Draft Highland and 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:	Highlands and Islands Region

Regional Context

Geographic Context: The Highlands and Islands Region (herein referred to as 'the Region') comprises the four local authorities of The Highland Council, Comhairle nan Eilean Siar (CnES), Moray Council and Orkney Islands Council. The majority of the Region is classified as remote rural. The Scottish Government's Urban Rural Six-Fold Classification identifies the regional population residing in each category as mix of Remote Rural (35%); Other Urban Areas (28%); Remote Small Towns (18%); Accessible Rural (14%); and Accessible Small Towns (5%). The largest 'Other Urban Areas' include Inverness, Fort William, Forres, Elgin and Keith. Furthermore, the majority of 'accessible small towns' are located around Inverness; Fort William; and along the A96 corridor.

The Region has a wide-ranging transport network including active travel, bus, rail and road networks; as well as ferry connections to and between the islands. For the purposes of STPR2, major ports in the Region are considered to be Ullapool, Stornoway, Scrabster, Nether Lochaber, Invergordon, Ardgour, Kirkwall and Scapa Flow. For many on the islands, ferries are the most frequently used mode of public transport and often provide a lifeline service. Ferry services operating in the Region connect the Inner and Outer Hebrides with Ullapool, Uig and Mallaig; and Orkney with Scrabster, John O'Groats, Aberdeen and the Shetland Islands. Furthermore, there are a number of services connecting peninsulas with other locations on the mainland.

Social Context: The total population in the Region was 380,640 in 2019, of which 62% lived within The Highland Council local authority area. The most populated settlement in the Region is Inverness, with a population of around 63,000 in 2016. Of the top 10 most populous settlements in the Region, 7 increased in population between 2012 and 2016, with Thurso, Fort William and Stornoway reducing in population size. The largest population growth was in Elgin (+8%), with the largest decline in Thurso (-2%). Within the more remote areas of the Region, population decline is
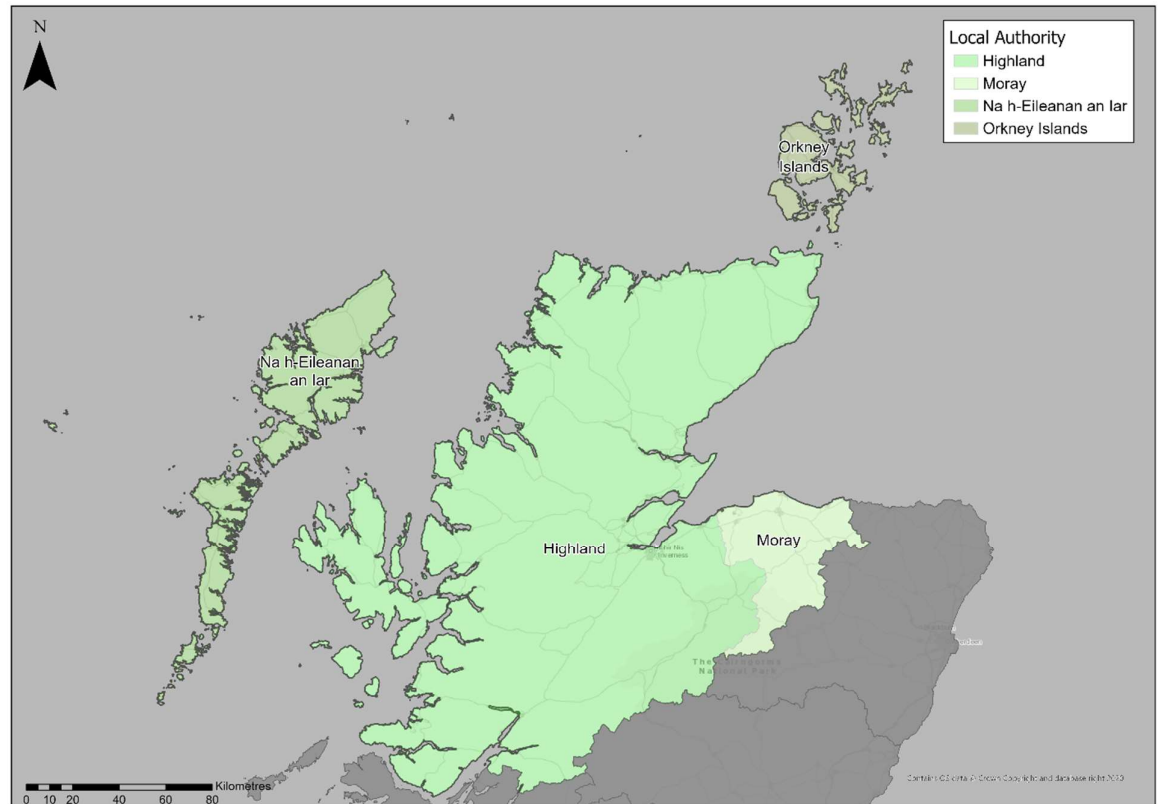
regarded a major issue and between 2011 and 2018 the population of Caithness and Sutherland and Eilean Siar decreased by 3.9% and 3.1% respectively.

In terms of age structure, the working age population is decreasing in the Highlands and Islands, whilst it remains stable in Scotland as a whole. There has also been a significant decrease in the number of people aged 15 and under within the Region, and a significant increase in those aged 65 and over. This highlights the ageing population in the Region and indicates that the working age population is set to decrease further in the future.

Performance against socio-economic indicators varies across the Region. Overall, the proportion of households with access to a car is higher in the Region compared to the national average (80% compared to 69.5%, based on 2011 Census) which reflects the rurality and longer travel distances to access key services in the Region. Travel to work by car is also the dominant mode (62%); with bus accounting for a total of 4% of commuting trips; rail accounting for 2% of commuting trips; and 13% of people travelling by active modes (11% walking and 2% cycling). In terms of travel to work distances within the Region, the proportion of people who commute less than 2km is approximately 5 percentage points higher than the national average (18.1% compared to 13.1%), while the proportion of people who travel distances greater than 60km to work is also higher than the national average (13.3% compared to 10.9%).

There are pockets of deprivation across the Region, most notably in Eilean Siar and areas in the north of the Highlands. Access to healthcare is limited in these more rural areas, with accessibility to existing healthcare services restricted to larger settlements, contributing to the low Scottish Index of Multiple Deprivation (SIMD) accessibility score. In addition to the locations detailed above, there are also areas of deprivation located within Elgin and Inverness. Furthermore, within the Region 7% of people had no qualifications in 2019, which was 2.8 percentage points lower than the national benchmark (9.8%). In terms of health, the proportion of adults in the Region with a long term physical or mental health condition is generally higher than the Scottish average of 30%.

Economic Context: In terms of percentage change in GVA, between 2009 and 2016, The Highland Council economy grew at a faster rate than the Scottish economy as a whole. However, whilst the percentage change in GVA continued to increase across the Scottish economy between 2016 and 2017, there was a reduction in the GVA output within The Highland Council area for the same period. Overall, the ten-year growth between 2008 and 2018 is in line with Scotland as a whole. The economies of Eilean Siar and Orkney Islands tend not to mirror overall economic trends at a national level; exemplifying this, the index of GVA in Scotland found the 'Islands' – which constituted Western Isles, the Shetland Islands and the Orkney Islands – were the only region that didn't observe a contraction in economic output during the 2008 to 2009 recession. Notwithstanding that, overall GVA on the Islands has fallen in 4 out of 7 years since 2011, despite steady growth across Scotland.

