ROAD SAFETY COMMITTEE

Inquiry into safety at level crossings

Melbourne—14 April 2008

Members

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Witness

Mr T. Warrin, Executive Director, ITS Australia.

The CHAIR—Welcome to the public hearings of the Road Safety Committee's inquiry into safety at level crossings. All evidence taken at this hearing is protected by parliamentary privilege as provided by the Constitution Act 1975, and further subject to the provisions of the Parliamentary Committees Act 2003. Having said that, any comments you make outside the hearing may not be afforded such privilege. I assume that you have received and read the guide for witnesses presenting evidence to parliamentary committees. We are recording, as you can see, the evidence and will provide a proof version of *Hansard* transcript at the earliest opportunity. You can correct it as appropriate. Currently the members here today at this public hearing are Shaun Leane, Paul Weller, John Eren the chair, David Koch the deputy chair, and Craig Langdon, our executive officer Alex Douglas of course you know, and our research officer is Laurie Groom. If you could start by your name and the organisation that you belong to and proceed with your presentation, then we will ask questions as we go.

Mr WARRIN—Terry Warrin, ITS Australia. About four weeks ago—I think some of you were present at this—ITS had an event at its centre in Port Melbourne. This was born about from comments from the Australasian Rail Association, together with our members. There has been a plethora of fatalities and crashes at level crossings. Of their own will some of our members wanted to get involved and have the opportunity to present to their own people some ideas they had putting technology to use with regard to level crossing safety. I am going to say that there is around about 100 crashes a year. Before I start, this presentation was presented by Peter Bentley, the ITS president. He could not be here today. I have modified his presentation a little bit, but we are going to go through it and I will be happy to talk about some other things later at the end of it.

Slides shown.

Mr WARRIN—In the first six months of last year, as you know, 15 people died in Victoria on level crossing incidents. There were serious injuries to a further 59. The fact is, there is a large number of uncontrolled rail and road crossings. Rail and road crossings, some of them have no warning signs at all. Driver distraction is a real key thing about uncontrolled, and even controlled crossings; mobile phones, loud music, driving speed and environment conditions. I am sure there are many more.

What potential is there for Intelligent Transport Systems to help make road and rail crossing injury free? There is a lot. What we want to do is step back in time a little bit and move into the aviation world for a few minutes to see what they did with regard to plane safety. Many years ago some people came up with the idea of getting aeroplanes to fly at designated altitudes and air traffic corridors to reduce the likelihood of aeroplanes crashing into one another. Then they employed and trained air traffic controllers to increase the safety. However as we know, midair collisions still happen due to human error either in the air or on the ground. In the late 50s, R and D started on what we would call an ITS solution to provide pilots of an early warning. The Traffic alert and Collision Avoidance System [TCAS], this is a computerised avionics device which is designed to reduce the danger of midair collisions between aircraft. It monitors the air space around an aircraft for other aircraft equipped with a corresponding transponder independent of air traffic control and it warns the pilots of the presence of other transponder-equipped aircraft which may present a threat. I could give you a lot of detail around this, but this is not the forum for this. Instead of that, I will give it to you—

The CHAIR—Terry, why isn't it universal? Is it a cost factor? Why is it limited to that size aircraft and more?

Mr WARRIN—I think for that size aircraft, is the one that carries the most passengers. I do not know why it is not on a little one, I suppose it could be. It is probably like—

The CHAIR—Many options.

Mr WARRIN—Like many other options in cars today.

The CHAIR—Yes.

Mr WARRIN—It is around there if you want it. It is mandated to do this. There is some other detail about it. You can see that even in Australia, this is a mandatory option in a plane. Why I brought that up was,

if I can go back a little bit, the question is the use of technology. Years ago the airlines saw that there were midair collisions and they have come up with something. We have a problem at the moment. You will see as we go through this the end point, as I said, at the event. There is a requirement to put technology into this space. At the end of the day, somebody has to make a decision; go or no go. But in the airline world, the pilots make the decision. They can see in their cabin on their flight deck that there is another aircraft in their vicinity and they can take corrective action. I want you to have that in the back of your mind when you are thinking about two infrastructures intersecting as we do on land.

