

# TRANSCRIPT

## ROAD SAFETY COMMITTEE

### Inquiry into motorcycle safety

Traralgon — 13 December 2011

#### 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 K. Jenkins  
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#### Witnesses

Mr W. Moon, senior program development engineer,  
Mr P. Monacella, team leader, programs and project development, and  
Ms A. McCallum, community road safety adviser, VicRoads.

**The CHAIR** — I would like to welcome representatives from VicRoads to our hearing in Traralgon this afternoon. Thank you very much for coming along. Ms Alana McCallum, Mr Pas Monacella and Mr Wayne Moon, you would be aware that in the course of our proceedings you will get a copy of the Hansard transcript, which you can peruse and return to us with any typographical matters amended. I have mentioned other groups too. There is the opportunity for evidence to be given in camera as part of our inquiry process. Also if you have any afterthoughts you would like to relay to us, we would be happy to take them on board through the executive secretariat. With that preamble, I thank you for your good work undertaken on behalf of VicRoads in this part of Victoria and invite you to speak to your submission.

**Overheads shown.**

**Mr MOON** — This is largely around the work we do under the motorcycle levy program. Perhaps I will start, and it will speak for itself.

**The CHAIR** — How long do you think it will go for?

**Mr MOON** — For 20 minutes or half an hour.

**The CHAIR** — So you would like my colleagues to sit back and watch?

**Mr MOON** — Perhaps, because there is a little bit in it, and then you can have a sort of overview of the whole program. Then when you have that it is probably more timely to ask questions.

**The CHAIR** — Thank you. We will watch.

**Mr MOON** — I will just start with a couple of bits of information and a little bit of statistics, then we will get into the program part of it. In this region we have recorded the highest number of motorcycle crashes in rural Victoria. I need to preface this by saying that we are talking on behalf of VicRoads-managed arterial roads. In his presentation David talked about a couple of the sectors in his operational area. This is a little bit different. Shortly I will show you a picture of what we are talking about.

We think we have an increasing fatal injury crash rate of motorcyclists in the region. That is a graph we have put together over the past 10 years. Up until 2010 it is fairly clear that we have a bit of an increasing trend, even though we are doing a lot of work, which we will explain. A little dip in 2010 concerned us, so we plotted the rainfall figures from the bureau and it was obvious that it was a fairly wet season, which probably correlates to those crashes, we think. We have not got 2011 data, but essentially that is where we are at with our issues in this part of the region.

Obviously viewing all this as the Safe System, which you are probably fairly aware of, there are three key components there in that triangle. I will talk mostly about the safe roads and roadsides in this program, which TAC and VicRoads invest in heavily. There are a few words about the Safe System, but it is very similar to the graph. I have highlighted the third one there, which is safe roads and roadsides, which is where a lot of the focus is with our work.

On to the motorcycle safety levy program, the main feature of that program is to provide funding for on-road infrastructure treatments, so it is really for road safety improvements to the arterial road network, which is what we are talking about. The objective is to reduce future crashes at locations where there have been many motorcycle crashes.

Just aside from that, VicRoads has many other programs that are road safety related. Included in them is the perspective that if a proposal is developed on a key motorcycle route which might be aimed primarily at vehicles and other road users, they need to consider motorcycle-friendly infrastructure, if you like. Even though we have a specific motorbike program, if our other programs are on popular motorbike routes, they should not exclude consideration of the motorcyclists. If you have a main road like this and you have a driveway or a side road, that is the bell mouth, the intersecting component there, which often drags on loose material — gravel and stuff like that.

Back to the motorcycle safety levy black spot program, it is mainly addressed at loss-of-control crashes, crashes on popular motorcycle routes, long routes and intersection crashes. There are criteria for each of those four key components of the program. The two highlighted in red are what we really focus on in a rural area. We also

include the metro or Melbourne-type areas, but they have more of a focus on metro black lengths and black spots. Obviously there is a lot more urban environment with intersections, but in the rural environment we are dealing with lots of long lengths of default 100-kilometre roads, so rural black lengths and long routes are where we focus in the rural area. When I talked before about our statistics for our region, I was talking about the green section and just arterial roads. Dave Watson in a previous presentation was probably talking about perhaps half that area and including dirt tracks, local roads and arterial roads, so he has different perspectives and different data.

As a snapshot, the motorcycle levy funded projects have been plotted on this map. I will just circle our eastern region area here, so you can see there has been quite a lot of infrastructure work, especially in terms of the Safe System. We are trying to make it safer for motorbikes and their riders. How do we do this? We have a fairly impressive road crash information system which takes the data that the police record — which was discussed earlier — and feeds it into a police TIS system. VicRoads then takes that out and puts it into this road crash information system, which we access and do all sorts of wonderful things with the data. Essentially we continually assess viable parts of the network in accordance with the guidelines to try to work out where to focus some of the funding infrastructure improvements. For example, what we can do when these crash details funnel themselves into this database is plot them on maps. They come up as red dots, and they also have associated details of time of day, dark or wet, male or female, age — all that sort of data that goes with it, which assists us as well. In a simple context, it lets us put that on a road, and we can pretty quickly see if we have issues.

In this case, this is on the Princes Highway. Obviously you have passed through Warragul. It is a popular route to drive up from Warragul to Neerim South, do the loop around through Noojee and drive back down through Willow Grove. Through that circle there is a section where it is perhaps a bit more challenging for the rider — a bit alpine-ish — and hence they come a little bit undone in that environment. That is where in this case we have to focus some of the infrastructure improvements.

That is what we call a black length. There are different criteria for those. For a long route treatment, this is the Tyers–Thomson Valley road, just out of Traralgon, which runs up to roughly the Thomson Dam area. You can see it is a fairly long length of road, and scattered along it are motorbike crashes. Through the program we can do a long route treatment, which is similar to a black length, just with different criteria.

In the guidelines we have for this program, the things we try to do include improving the site distance and visibility by, for example, removing or limiting the growth of vegetation. These are real on-road improvements we are making. The guidelines include: suitable road surfaces and quality of the road surface — for example, skid-resistant surfacing and removal of rutting and uneven surfaces; good and consistent delineation — guide posts, signage et cetera; removal or relocation of roadside furniture such as signposts that form a hazard to a rider; use of appropriate warning signs; and suitable clearance angles and removal of obstructions. If it is relatively blind around a curve, we can typically remove that wedge of vegetation.

