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**HOUSE OF
REPRESENTATIVES**

STANDING COMMITTEE ON INFRASTRUCTURE, TRANSPORT,
REGIONAL DEVELOPMENT AND LOCAL GOVERNMENT

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**HOUSE OF REPRESENTATIVES STANDING COMMITTEE ON
INFRASTRUCTURE, TRANSPORT, REGIONAL DEVELOPMENT AND LOCAL GOVERNMENT**

Friday, 13 March 2009

Members: Ms King (*Chair*), Mr Neville (*Deputy Chair*), Ms Campbell, Mr Cheeseman, Mr Clare, Mrs Gash, Mr Raguse, Mr Randall, Mr Robb and Mr Sullivan

Members in attendance: Ms King, Mr Neville and Mr Sullivan

Terms of reference for the inquiry:

To inquire into and report on:

Train illumination: some measures proposed to improve train visibility and reduce level crossing accidents

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Committee met at 9.06 am

PETTIFORD, Miss Emma, Project Officer, Rail Industry Safety and Standards Board (RISSB), Australasian Railway Association

RYKERS, Mr Steven, Project Manager, Rolling Stock Standards, Australasian Railway Association

TAYLOR, Mr Kevin, General Manager, Rail Industry Safety and Standards Board (RISSB), Australasian Railway Association

CHAIR (Ms King)—I declare open this public hearing of the House of Representatives Standing Committee on Infrastructure, Transport, Regional Development and Local Government for its updated inquiry into the 2004 *Train illumination* report. Today we will be hearing from the Australasian Railway Association, the Australian Transport Safety Bureau, the Australian Rail, Tram and Bus Industry Union, the Australian Trucking Association and the Australian Rail Track Corporation. I welcome you here today for this small gathering and I am sure that our discussions will be fairly fruitful. This is an issue that has been of longstanding concern to this committee and obviously to the witnesses that are here today.

I now call on representatives from the Australasian Railway Association. Although the committee does not require you to give evidence under oath, I will remind you that these are formal proceedings of the parliament and should be treated as such. It would be a serious matter were you to give false or misleading evidence before this committee; it is regarded as a contempt of parliament. We have received a very extensive submission from you and I understand that you have a brief presentation that you would like to make to us to start, and then we will go to questions.

Mr Taylor—At the outset, I would like to say that the ARA welcomes this inquiry. As a member based organisation representing the Australian and New Zealand rail industry the Australasian Railway Association supports all activities that could lead to level-crossing safety improvements around Australia. Level-crossing safety is indeed one of the rail industry's highest safety priorities and we are dedicating a significant amount of resources to improving level-crossing safety across Australia, and indeed in New Zealand, which you will hear more about today.

However, before I proceed with my introduction I would like to correct our submission if I may. There are a couple of typographical errors. I refer you to page 20 of our submission, at the third paragraph. It states:

AS7531 was developed with this in mind, and more.

'Locomotives' should be inserted in the next sentence so that it reads:

It focuses on locomotives, freight rolling stock, passenger rolling stock and infrastructure maintenance rolling stock.

In the last sentence, which starts with 'the standard that applies to new rolling stock', I would like to insert 'and existing rolling stock' at the end, so that it reads:

The standard applies to new rolling stock, rolling stock undergoing deep maintenance and existing rolling stock.

I would also refer you to page 45 of our submission. Mr Don Telford is no longer the chairman. Mr David Marchant is now the chair of the executive. With those minor corrections I will proceed with my introduction.

CHAIR—Thank you.

Mr Taylor—As you would appreciate, level-crossing safety is a multifaceted issue and this was recognised in the committee's last report, which addressed many issues, in addition to lighting and visibility. As a consequence, and as you can see in our submission, we took the liberty of addressing more than just lighting and visibility. One of the issues discussed in our submission was the rail industry's level-crossing strategy, with changes to bring about the introduction of measures that substantially reduce level-crossing collisions. This strategy was developed in 2007, focusing on those four areas, or the four Es as we call them—education, engineering, enforcement and 'enough is enough'. The first three, education, engineering and enforcement, are self-explanatory. 'Enough is enough' relates to the ARA's push to reduce the number of level crossings and, indeed, no new level crossings is our strategy. Train visibility falls within the engineering category there.

As the committee would be aware, the government produced a railway level-crossing strategy in 2003. This strategy generated a number of outputs. One of these included the creation of the Australian Railway Crossing Strategy Implementation Group, or the ARCSIG. This committee's remit was to ensure that strategy actions were implemented.

In 2006 the National Rail Level Crossing Behavioural Coordination Group, or the BCG, was formed by ARCSIG to address behavioural issues. The creation of this group was significant. For the first time in Australia's history the road and rail industries and all levels of government came together to tackle behavioural issues at level crossings. The committee had a life of two years. It was funded by all state governments, including the rail industry and the road industry, and its life was from 2006 to 2008. During this time it conducted a number of what we consider very important projects. These are listed on the slide, but for the *Hansard* I will read it out. These included a national workshop that brainstormed potential future level-crossing initiatives; a national survey of over 4,400 road users, which aimed to identify behavioural issues at level crossing; and an education and enforcement pilot in Victoria and the Northern Territory. The results of this work have been provided in the ARA submission. I have also provided more information on that particular study, which is in the pack I handed out earlier on.

Importantly, the findings from this survey have been used to develop a national television, radio, press and post advertising campaign, which is called 'Life before your eyes'. The campaign is gradually being rolled out across the states and the intention is that it will be provided by 23 March. Indeed, Queensland and South Australia have already received it and they are in the process of implementing their TV advertisements, if they have not already done so.

As the committee is aware, the federal government recently restructured its transport governance arrangements and in the process created a single working group for safety and security, which reports to the Standing Committee on Transport, or SCOT. Reporting to the

Safety and Security Working Group will be the newly formed National Rail Level Crossing Behavioural Coordination Group. This group comprises senior representatives from state and Commonwealth governments, transport departments, the rail industry and the road industry. It is more or less replicating the old BCG. The remit of this group is to reduce the likelihood of crashes and near misses at Australian rail level crossings, although this is being refined because the committee has only met twice and we are now working through our objectives and indeed our terms of reference.

The ARA certainly welcomes this level-crossing group, as it has the potential to do much for harmonising rail level-crossing initiatives across Australia. Harmonising Australia's level-crossing initiatives makes sense from a financial perspective and this extends to research and development. The ARA believes that presently railway level-crossing research in Australia is not well coordinated. Perhaps the new rail level-crossing group might be able to take this on, if only to ensure that information on the various R&D activities around Australia are actually being coordinated and shared with other states.

The rail industry's Cooperative Research Centre for Rail Innovation is also taking an active role in level-crossing research. Recently they hosted a railway level-crossing workshop that involved senior people from across the domains I have already mentioned. The outcomes of this two-day workshop resulted in a list of priorities that the CRC would consider. Clearly, to do all the projects that this committee agreed would be very expensive so the CRC has to be selective. The list is readily available and it could be used by other agencies to pursue level-crossing initiatives either individually or in shared partnership with the CRC.

I would now like to turn to the committee's 2004 report and its recommendations. The report recommended the adoption of reflective paint, strips and rotating beacons on locomotives and rolling stock. In response the government supported the strips but did not support the rotating beacons without further research to prove that the cost outweighed the benefits. The government also acknowledged that the rail industry was in the process of developing a lighting and visibility standard and in June 2006 this was published as an industry standard and addressed requirements for locomotives, freight and passenger rolling stock, and infrastructure maintenance vehicles. In December 2007 the RISSB republished the standard as an Australian standard, because the RISSB became an accredited standards development organisation with Standards Australia in July 2007. Adoption of the standard is voluntary, as it is with any other Australian standard, but I am pleased to report that the take-up of this standard within the rail industry has been extremely pleasing.

Recommendation 5 of the committee's report focused on Australia possibly adopting the Canadian Operational Lifesaver program. This recommendation was given in-principle support by the government. The government also supported education, information and awareness campaigns, but noted that the responsibilities for these rested with the ARA and the Australian Rail Crossing Strategy Implementation Group, ARCSIG. It is very important to stress that Operation Lifesaver has not been ruled out, but it does require a lot of resources and relies predominantly on volunteers. We also believe, from a resource perspective, that it should be a national program.

I would like to conclude my introductory remarks by showing three short video clips. The first two are examples of why we need to maintain the impetus on level-crossing safety. These are

just examples of a much greater problem. For example, in Perth last year the Public Transport Authority of Western Australia put red-light cameras at two busy and active controlled level-crossing intersections. During this one-month period there were in excess of 680 infringements. That is an alarming statistic, noting that there are over 7,900 public crossings in Australia. The final video I would like to show you is a New Zealand video that shows a siding level-crossing issue and instances that are often overlooked and forgotten, and that is the train drivers and their families.

Now to the first video. I will get you to look at the cars coming across the crossing from the left, and then up the top of the screen you will see a train coming into perspective. It is visible. It has its lights on.

CHAIR—Are the lights flashing at the moment?

Mr Taylor—The level-crossing lights are all flashing and the boom is going down. This bloke is in front of the boom. Look at him. He is now creeping forward.

Mr NEVILLE—You are joking.

Mr Taylor—This is a classic issue. I have more videos to show you like this.

CHAIR—That is at a crossing that is well signalled with boom gates and all the works?

Mr Taylor—It is actively controlled. Now look at the cars, which are now starting to move.

The next one is one of the videos taken as a result of the Perth level-crossing study. Look to your left. The bells have just started. The booms are just starting to come down. Look at this fellow on the left.

CHAIR—He has got a caravan.

Mr Taylor—Now he is straddling the track. He's going, 'Oh my God, the train's coming.' He does not know what to do. He does the right thing. He gets out of there. What happened was that he drove forward.

CHAIR—And broke the gate.

Mr Taylor—He did not break the boom, because the caravan had a tapered edge so it just went up again. That is one of those 680 instances that I reported in Perth. It is alarming. The next video is the New Zealand video.

Miss Pettiford—I hope you are going to be able to hear this.

Mr Taylor—I am afraid this is technology's weakness here.

CHAIR—It is always difficult in here. I am assuming that it is about the stress experienced by drivers.

Mr Taylor—We can give you a copy. In summary, that video reflects the train driver and how he dealt with the crisis. He got out of the train after the accident occurred. Mum and dad had been killed and there was a 10-year-old girl left in the car. He got the girl out and he pacified her until the police and ambulance services came along. He called his wife and said, ‘I’ve been involved in an accident.’ His wife texted his children and she said, ‘Dad has been involved in an accident. Two people are dead.’ The kids read that and said, ‘Dad, accident, dead’, and then, when they rang mum crying, she said, ‘No, no.’ It was the whole family thing, which is a very important thing that people often forget. That is very important for this committee to consider, apart from the road user side. With that, I am at your disposal.

CHAIR—Thank you very much. As you are aware, this committee has a longstanding interest in this issue and we have decided to revisit the 2004 report for a number of reasons. The first reason is that, unfortunately, level-crossing accidents continue to occur and are in our news, but we also felt that it was timely to look at some of the research, understanding that there had been quite a lot of work done on standards that we needed to look at to see whether there was more information that we could inform ourselves with in order to update that report. I do thank you for going beyond the issue of train illumination in this submission as well.

I have a couple of technical questions. I note that in terms of the issue of rumble strips there was a comment that the government at the time was not going to support that particular recommendation until further research had been done. I noted that there was some research being done in Western Australia. Was that completed? Have we got information about that and about rumble strips at all?

Mr Taylor—The study in Western Australia was inconclusive. It did not prove that rumble strips would do the job, but in the road user sense there are rumble strips on the sides of the roads, and you are aware of those when driving along the highways. I understand Victoria is nonetheless introducing rumble strips.

Mr NEVILLE—Are these the crossroad ones?

Mr Taylor—Prior to a car arriving at a level crossing the rumble strips would go across the road to alert the driver, but I am not quite sure how far they have gone with that.

CHAIR—That was on page 30 of your submission.

Mr Taylor—Victoria is also pursuing rumble strips as well at 200 level crossings.

CHAIR—What is your view? You said that you support further study and trials of rumble strips, but given that Victoria is putting them in, what is your view of that?

Mr Taylor—We would still support it because of the studies and the work that has been done thus far.

CHAIR—Do you support them being put in?

Mr Taylor—We would support anything. If rumble strips are actually the panacea for this problem then we need to study it more.

CHAIR—Clearly, what you are saying from your submission is that there is no one panacea for this issue. It is a complex issue that has interaction between engineering and behavioural change. Between the two of those we are never going to get a perfect system, either, and there are also costs and benefits in relation to that. In relation to the committee's recommendation around lights on trains, you have given a number of reasons as to why you did not support that, and obviously the government at the time did not, either. Could you take us through those?

Mr Taylor—I will defer that question to Mr Rykers.

Mr Rykers—When we were developing the issue of the appropriate levels of auxiliary lighting, as we call them, on locomotives and on passenger rolling stock in particular we were certainly aware via the previous House of Representative's report that there was a request for rotating beacons, strobe lights or something to be fitted. We looked at that. We looked at overseas standards and research. There was an FRA study and an Australian study. We looked at the UK, Europe and US standards on lighting, and we came to the conclusion that there was not conclusive evidence either way that additional auxiliary lighting provides much more benefit over existing headlights.

When you look at the statistical studies, say, in the US, it was clear statistically that it was not that much different. We came to the conclusion that providing visibility lights, as we call them, which is the same as crossing lights or ditch lights, will provide some enhanced visibility of the rolling stock, as well as providing additional visibility to the crew of the track down low; headlights seem to be more up high and focussed at a long distance. We felt both from the driving perspective that would help the crew and from a visibility perspective in providing an additional frame of lighting. As well as having high-level headlights you would also have low-level visibility lights. We have prescribed them to be within a certain envelope in the front of the train and spread apart, so that gives you a frame of light. That helps people when looking at a train coming towards them. Instead of just one single headlight, it provides a frame of light to help you get an estimation of the speed of the train coming, because that is a critical problem.

CHAIR—I note that one of your comments was that the majority of accidents occur during the day; when considering this issue originally, the committee understood that also. It was not recommending lights to just to enable things to be seen even when it was dark; in fact, it was a little different from that. How widespread is the adoption of the standard that you have put forward now?

Mr Rykers—The ARA has done a survey on that. For conventional operators, excluding heritage, we are in the 80-odd per cent, which is a very high level.

CHAIR—Is that retrofitting existing trains as well as fitting new trains?

Mr Rykers—That is for both existing and new. Part of the trouble we had with developing the standard—it is an issue with all the standards that we try to develop for rolling stock—is that we come from a history of over 100 years of each state doing its own thing. There have not been any national standards at all until recently. So part of the difficulty of our trying to develop standards is obviously trying to come up with something that everyone can meet. We could have prescribed something along the lines of an ADR, as ADRs only apply to new cars; they do not apply retrospectively. However, particularly with the long life of rolling stock—we use our

rolling stock for 30-plus years—we are trying to come up with what we believe is at least the minimum requirement for existing rolling stock. We are grappling with that difficulty of trying to cover existing rolling stock: what is the minimum requirement? We have a history of non-standardisation and non-harmonisation, which we are trying to grapple with. In the end, I think we actually came up with a standard that has been quite well accepted by industry. We have high levels of compliance. We believe that it is good practice, as far as providing lighting and visibility for rolling stock.

Mr Taylor—I would add that it is good practice but not best practice. Best practice is a very expensive exercise. It is the same with all RISSB standards: we aim for good practice.

CHAIR—Can you tell me what the difference is?

Mr Taylor—It is cost.

CHAIR—I am sorry; in terms of what people are—

Mr Taylor—‘World’s best’ could be the very best in technologies. However, in terms of purchasing that technology, it could be a very expensive exercise. So it is a balance of the best versus cost, and we go for good.

CHAIR—So is the figure of 80 per cent good?

Mr Taylor—Yes.

Miss Pettiford—We requested that they look at the different requirements that the standards have set for all their rolling stock—locomotives, infrastructure and maintenance—for freight and passenger and, as a whole, to give an indicative percentage of what they thought their compliance level was.

CHAIR—But it was also a self-assessment as to whether they met the standard.

Miss Pettiford—It was a self-assessment, but they were very honest. Some of them would come back with ‘zero’. We would ask them to explain why and they would say, ‘Oh, well, this light has only been installed on 90 per cent of the rolling stock, so we’re not fully compliant.’ I believe that they were not generous to themselves in their assessments. The numbers will only increase as they continue to maintain the rolling stock.

CHAIR—I have more questions, but I will hand over to Mr Neville.

Mr NEVILLE—Do you or the ATSB have the stats that could update our previous report regarding what percentage of accidents occur in daylight, what percentage occur at the front of the train as against the side of the train and what factors are involved in a crash—inattention, alcohol, speed or whatever? I think they are very important aspects to update. Any help that you can give us with those would be appreciated.

Mr Taylor—I agree; they are very important statistics. I would refer that to Mr Peter Foley of the ATSB. The ATSB and the regulators collect that data and provide annual reports on those statistics that you have mentioned.

CHAIR—I have a sneaking suspicion that the secretariat has asked for those stats already. Yes, we will be getting them.

Mr NEVILLE—I note here the number of level crossings. The figure of level crossings that I thought we had, which I have always quoted—I know that a lot of branch lines and other things have closed in recent years—was 9,400.

Mr Taylor—We consider that there are probably more. We are undertaking a survey of that and are still waiting for the results to come back. We think there are more. Perhaps Emma could provide more information on those 9,400 because she collects the data on this. But that is the number that the industry uses.

