Draft Shetland Islands Region Appraisal Summary Table

A draft Appraisal Summary Table (AST) has been developed for each of the eleven STPR Regions alongside the National AST. The ASTs are set out to provide:

- Regional/National Context, Problems and Opportunities - drawing on data presented in the Initial Appraisal: Case for Change reports[1] this summarises geographic, social, economic, environmental and transport matters in the region as well as the identified problems and opportunities. In line with STAG, appraisals are expected to explore location-specific problems and opportunities. Local problems and opportunities have been considered and presented to gain a full understanding of the regional and national issues, however some options to address these may not be within the scope of this strategic study.
- Package description – this presents the groupings (interventions) that were included in the detailed appraisal for the region.
- Fit with Policy – provides a summary of how well the appraised packages fit with key national policies including the second National Transport Strategy, Climate Change Plan Update, the draft National Planning Framework 4 and relevant regional policies.
- Transport Planning Objectives (TPO) Assessment - An assessment against each of the five TPOs is provided with quantified metrics provided, where appropriate, under the low traffic / emissions demand and high traffic / emissions demand scenarios (further information about these scenarios is provided in Appendix F). A seven point scoring scale is adopted for each TPO which is:
    - + + + = major positive (3 plus signs)
    - + + = moderate positive
    - + = minor positive
    - 0 = neutral
    - - = minor negative
    - - - = moderate negative
    - - - - = major negative (3 minus signs)
- STAG Criteria assessment - as above for the TPO assessment, key points regarding the performance of the package against each of the STAG criteria is presented with quantified metrics provided where appropriate.
- Deliverability - commentary is provided on the assessment of the package in terms of its feasibility, affordability and public acceptability. Note that due to the nature of a number of the STPR2 interventions, and this presenting the Strategic Case it has not been possible to derive cost estimates on a regional basis. However, broad capital spending ranges have been estimated over the period 2022 to 2042 at a national level.

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[1] https://www.transport.gov.scot/our-approach/strategy/strategic-transport-projects-review-2/
https://www.transport.gov.scot/publication/borders-transport-corridors-pre-appraisal/
https://www.transport.gov.scot/publication/north-east-region-option-sifting-update-report-feb-2021-stpr2/
https://www.transport.gov.scot/publication/south-west-scotland-region-option-sifting-update-feb-2021-stpr2/

- Other Criteria Assessment – a summary of the performance of the packages against the Strategic Environment Assessment (SEA), the Equalities Impact Assessment (EqIA), Island Communities Impact Assessment (ICIA), Fairer Scotland Duty Act (FSDA), Child Rights and Wellbeing Impact Assessment (CRWIA) is provided. The seven-point scale is adopted in these assessments where appropriate.

The assessments contained in the ASTs assume all interventions in the packages are progressed. However, it should be noted that not all interventions taken through the detailed appraisal will form a recommendation within STPR2.

The National AST is broadly similar to the regional documents, but presents the performance of the full package of interventions taken through detailed appraisal, relying on a combination of quantitative and qualitative information.

Summary of Assumptions

Quantification of the costs and benefits in the packages has been provided through a modelling exercise. Further information has been provided in Appendix F to Technical Report on the modelling scenarios that have informed the assessment of the STPR2 interventions. A summary of key assumptions is provided here:

- Population projections are based on the NRS Population Projections (2018-based).
- Economic projections are a combination of projections by Oxford Economics bought in 2019, the Scottish Fiscal Commission forecasts and more recently the OBR post-COVID estimates
- Land-use plans are based on data collected for Transport Scotland's Assembly of Planning Policy Inputs in 2018 from Scotland's 34 Planning Authorities.
- Permitting of vacant office and retail floorspace to be converted or redeveloped as housing post 2030.
- Working age is taken to be 16-64 (as a constant) to avoid difficulties with changing state pension age (and to reflect non-mandatory retirement)
- The economic results are presented, as is standard within appraisal as discounted values in 2010 prices. As a simple rule of thumb, presenting the numbers in current (2022) prices and discounted to 2022 only would cause the values to approximately double.

Modelling Tools

For the purposes of modelling accessibility by public transport, NaPTAT (National Public Transport Accessibility Tool) has been used. This allows an assessment of journey time to be compared between with and without STPR package.

Due to the strategic and national nature of STPR2, the national Transport Model for Scotland (TMfS) has been used. TMfS is a national scale mode with a focus on inter-urban trips. As such, whilst TMfS provides a suitable level of robustness at this stage of the appraisal for the larger infrastructure based interventions, there are limitations associated with modelling of smaller/discrete

interventions and those that are more urban in nature. As the recommended interventions are developed through the business case process, more detailed modelling will be undertaken using regional and / or local models as appropriate.

When considering the outputs presented in this AST the following should be considered

Metric	Comment/Consideration
CO_2 emissions	Likely to underestimate the benefits associated with public transport interventions due to the more limited representation of transport systems in urban areas and a degree of insensitivity to mode shift in TMfS.
Mode Share	Likely shift to public transport modes underestimated in the urban areas due to the more limited representation of urban transport systems and a degree of insensitivity to mode shift mode in TMfS.
Change in veh-km travelled	Likely to underestimate the benefits of reducing vehicle-kilometres travelled particularly for short distance journeys due to the more limited representation of urban transport systems and the relative coarseness of the model zone system.
Lost Time due to congestion	Likely to underestimate the benefits associated with interventions that would reduce roadspace due to the under-representation of the local/secondary road network in TMfS
Change in accidents	Likely to underestimate the benefits associated with mode shift to public transport interventions due to the more limited representation of urban transport systems and a degree of insensitivity to mode shift in TMfS.
Present Value of Benefits	Likely to underestimate the benefits to public transport users due to the more limited representation of urban transport systems. Likely to overestimate the dis-benefits to car-based trips due to the under-representation of the junctions and local/secondary road network in TMfS.

