

Safer Driving

*The Newsletter of RoSPA Advanced Drivers and Riders
Thames Valley Group*

Summer 2020



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The Editor writes...

What would you do if you were sitting next to someone who was driving towards a roundabout at 60 miles an hour and made no effort to slow? I raise this topic as RoSPA's magazine *Care on the Road* often mentions the problems of older drivers, and the lady beside me was not old.

Such an incident can come straight out of the blue. You can be beside a driver who previously has had an unblemished record, driving to work every day in the heaviest of traffic and making placement visits to students that meant braving the worse of the London traffic, such as the Edgware Road north from Marylebone.

As the roundabout on this particular drive drew closer, I said, 'I think you should slow down now, Patricia.' *'How do I do that?'* she replied. Shocked, I suddenly realised that she had forgotten how to drive! The minor points I had noticed previously all began to make sense, such as the car being driven too close to the kerb and my being asked, *'How do I turn on the lights?'* To which, I replied, 'The switch is on the right of the fascia is in the same position as on your Volkswagen.'

But back to the emergency in hand. I had read the car's handbook, which advised what to do about braking on wet roads, how to brake going downhill, and braking with new tyres, but it had not told me about how to slow apart from taking a foot off the accelerator. I could not put out my right foot and press the brake pedal myself as the hump of the gearbox was in the way. Instead I said softly, 'Patricia, move your foot off the accelerator on to the pedal next to it and push.'

The seemingly inevitable crash within seconds was averted, but the problem was not over. What did I do about Patricia? I made an appointment for her to see a doctor. She diagnosed a Vitamin E deficiency and arranged a blood test. When this came back negative, no further action was taken. Still worried, I made a new appointment for Patricia with another doctor. In less than a minute from calling her in he popped his head round the door, 'Can you come in here, please?'

He told me he had asked Patricia several questions and she had replied by talking about the garden. He thought it was an early stage of dementia and he would make an appointment with a neurologist, but he said nothing about stopping driving. It was a year later that we saw the neurologist who was disturbed to discover that, not only did Patricia see things that were not there, what she did see was out of size and position.

He said immediately, 'I know what this is. It is Lewy Body dementia with Parkinson's.' Then turning to me, he said, *'I hope she's not driving?'* 'No,' I said, 'she's not driving.' I wrote to the DVLA asking for advice, and gave the name of her GP. Subsequently, I surrendered her licence.' Shortly afterwards, I was appointed Patricia's Court of Protection deputy. Some will question my actions, but I feared for Patricia's safety and the lives of others. What would you have done?

Max Davidson

From the Summer Chair

When we get moving again...

The world is a very different place today compared to when I wrote for the spring *Newsletter*. That was supposed to have been my last *From the Chair*, since Robin Carlyle was intended to succeed me in the spring. That plan, like so many others, has had to go be put on hold due to Covid-19.

When it became clear during March that severe limitations on freedom of movement would be introduced, the Committee took the decision that a change of leadership, during a time when so much of our normal Group activity was on hold, made little sense and, as a result, I am still Chair with Robin supporting as Vice Chair.

While Covid-19 has had a negative impact on society as a whole, the Group has felt its effects with all tutoring, tutor training and social events indefinitely suspended. Unsurprisingly we have had few new Members, but thankfully still a few, and our thoughts have now moved on to what happens when relaxation of the rules enables us to get moving again.

Our first priority is to restart tutoring as soon as possible. This will likely be much easier for the motorcycle section which is able to manage social distancing quite readily. For cars the challenge is much greater, but at the time of writing neither car nor motorcycle sections have approval from RoSPA HQ to restart. Apart from training, we will also be considering ways to re-energise the Group with social gatherings, as well as trying to stimulate the enrolment of new Members.

Many of you, like me, will be overdue for a retest. I was sent a reminder, with a follow up, and as a result I applied for my retest which was due in May. So far I have not been contacted by an examiner, but our Group Secretary, Andrew Storey, has been told that the earliest month for his retest is expected to be September. In his case it is for a motorcycle test. My advice, therefore, is to proceed as normal and to book your retest as there will undoubtedly be a large backlog to get through when testing restarts.

Some of you may have already been infected with Covid-19, and some of us may well have that to come, but in all cases I hope you all remain safe and healthy and we can all look forward to the summer, whatever form this takes!

Finally, I hope that you have been working through the various quiz questions that have been set each week. The goal is to entertain and educate.

**Keith Pruden,
Chairman**

Dream that became a nightmare

Suppose you were in charge of a film studio, and someone offered you a script about a car company that is blighted by bad planning, poor product development, major quality control issues, allegations of corruption, bankruptcy, and finally, alleged drug trafficking. The likely response would be, 'No real car company could ever be that bad.'