Miss Pettiford—There are 7,943—

Mr Taylor—There are 7,943 public level crossings quoted in our submission. This is the figure used by the regulators.

Mr NEVILLE—Where you get one train a week on a grain line or something like that, they may exclude those, I imagine. I would be interested to know why there is such a large discrepancy.

CHAIR—It would be useful to have some clarity around that data because I have heard those two figures mentioned also. We should actually have that clarified.

Mr NEVILLE—Coming back to the illumination, you have agreed with our earlier idea that there should be either reflector strips or reflector paint. A lot of trains, on their base plate, have a sort of half-boxed section. If it is placed in there, it is not prone to being torn off and has a bit of protection from the weather. In the sugar industry, many of the cane trains often have those strips. When you approach a level crossing with your headlights on, you get a flashing effect: the carriages on cane trains are very short and, as they travel across that level crossing, in addition to the red lights you get a flashing effect.

Mr Taylor—We prescribe reflective delineators.

Mr NEVILLE—That was the other one. I note what you say about the beacons, and some people argue that they can be more distracting than anything. The argument is that, although they are handy around level crossings, they can create other distractions; in addition, it is a cost and maintenance thing as well. But, again, they are used extensively in the sugar industry. They recognise that, with cane harvesters and things that are operating close to the tram lines in the cane fields, this rotating beacon does indicate the position of the train to any field workers who might be sitting on a cane harvester with all its engines going, making it impossible for them to hear the train. They might be more effectively used on lines such as those used for coal and iron ore, where you tend to take trains a bit for granted. That might be an option. You might like to investigate that.

Only the other day I pulled up at a level crossing in Bundaberg—Pacific National now have part of that route to Cairns—and I noticed that some of the new rolling stock have sidelights in them. If they are incorporated right at the beginning of the process, this may not be the problem that we thought it was at the beginning of our last inquiry. I can understand that to retrofit them would be a massive job. You would have to put in generators, change the bulbs and wash the lights. But they could be incorporated into the superstructure. These were flatbed wagons transporting containers, and I was quite surprised to see that they had some lights in them. It might be worth investigating how Pacific National came to that standard.

Mr Taylor—Perhaps I could ask Steve a question: is that all delineated in the lighting standard?

Mr Rykers—At least two reflectors are required on each side of all rolling stock.

Mr Taylor—On new rolling stock?

Mr Rykers—The standard requires it on all, existing and new.

CHAIR—Have you provided a copy of the standard with your submission? I could not see one.

Mr Taylor—No, we have not, but we are willing to provide you with a copy.

CHAIR—Is it possible for you to do that?

Mr Taylor—Yes, most definitely.

Mr NEVILLE—Are coal and iron ore trains required to have them?

Mr Rykers—As far as the standard goes, we have said, ‘You shall fit them,’ because it is a cheap and easy thing to do.

Mr Taylor—Perhaps I could just add that standards, as I said earlier on, are not compulsory. However, if the industry embraces that particular standard, they must comply with the requirements of that standard. Like any Australian standard, it is purely a voluntary take-up but, as we have demonstrated in our survey, much of the rail industry has taken up that standard and 82 per cent have complied with it.

Mr NEVILLE—Rumble strips interest me. I have noticed that now, with Queensland Main Roads, T-junctions on to major highways—such as the Bruce Highway or the Pacific Highway—have rumble strips that must be traversed when coming up to them; that is from the leg of the T and not on the highway itself. Coming in from the leg of the T at about 150, you get a bump-bump-bump-bump effect. If rumble strips work in those locations, why wouldn’t they work at level crossings?

Mr Taylor—We do not suggest that they do not work; we suggest that the studies that have been undertaken on rumble strips at level crossings are inconclusive. More work is required in that area; that is what we are recommending.

Mr NEVILLE—There are two issues here. Firstly, as you come up to that level crossing, if you are daydreaming a bit, which you can do out on those western roads that go forever and ever—I am reminded of that poem called, I think, ‘Everlasting scenes’; these are never-ending plains—they alert you. Up until now, it has not been practical even to put flashing lights in at some of those crossings out west. They are totally passive; they have the old triangle and that is it. Secondly, if there is a hoon, such as the one we saw in those tapes, who wants to have a go, he is going to rip the undercarriage out of his car if he tries to gun it when crossing over all of those bumps. If he does not do that, he will get a hell of a rough ride. I ask you to have another look at that. They are the main issues I wanted to talk about. We have been shown not a boom gate but a flashing-light effect that works from a solar panel; have you seen those?

Mr Taylor—Yes, most definitely. At present Victoria is trialling solar energy to work the level crossings. And ARTC uses solar power at some of its crossings.

Mr NEVILLE—I think Jo Gash said that the factory that makes that is on the south coast, in her electorate. But, in reading the literature, the other thing that has got to me—of course, the government has committed \$200 million to boom gates—is that each set of boom gates costs \$¾ million. To me, that is way out of kilter.

Mr Taylor—Perhaps I can correct you there. The \$750,000 is not just for boom gates; it is for the whole package.

Mr NEVILLE—What, the installation?

Mr Taylor—The installation, lights, boom gates and so on. In our submission, we broke it down and said that boom gates are probably \$350,000 and the lights, with all the tripping mechanics and so on, are \$450,000. So it is \$750,000 for the total package in an urban area. Boom gates alone are probably about \$350,000.

Mr NEVILLE—I would just make the observation that there might be a case for your organisation or one of the other scientific groups within transport to come back to the government for a grant to look at alternative engineering.

Mr Taylor—We are doing that. The Rail CRC, out of the R3 domain, the engineering and safety domain, looks at inexpensive level-crossing controls. That is being done for the same reason that you have just raised: the cost of installing active controls at level crossings is prohibitive. Clearly, governments and industry will balk at that cost. That is why we are saying enough is enough. Let us stop the level crossings going in, unless there is grade separation; but grade separation is anywhere between \$20 million and \$80 million, and governments would balk at that too.

Mr NEVILLE—It is a case of practicality.

Mr Taylor—The CRC for rail innovation has that project. It started in August last year and is underway. We are not anticipating a result until 2010-11, because it is a long-term project. They have to do literature research of what is happening around the world, work on what would be the best option and then put up a proposal. We do not anticipate a result until the latter half of next year or early 2011.

Mr NEVILLE—The boom gate certainly is the refinement; there is no risk about that. On some of those double- and triple-lane roadways, you have to have them. However, I questioned some guys who had this solar panel and they reckon that they can do theirs for about \$70,000 to \$80,000. That means that you would get 14 for \$1 million as against barely getting one with a conventional boom gate. If you only need lights—especially out west, where you do not have to string wires all the way to the device—surely, with this solar panel, you could just work off the same power.

Mr Taylor—It is also the infrastructure that goes with those lights; apart from a power source, it is the infrastructure that is involved in level crossings. You need warning predictors. The train has to trip something on its way in to get all that working. So there is all that electronic gadgetry involved, and that is where the cost is. It is the supporting infrastructure that is involved in level crossings.

Perhaps I could just add though that Victoria is taking a lead in a lot of the research and development areas. At present, I understand they are trialling a type of radar. It is a very cheap and simple radar that works both ways at a level crossing. It detects the train coming and then initiates the bells and the booms. It is that versus the requirement to put in all this expensive infrastructure—the electronics, the wiring and so on. This radar simply picks up the movement of a train and initiates the bells and the booms and so on. It is powered by a solar generator, so you do not need power from a grid. Victoria are trialling that at the moment.

CHAIR—Where in Victoria are they doing that? Are they doing that at a particular level crossing?

Mr Taylor—I will have to get back to you on that, so I will take that question on notice. But they are actually doing it.

Mr NEVILLE—Do you know which company or research group is building them?

Mr Taylor—No, I am afraid we do not. We will come back to you on that. I will take that on notice.

Mr NEVILLE—We might go and have a look.

CHAIR—Mr Neville wants to make a site visit. I have some follow up questions. You have just mentioned the Rail CRC. Do you have a copy of that list of research projects that, in an ideal world, they would like to undertake?

Mr Taylor—They are in the pack that I handed out earlier on.

CHAIR—Thank you. I also want to ask about your last point, which was ‘enough is enough’. Is there evidence of that working, or are you still seeing, on a regular basis, new roads being built, new crossings and new problems occurring?

Mr Taylor—I think that is a very good question, if I may say so.

CHAIR—Thank you.

Mr Taylor—In defence of the state governments, they are closing down level crossings; there is evidence to suggest that they are doing that. South Australia, Victoria and New South Wales are proactive in this area, and Queensland is starting to become proactive as a result of the crossing incidents they have had recently. However, again, there is another side to the equation and that is where we are getting infrastructure planning that probably is not coordinating with transport or whoever is responsible for closing down the level crossings, because we are seeing urban design going on and level crossings going in. We acknowledge that; we acknowledge that people have to get across a level crossing, particularly in a divided township, suburb or what-have-you. I would add that we have written to the state ministers, asking that consideration be given to having no more level crossings but graded separations in these town planning considerations.

Mr NEVILLE—It is a lot of money.

Mr Taylor—As I said, it is \$20 million to \$80 million. It is very expensive. But, when these suburbs are going in and new infrastructure is being planned, that could be factored into the overall cost.

Miss Pettiford—We have also asked that, when approvals are being granted for development or when things in towns are being planned, they look at the surrounding infrastructure and the surrounding and adjacent intersections to make sure that those intersections can accommodate a bus or a heavy vehicle stopped at those intersections or level crossings without interfering with either the train tracks or the other intersections. That is just so that they are aware of everything surrounding a level crossing as well.

CHAIR—I note also that you have written to the minister, asking for consideration to reduce speed limits at level crossings to 80 kilometres per hour. Can you expand on that and tell us why you think that is an important measure?

Mr Taylor—Most definitely. Victoria, after Kerang, looked at how they could prevent the occurrence of another incident like that, and one of the recommendations put forward was that road traffic have its speed reduced to 80 kilometres per hour. Correct me if I am wrong, but many level crossings, particularly at Kerang, have a speed limit of about a 100 to 110 kilometre an hour. The study suggests that, with a speed limit of 80 kilometres an hour, there would be more time to react, which would probably prevent catastrophic accidents, such as the one we saw at Kerang. The Victorian government has agreed to that recommendation and, I understand, has now implemented it across approximately 72 of its high-density level crossings in Victoria. At the moment the jury is out, but Victoria believes very strongly that it does work and is rolling it out. Clearly, it is assessing the implications of that now. However, in our view, that is a good start.

Miss Pettiford—It is my understanding that we do not have traffic lights in the middle of a 100 kilometre per hour highway; therefore, whether it is a passive or an active crossing, why should we expect drivers on a 100 or 110 kilometre per hour road to be able to stop suddenly at a level crossing, when a train is within sighting distance? They need to reduce that speed limit to 80 kilometres per hour. Victoria has also accompanied that with heightened enforcement, in order to ensure that it is happening. It is just going to give drivers a better chance of being able to stop, if they need to, at level crossings.

Mr SULLIVAN—I guess I am a bit of a heretic, because I do not think that will work at all. I will give you an example from a game of baseball. When somebody complained about the number of close calls being made on players getting to first base, it was suggested that first base be moved out three feet to get rid of those calls; but that would just have resulted in those who were getting to first base easily becoming the new close calls. In the context of rail crossings, I believe that the problem is motorists' behaviour and not necessarily the crossings themselves; it is seriously the motorists' behaviour. I do not quite understand why their behaviour at rail crossings is much more appalling than it is, for example, at red lights. I do know that in my electorate there is a fixed speed camera, well signed, that got 18,000 motorists in six months and some of them several times.

Mr Taylor—There you go.

Mr SULLIVAN—Motorists' behaviour is the biggest problem. How do we educate them to not try to race trains? I myself have felt frustrated when I have been caught at boom gates in my electorate, waiting for the passing of a goods train that had actually stopped on the line; I was just sitting there. That is the frustration and I think that is why people try to race trains. It is my understanding that most of the serious accidents that occur at level crossings involve people who are familiar with that crossing—although I do not know about the guy in the caravan; his problem was probably inattention. So it is the behaviour of motorists and not whether the trains are well lit. Most trains will blow their horn if they see a car in the area; they will try to make you understand by doing that.

My question really goes to what work is being done in trying to educate motorists. For example, in the past, when travelling into New South Wales on the Pacific Highway, I have seen cars that have been involved in a fatality sitting up on poles. Do we have to resort to sticking a garbage truck, which has been crushed by a train, on top of a pole 200 metres out from a railway crossing in order to tell people graphically, 'You're dicing with death'?

Mr Taylor—We strongly support your comments; we agree with them wholeheartedly. Driver behaviour is the biggest single problem at level crossings. We can engineer out solutions, but clearly it is very expensive. Enforcement is another way to go, but that alone will not work. We believe that—and we are pushing this very strongly—apart from engineering, which we accept is expensive, it is an issue of enforcement combined with education. Those two have the potential to reduce near misses and level-crossing incidents that occur in Australia.

This problem is not unique to Australia; it is an international problem. I briefed you earlier on some of the statistics and findings of the study from the Behavioural Coordination Group. They revealed that 16- to 25-year-olds in Australia are a high-risk group, as are 16- to 25-year-olds in Sweden, the UK and the US; so the data that we revealed in Australia is consistent internationally. What are we doing about it?

I will touch lightly on a project that we have underway at the moment, which we call the National Rail Safety Week. Once a year, over one week, we as a federated body—that includes the states and the Australian rail industry—come together and coordinate our efforts to educate people about level-crossing dangers. That is done by advertisements, whether on TV, in the media or what-have-you. This year it will start on Friday, 24 July. To launch it this year, we will have a dinner. In the past it has been just a softly-softly approach—and it has worked; it has been

quite effective, judging by the research that has been undertaken. However, this year we want to raise the profile of the level-crossing issue by having a dinner on 24 July and we are inviting high profile people to come along, including the ministers, the Prime Minister and anyone else who we think will help us in our efforts to raise the profile of this issue.

Importantly, though, Chris Cairns, who is a former New Zealand cricket captain, is coming along as the guest speaker. Why have we invited him to be present? Chris Cairns lost his sister six or seven years ago in a level-crossing accident in New Zealand. After he lost her and, I understand, a friend of hers, he decided that he was going to do something about the level-crossing problem in New Zealand. He created the Chris Cairns Foundation. The original intent was to raise sufficient monies to engineer the problem of level crossings out. After two years, he realised that this was an impossible ask, because of the \$20 million to \$80 million for graded separations and so on. Chris decided that he would use the funds that he raises from his foundation to fund full-time school teachers to go into schools and educate children. It is our belief that, by getting in to our younger generation, we can improve safety at level crossings in the future. We are going to try to replicate that model, so we have got Chris coming to our dinner as the guest speaker. Why will that be held on Friday, 24 July? It is because the media will be looking for stuff for the weekend. It is a deliberate strategy. Emma is into marketing, PR and all that sort of stuff. It is her idea, along with another person in the RISSB. We are moving forward on that as one of educating our people.

Mr NEVILLE—It will be Level Crossing Week right throughout Australia.

Mr Taylor—Level Crossing Week. Now, I have mentioned the Life Before Your Eyes campaign. That was generated by the now defunct Behavioural Coordination Group as a result of the data that they collected on behaviours as level crossings. The ARA commissioned a company called Roy Morgan Research to undertake a behavioural study. That study was undertaken, and the results are in the pack that I provided you with earlier on. The statistics that Roy Morgan revealed are alarming. I have mentioned the 16- to 25-year-old age group, but there is more. The sad fact is that the 16- to 25-year-olds who take risks at level crossings—they are the primary group we need to focus on—do so knowingly. There is another category of driver that is also a high risk and that is the older driver—and that is, let us say, over 50. These people infringe at level crossings, but they do not know that they have. So there is a difference there.

We have to target our education around both high-risk groups and we are working on that at the moment. The ARA, through the RISSB, has a strategy. We developed that strategy in 2007, following the last consideration by this committee and considerations of other committees in New South Wales, South Australia and so on. We now have a dedicated strategy and an action plan, and a number of those issues focus purely on education. Truck drivers, in our view, are also a risk group that we must address. We are now working with the Australian Trucking Association to get a driver education campaign going. But within our strategy, which I have enclosed in the pack, you will note that we are very much focused on educating high-risk groups and, indeed, other drivers. It is a sad fact that, around Australia, there are road rule tests that people undertake to get their driver's licence that often do not have a question about level crossings.

CHAIR—I was going to ask you about that. In terms of driver education, each road traffic authority in each state and territory has its own system, but it seems to me that level crossings and crossing them is part of that. You are saying that there is not one question.

Mr Taylor—To the best of our knowledge, many state road tests do not have a level-crossing scenario or, indeed, question due to the random selection of questions from databases which contain a small number of level-crossing questions. Part of our strategy is to work with the road transport authorities to get a battery of questions on that included within the test.

CHAIR—What work is undertaken with road traffic authorities on this issue—and not just on the tests but overall on driver behaviour?

Mr Taylor—As a result of this new Rail Level Crossing Group, we have the road authorities involved. Having this Rail Level Crossing Group—its objective is to reduce the instances of level-crossing crashes in Australia—will mean that the road transport authorities, the Australian Railway Association representing the interests of its members, governments of all persuasions and the trucking association will meet every three months and, if necessary, more often to consider these issues. It is a significant step forward.

