitments stated in policy documents as quantifiable performance indicators, and on the other hand, broad declarations of goals with non-quantifiable policy priorities. For instance, forward guidance in monetary policy with respect to long-term interest rates can help extend the planning horizon and better calculate future cost of capital for public transport market players. In turn, government guarantees may decrease the weighted-average cost of capital for private-public partnerships, but this is associated with the opportunity cost of raising public funds. Hence, long-term fiscal projections and early announcements about changes in taxation and/or subsidisation would play an important coordinating role for the parties and manage the risks more effectively. New technologies, especially immature or zero-emission, may create additional risks in contracting, that may be reflected in higher cost of service. However, a politically driven speed of transition to ZEB, for instance, and other external technical requirements may create uncertainty that requires more flexible multi-sector collaboration at the tactical level.

It's important to note here, that coordinating effects can be achieved indirectly if the actors become aware of major green agenda statements, land use planning, real estate market developments, work-from-home popularity, etc. When the goals declaration of politicians is reinforced by strong statements of public officials, different actors' strategies may be indirectly coordinated and become more congruent leading to lower level of uncertainty in transport policy planning.

When government officials credibly commit to some numerical indicators, risk assessment becomes an integral part of public transport policy evaluation. At the tactical level, optimal governance then ensures legally binding risk allocation principles, which are well understood and equally interpreted by the parties. Structural and organisational choices should represent the agreed outcome of ex ante collaboration between the PTA and the operators. If the existing legal framework doesn't provide much room for flexible contractual arrangement, collaboration itself is put at risk. In this case, interorganisational relationships may be converted into intraorganisational interaction via hybrid organisational arrangements including holding companies, vertical partnerships, mixed delivery models etc.

In hybrid organisational arrangements, a particular risk allocation is related to the market and ownership structure of public transport. However, when major external shocks happen, all the ex-ante optimal solutions - vertical integration (including Supply Chain Partnership Contracts), holding company (with stronger coordination between infrastructure and operation units), mixed delivery model (with public and private operators serving a regulated market) – would require ex post collaboration between the PTA, the operators, and other involved players.

At the operational level, public transport governance solutions are implemented through formal contracts as legally binding agreements where incentives to innovate (in terms of cost-reduction, quality-improvement, new services etc.) are well rewarded. For example, flexible governance may take the form of a gross-cost contract which is scheduled to be reviewed at some point and then directly awarded as a more incentive based net-cost contract.

In a very uncertain environment, even detailed contracts turn out to be incomplete and naturally result in closer cooperation between the parties and contract amendment. In some cases, monetary compensations of operators' losses due to unforeseen contingencies may preserve the contract obligations by the parties. Yet, ex post negotiations regarding substantial change of the terms of contract appear to be still a cheaper alternative to CT, if renegotiations take place in a cooperative environment.

Policy Recommendations – 2b

- All the main stakeholders need to be genuinely involved in the design of tender (or other selection) processes and of service contracts. This especially includes potential operators who are expected to price, bid, fulfil contracts and carry risk; and representatives of labour, who may be impacted by transition and then over the contract life. Genuine stakeholder involvement at the upstream stages can help to shape the purpose of the contract, discuss the potential outcomes and consequences, build trust and avoid unintended or adverse impacts.
- Barriers to participation in competitive tendering need to be lowered. Traditional procurement processes tend to be expensive and time-consuming, and often not friendly for participants. Processes need to be streamlined, more intuitive and avoid unnecessary burdens on bidders. Trust in the processes needs to be strengthened, with more scrutiny of outcomes. Some potential bidders will decline to participate if they feel the process works against them, especially if it is costly to prepare a bid (the issue is not about whether processes are unfair, it is about how potential bidders feel about it). Contracts need to be perceived as just, with fair balance between the parties. In particular, contracting authorities need to avoid exploiting asymmetry of position to push excessive requirements, costs, risk or financial arrangements onto operators faced with the choice of accepting these or exiting the market.

- Greater attention must be paid to how innovation is dealt with in tendering processes and in contracts. As already noted above in the papers and the discussion, the openness, flexibility and management of risk required for innovation do not sit well with standard public procurement and the associated contracts. In addition to dealing with flexibility and risk, there needs to be more scope for adjustment and renegotiation if/as required. This may be in light of actual experience with innovation required at the outset, or of opportunities for innovation that emerge over the contract. Ultimately, contracts should facilitate innovation, not hinder it even where both parties are agreed on it. A further consideration is that operators who take on the risk and cost of innovation – especially when encouraged to do so by political or authority sentiment – should not find themselves in a position where sentiment moves on, and they are left with expensive assets or practices which are no longer desired or even accepted by those who encouraged them in the first place.
- The core policy objective must always be to grow the public transport usage. Social objectives need to be balanced with this core policy objective. This can be discussed from different perspectives, such as fare strategies, and social obligation.
- Value for money needs to be achieved in ways that are fair and equitable. Like other research fields, quality data is always the foundation for solid research outcomes and thus policy recommendation.
- Processes and decisions should be evidence-based, using evidence that is relevant to the context. Make data available to enable the development of evidence.