The next in the list is a big one: appropriate barriers which would reduce the risk for motorcyclists where there are immovable roadside objects or steep side slopes, such as rock faces or trees blocking off cliff tops. The next are: sealing of bell mouths where gravel side roads and driveways intersect with sealed roads; and the repair and definition of shoulders, particularly on curves. In doing all that, we also invite a motorcycle audit, because while as road safety practitioners we have a pretty good understanding of what to do and what the needs of all sorts of road users are, we also use a road safety auditor who has had suitable training to ride the route and give us feedback for us to consider in any scoping of infrastructure improvements.

Just as some visual benefits, once we have analysed and understood where some of these issues are, we go to the site and drive the whole road, get out and walk it and assess hazards and locations where we can make improvements. It is quite a long and tedious process to do this. Some areas are quite challenging. If there is a bit of development and you have lots of side roads, it is hard to do a lot with those sorts of environments, but we do try to do our best in those environments.

In the field we sketch up relatively crude design intentions, including where we will put the barrier, where the drain will be, the location of chainage et cetera, so that we take it back to the office and start progressing it further. It eventually becomes a relatively crude design map. The lighter colours do not show up that well, but the lighter colours are the length of new guard fence and the darker colours are the existing guard fence that we

might enhance for further motorbike protection. From scratch we have come up with a crude concept design of where we would do infrastructure improvements for motorcyclists. It is not just barriers; there is a whole range of other stuff like we have just discussed — bell mouths, guideposts and so on — so it gets a fairly big lick in terms of infrastructure improvements.

What we have done in this region is add a bit of value to this in that we picked up that Peter Bellion did a presentation a few years back, and I have snapped a few key components out of that presentation. Riders are likely to exceed the speed limit in country areas; key ones are on left-hand curves and on roads with downhill grades, and it is particularly if they have a traffic infringement history, which we are not that privy to. The top three are of interest to us. Some of the other bits and pieces of his presentation were that over 12 months they studied 47 crashes. Obviously they were fairly significant ones, with most being fatal. Fifty-two per cent of the riders were older, and again the left-hand curve business came up. I will show you what we have done on some of these scoping projects. I suppose you should know that nearly all were involving excessive speed.

**Mr LANGUILLER** — I am sorry to interrupt, but could you go back to the previous slide? When you talk about being 'likely to exceed the speed limit', what does that mean? Is it beyond the limit you provide signage for — that is, illegal speed?

**Mr MOON** — That is what it is saying; it is about exceeding the speed limit. To go back a little, riders are attracted to our region because it has an environment where there is lots of open road and there is a mixture of long straights and relatively inviting geometry, where they can get the curves. It gives them a bit of a challenge, I suppose, and it is an attractive region for riding. We have been to these locations and stopped in the local hotels and asked whether they get a lot of riders, and they say, 'It's motorbike heaven on weekends'. They get groups that come through, and they are largely pretty responsible. They have meals et cetera. Outside of those, though, there are the risk takers and those who are just not alert enough, but the numbers bring some of the risk as well.

This is an example on Mount Baw Baw Tourist Road of this left-hand curve issue. Obviously it is a left-hand curve. You can see where the police have put down the yellow paint and the rider has gone straight through the curve and collided with the rocks. That is looking from the other direction. He was coming up the hill; it was not down the hill in this case. He has gone through and hit the rocks where that black arrow is there. It was fatal. Part of the treatment is that we obviously identified this curve, as well as others, and we have put this barrier here with an infill underneath, which is very important for riders. Without the infill underneath the uprights of the posts form another hazard. This rub rail around the bottom is quite an effective tool to reduce the severity of their injuries.

**The CHAIR** — So the idea is that if they hit the rail, it will have less of an impact than if they go into the cliff face.

**Mr MOON** — Absolutely, yes. It is relatively a lot less impact. Firstly there is an angle there to deflect them. It is relatively smooth, so they are not going to get caught on the rock face and snag up et cetera.

**The CHAIR** — Is there much give in the rub rail?

**Mr MOON** — Not a whole lot, no. I suspect there would still be injuries, but the intent is to reduce the severity of the injuries.

**Mr ELSBURY** — It is supposed to deflect, not so much impede.

**Mr MOON** — Yes. There is only so much you can do. On that photograph I will also get you to note the end treatment, which is not strictly part of the guardrail. It is sort of a frangible end arrangement. While we were doing this project it was clear to us that our guidelines and design details did not allow us to complete the infill towards the end there. We have still extended it past the worst hazard area, but through this project we worked hard with our design area and came up with an arrangement to fill it in as well, which I will get to a bit later on, but it is worth observing the little tail at the end there. Normally for vehicles that is not an issue, but for motorbikes we found some benefits in pursuing further detailed designs to find a solution to that. The arrow obviously points to where the impact occurred. That is relatively well protected now, as are a lot of other components of that road.

Here is another example of a different section of the same road. The light does not help us, but under the barrier around that left-hand curve we have infill.

**Mr LANGUILLER** — What would be the cost of doing that, if you have any knowledge?

**Mr MOON** — The barrier itself is about \$100 a metre. With the infill underneath it is probably another \$70 a metre. It is probably \$170 a metre.

**Mr LANGUILLER** — How many metres would there be?

**Mr MOON** — I do not know exactly. That could be 150 metres. Each curve is different, so you size it up for the radius of the curve. These projects probably amount to \$600 000 in total.

**Mr LANGUILLER** — How many curves of this kind would you have in this region? Is it possible to know?

**Mr MOON** — It is countless, almost.

**Mr LANGUILLER** — Doesn't your system allow you to identify how many there are with particular angles?

**Mr MONACELLA** — No. We have just tried to identify the highest risks of all those curves by starting with the left-hand curves and where crashes have happened. Each road would have numerous locations where there would be similar curves.

**Mr MOON** — Also, we focus our attention mostly on popular motorbike routes. There are probably thousands of curves like that outside of popular motorbike routes that do not really catch our eye. It is where the riders like to go for various reasons. There are nice places like Noojee along the route. They are attracted to these routes for particular reasons, so we have a fairly good idea of where they are. That leads us to the roads, and then we tackle the high-risk curves.

