

ROAD SAFETY COMMITTEE

Inquiry into driver distraction

Melbourne — 30 January 2006

Members

Mr B. W. Bishop

Mr J. H. Eren

Dr A. R. Harkness

Mr C. A. C. Langdon

Mr T. W. Mulder

Mr E. G. Stoney

Mr I. D. Trezise

Chair: Mr I. D. Trezise

Deputy Chair: Mr E. G. Stoney

Staff

Executive Officer: Ms A. Douglas

Research Officer: Mr G. Both

Witnesses

Dr L. Sparke, chief engineer; and

Mr M. Hammer, manager, information and crash-avoidance technologies, Holden Innovation; and

Ms C. Sheehan, national manager, corporate responsibility, Holden Ltd.

The CHAIR — First I would like to welcome the representatives of Holden to our road safety inquiry into driver distraction: Laurie Sparke, Catherine Sheehan and Mike Hammer. Thank you for your time. Holden has always been a contributor to the work of this committee over past inquiries, which it has appreciated. We appreciate your time today and your input into our inquiry. As you are aware, the hearings of the committee are conducted under parliamentary privilege and we are also obviously taking a record so that a copy of the Hansard transcript can be provided to you in future. Again, thank you to Holden for your input. As I said, we do appreciate it. I will hand it across to you, Laurie, for your submission.

Overheads shown.

Dr SPARKE — Thank you again for inviting us along. We appreciate the opportunity to share with you the work we have been doing. As a bit of background and a reminder to you — I have probably said this to you every time I have joined you in the past — we work closely with the Monash University Accident Research Centre. In fact we focus all our safety research through it. I understand you have heard from people from there earlier and I understand that they would have shared with you some of the results of their work with us, because everything we do with them we make public. We do not keep it for corporate advantage because we see the issue of road safety as too important to be doing other than making it available to the community. Since 1989 we have had people at Monash collecting and analysing information for us. A critical first output from that is to analyse the causes of road crashes and harm to the community and prioritising them for us so that we focus our research first on the most important priorities and the areas we can have the most influence on.

My colleague Mike Hammer is the leader for research into human-machine interface (HMI). This research is important in two facets. First of all, it is identifying issues of driver distraction, but equally importantly it is identifying opportunities for crash avoidance. I would emphasise that those two are locked together and you cannot focus on just one, not being aware of the other. So it is the balance between the risks of crashes caused by driver distraction against the benefits in crash reduction by opportunities for crash-avoidance technologies. Mike has been working for a number of years now in conjunction with people at Monash University and at a number of other research bodies that we have brought together to work in this area. As a result of our work over the years, now General Motors acknowledges or identifies us as the centre of driver-machine interface or driver distraction research for the General Motors world. We do work for not only Holden but for General Motors in North America, Opel, Saab in Sweden and even for GM Brazil. So we have established some credibility within the auto industry for the work we are doing and particularly for the research that people at Monash are doing.

One of the important facilities we have at Monash University is a driver distraction laboratory. We have a car set up with a virtual driving scene and the people at Monash use that environment to do evaluation of the response of subjects to various new technologies — groups of people from the community — for example, young, inexperienced drivers or older drivers and so on, to do research for us on driver response to new technologies. That is an important facility. It is one of few in the world and it is certainly one of the best available to us. We have spent quite a bit of money setting up that research facility. I think that is enough of a preamble. Mike, you might talk about what you have been doing.

Mr HAMMER — I would like to give you a brief, 15-minute presentation which will serve to give you some background information for our discussions later. Firstly, I would like to cover some background on the problem, the driver distraction issue; talk about Holden's research, both current and future; talk about some current knowledge that we have gained from the research; and then talk about some guidelines — what exists internationally and what Holden has been working on and the need for national guidelines in Australia.

Consumers want more and more sophisticated vehicle information and entertainment systems. We can see that from the trends in luxury cars today. Many of these systems are designed to assist the task of driving and navigation but unless carefully designed they have the potential to be distracting. Distraction from OEM devices is a small but growing issue. Some research done by the National Highway and Traffic Safety Administration (NHTSA) in North America in 2003, specifically by Glaze and Ellis, showed that 1.26 per cent of all crashes are due to driver distraction from in-vehicle systems. By in-vehicle systems, we mean systems that are fitted at the OEM level, so they are systems that are in the car as purchased new; so they do not cover after-market devices, portable devices et cetera. If we look at the fatality analysis reporting system database, we see this number has been steadily increasing since 1991.