Future Research Recommendations – 2a

- There is a need to provide insights from dynamic contracting theory to capture the basic stylised facts of the bus and rail industries: permanent vs temporary shocks, revealed information via better collaboration, benchmarking, negotiation, and the demand for flexibility of arrangements.
- Exploring the barriers to good collaboration can provide more specific policy recommendations on this topic. More analysis and comparisons of strategies and practices used by different PTAs (for example in electrification and bus requirements), in otherwise similar settings, would also be very useful.
- Using quantitative analysis in intraorganisational studies of railway systems, including coordination performance variables, would improve our understanding even further about the merits of different organisational forms, including intermediaries.

Future Research Recommendations – 2b

- Mechanisms are needed for exchange of knowledge and of existing research across regions, across settings and across disciplines. There is a sense that researchers have limited awareness of developments in settings different to their own, or of concepts and methods in fields other than transportation that could actually provide new approaches and proven methods. Likewise, authorities and practitioners are often unaware of developments in other regions;
- Specific issues have been identified needing better understanding in stakeholder relationships in contracting/concessions. This research needs to be based upon the practical experiences of the stakeholders, with particular emphasis on the practitioners on either side of the tender and contracting processes;
 - Management and governance of relationships among stakeholders, and how to assure that intended outcomes of tender/contract processes are achieved. This includes the issue of “who regulates the regulator” and bidder confidence in processes;
 - Working relationships across the contracting authority and the contractor, the actual levels of trust among parties, and means of establishing and maintaining trust;
 - Guidance, training and capacity-building, primarily for those on the contracting authority who design, mobilise, evaluate and administer tenders and contracts;

- Assessment of the social outcomes of contracted/concessioned services, with particular attention to:
 - Impacts on various stakeholders, societal groups and labour within the sector;
 - What constitutes value for money, to whom does such value accrue, and is it equitable across the stakeholders (a particular issue is whether government and/or operators achieve savings at the expense of the public or of labour);
 - Assess accessibility and equity in geographical terms, and areas of 'transport poverty'. This has particular reference to regions and rural areas;
- Address the significant lack of baseline knowledge about the Informal Passenger Transport (IPT) sector, despite it being a major form of mobility in much of the developing world. Two key areas are identified, which would then enable the specific research needed in the sector:
 - Quantify the IPT sector across regions, countries and cities (how many, what types, what stakeholders, ...) and key metrics (cost structures, revenues, fuel consumption, ...)
 - Investigate, document, and develop context-appropriate pathways for formalisation of the informal (see also recommendations for T18 themes below);
- Improve the definition and understanding of "Innovation" in the passenger transport domain:
 - Define and categorise the range of innovations in the context of public transport and mobility, ensuring attention to internal processes, continuous improvements, changes in culture and services to customers;
 - Define the purpose of innovations, what they are expected to achieve, for better understanding of whether/where value is added and which to adopt;
 - Research ways in which various forms of innovation can be included in contract design, both in the tendering phases (including pre-tendering) and over the contract life. This will need to include issues relating to conformity for public procurement, flexibility, risk allocation/pricing, and dealing with innovation that does not meet expectations;
- Two specific issues are identified to strengthen data-driven and evidence-based tendering and contract design, and the associated evaluation:
 - Identify the data/evidence that is needed for contracting processes and decisions; gather such data/evidence;
 - Structured review of outcomes (intended and unintended), leading to better feedback loops, improved foresight and hindsight, and better evaluation;

3. Infrastructure, services and urban development

Overview

This workshop concentrated its discussion on key factors for strategic transport planning, implementation, and service provision in the post-pandemic era.



Policy Recommendations

There is a need to adopt frameworks for planning strategies that enable complete communities with active travel and public transport. In line with this lies also a general encouragement that policymakers should dare to set more aggressive growth targets for active transport and public transport. It is a need for the public sector to push the transportation to more sustainable transport systems and cities forward. However, it is important that one carefully investigate how these targets are shaped and the effects such targets might have on market development as well as possible risk of social exclusion for groups that are already in the risk of such.