In Europe a large number of companies put together a project called the Advance Driver Assistance Systems in 2004. They ranked the following items in terms of their potential to improve safety and complexity: speed alert. They said for all drivers these are the things we should provide to drivers on our road to make the road safer: speed alert. If you in your car had the opportunity to predict curve speed, traffic sign recognition, speed advice, road status, intersection support, these systems help to keep the driver informed about the recommended speed relative to the road and environment. Lane support, lane-keeping—we have talked about this before—safe following, pedestrian protection. Several car makers now are putting in pedestrian warnings; enhanced vision, driver monitoring. An example is driver drowsiness detection and warning. These systems can monitor the driver and notice when attention declines. We believe that in many instances of level crossing incidents drowsiness could be, can be, is probably one of the events. Intersection safety. We will talk about VII in a moment. Intersection safety is paramount. If you think of a level crossing as an intersection, we should be able to predict or be able to see when either the train driver can see when somebody is on the road and vice versa.

Did you know there is a company here in Australia who in the built-up areas has mapped all the positions of all rail crossings in the built-up areas, but they do not know where they all are in the country. They are trying now at the moment to get the location of all the rural crossings so they can upload it in their database. Why? At the moment if you have one of these portable navigation devices with this system in it—you may have seen it, it warns you of a school zone; if you come up to a rail crossing suddenly it tells you there is a level crossing approaching. Do you know that if locomotives had a GPS transponder on it, they could not only show the crossing, but they could warn the driver there is a train approaching. They could build in these parameters and do this.

Mr LEANE—Can I butt in, Terry and ask a question: is what you described available in the standard TomToms and—

Mr WARRIN—Yes. Yes, it is.

Mr LEANE—It is.

Mr WARRIN—I should have brought one. I have the cheapest nav map—

Mr LEANE—The cheapest one.

Mr WARRIN—Yes.

Mr LEANE——There is a possibility for a transponder from a train to send a signal to—

Mr WARRIN—Yes.

Mr LEANE—That is fantastic.

Mr WARRIN—Yes. It can be done very easily.

Mr LEANE—Yes.

The CHAIR—The company that you mentioned, is that the only company that is working on this?

Mr WARRIN—No. There is one company in Australia that has pulled together all the data about

these safety issues—rail crossings, schools—what else is there? I cannot remember what else there is.

Mr LEANE—Pedestrian crossings.

Mr WARRIN—I do not think they have gone as far as that because they seem to change a fair bit.

The CHAIR—I think they might have sat in the same display as you, in that one.

Mr WARRIN—Yes.

The CHAIR—They also said there is an ability for fire trucks and ambulances to send out a signal as well.

Mr WARRIN—Yes.

The CHAIR—You can get advanced warning down the highway that there is a fire truck coming your way in five minutes, and to watch out which is a good idea as well.

Mr WARRIN—You can do anything.

The CHAIR—Yes.

Mr WARRIN—There are some issues. One of the issues is—and we are getting off the thing, but it is okay to discuss this. One of the issues is spectrum. You need an allocated spectrum for this to happen all over. At the moment it could happen if we put a GPS transponder on a locomotive, you could get a warning on your Navman to say there is a train approaching. That can happen. But if we wanted to go further like police, fire, whatever, then it is a bigger beast.

The CHAIR—Yes.

Mr WARRIN—We need to really take care of this.

Mr KOCH—Under the current situation too, do we know the train or whatever the other object may be within 500 metres, 300 metres, 800 metres, or is it just approaching?

Mr WARRIN—No. They could warn on the screen train approaching. But the parameters of that can be set in software so that when the train is 250 metres away, that is when the warning sign comes up. In your instructions you will know that if it says that there is a train coming, it is within 250 metres.

Mr LEANE—My only concern with that is that if it did fail, if people rely on that information and it did fail you have an issue. But in saying that, I suppose it could be in conjunction with—you could get a warning every time saying, 'Caution level crossing ahead.' Then it if came in conjunction with it, tells you a train is coming, that is even better.

