



**COVID 19 Pandemic  
Statistics Update  
Hydrogen Economy**

## Editorial by STSG Chair John Yellowlees

Welcome to the second issue of Scottish Transport Review for 2020 – and what a contrast from the last one in February. Not for nothing have people started to refer to BC as meaning before Before CoVid, in which case what can AD possibly stand for?

Transport and indeed all aspects of our lives have been hit, here in Scotland and everywhere else in the world, by the greatest peacetime disturbance of our lives : and for all the brave talk of Building Back Better the surest thing is that we cannot yet see where all this will end, indeed whether we are yet anywhere near the end of the beginning.

It was from China that CoVid came, and the best-known Chinese saying is “may you live in interesting times”. The impacts for sustainability, the environment, governance, civil liberties, mental health and not least for transport as a sociable experience are profound, and we hope you will find much of interest in these pages as we try to capture how the first year of the pandemic has been for Scottish transport.

STSG are always looking for feedback, so if there is anything here on which you would like to engage, please do drop us a line : then maybe, just maybe, with your help next time we might be able to move onto how life will be after the Coronavirus?

## Contents

COVID 19	3-6
Hydrogen Economy	7-9
Electric Vehicle Charging	10
Statistics Update	11-12
Investment	13

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# Observations on Scottish Transport and the Pandemic

John Yellowlees and Derek Halden

The transport sector has been affected, probably more than any other part of the economy, by the Covid pandemic. November 2020 is far too early to review the impacts on Scottish transport, but this article observes how transport, and social attitudes have been evolving over the last eight months.

People learned to socialise, shop and work more locally



The relationship between physical space and society which is so often at the centre of transport policy controversy quickly came to the fore in public debates about distancing. Were people to physical distance or social distance? Was the policy about a distance or a social goal? Scottish Government ministers continued to use the term physical distancing between March and September but as the rules on distance became more a function of social attitudes everyone was talking about social rather than physical distancing.

On the streets many changes were made to create more physical space for people. Behaviour also changed with people paying greater respect for other pedestrians as they walk around local streets.

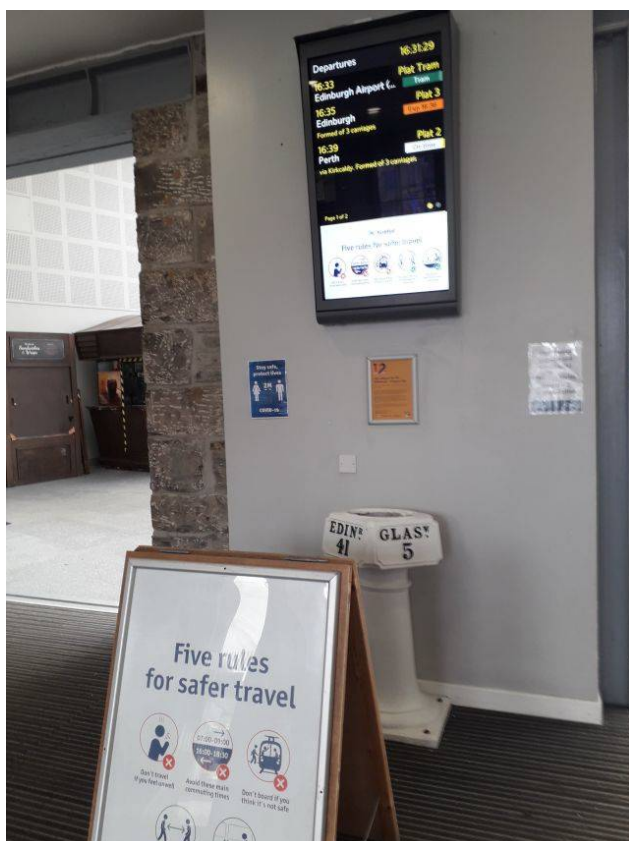
People learned to socialise, shop and work more locally with transport demand falling fast. In March Edinburgh was the city in Europe with the largest fall in road traffic (nearly 70% for travel to work), partly due to its economy with a high proportion of businesses being closed or with employees working from home, and few tourists. Places with more key workers like Falkirk saw much low-



It seems extraordinary now that the first day of masks being mandatory on ScotRail was exactly three months after the prime minister told everyone to stay at home



er levels of change with only a peak 47% fall in travel to work. Local trips were far more likely to be made by walking and cycling so these rose, although the increase in cycling turned out to be more for leisure trips and when people went back to work they continued to walk more but the cycling largely dropped back to pre Covid levels.



