

The Road Observer

The Newsletter of the North Down
Advanced Motorists Group



March 2022





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The Newsletter of the North Down Advanced Motorists Group (Group 8199)

Helping to Improve the Standard of Driving on the Roads in Northern Ireland and the advancement of road safety

March 2022

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New Members

This month we welcome to the Group car members Tomas Somers and Paul Donnelly. We hope you not only gain from being members of our Group but will also enjoy the friendship and camaraderie of our get-togethers.

Test passes

Congratulations this month to

Annie McFarland

who retested as part of the IAM RoadSmart Fellows scheme and achieved a F1RST pass with a mark of 1 in every category. Well done Annie.

February cover picture

The February cover was in Downpatrick looking towards the the junction between Church Street, English Street, Irish Street and Scotch Street. Congratulations, in order of receipt, to Ralph Magee, James O'Brien, David Harcourt, Norman Shearer, Guy Thomson, Lisa Thompson, Angela Bell, Ronnie Fails, Ivan Greenfield and Annie McFarland. Do you know where this month's cover is? No prizes, just the satisfaction of good observation and, of course, a mention in the next Road Observer. Submit your answers to: secretaryndam@gmail.com

Dates for your diary

In addition to the regular STAC nights in the Boathouse for car Associates and the regular bike runs (notified by email to bike members) we have a varied programme for the Group Nights.

22 March - STAC session 4
29 March - STAC session 5
5 April - STAC session 6
12 April - Group Night - Visit to James Black restorations
19 April - no meeting - Easter Tuesday
26 April - STAC session 7
3 May - STAC session 8
10 May - Group night talk by Mark Jarvis - Astrophotography
24 May - Test preparation and driving practice
7 June - Driving practice
14 June - Drive/ride for ice cream at the Rhinka, Islandmagee

STAC - Short Term Associate Course for drivers.

March Group Night

When we are about to fly somewhere our thoughts are usually: have I packed everything, have I got all the current documentation etc and once in the air it's about when will they serve drinks (or food on a long haul), hope my baggage transfer will work etc. We don't give much thought or indeed any thought as to what goes on in the background to get you to your destination.

Our Group Night talk for March was by Billy Richardson who is a retired air traffic controller and gave us an insight into the history of air traffic control, how they keep us safe in today's congested airspace and gave us an account of some incidents which air traffic controllers have to deal with.

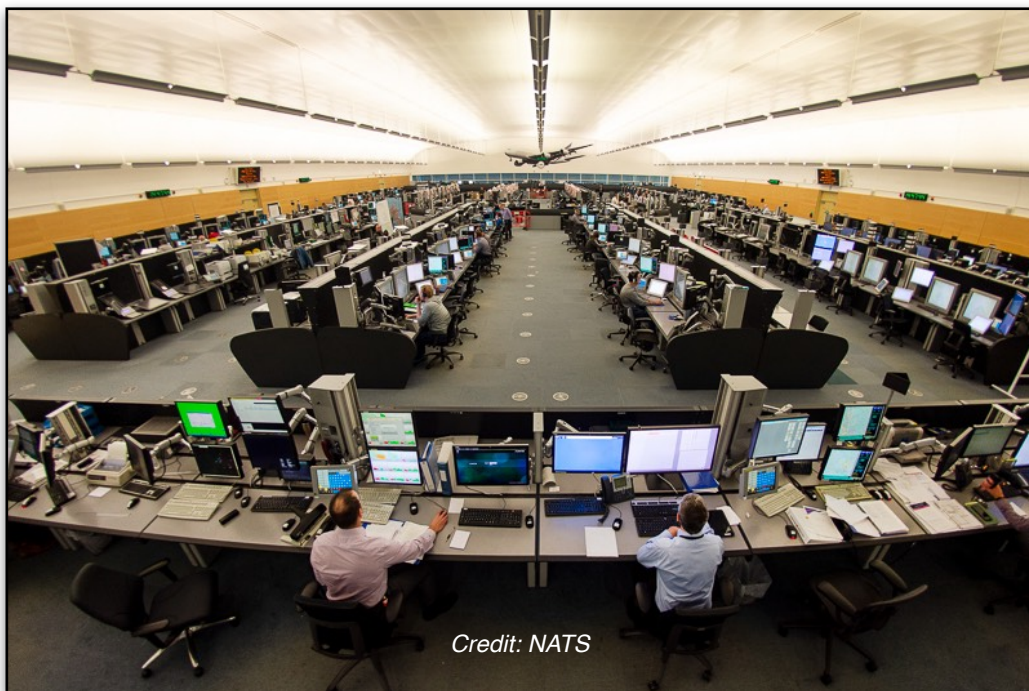
Air traffic control has been in operation for about 100 years from the early days of commercial flights from Croydon later to become Gatwick and Hounslow Heath later to become Heathrow. In those early days the aircraft were military converted for civilian use and in 1922 a return to Paris was £44 which was a considerable sum back then (allowing for inflation this would be £2664 at today's prices) so flight was only for the well-heeled. There was no luxury in short haul but on long-haul it was luxurious with overnight stops in good hotels etc.