Draft Detailed Appraisal Summary Table	
Region:	Shetland Islands Region

Regional Context

Geographic Context: The Shetland Islands Region (herein referred to as 'the Region') consists of the Shetland Islands Council area. The Scottish Government Urban Rural Six-Fold Classification identifies the entirety of the Region as remote rural, with the exception of Lerwick which is classified as a remote small town.

The Region has a wide-ranging transport network including active travel, bus and road networks as well as external ferry links between Lerwick, Kirkwall and Aberdeen. For the purposes of STPR2, Lerwick is considered as a major port and the Region's strategic transport network is limited to the subsided external ferry services between Lerwick, Kirkwall and Aberdeen, which are operated by Serco NorthLink.

The geographic remoteness of the Region creates a unique situation whereby businesses, residents and visitors travel large distances between the Region and the Scottish mainland, relying heavily on the aviation and ferry networks, for the movement of both goods and people. Due to its remoteness, the Region is ranked within the most deprived decile for the geographic access domain, which captures the issues of financial cost, time, and inconvenience of having to travel to access basic services within the Region.

Social Context: Between 2011 and 2019, the Region's population reduced by 1.1% to 22,920, which was 0.4% of the total population of Scotland. Given the small population size and the large geographic area of the Region, the population density is considerably lower (16 persons per square km) than the national average (70 persons per square km). The most populated settlement in the Region is Lerwick, with one-third of the Region's population. Based on population change by age between 2011 and 2019, the working age population of the Region decreased by 6% whilst remaining stable in Scotland as a whole, and the percentage of those aged 65 and over within the Region increased by 24%. As such, although the Region's population size is relatively stable, the demographic is shifting towards an ageing population.

Based on their population and accessibility, Shetland Islands Council, Na h-Eileanan Siar, and Orkney Islands Council were selected as the most representative local authorities for the Islands benchmark figure. This benchmark was used to compare the performance of socio-economic indicators for the Region against comparable areas. Overall, the proportion of households with access to one car or van and households with access to 3 or more cars is considerably higher than the national average. Commuter bus journeys in the Region (3%) are comparable to the Islands benchmark but considerably lower than the national average (10%). Most commuter journeys (17.4%) were less than 2km, which is higher than the national average for this distance (13.1%). Commuter journey distances in the Region are generally comparable to the Islands benchmark.

Within the Region, only 3.6% of people did not obtain any qualifications in 2019, which was 6.2 percentage points lower than the national benchmark. Relative to all other regions in STPR2, between 2014 and 2019 the Region experienced the largest decline (-12.8 %) in people obtaining the highest level of qualifications (NVQ4+). As measured by the Scottish Index of Multiple Deprivation (SIMD 2020), there are no data zones in the Region within the 20% most deprived data zones in Scotland. However, pockets of deprivation exist within data zones surrounding Lerwick North which recorded high levels of crime and health deprivation, and on the islands of Yell and Unst which recorded high levels of income deprivation.

Economic Context: The Region has 0.4% of Scotland's total population and accounted for 0.5% of Scotland's Gross Value Added (GVA) in 2018. Economic activity refers to an estimation of whether usual residents aged 16 to 64 were in work or actively looking for work. In recent years (between 2014 and 2019), the Region experienced large decreases in economic activity (-6.3%) and employment (-3.6%), where the national average experienced an increase (+2.2%) in employment and a stable economic activity rate over the same period. However, in 2019 economic activity in the Region was higher than the national average. The level of benefits claimants in the Region is low; between 2014 and 2019, the Region's claimant levels accounted for only 0.2% of Scotland's total claimants (compared to 0.4% of the population).

The Region's economy currently has widespread activity across sectors with particularly high levels of employment in the agriculture, forestry, and fishing sector and the human health and social work sector. Between 2013 and 2017, a number of industries grew in significance: mining, manufacturing, and utilities (+19%), agriculture, forestry, and fishing (+20%), transportation and storage (+25%), and administration and defence (+60%). In 2018, the significance of the agriculture, forestry, and fishing sector in the Region was 15.7 percentage points greater than the national average. The tourism sector also experienced notable growth in the Region, with a contribution to the local economy 56% greater in 2019 compared to 2017.

Environmental Context: Within the Region, there are many areas classified as environmentally sensitive, with varying levels of statutory protection. Environmental designations include those for biodiversity, landscape and heritage designations which fall either wholly or partly within the Region. In addition, the Region contains a significant number of historic assets, including two Heritage Marine Protected Areas and 515 Category A-C listed buildings. Cultural heritage assets are scattered throughout the Region, with the main concentration located in Lerwick.

Areas at risk of coastal flooding in the Region are predominantly along the northern coastline; the likelihood of flooding in these areas is high (1 in 10 year). There are several areas at risk of river flooding throughout the Region, however these tend to be localised in nature. Areas at risk of coastal and river flooding are rural in nature, with no major settlements or infrastructure at risk. Peat of varying types dominates the Region's soil type, however class 1 peatland is particularly prevalent across the Region; this class represents nationally important carbon-rich soils, deep peat

and priority peatland habitat. There are no Air Quality Management Areas within the Region. In 2018, the Region recorded higher carbon dioxide (CO_2) emissions per capita relative to the Scottish national average, however the percentage of total emissions from transport was notably less (-18 percentage points) than the Scottish national average.

