TRANSCRIPT

LEGISLATIVE ASSEMBLY ECONOMY AND INFRASTRUCTURE COMMITTEE

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

Melbourne—Tuesday 8 August 2023

MEMBERS

Alison Marchant—Chair

Kim O'Keeffe—Deputy Chair

Anthony Cianflone

Wayne Farnham

John Mullahy

Dylan Wight

Jess Wilson

WITNESSES

Associate Professor Ben Beck, Head, and

Dr Lauren Pearson, Research Fellow, Sustainable Mobility and Safety Research Group, Monash University.

The CHAIR: Welcome to the public hearing for the Legislative Assembly Economy and Infrastructure Committee Inquiry into the impact of road safety behaviours on vulnerable road users. All mobile phones should now be turned to silent.

All evidence given today will be recorded by Hansard and broadcast live on the parliamentary website.

While all evidence taken by the Committee is protected by parliamentary privilege, comments repeated outside 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.

We will do some introductions, then if you have got an opening statement, we would love to hear from you first. I am Alison Marchant, the Member for Bellarine.

Jess WILSON: Jess Wilson, Member for Kew.

John MULLAHY: John Mullahy, Member for Glen Waverley.

Dylan WIGHT: Dylan Wight, Member for Tarneit.

Wayne FARNHAM: Wayne Farnham, Member for Narracan.

Anthony CIANFLONE: Anthony Cianflone, Member for Pascoe Vale.

The CHAIR: I will hand to you. If you have opening statements or remarks, we would love to have that first, and then we will get into questions.

Associate Professor Ben BECK: Fantastic. Thank you to the Committee for the invitation to speak at today's hearing. We wish to acknowledge the traditional custodians of the lands on which we are gathered today, the Wurundjeri people of the Kulin nation, and we pay respects to elders past, present and emerging. My name is Associate Professor Ben Beck, and I am Head of Sustainable Mobility and Safety Research at Monash University.

Dr Lauren PEARSON: I am Dr Lauren Pearson. I am a Research Fellow in Sustainable Mobility and Safety Research as well.

Associate Professor Ben BECK: The mission of the Sustainable Mobility and Safety Research Group is to transform safe, accessible and equitable active mobility such as bike riding by conducting world-leading interdisciplinary research in partnership with government, industry, not-for-profit organisations and the community. In this brief opening presentation we wish to touch on three points: the current state of play; the critical limitations of current approaches to informing how we can enhance the safety, accessibility and equity of bike riding; and the opportunities to transform data and evidence.

One in every four serious crashes on Australian roads involve a bike rider, and each year around 15,000 Australians are hospitalised after a bike crash. In Victoria we run the Victorian State Trauma Registry, which is a population-based registry of seriously injured patients. In the pre-COVID period there were an average of 197 seriously injured bike riders in Victoria. During the period of July 2020 to June 2022 this rose to an average of 308 seriously injured bike riders, reflecting a 57% increase in the number of seriously injured bike riders.

In addition to the direct injury impacts, safety plays a critical role in enabling people to ride. Our research has demonstrated that the key barrier to increasing bike riding participation is how unsafe people feel when riding. As a result of these barriers, bike riding participation in Victoria is low, with only 2% of trips taken by bike. Further, gross inequities also exist in participation. Our research has shown that women have half the rate of bike riding of men and that there is a fivefold difference in bike riding activity between people living in the highest and lowest socio-economic areas. Therefore by providing a safe environment for people who ride bikes we have the potential to not only reduce road trauma but also increase the uptake of bike riding to reap the significant health, environmental and social benefits of getting more people riding as part of everyday life.

Despite current low participation rates, there is large-scale opportunity for increases in bike-riding participation. Our research has demonstrated that 78% of Victorians are interested in riding a bike—but only if infrastructure enables them to feel safe. We know that in Melbourne more than 50% of trips are less than 5 kilometres, equating to 5.6 million trips each day, many of which could be taken by bike. The bicycle has a major role to play in achieving a healthier, more sustainable future, but until now earnest efforts to improve safety and cycling participation in Australia and in Victoria have been hampered by a lack of real-world evidence guiding investment decisions, an inability to harness digital technologies that we know have transformed other industries, challenges of implementing solutions that we know work and a siloed disconnect between different groups working to tackle the same problem.