A major challenge after the war was the Berlin airlift where everything needed to keep the city functioning had to be flown in - from food to coal. There were 3 airfields in Berlin - one in each of the American, British and French sectors and at the height of the operation there was an aircraft landing every minute and as a result ATC had to become more sophisticated. ATC has gone through different iterations from the Air Ministry, Ministry of Aviation, Civil Aviation Authority and is now the responsibility of NATS (National Air Traffic Services).

Essentially there are 2 strands - control on the ground (based in the control tower at the airport) and control

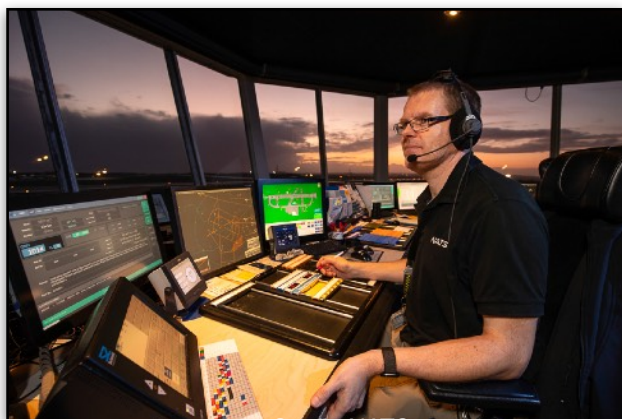
in the air. Airspace is divided into different sectors of controlled and uncontrolled airspace. A controller will follow aircraft in their controlled space and hand over to another controller when they enter a different area of controlled airspace. There are 2 control locations in the UK: in London



and in Prestwick. London deals with the England and Wales and Prestwick is responsible for Scotland, Northern Ireland and traffic crossing the Eastern part of the North Atlantic roughly from Iceland to the Bay of Biscay.

For example an aircraft flying from Belfast to Heathrow will be under the control of the Scottish Centre at Prestwick and will be handed over to another controller around the Isle of Man who will control the plane to the holding pattern at Heathrow. Uncontrolled airspace is for military traffic and recreational flying.

There are defined tracks across the North Atlantic which change every 12 hours. Flying west a plane can avoid the jet stream and will provide a very smooth flight. However flying east with the jet stream will give a bumpy ride but has the advantage that it can knock an hour off a transatlantic flight. ATCs give aircraft their flight levels and have to take account of the speed of aircraft at each level. Sometimes they have to take account of off events such as military exercises which require a re-route. Another unusual occurrence is USAF aircraft en-route from Keflavik in Iceland to the Azores or tourists from Iceland going to the Canary Islands will cross the commercial traffic tracks and have to adjust their heights up and down to safely cross both eastbound and westbound tracks.



Modern satellite communications mean that data on an aircraft's position can be updated every 8 seconds which means that the distance between aircraft on the same track can be reduced from what was 40 miles to 14 miles.

Billy told us about some incidents in recent years. In 2002 there was a mid-air collision between a cargo plane and a passenger plane over Lake Constance. Both aircraft had TCAS (Traffic Control

Avoidance System) and had the instructions from the system been followed the crash would have been avoided. Unfortunately the ATC gave instructions which conflicted with the TCAS system resulting in the crash in which a total of 71 lost their lives. There were no survivors. Systems were improved to avoid this happening again.