However, these sophisticated driver information systems are limited to expensive luxury cars that are driven mostly by older and more experienced drivers. Research shows that this group is less likely to engage in distracting activity and less likely to be involved in crashes. Therefore sufficient time exists to develop a carefully considered response, based on knowledge and research. Also, near-term technology such as voice recognition has been developed, which will counter the distraction potential of these systems. Therefore it is important that the community and policy response is carefully considered and commensurate with the size of the problem.

If we look at some of the research that people at Holden and the Monash University Accident Research Centre have been doing, we have been involved in safety research with them since 1989 and have developed the societal harm concept, a very extensive crash database, vehicle designs for real-world safety, the first local airbag and very sophisticated driving simulator. Since 2001 we have been working with them on driver distraction. This research covers driver distraction, how people interact with interfaces in the vehicle, the special needs of older drivers, and how people perceive hazards, including age-related differences, and we are working with them on a set of design guidelines. Holden has invested significantly in safety research with MUARC — many tens of millions of dollars since 1989 — and we have developed an extensive knowledge base. Much of this knowledge could be shared with the rest of the Australian auto industry to help develop industry guidelines.

Looking towards the future, we have a six-year, multimillion-dollar research project with MUARC. In that project we will be looking at HMI ergonomics, the special design requirements to reduce driver distraction, and naturalistic driving — which is looking at people's willingness to engage in distracting activities; doing some harm ranking of crash-avoidance technologies, which will enable us to choose the crash-avoidance technologies which provide the maximum societal benefit; looking at the special needs of older drivers; and finishing off the HMI design guidelines.

The CHAIR — Mike, are you going to go through some of those dot points in more detail?

Mr HAMMER — Yes. We are also developing some vision-recognition-based crash-avoidance systems. We have a six-year project going with Seeing Machines in Canberra and La Trobe University in Melbourne. That is a \$2.82 million project over the six years. In that project we will be developing systems for speed sign recognition, lane departure warning, pedestrian detection, front collision warning and blind spot warning.

We also have a voice-recognition project going with people at Queensland University of Technology, who are recognised world leaders in voice-recognition technology, and also La Trobe University. In that project we will be developing voice-control systems for the more complex tasks a driver has to perform.

Looking at some of the knowledge we have from current research — and this slide covers the people side of the research — it has been shown that inexperienced drivers suffer a greater level of distraction than experienced users. So for the same task an inexperienced driver's driving performance is degraded more than that of an experienced driver. There are also research results that show that younger drivers are not as aware of their distraction as are older, more experienced drivers. It has been shown also that older drivers are less likely to perform distracting tasks whilst driving than are younger drivers. It needs to be noted that drivers aged between 25 and 29 are the most likely to be involved in a fatal or serious injury crash when using a hand-held mobile phone.

Looking at the technology, there are research results to show that a well-designed turn-by-turn navigation system is significantly less distracting than using a paper map. It can also be shown that poorly designed interfaces can be very distracting. Unfortunately many after-market devices fall into this category: they have small buttons, poor ergonomics and tiny little displays. The other interesting thing is that changing a CD is one of the most distracting tasks a driver can perform. This task is much more dangerous than many other tasks a driver can perform and yet it is perfectly legal.

Another thing to note is that driving simulator testing measures the relative distraction of tasks but it does not measure the driver's willingness to engage in distracting activity. So in a driving simulator you can determine that task A is more distracting than task B, but in order to measure the driver's willingness to engage in a distracting activity you have to measure naturalistic driving on the road.

Mr MULDER — Mike, you said that a well-designed turn-by-turn navigation system is less distracting than using a paper map. Does having a turn-by-turn navigation system make you a better driver? You talk about it in terms of it being distracting.

Mr HAMMER — When you have voice prompts and turn-by-turn arrows displayed, the driver can spend more time with his eyes on the road than he can if he is trying to read a paper map. As a result, that improves driving performance.

With drivers' willingness to engage in distracting activity, surprisingly little research has been done in this area and this is one of the areas we are going to focus on in 2006 in some of our research at Monash University. Testing also shows that voice recognition significantly reduces driver distraction. Voice is a modality that does not have to be time shared with the driving task. Testing shows that voice control greatly reduces completion times, eyes-off-road times and number of glances required for a task. However, voice recognition is difficult in a car, due to the high level of background noise. This is an area where people at QUT have some specific expertise — in fact they are recognised world leaders in this area — and this is where a lot of our research will be focused in 2006 and beyond.