Problems:

- **Ferry and air capacity constraints:** due to the geographic remoteness of the Region, the ferry and air connections are lifeline services. The internal and external ferry networks experience high passenger demand at various times of the year, with freight services operating at high capacity during livestock season. Weight restrictions placed on internal passenger aircrafts and size restrictions placed on the external aircrafts limit the capacity of passenger and freight on these services.
- **Accessibility to public transport:** the majority of the Region has poor weekday bus access, particularly in rural areas of mainland Shetland and on the islands within the Region. The Region's feeder bus services are not Disability Discrimination Act (DDA) compliant and there are few accessible taxis available, restricting access to public transport for those with a mobility impairment. Additionally, a number of Shetland Islands Council ferry vessels and terminals have been deemed "not suitable for wheelchair users or persons with serious mobility problems".
- **Resilience, reliability, and integration:** reliability and resilience issues exist on the internal and external ferry network, with services impacted by adverse weather and external freight services more susceptible to disruption than passenger services. Poor resilience of the internal network is compounded by the ageing ferry fleet. Across the Region, ferry and air services do not integrate with bus services, leading to long waiting times, increasing the reliance on the private car.
- **Affordability:** the Region generally falls within the medium and high-risk bands for transport poverty, with the risk of transport poverty increasing the further away residents live from Lerwick. The Citizens Advice Bureau estimates that 40% of households in the Region are in fuel poverty to some degree, with 13% of households being in 'extreme' fuel poverty, which is exacerbated by the higher-than-average cost of fuel and the high reliance on the private car within the Region. The cost of inter-island commuting is high, particularly for those unable to afford the up-front cost of the internal multi-journey fares, and the cost of external ferry and air services is high, particularly for those not eligible for the Air Discount Scheme (ADS).
- **Connectivity:** physical connectivity within the Region is constrained due to the reduced internal ferry services operating during the winter period. Digital connectivity is low across the Region, with the third slowest average download speed and third lowest level of broadband coverage relative to all other STPR2 regions. Constrained physical connectivity combined with the lack of digital connectivity is considered to exacerbate social isolation, disrupt education, and increase demand on the internal transport work.
- **Emissions:** the Region has one of the highest CO_2 emissions per capita in Scotland and the proportion of CO_2 emissions from the transport sector has grown in recent years, growing from 13% in 2005 to 21% in 2018. The Region's high CO_2 emissions are considered

to be inextricably linked with the Region's geographic remoteness, which can result in long journeys undertaken by carbon-intensive modes from key industries in the Region, such as aquaculture, fishing, and tourism.

- **Depopulation:** the Region is experiencing an ongoing challenge to retain and attract working age people. Despite the Region's stable population size, in the past two decades the Region has simultaneously experienced an increase in the proportion of the population aged between 65 and 74 and a decrease in its working age population, resulting in the Region's demography shifting towards an ageing population.

Opportunities:

- **Tourism:** the Region's tourism industry has expanded in terms of volume of visitors and geographic reach, improving the resilience of Region's economy.
- **Renewable Energy:** harnessing the Region's geographic and technical potential to produce renewable energy and developing a more sustainable transport fleet presents a significant opportunity to reduce the carbon footprint of the area. The Islands Growth Deal Shetland Clean Energy Project and Islands Hub for Net Zero (a proposed National Development in the draft NPF4) reflect this ambition.
- **Active Travel:** there are opportunities to develop the active travel network in order to increase the number of trips undertaken by walking or cycling. Increasing accessibility to nature via active travel offers socio-economic and environmental opportunities for the Region.
- **Economic Development:** there are significant opportunities arising from the Island's Growth Deal for the Region, including the Islands Hub for Net Zero. The fishery and aquaculture industries are areas for economic development within the Region, with forecasts expecting these industries to grow between 5% and 48% from 2018 to 2021.
- **Connectivity:** digital connectivity, if improved, provides significant opportunities for island communities reducing the need to travel unsustainably, including reducing the need to travel for employment opportunities through increased remote working.

Note that the local problems and opportunities have been considered to gain a full understanding of the regional issues, but options to address these may not be within the scope of this strategic study.

Detailed Appraisal Package Description		
Package Groupings: Refer to Annex A for further grouping details		
Active Travel	• Improving Access to Bikes • Connected Neighbourhoods	• Increasing Active Travel to School • Village – Town Active Travel Connections
Bus	• Decarbonisation of the Bus Network • Demand Responsive Transport (DRT) / Community Transport • Bus Priority Infrastructure	
Interchange	• Mobility Hubs and Multi-modal Interchanges • Region Passenger Facilities/Station Enhancements	
Behaviour Change	• Behavioural Change Initiatives • Expansion of 20mph Zones and Limits	
Ferries and Ports	• Decarbonisation of CHFS and NIFS Ferry Network • Northern Isles Connectivity	
Freight	• Decarbonisation of Freight Deliveries • Freight Reliability, Resilience and Efficiency Improvements	• Freight Consolidation and Last-Mile Logistics • Freight Incentives and Freight Best Practice
Resilience	• Improve Access to Major Ports and Airports	
Technology	• Control Centre of the Future • Integrated Public Transport Ticketing	
Road	• Changing Road User Behaviour	• A National Action Plan to support the shift to Low Emission/Ultra Low Emission/Electric Vehicles

Fit with Established Policy

Package Performance Against NTS2 Priorities and Outcomes:

Reduces inequalities	Reduces inequalities	Moderate Positive
	Will be easy to use for all	Moderate Positive
	Will be affordable for all	Minor Positive
Takes climate action	Will help deliver our net-zero target	Moderate Positive
	Will adapt to the effects of climate change	Minor Positive
	Will promote greener, cleaner choices	Moderate Positive
Helps deliver inclusive economic growth	Will get people and goods where they need to get to	Moderate Positive
	Will be reliable, efficient and high quality	Moderate Positive
	Will use beneficial innovation	Moderate Positive
Improves our Health and Wellbeing:	Will be safe and secure for all	Moderate Positive
	Will enable us to make healthy travel choices	Moderate Positive
	Will help make our communities great places to live	Moderate Positive

The interventions included within this package support a wide range of national, regional and local policy documents in which transport improvements play a key role in both the enabling and delivery of outcomes.

Key policies supported include the Programme for Government, Infrastructure Investment Plan, NTS2, Climate Change Plan Update 2018 - 2032 and the Shetland Transport Strategy, as well as non-transport-specific plans, such as the Highlands and Islands Enterprise Operating Plan and Islands Growth Deal (in development).