However, I have to say that the Behavioural Coordination Group, being an Australian first, set the scene for this new group that we have. Unilaterally, since about 2006, we have been harnessing our efforts and working together to come up with a coordinated strategy for educating our people, and the Life Before Your Eyes campaign is one such strategy.

CHAIR—I am interested in the 16- to 25-year-old group. You said previously that, despite it not being on the test, this group is, in fact, knowingly crossing dangerously. What sort of research has been done on why that might be the case or this sort of risk-taking behaviour of this group? Are they also a group that is more likely to run traffic lights and do other sorts of dangerous things as well?

Miss Pettiford—Part of it is that they are very much aware that they are a high-risk group. Some of them might engage in racing a train or running a red light; but, for others, it was just more that they acknowledged that they were in this age group and were probably more prone to those sorts of risk actions. So it is not that they necessarily always run risks.

CHAIR—Do you have data to support that it is the 16- to 25-year-olds that are behaving in the way we saw before?

Mr Taylor—We can only go on what the behavioural study told us. Clearly, there is more work to be done in this area. It is a fascinating area and we are going to be focusing our attention on it. Certainly the new Level Crossing Group is already giving consideration to this.

I would like to quote from the study. A 24-year-old male states: ‘Young males in fast cars are a problem.’ The study goes on to say: ‘Whilst 18- to 25-year-olds were aware that they were an at-risk group, older drivers, whilst highly familiar with rail level crossings, were less self-aware of their own risk.’ The quote is: ‘Young people are 80 per cent impatient and 20 per cent patient.’ That was stated by a 19-year-old female. That is pretty damning, really.

Mr NEVILLE—John made a good point too. It gets down to our rail authorities, especially where you have boom gates or level crossings in a major arterial road. If people are going to be held up there constantly by freight trains and so on—especially, as you said, when one of them

parks across a level crossing—you will engender a spirit of impatience or ‘let’s try and get across before the gates come down’.

Mr Taylor—Yes, we accept that. I think that is a fair criticism of the rail industry. There are a whole range of reasons why trains do what they do at level crossings. It could be switches, broken infrastructure or anything that stops a train across a level crossing. The rail industry is very aware of this and we are taking measures to address it, but at the moment we cannot count on infrastructure not breaking down and, generally, that tends to be a major cause for why trains stop at level crossings, as they do.

Mr SULLIVAN—Lang Hancock, of course, used to love counting the carriages, as 20 cents per carriage was his royalty. Most of what I wanted to ask about has been covered. I have one further question. This is a report about train illumination.

Mr Taylor—Sure.

Mr SULLIVAN—In your view, in the context of problems at rail crossings, where would train illumination rank? I know that everything helps, but I do not think this is the most important issue.

Mr Taylor—I believe that train illumination is probably down—and this is Kev Taylor talking, as we have no evidence to suggest that it is down—since the standard has come out. We produced that Australian standard in 2007 and now, with the rail industry being about 83 per cent compliant with that standard, I do not think illumination is as big an issue as it used to be; that is because of compliance with the standard. Where does it rate on the scale? It would be lower rather than higher.

CHAIR—I have a couple of quick question. In your submission you suggest that the current estimates as to the cost of crashes at level crossings are conservative. You state that the ARA and Bureau of Infrastructure, Transport and Regional Economics are currently reassessing the level-crossing collision cost model. Are there any advanced findings available for the committee on that?

Mr Taylor—No, I regret there is none. We are collecting the data, which will be provided to BITRE on 1 July. Then BITRE will take all the data that has been collected by the rail industry, do its permutation and come up with the cost.

CHAIR—The other issue I want to touch on is B-doubles. I note your comments in your submission around the Victorian Road Safety Committee’s conclusion that there are some railway level crossings that are just unsuitable for use by B-doubles or B-triple vehicles, as we now have. Would you expand a little more on that and on what the Victorians are doing in relation to it? Do you think there is any broader application?

Mr Taylor—The ARA has grave concerns about the proposed B-triple network and, indeed, the B-double network. Our concerns stem from the size and weight of the trucks. If they are involved in a collision with a train, their potential to derail that train and cause immeasurable damage not just to the train but to the infrastructure in surrounding areas is considerable. We have asked to be shown the risk assessments that have been undertaken on the B-triple networks

where there are rail level crossings. To date, we have not received anything back. We have written to the CEOs of all transport departments around Australia, asking for evidence that these risk assessments have been undertaken. Until we get these risk assessments, we remain concerned about the issue I raised earlier on—that is, the size and weight of the truck at level crossings.

Mr Rykers—And the time it takes to cross them.

Mr Taylor—Indeed, the time it takes to cross. Apart from the consequences, we are also concerned that the infrastructure on the B-double and B-triple routes may not be suitable at rail level crossings for exactly the reasons Steve has just mentioned. That is that these trucks take a long time to wind up and move across and their braking distances are much greater. There are a whole plethora of issues that a risk assessment should address or should at least reveal before their routes are approved. Until we see these risk assessments and can be assured that everything is okay, we will remain concerned about this issue.

Mr SULLIVAN—I am interested in the stopping distance for a train travelling at a normal speed; that will vary, of course, depending on the type of train. You probably cannot answer this now, but perhaps you could take that on notice.

Mr Taylor—I might ask Steven to comment here.

Mr Rykers—Yes. It depends on the size, weight and speed of the train. You tend to find that passenger trains can pull up, depending on their speed, anywhere from a couple of hundred metres up to—talking now of freight trains—in the order of kilometres.

Mr SULLIVAN—How many trains would be aware that there was a problem at a level crossing a couple of hundred metres before they get there? It is just not practical for a train to stop.

Mr Taylor—No, it is not practical at all.

CHAIR—Thank you for appearing before the committee today and for your submission. I need to ask that one of our members accept as an exhibit the pack you have given. John Sullivan has now done that. I also need to let you know that, if we have any additional questions, the secretariat will write to you with those. You will get a copy of the proof transcript of *Hansard*, of which you can make editorial comments. You cannot change anything you have said—I have tried and it does not work. The Hansard reporter might also need to check whether they have your correct addresses and those sorts of things. Thank you again for appearing before the committee today.

Mr Taylor—Madam Chair, could I just make one more comment?

CHAIR—Yes, of course.

Mr Taylor—I am sorry, but I have your undivided attention here. I just want to put in a plug for National Rail Safety Week. We consider this to be a bold initiative in terms of creating this foundation, and we would seek the committee's support for this foundation.

Mr NEVILLE—Do you have the date yet?

Mr Taylor—July 24.

CHAIR—Are you having it here?

Mr Taylor—No, it is in Melbourne.

Miss Pettiford—The week itself goes from 24 to 31 July.

CHAIR—I think you have a member of the media here who may be interested in finding that out. Thank you very much for appearing before the committee today.

[10.12 am]

FOLEY, Mr Peter Thomas, Director, Surface Safety Investigation, Australian Transport Safety Bureau

CHAIR—Welcome. Do you have any comments to make on the capacity in which you appear?

Mr Foley—My normal job, as I have stated, is Director of Surface Safety Investigations, which includes rail; but I am also the Acting Executive Director of the ATSB.

CHAIR—You may have heard me say this to other witnesses, but I will repeat it now for your benefit. The committee does not require you to give evidence under oath, but I do need to remind you that these are formal proceedings of the parliament. As such, it is a serious matter to give false or misleading evidence before a committee and it may be regarded as a contempt of the parliament. Do you have an initial statement that you wish to make to the committee?

Mr Foley—I have a brief one. I thought it might be useful to outline briefly, again, what we do as a bureau and also what we do more specifically in a rail context. That will set the scene for what we will talk about later.

The ATSB investigates aviation accidents, marine accidents and rail accidents. We are a bureau that currently sits within the Department of Infrastructure, Transport, Regional Development and Local Government. As you may be aware, legislation has just been passed that makes the ATSB an independent commission from 1 July this year; as an independent statutory agency, it will sit under the governance of three commissioners. The chief commissioner will also be the CEO and there will be two part-time deputy commissioners. In effect, we are moving out of the Department of Infrastructure.

Most of our effort is devoted to investigating aviation accidents, where we have the sole role. There are no state-based regulators, for example, as there are in rail. We have the sole role in collecting information with respect to aviation accidents and incidents and also in investigating accidents and incidents in civil aviation. More than half of our investigators are aviation investigators.

In rail, effectively we have eight investigators spread across the various domains in rail. They are engineers, train drivers, human performance specialists and data recorder specialists; so we have every discipline within rail covered. We train our people using an extensive training program. We take an industry expert and convert them to an investigator by putting them through a diploma course, which is accredited. It is an extensive multi-modal system that we put all of our investigators through.

Our role in rail is confined to the defined interstate rail network, which is that section of line that runs between states from east to west and north to south. That is defined by the code of practice. Two of our investigators are located in Canberra; four, being most of our capacity, are

located in Adelaide, where we are at the geographical centre of the domain; and one is located in Brisbane.

If you read our portfolio budget statement, we are currently funded to investigate approximately 10 accidents per year on the defined interstate rail network; last year we investigated 12. We do not draw the line at 10, but it means that we need to be reasonably selective about what we investigate. In the last couple of years we have focused quite a deal of attention on level-crossing accidents. In that context, I will introduce some of what we have done in our accident investigations. I have a selection of reports here, which I would like you to accept as evidence. They are not to be read wholly and solely but are examples of our work. I imagine that some of the discussion today will be centred around various parts of those reports, so we might need to refer to them later.

Mr NEVILLE—I move that they be taken into the record.

CHAIR—Thank you, Mr Neville.

Mr Foley—Another piece of work that we have done and published in March last year is this. It is an aggregation of the lessons that we have learned through our investigations.

CHAIR—I think you have that in your briefing papers already.

Mr NEVILLE—I so move.

CHAIR—Mr Neville also moves a motion in that regard.

Mr Foley—It is short and sharp. All of these are published documents that are available on our website. As I have said, this aggregates, in a fairly simple format, some of the lessons we have learned. It is for the edification of people not just within the rail industry but also, and in particular, within the trucking industry. It is for anyone who can read, basically. It is fairly simple and the lessons and messages are fairly clear. Having said all of that, Madam Chair, I guess it is over to you and I will take some questions.

CHAIR—Can you outline, for the purposes of the committee, the process of an investigation, particularly how you choose which incidents you will or will not investigate?

Mr Foley—Under the Transport Safety Investigation Act, certain types of accidents have to be reported to us; that act is our empowering legislation for our investigations. We are notified generally by the rail safety regulators in each state where their section of the domain is. They will tell us that an accident or an incident has occurred, which they are reporting. Such accidents or incidents include significant running line derailments, collisions, level-crossing accidents, fatalities and various subsets of those. They report an accident to us and we then solicit more information generally, after which we make a decision based on the information we have to hand as to whether we think it is worth investigating.

A few other factors come into play. We look at our resourcing, of course, and whether there is some good safety benefit in doing a detailed investigation for that particular accident or incident. Obviously we look at the significance and scale of the accident; loss of human life is one of the

things that we consider. As I have said, we also look at the potential merits and benefits of investigating something of that nature. In addition, if someone expresses an opinion—for example, if the rail safety regulator says, ‘We’re concerned about this; we’d like you to take a look’—we will normally come and take a look. It is a multifaceted decision-making process that we use.

CHAIR—But obviously you are still constrained by your funding, in that you are funded for 10—although you have gone beyond that.

Mr Foley—Yes, we regularly exceed that. We would not refuse an investigation. Once we get to the 10 mark, we certainly would not refuse an investigation; if we saw merit in doing it, we would still do it.

CHAIR—How long has the bureau been investigating?

Mr Foley—The bureau’s official role in rail investigations came about on 1 July 2003, with the advent of our TSI Act. Prior to that, we were investigating largely under state regulations and state-based rail safety acts of parliament. There were some difficulties in doing the business that way and for the first time, by agreement, we got jurisdiction and also powers under the TSI Act to investigate rail accidents, under our own legislation. Having said that, from time to time we still investigate accidents using state legislation; indeed, we are doing two in Queensland at the moment.

CHAIR—In terms of the body of data and breadth of time that the bureau has been doing this, would you say that, under both the previous and current legislation, it is a fairly extensive time that you have been investigating as a bureau, or is it still—

Mr Foley—With the numbers of accidents, it is becoming more mature. 2003 is not long ago. In terms of total numbers of accidents, we are up to about 55 or 56. That is not enormous, but we have been in the business only a short time, relatively.

CHAIR—Previously, when you were utilising the state-based legislation—

Mr Foley—That includes those as well. So we are at about 55, but we are mature. We are outward-looking too and we understand what is happening overseas; we will always get accident reports from sister organisations overseas. We read those and get across the issues that are occurring there.

CHAIR—I note from the stats you have here that, since 1970, fatalities from level-crossing accidents have reduced by 70 per cent, but it seems that the accidents that are occurring are of a larger nature. Can you comment on why that is the case? What is happening?

Mr Foley—Since I have been in the chair as director of rail safety investigations, a number of really significant accidents have occurred involving, firstly, heavy road vehicles and, more significantly, passenger trains. Looking at Kerang, for example—and we assisted the Victorians’ investigation of Kerang—the potential is enormous when you combine those two things. Once upon a time, trucks were lighter and smaller and cars were different. Rarely would you see a derailment; the train would stay on the line. There may well have been fatalities within the road

vehicle—that was not necessarily the case either—but what we see are larger, heavier road vehicles and, consequently, larger heavier trains, and in the last few years the losses and scale of the accidents have been large.

CHAIR—You heard the comments by the previous witnesses in relation to their concerns about the B-double network. Do you have any comments to make about that?

Mr Foley—When we investigate, we routinely look at the gazettement and the route and, in particular, we look at the assessment of the level crossing. We look at the ALCAM assessment as a routine part of the investigation. We look at the crossing geometry and its compliance to the relevant Australian standard. Also, we look at the gazettement of the route and potentially what has been done in terms of some sort of analysis of that route to determine the risks associated with it, potentially, as one for B-doubles. To date, we have not found that to be a significant factor.

In the context of the Ban Ban Springs investigation, which involved a major derailment of the Ghan in the Northern Territory, we looked closely at crossing times. That vehicle was only a B-double, and that particular crossing and many up there are routinely used by very long road trains with four trailers, if you will. At that time we were in the local community and we talked to a lot of people who were involved with level crossings, driving trains and driving long trucks; they indicated to us that there might be an issue with some of these very long road trains, in terms of their residence time on the crossing and their available sighting distance.

So we did some time trials, compared them with the current standard and found that there is a good reason to go back and have a look at the current standard with respect to sighting distances, which determine the length of opportunity or time you have to clear the crossing before the arrival of a previously unseen train. This is in relation to stop signs only: if you are in a very long road vehicle with limited acceleration and you stop at a stop sign, look left and then right and do not see a train, you start to proceed across that crossing; but there may be a train just around the corner that comes into view as you start to proceed across that crossing. That is probably the worst case scenario. We found that, in these trials, we could not achieve anything like the times that were stipulated in the relevant standard. So we told various road traffic authorities that it might be a good idea to go back and look at the standard for those very long vehicles.

Mr SULLIVAN—The only question I have relates to the 55 accidents that you have investigated. How many of them were due to a problem with night-time non-visibility of trains—in other words, train illumination?

Mr Foley—I would need to take that on notice so that I could go back and have a close look at the numbers, but I do not recollect that we have had a problem or investigated an accident that has involved a collision with the side of a train at night. I understand that was quite a common occurrence but, in the time that we have been investigating, I do not think there has been such an incident. However, as I have said, I will take it on notice and advise you in due course; I will check all of our investigations.

Mr SULLIVAN—My other question relates to what appears to me to be the case anecdotally and perhaps we could get some information from you regarding this: the number of drivers of

vehicles who have been involved in collisions at railway crossings who have had good familiarity with that crossing.

Mr Foley—I should come back to a few points that I noted when ARA were giving evidence and I will clarify some of those things because, as far as it concerns what we do, not all of it was quite accurate. Rail safety data that we collect and publish on behalf of the rail safety regulators is only high-level-count data. We do not drill down into the factors involved in side of train collisions. All of that data is captured in one form or another by the various rail safety regulators in the states. We publish only high-level-count data and that resides with us, but we do it on behalf of the regulators.

For some time now, the National Transport Commission has had a rail safety data strategy up and running. This is to improve overall rail safety data and it is a current starter, if you will. One of the elements of that process has been developing what is called a causal factors framework. The causal factors framework is designed to capture all of those elements that you are talking about—why people make the mistakes that they do at level crossings due to such things as expectation, distraction, familiarity, fatigue and those sorts of things—in an effort to aggregate and understand better some of the underlying precursors to the accident. It is not just for level-crossing accidents but for all forms of rail accidents.

Kevin talked about the work of the CRC and the research program. I was actually at those meetings and one of the things that came up there was a very strong message that data, with respect to level-crossing accidents, should be aggregated across all states. One of the projects that was given the nod during one of those meetings was to aggregate all of that data and, if possible, the near-miss data as well so that we can better understand the scale of the issue. This currently is not the case. It is not aggregated in any one place; as I have said, it exists in seven different jurisdictions. So what would be worthwhile is to get Australia-wide data and, hopefully, also some of that precursor data so that we can better understand the scale of the problem.

The difference between 7,400 and 9,400 is in how you count the crossings and in talking about public road crossings as distinct from total numbers of crossings—because there are quite a lot of occupation crossings as well, which are on private roads.

CHAIR—So you think that is where the discrepancy is.