As revenue from passengers fell bus and rail services across Scotland became largely funded by the government. More on demand bus services were proposed to help to address the growing affordability challenges faced by local authorities for supported bus services

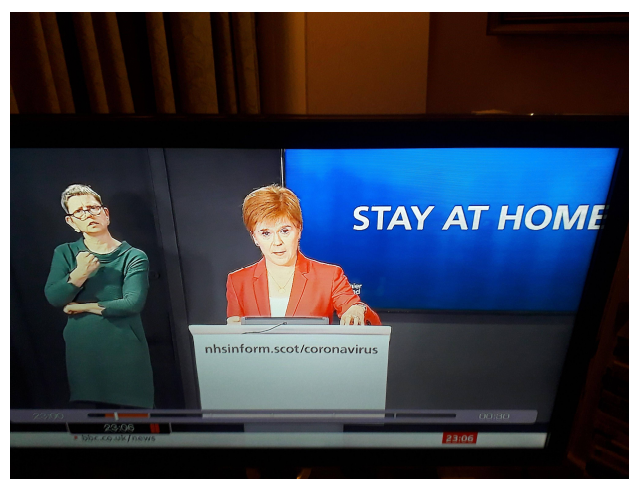
Shared transport charity CoMoUK called for on-demand buses in Scotland to help respond to a changing public

## Politicians came in for particular criticism when they blamed the public

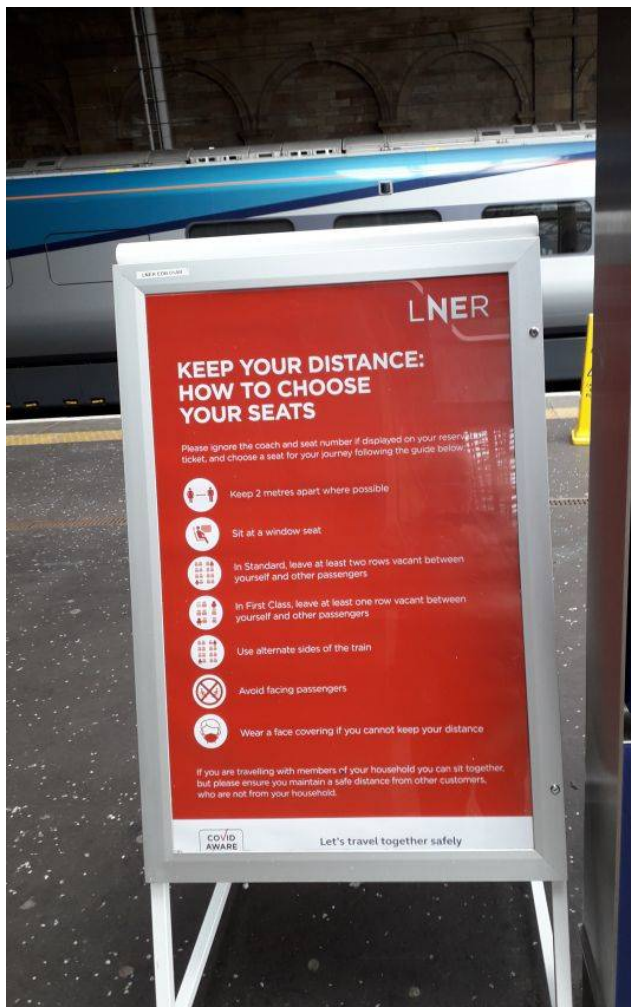
transport environment. The organisation says we should use this moment to embed the shifting attitudes and commuter behaviour which occurred during lockdown to erode the dominance of the private car. They highlight that on-demand bus services should be introduced to keep passengers connected with essential services.

People in urban and rural areas whose services may have been reduced or removed altogether could use technology to 'order' a bus, which could then be used right across their community. Scotland could use this moment to embed the shifting attitudes and commuter behaviour which occurred during lockdown to erode the dominance of the private car and pursue a sustainable, inclusive and affordable transport system which benefits everyone.