Interventions included in this package will also support more resilient connections to the draft National Planning Framework 4 national development at the Islands Hub for Net Zero.

The policy framework for the Region has a strong emphasis on creating a prosperous economy; on harnessing equitable access to educational and employment opportunities for all; on conserving the Region's natural resources; and on creating healthier communities and a fairer society. The framework is underpinned by the ambition to provide affordable, sustainable, inclusive, innovative, and reliable transport options to provide an attractive place for visitors, to provide opportunities for businesses to invest and grow, and to empower the Region's communities to thrive, thereby the package closely aligning with established policy directives.

STPR2 Transport Planning Objectives (TPOs) Assessment				
STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
A sustainable strategic transport system that contributes significantly to the Scottish Government's net-zero emissions target.	Change in CO_{2eq} (non-traded and traded emissions from regional road transport inc. grid emissions from charging light-duty vehicles).	27,700 tonnes decrease of 0.5% in 2030 21,600 tonnes decrease of 2.8% in 2045. 1.3m tonnes reduction, of which -1.1m were traded, for the 60-year appraisal period from 2030 to 2089. The net economic benefits for the 60-year appraisal period in 2010 prices and values would be in the range £10m to £25m for the Low Travel Demand scenario.	31,300 tonnes decrease of 0.4% in 2030 65,300 tonnes decrease of 1.3% in 2045. 3.7m tonnes reduction, of which 452 thousand were traded, for the 60-year appraisal period from 2030 to 2089. The net economic benefits for the 60-year appraisal period in 2010 prices and values would be in the range £100m to £250m for the High Travel Demand scenario.	CO_{2eq} is treated as a nationally important pollutant so it has not been appraised for individual regions. National CO_{2eq} emissions decrease year-on year. This is due to decreasing vehicle exhaust (non-traded) emissions as numbers of internal combustion engine vehicles reduces. This is reflected in increasing traded grid emissions from charging increased numbers of battery-electric vehicles, and specifically in the Low Travel Demand scenario. The electricity grid is expected to be using predominantly renewable sources in the future and so increasing adoption of electric vehicles and a shift from direct, non-traded, emission to traded grid-based technology (i.e. battery) will support reducing CO_{2eq} emissions. Across both scenarios the interventions would reduce emissions of CO_{2eq}. There are predicted to be significantly higher overall emissions in the High Travel Demand scenario, either with, or without, the package.

STPR2 Transport Planning Objectives (TPOs) Assessment				
STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
	Change in mode share by active travel for all journeys	Potential increase in walking from 17% mode share to 19% mode share (2 percentage points). Potential increase in cycling from 0.7% mode share up to 3% (2.3 percentage points) The package will increase the proportions of journeys undertaken by active modes. If all the active travel and behaviour change interventions were fully implemented in every relevant location in the Region, rates of walking and cycling are anticipated to increase as shown above. Note that the cycling and walking growth forecasts have been developed independently of each other. Growth in use of one active mode is likely to abstract at least some trips from the other, but this effect is not accounted for within these forecasts.		There is a relatively smaller overall reduction of emissions due to the interventions in the Low Travel Demand scenario due to the lower overall emissions. The economic impacts associated with air quality were assessed using the Department for Environment Food & Rural Affairs (DEFRA) Damage Costs Appraisal Toolkit. The larger benefit from the High Travel Demand scenario is due to the greater overall emissions with, or without, the package, although the proportional change is lower. The package would contribute to the net-zero emissions target by: • Enabling more passenger journeys to be made by active modes and public transport; • Decarbonising bus operations and the NIFS Ferry Network; • Facilitating increased uptake of electric vehicles; and • Decarbonising freight operations (road and ferry) in the Region and for onward journeys on mainland Scotland
	Change in motorised veh-kms travelled	This is expected to have a Minor Positive contribution		
	Scoring	**++**	**++**	

STPR2 Transport Planning Objectives (TPOs) Assessment				
STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
An inclusive strategic transport system that improves the affordability and accessibility of public transport.	Change in transport poverty risk	Although the STPR2 interventions don't impact on the direct costs of travel (e.g. fares, fuel price), the package of interventions would see small reduction in transport poverty, due to the overall improvements to access and connectivity between modes.		The package is anticipated to improve the inclusiveness of the transport system by: • Improving conditions for people walking, wheeling, and cycling, the most inclusive transport modes, with particular benefits for people most often excluded (including children, older and disabled people, and people on low incomes); • Improving public transport network coverage through Demand Responsive Transport (DRT) / Community Transport could reduce the reliance on private vehicles; and • Improving ferry connectivity between the Region and mainland Scotland.
	Change in Accessibility - population catchments increase to key services by journey time by public transport.	• Major Hospital Accessibility – The only change in population accessibility of all the destination types considered was observed for major hospitals, with an additional 550 of the population approximately in the Region able to access a hospital by public transport in a journey time of under 30 minutes compared to the Without Package. • Accessibility to Higher Education and Major Food stores was also assessed but the impacts were found to be negligible.		
	Scoring	**0**	**0**	

STPR2 Transport Planning Objectives (TPOs) Assessment				
STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing.	Change in mode share by active travel for all journeys	Potential increase in walking from 17% mode share to 19% mode share (2 percentage points) Potential increase in cycling from 0.7% mode share to 3% (2.3 percentage points) These forecasts are subject to all active travel interventions being delivered in all relevant areas of the Region.		The package will improve communities as places, supporting health and wellbeing by enabling more journeys to be made by active and sustainable modes, and by improving road safety, predominantly through changing road user behaviour. This will: • Improve people's physical health and mental wellbeing, with particular benefits for people most often excluded (including children, older and disabled people, and people on low incomes); and • Reduce the adverse impacts of car use on communities and health (including reduced air pollution, noise, accident risk and perceived road danger). The analysis shows that through improved uptake of walking and cycling there would be a forecast reduction in the number of premature deaths due to the health benefits arising from active travel.
	Potential for Change in 'Place'	The package has the potential to improve the quality of the Region's places by improving local accessibility and reducing the adverse impacts of road traffic. Particular benefits may arise in the more populated areas such as Lerwick, where active travel allows easier walking and cycling conditions in more favourable conditions.		
	Change in Health Benefits	The health benefits of increased rates of walking and cycling as a result of the package have been quantified using HEAT. This shows that approximately 0.2 premature deaths would be prevented per annum.		
	Scoring	**+**	**+**	