However, this was not a work of fiction, but is the true story of the DeLorean Motor Company. Its sole product, best known as the DMC-12, would soon have been forgotten but for its starring role in the *Back to the Future* trilogy. The DeLorean still has a cult following, and good examples of the DMC-12 can still be acquired for around £20,000.



The one pictured in Massachusetts was offered for sale at \$19,500, but one in tip-top condition can set you back as much as \$45,000. The price is usually in dollars. The DMC-12 was built in Belfast, but few were sold in Britain.

The DeLorean's two most distinctive features were its brushed stainless steel body and its gullwing doors. The gullwing doors, thanks to a clever hinge design, do not open any wider than a standard door, thus avoiding problems in busy car parks, but they did have the bad habit of coming down on your head as you stepped into the car.



If you have ever tried to preserve the shine on stainless steel in the kitchen, you will be aware of the problems with this type of finish. Fingerprints, squashed insects, dings and dents prove more difficult to deal with than on a conventionally painted car. The body rests on an epoxy-coated steel frame and, provided the epoxy has remained intact, then any example of the car you buy should potentially be structurally sound.

Had John DeLorean, a former motor engineer with America's General Motors, been able to build his car to its original mechanical specifications, then there was a very real chance that it would have been a world-beater. The coupe was originally conceived to be a mid-engine sports car, featuring a Wankel rotary motor of the type used successfully in the Mazda RX 8.

For a variety of reasons, this preferred option never came to fruition. Instead the DeLorean had to make do with a 2,849cc PRV (Peugeot-Renault-Volvo) V6 engine, producing 130 BHP with a choice between a five-speed manual or a three-speed automatic transmission. The original plan was for



the DeLorean to be a high-performance sports car, but with a 0-60 time of 9.6 seconds for the five-speed version, the reality was very different. The automatic version took 10.6 seconds to reach 60, hardly what you would call a sparkling performance.

Early production models of the DeLorean had their interiors trimmed in black,



but by late 1981, grey leather was added to the specifications. This particular car has the grey trim, and the trim and the carpet have stood the test of time. For a car built in 1981, the DeLorean did come well equipped. Among the standard features were air conditioning, power windows, power exterior mirrors, a rear de-mister, an

adjustable steering wheel, and a radio/cassette player. There are believed to have

been 9,000 cars built over two years of production, and around 6,000 of them still survive.

So much for the car itself. What about the genius behind it, GM executive John DeLorean who set up his own company in Detroit, Michigan, in 1975? Unable to get the necessary backing to build his 'ultimate sports car' in the United States, he began looking abroad.

Around this time with the Troubles in Northern Ireland, the British Government thought that providing more jobs in the Province would take some heat out of the conflict and provided £120 million of the £200 million start-up capital.

Assembly of the first cars began in 1981 by an eager, but inexperienced, workforce. Complaints were made from the United States, the car's main market, about the quality of the early cars, but by 1982 the workmanship had greatly improved.

DeLorean saw the United States as the main market for the cars, and he claims to have been under the impression that he would qualify for export credit loans of 80 per cent of the \$20,000 cost of each car and its shipping to be repaid from the sales.

The Government's view was that the loans were available only if DeLorean could match the loans with an equal amount of capital. Due to production not meeting his target of 10,000 units a year, and various other assembly problems, DeLorean could not meet the Government terms.

Then in 1982, in his bid to raise enough money to keep his company afloat, DeLorean is alleged to have become involved in a conspiracy by drug traffickers to smuggle \$24 million of cocaine into the United States. Later he was arrested, following a sting operation by US FBI and Drug Enforcement agents, designed to catch the drug traffickers. At his trial in the United States he was found not guilty, but his reputation was in tatters.



The Belfast car factory closed in 1983 with the loss of 2,500 jobs and \$100 million in investments. John DeLorean was finally declared bankrupt in 1999. He was evicted from his 434-acre New Jersey estate in March that year and died aged 80 in 2005 following a stroke.

John Booth
North America correspondent

Mustang does 170 in 8 seconds

Two years after Chevrolet paved the way with its electrified eCOPO Camaro, Ford's performance department has unveiled its own electric-powered Mustang Cobra Jet prototype, and, given its performance potential, those two years of development were worth the wait.

The one-off battery-powered Mustang, known as the Cobra Jet 1400, is estimated to produce the equivalent of 1,400 BHP and over 1,100 lb-ft of instant torque, and is intended to demonstrate the capabilities of an electric powertrain on the race circuit in one of the most challenging environments a vehicle can be subjected to.



All told, Ford anticipates performances in the low 8-second range at 170 mph — on a par with its internal-combustion counterparts from the factory.

‘Ford has always used motorsport to demonstrate innovation,’ said Dave Pericak, Global Director, Ford Icons. ‘Electric powertrains give us a completely new kind of performance, and the all-electric Cobra Jet 1400 is one example of pushing new technology to the absolute limit. We’re excited to showcase what’s possible in an exciting year when we also have the all-electric Mustang Mach-E joining the Mustang family.’

