

LEGISLATIVE COUNCIL ECONOMY AND INFRASTRUCTURE COMMITTEE

Inquiry into the Increase in Victoria's Road Toll

Melbourne—Wednesday, 23 September 2020

(via videoconference)

MEMBERS

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Dr Catherine Cumming

Mr Craig Ondarchie

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WITNESS

Ms Malin Ekholm, Head, Volvo Cars Safety Centre, Volvo, Sweden.

The CHAIR: Welcome to the Economy and Infrastructure Committee's public hearing for the Inquiry into the Increase in Victoria's Road Toll. I wish to welcome members of the public who are watching via the live broadcast. My name is Enver Erdogan and I am the Chair of the committee, and I wish to acknowledge fellow members of the committee: our Deputy Chair, Mr Bernie Finn; Mr Tim Quilty; Mr Rod Barton; Mr Lee Tarlamis; Mr Mark Gepp; and Mrs Beverley McArthur, who are also online.

All evidence taken at this hearing is protected by parliamentary privilege, as provided by the *Constitution Act 1975*, and further subject to provisions of the Legislative Council standing orders. Therefore the information provided during this hearing is protected by law. However, any comments repeated outside the hearing may not be protected. Any deliberately false evidence or misleading of the committee may be considered a contempt of Parliament. All evidence is being recorded. You will be provided with a proof version of the transcript following the hearing. Transcripts will ultimately be made public and posted on the committee's website.

We welcome your opening comments but ask that they be kept to a maximum of 10 to 15 minutes to allow plenty of time for discussion and questions. Can I please remind members and witnesses to mute their microphones when not speaking to minimise any interference. If you have any technical difficulties at any stage, please disconnect and contact the committee staff using the contacts you were provided.

Could you please begin by stating your name for the benefit of our Hansard team, and then start your presentation. Thank you, Ms Ekholm.

Ms EKHOLM: Good afternoon. Malin Ekholm, Head of Volvo Cars Safety Centre. I have been with Volvo Cars for over 20 years and worked within most engineering units, really building my knowledge of what goes into a car—everything from chassis engineering to functional development of active safety functionality. For the past four and a half years I have had the privilege and opportunity to lead Volvo Cars' safety pursuits and in continuation make sure that we push forward and make sure that we are on top and build some of the world's safest cars. It is a knowledge-driven process, based in real-life traffic situations. It is based on what happens out there. Technology is how we address it, but it really starts with people, so it is a very human-centric process, focusing on both the biomechanics—what is the human body able to cope with—and, equally importantly, actually the human mind, the human brain. What are we capable of? We are fantastic when we are at our best, but when we are not, life is very challenging—if you forget your anniversary, if you are given bad news by a doctor or if for whatever reason the ground becomes a bit shaky for you. That could be a reason why you lose attention and focus. So we really need to understand where you are as a human and how we can do our best to support you in what we refer to as life.

The CHAIR: Thank you for that short introduction. It allows plenty of time for questions. I might pass over to my colleague Mr Tarlamis to have the first question, and then I will go to Mrs Beverley McArthur. Thank you.

Mr TARLAMIS: Thank you, Chair, and thank you, Ms Ekholm, for talking to us today. In terms of reading your submission about the many innovative things that Volvo have done in the safety space over the years but also many of the innovative projects that you are currently working on, I am interested to hear how Volvo interacts with governments and road authorities across the world with regard to safety and to hear whether you believe governments lead in that area or whether you believe private industries do and whether you think that balance is right.

Ms EKHOLM: Well, it is a very good question, because my very strong personal opinion—and I share that with Volvo Cars' philosophy—is that collaboration is the way to move forward. We have several stakeholders in the traffic environment, the private sector of course being one, and we have different tools to improve road safety. I believe the session before was covering what the Swedish authorities call the Vision Zero Academy, which is an important platform for us because we do share the same target, which is zero. If you share the same target and you want the same thing, you look at data, you talk about data and in a very open, transparent way you talk about what we can do depending on what role we play in the traffic environment. As authorities you

have the tool of legislation, you have the tool of enforcement, whereas I have the tool of: how can I utilise technology in the car to support you and protect you in the best possible way? So I think that the collaboration and the joint force is actually the key to making the bigger strides in traffic safety. That is the reason why I found this invitation so important, because this is the kind of conversation that we need to have, because you know things about your traffic situations that I need to understand and address. Our products are global, so we need to incorporate the nuances of traffic globally.