STPR2 Transport Planning Objectives (TPOs) Assessment				
STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland.	Increased labour catchment by sustainable travel (PT/Active Travel)	For the Region's population, no change was observed in journey times or accessibility for those travelling to the nearest employment site by public transport.		The package will contribute to sustainable inclusive growth in Scotland by: • Improving integration of transport modes (especially between active modes and public transport) and between transport and major developments; • Enabling more people to travel by improving the accessibility and affordability of the transport system, so enabling more people to access local retail and services, and opportunities for employment and education/training; and • Reducing disruption to ferry services by reducing the likelihood and/or impact of weather-related events will help increase efficiency of freight.
	Change in lost time due to congestion (for business/commercial transport)	It is anticipated that the future levels of congestions on the road network within the Region will be low, therefore there will be a negligible impact on veh hour.		
	Scoring	**+**	**+**	
A reliable and resilient strategic transport system that is safe and secure for users.	Change in accidents	Whilst the number of accidents involving vehicles is anticipated to reduce following the introduction of the interventions within this package, it is anticipated that it would increase walking and cycling journeys. The number of accidents involving these modes is therefore anticipated to increase, although each individual journey is anticipated to be significantly safer.		The package is unlikely to have a significant impact on this objective, however there could be minor positive impact on reliability, safety, and personal security on the transport system by: • Enabling and encouraging active travel modes, reducing the risk of motorised accidents occurring as a result of reducing motorised travel, whilst improving resilience by reducing the number of road closures associated with accidents; • Improving active travel provision and providing more dedicated and segregated routes for walking, cycling and wheeling; • Change attitudes of road users, through behavioural change campaigns. This is anticipated to increase awareness of
	Change in lost time due to congestion	Negligible impact on veh hours.		

STPR2 Transport Planning Objectives (TPOs) Assessment				
STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
	Journey Time Reliability/Availability of alternatives (modes/ routes)	This package is anticipated to have a negligible impact on overall motorised vehicle kilometres under both travel demand scenarios and is therefore unlikely to have an impact on the risk of accidents occurring or the number of road closures associated with accidents.		interactions with those walking, wheeling, and cycling as well as changing attitudes towards speed, making the network a safer place for all; • Mode shift to sustainable modes will, by improving natural surveillance, reduce perceived risks to road safety and to personal security, so enabling more people (particularly children, women, and older people) to travel independently, however this is only likely to improve safety and security in the more populated areas, such as Lerwick; and • Through targeted safety interventions, such as expansion of 20mph zones and limits, each individual active travel journey is anticipated to be significantly safer, however with an anticipated increase in the number of active travel journeys undertaken, the number of accidents involving these modes is anticipated to increase.
	Scoring	**0**	**0**	

STAG Assessment				
STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
Environment	Air Quality	+	+	It is anticipated that the package would reduce harmful emissions within the region by: • Enabling more passenger journeys to be made by active modes and public transport; • Decarbonising bus operations and the NIFS Ferry Network;
	Noise and Vibration	+	+	The anticipated modal shift is also expected to reduce levels of noise and vibration associated with the transport network. There is potential for a localised negative effect on noise and vibration due to the construction and operation of specific interventions, however the magnitude of effect will depend on the design and location of the intervention.
	Biodiversity and Habitats	Please refer to SEA performance summary text in the 'Other Criteria Assessment' section below. Please note, the scoring has been based on the SEA methodology for scoring, which has been agreed with the SEA Consultation Authorities.		
	Geology and Soils			
	Land Use (including Agriculture and Forestry)			
	Water, Drainage and Flooding			
	Historic Environment			
	Landscape			

Climate Change	Greenhouse Gas Emissions	+		CO_{2eq} is treated as a nationally important pollutant so it has not been appraised for individual regions. National CO_{2eq} emissions decrease year-on year, with decreasing direct (non-traded) exhaust emissions and increasing traded grid emissions associated with increased adoption and charging of battery-electric vehicles, and specifically in the Low Travel Demand scenario. Across both scenario's the package will reduce emissions of CO_{2eq} compared to the corresponding baseline, although the change is greater in the High Travel Demand scenario due to overall higher emissions.
	Vulnerability to Effects of Climate Change	0	0	The package is unlikely to have a significant impact on mitigating against the effects of climate change on the strategic transport network as there are no groupings that are specifically focused on adaptation that impact this Region.
	Potential to Adapt to Effects of Climate Change	0	0	
Health, Safety & Wellbeing	Change in accidents	Whilst the number of accidents involving vehicles is anticipated to reduce following the introduction of the interventions within this package, it is anticipated that it would increase walking and cycling journeys. The number of accidents involving these modes is therefore anticipated to increase, although each individual journey is anticipated to be significantly safer.		The package will reduce the number and possibly severity of accidents by encouraging modal shift away from private car, resulting in reduced accident risk due to reduced conflicts. Mode shift to sustainable modes will, by improving natural surveillance, make paths, bus stops, interchanges, and services, reduce the perception of isolation and this, accompanied by improved quality of facilities will improve perceived security.
	Security	The package will, by increasing the number of people travelling actively, tend to improve natural surveillance and will, through improvements to lighting and urban realm, tend to reduce the number of locations at which security is a concern. Connected		The package will improve communities as places, supporting health and wellbeing, by encouraging modal shift away from private car and towards active travel. This will improve placemaking through reduced noise and better air quality due to reduced traffic, and reduced accident risk. It will also benefit many people's physical health and mental wellbeing.