Ford joined with a number of leading companies to develop the CJ 1400 prototype, including MLe Racecars, which built and designed the car and performed the tuning, Watson Engineering, in chassis support and development and construction of the roll cage, AEM EV, which provided the software and motor calibration and control, and Cascadia, which provided the inverter and electric motor.

‘This project was a challenge for all of us at Ford Performance, but a challenge we loved jumping into,’ said Mark Rushbrook, Global Director, Ford Performance Motorsports. ‘We saw the Cobra Jet 1400 project as an opportunity to start developing electric powertrains in a race car package that we already had a lot of experience with. So we had performance benchmarks we wanted to match and beat right now. This has been a fantastic project to work on, and we hope the first of many coming from our team at Ford Performance Motorsports.’

John Booth

North America correspondent

Beware of Sunday drivers?

Could there be some truth in the claims about the competence of weekend drivers on country roads? Car crashes are 70 per cent more likely to be fatal on rural roads than on city streets with Sunday afternoon the deadliest time of the week, according to a study by a team from University College, London.



It suggests that Sunday drivers taking their cars out from the city for a spin into the countryside may be a particular hazard, but the study ignores the possibility that it is country dwelling drivers themselves who are at fault, following, for example, a pub lunch, or country drivers who take to the wheel only at the weekend, having commuted to work in the city all week by the train.

The researchers found that roads in cities have many more serious car accidents that cause severe injuries, but collisions in rural areas, where higher speeds are the norm, are much more likely to result in death. The number of fatal accidents was around 70 per cent higher in country areas than in cities. However, the number of serious accidents was 48 per cent higher in cities. The UCL team provided their figures from an analysis of crash figures in England and Wales for the 10 years between 2008 and 2018.

For their study, roads were classified as urban or rural by analysing the land use within 50 metres from where the accident happened. An area with a greater proportion of farmland was considered rural, while a road featuring many houses, shops and industry was seen as urban.

During the decade under consideration, urban roads had 6,483 fatal accidents, 129,512 serious accidents and 849,349 minor ones, but on rural roads there were 11,069 fatal accidents, 87,650 serious accidents and 411,900 minor ones.

The researchers speculated that motorists driving into the countryside from towns and cities might have a role to play. They noted, ‘Fatal accidents reach their frequency peak on Sundays in rural areas when perhaps more people are travelling away from their usual place of residence in urban areas.’

They claim that drivers in the countryside tend to be older ‘with higher fragility and higher chances of dying.’ They may also drive at greater speeds and are less likely to wear seatbelts. Yet the researchers fail to provide an age profile of the accident victims and a safety assessment of country roads compared to those in built-up areas. The UCL team also alleges that it is more difficult to get prompt medical attention after a crash in the countryside.

The UCL report found that driving in the daytime was almost always more dangerous than at night, contrary to what insurance companies appear to believe, especially in cities during morning and evening rush-hours. The exception in their report was on Friday and Saturday evenings, which may be due to drink-driving at those times. The researchers said that a recent study found that one in five fatal accidents in England and Wales in 2017 was related to drink driving.

The UCL team, writing in a Royal Society journal, noted, ‘Serious and minor accidents happen with higher frequency in urban rather than rural areas and they follow daily patterns that reflect the working schedule of residents, but fatal accidents happen more often in rural areas.’

The researchers linked this to ‘the demographics of rural drivers, their typical behaviours or the higher difficulty in accessing medical care after a crash.’ They also fail to mention the vital and alarming statistic that, even with the threat of a £500 fine and three points on your licence, a third of those killed in a crash were not wearing a seatbelt.



But without analysing the state of the roads, where fatal accidents occur, and attributing ages to all those involved and their home addresses, the sort of information the roads policing units gather on a regular basis, the study would appear to be seriously flawed.

Max Davidson

Observation Post

Driving in the lockdown

As I write, we are still living in house arrest with very little active motoring to report. This does not mean that nothing has been happening. In April, our website launched a series of weekly refresher questionnaires on the *Highway Code* and *Roadcraft* in the hope that newcomers and more long-standing members of the Group might discover how well they knew and understood the two documents that lay the foundation for advanced driving. Of course, there is no really adequate substitute for getting behind the wheel, but it never does any harm to get back to basics. If you haven't had a go at these weekly check-ups, it might be worth seeing how well you do.

At the beginning of May, one of our Members sent us a link to some accident footage released for public education by South Yorkshire Police. It was presented by an experienced accident investigator with some very interesting analysis and reflection. We initially posted it to our Tutors for them to think about. Their comments were very interesting – not least because some of the advice in the clips questioned what *Roadcraft* teaches.

