TRANSCRIPT

ROAD SAFETY COMMITTEE

Inquiry into serious injury

Melbourne — 11 September 2013

Members

Mr A. Elsbury
Mr T. Languiller
Mr J. Perera
Mr M. Thompson
Mr B. Tilley

Chair: Mr M. Thompson
Deputy Chair: Mr T. Languiller

Staff

Executive Officer: Ms Y. Simmonds
Research Officer: Mr J. Aliferis

Witnesses

Ms S. Cockfield, acting senior manager, road safety and marketing,

Mr M. Nieuwesteeg, research manager, road safety and marketing,

Mr H. Alavi, senior data analyst, and

Mr A. Woodroffe, senior manager policy, service and review, Transport Accident Commission.

The CHAIR — On behalf of the Victorian Parliament Road Safety Committee I take the opportunity to welcome representatives from the Transport Accident Commission to appear before us this afternoon to give evidence in relation to our inquiry into serious injury. Evidence given to the inquiry this afternoon is protected by parliamentary privilege. Any comments made outside the hearing are not afforded such privilege. The transcript will become a matter of public record. You will get a copy of your transcript in due course, and you are invited to amend any typographical or factual errors and return it to us in due course. I invite you to speak to your submission this afternoon, following which we have a lot of questions we would like to ask you. Thank you very much.

Ms COCKFIELD — Thank you, Mr Thompson, and thank you for allowing us to present today. My name is Samantha Cockfield. I am the senior manager of road safety at the Transport Accident Commission. The TAC has had a long history in dealing with serious injury, both in terms of the human costs and also the financial costs. We are well aware of that. We aim to increase community awareness about the issue through our public education campaigns and of course our accident prevention programs. However, this inquiry has allowed us to do a lot more work on the issue, particularly around measurement and the wider community cost. It has really been quite a privilege that you have actually had this inquiry.

We are quite aware that time is short, so I will not go on, but I will introduce the others from the TAC who are with me today. Mr Alan Woodroffe is the TAC senior manager for policy, service and review. Alan has a huge amount of knowledge about the operation of our wider business, particularly about the legislative aspects of the TAC. Hafez Alavi is our senior road safety research analyst. Hafez has done a large amount of work sitting behind our submission and certainly is our technical expert here today. Michael Nieuwesteeg, our senior research manager who has coordinated our submission, will be the key presenter for today. With that, I will hand over to Alan, who is going to start off our presentation today.

Overheads shown.

Mr WOODROFFE — I thought I would first begin with a simple case study — a driver with, as you can see, multiple injuries. These are based on real claims that we have. You can see the injury detail, the life story and the sociodemography of the person there. We have a bricklayer aged between 26 and 39 years who runs off the road in his ute. There are a lot of ways to look at the seriousness of that injury to this individual. You can look at the raw impairment — he walks with a limp, and he has permanent scarring and anxiety. There are associated mental health issues. There is a raw cost in terms of TAC compensation — in the region of $700 000 to $750 000 in rehabilitation, disability and financial support. There is a measure of the injury in terms of the threat to life, the pain and suffering and — I think importantly — the quality of life lost there, where you see social withdrawal; he stopped running his business, stopped his hobbies and took up gambling. It gives you a feel of the wider social costs associated with the injury.

As you can see from this very simple graph, which compares rates of hospitalised claims with deaths, it emphasises the importance of the inquiry and its focus on serious injury. The simple measure of hospitalised claims, as you can see, has been relatively static over the period there, whereas the success we have had in reducing deaths on our roads is much more significant. I think it probably raises as many questions as it answers in terms of the definitional issues about what serious injuries are, why they have not reduced at the same rate and if the measure of pure hospitalisation is an appropriate tool for that. In simple terms it is a stark picture of the progress that has been made in terms of the reduction in deaths versus the reduction in what we term serious injury there, which is hospitalised claims.

In terms of our presentation today, the TAC will first of all go over some of the basics about serious injury in the context of our wider business and the extent of road trauma, and then I think Michael will specifically address a number of specific terms of reference of the inquiry. This is just an illustration to show that clearly the TAC has that dual objective — to ensure that the scheme emphasises accident prevention and promotes safety for transport, and then to perform our functions in terms of the delivery of compensation to people who are injured in motor accidents.

In terms of the way that our statute works from a point of view of the definition of ‘serious injury’, it operates primarily as a gateway to common law. It is a combination of factual and subjective issues, so as a test of serious injury it is unusual in that context because effectively it asks, ‘Is the consequence of this injury serious

for that person?', rather than using a simple objective measure of, say, impairment or something else. Those are the four limbs of the definition of 'serious injury' that exist in the Transport Accident Act.

Mr NIEUWESTEEG — I am just going to recall the trend lines that Alan just showed you. The questions that Alan raised are ones you have been grappling with. The basic point we would make from what is basically a flat line over the past 13 years of hospital admissions is that we do not know whether we are getting more or fewer very severe injuries, and we do not know whether generally things are getting more or less severe.

The TAC has access to length of hospital stay data, which is a proxy for severity. If we look at those same admission claims, where we saw no change over 13 years, we realise that we are seeing good improvements in the more costly longer hospital stay injuries while there has been a deterioration in shorter hospital stays. This may suggest that there has been some reduction in severity.

We just wanted to compare the trends in injuries and deaths among different road users and different ages to give more insight and to help us understand that flat line that we saw initially. If we look at car occupants, I make the point that these are the biggest beneficiaries of improved road safety, with reductions in both death and hospital admissions. You will notice the death reduction — the red line — is more pronounced than the hospital admission reduction. That is not so for the older cohort of the community, where we see serious injuries on the rise.

If we look at motorcyclists, we see an increase in serious injury as here defined. For older motorcyclists it is worse again. With pedestrians, there looks to be some improvement in both injuries and deaths, but it is not quite so good for older pedestrians. For cyclists, it is quite concerning. We can see a fairly steep increase in hospitalisation. That is elevated again for older cyclists.

We make the point that in all cases fatality reduction outstrips serious injury reduction or increase if there is an increase and also that vulnerable road users — pedestrians, cyclists, motorcyclists and the elderly — are increasing in number and represent a real challenge.

The CHAIR — I just have one question: what is the base range of figures for the left-hand column?

Mr NIEUWESTEEG — That is the number of hospitalisations in a year. There are very small numbers for older cyclists.

The CHAIR — Thank you.

Mr NIEUWESTEEG — I am going to move on to term of reference (c). We would like to start with the definition of 'serious injury'. We presented you with this diagram in April when we met informally, which points out that there is a range of views through which you can consider injury severity. We also showed you some analysis we did with the data that is available to the TAC. For four particular aspects of injury where we have available data we have prepared this diagram which shows the proportion of TAC claim population that would be classified as serious according to a somewhat arbitrary assignment of seriousness. We had to make a decision as to where we were going to draw the line, so we have said the costs are greater than $52 000 and have a maximum AIS of 3+, as they use in Europe, hospitalised for greater than 14 days and so on. The clear result from this analysis is that there is no single measure that we can rely on. Some people are going to be considered serious by one measure, others by a different measure.

Here we look at four TAC claimants. The column on the left refers to the same male bricklayer that we saw at the start of the presentation. We have five different aspects of injury: the threat to life, impairment, cost, hospital stay (being resource use) and the quality of life. We have put them on a scale where we can, and the vertical dash line shows where we have chosen the point at which we will classify something as serious. The first person is considered serious on all domains, and that is fairly understandable given the injuries that we saw at the start of the presentation. On the other hand we see that the person at the far right of the spectrum has a very low threat to life injury but has substantial impairment or a lifelong burden from this injury. Being older, they tend to cost less in terms of their compensation because they are not going to be around to receive the benefits for as long. If you use 'hospital stay' as your measure, you would say, 'Well, it's serious'. So there are four different measures and four different results.

