The future of transport

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About Roads Australia

Roads Australia (RA) is the peak body for roads within an integrated transport system, representing an industry that contributes $236 billion annually to the economy and supports 1.4 million jobs.

RA brings industry, government, and communities together to lead the evolution of Australia's roads, integrated transport and mobility.

RA's members include all of Australia's state transport agencies, road operators, major contractors, technical and strategic consultants, material suppliers, service and technology providers, and other relevant industry groups.

Event Summary

More than 100 people registered for the event to hear from the following speakers:

John Nelson, Chair in Public Transport, Institute of Transport and Logistics Studies The University of Sydney Business School

Blake Hornsby, Senior Manager, Transport Planning Metropolitan, Greater Sydney Division, Transport for NSW

Steph Callaghan, General Manager Business Development – Retail and Consumer Division, Toll Global Logistics (ANZ)

The panel discussion was sponsored by GHD and moderated by Erin Jackson, Technical Director Transport, National Transportation Mobility Leader.

Key Points

- Future transport planning must be conducted with sustainability and emission reductions as a core focus.

- In order to change the way we move people and freight, industry and government need to change behaviours and perceptions of consumers.

- Data will play a key role in more effectively managing transport infrastructure and meeting transport demand.

- There is significant scope to create a more sustainable transport network without such a strong reliance on building major transport infrastructure.

Questions to take away

- How can transport infrastructure be leveraged to create positive social and economic change?

- What opportunities exist for government and industry to enhance the roll out of Mobility as a Service (MaaS) and shape travel decisions?

- How can existing infrastructure be managed to create a more sustainable network and encourage active transport?

A more sustainable future

The future movement of people and freight and the composition of our transport networks will be shaped by the need to work towards a more sustainable future and a net-zero transport environment by 2050.

Decarbonising the transport industry involves not just powering vehicles with alternative fuels but also reimagining infrastructure and rethinking the nature of mobility.

Panellists each brought a unique perspective to this webinar, understanding the changing face of cities, regions and freight.

Common to their insights was the need for continued collaboration between government and industry, alongside delivering on community expectations around a sustainable transport network that meets demand.

> *"A lot of those driving forces are coming from our customers and their consumers. So, for instance, in terms of climate change, a lot of our customers are saying their consumers are now making proactive choices."*

- **Steph Callaghan**

Mobility as a service

The concept of Mobility as a Service (MaaS) continues to be touted as a key pillar in the transport systems of the future.

In practice, John Nelson indicated there is no common framework for the management of MaaS or a fully accepted definition of the term. This means that the outcomes of MaaS as a concept are not reaching optimal outcomes in

both a behavioural or financial sense, leading to some criticism.

In order for the full potential of MaaS to be realised in the future, panellists discussed the need for consumers to be able to plan, book and pay for multiple services in a seamless manner. This shift needs to see journey planning apps upgraded and integrated to allow this function to be delivered in an efficient and simple way.

> *"Going forward, we suggest that the focus needs to be more on this input of a bundle of transport services to a wider activity-focused product mix, which my colleague David Hensher has described as Mobility as a Feature. If we can achieve this, this may contribute to the elusive scalability challenge."*

- **John Nelson**

There is an established link between journey planners and affecting travel behaviour but in future, these programs must meet the demands of consumers, group travel and the complex nature of multi-modal movement across regional and urban networks.

With public transport central to delivering MaaS there needs to be a concerted focus on not just delivering integrated transport across urban environments but also investment in and understanding of transport choice availability in a regional context.

The future of regional transport

The decarbonisation challenge facing Australia is unique, with a highly urbanised population across a large land mass.

While the majority of private car journeys are taken within urban boundaries, the majority of kilometres travelled on the road network occur across regional Australia, where average trips

are longer and extensive freight movement occurs, via road and rail.

With the future of transport involving public transport at the centre of sustainability, alongside private electric vehicle use, panellists discussed the unique challenges across regional Australia and the ongoing role of the private car in enabling access to economic and social opportunities.

> "It means weighing up the diverse needs and wants of the communities to solve problems and harness opportunities. And we are all part of the community. So when we do our work, let's put ourselves in the shoes of the community we're serving and help solve some of their pressing challenges."