As politicians made unpopular decisions, Nicola Sturgeon emerged as a more popular politician for her hard work and desire to do the best for the people. Politicians came in for particular criticism when they blamed the public with staying safe being a more popular message than staying alert.



LNER had introduced compulsory reservations, the only train operator to do so, and other distinctive features were the alcohol ban (since relaxed) and the requirement on customers to carry their own hand-sanitiser.



The Chancellor Rishi Sunak produced a crowd-pleasing cocktail of measures in the budget to boost pubs and reduce bar bills. A planned increase in duty on beer and spirits was scrapped and taxes on all other kinds of alcoholic drinks were frozen.

New rules required business to decide whether they were restaurants, pubs, or cafes. Pub discounter Wetherspoon did not just achieve parity with supermarkets on tax but discovered their premises could be classed as restaurants and or cafes given the high volume of food and hot drink sales. Transport regulation currently allows cars to carry passengers and goods for financial reward under many different categories of transport legislation all with different rules. When is a car a taxi, private hire, carshare, part of the public transport network, or a goods vehicle. In lockdown many Uber drivers switched from taxi services to delivering food helping to protect jobs.



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One of the most controversial government messages throughout the pandemic has been encouraging people to avoid public transport. Bus and train operators have



Face masks on trams, buses and trains sought to show we are all in this together.

Encouraging people to avoid public transport has resulted in many younger people who had never learned to drive rushing to get driving lessons with long waits for tests. It seems amazing that people have accepted far tighter restrictions when using buses and trains than in other public places

responded strongly by demonstrating their social credentials. It seems amazing that the public have accepted far tighter restrictions on essential public transport than in public places like bars or restaurants.



Looking forward it is highly likely that Government's appetite for funding public transport at the current level will decline. This could have critical consequences for many workers currently relying on buses and trains to get to work.

Historians will question why "the science" took such a downer on public transport. Perhaps above all the pandemic revealed one of the most dangerous fault lines in early 21st century Scotland. Government has over time become largely an administrative machine and is now largely unable to interpret "the science" without outside help.

Some key academics, journalists and professionals stepped up to highlight major deficiencies in the advice government was receiving and the dynamic between government experts, official external experts and independent experts evolved throughout the pandemic.

During much of the pandemic there was no logistician, transport professional, economist, molecular virologists, immunologists or intensive care experts on the government's expert advisory group SAGE. Not surprisingly the government therefore had major problems identifying safe transport solutions, managing logistics such as PPE supplies, supporting business, managing the spread of the virus or even planning hospital capacity.



## Historians will question why "the science" took such a downer on public transport



Despite early evidence from Asia suggesting that the virus was spreading largely through droplets in the air, initially far more attention was paid to the dangers of transmission on surfaces such as benches. .

Public transport operators moved quickly to upgrade their air conditioning systems to ensure the air was replaced frequently within vehicles



## Scotland's Growing Hydrogen Transport Economy

**Former Unison policy chief Dave Watson has joined a growing list of influential Scottish thinkers to cite hydrogen as key to Scotland's economic future**

Aberdeen is adding 15 double-decker buses to their hydrogen fleet with an investment of about £500k per vehicle. The city has been operating 10 fuel cell buses and the addition of 15 new double decker buses enhances the credentials of the city as a leading European city in the hydrogen economy. The vehicles will be operated by First on the 19 (Culter to Tillydrone) route.

Hydrogen buses have capabilities that electric buses cannot match on some routes since refuelling takes less than 10 minutes and the buses have a greater range than their electric counterparts. The buses are built by Wrightbus in Northern Ireland.

When it comes to renewable energy, there is a large degree of consensus on the technologies that should feature in our energy strategies. The differences are most apparent around nuclear power, but also carbon capture and storage (CCS) and hydrogen - both of

which are important elements in the Scottish Government's energy strategy.

Former Unison policy chief Dave Watson has joined a growing list of influential Scottish thinkers to cite hydrogen as key to Scotland's economic future. Renewable technology development in Scotland is riddled with missed opportunities but there is an opportunity to exploit Scotland's current lead before squandering it to others as has happened with so many other developments. Carbon capture and storage, wind power and

**Green hydrogen is made from renewable sources but remains more expensive than blue hydrogen which is manufactured from natural gas**





batteries are all areas where commercial and jobs advantage was largely lost to Scotland and Watson is concerned Scotland could make the same mistake with hydrogen.

