WINTER 2017

DIRECTION

Shaping the drivers of tomorrow

THE FUTURE IS BEHIND US

INSIDE: 11-PAGE SEMINAR SPECIAL

Road Safety SCOTLAND

SCOTLAND'S AUTHORITY ON ROAD SAFETY

WELCOME

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Submissions: The next edition of *Direction* is scheduled for publication in June 2018.

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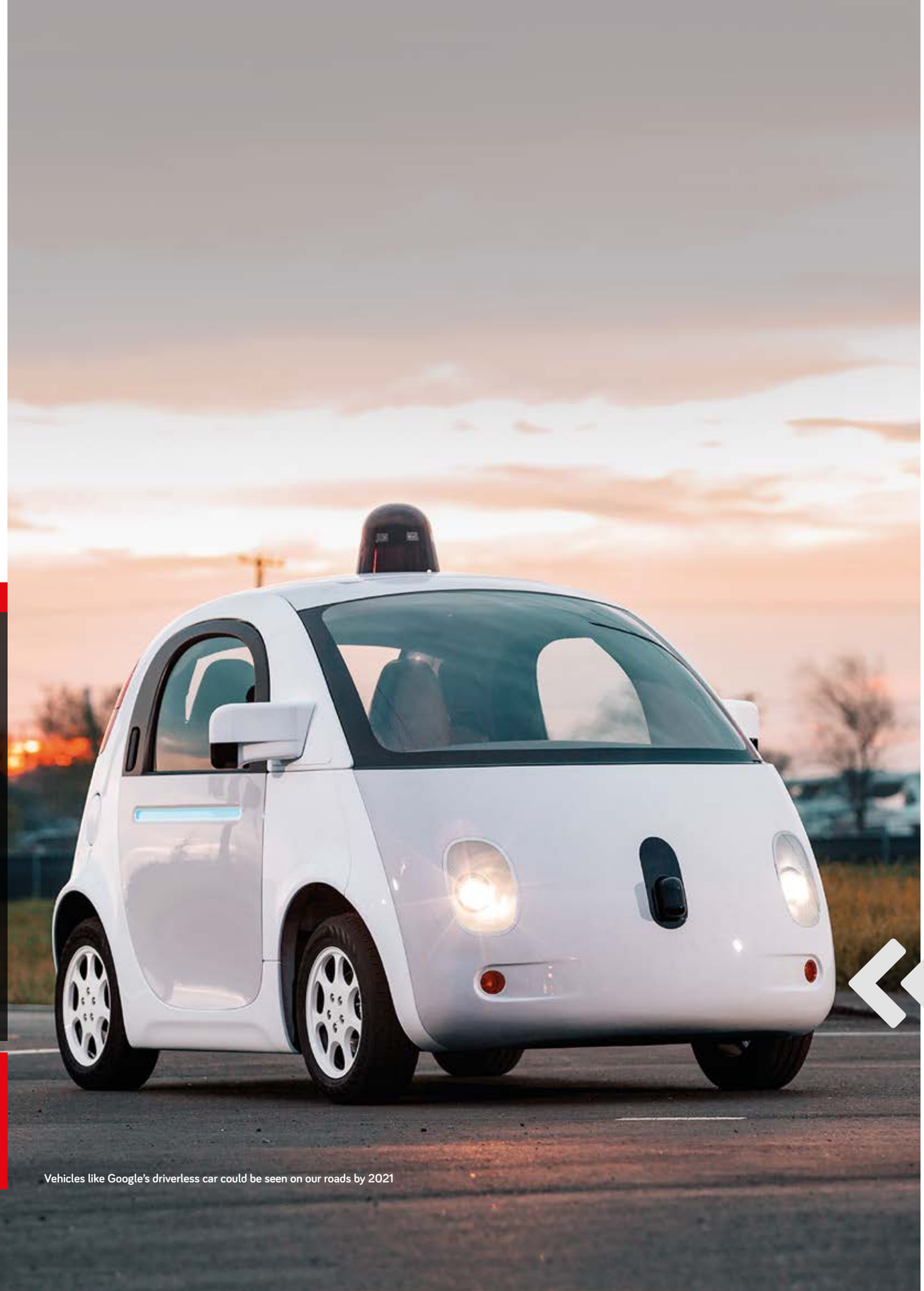
CONNECT
ENGAGEMENT IS EVERYTHING

Road Safety Scotland, 9th Floor, Transport Scotland, Buchanan House, 58 Port Dundas Road, Glasgow G4 0HF. **roadsafetyscotland.org.uk**



Vehicles like Google's driverless car could be seen on our roads by 2021

RSS MOVES WEST TO NEW BUCHANAN HOUSE HOME

Once again, Road Safety Scotland has had to relocate to a new base after the lease on our home of five years, Pentland House, came to an end.

In keeping with a review of the Scottish Government Estate, the lease was not renewed and we had to find somewhere else to live.

So on 13 October, conveniently – or not, as we were in the final throes of preparing for the Annual Seminar – we had to pack up and go, and RSS is now officially based in Buchanan House, Transport Scotland's HQ in Glasgow.

The move to the west presented a challenge as we now have only our workspace and a small storeroom. So we had to be pretty ruthless in clearing out – even the Christmas tree had to go!

The Scottish Government's roll-out of Smarter Workplaces also means we won't all be there all the time. Instead, some employees will be based in Victoria Quay, Edinburgh – although we will endeavour to get together every Tuesday for team meetings.