Mr Foley—That may well be the discrepancy in the numbers. Mr Neville referred to the flashing retro-reflective. In Canada, as part of Operation Lifesaver, they put retro-reflective tape on the backs of signs so that at night, when you are approaching a crossing and a train is moving through the crossing, the gaps between the wagons would give a flashing effect; that would help to alert drivers. That perhaps is what he was referring to there. So we have covered that.

I guess it is over to my next question. Certainly I can go back through old reports and indicate what sorts of factors we have had with individual reports. But the intent of this was to get together with both the ARA and the ATA and get something out, primarily to the heavy vehicle industry, to say, 'Look, these are some of the issues and this is what we're finding. Be aware that trains have terrible braking and can't pull up in a hurry. So, really, the onus is on you to do the right thing in stopping at a crossing and to be compliant with the signage.' It explains, in very

simple terms, the different types of crossing controls and the limitations of driving a train. It then gives a few case examples, including from some of the investigations we have done.

The samples that we have in there are reasonably representative; but in almost every case, when we assess the compliance of the crossing with the relevant standards, we find that nothing is causal. The crossing protection system with the advanced warning signage, generally speaking, was compliant or near enough compliant to the standards so that it was not a factor in the incident. We find that people's expectations—particularly if they are local, use the crossing a lot and do not see trains very often—is a significant factor. We have found that there is the use of mobile telephones, for example. One of the other things we do routinely is solicit mobile phone records so that we can see whether they were on the phone at the time the accident occurred. We look at all of those things. We try to measure fatigue if the motor vehicle driver is not deceased, or we speak to the next of kin and try to get a handle on what their work and home movements and periods of rest might have been in the preceding time. That is particularly relevant with local heavy vehicle drivers who might have a fairly onerous work routine throughout the week. So we try to look, as best we can, at the fatigue issues. Obviously, if the person is not deceased, we can sit them down and talk to them, and we do that.

There are other factors too. We have looked at the audibility of locomotives horns, for example. I know that, when you are talking about illumination, that is not necessarily within your remit. But, if you talk about train conspicuity more generally, it is a number of things. It is not just the visibility of the train but also the audibility. After looking at various studies, we have found that train horns are not particularly effective. They have to sound at a whistle board that is about 500 metres before a crossing and they also do routinely just before they get to a crossing. But, for people sitting in an air-conditioned car with the windows wound up and the radio on, very often it is very difficult to hear a train horn. That is an issue that we have looked at in detail in several reports as well.

CHAIR—You would have heard the previous witnesses talk about driver behaviour being a fairly large factor. They also commented that, as far as they were aware, there was no license testing or questions around rail level crossings. Is that correct?

Mr Foley—Yes, as best I understand it. When we produced the safety bulletin, one of the things we did was send it to the heads of department. Mike Taylor, our secretary, wrote a letter and sent a copy of the bulletin basically to all the SCOT members so that they could decide whether or not it was appropriate, for example, to put this sort of thing on a syllabus for a learner driver.

CHAIR—Do you have a view about that?

Mr Foley—It would be very sensible to have part of the syllabus cover the dangers of level crossings and to have an understanding for learner drivers and people who sit a test that trains cannot stop in the way that cars do, as I understand it, at a normal road intersection.

Mr NEVILLE—The Lismore crash just amazed me. All I can say is thank God it was not a passenger train.

Mr Foley—It was amazing. In that case there was probably little that the truck driver could have done in the circumstances. It was almost impossible to negotiate that crossing with complete safety. He could have stopped, wound his window down and listened.

Mr NEVILLE—Did it have a boom gate or just lights?

Mr Foley—Actually, it was passively protected with a give-way sign. ‘Give way’, of course, means that you need to be able to sight the train and make an informed decision as to whether you can make it across in time.

Mr NEVILLE—I am thinking of that crash that occurred in Far North Queensland, although I do not want to anticipate anything that might come out in your official report.

Mr Foley—At the moment, we have two ongoing there: Rungoo and Mundoo.

Mr NEVILLE—The one where a van, almost having got across the line, got hit from the side.

Mr Foley—Was it the tilt train in November last year, or was it the one on New Year’s Day that involved the garbage truck?

Mr NEVILLE—It involved the garbage truck.

Mr Foley—That is near Innisfail.

Mr NEVILLE—In the normal course of events, would you put boom gates on that crossing? With the amount of traffic that goes across that crossing, I suppose you would say that it would hardly be worth \$¾ million of infrastructure.

Mr Foley—You have, no doubt, a good understanding of how crossings are assessed using ALCAM and the way the system works. That system has been refined and developed over the years since the rail report. It is a risk-ranking system, basically, for interventions on the crossing. It considers things like volume and speed of traffic, both rail and road; sighting; and inherit risks associated with the geometry of the track et cetera, and it ranks them in order of upgrade priority. I do not know where that particular one sits in the order of priority, but that system is actually a very good one in terms of ranking crossings. No doubt we will have a look, if we have not already, during the investigation as to where it sits in the upgrade.

Mr NEVILLE—You heard all my earlier questions to the previous witness. Can you supply us with some good stats on all those contributing factors?

Mr Foley—Only for the accidents that we have investigated. As I have explained—

Mr NEVILLE—Who keeps the records?

Mr Foley—Rail safety regulators keep more detailed stats.

Mr NEVILLE—In our last report we had a scale, by state, of what had happened. Does anyone compile this sort of information?

CHAIR—You were out of the room when it was said that some work is being done on that.

Mr NEVILLE—I am speaking of stuff like this.

Mr Foley—Yes. In terms of a high-level count, on behalf of the states, we have published this document in a tabulated form that is very similar to this, and we still do that. But it is only the high-level-count data that we publish on behalf of the Rail Safety Regulators Panel, and it is an aggregation of stats coming out of the states.

Mr NEVILLE—Who compiles the various factors such as daylight, night, inattention, alcohol and lack of familiarity with the crossing and so on? Who puts that data together?

Mr Foley—Some of that data is available through rail safety regulators with the way they take their incident reports and what is reported to them. If it is not subject to some sort of an investigation—and I suggest that most of them are subject at least to a limited investigation, particularly where they involve a fatality—some of that data may never be captured. The police may also be the repository but, generally, it is the rail safety regulators.

Mr NEVILLE—I think we said in that earlier report that the factors that occur at level crossings are not dissimilar to what occurs in road safety in general. There are some slight variations, but not much.

Mr Foley—Correct.

Mr NEVILLE—I think we should always keep those figures updated and readily available.

Mr Foley—We update the high-level-count ones every six months. Every six months, there will be an updated set of figures published for every jurisdiction in Australia; but, as I have said, it is only the high-level stuff. As I explained earlier, part of the CRC research program was to aggregate all of the data that the regulators have, including the near miss data, which is very important too. In addition, it is to solicit a better culture of reporting amongst train drivers in reporting near misses. Part of the CRC work is to bring all of that together with a view to a better understanding of some of the factors and, indeed, just the numbers of incidents that are occurring and going unreported, which might be near misses.

CHAIR—Since the committee's 2004 report, Australian Standard 7531 has been introduced. Obviously, we heard from the previous witnesses about their work on standards also. Do you have any comment to make about the uptake of the standards and whether, since then, things have improved or there is more work to be done?

Mr Foley—That particular standard relating to train illumination, once again, is one of the factors that we look at routinely. Some locos have fairly sophisticated data loggers, which will tell us whether the headlight was on and what setting it was at, whether it was high beam or low beam; others do not. When investigating an accident, we establish very early whether the head

light was illuminated, the ditch lights were on and they had sounded the horn. With most of the locos that I have seen, when they sound the horn, the ditch lights actually strobe.

In any of the accidents that we have investigated to date, we have not found that the headlight or, indeed, the lighting of the locomotive was a factor. Sometimes it is very difficult to say whether it was or it was not. Quite often you do not have a road vehicle driver to talk to, so you cannot say, 'If the headlight had been on, would you potentially have been more alert to the locomotive?' However, we have not put our finger on that as being an issue in any of the detailed investigations that we have undertaken.

Mr NEVILLE—In fog conditions, is it scientifically possible to have some form of mechanism that could trigger some additional lighting?

Mr Foley—On the locomotive?

Mr NEVILLE—No, not necessarily. Let us say that there are no boom gates but just the normal flashing red lights. I can think of some towns where this would be quite relevant. For example, Toowoomba, on the top of the range, is always fog bound. Where there was a certain amount of moisture in the atmosphere, a strobe light or a revolving beacon might also be triggered as a truck or car is coming through fog towards a level crossing. Sometimes you have to be right up on those red lights before you see them. However, if you had a bright gold light coming at you, you might get another 50 or 100 metres of notice. Do you understand what I am saying?

Mr Foley—Yes. I heard your previous discussion regarding some of the crossings on sugar lines up in Far North Queensland. I was up there recently for the tilt train investigation at Rungoo and I noted that they had strobes on sticks on top of the active lights at all of those crossings; I thought, 'Well, that's interesting; that would help.'

With the Lismore investigation, we talked about having active advanced warnings. I think the more sensible approach is to alert drivers further out. You have activation of an active system and, in areas that are prone to fog, that is a solution that is already in place on a lot of roads, especially highways where the road speed is high and people need to be alerted potentially to the activation of the lights of the crossing further down the road.

Mr NEVILLE—With the red, green and amber lights that we have in regulated road crossings of various sorts, there is a new style of bulb that has many units; I do not know what they are called.

Mr Foley—LED.

Mr NEVILLE—Are they halogen?

Mr Foley—No. They are light-emitting diodes, actually. There is a whole series of diodes in them.

Mr NEVILLE—Not only are they brighter but also, if you lose one cell, you do not lose the light.

Mr Foley—Correct.

Mr NEVILLE—Have they been shown to be more effective than the old incandescent ones that just used to sit behind a coloured plate?

Mr Foley—Yes, they are more effective in terms of the brilliance and the visibility of the light.

Mr NEVILLE—And a greater distance of visibility?

Mr Foley—I would expect so. In most jurisdictions, incandescent ones are being phased out in favour of those. I am not sure of the state of that work. Once again, we would look at that routinely when investigating an accident. Of the active crossings that we have done, I think most were high-intensity LEDs; so sighting the light was not necessarily a problem.

CHAIR—We did not get a chance to ask the previous witnesses this but, in terms of intelligent transport systems, often things get held out as being the new, big answer. Do you hold much hope for the development that is occurring there?

Mr Foley—You are asking me to postulate on a bunch of technology, and that is not really our role. What we do is go back and look at the systems that were in place at the time. Unfortunately, we do not have a research arm; we would like one.

CHAIR—But you participate in research.

Mr Foley—We do.

CHAIR—Obviously you do.

Mr Foley—Occasionally we get asked to participate in forums, such as the CRC one, and to share our experiences there—and we do, of course. I have some signal engineers who are investigators and they have some fairly strong views on intelligent transport systems. A number of these systems are being trialled in Victoria. In many respects, Victoria is leading Australia in terms of what they are doing with rumble strips, intelligent transport systems and some of the research they are doing with respect to level crossings. This is as a direct result of Kerang and some others. Wingeel was another one, and that involved a passenger train and a fatality. There have been some significant accidents down there, so they have thrown a bucket of money at the problem and have come up with a range of solutions, including speed limits. A lot of this technology is under trial, but the central issue is that it must fail safely to be used in a rail context.

In one of our investigations there was an actively protected crossing that was not fail-safe as a result of some maintenance on the signalling equipment, and the risks resulting from that are enormous. People expect such equipment to work and, if the lights are not flashing, it means that no train is coming and they will negotiate the crossing. In this case the lights were not flashing and a train was coming, which resulted in a collision.

CHAIR—Which accident was that?

Mr Foley—That was Kalgoorlie. There is an expectation that that technology will be totally reliable. So I guess you have to overcome the costs of installing that sort of technology—and there are low-cost versions of fail-safe technology; there is no doubt about that.

You have talked about a low-cost activation system, I think, with solar panels. Solar powered active protection systems have been around for quite some time. Driving on the Bruce Highway, you will see panels on just about every one of those active crossings with flashing lights up there. Effectively, they are battery operated, so they operate independently of any cabling that supplies power. They use telemetry so that they can communicate with train control and say that they are working or not working. That technology is around and in common use in terms of the solar powering of the equipment, but it is still relatively expensive.

Then there are the ways in which they make an active protection system in the rail context. Almost uniformly, they have to insulate a section of line. They have to lift a section of the rails, which is a very high cost exercise, and insulate them electrically so that, when a train passes over the two rails, it completes a circuit that activates the system. That is one of the reasons why converting a crossing to active protection is so costly. It is not the only reason, but that is probably one of the main reasons, particularly if that line caters for high speed. The higher the speed on the line, the more line you have to insulate to provide the 20-second minimum warning time. It is a very costly exercise for that reason.

Other systems use radar or axle counter technology and radio transmission. At this point that technology is not as mature. However, this can be argued, so I need to be very careful with what I say; but they need to prove its failure safety.

CHAIR—Yes, beforehand. We have heard a bit about what is happening in Victoria. Can you tell us of any particular crossing where it is worth our while to look at what they are doing? Obviously, we can ask the Victorians about that.

Mr Foley—I think that probably would be best. The ATA may have some views too.

CHAIR—Members have been asking to look at a level crossing, and I have been refusing to do that so far. It is in Victoria and, if we can get there easily, Paul, we will think about it. Are there any other questions?

Mr NEVILLE—The evidence that you have given has been very good. Thank you.

Mr Foley—Thank you very much. It has been a pleasure to appear before you.

CHAIR—Thank you very much for appearing before the committee. The secretariat may have some further question that we failed to ask you today, answers to which are required, so you may get those in writing. In addition, you will receive a proof of the transcript of *Hansard*, to which you can make editorial changes. Again, thank you very much for appearing before us here today.

Mr Foley—It has been a pleasure. Thank you.

[10.59 am]

JOWETT, Mr Roger Gavin, National Transport Policy Adviser, Australian Rail, Tram and Bus Industry Union

CHAIR—Welcome. I apologise for the slight delay. Although we do not require you to give evidence under oath, I do need to remind you that these are formal proceedings of the parliament and, as such, should be treated with the same respect as you would treat proceedings of the House of Representative. I do need to remind witnesses that giving false or misleading evidence before the committee is a serious matter and may be regarded as a contempt of parliament. We have received your submission. Would you like to make a brief statement, before we commence with questions?

Mr Jowett—Yes. I would like to address a number of issues and, in doing so, my remarks will probably be a synthesis of the union's submission. Firstly, I would say that I appreciate the opportunity to appear before this committee. Over a number of decades, the union has appeared before this committee's predecessors and has found that their influence, in terms of analysis, strategy, recommendations and potential funding, has been quite fundamental; therefore, it looks forward to the deliberations of this committee.

Secondly, there is a sense of frustration, certainly within our union and within the industry, with the limited brief that was given to the committee in 2004. We understand that was an outcome of circumstances that arose from the committee's constitution and institution, given a particular set of circumstances in Western Australia. That conforms generally with what happens with developments in railway safety issues: they are preceded by major collisions. There is naturally a public reaction. A succession of them brings a demand for inquiries at various levels, ranging from royal commissions, special commissions of inquiry or inquiries by state parliament. We believe that was the context in which this committee was constituted.

From the union's perspective, issues involved with railroad level crossings are numerous, and we need to keep that in mind. The union's submission divided those issues into a number of areas. We looked at the issues that bear directly upon the recommendations made by the committee in 2004 and the subsequent response by the federal government to those submissions, some of which were accepted, some of which were opposed and others which were not acted upon. In our submission, we have gone through those recommendations and have also looked at the context of other inquiries.

A perspective that came from the 2004 inquiry by your predecessor committee was that, essentially, its context was one of federal-state. That was because a concurrent inquiry was running in New South Wales, the largest jurisdiction under the auspices of the New South Wales Stay Safe Committee. But many of the recommendations or observations of your predecessor committee were, in fact, deferred because of the progress of that inquiry and because, essentially, there was a framework that these matters ordinarily were the purview of state jurisdictions.

The union, in the third part of its submission, has indicated that there has been a sea change since 2004, when the committee looked at one slice of the problems with rail level crossings. We

have looked at these areas. We have looked at institutional factors. For example, we have looked at the development of the NTC. As you know, the NTC provides operational regulatory oversight of road and rail, and intermodal. It was only established on 1 January 2004. We have looked at the national model legislation endorsed by ATC in 2006 and, in particular, at the ICPs, which are a fundamental part of that legislation, and the implications that fall from that. We have looked at the policy frameworks, in particular the 2003 level-crossing strategy and whether it was implemented as well as some issues relating to transparency and accountability. We have looked at structural changes since 2004. The major one there in the railway industry in this area of infrastructure and level crossings has been the takeover by the Commonwealth of New South Wales non-metropolitan rail track responsibilities through the interstate main lines in the Hunter Valley and also the management of the country rail network in New South Wales. We have looked at the various recommendations coming from the parliamentary inquiries: both the Stay Safe one, which had 69 recommendations, and the B follow-up in 2006 by the same committee in New South Wales. In addition, in 2009, the New South Wales committee intends to have another inquiry.

We think the Victorian inquiry is important because of the emphasis it places on technology. We have also looked at its strategic policy developments and, once again, that involves a comparison of road-rail issues. On the road side, we have noticed the development through the ATC of a national road safety strategy, which is systematic, well funded and diverse and has a number of components. On the rail side, we can look at the ATC May 2008 recommendations in relation to a rail level-crossing strategy. We argue that that is not a holistic strategy, because it only focuses on three areas, a couple of which one could describe as grey areas. The first goes to low-cost technology, the second goes to education and enforcement and the third goes to other unspecified best practice measures, whatever they might be. The union has tried to put this in a context of growing federal involvement in the railway industry, in a funding sense, both through the \$1.2 billion program announced by the government in December 2008 and the recent announcement of \$150 million over two years for essentially a black spot program to be applied to rail level crossings. They are both quite historic developments in the context of the development of the railway industry.