Mr TARLAMIS: Do you think there are enough opportunities or forums within the industries or even internationally to have those discussions so that better collaboration could occur to ensure that we are getting the best outcomes? I note one of your initiatives, Equal Vehicles for All, where you are making your data available for all other users, is really fantastic in terms of making that possible for a lot of other users who maybe have not engaged in that space before. But do you think there could be more opportunities for that dialogue or those sort of opportunities to occur?

Ms EKHOLM: Absolutely. Again you are touching on a very important subject. The challenge in traffic safety is that there is a beginning, but there is no end. It is a continuous learning process, and we need to in continuation listen and learn. In the 60s the traffic was not quite as dense as it is today, so there is an evolution in the traffic environment, and we need to talk about it in continuation and in continuation understand what has changed and what are the new challenges that we need to address. So I think that there are ample opportunities to have conversations, but I think what gives the Zero academy a very strong position is that it is there in continuation. And I think that is an area where we can improve globally, because we do projects. In Europe quite recently we did a huge job for the global safety regulations, which was a fantastic project, and I just want to see that type of collaboration and cooperation and data-driven knowledge sharing continue. Rather than talking about a specific technology, because there are pros and cons to every technology, really being transparent, being open, wanting to push for the zero from every aspect of traffic safety, and then everyone doing what they can will take us forward.

Infrastructure is one, speed enforcement is another, and then you have car technology. Education and information—and specifically when you are receptive to information; children are very receptive, so that could be an area to talk about; new parents are very receptive—so when there is an opening for wanting to learn more about why and what to do to make your driving and being in traffic safer, grab the opportunity.

Mr TARLAMIS: Thank you.

The CHAIR: I might pass over to Mrs McArthur.

Mrs McARTHUR: Thank you very much, Ms Ekholm. It is fantastic that you have agreed to present before us today. I am interested in the role of the individual. How do you increase the individual's awareness to be responsible for their own actions? I think you just started to explain it, inasmuch as you get to the children at a young age, they are receptive. You get to the parents of probably new children, because they start becoming more aware of their responsibilities as well, but while you have got the car manufacturers, like yourselves—and I have got a vested interest here, in our family we do have the latest Volvo, a fantastic vehicle—

Ms EKHOLM: Thank you.

Mrs McARTHUR: you have other authorities probably building better roads, and you seem to have a different approach. We have a lot of stick here and not a lot of carrot, I think, in terms of how we go about encouraging the individual to be responsible, but how did you get to the point of encouraging individuals to be more responsible for their own actions and those of their dependants in a vehicle? And given that Volvo does have probably the best safety features of most vehicles in the world, I am pretty certain, should governments legislate—and here is the sort of stick—that vehicles they want in their country, in their fleet, should have these safety features? And for Volvo, is it a selling feature, even though there might be a cost factor? How do we move to the promotion that it is actually far more important to have these things as safety features, despite the cost?

Ms EKHOLM: So if I understand you correctly, I think—two questions: one was the individual responsibility and the other one was related to legislation. If I start with the first, the personal responsibility. Well, I think if you ask anyone, 'Would you like to be a bad driver or a good driver?', everyone will answer—at least everyone I have asked has answered—'I want to be a good driver'. And then the challenge is: what is a

good driver? Our approach to it is, in part, information. We do information in fora where we reach the public—new parents, it can be video bloggers that join and that have a bigger audience. So information is important. Parents and children are very good at absorbing information because they want to learn and they want to understand. Sharing the facts and enabling them to make an educated choice, I think, is our approach to information—and communication. We do share pictures of vehicle crashes, not because it is a big crash and something fantastic, but it is actually in particular the low-speed crashes, to get a feel for what forces are involved. So I think information and communication to help people make the educated choice, because everyone wants to make the right choice. That is a good and important basis to start from.