In the light of the climate and energy crisis, the public transport authorities and operators have also a specific responsibility of working with their energy profile and emphasis on fossil free solutions. This discussion relates to better living environment and better societies for all. There are several examples of cities that have managed to transfer their public transport system to such energy profile, however, many are not as progressive as they could be.

Policy makers should encourage *integrated* transport and land use plans. Many cities have separate plans for this, however, in line with aspects of active mobility and electrifying transport system there is a need for a greater integration of land use and transport planning. There is also a need for a stronger integration of transport and land use planning to capture unwanted distributional effects on community level, that might be missed when there are separate planning processes.

Policymakers should seriously consider optimizing existing transport solutions and resources before going for the new. In this also lies an openness to new solutions, for example adjusting services to working from home- strategies and reducing peak hours in the public transport system by more fitting school scheduling.

When planning and implementing new systems, the focus should lie on desired outcomes on community level. In this also lies a strong encouragement to work with inclusive institutional design. For example, explore under-utilized methods (broader CBAs, post-implementation evaluations, pricing, and land use levers) as well as find ways to bridge the communications gap between experts and other stakeholders or community residents (e.g., participatory processes).

Future Research Recommendations

The workshops have just touched upon aspects of equity in transport settings. There is need for more research on the meaning of equity, including how it is linked to minimum service levels and the integration to strategic land use planning. In this also lies research on urban adaptation, how institutions and processes can be more adaptable/agile to change.

There is a need for more research on different user- and non-user groups, incl heterogenic approach to understand barriers for vulnerable groups. We recognise difficulties of identifying and reaching some groups, it is therefore important to identify good examples of how such studies can be designed (both qualitative and quantitative).

There is also a need to understand and develop frameworks that capture impacts of improved accessibility and mobility for better well-being. In this lies more research in understanding wider benefits in the suburban and regional areas as well as what an efficient land use system looks like post-pandemic, incl working from home arrangements and possible spatial changes.

The workshop participants also encourage more research on developing frameworks for implementation linked to the transport context. This includes how to achieve good, inclusive participatory processes, but also more research on modelling and evaluation tools (e.g., social, and distributional impacts on agent and activity-based models; quality of productivity and valuing of mobility to excluded groups into existing CBAs).

4. The impact of technological innovation on achieving sustainable public transport outcomes

Overview

This workshop viewed technology as an underpinning theme, not a mobility service in itself but a wide range of tools that enable or enhance mobility services of whatever kind. Sustainability was also a central theme – to what extent does the digital transformation support sustainable mobility outcomes or not?

Policy Recommendations

- A pressing need is to ensure that there is sufficient public transport capacity in the “current normal”. Moving forward there is a need to develop training for better uncertainty competencies (including future virus-driven stresses). The sustainability profile needs to be raised and it is relevant to ask how we can further embed sustainability outcomes in contract negotiation. Any future strategy will need to promote a balanced vision with firm but realistic targets and timelines for sustainable public transport outcomes.
- Encourage greater sharing of data, information, best practice in sustainable (urban) mobility (e.g., crowdsourced user-generated content). This will be facilitated by encouraging more flexibility in contracts to allow new technology to be deployed to incentivise sustainable outcomes (including new modes). Policies are required to embed digital co-production amongst stakeholders in decision-making and to recognise and incorporate generational differences and promote inclusiveness in transport provision.

Future Research Recommendations

- What does the pandemic mean for sustainability objectives?
- The need to establish a global benchmarking framework for sustainable transport outcomes. Within this it is relevant to ask if contract incentives (define / design) for sustainable outcomes work and what are the conflicts (also the potential for global v local solutions).
- A need for a better understanding of the right balance of uncertainty in innovation.
- Develop and implement a (digital) platform for information exchange between service, provider, end user and government.
- Build on the Singapore experience to develop a framework for modularisation of critical components (bus body, battery, electronics) for the delivery of the ZEB transition.

5. New service models: governing emerging mobility services

Overview

This workshop focused on how to govern emerging service models for passenger transport, such as demand-responsive transit, ridesourcing, ridesharing, and mobility-as-a-service. The underpinning objective was to gather new lessons regarding the governance and market conditions under which new service models for mobility make mobility service systems (here understood as the system of services for personal mobility within a given geography) more attractive to users as well as more sustainable.



Policy Recommendations

Overarching regulatory frameworks that clearly define sustainability and resilience objectives of mobility service systems. These frameworks should also detail desired roles and key performance indicators for shared mobility services so that different service models complement each other to collectively deliver societal outcomes. There is, however, no universal recipe. Governance approaches must be context-aware and address the needs of the constituents in their geographies. Regulatory frameworks should be multi-modal in their approach, include informal and active modes in their scope, and combine incentives for desirable travel behaviors with demotions of undesirable behaviors. At the level of contracts, the key performance indicators should preferably give enough flexibility to service providers to enable them to cross-pollinate across mobility service types and geographies and to continuously experiment with strategies for improving the use of resources and spare capacities.

