

# TRANSCRIPT

## LEGISLATIVE ASSEMBLY ECONOMY AND INFRASTRUCTURE COMMITTEE

### **Inquiry into the impact of road safety behaviours on vulnerable road users**

Melbourne—Tuesday 22 August 2023

*(via videoconference)*

#### **MEMBERS**

Alison Marchant—Chair

Kim O’Keeffe—Deputy Chair

Anthony Cianflone

Wayne Farnham

John Mullahy

Dylan Wight

Jess Wilson

#### **WITNESSES**

Associate Professor Ashim Debnath, Director, Safe Future Mobility Research Lab, School of Engineering,

Alfred Deakin Professor Anna Timperio, Institute for Physical Activity and Nutrition, School of Exercise and Nutrition Sciences,

Rebecca Bartel, Executive Director, Strategic Partnerships, Office of Deputy Vice-Chancellor Partnerships,

Dr David Broadbent, Lecturer, School of Exercise and Nutrition Sciences, and

Dr Shannon Sahlqvist, Senior Lecturer, School of Exercise and Nutrition Sciences, Deakin University.

**The CHAIR:** Welcome, everyone, to the public hearings for the Legislative Assembly Economy and Infrastructure Committee's Inquiry into the impact of road safety behaviours on vulnerable road users. All mobile telephones should now be turned to silent.

All evidence given today is being recorded by Hansard and broadcast live on the Parliament website. While all evidence taken by the Committee is protected by parliamentary privilege, comments repeated outside of this hearing, including on social media, may not be protected by this privilege.

Witnesses will be provided with a proof version of the transcript to check. Verified transcripts and other documents provided to the Committee during the hearing will be published on the Committee's website. Could I please just remind witnesses and Members to mute their microphones when not speaking, just to minimise that interference.

I thought I might quickly introduce the Committee for the witnesses, just so you know who we have today. I am Alison, the Chair and Member for Bellarine; we have Kim O'Keeffe, the Deputy Chair and Member for Shepparton; Wayne Farnham, the Member for Narracan; Jess Wilson, the Member for Kew; Anthony Cianflone, the Member for Pascoe Vale; John Mullahy, the Member for Glen Waverley; and Dylan Wight is the Member for Tarneit.

Thank you all for your time today. I really appreciate it. What we might do is give you a few minutes, maybe 5 minutes or so, to speak to your submission, or if you would like to have some opening remarks, that would be wonderful just to kick us off. Then I will hand over to Committee members to ask further questions of you. If you do want to answer a question when we have asked that question, you can just put your hand up on the Zoom function. Thank you for that.

**Associate Professor Ashim DEBNATH:** Thank you, Chair. And thanks to the Committee for providing Deakin University the opportunity to contribute to this important topic of road safety. At Deakin we undertake research on multidisciplinary aspects of vulnerable road user safety, and we are working closely with the transport departments, road agencies and the wider industry. My name is Ashim Debnath. I am the Director of the Safe Future Mobility Research Lab at Deakin University. In this lab we look after road safety, including vulnerable road users, and in particular we work at the interface between engineering, technological and behavioural aspects of road safety. As you understand, this is a multidisciplinary field, so it requires working with experts from various domains. That is why we have got experts here from other areas of Deakin. Today we have Alfred Deakin Professor Anna Timperio here, Dr David Broadbent and Dr Shannon Sahlqvist—they are from the Institute for Physical Activity and Nutrition—and we have got Rebecca Bartel from our Strategic Partnerships team. I would like to invite Professor Anna to briefly speak about IPAN's research.