Mr WARRIN—Yes.

Mr LEANE—If it cautions you anyway, it is probably the important thing.

Mr WARRIN—I think it is a little bit like the TCAS in the aviation industry. If the pilot does not turn his transponder on, they also have the same problem.

Mr LEANE—Yes.

Mr WARRIN—If there is something wrong with the power supply to a GPS on the locomotive, you are also going to have the problems because it is not going to pick it up.

Mr LEANE—Yes, that is right. It is not failsafe, but it is auxiliary to what we already have.

Mr WARRIN—Yes.

Mr LEANE—Yes.

Mr WARRIN—I think there has to be a mix of all of these things.

Mr LEANE—Yes.

Mr WARRIN—The key issue is, as I have said before, despite the warning in the cabin, the driver still has to make a decision. He still has to make this decision to stop. To me, that is one of the key issues. Let us move on. I think you might have seen this before in another presentation. This shows [ADAS] in Europe, the sequence of a crash. I wanted you to understand that. There is this active safety and passive safety. From an active safety point of view, you have all the exterior warning that can go on. The automatic assistance systems in the car and then the safety systems, the airbags, the seat belts and stuff—we call those passive safety—to protect the occupant. I do not want to go into that. This is the key, I believe, these next few slides: the development of vehicle infrastructure integration. You will see this on the internet. You will hear about [VII]. Some people call it [V2V]—V and the numeral 2 V, Vehicle-to-vehicle—and [V2I], Vehicle to Infrastructure.

The CHAIR—On that one you have vehicle to roadside communications.

Mr WARRIN—Yes.

The CHAIR—What infrastructure would the government have to put in on the roads for this to be working?

Mr WARRIN—I have not brought all the technical details but yes, you are right, you have to put in an infrastructure. I have some more information further down in a couple of slides.

The CHAIR—I will wait then, yes.

Mr WARRIN—We will come back to that.

The CHAIR—Yes.

Mr WARRIN—The interesting thing is that ITS, we host a forum called the National Electronic Tolling Committee. I do not know whether you are aware of this. It was ITS a few years ago that managed to get all the toll roads together around the table and talk about inter-operability of [TACS]. From that state, we meet once a year. Our next meeting is on the 22nd and 23rd of this month. One of the speakers we have—and I would love to have one or two of you there, and quite happy to make this guy available—we have one of the leading electronic designers from General Motors in Detroit coming. He has, he says, perfected V2V communication. They have created a little black box; after-market costs about $250. They can put one of these in each car. They did some tests: parked a car in the middle of the street and drove at it at 60 miles an hour. The car that was driving stopped within 10 feet of the stationary car. It says it puts the brakes on. A crash is impossible. That is in short form. He is coming. He is speaking at this event. He is also bringing, we are hoping to see anyway, a couple of portable devices that can go into some vehicles here and we are going to try and test them.

Mr LEANE—I have already driven one that does it.

Mr WARRIN—Have you?

Mr LEANE—Yes, in Germany at Benz.

Mr WARRIN—Yes. This is vehicle-to-vehicle. I think there are two issues here. I remember when I was working on my presentation for this rail event—believe it or not, I have a seven-year-old son and he said

to me, 'Dad, what are you doing?' and I told him, 'We have a problem, cars won't stop.' He said, 'What you need is a force field.' He said, 'If you had a force field'—you know little kids, the way they talk, he said, 'then the car wouldn't be able to go there.' I thought wow, he is right. This is what VII really does if you think about it. The biggest movers in VII at the moment is in the US between the US Department of Transport. We might come back to that. There are a lot of names there. There are a number of working groups headed by the US Department of Transport. There are a number of automotive manufacturers that are now working on this system. There are a lot of Department of Transport local agencies, state agencies going ahead with trials.