At the moment, our telephone numbers have remained the same, with our main contact numbers being:

- **0131 244 6133**
- **0131 244 2063**

However, the move does mean that our business address has changed to: **9th Floor, Transport Scotland, Buchanan House, 58 Port Dundas Road, Glasgow G4 0HF.**

The current refurbishment of Buchanan House means we're not yet in our final resting place and it may be another 12-18 months before we finally settle down. But at least we're nomad no more – for the time being…

THE DRIVERLESS FUTURE IS NEARER

Autonomous vehicles being tested on British roads could be a common sight by 2021 as part of reforms announced by Philip Hammond during his November Budget statement.

The Chancellor revealed current rules would be relaxed as part of a £540m UK investment in electric driverless cars. Some £400m is being invested in more charging ports, with £100m committed to extend the grant for buying plug-in cars until 2020. A further £40m will also be spent on electric car charging research and development.

With tax breaks for drivers charging their cars at work, plus further funds being set aside for new job training, the UK's roads could soon look very different.

TRIUMPH OVER INJURY

Angela McShane's life changed forever when she was left for dead by a speeding van driver. But she has rebuilt her life, and today shares her experiences to help others fight back from adversity

In September 2001, Angela McShane was returning from work in the early evening. She stepped off the bus, and waited until it had gone so that she could see in both directions. The way was clear and she stepped off the kerb... a split second later she was lying on the road with multiple serious injuries. She'd been hit by a Transit van travelling at 70mph in a 30mph zone.

That one tragic moment transformed her life. At 23 years old, her chosen career as a nursery nurse had been denied her and she faced years of treatment and rehabilitation for the injuries she suffered. Yet, these days Angela says she's lucky. She uses the trauma and trials she's undergone to give advice and guidance to other accident victims and their families and spread the message about road safety. Indeed, she relishes the fact she's able to help others.

"It turned out the van was driven by a young man who'd taken drink and drugs," Angela explained. "My face was smashed, my eyes gouged, my pelvis shattered, my hips, arms and legs broken and part of one leg was missing. I had more than 16 life-threatening and life-changing injuries. However, he just drove off and left me. There was a hospital nearby and, luckily, a nurse making her way home spotted me and gave help. I spent the following year in a hospital bed."

At the time, Angela had her own flat and was self-sufficient and independent. Life was blossoming, but everything she had was taken away. She said: "One of the toughest things was getting my head around everything that had happened – it wouldn't register that I had simply been making my way home and then found myself lying in hospital staring at the ceiling. It's a cliché, but I never thought this kind of thing would happen to me."

Recovery has been slow, as Angela revealed: "Initially, when you're lying in hospital your muscles become weaker because you're not using them, so it takes even longer to manage any kind of movement. It was at least eight months before I was able to shower without any help and it took years to relearn all the basics that we take for granted."

Angela helps with Police Scotland campaigns

Angela has had numerous hospital visits and operations and years of intense daily physiotherapy at the sports injury clinic at Hampden Park. Today, this rehab involves regular travel. Yet she insists: "The support and treatment I've had from people at Hampden and in various hospitals has been life-changing."

She also still has great difficulty with mobility, revealing: "On a good day I can walk a short distance – from the car to a shop doorway perhaps. Beyond that, I have to use crutches. Some days are better than others."

After Angela's ordeal, returning to her flat was never an option. It took time for her to live fully independently and, in a happy development, married her partner, Christopher, in June this year. "I feel very lucky to have found someone who is so supportive of my experience," she said.

> "I still read about people drinking and driving. It's distressing, because we only need to make small adjustments to our lives."

Now through her business, The Reinvention, she spreads understanding of what accident victims and their families go through. The aim is to "support and inspire individuals and families to triumph over injury". As well as talking about the psychological effects, she's able to give practical advice on how to cope with injury.

She's particularly keen to support road safety and drink-drive campaigns, as she explained: "I see them as action that's taken to keep people safe, not as efforts to lecture people on what they're doing wrong.

"Especially during the festive season, when people are out and about having fun and visiting friends and relatives, it's all about preventing accidents. I know from personal experience there are huge consequences when safety is not at the forefront of everyone's mind.

"Sadly, I still read about people drinking and driving. It's distressing, because we only need to make small adjustments to our lives – don't go in your car when you've been drinking, get a taxi home. If there is an incident, stop and check that everyone is OK. We all make mistakes but when a road traffic collision happens it's very important to do the right thing.

"I embrace the opportunity to work on campaigns such as the Zero Tolerance Christmas campaign and the Young Driver's Scheme. Above all, I don't want another individual or family to go through what I've experienced because it can be prevented. Stay safe this Christmas."

Angela featured on Radio Clyde recently

PATH TO THE REINVENTION

When Angela began The Reinvention it was simply a blog intended to share her experiences in the hope that someone in a similar position might see it and realise that they are not alone.

However, it has now gathered pace and turned into a community interest company. She explained: "Three years ago I was invited to go along to talk to a patient at a hospital that I'd attended. Things have snowballed and today I'm asked to speak to individuals and families who have been affected by similar incidents, or to groups and organisations with an interest in helping people who have been involved in incidents."

Angela has given conference presentations and talks to colleges, universities, high schools, primary schools and businesses about road safety, overcoming major events and moving forward with life.

