

Children's everyday mobilities and low carbon living

PROJECT FACTSHEET



KEY POINTS

- **Transport related carbon emissions in Australia are increasing with transport being the second largest and highest growing source of greenhouse gas emissions**
- **Passenger cars are responsible for 46% of total transport related emissions and private car is the most dominant travel mode for transporting children to school and non-school destinations with about 75% of children's trips occurring in cars**
- **This research project provides an evidence base required to understand the carbon emission outcomes of child related private car usage and offers an operational framework for policies in urban and transport planning to promote sustainable mobility**

THE OPPORTUNITY/CHALLENGE

Responding to the changing mobility needs of our cities due to the rapid pace of urbanization is one of the biggest challenges our cities are facing. For many years, the issues associated with cars have been ignored and this car culture was reinforced by constant development of car-based infrastructures.

Increased traffic congestion and air pollution affect everyone and we need to reduce the dominance of cars for healthier and more sustainable cities. Given the prevalent car usage of families with children, ameliorating these trends by influencing the daily mobilities of children would have a range of both immediate and long-lasting effects.

CRC for Low Carbon Living

We are a national research and innovation hub supported by the Commonwealth Government's Cooperative Research Centres programme that seeks to enable a globally competitive low carbon built environment sector.

With a focus on collaborative innovation, we bring together practitioners from industry and government with leading Australian researchers to develop new social, technological and policy tools for facilitating the development of low carbon products and services to reduce greenhouse gas emissions in the built environment. For more information visit www.lowcarbonlivingcrc.com.au/

OUR RESEARCH

Through surveys with 296 children and 84 parents living in Adelaide and Melbourne, our findings demonstrated marked private car usage and associated carbon emissions for children's trips to school and non-school destinations. Because the use of the car to access children's everyday destinations is a multifaceted issue requiring a combination of social, cultural and spatial changes, we developed a framework and index to address these areas, which is able to be used by a range of policy makers to inform decision making.

Our research also highlighted a large number of car trips to destinations within walking and cycling distance. Our research found that creating child friendly environments would promote active transport and so help to convert these short car trips to more sustainable modes. For example, if car trips for destinations within 5km were to be converted to active transport, then the data from the sample of 84 families indicated that the carbon savings for a week would be around 2864 grams per child. This would equate to approximately 0.025 tonnes for a school term and 0.10 tonnes for a year per child. Additional carbon savings are likely to be realised, since short trips which are associated with cold engine starts result in larger carbon emissions compared to longer trips.

USERS OF THE RESEARCH RESULTS

A main implication of this research is the importance of children's everyday mobilities for achieving low carbon mobility. The child friendliness index that was applied for the first time in this study will be useful for future research and practice exploring how to make children's everyday mobilities more environmentally sustainable.

The development, and the use, of the operational framework in this research also represents a shift from stand-alone objective-based guidelines to a set of minimum standard-based guidelines and establishes a quantitative framework for policies on children and sustainable mobility. In this sense, it will be suitable for the use of a wide range of policy makers at local and state governments and also at schools and other organisations providing services to families with children to reduce the number of car trips in their communities.



NEXT STEPS

Rapid urbanisation continues to put major social and environmental pressures on our cities and transport remains at the centre of these issues. In the context of busy modern lives, easy access to the car, relatively cheap oil and car centric cities, replacing all car trips with non-car modes is not a small task. However, our research project revealed many opportunities, with a high level of interest amongst key stakeholders. For example majority of the participant children and parents revealed a preference for more active transport in recognition of the wide range of benefits for children and the environment, if there were better conditions. Conversations with school leaders also revealed a high level of interest. Some of them were already actively exploring opportunities to increase walking and cycling rates in their school communities. They also recognised the significant benefits of this approach in terms of their traffic management and the health and wellbeing of their students. In recognition of these opportunities, we intend to contact a range of organisations to explore the possibilities of trialling an extended period of 'walk to school' and 'ride to school' days.

PROJECT TEAM

Project leader: Ms Hulya Gilbert (PhD candidate)

Supervisors: Dr Andrew Allan, Dr Johannes Pieters, Dr Stephen Berry, Prof Carolyn Whitzman

PROJECT REPORT (S)

Gilbert, H., Whitzman, C., Pieters, J., & Allan, A. *Journal of Transport Geography* (2018). Children's everyday freedoms: Local government policies on children and sustainable mobility in two Australian states. 71, 116-129.

Gilbert, H., Whitzman, C., Pieters, J., & Allan, A. *Australian Planner* (2018). Children and sustainable mobility: small feet making smaller carbon footprints. 1-8.

Gilbert, H., Pieters, J., & Allan, A. (2018). Families, children and car: the environmental cost of chauffeuring children. Paper presented at the Australasian Transport Research Forum 30 October-1 November 2018, Darwin.

Gilbert, H., Pieters, J., & Allan, A. (2017). Unlocking the social and environmental benefits of child friendly places through active travel and active play. Paper presented at the State of Australian Cities Conference 28-30 November 2017, Adelaide

FURTHER INFORMATION

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