This is another left-hand curve, a downhill one. There is a new barrier with infill underneath it. It is quite an expensive treatment. Some barriers are too low, and the intention of this photo is to show that we have lifted the barrier higher. You can see the post going into the ground. There is a little spacer post in between that and the barrier. The idea is to lift the barrier up to fit the infill underneath.

**The CHAIR** — What does 'Abraham blockouts' mean?

**Mr MOON** — That is just the term for that middle component that sits in there to lift them a bit higher and allow us to fit the motorbike rub rail underneath.

Here are some different views. There are two styles of the infill underneath. One is a galvanised plate that sits in there, and there is another product on the market now that is called a poly buffer. It is an inflated polyethylene-type product. It is probably a softer material, but it still serves the same purpose of essentially stopping riders travelling off the road and into hazards.

**Mr LANGUILLER** — How does that compare in terms of cost with the wire ropes?

**Mr MOON** — Wire rope is on its own of a similar cost to guardrail. They are both about \$100 a metre.

**Mr LANGUILLER** — So they are about the same cost?

**Mr MOON** — Yes.

**Mr MONACELLA** — But without the infill.

**Mr MOON** — Yes. The infill does not really work on wire rope. It works quite well, obviously, on guardrail.

**Mr LANGUILLER** — So it is about the same cost; is that what it is?

**Mr MONACELLA** — For the raw product, the guard fence versus the wire rope, it is essentially the same cost.

**Mr MOON** — The photo on the right is that end arrangement of a barrier. We have made special efforts for in the last six to eight months to design a way for that to fit on that end treatment, which also adds extra protection to riders. Before that there was no real design. Within our VicRoads system you need design approval to put these things on. They have got to be satisfied it is going to work. Before the last six to eight months there was really nothing to fit under that. To our credit locally we have pursued that fairly rigorously with our design people and have an improvement for that end treatment.

When we build these things we also do surveillance during construction. Obviously we will go out and take photos like we have and just be sure our contractors are installing it as we require.

These are some more photos of the different aspects of treatment. We put these things in culverts under driveways, and that is a driveable private end wall. There would have been fairly undesirable pipe just there before with a fairly blunt arrangement. If a rider or even a car, for that matter, would impact that, it would be fairly severe, where in this case — —

**Mr ELSBURY** — It would rip your suspension out or something like that.

**Mr MOON** — It would snag on it and cause fatalities. It is quite serious, so we pick the high-risk ones, and we install these driveable end walls that would just deflect a vehicle or a rider of a bike over those.

In the photo on the right — it is not the best photo — we sealed bits and pieces of shoulders and curves that we think are issues, and obviously bell mouths and driveways, but we did not have any good photos of those here.

We also do signage improvements and increased delineation. The photo on the bottom right is one of a fitting linear curve that did not warrant, in our view, any barrier, but in this case we have hit a fairly healthy treatment of guideposts.

The yellow sign there with the '45' on it is not a standard VicRoads treatment. You see a few of those on the Great Ocean Road, but typically we put that '45' well in advance of the curve, and it probably still is, but in these cases we have put them at the curve as well to give some extra advice to a rider. It is not a normal treatment, but it is something we are trialling on motorbike routes.

Again, that sort of treatment on a guardrail would end up like that. It does create a few issues for us. Obviously that sits down at ground level, so we have got a few maintenance challenges now once we have done that. Again, we will feed those back into our system to try to make some improvements on how we better install those to deal with maintenance.

Another observation we made — a very minor point — in that little circle bit at the end of that guardrail is that it is filled with these pipes in a vertical view. We thought if they are going to stay there, we need to probably clip them in so no-one goes and knocks them off and steals them. There is no relationship to how it functions, but there are some minor improvements.

All of that flows on into, say, new designs like that that we can apply around the state. With some of these things, as road safety practitioners — that is what we are employed to do — we get the teeth right into it. We can make improvements like this and feed them back within each of the regions around the state so they can be applied elsewhere.

Some of the suppliers, like in this case DM Plastics, are quite interactive with us. They have obviously got an interest to sell their product, but equally we have got an interest to make it better. If we say, 'Can we do this? Can that work?', they will do some work on there, and then they will come back and we might say, 'Yes, we will approve that as a design', and it flows through to stuff like that. Some of it works pretty well.

Another overview of another job, so you get the perspective of what we do with this infrastructure levy money, is that there is a project that we scoped a couple of years back which is about to commence in February next year. Again, it is on a motorcycle black length. This road is what we call Bunurong Road. It is between Inverloch and Cape Paterson, which a very popular motorbike route. There is some beautiful scenery and some

nice curves in the road. It generated I think five motorbike crashes within a five-year period, which is what we would use as the window to look.

That has eventuated into a project which is to start early next year. The project is designed to reduce the risk and severity of motorcycle crashes on the road. There were five reported motorcycle crashes in that five-year period. Some of the treatments along that road, just in a snapshot, are installation of motorcycle barrier protection systems to new and existing guard fence — there is existing guard fence that we will provide that infill underneath, plus new stuff. Obviously the installation of guard fence at high and medium-risk areas with motorcycle barrier protection. The installation of new and replacement of damaged signs, edge line marking, removal of hazardous vegetation to improve sight distance, and sealing up the start of some gravel roads, driveways and pull-over areas that meet Bunurong Road so gravel does not spill onto the road. There is the installation of new and replacement of existing steel guard fence reflectors with plastic ones that reduce the risk and severity if a rider hits them. Obviously for specific motorbike routes we have plastic reflectors that we sit on the guardrail instead of perhaps some other stuff that might be less forgiving in another environment.

**Mr LANGUILLER** — So you are not doing any wire ropes there, are you?

**Mr MOON** — No. Obviously most of the traffic will benefit from these works through the enhanced roadside safety. I suppose to that point I have just given an overview of the infrastructure-type component of our work. We do not just do motorcycle works; we also work on run-off-road car crashes on highways et cetera, so our road safety scope, if you like, covers a lot more than motorcycles, but part of our work is the motorcycle program, and that is an overview of the type of infrastructure improvements we keep ourselves fairly busy with.

