NATIONAL TRANSPORT STRATEGY -
Call for evidence

CONTENTS

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HITRANS welcomes the opportunity to respond to this call for evidence for the National Transport Strategy.

HITRANS is currently consulting on our draft Regional Transport Strategy following its refresh. To date around 100 responses have been received to our consultation, which cover a mix of individuals and business / organisations. While the consultation period is still open, an overview of the responses has been used to inform our response to this call for evidence.

The RTS refresh has been steered by a review of progress made over the last 10 years, an assessment of what has changed, both from a transport and wider policy and economic, social and environmental perspective, all triangulated with an examination of several indicators that we have been collating on an annual basis as part of the monitoring and evaluation of our RTS.

The 2016 NTS refresh concluded that the strategic outcomes set out in the original 2006 NTS were still valid. In 2016, HITRANS consulted on a RTS Refresh Main Issues Report[1]. Following feedback, the objectives were further updated for inclusion in the draft RTS[2] as follows:

As can be seen in these objectives, there is significant correlation between the RTS 'transport objectives' and the NTS outcomes.

The consultation on the draft RTS is due to close on the 21st July.

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1   HITRANS Main Issues Report, April 2016, available at: https://hitrans.org.uk/userfiles/file/Regional_Transport_Strategy_Refresh_Main_Issues_Report.pdf
2   HITRANS draft Regional Transport Strategy, May 2017, available at: https://hitrans.org.uk/userfiles/file/HITRANS%20Main%20Issues%20Report%2017%20high%20res.pdf

From early analysis, we have found that 98 per cent of respondents agree that the two high level objectives are the most relevant outcomes now and for the next 10-20 years; with 71% fully supporting and 27% partially supporting this position.

Transport infrastructure and services feed through into many different aspects of society creating value through economic growth, delivery of health services, delivery of education services and by making society more cohesive.

In 2017, HITRANS commissioned a desk based study into The Value of Transport[3]. Within the HITRANS area local authorities incur revenue expenditure on the provision of public transport services: bus, ferry and air. Capital expenditure is also needed to support these services along with maintaining and improving the road network. Within the Highlands and Islands region there is also the need to maintain inter-regional connectivity. Some of the responsibility for this lies with Transport Scotland (the trunk road network and the rail network), whilst local authorities have responsibility for other elements of this intra-regional infrastructure and service provision. A similar story plays out at a national level regarding the connectivity of the Highlands and Islands to Aberdeen, the Central Belt, North of England, the South of England and continental Europe. This review has therefore considered the value of transport at two different geographical levels: inter-regional/long distance and intra-regional/local.

The study reports that of course transport infrastructure and services feed through into many different aspects of society creating value through economic growth, delivery of health services, delivery of education services and by making society more cohesive; specifically, the study concludes:

• From an economy perspective transport investment creates productivity gains – business and freight user benefits and the agglomeration benefits from increasing the size of clusters. The broad evidence base indicates that a doubling of transport stock would grow the economy by 8.5%, whilst transport improvements that could double economic mass would grow the economy between 4% and 11%. However, behind these net benefits there are significant local variations as changes in transport services affect the status quo and lead to displacement of economic activity from one location to another.
• Transport infrastructure and services are valuable to the delivery of health services in two ways. They assist directly

in reducing the costs of running the health service - i.e. in reducing the cost of delivering health care for a given level of health needs in society. They can also contribute indirectly by making the population healthier (or unhealthier!) – i.e. reducing society's health needs. With respect to the direct costs of running the health service it is estimated that the health service in Scotland spends a minimum of £94 million annually on purchasing transport services. However, there is a general lack of evidence on how good (poor) transport provision influences its health care delivery costs.

The desk-based study is about to be published and can be made available if required.

In our approach to this Call for Evidence it has been useful to consider issues connected with transport in relation to the three high level aims highlighted in the 2014 Empowering Scotland's Island Communities prospectus[4] namely working toward more **democratic, fairer** and more **prosperous communities**. These are equally aims relevant to our mainland communities.

From the 2014 Empowering Scotland's Island Communities prospectus:
• More **Democratic** in the sense of facilitating subsidiarity in decision-making implies that island communities should have a significant say in the specification and running of their transport systems, recognising that central government support funding is also required to achieve these ambitions. This democratic impulse must also recognise that central government have wider responsibilities and obligations both to the national electorate and taxpayer that have to be balanced with the more specific interests and ambitions of the island communities.
• **Fairer**. It should be recognised that this term and aspiration can mean different things to different people and would likely inspire varied responses in different circumstances. To clarify thinking we outline how fairness, equity, equality and equivalence can all lead to different outcomes. Stakeholders should agree a common objective of fairness.
• **More Prosperous**. There is a tendency amongst some to consider transport as a fixed piece of infrastructure like roads or harbours that governments should supply as a basic requirement. However it is recognised that the causal relationship between provision and economic development is two way and indeed there is emerging evidence that in less

3   The Value of Transport, 2017, Peak Economics for HITRANS.
4   http://www.gov.scot/Publications/2014/06/2708

developed economies improvements in connectivity speedily translate into improvements in economic performance. This provides a stronger rationale for state investment in transport, where services could potentially lead, rather than just follow or respond to, demand.

Specifically, we now turn to the questions set out in Call for Evidence paper, which are addressed in turn below.

1. ECONOMIC GROWTH AND INCLUSIVE GROWTH

What does evidence say about the ways in which transport can best support economic growth and do so in a cost-effective way? What are the implications of this in terms of inclusive economic growth (economic growth that distributes its benefits fairly across society)?

The main challenge for the HITRANS region's economy remains one of relatively low productivity standing at only 91 per cent of the Scottish average. This supports an aim to both attract more higher value added activities to the region and to improve the productivity of existing businesses. However, it is difficult to draw any direct inferences from the data regarding transport's role in productivity and economic growth. The Inverness / Moray area clearly benefits from being relatively well connected compared to other parts of the region, as does the second most productive area including Argyll & Bute and West Highlands, but not to the same extent as Inverness / Moray. Challenges remain in the Highlands north of Inverness and Eilean Siar (productivity only 78% and 71% of Scottish Average), and a focus may be to consider what role future investments in transport could play in facilitating a more inclusive pattern of growth, supporting these areas to 'catch up' economically.

The wider economic benefits of transport schemes in remote rural areas paper[5] which studied a number of case studies, demonstrated that imperfect competition, labour taxes and thin labour markets are two relevant market distortions in a remote rural Scottish context. The review also suggests that other market failures, associated with and agglomeration and involuntary unemployment, can be relevant in other regional contexts. The paper concluded that each of the case studies had a significant local economic impact and that this impact in combination with the identified market imperfections is empirically relevant to cost benefit analysis – increasing benefits by up to 37.5% in one case study.

