

S cottish transport review

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SCOTLAND'S TRANSPORT THINK TANK



COP26 Review
Glasgow's Growing Electric Bus Fleet
Bus Service Improvement Partnerships
A83 Resilience

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A Call to Arms on Collaboration or a COP out?

STSG Chair John Yellowlees gives his verdict on COP26

Perhaps the key legacies of COP26 will be calls for Glaswegians to enjoy the free multimodal Smartcard provided to delegates, and for the Subway to run throughout the evening on every Sunday. To me the atmosphere felt more like the Commonwealth Games that anyone beforehand dared to hope.

Ambitious aims were in abundance such as the leader of Glasgow City Council, Susan Aitken announcing that cars would be banned from Glasgow city centre in five years. However the devil was often in the unresolved detail. Car bans in city centres, for example, can lead to increased emissions if the main effect is to displace demand from central to out of town locations.

The event that stood out for me was the Low Carbon Logistics session, held at Mossend showcasing the latest innovations in the rail freight sector. At this event Alex Hynes, Managing Director for Scotland's railway reminded us that we must redouble our efforts to make the railway more resilient as well as climate friendly. To

keep costs down it was important to run electrification as a production line and not as individual projects. Highland Spring explained how they plan to save 3,200t of CO2 and will remove 8,000 lorry movements a year by transporting bottled water by rail from a new terminal at Blackford and Tarmac described their new demountable installation of overhead electrification into one of their terminals allowing electric trains into the loading area. Mossend was certainly the place to be to celebrate real action and achievement rather than just future promises.

In a Scotsman newspaper article Gary West of Firstbus made the key point that the bus industry may have made tech breakthroughs to deliver electric and hydrogen-powered vehicles but the efforts of engineers, scientists, and technicians to achieve these great feats are sadly just a drop in the ocean if we can't get Scots to change their travel habits. We use reusable water bottles, recycle religiously, and buy eco-conscious

The aims of the Scottish Transport Studies Group are to raise awareness of the importance of transport for the Scottish economy and Society. STSG is a charity registered in Scotland SCO14720.

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brands, and then we drive home in our cars rather than use public transport. Making public transport the norm will mean changing our cities so that there are measures in place to make driving far less appealing, such as limited and expensive parking, and public transport taking priority on roads with faster journey times than by car.

The press has carried heavily ironic stuff. Vladimir McTavish suggested in the Evening News that road congestion would achieve Net Zero. In a satirical welcome to Glasgow, Ron McKay wrote in The Herald that he doubted whether President Biden would be getting from Edinburgh to COP26 on ScotRail's ancient pollution-spewing diesels (suggesting that McKay hasn't taken the train in years) and noted that in a gesture of solidarity with the aims of the summit, the unions had decided not to run them for a fortnight. Fortunately we were able to persuade them back with a 2.5% pay rise and £300 bonus. With inflation set to rise by 4% who got the better of that deal?

With its legendary capacity for shooting itself in the foot, the rail network managed to experience trees on the overhead wires during high winds on both the West and East Coast Main Lines so that delegates travelling to COP26 were delayed. David Johnson said the irony was not lost on him as he transferred to a flight. Kris Kandiah thought that the British public transport system didn't seem to be up to the task, but Simon Lewis said that the delay was as nothing compared to 2M people displaced from their homes by flooding in Shanxi province, China or by famine caused by climate change in Madagascar.

Was the choice of COP26 coming to Glasgow partly influenced in Trump's time by the availability of Prestwick Airport, whose security and operational merits will have been apparent to the Americans from their visits to Trump's hotel and golf course at Turnberry? Overall COP26 was a major international showcase for Glasgow. Even the Coop supermarket got in on the act, rebrand-

ing its Gordon Street shop in Glasgow "Coop 26". The Erskine Bridge was closed to traffic to allow the Greenpeace vessel to pass beneath.

COP26 may not have resolved many of these debates, but the UK government decision to scrap the rise in road fuel duty and to cut Air Passenger Duty on domestic flights a week before the conference was heavy on symbolism. Glasgow with its motorways, no light rail or riverboats, a Subway that has never been expanded, and a suburban rail network soon to see cuts in off-peak and evening trains, may have seemed like a poor choice of UK cities as a showcase of good practice, but Glasgow's dilemma is also an expression of the challenges facing us all.

A return to business as usual was soon obvious when rolling in a new bridge at Lynebeg near Tomatin during a three-day closure of the railway from 27 to 29 November was hailed as a triumph for Network Rail, whereas the actual reason for the new bridge was future dualling of the A9 which could even undermine rail's competitiveness.