In considering what a serious injury measure might look like, there are many choices available. We would suggest that a range of measures is appropriate because, as we have demonstrated, there is no one measure that we can rely on to cover all people fairly. We think that it needs to be objective as much as possible, understandable and easily explainable. It should be adequately related to the consequences of the injury. We nominated the most important ones as threat to life and impairment. Quality of life, pain and suffering, cost and resource use we think in some sense derive from those threat to life and impairment measures. Cost is useful because of its availability and its precision; you can draw the line more easily with cost.

The measures should balance data availability, accuracy, timeliness, coverage and economy. We note that accuracy and timeliness are clearly a trade-off; it is difficult to get both, if not impossible. It should not discriminate between people. We find that most measures will discriminate in some sense between certain sections of the community — the rich versus the poor, the young versus the elderly and so on. It should also be consistent with interstate and international practices. We think the bar is set quite high. I am not sure we will be able to find the perfect measure that meets all those objectives.

Our suggestions are that we put some effort into implementing threat to life in the short term, because we believe it is quite achievable and very relevant and helpful, but again it does not capture everyone, so we would suggest that we look to incorporate some measures of impairment down the track. The big challenge with impairment is that it can take years for someone's impairment injuries to settle down so that you can actually take a measure. You can take a measure at the three-month mark that may be different to if you take it at the two-month mark. The TAC has a measure that it uses which is reasonably objective, but timing is the issue.

We have a question mark as to whether we would invest effort into pain and suffering and quality of life loss measures. We do not want to get carried away with elegant solutions; we really need to just assess whether we are going to get value from adding in those pieces of information. I again make the point that the measures should be fair and objective.

I will move on to term of reference (b). I make the point that there are a range of Victorian entities collecting data. These entities all collect data for different reasons, using different rules and practices. We also suggest that we could understand things better if we improved our exchange of data and sharing. To undertake its charter the TAC needs access to quality data for countermeasure evaluation, exploratory data analysis and identifying emerging issues. In response to this the TAC has taken the lead amongst road safety agencies in data collection, data quality, data analysis and addressing our needs for the future. I will show you some of that now.

Victoria has a really admirable record in delivering world-leading road safety programs. This has been supported by good cooperation on data collection and sharing between the four partner agencies as well as MUARC and ARRB. There are many data links that already exist between the agencies. Some of them work extremely well. The TAC holds the most comprehensive data collection in Victoria. It has commissioned numerous analyses based on this data. That data has also been used for rigorous academic studies. We accept that things can improve, and we hope they do. Collectively the partners have been discussing data quality concerns for many years.

Earlier this year Deloitte handed us a report that was many months in the making that explored the data holdings, the capacity for sharing and improving data sharing, and the subsequent analysis we could do. They did lots of interviews with data custodians across the agencies. The work was funded by the TAC and was completed at the request of the Road Safety Executive Group.

The objective, as pointed out here, is to review the road safety data sources, identify models for sharing information and highlight any barriers as well as looking at some potential metrics that could be developed down the track if we had a better data system. They have provided a schematic for us, which is a high-level information flow diagram. It is a little dated as you can see by the reference to Arrive Alive in the left-hand corner, but the status remains the same today. Deloitte's main comment about their work was that the approach to sharing information is mainly ad hoc, with the exception of TIS — the Traffic Incident System of the police – and the VicRoads registration and licensing data, which has been shared all the time. As we speak, IT representatives from VicPol and the TAC are working on another link. It will be a feedback loop from TAC to VicPol that will pass hospital admission information to Victoria Police, which will then be transmitted back to VicRoads and the TAC. I also make the point that there is a lot of linkage going on between the four agencies,

and there are some external links. The Coroners Court and the Department of Health are extremely important, but they are peripheral to the partnership.

The table shown is also from the Deloitte report. It lists the data and information that is shared or not shared and who it is shared from and with. On the left-hand side you see who holds the data and then you see who it is shared with. In the second row of the first column the TAC shares reports with Victoria Police and so on.

This demonstrates that a lot of road safety data is held by the agencies. Victoria Police contributes crash and enforcement data, the Department of Justice contributes speed camera data and enforcement data; VicRoads contributes crash data, registration and licensing, road inventory and geospatial distribution of crash data; and the TAC contributes the information on the health outcomes of injured people.

There is a good level of data sharing, but there are some challenges we face when we want to link some datasets. An example I give is that we tried to get some offence data from Victoria Police for some analysis we wanted to do, but that proved difficult because the police lacked the resources to de-identify their data. It does take some effort to de-identify the data and still give it to us in a way that we can do what we need to do with it.

In getting to this point Deloitte then considered what opportunities there were for sharing. They proposed four models. On the left we have the current state. There is sharing going on between the four agencies, and then there are some external agencies putting data in as well. The simplest new model they propose is just putting some MOUs around the structure to make data sharing a bit clearer and to relieve some of the perceptions and actual barriers that exist. The second and third proposals are the most interesting to the TAC. They both put one of the agencies in the centre and suggest that that agency becomes a data warehouse. The only difference between the two is that in one case you send the analysis to a third party. We believe the most logical agencies for that central task would be VicRoads or the TAC.

In our submission we pointed out that the Swedish STRADA system could be a model that is relevant to Victoria. STRADA is a government-owned data system that sits within the Swedish Transport Agency. It takes confidential information from hospitals and police and links it together and then adds its own data such as licensing and registration. Then it makes that linked file available to researchers in a de-identified format. What appeals to us about this model is that health and police data are input into the system, and we think this is preferable to a system that would house data at VicPol or the Department of Health where road safety is just one of a number of competing priorities. In our view we would position the TAC or VicRoads where you have the STRADA 1 box on the overhead. In this model it is not necessary to have a link between hospitals and police.

I want to bring your attention to some of the work the TAC has been doing. What we have here is a schematic diagram that outlines a dataset that we have built and used for analysis. We have collected this by virtue of our mandate, which really says we should be collecting road safety data and using it to promote road safety. We have done all this now, and this is all done now within privacy constraints and all within the TAC. It provides the only end-to-end crash data collection in Victoria, and it is rare around the world for its completeness.

The TAC has invested considerable effort in building up this data store and improving its quality. There is a longstanding link between the police and the hospital data through the TAC. We get a claim and we establish a link to the police crash data and we also establish a link to the hospital information, because they need to be paid for the services they provide to the TAC clients. We have also been able to add injury information and registration data that is provided by VicRoads. There is a lot of value-adding stuff that we have from Monash University and the ABS, such as census information — sociodemographic information that we get from the ABS. That is matched based on a TAC client's address.

We have used that data to develop some complex risk models that identify factors that contribute to the likelihood that a particular vehicle will be involved in a TAC claim or that a particular licence-holder will be involved in a claim, and to predict the cost of a claim or severity of injury. A key component of this dataset is the injury severity, and in this case we have the abbreviated injury scores in there. They are not validated though; they use an American database to take the step from ICD through to AIS. It may receive criticism from health experts because it is not validated, but we are very comfortable with the results on a global scale. We would not want to pin down a particular claim and say, 'Okay, this is the AIS score', but we would be comfortable with it on a population basis.

We put up our hand as a potential host for a link to dataset, and the reasons we cite for the TAC being appropriately placed to take on this role is that we have a statutory mandate to improve road safety and collect road safety data; we have a reliable source of funding; we host both road safety and public health expertise; we have a unique interest among government agencies in all pre-crash, crash and post-crash phases and across all dimensions of the safe system; we have agreements for data sharing already, and these are effective and road safety oriented; we have a track record of utilising this linked data and providing insights from it; we have undertaken research into our needs with Deloitte considering how we can further improve things; and we have a long history of dealing with privacy issues through managing personal information about TAC claimants.