Moray Council's economic performance has diverged from the national trend over the previous decade, with its economy contracting between 2011 and 2016. Whilst there has been an increase in the percentage of GVA output since (to 2018), overall, in the decade between 2008 and 2018, the economy of Moray has contracted.

Within the Region, the largest industry employer (in 2018) was Human Health & Social Work, which employed 15.5% of the working population, followed by Wholesale & Retail Trade at 13.3%. Mining and quarrying employed the lowest percentage of the working population (0.4%). Economic activity refers to an estimation of whether usual residents aged 16 to 64 were in work or actively looking for work. Despite the lower proportion of people of working age in the Region, economic activity is high at 80.9% (3.4 percentage points higher than the national average). Earnings are

lower, however, with the average annual pay (£24,809) below the national average of £28,955. In terms of transport expenditure, the rural nature of the Region and long travel distances mean that transport costs can comprise a large proportion of income for residents. Linked to this, there are large parts of the Region which experience transport poverty, as 58% of data zones are classified as being at high risk of transport poverty, which is considerably higher than the national figure (38%).

Environmental Context: Within the Region, there are many areas classified as environmentally sensitive, with varying levels of statutory protection. Environmental designations include biodiversity, landscape, and heritage designations, which fall either wholly or partly within the Region. There are designated environmental sites located throughout the Region, with particularly high concentrations on the coastal areas and the islands. In addition, the Region contains a significant number of historic assets, including two designated World Heritage Sites (St. Kilda in the Hebridean Islands and The Heart of Neolithic Orkney) and 7,362 Category A-C listed buildings; with high concentrations of listed buildings in and around Inverness and on the north-east coast.

Noise modelling highlights limited noise sources in the Region due to its rural nature, with the only notable noise levels located in the east of the Region, primarily associated with the trunk road and motorway network into Inverness (i.e., the A82, A9 and A96), together with the rail corridor through Inverness.

There are high number of areas at risk of coastal flooding throughout the Region. Mainland settlements at greatest risk of coastal flooding include Inverness, Nairn, Cromarty, Golspie, Thurso, Lochinver and Fort William, in addition to Wick Airport. Coastal island communities are also affected, including the northern coast of the Isle of Skye and communities within the Outer Hebrides and Orkney Islands. Areas of Thurso, Alness, Kinlochewe, Wick and Dingwall and the surrounding rural areas are at the highest risk of river flooding within the Region.

There is one Air Quality Management Area (AQMA) designated in the Region, located in Inverness City Centre. CO_2 emissions from transport within the Region equated to 7.8% of Scotland's total transport emissions overall.

Problems:

- **Connectivity:** Poor connectivity, both within the Region and to the rest of Scotland, was frequently raised through stakeholder engagement for the study, with one third of data zones in the Region ranked in the lowest 10% in Scotland in terms of accessibility (SIMD). The difficulties of completing a viable and affordable working day in Glasgow, Edinburgh, Aberdeen and Inverness were highlighted during stakeholder engagement, with the availability and timing of public transport services said to impact connectivity and therefore opportunities for those living and working in the Region. The cost of travel to the Scottish Mainland from the island communities was regarded by a number of stakeholders as prohibitive and is acting as a barrier to travel, particularly by air.
- **Transport Poverty:** Overall, households within the Region spend a high proportion of their household budget on transport expenditure, with the majority of data zones spending between 17-18% of their budget on transport, compared to the national average of 14%. Households in rural areas spend the highest proportion of their budget on transport costs, with the proportion of expenditure lower within the main settlements. Young people can be particularly affected, with studies highlighting transport as a barrier to employment, particularly for those

in more rural communities. The cost of rail journeys has also been highlighted as an issue for both everyday journeys and for longer distance journeys, for example to the Central Belt.

- **Capacity Constraints**: There is limited resilience in the Ullapool - Stornoway ferry provision should there be a breakdown or delay, with 2 passenger services operating each day and a freight service at night. Ferry passenger numbers (and particularly vehicle passengers) on this service have increased since the introduction of the Road Equivalent Tariff (RET) to the route. There are reported difficulties for residents and businesses, due to the increased demand during the busy summer period. Capacity issues for residents and businesses wishing to travel to Orkney on the NorthLink services were also reported, as well as capacity issues for freight. Air services were also said to be at capacity, with a 19% increase in passenger numbers since 2012. Seasonal congestion on the road network can also impact on journey times, particularly in Fort William on the A82 and A830, with concerns also raised regarding the impact that seasonal traffic has on the road quality and condition.

- **Journey Times:** Journey times by road, bus and rail have been described as long by stakeholders. This is partly due to the longer distances between origins and destinations but also due to constraints in the transport network. In terms of road journey times, there is a perceived lack of safe overtaking opportunities on sections of the trunk road network, considered to be as a result of carriageway standard and the mix and composition of vehicles. Rail is generally considered an unattractive alternative to the car due to uncompetitive journey times. Long journey times were also noted to be an issue that affects island communities.

- **Resilience:** The resilience of the trunk road network was highlighted as a problem during stakeholder engagement, due to the lack of alternative options which can result in long diversion routes in the event of road closure. Information contained within the Train Time Reliability by station list highlighted journey time reliability issues, while a number of sections of the rail network are prone to closure during periods of adverse weather. Furthermore, stakeholder engagement frequently highlighted ferry and air service cancellations as being an issue which affects island life.

- **Public Transport Frequency and Integration:** The lack of, and limited frequency of, public transport, in particular bus services, is a problem especially in rural areas. Bus services do not operate at desired times such as early enough to make rail connections or late enough in the evenings to allow for activities to be undertaken after school/work or to access shift work. TRACC analysis highlights that large areas in the north and west of the Scottish mainland, and a high proportion of island residents, have no access to the key employment centres (selected for analysis) within a 2 hour journey time by public transport.

- **Dependence on Private Car:** The geography of the area, the centralisation of key services, and the lack of frequent public transport access means that many in the Region are dependent on cars and often dependent on more than one car per household. Most data zones (76%) have less than 30% of households with no car or van available, highlighting the high car availability in the Region.

Opportunities:

- **Economic Growth:** There are a number of strong growth sectors within the Region, with the aquaculture sector expected to grow by 50% by 2035. Tourism is another sector in the Region that is anticipated to grow, attracting over 500,000 international visitors in 2017, with a key attractor being the North Coast 500. There is an opportunity in the Region to increase the number of tourists using sustainable modes of travel.
- **Progression Towards Carbon Neutrality:** There are opportunities arising from the Island's Growth Deal for the Region in this regard, including the Islands Hub for Net Zero, a draft NPF4 National Development. Another growth sector for the Region is the energy sector, with particular opportunities in renewable energy to draw on transferrable skills from the oil and gas sector, as renewable sources become more prevalent, securing future employment opportunities.
- **Digital Connectivity:** Technological opportunities include understanding how future technologies could impact transport, how technology could be used to improve transport, and how to future-proof transport by taking steps now to prevent problems in the future.