Another incident involved a crash at Heathrow where a British Airways Boeing 777 on route from Beijing over Siberia suffered from fuel frozen in the fuel lines. It came down on the grass just short of the runway. Fortunately there was no fire and all on board survived after exiting the plane down the emergency chutes. There is a video of a discussion with the air traffic controllers who managed to incident: <https://www.youtube.com/watch?v=aYU9OpdbAJg>



An Airbus 330 en-route from Toronto to Lisbon suffered a fuel leak but unfortunately in correcting a fuel imbalance the crew transferred fuel to the tank serving the leaking engine. One engine failed and later the other failed meaning that the aircraft had to glide 75 miles to land on the Azores. All on board survived a heavy landing.

A plane inbound to Belfast International from Toronto with 470 passengers on board reported a possible problem with the landing gear. The instruments showed 2 green lights and 1 red instead of 3 green. A low flypast enable engineers to look at the landing gear with binoculars and decided that it should be OK - it was!

Another incident involved a DE Havilland Dove flying from Stavanger in Norway to Aberdeen. The plane developed a fuel leak and as it was January ditching in the sea was a non-starter. A disused airfield was identified by air traffic control but it wasn't known if it was usable. A helicopter was sent out to look and while it discovered that the runway was blocked there was a road running alongside it with no evidence of poles or wires. The plane landed safely on the road.

While Billy talked about a number of incidents there are very rare occurrences especially when you consider that each day about 6,000 aircraft are in UK skies every day (per NATS). The image below is a screen shot from Flight Radar 24 at 12 noon on 14 March over Southern England. Care to count the aircraft flying and can you spot the 2 USAF F15 Strike Eagles (they are not together).



Many thanks to Billy for a fascinating and informative talk about the work that goes on behind the scenes to keep us safe when we are flying.

Which is better by David Harcourt

A colleague recently asked me which is better, front wheel drive or rear wheel drive? I answered him with an equally incomplete question: which is better, a Ferrari California or a Ford Focus? I have a preference on both questions, but it's my opinion, not a definitive answer. Both questions need context. Better for what?

Early cars were predominantly rear wheel drive, and Formula 1 still is, so isn't that better? If so, why has the industry changed to predominantly front wheel drive? And why are many electric vehicles all wheel drive?



Credit: EurovisionNim



Credit: Hugh Llewelyn

Starting with the Ferrari vs Focus question, the Ferrari is clearly the better car. For style, luxury, power, comfort, engineering excellence and head-turning looks, the Ferrari wins, no question. It would not be out of place parked outside the casino at Monte Carlo. However, where it would be out of place is the Tesco car park, the school run, or any of our local pot-hole strewn roads. The purchase price is astronomical, the maintenance and running costs amount to open wallet surgery, and it is my opinion that by the time anyone can afford a Ferrari, they're probably going to look silly in it, and even sillier getting in and out. Therefore, if you take a moment to think about it, the Ford Focus is obviously the better car.