We think the TAC would represent the cheapest and simplest solution among those you might be considering for someone hosting a linked dataset, but we make the point that we need some things for this to happen. We need high-level support, and we really need strong leadership to surmount the challenges within each organisation, in particular those challenges relating to the mobilisation of resources and the navigation of data security protocols. We will need the establishment of formal agreements and appropriate legislative support so we can guarantee the data collection. We need to use a risk-management approach to privacy, which the TAC is experienced at using.

This says that there are inherent risks when you are working with private data, but there are also greater gains to be made. If you are totally risk averse, you will fail to make those gains, and the TAC has managed those risks for many years without major incident. We think this can be done without being gigantic, we think with a small team of two to four people, depending on scope, and obviously the purchase of some hardware and software, and obviously we need some long-term commitment. It would be worthwhile investing in that small team. I am now going to hand over to Sam.

Ms COCKFIELD — Thanks for that. We saw earlier that Michael presented a range of graphs showing that while we have an apparent plateau in serious injury it really does hide some underlying trends in terms of different road users and different issues. So we do think there have been some gains in serious injury, but because of the way we define it we are not actually seeing it at the moment.

We have seen some recent work out of South Australia where we see that fatalities are tending to be driven fairly much through extreme behaviours, whereas injuries are more driven by systems errors and external factors. It has been suggested by some that existing interventions may not target serious injury as they do fatalities. I think the reality is that we do not know that. We think that they are effective in terms of serious injury. Again, because of our inability to fully measure serious injury, it is very difficult to know the impact, but certainly the TAC has been investing where it can in terms of when we do evaluate, we evaluate in terms of both of fatality and serious injury outcomes.

Speed has been a major intervention more recently for the Victorian government, but particularly for the TAC. It has been fairly influential, we know, in terms of fatalities, and that is the high-level speeding, but what we do know about speed is that it influences death and serious injury in different ways, and we actually think it impacts crash risk. So that is the first element, and it certainly reduces crash risk if you are travelling within the speed limit and the speed limit is appropriately set. If you look at the Nilsson model, the exponential model, we see that in terms of intervention it is four times more likely in terms of death, whereas only three times more likely in terms of injury. We would say it is still effective, just maybe not as effective a countermeasure in terms of addressing serious injury.

Recent road safety interventions might help us better explain the discrepant patterns we have been observing, and I suppose our suggestion at the moment would be that we start looking at some of these more recent interventions in terms of further evaluation, so we would actually go back to some of the previous countermeasure evaluations we have done with better definitions and better measurement of serious injury. I suppose a fairly good example of this is that the TAC has been evaluating its Safer Roads Infrastructure program, the old black spot program, over time, and we have actually fairly recently commissioned Monash University Accident Research Centre to look at that program specifically in terms of benefits to the TAC. We have been able to do that because of the linked datasets that Michael has been talking about. So this data, which is newly available to us in terms of linked datasets, has actually been able to look more precisely at injury severity and how well we have actually impacted that through the SRIP. There are some other examples with side airbags where we have also been able to do the same sort of research. Monash may have actually spoken about that in its presentation.

In terms of moving forward, the TAC definitely understands the need for more information in this area, and we have just recently had approved an in-depth crash study that will reveal causal factors of serious injury crashes. So this is a very large study over three years looking at individual crash cases. We have also invested alongside other Victorian and Australian road safety agencies in an Australian Research Council research project. It is called a naturalistic study. It involves the in-car monitoring of drivers, and that will certainly be looking more at their behaviour in terms of causal factors.

I suppose just in terms of the next term of reference, in terms of cost-effective countermeasures, it is probably worth starting where we start in terms of developing road safety interventions, and it is really using an evidence-based approach. Our aim is that every intervention that we undertake at the TAC has a reasonable evidence base for undertaking it, and the real starting point is back to a fairly old model. The latest version of Haddon goes back to 1980, but I think he started sometime in the 1960s developing this model.

I might just move to the next slide, which talks about the three phases of a crash. There is the pre-crash — ideally we would stop a crash in the first place, but if we do have a crash, we reduce the severity of an injury that comes out of that crash. There is the post-crash — we use the most life-sustaining methods to keep people alive but also to reduce that severity in the long term. That is the matrix we use to make decisions and to develop our program. It fits very nicely with the safe system philosophy that underlies the Victorian road safety strategy, and we actually find it works fairly well for us.

We have got to this point in road safety in Victoria where we believe the most important place to concentrate on is around speed. Speed actually underlies the Haddon matrix. It is about kinetic energy and the human body's tolerance in absorbing that energy. If we can reduce that risk and if we can reduce the body having to absorb that energy, we know we are going to have better outcomes both in death and serious injury. In terms of our approach to speed, primarily it has been around public education. It is about telling the community how important it is to stay within the speed limit and what the actual impact is for yourself and others if you go over the speed limit.

We also have a range of other projects. We have highlighted one here — our intelligent speed assist project. We have been running work around intelligent speed assist for a long time, and we have helped to develop a digital data map for Victoria so that we could have speed assist products. But at the moment we are looking to do some trials within the government fleet of this product that will assist government employees to stick within the speed limit and just show people how easy it is to do that.

In terms of the road user, it is the area we are best known for to some degree. It is our core competency that we promote public education of the most appropriate road use behaviour to the Victorian public. You will see it coming through our drinking and driving campaigns, our drugs and driving campaigns, our fatigue campaigns and our distraction campaigns targeting some specific areas in relation to young drivers. We are going to be starting to talk more to elderly drivers in the future, and Michael's slides earlier illustrated why that is important, but also in relation to parents there is going to be an upcoming campaign around young drivers. We actually expend quite a lot of money on that, but we believe it is to good effect, and we continue to evaluate the effectiveness of those programs.

Our enhanced enforcement program is where we assist police to undertake activity that they would not be doing in their normal day-to-day police work. It is very much, again, evidence based. There is the police investigation course that Assistant Commissioner Hill was speaking about before, and we have had input into that as part of this process. We have brought an academic evidence base to that course to assist them in running it, and that all becomes part of the process.

I know you have heard about our motorcycle protective clothing before. That is another intervention that talks to a vulnerable road user group.

In terms of vehicle safety — and the fit may not seem quite as natural — we have really been very encouraged by work that came out of MUARC some years ago now that said, if everybody moved to the safest vehicle in their class, we could reduce road trauma overnight by one-third. It is incredibly important to us to be involved in this.

We input both financially and through our work into the Australian New Car Assessment Program and the Used Car Safety Ratings Program but most importantly through the How Safe Is Your Car public safety education program, which promotes the work of these two programs and letting the Victorian community know how important vehicle safety features in terms of pre-crash and the vehicle itself in terms of crash and injury severity can be to them in the case that they do have a crash. We also have a demonstration vehicle that we can use with the public and particularly with the media to show how some of the interventions and vehicle safety features work.

Probably our largest investment by far over the history of the TAC has been in road and roadside treatments for our Safer Roads Infrastructure Program and, prior to that, our black-spot programs. We have seen evidence from around the world that well-designed roads with forgiving infrastructure are probably the most sustainable way to reduce road deaths and serious injury. To that end the Victorian government announced earlier this year that it would be increasing funding for the Safer Roads Infrastructure Program to $1 billion over the next 10 years.

We also have a range of grants projects specifically to assist local communities to undertake interventions and address issues in their local community. Up until this year that has primarily been a very general program. We have increased the funding by $1 million per annum, so we now have $2 million per annum and $1 million of that will be specifically to address what we see as fairly emerging issues around cyclist and pedestrian safety. That grant program will run through local government, so local government will be applying for funding through that program.

Just in terms of the burden of serious injury and how we might actually reduce serious injury, in terms of our public education function, for a long time we have been actively talking to the public about serious injury. We have had campaigns such as the Hidden Road Toll campaign, which was specifically about serious injury or the injury that we do not talk about or see. We also talk a lot to the media et cetera and throughout communications, about the fact that it is not just about death and serious injury.