This is a bit of a guiding document — a fairly high-level one — which was issued in 2009. Throughout that there are quite a few sets of goalposts, if you like, which we can measure ourselves against. We have done that here. We have identified quite a few areas where we have met different goals that were identified in that document. I have not included any details in this presentation, but it is a bit of a key document that was put together in 2009.

I suppose further to that, in relation to what we do in the region we have a reasonable degree of autonomy. Because we have a bit of an increasing issue with motorbike crashes, obviously we have got these infrastructure improvements that I have just summarised and we are going to continue with. We are also working with police for perhaps a targeted enforcement program which requires funding from within the police system and support from us. That has not got off the ground yet, but Dave Watson is working closely with us in a planning phase, if you like.

Another treatment we have is speed limits. But we need to review and apply those fairly carefully, and that is still in a planning phase, if you like.

**Mr LANGUILLER** — Can you elaborate on that, please, on the speed limits one? What is that you are reviewing?

**Mr MOON** — I might come to that shortly. There is a slide that is better to talk to, if that is okay.

**Mr LANGUILLER** — Okay. Thank you.

**Mr MOON** — Obviously maintenance is a key area that is brought up quite commonly, and Dave sort of covered education in his earlier presentation. Obviously, as we do all the time, we monitor the current status and the outcomes of the work we do. That is what we do all the time — monitor with the crash data where the issues are.

This slide would be a good one to talk to in terms of speed. Here are some of our evaluations and monitoring of crashes, which I think we are quite good at. In a very simplistic form here we have identified that in some routes, which are relatively low volume between two local towns out in the countryside, we get a change in geometry there where we get probably what I call crash clusters. Apart from infrastructure treatments, we also wonder what other treatments are applicable, and I guess speed reduction is one. That is still being considered and reviewed as an option. It is something we are able to do and would not be too detrimental to travel times because the geometry is fairly tight. It is just in its early stages and we are just thinking about an option for reviewing that.

**The CHAIR** — What are the options for reviewing that?

**Mr MOON** — We have our own guidelines within VicRoads. Their intention is to provide consistency around the state. Primarily it is related to the fact that where the speeds are lower there is more abutting activity. That is the principle of speed limits. So as you see a town, you will see a 60 or 50. There is the development and activity. As you get out of the town it goes up to 80 or 100. The difference here is that this is in a rural environment, where there are just paddocks, so it is not necessarily consistent with how we would apply speed limits. It is something we are considering. If there is enough support internally, then we would consider looking at some of those.

**Mr LANGUILLER** — I am just wondering about setting up speed limits. I drive a reasonably big car with big, thick tyres, ABS and so on; somebody else rides a scooter, a moped or a Harley. What may be an appropriate speed for me driving on four wheels and so on may not necessarily be appropriate for a two-wheeler. How do we make those decisions? When you apply your signage and you put 45 on it, it may well be 45 for me — I am driving on four wheels, I am secure, I have a couple of other gadgets that I am not even sure what they are for but I am told that I should put them on when it rains. What is the logic there, if I may ask you?

**Mr MOON** — Just to get into a bit of detail there, with speed limits, it is really the driver's responsibility to pick a speed up to the speed limit that is safe, because it is too difficult otherwise. You get changing conditions every day. It could be 80 one day, 45 the next with rain and hail and then back up to 100 the next day. Part of the Road Safety Act requires the driver to pick a speed that is safe up to the speed limit. The question is very difficult, because at any one time there is really no speed limit that will apply across the year.

**Mr LANGUILLER** — Is the speed limit based on your assessment of what may be close to being appropriate for cars, or is it what may be close to being appropriate for motorcycles? You know what I am getting at? Do we determine that speed limit based on the most vulnerable road user and build up from there, or do we do it the other way around? The 45 may well be good for me, and that is your guidance, and most road users would say, 'Look, if VicRoads and Victoria Police tell you that you can do 45, that is what I am going to be doing'.

**Mr MONACELLA** — I just want to differentiate. Are we talking about the statutory sign speed or the speed advisory that we would put along the curves that would vary depending on the geometric standard of those curves?

**Mr LANGUILLER** — How do you determine it? Which one do you determine?

**Mr MONACELLA** — There is the statutory speed, which is the question that Wayne was trying to answer, and then there is the speed advisory signage that we have got — the yellow signs — that would warn motorists that they are approaching some geometry that is perhaps of a lesser standard.

**Mr LANGUILLER** — So, for example, that one.

**Mr MONACELLA** — For example, that one there. That would be based on the geometric make-up of that curve, which includes the radius, which includes the assessment on the super elevation and the friction level of the surface. That is a well-established standard, and it would cater for the general road user. I think with some of the speed studies that we have done, generally motorcyclists are able to travel a lot quicker around this geometry than cars and trucks. If anything, it is actually a disadvantage in heavy commercial vehicles.

**Mr ELSBURY** — Just following on from that, what I think Mr Moon is pointing out is that if you travel at a speed that is a safe speed for your vehicle, that is your responsibility. There are parts of the alpine regions where I would probably need a CAMS licence for rally driving to be able to take the corners at the speed that is the speed limit, let alone what the advisory sign is. It is not so much a case of this is law and this is what you must do. That is why they are advisory. They are just advisory, are they not? So the advisory signs are set up as a guidance to road users not as a gospel truth.

**Mr MOON** — They are not regulatory; that is right. Really what we are trying to do with these advisory signs is give some advance warning to a curve that might be quite tight and say, 'This is a 45 curve or a 60 curve', so in advance someone would read those and say, 'Right, I know what I am coming up to'. That is

the intention of these. They are really quite valuable in terms of what is ahead. The yellow signs with the black arrows on them, the guideposts and the white lines are also indicators. You can pick up cues. All of those help, but in advance of a curve we will stick up these advisory signs.

**Mr LANGUILLER** — I wholeheartedly agree with you, and I certainly agree with common sense, except that it is hard to put common sense into statutes. I would suggest that if we were to ask 10 people about that signage, they would probably say, 'That is the speed limit; that is what I can do', and they would not necessarily assume that that is the guidance. I am not sure that most people — —

**Mr MOON** — I think most people realise that the black on yellow is an advisory and there is a distinct difference between that and the white, black and red signs, which are regulatory.