- **Erin Jackson**

Many regional areas lag behind urban Australia in social and economic outcomes. MaaS in this context should be predicated on an objective to enhance social inclusion and target transport services to segments of the population that require them, building on demonstrated links between transport access and inclusion including through (for example) enhanced community transport availability.

Steph Callaghan discussed how freight decarbonisation is complicated by the existing technology, for example, electric prime movers have difficulty pulling more than a single trailer.

Technology is not at the pace needed to achieve decarbonisation targets, as a result, companies need to have a combination of approaches including utilisation and routing efficiencies and collaboration with third parties to enable effective CO_2 emission reductions.

Shaping perceptions

For future sustainable transport systems to be achieved the public and private sectors must enhance the social license of the transport industry and achieve buy-in from consumers as the nature of mobility changes.

Recently, there has been rapid technological progress with connected and autonomous vehicles alongside increased electric vehicle uptake.

Changes to autonomous driving, alternative fuels and mode shifts are all necessary to deliver a decarbonised and safe transport system, yet these will not be possible without broad societal support.

To bring people along on this journey we need to be aware of consumer perceptions and understand the obstacles to enshrining sustainable behaviour changes.

Following the COVID pandemic, there have been significant patronage shifts across public transport and working environments as mentioned by Blake Hornsby at TfNSW. Researching these shifts and community needs is essential to gauging future trends and understanding how to shift perceptions and facilitate the transition to normalising multi-modal, shared and sustainable transport.

Data enables transport agencies to gain a 360-degree view of networks, measuring the benefits of policy settings and investment while also mitigating any potential negative impacts.

Using data to drive change

While innovation and technology will play a major role in shaping the transport networks of the future, the efficient use of data can support both immediate and long-term change, driving emissions reductions rather than waiting solely for technological leaps.

Existing and emerging data pools can be leveraged to change behaviour through a greater understanding of the types of journeys being undertaken across the transport system.

Panellists highlighted the importance of analysing the right data and not being flooded with irrelevant or unhelpful information that hinders change.

For the freight sector, there is a strong incentive to turn data into information, enhancing productivity, sustainability and meeting consumer expectations.

Steph Callaghan shared the importance of the strong correlation between effective data use and sustainable outcomes. For a freight company, empty space costs carbon and money with efficiency to be gained from effective route planning and telematics.

The importance of food and freight security and ensuring deliveries are data rich from source to end point is a strong focus of Toll, with every gain in productivity and efficiency driving a more sustainable outcome for the organisation.

With John Nelson's understanding of public transport, he outlined the role data could play in unlocking the full potential of MaaS by transforming journey planning apps into key components of integrated mobility programs, allowing sustainable multimodal transport to become an everyday practice.

At a transport agency level, Blake Hornsby is working with existing data to guide the development of more effective network operating planning while also acknowledging data gaps to be filled that will provide TfNSW with a holistic view of the transport network and user behaviour.

Maximising existing infrastructure

With the construction of transport infrastructure remaining carbon-intensive and reliant on new technology to reduce emissions, leaders across the transport sector are looking at how we can more efficiently manage existing assets and work in low-build environments.

Panellists discussed how existing transport infrastructure can be more effectively managed and more flexible to create broader societal benefits.

Through coupling with innovative technology, infrastructure can be reimagined, the dominance of the private vehicle reduced and policy settings shifted to encourage asset use is managed across the course of a day.

For freight, this could lead to greater efficiency through near-silent electric vehicles being able to conduct work throughout the night in urban environments at a time when the network is less congested. Furthermore, there are subsequent safety benefits that flow from load sharing across the day on the road network with less congestion from heavy vehicles and less emissions from stationary vehicles.

> *"I think by better connecting our policy and strategy with the operations of our roads, we can put more emphasis on prioritising more sustainable modes of travel, opening up opportunities to explore other ways to benefit from the road space, especially where enabling successful places is concerned."*
>
> - **Blake Hornsby**

Panellists highlighted the scope that exists to do more with existing assets, while making sensible alterations to increase active transport and more sustainable transport decisions, touching again on the need to use

data to change behaviour in line with the requirement to meet our net-zero future.

In summary, the transport networks of the future may look similar to today's but the way we travel, the way we fuel modes of transport and the role of roads in place making is set to lead to a more sustainable future led by an integrated transport network. This mutual goal is being worked towards by government and industry, a key component of any transport network reform.