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Tackling Freight Transport Emissions Requires more Attention

Alan McKinnon, Professor of Logistics at Kühne Logistics University considers how COP26 helped to set freight transport on the path to net zero

Although much of the discussion of transport at COP26 was confined to the movement of people, freight accounts 40% of total transport emissions

The COP26 outcome has so far been judged primarily by the wording of the final Climate Pact. This is pitched at a high level and makes no specific reference to transport or logistics.

Freight transport is the focus of several other documents to emerge from COP26, both official statements from member countries and reports of international bodies, industry associations, NGOs and others. Important as they are, I would argue that they do not adequately address to carbon-reduction challenges facing freight transport worldwide, an activity that accounts for just under 10% of energy-related CO₂ emissions.

Although much of the discussion of transport at COP26 was confined to the movement of people, freight accounts 40% of total transport emissions. Very few of the Nationally Determined Contribution statements submitted to the UN prior to COP26 explicitly mentioned freight transport. However, important freight initiatives were launched during the conference:

- Twenty-two countries, including the UK, signed up to the Clydebank Declaration for Green Shipping Corridors that will create at least six zero-emission maritime routes between two or more ports by the middle of this decade. It is not clear

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how this will be achieved, but at least the commitment has been made.

- A global Memorandum of Understanding (MOU) was signed by fifteen countries and another twenty 'sub-national' organisations to ban the sale of new diesel-powered trucks by 2035 if they have a gross weight under 26 tonnes and 2040 for heavier vehicles. The MOU doesn't specify which low-carbon technologies will replace diesel engines but this is likely to be a mix of batteries and hydrogen-fuel cells, supplemented in some countries by highway electrification.

Over the next nine years, much of the reduction in logistics emissions will have to come from changes to business practice, as they can be implemented more quickly and often at a low or even negative carbon mitigation cost. The KLU Center for Sustainable Logistics and Supply Chains undertook a survey of European logistics executives showing that there is widespread recognition in the sector that freight modal split, digitalisation and supply chain collaboration can make a big contribution to decarbonisation. In particular, collaboration came out of the discussions at COP26 as a key theme.

Aims to save 100 million tonnes of CO₂ by 2030, a very welcome low-carbon logistics legacy from COP26

Collaboration is central to a new managerial initiative launched at COP26 by the Smart Freight Centre to encourage companies to attach greater importance to carbon intensity when procuring freight services, equipment and energy. The new Sustainable Freight Buyers' Alliance, has already gained the support of companies such as Nestle, P&G, HP, Tata Steel and Maersk, and aims to save 100 million tonnes of CO₂ by 2030. If achieved, this alone would represent a very welcome low-carbon logistics legacy from COP26.

COP26 was not the Success that Some People Claim but Scotland's Cities can Still Achieve More

Campaign Group Transform Scotland's director Colin Howden reflects on COP26

Views vary on the success or otherwise of COP26. Demonstrably it wasn't the success claimed by some but where the world's nation states have failed, there's still an opportunity for sub-state actors to put in place the measures that countries failed to do. As John Vidal put it, "Because most climate actions devolve to lower tiers of government, mayors, local authorities, counties and states can be enabled to slash transport [...] emissions".

Starting with Glasgow, things are at last moving in the right direction. Its active travel network ambitions are impressive. Glasgow's leader has raised expectations about developing a car-free city centre and it has been promised billions for a 'Glasgow Metro'. Its main bus operators are now making swift progress in decarbonising their fleets, and the council has turned down plans for a zombie road scheme in the east of the city. All seems on course through in the west — which is something that would have been inconceivable for us to conclude a decade ago, when the city's focus was still focussed on subsidising increased car use through new road-building.

Edinburgh continues to lead the way on transport policies, with the most recent iteration being a commitment to a 30% reduction in traffic levels by 2030, ahead of the 20% traffic reduction pledge from the Scottish Government. Edinburgh's challenge, as it has been for a couple of decades now, is to follow through on its policy ambitions. Encouragingly, and unlike the other Scottish cities, Edinburgh has delivered a significant new addition to its sustainable transport network in recent decades (Edinburgh Trams) and is now far-advanced in extending that (Trams to Newhaven). But there has been no large-scale road space reallocation in the city since Princes Street was shut to cars in the 1990s, and the city now needs to make progress with this — starting with its city centre.

The administrations of our two largest cities are constrained by the patterns of capital expenditure across their wider city-regions. While the Glasgow City Deal has made available funds for sustainable transport investment in the city, it also makes available large sums for new road capacity in surrounding local authorities.