**Alfred Deakin Professor Anna TIMPERIO:** Thanks, Ashim. Shannon, David and I are from the Institute for Physical Activity and Nutrition, or IPAN, at Deakin University. IPAN conducts world-leading research in all aspects of physical activity and nutrition from conception to old age, from lab-based studies on biological mechanisms right through to solutions to increase physical activity and improve nutrition. The most recent data show that the majority of Australians do not do enough physical activity to meet recommendations, and we see walking and riding, both recreationally and transport related, as critically important to help improve population levels of physical activity and contribute to significant physical and mental health benefits and a healthier population. The co-benefits are also significant. Shifting people out of cars and into active forms of transport can also have important environmental benefits and contribute to meeting the UN Sustainable Development Goals. We see it as a fundamental right that people are able to move around their neighbourhoods and walk and ride safely, and we welcome any initiatives to improve the safety of vulnerable road users. Thanks.

**The CHAIR:** Thank you for that. Ashim, did Shannon or David have any opening remarks? No, we are happy to jump into questions—wonderful. Thank you very much. I might go to the Deputy Chair first, Kim O'Keeffe. Thank you.

**Kim O'KEEFFE:** Good morning, everyone, and thank you so much for your detailed submission. It was really helpful. I found so much information in there was really valuable, and I am just hoping we can get more of that out to the community. One of my questions was—your submission mentions that the social norm in Australia is that pedestrians and cyclists have a high duty of care to protect themselves—what is the impact of this on the safety of vulnerable road users, and how could it be changed?

**Associate Professor Ashim DEBNATH:** That is a very good question, and that is a very difficult thing to do. Changing social norms takes time. It takes a long time. But let me talk a bit about what are the potential reasons and other aspects around this social norm, and then I will be speaking on some specific aspects that we have learned from other areas. One of the potential reasons for this social norm is our longtime dependency on car travel. Our country is vast. We have got significant urban sprawl issues. Where we live, where we work, where we shop and where we go for recreation are far from each other. Because of this, we have this longstanding dependency on car travel. There is a flipside of the social norm that pedestrians and cyclists have a high duty of care to protect themselves. Many active travellers believe that crashes happen because of the fault of motorists, so if any safety action needs to be taken, it needs to be taken by the motorist, not by the active travellers. I think recognising both sides of the story is important. As I said, changing this would take time. However, we need to consistently provide input into it. In particular, the shared responsibility aspects of our national road safety strategy need to be recognised and practised by all road users, not only by motorists or the agencies or the active travellers. Effort would need to be taken so that people understand this concept and they apply it in practice in their everyday travel. It is also important to look at strategies from multiple viewpoints. So it is not only education or enforcement, it has to be a combination of engineering solutions, enforcement-related solutions and, more importantly, education. I would like to invite Anna to speak a bit more on these aspects.

**Alfred Deakin Professor Anna TIMPERIO:** Thanks, Ashim. I guess one part of changing social norms is to increase the visibility of vulnerable road users and provide constant visual cues. Over time our road environment has been built mainly to cater for cars rather than people, pedestrians and bike riders, so more widespread implementation of road designs where pedestrians and bike riders are obviously prioritised, such as separated bike lanes and additional crossing points or complete street designs, over time can contribute to a norm where it is expected that vulnerable road users have a space on our roads and it is an expectation that they are protected, rather than having to protect themselves. More people using this infrastructure can increase visibility and reinforce this as a norm over time. More signage about pedestrians, bike riders and children at play visible to motorists on the roads would also help provide additional cues, nudges and reminders. If we move to communications and campaigns, we could probably do more to develop the idea that streets are for people and humanise the use of the spaces as not just for cars. Our streets are important, vibrant places where people meet, they interact and they get together. For children it is a place where they can develop their independence and their social skills by walking and riding. So it is not just a place for cars, and there is a shared responsibility to protect and be aware of all users and their place in that space. There is probably also room—and I have seen this in other submissions—around enforcement of laws and road rules, which would help to reinforce that motorists have a duty of care towards vulnerable road users, rather than the other way around, and countries such as the Netherlands have these kinds of road rules and enforcement of these kinds of laws where cars, for example, must yield to cyclists. So they are a couple of suggestions for how to change the social norm over time, and I will just invite David to speak a little more about some of the educational kinds of approaches.