**Mr LANGUILLER** — You have done research on that?

**Mr MOON** — No.

**Mr LANGUILLER** — I am seriously asking this question, because I think the question of education, in terms of how we use roads, is an important one, and I think you are doing a good job on that, but I am not confident that road users would necessarily make that distinction. I would be happy to be proven wrong, of course.

**Mr MOON** — I think you would get better feedback from the police on that, but my gut feeling would very strongly be that people understand the regulatory signs, and these advisory signs are quite different. I think they know what they mean.

**Mr MONACELLA** — And therefore ignore them at times.

**Mr ELSBURY** — That is what I was going to say. I am not a hoon, but I do not think I have never taken a corner at the speed. It has been adaptive to whatever I think is going on. Up near Castlemaine they should have signs that say, 'No, seriously — 45 around this corner', because there are some tight ones around Castlemaine, but then on other occasions you will have an advisory to do it at 40, and you can easily take it at a reduced speed but not at the advised sign speed — but that is your decision to make as the driver.

**Mr MOON** — I think principally what they do provide, though, is a cue to a curve — that it is a bit tighter.

**Mr ELSBURY** — And it builds awareness. As a driver, it builds your awareness that there is something coming up. Okay, I have got to pay attention to this. What do I do? Okay, I will make a decision now. If it is the right one, I will make it, but if it is the wrong one, I will be in deep trouble!

**Mr MOON** — These are our regional objectives, if you like. I have spoken about those. We are trying to get a handle on crash clusters. Just in broad terms, this is an indicator-type graph of how the road authority would apply its logic to infrastructure solutions. The bottom axis is traffic volumes, and as the volumes get higher, obviously the preference is to do infrastructure solutions. As you get to a lesser volume travelling back towards the left-hand side on the bottom axis, there is a bit of middle ground where it is a bit hard to know, and on the left-hand side, there is an area where certainly the investment in infrastructure is relative to the volumes of vehicles on the road. It is probably quite expensive for a small volume, and speed limits in a sense could be an option. Obviously if you start to reduce the speed limits on high-volume highways, you are inconveniencing a lot of the travelling public, and certainly the investment in infrastructure comes into that. So it is really a common-sense type of graph, but it is interesting just to have an overview of how that thought process goes.

That is the last slide there. It is just a bit of a pondering one, where at this stage we have got a bit of a trend upwards in our crashes within the eastern region, which is fairly big. We have a little dip in 2010 that is probably related to rainfall, and I have nominally put in from 2011 onwards. If you were to achieve a 10 per cent reduction every year, that is what it would look like in 10 years. It is more of a thought provoker than anything else and perhaps a target that we could be adopting. The idea of the presentation was more to enlighten the committee on how we go about our infrastructure works and how we spend the motorbike levy. I can provide examples of the barriers, the bell-mouthed ceilings and all the bits and pieces that, really, will take a lot of work to firstly monitor and find, then scope up and get approvals, do the detailed design drawings et cetera,

get them funded and hand them over for construction. That whole cycle would take two years-plus, but the outcomes are quite impressive.

**The CHAIR** — Thanks very much, Wayne. We have a number of questions that we want to put to you. We have them covered, in part. The committee is aware of a VicRoads trial using modified wire rope safety barriers in Gippsland. Why is VicRoads undertaking the trial? Was it because there was a recognised risk with the existing wire rope safety barrier, and what do you hope to achieve with the trial?

**Mr MOON** — Just a bit more information on the trial — is it to do with motorcycles? What is the context of the trial?

**The CHAIR** — There is an understanding that VicRoads currently has a trial using modified wire rope safety barriers in Gippsland.

**Mr LANGUILLER** — I think it is a Ken Beer presentation in WA.

**Mr MOON** — I think that might be managed within the Latrobe region, along the South Gippsland Highway. I think they might have that barrier up the middle. They have also included some motorbike-friendly cushions, if you like. The specifics and the details of those — I am pretty sure I know what you are talking about, but it is managed from the metro region. It is in Gippsland but is not driven out of this area.

**The CHAIR** — Ken Beer has done a presentation involving stack cushions.

**Mr MOON** — Yes, I have seen the slides that he presented to you. The work is in South Gippsland, along the South Gippsland Highway, but managed from the metro south-east region.

**The CHAIR** — We will follow up on that. A couple of allied aspects of the question to you was whether VicRoads was looking to modify all the existing wire rope safety barriers in Victoria.

**Mr MOON** — That will depend on the outcome of the trial, I think.

**The CHAIR** — Do you know the cost of modifying the barriers?

**Mr MOON** — No.

**The CHAIR** — Do you know how many kilometres of wire rope safety barrier we have in Victoria?

**Mr MOON** — No.

**Mr LANGUILLER** — Or in your region, for that matter?

**Mr MOON** — I have an idea, but I would have to take that on notice.

**Mr MONACELLA** — We do have an entry office; it is not a statistic that we have come in here prepared with today, but we do measure the length of the guard fence and the wire rope. We will be able to provide that, if required.

**Mr LANGUILLER** — I will follow the script for the time being, if I may. In terms of engineering, what can VicRoads engineer to change the riding behaviour of motorcyclists? The committee was recently given an example by a RoadSafe group which installed what it called ‘unconventional signs’ to encourage drivers to slow down. Do you think the signs work? What other engineering options do you have to try to change driver behaviour?

**Mr MOON** — Engineering solutions are more intended to reduce the severity of injury, as you have seen from this presentation. I think it is somewhat challenging for engineering solutions to change rider behaviour. Some feedback I have had from riders is when they start seeing treatments like we have just shown with lots of infill under barriers, they tend to see them as a trigger and say, ‘Okay, this is telling me something here; there are a few risks around here’. In a de facto way these styles of treatment, I have heard, can change behaviour. In some ways they are better signs than any physical sign. When they see motorbike treatments they think perhaps there is something there they need to be aware of.

**Mr MONACELLA** — Infrastructure treatments alone will not be sufficient, it would be fair to say, to achieve a huge decrease in the motorcycle crash rate on their own. It has to be a multi-pronged approach, which is what Wayne was explaining. It is about trying to change behaviour at the same time, which may include things like reviewing speeds as well as working in with Victoria Police in terms of enforcement. Infrastructure alone, I think it would be fair to say, is not the only way to change that behaviour.