It is important to remember that *Roadcraft* is a handbook and offers general principles for approaching and negotiating hazards. It is not a rule book; and while it gives guidance for a wide range of situations and circumstances, it cannot cover everything.

The advice *Roadcraft* offers for approaching a bend is built on the foundational safety question: Can I stop on my own side of the road in the distance I can see to be clear? This is implemented by using limit-point analysis: as the distance of view closes, speed drops; while the distance of view remains constant, the speed remains the same; when the distance of view opens up speed may be increased. Space and pace are linked.

County Councils have limited budgets and different priorities. Unfortunately, this means that they are not consistent in how they maintain road surfaces and signage. For example, within the Thames Valley area West Berkshire and Oxfordshire have assigned different speed limits to the same road.

The B4494 runs from Wantage to Newbury. Driving in that direction, Oxfordshire sets the limit at 50mph (speed kills); halfway along the road, the road becomes the responsibility of West Berkshire which adopts the national speed limit (single carriageway). The change occurs on a straight piece of road with no variation in gradient, camber, view or general condition of the surface.

Don't let yourself be caught out

Imagine that the change occurred in a blind bend and that the road surface deteriorated just as the bend began and that visibility was compromised by the road level dropping away and hiding oncoming traffic. It is more than possible that drivers would be accelerating into the new limit just as the road became more hazardous.

Roadcraft doesn't (and cannot) describe a bend with these specific characteristics. What it offers is general guidance and principles which we must use intelligently. What, then, can we add to the advice given by the *Highway Code* and *Roadcraft*?

How can we summarise it.

Don't put your car where your eyes haven't been first.

Don't take anything for granted.

Don't leave your safety in the hands of other road users.

Plan for what you don't want to happen rather than hoping for the best.

It is better to have a plan you don't need than not to have a plan you do need. When we all get back on the road, we shall need to be additionally vigilant. For some drivers, the exuberance of being behind the wheel again may well mean poor road discipline. Since RoSPA's purpose is to prevent accidents, we shall need to be on full alert.

Paul Sheppy

If you want to watch the video clips mentioned above, they can be found at:

<https://www.youtube.com/watch?v=QpGb5LFzKtE>

https://www.youtube.com/watch?v=7D_Vwovtbwi

I would like to thank Dominic Rawle for alerting me to these, and for stimulating us to serious reflection on our driving practice.

Pollution we do not hear about

When it comes to pollution, a lot of the focus is on exhaust emissions. We are already seeing a very slow but steady switch to electric cars as the bans on petrol and diesel cars draw ever-closer, but what about the pollution from tyres? It is not something much talked about, but according to new research from Emissions Analytics, pollution from tyre wear could be as much as 1,000 times worse than that from exhaust emissions.

The harmful particle matter from tyres is a growing environmental concern, and with more and more larger and heavier SUVs taking to the roads, the problem is only getting worse. Electric cars, heavy due to the weight of the batteries, are also contributing to the issue.

Unlike exhaust emission regulations, tyre wear pollution is not regulated whatsoever. Exhaust emissions are so strictly governed that cars these days tend to emit very little particulate matter, but the same cannot be said for tyres, or even brakes, which pose a similar issue.

The regulated exhaust emission limit is 4.5 milligrams per kilometre, but tyre wear 'emissions' could be as much as 1,000 times that, with rough roads, under-inflated tyres, and budget tyres causing the biggest issues.

'It's time to consider not just what comes out of a car's exhaust pipe but particle pollution from tyre and brake wear,' said Richard Lofthouse, Senior Researcher at Emissions Analytics. 'Our initial tests reveal that particle pollution from tyres can be 1,000 times worse than emissions from a car's exhaust.'

'What is even more frightening is that, while exhaust emissions have been tightly regulated for many years, tyre wear is totally unregulated, and with the increasing growth in sales of heavier SUVs and battery-powered electric cars, non-exhaust emissions are a very serious problem.'

Max Davidson

Car that runs on solar power

Range anxiety is the term used to describe why drivers are not rushing out to buy or sign up to lease on an electric car. You could also mention the price and the worries about finding a charging point. But here is a prototype, called Lightyear One, which could soon resolve some of the problems. At present it gets between 20 and 45 miles out of a charge from solar energy, but, thanks to its ingenious lightweight sleek construction, its battery gives it a driving range of more than 400 miles.

It is now more than 10 years since Toyota first developed a photovoltaic system for the roof of a Prius hybrid-electric vehicle (HEV). Those solar cells, available on Japan-based models around 2010, had a peak capacity of 50 watts – generating only enough power to run auxiliary devices such as a ventilation fan.

Further development for the past 10 years by Toyota, as well as Hyundai, Nissan and Tesla, have opened up the possibility of a rooftop solar system charging an electric vehicle's batteries, adding maybe a few miles of range when the vehicle is left in the open for a several hours. As those of you with solar panels will know, you do not need constant blazing sunshine to generate power.