Green hydrogen is made from renewable sources but remains more expensive than blue hydrogen which is manufactured from natural gas. Many countries are competing for dominance in the growing hydrogen economy but compared with other leading countries like Germany Scotland enjoys a big advantage with its wind energy resources. Wind is intermittent and hydrogen is a convenient way to store excess renewable energy. ScottishPower is building a storage plant close to their Whitelee wind farm near Glasgow, which could supply hydrogen to Glasgow buses and trains.

Scottish based Logan Energy, based at Wallyford on the outskirts of Edinburgh, has secured UK government funding to supply hydrogen refuelling stations in Teesside in England, and hopes to extend these across the UK, with worldwide export potential. However Logan Energy are highly critical of the general lack of support from the government despite having refuelling stations across Europe including Germany, Tenerife, and the Netherlands as well in Northern Ireland and England. They also have huge expansion opportunities from a new deal to supply China with hydrogen stations. However, Scotland's first public hydrogen refuelling station earlier this year needed to

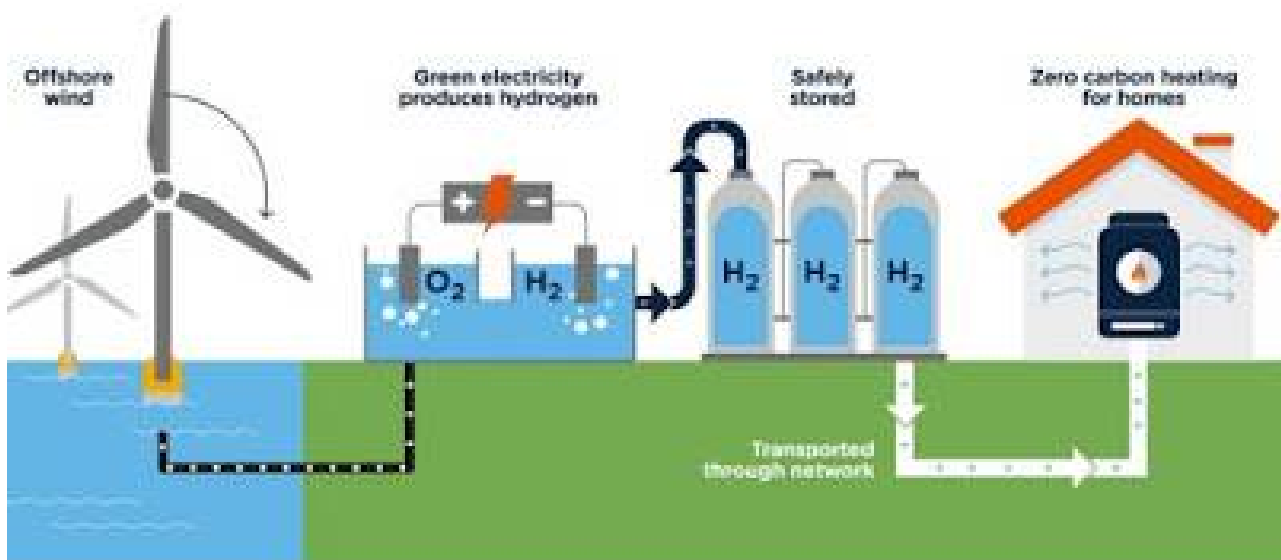
### Logan Energy say that short-termism in business and public administration is hampering Scotland's future success

be financed by Logan Energy itself. The company noted that they hope this investment will encourage people to consider hydrogen vehicles as viable green transport options.

Hydrogen roll out strategies in other countries use a mix of fiscal and regulatory incentives but Logan Energy say that short-termism in business and public administration is hampering Scotland's future success. Government action is too limited and too slow to make the most of the attractive opportunities for buses, cars, planes, trains and ferries.

Bill Ireland of Logan Energy says "We've got more re-fuellers being built or sitting there waiting to be delivered in Wallyford than there are deployed around the rest of Scotland, which is bonkers really. We've had an investment from a Chinese company. We are setting up the venture as we speak in China. We're looking to expand there and we're looking for investment to expand what we're doing here, but also our market seems to be elsewhere other than Scotland."