She explained: "We're currently expanding the blog to create a fully-fledged website. There is such a need now and having a presence on the internet allows me to communicate more widely and, hopefully, help more people triumph over injury."

THE REINVENTION
TRIUMPH OVER INJURY

To find out more, visit: thereinvention1.blogspot.co.uk/

OVERVIEW OF VITAL ISSUES STARTS A PRODUCTIVE DAY

Keynote speaker Claire Smith from Transport Scotland opened this year's seminar by giving an overview of current thinking on road safety strategy

Claire Smith, Head of Transport Accessibility and Road Safety Branch within Transport Scotland, opened the 2017 Road Safety Annual Seminar in Glasgow on 25 October.

Claire has 32 years' experience working in various posts within government and gave an overview of the issues that Transport Scotland is considering in order to push road safety further up the political agenda.

She said: "We have experienced a very busy period focused on road safety and great work has been achieved, both in terms of strategy and operations

"The focus has obviously been on the key priorities of the 2020 framework and good progress has been made. We are where we are now in road safety thanks to the efforts of organisations in this room… but we are not there yet.

"The 2016 casualty figures are not what we wanted but we are still are on par with other leading road safety countries such as Norway and Sweden."

Claire said it was important to broaden the reach and benefits of road safety – and to emphasise the economic sustainability and growth aspects to frame road safety as a key economic lever.

She said: "We need a broader approach to road safety and to bring in Ministers with other portfolios, such as health, justice, economy and tourism, to promote the opportunities that having safer roads brings to these areas."

Ministers will always need to consider the balance of road safety and road usage, but there are other government programmes coming in the next few years that will impact on road safety.

The 'active nation' aspiration, which will get more people out and about walking and cycling, could potentially double the amount of journeys on the road. And Scotland's aim to 'decarbonise' its streets by 2032 and the promotion of electric cars also has ramifications – with Claire saying it all means our roads are going to continue to be very busy.

She said Scotland's approach to road safety was seen as innovative and ambitious by our European neighbours, as she witnessed on a recent trip to Brussels to attend the European Transport Safety Council. She said: "People there look at Scotland as a leading light in road safety strategy and are impressed with our innovation and clear, holistic and ambitious approach – after our presentation we actually got applause.

"But to attain and build on these ambitions we need to put the issues forward to Scottish Ministers so they can appreciate the benefits of recognising the wider role of road safety in the economy.

"That's why these events today are important – it gives people with an interest in road safety the opportunity to voice opinions and raise issues that we find are important."

> "People in Europe look at Scotland as a leading light in road safety strategy and are impressed with our innovation and clear, holistic and ambitious approach."

Delegates listen attentively at the seminar

JEANINE: FIGURES ARE CAUSE FOR CONCERN BUT LONG-TERM PICTURE IS STILL POSITIVE

Jeanine Bezuijen from Transport Scotland gave an update on how recent road accident statistics are measuring up against the 2020 framework

Although road accident statistics for 2016 were disappointing – a 14% increase in fatalities and a 6% rise in severe injuries – Jeanine Bezuijen, from Transport Scotland Analytical Services, said the long-term trend is still downward, in line with the 2020 targets.

She explained: "Historical trends show large decreases in car and pedestrian fatalities over the past 10 years and the total casualties in 2016 of 10,901 was the lowest number ever recorded.

"This is against a background of a 23% increase in road traffic since 1996, but a 50% fall in total accidents."

Although Scotland's 2016 road death rate was 29% higher than the rate in England and Wales during the same year, Scotland's provisional overall road death rate of 35 per million population was the sixth lowest of the 38 countries surveyed by Transport Scotland.

Jeanine said: "Based on the 2015 statistics, we would be on track to meet the 2020 target for a reduction in the people killed, based on the 2004-2008 average baseline, but the fatalities and serious injuries in 2016 have fallen short of our aspirations. However, these types of short-term fluctuations are to be expected.

"The priority focus for road safety remains on reducing speeding and the safety of motorcyclists, followed by interventions for pre-drivers, drivers in the 17-25 age bracket and older drivers, as well as cyclists and pedestrians. And we must continue to do this in partnership together.

"In conclusion, the recent road accident statistics are a cause for concern but need to be viewed against the longer-term trend, which is good. However, there must be no complacency – we need to up our pace to meet our target."

	Total	Compared with 2015
Killed	191	Up 14%
Seriously injured	1,697	Up 6%
Slightly injured	9,013	Down 2%
Total casualties	**10,901**	**Down 1%**

2016 accident statistics: Key figures

FESTIVE SEASON GOES WITH A FIZZ

Public Affairs Manager Charlotte Surtees-Chapman explained all about Coca-Cola's 2017 'Designated Driver' scheme

"Christmas is here," said Public Affairs Manager Charlotte Surtees-Chapman as she announced the launch of the tenth Coca-Cola 'Designated Driver' scheme across the UK.

The scheme rewards people who volunteer to do the driving over the festive period with a free second soft drink, which includes Coca-Cola, Appletiser and Schweppes.

The campaign was originally launched in 2006 in partnership with the Department for Transport's THINK! Drink Drive campaign. This year, it will run from 27 November to the end of the Christmas week in December, supported by trade press and radio advertising.

Charlotte said that 8,000 pubs and bars are currently estimated to be getting involved this year.

The Coca-Cola website will also host a map on its 'Coke Zone' with a search function, enabling consumers to look for the closest pub or bar by entering their postcode or city.