**Dr David BROADBENT:** Thanks, Anna. From an education perspective, there need to be some targeted strategies to increase community understanding of the issues and challenges faced by each road user and to develop a shared responsibility for road safety. A good example of this is from the driver licensing process. Research has shown that cyclists are not really recognised as legitimate road users. They are referred to almost exclusively in neutral or negative terms. Some examples of this are characterising cyclists as ‘unpredictable’, ‘untrained’ and ‘hazards’. This terminology does not acknowledge cyclists as legitimate road users, so there needs to be action to increase the inclusion and representation of cyclists and other vulnerable road users through the driver-licensing process. Research from other universities has started to develop a pilot strategy; there is the Cycle Aware module that was piloted by researchers from the University of Adelaide, Monash University and Queensland University of Technology to increase the inclusion and representation of cyclists. Just showing video-based resources that give a narrative from the cyclist’s perspective is fundamental in enhancing that shared responsibility for road safety. That project and actually another project have identified that it is the very youngest and the very oldest drivers that have less awareness of other vulnerable road users, so there can be targeted strategies to these groups in the future. Thank you.

**The CHAIR:** Thank you for that. As the Chair, I do not always get to ask many questions, so I am going to jump in here just to build on what you were just talking about. We have heard from other young people in other hearings, including a young person who is learning to drive but has also been a cyclist and rides to school. He talked about how through COVID he felt safer—obviously with less cars on the road, he felt safer on the

road—but then returning out of lockdowns, he felt the aggression towards cyclists had got worse. Do you have evidence to show what behaviours through COVID were done, and have we got to a worse situation with those social norms?

**Associate Professor Ashim DEBNATH:** Maybe I can jump in here. I think there is a lack of systematic data to address this particular question. I guess this partly relates to how we actually record and deal with safety data here, because our focus is predominantly with the crashes and the fatalities and those hospitalised from crashes. We are not aware of any systemic data that has actually looked into how driver behaviour has influenced VRU safety during the COVID period. Of course we can try to derive inferences from the crash data, but this is only the tip of the iceberg and only looking at a short time period, so the conclusions will not be effective or very valid. But the question is, regardless of this, whether during COVID driver behaviour influenced the safety of vulnerable road users or not. We understand and recognise that the vulnerable road users' safety is an important issue, so actions would need to be taken regardless of whether driver behaviour actually had any impact in a short time period.

**The CHAIR:** Okay. Thank you for that, I appreciate that. Jess, I might hand to you next. Thank you.

**Jess WILSON:** Thank you very much, Chair. Thank you, everyone, for appearing today. Having a look through your submission, I think one thing that we have discussed is the role of technology going forward and the role that technology can potentially play to make roads safer for vulnerable road users. Your submission touches on this, but do you have any suggestions as to what that technology could look like, how it could be adopted and the role for the State Government to be involved in that space in terms of investing in the early stages of the development of that technology or looking at overseas or other jurisdictions where that technology is already in place and adopting it here? I am keen to get your thoughts around that.

**Associate Professor Ashim DEBNATH:** That is a wonderful question. Certainly there is a lot to be done in that space. How we look at that use of technology in protecting vulnerable road users—so far there are two levels. The first level is at the agency or at the infrastructure level, and the second is the road user level—things to be used by the drivers and cyclists.

I will touch on the agency and infrastructure level first. It is important that we identify the critical infrastructure areas like intersections or busy cycling corridors and we equip those with different types of sensors, like lidar or video cameras. These are off-the-shelf solutions. What would need to be done is to use the sensors to identify safety events in real time and provide alerts or take actions. I want to give an example here. At Deakin we have recently developed a real-time safety monitoring technology for cyclists. We use sensors at an intersection where we process the movement of all road users in real time. We predict the situations that will be upcoming in 5 or 10 seconds, and if there is a risk of collision, we can actually generate alerts and transmit this through to road users in various ways. One possible way is, of course, many cyclists use apps for their navigation or for listening to music, and those could be utilised. That is at an infrastructure level, and of course then there are various technologies being developed and how we apply those—I think that is where the focus should be.