Having said that, we have talked to you before about the fact that we do market research for all of our campaigns. We know that death remains the no. 1 concern in terms of the Victorian public. That is what they perceive as the key issue in terms of road safety. Evaluations of programs have been concerned in the past about reductions in serious injury, but we have not been able to do well at that, particularly where programs have not been large. The size of the Safer Roads Infrastructure Program has allowed us to look at serious injury. For some of the smaller programs we run — I will give you the example of enhanced enforcement — it is more difficult to evaluate in terms of injury outcomes.

As we move forward, the burden of injury versus death will become more and more important to us as well as highlighting it to the public because at the moment, while the community is still very concerned with death, people are also concerned about ensuring their own safety and that of others on the road. As we get more and more successful in terms of reducing fatalities we need to make sure, as the Victorian government does now, that we do not accept serious injury or any level of injury and that the Victorian community moves with us in not accepting injury at all.

I suppose to some degree that falls on the TAC to highlight this ongoing injury burden and to actually find new and, to some degree, better ways of talking to the Victorian public about serious injury. Certainly being able to better measure serious injury more accurately but also in a more timely way will assist that. For example, being able to talk to the media in a more timely way about serious injury will actually help them talk to the public about serious injury as well as death as they do now.

In terms of moving forward, what do we think we might be able to do? Improving understanding of causal factors and developing the evidence base would both help us develop more effective countermeasures but particularly provide more effective public education. Continued evaluation, as I spoke about before, of countermeasures in terms of serious injury will again assist us in better development of new countermeasures. The interesting thing about having more information is that it will also help us with upcoming technologies and improving societal change in terms of reducing the levels of severity and numbers of injury as well.

Mr NIEUWESTEEG — I have two points to make about term of reference (a), and that is that TAC supports the willingness-to-pay methodology but we are probably not ready for it yet; there needs to be some

investigation first. We think attending to data needs is the higher priority at present. That is the end of our presentation.

The CHAIR — Thank you very much for a comprehensive presentation and some very interesting graphics, whoever put those together. Thank you, Hafez.

Mr ELSBURY — Do you believe it is appropriate to continue using the human capital approach, developed by the Bureau of Infrastructure, Transport and Regional Economics, to calculate trauma costs and, if so, why? You said you supported willingness to pay — —

Mr NIEUWESTEEG — We support moving there in the long term, but we just make the point that in Victoria we do not really have a competitive funding environment. We feel that human capital serves us okay for the time being and, until we are comfortable with willingness to pay, we would not see any reason to jump to it. We are comfortable using human capital in the meantime.

Mr ELSBURY — Can you comment on the willingness-to-pay model, the project that has been mooted by Austroads, to develop a willingness-to-pay value for Australian road crashes? Do you think it is viable to undertake a national willingness-to-pay study? What impediments, if any, would there be to completing such a study?

Mr NIEUWESTEEG — I would say, yes, it is viable and we would prefer a national approach to it. The experts can manage that better than we can. What would be required? The same things that other people have said: you want to have a very sound methodology, particularly a survey methodology. As a statistician I would probably recommend the ABS as a good place to start for getting an adequate survey methodology. As I said with the injury measurements, there is so much potential for them to be biased towards one section of the community. Representation of all cohorts of the community is so important for willingness to pay. The ABS would give you a more representative survey, I feel.

Mr ELSBURY — I am hearing the hesitation in the answers. There have been some moves to put the values that were developed under the New South Wales willingness-to-pay study forward as an interim measure. I do not want to put words in your mouth, but what are your views on using that study as an interim study before a national study could be done?

Mr NIEUWESTEEG — I do not think we need it in Victoria currently. I think we can wait until we have a national approach.

Mr ELSBURY — Why is that?

Mr NIEUWESTEEG — It is mainly because we do not have a competitive funding environment. The TAC is self-funded in a sense, and so much of the road safety investment is provided by the TAC.

Mr LANGUILLER — Thank you for your very comprehensive submission and presentation today. What, if any, are the key barriers to linking on an ongoing basis the TAC claims data, the Road Crash Information System and the Traffic Incident System with the Victorian admitted episodes dataset?

Mr NIEUWESTEEG — I think partially the barrier is a perception. There are legitimate privacy barriers, but also I think there is a risk aversion within the government and government agencies. But all this can be worked around. You can set up a legislative framework to permit sharing among all the agencies for road safety purposes.

Mr LANGUILLER — Thank you. In your submission the TAC states that depending on the final definition of 'serious injury' recommended by the committee, a large proportion of serious injuries might already be captured in the linked TAC and police-reported crash dataset. If this is the case, the TAC claims the extra coverage that linking the VAED would provide might not be worth the investment to overcome the technical and other issues associated with that linkage. What definition of 'serious injury' would that be?

Mr NIEUWESTEEG — I find that a difficult one to answer. We have made the point that we would not want to tie ourselves to one definition. I am just wondering, in terms of what is coming next in the questioning and where to go exactly with this one — —

Mr LANGUILLER — Would you want to take that on notice?

Mr NIEUWESTEEG — I might. I might just put a hold on that one and continue on.

Mr LANGUILLER — The TAC refers to the decision of Victoria Police not to enter information on non-injury crashes in the TIS. What is your understanding behind this decision? What has been the impact of this decision on crash-related injury data and on the TAC's capacity to validate claim eligibility?

Mr NIEUWESTEEG — It is a real challenge for us, and we do not know much about it. We have seen progressively over the years the number of serious injuries and injury cases that have been recorded by police declining, and we are concerned that that may not be a true representation of what is happening. Are you able to repeat your question again?

Mr LANGUILLER — What has been the impact of this decision on crash-related injury data and on the TAC's capacity to validate claim eligibility?

Mr NIEUWESTEEG — I might ask Alan to comment on claim eligibility, but I would say that I think it is very important that Victoria Police follow up that initiative with a thorough assessment of what it has done to the reporting of serious injury.

Mr WOODROFFE — From an eligibility perspective there is still a requirement for there to be a police report. What it means is, if less are entered into the TIS system by police, there are a lot more self-reported accidents where people have to turn up to the police station to make that report. But it is still a requirement; it means there is an increasing level of self-reported accidents in terms of injury crashes.

Mr LANGUILLER — Do you believe that integrating medical, Transport Accident Commission claims and police crash data would ultimately be the most beneficial way of monitoring road safety in Victoria?

Mr NIEUWESTEEG — Yes, I think we have to get there ultimately. That helps because the TAC can only talk about a cohort of claims. There are a number — and we particularly believe so with cycling and motorcycling and off-road incidents — that the TAC will not find out about and the police will not find out about, so it is really important that we can link the Department of Health data. I pondered myself how this can be done. If we could assume that the police data and the TAC data were really well matched up together so that when there was a TAC claim there was guaranteed to be a police report, and vice versa — whenever someone was eligible to claim and had gone to the trouble of putting in a police report, there would be a resulting claim — if we could assume that there is a good link between those two, then it is the Department of Health data that the TAC gets by virtue of paying for the treatments. The Department of Health knows when they have received payment; they also know when they have not received payment.

So there are two buckets, right? You have got the ones that TAC have received and the ones that we have not. The ones that TAC have not received, they could give us some information on those. We could try to link them to the police data, and that would tell us something that we do not know currently. I cannot say how much value that would be, because they are more likely to be less severe and cost the community less. But the trouble is that we are operating in a bit of a vacuum, so we really cannot say how much value it is going to be. But it probably is worthwhile not throwing too much resource into building something really big until we can be fairly confident that those incremental gains will be worthwhile. We are working with the Department of Health and we are confident we will be getting some data from them in the next few days that will help us to understand that underreporting aspect.

Mr LANGUILLER — Further, what issues would decision-makers need to consider when deciding whether Victoria should link or integrate crash and injury datasets — for example, with reference to resources or technical requirements?