Those initial efforts by others pale into insignificance compared to Lightyear One, the ground-up, 'solar EV' created by Lightyear, a new company based in Helmond in the Netherlands. The firm was founded in late 2016 by five former University of Eindhoven engineering students. They were part of the team that won the 1,800-mile World Solar Challenge race in 2013 and 2015. The company now has 120 employees, including former staff from Ferrari, Jaguar Land Rover, and Tesla.

The systems engineering approach

Lightyear One, the company's inaugural £138,000 model, was designed by Lowie Vermeersch, the former Pininfarina designer who directed the shape of

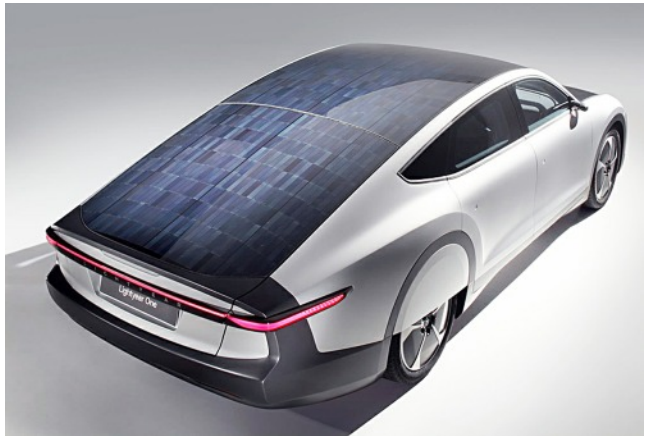
the Ferrari 458 Italia and Maserati Birdcage 75th, among others. FEV, the engineering firm based in Aachen, Germany, helped develop the Lightyear One's 60-kWh battery system. So far the company has received more than £27 million in investments, vehicle reservations and grants.

What distinguishes the Lightyear One from previous solar-car efforts is the company's clean-sheet, systems-engineered approach. 'You need to start with a blank sheet of paper at the platform level,' said Arjo van der Ham, Lightyear's chief technology officer.

For Lightyear, that meant four propulsion motors (one at each wheel), ultra-lightweight materials and cutting-edge aerodynamics with a Cd. (drag factor) of less than 0.2. The design also features enough sky-facing surface area to place about 1,000 individual photovoltaic (PV) cells crafted from production SunPower Maxeon cells.

'The cells are cut to increase surface ratio, facilitate curvature and increase the efficiency of the electronics,' said van der Ham. Each cell measures about 1in by 4in. A few dozen micro-inverters are integrated into the vehicle's carbon-fibre structural beams.

The 'micro-inverters', for the uninitiated to such technology, allow Lightyear to derive solid voltage from the cells arranged in series while maintaining a balanced flow of power, even if some cells get uneven light. Total peak output is 1.25 kW. That is just enough power to add about 20 miles of average range a day. 'On a good day, you'll get 45 miles,' said Lex Hoefsloot, chief executive at Lightyear.



Questions over a solar future

Not everyone involved with solar technology is sold on the idea of trying to power a car with photo electric cells and are sceptical of there being any future for a car such as Lightyear One. They see it more as One and Only.

Eric Wesoff, editor of Berlin-based *PV* magazine, questioned the high cost of expensive solar cells and the challenge of mounting them on a car. 'PV cells don't like heat. Heat reduces output, and a car roof is a hot place,' said Wesoff. He added that dirt and partial shading are 'not solar's friend.'

These criticisms are acknowledged by van der Ham, who is in charge of the technology. But he said Lightyear takes those 'expected losses' of energy into

account. ‘Also, we have electronics that minimise the losses due to the weakest link in the chain effect,’ he said, referring to the micro-inverters.

With regard to creating the sleek shape of the car, the team puts this down to a systems approach to balance competing design goals. The chief executive of Lightyear, Lex Heofsloot, explained, ‘You want a car that is as narrow and flat as possible for aerodynamics. But you also want the broadest area for the PV cells and a seating position that is as comfortable as possible.’

Lightyear One might still be a long way off yet from creating the dream of a self-charging electric car. But that remains the company’s ultimate goal. At present, the solar cells that cover the roof are just providing limited additional free power. The car also has a battery which enables it to be charged from the mains supply.

Showing how electric cars could be

Lightyear One certainly shows how electric cars could be developed to be more efficient. Its battery at present gives an estimated 440 miles on a single charge (including sun-derived energy). The company would like to have a battery with a greater capacity, but there is at present an unsurmountable trade-off. ‘If you increase the battery size, the car’s overall weight increases. So then you need more powerful motors, but again with bigger motors you have an increase in weight,’ said Heofsloot. You are then, he explained, on an ever-increasing upward spiral of miles gained against at the cost of added weight.