At the road user level I think our first challenge is getting road users to use the particular technology that we want them to use. The technology would need to be tailored for the use the road users. Smartphone-based solutions, and there is a lot of development happening in the wearable devices, so those technological solutions could be used. For example, if I take a bit of a step back here, as a driver, when I am driving, my vehicle is giving me a lot of alerts. It is telling me what is around me. I can get an alert related to a collision warning. I can get an alert related to my blind spots. What do we get as a cyclist? Not much. I think there is a significant area there for work to be done.

One particular aspect is about the dooring crashes, a significant problem for cyclists, and there are different technologies which are already available on the market, though they are primarily based on the vehicles. It could be as simple as using your side-view mirror for the rear-seat passengers. As a driver when I open my door of course I have got access to a side-view mirror. If I want, I can check that. If I can follow the Dutch reach, which is not opening the door using my right hand, I use my left hand so that I can turn around and look over my shoulder. As a driver I can get assistance from my technologies to get some alerts. But from the passenger door as they are opening it, they do not get much, so the solution would not only need to be tailored to the driver but also to all road users who are in a vehicle.

For car dooring-related crash prevention, it is not only very important that we look at different solutions but how do we make sure that all drivers of all vehicles are using those? I think that is where government agencies can play a big role. It could be related to registration or related to mandatory use of some technologies in vehicles. Of course if you look at history with seatbelts, we went through a significant struggle to make those mandatory and people using these, but over time things change. I think we need to take bold actions in small steps but over time there will be change in that. I would like to invite David, if you want to add anything more to it.

**Dr David BROADBENT:** Yes. Thanks, Ashim. Just briefly in terms of technology and utilising it as part of education as well, I have previously worked in the UK where we worked closely with the Bikeability trust to use immersive technologies—so head-mounted displays—to complement the current training practices in schools. This was because with cycling a unique challenge is the need to look behind, to look over the shoulder, and to use auditory information to build that situational awareness. It is really difficult to train that and it is often neglected in a lot of the training programs, so what we did was we developed a very brief gamified intervention of 10 to 15 minutes using 360-degree footage presented in a head-mounted display. It was gamified in the sense that when they looked at a hazard or they looked over their shoulders they got audio feedback, like a cha-ching, and they gained points. This was part of their physical education classes, and we found positive changes in both their situational awareness but also their attitudes to cycling. That was a pilot study that was run last year, and this year that is being rolled out to five training providers across the UK. We give a training package with the system (head mounted display), and the training providers run it themselves, so we are not involved. That is being run at the moment. We are collecting data to see the impact of that and the training providers' perspectives on their use of it as well. I think technology can be utilised as an important part of education. Thank you.

**The CHAIR:** It is very interesting. Thank you, both of you. Anthony, I might head to you next.

**Anthony CIANFLONE:** Thanks, Chair, and thank you for your submission and for appearing. It is a very comprehensive submission, so I would like to thank you for all the work that you have put into that. Recommendation 3 of your submission recommends that road safety targets and strategies aiming to improve the safety of all road users should be focused increasingly on vulnerable road users. Tying in with that recommendation, my question is around how we communicate your research to the public—translate the need for improving vulnerable road user safety infrastructure and supports to the broader public so they understand and are aware of that research you are doing and other bodies like yours are doing to help inform the need for ongoing improvements to protect vulnerable road users.

**Alfred Deakin Professor Anna TIMPERIO:** I could start by answering that. It is a very difficult question to answer—a big challenge for the future. I would suggest that we need to have multiple channels of communication to get out to multiple audiences and tell stories about infrastructure changes. We need more research on the kinds of infrastructure changes that do result in lower injury rates and more walking and cycling, for starters, and then we can tell the stories about those to get people more interested in the area, to change their perspectives on vulnerable road users and take on the results of the research. Telling positive stories about what works, who it works for and how it is making a difference would be part of that. Telling positive stories and talking about the benefits to all of society, to children in particular, can also be a big part of that.