To come back to your point, Paul, about the infrastructure, yes, there is a need for infrastructure. What the cost is, I do not know. I know that there are kerbside based transponders in the States. It appears that the Department of Transport and the automotive manufacturers have reached some kind of agreement whereby if the automotive manufacturers put the equipment into the cars, then the various states will put the infrastructure in place to make it work. Now, I do not think that is signed in blood yet, but that is the way they are working.

Mr LEANE—Can I go back, and it is probably exactly the same question I asked you before. My understanding that roadside transponders, the attractive thing about them is you do not need a permanent power supply, you can use solar technology—

Mr WARRIN—Solar, yes.

Mr LEANE——because they use very little power, being an electronic piece of equipment. But can those transponders via satellite send out a signal from your TomTom and your Melway sat nav and your car radio?

Mr WARRIN—The—

Mr LEANE—Car radio, yes.

Mr WARRIN—Yes. The answer is yes. In the States, ITS has successfully—together with these automotive manufacturers and the infrastructure suppliers—been awarded in the spectrum of 5.9 gigahertz. In the States, this has become an ITS band. Everything to do with intelligent transport will go on 5.9. In Australia, that is not the case. The toll road owners, for instance, work on 5.8. There is a working group now working with all the toll road owners on the implications—I think Austroads are involved with this—on the implications of changing from 5.8 to 5.9 to allow the introduction of a lot of this new technology. That is an ongoing thing at the moment. The short answer to your question is yes, it can.

Mr LEANE—All right.

Mr WARRIN—But we need a dedicated—

Mr LEANE—I understand, yes.

Mr WARRIN—Yes, frequency, which is what I talked about at the beginning. One of the issues is spectrum.

Mr LEANE—I suppose all this new technology is fantastic, but how far off—how many meetings would there have to be to get that dedicated frequency? A fair dinkum answer: are we talking years of meetings to get a dedicated frequency for safety?

Mr WARRIN—Shaun, I can bring you my notes which are in a folder, and they are about this thick, all the proposals and the papers that have been given to the agency and we are still not there yet. We are not there because not everybody is behind it.

Mr LEANE—Not everyone is behind it?

Mr WARRIN—No, because if you think of it from a toll road owner perspective, they are all

working on 5.8, every one of them. If they want to change to 5.9 it means an addition to their infrastructure at the moment because you cannot suddenly scrap everybody's tags and all their gadgets and all that so they need to put on additional hardware and software.

Mr LEANE—Yes.

Mr WARRIN—There is a huge cost. They will have to run—now, I am not an expert in this, but this is in a simplistic form.

Mr LEANE—Can ITS frequency go to 5.9 rather than ask the toll roads to?

Mr WARRIN—ITS can go to—we have to be awarded 5.9.

Mr LEANE—Right.

Mr WARRIN—There is a case for this now. There has been a lot of emphasis placed on this, but we do not have it yet. The idea of the ITS worldwide thing is to have this one frequency globally.

Mr LEANE—What other countries have already embraced 5.8?

The CHAIR—5.9.

Mr WARRIN—5.9 is only North America.

Mr LEANE—Right.

Mr WARRIN—Yes. A lot of countries use different things. Even in Asia some of the countries are still using infrared which is in a different frequency again. It is a big thing.

Mr KOCH—Terry, getting back to Shaun's initial question, do you foresee there is a possible time frame when that will come on stream, or will the talkfest go on for the next 10 years?

Mr WARRIN—No, I—

Mr KOCH—There has to be some compulsion in this to bring it together.

Mr WARRIN—Yes. Look, global competitiveness I believe will drive it because if you look at a company—let us take GM for instance. They are going to end up designing cars—they are designing cars here in Australia and they are building cars in Thailand, China, North America, whatever. They want the flexibility to be able to send a platform or a vehicle from one production facility to another market. I believe the demands from the automotive manufacturers will drive the implementation of this. I would hope, David, that this is all done within five years; it has already been going for three or four.

Mr KOCH—Five years from now.

Mr WARRIN—I would say.

Mr KOCH—If one of our recommendations was that these roadside transponders next to level crossings is the technology that would improve the safety in our state, should we couple that recommendation with that particular frequency should be agreed to within a certain period of time? Five years is—

Mr WARRIN—Is not a long time.