But as a prototype, Lightyear One has provided some very valuable lessons in building an electric car. High efficiency and slippery aerodynamics allowed Lightyear to use relatively small, 20-kW, in-wheel motors. Hoefsloot believes the team solved issues related to unsprung weight and durability by integrating the motors with the suspension.

‘People say they want a car to charge itself,’ said Hoefsloot. ‘Therefore, I think it’s the end game of where we’re heading with electric cars.’ He believes that other car makers will soon wish to copy the shape and ideas incorporated in Lightyear One.

The company aims initially to produce 946 vehicles, starting in 2021. *Why just 946 electric cars?* An astronomical light year measures 9.46 trillion kilometres. That figure of 946 is just the beginning. By 2023, the company intends to increase its annual production of electric cars to 100,000.

Max Davidson

How 5G will make your drive safer

Connectivity is integral to the self-driving future of cars. But for motorcyclists and other vulnerable road users, the so-called Internet of Things, which vehicle engineers refer to as V2X, may prove more valuable. This connectivity, often described as vehicle-to-everything (V2X) communication, will play a crucial role in deciding when automated cars will be widespread. With much of the necessary technology already available, it is only government regulations and suitable infrastructure that are holding back what is effectively a safety network, which could be a boon to vulnerable road users such as motorcyclists, cyclists and pedestrians.

It is connectivity, not its ability to drive itself, that will alert your car that the traffic ahead has stopped, or that a motorcycle, hidden behind buildings, is approaching a junction. Self-driving cars are still a long way off, but most of the necessary communication technology is already available. It may still take years to become a widespread reality, but the safety solutions already exist.



Car and motorcycle companies have been collaborating for some time to create what is effectively an automated traffic-alert system. The VW Group, Ford and Ducati recently showed off their joint efforts in V2X technology, as you can see from the accompanying pictures, with an Audi demonstrating an intersection scenario involving a Ducati Multistrada. The Audi driver is being made aware of the unseen cyclist, and in

the rear view mirror, the Audi driver, about to turn right, is warned of an approaching motorcycle about to overtake.

All this technology is dependent on the much-heralded 5G, which is vital to the 'connectivity of everything' as well as, eventually, our smartphones. BMW, Ford and the PSA (Peugeot-Citroen) Group first demonstrated V2X communication between cars, motorcycles and roadside infrastructure in 2018. Like BMW, a manufacturer of both cars and motorcycles, Honda is also co-operating with a number of rival motorcycle groups in Europe and the United States.

Sue Bai, chief engineer in the Research Division of Honda, says, 'Motorcycle manufacturers are more cost-conscious compared to those making cars. For

example, ABS is only now being incorporated in the lower priced motorcycles, and a motorcycle has less space to put in communication antenna and hardware.

‘Another problem is that the rider’s body blocks some of the signals and prevents 360-degree transmission. Our solution is to have two aerials, one in front and one at the back. It does cost more, but that may be needed for safety.’ Motorcycles also need everything be waterproofed, and Honda is currently road testing two motorcycles to check the sealing and robustness of the equipment.



Before any of the safety kit can be fitted to either cars or motorcycles, there will need to be international agreement on the way the Internet of Things (V2X) is transmitted. There is the bandwidth to be considered. Then it is a choice between either purely a wi-fi or a cellular-based system. ‘Politically and technically, the most urgent issue right now is the 5.9 GHz spectrum protection,’ says

Sue Bai. ‘Industry needs to unite and work together to protect the spectrum, and stop arguing about which technology is better. If we don’t have the ability to transmit the signals, there is really no V2X future.’

Once the infrastructure and signal transmission issues are settled, there remains the installation and deployment. V2X for motorcycles is likely to progress in stages, from simple beacons to alerts, to more active countermeasures as the technology becomes available. Getting more power into the V2X network, particularly around junctions, will be key to its effectiveness. The aim is to make the most dangerous portion of roads safer by integrating all junction users into the V2X system.

There will be safety sensors around a junction that can view all road users, including pedestrians, cyclists, motorcyclists, cars and trucks. Then basic safety messages can be sent to all of them, whether they have V2X or not. For vulnerable users, such as motorcyclists, V2X could have profound safety benefits. Once the technology is perfected, we can say goodbye to the ‘*Sorry I didn’t see the motorcyclist*’ type of crash.

But a potential downside to all of this is the driving public becoming over-reliant on the technology. This is already a concern with current car safety systems with drivers becoming over-reliant on warnings from their cars rather than performing good observation and anticipation of problems with other traffic on the roads.

Max Davidson

Are touchscreens dangerous?

There have been numerous serious accidents caused by drivers having their attention distracted from the road by mobile phones, CDs and radios and other devices in the car. So, in an attempt to make easier the control all this gadgetry, an increasing number of car makers are installing touchscreens with icons rather than buttons or switches to activate whatever function a driver wants from adjusting the music player to the heating.