The CHAIR — On that last slide, Holden research focus in 2006 will be on the use of voice recognition?

Mr HAMMER — Yes.

The CHAIR — I always think of voice recognition in terms of a hands-free mobile phone. Are there other applications it can be used for?

Mr HAMMER — Yes, things like inputting a destination into a navigation system. You would normally use it for more complex tasks. You would not use it for things like turning on and off the wipers because it is quicker and less distracting to just use a stalk, but for complex interactions it is a significant benefit.

Mr STONEY — Just on that point, I know that people at MUARC are starting to question whether hands-free mobile phones are indeed dangerous. What is the difference between voice recognition which is a benefit and perhaps talking on a hands-free mobile phone?

Mr HAMMER — One of the main contributors to driver distraction is not being able to control the pace of interaction with the system. If the driver can control the pace of interaction with the system then the driver can time share his or her attention between the driving task and the secondary task. When you have a person on the other end of the mobile phone, that person is not aware of the driving situation and your pace of interaction is being controlled by the person you are talking to. On-board systems are designed so that they are interruptible or so that the task is chunkable.

Mr STONEY — So you are in charge.

Mr HAMMER — So you are in charge, rather than the person on the other end. Mike Regan, I guess, is the expert in this area. It is different from talking to a passenger, because a passenger is aware of the driving situation and will moderate the interaction, whereas a person on the other end of the mobile phone just keeps talking, basically.

Looking at guidelines, in the past three to four years many countries have issued guidelines. In America the automobile manufacturers got together and through the Association of Automobile Manufacturers (AAM) they put together a set of guidelines which they submitted to NHTSA in 2001 and all vehicle designs initiated in the US from, I think, October 2003 conform to those guidelines and in fact as of late last year they are in their third issue. Similarly the EU has put together a set of principles for minimising driver distraction — these are principles for the design of in-vehicle information systems; the Japanese have their JAMA guidelines; and in the United Kingdom they have a safety check list which is actually targeted primarily at after-market devices. Some of the international guidelines differ significantly from others. The Japanese standards are very prescriptive, but the American and European standards are more principle based — and they are also very similar. In fact the main difference is that the American standards have verification procedures and the European standards have just the principles. Australia has virtually no standards or guidelines in this area.

Looking at some work Holden is doing, Holden is developing a set of HMI design guidelines with three distinct deliverables or sections. The first is a set of heuristics or 12 simple rules of thumb that form the core of any HMI guideline work, so this is a quick ready reckoner for designers; also a style guide, which is a document used by those who create the HMI look and feel — this means, for example, automotive design departments, stylists, industrial artists and those sorts of people; and then a detailed safety check list, which is a document used by

engineers and software developers, to ensure adherence to core driver distraction minimisation and ease-of-use principles.

Looking towards the needs of the industry, we believe a legislative approach is not ideal in this area because it is a rapidly moving area of technology and it is difficult for legislation to remain relevant. Also, auto companies are very active in research in this area, developing countermeasures for distraction. It is possible that legislation may stifle new technology solutions and future vehicle designs, make specific imports illegal, and perhaps stifle export opportunities — because cars have to be designed to be sold in global markets.

Dr SPARKE — Can I just interrupt you there and emphasise, as I said earlier, that these technologies are the core of future crash-avoidance technologies? So there would be great concern if we implemented some legislation that had some benefit for driver distraction but inhibited us implementing future crash-avoidance technologies because we see that there is enormous future benefit in crash-avoidance technologies, that occupant-protection technologies such as the airbag have about plateaued — there is little further benefit we can get from those. They have been of enormous benefit to us, but there are limits to how much further we can go. The benefits that the community will get when we start implementing crash-avoidance technologies will take us a magnitude further than we have been able to go with airbags, so we need to balance those considerations.