Listening to many of the testimonies that have been put to you today, the Committee will have heard a range of potential solutions for addressing safety and increasing ridership, but at the heart of it we lack the evidence to inform which of these we should be investing in, whether that is behaviour change, new infrastructure and other interventions, and we lack the ability to robustly measure the impact of those investments. Until we build the underlying data and evidence system, we will keep navigating in the dark.

I would love to sit here and tell you exactly where every serious bike crash in Victoria has occurred. I would love to tell you the risk of injury of riding a bike on every single street across Victoria. I would love to tell you exactly what type of infrastructure is provided on every single street across Victoria and the effectiveness of that infrastructure in reducing injury risk. I would love to tell you that we can measure the effectiveness of every single investment that has been made. But the reality is that I cannot. We simply do not have the coordinated and whole-of-system data platforms to measure safety across the network, to measure the effectiveness of investment and to prioritise future investment. What we need is better and more timely injury data; more complete and detailed information around the causes and characteristics of crashes; an understanding of bike-riding exposure at the street level—so the number of bike riders on any given street; technology to be able to measure near misses and conflicts between bike riders and other road users to enable more proactive approaches to road safety; detailed and living inventories of cycling infrastructure across Victoria; and the ability to co-design solutions with the community, with government and with other stakeholders.

The good news is that these problems are all solvable, and all solvable within the next five years. We have developed capabilities to enhance injury and crash data by linking the Victorian State Trauma Registry with data from the Department of Transport and Planning, TAC, Victoria Police and Ambulance Victoria. We have developed capabilities to provide rich insights into the causes and characteristics of bike crashes by using novel approaches to capturing in-depth crash investigation methods. We have developed capabilities to model bike ridership and bike volumes so that we can use these data to accurately measure exposed, adjusted injury and crash risk on each street across the network. We have developed capabilities to use technology to detect near-miss events and capture people's experiences as they ride to inform more proactive approaches to road safety. And we have developed capabilities to co-design solutions with the community to understand local priorities and needs, develop locally relevant solutions and maximise uptake and wholesale change. But we need a systematic approach to bring these capabilities together in a way that enables an understanding of risk across the network, the ability to identify and prioritise areas that need enhanced infrastructure, enables us to evaluate the effectiveness of existing infrastructure and future infrastructure investment, and the ability to co-design solutions with the community and put people at the heart of how we design and implement safe and healthy streets.

Our vision is to be able to tell you, on any given street on any given day, what is being implemented, what the outcomes are, what people are experiencing, whether it is having an impact on safety and whether it is having an impact on ridership, on the environment, on health and on equity. But to date we have not had the coordination, the investment and the partnerships to untap these potentials and transform the safety, accessibility and equity of bike riding. As a result we continue to miss opportunities to enhance safety and maximise the effectiveness of investment. If we invest in the systems to connect data and technology to decision-makers, we will start investing in things that work and we will start seeing that through robust measurement. But it has to be robust measurement systems and it has to be a learning system, and it has to have deep, effective partnerships at its core. I would put to you that government alone cannot do that. Local council cannot do that alone, and academia cannot do that alone. We need to connect the diversity of stakeholders and the community and create meaningful partnerships between academia, government and the community to drive enhancements in safe, accessible and equitable bike riding. The general absence of robust evidence to support

decision-making has hampered the advancement of cycling as a safe, enjoyable and accessible mode of transport. Unless we act now, decisions made today in the absence of evidence will have negative consequences on our ability to optimally design and implement healthier and sustainable cities for generations to come. Thank you.

The CHAIR: Thank you very much. Much appreciated. We might open it to questions first, and I might, just to mix it up a bit, start with you, Anthony.