Key to the bus investment in Aberdeen has been the



business growth plans of green hydrogen production company Ryse which has acquired bus manufacturer Wrightbus and has plans for build around 3,000 hydrogen buses with a production facility outside Glasgow. The plan is to run hydrogen powered buses in time for the COP26 summit in Glasgow in 2021 with the new hydrogen production unit being operational by then.

The Levenmouth rail project has also been looking at how to build on the international reputation of the Methil green hydrogen demonstration site. The project seeks to show how to make hydrogen a viable medium for energy storage, grid balancing, electricity generation and transport fuel.

The Scottish Hydrogen and Fuel Cell Association has been instrumental in making the case for hydrogen

and held their largest conference ever in October 2020. Hydrogen has the potential to be an important game-changer in delivering net-zero emissions but we must not let the excellent work being done in Scotland and the UK go to waste as we have done in the past.

Scotland has vast untapped reserves of renewable energy. The hydrogen economy could become increasingly central to Scotland's economic future. Hydrogen is a flexible for of storage to allow energy to be exported as either electricity or in safe liquid forms such as ammonia.

By producing hydrogen on a massive scale there are also huge regional development opportunities for Scotland to grow the economy of the areas with the greatest renewable energy reserves in remote and rural areas.

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## The Daily Shop for an Electric Vehicle Charge

The Electric Vehicle Association (EVAS) for Scotland has highlighted a wide variation in the number of public electric vehicle charging points in Council areas across Scotland. Bottom of the pile in April was Falkirk but the Council more than doubled this total during 2020 including the installation of a new EV charging hub at Falkirk Stadium.

There are now 35,000 publicly available charging points in the UK but the EVAS highlights that this is unevenly distributed across the country with island and rural communities, Dundee and Stirling leading the charge.

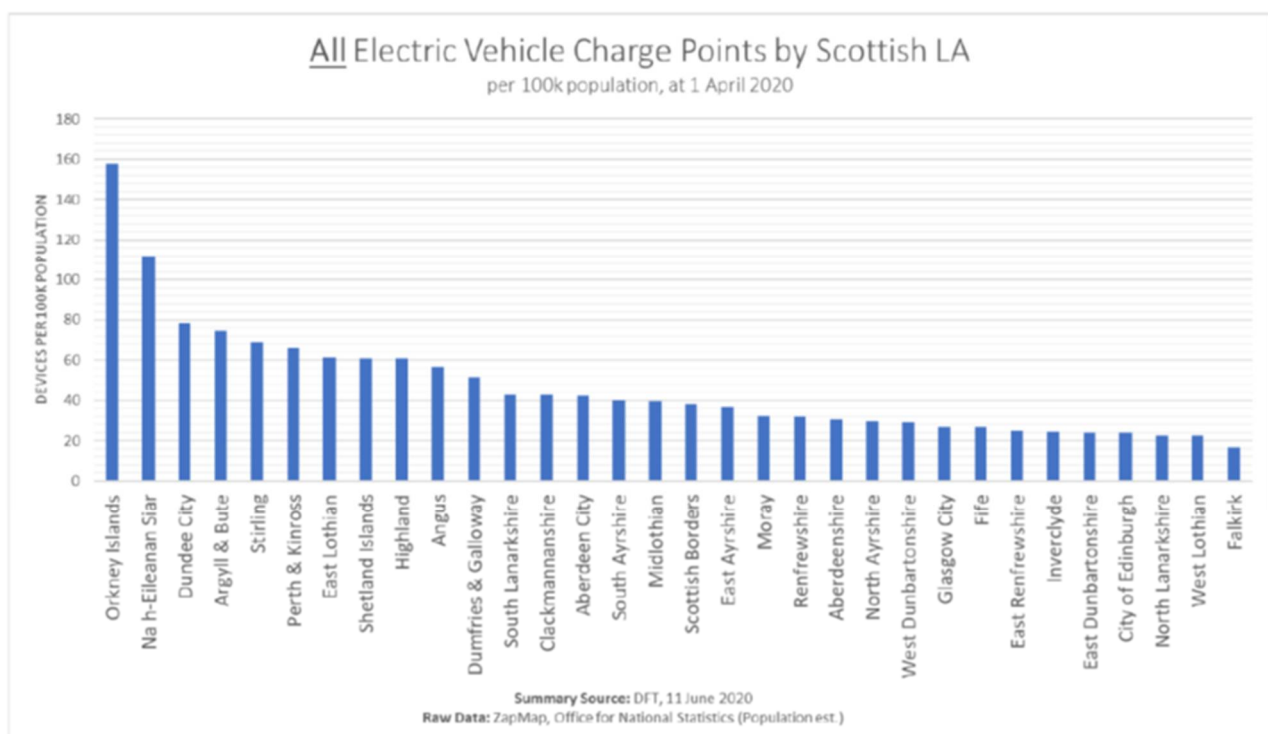
With sales of plug in vehicles accounting for more than one in 10 of new cars many more charging hubs will be needed. Many households have no opportunity to charge their cars at home so to help these households switch to plug in vehicles supermarkets like Tesco and Lidl are rolling out charging hubs in their car park so that the daily shop and daily vehicle charge can be combined.