**Mr MOON** — A safe system relies on safe infrastructure on the roads — we have just gone through that — and it also relies on a compliant driver or rider. If you are not in that compliant mindset, regardless of what vehicle you are in, there is a risk. A rider is particularly vulnerable; there is obviously not much protection around them, so obviously they are exposed a lot more when they are not in a compliant state. But to achieve that is very challenging, I think. I am not sure if infrastructure solutions are going to make great inroads in that area.

**Mr ELSBURY** — Because a motorcyclist is so vulnerable, as you have just pointed out, variations in the road tend to have a greater effect upon a rider. So if there is an issue like gravel across the road or a pothole has formed, how long would it take VicRoads to get to a problem area, and how would a road user make VicRoads aware of such issues?

**Mr MOON** — To the first part of your question the answer is that within the Road Management Act a road authority has to have a road management plan, and that plan is based on priorities, so there are response times relating to the different hierarchy of roads, if you like. On the Princes Highway with a high volume there are quicker response times.

**Mr ELSBURY** — Sorry, I am just thinking that if a truck runs into an overpass on the Monash, that will get some attention, but a pothole will take a bit longer?

**Mr MOON** — Yes, and probably longer on a C route than an A route. These are all predetermined and available to the public; they are part of the VicRoads road management plan. Each road authority has the same — the council and the DSE — for the roads they are responsible for. I think they need to have a road management plan, and they will have a priority system of A, B and C routes, the different styles of issues — potholes, trees over road — and prescribed response times to each of those.

The second part of the question was: how do we become aware of that? We have a routine monitoring inspection program where, again, they are more frequent on an A road than a B road and a C road. We have a program of inspecting roads, so we try to find issues ourselves. Also the public can ring in on the 13 11 70 number, which will get us to react and respond and prioritise accordingly. There is a fairly well-structured process around that.

**The CHAIR** — Mr Moon, I was not familiar with that number you have just given. I note with recent rainfall there has been a number of problems on roads in the region I represent. Where is that number advertised for people to ring in on?

**Mr MOON** — The 1300?

**The CHAIR** — Yes.

**Mr MOON** — I think it is pretty clear on the VicRoads website. Certainly in the metro regions it is on all the traffic signal control boxes.

**Ms McCALLUM** — Also through our Gippsland Road Safety Network and the motorcycle working party our members felt really strongly about road maintenance, and given that a lot of the popular motorcycle routes are on C class roads it might be two weeks before they are inspected. The brochure that Dave Watson has left is going out to clubs and retailers to try to encourage our community to help notify us — ‘Don’t wait for someone else to do it; get it fixed’. In the educational component we are trying to ensure that everyone is aware they can do that.

**The CHAIR** — It is a mildly interesting point. I am not sure if my colleagues were aware of that report number?

**Mr ELSBURY** — I was not aware of it. The only time I would have come across it would have been if there was a traffic signal fault. If I was going to report it, I would not have thought, 'Pothole, gravel — —

**Mr MOON** — They certainly come through that number. It is a 24/7 number. As to how widely it is promoted, there are probably others in the business who would answer that.

**The CHAIR** — I have had people contact my office who have written to VicRoads in relation to potholes, and it can be a more convoluted process than them being zeroed in on straightaway.

**Mr MOON** — I suppose what I would add to that is that when they are called in we have an electronic tracking system. There is a quite robust process where if it is called in, it is logged, and if the customer wants feedback, we will ring them back. It is quite an impressive or rigorous system.

**The CHAIR** — I am interested that the motorcycle groups have access to that number so they can make their reports, and I can understand that being a relevant factor — so there is some sort of direct feedback that is available.

We have a cue from the crowd at the back.

**Ms TAME (from gallery)** — It is on the motorcycle renewal brochure that goes out with our renewal for our rego.

**The CHAIR** — We can take commentary from the back. If we could have your name and postal address.

**Ms TAME (from gallery)** — I am Jenny Tame; I am from Gormandale.

**The CHAIR** — Do you have a postal address?

**Ms TAME (from gallery)** — Yes, <address confidential>.

**The CHAIR** — Thank you.

**Ms TAME (from gallery)** — I was just trying to prompt that that 13 11 70 number is on the motorcycle renewal notice. It explains the motorcycle safety levy and explains that number down on there so you can report potholes and road hazards generally. It is not prominent, but it is there.

**The CHAIR** — Thank you for that. Mr Moon, would that appear on the general VicRoads licence renewal data for me as a motorist?

**Mr MONACELLA** — I am almost certain it is also included on our registration renewal slips. Is that correct, Alana?

**Ms McCALLUM** — I think so.

**Mr MONACELLA** — I am pretty sure.

**Mr ELSBURY** — Or it will be soon, anyway.

**The CHAIR** — Thank you for that.

**Ms McCALLUM** — Just with these brochures also, within our region they include each of our six municipalities. Part of the problem is helping the community to understand who is responsible for an arterial road or council road, but we are trying to do that as well.

**Mr LANGUILLER** — Can you detail for the committee what proportion of funding for repairing roads in this region comes from the motorcycle safety levy? Do you know that?

**Mr MONACELLA** — The motorcycle safety levy does not fund maintenance per se. The maintenance of our road network is state funded on an annual basis, outside of the motorcycle levy program.

**Mr ELSBURY** — In relation to the levy, we saw the map that had the dots on it like it had chicken pox. How many were actually funded, because I did not have the time to count how many were funded in this region?

**Mr MONACELLA** — Fifteen to 20.

**Mr ELSBURY** — Fifteen to 20?

**Mr MONACELLA** — So far.

**Mr ELSBURY** — On another matter, when I was driving out of Yarragon I saw a sign on the side of the road that says, 'Safe system road, TAC funding of \$16 million', I think it was. What does that mean exactly?

**Mr MONACELLA** — About 12 months ago the TAC provided some funding for the upgrading of the Princes Highway east between the interface of our region and south-east metro, which is at Bunyip River, and the New South Wales border to the east. To undertake a review of high-crash locations they have come up with a combination of traditional and innovative treatments. The actual location you are referring to is a project that goes between Bunyip River and Traralgon, where we are predominantly dealing with the run-off-road-style crashes, where cars are running off either to the left or the right into the median and hitting hazards. That project, which is commencing on the ground at the moment, will start with some tree removal in the medians and in the outer verges, and then it will include quite a substantial amount of installation of wire rope safety barriers, wherever possible at a good offset away from the through-traffic stream.