Regarding collaboration models, the workshop advocated for public-private-people collaborations when developing, implementing, and evaluating policies for mobility service systems. In these processes, it is imperative to have both users and non-users represented, as well as both resourceful and less resourceful stakeholders. The workshop, moreover, found it important to reflect on all stakeholder perspectives and capabilities when designing mobility service systems and planning for service delivery. Two illustrative examples were brought up. The first example was the regulatory reform in Finland which was meant to cater for MaaS developments. Still, this reform was arguably mismatched with the interests and capabilities of public transport authorities and taxi operators. The second example related to the pricing and

information-sharing strategies in the ridesourcing platforms, which rather optimize for the benefit of the transport network companies than for the drivers and users of ridesourcing.

Future Research Recommendations

- The role and scope of emerging mobility services. Specifically, the workshop encouraged researchers to identify the operating environments that enable economies of scale and added social value of MaaS and demand-responsive transit; explore how informal mobility services, as well as non-transport related services, can be integrated into MaaS models; and evaluate the viability of all emerging mobility services in different types of geographies, including cash-based markets and for technologically illiterate people.
- Governance and partnership models for the development of emerging mobility services. In particular, four questions that need further attention were brought up during the workshop: which aspects should be governed by transport policy and which should be dealt with by other policy frameworks; how can governments open for experimentation while protecting the most important and immediate sustainability aspects; how should governance responsibilities be divided across local, regional, national, and supranational regulatory authorities; and how can the existing partnership models within the public transport and taxi industries be transformed so that they encourage incumbent stakeholders to participate in transformative change processes rather than blocking innovation and/or promoting incremental change?
- Better understanding the impacts of mobility services. Most importantly, the workshop noted that most trials and commercial operations of emerging mobility services are not systematically evaluated. Governments, especially those providing financial support for these activities, should ensure that data on revealed preferences and impacts are collected, analyzed, and ideally shared. Examples of issues within this avenue that deserve more attention are the driver and non-user perspectives on emerging mobility services, including gender perspectives; the sustainability impacts in relation to the provided subsidies; and the indirect and non-economic benefits of introducing emerging mobility services.

6. Micromobility movement in urban transport

Overview

The theme of micromobility was introduced for the first time in Thredbo 17 as the growth of shared and privately-owned e-scooters, bicycles and e-bicycles continue to affect the nature and structure of urban transport systems worldwide. This workshop focused on a number of questions looking at the benefits of micromobility and discussing the main incentives for their use as an urban mode of transport, questioning the role of government and describing the potential threats, if any, to public transport systems, coming together in what we expect for the future of micromobility.

Policy Recommendations

Cities are continuously challenged to aspire for sustainability goals, ensure better and healthier environments, increased liveability and equity, and foster growth through the safeguarding of both the environment and society. Effective regulation and enabling contexts are necessary for micromobility to contribute to the enhancement of community services that support sustainability. Government should be setting enabling regulatory frameworks for the future of high-tech driven innovation in micromobility so as to encourage and manage the integration of micromobility into the broader transport system.

More infrastructure type measures need to be developed as part of transport policies as a way to encourage and integrate micromobility, soft measures need to be set up in educational and enforcement structures to continuously raise awareness, increase skills and encourage beneficial and equitable adoption of micromobility. As an example, the Brisbane City Council provided pop-up bikeways during the COVID-19 pandemic and a recent evaluation of the scheme found that these bikeways increased cyclists and e-scooter users and reduced vehicle flow where they have been implemented (Brisbane City Council, 2022b). There is indeed a vast literature on travel behaviour research and the influence of soft policy measures that use techniques such as information dissemination and persuasion to influence travel behaviour change and mode choice (Gärling & Fujii, 2009; Taylor, 2007). Within the policies that governments need to adopt, there is also a need for appropriate standards across micromobility sectors, on vehicles, safety, data, GDPR so as to ensure harmonised operational boundaries.

Governments should strive to proactively adopt policies that encourage healthy and contestable markets, in order to avoid monopolistic practices, and allow for innovation and market dynamics to take place. The differences observed across different geographical contexts suggests more research is required to understand and identify good governance policies and systems. As micromobility regulation evolves, it is important to learn and transfer best practices and for governments to plan ahead for the future they want to build considering their transport systems and micromobility integration.