She said: "The aim is to educate consumers on the positive choices they can make in pubs and bars over the Christmas period by rewarding them with a 'buy-one-get-one-free' offer of our beverages. All they have to do is show their keys at the bar.

"It's a really nice campaign to put the role of the designated driver in centre place and to encourage responsible behaviour this Christmas."

To find your nearest pub or club supporting the Designated Driver campaign, visit www.coca-cola.co.uk/designateddriver

PRE-INTERVENTION SCHEMES PUT UNDER THE MICROSCOPE

Dr Neale Kinnear, from the Transport Research Laboratory, told delegates more about his work looking at pre-driver intervention programmes across Scotland

With young drivers over-represented in road crashes, pre-driver interventions seem like a sensible solution, but do we really know how effective they are?

This is the question posed by Transport Scotland to Dr Neale Kinnear, a chartered psychologist in the study of human behaviour and transport at the UK's Transport Research Laboratory (TRL).

Neale said: "The Road Safety Framework's pre-driver outcome is 'to improve knowledge, positive attitudes and safer behaviours of individuals in relation to road safety before they start driving', but the question is: How are pre-driver interventions in Scotland contributing to this?"

He added: "We wanted to understand the prevalence of these programmes across Scotland, the approaches taken for improving safety, and to assess their effectiveness in improving road safety.

"After this, we would be in a situation where we could provide recommendations to ensure the development of value-driven, outcome-based pre-driver interventions, and also suggest how to encourage evaluation of interventions."

Neale's research, which is due to be published shortly, has shown the evaluation of various pre-driver programmes throughout Scotland is poor, and that the aims and objectives of these schemes are not sufficiently defined.

Around two-thirds of local authorities in Scotland run some sort of pre-driver intervention scheme, with up to 20,000 young people going on some sort of intervention programme each year – although Neale believes this is an underestimate. They include a wide range of formats from theatre, demonstration and exhibition events to classroom and off-road experiences, but the large majority are given in a formal education setting, such as a school or college. However, the research found the approach across Scotland is piecemeal and inconsistent.

Neale added: "As there is no clear evidence of a relationship between pre-driver interventions and post-licence safety outcomes, it was necessary to consider whether the components of a programme are likely to enhance the potential for effectiveness."

"It is time to step back and take the time to set realistic expectations of what these pre-driver interventions can achieve, and improve the evaluation of them."

He focused on five main factors of a pre-driver programme:

- **Design**, including psychological and educational principles
- **Implementation and time** given for message to be absorbed
- '**Mechanisms of effect**' and whether they're appropriate to meet the aims and objects of the programme regarding knowledge, attitudes and skills
- **Risk factors** – does it target any known factors?
- Whether the programme has been **evaluated**.

Although a variety of pre-driver interventions are delivered to young people in Scotland, it is not known if these individuals are at "an advantage or disadvantage compared with those who do not receive any intervention".

Neale questions some of the programme designs as many are focused on getting young people to think about the consequences of crashes. He said this might not be the best approach.

He said: "For example, research from Australia showed drivers were not that concerned about being involved in a crash, as it is perceived to be outside their control. What they feel they can control is not getting points for speeding."

Neale concluded: "The overall situation is one of a well-intentioned but fragmented approach that cannot guarantee a reliable route to safety or consistent messaging.

"It is time to step back and take the time to set realistic expectations of what these pre-driver interventions can achieve, and improve the evaluation of them."

20,000

YOUNG PEOPLE GO ON SOME SORT OF INTERVENTION PROGRAMME EACH YEAR

Children can be influenced by the driving behaviours they see from the back seat

SETTING A BETTER EXAMPLE FOR OUR FUTURE MOTORISTS

Mark Elliott and Claire Wood updated the conference on a pilot study that they are conducting in primary schools to test an intervention to reduce parent's risky driving behaviours and positively influence their children

Claire, an Associate Planner from the Leith Agency, explained: "The research behind Road Safety Scotland's 2013 'Kids In the Car' advertising campaign showed children are more aware of their parents' driving behaviour than parents realise. In turn, this can influence the child's attitude and behaviours when they start to drive.

"Having seen Mark's presentation at the Road Safety Scotland Seminar in 2015 about IF-THEN plans and how effective they are at reducing drivers' speeding behaviour, we wondered whether we could use this technique to modify parents' driving so they set a better example for their children when driving."

Mark, an Applied Social Psychologist from the University of Strathclyde, explained: "When drivers form IF-THEN plans, it helps them to behave in line with 'desirable' attitudes and intentions.

"In the IF component of the plan, people specify a critical situation in which they will perform an intended behaviour, e.g. a driver who intends to refrain from speeding might specify: 'If I am being tailgated…'

"In the THEN component, people specify a strategy to perform when the specified critical situation is encountered, e.g. '…then I will make an extra effort to monitor my speed'.

"The idea is to 'imprint' the THEN safe driving strategy in the mindset of the driver as an immediate action to deploy when they find themselves driving in the IF situation."

EXAMPLE 1

IF I am tempted to drive faster than the speed limit when being overtaken by other traffic/another vehicle **THEN** I will think about the emotional pain I would suffer if my speeding caused a death or injury to someone.

EXAMPLE 2

IF I am tempted to drive faster than the speed limit when I am late or in a hurry to get somewhere (e.g. work/an appointment/to meet friends) **THEN** I will try to avoid putting myself in that situation again in the future.