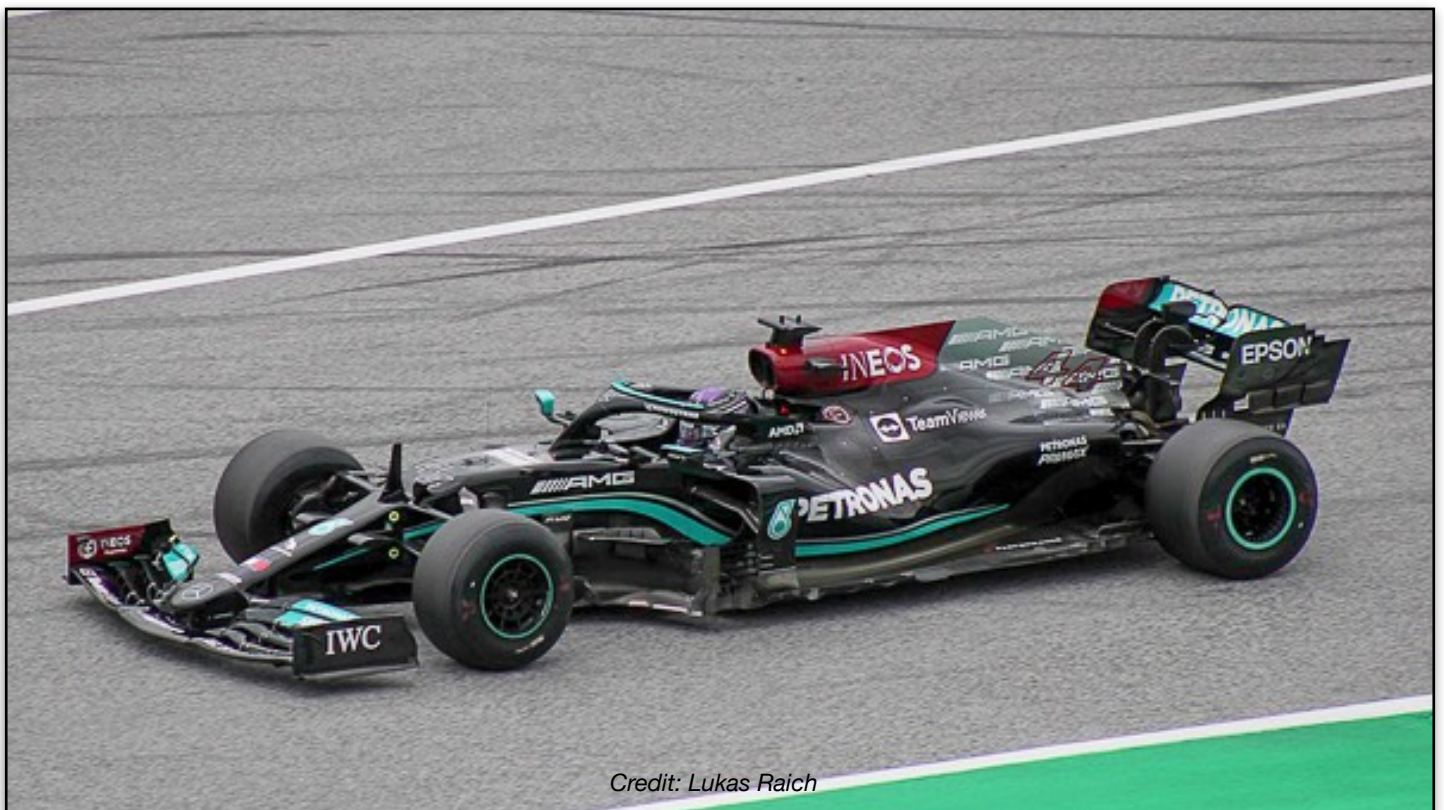
Early cars were rear wheel drive because it's mechanically simpler, and simpler is more elegant, and therefore better. With the engine in the front and the gearbox in line behind it, you can have a very short gear linkage for sharp, precise gear selection. This layout gives close to 50/50 weight distribution and in a manner splits the workload of the tyres – fronts do the steering and most of the braking, rears provide propulsion. It's a lesson we've taken from nature, as most animals are propelled by their hind legs and steer with the front. Not to mention that arrows are pushed into flight, and the Apollo moon shots got there with a big push from the rear.

However, rear wheel drive has some disadvantages. It's difficult to design a rear wheel drive as a more compact town car, since the engine bay must accommodate the engine lengthwise, so a long, flat bonnet is almost inevitable. They're marginally less efficient as the length of the power train from engine to rear wheels causes a very minor power loss. Turning the engine sideways and attaching it directly to the gearbox reduces bonnet length, and tilting it slightly permits a curved bonnet which is better for spatial judgement, and more pedestrian friendly. The engine/gearbox assembly can be engineered to push under the passenger cage in a collision rather than enter it, and without the transmission tunnel, there is more useful interior space. By that measure, front wheel drive is better – it's slightly more fuel efficient and a bit more compact.