Mr KOCH—It seems a long time when there is technology that could improve level crossing safety—

Mr WARRIN—Yes.

Mr KOCH——that should be tested and implemented. Some of us might not be here in five years. It is a long time.

Mr WARRIN—Yes. I understand what you are saying, but I do not know whether I could agree with the recommendation. I am not sure. I can come back with the—and I am happy to get some people to come up with more of a technical roadmap and some idea of what is required from an infrastructure point of view. That is not a problem. My thinking is, the VII, the concept is—it originally came, if you have a car driving down a road here and a car driving down the road here, this one can see that they are going to meet; that there is a chance for a crash. Those of you that have driven these cars, was it using automatic cruise control? Yes. It is connected to that.

Mr KOCH—We saw this technology demonstrated when we were in America. I hear what you are saying in that it is principally American-driven at this stage.

Mr WARRIN—Yes.

Mr KOCH—It is also being spoken about and being worked on in Europe.

Mr WARRIN—Yes, it is, and in Japan.

Mr KOCH—Your time frame of five years in actual fact is elaborating on a frequency.

Mr WARRIN—Yes.

Mr KOCH—It is not implementing the opportunity—

Mr WARRIN—No, that is true.

Mr KOCH—That is the next stage.

Mr WARRIN—Yes.

Mr KOCH—I think that is where Shaun is quite correct, the time frames will be far longer than we would have envisaged to give us some support in relation to rail crossing safety in the immediate future.

Mr WARRIN—Can I tell you that we have a very close connection with one of the television channels. This afternoon we are conducting an interview with a visiting German guy who has perfected laser in a car. He has perfected laser that can see through fog, rain, whatever you like.

Mr KOCH—Around corners.

Mr WELLER—Around corners. Yes, but he has done this. He is being interviewed today at ITS with a view to these are safety—not altogether to do with level crossings, to do with general road safety, what this kind of technology can do. We have already set up an interview also with this guy from General Motors and hopefully he can show the thing working, vehicle-to-vehicle communication here in Australia. I remember one of you the last time I was here said to me, 'What do you think of ITS?' and I said it is a facilitator and somebody said, 'Well, I think it should be a lobby group. Don't you see yourself as a lobby group?' I think we have to become, and we are becoming more and more—lobby is perhaps not the right word, but trying to ensure that the general public is aware of what can happen. Then the pressure can come back on to you people and then we can make it happen. VII is where I think we will end up.

The CHAIR—As I understand it, Japan is very advanced in that area and I think there is some implementation that they will do by 2010. Are we are saying that America is a bit behind in that?

Mr WARRIN—No. I did not say that America will have it done within five years. I would say the thing in America will be implemented fairly quickly. They have agreement between the infrastructure

providers and the automotive manufacturers. What we were talking about was Australia, that I was thinking it was longer. I am aware of what is happening in Japan. I have spoken with engineers who are involved in that system in Japan. It works totally differently—not totally. It does not operate in the same manner as that which is being put together by the manufacturers in North America. It works on a different frequency. That is what they are doing in Japan.

The CHAIR—It will not be compatible. Those imported cars that come to Australia, are you saying that they will not be compatible to our system?

Mr WARRIN—It will not work at all, we do not have anything here of that nature.

The CHAIR—No, but eventually, obviously.

Mr WARRIN—I cannot answer that.

The CHAIR—Right.

Mr WARRIN—I did chair a special session at the world congress where a guy from #Matusta presented this and told us what they were doing. I have that presentation if you would like to see it. They did talk about—

The CHAIR—Yes. That would be good if you can provide that.

Mr WARRIN—All right. Can you make a note to remind me, because I will forget. I am happy to give it to you. Coming back to your comment, John, I am not sure.

The CHAIR—Right.

Mr WARRIN—All right. I am not sure. We have talked about this; I do not think you need to see that. I will go back to this—this is not a very good picture but it shows—

The CHAIR—It is a little more than that.

Mr WARRIN—Pardon?

The CHAIR—It is very blurry.