With growing numbers of vans on the road needing rapid charges new solutions are also needed for these and a wireless charging network supplied by Momentum Dynamics is to be trialled in Edinburgh for light commercial vehicles. Heriot-Watt University, Flexible Power Systems (FPS), and City of Edinburgh Council the trial are investing £1.4 million to to service spe-

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cially adapted vans from both City of Edinburgh Council and Heriot-Watt's estates team. shared charging hubs can increase commercial fleet electrification across the UK.

Charging hubs require high use to be economically viable to the shared use project uses powerful wireless charging to shorten the time vehicles need to be in the charging hubs. Splitting the cost of chargers and the connection through a shared charging hub could mitigate a portion of these costs and the project will test the sharing of charging hubs between logistics, retailer, local government, and university owned commercial vehicles.



## Transport and Travel in Scotland 2019

### Transport Scotland's latest round up of Scottish Household Survey Travel Diary Analysis Findings

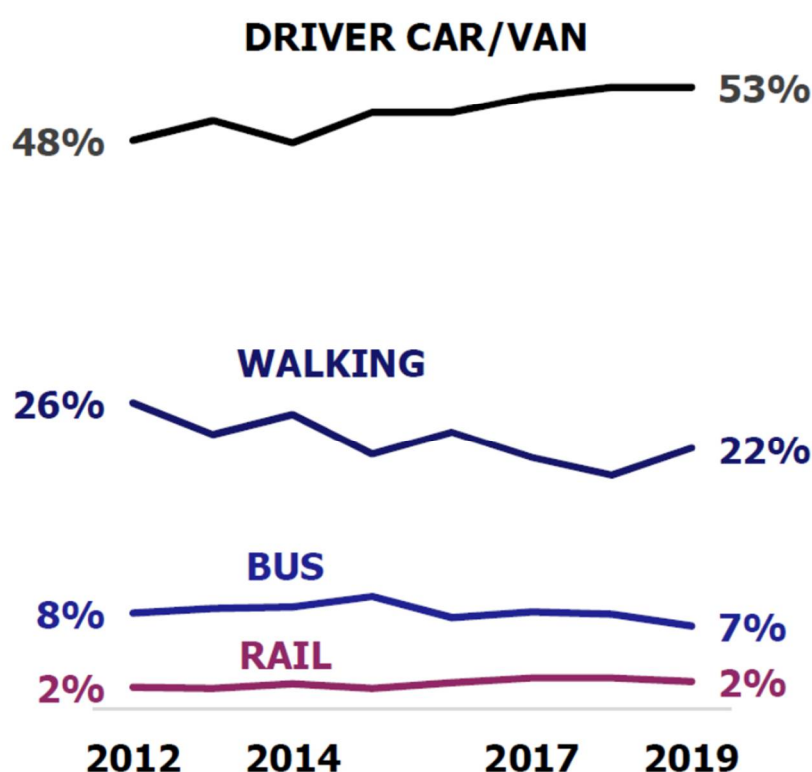
The latest review of national Scottish household travel diary data shows that over half of journeys in Scotland were made driving a car or van. This increased from 48% of all journeys in 2012 to 53% in 2019. Walking is the next most popular mode of transport (22% of journeys, down from 26% in 2012), followed by passenger of car or van (12%) and bus (7%). Although rail travel makes up only a small proportion of total journeys, the percentage of journeys that are made by rail has increased since 2012. Walking and bus journeys have decreased over the same time period.