Mr HAMMER — The other thing to note in terms of having a national or global approach is that complex vehicle systems are developed by global suppliers for global markets, and the technology in these systems is usually owned by the expert supplier. It is very difficult to have a system like that customised for a small-volume market such as ours; therefore local standards must be compatible with global standards. Also, the local industry needs to work together to produce a set of Australian guidelines. Our low-volume Australian production markets do not support the millions of dollars investment required to customise interfaces, particularly for a single automobile manufacturer. If the whole industry supported a set of voluntary guidelines, which is similar to how the US auto makers have done it, then suppliers would have to produce designs that conform to the standards.

The CHAIR — Given that a lot of your work is international, I presume that the work and the research you are doing is influenced by, for example, the American guidelines?

Mr HAMMER — It is, yes. We use them as a reference, but we do our own research on particular areas that we are interested in. One area we are specifically interested in is not so much having a check list but putting a set of guidelines together to help people who are designing these systems. Most of the international standards are in the form of a list of do's and don't's and we are trying to produce an actual guide. We are approaching the problem slightly differently, but we are using the international standards as a reference, and particularly the European and American standards because they are more principle based than prescriptive.

The CHAIR — Yes. So in the United States they are voluntary guidelines, and it probably goes back to the previous slide. In Europe are they voluntary guidelines?

Mr HAMMER — Yes, in Europe they are treated a bit more like a standard but they are guidelines.

The CHAIR — I presume that, when you say Japan, Japan's is legislated?

Mr HAMMER — No. There again, it is like a standard.

The CHAIR — It is more prescriptive?

Mr HAMMER — Yes. It is interesting to see the difference in approach. The US and European ones have things like 'the driver must control the pace of interaction' or 'the displays must be readable from a certain distance' et cetera, whereas the Japanese ones actually specify fonts and text size and they get right down into the details. The final slide is just a summary. Driver distraction from OEM systems is a small but growing problem. However, automotive companies are investing millions of dollars into safe interface designs. Therefore there is sufficient time to develop a properly researched solution. Australian guidelines are needed. Voluntary guidelines will lead to a better and faster solution and legislation, but the local industry needs to work together and any guidelines need to be in harmony with those of other countries.

The CHAIR — Is there evidence of the fact that local industry is working together to develop guidelines?

Mr HAMMER — Not directly, but there are some moves in that direction. There was a driver distraction conference in Sydney which some of the other automotive OEMs participated in, and there was general interest. I was discussing the issue with them and there was general interest there in developing an industry-wide set of guidelines, but there has not been any specific activity in that direction yet.

Mr STONEY — Who should show the lead in developing Australian guidelines?

Mr HAMMER — It is probably best done through an automotive association, the FCAI perhaps or one of those organisations, to actually coordinate such an activity.

Mr STONEY — Do you think a government agency should do it? We are talking about a voluntary set of guidelines.

Mr HAMMER — Yes. It probably does not matter who does it as long as it is some sort of association that the automotive industries can contribute to or be a member of because it involves the supplier companies as well.

Mr STONEY — Is there a sort of Mexican stand-off with everybody waiting for somebody else to do it or is there just no-one driving it?

Mr HAMMER — I think it just has not evolved to that level yet. There is movement in that direction, but it has not progressed to the level of a committee actually being formed to develop guidelines yet.

Mr STONEY — Do you think there is a danger that because this is not happening voluntarily a government might jump in and have legislation that might cut across the whole way it is developing? Is that what you are considering?

Dr SPARKE — It is the risk, yes.

Mr STONEY — So is that not an incentive to get into it?

Mr HAMMER — Yes, it is.

Dr SPARKE — Mike has described how we have taken the initiative to try to get something happening. I am sure a word to the FCAI would precipitate something happening much more quickly.

The CHAIR — Just on the experience, for example, how did the guidelines develop in the United States and how long have they been in place?

Mr HAMMER — They have been in place since 2001 and they had a two-year lead so they would apply to cars designed after 2003. I really do not know the history behind how they came about because I started in this particular research in 2001 and the guidelines had just been issued then.

The CHAIR — I presume, given that they were voluntary, that they were driven by the industry itself?

Mr HAMMER — Yes. There are a number of committees in the US looking at specific road safety issues and I think it was driven out of one of those committees.

Mr LANGDON — Have there been any changes to the guidelines in, say, the United States after 2001?

Mr HAMMER — Yes, they have just released the third version of them, the third issue.

Mr LANGDON — They are very much into reviewing then?

Mr HAMMER — Yes, they have been updated twice already.