**Mr ELSBURY** — My last question, just to be completely divergent in all of my questions, has to do with the rub rail and such. It is a good initiative, putting the extra bit of rail in underneath the W-beam barrier to provide that extra bit of protection for motorcyclists. However, we have come across some evidence that has found it is not so much the underneath of the rail that causes any problems but more the top edge and the uprights that are causing injury. We have seen some footage of crash test dummies running into the rail at a reasonable speed, and the impact with the uprights causes demonstrable damage not only to limbs but also to anyone whose head might bounce off them — they do not exactly bounce; they stick to them. Are there any measures that VicRoads is looking at to rectify those sorts of issues? I know every time we talk about this we are adding another cost; I mean it was \$100 per metre for the rail to start with, and we are adding yet another thing with the rub rail underneath at \$175 per metre, but these are issues that motorcyclists are having to deal with.

**Mr MOON** — That is certainly my experience over many years with fatal crashes with guardrails. Those uprights are really lethal. That is why you see the programs on popular motorcycle routes to put those infills underneath. They do not just protect them from the uprights or barriers but also from, probably, the hazards that the barrier is there primarily to protect cars from, which is rock faces, trees and stuff like that. Those infills are really significant improvements to those barriers.

**Mr MONACELLA** — I am perhaps a little bit confused by your statement there. With the rub rail it would be fair to say that the upright is enclosed behind the rail.

**Mr ELSBURY** — But if you come off the bike and you come over the top of the rail — because you are almost a rag doll as you are coming over it — if your arm hits one of the uprights as you are coming along, we have seen some pretty nasty footage of what would happen to a person. Is there any treatment that is being thought of for the top of the rub rail?

**Mr MOON** — I do not think so. I think the primary intent and the most benefit we can add now is to stop them hitting it. In most cases a lot of riders will slide off their bike and along the ground and then snag underneath the barrier.

**Mr ELSBURY** — Okay. By increasing their height in the first place you are improving the impact.

**Mr MOON** — The height of the W-beam up the top is primarily designed for a vehicle, so it is set at a key height for a vehicle. The infills underneath are meant to do two things including stopping a rider from sliding under that rail, and in most cases when they come off they tend to hit the ground and slide. One of the issues has been that they will snag on those posts and, like you said, there are pretty poor outcomes. They also allow a

rider to deflect more, or I suppose, with less severity. I suppose thirdly, I do not think we have a lot of understanding or vision about protection over the top.

**Mr ELSBURY** — So there is no movement towards a capping of those uprights?

**Mr MONACELLA** — No.

**Mr MOON** — We understand that the primary issue is — and I am not saying they do not go over the rail of the first post — that largely they will slide on the road and hit underneath it. That is the biggest issue.

**Mr ELSBURY** — The hope is that they have reduced speed enough that they will be washing off it as they rub against the rail rather than hitting it and folding over the top.

**Mr MOON** — Yes. Granted some will go over the top as well.

**Mr LANGUILLER** — I have a couple of questions in relation to your data. Do you include the off-road injuries and fatalities as well as the on-road and unsealed off-roads?

**Mr MONACELLA** — No.

**Mr LANGUILLER** — Why not?

**Mr MONACELLA** — Perhaps I will answer by saying that VicRoads is the responsible road authority for arterial roads. I guess our local municipalities are the responsible authority for local roads. My understanding up until earlier was that the Department of Sustainability and Environment was the responsible authority for off-road.

**Mr LANGUILLER** — To be fair, because I think you heard me say before — —

**Mr MONACELLA** — I did.

**Mr LANGUILLER** — I think it is fair that for all intents and purposes, and I want to put this on the record, that I am not a lawyer, and to my knowledge we have not received legal advice, but as I read it in section 3 'road' means:

- (a) an area that is open to or used by the public and is developed for, or has as one of its main uses, the driving or riding of motor vehicles

In the absence of a definition that actually excludes unsealed off-road areas, and particularly in the light of the Auditor-General's report which suggests, as I recall, that VicRoads has not focused enough on the off-road strategy for the purpose of preventing serious injuries and fatalities, I do understand this is a region and I do not wish to sound unfair in putting this on you, but it appears to me that you are responsible for those roads.

**Mr MONACELLA** — I do not think we are in a position to debate it today. My preference would be that perhaps you seek some policy advice through Ken Beer's area regarding that.

**Mr LANGUILLER** — Yes. I accept that, and I do so because I think you are doing a terrific job. These are issues that we need to sort out at other levels, but I think it would be fair to suggest the committee has been impressed by the work that has been done in this region. We certainly were impressed by the work conducted by Ken Beer and the pilot program that we saw in WA — to be perfectly honest, I wish we had seen that presentation here in Melbourne, but as it happened, we saw it in WA and it was just terrific. I think most other jurisdictions would look up to VicRoads and the kind of work that you do. But from my personal point of view I believe the off-road issue is one that will need to be sorted out.

Given your experience with VicRoads, and I assume a reasonable period of time working on road safety, would you say there is a progressive, positive change of culture within VicRoads in terms of building roads and infrastructure, keeping in mind all road users, particularly vulnerable road users? To what extent do you think this is changing for the better so far as incorporating the motorcycling culture within VicRoads?

**Mr MONACELLA** — I think we are in a much better position now than we were 10 years ago in taking all these different road users into account. We have had targeted programs. As Wayne said, a lot of our treatments

that we apply are for all road users primarily. This motorcycle program has enabled us to target and focus on that specific problem and look at some innovative treatments to try to make a difference with that specific road user group, which incidentally represents only a very small percentage of the road fleet, as you would be well aware. Likewise with pedestrians, we have similar programs and strategies where we try to isolate high pedestrian-risk areas and have similar treatments that are targeting just that road user.

With the Transport Integration Act, once again that has in a way forced us to look at all road users with every decision we make on improving infrastructure. It is no longer just about getting vehicles from A to B; it is about considering all users, whether they are minor users or not — all those other users who use our road systems. I think we are in a much better position than we ever were. We are much more focused on providing that balanced approach.