Detailed Appraisal Package Description

Package Groupings: Refer to Annex A for further grouping details

Active Travel	• Improving Access to Bikes • Connected Neighbourhoods • Improving Active Travel on Trunk Roads through Communities • Increasing Active Travel to School • Active Freeways • Village – Town Active Travel Connections • Long-Distance Active Travel Network • Connecting Towns by Active Travel • Cycle Parking Hubs
Bus	• Bus Priority Infrastructure • Decarbonisation of the Bus Network • Demand Responsive Transport (DRT) / Community Transport
Rail	• Decarbonisation of the Rail Network • Inter-7-Cities Strategic Corridor Enhancements • Rural Rail Connectivity
Interchange	• Mobility Hubs and Multi-modal Interchanges • Regional 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 • Mull Connectivity • Northern Isles Connectivity • Outer Hebrides Connectivity
Freight	• Decarbonisation of Freight Deliveries • Railway Freight Terminals and Facilities • Freight Reliability, Resilience and Efficiency Improvements • Freight Consolidation and Last-Mile Logistics • Freight Incentives and Freight Best Practice • Rail Freight Enhancements
Resilience	• Improve Access to Major Ports and Airports

Detailed Appraisal Package Description		
Package Groupings: Refer to Annex A for further grouping details		
	• Trunk Road and Motorway Network Renewal for Reliability, Resilience and Safety • Trunk Road and Motorway Climate Change Adaptation and Resilience	
Technology	• Incident Management Software (IMS) Upgrade • Control Centre of the Future	• Intelligent Transport Systems (ITS) Roadside Infrastructure • Integrated Public Transport Ticketing
Road	• North West Trunk Road Network Improvements • North East Trunk Road Network Improvements • 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	Major Positive
	Will be easy to use for all	Major Positive
	Will be affordable for all	Minor Positive
Takes climate action	Will help deliver our net-zero target	Major Positive
	Will adapt to the effects of climate change	Minor Positive
	Will promote greener, cleaner choices	Major Positive
Helps deliver inclusive economic growth	Will get people and goods where they need to get to	Major Positive
	Will be reliable, efficient and high quality	Major Positive
	Will use beneficial innovation	Major Positive
Improves our Health and Wellbeing	Will be safe and secure for all	Major Positive
	Will enable us to make healthy travel choices	Major Positive
	Will help make our communities great places to live	Major Positive

The interventions included within this package support a wide range of national, regional and local policies 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, the Climate Change Plan update 2018-2022, HITRANS Regional Transport Strategy, various Local Transport Strategies (The Highland Council, Moray Council, Orkney Council and Comhairle nan Eilean Siar)

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

The policy framework for the Highlands and Islands Region has a strong emphasis on creating a prosperous economy and on inclusive, connected, and healthy communities which promote modal shift away from private car, increase walking and cycling opportunities, and provide an attractive place for visitors and for businesses to invest and grow, 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. 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.
	Change in mode share by active travel for all journeys	Potential increase in walking from 17% mode share to 20% mode share (3 percentage points) Potential increase in cycling from 0.7% mode share to 10% (9.3 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 below.		

STPR2 Transport Planning Objectives (TPOs) Assessment

STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	

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 will contribute to the net-zero emissions target by:
- Enabling more passenger journeys to be made by active modes and public transport
- Decarbonising most public transport operations, including the CHIS and NIFS ferry network
- Facilitating uptake of electric vehicles
- Enabling some road freight to switch to rail or other low carbon modes
- Providing a more resilient road network that will reduce congestion and associated emissions

Walking		
Local Authority	Baseline	With Package
Eilean Siar	17%	19%
Highland	17%	20%
Moray	17%	21%
Orkney	17%	20%
Regional Average	**17%**	**20%**

Cycling		
Local Authority	Baseline	With Package
Eilean Siar	0.6%	6%
Highland	1.6%	15%
Moray	0.3%	14%
Orkney	0.2%	5%
Regional Average	**0.7%**	**10%**

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.

Metric	Low	High
Change in motorised veh-kms travelled	47.6million veh km 2% decrease (see annex C)	44.4 million veh km 1% decrease (see annex C)

STPR2 Transport Planning Objectives (TPOs) Assessment

STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
	Scoring	++	++	
An inclusive strategic transport system that improves the affordability and accessibility of public transport.	Change in transport poverty risk	Although the STPR2 interventions do not impact on the direct costs of travel (e.g. fares, fuel price), the package of interventions would see a small reduction in transport poverty, due to the overall improvements to access and connectivity between modes.		The package will 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 active travel connections between settlements • Improving inclusive accessibility to public transport stops/stations • Seeking to promote public transport use and reduce operating costs, hence enhancing network sustainability • Improving ferry connectivity between the Region and mainland Scotland
	Change in Accessibility - population catchments increases to key services by journey time by public transport.	The largest change in population accessibility of all the destination types considered was for major hospitals, whereby an additional 2,300 of the population in the Region would be able to access the nearest site in a journey time of 30 minutes or less by public transport with the package. This represents a 2% improvement compared to that in the without package assessment Accessibility to Higher Education and Major Food stores was also assessed but the impacts were found to be negligible		
	Scoring	+	+	
A cohesive strategic transport system that enhances communities as places,	Change in mode share by active travel for all journeys	Potential Increase in walking from 17% mode share to 20% mode share (3 percentage points) Potential Increase in cycling from 0.7% mode share to 10% (9.3 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. This will: • Improve many people's physical health and mental wellbeing, with particular benefits for people most often excluded (including children,

STPR2 Transport Planning Objectives (TPOs) Assessment				
STPR2 TPOs	**Appraisal Metrics**			**Performance Summary**
	Metric	Low	High	
supporting health and wellbeing.	Potential for Change in 'Place'	The package will tend 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 locations where active travel allows easier walking and cycling conditions such as in Inverness, Fort William, Elgin, Stornoway and Kirkwall.		older and disabled people, and people on low incomes) • 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 annual reduction of around 15 premature deaths due to the health benefits arising from active travel.
	Change in Health Benefits	The health benefits of increased rates of walking and cycling as a result of the package have been quantified using the WHO's HEAT tool. This shows the following benefits by Local Authority: 	Local Authority	Premature deaths prevented per annum
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Eilean Siar	0.7
Highland	10.6
Moray	3.3
Orkney	0.4
Regional total	**15.0**			
	Scoring	++	++	
An integrated strategic transport system that contributes towards	Increased labour catchment by sustainable travel (PT/Active Travel)	• Access to local employment, which represents accessibility of employment located in the surrounding area of an origin within a 40 minute public transport journey time, showed improvements in parts of the Region, such as Westhill (near Inverness), with an average of 4,000 additional jobs.		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, particularly in the towns and cities

STPR2 Transport Planning Objectives (TPOs) Assessment

STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
sustainable inclusive growth in Scotland.		• Access to regional employment (employment located in Inverness) improved particularly to the east of the Region. The modelling shows that the regional package allows an additional 2,000 jobs to be accessed within an hours' journey time by public transport as an average within both Highland and Moray, increasing to 3,000 jobs in Highland within a two-hour journey by public transport. • Within the rural areas of the Region, job accessibility increased by 2%, averaging at 2,400 additional jobs per data zone.		• Improving journey time reliability • Enabling more people to travel by improving the accessibility and affordability of the transport system, through greater mode choice and reduced reliance on the private car. This enables more people to access local retail and services, and opportunities for employment and education/training. This is particularly relevant in the less rural areas of the Region. Encouraging modal shift to sustainable modes and reducing the volume of vehicles on the network is anticipated to improve journey time reliability for all vehicles, providing benefits to businesses across the Region. A reduction in vehicles hours of between 9,000 and 16,000 hours is anticipated in the respective growth scenarios for business and commercial travel, contributing towards sustainable inclusive growth in Scotland
	Change in lost time due to congestion (for business/commercial transport)	Reduction of 9,800 hours (-5%)	Reduction of 15,400 hours (-5%)	
	Scoring	++	++	
A reliable and resilient strategic transport system that is safe and secure for users.	Change in accidents (PIA and 'damage-only'	A 2% accident reduction due to reduced veh-km is forecast.		The package will improve reliability, safety and personal security on the transport system by: • Improving journey time reliability, including through reduced likelihood of significant network disruptions • Reducing the risk of road accidents at hotspot locations on the trunk road network e.g. through targeted infrastructure improvements such as carriageway realignment and widening, the provision of overtaking opportunities and
		Whilst the number of accidents involving motorised 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 be significantly safer.		