The proportion of adults working from home increased from 7% in 1999, to 16% in 2019. Research had suggested that there was potential for a further doubling in this figure based on the occupations of workers and this appears to have been confirmed during the COVID-19 pandemic.

Bus travel has declined in recent years. In 2019, 39% of people had used the bus in the past month, compared to 41% in 2002, and 46% in 2011. People aged 16 to 19 are most likely to have used the bus in the last month (57%), while people aged 50 to 59 were least likely to have used the bus in the last month (29%). Women tended to use buses more frequently than men (26% of women used the bus at least once a week compared to 23% of men). People in large urban areas were more than twice as likely (54%) to have used the bus in the past month those in remote rural areas (20%).

The most common reasons for travelling were shopping (24%), commuting (23%) or visiting friends or relatives (10%). Full details of the results are at <https://www.transport.gov.scot/publication/travel-and-transport-in-scotland-key-findings-2019/>

### Modes of Transportation





## A Mixed Picture for Road Casualties in 2019

The 2019 road casualty statistics published by Scottish Government showed a mixed picture of change. Casualty reduction overall is falling but the modes of travel which government is seeking to encourage such as walking and cycling are becoming no less dangerous.

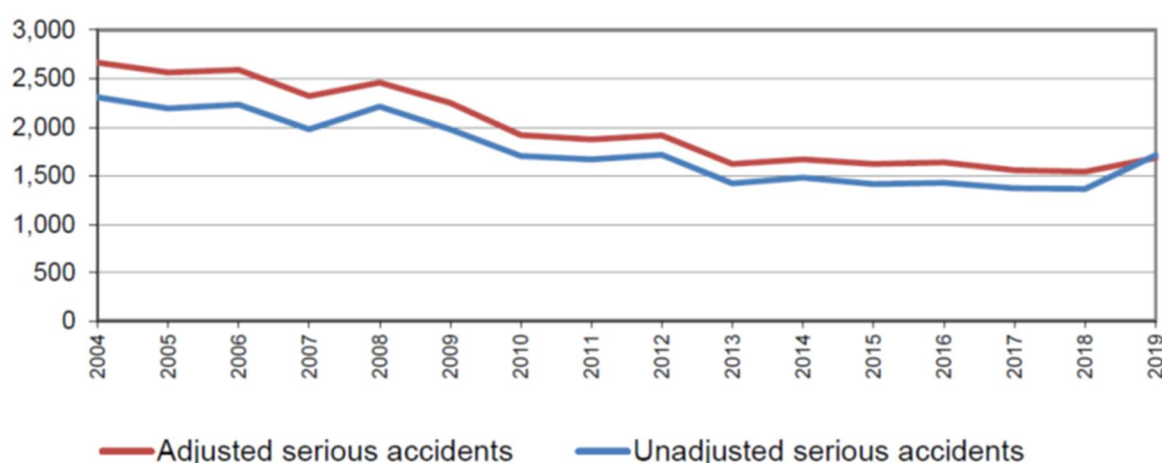
Figures on numbers of casualties by mode should be compared with data on mode use since changes could be due to more or fewer people travelling by a particular mode. Information on mode use is published in the road traffic or personal travel sections of Scottish Transport Statistics (STS). Traffic estimates showed that car traffic increased by 6% and motorcycle/moped traffic increased by 3% between 2014 and 2018. In 2019 there were 4,557 car users reported injured in road accidents; three-fifths of all road casualties (60%: 4,557 out of 7,594) and a 10% fall from 2018. Of these, 78 were killed, an increase of 4% from 2018, and 932 seriously injured. There were 1,243 pedestrian casualties recorded in 2019, a sixth of all casualties (16%: 1,243 out of 7,594) and down by 13 (1%) since 2018. Four per cent of pedestrian casualties were killed (46 out of 1,243) and 39% seriously injured (482 out of 1,243). Ninety-five per cent of pedestrian casualties occurred on built-up roads (1,180 out of 1,243).

Together, all other modes of transport accounted for almost a quarter (24%) of casualties in 2019 (1,794 out of 7,594) and for a slightly higher proportion of those killed (26%: 44 out of 168) and under a third of those seriously injured (29%: 587 out of 2,001).