Where the world's nation states have failed, there's still an opportunity for sub-state actors to put in place the measures that countries failed to do

This pattern is repeated in the east, where the largest transport investment threatened for the city is the Sheriffhall Roundabout scheme; ridiculously, this single roundabout dwarfs City Deal sustainable transport investment for the rest of the city. And that's not the end of it. Midlothian Council has resurrected its own zombie road scheme, the A701, which will only pour more traffic onto the City Bypass. Meanwhile, Transport Scotland is to push ahead with its own M9 Winchburgh scheme, facilitating further car-dependent sprawl.

Aberdeen remains even further behind. Its administration is still pressing ahead with inter-city road-building schemes. The car is awash with road space but, even after the opening of the bypass that was heralded as curing all of the city's transport ills, the priority remains the provision of additional space for cars. The poverty of sustainable transport ambition in the city was well-illustrated by the derision that followed a suggestion that the city might want to look to develop a tram network: the city was seen as being "too small" for light rail. Yet we estimate that there have been around 52 new tram schemes in Europe since 2000, including around 23 in cities with populations smaller than Aberdeen. The city has now decided to move on to full pedestrianisation of the central section of Union Street. While the designs look pretty, it leads to the removal of bus services from the centre of the city; it's odd that the city hasn't pursued the successful model delivered on Broad Street.

Then there's Dundee. The city's transport focus seems to be squarely on active travel, bus priority and electric vehicles. The city's main bus operator, Xplore Dundee, is introducing electric buses to its fleet next month, and it's welcome that Dundee is beginning to make the sort

of investment here that Glasgow is already delivering at scale.

So, at least in the Scottish cities, there's a live debate about how to deliver sustainable transport, and while progress is varied, there is at least a prospect of our cities delivering the emissions reductions from transport that nation states are failing to do.

What remains to be seen is whether our largest sub-state administration, the Scottish Government, will join the party. In the past couple of years, it has made impressive policy commitments towards bus and rail decarbonisation, active travel investment, and road traffic reduction. But work on decarbonising bus and rail is only now coming to fruition, while the latter of these lack detailed implementation plans. And the real test will be whether the Scottish Government takes action to align its capital expenditure plans to prioritise sustainable transport. Committed investment in its current Infrastructure Investment Plan is massively skewed towards high-carbon transport, so we wait to see whether all the 'net zero' froth is followed in STPR2 with a fundamental realignment of spending priorities behind sustainable transport. There are doubts as to whether Transport Scotland has the capabilities to carry through

on this; certainly, the aviation consultation it recently published, which features unbounded boosterism for flying, suggests that its commitment to high-carbon transport remains deep-seated.

And then there's the role of the Scottish Parliament. The 17th November roads debate demonstrates how superficial commitments towards climate change action remain across the political spectrum, with both the Tories and Labour choosing to use the first transport debate after COP26 to promote a renewed new road-building programme. One would have thought that these parties would have the discretion to at least put a week or two between their grandstanding around climate and their reversion to pushing the same failed policies that created the climate crisis in the first place. But clearly for these parties, the car must remain paramount — and, if the planet has to burn as a consequence, well so be it.

So while the world's nation states failed in their task of using COP26 to resolve the climate crisis, our own task remains unchanged. We need to keep watching those 'lower tiers of government' and to make ever-stronger demands that investment in sustainable transport must come first, and that the failed policies of past decades be finally and comprehensively rejected.



How soon will Scotland's buses be Zero Emission?

The Zemo Partnership held a seminar in Renfrew to discuss progress with the roll out of zero emission buses and coaches

Scotland has ambitions for net-zero transport by 2045 in Scotland. The Scottish zero emission bus (ZEB) is offering £50m for ZEBs and bus companies are matching or exceeding the government ambition.

As of November 2021 there were 58 ZEBs in service, with many used for delegates to the COP26 summit. A further 259 buses have been awarded funding but are not yet in service, putting Scotland ahead of much of the UK in the transition to ZEBs.