Anthony CIANFLONE: Thank you, and thank you for your presentation and for your submission. I wanted to ask about your submission's points around the lack of robust data around helping to improve and inform better safety for people riding bikes. So I guess my question is a two-pronged sort of question: how can data collection on injuries and crashes be improved to better inform those road safety interventions in particular areas, and also what can the Victorian Government do to improve its own data systems in that regard to support vulnerable road users better?

Associate Professor Ben BECK: Thank you very much for the question. There is a number of opportunities in this space, and work by the Victorian Government is already underway. You will have heard some of the responses earlier today by Road Safety Victoria and the TAC around the efforts to be able to start to bring some of the existing data together—so as an example, the hospital admissions data and some of the crash data.

There is a number of points that I would like to make; first is to point you again to the linked dataset that we have established in partnership with the Department of Transport and Planning, TAC, Victoria Police and Ambulance Victoria. There is a number of reasons why that linked dataset is really important. The first, as you heard from the previous presenter from MUARC Professor Stuart Newstead, is the importance of very detailed injury data. We code all of our injuries using the abbreviated injury scale, or AIS, which gives us very detailed information about the injury sustained. We also follow up all of our patients at six, 12 and 24 months post injury to get a detailed understanding of their health-related quality of life, their return to work and other factors. And critically, we are linking data across multiple different domains, and the reason why that is so important is because the vast majority, in fact, of crashes—of hospitalised crashes—are not contained in police-reported data. At a national level 70% of hospitalised pedal cyclists did not have a linked police crash dataset, and the challenge with that then is that we have some very big data gaps in our understanding of the causes and characteristics of those crashes. One of the advancements that we have made is bringing in multiple data sources—so not solely relying on police-reported crash data but particularly also linking with ambulance data—which then gives us far greater coverage. Particularly important out of the ambulance data is the geolocation of these events. It gives us an understanding of where these events are occurring, and that is not information that is available in the hospital admissions data.

But even despite all of the efforts that we have made and the progress that has occurred in this space, there is still a number of gaps that exist in this data in understanding the causes and characteristics of these crashes. So what we really need here is a coordinated and multifactorial approach to how we address these knowledge gaps. Some of our previous research has used in-depth crash investigation methods in emergency departments to be able to interview patients and ascertain very detailed information. The opportunity exists now to start to think around more sustainable approaches to in-depth crash investigation data collection. Because we have all of these holes and gaps in our data systems, we need to think around very coordinated approaches to this, not just relying on hospital, trauma registry, police or ambulance data but also thinking about how we can use novel approaches in, for example, emergency departments and other self-reported measures as well to be able to start to get far more detailed, rich and policy-relevant data to really complete our picture of the causes and characteristics, injuries and outcomes of seriously injured cyclists.

Anthony CIANFLONE: Thank you.

The CHAIR: Thank you. Wayne.

Wayne FARNHAM: Thank you, Chair. In your submission you state that women and people of lower socio-economic groups are really under-represented in bike riding. What do you think the main barriers are to this, and how do we fix it or how can government help?

Dr Lauren PEARSON: Yes, of course. As Ben noted, we conducted this survey of over 4000 Victorians, and that was across greater Melbourne and regional Victoria in 2020 to really find out who was interested in

riding a bike. We found that more than 78% of people—three in four people—were interested in riding but they really had these concerns about safety, infrastructure that separates people on bikes from people in cars—things like off-road paths and new protected bike lanes. What we found was this really high level of interest in women in particular and people in those outer urban fringe areas, which was really interesting because they had such low participation as well.

While we do not really have great, robust evidence around what the specific barriers are of people in low socio-economic status areas in particular, we know that they have some of the highest interest in riding a bike and we know that they also have the least access to safe, protective and supportive infrastructure compared to their higher socio-economic counterparts. We know that, really, those newer subdivisions are waiting up to about 10 years for implementation of safe bike riding and active transport infrastructure, meaning that they are solely relying on car travel or they are having to ride in infrastructure that really puts them at risk.