Dr SPARKE — It is a new area where everyone is learning as they go, hence my concern, because the opportunities for crash avoidance are so great it would be a great loss to the community if we inhibited the use of any of these new technologies. We need to put something in place that does not inhibit the future development but addresses some of these concerns that are starting to show up now.

Mr LANGDON — Yes.

Mr BISHOP — Mike, I do not know how we are going to structure this, but one of your earlier comments was, I think, 1.26 per cent of in-car facilities caused distraction leading to accidents. I thought you said after that that about 50 per cent could be added on after that in the car, like a DVD player, I guess, or something like that. Is that what you said?

Mr HAMMER — I said that percentage applies only to OEM equipment, so that is taken from the research that Glaze and Ellis did. They took a whole lot of crash statistics and looked at the cause and interviewed the drivers and categorised the causes into various categories and the category that was distraction by OEM equipment was 1.26 per cent. There were other categories such as after-market equipment, mobile phones et cetera and the percentages for those were higher. I do not have the figures handy.

Mr BISHOP — The interesting part in that is that if voluntary standards are set as we have just discussed, how do we manage those standards when you can clip something onto the car as well? It might be easy enough to say to the car manufacturers, 'These are the certain amount of standards we want you to adhere to' and do that in a voluntary way, but I do not know how we manage the clip-on bits afterwards.

Mr HAMMER — Yes, it is an issue and it is a difficult issue to tackle. The UK people have put together a check list for the installation of after-market devices which is this TRL safety check list, and that is one way of tackling it.

Mr BISHOP — So that is in place in the UK?

Mr HAMMER — Yes.

Mr BISHOP — And how is that adhered to?

Mr HAMMER — I really do not know.

Mr MULDER — Does that deal with the issue of where those devices are located in the vehicle?

Mr HAMMER — Yes, it has sections about having the devices at a reasonable height and not blocking off access to other vehicle controls and things like that. Again, it is treated like an industry standard. Adherence to it is somewhat voluntary, but I think like any standard there are due care incentives to follow.

Mr BISHOP — In relation to what Terry just brought up, in a practical sense, what work does Holden do in relation to the placement of facilities in-car? I will give you a practical example: Graeme Stoney and I both run a Holden car and we have had to, through our own initiative, stick the mobile phones up high on the right-hand side, where in fact there is no facility that Holden provides in the make-up. How hard do you look at those sorts of issues?

Mr HAMMER — The mounting of after-market devices is very difficult to provide an OEM solution because they change so quickly. It takes five years more or less from concept to production car, and the average life of a mobile phone is about six months. Whatever we provide, the average design cycle for mobile phones is six months so by the time the vehicle comes out there is new equipment on the market that does not fit.

Dr SPARKE — We have been down that track and decided we did not have a solution for it, so I do not think it is something that we or the manufacturer can control.

Mr BISHOP — But does not the manufacturer have the option during the production of the car to have those facilities clipped on? There are facilities in the car for the mobile phone installer to install the phone. I am suggesting that some of the places where they suggest they go could be changed to make them more safe.

Dr SPARKE — With that proviso we just described, that there is no way we can anticipate five years ahead what are going to be the telephones on the market and what is required to attach them.

Mr STONEY — That is not quite the point. Barry and I have had big discussions about this. It goes back to this: the taxis have obviously thought it through and they decided to put their little computer very close to the driver's eye line. It is probably the safest place to have it so they can virtually look at the road and the computer.

From that Barry and I worked out that the place to have your mobile phone if you are dialling on the run — only out in the wide open spaces! — is with your eye line. It makes absolute practical sense to have it up there rather than you poking around down on your left-hand side, which is just a practical thing about eye lines when operating things like that.

For some reason — and I think Barry's point is this, though I have not discussed it with him — manufacturers have not picked up that that indeed makes a hands-free mobile phone a lot safer by having it up on par with your eye line, but the point for the mobile phone is still right down in the depths of the well on the passenger side. It is something the industry has not picked up at all, which I think is quite interesting seeing the taxi industry picked it up years ago. That is the point we are trying to make.

Mr BISHOP — We are happy to do a patent for you, Mike, and we will sell it to you!

Mr HAMMER — Certainly the way to influence or control that sort of thing is through some sort of standards or guidelines that the after-market industry can use, because there are a lot of good principles, as you say, for mounting these things in a safer location, but we need a set of industry standards that everyone can use.