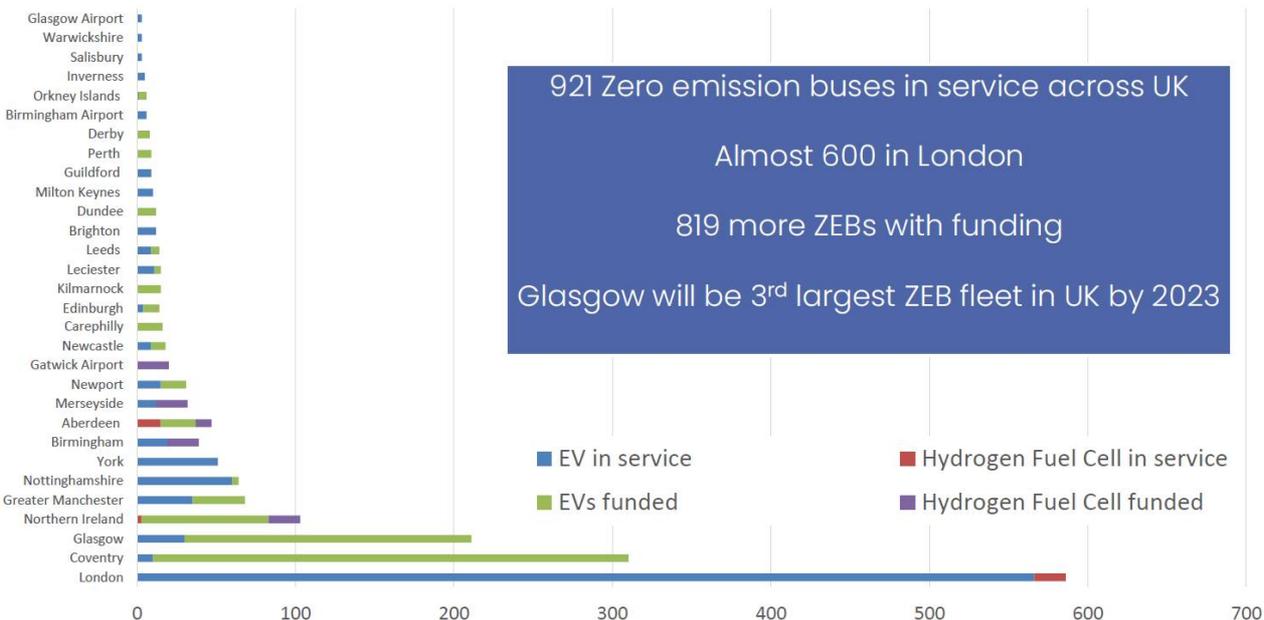
McGills buses have the largest proportion of their fleet using ZEBs with buses supplied largely by Yutong, but with a small number from ADL. Yutong are the world's largest EV supplier with 16% of the global market in 2020 and have a daily peak production of 230 vehicles. ADL manufacture electric buses in the UK and have now manufactured over 10k electric buses worldwide, compared to the 122k vehicles delivered by Yutong.

The decarbonisation of the bus fleet looks set to accelerate with the Scottish Government having committed to the "Majority of diesel buses in Scotland to be phased out by 2023".

Aberdeen has led the way with testing hydrogen buses and hydrogen is expected to continue to develop for selected bus and coach markets where battery electric vehicles are less competitive.

259 buses have been awarded funding but are not yet in service, putting Scotland ahead of much of the UK in the transition to ZEBs

Overall the transition from diesel to zero-emission is now taking place rapidly offering prospects to promote new more comfortable, quieter and greener bus travel opportunities



Waiting Years for Effective Bus Partnerships between Transport Authorities and Operators and then they all Come at Once

What should be included in a bus partnership? The latest round of Bus Service Improvement Partnerships (BSIPs), encouraged by the 2019 Transport Act, recognise that providing bus services involves a wide range of capabilities in service design, information, policy implementation, labour force management, technology, finance, and governance. The concept of a partnership recognises that a higher standard of service delivery is possible when skills are pooled from both bus operators and public authorities to manage a broader programme of change than would otherwise be possible.

Under previous legislation bus partnerships could be led by either bus operators or local authorities, but in practice most organisations waited for others to take the lead. Under the new legislation BSIPs are designed to be collaborative and accountability for leadership is placed on Local Transport Authorities. The partnerships can also potentially define terms under which third parties such as businesses and land use developers can engage with bus services.

The pandemic has helped to foster the critical relationships between bus companies and local transport authorities across Scotland to respond to new challenges, and in the first funding round Transport Scotland

The concept of a partnership recognises that a higher standard of service delivery is possible when skills are pooled from both bus operators and public authorities to manage a broader programme of change than would otherwise be possible

awarded BSIP funding to eight partnerships that include 27 local authorities. The Ayrshire Bus Partnership received £305k, Edinburgh and South East City Region £3m, the Fife Bus Partnership £749k, the Forth Valley Bus Alliance £500k, the Glasgow Bus Partnership £3.7m, the Highland Bus Service Improvement Partnership £2.7m, the North East Bus Alliance: £12m and the Tayside Bus Alliance £497k.

The initial tranche of funding is intended to support local transport authorities developing business cases for broadly based partnerships but there is also money for early implementation measures. For example, the Glasgow Bus Partnership award backs 'quick win' projects including £2m for bus priority interventions in Paisley town centre, and £275,000 for infrastructure improvements on Hope Street and Howard Street in Glasgow city centre. Detailed business cases are proposed for five key bus corridors across Glasgow: Paisley Road West, Maryhill Road, Dumbarton Road, Pollokshaws Road and Great Western Road. These corridors will support both sustainable transport and place-making goals, whilst also helping to reduce dependency on private car use.