In terms of women, another one of the studies that we ran involved a survey and in-depth interviews with just over 700 people across greater Melbourne. We found that really the number one barrier regardless of gender, and we have heard this over and over again today, was this concern about having to ride on the road alongside motor vehicle traffic and the safety concerns with that—concern about injury, concern about motorist aggression—but what we found was that not only did significantly more women report that but they also had these additional barriers that they experienced. They included concern about falling from their bike and into oncoming motor vehicle traffic, particularly in painted bike lanes with parked cars on the left; concern about a lack of connectivity between infrastructure; concern about their personal safety in dark and secluded areas, where bike paths often detour through; and a real lack of confidence around purchase, maintenance and riding.

Wayne FARNHAM: Thank you.

The CHAIR: Thank you.

Jess WILSON: Thank you. You spoke a little bit about digital technology and how that could assist with road safety behaviour, particularly on-bike technology. Could you give a few examples of how that might be, I suppose, expanded across bicycle users in Victoria and how that data might also be accessed more broadly?

Associate Professor Ben BECK: Yes, thanks for the question. There are two aspects in terms of capabilities that we have developed with respect to on-bike technologies. The first is about being able to detect near misses or conflicts between bike riders and other road users, and the second is about being able to measure user experiences.

On the first topic of near misses and conflicts, what we have been able to do is develop technology using video data to then be able to characterise the interactions that exist between bike riders and other road users, and this is in a very mass-deployable state. What I mean by that is that we are talking about the potential to be able to use smart phones as the data collection device capturing that video feed and also some other data, including accelerometry and GPS data, and then being able to use the methodologies that we have developed to effectively create a bird's-eye view of the interaction between bike riders and other road users. What that enables us to do is understand these interactions to really understand where unsafe events occur, and also it would enable us, when deployed at scale, to understand the influence of a variety of factors on near misses—for example, that might be the role of different infrastructure, the role of vehicle speeds, the role of rider behaviour or the role of environmental and lighting conditions and the like—to really then get at the depth of understanding these conflicts in real detail.

The other big benefit, and this links to the component about measuring user experiences, is about the ability to be more proactive from a road safety perspective. At the moment the common approach to investment and prioritisation around road safety treatments for bike riders is commonly reliant on the use of historical crash data. What that means is that we are relying on a sufficient number of bike riders to be injured or potentially killed before we then go and act on treating that bit of infrastructure.

What these technologies give us is that approach to be far more proactive in the way that we collect data to inform prioritisation and infrastructure investment. It is also a really great way to be able to engage the community. These are commonly termed 'citizen science-type approaches', so we have got this great opportunity to really work with the community and partner with the community to get them to inform how we can really enhance safer infrastructure for people on bikes.

The other component of this is measuring user experiences. As Lauren noted, the key barrier to getting more people riding is really around how unsafe they feel, but to date we have not had the ability to be able to actually capture data on how they feel and use that to then inform road safety interventions. The critical piece of this is really around the equity piece and really understanding the needs of what we call people of all ages and abilities. In planning bike infrastructure there is a common term that is used, which is called a AAA bike facility—so bike facilities that meet the needs of people of all ages and abilities. And this links into some of the Victorian strategic planning around tools known as bicycle level of traffic stress and also the movement and place framework. But we have not had the tools to actually measure how people experience different environments and how different groups have different needs and therefore how we can make sure we put people's experiences at the core of how we design safer and more accessible streets.

There is also, finally, the component here that links into enforcement. We have not previously had data capture capabilities to aid enforcement of specific road rules, and I am particularly talking here to the minimum passing distance legislation.

Jess WILSON: Thank you.

The CHAIR: Thank you. I am sorry; I am mindful of time. Sorry, John and Dylan, we will not have time for your questions. Thank you so much for your presentation and the submission that you have made and for answering our questions today. It is much appreciated.

Witnesses withdrew.