We recognise the Scottish Government commitment to building a fairer Scotland and tackling inequalities. In the Highlands and

Islands this will require tackling deep seated issues and constraints. Achieving genuine change will take time and will require collective effort and a shared vision of what a fair and equal Scotland should look like in the years to come. It will also require significant investment in our transport infrastructure and services.

Throughout the refresh of the RTS one of the most common themes across all stakeholders and consultees has been around lifeline transport – both in terms of transport infrastructure and transport services. The theme around the adverse economic impacts of poor **lifeline transport** has been made repeatedly; this has been an issue HITRANS has been working on for many years.

A report for HITRANS in 2004 reviewed the case for investment in 'Lifeline' roads[6]. It stated:

"The Scottish Executive in a consultation document, issued in 2000, offered the following as one of their objectives in relation to 'lifeline' ferry services, "…to ensure the provision of a suitable standard of transport connection, in terms of quality, frequency and capacity, to island (or, in some cases, remote peninsula) communities which would otherwise suffer social and economic disadvantage."

Proving that there are direct links between transport improvements and population change or economic growth is notoriously difficult, given that there will be a range of factors active in any one area that will influence population and economy. However, over the years, there has been growing evidence that where transport links are improved, significant economic benefits can be generated, even in relatively small communities.

5   Laird, J., Mackie, P. and Johnson, D. (2013): Wider economic benefits of transport schemes in remote rural areas, paper presented at the Conference on Wider Economic Impacts (WEI) of Transport Infrastructure Investments, Molde University College, Molde, Norway 10th September 2013.

6   Halcrow Group Ltd (2004) Investment in lifeline rural roads, HITRANS.

In the paper *Beyond Lifeline Services,* STAR (2006)[7], it was concluded that: *"those parts of the Highlands and Islands which have prospered since 1991 have been those with the best transport links. Meanwhile, the least accessible areas have suffered heavily from de-population whilst their economies have struggled to keep up with national trends. Although it is unlikely that transport is the sole cause of this pattern, it does appear to be a major factor."* And furthermore: *"Where recent investments have been made to either reduce transport costs or improve the quality of service, this has resulted in significant increases in patronage, even for relatively small island communities. The early indications are that these improvements are increasing tourist flow, are making it easier for businesses to move freight in and out, and are encouraging new business investment as a result."*

Lifeline transport infrastructure is often a single route that connects a community with key destinations. These are ones that need to be accessed for health, employment, education, shopping and leisure; plus services provided by those based elsewhere and the movement of freight. If a lifeline route is unavailable, that community will often be cut off, or in some cases face a long diversionary route.

The region has many lifeline transport connections. It is vital that these are strong, resilient and reliable.

Lifeline ferry services provide access to/from the communities of islands and peninsulas. Sailing frequency is generally increased in the summer to meet tourist demand. The communities benefit from this, but this then leaves deficiencies in frequency of service during the winter. Despite the significant support which the Scottish Government and Local Authorities provide for ferry services there is an absence of analysis on the social and economic benefits provided to the islands and remote peninsulas they serve.

Road Equivalent Tariff (RET) fares are not available on some ferry services. That is despite these lifeline routes being very similar in nature to those with RET fares. Similarly, there is little understanding of the impact of RET at both an island or national level.

There is a need for the development of both intra and external National aviation policies to be considered in the context of reviewing the National Transport Strategy. HITRANS in

partnership with ZetTrans and its partner Local Authorities developed an Air Services Scoping Paper and this sets out a number of priorities[8]. Lifeline air services comprise a combination of commercial and subsidised services (supported by Public Service Obligations). They include both intra-regional routes and services to other parts of Scotland (many of which are commercially operated). Residents in some parts of the region get discounted fares for leisure and third sector business travel on certain commercial services, through Scottish Government's Air Discount Scheme.

Fare levels are considered to be high relative to those on other UK domestic flights. The exclusion of business travel from the Air Discount Scheme does not reflect the lifeline nature of the routes and acts as a barrier to economic sustainability. It is also inconsistent with fares policy on the region's other publicly supported transport services-including ferry and rail.

From the July 2014 *Air Links to London from the North of Scotland: Updated Evidence Note*[9], it is highlighted that HITRANS wish to explore the possible application of both Intra EU PSOs and PSO's from Scottish airports to London Heathrow to help address regional connectivity challenges. With that in mind it is perhaps helpful to highlight the following statements from Scottish Enterprise's current Business Plan that are particularly apposite:

"Doing more business overseas is vital to the recovery and growth of Scotland's economy and sectors." …. "This requires Scotland to have air links that provide good access to major growth markets."

"Recent benchmarking of Scotland's current international [air] services against competitor locations highlights the need to attract more long-haul connections"…. "We will work with partners to establish an aviation framework to facilitate the further development of Scotland's international air links."

In 2016 HITRANS commissioned a study to explore the potential benefits, costs and feasibility of reintroducing ADS (the Air Discount Scheme) for all types of business users.[10]

The main findings from this appraisal were as follows:

7   T. Jarvis, Highlands and Islands Enterprise, Proceedings of Scottish Transport Applications and Research Conference 2016: beyond lifeline services: how investing in transport can unlock the economic potential of peripheral areas
8   HITRANS, Air Services Scoping Paper, 2016
9   Air Links to London from the North of Scotland: Updated Evidence Note. Available at: https://hitrans.org.uk/Corporate/Research/Air
10   Appraisal of Inclusion of All Business Travel Within the Air Discount Scheme, Final Report to HITRANS, August 2016.

Category	Estimated ADS Passenger numbers (return flights)	Estimated annual cost	Key impacts
Private sector business travel	5,691	£661k	• Increased productivity through: reduction in unproductive travel time, enhanced skills and knowledge, and greater adoption of innovation • Investment of travel savings into the business • Increased development of growth sectors • Increased turnover and international sales, including from more face to face interaction with customers • Increased income/population in ADS eligible areas by allowing a greater number of individuals to live there and work elsewhere • Contribution to all four of Scotland's Economic Strategy 's priorities of Investment, Innovation, Inclusive Growth and Internationalisation
Public sector-excluding NHS business travel	6,277	£785k	• Increased staff productivity through: greater exposure to developments in their field, higher uptake of training and learning opportunities and contact with potential sources of innovation • Greater participation in national and other fora leading to enhanced contribution to decision making and national policy • Greater interaction between dispersed parts of regional organisations leading to greater cohesion and more efficient performance • Contribution to the Investment and Innovation priorities of Scotland's Economic Strategy
NHS Staff Business Travel	2,754	£213k	• Investment of travel cost savings in core services • Increased staff productivity through: greater exposure to developments in their field, higher uptake of training and learning opportunities and contact with potential sources of innovation • Greater participation in national and other fora leading to enhanced contribution to national policy and strengthened relationships with other Health Boards • Contribution to the Investment and Innovation priorities of Scotland's Economic Strategy
NHS Patient Travel	23,800	£3,000k	• Investment of travel cost savings in core services • Contribution to the Investment priority of Scotland's Economic Strategy

Furthermore, a June 2017 report for HITRANS, *Appraisal of Extending Student Eligibility Within the Air Discount Scheme*[11], found that there are around 100 students studying at educational institutions in the eligible areas but who are not originally residents of those areas and therefore not entitled to the discount. The study estimated that the cost of extending the eligibility to this group would be around £28,000.