But just like the dangers of glancing at a smartphone while driving, taking your eyes off the road to identify the correct icon to touch can be equally unsafe claim some researchers at *What Car?* magazine, who have concluded that we might be better to stick to the now 'old-fashioned' switches at least for the most basic of functions.



After a test of 20 different in-car systems, *What Car?* found touchscreens to be much more distracting and dangerous than traditional controls. It took the researchers up to four times longer to zoom in and out of a satnav app on a touch screen compared to using a rotary controller, according to the report in the magazine. And it took twice as long to adjust heating controls using touchscreens compared to physical dials.

When a researcher says it took four times longer to do something, it could mean that at 70 mph on the motorway the car would travel 206ft without the driver actually looking straight ahead where he or she was going. I have a simple rule. Before any solo drive, I set as much as I can to automatic and make whatever adjustments are necessary, such as the range of the satnav. It may be 500 yards in town, but I prefer a mile when I am on the motorway. I am also fortunate in having voice control.

Just how dangerous is not giving your full attention to driving? On a visit to the road research laboratory at Crowthorne, in Berkshire, I was taken out in a car in the testing area for a simulated motorway drive. I did not have to adjust any minor controls, but I was asked to make a series of difficult mental arithmetical calculations while travelling at motorway speed. The technician beside me was able with a remote control to switch on a series of red lights ahead of me to simulate an articulated lorry that had jack-knifed on the

motorway. I managed to stop in time, but it was a very close thing, and it brought home to me how accidents happen when we are not totally alert to the unexpected. No amount of gadgetry can ever substitute for an alert driver.



The findings are worrying because distractions are a factor in a growing number of road accidents. They accounted for 15 per cent of accidents in 2018, compared to 13 per cent in 2016 and 14 per cent on 2017, according to Department of Transport figures.

What Car? found that BMW's iDrive system was the easiest in-car system to use, while the Chinese company MG's 8in touchscreen was the most distracting. Overall, the testers reported that cars with sophisticated voice control systems were the least distracting. Those in Audi, BMW and Mercedes cars are capable of recognising natural speech, which means that drivers do not have to take their eyes off the road. BMW does, however, ask that your voice should be moderate in tone and that you use its suggested voice commands. The computer will read them out to you for the various functions... if you ask it nicely.

The best in-car control systems have a mixture of buttons and voice control, while those that are most distracting have a slow response from touchscreens and need too many steps to fulfil the driver's request. *What Car?* testers carried out six tasks, including changing the temperature, zooming out on a sat-nav route and changing a radio station. They found examples of touchscreens which were 'painfully slow to respond' and which crashed frequently (fortunately the system not the car!), forcing drivers to keep looking down at the screen.

The lesson we can all learn from this is: when in control of a car, sort out the controls before you set off, then concentrate on the driving, and do not fiddle with anything unnecessary to the task in hand.

Max Davidson

New Triumph Bonneville for sale

It is amazing what you can buy on eBay. There are cars for sale as well as motorcycles, and some of them are genuine bargains. This attractive looking 1977 Triumph Bonneville, complete with original sales documentation, has not been restored. In fact, it is brand new and is a Silver Jubilee edition 750 with only two miles on the odometer, which the seller describes as ‘push miles’, whatever that might mean.



It has spent its life at a dealership in the North East of the United States and is now located in a private collection in South Carolina. I found it for sale on eBay with a current bid of over \$10,000. What a pity it was not being sold here in Britain. Apart from one tiny dent on the petrol tank, it looks as if

it is brand new, despite being 43 years old.

It is a classic from the days of my youth when avid motorcyclists wanted to own a Triumph or a Norton. The Silver Jubilee edition of the Bonneville 750 was created to celebrate the 25th anniversary in 1978 of Queen Elizabeth II's coronation. The bikes were officially called the T140LE Bonneville Silver Jubilee Edition but were essentially just T140s that had cosmetic ‘improvements’. As you can see from the plaque on the petrol tank, this one says ‘One of a Thousand’, which means it was part of the initial 1,000-unit run.



This special edition of the bike was so popular that Triumph ended up making an additional 1,400, which were mostly destined for the U.S. market and were marked as ‘Limited Edition’. The engine for the Jubilee edition was the same as the standard 750 Bonneville, but it featured chromed primary, timing, and gearbox covers. It is an air-cooled, over-head-valve vertical twin of

744cc capacity with a five-speed constant-mesh clutch with a left-foot gear selector.

According to www.Classic-British-Motorcycles.com, the only real mechanical improvements to the bike were the addition of Girling's new 'Upside-Down Shocks' with exposed springs. As part of the cosmetic enhancements, the Silver Jubilee was given a special blue over silver paint finish with red stripes and yellow pinstriping. The seat was upholstered in dark blue vinyl with red piping and the Union flag colour combination was meant to emphasise that it was unmistakably British.