Mark further explained that previous research by his team at the university has shown that drivers who have been asked to form IF-THEN plans subsequently report speeding less often and drive slower and speed less often in the University's Driving Simulator.

Mark and Claire's pilot project is currently being conducted in two schools in Edinburgh and four in Lanarkshire. Claire and her team have visited the schools and asked the pupils to draw pictures of both their parents driving and of any examples of risky behaviours they may have witnessed.

In the presentation, Claire described the range of artwork developed by children to illustrate their parents' driving behaviour: from speeding or talking on a mobile phone to putting on make-up while driving and a woman getting decapitated by sticking her head out of the window!

Following this, Mark's research team contacted the children's parents and asked them to complete an online survey about their attitudes and intentions towards several risky driving violations and how often they carry out these behaviours.

The parents have also been given lists of alternative IF and THEN statements in order to form IF-THEN plans to avoid risky driving. The parents will be surveyed a month later to assess if there is a change in their risky driving behaviours.

It's early days but Mark said: "We hope that this pilot study will discover the extent to which the project provides an effective method for both recruiting at-risk parents and delivering interventions.

"If it can be shown to reduce risky driving behaviours, then we could explore the benefits of rolling it out on a larger scale in order to prevent children from picking up risky driving habits from their parents and to encourage a new generation of safer drivers."

TEACHING DRIVERS HORSE SENSE SETS GOOD EXAMPLE

Alan Hiscox, from The British Horse Society, discussed the strategy and main talking points behind the organisation's Dead Slow campaign

The British Horse Society's (BHS) Dead Slow safety campaign for horse riders in the UK, which was launched in early 2016, has proved very successful and contains approaches and messages other vulnerable road users groups could learn from.

That's the view of Alan Hiscox, BHS Director of Safety, who also reported the initiative was awarded Driver Education Campaign of the Year 2016 by the Driving Instructors Association, with its video viewed more than three million times on YouTube and across social media.

Alan explained the issues: "The big problem for horse riders is that inconsiderate drivers can scare these animals by either driving too fast by them or too close to them. This behaviour accounts for 80% of incidents.

"Horses are 'flight' animals with limited peripheral vision so they scare easily if something comes suddenly into their line of sight.

> "The big problem for horse riders is that inconsiderate drivers can scare these animals by either driving too fast by them or too close to them."

"Even the best-trained horse can react to something on its nearside; paper blowing in the wind, a bird, any sudden movement etc.

"We needed to educate drivers to pass horses safely and to influence their driving behaviours when they come across a horse on a road. At the same time, the campaign was also aimed at horse riders to make them more responsible for their own safety too."

The campaign focused on three elements: creating safer drivers; safer riders – because they also have a responsibility to ride safely on a road; and, therefore, safer horses.

Alan pointed out that, given the choice, horse riders would prefer not to use roads, but are forced to travel on them to get from one place to another.

He said the campaign was about treating horse riders with respect and patience, highlighting four main messages for drivers:

- **Slow down** to a maximum of 15mph
- **Be patient** – don't sound your horn or rev your engine
- Pass the horse **wide and slow**, by at least a car's width
- **Drive slowly away**.

The campaign also highlights the potential damage that could happen to a driver's vehicle if a horse panicked in fright.

Alan said: "Three quarters of a tonne of animal with quick reactions and powerful legs can do serious damage to a car by kicking out."

He also pointed out that Rules 162 and 163 of the Highway Code cover all the points made in the Dead Slow campaign, and also praised the recent launch of the Police Scotland's 'Lose the Blinkers' campaign for horse safety, which is aimed at all road users.

DID YOU KNOW?

In Scotland there have been:

- 146 reports of road incidents involving horses in the past six years
- 2 riders killed
- 50 riders injured
- 10 horses killed or put down
- 43 horses injured

RESPONSIBILITY STILL UNCLEAR

KSO Research's Kate Skellington Orr looked at the promotion of RSS's learning resources

Road Safety Scotland has some very useful safety resources that are being used by schools to promote safe behaviours on the road, but the awareness and promotion of these by local authorities and within schools is fragmented and inconsistent.

That is the conclusion from Kate Skellington Orr from KSO Research, who was commissioned by RSS to evaluate four of its road safety resources targeted at schools. These included JRSO and Streetsense2 – used in primary schools – and Crash Magnets and Your Call for secondary school pupils.

Her research focused on three areas:

- awareness and use
- marketing and promotion
- maximising future engagement.

Kate found the awareness and use of the learning resources in primary schools was generally good. JRSO was used by 76% of schools and Streetsense2 was used by 52% of schools that took part in the research. Both resources were perceived to be useful for teaching road safety education.

However, the awareness and use of the learning resources in secondary schools was not so positive. Lack of awareness accounted for the greatest proportion of non-use for both Your Call (94%) and Crash Magnets (68%). However, those that did use the resources rated Your Call and Crash Magnets as 80% and 68% as 'useful/very useful' respectively.

Kate's research indicated there was a lack of clarity of who has responsibility for promoting these resources to schools.

The promotion of learning resources in primary schools was generally led by a dedicated Road Safety Officer or other local authority champion, with support from RSS; but in secondary schools her findings seem to indicate there may be a greater role for Police Scotland, which has become increasingly difficult to facilitate over time. While some local authorities had a clear policy on road safety education, others took a more reactive approach to the issue.