Smart Peripheral and Remote Airports 2020 (**SPARA 2020**) is a Northern Periphery and Arctic Programme area project aimed at addressing some of the special needs of the smaller civilian airports in the region. This three-year €2.4 million project brings together a range of public authorities, academic institutions, airports, SMEs, and specialists to focus on the challenges of airports serving remote and peripheral areas.

11   Appraisal of Extending Student Eligibility Within the Air Discount Scheme. HITRANS, June 2017.

Much of the work is ongoing, and it will be useful for the NTS work to consider the outcomes from pilots that are looking at how technological improvements can reduce airport running costs, reduce emissions for surface access and the wider, social and economic benefits of airports to the rural communities they serve.

The evidence base

Good planning of services is based on having a good evidence base of what is available, how it is used and what its value is. We often find that there is a lack of detailed, or in some cases any, information on trends in transport usage to help transport planners understand what is really happening over time.

2. TRANSPORT MODE CHOICE AND DEMAND

To what degree are travel behaviours such as mode choice (including freight transport) and demand amenable to intervention? Which policy interventions change behaviours or demand and why? What does research tell us about the types of interventions that fail to change behaviours, particularly over the long term?

In the years to 2012 there was a trend towards more people walking and cycling, and fewer people driving, to work. This fell away in 2013 and 2014, but seems to have recovered in 2015. The HITRANS area has the highest proportion of all the transport partnerships in terms of people using cycling as a main mode of transport. Falling oil prices and the introduction of the Fuel Duty Rebate Scheme (In some parts of the HITRANS region), have led to increased car use for both travel to school and work. Active travel use within the towns in Moray is the highest in all of Scotland.

The draft RTS sets out that it is important to put communities and individuals at the centre of efforts; in keeping with the Inclusive Growth priority in Scotland's Economic Strategy and the Community Empowerment (2015) Act.

The RTS sets out that the ability to access key services and facilities within a reasonable time, at a reasonable cost and in comfort is an essential right for everyone living in the region. Due to the geography of the region many residents will have relatively long journeys to work, to hospital or for leisure purposes. For example, in each of the Western Isles, Highland, Moray and Orkney, Scottish Household Survey respondents are travelling distances in excess of the Scottish average. Connectivity for rural, remote and island localities, that often lack some local services and facilities, is particularly important. Public transport, including ferries, air services, demand responsive transport, as well as active travel opportunities, should be available for those who do not have access to a car or who cannot make use of a car or a conventional scheduled bus service for their journeys.

Community Planning Partnership Single Outcome Agreements stress the importance of participation and independence, so that people can live independently and participate positively, ensuring that older people's needs are met to sustain active lives in the community, geographically and socially connected.

The RTS sets out a *Locality Planning and Empowerment Approach* to address social isolation and access deprivation at a locality-based level. This will see working with partners, including communities to plan, design and deliver the best mix of transport for their area to address access barriers. Working with Community Planning Partnerships and Locality Planning Groups through health and social care integration to explore the cross-sector value of transport investment in the region, including the consequences of disinvestment in services. And supporting and prioritising development planning within walking distance and with good connections to frequent public transport services as a means of reducing car use and increasing patronage. Detailed approaches will reflect on the Planning Bill that will be brought forward in 2017.

There is a need to better understand for remote and island areas the impacts of investment / change in one service on that of other modes. So, for example, the impact that RET has had on air services demand. Also, to understand the impact of RET on the balance between vehicle and passenger demand; and what is proportionate in terms of provision of extra deck space (through larger vessels) versus actual passenger carryings. Furthermore, a reduction in support for bus and coach services, likely increases the demand for vehicle carryings on ferry services, and which overall diminishes integration opportunities.

Further research is required to fully understand these interactions. Car parking can present different challenges in urban and rural areas. More needs to be understood around the use of car parking as a demand management tool. HITRANS has identified in the draft RTS the need for a strategic approach to sustainable access to popular tourist sites around the region: undertake a scoping study for volume tourism, considering how the potential of these sites can be maximised while minimising any adverse impacts on the local transport network and wider environment by piloting some best practice approaches from rural areas within EU countries.

3. ENVIRONMENTAL IMPACT OF TRANSPORT

What does evidence suggest the most effective means of reducing transport's local (air quality) and global (climate change) emissions are? How have other countries reduced the environmental impact of transport and to what degree are any such measures also likely to be successful in Scotland? When are routes to reducing carbon emissions from transport also consistent with tackling air quality issues, and when are they not?

We recognise that transport in the Highlands and Islands, particularly maritime and aviation services are heavy contributors to emissions, together with motorised and rail transport.

The original HITRANS RTS did not explicitly address the issue of low carbon transport and reduction of emissions. Nevertheless, several initiatives have been implemented at the regional and local level to reduce emissions and to tackle climate change. As an example, all HITRANS local authorities have procured plug-in electric vehicles and installed charging infrastructure.

A partnership between Stagecoach North Scotland, The Highland Council ad HITRANS saw Inverness become the first city in Scotland to benefit from fully electric vehicles. The introduction of 6 vehicles on city routes has positively impacted on the Air Quality Management Area within the city centre and provided invaluable learning on the benefits but also obstacles to rolling out Electric vehicles on public transport networks. HITRANS has just received confirmation of EU InterReg funding to introduce a fully Electric vehicle in a rural context with a proposed pilot for the Cairngorm area about to commence later in 2017. This will provide the opportunity to demonstrate the anticipated benefits in a rural and mountainous environment.

EU funding also offers an opportunity to support and develop sustainable freight projects. This includes specific funds such as the TEN-T Networks that are very well focussed towards freight flows.