The union also looked at the perspective from train crews. The views from the front of the train are not always at the front of the inquiries. Our concerns have been that, since 2002, five train drivers have been killed in road-rail level-crossing crashes. From the union's point of view—this has been verified and added to in parliamentary reports—there are concerns about the increased safety risk to train crews that has arisen in the last 10 to 15 years. One aspect of that relates to the interface between road and rail: observations that the road industry has expanded; observation that the GTM of road vehicles has increased by a number of measures in terms of B-doubles, B-triples and performance based standards. In our view, that poses an additional level of threat to those who operate the trains.

Also, in some ways, an area of technology has been highlighted both in Queensland, with the number of incidents that have involved the tilt train in recent years, and by some discussion in Victoria, with their new high-speed passenger rail network. We note that a number of these issues have been the subject of the New South Wales and Victorian parliamentary deliberations and the response from the federal government in terms of rail level crossings, speed of freight trains and, in particular, high-speed passenger trains. No developments seem to have occurred in this area, nor does there seem to be particular coordination across jurisdictions—not only with

issues relating to this committee's recommendations of 2004 but also with the wider issues canvassed regarding level-crossing strategies in both 2004 and coming from the ATC in May 2008.

The final area that the union looked at, in its submission, was some developments in Canada. We drew those to the attention of this committee due to a number of reasons, including the federal structure of government. Additionally, there are a number of operating similarities between the two jurisdictions, including long distances, heavy freight trains, long trains and the fact that Canada has adopted a national program following a parliamentary inquiry in 1994, which was termed Directions 2006, which had a number of components. Those components included a rail research program; Operation Lifesaver, which is another issue aimed at grassroots campaigning and the involvement of various organisations in driver safety and local community education; a number of reports, including the response from the federal government to this inquiry's 2004 report; and some references in New South Wales. In our view, these have not been taken up.

One of the lessons from the approach in Canada is that you need a multi-year program. The ARA is suggesting four or five years. We note that, in Canada, it was a 10-year program that had as one of its objectives the reduction of deaths and injuries on rail level crossings in that country by 50 per cent. It did not succeed, but it did reduce those deaths and injuries significantly—in the order of some 25 per cent. It was funded, drew together various levels of government and community organisations and was seen to be a success. The recent review by the Canadian parliament came forward with a number of recommendations and a suggestion that a further five-year program be instituted. That concludes what constitute our earlier remarks.

CHAIR—Thank you very much. For how long have you been in this area?

Mr Jowett—I have held various positions within the union for 37 years.

CHAIR—From your presentation, I note some frustration at what has or has not happened in this area. I can understand that, having been involved for 37 years, you have seen the occurrence of a number of inquiries, reports and those sorts of things.

Mr Jowett—That is correct.

CHAIR—You did signal that there seems to be some hope; you have seen some movement since 2008. Do you think things are getting a little better?

Mr Jowett—I think a framework is starting to evolve where there is a better understanding between federal and state. As a union, we think there are still gaps at the national level that need to be addressed. For the union, transparency, accountability and involvement issues still need addressing. For example, the 2003 national strategy had some 13 strategic areas with responsibilities, and it would be helpful for the community and the industry to have regular reporting, for example, on a yearly basis as to the progress of that particular strategy.

CHAIR—Does the strategy itself need updating? You say in your submission that there were some inbuilt flaws within that 2003 strategy.

Mr Jowett—Firstly, for success to be seen, I think it needs to be reviewed. I think it needs to be updated; we think there are some gaps there: the institutional changes since the 2004 report, which we refer to, in the development of the CRC; the funding by the federal government through the Minister for Innovation of a research program, which I think is long overdue, of \$21 million over three years; the development of the network of the ARTC with a more national focus on the rail industry in a national context regarding its contribution to national economic goals through the bulk products we transport, such as iron ore, wheat and coal; and the contribution of our national cities to the national economy. I think they will be the subject of some announcements next week through the Infrastructure Australia and Building Australia Fund.

So there have been some developments since 2004. When we look at the industry, there has been the development of the ARA RISSB and the work that it is doing and the development of standards, both of road and from the recent work by RISSB in looking at a specific AS to cover rail level crossings. Once again, that suggests there is a gap and overlap that needs to be filled. The technology issues have been around for some time. They were mentioned in the 2003 strategy and other reports have referred to them. Victorians, because of the response to Kerang, have focused on that, particularly with the work of the Victorian Road Safety Committee in its December 2008 report; its brief was, in fact, to look at technology.

We can look at funding initiatives of the federal government over the last six years, primarily of AusLink, which is some \$16 billion over four years and is a corridor strategy. Whilst it has been road based primarily, it does offer opportunities for looking at the road-rail interface. The union would argue that these developments of funding, whether from the Federal government's December 2008 announcement or of AusLink 1 and 2, give opportunities for a reappraisal of the interface between the two industries. Whilst on the one hand we have had quite an explosion in terms of the scope, breadth and depth of coverage of the road industry, with fantastic productivity increases through a range of measures—B-doubles and B-triple networks—and also performance based standards, once again we believe that there is a gap between the two industries. I notice that the ARA's submission talks about trying to get access to the risk assessments for the B-triples network and, thus far, it has run into a dead end.

CHAIR—We will hear from representatives of the Australian Transport Association next and I will certainly direct some questions to them. Both from your submission and a comment made by a previous witness, there are increasing concerns with the road-rail interface around B-double networks. Would you like to comment on that?

Mr Jowett—The road industry has expanded considerably, both in technology and gross vehicle mass or GVM characteristics. The rail industry, as can be seen by some of AusLink expanding on major corridors, has seen the length and weight of trains increase. I think this is a dynamic to which the industry needs to give more attention.

On one level, over a long period of time, we have seen an increase of issues involved in a collision between a heavy road transport vehicle and a train, whether it is a passenger or freight train. Before 2000, it was unusual to see a driver killed or catastrophic damage done to a loco. Ordinarily, you could surmise that the locomotive would be slightly damaged only, but there might be catastrophic damage to the truck and, unfortunately, the death of its driver. With a number of incidents from 2000 onwards, which has been pointed out in some detail in the ATSB

work, we see that the GVM of road vehicles now poses a serious threat to train crews and potentially to passengers, both in a physical sense and in the scope and intensity of the damage—as evidenced, for example, by the Lismore collision—that hitherto, in an Australian context, has not been there.

Mr NEVILLE—I cannot remember the exact context but, in respect of Queensland, you have mentioned tilt trains at level crossings and speed. Could you elaborate on that a little? You have said that the tilt runs at level crossings at speed, although I might not have quoted that correctly.

Mr Jowett—No, that is fine. On the narrow gauge network in Queensland, with the advent of the tilt train and the speeds that are being reached there, we are seeing a new dynamic, in some instances, between road transport users and the high speed trains. Reaction times and the inability of road vehicle users to make the necessary perceptual adjustments to high speed seem to be an area that needs attention. The union, in terms of these developments in both industries, sees that as an area where we need to look for more research and more guidance. Circumstances in Australia with high-speed tilt trains are a little different from those in Japan and Europe with very high speed trains. But, in a historical sense, the adoption of high-speed tilt technology in Queensland was a quantum leap. I am not quite sure that we have the reaction between road and rail, in the interface sense, covered in all respects.

Mr NEVILLE—You have spoken of large diesels, and I suppose that you were referring to the driver having some measure of protection from the sheer weight of the prime mover. Quite often with those, anyhow, the driver is set back a little distance from the front of the train. That is not the case, of course, with XPTs and tilt rails. If you do have a head-on or a head-to-the-side with a truck, the driver is in quite a precarious position.

Mr Jowett—Yes, a precarious position. I think there are two sets of circumstances. One is the overall change in the dynamic because of the GVM of heavy vehicles and those networks which have expanded to allow them. They pose problems that have a greater magnification than earlier generations of vehicles. You are making a distinction correctly between the freight side of the industry possibly having more protection and the passenger side with the high-speed trains, as evidenced by the XPT in New South Wales and the Queensland tilt trains. The standards developed in the railway industry through RISSB and its predecessors have given quite a lot of attention to the protection of train drivers in both types of rolling stock, and there has been a quite rigorous application of engineering to give protection to the occupants of a locomotive cab. As for the occupants of the passenger cars, there has been more debate because of the number of collisions. There has been ongoing debate in terms of structural characteristics of vehicles in New South Wales as a result of the Glenbrook and Waterfall inquiries and, in Victoria, as a result of the Kerang inquiry, where a vehicle was opened up like a sardine can; that gave rise to issues and questions about the structural integrity characteristics of passenger rolling stock.

Mr NEVILLE—While you were waiting here, you probably heard evidence about revolving beacons. What attitude do you think your drivers would have to revolving beacons on trains, firstly, in general and, secondly, in fog conditions?

Mr Jowett—It has been an issue around the industry since 2000; because of the circumstances of accidents in Western Australia, it was given a lot of attention. The fellows on the job have a mixed view as to whether strobe lights make any difference. Certainly, when

appearing before various inquiries, the industry has argued that the case has not been made out for a range of reasons.

Your question had two components, one of which was the general efficacy of strobe lights. The experience of this committee and from those that gave evidence is that the case has not been made out and the response of the federal government is to reject it. That door has swung slightly ajar by a finding of the Victorian committee that suggested that further work be undertaken in this area. At the moment, the general industry view would be that the development of the Australian Standards has held sway in terms of train lighting and a lack of scientific evidence that general strobe lighting would make a material difference.

The second area you referred to was the issue of fog and the interface between rail and road, which was starkly demonstrated with the Lismore collision. I think more attention needs to be given to that. You have referred to a number of fog areas in Victoria, New South Wales and, in particular—

Mr NEVILLE—Toowoomba.

Mr Jowett—Toowoomba in Queensland. New South Wales has a number of areas that are fog bound, particularly in the Blue Mountains and also on the south coast down the escarpment; so maybe there is a case for further work to be done. This raises the issue of coordination of research and what is the research program for the rail industry. Often recommendations are made and potential responsibilities allocated, but what is our research program? For example, what are our 10 top research topics for the industry to address over the next five or 10 years?

I think there is a waiting process and a funding process. Also, in terms of research, there are some institutional issues whereby the various organisations in the rail industry, both at a jurisdictional level and through ATC, have to start setting some hard and fast priorities for the next step forward.

Mr NEVILLE—Do you cover drivers in the cane industry?

Mr Jowett—No, we do not.

Mr NEVILLE—That is a pity; so there would be no feedback about how that has worked in the cane industry.

Mr Jowett—Not directly that I am aware of.

Mr NEVILLE—That is a pity, because that is the one area where it probably could be tested.

CHAIR—Who does cover them?

Mr Jowett—Generally they are covered by the AWU in Queensland. Maybe there are some other avenues by which the cane industry can be addressed in terms of regulation.

Mr SULLIVAN—Thank you for coming in. I will just put on record my appreciation of the union's welfare work, particularly through the House of Happiness. That is in my electorate and

is a wonderful facility, and I want to thank you for that—and I do not get an opportunity to do that too much. It occurs to me that one of the problems with the discussion that we are having and the statistics that we are going to receive will be based on accidents rather than incidents or near accidents. Again, as a state MP, I can say that a fatality at an intersection in my electorate, which ultimately resulted in boom gates being put in, unearthed a number of near misses at that intersection that nobody ever reported to anybody. That meant that the transport department at the time had no knowledge of what was actually happening at the intersection. Has that now changed, with your drivers being required to report incidents at crossings where, for example, some of the stuff that we saw on video earlier might happen, so authorities can be given an idea of what is happening at an intersection well before an accident takes place?

Mr Jowett—I appreciate the question. The issue of near misses is a vexed one for the industry and involves a number of levels. One level is those incidents that are reported: how they are recorded, collated and published. There was discussion here previously about the role of the safety regulator, the problems of statistics generally within the rail industry, the work being undertaken by the National Transport Commission and the rail safety regulators and improvements through standards such as OSN1. That is the first level. The second level is the reporting of near misses. Railway authorities would say that they encourage their staff to report everything. From experience, we know that is not the position. The union has argued that a more rigorous reporting culture is needed within the industry.

As you would be aware, the doyen of railway safety is James Reason. He has set out a number of aspects of what is a safe railway system, one of which is a reporting culture. Within the industry there have been changes in terms of the training of employees to report more incidents. But also, as we gave evidence into the Stay Safe Committee report in New South Wales, there has to be a response from the railway authority to the incident reports that are given by members, whether they are workers on the infrastructure or train drivers.

Our experience is that it is certainly in train drivers' best interests to report near misses. Often there is some doubt about with what enthusiasm they will be pursued. For example, a heavy vehicle driver or a motorist might chance their arm in terms of going through a give-way sign or a stop sign; the driver will report it and it will go on to the police. But is there a virtual continuous loop for any response to the train driver's report to come back to him, whether in circumstances where it is reported to the outside authority or internally? These issues are continuously under question and scrutiny within the industry. Then there is another layer of reporting, which is pursued only in New South Wales, which is confidential reporting. These days, in an industry which has been restructured and where there are many private players, being able to report an incident to an independent body outside the railway industry and to get feedback is an issue which has been on the table and was mentioned in the union's submission to the New South Wales Stay Safe Committee. There was a report into an incident in Queensland in 2008, which recommended the adoption of a confidential reporting system in the Queensland jurisdiction. This issue is ongoing across several jurisdictions. So the reporting, response and settings for near-miss reportings are a live issue within the industry.

Mr SULLIVAN—I just want to repeat that your members are the best source of information that anybody could get.

Mr NEVILLE—Hear, hear!

Mr SULLIVAN—I might see whether we cannot have something to say about that aspect. You mention in your submission that train illumination is a low-level cause, and I think that has been supported by others. It is the basis upon which we have been able to revisit an old issue, but we are all interested in having an understanding of the point of view that you bring to the table about what the serious issues are at road-rail intersections and how we might move towards addressing those.

Mr Jowett—When we gave evidence to the New South Wales Stay Safe Committee, an emphasis was placed on road driver behaviour. This marries up with your question about near misses because, if you look at the statistics across Australia, in aggregate, old estimate terms, there would be a couple of near misses a week across the various jurisdictions. These near misses really cause a problem to a train driver.

Last week one of our organisers sent me a photo of one of the members in an XPT; in certain parts of the New South Wales network, they can get up to a speed of 120 kilometres an hour plus. The driver and his train were a kilometre from a crossing in a regional area and a truck was going across the crossing. That is the type of stuff that really tests the pacemaker. This issue about what is seen from the driver's point of view, in both urban and regional settings, in many instances is a flagrant disregard by motorists of road safety regulations. So the view that these members put to the union is that driver education is an extremely important issue. In addition, a number of other aspects hang on driver education.

CHAIR—I have a follow-up question. The first witnesses talked about three categories of people that they are particularly concerned about. One is the 16- to 25-year-olds—and obviously more education is needed in there—who generally are being seen as knowing that it was risky behaviour to cross a level crossing but still doing it. Also, there are older drivers who, to some extent, seem to be unaware of some of the risk or of the fact that they have gone against lights or done something similar. Then there were transport drivers. They are the three categories that they feel are at most risk in this environment. Given the experiences of your members, can you share with the committee how you think an education program should be structured around those three categories?

Mr Jowett—We started off by looking at the need for coordination between road and rail. In our submission we have pointed out that the adoption by ATC of the national road transport safety plan in 2008 had a number of components around driver education, including those three categories you refer to. How that might be extended to a railway industry context is an important issue. It gets back to one of the union's primary concerns, which is the need to integrate these programs and have them underpinned by proper research. We note that there has been a driver behavioural study undertaken by ARA. We also note that there has been a reference in the government's response to your committee's 2004 deliberations about Operation Lifesaver. The union says that a holistic view is needed in terms of the difficulties experienced by our members on the front line regarding those three groups of motorists and the risks that they pose to the train driver in the first instance.

Mr SULLIVAN—I will just pick up on something that you spoke about in your response a few moments ago; that is the photograph of a truck on a crossing, with an XPT a kilometre off. If a truck and an XPT have a collision at 120 kilometres an hour, that is fairly serious. But, in defence of the truck driver, he could have got on to the crossing. The ATSB gave evidence

earlier of some issues with road trains and the amount of time it takes them to cross a crossing, having come to a full stop. They are not likely to have visibility of the train coming. I would imagine, from the particular incident you spoke about, it would be unlikely that that truck had two kilometres of vision of the railway line in order to cross. So probably some audit of crossings needs to be done that will take those sorts of figures into account. Also, if it costs extra money to put a boom gate at that sort of crossing, perhaps that is what we should be recommending.

CHAIR—As part of that question perhaps I can ask this also: you have made some comments and criticism about ALCAM, and I suspect they might go to some of the points that John is raising. How could ALCAM be improved—and certainly in consultation with your members?

Mr Jowett—A basket of issue has been raised by Mr Sullivan's question, which I would like to address. The ALCAM model, as you know, is based on risk assessment and a range of factors, which the earlier witness referred to. Our locomotive drivers have made a number of observations about the lack of consultation in the preparation of the ALCAM model. Also, from their point of view as train drivers, there are doubts as to whether some particular factors are taken into account in the ALCAM model. At a wider level, in our view, the ALCAM model, given its characteristics, can be biased against some operations, particularly those in regional areas. For example, a heavily trafficked crossing, in both a road and rail 'density of traffic' sense, versus a crossing that might be on a B-double or B-triple route, which does not have a lot of traffic in both a rail and a road sense, is a situation of very serious risk if there is the threat of potential collision between a high GVM road vehicle and an XPT doing 120 kilometres an hour. They are some of the shortcomings that have been pointed out to the union.