Importantly, I think opportunities to incorporate road safety research into secondary school education as well as during driver training and licensing would be critically important as a form of anticipatory guidance, I guess, where relevant information is provided at a point where it is needed: when people are ready to go out and be drivers. That might be a critical time to create that kind of awareness of what the research is showing and to reduce risks to vulnerable road users. In terms of the infrastructure changes, I think telling those positive stories of the benefits to society that these kinds of changes can bring, including to businesses, is important.

**The CHAIR:** Thank you, Anna. Wayne, we will head to you.

**Wayne FARNHAM:** Thank you, Chair, and thank you for your submission; it was very good. One thing—and it seems to be a common thread, so I am really keen to hear your opinion on this—is participation of women in cycling and why women are less likely to cycle than men. How can the Victorian Government address the imbalance or encourage women to get out on the bike, so to speak?

**Dr Shannon SAHLQVIST:** Thanks, Wayne. I will have a go at answering that one for you.

**Wayne FARNHAM:** Thank you.

**Dr Shannon SAHLQVIST:** We do see very little difference in cycling rates among young children, so both boys and girls cycle equally. But something happens during adolescence, and that is when we see the rates of cycling drop off. That sort of continues throughout adulthood, where women are less likely to cycle, and it is particularly for transport-related cycling that we see quite a big difference. What is interesting to note is these differences are not seen in countries that have traditionally high rates of cycling. In the Netherlands, for example, they have very equal distribution of cycling among men and women.

Work done by Deakin and others suggests that there are several underlying reasons to explain the low rates of cycling and transport cycling in particular among women. Firstly, women have greater concern about traffic and personal safety. They more often cite a preference and are recorded as riding on separated bike lanes, and they more often report the lack of separated bike lanes as a key barrier to them taking up utility cycling. Women also tend to have more complex travel patterns. They will be accompanying children on their journey more often than men, and they also trip chain more than men do. Their journey is not always a journey to work necessarily. It is more complex than that, and it has more parts. Because they are travelling with children, again they really need the separated infrastructure to support that journey. All walkers and cyclists need safe infrastructure, but women particularly report that as a barrier. So that is one thing that can be done.

The other sorts of reasons are a little harder to address, but certainly in Australia we have a very undulating geography and that requires an exertion generally when you are cycling. Women tend to report a preference for more moderate intensity physical activities, so that in itself is a barrier—the fact that it can be physically exerting. They also report challenges of arriving at their destination looking a bit frazzled, taking their helmet off and having helmet hair, and that is a challenge that will be difficult. But I think e-bikes, or an e-bike subsidy program, which take away some of that exertion, have a particular place in encouraging women to cycle more.

The other thing—again, it is really hard to shift this as a norm, but cycling is a very male-dominated thing in Australia, and that can alienate some women, particularly when they report sorts of challenges with being unable to repair or maintain a bike. If they have a flat tyre, they are less likely to know how to fix it if they are out on the road, and that is another challenge. So educating women, having specific women-focused bike maintenance classes and starting them in early adolescence at schools so that women feel empowered to be able to do those things are some possible solutions. But I am just going to hand over to David as well to comment.

**Dr David BROADBENT:** Thanks, Shannon. Yes, only briefly to kind of follow-up on what Shannon talked about, we completed a project back in the UK and found very similar findings in regard to participation levels in females. We conducted surveys and interviews with parents and their children, and we found a really strong theme was peers. Parents' cycling behaviour was strongly influenced by the proportion of their close friends who cycled and also their access to a cycle. Similarly, with the children, there was a lot of talk about the peers from both positive and negative aspects. The negative was a lot around the stereotypes associated with girls and cycling, but a positive aspect a lot of the children talked about was how their friendship groups cycled together and cycled as a group.