Mr NIEUWESTEEG — Sorry, Telmo, are you able to do that one again?

Mr LANGUILLER — What issues would decision-makers need to consider when deciding whether Victoria should link or integrate crash and injury datasets — for example, with reference to resources or technical requirements?

Mr NIEUWESTEEG — This was the subject of one of our slides. We are obviously going to need some high-level support. We have experienced significant difficulty trying to access information from other agencies in the past. There could be a whole lot of reasons for that, but I think the high-level leadership may result in a piece of legislation being drafted and moved, and then we have got the agreement set up and the high-level support to enable the resources in the agencies to turn on the taps. Then I think these issues are completely resolvable. It is going to require a culture shift, more so from some agencies than others, and also some funding.

An example I might give is that VicRoads and TAC work very well together with sharing data. VicRoads is legislatively required to give data to the TAC, and TAC is allowed to ask for it under the legislation, so there are not the same worries, but still if we are asking VicRoads to do something that is difficult for them, because they have got a data management system that is largely outsourced, it can be very expensive — even to do something that we are not sure is going to work. So it is going to require some funding as well.

Ms COCKFIELD — I was just going to say that I think one of the other issues we have found is about privacy. Alan has had some experience in this area. I just thought you might speak to that issue.

Mr WOODROFFE — A lot of the issues — we are certainly getting information from Health — are related to the exchange of personal and health information. When you get down to very small cohorts or incidents with very low levels of injury — like quadriplegia, or something like that — it is very hard to transmit data without it being able to lead to the identification of the individuals concerned. So there is a legitimate privacy concern.

Mr LANGUILLER — How would that be overcome?

Mr WOODROFFE — I think that can probably only be overcome by legislation which would enable the exchange of that information for the specific purpose of road safety. Then, internally — the TAC, for example, is familiar with creating some Chinese walls between datasets. For example, we might do client surveys where we talk to clients, but we do not integrate that; we do not send that data to our claims teams, for example. It is collected for a particular purpose and we create a dataset with Chinese walls. You could certainly do that in a road safety context, but fundamentally you would still have to, I think, create a legislative piece which enabled the exchange of that information in the first instance. That is my impression.

Mr LANGUILLER — Thank you. The Department of Health submission includes a discussion about its data linking unit and the potential for it to link crash data in Victoria. What are your views on the potential of the Department of Health's data linking unit to achieve a functioning linked dataset? If not the Department of Health, which agency should be responsible for linking such data?

Mr NIEUWESTEEG — Thank you for that question. We read the Department of Health submission with great interest, and we welcome that initiative. We think it has great public health benefits. We do think though that the TAC has a bit more to offer in this regard, because it has a very clear mandate and a very clear priority to deal with road safety. The TAC needs confidential information in order to do the analysis it needs to do to carry out its functions. So the situation you may have with the Department of Health approach, which they have in Western Australia, is that the data is held by the Department of Health and if I want to get some of that data, I have to do it on a case-by-case basis. I have to come up with a hypothesis, identify the data items that I need and justify each of them, then I need to get permission from the custodians of the data.

If we all give data to the Department of Health, it is all held by them. I then need to say to the Department of Health, 'Can you give me the crash information that came from police, and by the way I would like to get the seatbelt data from Ambulance Victoria and I would like to get the hospital information. I might also like to get some vehicle characteristics from the VicRoads registration'. I might need all that information. I am going to have to specify that for every question I have, which makes it very difficult to do trial and error kinds of research where you let the data do the talking. It also adds a lot of time.

My discussion with Matt Legge from the Office of Road Safety in WA, with whom I believe you spoke yesterday, was that if they have a question of great priority — say, if the minister wants to know something — they have to put the request in and wait about six weeks. That is a fast turnaround; otherwise you could be waiting for many months. The message I got from him was they really do not use it. It is difficult for them to use it.

There is a lot to discuss here. I am not sure where I was going.

The questions we might ask, for instance about seatbelts and health outcomes — and this is something that is probably going to become a lot more relevant with an ageing population and the fractures or internal injuries that might be caused by seatbelts — are that if a car comes out with a new type of seatbelt, a four-point harness or something, we need to know how that performs relative to cars without that and also whether the seatbelt was fitted or not. I would prefer to rely on the ambulance data for that the information. The point really is that you need all this information — a whole lot of information would need to be sent over to the Department of Health. The Department of Health is not familiar with that data; there are a lot of data rules, business rules and collection rules that affect how the data works. Then the road safety agencies have to tell the Department of Health to extract this and this and this for this question. I just think it is going to create a really difficult environment. It is really not going to help us all that much.

Ms COCKFIELD — I might just add that I suppose in terms of developing interventions, timeliness is really of the essence. Being able to do that more exploratory research that Michael was speaking about is incredibly important. Addressing other barriers to getting that information quickly and actually then being able to explore it a bit further when you have questions is incredibly important to all the agencies in terms of actually designing countermeasures for road safety.

Mr NIEUWESTEEG — Can I just refer you to the slide here where we have listed four reasons why we think the TAC should do it, and we think these reasons distinguish the TAC from the Department of Health in particular. The system would be effective because it is designed for road safety purposes. Most of the linkage exists already. It is economical because it is already there — we do not have to build something new; we do not have to teach people a whole lot of information. It is timely. There are no ethics overlays and exhaustive application processes, and we can do that exploratory-type analysis. Importantly, it is road safety oriented. It is built for that purpose.

Mr LANGUILLER — Just to be clear in my mind, earlier on you referred to the Swedish model, STRADA. Can you explain to us how that is reconciled with — —

Mr NIEUWESTEEG — What is similar to what we have here is if you look at the STRADA 1 box, that is effectively the TAC currently. The TAC has a link with VicPol. It gets everything from VicPol. It has a link with hospitals — it does not get everything, but it gets everything it needs for the cases that it is allowed to. All that is required there — this is not that simple but we just need to get extra records. That is all that is required there. We already have a link with the data licence register; that is provided. Currently that registration and licensing data is difficult to work with. We have actually done more with it than the VicRoads road safety guys because we spent a lot of money paying to get a large swathe of it and we get that every six months. But because of its structure, and its age, it is very expensive to work with. We have a lot of hope that RandL, which promises a lot, will deliver real live data so then we can, say, get a police report two months down the track — for some reason they came in late — and we can then go back and look at what the vehicle register said on the date of that crash. We do not have to make an inquiry of VicRoads at that time.

Mr LANGUILLER — Of the agencies, the TAC is the closest to this model?

Mr NIEUWESTEEG — Yes. The links are there but they are not as exhaustive as they need to be. What we cannot do that STRADA can do is we do not get the full hospital information. We would need a name — we need some personal information so that we can link to the police — and we would need to do a probabilistic link. That would not be as fool proof as, say, a Medicare number being on both systems. But that is as it is. Maybe ultimately that will be changed and then that makes the linkage very easy, but I would still be confident you could link 90 per cent to 95 per cent of your records at least.

The CHAIR — Just interposing another question that relates to the sorts of remarks made a few minutes ago, given your observations, what stops the TAC from undertaking data linkage at present?

Mr NIEUWESTEEG — Access. An example I gave with the police was that we asked for offence data. That sits in a different system, and the police were quite nervous about providing certain elements of it. The people we were speaking to, our road safety colleagues, do not have the same level of access. Even within the police there are quite effective Chinese walls. It was also a police resource, so we gave the police a solution — a

way they could do some work with their data to provide something that we could use and that something was a neighbourhood ID: do not tell me the address of the person, we do not need to know their name, we don't care, but we need to know their address so that we can put them on the map. If we put them on the map, we can use the ABS data to get some attributes. They are not about that person but they are about that small neighbourhood in which they live. It is called a census collection district.