Mr NEVILLE—We had an interesting case at the last inquiry, with which you would be familiar. It occurred in the northern suburbs of Adelaide, with a bus getting caught between the two boom gates—

Mr SULLIVAN—That was at Salisbury.

Mr NEVILLE—Yes, it was Salisbury—and the train came around a curve. So there was not anything like a kilometre's vision; it would be flat out being half a kilometre's vision. The train would have been right on top of the crossing before he had a chance to see the bus.

Mr Jowett—That was one of a number of instances where there was no scope for the train crew to institute braking procedures to prevent a collision. In fact, train crews are captive to those particular operating circumstances. Also, picking up on an earlier point, I would note that on a number of occasions our members had complained to their management that that was an accident waiting to happen, as it were. The layout of the crossing and its relationship with traffic lights and queuing meant that the risk factor with this crossing was a highly elevated one and the potential was certainly there for a catastrophic incident.

Mr NEVILLE—We went to see that one.

CHAIR—It is unbelievable; I reckon that you want to see every train crossing in the country.

Mr NEVILLE—Not all 9,000.

Mr SULLIVAN—This is less of a question and more of a statement: I firmly believe that your blokes are our best source of information and advice; I will be hoping that we can make some recommendation about the collecting of that. But I do want to say that, whilst I think the biggest cause of accidents at level crossings is driver behaviour—some of which is mitigated by the fact that they cannot do anything else when, for example, they do not know that a train is coming—I do not want to vilify anybody. I want to work towards the collection of that sort of information and advice and, hopefully, some measures will be brought forward. Again, as a question on notice, we would request from the RTBU any suggestions based on observations that you are able to make, which have not been recorded, as to the sorts of behaviours that are being seen so that we can be made aware of them. That may not be something that you can do quickly—but, again, your blokes are our best source of advice.

CHAIR—I feel the need to ask whether you have any female train drivers, although I suspect that there are.

Mr Jowett—There are, but there are not enough. It is one of those critical mass issues. Some authorities have been vigorous about implementing EEO. For example, in the Rail Corporation of New South Wales, some 20 per cent of the urban electric drivers would be women, and they play a very valuable role in the union too.

CHAIR—Thank you for appearing before us today and providing your valuable evidence. The secretariat may follow up with some further questions that we have. John's point about how routinely the knowledge of your members can be captured in this debate I think is particularly important, and we certainly note that has been raised in your submission as well. A *Hansard* proof will be sent to you for editorial corrections. We certainly appreciate both the time that you have taken here, today, to provide us with evidence and also the time you have taken to put your submission in. We look forward to having further dialogue with you.

Mr Jowett—Thank you for the opportunity.

[11.46 am]

ST CLAIR, Mr Stuart Roy, Chief Executive, Australian Trucking Association

CHAIR—I welcome the representative from the Australian Trucking Association to this committee and note that it is Mr Stuart St Clair, who was a member of this committee between 1998 and 2001 as the member for New England. Thank you for appearing and providing your expertise here. Do you have any comments to make on the capacity in which you appear?

Mr St Clair—I have been in the position of Chief Executive Officer of the Australian Trucking Association for just over three years. I have been involved in the truck and timber industry for 41 years. I have driven professionally and I still drive heavy vehicles to this day. In fact, I did so last week from Canberra to Melbourne, and I do that because it gives me a great deal of pleasure. I have a love of the industry itself and, certainly, a passion for large trucks, as others do for rail.

CHAIR—Thank you very much. Although we do not require you to give evidence under oath, I should advise you that this hearing is a formal proceeding of the parliament and, consequently, it warrants the same respect as proceedings of the House. I also need to let you know that the giving of false or misleading evidence is considered a serious matter and may be regarded as a contempt of parliament. We have received your submission; thank you very much for that. Do you have a brief statement that you would like to make at the start?

Mr St Clair—Yes. It will be very brief, because I think the submission covers it. There are just a couple of things. The Australian Trucking Association is the peak body for the road freight industry in Australia. We are made up of a whole range of state and sector based associations and the Transport Workers Union together with some of the largest logistics companies in Australia, which are multimodal. Seventy-five per cent of all freight in this country is carried by truck and around 80 per cent of the task is carried around the metropolitan areas.

The issue of level-crossing safety and, in particular, train illumination has been a concern, I think, to every driver that is out there. Certainly, from our point of view, we need to work very hard to ensure an education program is in place with our drivers. We certainly believe that, in many cases, complacency is a major cause of accidents. As the majority of accidents occur in daylight hours, the question of illumination becomes an interesting one. In evidence to many of these types of committees in the relevant jurisdictions, we have continued to push that we believe rotating lights is a very good measure. We use practical experience for that. I know that two members on this committee come from regional and rural areas. A simple rotating light on a council grader or a council vehicle can be seen for miles and miles. Often, when people drive around regional, rural and remote Australia, they find that it is quite easy to pick up a rotating light from a long distance.

That view was reinforced a couple of years ago, when some very bad accidents occurred. I had a phone call from the mother of the young lady who was killed in Western Australia some years ago. Whilst she was obviously still emotional, as you can imagine after many years, she was also very factual. She brought home to me that the accident occurred in a rural setting and the view of

the train was basically filling the whole horizon. I believe that the accident occurred either at dusk or late in the afternoon and the people drove straight into the side of the train. The question of illumination then comes about, which is obviously the side strips—this has all been raised before—and, in our view, not necessarily a strobe light but simply a rotating beacon.

I listened to some of the evidence given by the Rail, Tram and Bus Union representative, who appeared immediately prior to me; it was really good, positive stuff. I think one of the issues brought up in your previous inquiry was, 'Let's enforce some of this stuff; let's actually make it happen and get some of these things out on the road.' Looking at crossings, the perfect solution is grade separation and we know the cost of that. But we know that, in some states over a long period of time, monies have been put into grade separation; in other states, it has not been such an important factor. But the freight task has grown, both from a rail point of view, which we think is a good thing, and from a road point of view, and something needs to be done relatively urgently.

Rather than going any further, I am happy to answer any questions that you have. Again, I just draw your attention to our submission. We are working very hard with the Australasian Railways Association to try to get some solutions, particularly to driver education. Last year we launched a \$1.3 million Road Ahead exhibition trailer, which we had purpose-built in Melbourne, and that visits schools right across Australia. There are three messages on it. It is basically 'sharing the road' and is aimed at school children for the purpose of behavioural views. It looks at the issues related to heavy vehicles sharing the road, because now there are more of them and they will continue to grow as the freight task grows. We and the Australasian Railway Association have a joint venture in that now; they have come on board. We actually have a level-crossing education program included in there. That vehicle last year saw 18,000 students. We believe it has the potential to continue to grow. Funding these things is always challenging, because we do it from within our industry and without government support. But I think this has demonstrated a close working relationship that needs to happen. It is a problem that we all need to be involved in fixing to ensure that deaths do not occur.

CHAIR—I note that the Australian Trucking Association runs a terrific program each year, which many of us have participated in. MPs get out in trucks in order to be educated about how difficult it is in terms of stopping distances and just what happens in your interaction with road users. Have any of your truck drivers got in the front of a train and had a look from a train driver's perspective as to just how hard it is to see a truck?

Mr St Clair—Not that I know of, but we have absolute sympathy. You cannot slow down 5,000 tons of 1.8 kilometres travelling at 100 kilometres per hour. As an industry, we recognise that train drivers have a terrible dilemma because, if a situation arises where something is blocking a crossing, they cannot pull up; we understand that.

Mr SULLIVAN—It takes 30 seconds to get to a carriage at the rear.

Mr St Clair—Absolutely. We are very conscious of that.

CHAIR—Is it worth your doing a similar thing?

Mr St Clair—It would be great. I have tried to do that, but I have not quite got there yet.

CHAIR—I will leave that out there as a suggestion. Certainly getting in the cab of a truck and driving around does give you a very different perspective. Obviously, there needs to be interaction between increasingly larger trucks with great capacity and faster passenger rail and those sorts of things. These drivers are highly regarded professionals in their industries and I am sure that there are some things they have in common that it would be useful for them to talk about.

Mr St Clair—They have. It is the fear and the dread in the stomach when you know that something is going to happen and you cannot do a thing about it. On the issue of conspicuity—it is a wonderful word; I took a long time to practice it for today so that I could get it into *Hansard*!—which is what the committee is really looking at here, to get a road train across a crossing in remote Australia in a space of time for visually picking up a train coming at 100 to 120 kilometres an hour, which is two kilometres per minute, can often take about 70 or 80 seconds.

We also have another simple view. If you drive into one of the tunnels in Sydney or Melbourne and there is an accident or a problem, a cut-in system operates into your car radios and talks to you. We do not understand why there cannot be just a simple electronic activation, when a train approaches and is perhaps five or 10 kilometres away from a level crossing, that cannot go out over the UHF system. Virtually every truck in Australia has a UHF system.

CHAIR—Has anyone trialled that? Is there any technology that exists?

Mr St Clair—The technology is certainly there and we know that the federal department of transport has some knowledge of those sorts of things. We just think you need a warning that says, ‘Train approaching crossing number so-and-so at Baan Baan,’ or wherever it is, ‘and will be there in two or three minutes.’ The downside is, ‘Good. I’ve got three minutes, so I’ll try to get across.’ But at least people would know, because the frequency of trains is often the problem. There was a train through here either yesterday or the day before, and we can look at the results of some of the accidents where drivers have been travelling backwards and forwards, perhaps from a gravel pit or a mine, and have not seen a train for three days. It would be clear—and there it comes.

Some of the other accidents have been caused through lack of sight. These are not excuses; it is just the cases that have occurred. It might be that foliage has built up. Again, most of this is happening in daylight. Another one that the Deputy Chair raised, I think, is important, and that is the sugar trains in Queensland. They make up a significant part of accidents that occur with vehicles. Again, I think a lot of that is happening with local drivers who become complacent—and that is both heavy vehicle drivers and car drivers. But, from memory, most of those have a little rotating yellow beacon on them.

Mr SULLIVAN—That is so they can be seen above the cane, though, as they are coming through the paddocks.

Mr St Clair—Yes, sure; but on trains, as you know, they would be seen.

CHAIR—Obviously, without further research, the government’s response to the submission did not support rotating beacons. The Australasian Railways Association this morning has

reiterated that, although they noted that, in Victoria, some further work had been done around that. We are getting not quite but almost two views with one railway association saying, 'Train illumination is not the biggest issue and it's down in terms of the order of priority, and the jury is still out on rotating beacons,' versus the evidence that you have just given here that it is very important. Would you like to comment on that?

Mr St Clair—I can. I think part of it is the words that people use. We are very specific in using the words 'rotating beacon' and not a strobe light. There has been a large body of work done, particularly in Europe, on the effects of strobe lights generally. We are not talking about a strobe light; we are really talking about just a rotating beacon. It is cost effective, even cheap. You do not need a large number of them, but they would be seen, we believe, particularly in regional, rural and remote Australia, quite well. No, you will not see them five kilometres away in many cases. But, even so, I think the experiences with tractors and graders is such.

I also want to say that trucks are illuminated. We share the road with motor cars, motorcycles, pushbike riders and pedestrians, and we do it every day; there are 13 million of them that we share it with. On a semitrailer, there are about 36 lights; they are illuminated. Sometimes people even put more than that on but, for the majority, there are about 36 lights. Why do we do that? I think it is because, as heavy vehicles, we are sharing the road—that is what we are doing with rail—and we need to make sure that people see us so—and we are well illuminated. I think, as we see more freight going on rail—and we think that is a really good thing, particularly for long distances and in bulk—trains need to be illuminated. You cannot have 1.8 kilometres with one light on it, not when you think of a semi trailer that has 30-odd lights on it.

Mr SULLIVAN—There are standards for lighting now, which we heard about earlier on, that mean that rolling stock and locomotives are being illuminated better than they were in 2004. Of course, the other thing is that, for 100 per cent of its journey, your truck is interacting with other traffic, whereas that is happening for a train only for a minute portion of its journey—although it is a very important minute portion of its the journey.

Mr St Clair—We are very cognisant of there being a lot of urban type crossings about. When people designate truck routes, the road jurisdictions take into account what the levels of risk are. Most B-triples, for example, operate in regional, rural and remote Australia. Looking at where the crossings are, there are no crossings between Sydney and Melbourne. If you are looking for B-triples to come on to that highway once it is duplicated, for example, it is a normal process; there are no crossings.

When talking about safer heavy vehicles, which is what it is about, we are trying to reduce the growth in the number of trucks simply by suggesting that we re-look at the question of longer vehicles. We need to make sure that we understand that, if you reduce the size of those vehicles, you simply increase the number of vehicles. In addition, there is the fact that this country has a population the size of that of New York, as you know, spread out over the same continent area as the United States and we shift a lot of freight. I understand that these are not easy issues to solve.

Mr NEVILLE—I find that idea of yours of the cut-in system interesting. We should explore that in the rest of this inquiry. I have seen one of them but I just cannot think in what context. It just cuts straight into your radio. I used to own and manage drive-in theatres and, towards their end, instead of having to put a speaker into your car, you could attach a lead to your car's

antenna and the sound would come through an FM channel on your car radio. The technology is there; I suppose the problem is the cut-in device. Do most of your trucks carry directional and positional devices, like Navman?

Mr St Clair—They do, but there is an enormous volume, by number, of vehicles that do the same route all the time.

Mr NEVILLE—I see what you mean. I have noticed that, on the one I have, a signal is triggered when I am near a school.

Mr St Clair—Yes.

Mr NEVILLE—Does it trigger a signal when you are near a level crossing?

Mr St Clair—No, but it does when you are near a red light camera.

Mr SULLIVAN—That is illegal.

Mr St Clair—That is interesting. We are trying to get rest stops put into the GPS systems—if we can ever get accurate data from the road authorities on where they are—because we think that is a very good safety mechanism; cars could use it as well. That could be a way forward of putting things in. But, generally, professional drivers are using the same route, and many of the accidents that occur happen with people who live either in the community or around that area: ‘I have done that crossing 100 times.’ I am thinking of the one that cuts across the Uralla-Walcha road; I would have gone across that in a car 1,000 times. It is in a 100 kilometre per hour zone and there is pretty good sight distances for an XPT coming through but, when they travel at 120, they cover territory very quickly.

CHAIR—Just on that point, the Australasian Railway Association has written to all state ministers strongly suggesting that, in the lead up to level crossings, the speed limit be reduced to 80 kilometres per hour; I understand from their evidence that that is happening in Victoria. What is your view on that?

Mr St Clair—We would support anything that produces a safer outcome. Trains should also look at reducing their speeds in areas where you know there are risk crossings, particularly for the Ghan and some of those other long distance ones. A freight train may be travelling at only 100 kilometres an hour, but a passenger train may be travelling at 120 kilometres. They also should look at reducing speed. I think some of the evidence has shown that, if you act in a completely legal way, you physically cannot get across some of these crossings before the train on you. That is a challenge for both sets of travellers.

CHAIR—What sort of relationship is there between the Australasian Railway Association and the Australian Trucking Association?

Mr St Clair—I think it is very positive. I think that is demonstrated in the agreement between the Australasian Railway Association and the Australian Trucking Association. They are contributing \$65,000 towards funding the display for the education trailer, for example, and I have some press releases here. It is a good relationship. Do we disagree on things? Absolutely.

However, I think there is a genuine desire by both associations to ensure that we get a safer outcome for the community.

Mr SULLIVAN—My question is technological. There has to be a technological solution that can give in-cabin information to truck drivers and give in-cabin information to train drivers and, if rolled out in sufficient numbers, would be fairly cost effective. I am thinking about what you would cut into if you were driving along in a truck. Someone like me would be listening to a ‘greatest hits and memories’ AM radio station, others would be listening to FM, some will be playing a CD and others will not having anything on and will be singing to amuse themselves. There would be one, two or three radios on different channels. In my mind, it is almost impossible to pick what you would cut into, unless you have something that can cut into anything. Perhaps you could put in something that is the size of a GPS that gives the two modes of transport the capacity to talk to each other, even if it is just beeps.

Mr St Clair—I think your point is very valid. However, I would say that, from my own experience over 40-odd years, every truck driver has a UHF radio that is on channel 40 and it is operating just about all the time, irrespective of the CD. Why do they have that? They have that because that is the road intelligence that is out there: there is an accident ahead, there is a vehicle on the side of the road or a truck has broken down and someone is in trouble. All sorts of messages are put through that system. I think you would find that there would be very few, if any, heavy vehicles that are not switched on all the time to UHF radio. Most vehicles run on a GPS system now; they are monitored by their companies—I am talking about the major ones around Australia. There is no reason why you could not slot some of those things in to say, ‘You are about to approach that level crossing.’ But the question is: is there a train? You do not want the warning if the train is not coming for three days.

Mr SULLIVAN—That is right.

Mr St Clair—There is a challenge to that. There are a lot of railway lines left that still have stop signs, even though that line might have been shut for two, three or 10 years. You travel over that same one every day. If someone decides to reopen that line or a grain season starts, or something like that occurs, I will be driving across it—and bang. That again is driver awareness; it is not the rail driver’s fault.