Then from there what can we do in the car? A year and a half ago we started talking about our next technology platform that we are in the process of developing, and part of that communication was that we need to start using a sensor to understand where your mind is. Is it on the driving or has it, for whatever reason, been taken off the driving? This is not to film you or record you but in that specific situation help you back to the task of driving. What the reason is, if it is stress or if it is sleep apnoea or if it is drugs or alcohol, is not the key; the key is to get you back to the driving and the task of driving, where you need to be, and then adding the support in the car in a structured way so that we can help you in the particular situation.

We have from this year introduced a speed cap on all our cars, which is 180. We are not saying that that is a safe speed, but if we are not prepared to do something in our cars, the discussion of speed becomes not as crisp as we would like it to be. So this was our first statement to start the broader dialogue on safe speed. Speed limit is one, but if you have a downpour or snow and ice, as we have in Sweden, then a slower speed is actually a safe speed, not necessarily the speed limit. So understanding safe speed and addressing that and helping people choose the right speed is as important as understanding if you are focused on the driving or not. So that is our approach—both communication and also supporting you in the driving. I hope that answers the first question you have on own responsibility.

Then when it comes to legislation, it is a very strong tool, it is an important tool. It is, for very good reason, a slow process, because once you have the legislation it needs to be valid over the years. And there is a challenge in legislating specific technologies because technology changes and if you legislate a specific technology, that might actually hinder development, but if you legislate intention—‘What do we want to achieve?’—and leave the field a bit more open to choosing a technical way forward, then it is—possible to improve in continuation as technology develops.

So it is a hard job, writing the legislation. I have very big respect for the individuals writing legislation. But it is an important tool. As far as possible I would like it to be more directed towards, ‘What is it we want to achieve?’, rather than pointing at a specific technology, because then that will enable us to make the best possible technology and really improve over time. So that would be my answer to your second question. I do hope that answers your question.

Mrs McARTHUR: So, outcome focused?

Ms EKHOLM: Yes. Exactly. And I realise that is extremely difficult, so I am giving you even a bigger headache when I say it like that, but the reason is I want to do better, and I want to do better using whatever technology is available, because today we know things that we did not know 10 years ago and that is the reason why I say it the way I do.

The CHAIR: Thank you, Ms Ekholm, or as they say in Swedish, ‘tack själv’? Is that how you say ‘thank you’?

Ms EKHOLM: Tack själv, perfect.

The CHAIR: All right, tack själv—you have been very informative. I have one question, and then I will pass on to fellow committee members. In designing your vehicles, which are very stylish, as pointed out by the previous speaker, how do you take into account intoxication and driver distraction? So is there a specific focus in the design of your vehicle on those two factors?

Ms EKHOLM: Currently in production right now, we have the driver support systems. We have a lane-keeping aid, we have automatic braking, and the safety systems are standard on our vehicles. That has been a very clear decision for us as a company. So that is what we have currently, and then moving into the next

technology platform we will have a new sensor introduced, which is a driver-monitoring sensor. The best sensor for that is a camera, but please note it is not a filming camera. It is a camera to understand what your eyes are doing, where your eyes are focusing, and also body movements, and translates that into: are you focused on the driving or has your mind drifted? And then it is really up to legislation to focus on the reason for the drifting. We are not focusing on the reason behind the distraction, because we are not an authority. But we need to focus on getting you back to the task of driving and doing our part in the bigger picture of making the roads safer.

The CHAIR: Thank you very much for that. I will go to Mr Quilty, then Mr Barton.

Mr QUILTY: Thank you. I will just mention to start off with that I am also a Volvo driver. My family have always been driving Volvos.

Ms EKHOLM: Thank you.

Mr QUILTY: You mention in the submission that every accident was getting investigated. You currently have a team to investigate all accidents. There has been criticism about the collection of data on accidents in Victoria. We will say it is very sketchy; it does not go into enough detail. Would you say collecting good data on every accident would be a key building block in road safety, or is it all right if we just piggyback on what is being done in other parts of the world?

Ms EKHOLM: It all starts with data. Data is really the basis for everything we do, because the data tells us what we need to understand and what we need to address, but there are several parts to the data. With our accident research team, we travel to accidents within approximately a 1 hour drive from Torslanda, where we are located. The reason is we want to be at the scene reasonably close to when it happened, because daylight is crucial—road temperature, friction, conditions, all of these things that at least in Sweden can change quite rapidly. If it is in the spring or in the fall, the sun comes out and everything changes. But that is a very, very detailed analysis on a Volvo car. So that is very detailed and has been collected since 1970, so for many, many years.