So, if front wheel drive is actually better, why do the luxury brands tend to stick to rear wheel drive? There's an argument that it's for better handling, and I'll get to that in a moment, but it's mostly traditional. I learned to drive in rear wheel drive vehicles, and I still prefer them. They can be more

responsive and more rewarding to drive, but nowadays the limit of grip in the average car is so far out of reach that none of us should find it in normal driving, and indeed, if you find yourself on the edge of adhesion other than on ice, it's time to contemplate new tyres. The most basic car in 2022 will be a good match for a performance car from the 1970s or 1980s. Because of the traction control, stability control, adaptive brake control and other driver aids, most of us can hop in any vehicle and be blissfully unaware of where the power is delivered, because over 99% of the time it simply doesn't matter. In extremely icy conditions, a rear wheel drive may be difficult to get going as the rear may attempt to push past the front when you move off, whereas a front wheel drive will pull straight and to an extent hide the severity of the conditions, but modern driver aids will compensate. Pushed too hard, front wheel drive will generally start to feel uncomfortable long before the grip actually runs out, whereas rear wheel drive can feel great right up until there's nothing left, but in either case the stability control delivers capability well beyond the reach of the average driver.

Front wheel drives put all the work of propulsion and steering onto the front wheels, and typically have close to two thirds of the weight on the front axle – that in itself is not a bad thing, as that's where the work is being done, so the extra weight enhances grip.



Credit: Lukas Raich

So, if front wheel drive is better in most circumstances, why is Formula 1 still running rear wheel drive? It is a special case, a tightly defined category of motorsport. For multiple reasons, including tradition, it is rear wheel drive, but also rear-engined. The engine is the widest assembly of the car, so it goes at the rear, with the driver up front in a narrow cockpit, all for aerodynamics. Rear engines have their issues, including cooling, rear weight bias which can make them twitchy, and often a front tank which offers loads of front wheel grip when full but not so much when empty. The VW Beetle is perhaps the best example, and the principle lives on with Porsche, whose enthusiasts either deny the faults or willingly embrace them as the measure of a good driver.

But if we're looking to motor sport for what's best, why not look at Rally? All wheel / four wheel drive is extremely successful simply because Rally is not confined to paved surfaces, and each wheel can deliver power as needed. There are various mechanisms to split 25% to each wheel, or spread it where needed, operating in two wheel drive until the instant that's not enough. So why aren't all cars all wheel drive? The two extra differentials, prop shafts, and all the control associated with them add complexity, cost, and weight, and detract from efficiency and reliability.



Same corner 1984 RAC Rally: RWD Opel Manta 400 v. 4WD Peugeot 205 T16. Over a 5 mile gravel stage the Peugeot won by 16 seconds. Says it all!

Most importantly, for 99% of drivers, 99% of the time in this country, all that stuff isn't needed, and we don't want to pay for it. However, with electric cars, there's no traditional gearbox, differential and prop-shaft so it's relatively easy to put a smaller motor on each wheel rather than a large motor on just the front or rear wheels.

Back to the opening question, which is better, front or rear wheel drive? A couple of days a year, AWD is best. The rest of the time, front and rear are equally good for everyday driving. However, luxury cars should be rear wheel drive because they always have been. And for the record, the Ferrari California is the better car, and I wouldn't mind looking silly in one.

March Bike run by Simon Beckett

Great turn out today for the monthly run. 17 riders making good use of dry roads and plenty of sun. The route was mostly B and C roads, definitely not the usual run down that neck of the woods. Lots of twisty roads, grass up the middle, hairpins and a few main roads to deal with and a nice run through the Mourne on the way to Rostrevor.

Sweetpea cafe at Annette's Garden Centre, Rostrevor, didn't disappoint. Some went for the scone options, a few went for the fry and there was a bit of a run on the brekkie bap which looked good.

The way back to Ards was via Rathfriland, Dromara, Hillsborough, Comber and a detour past Scrabo Tower for good measure.

Let's hope for good weather again next month.



And finally....(a quote from insurance accident reports):

A lamppost bumped into my car, damaging it in two places.

The views expressed in the "Road Observer" are not necessarily those of the Editor, the North Down Advanced Motorists Group or the Institute of Advanced Motorists