Mr NEVILLE—It makes you wonder whether that cut-in system could not be done on the CB band as well.

Mr St Clair—Most truck drivers now do not use what they called the old CB system; they use UHF radio. If it is a sophisticated one, it is on a scan system. Channel 40 is for operating just locally between trucks over a kilometre or two. The repeater band will operate through a repeater station to 100-and-something kilometres away. So often they will have it scanning, depending on what they are doing.

Mr NEVILLE—What about having a button in the cabin of the XPT or the tilt train, or whatever, that the driver could press that would cut in to channel 40 automatically and just announce, ‘XPT approaching the such-and-such crossing at 105 kilometres per hour’?

Mr St Clair—You could do it automatically; you could actually just have a trigger mechanism that does it. My understanding is that most of the argument against this has been that all communications are done from Adelaide on some of these major corridors and they are saying that the driver should not have to do that—and we agree. But an automatic trigger system that sends the message out would be good. Will there be other messages out there? Yes, there will be, and we understand that. But I think it is just another one of those aids that will assist.

If you look at putting it into all trucks, probably only a very small minority of the number of trucks in Australia—of which there are about 500,000—are actually crossing level crossings. So suddenly we are bringing in a process where 100 trucks per day might be going across crossings but 500,000 of them are not, and it is just another expense.

Mr NEVILLE—You could put it into the train.

Mr St Clair—I am not sure how many trains there are in Australia, but there are not a lot.

Mr NEVILLE—Compared with trucks, anyway.

Mr St Clair—I think there are only about a thousand-and-something.

Mr NEVILLE—I want to turn to this vegetation thing. In the mid- to late-60s, we were just coming towards the end of the steam era. Most of Queensland had gone over to diesel, but there were still some steam trains somewhere between Ingham and Innisfail where the level crossing was not 90 degrees square on.

Mr SULLIVAN—I think there is more than one of them.

Mr NEVILLE—Yes. It was on quite a sharp incline. As I remember it, there was very high sugar cane—this was not a cane train, by the way, but a regular train—where the farmer had grown it right down into the extreme corner of his paddock and the train line was the boundary of his paddock. In other words, you were almost on the level crossing before you could see up the line. I remember that I was driving a VW and I had just got across that when I looked up to see this bloody big train right up there, almost on top of me. So, I think there is an argument for some form of foliage management on farms as well as of natural vegetation. Where there is thick vegetation, you do not have to clear fell it; all you have to do is thin it a little bit so that people coming up on the line can see the silhouette of a train coming through the trees. I get the impression that it is a bit of an all-or-nothing thing. Those who are opposed to removal of vegetation have a concept that everything is going to be clear felled and it will be an environmental disaster, whereas all that I think needs to be done is some judicious thinning. What is your view on that?

Mr St Clair—I get back to the same issue: if you had had an electronic device that came into your Volkswagen and went through the radio, obviously that would have made you aware of a train. Even if you try to trim the cane back, I think you will still have the challenge of perhaps having 50 metres or 30 metres by the time you get there and look up the track. I think road agencies and the rail industry need to look at each crossing and, if there are man-made vegetation issues, perhaps an appropriate speed could operate at the place. However, like all these things, it would need to be enforced. In our view, the answer is on-road enforcement. You

have got to stop people breaking the law. If a sign says 'stop', there is no excuse for any of our heavy vehicle professional drivers not to stop. That is the law. But it is about on-road enforcement and that is about resources, and we all know the difficulties and challenges with that.

CHAIR—I guess the other issue is where the sign is 'give way.' Obviously, if it is 'stop', you do want people to do that. But, if the sign is 'give way' and they cannot see, that is another issue.

Mr St Clair—We have talked to a lot of drivers and I talk to them on the road, and so on; everyone says to me, 'Do you think I'm going to be fool enough to try and jump my 62½ tons up against 5,000 tons? I am going to die.' I think there is a realisation. But it is not those people that are hitting the trains; I think it is more a lot of the local people who cross that crossing all the time or who have got out, got into the truck and thought, 'That train is not due for another five minutes; I'm right'—and there is the accident.

CHAIR—In your submission, you have said that the use of the evidence-quality Intelligent Access Program to monitor level-crossing activities will not be cost effective and it is costly to install and operate. Can you elaborate on that a little, and would you support further investment in developing this technology?

Mr St Clair—The trucking industry is using GPS monitored systems now for the management of all its fleets. A lot of it is live. So, if you go into the operations room of a major trucking company, you will see a big screen up with all the trucks on it, which shows where they are, what they are doing and what speed they are doing. Many companies now have alert systems—which is really good—so, if a vehicle starts to speed or goes over the speed limit, it will get a message. If it continues, it will get another message and then another one, and that really grounds the truck.

Moves are afoot to have what is known as an Intelligent Access Program. It is being wheeled out by Transport Certification Australia, which is a company owned by the road agencies, including the Commonwealth. Its role is to have another set of standards and another set of electronics to be installed in trucks. It cannot use the existing systems, so a whole brand new system has to be put into the trucks. At the moment it is being rolled out in New South Wales, much of it retrospectively, for the use of higher mass limits. In fact, a condition of using higher mass limits in New South Wales as of the end of June will be that you have to be in the Intelligent Access Program. This collects data of an evidentiary quality. I think part of that has come from previous electronic devices that were never put to an evidentiary standard; they were only put to 'a standard', and I think that has left some gaps.

We object to that because there is no demonstrated evidence that there is a significant overloading issue any more across Australia. The penalties are harsh, companies are much more responsible and, 'chain of responsibility' legislation is coming through all the states, which we think is fantastic. It commenced about 10 years ago and is finally in. If you are starting to either receive or load vehicles to illegal weights, you are as responsible as the driver and the trucking operator—and we think it should go back up the chain.

However, some are really determined to go ahead. We think that not only will it get to HML use in New South Wales but will spread across the other states. It is also being used for high-

productivity vehicles or performance-based standard vehicles, and we feel that it should be used for some of those vehicles. It may be used for vehicles that carry really heavy containers around a wharf area—we are noticing a lot of that—or for cranes or special heavy vehicular things. There are moves afoot to use it where you run B-triples on networks; in that case, you may have to hook up to IP. That is simply another cost that goes into the cab to provide evidentiary quality, but we do not think it is going to improve safety at all. When it comes to its use over rail crossings, I think the challenge will be how you administer it. What evidence do you use? Is the train there or not there? I think there are better and less costly ways, because you have got to put it out over the whole fleet. It costs \$30,000-odd to put the box in and all your existing gear, which your whole business is built on, becomes almost redundant.

Mr NEVILLE—Returning to the issue of vegetation, do you have difficulty when you deal with councils and government agencies about line of sight at level crossings because of vegetation, or do you make contact with them when drivers report things to you? If you do, what sort of response do you get?

Mr St Clair—We do not have contact with them over those particular issues. Most of those are local issues and it is more likely that they would be reported to a local state-based association, who in turn would raise them, or to a sector-based association like Australian Livestock, who are members of our organisation. You might have livestock running out from the Tanami Desert to Darwin, for example, and there may be an issue with a level crossing. Drivers may raise that with their company who, in turn, would raise it with the livestock operations in the Northern Territory, who would then raise it with the local governments. Generally, we have found that local government is understanding of those sorts of things with the more popular states; however, much of the vegetation is on railway land and not on council land.

CHAIR—We have no further questions. Do you want to make any concluding statement?

Mr St Clair—Just to thank you very much for having us appear before the committee. We believe that the work of the committee is invaluable in bringing these sorts of things into the public arena.

Mr SULLIVAN—Can you give me a page on those cut-in systems?

Mr St Clair—Yes, we can do that. We will get something and send it to you.

CHAIR—We thank you for both your submission and your evidence here today. I suspect that, on the basis of your evidence, the secretariat will write to you. Certainly, it would be interesting to know whether we could talk to anyone who is developing that cut-in technology.

Mr St Clair—I understand that it is already there and available. As I said, it is used by road jurisdictions on road works.

CHAIR—It would be helpful if they were actually utilising it in some way. You will be sent a copy of your evidence for editorial comment—and I am sure you are well versed in that. The secretariat will write to you if we have any other questions that we would like to ask. Thank you very much for appearing before us.

Mr St Clair—Thank you.

Proceedings suspended from 12.18 pm to 12.52 pm

RYAN, Mr Timothy Francis, General Manager, North South, Australian Rail Track Corporation

CHAIR—Welcome and thank you for your attendance. Do you have any comments to make on the capacity in which you appear?

Mr Ryan—As well as being general manager, I have executive responsibility for level-crossing matters within ARTC.

CHAIR—Thank you very much. Although the committee does not require you to give evidence under oath, I do need to remind you that these are formal proceedings of the parliament and, as such, should be given the same respect as would be given to proceedings of the House of Representatives. I also need to remind you that giving false or misleading evidence is considered a serious matter and may be regarded as a contempt of the parliament. We have received your submission; thank you very much for taking the time to put that together. Do you have a brief statement in relation to your submission or other matters that you would like to start with?

Mr Ryan—Yes, just very briefly. We identified on page 7 the three principle concerns that we have about level crossings at the moment. The first is that there is now anecdotal evidence and clear research results that show that we do have significant driver behavioural issues at level crossings, and it would appear from the research that that behaviour is different from how they would react to road signs. So our focus is clearly about what you can do about that driver behaviour. Firstly, we need to understand it; and, secondly, we ask what we can do about it in terms of either education and/or engineering or some other treatment.

Our second concern is the impact that land use and changed traffic volumes are having on level crossings. A number of developments are occurring that significantly increase traffic over a level crossing, without consideration being given for the increased risks—say, where you have housing developments and so on.

Our third concern is the heavy vehicle issue, and I am sure that has been the subject of some discussion. The clear evidence is that recently heavy vehicles have been involved more in these crashes than passenger motor vehicles. There are some questions about why that happens, and nobody is sure. In particular, we are concerned about the application of B-double and B-triple routes where the routes are cleared for those trucks but there does not seem to be any risk based assessment of how the trucks get on and off that route. So the queuing and stacking issue at the entrance to those roads is a major problem for us. Primarily, we run the interstate network. If you look at a lot of our network, you will see that it runs parallel to the highway. In a lot of cases, a B-triple parked at the highway trying to get on to it will hang back over the level crossing. We are starting to become quite concerned about that queuing and stacking issue because it does not seem to be taken account of in the risk assessments for the routes. The highway route itself is typically okay for a B-triple or a B-double, when they measure all the things like ‘swept path’ and so on; but how do they get on and off, particularly in rural areas, where those trucks go into farms, for example, where the level crossings are not on public roads and are not of the same standard?

They are the three things that we are focussed on at the moment. That would do for me, and I am happy to answer questions.

CHAIR—Thank you very much for that. I have a number of questions on those three points. The road transport authorities in each state and territory are responsible for the B-double network and which roads they can travel on.

Mr Ryan—Yes.

CHAIR—Is there any interaction formally between the road transport authorities and yourselves?

Mr Ryan—It varies a bit around the place. We have written to the road traffic authorities, as has the RTA saying, ‘Look, what are the criteria for assessing these routes and how are you dealing with these issues?’ In South Australia there is quite a formal process, at least for over-length and over-height loads, but in most other states the assessment is really about whether the vehicles will fit on the road. Victoria have told us that they have done a risk assessment and they are about to provide us with that, but we do not have a response from the other authorities at the moment.

CHAIR—How much of what we are going to look at is behaviour versus engineering solutions?

Mr Ryan—If you look at the totality of the problem, you will see that there are more than 9,000 level crossings out there, including all the private ones.

CHAIR—Does that 9,000 include the private ones as well? I think that is where we have had discrepancies.

Mr Ryan—It includes the private ones that are formally gazetted in that way. A number of private crossings remain there with the influx of time, history or local practice. I used to work for the farmers, so I know that they occasionally build a few of their own as well. The absolute and easiest answer is to ‘grade separate’ all the so-called closed corridors, but that is just prohibitive; it is nonsense.

CHAIR—Obviously no one is looking at it. Some money has gone into some.

Mr Ryan—You get to a point with some really high-risk level crossings, where there are high-traffic volumes and high-train volumes, where you do not have much choice. For example, Garfield Road in Sydney has four lanes, and that is going to be grade separated because there is nothing else you can do to make it safe as a crossing. You could go back to the 9,000 and start asking which ones we do with engineering up to the boom gate level, but the rate at which level-crossing accidents occur is so sporadic that it is very hard, based on history, to pick at which one the next accident will occur.

There are some where there are regular reports of near misses and so on, and they are generally being treated. But, with the incidence of trains and vehicles being together at the same time outside of urban areas, we think driver behaviour is a very important issue because the

engineering solution is just prohibitive—and which one do you do? There are some very obvious ones that you do, which would be those on highways and where there are high train volumes. But after that, if you took the 20 level crossings between Port Augusta and Ceduna, how do you know which of those will cause you the problem?

CHAIR—We heard evidence this morning that, in terms of driver behaviour, there are three groups of concern. There are the 16- to 25-year-olds, who generally have a reasonable knowledge of the dangers of level crossings but still choose to engage in risky behaviour; some older people who may not even be aware of warning signs or things that are happening; and heavy vehicle drivers. Particularly for country areas, which of those groups would you see as the most important or involved in the largest number of accidents?

Mr Ryan—With that report, you probably need to be cautious about the comment about the older generation.

CHAIR—I am paraphrasing a little bit.

Mr Ryan—The report actually says that the rest of the population thought the old people were the problem and the old people thought everybody else was the problem. I do not think we would stratify it on gender or age; we are more concerned about familiarity. For example, as the second string of the work that the behavioural group did in Victoria—they did the National Attitudinal Survey—they actually instrumented a level crossing on a two-lane road so that you could tell whether or not the vehicle was stopped. The test was that anything that went through the laser beams at under four kilometres an hour; anything under that was considered a stop. Less than 20 per cent of the vehicles on that road stopped at that stop sign. They then enforced it with police for a week and got the response rate up to about 36 per cent.

CHAIR—That is with enforcement.

Mr Ryan—With enforcement. It is the same people that are using that level crossing all the time. The number of times they would see a train is very low, so clearly they have this judgement about risk. In that circumstance, our concern is probably more about the whole driving attitude than any gender or age stratification.

Mr NEVILLE—I am interested in what ARTC feels about some of the measures we recommended in our 2004 report. For example, what is your view on passive rumble strips as distinct from activated ones?

Mr Ryan—There has been some research done and, as you know, the Victorians are now trying to validate their research. We do not think they work where people think they are going to work, because there is that question of familiarity again. If you go over that same level crossing routinely and do not ever see trains, you know you are going to get the rumble strips. The work that the Main Roads in WA did about three years ago came roughly to the same conclusion: the issue that you have is that people expect to feel the rumble strip after a while, anyway.

Mr NEVILLE—But surely all these things are incremental. We can have flashing lights, a boom gate that comes down, in some places a bell that rings and sometimes rumble strips. Not

one of these things is the panacea, but isn't it an engineering montage that makes the thing work?

Mr Ryan—I agree that is possible. What we do not know about the so-called countermeasures—you have rumble strips, advanced warning, either passive or active signage and reduction in speed—is which of them work; whereas the road safety people have a very good idea of which of their countermeasures work and in which circumstances they work. In fact, one of the projects of the cooperative research centre for rail is to work out which of the countermeasures work.

Mr NEVILLE—Main Roads in Queensland quite often puts rumble strips on T-junctions of major arterial highways, such as the Bruce Highway and the Pacific Highway. That means that, if you are coming in off a side road, especially a T-junction side road, you get the bumpity-bump effect as you come in. Even though I have one in my electorate on a road that I travel quite regularly, I do not get familiar with that. That just says to me, 'Oh, I'm coming up to it on to the Bruce Highway and I'd better have a look.'

Mr Ryan—That could be true.

Mr NEVILLE—Plus there is a stop sign.

Mr Ryan—One of the things that we do not know, given that we know that drivers behave differently at level crossing, is which of the treatments they do respond to. I think you will find diametrically opposed views about rumble strips right throughout the rail industry; some people think they work and some do not. One of the ways to find out about that is to test the Victorian implementation and see what is happening.

CHAIR—I understand that study was inconclusive, but the Western Australian government is still installing them. We heard witnesses saying that this morning. Is that your understanding?

Mr Ryan—I did not think that they were.

CHAIR—I think the Australasian Railway Association this morning said that they are putting them in, even in light of the study, because I asked them specifically what the study concluded.

Mr Ryan—It is four years since I worked in Western Australia. I did not think they were putting them in. However, on the other hand, one of the approaches is that passive rumble strips are a relatively cheap treatment—so throw everything you can at the level crossing.

Mr NEVILLE—We have been talking about the line of sight. What is the word for it?

Mr Ryan—The sighting distance?

Mr NEVILLE—No, it is conspicuity. My observation is that there is a bit of a tension between environmentalists and more practical people about how you clear foliage and vegetation leading up to level crossings, especially in the country, where you have a fairly wide angle of vision. Surely it is just a matter of just thinning them rather than clear felling them. I always found that with the Queensland railways—this is not a crack at the ARTC—it was all or nothing.

If they were going to chop a tree down, they would chop down every tree in sight. But what you are looking for is the removal of sufficient trees to enable you to see the silhouette of a train coming through the vegetation for the last couple of hundred metres, coming up to the level crossing. What is ARTC's view on that sort of thing? You are responsible for 'line of sight' at your level crossings?