But then we build global cars, so we go to the global databases: NHTSA has a US database which is not only Volvo cars, it is all cars, but will give us the scenarios that are critical for that market; in Germany we have the GIDAS database; in China there is the CIDAS database—just to bring some examples. And what we do there is we look at the quantity: what are the scenarios that are putting lives and health in danger, and what are the scenarios that we need to understand? What are the scenarios we need to dive into? And when we find a scenario we actually go into our detailed database, because even if it is not the same amount of accidents in Sweden, we will find it in the detailed data. Then we dive into, ‘Okay, the Volvo car—how did it perform?’, so we have a baseline to start our next technology development from. So that is how we use the global information linked to the very detailed Volvo car information, and it is a Deming wheel—so it is a continuous learning circle.

Every piece of data is important, but very, very important is an understanding of what situations and scenarios are important for you in your traffic environment and then us understanding how we, with our tools, can make our products better to address the particular situations that we have in Australia.

Mr QUILTY: Thank you.

The CHAIR: I will pass to Mr Barton for a question.

Mr BARTON: Thank you, Chair. Thank you, Ms Ekholm. I will not let all the others show off; I also drive a late-model Volvo. I am lucky enough to have an S90, and I—

Ms EKHOLM: Oh, thank you. Then I have to share: I spent my honeymoon in Australia, so I am among friends.

Mr BARTON: You are. It is amazing how—

Ms EKHOLM: That was a long time ago.

Mr BARTON: Volvo is doing very well globally, I understand. I just want to talk about obviously you being a manufacturer, and you are doing a lot of work in terms of moving towards driverless cars. There are a lot of people talking it up, saying it is going to be here next week. A couple of international companies have been saying they were going to have taxi fleets a couple of years ago; it still has not happened. How do you see that going? One of the things we understand when we go to a driverless car—there are claims that we are going to reduce accidents by about 80 per cent. Is that Volvo's feel?

Ms EKHOLM: Well, I think taking the driver out of the loop is definitely something we are working on—absolutely. The challenge is people are extremely good at driving cars. The human brain is fantastic, so what we have to do is translate the competence of an experienced, attentive driver into vehicle functionality, so that is one part of it. Another part of it is the interaction with other road users—so how does the car communicate its intentions? Today it is done with eye-to-eye contact. It is very subtle: you look at the pedestrian; you look at the other person in the other car. So how do we translate that, because we will be in a mixed road environment when we start rolling out the autonomous cars.

But equally challenging is the development of support systems. So before we get to the fully automated cars there will be a situation where you have support functions, and then the challenge is making sure that you do not end up in a situation where there could be confusion as to who is responsible for the driving—'Is the car responsible or am I responsible?'—and that is why the human-centric research and human behavioural science is such an important new field for us. It is not completely new, but it is definitely escalating. So that the human behind the steering wheel understands what the car is capable of and where you need to still be responsible and own the task of driving—to me that is a very, very important research field. How do we do that in the best possible way?

Mr BARTON: It is an interesting thing because certainly from a car person—I have been around motor racing and driving professionally and different things over many, many years—we love driving cars. As much as I love driving up our freeway here and I can put it in semi-autonomous, my Volvo, and it can steer itself up the freeway—I just love that stuff—I would still want to be in control, driving the car. Not that I have any issues with my Volvo, but what we are asking is for technology to be 100 per cent working right 100 per cent of the time, and I cannot get my remote control to work on my TV, let alone trust a car at 100 kilometres an hour with no steering wheel in it.

Do you see that we are going to go into having purely driverless cars, where you cannot physically take it and no-one will have control over it, or do you see it as I see it now, with great safety additions where the car can brake if I have not been paying attention or steer me back onto the road, those sorts of things?