STPR2 Transport Planning Objectives (TPOs) Assessment

STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
	Percentage accident change for Targeted Infrastructure Improvements over 60 years, using default accident rate (PIA Only)	Sections of Realignment/Widening – reduction of 23% to 59% Sections of Overtaking Opportunities – reduction of 35% to 73% Locations of Junction Improvements – change of 42% (increase) to 64% (decrease)		junction improvements. (It should be noted that replacing a priority junction with a signalised junction could increase the overall number of accidents, however the severity of accidents occurring should reduce) • Reducing perceived risks to road safety and to personal security, so enabling more people (particularly children, women and older people) to travel independently • Changing attitudes of road users through behavioural change campaigns. This is anticipated to increase awareness of interactions with those walking, wheeling and cycling • Improving active travel provision and providing more dedicated and segregated routes for walking, cycling and wheeling
	Change in lost time due to congestion	Reduction of 52,700 hours (9%) (see Annex C)	Reduction of 107,000 hours (8%) (see Annex C)	
	Journey Time Reliability/Avail ability of alternatives (modes/routes)	This package is forecast to reduce overall motorised vehicle kilometres by 2% and 1% under the Low and High Travel Demand Scenarios respectively, reduces the risk of accidents occurring as a result of reducing travel, whilst improving resilience by reducing the number of road closures associated with accidents. Targeted improvements on the trunk road and motorway network where safety is a problem is forecast to reduce accidents and the associated reduction in road closures from such incidents would also help improve reliability. Improvements in terms of renewals and climate change adaptation to protect the operation of the trunk road and motorway network would also positively impact on the reliability of the network.		

STPR2 Transport Planning Objectives (TPOs) Assessment				
STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
		Encouraging modal shift to sustainable modes and reducing the volume of vehicles on network is anticipated to improve journey time reliability, as indicated by reducing time lost to congestion of 52,700 and 107,000 hours in the low and high growth scenarios respectively		
	Scoring	**+++**	**+++**	

STAG Assessment				
STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
Environment	Air Quality	+	+	Total emissions of NO_X were predicted to be effectively zero in 2045 in the Low Travel Demand scenario, and 2051 in the High Travel Demand scenario either with, or without, the proposed package. Total emissions of PM were predicted to increase in future predominantly due to non-exhaust emissions from road, tyre and brake-wear. However, the package will reduce harmful emissions slightly. Over the 60-year appraisal period there was a predicted 100% reduction in NO_X, 2.8% reduction in PM_{10} and 2.9% reduction in $PM_{2.5}$ in the Low Scenario, and a 3.1% reduction in PM_{10} and a 3.3% reduction in $PM_{2.5}$ in the High Scenario.
	Noise and Vibration	+	+	The anticipated modal shift is expected to reduce levels of noise and vibration associated with the transport network. There is potential for a localised negative effects on noise and vibration due to the construction and operation of specific interventions including rail, road and fixed links however the magnitude of effect will depend on the design and location of the intervention. Total emissions of NOX were predicted to decrease in future in both the Low and High Travel Demand scenarios.

		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}, although the change is greater in the High Travel Demand scenario due to overall higher emissions.

	Vulnerability to Effects of Climate Change	+	+	The package provides an opportunity to adapt the transport network to the predicted effects of climate change, with one grouping specifically focused on adaptation.
	Potential to Adapt to Effects of Climate Change	+	+	
Health, Safety & Wellbeing	Change in accidents (PIA and 'damage-only'	Accident reduction related to motorised veh km is forecast to be 2%		The package will reduce the number and severity of accidents through targeted infrastructure improvements and 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.

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. |
| | Percentage accident change for Targeted Infrastructure Improvements over 60 years, using default accident rate (PIA only) | Sections of Realignment/Widening - reduction of 23% to 59%

Sections of Overtaking Opportunities - reduction of 35% to 73%

Locations of Junction Improvements – change of 42% (increase) to 64% (decrease) | | |
| | 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. | | |
| | 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 £500m to £1,000m. The package will also tend, by encouraging car journeys to switch to less polluting modes, to improve local air quality, and hence health outcomes. This could be of particular benefit to the AQMA in Inverness.	
	Access to Health and Wellbeing Infrastructure	• Major Hospital Accessibility – Population accessibility of major hospitals in the Region saw a 2% increase compared to the without package, with approximately 2,300 more people able to access their nearest major hospital within a 30 minute public transport journey. • Public transport journey times to the nearest major hospital site showed a minor improvement in both Highland and Moray with a reduction of between 1 to 5 minutes using the population weighted average. There is no anticipated change to journey times in CnES and Orkney.	
	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'. Care would be required in the development of rail freight facilities to ensure they did not detrimentally impact nearby communities.	

		Present Value of Benefits (PVB) of approximately £100m to £250m Accidents Present Value of Benefits (PVB) of approximately £10m to £25m	Present Value of Benefits (PVB) of approximately £100m to £250m Accidents Present Value of Benefits (PVB) of approximately £10m to £25m	
Economy *(Transport Economic Efficiency)*	User Benefits (2010 prices and values for a 60 year appraisal period)			The majority of economic benefits that accrue are as a result of the sustainable transport interventions in the Region's package to enable and encourage mode shift to public transport modes. The public transport interventions including Bus Priority Infrastructure, and to a lesser extent the Rail and Interchange interventions, are the main contributors to the public transport user benefits total in the Low Travel Demand scenario. The remainder of the benefits are largely due to the increase in public transport operator revenue as a result of the increased patronage levels arising from the mode shift away from car. The level of public transport user benefits are reduced in the High Travel Demand scenario. Nevertheless, even under this scenario the sustainable transport interventions contribute to the majority of user benefits. In terms of accident savings, the level of benefits is similar in both planning demand scenarios. This is due to the reduction in road-based vehicle-kilometres travelled in the Region, as a result of the active travel and public transport interventions encouraging a mode shift away from private car 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 Region is expected to see minor benefits from public transport coverage; however, this will generally be in the less rural areas. Improving the active travel network and interchanges may provide users with access to a wider public transport network, by enabling easier access to multi-modal trips.		The package will improve accessibility to public transport by improving the coverage of the walking, cycling and public transport 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.

	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.	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.
	Comparative Access by People Group	Improvements to active travel networks and public transport will provide positive impacts on 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	Journey Time / Population based increase to key services, including population accessibility and journey times, and access to jobs found locally and regionally is not anticipated to change for those travelling from deprived areas within the Region to key destinations. Small increases in the average number of local and regional jobs accessible by public transport from deprived areas in Highlands & Islands Region are likely as a result of this package	
	Affordability	Although the STPR2 interventions do not impact on the direct costs of travel (e.g. fares, fuel price), the package of interventions would see a 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, 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 some of the interventions included within this package. Overall, the package is expected to have a minor positive impact against this criterion.
Affordability	The package would require substantial capital and operational funding. Some aspects of the package may generate revenue, which 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 mixed. The package is expected to improve accessibility, connectivity, choice and make transport cleaner, more efficient and more attractive which would be positively received. There may be acceptability concerns in areas of congestion where road space reallocation or bus priority interventions are proposed, however the behavioural change elements of the package should help to mitigate this. There may also be acceptability concerns where construction works are expected to cause disruption or require land-take. Overall, the package is expected to have a minor positive impact against this criterion.