HITRANS have enjoyed success in other EU funding sources including the INTERREG funding stream where HITRANS participation in the Food Port North Sea Area project enabled the innovative trial of modal shift from road to rail for the transport of Whisky product from Elgin / Speyside to central Scotland distribution and bottling plants. The Lifting the Spirit project was a HITRANS led initiative delivered in partnership with Scotch Whisky Association (SWA) HIE, Moray Council and

our Food Port partners which enabled a wide range of distillers the opportunity to move bulk spirit and other food products by rail to/from Elgin during autumn 2013. With 48% of HGVs on the A95 whisky-related, sufficient potential traffic was identified. The objective was to offer this on a cost neutral basis as many of the potential customers had not used rail transport from the north of Scotland in the last 20 years, although most had recent experience of intermodal transport for cased goods and bulk spirit from Central Scotland. In majoring on an iconic product, we could demonstrate the availability of alternative transport infrastructure and thus enhance or at least retail the area's competitive position at a time of growing transport costs and increasing demand for transport. The spirit was moved in demountable container tanks on rail wagons. Lifting equipment was procured at Elgin to facilitate transfer from local hauliers, and the tanks were sent to an intermodal terminal in Central Belt for onward delivery. Key outputs included:

- modal shift to rail
- maximising the use of rail's capability, demonstrating resilience and performance
- assisting with the development of the Moray economy
- encouraging collaboration among producers
- making the case for further infrastructure investment

The Lifting the Spirit[12] project highlights the opportunity that EU funding can offer and was a useful way of proving demand and costs ahead of developing a longer-term project through commercial business case and/or freight facilities grant.

While EU funds can attract a favourable intervention rate (Food Port secured 60% of costs met by EU sources for Lifting the Spirit) the need for the Scottish partner to provide match funding is a barrier to participation in these projects. If a fund was established to support Scottish public bodies in their participation in EU projects there would be a real opportunity for Scotland's return from EU funding to increase significantly.

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12   Lifting the Spirit, Report on 2013 Rail Trial, available at: https://hitrans.org.uk/Corporate/Research/Rail

The EU has set a target of 30% of all >300km freight movements to be by sustainable mode by 2030, 50% by 2050. This needs to be reinforced, by promoting load-sharing, break bulk, rail electrification and low emissions deliveries.
Over the next 10-15 years the timber industry needs to transport 4 million tonnes of timber from the wider Flow Country catchment to distant markets. This will have consequences for the fragile public road network, the environment and the neighbouring communities. The carrying capacity of the road network is a major constraint. The Highland Timber Transport Group's Flow Country Strategy 2014-16[13] highlights the still unrealised potential for rail to play a part.

Branchliner[14] is an investigative study which, if it proves positive, will lead towards a demonstrator project that will trial timber deliveries by rail.

Light goods vehicles, including cars and vans, are becoming more efficient. Despite this, they accounted for 40% of all Scottish transport greenhouse gas (GHG) emissions in 2012. Ultra-low emission vehicles currently account for less than 0.1% of the total number of cars and vans in the HITRANS region. Encouraging greater uptake will require the necessary infrastructure to be in place for the operation of these vehicles.

HGVs are the second largest emitter of Scotland's transport GHG, accounting for 28% in 2012. Work is being undertaken by both the Scottish and UK Governments to establish the incentives, policy, infrastructure and necessary pilots to create markets for low emission HGVs.

Research commissioned by HITRANS has reviewed the potential for electrification of rail in the region, focusing on the potential for electric and hybrid rail systems in Inverness. By the end of 2018, the Highland Main Line (HML) will benefit from bimode Intercity Express Project trains operating services from London. In the long term, as demand for rail continues to grow, electrification of the HML by 2027 may be required to replace older trains. Diesel trains used in the region were built as long ago as 1988, and are thus approaching 30 years old while the refurbished High Speed Trains that will operate on the inter-urban network are over 35 years old. Achieving electrification through traditional overhead

cabling might be challenging in the region but there is potential for rolling stock changes with hybrid or hydrogen fuel developments.

In 2012 air travel in Scotland accounted for 13% of GHG emissions. With demand increasing, GHG emissions from air transport are expected to increase. To help offset this, in 2015 HITRANS launched a rural airports project-SPARA 2020 (Smart Peripheral and Remote Airports) which is funded by ERDF. The project aims to decarbonise transport links to Highlands and Islands airports. That is through introduction of electric buses and plug-in vehicle hires and taxis. It is also considering the business case for offering jet biofuel to aircraft at airports.

As part of SPARA 2020 introduced above, and mindful of aviation's carbon footprint, two work strands have been developed to foster more sustainable energy use in the sector. Low carbon fuel airport surface access demonstrator trials are being developed by HITRANS in partnership with their member Councils, Energy Savings Trust and Highlands and Islands Airports at airports in the Highlands and Islands. These are designed to be low carbon exemplar projects on how to decarbonise links from the airport to its local population centre and it is hoped this will include support for electronic bus operation on airport services, EV car hire and EV / Hybrid Taxi roll out to serve airports. The business case for offering biofuels to incoming aircraft at the region's airports will be examined in some detail learning from some pioneering work at Karlstadt Airport in Sweden. This work will be relevant for the NTS.

A feasibility study for low carbon ferries was commissioned by Orkney Islands Council in 2015[15]. This is complemented by the development of one of the first hybrid vehicle ferries in the world, built in Port Glasgow and launched in 2012 by CMAL and the Scottish Government. Two further hybrid ferries have since joined the CalMac fleet. "Project EcoShip", was launched in 2015 by CalMac and will see a significant reduction of CO2 emissions from 10 of its vessels through a new fuel monitoring system[16].

HITRANS has just commissioned an Electric Vehicle Strategy for the region. This will support the roll out of Electric vehicles and supporting charging infrastructure within the HITRANS area, captured within an overarching strategy and action plan.

13   Available at: https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjo3-21rJrVAhVSY1AKHRebC10QFggpMAA&url=http%3A%2F%2Ftimbertransportforum.org.uk%2Fattachments%2Farticle%2F74%2FHTTG%2520Publication%25202014%2520Flow%2520Country%2520Strategy.pdf&usg=AFQjCNEVRXGh94qJYN_JFxCscyL5G4Wlfw&cad=rja

14   Branchliner, Final Report, available at: https://hitrans.org.uk/Corporate/Research/Rail

15   OPPEX (2015) A Study Into The Feasibility of Low-Carbon Ferries – Orkney: https://oppex.com/notice/SCOTLAND_3f166bc123eac1f6abdfdefe2f27429a

16   The Press and Journal (2015) CalMac hails early effects for "Project Ecoship": https://www.pressandjournal.co.uk/fp/business/north-of-scotland/722504/calmac-hails-early-effects-project-ecoship/

Furthermore, there is a need for consideration of consistent policies around deployment, operation and maintenance of EV chargers as well as areas such as promotion and marketing. The conclusion of this work will be a useful input to the NTS.

In addition to this Low Carbon approach, HITRANS is a key supporter / promoter of the benefits of active travel to the environment, to the individual and to the economy; this aspect is covered in the following section.