If I could just go back to the off-road discussion, I would like to talk a bit about it. I am certainly not going to challenge you on the act, but something that we do very well in this region is our relationships with local government, in that not only are we trying to interrogate crashes on our own arterial roads but we also undertake that on behalf of local government and then provide that feedback to local government to enable them to take advantage of other infrastructure programs or funding for infrastructure programs on the roads that they are responsible for through the Nation Building program's Black Spot program which Wayne's area manages. Out of that we have seen some very substantial improvements being made to local roads. Even though we are not directly responsible for local roads, we are partnering up with local government to enable them to take advantage of those programs, which in some cases involve some motorcycle-friendly treatments, albeit there are not a lot of local roads in this region that exhibit the same problems on arterial roads that Wayne has explained. Would that be fair to say, Wayne?

**Mr MOON** — That is right, yes.

**Mr MONACELLA** — We do not have a lot of trend on local roads where there are crash clusters that are specifically motorcycle related. In addition to that, in recognition that there was a large off-road motorcycle crash problem, we also collated a lot of crash data for those off-road locations and provided it to the DSE for them to consider as part of the management of those roads from a road safety perspective. We have tried to be a little bit lateral in our thinking and not just looking at and worrying about our own ship only. However, we cannot dictate to those other jurisdictions how they manage their roads or road safety in general. We can only provide guidance and information.

**Mr LANGUILLER** — Just very quickly if I may, in relation to the VicRoads and TAC advertisements, including the one that you saw today from Victoria Police, what do you think in your judgement? The reason why I ask you is that motorcyclists have said to us in some submissions that they do not necessarily relate to some of the advertisements that they see on television; they do not think they are necessarily for them, or they are not pertinent or relevant. If that is the case, and I have no evidence of that and I am only basing this question on some submissions put to us, then what do you think?

**Ms McCALLUM** — Certainly the TAC does the most advertising for motorcycling across the state. In regard to the advertisements that you saw earlier and the one from the previous year, the ER group had actually applied to the TAC to do local campaigning as a pilot to see if it was more effective. It was knocked back on the basis that it was already being covered at a state level. Our local riding community is very happy to tell me that they do not relate to it, it is too broad, it is too high level. I will get the original ad to the committee to have a look at. It was all about localising it, letting Gippslanders know what the issues are in our area and eliminating assumptions, because there are a lot of false assumptions in our community about what the issues are, why people are crashing and who is crashing.

Now that these ads are running, I am working with MUARC to try to do an evaluation to determine whether the local campaign is more effective than the state one, and taking into account our banners and billboards programs as well. We also have ads on local radio about planning ahead for a weekend ride, for a returning ride, and things to that effect. It is a bit of a combination of things, not just one avenue. So stay tuned, we will let you know.

**The CHAIR** — Is there a view in Gippsland that the central campaigns do not reach the target market and audience in the right way, whereas locally generated campaigns are more responsive to local interest and local horizon?

**Ms McCALLUM** — Yes, that is the feedback that we have received anecdotally from last year. One of the TAC ads that we see playing quite a lot is the car driver not looking out for the motorcyclist. I think almost 89 per cent of our crashes involve single vehicles on bends, so it is not relevant to our area. Again, that is one of our assumptions. If you talk to motorcyclists, it is always the cars, but in our region that does not seem to be the case.

**The CHAIR** — Yes. I can understand that in the city there is a lot of interaction, so to speak.

**Ms McCALLUM** — Yes, that is right, so the state campaigning does not always hit the mark for us out in the rural area.

**The CHAIR** — Great. Thank you.

**Mr LANGUILLER** — Just in terms of your local partnerships, I think we have heard in all our forums and hearings the various agencies saying to each other, ‘Maybe we should cooperate with each other more’ — VicRoads, the TAC, Victoria Police, the motorcyclists, the clubs, the community and the fraternity. Are you confident that you are on track in terms of your partnerships that are at your level?

**Ms McCALLUM** — Yes. We have the regional road safety network that has all of the local government groups as well as the Department of Education — we are trying to get into schools — and the Department of Planning and Community Development. We are trying to integrate road safety into other existing programs, and that group has developed a Gippsland road safety strategy, of which motorcycling is one of the regional priorities. As a result of that, it is receiving a lot of our focus and resources and is then supported heavily by the motorcycle working party, where again we have the key participants: police, community representatives, retailers, trainers, clubs. Not only do we have all those on that working party but we also have a database where we are in touch with all of the retailers in the six shires. That is quite groundbreaking across the state, and those groups are using data to specifically target direct issues. One of the brochures there is specific to a road that has been treated by Wayne’s area, but upon reviewing the crash data we have determined that 100 per cent of the recent crashes involved visitors to our region. So some local campaigning — —

**Mr LANGUILLER** — One hundred per cent, did you say?

**Ms McCALLUM** — Yes, in the period that we looked at — and it is mapped on there — they were visitors. So we have had to tailor our education campaign to try to get to them before they ride that route of road. That is how the brochure came about. We are working in a more targeted way than we have ever done before, using really good intelligence and sharing that with Victoria Police as well.

**The CHAIR** — We thank you for your contribution today. Thank you very much for the detail and the work you have put into your presentation and the pictures that have given us a strengthened understanding of some of the barrier issues. I really appreciate your good work. Just as a matter of general interest about your background with VicRoads, Mr Moon, you are a civil engineer or road engineer; is that right?

**Mr MOON** — Yes.

**The CHAIR** — And Pas?

**Mr MONACELLA** — My original background is designing roads, so I guess I have always worked at that road safety interface, and my present role is to support those initiatives that we have been talking about today as well as to seek funding to implement those initiatives.

**The CHAIR** — And Alana?

**Ms McCALLUM** — My initial role was to work with the RoadSafe community road safety councils, but Victoria has undergone a restructure, so my role has now shifted to that of a community road safety adviser, which involves covering all behavioural components and all road users.

**The CHAIR** — If you have any other ideas that you would like to convey to us on our 11 terms of reference, we would be very happy to maintain an ongoing dialogue with you, and noting your acute insights from a regional perspective, which are of great interest to us. Thank you for your time.

**Witnesses withdrew.**