Other Criteria Assessment	
Criterion	**Performance Summary**
SEA	The package supports modal shift to more sustainable modes of transport. Improved sustainable access to major ports and airports, the creation of mobility hubs/interchanges, strategic rail improvements and the improvements to passengers' services and facilities seeks to encourage modal shift, and, as a result, reduce levels of transport related air pollution and carbon emissions. The decarbonisation of the ferry, rail and bus network and freight deliveries will also support a reduction in greenhouse gas emissions and improvements in air quality. The package provides an opportunity to adapt the transport network to the predicted effects of climate change, with one intervnetion focused on this adaptation, promoting more sustainable usage of the existing transport network. 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. Active travel interventions 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. Road interventions are anticipated to have positive effects on safety. Trunk road improvements which are focused on junction improvements, realignment / widening and overtaking opportunities are also not anticipated to have a notable impact on traffic volumes or mode share and subsequently transport-based emissions, in the majority of locations. The construction and operation of these interventions may result in minor negative effects on population and human health with the potential for in an increase in noise and vibration during construction and operation. This is dependent on the location and design of individual schemes. There is also potential for a negative effect on material assets due to the use of natural resources. The freight interventions are anticipated to result in minor negative effects on material assets as several interventions proposed involve enhancements to rail freight, terminals and facilities and therefore will require the use of natural resources. The creation of fixed links will help adapt the transport network to the direct / indirect risks associated with climate change and maintain / improve access to and within isolated island communities at risk from climate change effects, however it is anticipated that there is the potential for negative effects on biodiversity, soil, landscape, water, historic environment, and material assets. Where other new infrastructure is required, including, harbour upgrade requirements and road and rail interventions this could result in negative effects on biodiversity, soil, landscape, water, historic environment and material assets however the magnitude of effect is uncertain at this stage and will be determined by the design (and physical footprint) of the interventions.
EqIA	The package could improve public transport and active travel accessibility to key destinations and services including employment, education, healthcare and shopping for people living in the Region. This will have a major 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 could 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 severity of accidents through targeted infrastructure improvements and by encouraging modal shift away from private car, resulting in reduced accident risk due to reduced 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.

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 ferry network would drive island connectivity improvements across the CHFS and NIFS Ferry Networks leading to a beneficial impact on island communities served by these routes. This could lead to a reduction in poor 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 potentially be designed to increased accessibility standards than currently.

The implementation of fixed links between islands will increase connectivity and access to services as well as potentially supporting job growth on the islands. This would have a significant positive impact by improving connectivity and accessibility and reducing reliance on the CHFS network. The potential for 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 moderate positive impact for island communities located within the Region. |
| CRWIA | By encouraging modal shift to more sustainable modes, this package could 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 could also improve public transport and active travel accessibility to higher education institutions and employment opportunities for young people living in the area.

Safety is a key issue for children with regards to transport with child pedestrian casualties recorded in Scotland in 2019, accounting for 44% of all pedestrian casualties. The package will reduce overall motorised vehicle kilometres by 2% and 1% under the Low and High Travel Demand scenarios respectively, reducing the risk of accidents occurring as a result of reducing travel.

The package would therefore be anticipated to have a minor positive impact on addressing this criterion. |
| FSDA | There are pockets of deprivation across the Region, most notably in Eilean Siar and areas in the north of the Highlands. Access to healthcare is limited in these more rural areas, with accessibility to existing healthcare services restricted to larger settlements, contributing to the low Scottish Index of Multiple Deprivation (SIMD) accessibility score. In addition to the locations detailed above, there are also areas of deprivation located within Elgin and Inverness. The package has the potential to improve public transport connectivity to healthcare and other services such employment and education and can therefore reduce inequalities caused by socio-economic disadvantage by improving accessibility for communities where transport options are limited. The package would therefore be expected to have a minor positive impact on addressing this criterion. |

Highlands and Islands Region

Grouping Title	Regional Description
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.
Improving Active Travel on Trunk Roads through Communities	Packages of interventions to reduce the adverse effects of Trunk Road traffic on people walking, wheeling and cycling in those communities that have a Trunk Road passing through them (for example by reducing traffic speed and improving road crossing facilities).
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 interventions is distinct because not all schools are within/close to town/neighbourhood centres.
Active Freeways	High-quality segregated infrastructure for people walking, wheeling and cycling on radial routes and other high-demand corridors in Scotland's large urban areas, with priority given initially to the larger cities.
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.
Long-Distance Active Travel Network	Interurban active travel routes, segregated from busy roads but making use of quiet roads where appropriate, connecting Scotland's cities and regions. The grouping would enhance the existing National Cycle Network to create a strategic national network of active travel routes mirroring in part the Trunk Road and rail networks.
Connecting Towns by Active Travel	Segregated active travel routes on interurban connections between adjacent towns in locations where demand is expected to be high. Complements the Long-Distance Network and existing links on the National Cycle Network.

|	
Cycle Parking Hubs	High-quality, high-capacity cycle parking facilities in urban centres and at other key trip attractors to cater for increased demand in locations where Active Freeway networks are implemented (in Scotland's large urban areas, with priority given initially to the larger cities).
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 H&I 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 Phase 1 of STPR2 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.
Railway Freight Terminals and Facilities	Improving the modal shift of freight from road to rail primarily for trunk haul movements (but not exclusively) through a network of rail freight terminals and facilities to include direct connections to manufacturing facilities and warehousing. Specifically, for H&I Region potential locations for further consideration could include: Morayhill, Georgemas, and Altnabreac (Line Side) timber
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
Rail Freight Enhancements	Rail freight enhancements required as outlined as part of the Scottish Strategic Freight Network (SSFN) by the Scotland Freight Joint Board in 2017. This infrastructure enables more efficient mode shift from road to rail. Specifically, for H&I Region: Central Belt - Inverness via Fife Increased train length, improved route availability (axle weight), better freight schedules and clearance for taller and wider wagons Highland Mainline improvements Increased train length, improved route availability (axle weight), better freight schedules and clearance for taller and wider wagons, more passing places or "dynamic loops" to improve flexibility of service
Mull Connectivity	Connectivity options for the Isle of Mull. Grouping includes options for Clyde and Hebrides Ferry Services (CHFS) including for freight and an option for a potential fixed link between Mull and the Scottish mainland.
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.
Outer Hebrides Connectivity	Connectivity options for the Outer Hebrides. Grouping includes options for Clyde and Hebrides Ferry Services (CHFS) and development of ferry routes. Grouping also includes options for potential fixed links across the Sounds of Harris and Barra.
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.
Trunk Road and Motorway Network Renewal for	Renew and improve the resilience of the trunk road and motorway network. This would include preventative and programmed structural renewals of carriageways and network structures for consideration