4. ACTIVE TRAVEL (E.G. WALKING AND CYCLING)

What does the evidence suggest are the best ways to achieve improved health outcomes from active travel? What are the most important constraining factors to the uptake of active travel that can be targeted by policy in the Scottish context?

Our Natural Health Service (ONHS) is a joint programme of work, primarily between the health and environment sectors, which aims to ensure that Scotland's natural environment promotes physical activity and mental health and wellbeing for everyone.

At the core of the action plan are three strategic priorities which will be implemented at a local level:

- **NHS Greenspace:** Developing underutilised greenspace; testing models of management; and increasing usage across population groups.
- **Green Health Partnerships**: Bringing together health and environment sectors at a local level across Scotland to embed green exercise within the priorities and day to day activity of community planning and health and social care partnerships.
- **Green Infrastructure:** Developing green exercise programmes linked to investment in Green Infrastructure projects

There is increasing evidence that access to the natural environment has a direct impact on physical health and mental wellbeing as well as encouraging and promoting positive health behaviour change.

Scotland's natural environment and green infrastructure is an important asset for increasing contact with nature and increasing physical activity through green exercise such as outdoor recreation, conservation, volunteering, learning, gardening an active travel.

There is an evidence and research strand of work as part of Our Natural Health Service being led by Professor Rich Mitchell of the University of Glasgow. The group is currently developing a draft logic model which will inform the evaluation of the ONHS programme.

An evaluability workshop was held in May 2017 with key local and national stakeholders to further develop the logic model with a view to producing a report setting out a series of evaluation

options. It is recommended that the ONHS initiative is supported with involvement by the Regional Transport Partnerships; it marries well with our initiatives in Active Travel Audits/Masterplans and a programme of behaviour change initiatives undertaken under HItravel brand, that has benefited from Smarter Choices Smarter Places funding.

HITRANS recognises the multi-factorial potential and benefits of active travel. Respondents to our consultation on the draft RTS have requested that we highlight in the finalised RTS the economic benefits of investment in and promotion of active travel – encouraging people to be out and about in our towns, and encouraging people to come to the region and get out around the region on bike and foot. Furthermore, the health benefits of activity are well recognised. Mitchell, R. (2013)[17] concludes that *"physical activity in natural environments is associated with a reduction in the risk of poor mental health to a greater extent than physical activity in other environments, but also that activity in different types of environment may promote different kinds of positive psychological response. Access to natural environments for physical activity should be protected and promoted as a contribution to protecting and improving population mental health."*

The importance of cycle tourism is recognised as both an economic opportunity for the region and a key component of encouraging more local people to take up cycling or walk more regularly. This in conjunction with a wider behaviour change programme that needs support and leadership at a Community Planning level and within local businesses, will help address wider health, environmental and road safety challenges. That said, much effort and expense in terms of active travel is associated with retrofitting facilities and infrastructure to be more walking / cycle-friendly. Much more needs to be done through the application of planning policy to ensure the best of design is embodied in new developments of all sizes.

17   Mitchell, R. (2013) Is physical activity in natural environments better for mental health than physical activity in other environments? Social Science and Medicine, 91, pp. 130-134.

In terms of the Cycle Action Plan for Scotland 2017-2020 *Cycling as a form of transport* there are several actions with interactions with planning / the National Planning Framework, as follows:

- Continue to grow and maintain the National Cycle Network (NCN) to provide a strategic network of longer distance cycling routes for leisure, recreation, tourism and functional trips. Develop a National Cycling and Walking Network, especially in rural areas, as outlined in the National Planning Framework 3, to promote cycle tourism and to connect rural communities, for example by installing ground level solar lighting and WiFi hotspots on rural cycle counters.

- Continue to promote a national training programme on cycling design and best practice to planners, designers and engineers, through the delivery of accredited modules such as Making Cycling Mainstream, and promote the use of planning policy - Designing Streets and Smarter Choices, Smarter Places good practice.

- Continue to grow and maintain the National Cycle Network (NCN) to provide a strategic network of longer distance cycling routes for leisure, recreation, tourism and functional trips. Develop a National Cycling and Walking Network, especially in rural areas, as outlined in the National Planning Framework 3, to promote cycle tourism and to connect rural communities, for example by installing ground level solar lighting and WiFi hotspots on rural cycle counters.

Despite similar efforts over several years, particularly in relation to promoting the use of planning policy to promote active travel integrally within new developments, it is suggested that more needs to be done to support delivery in this area. This would also be an area worthy of further monitoring and evaluation, to consider impacts and outcomes in all types of new developments, from small residential to larger residential, retail, business and mixed-use developments, and hence to provide a robust evidence base for future developments.

International evidence from countries such as Denmark and the Netherlands highlights that continued investment in walking and cycling in conjunction with supportive planning policies over decades is needed to deliver significant modal shift. In order to generate wider support, it would be beneficial to target settlements where cycling levels are already high and the opportunity to achieve the Scottish Government of 10% of everyday journeys by 2020 is attainable. Most settlements with the highest levels of cycling to work an education in Scotland are in the HITRANS area with Inverness the top city (Scottish Census).

Scottish Census and more recent Scottish Household survey data highlights that levels of cycling are highest in the most affluent areas. For walking and cycling to tackle wider health and socio-economic issues more needs to be done to encourage modal shift in areas of multiple deprivation where accessibility to employment and other opportunities is most restricted.

5. SAFE AND RESILIENT TRANSPORT

What are the current and emerging risks to the safe operation and resilience of Scotland's transport network and what does evidence say about the ways in which these risks can be best managed? What does evidence tell us about what adaptation measures (in response to environmental, or other, changes) may be effective to respond to changing pressures on the network?

This theme is very relevant to the Highlands and Islands. The region has many lifeline transport connections. It is vital that these are strong, resilient and reliable.

Much of the HITRANS region's public transport in any given area is provided by a single transport operator in each mode: bus, rail, ferry and air services and the frequencies of these services generally low. Thus, there is a high dependence on the reliability and resilience of this single operator. This includes their willingness/ability to continue to operate the public transport services that they provide on a commercial basis. There is also a higher importance placed on the integration of each service, since a failure to meet a connecting service can result in significant inconvenience to the passengers or even cancellation of the journey. HITRANS has worked with partners to address some of these issues through the provision of multi-modal real-time information but there are some fundamental challenges around integration which can only be tackled through alternative transport governance arrangements and the application of penalties to transport operators where there is service disruption.

There has been a decrease in the numbers Killed or Seriously Injured (KSIs) on the region's roads. At 175 KSIs the 2015 figure is the lowest recorded throughout the period of the RTS, down more than 400 compared to 2006. This is in keeping with the Scottish Road Safety Targets.