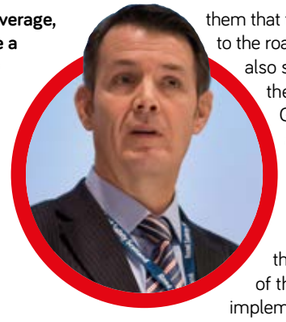
Kate said: "The positive feedback from the research about the content and design of resources was encouraging, but there is a general lack of clarity, particularly in secondary schools, on who has responsibility for the promotion of road safety education. This has created considerable inconsistency in the promotion, awareness and use of the resources around the country.

"The overwhelming sense emerging from this work is that road safety learning is everyone's responsibility but no-one's job – a local champion for road safety learning is needed in all areas to foster a proactive approach to road safety going forward."

Kate has put forward eight recommendations to RSS, focusing on the need for leadership at a national level to make strategic decisions that affect local partnership improvements, and greater involvement of education representatives in road safety education.

WAKING UP TO BETTER DRIVER CONCENTRATION

Alastair Protheroe, from Seeing Machines, explained how the company's innovative facial recognition technology is helping to reduce incidents of fatigue and distraction behind the wheel



Did you know that, on average, drivers will experience a fatigue incident every 360 miles travelled; and also undergo a distraction event for every 44 miles of driving?

These statistics come from the huge amount of data collected by Seeing Machines, an Australian-based company that has developed its Guardian technology to measure and monitor driver fatigue and distraction events for a number of industries where driver concentration is crucial.

Alastair Protheroe represents Seeing Machines in the UK and Europe and explained how the technology works. He told delegates: "The Guardian system uses facial recognition technology and a camera to track the driver's face for symptoms of fatigue, such as yawning and eye closure which can indicate micro-sleep episodes.

"It can also monitor distraction events when a driver is not looking where they should be, such as looking out of the side windows for too long, talking on a mobile phone or eating at the wheel."

If the technology senses a fatigue event from the driver's behaviour then the onboard device will send a vibration through the driver's seat to alert them.

In the case of a distraction event, an on-dash sensor beeps at the driver to inform them that they are not paying attention to the road. The Guardian system also sends a short video clip to the Seeing Machines' 24/7 Guardian Centre, where the agent verifies each event and ensures the alarms have done their job and that the driver is protected.

They will also inform the customer organisation of the event so they can implement intervention plans if necessary and manage issues that may affect the safety of their team.

The Guardian technology is now being used in many global locations, such as Australia, Europe, the USA, Asia and Africa.

Alastair demonstrated a video of it in action as a coach driver was captured on film as he started to fall asleep – only to be 'shocked' awake.

Alastair said that, in this case, the coach operator was immediately alerted to this situation through the 24/7 Guardian Centre and the customer's supervisor contacted the driver to tell him to pull over and have a rest. In some cases of extreme fatigue, the driver had to be relieved by a relief driver.

The system has been operating for more than three years and Seeing Machines has gathered a huge amount of data on driver behaviour – for example, on average, people experience a distraction event for every six operating hours, and experience a fatigue event for every 50 operating hours.

Alastair said: "The system is already used in a number of industries from mining vehicles and aerospace to trains and commercial transport.

"The driver monitoring system is to be launched in next year's semi-autonomous Cadillac CT6 model as part of the Super Cruise feature, which represents the world's first semi-autonomous vehicle.

"Customers typically see a 90% reduction in fatigue events which is sustained through implementation of the Guardian Solution and the 24/7 Guardian Centre programme."

"Research shows that crossing the road is actually a complex interaction with thought processes constantly assessing the exterior environment."

BEWARE THE RISE OF A NEW ROAD USER: THE 'SMOMBIE'

Transport planner Richie Fraser highlighted the dangers people put themselves in while using smartphones on the street – and the strategies that countries are taking to encourage public safety

If you've ever bumped into a smartphone user hurrying along the pavement with their head buried in their latest social media experience, then you'll probably share the frustration – and concern – of Richie Fraser.

Richie, a Transport Planning Professional based in AECOM's Glasgow office, has become increasingly aware of the growing impact of the smartphone oblivion on our streets, referring to this new generation of distracted pavement weavers as 'smombies' and 'pedtextrians'.

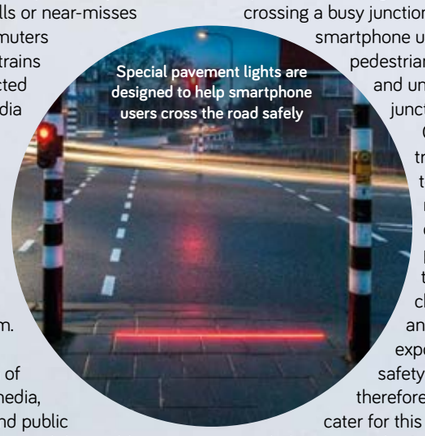
He explained: "So-called smombies can be become so distracted by their smartphones that they can be oblivious to their surroundings. Smombie incidents can range from the relatively benign, such as bumping into others, to potentially more serious trips and falls or near-misses with traffic as commuters rush to make their trains home or are distracted checking social media while crossing busy streets."

Richie's interest in this phenomenon has led him to research the issue and examine how other countries are tackling the problem. His entertaining presentation, which of course used multimedia, showed statistics and public safety videos from around the world from the entertaining to the shocking.