We asked them to do it but in the end it became quite difficult and other priorities popped up. But VicPol would have needed to convert their address into a census collection district and then give the census collection district to us along with information about the offence — the speeding offence and the number of times that person had an offence, and it might be the location of the offence. There are a few bits of information that we wanted to work with.

Mr LANGUILLER — Just a further question, if I may. Can you talk to us in relation to the governance of STRADA? How would that be similar or different to the governance structure that you would propose hypothetically to advance? Have you given any thought to that?

Mr NIEUWESTEEG — In terms of how you would govern it, I would have thought a piece of legislation making that exchange of data from the Department of Health to the TAC would be required. The TAC already has the arrangement with the police, so the Department of Health is the missing part of it. But we would also like to add ambulance data in there at some point, and there are discussions with TAC and ambulance about sharing some data. But again that is likely to just relate to the people who we have in our claims database and not to the people who are in the police database, for instance, or to the people who did not want the police to know about their crash. That would require legislation to permit Ambulance Victoria to share that information.

Mr ALAVI — Can I just make one point? The point is that this system is similar to what we are doing in Victoria in terms of what comes out from transport agencies and from the road safety partners in Sweden who worked on this data system. We think our suggestion of VicRoads or the TAC housing this data repository is similar to that case in terms of our data system being based on a road safety partnership. There are many benefits to that. We have the expertise of road safety and the focus is on road safety issues. For example, I think in the submission of the Department of Health they mention that they are focused on a bigger problem. We do not have those competing problems and we just focus on transport crashes, which is one of the benefits of our suggestion. That is happening all over the place — codes in America, Australia and Sweden.

Mr NIEUWESTEEG — Also, we would nominate one other issue that would need to be resolved, and that would be the work with the Department of Health on their coding. They will have a way of determining whether an incident is related to a transport case or a vehicle case, and we just need to work with them so that our definitions align. That could be a reason for the Department of Health coming out with a different number to the road safety agencies. It could be as simple as the way they define a vehicle or the road.

Mr PERERA — Evidence in both submissions to this inquiry and in research literature suggests there is a strong basis for the use of the International Classification of Disease-based Injury Severity Score to define 'serious injury' in Victoria. Do you agree?

Mr NIEUWESTEEG — We agree that ICISS will be useful among other measures. But that would be the one we would say was the no. 1 priority for development. The Department of Health would need to develop that and share. We would need to share the survival risk ratios, and if they shared those with the TAC, we could calculate ICISS.

Mr PERERA — It is better than the European model — MAIS?

Mr NIEUWESTEEG — We think it has more advantages in Australia. It has fewer problems than MAIS and it is more precise. MAIS has six associated categories and it has some limitations. But MAIS is useful also, and we used it in our analysis and it has helped us because you can say that those with a 4 plus are more serious than those with a 2 plus. You know more about that rather than the situation we have currently where it is, 'Gee, they all went to hospital'.

Mr ALAVI — The issue I wanted to raise is that we talked to one of the committee members who is giving advice to the European Union road safety council. They have not evaluated this interim measure of serious injury — MAIS. Ongoing they are evaluating different measures, and they talked to us at the Brisbane

conference about us maybe needing to consider different measures. In our submission we echoed some of the arguments that MUARC raised for adopting ICISS. We might suggest that MAIS and ICISS should be evaluated in Australia to see which one is the better choice in the Australian context.

Mr PERERA — What are your views on the current major trauma definition used in the Victorian state trauma system for monitoring serious road trauma in Victoria?

Mr NIEUWESTEEG — So you are interested in the definitions. Is that what you — —

Mr PERERA — Yes. The major trauma definition used in the Victorian state trauma system.

Mr NIEUWESTEEG — It is useful to identify a cohort of cases based on the chance of death. Yes, that has its application as well.

Mr PERERA — If Victoria was to adopt three separate measures to track road crash trauma — that is, the current resource-based measure used by Victoria Police, a threat to life measure such as the ICISS, and an outcomes measure such as a disability-adjusted life year measure, would that provide government and road safety agencies with the best picture of what is happening on our roads?

Mr NIEUWESTEEG — I would not say I am so confident that it will provide the best picture. We think that disability-adjusted life years would need to be tested in a road safety context. They take a long time to calculate and may not be feasible for the majority of cases. ICISS, as good as it is, is still available only when you have the hospital admission. In cases where they do not go to hospital it is not possible, so it is still useful to have resource measures. We are not ready to say, 'This and this and this are your best'. We just nominate at this point that ICISS is useful and in the meantime we should be using the TAC-validated police measures of serious injury.

Mr PERERA — If there is serious injury, people go to hospital, or is there an alternative so that people with serious injury avoid going to hospital?

Mr NIEUWESTEEG — I think it is a question of language and what is serious. We could point to some cases in our claims population when someone did not go to hospital but had an outcome from a crash that was devastating for their life. You may have gone and had a small amputation of your finger and been dealt with just as an outpatient or in the emergency ward. You are not classified as a hospital admission, but you cannot do your job anymore because you cannot turn a screwdriver or tickle the ivories on a piano. No one measure is ideal, so we do advocate some openness to using a variety of measures.

Mr PERERA — But still they can make a TAC claim?

Mr NIEUWESTEEG — Yes.

Mr ELSBURY — The committee has received 36 submissions as part of this inquiry. A recurring theme in most of them is the lack of information about term of reference (d), the correlation between different countermeasures and actual reductions in trauma. Is the TAC aware of any studies or research that have determined which countermeasures have reduced trauma, and if so, by how much?

Mr NIEUWESTEEG — I think we have referred to some in our submission, some evaluations that have happened in Victoria that do distinguish between hospital admission injuries and deaths.

Mr ELSBURY — But picking up on particular countermeasures, where a countermeasure is employed and there has been a reduction?

Mr NIEUWESTEEG — I am thinking of the Safer Roads Infrastructure Program, so you have infrastructure countermeasures. Because there is so much invested in that program and you can actually measure that quite easily through a case-controlled sort of situation, you can make that assessment. Sometimes it is not so easy. Disentangling the impact of a TAC campaign, how does that impact on fatalities and serious injuries? Disentangling that from police enforcement that was in support of the campaign can be much more challenging.

Ms COCKFIELD — I think one of the reasons we mentioned the recently approved in-depth study is that we recognise that we have not been able to do a lot of work in that area previously and the in-depth study will certainly assist us to better understand some of the causal factors in terms of serious injury. It is all about serious injury, so hopefully this study will assist in terms of interventions in the future and also the current interventions. For example, where infrastructure has actually failed, rather than knowing where it has actually worked, because that is really what the SRIP program is evaluating.

Mr ALAVI — Can I add just one point? One of the benefits of this in-depth study is that we have done some literature analysis and we know what is happening in Europe in terms of controlling serious injury and like all the interventions. What is happening is that the contexts are different. We have some measures that might work for Swedish conditions, like air, weather and all sorts of stuff, and they are not working for Australia. This study will help us to understand the underlying cause of serious injury in Victoria and what are the best interventions to be used in the Australian context.

Mr ELSBURY — I do not think you are going to get many vehicles in Scandinavia running into kangaroos. In reference to safe speeds as a countermeasure, the TAC submission suggests that reducing speed limits requires further estimates of effectiveness prior to implementation, as modelling of such initiatives is less well developed compared to other safe system cornerstones. In the absence of such research, how is the effectiveness and cost-effectiveness of speed-related countermeasures determined? In other words, everyone is saying, 'Reduce speed. You get the result of fewer collisions, you get less trauma and such'. There does not seem to be any research that has shown the effectiveness compared to the cost impacts of reducing your speed limits for transport around the place and that sort of thing. I am just trying to find out how you would work out that those countermeasures are actually achieving something.

Mr ALAVI — I have two answers for that just to begin the discussion. First of all, we have quite good evidence that speed is a major, fundamental causal factor of crashes.