Mr KOCH—We have picked up on that, Terry.

Mr LEANE—Apart from that, it could take about three weeks to try to understand it.

Mr WARRIN—Yes, I know. This was part of Peter's presentation and I included it, but I have left it. The point that I wanted to make is that you can see here—this is 2006, 2007, 2008. It is saying it is in operation, but that is wrong. My point was to show that for some years now these people have been working on this to some extent.

The CHAIR—Where, in Australia?

Mr WARRIN—No. This is from North America. Yes. I do not know of any one of the companies that are working on this in Australia at the moment. They will take their lead from their principals. It is what will happen. That is my discussion. I wanted to talk about VII today because I see that as being one of the lead technologies.

Mr WELLER—Terry, one of the discussions that come up is whether they are failsafe or they are non-failsafe. What is your view on the use of non-failsafe technology?

Mr WARRIN—I do not agree with it. We have talked with the rail people at some length because the

rail uses supposedly failsafe technology. But in giving you my answer before, I really wonder how failsafe are the current failsafe systems; I am not sure. It is like anything: I think some of this stuff will come out in the after-market first. Some of these things will come out. I can tell you the moment that there is a spectrum of frequency approved, somebody will bring something out to work with it and it will be out there. What is it, I do not know, but they will do it. I think the lead has to come from the various agencies and states and the federal government to get this to happen, not only for level crossing safety, I think for road transport safety as a whole is my belief.

Mr WELLER—Then what happens if we do have non-failsafe—your stuff like you have spoken about and these cars talking to each other—

Mr WARRIN—Yes.

Mr WELLER——and I am driving along and nothing is indicated that there is a car coming to this intersection and I go through and bang.

Mr WARRIN—But I think we should not forget that there are some basic road rules. If you want to go through the intersection without heeding all the warning signs that are already there, then that is your problem. This is a system to go with uncontrolled intersections, but there are already rules for this.

Mr WELLER—The give-way rule.

Mr WARRIN—The right-hand rule, things like this. You still have to take this into consideration. I think this is the problem with some of the level crossing things: there are rules, but people choose to ignore them.

Mr WELLER—But if I have a car that has this technology on—

Mr WARRIN—Yes.

Mr WELLER——and I am used to coming up to an intersection and the car talking to me saying, 'Car approaching from the right,' and it is not telling me that this time because there has been a malfunction in the system and I get cleaned up.

Mr WARRIN—It is an issue.

The CHAIR—Are you aware of any jurisdiction anywhere in the world that has a non-failsafe system?

Mr WARRIN—A non-failsafe system? No. I am going to get my pen and I will check for you. I do not, John, but I am happy to check.

Mr LEANE—To start with, Terry, the ITS conference was very good.

Mr WARRIN—Thank you.

Mr LEANE—Congratulations on that. For me there were some very simple technology that was probably as good as anything.

Mr WARRIN—Yes.

Mr LEANE—The in-pavement lighting, I thought that was an interesting and very simple idea.

Mr WARRIN—Yes.

Mr LEANE—There were some very complex answers which probably need to be looked at further. How is the follow-up going on that particular conference? I understand a working party was formed. How is

the follow-up going?

Mr WARRIN—To be honest, we have had one meeting. We really have had one meeting. That meeting was to determine where to from here, which way to go, what do we need to do, where do we need to go, who do we need to include? We are missing at the moment—although we are a national body, we were really talking about Victoria at that event. We are missing at the moment, and we are working on it, some clear assistance and involvement by somebody from DoI. I really think somebody from DoI needs to be in that working party because then we can get the message; things can happen quicker. Otherwise, we are another association playing in the dark. We have one of our people who is regularly at Exhibition Street and he is endeavouring to find the right person to join this party. We should keep you informed, Shaun, as to what is happening with that. I am happy to do it.

Mr LEANE—What outcomes did the working party—what are you hoping for, what outcomes? Do you want to rate the technologies so you can present it to government? Do you want to find new technologies? What outcomes are you hoping for?