Future Research Recommendations

- There is some evidence that suggest the growth in micromobility has been affected by the COVID-19 pandemic (Goh, 2022). There is therefore the need to study any post-pandemic behaviour uncertainty in order to establish demand and plan the safe and sustainable integration of micromobility in city transport planning.
- Similar uncertainties come from climate change which is affecting cities in many different ways, and some research is already showing some impact on transport networks and system performance (Jenelius & Mattsson, 2015; Attard, 2015; Dawson et al., 2016), as well as the potential for micromobility to support climate goals (Chien et al., 2023).
- More research is required to explore the evolving business models that are being used to support micromobility implementation and how they affect societal goals. The research should also extend to assessing the economic sustainability, especially in looking at possibilities and potential for funding mechanisms in support of such modes.

- Research on various micromobility modes show user characteristics which suggest a potential effect of life course, as well as cost of living changes affecting the long-term sustainability of the services. Ageing populations, financial crises, rise of poverty and inequality and immigration all have an impact on micromobility user behaviour.
- Similarly, more research is required on the health effects of in/active micromobility, considering the overwhelming research and evidence in favour of walking and (non-assisted) cycling as a form of exercise.
- The potential of integrating the services with legacy services in cities, such as bus services or metro/rail services would require some research into the way in which integration would best be approached, the technology developments that would be required and the potential effects of such integration.
- Increasing public scrutiny and engagement would also require research into different types of contracting models (quality/quantity controls, competition) and context-dependent behaviours and environments which affect types of contracts and potential public and private relations.
- The need for convergence of context-specific legislation and standards for micromobility. Research in this area can provide the review of best practices and model possible impacts of legislation and standards.
- In an attempt to address safety concerns arising out of the deployment of micromobility services in cities, many of which do not provide for dedicated, safe infrastructure, research is required in the fields of insurance and liability.



7. Sustainable transport systems designed to meet the needs of both users and residents

Overview

This workshop looked beyond the narrow focus on efficiency and sustainable funding of transport systems to a wider view to meet a variety of different users' needs as well as those of residents and taxpayers, recognising that these are not always the same people.



Policy Recommendations

- Ensure a clearer definition of objectives – set out what a measure is trying to achieve. Improve data and evidence on user needs to inform policy and measure outcomes. Ensure a wider range of stakeholder involvement in decision making.
- Focus on how modes contribute to seamless end to end journeys, including first/last mile, rather than independent consideration of each mode.
- Aim for a balance between competing and integrated services with a consideration of social need against efficiency and ensure that any contracts include a wider range of objectives.
- Funding should aim to achieve equity of outcomes, balancing societal and economic values; require equality impact assessments of any investment.
- Promote innovation to improve societal outcomes - achieve transport system efficiency whilst improving accessibility, support decision making to enable choice.
- Importance of using pricing as part of the allocation model, using price as a signal including fare discounts and road user charging to ensure consistent pricing across modes whilst maintaining affordability to achieve mobility targets.

Future Research Recommendations

- Ways of integrating transport planning and provision into a broader societal framework – recognising the importance of social capital, affordability, and equity in the provision of mobility for individuals and society and the allocation of resources. The key elements in such research would need to be in how to measure and evaluate these concepts.
- Expanding the scope of analysis and modelling – off-peak, non-work travel, days of week, the changing importance of time saving, increasing complexity of trips (trip chaining), broader definition of trip purposes (e.g. role of care-related trips). It was recognised that many of the problems of exclusion arose from the main focus of both trip modelling and transport appraisal having been on the peak hour commuting journey that was becoming less important and which discriminated against those in the community not in regular paid employment but for whom improved travel opportunities would generate substantial welfare gains.
- Defining and measuring accessibility gaps for a range of personal and household circumstances – e.g., age, disability, gender, income, location. Using evidence on how to create typologies of households a better understanding could be gained of the disadvantages faced by different groups
- Measurement and evaluation of social inclusion and exclusion as part of a focus on identifying the extent and depth of social capital in a community. This would need to cover economic vs societal differences, differences between urban and regional locations, differences between urban areas of different sizes, and the balance of different socio-economic groups.
- Ways of identifying and incorporating the interests of a range of stakeholders in the planning and decision-making process. It was increasingly recognised that much of the inequity and inequality in transport provision arose from unequal representation in decision making on transport and the inaccessibility of the modelling tools and appraisal processes used by planners making it difficult to mount effective opposition to plans or recommend alternative approaches.

Contact

Thredbo International Conference Series on Competition and Ownership in Land Passenger Transport
Institute of Transport and Logistics Studies
University of Sydney Business School

Phone: 61 2 9114 1836
rebecca.connell@sydney.edu.au

<https://thredbo-conference-series.org/>

CRICOS 00026A