In some cases, the road network is fragile and requires attention. Based on length, the HITRANS region has 60% of Scotland's roads. That includes 37% of all trunk roads and 24% of all local authority owned roads. Significant portions of the region's local network are currently in a condition where they may require maintenance.

In some places the road has deteriorated to the point at which repairs are likely to be required to prolong its future. Within the region this is as high as on 17% of all local roads (in Argyll and Bute).

A maintenance backlog on much of the network, as well as requirements for investment to address deficiencies, were highlighted in the original RTS. These have intensified due to increasing financial constraints in recent years. The roads most likely to be affected are those in remote areas. Here poorer roads slow journeys and increase wear and tear on vehicles.

The Audit *Scotland Maintaining Scotland's roads A follow-up report*[18] placed the HITRANS authorities amongst those with the lowest average annual spend per km of road network on road maintenance over the period 2011/12 to 2014/15. Furthermore, in 2014/15 the report describes that each of the HITRANS authorities spent less than required to maintain their current road condition. The HITRANS local authorities were amongst 18 councils in total that based on SCOTS' steady state calculations, did not spend enough to maintain their current road condition in 2014/15.

In recent years, there has been an increase in weather related road closures, disruptions to rail services, weather-related ferry cancellations and flight delays and cancellations. There is evidence that these are more prevalent than at the time of the original RTS. Addressing some the sections of the lifeline road network which are most at risk is beyond the budgets of the Local Authorities who are responsible for maintaining the local road network. By way of an example, the estimated cost of a solution for the section of the A890 at Stromeferry which has regularly closed in recent years for extended periods because of landslips is more than £80 Million.

This is in a context where, as the refreshed NTS notes, *"we have ever-higher expectations of disruption and discomfort being minimised and 'normal service' being maintained but raising standards has implications for resilience"*.

Persistent disruptions cause significant negative impacts on business confidence and on perceptions of potential visitors and inward investors. They also result in business travellers building in extra time in case of disruptions or cancellations.

18   Audit Scotland, August 2016: Maintaining Scotland's roads A follow-up report.

This leads to greater time away from the business and additional overnight stay costs. However, the number of missed meetings, training or seeking business opportunities due to the risk of disruption/cancellation is not known.

Resilience and reliability are undoubtedly reduced by the age of the region's transport assets; many of which are particularly old. For example, the rolling stock for local rail services is 30-40 years old. Similarly, Caledonian Maritime Assets Limited (CMAL) owns the 32 vessels used on the CalMac routes. Most (18) of them are more than 20 years old, with six more than 30 years old. An ageing ferry fleet is leading to reduced service reliability, perhaps coupled with changing weather patterns. It also contributes to vehicle capacity constraints on some routes. Ageing vessels and shore infrastructure are particularly issues for the internal ferry networks in Orkney and Argyll.

6. TRANSPORT GOVERNANCE

What does evidence say the most effective forms of governance and institutional arrangements around transport might be, to meet the Scottish Government's strategic objectives?

Regional Transport Partnerships are statutory Community Planning Partners with a duty to engage in and support Community Planning.

That said, limited progress has been made through the Community Planning Partnerships. In 2013 Audit Scotland[19] concluded that: *"Partnership working is now generally well established and many examples of joint working are making a difference for specific communities and groups across Scotland. But overall, and ten years after community planning was given a statutory basis, CPPs are not able to show that they have had a significant impact in delivering improved outcomes across Scotland."*

Our experience is that there is limited resource for RTPs and Local Authorities to fully support with transport expertise Community Planning Partnerships and Locality Planning Groups (through Health and Social Care Integration) to achieve real change and benefit. These partnerships would also benefit from Transport Scotland's participation especially within the HITRANS area where they are responsible for funding so many of the areas lifeline transport networks and services.

Our RTS objectives have been guided by, and are aligned to, the aims and objectives of our five Community Planning Partnerships, which we welcome being active members of.

HITRANS partner Local Authorities are at different stages in the production / delivery cycle of updating their Local Transport Strategies. The new National Transport Strategy, our refresh of the RTS and the evolving role of Community Planning Partnerships in considering multi-sectoral issues in each area presents an opportunity to consider a more collaborative approach to future planning for the delivery of a safe, accessible, integrated and reliable transport system at local levels through maintaining transport infrastructure, planning and delivering services.

For example, there may be opportunities to share resources to maximise efficient and effective delivery of the RTS. Some delivery activities might necessitate consideration of one partner taking on responsibility for that item, whether that be HITRANS or one of the constituent local authorities and HITRANS is open to adopting best practice models for delivery from a local level,

other regions or at a national level.

Since establishment in 2006, RTPs have successfully delivered projects and initiatives which have made significant transport improvements across Scotland. These include major infrastructure projects, bus improvements, access to healthcare improvements, park and rides, active travel and public transport information improvements. Interventions like these have ensured that RTPs, in partnership with the Scottish Government, constituent Councils, and others have played a key role in delivering solutions that promote sustainable economic growth and development, social inclusion, and address climate change.

A regional approach has been shown to work through several initiatives. Regional partnership working can foster collaborative working and deliver economies of scale without a loss of accountability. It allows local leaders to get together regularly and to discuss opportunities, compare problems, share insights, build networks and find common ground on important issues that affect everyone. For this approach to be truly effective it needs statutory responsibility and powers to rest at this level. In this context HITRANS as an already established statutory body is well placed to support these objectives in our region. Recent good examples of regional partnership working include:

- Convention of the Highlands and Islands.
- Inverness City Region Deal.
- Our Islands Our Future.
- HiTravel Transport Information Shared Service Project.
- HITRANS Real Time Information Programme.
- Uist and Barra Bus Contract Participatory Budgeting Programme.
- Glasgow to Barra Flight Enhancement Two Summer trial.

Consultation as part of the RTS Refresh has highlighted that in the wider community, there is a lack of understanding of transport bodies' current roles and responsibilities.

The NTS refresh noted that it marked "the start of a process of joint working with RTPs, local authorities and others to clarify roles and expectations across transport modes, locations and organisational hierarchy." In the RTS we set out potential roles and opportunities for the HITRANS partnership.

19   Audit Scotland (2013): Improving Community Planning in Scotland, available at: http://www.audit-scotland.gov.uk/docs/central/2013/nr_130320_improving_cpp.pdf

Many parts of the public sector 'buy' transport services. For example, the cost of transport to the NHS is substantial, and Audit Scotland[20] estimated that in 2009/10 at least £93 million was spent on transport for health and social care. At the time of reporting in 2011, Audit Scotland were critical of the NHS in terms of its record keeping and viewed the £93million as a significant underestimate and made recommendations for joint working across the public sector and with voluntary and private providers for the successful (and sustainable) delivery of health and social care. As we have highlighted in the RTS, community transport can be vital for people in areas without, or with limited public transport provision. Recognising the often-piecemeal community transport across the region, there is a significant opportunity to develop this or enhance the commercial demand responsive offer. This will require a very definite partnership approach to be successful. Across Scotland community transport schemes receive about £4.5M of public sector funding; of which 90% comes from local authorities and the remainder comes from the NHS (2011/12 figures)[21].