The other thing we found was the kinds of attitudes around cycling were different as well. Those who cycled regularly commented on it being fun and relaxing, whereas those who did not cycle regularly talked more about that it was anxiety inducing and scary, and this was underpinned by a lack of confidence and a lack of formal training. A lot of the parents actually spoke about the lack of opportunities to gain adult education in cycling. I think strategies focused on that and maybe bringing it together—so family education sessions or peer groups, where there is a social aspect to it as well—could be a really good way to move forward.

**Wayne FARNHAM:** Thanks for that.

**The CHAIR:** Thanks for that. John, I am going to try and squeeze one more in. We will go to you next, thanks.

**John MULLAHY:** Thanks so much, Chair. In past public hearings we heard from a number of research centres with regard to quality of data and what data they would like to see collected. Your submission goes one step further and asks for the establishment of a data collection platform. I was just going to ask: how could the

Victorian Government set up a data collection platform for vulnerable road users? The second part would be: what types of data should this platform collect?

**Associate Professor Ashim DEBNATH:** That is a very important question to address for vulnerable road user safety and all-round road safety. I will start with the second part of the question first, about what type of data, and then how we set it up. Of course you would have heard from other organisations about the issues that we have with the crash data, but we are primarily using it for deriving our road safety actions. This is a reactive dataset. We cannot do anything until the crashes happen, and it takes a long period of time for us to accrue a sufficient number of crashes so that we can undertake some sound analysis with it. I think the most important part is that for vulnerable road user data, this is highly skewed. A lot of under-reporting issues are there.

Now, what type of data should we look at? Alternative data sources—I know there are various to look at, but for the existing crash data we should look at strengthening our data-linkage exercise with the hospital and insurance datasets, if we can get access to that. So that is with the existing data. The new form of data—if you think of the road safety events as a pyramid, crashes are at the top and we are only looking at a very small part of it. The other parts of the pyramid, which are the traffic conflicts and near misses, need to be systematically collected. Of course at Deakin and at other universities we are undertaking projects where we are collecting traffic conflicts and near-miss data. We are using this for our projects. But can we get all of this in a centralised database? Can we take efforts to put all of this data together so over time we will have a significantly rich dataset?

So that is about conflicts and near misses collected from infrastructure. Road users can also produce a lot of important data. I want to put forward an example here: with the Transport Accident Commission we have run a Light Technology Trial over a year, which is commonly known as the Light Insights Trial—in short, LiT. We had more than 800 cyclists who used a smart bicycle light over a year and produced billions of data points, and those data are related to where they are riding, what the road surface condition is, what their speed is, acceleration, deceleration and braking score and swerving score are. Cyclists can report if they were involved in a near miss or a crash. They can report if there were any safety issues, and where they want to see a particular type of infrastructure improvement at a location. All of this user-reported data was done in a trial project in one year, but this can be rolled out to a wider geographical area and to a wider cohort of vulnerable road users, not only to cyclists, and collectively with this we will get a large-scale dataset.

Now, how do we set it up? When we did that project with TAC, iMove and See.Sense at Deakin, we established an online data platform. It is a dashboard that can be used by users at different levels of access. So a public user may not need access to an in-depth level of the data, whereas TAC or the Victorian Government may need a higher level of access. So we can create different access levels based on need, but the most important aspect here is the privacy of the data: while I am riding, would David be able to identify me from the dataset? So we developed a systematic process to privacy protect that dataset. I think by elaborating these existing developments and combining this with other platforms or different apps used by cyclists, for example—they collect data; they can report incidents—we can put together all of this in a centralised platform. We invite the Committee to visit us at Deakin. We are very happy to show the platform that we have developed with TAC and others.

**The CHAIR:** That is actually a wonderful suggestion, so thank you for that as well. I am really sorry about the timing of this. I wish we could talk to you a bit longer, but we have others waiting. So I just want to say thank you for your submission and thank you for your time today answering our questions. I will put to you if there is something that you think we need to further look at or you would like to provide some extra information, please do not hesitate to come back to the Committee. We would appreciate that. Thank you again for your time today.

**Witnesses withdrew.**