**Figures on numbers of casualties by mode should be compared with data on mode use since changes could be due to more or fewer people travelling by a particular mode**

Pedal cycle casualty numbers in 2019 decreased by 12% and motorcycle casualties decreased by 19%. In 2019, 519 motorcycle casualties were reported, of whom 279 (54%) suffered serious injuries and 25 died, a decrease of 8 fatalities on 2018. There were 564 pedal cyclist casualties recorded in 2019, 8 died (two fatalities more than in 2018). There are now more cyclists on the roads, which will likely impact on cycling casualty numbers. There was an increase of 15% in pedal cycle traffic in the last ten years.

A total of 195 bus and coach users were reported injured (a decrease of 15% on 2018), of whom 23 were seriously injured, three died.



## Investing in Scottish Transport

### Derek Halden says Scottish Investors Should Back Transport Aims with Resources

On 4 March 2020, the Strathclyde Pension Fund committee decided to postpone a decision on whether to divest from fossil fuel companies. The meeting of the pension fund committee had been picketed by campaigners calling for more sustainable investment policies, including from Unison, one of the largest trade unions representing the staff whose pensions were affected. Viewed from October 2020, divesting from fossil fuels now looks like a much more attractive option. The Strathclyde Fund lost 5% of its value in the 2019-20 reporting year with the fossil fuel companies being amongst the biggest losers.

2020 has seen massive changes in the value of enterprises across the world so it is not surprising that a Pension Fund with assets of over £20 billion should face challenges. Some of the largest winners and losers during the pandemic have been in the transport sector, with airlines being big losers, and parcel delivery firms emerging as winners. The disruption has widened the gap between the organisations with a strong future and those that were in decline.

Across the world pension funds are big transport investors. What are the Scottish transport investment opportunities with a strongest future? For too long transport investment has been viewed mainly from the perspective of financial and physical capital growth. However, the Scottish Government's advisory group on the economic recovery has proposed that the recovery should be more sustainable, investing through four economic pillars: financial and physical capital, natural capital, human capital, and social capital. The greatest potential for future growth is shifting the investment balance towards natural, human and social capital. How can more social business models and greater environmental benefits be part of the regeneration of Scotland's transport sector?

The networks of relationships that allow society to function better, also underpin the economy. The economic recovery advisory group suggests that Government must accept a more active role in building these relationships. This includes viewing some transport services as investment in social capital rather than revenue liabilities, and finding new ways to make labour markets more secure for more of society. Provided performance against citizen driven service goals is built into

the business models of smart places across Scotland, investment in streetscape for towns, zero carbon bus services to key local destinations, and safer places and streets, could be amongst the most attractive investment prospects for Scotland's economic recovery. However, new business models and ways of working are needed.

Scotland's new transport strategy sets out goals to align transport investment with sustainable development goals. The new approaches emphasise Improved accessibility, equity, quality, emissions reduction, and collective action in local place making. Realising these goals needs real investment, not just grand words. The September 2020 draft Scottish Government infrastructure investment plan is a poor fit with these goals, being far too top down, and only weakly linked with policy. Nowhere in the draft plan is national government's role cast as that of an enabler or trusted partner to unlock the capability of local organisations to prosper. The relationships between the promised £33bn of spending and the expected outcomes from the investment plan are simply not clear.

If we believe in Scotland, including unique opportunities to lead the world powering transport with renewable energy, then investment must convert policy goals into practical business models. The collective actions we have seen during the pandemic have been inspiring demonstrations of latent social capital. For many years, localism was in decline, but the pandemic has accelerated a shift that was already happening away from globalisation. The experiences of 2020 show that more sustainable investment options can be rapidly scaled into working business models for smarter transport and places. These new sustainable investment projects could be delivered just as quickly as the legacy projects highlighted in the draft national investment plan.

The recovery urgently needs more collaborative approaches, building trust in all those engaged in delivering the future of transport. In early October Ocado became the UK's most valuable grocer, not because of the volumes of groceries sold, but because of its ability to build new types of relationship. Will Scots invest their pensions, and government invest public funds, in growing the value of Scotland's transport through more social and sustainable investment approaches?

This article was first published by Transport Times in October