The Audit Scotland *Maintaining Scotland's roads A follow-up report*[22] highlighted that regional governance bodies are being established but there is no clear plan of how this will translate into shared services at an operational level. The Roads Collaboration Programme (RCP) was launched in November 2013 to explore opportunities for further collaboration between roads authorities. A Strategic Action Group, which the Minister for Transport and Islands and COSLA's spokesperson for Development, Economy and Sustainability takes turn to chair, provides political oversight to the RCP. It also includes representatives from SCOTS, Transport Scotland, the Improvement Service and SOLACE. A key part of the RCP's work is the Governance First project. This aims to establish more formal governance arrangements for roads authorities looking to deliver collaborative activity or shared services in clusters or across regions. Within Governance First, creating a formalised governing body is the fundamental first step to developing shared services, and needs to happen before designing how the shared service will operate.

The constituent members of the Roads Collaboration Board are all strongly behind the core principle of Governance First, that sharing should be the default position to delivering roads services. Through working with councils, the RCP has identified various benefits to shared services, including:

- Efficiency of size through having a larger available budget, greater purchasing power, a stronger strategic function and streamlined back-office functions such as administration.
- Being stronger organisationally through having a larger and more mobile workforce. A shared service would be less dependent on individuals, and a bigger volume of work would enable it to retain skilled staff more readily and offer enhanced training opportunities.

The Audit Scotland report concludes that regional joint committees are being established in some areas. Regional Transport Partnerships, the statutory bodies responsible for transport planning at a regional level, present another option. Roads authorities need to determine the governance arrangements that best suit their needs, but it is important that any potential for duplication is avoided.

The cost of providing public transport services in the region (public bus services, air services, community transport, ferry and air services) is significant.

The Scottish Ferries Plan (2013-2022) establishes commitments to strengthening and improving the ferry services provided to Island communities and more generally the aspiration of the Scottish Government that all communities should be treated on an equal basis. HITRANS are working with three of their partner Local Authorities which currently operate ferry services (Orkney Islands, The Highland Council and Argyll & Bute Council) to undertake transport appraisal of these routes.

Empowering Scotland's Island Communities (ESIC) prospectus states that

"Inter-island ferries in some areas, particularly the Northern Isles, are provided by the local authorities and funded on a different basis from Calmac services. The Scottish Government understands the significant financial challenges that can fall on individual local authorities, and is committed to the principle of fair-funding in the provision of ferries and ferry infrastructure.

The Scottish Government recognises that the provision of transport services should not place a disproportionate financial burden on any Council such that it could be counter to the principles of Article 170, with particular reference to the revenue and ferry replacement costs of the internal ferry services of Orkney and Shetland, and commits to meaningful negotiation now to conclude this issue."

20   Audit Scotland (2011) Transport for Health and Social Care. Prepared for the Auditor General for Scotland and the Accounts Commission. Report dated August 2011.
21   Age Scotland (2013 pp20-21) Driving Change. The case for investment in community transport.
22   Audit Scotland, August 2016: Maintaining Scotland's roads A follow-up report.

This overarching position establishes the following points which provide context for the joint working between Councils, Transport Scotland and RTPs (HITRANS and ZetTrans) on these issues:

A. The Scottish Government's commitment to the principle of fair funding and fare structures in the provision of ferries and ferry infrastructure

B. Recognition that the revenue and ferry replacement costs of internal ferry services in Orkney and Shetland should not place a disproportionate financial burden on the Council

C. A commitment to meaningful joint working on this subject now.

The joint working group have established a set of Common objectives to deliver a fair solution for funding local ferry services.

It is important that progress is made in a proportionate manner. Vessels should be fit for purpose and safe. Research is required to understand the value of services and service models, and this should be used to inform future service delivery and any transfer of services and changes that this might imply for the delivery of services. For example, the value of having vessels based and moored on the isles that they serve should be fully considered and captured as should the potential of having shore based crews living within these communities.

HITRANS welcomes the principle of island-proofing recognised in the Empowering Scotland's Island Communities' prospectus and the establishment of this principle within the proposed Islands (Scotland) Bill. However, this principle should be extended to many of the most remote communities on the mainland which would also benefit from building a broad more awareness of their needs within the decision-making process of relevant parts of the public sector

In 2009, following the changes that ensued to funding through the Concordat, HITRANS commissioned a *Review of the Delivery of Transport Services in the Highlands and Islands*. A by-product of this study was to identify changes in the level of funding available for the provision of transport services and infrastructure from both capital and revenue funding within the HITRANS area through Councils, the RTP, and central Government for the period in the run up to the review, from 2006 onwards.[23]

This finance review concluded that:

Scotland: overall there was a very large growth in transport expenditure between 1999/2000 and 2006/2007 of some 240%, but since then the growth has been considerably less. A large proportion of this growth has been in expenditure and has been on services directly under the control of the Scottish Government.

Total transport expenditure at the regional / local level has also grown between 1999 and 2007, but not at the scale of that undertaken by the Scottish Government.

In 2006/2007, there was a major change with the transfer of responsibility, and funding, for core statutory concessionary travel from local authorities to the Scottish Government.

The Scottish Government has provided, within its budget, three main funding sources for the delivery of regional and local transport projects:

• The Integrated Transport / Major Public Transport Projects Fund to assist in the development of major transport initiatives at the local level which have a regional / national significance (£158m-£303m per year);

• A number of smaller funding programmes to enable the delivery of national initiatives at the local level (~ £44m per year); and

• Funding for the statutory Regional Transport Partnerships to enable their delivery of regional transport projects (~ £46m per year).

With the adoption of the Concordat between the Scottish Government and local authorities it was agreed that the last two funding sources for regional and local transport projects should be 'rolled-into' the general funding allocations for local authorities from 2008/2009. This was therefore equivalent to around £90m per year.

Regions - In the initial part of the period, between 1999 and 2006, only 'voluntary' Regional Transport Partnerships (RTPs) existed, which gradually provided an increasing level of assistance to the Scottish Government in allocating grants to local authorities and delivering projects. When the RTPs became 'statutory' the Scottish Government allocated specific investment monies to them to deliver regionally important transport programmes. This amounted to £47m in 2006/2007 – of which £11m came from the previous funding allocation to SPTE and the remainder seems to have been 'new' money.