Dr SPARKE — And the bottom line is, I have to say, that there are no conditions under which is safe to dial a number while you are driving a car, okay?

Mr STONEY — Oh, no.

Dr SPARKE — We will address that when Mike gets his voice-recognition technology where you can just say, 'Dial home', and that will happen. In those circumstances that is a safe activity to do.

Mr HAMMER — The other aspect is the pace of change, too. In the very near future, if not already, phones have been connected wirelessly from the car, and many phones now have inbuilt voice control, so in the near future there will be no need to mount the mobile phone anywhere. It can stay in your briefcase or your pocket. You will be able to dial, using voice, from the car. Sometimes in developing a set of standards or guidelines for something like that, by the time they are issued they might not be relevant any more.

Mr MULDER — My first comment on the issue I was raising before was about navigational systems. I purchased one of those PINS Navman navigational systems for my car and I was restricted in terms of where I could place it by the length of the cord which came with the device, which I found a bit annoying. But in terms of the distraction we spoke about before that, I use it as a working tool in my car and I would have to say I am not a gadget person. In terms of good driving, that would by far outweigh anything I have ever owned in terms of gadgets, in terms of making a better driver, a safer driver, concentrating on what you are doing on the road rather than reading books and looking for maps and worrying about whether you have passed the wrong road. I think they are an incredible device. It works very well, but that restriction I found when I purchased it, where I put it on the windscreen, was determined by the length of cord that came with the thing and where it plugged in.

Dr SPARKE — There is another dimension, too. They are extremely difficult to program, distracting to add anything in or put a destination in or to alter anything.

Mr MULDER — You have to pull over.

Dr SPARKE — There is an enormous amount of development required to be able to eliminate that as a distraction. The potential is obvious, but there is still a lot of work to do.

Mr HAMMER — They really should conform to fundamental driver distraction principles like 'the task must be chunkable' and 'the driver must control the pace of interaction'. Things like that are absolute essentials to minimise driver distraction, but there is really no incentive for after-market devices to implement these principles.

Dr SPARKE — You might like to describe 'chunkable'.

Mr HAMMER — Chunkable means you can complete the task in a series of short glances or short chunks.

Dr SPARKE — It is short enough so that it does not constitute a hazardous distraction to the driving task and you can just keep coming back to it whenever you are able to progress it and complete the task.

Mr LANGDON — I just want to go back to what you said earlier regarding the mobile phone, that you can keep it in your briefcase and you will be able to communicate through, I assume, whatever radio system you have got in your car?

Mr HAMMER — Yes, Bluetooth link or whatever.

Mr LANGDON — It is a challenge then for anybody in the police force to actually police you using the mobile phone. You may well and truly be just singing along with the radio.

Mr HAMMER — With that system you are using it hands free, which is legal.

Dr SPARKE — You are touching on the point we are trying to make. It is not about stopping people using mobile phones. What it needs to be about is stopping people doing things that are distracting them. You set up the phone so it can be used in a way that does not distract from the driving task and it can be safe. Talking to your partner or looking at the stocking advertisements as you drive past can be equally distracting and as dangerous and we are not considering having legislation to ban stocking advertisements.

Mr LANGDON — They put you right off!

Dr SPARKE — What are the ones down the Eastern Freeway? Underwear advertisements. Maybe we should, but how do we provide technologies in the vehicle that allow the driver to control the car safely? The thing I am concerned about is that the mobile phone might become a critical part of the crash-avoidance process that we want to use in the future, so we do not want to ban mobile phones per se. We want to focus on the distracting behaviour that is associated with them.

Mr BISHOP — If you have a crash, getting help?

Dr SPARKE — Yes.

The CHAIR — Laurie, we are meeting with Ford later this morning. Is there any sharing of information between the major manufacturers or does competition prevent the sharing of that type of information?

Dr SPARKE — The first thing is that everything we do with Monash we publish, so it is public information. We also encourage Ford to join in with these research projects. We have not been as successful as we would like to be up to this point.

Mr HAMMER — At the moment the sharing of information has been at industry conferences on particular subjects; Ford has expressed some interest in joining together to develop some guidelines, but it has not been taken to the next step yet.

Mr STONEY — Would you like to expand a little on your crash database that I think you just touched on before. How is it working? What statistics are you using, and how do you obtain your statistics? Is it just Holden's or is it cars in general?