The detailed partnership approaches are still being developed in most areas, but the intention is that they will include:

- Agreement on bus network coverage with route service standards specifying minimum bus service frequencies and maximum journey times on selected routes.
- Agreed tariffs on certain routes including fares and ticketing approaches to help grow bus use.

GlasGo Bus
Transforming bus travel in the Glasgow City Region



October 2021



Addressing road congestion, improving ticketing options, a customer charter, improved bus information, cleaner vehicles including zero emission buses, improved transparency and accountability, and improved collaboration with all who have a stake in improved services

These include multi-operator tickets to enable the integration of bus services with other transport including local taxi and community transport services.

- Infrastructure commitments such as committing to implement additional bus priority measures if delays on certain routes regularly exceed specified thresholds.
- Obligations to provide facilities such as toilets at bus stops and other waiting areas to agreed standards.
- Vehicle quality specifications including for zero emission vehicles.
- Joint approaches to information and marketing.

In advance of the formal new partnerships, a spin off development in Glasgow has been the manifesto published by the GlasGo Bus Alliance. The Alliance is formed of the leading bus operators in Glasgow and the surrounding area who are working collaboratively. Their shared vision is focused on creating seamless bus travel across the city region by delivering a simple to use, fast, smart and integrated bus network including action on: addressing road congestion, improving ticketing options, a customer charter, improved bus information, cleaner vehicles including zero emission buses, improved transparency and accountability, and improved collaboration with all who have a stake in improved services.

The Alliance's manifesto envisages over five years a massive 50% improvement in journey times in the city centre of Glasgow, and a 20% improvement in journey speeds across the Glasgow City Region more generally. It is envisaged that a 25% increase in passengers could be achieved with quicker end to end journey times, improved information and excellent customer service including marketing to potential new customers including new residents moving to the city region.

The Scottish Government has pledged Scotland will become net zero of greenhouse gas emissions by 2045 and the Alliance has committed to make 15% of their fleet zero emissions by Dec 2022.

As this ambitious agenda for buses rolls out across Scotland there remains much to do to recover from the pandemic to build a greener future for transport. Partnership approaches finally appear to be receiving the attention they deserve.



Investigating Road Traffic Collisions

In autumn 2018, the UK government launched the Road Collision Investigation Project (RCIP) to examine the causes of collisions and assess whether there is a business case for the creation of a Road Collision Investigation Branch (RCIB). Independent bodies are longstanding features of accident investigation practice in the UK.

The Air Accidents Investigation Branch (AAIB) has been operating since 1915, while the Marine Accident Investigation Branch (MAIB) and Rail Accident Investigation Branch (RAIB) have operated since 1989 and 2005, respectively. The recommendations of these investigations for future improvements are not binding, but other countries such as Norway have demonstrated how more systematic investigation of collisions can be used to improve safety overall.

Roads policing in Scotland is provided by Police Scotland but a new RCIB would go beyond the scope of the focus

Deepening our understanding of road traffic collisions and how best to address them

Consultation on establishing a Road Collision Investigation Branch

October 2021



The Scottish Law Commission have been conducting a review of driving legislation for the safe and lawful introduction of automated vehicles (AVs). The Commissions' consultation paper highlighted that a specialist investigation branch for AVs could be desirable

of police investigations, which primarily concentrate on identifying criminal culpability. Policymakers can use data from the Road Accident In-Depth Study (RAIDS) programme, STATS19, the Collision Reporting and Sharing System (CRASH), Forensic Collision Investigation (FCI) reports and Prevention of Future Deaths (PFD) reports. However, the police and stakeholders across industry have highlighted how this information, although rich and varied, is not adequate by itself to analyse the causes of, and determine the most effective measures to tackle road traffic collisions.

The Scottish Law Commission have been conducting a review of driving legislation for the safe and lawful introduction of automated vehicles (AVs). The Commissions' consultation paper highlighted that a specialist investigation branch for AVs could be desirable to ensure lessons are learnt to improve the overall safety of this innovative technology. The conduct of thorough, high-quality investigations by an RCIB is likely to prevent the recurrence of collisions and incidents through:

- The identification of how causal and systemic factors have combined, resulting in collisions;
- A deeper understanding of existing weaknesses in current risk control measures, and how these might best be addressed;
- The bringing together in one place of all road safety data to enable consistent analysis and identification of themes;

Their powers should also be broad enough to look at questions of power, ethics, and the consequences of collisions

- Safety findings and recommendations based on best evidence collected from across the country;
- A demonstration to those involved in road collisions, those affected, the wider industry and the public that action is being taken and lessons will be learnt;
- An independent and authoritative voice on matters related to road safety; and
- A reduction in the massive economic and social costs of road collisions

The government anticipates that an RCIB would need core powers to: Notify fatal and serious collisions, carry out investigations, preserve evidence, co-operate with existing organisations, disclose evidence, and publish reports making recommendations.