Mr ELSBURY — The laws of physics say it.

Mr ALAVI — Exactly. That is one reason. From other research there is quite good evidence that anatomically human beings cannot tolerate above a certain level of speed. So speed is a measure of serious injury. If you are involved in a crash at high speed, it means that you will be more seriously injured and it can be translated into higher costs — human costs and economic costs — to society.

Mr NIEUWESTEEG — There is some research from Max Cameron recently where he did look at the economics and the trade-off between speed on rural roads in Victoria for heavy vehicle and light vehicle. He did factor in some economics for time saving and the benefits in time saving and weigh those up against the benefits from trauma reductions. It is a difficult question because you are really putting the challenge that VicRoads lives every day: to somehow try to balance those economic mobility gains against the economic road safety gains. It calls into question your methodology for valuing the cost of a trauma as well as putting a value on the time saving associated with faster travel.

Ms COCKFIELD — Could I also just add the ethical issue that arises here, which is how we actually cost trauma. Ethically if we actually take the position that it is not acceptable to have people being killed or seriously injured on our roads, we have to find a solution that means we do not trade off mobility and serious injury and trauma. I think to some degree this is where we are coming towards as a wider international community not just, the Victorian community, that we actually have to find a way through it, that we cannot say that mobility is more important than people's lives. I think this is the underlying issue that is actually coming out now internationally, and how we address it is quite important.

Mr ELSBURY — In their submissions both MUARC and VicRoads propose that MUARC's macro estimates for target setting is a useful modelling tool to determine the benefits of road safety countermeasures, as we have just been talking about. Do you think that the METS could be used to model speed-related countermeasures? I know that we are going away.

Ms CAMPBELL — As far as we are aware, speed and speed reductions are actually in the model. I might need some more information.

Mr ELSBURY — Okay. Maybe I will too, like which questions we are not asking at the moment. That would be really good! Moving on, a number of witnesses and submitters to this inquiry have noted that it is difficult to specify cost-effectiveness for individual measures. How does this work at a policy level where the allocation of resources and priority setting are sometimes based upon comparing the cost-effectiveness of an individual road safety measure?

Ms COCKFIELD — I think I understand the question. I will have a go at answering it; you can tell me if I have not quite got it. I suppose if we start at the evidence base — I outlined earlier in the presentation that our starting point for intervention is an evidence base. We try to use the best available evidence in developing any countermeasure. Some countermeasures are of the scale where they cannot actually be evaluated. I think some really good examples might be Victoria Police.

We look at early evaluations of a range of initiatives that the TAC worked on with Victoria Police in terms of, for example, speed enforcement technology, where large-scale evaluation showed them to be effective. If we actually roll out a smaller countermeasure based on that evidence base — it may be in a local area, for example — we do make some assumptions that its effectiveness will be similar to that of the wider countermeasure. Sometimes the size of the initiative does mean that it is very difficult to actually isolate that countermeasure out from a range of other countermeasures that are happily within that community or the wider community.

Mr ELSBURY — The thing is that if you were to get there and say, 'We are going to recamber a road at a cost of $2.5 million', versus reducing the speed limit by 10 kilometres per hour, which is about the cost of $600 — for new speed signs — how do we work out which countermeasures are going to work the best?

Ms COCKFIELD — I think this comes into your earlier question about — it is not so much a trade-off, but you are actually trying to balance a range of community issues in terms of mobility and in terms of community expectation. It is more the community expectation that when they actually travel on or use a road system as a pedestrian, cyclist et cetera, they are going to be safe, so we have to more consider that as our no. 1 priority. I think if you are talking about — for example, in the example you used, certainly in strict BCR we know that reducing the speed limit is going to be the most timely thing we can do and certainly the most cost-effective thing we can do, but it may not actually provide all the other requirements that the community needs for road systems. I think there are a lot of elements that go into it, and certainly Michael referred to it previously — having to make these decision on a daily basis. It is not only about safety; I think that is the end answer. Often when these decisions are made you actually take into consideration a range of considerations.

Mr ELSBURY — Last but not least, and let us see if I can baffle everyone with this one, do you think it would be advantageous to include key performance indicators in the initial implementation and post-implementation phase of projects to track effectiveness? To what extent could such indicators be included in non-infrastructure programs? So if we were to go from the three-point harnesses that we currently have to a five point, how do we manage making sure that putting this extra item in a vehicle is going to cause some sort of tangible outcome?

Ms COCKFIELD — I suppose it is what we are becoming better at because we certainly understand the need to do work prior to the introduction of an intervention — having some sort of baseline and then actually finding ways of measuring. Whenever we put up a project it is really setting up a baseline — where we are at now, what the intervention proposes to do, how we are actually going to measure that and then at some stage eventually doing usually a full-stage evaluation with somebody like a Monash University or an ARRB. I suppose you are saying, 'How do we make sure that happens?', or — —

Mr ELSBURY — How do we make sure that when a countermeasure is implemented that it actually provides us with an outcome — that we are not just feeling all warm and fuzzy about ourselves but actually saving people from injury?

Ms COCKFIELD — I suppose I will go back to the previous example of where sometimes we take for granted — when I say, 'for granted', we use the evidence base that is on large-scale evaluations that says, 'If you do this, this is the outcome' as the indicator this project will work. That is usually, I suppose, on smaller scale projects where we feel that we cannot actually evaluate it because of the size of that project. If I look at anything in terms of a major initiative — so if I look at something like 120 hours being mandatory for the

licensing scheme — you certainly put in place measures to make sure that, as an event intervention, that has worked. Certainly in terms of, say, the graduated licensing system itself, VicRoads ensured that there were lots of measures in place to make sure that that intervention worked. I think we use a variety of actual means to make sure that we are measuring programs and making sure that they work.

The one thing I think we are doing better at than we have previously — and we still have some way to go — is what I call intermediate indicators. I think what we have been doing in the past is waiting for quite some time and measuring afterwards, so we do not have a good idea of how we are going along the path. If you look at somewhere like Sweden, they have done a really good job now of starting to measure how far down the track they are in terms of achieving what they set out to achieve. We have started to do that. Certainly the TAC has its own KPI report. Michael's team actually produces a key indicator report for us very regularly which looks at a range of intermediate indicators. Something like average travel speed is a really good indicator of how we are going with public education and our initiatives around having people travel at the speed limit. So there are a range of things we are doing to actually help us understand how we are going. I do not think a full-scale evaluation of every initiative is actually, I suppose, in the near future going to be a possibility.

The CHAIR — Thank you.

Mr LANGUILLER — The committee is aware that a potentially significant proportion of crashes on our roads — up to 30 per cent — appear in the context of employment. Are you aware of the incidence and extent of workplace crashes, and if so, what issues do these types of crashes pose in developing appropriate countermeasures?

Mr WOODROFFE — I am not sure if we have exact numbers on the number that occur during the course of work. We know those that result in a WorkCover claim. The benefits continue to be paid by WorkCover, and there is an annual reimbursement for those that are caused in the course of work. Then we would have some knowledge of the numbers that ultimately arrive at common law because common law is an action that involves the commission. But we would not necessarily have overall statistics of the raw number of accidents that occur during the course of work. We would only really be able to — in the same way that we do with hospitals now, we would know if there were a claim that arises from it but otherwise probably not. If you wanted to me to get those sorts of numbers around the claims that arise, that is information I could obtain.

Mr LANGUILLER — Do you agree that if workplace crashes are caused by different factors to those seen in commuting or recreational crashes, this would require policy intervention developed both by road safety and occupational health and safety agencies in conjunction?