Mr Ryan—We are probably with Queensland Rail. First of all, the distance you need to have it cleared is entirely dependent on the train speed. So there are formulas for the line of sight that you need in order to be able to see the train, given the train speed, and to provide you with sufficient warning either to make the decision to stop and wait or to go. We do clear vegetation in the rail corridor quite extensively. Clear felling is probably an overdescription, but you have to get it clear enough to see the train. There are no restrictions on that. Typically, you are allowed to clear, within sensible guidelines, for the sake of safety, and we tend to get no objections on our corridor. Quite often the trees and the vegetation are on land that we do not own and control.

Mr NEVILLE—Immediately either side of the corridor?

Mr Ryan—Yes. It could be private. In a number of cases on the north coast of New South Wales it is reserved land of one sort or another, such as national parks and that sort of thing. Within the corridor it is not an issue and there are no restrictions; it is how you find a solution with the private owner or the public owner.

Mr NEVILLE—What is your view on flashing lights that are operated by solar power? Do you use many of those?

Mr Ryan—Just at a level crossing?

Mr NEVILLE—Yes.

Mr Ryan—No, we do not, but we are very interested in doing that. The solar power bit is not new; we use solar power to power our level crossings. Again, one of the projects that the cooperative research centre has going is a low-cost level-crossing treatment. Commonly, in the United States, they just have a flashing orange light that is solar powered which sits on top of the stop sign. It operates 24-7 and has no other technology associated with it. Given that you have all those level crossings and you cannot afford the big engineering answer, we think there is a very productive set of work to do to think about what little things we can do to enhance basic stop signs; we think that orange flashing lights is one answer, and we have seen them now in the States.

CHAIR—Are you suggesting that they always would be on or there would be a trigger mechanism if the train were coming?

Mr Ryan—Immediately you go to getting a trigger mechanism for the train—other than on your high-speed signalled lines, where you obviously have train detection—you start to introduce costs and the question of whether it is fail-safe. The States just run them 24-7.

Mr NEVILLE—I suppose that is a little like when traffic lights do not work and they automatically go to flashing amber.

Mr Ryan—Yes.

Mr NEVILLE—That would be the next treatment down: from having traffic lights, you have the flashing amber. So this is the rail equivalent of flashing amber, is it?

Mr Ryan—Yes. There has been a view in the rail industry that everything you do has to be fail-safe; therefore, if it fails, what is its replacement? A boom gate level crossing, when it is not working, actually drops down. That is its fail-safe position, which road users find annoying when it happens. The cost of making something fail-safe is very expensive. There has been discussion recently, based on some Victorian work, that we could put things on there that enhance the basic treatment of stop signs and, if they failed, you would still have the stop sign and that would be acceptable from a risk perspective. That is being explored now because that would make low-cost treatments much more useful. For example, we accept on roads that, if the mechanism for traffic lights does not work, they flash yellow and, if they lose their power, you go back to the road rules. We say that is fine; we still have a stop sign there. If we enhance it with a flashing light and that light fails, we still have the stop sign.'

Mr NEVILLE—I see your point.

CHAIR—We have had evidence or a suggestion from the Australian Trucking Association around broadcasting, over the UHF network, when a truck is crossing a line—whether there is any way there could be a cut-in mechanism to announce that a train is about to hit the crossing. What do you think of that? As far as I know, it is not operating anywhere in the country, but it obviously does on other road systems. What is your view about something like that?

Mr Ryan—There is a whole raft of technical things that are not very far away which are going to help us. For example, the people who produced the Tom-Tom, or whatever that technology is called, are looking now at putting level crossings into the Tom-Tom, with some sort of message that occurs when you come up to it. A whole lot of work is going on with intelligence transport systems, which are setting future standards for vehicles, which will incorporate that sort of stuff. The Victorians are experimenting with a radar detection system for the train that broadcasts an alarm, and there have been a few others around there. There is a train proximity warning system around, where the locomotive emits some sound and, if you are within a kilometre or two of it, you can pick it up in the cab of your truck. The difficulty with that is that it is not sensitive to where the train is. So, if you were travelling on the highway from Melbourne to Adelaide, it would be going all the time because of all of the level crossings on the side. That technical solution is a real bonus for us. I do not think that is very far away; we are at least in the first instance. Tom-Tom will have it in there. As for the capacity to broadcast the signal, none of this stuff is high tech. A lot of work is being done on that, and we think it is good.

CHAIR—We tend to keep focusing on the engineering solutions, but I would like to go back a little to driver behaviour.

Mr Ryan—On that point, since you had your last inquiry, there has been a very good national focus. We have many good things happening nationally; the ALCAM model is one of those that I am sure you have heard about.

CHAIR—Yes. That was a recommendation of the report.

Mr Ryan—I find it interesting that driving ALCAM is something called LXM, which is a level-crossing database. That level-crossing database contains the GPS coordinates for every level crossing on a public road in Australia.

CHAIR—Obviously that is not the 9,000 but the 7,000.

Mr Ryan—Yes. We now have all that information and can provide it to a company that wants to put it on their system.

Mr NEVILLE—They put schools on Tom-Tom.

Mr Ryan—Yes.

CHAIR—So it is possible to provide that information now whereas previously it was not,

Mr Ryan—That is right. So some good and useful things have been happening at a national level.

CHAIR—I think you commented at the start of the hearing that one of the largest focuses of your work is concerns around driver behaviour. You also said that there seemed to be a significant difference between the way that drivers behave towards a rail crossing and the way they behave towards traffic lights and other sorts of things. Is there any research to say why a rail crossing is seen as being any different from a stop sign in any other circumstance?

Mr Ryan—No, not at the moment.

CHAIR—Do you have a view?

Mr Ryan—Effectively, it is just starting now. I think level crossings have always been treated as a railway problem. In fact, over the last year or two, all those people worried about level crossings have started to borrow the experience of the road safety people who do all this behavioural work.

CHAIR—Was much work done between the two beforehand?

Mr Ryan—No.

CHAIR—That seems extraordinary.

Mr Ryan—Legislatively, the two things were separate; the railways had the level crossings and the main roads had the roads.

CHAIR—We heard evidence this morning that, in any of the tests at state level for people who want to get their licence, there is no question about rail crossing use. As far as you know, is that correct?

Mr Ryan—I think that is correct. There was also very little in the text or the online information. We are starting to see those sorts of things being worked on because, under the guise of the Australian Transport Council—they have just changed the community structure under it—they now have good coordination between the states in trying to get some uniformity about those sorts of things. That issue of how people are trained to get their licence and what they need to know about level crossings is being pursued in that broader agency, which is good.

Mr NEVILLE—So that will be a question when you go for your licence.

Mr Ryan—Yes, it should be.

CHAIR—You have been around in this area for a while, so do you have anything else anecdotally that you can tell us regarding the reason for drivers treating rail differently from other road—

Mr Ryan—Looking at the characteristics of it, one of the issues with flashing lights is that the number of times that you would drive through a traffic-light controlled intersection and get a red light is probably one in two, and always there will be competing road traffic; however, you could drive through a lot of these level crossings with impunity for months before seeing a train.

Going to Adelaide, we would have 24 to 26 trains a day, which is less than one an hour and the odds of your seeing what you are being warned against—outside of the urban system—are very low; however, with a road intersection, the odds are much higher that you will see another vehicle. That seems to be the only thing, other than a view that came out of the behavioural study; that was that people—I do not remember the exact number—thought the chance of being caught for an offence at a level crossing was miniscule compared with being caught at a stop sign.

CHAIR—In terms of having no enforcement.

Mr Ryan—No enforcement. What is the consequence of taking that risk, other than having a collision? They did not think there was a consequence in terms of being fined.

Mr SULLIVAN—I want to return to something that mentioned pretty much in passing earlier on. You said that crossings where a number of incidents have been reported tend to get fixed, and that is the experience that I have had also. We were talking with the rail union this morning and it seems they are not convinced that there are adequate reporting processes or that reports, when they are made, are treated adequately. Do you have any views about that?

Mr Ryan—It is always a difficult issue. If the near misses are reported by the train drivers, we put them into the database and deal with them. You get various periods of reporting. The train drivers might report something and nothing happens for a while, so they think there is no value in continuing to report it. However, there are now beginning to understand the value of it. There is a particular level crossing at Woodingham Road in the Hunter Valley—which is the access to an Air Force or Army base, of all things—and it was horrible to contemplate the number of drivers driving around boom gates there. The drivers constantly reported it and we dealt with it by building in some more protection for them. You have the twin problem: they do not report,

because they do not think we will do anything about it; and, if we do not get the reports, how can we do anything about it? Certainly, we think near misses are heavily underreported.

Mr SULLIVAN—So you see encouragement as an important aspect of reporting.

Mr Ryan—Yes.

CHAIR—Is any work being done on how to get more reporting from the drivers?

Mr Ryan—Other than talking to the drivers regularly, no. It is an issue: they feel they report and then nothing happens. It would depend on where you are. Drivers at some depots have it as a very serious issue on their continuing agenda and they have peer pressure to report; others say, ‘There’s no point in reporting it.’

Mr SULLIVAN—We were talking about flashing lights on top of stop signs. Is there a set of standard crossing treatments whereby we can say ‘that’s treatment No. 5’ or ‘that’s treatment No. 7’, or is it done just in an ad hoc way as somebody thinks fit for the case in question?

Mr Ryan—The ALCAM model takes you effectively to five levels of treatment for the various levels of risk. You start with give-way signs and move to stop signs, flashing lights, boom barrier protection and, lastly, grade separation. But there is no standard that says, ‘If you have that level of risk, you must have this here.’ What you do is risk rank all your level crossings and then apply a treatment to it, in order to see whether you can reduce the risk sufficiently with that treatment.

Mr NEVILLE—I realise that you are responsible for below-track operations, but what is your view on various forms of illumination for trains?

Mr Ryan—We would rate that as a very low priority versus the other issues.

Mr NEVILLE—Do you support the idea of a reflector strip along the side of all trains?

Mr Ryan—Yes, that is fine: reflector strips and some form of triangulated flashing lights on the front of the locomotive, which is in the standard, and in colour during the day, because most of our accidents happen during the day.

Mr NEVILLE—Are you pro or anti a rotating beacon?

Mr Ryan—I am anti.

Mr NEVILLE—On what grounds?

Mr Ryan—First of all, we do not think train illumination is the issue. Secondly, on all the studies that have been done on that, the effect on the driver of having a flashing light in a night environment in the country is a significant issue for them—and particularly a strobe light. There are all sorts of arguments about where you can put the light so it will not have any effect on the driver; but, the more it has no effect on the driver, the less effect it has on being able to see the front of the train.

Mr NEVILLE—I see what you mean, if he has that orange flash at the front. But couldn't you have it in such a way that the flash would not go directly to the front but only to the sides and back?

Mr Ryan—But then that would not show the front of the train to the road user.

Mr NEVILLE—I suppose so, yes. It is interesting. You have probably heard other witnesses here today say that the cane industry uses them on their cane trains, both front and back. If you are going down the highway and see a convey or something coming with a bloke with a yellow beacon over his cab saying 'wide load', and then you see the wide load with another rotating orange beacon, you can hardly complain if you get hit. That yellow light tells you, firstly, there is a wide load coming; secondly, it is almost on top of you; and, thirdly, you should be well and truly over to the side of the road by that stage. If it works in those circumstances, I just wonder why it would not work with trains.

Mr Ryan—It may work with trains. We are just unconvinced of its benefit against the other issues that we think there are at level crossings.

Mr SULLIVAN—The other thing is that you risk diminishing the importance of rotating beacons with the more things that you put them on.

Mr Ryan—Yes.

Mr SULLIVAN—I have to tell you that I do not pay too much attention to a rotating beacon on top of a road grader anymore; I pay attention to the width of the blade, not the beacon on top. I am not convinced that they are a grand idea. I think they are in the cane trains to give visibility to the little engine above the cane fields.

Mr Ryan—The other reason that they are on the cane trains is that the cane trains often go down the middle of roads. When they deliver to the mill, the track is down the middle of the road. It is not actually trying to stop a problem at the level crossing; it is a road sharing issue.

Mr SULLIVAN—The more we get into this, the more we find that there are additional significant issues to this. It will be interesting to make some recommendations.

Mr NEVILLE—Have you applied for some of the 200 boom-gate level crossings that the Prime Minister has put on offer?

Mr Ryan—Yes. The \$150 million went to the states. We have worked with every state in producing priority lists.

Mr NEVILLE—You are pretty well New South Wales, except for the metropolitan area, aren't you?

Mr Ryan—In New South Wales we have the interstate network and the Hunter Valley and we manage the country regional network for the Rail Infrastructure Corporation. Of the 55 that have been proposed for New South Wales initially, two are in RailCorp territory, one is on a public

road but private railway and the remainder are either on our network or the country regional network.

Mr NEVILLE—So you will get the lion's share; you will get about 50 of them.

Mr Ryan—Yes. It is the same in South Australia; I think they are all in our network, bar about four. In Victoria there is a significant percentage in our network. The approach taken to that money has been very disciplined by the states using the ALCAM model to rank the priorities.

Mr NEVILLE—I should not be putting words into the mouth of the government but, if that were to be repeated a year later, say with \$100 million—

Mr SULLIVAN—You would vote against it.

Mr NEVILLE—No, I would not. I would make it very clear that I would not vote against it. If there were, say, \$100 million and that next tranche was for flashing lights with solar panels, you could do somewhere in the vicinity of 12 to 14 times the number of crossings.

Mr Ryan—Yes, I would agree with that. I think there will come a point where the cost effectiveness of putting boom barriers up ought to be questioned against a much larger number of lower cost treatments at a wider range of crossings.

Mr NEVILLE—Would this yellow one come in under the flashing red light? It would be the next treatment down from that.

Mr Ryan—Yes. There are other things to explore in terms of low-cost treatments. For example, there are companies that have the little beacons that they bury in the road to sometimes change lanes—I do not know whether you have ever seen them. They are like cat's eyes, but they are powered. Those companies now have radio-controlled systems for those. Are they another cheap warning? We have to find something where we are not reliant on conventional train detection systems, because they are very expensive. That is what the CRC research project is about. Even if you had \$150 million five years in a row, you would still have 6,000 to 7,000 untreated crossings out there at the end of the day. So what is a cheap way of getting a majority of those?

CHAIR—I understand your point with train detection because it obviously increases costs for to the rail industry. However, I would like to challenge you a bit because you say that familiarity is a really big issue from a driver's point of view. If you have something that is flashing all the time or is on constantly, doesn't that pose the same problem as 'the crossing is always there and nothing happens'?

Mr Ryan—Yes. I was saying that to get to that next level down, other than having an orange light flashing permanently on the stop sign, we have to find a technology that is cheap enough to enable us to drive with some other form of train detection, such as a radio beacon, because you do not want it on all the time.

CHAIR—No, because people would just think, 'Oh yeah, it's always on, so why should I worry about it; it's not signalling that a train is coming.'

Mr Ryan—Allegedly, that is one of the arguments about lowering the speed on the approach to a level crossing because you change the conditions for the driver.

CHAIR—So they have to do something.

Mr Ryan—They have to do something because they see a speed sign, and people typically react to speed signs.

Mr NEVILLE—I notice that, with some of the traffic lights that are associated with ramps going on to some of the motorways in Brisbane, the yellow light in the middle of the stop sign pulsates. Have you noticed that?

Mr SULLIVAN—No, I have not.

Mr NEVILLE—Of course, they only come on when the other traffic lights fail. Instead of having the amber light flashing in the three-light configuration, with a stop sign they have the yellow light in the middle of the word Stop. In that way, you get the double effect of the stop sign and a yellow pulsing light.

Mr Ryan—Certainly one of the most effective treatments that we have had at high-problem level crossings is advanced warning lights that flash 500 metres out. Again, it is that ‘changed conditions’ warning that is the important issue.

Turn 25

(1.32 pm)

CHAIR—The 2004 report—we alluded to it before—recommended the implementation of the ALCAM system across jurisdictions. I note in your submission that you comment that there do need to be clear governance of ownership arrangements for it. I assume that you are hinting there are some problems with it currently that need fixing.

Mr Ryan—ALCAM was developed by Queensland Rail and the Queensland Department of Transport. Its supporting piece of gear is what is called LXM, the database, which was developed by the Department of Transport in South Australia. Everybody uses those two things. That has been managed in a cooperative way by a group of people called the ALCAM users committee, on which we are represented, but nobody owns ALCAM as the national model. The Standing Committee on Transport has been struggling to figure out what that arrangement should be. Now that every state has adopted it and it is in universal use, we think we need to formalise that.

Mr NEVILLE—So at present you have just signed up to it on a voluntary basis.

Mr Ryan—Yes, that is correct. For us to have got hold of LXM, as in ARTC, we have had to have an agreement with every state. That just needs to be cleaned up and it will be good.

Mr NEVILLE—Would it advance your cause if we were to make that one of our recommendations?

Mr Ryan—Yes, I think that would be useful.

CHAIR—I think we have come to the end of our formal questions. Thank you very much for your attendance here today, the evidence you have given and the submission that you have provided to the committee. If we would like to follow up on any other matters, the secretariat will write to you formally about those; I would certainly appreciate your getting back to us in relation to those. You will be sent a copy of the transcript of evidence for editorial corrections. Also, Hansard may need to grab you before you leave, just to make sure that they have all your details.

Mr Ryan—Thank you.

Resolved (on motion by **Mr Neville**):

That this committee authorises publication, including publication on the parliamentary database, of the transcript of the evidence given before it at public hearing this day.

Committee adjourned at 1.35 pm