The current consultation is considering if these powers are sufficient but some respondents suggest other powers are needed. Some of the most heart-breaking situations are when families are faced with the bereaved being blamed for the collision for no reason other than that it becomes pragmatic for the police, courts and insurers to attribute blame. The RCIB would need to be able to deal sensitively with such situations so their powers should also be broad enough to look at questions of power, ethics, and the consequences of collisions.

The RAC Foundation are assisting government with research to establish whether there is a business case for putting more resource into the investigation of road crashes and if there is, to establish how best to develop it. The research includes the:

- Development of an appropriate analytical framework, grounded in systems thinking, for effective learning from road collision investigation;
- Review of the critical factors that make the

'learning cycle' effective for Rail, Sea and Air;

- Collation and review of the learning from relevant and existing initiatives, with input from all relevant bodies;
- Identification and review of existing data from road collisions, identification of additional sources of data and testing the extent to which fresh lessons can thus be learned. The limitations of current data capture and analysis will be identified as well as potential options for improvement;
- Development and application of new analytical protocols for testing in a real-world setting involving two or more police constabularies, in partnership with Highways England and local highway authorities;
- Development of a 'learning cycle' from road crashes including expert independent scrutiny and advice to Government; and
- Analysis of the potential range of costs and benefits from deploying a new approach.



International Review of Road Collision Investigation Approaches

Empowering Resilience in Transport's Climate Response

Derek Halden argues the controversy at the A83 Rest and be Thankful is a litmus test of Scotland's climate response capability

Climate change will require greater resilience across transport systems, and there are many vulnerable sections of road across Scotland that are expected to be subject to landslips if rainfall increases as predicted in the decades ahead. Since 2007, the landslips at the A83 Rest and be Thankful (RABT) have seldom been out of the news for long.

When the need to rise to new challenges is growing why does it seem that action is so slow? How we fix the Rest and be Thankful could be a testbed for a new more responsive approach to the transport system.

Scotland is an amazingly diverse nation, where the need to face a wider range of challenges than many nations has made us a particularly inventive country. Personally, I have had the privilege of working on the design of road and bridge improvements in difficult terrain across Scotland, from complex highland bridges to challenging rock slope stability issues. These projects show us how to enable safer better value designs by improving on de-

When faced with a difficult situation, the key test of a system is whether it resolves to a positive outcome, or whether it enters a negative cycle of blame and recrimination

Many professionals have become more used to following rules than making them. However, the growing challenges of climate change require more rule making than following

fault procedures and assumptions. However too often the managers and designers of transport systems find departing from standard approaches becomes very challenging. Unfamiliar solutions are more likely to be rejected. It takes persistence, often involving unfunded time and resources and usually the ultimate financial savings accrue to someone other than the people who need to persist to achieve the change.

Faced with these challenges many professionals have become more used to following rules than making them. However, the growing challenges of climate change require more rule making than following. The Rest and be Thankful is first and foremost an opportunity to demonstrate how to adapt our approaches so that our transport systems can become more responsive. By attempting to follow maintenance and road planning processes designed for very different situations, there is growing frustration that the improvements at the Rest and be Thankful are taking far too long, and causing avoidable damage to the economy of Argyll.



When I was recently invited to meet with the Rest and be Thankful campaign group I was immediately struck by the capabilities and skills of the people involved. High level knowledge and skills combined with a strong case for change should be able to make things better. However, everyone involved seemed to feel powerless. When faced with a difficult situation, the key test of a system is whether it resolves to a positive outcome, or whether it enters a negative cycle of blame and recrimination. What needs to change to ensure that the response at the Rest and be Thankful leads to successful outcomes?

Defeating fear of failure

In recent years legal challenges to road building have made Transport Scotland very cautious, ensuring they follow the details of every procedure sequentially. However, as any lawyer will tell you, the best way to avoid being challenged is to do something everyone supports. It is very difficult to see who would object to a well-designed, proportionate response at the RABT.

Working with every landowner, campaigner, and affected group who might be adversely affected by a road is much better undertaken proactively, designing solutions far more collaboratively. However, the RABT campaign group told me that they understood that the landowner potentially affected by the A83 works, who is the only obvious potential objector, had not yet been approached by Transport Scotland to explore consensus options.

