

WESTERN SYDNEY
UNIVERSITY



GREEN PAPER: TRANSPORT INFRASTRUCTURE *transforming cities*

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THEME SPONSOR

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BACKGROUND

Western Sydney's population is rapidly expanding and increasingly mobile. It is projected that, by 2036, Greater Sydney will be home to six million people with over three million residing in Western Sydney. The Federal Government anticipates the new Western Sydney Airport will welcome five million passengers in its first year of operation (2026), and 37 million passengers per annum by 2050. At the same time, everyday life is increasingly mediated by digital technologies, which will only become more embedded with people and place in the future.

More people visiting, living and working in Western Sydney presents opportunities and challenges for travel and transport stakeholders. Population increases and higher residential densities put pressure on existing transport infrastructures and networks. Rapid change also has implications for the quality of life and wellbeing of Western Sydney's residents. New digital technologies and services are being developed to provide transit solutions, but they present challenges for existing governance structures and emerging travel cultures.

Technology will shape the future of travel and transport. Governments, industry, start-ups, planners, developers, researchers and communities are working to ensure that travel infrastructures, networks and technologies cater for mobile lives.

For Australia's third largest economy to become a vibrant, diverse and prosperous region, those moving in Western Sydney, whether it be for work, education or leisure, must have an experience that encourages their continued investment in its development; both financially and emotionally.

Strategic planning initiatives and policies that shape smarter transport infrastructures need to ensure that Western Sydney becomes a productive, liveable and sustainable place to live, work, play and stay.

This green paper presents five significant themes that cover pertinent issues for Western Sydney's digital travel futures: ensuring equitable mobilities, adapting to change and disruption, co-creating digital tourism experiences, new travel technologies, and securing the mobile city. Each theme presents catalyst questions to stimulate discussion and research.

EQUITABLE MOBILITIES

Life is 'on the move', but not everyone is moving equally. New transport infrastructures and travel cultures impact people, groups and communities differently in terms of quality of life and wellbeing. People with reduced mobility, elderly people, and people with young children need easy access to, and real-time information about, transport and travel options. Gender, race, sexuality, class and other social markers shape how comfortable and safe people feel while travelling through Western Sydney and surrounding areas. The benefits of living, working, and playing in '30 minute cities' encourage the (re)development of places around new transport links with higher residential densities. Because the value of housing interacts with transport connectivity, the travel options, opportunities and challenges for low-income households require equitable policy making and planning practices. The increased dependency upon personal digital devices (including wearable, augmented and implanted technologies) for travel means that digital access and literacy issues are also key to ensuring equitable mobilities in the future.

CATALYSTS

Who will experience Western Sydney's '30 minute cities' and who will not?

Who will be displaced by new transport infrastructure projects?

Which modes of travel offer the most equitable forms of mobility?

How can travel/transport inequalities be alleviated by digital technologies?

What new digital mobilities might emerge in the future?

ADAPTING TO CHANGE

Urban transformation requires people to adapt to change and disruption in communities and places. Rapid change can be experienced negatively by those who feel they have little control over what their place and community is becoming. The environmental conditions often associated with transport infrastructure and construction works (such as noise, vibration, dust, light and air pollution) can have negative impacts on those living nearby. Navigating an increasingly dense and networked city requires constant adaptation, which has implications for quality of life and wellbeing.

As the physical and digital aspects of travel become more integrated, what it means to be human will change.

Notions of privacy are already in flux as people perform travel, identity and place on social media platforms, and provide real-time data as 'human sensors', producing localised transport knowledge and informing smarter transport systems. While some people are comfortable with being digital, others may resist and reject digitised life. The desire to escape and go 'offline' is sought through leisure and tourism experiences that offer restoration and relaxation.

CATALYSTS

Who will adapt to change and disruption well, and who will not?

What can be done to support people with urban transformation and fast-paced society?

How might new transport infrastructures and new forms of travel impact sense of community, place and belonging in the future?

CO-CREATING DIGITAL TOURISM

The rise of the sharing economy sees tourists using less established infrastructures (such as, accommodation, transit and hospitality), creating new experiences, and finding alternative ways of encountering local people and other travellers. Tourist motivations and behaviours are becoming less predictable. While digital technologies result in increased diversity and complexity of tourism experiences, they also afford new opportunities for understanding travel mobilities and targeted tourism planning and marketing. The 'digital' can be harnessed for encouraging extended travel from city centres into regional areas (such as Western Sydney, and regional NSW). Digital technologies also offer opportunities for enhanced engagement with places, spaces and people, helping to negotiate existing barriers (e.g. language, financial, physical mobility, cultural understanding) and facilitate experiences for an increasingly diverse array of visitors.

CATALYSTS

What will tourism in Western Sydney look like in the future?

How will new digital platforms shape tourist movements and experiences?

Can digital technologies be used to map traveller mobilities?

How can digital technologies be harnessed to cater for rapidly expanding, and diverse, visitation to Western Sydney?

How can digital technology be leveraged for economic growth in Western Sydney?

NEW TRAVEL TECHNOLOGIES

Western Sydney has long been known as a car dominated region. As more sustainable and liveable forms of travel emerge, there could be disproportionate impacts on Western Sydney's economy, infrastructure and local communities. Smart technological solutions around carparking and ridesharing could alleviate pressure in the better use of transport infrastructure. The provision of new on-demand services might also open up new areas of the night-time economy, and new time-space segments of existing networks that avoid rush hour and peak times. However, new services will require new forms of governance and will create scenarios and situations that were unplanned for.

CATALYSTS

How can digital technology be harnessed for better use of infrastructure and space in Western Sydney?

How can new transport infrastructures and technologies improve climate and sustainability agendas?

What is the potential of smart technologies to create seamless links between new public transport networks and shared, on-demand services?

What will virtual forms of travel replace and what travel experiences will be facilitated with new technologies?

SECURING THE MOBILE CITY

People in Western Sydney are moving through an expanding array of infrastructures, networks and technologies. There is an equally expanding set of challenges around the safety, security and wellbeing of local communities and those moving through the region. Securing infrastructure, data, the public, the environment and its natural resources is increasingly complex, but the safe movements of people, goods and resources remain vital to economic and social development. The number, severity and diversity of cyber attacks to key infrastructures will likely increase and in light of contemporary terrorist threats, government agencies need avenues for real-time communication with citizens in unsafe circumstances. New identity technologies such as facial recognition, digitalised identity documents, personal travel cards, authentication processes, and social media endorsement/rating systems offer ways to keep people and travel safe. However, striking a balance between surveillance and security is necessary for public safety, personal privacy and the future of travel.

CATALYSTS

How can the safety, security and wellbeing of Western Sydney be ensured, while maintaining privacy and freedom?

Who and/or what is most at risk of cyber-attacks and terrorist threats?

What needs to be secured and how?

Where are the cyber knowledge and skills gaps in Western Sydney's travel futures and transport infrastructures?

What new threats to travel and transport infrastructure might emerge in the future?