Mr WARRIN—All of the above. What we are trying to do is find which of the technologies that are available can be implemented fastest; speed of implementation. We have to look at cost, although cost really should not be one of the driving forces if we are talking about fatalities, but we have to take cost into consideration. We have to look at who could do it. Do we have the providers within Australia to do this? This is not the case all the time. Our idea was to take this forward over the next nine, 10 months, and it is going to take some time. But if we can keep meeting regularly—and I am quite happy to divulge all of this to you, Alex, or to you Shaun, whoever you like, to show you what we are doing, because we are in the same space.

Mr KOCH—Terry, the non-failsafe that has been raised around the table, I see at the end of the 'who' discussion is something that is going to play a very big part. I see this technology as a warning device purely; it does not override road law legislation as such. If we are to put this in every motor vehicle of any age travelling any road, I am not sure how—at some stage it must be recognised it cannot be failsafe totally because who is responsible for the maintenance and at what intervals? There is likely to be a shortfall at some point in relation to those three factors.

Mr WARRIN—Yes. But I think, David, that happens today. The Victorian Government has been good enough to mandate electronic stability control from a date, but how do we know it will ever work? You do not know until you are in that situation. You do not know whether your airbag is going to fall down until you have a smash.

Mr KOCH—As they do.

Mr WARRIN—Right. Sometimes there are failures. I am wondering how failsafe is failsafe. I think you can only do everything that is possible to reduce the risk.

Mr KOCH—Exactly.

Mr WARRIN—Yes.

Mr LEANE—In your conversations with people in the rail industry as far as roadside communications and vehicle-to-vehicle communications, they are not concerned about that as far as the non-failsafe stuff, are they, because that is only auxiliary to what they already have, if it is a stop sign, if it is a boom and bells. Have you any concern—because my understanding was the [ARA] when they gave their presentation at your conference, they were pushing this idea as far as vehicle-to-vehicle and roadside communications.

Mr WARRIN—Yes.

Mr LEANE—They were very keen on trying to explore it. I do not think there is any hang-up at all as far as failsafe stuff to them because it is auxiliary. Is that correct? Is that what you say?

Mr WARRIN—I agree.

Mr LEANE—Yes.

Mr WARRIN—The railways works on a failsafe thing now, that they know when a train gets to a certain point at a certain speed it is going to set the alarm off. But we should be able to use this trigger point for a lot more than we do. It is here. It is not costing anything; we have to add to it, is my thinking. But I still think it comes back to the driver. I have said this before and I will say it again: the technology exists today to stop any vehicle before the crossing. There is a cost to it, but you can do it.

Mr KOCH—Terry, we speak of the automotive industry and the testing of these systems. To your knowledge, what has taken place within our rail networks and our rail practitioners? Is any of that being implemented there at this stage? Is any of it being trialled?

Mr WARRIN—Not to my knowledge. We have not had a long relationship with the rail people, it has only really started. They also were quite surprised, Shaun, at what came out of that event.. They were amazed at what technology our members brought to the table. I think it has given them some good ideas too.

Mr KOCH—Are you in a position at all, Terry, to indicate to us what resources may be required to get this off the ground and putting some time frames in place to get some outcomes in the next five years?

Mr WARRIN—In terms of what, introduction of VII—

Mr KOCH—Yes.

Mr WARRIN——or the spectrum allocation?

Mr KOCH—I guess it is a total package at the end of the day. It is not any individual one; you cannot have one without the other, if you haven't your spectrum and frequencies.

Mr WARRIN—Yes.

Mr KOCH—Is there a yardstick figure that the resource requirement to get this under way and put it in place? Is anyone looking at that at the minute? If they are, is anyone making provision or is it still a talkfest?

Mr WARRIN—I know that there is a lot that has gone on in the past three years but I think it has ground to a little bit of a halt at the moment, to be honest.

Mr KOCH—It has achieved the initial with discussion.

Mr WARRIN—Yes.

Mr KOCH—It is the next stage. Has a meeting been put in place to resource that and to keep moving it forward, because the discussion we have had from the committee's point of view seems to have hit a bit of a logjam.