Ms COCKFIELD — I think the underlying causes of road crashes are fairly similar in terms of behaviours, human error and system errors, so we do not think we are going to find a lot of underlying causes that are actually different. I think we are addressing the key issues to the best of our knowledge and to the best of our resources at the moment. I think where the difference may occur is that if you look at the vehicle as a workplace, OHS legislation may actually assist us in putting in stronger, I suppose, performance measures for employees particularly — maybe not so much in terms of your sole employee who in fact will be covered by the TAC rather than through the WorkCover arrangements — because as an employer you have a duty of care to employees to provide a safe workplace and to provide safe working conditions. So they can provide, certainly, an environment which encourages the safest use of vehicles.

To that end, we have done a reasonable amount of work, I suppose, with WorkSafe and some agencies like the VACC in producing guides to help employers in terms of safe vehicles and the types of issues they should be looking at. Certainly in terms of vehicle safety — I suppose we would call them safe driving policies — the TAC has developed its own policy, which it is currently reviewing. That is used as a bit of a template for other employers who have people driving vehicles for work, just to help guide them as to where they may be able to assist their employees. I do not think we have exhausted that avenue at all because, as I said, that is the extra overlay in terms of OHS legislation. We certainly do intend to continue working with WorkSafe in terms of this area. But just going back to countermeasures, the underlying issues just do not change in terms of why people are having crashes and why we have the severity of outcomes that we do.

Mr LANGUILLER — Thank you. The committee is aware that there are various approaches to speed management in different jurisdictions, including overseas. For example, the committee has heard that in the

Netherlands urban speed limits are 30 kilometres an hour, while arterial or freeway roads allow higher speeds of up to 130 kilometres an hour. In other European jurisdictions the speeds tolerated on high-performing roads with advances in road safety characteristics are greater still. It appears that this approach to speed management is intended to deal with points of conflict between road users, particularly bicyclists and pedestrians, in urban environments, such as those at intersections, while allowing higher speeds on roads designed to cater for the safe movement of goods and people at higher speeds. What are your views on allowing higher speeds on arterial or freeway roads that are capable of allowing higher travel speeds safely, while reducing urban speed limits?

Ms COCKFIELD — I think those observations are good observations. I think it is commonly believed that road safety agencies are just about reducing speeds, and I do not think that is true. We know that roads, as we have said, in the Netherlands and other jurisdictions such as Sweden can be designed safely for higher speeds. I think the issue is being designed safely for higher speeds. What we have to look at is the cost of designing, and it is not just about the designing but about building the roads to that high design specification versus the benefits for the community. Yesterday afternoon I drove the Hume Highway, or most of the Hume Highway, in Victoria and spent the entire journey just deciding how close we were to having a good highway design in terms of potentially being able to look at raising it to a higher limit. I think we are actually a long way from being able to do that. I think the answer is that we know how to do it and we could potentially do it, but the cost would be very high. It is whether the actual gains — the benefits to the Victorian community in terms of those other issues — are worth it and are required.

I attended last week when it was Freight Week in Victoria, primarily around the heavy vehicle industry. I am certainly aware that a range of heavy vehicle or freight logistic companies are starting to reduce speed limits. Again on the Hume Highway yesterday I saw evidence of this, where I was right on the speed limit passing a number of heavy vehicles. They are seeing some of those benefits we used to consider that freight companies wanted, around time and efficiency. They are gaining the benefits, but not so much from actually moving things faster. An example that an individual gave me is that a truck driver may cost them $30 an hour, but the fuel they are using is hundreds of dollars an hour, and the fuel they can save by travelling at, say, 90 kilometres an hour versus 110 is far greater than the amount they are actually paying the driver.

The benefits that we used to consider in terms of mobility and economic efficiency et cetera are even starting to be looked at by those who used to advocate — that is, I suppose, at the higher end. I suppose I am agreeing that they can be designed, but I think the community needs to make sure that the benefits they are going to gain are worth the costs. I have got no idea, but I have been thinking somewhere between $100 million and $200 million for the Hume Highway to get it up to some sort of standard where you could even consider the next level, and I think we would still need to do some testing of barriers and things to make sure what that limit could actually be.

At the other end, where we were talking about designing the urban environment, again I think we know, again from other jurisdictions, how important having designed environments, where you have a mixture of pedestrian, cycle and vehicle traffic, is to having it travelling at a speed where we can safely stop, and certainly where, if an incident occurs, the energy forces to the body are not greater than the tolerances the body can actually take. Again, we would be, I suppose, highly supportive of ensuring that speed limits are reviewed with that in mind. Our transport needs change, our transport mixes change in the urban environment, with local government et cetera encouraging pedestrian and cycle use. Certainly road use is changing in Victoria.

The CHAIR — Thank you very much. Mr Nieuwesteeg, I would like to put a question to you, going back to an earlier question regarding data linking. The commentary that you provided earlier on related to a question concerning the Department of Health's submission, including a discussion about its data-linking unit and the potential for it to link crash data in Victoria. You then made a number of comments on different examples of linking analyses that could be done but that if it went into the Department of Health it would be more complex to embark upon owing to the time frame and lack of fluency and command of the subject matter compared to the TAC's existing expertise. I want to see if you have any further comment to make. What stops the TAC from undertaking some of those data linkage analyses at present?

Mr NIEUWESTEEG — Nothing. We have done them, but there is always more we want. In terms of addressing that question of underreporting, we cannot. We have only got what we have got. That is the brick wall.

The CHAIR — Thank you. I just wanted to clarify that point for my own benefit. The next matter is that Ms Cockfield noted that there is going to be an in-depth study funded by the TAC, and we commend you for that prospective work. What is the time frame for it being undertaken?

Mr NIEUWESTEEG — That will be concluded three years from 30 June this year, so 30 June 2016.

The CHAIR — And will you be working in partnership with other agencies in defining the scope of the study and the questions to be asked?

Mr NIEUWESTEEG — We have worked with MUARC to define that scope — that has happened; we have defined that scope — and we will be working with other agencies to input data along the way. It will have health data and ambulance data, it will get data from the injured person — they will have pre-existing medical conditions, for instance — it will have input from experts in roads, and police will have opportunities to input strategic information. It is going to be very collaborative.

The CHAIR — There was commentary in the *Herald Sun* yesterday regarding side window tinting and the safety of cyclists, and that is a matter that is going to be raised by VicRoads with a federal agency. Is that an issue of apparent concern, that you are aware of, at the TAC level?

Mr NIEUWESTEEG — Yes, the TAC does promote the non-tinting of windows, particularly for that — it impedes on the interchange, the eye contact. And as for cyclists, I do it myself; when I ride past a car I do not know if someone is sitting in there or not, which is an issue, with a car door opening or it pulling out of a parking spot quickly. I understand the issue, and the TAC recognises the issue. We do not know, though, looking at our crash data, whether that window was tinted. There is no register; you do not have to tell anyone that you have tinted your windows.

The CHAIR — Is it likely that that will come onto the radar as part of this in-depth study?

Mr NIEUWESTEEG — Yes, we will know if the windows are tinted.

The CHAIR — So that will be one of the units of analysis?

Mr NIEUWESTEEG — There will be 5000 variables collected for every crash. It is exhaustive.

Ms COCKFIELD — And that is exactly the sort of issue that we currently do not have any information on that we are hoping to better understand, so thank you for raising it.

The CHAIR — Thank you for providing that information. There will be a number of people who will be interested in the work of the TAC over the next three years. On behalf of my colleagues I would like to thank you all very much for your time this afternoon and the time you have put into the preparation of your report. We look forward to going through it in further detail. As you would be aware, you will get a copy of the Hansard transcript. You will be required to amend any factual or typographical errors and return it to us. Thank you again.

Ms COCKFIELD — Can I also just thank the committee for having us here today. I have said it before and I will say it again: this committee has been extraordinarily helpful in terms of the recommendations it has made in the past and in terms of moving road safety forward in Victoria. We have had a strong history of implementing those recommendations, so we are really looking forward to this report and what you have to say about serious injury. Thank you again.

The CHAIR — Thank you.

Witnesses withdrew.