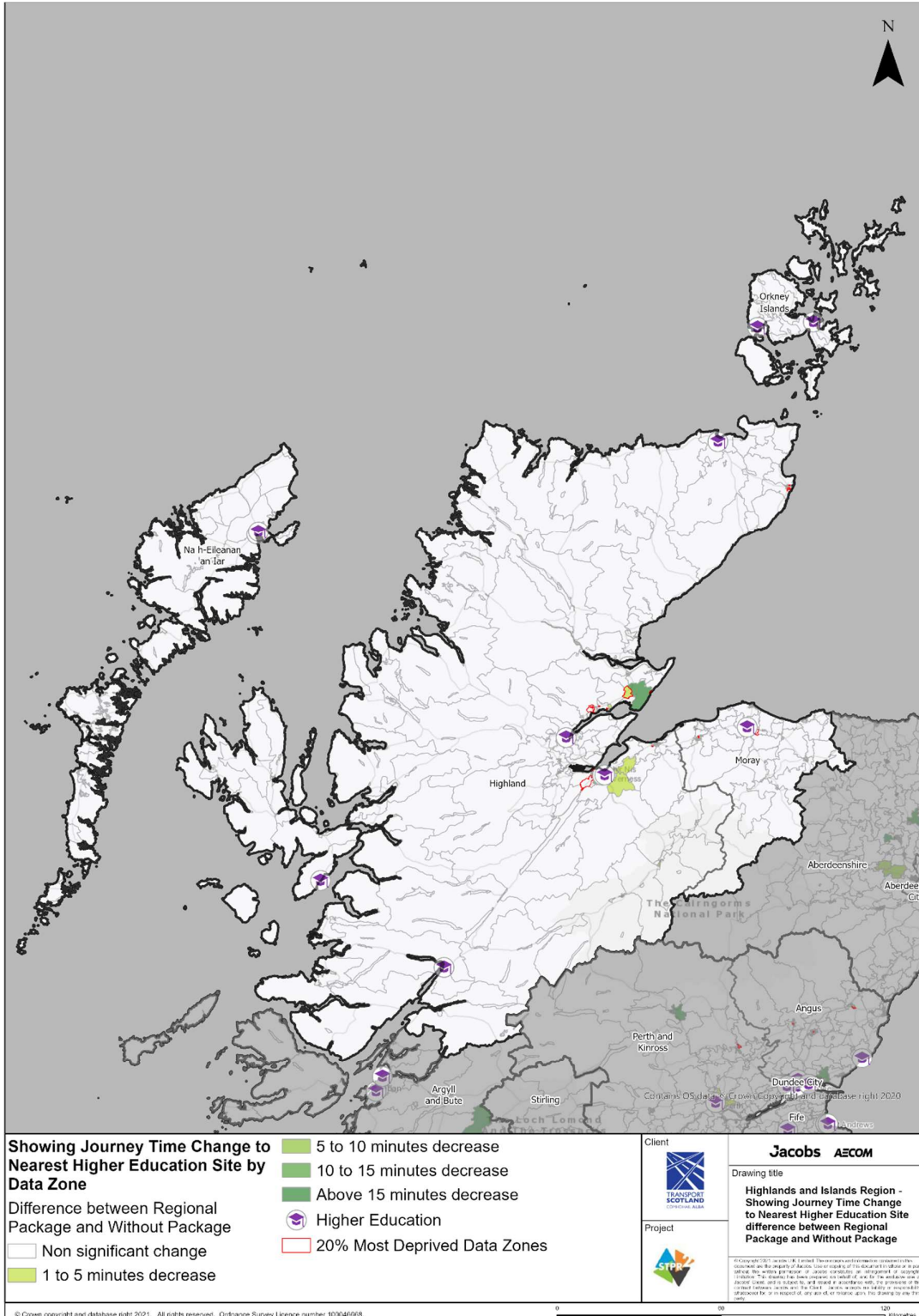| Reliability, Resilience and Safety	
Trunk Road and Motorway Climate Change Adaptation and Resilience	This focuses on the areas on the trunk road and motorway network most at risk of disruption due to weather events. This would involve identification of priorities and interventions to strengthen the resilience of Scotland's trunk road and motorway network to adapt to a changing climate and unplanned events.
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.
North West Trunk Road and Motorway Network Improvements	Improving trunk and motorway network road safety and strategic access to National Developments and Key Gateways. Road safety improvements will focus on route sections where calculated local KSI and/or PIA accident rates are over 2 times greater than the national rates for routes of a similar nature and standard, over the period 2015 to 2019. Improvements are anticipated to include widening / realignment on single carriageway sections, targeted overtaking opportunities and junction improvements, with a primary focus on helping to achieve the Scottish Government's Target of 'Vision Zero' by 2050.
North East Trunk Road and Motorway Network Improvements	Improving trunk and motorway network road safety and strategic access to National Developments and Key Gateways. Road safety improvements will focus on route sections where calculated local KSI and/or PIA accident rates are over 2 times greater than the national rates for routes of a similar nature and standard, over the period 2015 to 2019. Improvements are anticipated to include widening / realignment on single carriageway sections, targeted overtaking opportunities and junction improvements, with a primary focus on helping to achieve the Scottish Government's Target of 'Vision Zero' by 2050.
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.

|	
Inter-7-Cities Strategic Corridor Enhancements	Provision of enhancements on the Inter-7 Cities strategic rail network seeking to improve connectivity by reducing rail journey times on these corridors. Specifically, for H&I Region: Perth-Inverness and Aberdeen-Inverness rail corridor enhancements
Rural Rail Connectivity	This would comprise of a number of rail enhancement schemes focused on improving journey times, reliability and resilience on rural railways in Scotland. Specifically, for H&I Region: Far North Line Capacity Improvements (South of Invergordon)
Decarbonisation of the Rail Network	Delivery of a continued, rolling programme of rail decarbonisation, including consideration of batteries and alternative fuel sources, in line with Transport Scotland's Rail Services Decarbonisation Action Plan (DAP).
Incident Management Software (IMS) Upgrade	Incident Management System replacement to maintain the current level of service across the trunk road network.
Control Centre of the Future	This would involve investment enhancement of the capabilities of the Traffic Scotland National Control Centre, and how to plan for the future renewal and replacement of equipment, systems and services to maximise network operations.
Intelligent Transport Systems (ITS) Roadside Infrastructure	Investment in ITS which helps to ensure the availability, resilience, safety and quality of the transport infrastructure that is used to actively manage and control traffic during incidents and hazardous weather conditions.
Integrated Public Transport Ticketing	Integration of ticketing across public transport (bus, rail and ferries).
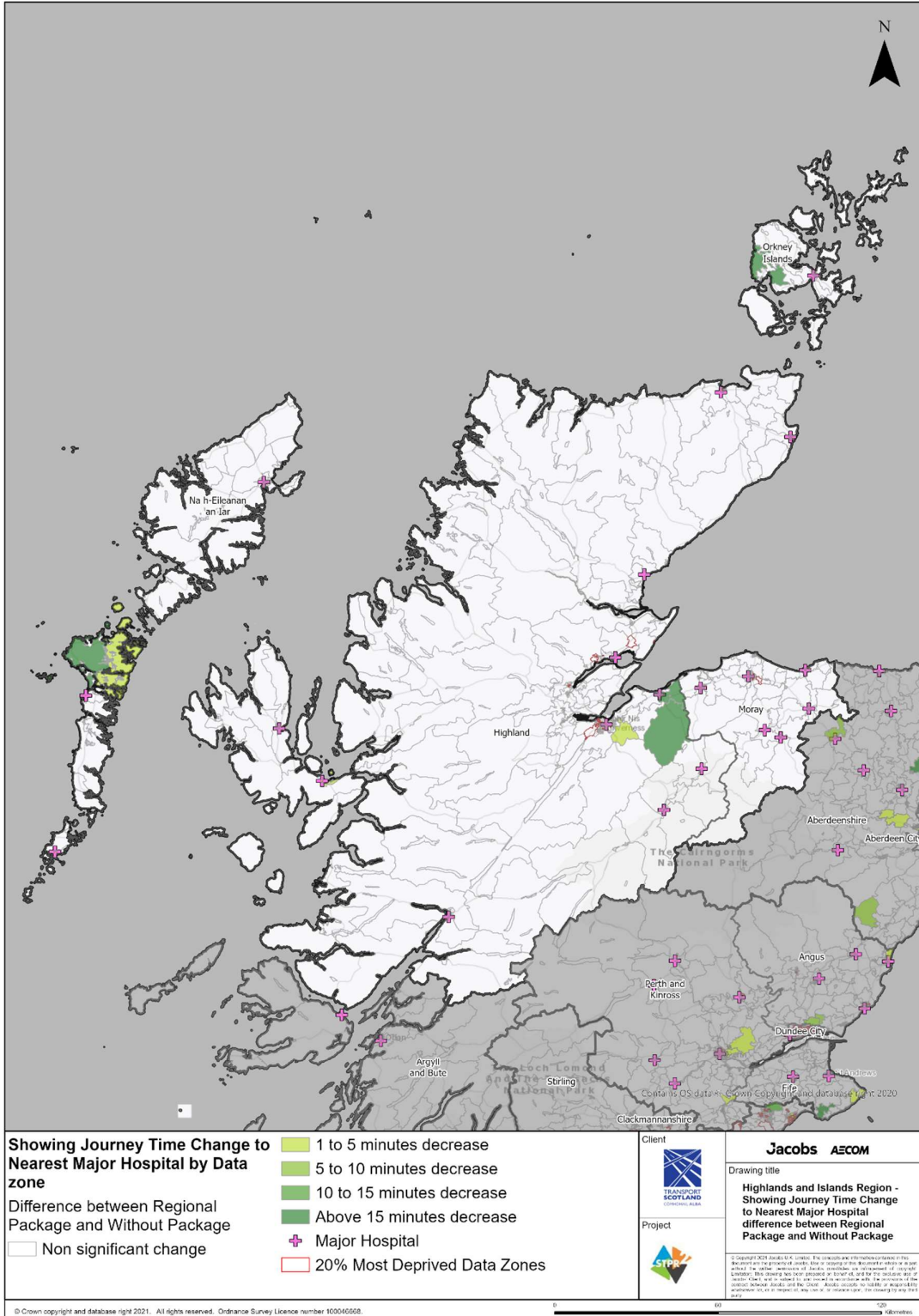
Highlands and Islands Region - Journey Time Change to Nearest Major Hospital difference between Regional Package and without package