Mr WARRIN—Right. I think that is what has happened.

The CHAIR—Or is it the private sector interest? You have mentioned one company that was working on something but it is not quite there and it still has to do regional and rural areas. Is it the interest of the private sector that needs to be nudged a bit, or incentives put in place?

Mr WARRIN—For VII or for the spectrum?

The CHAIR—All of it.

Mr WARRIN—For both; we have to do it. I think it has to be a joint approach, or a tripartite approach, the state, the federal and the PPP thing has to work. Private enterprise has to be in there, but I think they need some support from states. It is an opportunity for one state to lead. You know Victoria should because we have the most rail crossings.

Mr LANGDON—How do we lead, then, as a state? How do we lead? A lot of the things you talk about, you almost need a national body to operate. How does one state lead the way?

Mr WARRIN—Yes. I have to be careful. We need—

The CHAIR—It has to be national.

Mr WARRIN—This is a job for ITS or a similar association.

Mr LANGDON—#(indistinct) might be able come too because I think ITS has a far bigger role than is being put on the table here today.

Mr WARRIN—Exactly. That is its role, to pull these kind of initiatives together.

Mr LANGDON—Yes.

Mr WARRIN—We have been involved with the state government on a number of initiatives, and the federal government, where we have identified the resources that are required, that are needed to do this. We have put the time frame in place and we have received the funds to produce the results, which we have done. That has happened on a few occasions. You are right. This is something that an association that can cross all boundaries, I believe.

The CHAIR—Going back to the comments earlier. Even if, for example, we had up and running the technologies that you have been talking about and the VII, obviously 80 per cent of our market is from overseas imported vehicles.

Mr WARRIN—Yes.

The CHAIR—If we say the cars are made in Japan, yet another technology needs to be switched off because it is not compatible, how do you go about challenging that? What is the solution to that? If we are going to have the bulk of the vehicles that come here that have the technology on it but it is not compatible—

Mr WARRIN—This happens today in another—if I can tell you briefly about another form of technology. Europe has, how do I say this, a location-based technology called [RDS] [TMC]. Have you heard of this, Traffic Message Channel. You have not heard of it. Every radio—if you are driving a European car, on your radio you will have RDS. Attached to that tuner is a carrier wave which can take messages; traffic messages which can come from the infrastructure, can come from it.

The CHAIR—We have that in the tunnel to a certain degree.

Mr WARRIN—Yes.

The CHAIR—Yes.

Mr WARRIN—You go through the tunnel, you get that. In Japan they have the same kind of thing, but it is different and it is called [VICS] and it works a totally different way. The outcome is the same to the end user, but it works differently. All Japanese cars that are made in Japan today that have a radio that has VICS in it. It will not work here, but they change the radio. They make special RDS radios for this market or the European market or whatever. They all change. It is the Beta VHS thing. Somebody comes up with something and they try and get out there. Look at the thing that has happened recently; Sony has won this Blu-ray thing and now hard disk that somebody else was inventing has gone. This is what will happen. But 5.9 because the Americans are behind it will happen.

Mr LANGDON—Why didn't we do everything here at 5.9? Why did we choose 5.8?

Mr WARRIN—It was not around when 5.8 was allocated. Toll roads have been here for a long time now. Nobody envisaged this I think at that time.

Mr KOCH—Are all our toll roads, Terry, at 5.8?

Mr WARRIN—Yes.

Mr LANGDON—Across Australia.

Mr WARRIN—Yes.

Mr KOCH—If this technology can be simply done by different receivers and transponders and adaptation to 5.8 in Australia for their conditions, it would be easier to implement than trying to implement another specific frequency because it would save us changing existing infrastructure.

Mr WARRIN—I will forward Alex a copy of the program for the next NETC forum. I think we even have a speaker from Austroads to talk about the introduction or the barriers we have to overcome for 5.9 in Australia. I know it is on the agenda. We need one single approach in Australia.

The CHAIR—Thank you very much for your time.

Mr WARRIN—Thank you.

Witness withdrew.

Hearing suspended.