Ms EKHOLM: Well, I also enjoy driving—there is a reason why I have stayed with Volvo cars for over 20 years—but there are situations where I do not enjoy the driving, not necessarily commuting back and forth to work, because there are queues. And then in those particular situations I would really like the car to take over so that I can focus on making the phone calls that I need to make or listening to an interesting book or something else. So I think it really is up to using the technology in a way so that it adds the most value. If you enjoy driving your car, then that should be an option for you, but the best kind of safety is the safety that you do not necessarily have to think about; it is there to help you and support you when you need it, but it is not overpowering—or in your face, to put it a bit bluntly, I guess. And that is also one of the reasons why we really wanted to go for the technology platform of the driver attentiveness sensor, if you may, because if you are focused on the driver then you are in lower need of support but if you are in a position where your mind is wandering, for whatever reason, then you need more support. So we can really work with a personalised safety approach, moving forward.

Mr BARTON: Certainly helping fleet operators with driver fatigue and those sorts of areas would be good. Thank you.

The CHAIR: Deputy Chair, Mr Finn, do you have a question?

Mr FINN: Yes, I do, Mr Chairman. Thank you very much indeed. I just want to point out that when we think of safe cars, automatically we think of Volvos. It is almost something that is mandatory when we think of that. But I should point out that some years ago I did drive a Volvo down the main straight of Calder raceway here in Melbourne at 250 k's an hour, so I know that Volvos are more than just safe cars; they have got a bit of

power behind them as well—although obviously not as much now that you have come back to 180. I was going pretty well until I hit the gravel, but anyway, that is another story.

Ms EKHOLM: Well, I am glad you are okay.

Mr FINN: Volvos, when we think of safe cars, automatically come to mind, and you have outlined today a number of changes, a number of reforms, if I can use that word, which are making your cars even safer. But I know companies such as yours are always looking to the future; you are always looking to how you can improve your product, how you can make it safer, how you can make the people who are in the vehicles safer. I am just wondering what is next on the list. You know, we have heard from some people that driverless cars will cut the road toll enormously and will make road travel safer for all of us. What is the view of the Volvo company on that one in particular, but what else do you have lined up in the not-too-distant future, without giving any secrets away?

Ms EKHOLM: Well, I think the biggest next step—and usually we do not talk about technologies before they are actually introduced in cars, but we did choose to talk about the driver-monitoring sensor already a year and a half ago, and the reason for that is we really want to make a point of, ‘Yes, it is a camera’, and if communicated in the wrong way, that could be perceived as us filming, but we want to be very, very clear that is not what we are doing.

‘The eyes are the window to the soul’ is an old saying, but through science we have actually proved that that is the case. So by using a sensor with enough detail—and the camera has that—we can understand where you are to address the huge issues of driver distraction and driver intoxication, and those are two very, very big challenges. They have been around for a long time, but now we have the technology, and now we have taken other steps that are necessary for our next big challenge—and speed. So I would say those three, and of course we are in the process of looking at autonomous cars.

I know there are conversations on levels, and there is semi-autonomous and autonomous. When we talk internally, we focus on responsibility. So rather than talking about this and that level, we say, ‘Is it a driver-controlled car or is it the car doing the driving?’, and then stay away from the situation where there might be a mode confusion. So I would say intoxication, distraction and speed are the next areas that we really need to address.

And it is sensitive because if we do not have this conversation, and if we do not do it in the right way, it could be perceived as contradictory to the purpose of the car, which is freedom to move. So we want to stay with the freedom to move and the importance of what the car actually added to our society when it was available—it just added so much to our lives, and we want to keep that—but at the same time make you the best driver you can possibly be. So that would be our, again, very human-centric approach to safety and how we address safety.

Mr FINN: Thank you very much, and can I just point out that if you do achieve that concentration level that you are aiming for we might also have that included in the parliamentary chamber here in Melbourne, because I think we probably need it at times.

Ms EKHOLM: Your words, not mine.

The CHAIR: Sorry, our Deputy Chair is always—he has got the Australian humour. Ms Ekholm, on behalf of the committee I wish to say thank you. This has been a very insightful and almost philosophical discussion, and I wish to thank you and the Volvo Cars Safety Centre for your contribution today.

Ms EKHOLM: Thank you, everyone, for inviting me to this. I am very happy that you are wanting to have this conversation, because I think that traffic safety and zero can only be achieved if we join forces and collaborate in continuation with the new learnings and the new situations that arise over time. So thank you very much.

The CHAIR: Thank you. The committee will now take a short break before our next witness.

Witness withdrew.