In Belgium they have installed pavement lights at pedestrian crossings so people can see when the lights change green while their heads are down looking at their smartphones. In Switzerland a hard-hitting TV advert shows how – through a tiny bit of inattention – a young man gained a 'disappearing' superpower... by walking into the path of an oncoming car while listening to loud music and looking at his phone.

While his research focused principally on the road safety implications associated with distracted walking, Richie identified the rising prominence of this trend is arguably introducing a new transport user group which historically has not been considered in traditional transport planning – the distracted pedestrian.

In Tokyo's Shibuya junction, for example, a simulation of the stereotypical behaviours of pedestrians using smartphones while crossing a busy junction suggests that smartphone use would impact pedestrian crossing times and undermine the junction's performance.



Special pavement lights are designed to help smartphone users cross the road safely

Opportunities for transport planning to respond to these new users – who display a slower pace, a higher tendency to change direction and a greater exposure to road safety risk – will therefore be developed to cater for this new demand and behaviours in the future.

Richie said statistics for smartphone-related accidents are hard to come across for a number of reasons. He added that actual numbers are considered under-estimated as people don't admit to being distracted on their phones when in an accident due to the embarrassment factor.

But with the astronomical growth of smartphone ownership in recent years, smombie activity is also on the rise. In 2012, it was estimated around 50% of people in the UK had a smartphone – by 2016 this had risen to 81%. Research also shows increasing numbers of school children own a smartphone, presenting possible dangers on the journey to and from school.

Richie said: "Research shows that crossing the road is actually a complex interaction with thought processes constantly assessing the exterior environment, so being distracted by your smartphone can affect your ability to detect danger.

"Different countries have tried different strategies covering education, engineering and enforcement to reduce or raise awareness of the danger, but there is a risk of mixed messages.

"For example, some commentators have highlighted concerns that engineering measures, such as ground-level traffic lights, could actually reward poor pedestrian behaviour and encourage technological cocooning."

Richie believes there is the potential to introduce a campaign to raise awareness of the dangers of distracted walking locally and increase responsible pedestrian behaviour. This could use a combination of the measures highlighted in his presentation, including direct engagement in schools as well as with other groups, such as train passengers.


Sandy Allan (left) and Robbie Yates with their awards

SANDY AND ROBBIE REWARDED

At the conference, Robbie Yates from Scottish Borders and Sandy Allan from RoSPA were called to the podium to be presented with their SQA Customised Award: Road Safety – Delivering the Framework (Scotland) by Claire Smith, from Transport Scotland.

The Level 7 SQA Qualification, delivered by RoSPA, is recognised as one of the leading pre-Higher Education qualifications for road safety professionals, consisting of six units which are tailored to meet the challenges of delivery in road safety.

Robbie said: "The SQA is all evidence-based, so I'd definitely recommend this qualification to everyone in the room."

Sandy added: "I've organised a lot of driver interventions over the years based on what I thought worked, but this SQA helped me learn about the science behind road safety delivery – it shows you can teach an old dog new tricks."

DIGITAL EVOLUTION BRINGS RESOURCES IN LINE ONLINE

Julian French, from The Gate Interactive, explained the strategy to house eight learning resources on the Road Safety Scotland website

Road Safety Scotland is undergoing a 'digital transformation' – and Julian French, Head of Strategic Planning at The Gate Interactive, is leading the programme to update and consolidate the organisation's eight online learning resources under the new RSS website.

Julian talked about the role of digital in supporting RSS's strategy to educate the children and young people of Scotland to be safe on our roads and so help create a generation of safe road users.

Julian's brief is to drive awareness of the organisation's online resources in line with a shift to new technology and to increase its relevancy to audiences.

He told the audience: "Our mantra is 'knowledge, attitude and behaviours' and our ultimate aim is to create one RSS website that will house all eight individual learning resources under one roof."

These include: It's Your Call, Street Sense, JRSO, A2B, Crash Magnets, Get In Lane, Get Into Gear and Go Safe With Ziggy.

He added: "We need to make it more visual and create a clear online path to the resources so that people want to engage with them.

"By bringing them all together we plan to make the website more efficient and effective. Migrating eight different sites to one site will be technologically challenging but it will also help us rationalise the resources, prune what we do not need and use new technology to make it more user-friendly.

"But it's not just about technology, as we have to keep to our pedagogic principles to make the resources support active web-based learning."

After the audit phase of the programme with the RSS team, Julian's team will start to migrate the learning resources over to the new site and aim to be completed by early next year.

HOW IMPLICATIONS IMPACT OUR VISION OF THE FUTURE

Brendan Rooney, Transport Scotland, looked at the issues to consider in shaping the next road safety framework beyond 2020

As 2020 approaches, Brendan Rooney, acting Road Safety Policy Lead with Transport Scotland, highlighted the societal, technological and political developments that will influence a future road safety framework beyond the end of the second decade of the century.

Brendan said: "With road safety accidents on a significant long-term downward trend and helping us to meet our 2020 targets, I wanted to give an overview of our early thinking at Transport Scotland about the issues to consider in road safety beyond that milestone."

He outlined the broad spectrum of road safety considerations, from specific design features on particular roads, to influencing nationwide behavioural change on issues such as drink-driving and speeding.

Brendan highlighted how such a sweeping agenda reinforces why co-production is crucial in future policy setting, with input from all road safety partners. And that road safety needs to be looked at alongside wider changes in civic society.