	neighbourhoods will provide safer active travel connections between settlements on the islands, incorporating security as part of the design.
Health Outcomes	The package will, by increasing rates of active travel and hence physical activity, improve both health and wellbeing outcomes. The estimated value of health benefits to the Region's population, appraised over a 60-year period, is in the range £10m to £25m. The package will also tend, by encouraging journeys to switch to less polluting modes, to improve local air quality, and hence health outcomes. `
Access to Health and Wellbeing Infrastructure	• Major Hospital Accessibility: An additional 550 of the Region's population approximately could access hospital by public transport in under a journey time of 30 minutes compared to the Without Package. This represents a 9% improvement compared to that in the Without Package assessment. • Public transport journey times to the nearest major hospital site showed a minor improvement, with a reduction of 1 to 5 minutes observed in some parts of Shetland Mainland.
Visual Amenity	The package should have a positive impact on visual amenity through improvements to

		walking and cycling infrastructure and an improved sense of 'place'.		
Economy *(Transport Economic Efficiency)*	User Benefits (2010 prices and values for a 60-year appraisal period)	Present Value of Benefits (PVB) of approximately £1m to £10m	Present Value of Benefits (PVB) of approximately £1m to £10m	Within the Region itself, the package is expected to have a minor positive impact on revenues for private vehicles due to an anticipated shift towards public transport. More widely, minor economic benefits arise as a result of the inclusion of onward journeys to and from the Shetland Islands, as presented. The modest economic benefits that accrue are as a result of the contribution of sustainable transport interventions that partially affect journeys being made to and from the Region, to enable and encourage mode shift to public transport modes. Note that due to the nature of a number of the STPR2 interventions it has not been possible to derive indicative cost estimates on a regional basis.
Equality & Accessibility	Public Transport Network Coverage	The public transport network coverage is unlikely to change significantly due to the introduction of interventions within this package.		No change was observed for the Region as a whole for either population accessibility or journey time by public transport to employment as the tool only considers data zones in the 20% most deprived areas in Scotland. The package will improve accessibility to public transport by improving the coverage of the walking and cycling networks. This will provide particular benefits for people often excluded from transport, including older and young people, women, disabled people, and people living in more deprived communities. The package will also improve affordability by reducing forced car ownership, and situations where taxi is the only viable mode for people without access to a car.
	Active Travel Network Coverage	Improvements to the Region's active travel network, both within and between settlements, mean that many more people will have convenient, high-quality, and safe infrastructure for walking, wheeling and cycling journeys.		
	Comparative Access by People Group	Improvements to active travel networks, which will improve access to the public transport network, will provide positive impacts to groups who are less likely to have		

		access to car and more likely rely on public transport, walking and cycling for their journeys. This includes women, children and young people, older people, some ethnic minority groups and disabled people.	
	Comparative Access by Geographic Location	Improvements to active travel networks and public transport will provide positive impacts to groups who are less likely to have access to car and more likely rely on public transport, walking and cycling for their journeys. This includes women, children and young people, older people, some ethnic minority groups and disabled people.	
	Affordability	Although the STPR2 interventions don't impact on the direct costs of travel (e.g. fares, fuel price), the package of interventions would see small reduction in transport poverty, due to the overall improvements to access and connectivity between modes.	

Deliverability	
Criterion	Summary Assessment
Feasibility	The package has been developed with feasibility considerations in mind. The package mostly makes use of existing and proven technology and would generally be expected to largely operate inside existing design standards. The technology required to decarbonise the ferry network is one element of this package that is still undergoing research, so may be less feasible than other interventions included within this package. Overall, the package is expected to have a minor positive impact against this criterion.
Affordability	The package would require capital and operational funding. It is unlikely that any of the packages would generate significant revenue, however there may be a slight increase in public transport patronage through the introduction of this package, generating revenue that could be used to offset some of these costs. Overall, the package is expected to have a moderate negative impact against this criterion.
Public Acceptability	Public acceptability of the package is likely to be positive. The package is expected to improve accessibility, connectivity, and choice and to make transport cleaner, more efficient and more attractive. There may be acceptability concerns where construction works are expected to cause disruption or require land-take, however this is anticipated to be minimal in the Region. Overall, the package is expected to have a moderate positive impact against this criterion.

Other Criteria Assessment	
Criterion	Performance Summary
SEA	The package supports modal shift to more sustainable modes of transport. Improved access to major ports and airports, the creation of mobility hubs/interchanges and the improvements to passengers' services and facilities seek to encourage modal shift to more sustainable modes of transport, and, as a result, reduce levels of transport related air pollution and carbon emissions. Decarbonisation of ferry service, bus network and freight deliveries will also support a reduction in greenhouse gas emissions and improvement in air quality. Positive effects are anticipated on Population and Human Health due to an expected increase in sustainable access to essential services, increased travel choice and improved connectivity and planning for the future capacity of public transport. There is potential for a negative effect on material assets as some freight interventions proposed involve enhancements to freight, terminals and facilities and therefore will require the use of natural resources. Where new infrastructure is required this could result in negative effects on biodiversity, soil, landscape, water, historic environment however the magnitude of effect is uncertain at this stage and will be determined by the design (and physical footprint) of the interventions. Many of the interventions in this region, particularly the active travel ones, will have positive outcomes for the SEA Population and Human Health topic - for example through expected improvements in air quality and increased uptake of physical exercise through walking, wheeling, and cycling.
EqIA	The package would improve public transport and active travel accessibility to key destinations and services including employment, education, healthcare, and shopping for people living in the area. This will have a positive impact on certain protected characteristic groups who are less likely to have access to a car and more likely to depend on public transport and active travel to make their journeys. This includes women, children and young people, older people, disabled people, and people from certain ethnic minority groups. By encouraging modal shift to more sustainable modes, this package would also contribute to improving local air quality. Improved health outcomes as a result of better air quality are of particular benefit to those who are more vulnerable to air pollution, including children, older people, disabled people, and pregnant women. The package will reduce the risk of motorised accidents through encouraging modal shift away from private car, resulting in reduced vehicle conflicts. Some protected characteristic groups are more likely to be involved in road accidents, for example, children as pedestrian casualties and young males involved as car drivers and as such would have positive impacts on these groups. It should