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23   Review of the Delivery of Transport Services in the Highlands and Islands (2009).

HITRANS received about 11% of the total RTP funding (£4.6m), which was slightly less than the proportion of local authority expenditure in the Highlands and Islands to that of Scotland.

With the adoption of the Concordat, the funding of an investment programme for the RTPs ceased in 2008/2009. Since that time, the RTPs can only invest with money made available from their partner local authorities or by securing new funding from external sources such as the EU.

Local Authorities - The local authorities within the Highland and Islands have maintained a broadly consistent proportion of expenditure on Roads and Transport since 2000 when compared with the local authorities across Scotland – that is around 21% of total capital expenditure and 14% of total current expenditure.

Local authority transport expenditure in the Highlands and Islands has increased, with a step between 2007/2008 and 2008/2009 of around 12% (£9.6m). Whether this step totally absorbed the reallocation of the previous 'transport funds' following the Concordat cannot be fully ascertained, but after consideration of potential hypothetical assumptions there may well have been an element of 'leakage' of such 'funds' to other areas of expenditure within the local authorities.

Bearing in mind the previous allocation of the various funds it might be argued that around half the step increase in transport funding in 2008/2009 by the local authorities should have been utilised to develop regional transport requirements.

The RTS refresh has captured a range of changing trends in transport service provision and use. For example, there has been a reduction in funding for subsidised bus services as evidenced by the reduced bus service km in the region and a consequent reduction in patronage. This invariably has a knock-on effect on other, commercially operated services; where a contracted service accounts for most the fixed costs of a bus operation and can enable non-supported services to be operated around the contracted ones. We also capture the impacts of long term underinvestment in the maintenance backlog across the region's roads and transport infrastructure, and describe the unaffordability of vessel replacement / required service enhancement on ferry routes served by local authorities. It is important that we understand the root causes in decline on parts of our transport network and the level of support and funding available nationally, regionally and locally should be quantified through the NTS to understand what levers should be developed to arrest the decline in several modes of passenger transport.

All that said, significant sums are spent across all levels of government in supplying transport services, and yet we have very little information and evidence on a route-by-route basis as to what this investment achieves, and the value of services, and of service models, to local communities. It would be invaluable if the NTS could facilitate capturing this information across transport services and facilities. So, for example, it would be possible to understand on a route-by-route basis the costs to run, the trends in use of a service, and furthermore to capture the value of that service to the communities that it serves. Information such as this would be invaluable in informing the future design and supply of services, such as those within the CHFS contract, local public bus services and community transport.

There is a need for this review of financing of transport to be brought up to date, to go together with the patterns on usage of services for example. This will be a very useful input to the NTS and to regional and local planning.

7. POTENTIAL CHANGES IN SOCIETY AND TECHNOLOGY

In the next 20 years, what will be the most significant changes and new technologies influencing the way people live, work and consume that will impact on travel behaviour and demand? Are there examples of places that have already experienced some of this change and therefore provide evidence on how travel behaviour might change in Scotland? How can uncertainties about the future be robustly considered in transport strategy development?

The RTS refresh process has reaffirmed aspects that we have reported previously around the changes in the population of the Highlands and Islands, which in some respects is more pronounced than the rest of Scotland. The region has an ageing population; 20-24% in the five local authority areas are aged 65+, compared to 18% in Scotland. People in the region can be access-deprived. This adversely affects their ability to participate in everyday life, including education, employment, shopping, health care, and social and cultural activities. The groups particularly likely to be affected include younger people. Highlands and Islands Enterprise's Young People and the Highlands and Islands: Attitudes and Aspirations Research identified issues associated with transport availability and costs. In particular, public transport timetables are a frustration for young people, including integration between different services and modes. Many young people find it easier to travel to other parts of Scotland than to elsewhere in the region. A point illustrated by it being more convenient for people in the three Island local authorities to meet in the central belt than anywhere in the Highlands and Islands.

Other groups likely to be affected by access deprivation are people:
- Who are older and looking to maintain their independence.
- With a disability.
- Living in communities with limited or no public transport or community transport provision.

In terms of health across the region there are large variations between areas, especially in terms of mainland and island. Rural patients experience of health care differs from that of urban patients in that they often must travel long distances to receive care.

Across the five HITRANS local authority areas between 18 and 24% of households do not have access to a vehicle; around 43,000 households in total.

The relationship between transport accessibility and loneliness and isolation is a concern. Niedzwiedz, C. L. *et al* (2016)[24] reported that *"the risk of loneliness was highest in the least wealthy groups and lowest in the wealthiest groups. Frequent social participation was associated with a lower risk of loneliness and moderated the association between household wealth and loneliness, particularly among men. Compared to the wealthiest men who often took part in formal social activities, the least wealthy men who did not participate had greater risk of loneliness."* Furthermore, *"participation in external social activities may help to reduce loneliness among older adults and potentially acts as a buffer against the adverse effects of socioeconomic disadvantage."*

These aspects have led to our focus (high level objective) on reducing barriers to participation, and we feel that this should be replicated in the NTS, with a focus on identifying and directing support to those individuals / communities most at risk of isolation and loneliness. This will require a multifaceted approach across operators, local authorities, RTPs, territorial health boards, health and social care partnerships, community planning partnerships etc.

While the current trend is for many services becoming more centralised for a variety of reasons from efficiency savings to increased specialisation has generated more long distance journeys in the Highlands and Islands there is a need in terms of technology, for more research and evidence to fully understand the trends and potential. HITRANS has helped support the delivery of a range of technology projects but there is a strong opportunity for the Highlands and Islands to pioneer across a range of Smart City, Smart Island and Smart Rural technology areas. These include the following considerations and opportunities:
- Reducing the need to travel by promoting better health and care, including through use of telecare and telehealth technology services.

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24 Niedzwiedz, C. L., Richardson, E. A., Tunstall, H., Shortt, N. K., Mitchell, R. J. and Pearce, J. R. (2016) The relationship between wealth and loneliness among older people across Europe: Is social participation protective? Preventive Medicine, 91, pp. 24-31.

- Broadband and telecommunications advancements that are required to reduce the need to travel. Yet, there are 'holes' around the region that do not have such connections at present.
- Impacts of Brexit, including in terms of domestic and international tourism – recent data suggest an increase of international inbound visitors but a reduction in domestic travel into the Highlands and Islands.
- Mobility as a Service packaging of travel solutions that move people towards shared use and ownership models.
- Autonomous vehicles developments for personal travel but also for freight delivery including the use of drone technology.
- Intelligent transport system development and personalisation of travel information and in travel assistance.
- Alternative fuels including electric vehicle technology development, Hydrogen and LNG.