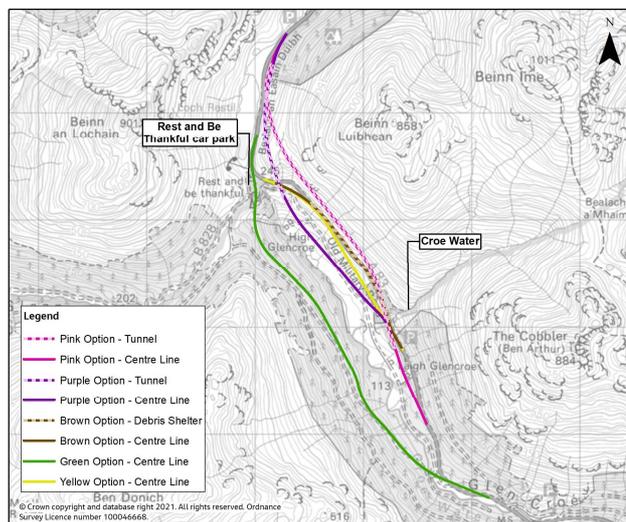
In April this year engineers at Argyll and Bute Council anticipated that an interim temporary route could be designed within approx. 18 months and constructed within 3 - 4 years on land already owned by Scottish Government. Yet it is eight years since the 2013 A83 Trunk Road Study looked at upgrading options. The latest Transport Scotland proposals in 2021 suggested five

When faced with a difficult situation, the key test of a system is whether it resolves to a positive outcome, or whether it enters a negative cycle of blame and recrimination

It is very difficult to see who would object to a well-designed, proportionate response at the RABT

possible route options through Glen Croe with using combination of tunnels, viaducts and shelters, to improve the resilience of the route with a 7-10 year time-scale being suggested as the fastest possible for completion.

The slow progress at the RABT contrasts with the rapid progress that has been achieved on Scottish trunk roads in the past, such the action taken to tackle growing road casualties on the A74 trunk road. The Gretna Kirkpatrick section of the M74 became the fastest built section of motorway in the UK, taking less than three years from the announcement of the upgrading to the opening to traffic, despite challenges associated with complex bridge work affecting the west coast mainline railway. Rapid progress required undertaking many tasks in parallel, recognising and managing all risks with preventative action to minimise delay.



Considering problems more broadly

Perhaps, the current system for determining what is a new build road and what is maintenance of an existing road is too rigid when optimal solutions include an element of upgrading. The distinction between temporary and long term reflects the current legislation, but Climate Change requires that we invest in as broad a range



of mitigation, adaptation and resilience measures as are needed. The approach to the RABT appears to focus on either on short term mitigation or future resilience. Perhaps procedures for adaptation of infrastructure need to be clarified or changed to cover the many minor upgrading solutions that will be needed across transport networks.

When the recent spate of landslips at the RABT started, the challenges were viewed as maintenance to fix geotechnical problems and solutions selected were largely also geotechnical, including vastly expensive catchpits for debris. There is nothing to suggest that other solutions such as constructing bridges over the landslide prone locations were fully considered as part of the restoration of a reliable road, even though bridge solutions are often far cheaper and easier to construct than slope stabilisation in such locations.

The maintenance approach has not been as successful as hoped so new build options are being considered. Consultants are currently being commissioned “to provide Design Manual for Roads and Bridges (DMRB) scheme assessment work, assist in the promotion of the statutory consents and the procurement of contracting services” and the Transport Scotland brief notes that

The costs of this delay are largely being carried by organisations with no influence over the upgrading timescale, such as haulage companies. In contrast the benefits of the delay lie with the organisations that are making the decisions about the timescale

“Speed will be of the essence and...there will also be a focus on providing interim resilience while the long-term solution is developed”.

There appears to be a gap between maintenance of the old road, or temporary solutions, and construction of a new road to full modern standards. Perhaps a new road is not needed here but instead short lengths of viaduct as typically seen on many upgraded routes through mountainous areas across Europe. Rather than a full upgrade to modern standards, adaptation of the existing A83 at the RABT could include significant lengths of viaduct on the sections of route with the greatest landslide risk, perhaps from the Croe Water to High Glencroe sim-

ilar to the yellow route suggested by the baseline route options work.

Minor upgrading of the road to solve 90% of the problem with 10% of the budget in a fifth of the time does not seem to be an option in Transport Scotland's framing of the new consultancy brief for procurement of a design team in 2021, but hopefully with good management of the appointed consultant, optimal solutions will quickly be identified.