	however be noted that with an anticipated increase in the number of walking and cycling journeys undertaken, the number of accidents involving these modes is anticipated to increase. Mode shift to sustainable modes will reduce the perception of isolation on paths, bus stops, stations and services , and this, accompanied by improved quality of facilities will improve perceived security. This is likely to provide some benefit to those for whom security is of particular concern including women, the LGBTQ+ community and those from religious backgrounds most subject to hate crime. The package would therefore be anticipated to have a minor positive impact on addressing this criterion.
ICIA	In addition to the overall benefits of the package, the investment into decarbonisation of the NIFS ferry network would drive island connectivity improvements across the NIFS Ferry Network leading to a beneficial impact on island communities served by these routes. This could lead to an improvement in air quality for island communities within close proximity to ports and harbours. Further benefits may be realised through the procurement of new ferry vessels and infrastructure which would be designed to modern accessibility standards. The capital funding investment into DRT would be likely to have a positive impact on island communities by providing more flexible public transport services meeting the needs of dispersed and remote island communities. This package could provide a minor positive impact for the communities of the Region.
CRWIA	By encouraging modal shift to more sustainable modes, this package would contribute to improving local air quality. Improved health outcomes as a result of better air quality are of particular benefit to those who are more vulnerable to air pollution, including children. The package would also improve public transport and active travel accessibility to higher education institutions and employment opportunities for young people living in the area. The package would therefore be anticipated to have a minor positive impact on addressing this criterion.
FSDA	As measured by the Scottish Index of Multiple Deprivation (SIMD 2020), there are no data zones in the Region within the 20% most deprived data zones in Scotland. However, pockets of deprivation exist within data zones surrounding Lerwick North which recorded high levels of crime and health deprivation, and on the islands of Yell and Unst which recorded high levels of income deprivation. The package has the potential to marginally improve public transport connectivity and therefore reduce some inequalities caused by socio-economic disadvantage for those living in deprivation or communities where transport options are limited. The package would therefore be expected to have a minor positive impact on addressing this criterion.