There are people who buy old motorcycles as collectors' items with no real intention of ever taking them out for more than occasional spin. This one would seem like a good one to get hold of, but I am no expert on what it is really worth. It caught my eye as being 43 years old and virtually brand new with just two miles on the clock.

John Booth

RoSPA's guide to safe bike cornering

Accident studies by RoSPA have shown that the most common types of motorcycle crashes are: 1. Failure to negotiate bends, especially on country roads. 2. Other vehicles pulling out into the path of motorcyclists. 3. Collisions at junctions. 4. Collisions while overtaking. 5. Loss of control, due to poor surface or high (inappropriate) speed.

With this in mind, RoSPA has produced a set four very short videos showing police motorcyclist Andy Griffiths riding the so-called Cat and Fiddle route between Buxton, Derbyshire, and Macclesfield, Cheshire. He demonstrates his skills as he explores limit points and shares his experience in showing riders how to tackle left-hand bends, right hand-bends and a series of corners on this tortuous route.

You may think none of this may be of any value to you as an advanced motorcyclist, but do take a look at the videos on bit.ly/21n7A4k Car drivers may benefit too.

Max Davidson

Life in the old engine yet..

Volkswagen technical chief Matthias Rabe believes combustion engines still have a long future in the car industry despite increasing restrictions on CO2 emissions because of the development of environmentally friendly fuels.



The Volkswagen Group has set itself a target of net zero carbon emissions and has made a huge investment in electric vehicle technology, spearheaded by Volkswagen's ID range of electric cars, but the future will not be all electric because of the likely widespread future adoption of synthetic fuels made from biomass or other materials.

Current unleaded petrol features a limited amount of ethanol produced from crops, but research has been continuing on e-fuels, which are synthetically produced from natural materials and therefore emit no CO2 or other harmful emissions. E-fuels have long attracted the interest of the car industry with Volkswagen and sister firm Bentley among those looking into the technology, but it is still some way from being production-ready.

While achieving the CO2 emissions targets imposed on car firms by authorities, such as the European Union, has led to firms including Volkswagen focusing on EVs to reduce the average emissions of *all* their products, Rabe believes that the limitations of electric technology in some transport areas due to the weight and size of current batteries will help spur e-fuel development.

The present push by car makers to sell electric cars is to some extent dictated by governments demands that the *average* CO2 output of *all* their vehicles should be reduced. It is also why makers are trying to get people to buy plug-in hybrids which, due to the way they are tested and assessed, also appear to reduce CO2 levels, while in reality many of the owners rarely plug them into the mains. The problem for the car makers is that the cars people actually want to buy, SUVs, are heavier and emit more CO2 compared to conventional saloons and small hatchbacks.

‘We will come to accept e-fuels,’ predicts Rabe. ‘If you look at the aviation industry, e-fuels are in high demand because planes cannot go electric. Otherwise, you won’t cross the Atlantic.’

We take our CO2 targets very seriously and want to be a role model on CO2, but that doesn’t mean we will exclude the combustion engine.’

Volkswagen is committed to ‘a broad field’ of powertrain options for at least the next decade, Rabe added. The firm is also pushing ahead with Compressed Natural Gas (CNG) powertrains in some markets.

Max Davidson

What's On - 2020

MONTH

Committee/Tutors

All Full & Associate Members

*Due to Government restrictions on gatherings no events are currently planned.
When the situation changes we will notify members by email and the website.*

PLEASE CHECK THE WEBSITE REGULARLY TO AVOID DISAPPOINTMENT

NOTES :

1. No training is currently permitted due to Covid-19 restrictions. However new Associates may join at any time by contacting the Membership Secretary.
We do not anticipate car training to resume till much later but restrictions on motorcycle gatherings have been eased - see NOTE 3
Contact [Neil Goodhand](#) for details regarding car training.
2. Please note that Guests (potential members?) Are usually welcome at our events, once they re-start. Any exclusions or charges will be made clear before booking.
3. Motorcycle Section training and social rides.
We hope to resume motorcycle training shortly. Tutors will be advised. Social rides normally take place on the first Sunday of each month - details can be found on our website under Events - but being weather dependant are often not confirmed until a week beforehand.
Contact [Tim Cuell](#) for more information.

**In case of changes
please refer to the website for latest information.**

Your contributions to the Newsletter either 'Letters to The Editor' or articles of interest to members are always welcome.
Please send them to The Editor, Max Davidson ...editor@roadartvg.org.uk

REMINDER

The full colour edition of the Newsletter will still be available four times a year online at www.roadartvg.org.uk

Those of you who do not have access to the Internet will still receive a printed copy, but the pictures, regrettably, will all be black and white as the cost of colour printing has proved prohibitive.

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Where 'xxxxxxx' = committee post.



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