Dr SPARKE — Monash does a couple of things for us: it collects information from other sources such as police databases and VicRoads and other government — insurance company — sources of mass data and it investigates specific crashes for us to generate detailed information about individual crashes. Then it extrapolates from those individual crashes to the total spectrum of crashes in Australia. Then it gives us prioritisation of crash causes and injury causes based on a measurement that they have developed for us called societal harm — that is, a measure of when a road crash occurs and someone is injured that there is associated with that injury a cost of hospitalisation, a cost of rehabilitation, a cost of loss to the community while the person is away from work and potentially a cost associated with the permanent disability of that individual. For every crash that occurs we can put a value to society of that injury having occurred. Then if we apply those costs to all the different types of crashes and injuries that occur in Australia each year we can categorise them in priorities and that allows us to say, for example, that people suffering neck injuries and side impact crashes is a higher priority than people suffering rib fractures in frontal crashes. It then focuses our research and says that this is a higher cost to the community and we should focus our research in this area first and not in some other area. We work continuously to prioritise what we are doing and that is the value of that.

Ms SHEEHAN — That research is just on Holden vehicles?

Dr SPARKE — No, it takes into account — we can extrapolate it to the whole community of vehicles in Australia.

Mr STONEY — Holden does not just do research on how its vehicles are performing in the marketplace?

Dr SPARKE — No, that is a primary issue because the research has two objectives: one is first for us to understand what is happening in road crashes in Australia and what the relative cost to the community is of all of those crashes, but the second purpose of this investigation is to verify that when we develop a new safety feature such as an airbag, a new seatbelt system or a changed structure to the vehicle, we measure it in the laboratory, analyse it very thoroughly with computers and we get an in-house estimate of how much benefit there is going to be; and then as the car goes out into the market we have, for several years, Monash chase every vehicle of that new model to evaluate what the outcomes were of the crashes and compare that data back with our laboratory data to make sure that we got it right.

Mr STONEY — It is interesting that this committee over the years has been calling for more data to be collected especially by government agencies because in the various inquiries we have had we have been frustrated by the lack of information, especially with minor accidents where perhaps they are not reported or they just do not go into the database. I suppose if there was more information that would actually help your work, wouldn't it?

Dr SPARKE — Yes, we have a pretty good database and all our information is published and freely available.

Mr BISHOP — Mike, you spoke about your research unit, distraction unit — —

Dr SPARKE — Sorry, can I just mention that we spend about \$2 million a year getting that data so it is quite comprehensive. We also collect some data from users as well and we have now set up a research laboratory in the United Arab Emirates to monitor our car performance in the Middle East to make sure there is not some inherent difference in environment here that causes our cars to not perform the way they need to. We have an international data collection to enable us not just to verify that Holdens are performing correctly, but to understand as much as possible about the total road safety environment, the road crash environment.

Mr BISHOP — Can you give the committee a view of how your research facility looking at distraction that you spoke of briefly earlier operates? Does it operate from feedback? How does it pick up its information?

Mr HAMMER — The research facility is predominantly out at Monash uni, so we use its expertise to a great extent. We do our own research based on collecting data similar to what Laurie was talking about with the Harm database. One of our first priorities this year is to apply the same exercise to crash-avoidance technologies. We also look at overseas research and we do specific research ourselves in the driving simulator. We are also planning to do some on-road research with data collection cars this year as well to start looking at some of the naturalistic driving behaviours. It is a combination of literature research, our own testing and some actual theoretical research, but 80 to 90 per cent of it is done at MUARC by Mike Regan's group.

Mr BISHOP — There is no customer feedback on that?

Mr HAMMER — What do you mean by customer feedback?

Mr BISHOP — I was talking about mobile phones before where you missed the mark in the question, which was about the placement of it, nothing to do with how you hook them up. I just wondered whether you have any customer feedback on that issue?

Mr HAMMER — We get marketing feedback from our customers on their likes and dislikes, but most of the actual measurements or research into the actual distraction potential or usability of devices is done by testing. We do testing with focus groups and clinic groups to look at usability of interfaces. We might run a number of people through a mock-up of a driver interface before we finalise a design. There is a fair bit of customer testing done on small groups before it is released and then we do get feedback through our marketing people on how it is going in the marketplace.

Dr SPARKE — I should just emphasise my answer to your question. It is our view at the moment that there is no safe place to have a dialling system for a telephone in a car. To make one available would be a conflict with what we are trying to do.