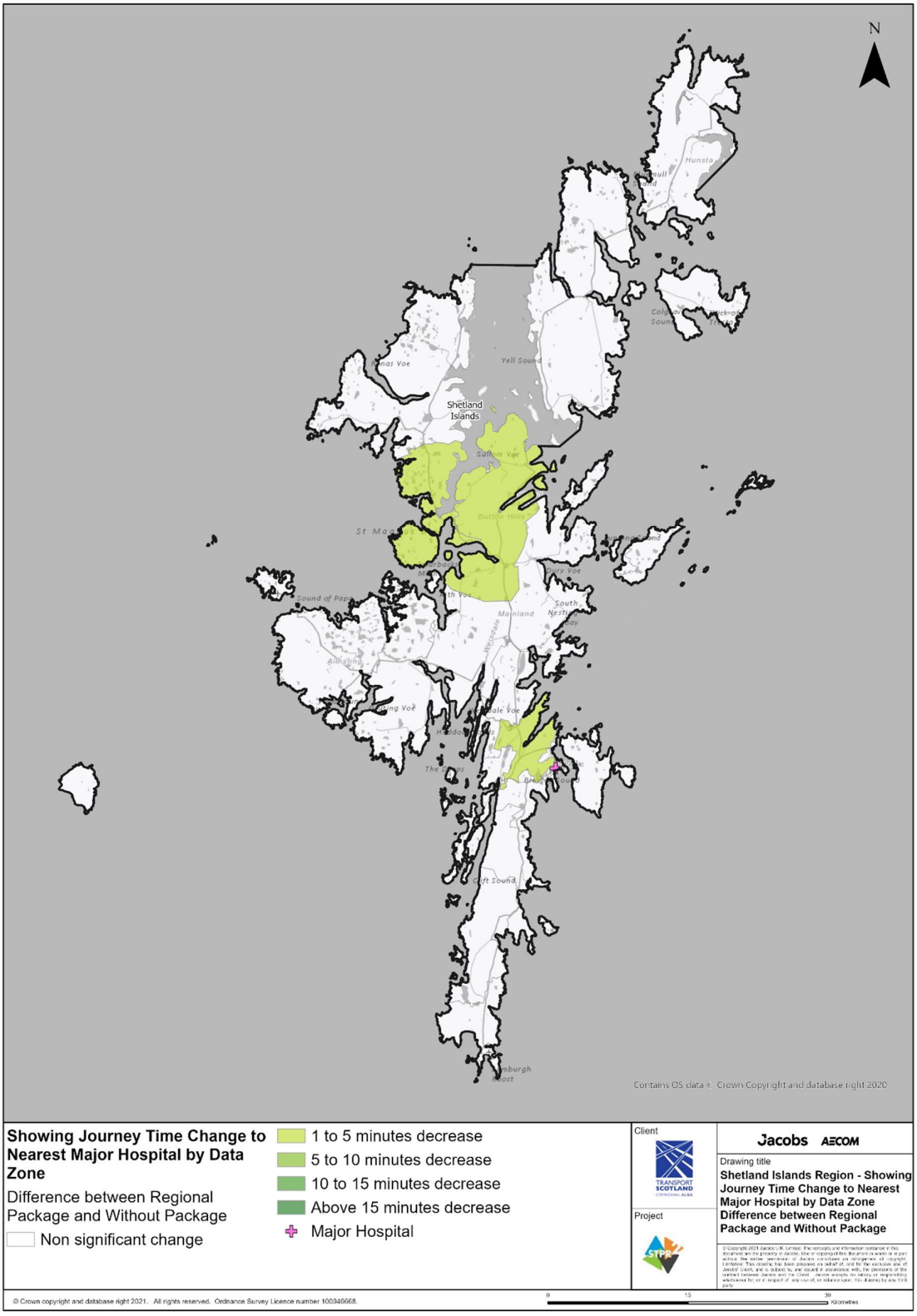
Annex A: Grouping Interventions

Shetland Islands Region	
Grouping Description	**Regional Specifics**
Improving Access to Bikes	Improve access to bikes through a multi-faceted programme of interventions to enable people to cycle (and also to support walking/wheeling as appropriate), and to give them confidence and skills to do so, such that they can make use of new or existing active travel infrastructure. Interventions would be designed to meet local community needs, and address inequality.
Connected Neighbourhoods	The transport components of 20-minute neighbourhoods within towns and cities. This would include, for example, packages of improvements to footways, road crossings and urban realm, aiming to make walking, wheeling, and cycling more attractive, inclusive, and safe.
Increasing Active Travel to School	Improved walking, wheeling, and cycling routes to schools, accompanied by traffic speed reduction interventions and School Streets schemes where appropriate, as well as behaviour change interventions. The types of interventions would often be the same as those of Connected Neighbourhoods, but this intervention is distinct because not all schools are within/close to town/neighbourhood centres.
Village – Town Active Travel Connections	Active travel routes, segregated from busy roads but making use of quiet roads where appropriate, to connect smaller communities to nearby towns.
Behaviour Change Initiatives	Delivery of activities which provide encouragement, enablement and incentivisation for more people to make use of active and sustainable transport choices more often. The initiatives would complement many other interventions being considered for implementation by STPR2 by raising awareness of, and encouraging individuals to use, the most appropriate transport choice for their journey.
Expansion of 20mph limits and zones	Provision of new or expanded 20mph schemes across Scotland on appropriate roads in cities, towns and villages. This would reduce traffic speeds and create safer environments which promote and encourage active travel choices.
Bus Priority Infrastructure	Bus priority to deliver faster and more reliable journey times for bus passengers, particularly within Scotland's cities and towns where congestion is highest. For the Region, support for local/regional schemes to improve bus priority, funding for initial appraisal in some areas is currently being provided through the Bus Partnership Fund.

Decarbonisation of the Bus Network:	Support the decarbonisation of the bus network through continuation of support funding schemes to introduce zero emission vehicles.
Demand Responsive Transport (DRT) / Community Transport	Consideration of whether the outcomes from pilot studies funded through Transport Scotland would enable capital funding to be used to support Demand Responsive Transport/Community Transport in providing improved public transport connectivity in rural, island and peripheral areas.
Decarbonisation of Freight Deliveries	Interventions to support the decarbonisation of freight deliveries, including awareness and education activities, alternative fuel infrastructure and alternative fuel HGV trials.
Freight reliability, resilience and efficiency improvements	Includes options on how the road freight industry can be supported by implementing a variety of hard and soft interventions that will reduce overall disruption, improving journey times and reducing costs for operators.
Freight Consolidation and Last-Mile Logistics	Introduction of interventions to improve freight connectivity within urban and rural areas, such as improved access to cargo bikes, approaches to consolidation centres to aid 'last-mile' logistics and use of innovative technologies.
Freight Incentives and Freight Best Practice	Evaluation of future of Freight Facilities Grant and Mode Shift Revenue Support to encourage more efficient, environmentally friendly practices within the freight industry, including promoting sustainable transport options.
Northern Isles Connectivity	Connectivity options for the existing Northern Isles Ferry Services (NIFS) serving the Orkney Islands and Shetland Islands from the Scottish mainland including for freight and an option for a potential fixed link between Orkney and the Scottish mainland.
Decarbonisation of CHFS and NIFS Ferry Network	Decarbonisation of the CHFS and NIFS ferry networks.
Improve Access to Major Ports and Airports	Introduction of a series of infrastructure and public transport service improvements that will provide better-quality surface connections to Scotland's major ports and airports by road, rail, and public transport to allow Scotland to fully maximise the potential afforded by all its major ports and airports.
Mobility Hubs and Multi-modal Interchanges	Construction of new or upgrades to existing mobility hubs, P&R sites, and other multi-modal interchanges to improve interchanges between modes.
Regional Passenger Facilities/Station Enhancements	Building on the Phase 1 recommendation, improvements to public transport passenger facilities, focusing on bus stations seeking to improve passenger facilities both in terms of improved quality and in terms of improved accessibility for those with reduced mobility.

A National Action Plan to support the transition to Low Emission/Ultra Low Emission/Electric Vehicles	A National Action Plan to support the transition to Low Emission/Ultra Low Emission/Electric Vehicles to support the delivery of the Scottish Government's net zero targets through a multi-faceted programme of interventions. Interventions include funding streams to support the delivery of infrastructure and innovative schemes to allow an equitable transition across the country.
Changing Road User Behaviour	Implementation of speed enforcement technology and national road safety behaviour change campaigns, education, and training initiatives to enable all road users to understand their road safety responsibilities, allowing them to improve their attitudes and behaviours for the safety of themselves and others.
Control Centre of the Future	This would involve investment enhancement of the capabilities of the Traffic Scotland National Control Centre including Public Transport Uses, and how to plan for the future renewal and replacement of equipment, systems, and services to maximise network operations.
Integrated Public Transport Ticketing	Integration of ticketing across public transport (bus, rail, and ferries).

Annex B: NAPTAT MAPPING



Shetland Island Region Journey Time Change Forecast to Nearest Major Hospital