So far there has been no sign of urgency in the many years taken by Transport Scotland and its consultants for route sifting, before any detailed design even starts. Currently the costs of this delay are largely being carried by organisations with no influence over the upgrading timescale, such as haulage companies. In contrast the benefits of the delay lie with the organisations that are making the decisions about the timescale. Perhaps any new contract should correct this imbalance by building in incentives to avoid delays on the A83 with financial penalties for any traffic delays after the first year or two of the new consultancy contract, similar to the incentives used on major motorway upgrades. Those responsible for the timescale for the restoration of the A83 could also be asked to compensate those facing demonstrable losses from the delays to road users. Payment for performance is increasingly common across transport infrastructure and could help to sharpen minds at the RABT.

Solutions rather than defending fortresses

The crisis building work at the Rest and be Thankful has now been running longer than there was an actual wall at Wall Street in New York. In the 17th century it was quickly found that the money budgeted for spending on building walls could be far better spent on more transactional approaches to dealing with the conflicts between different interests, not least building roads to help people rather than building walls to keep them

Payment for performance is increasingly common across transport infrastructure and could help to sharpen minds at the RABT

Demonstrating more collaborative, confident, affordable and sustainable approaches to infrastructure improvements that manage risks broadly for all of society will help to demonstrate that Scotland is as ready as it can be for the climate change challenges ahead

out. There are many similar examples across history of collaborative or transactional approaches achieving better outcomes.

As we face new challenges, we need to become much better at finding solutions that depart from normal procedure. The government's intentions for the Community Empowerment Act were to diversify opportunities for generating innovation and solutions. If empowered to do so, the members of the RABT campaign group could almost certainly already have organised and built a new temporary road along the line of one of the existing forest roads clear of landslip areas for less money than Transport Scotland has spent on defences against future landslides at the existing road.

How could we enable such solutions to happen? What checks would be needed to ensure everyone was safe and taxpayers got better value? What would a 'participation request' from the RABT campaign group to Transport Scotland look like? How do we make new problem-solving ideas practical, rather than finding the whole concept of change threatening?

From 'can't do' to 'can do'

By fearing the worst and seeking to adopt risk free options to promoting improvements there is a danger of achieving the worst outcome of all. What if our climate gets worse over the next decade? We cannot possibly afford £1bn solutions at every landslip prone route in Scotland that involves solutions that take 25 years to be implemented.

There are many potential solutions for the RABT, all with different risks. The only real failure would be to continue to deliver none of them. Since 2007 the temporary solutions at the RABT have not succeeded, undermining confidence and dividing society. Overcoming the RABT problems, and demonstrating more collaborative, confident, affordable and sustainable approaches to infrastructure improvements that manage risks broadly for all of society will help to demonstrate that Scotland is as ready as it can be for the climate change challenges ahead.

The main area of consensus at present is that everyone says they want urgent action, but everyone says that are not empowered to achieve it.

What next?

Therefore, in summary four ways to break the deadlock might be:

- **Tackle perverse incentives** - Who are the winners from delays to the improvements? Under the guise of emergency works huge sums of public money have been spent and when money is spent there are many people and companies that benefit financially. If these people and companies are then allowed to determine what happens in the future, then perverse incentives for delay can be inadvertently built in as standard. It is far from clear that financial incentives are aligned with government policy aims, so even the most altruistic people and businesses might be tempted by a potential slice of a £bn prize even if that harms the economy of their country.



If 90% of the problems can be solved for 10% of the cost then would that not be a good approach?

- **Change the rules** - If following standard road order processes takes so long, and costs so much, in this type of situation, then perhaps we need to look at using different processes. If we cannot use existing legislation efficiently, then the restoration of a reliable A83 could be treated like an emergency with special legislation used to promote an affordable scheme that carried consensus; "The A83 Reconstruction at Rest and be Thankful Act".
- **Build consensus through dialogue rather than as a vague aspiration** - Are we clear about the differences between real challenges and unresolved uncertainty? Is anyone actually going to object to a near online replacement of the A83? If so who and why? Have potential objectors been asked what they are worried about? What if Transport Scotland actually spoke to environmental campaign groups, landowners and others to explore what sort of approach at the Rest and be Thankful could reach broad consensus? The landslip stabilisation works have already made the entire hillside highly unattractive and almost any permanent solution would be a huge improvement on the environmental damage to this scenic location over the last 14 years.
- **Explore quick fixes** – There appear to be too many obvious solutions with unanswered questions about why they have been dismissed. From upgraded forestry roads to short lengths of viaduct after 14 years the answers still seem to be that nobody has looked at these options in detail. If 90% of the problems can be solved for 10% of the cost then would that not be a good approach?