Mr STONEY — Surely it is a legal — —

Mr BISHOP — No, that is not the issue — —

Mr STONEY — It is a legal product at the moment. Would it not make sense to have the opportunity for customers to be able to put it in what would be the safest place, rather than fiddling around with it down in the passenger well?

Dr SPARKE — That is back to what I am saying. The kit I have in my car — the phone is in the glove box, there is a button on the dashboard that allows me to answer calls. Do not put it up there on the dashboard to dial because you cannot drive and dial numbers at the same time.

Mr BISHOP — Will you put that in each of your new models in the future?

Mr HAMMER — It is after market.

Dr SPARKE — It is an existing after-market kit. We would not want to put it into our car today because by the time that car came into the marketplace there would be something that would be the next generation.

Mr MULDER — Is there any correlation you see between driver comfort and driver distraction? I know it is a broad question.

Mr HAMMER — There is a correlation between ease of use and driver distraction and that has been shown on the basis that if it is easier to use it is less distracting, but in terms of actual driver comfort it is not an area we really look into.

Dr SPARKE — I want to ask Terry — what are you getting at? It sounded like there was something behind that question that I did not grasp?

Mr MULDER — There are certain cars that are renowned for giving drivers bad backs. That in its own right is one helluva distraction, if you are travelling in a degree of pain, and I have raised that with some manufacturers in the past that certain types of seats in cars just do not suit drivers and do not suit driver comfort and that in its own right is a distraction and could possibly lead to the driver having an accident.

Dr SPARKE — Ergonomics and comfort is an area that has been pursued for some time. It is done by people who are responsible for the design of the seats and layout of the controls. This is a new layer on top of that that we have only started working on in the last few years.

The CHAIR — Laurie, I do not want to harp on mobile phones, but I have one other question on that. You mentioned before the system that you have got in your car where you can answer the phone but you cannot dial up. Is that a facility that is provided by Holden as an employer from a health and safety perspective? Do other managers have that facility?

Dr SPARKE — It is a company-provided phone, yes. No, we have not insisted that everyone have that kit. It is very much left up to the individual as to what he selects. Being a safety manager I selected a safe one, I guess.

The CHAIR — Is it something that Holden would consider, going down that track, saying, 'From a health and safety perspective as a car manufacturer, yes, we do recognise the dialling component is a health and safety issue for our employees and therefore to prevent employees from dialling their phones whilst driving one of our cars we will have a system where you can only answer the phone'?

Dr SPARKE — I do not think I can really answer that.

Ms SHEEHAN — It is probably more of a corporate issue, but we would have to get back to you on that.

Mr STONEY — I am fascinated by it. If you had a voice-recognition mobile phone, which means you do not dial up but could say, 'Ring home' or 'Ring the office' or something and it comes up — which I believe is available — that would be exactly the same as just answering calls only, pushing a button and just talking, but you

do not actually physically dial up any numbers. Why would you have one where you can just answer rather than a voice recognition 'call the office'?

Dr SPARKE — The phone I wanted to get has some facilities that I wanted to have and not others. I put a value on the fact that I can carry my diary in it above voice recognition.

Mr STONEY — We are getting to that point, are we not, where you can just say to the microphone 'Ring forward' and it happens.

Dr SPARKE — Yes, that addresses the manipulation of the device. It does not address the issue that Mike is raising about how you deal with the distraction from a remote person demanding your attention. That is something we still have to look at.

Mr HAMMER — When you look into distraction, there is a visual distraction which is associated with manipulating buttons, et cetera; there is cognitive distraction which is associated with conversations and figuring out what to do with your device; and there is physical distraction which is hands-off the wheel, et cetera. You have to look at each of those types of distractions separately when you are assessing how good a device is or how distracting it might be. Voice recognition, of course, solves the visual distraction and physical distraction issue.

Dr SPARKE — You have triggered another thought for me. I do demand of my colleagues that they drive with their parking lights on during daylight and you might remember from the last time I was here that I told you how much benefit there was in reducing crash involvement by driving with parking lights on. Maybe I should think about being authoritative or autocratic about telephones as well.

The CHAIR — If there are no further questions I would like thank Holden for its participation. I thank Catherine, Laurie and Mike for their interesting submissions and we appreciate you answering the questions we have put today.

Witnesses withdrew.