He explained: "We have to look at the broader societal shifts that affect how we live, work and even shop. In the future, will more people live in satellite towns and drive to work at peak times, or use public transport? Will there be more home working, which will keep these people off the road during the day?

"Will the continual rise in online shopping increase van deliveries and change the make up of vehicles on our roads, meaning less cars and more HGVs? What about the active travel agenda, which encourages more people to walk and cycle? All these trends have implications for road safety planning."

> "We have to look at the broader societal shifts that affect how we live, work and even shop."

Brendan observed that, in terms of technology, the 'future' is almost here. The nascent technology of autonomous vehicles, intelligent speed assistance (ISA), smart motorways and alcohol/drug ignition locks are beginning to become a reality, with elements already trialled on UK roads.

He said: "We have already seen the Department of Transport laying the groundwork for autonomous cars, engaging with insurance companies on the potential legal responsibilities. Yet there are also risks with emerging technology – can the legal and regulatory systems keep pace? Do we know the full ramifications if things go wrong? I believe this technology will come along quicker than we think."

Then there are political aspects. For example, how radical do governments want to be? On issues such as ISA, will the general public see these as attacks on civil liberties, and will politicians and lawmakers be bold enough to mandate them on safety grounds? In Scotland, with the vast amount of the legal system set by Westminster, what areas can Scottish Ministers look to influence? And, of course, there is Brexit and the possibility that some current EU safety standards and regulations will no longer exist in the UK.

Brendan believes that many of the themes in the 2020 framework are still relevant, with speed reduction unlikely to ever go away.

He said: "Target-setting is a key issue and Scotland's approach has set us apart from other countries. But looking forward we need to be pragmatic; for example, is a 10-year target plan suitable as things are moving so fast, particularly in technology?

"That's why it's important that we best utilise all our skills, expertise and resources to develop the next road safety framework and take a collegiate approach to keeping people safe in Scotland on our roads."

DRIVING SIMULATOR IN TUNE WITH REAL-LIFE PROBLEMS

Elisha Trundle, of the UK Department for Education, was unfortunately unable to deliver her presentation on driver distraction at the seminar as planned. Instead, she outlines her findings here

Most drivers are aware of the distracting effects and possible dangers of using their mobile phones while driving. Researchers from all over the world have investigated distracted drivers and have all concluded that nothing good can come from this behaviour.

The PhD research in question aimed to find out drivers' attitudes towards using technology, how they behave in a 'natural' situation, and how they can be persuaded to stop using technology while driving.

The first study was a large questionnaire aimed at measuring drivers' feelings towards hand-held and hands-free calls, text messaging, MP3 players and satnavs. They found that those with more positive feelings towards such technology are more likely to use them while driving.

But it's not all doom and gloom. Some technology has a positive effect on our driving experience and safety, such as lane guidance systems and collision warning alerts. So could such technology be made bespoke for local roads?

Drivers look away from the road when skipping songs

TEST NO.1 The University of Nottingham is home to a state-of-the-art simulator which lets users drive around a simulated version of the city centre. Using real accident statistics for the area, a 'risk level' has been created for each simulated road to give research participants an idea of their risk of accident.

This risk level was presented to drivers as a beep alert to indicate a low, medium or high-risk road. Although they did not drive any differently between these types of road, their heart rates increased in line with the risk, which shows two important things:

- Simulators can instil a real sense of risk and allow research that would be too dangerous for a real road
- Drivers respond to risk in a physiological way and prepare their bodies through increased heart rate and therefore alertness.

TEST NO.2 So what do drivers do in real life? Questionnaires might go some way to answer this, but the only way to know for sure is to observe them. As we know, using a phone while driving is illegal, so it's back to the simulator. We already know that drivers feel risk in the simulator; they're not just playing a game. But it would feel unnatural to make them use an illegal device, so drivers were told to act as they would in their own vehicle.

A way was needed to provoke drivers into using technology as they would in the real world – so their most loved and hated music was played in the simulator. Drivers had the option to skip the songs they hated if they wanted to, but weren't required to.

Clever eye tracking found that drivers spent a significant amount of time looking away from the road when skipping music, so much so that they tended to miss signs signifying a change in speed limit. They also showed more variability in their speed, perhaps slowing down to compensate for not having their full attention on the road.

TEST NO.3 Further research combined the risk monitor and music-skipping tasks to create an environment where participants were again free to skip music if they wanted, but also given 'beep' information on their risk of accident to take into account. Drivers in this experiment skipped music more often on low-risk roads than high-risk, and spent more time listening to music they didn't like when they had risk information.

TEST NO.4 A final study aimed to change drivers' attitudes to technology use while driving.

Previous attempts are often criticised for only gathering questionnaire responses, rather than observing actual behaviour. So in this novel intervention, drivers were placed in a simulation that showed how bad their driving can be when they don't have full view of the road.

Following this, half of drivers – the intervention group – were given information on how important it is to keep their eyes on the road, along with accident statistics.

The other half – the control group – did not receive this information. However, all of the drivers did complete the music-skipping task.

It was hoped that the intervention group would skip less than the control group but this wasn't the case and no differences were found.

However, a significant correlation was found between the number of times a driver skipped music and the number of self-reported driving violations in real life.

This shows us that, at the very least, our drivers were behaving as they would on the real road.

But the challenge for the future still remains: How do we stop drivers using their technology while driving?