Showing Journey Time Change to Nearest Higher Education Site by Data Zone

Difference between Regional Package and Without Package

- Non significant change
- 1 to 5 minutes decrease
- 5 to 10 minutes decrease
- 10 to 15 minutes decrease
- Above 15 minutes decrease
- Higher Education
- 20% Most Deprived Data Zones

Highlands and Islands Region - Showing Journey Time Change to Nearest Higher Education Site difference between Regional Package and without package
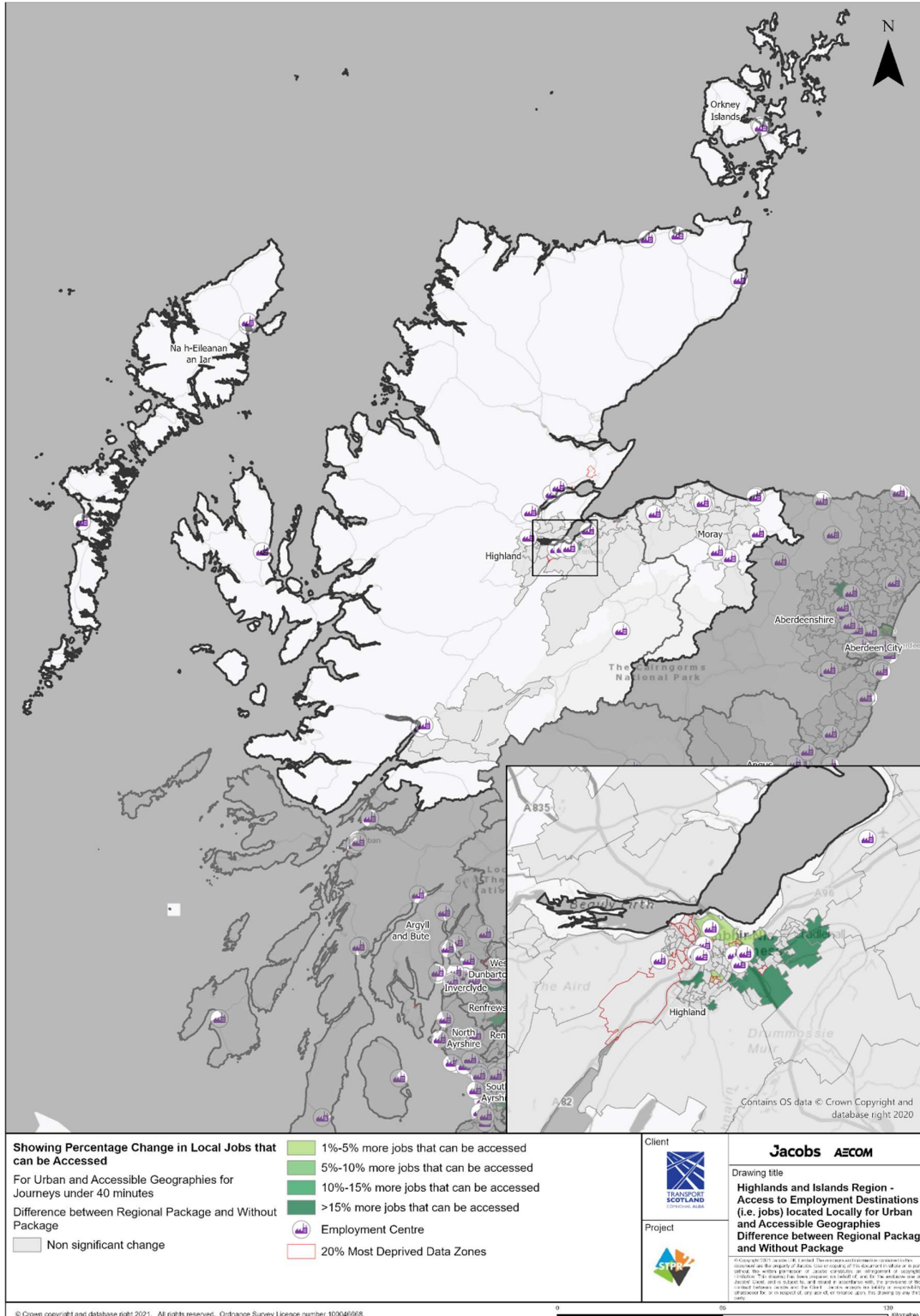
Highlands and Islands Region - Access to Employment Destinations (i.e. jobs) located Locally for Urban and Accessible Geographies Difference between Regional Package and without package
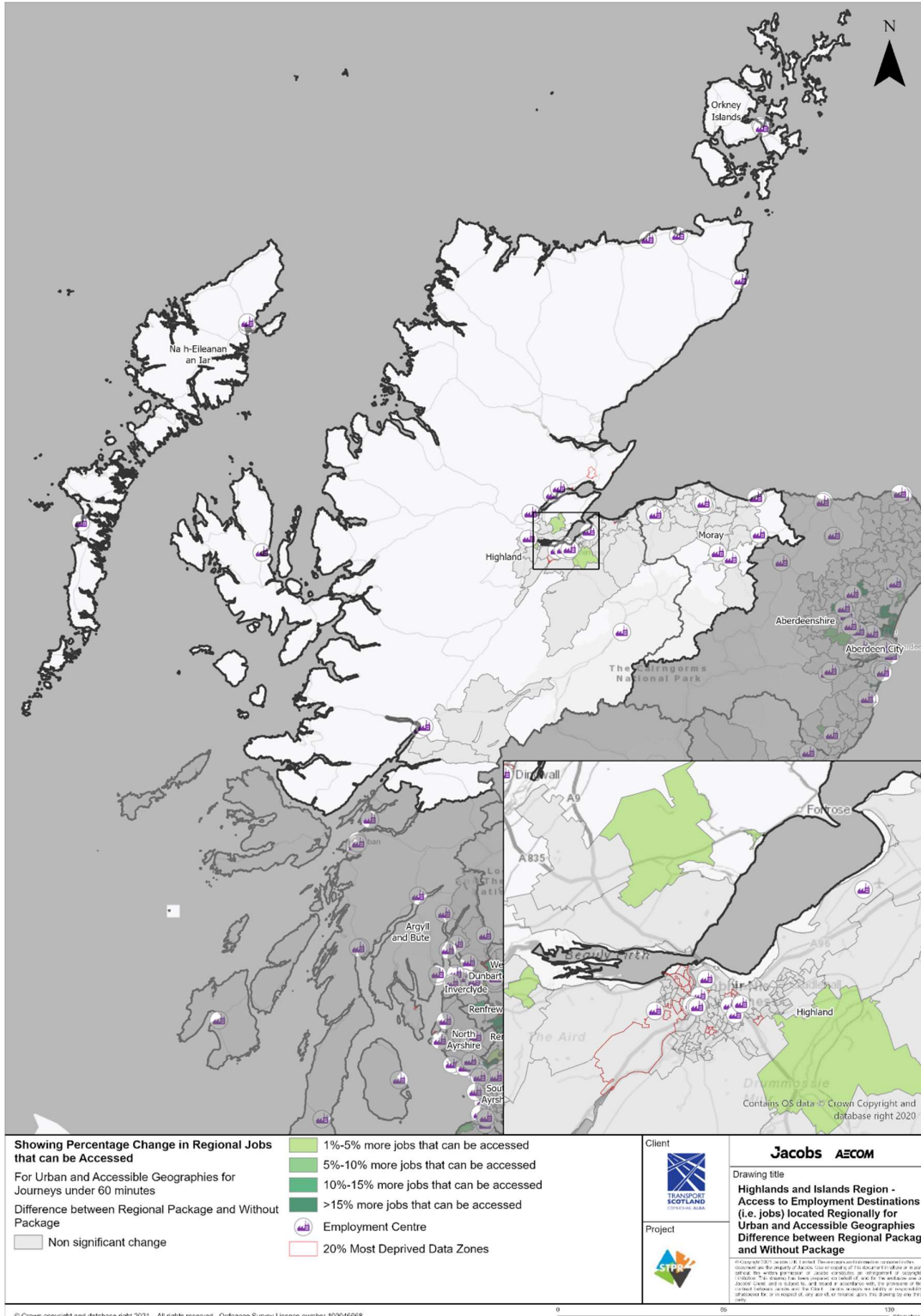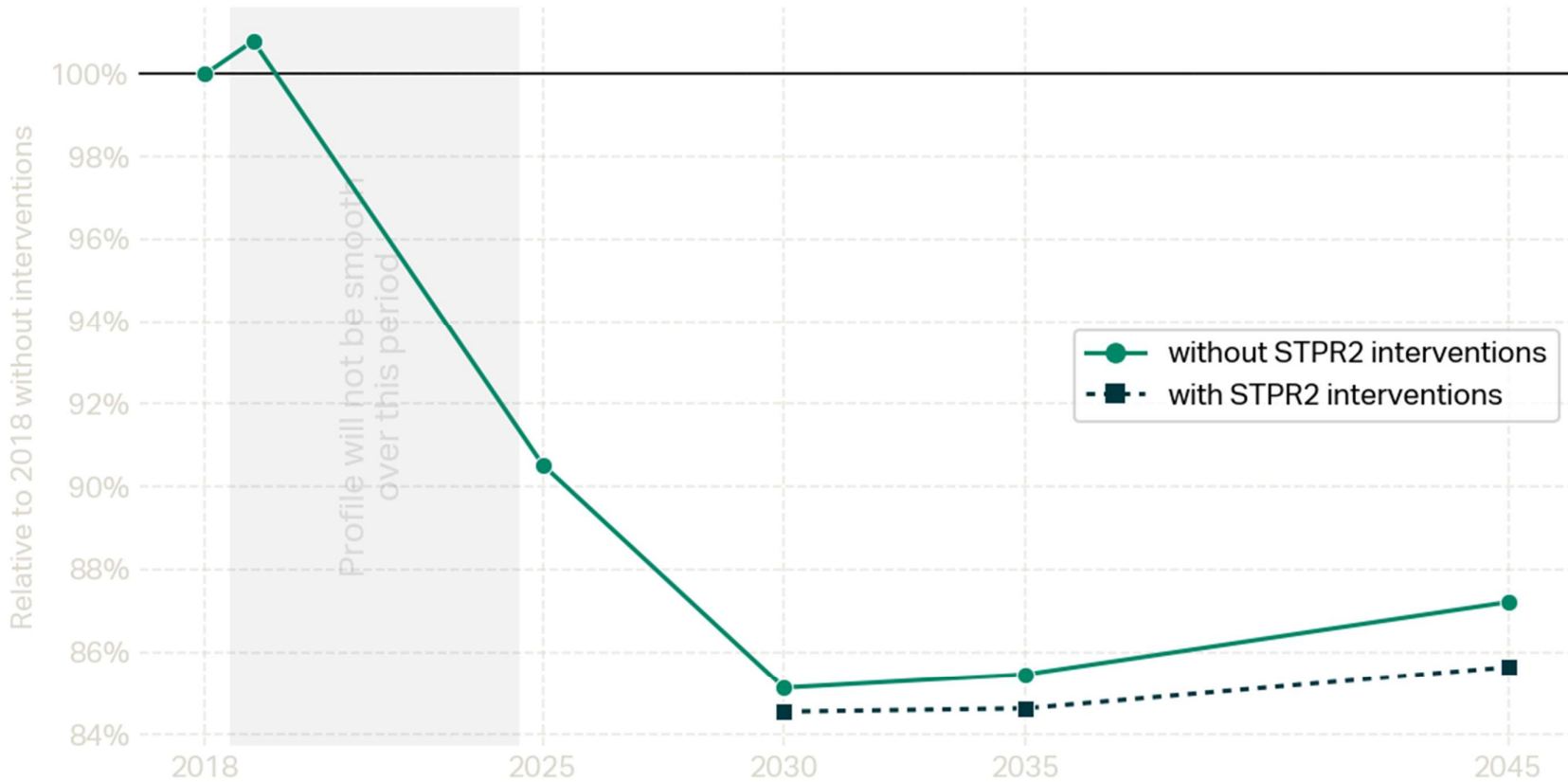
Highlands and Islands Region - Access to Employment Destinations (i.e. jobs) located Regionally
for Urban and Accessible Geographies Difference between Regional Package and without package

Annex C: Detailed Appraisal Outputs

Traffic Model Outputs

Highlands & Islands
Low Motorised Traffic / Emission Demand

Modelled Annual Road Traffic (vehicle-kilometres)

Relative to 2018 without interventions

Profile will not be smooth over this period

— ● — without STPR2 interventions
- - ■ - - with STPR2 interventions

Analysis undertaken January 2022. "Road" includes both Car and Goods Vehicle trips.

Highlands & Islands
High Motorised Traffic / Emission Demand

Modelled Annual Road Traffic (vehicle-kilometres)

Relative to 2018 without interventions

Profile will not be smooth over this period

110%

105%

100%

95%

2018   2025   2030   2035   2045

— ● — without STPR2 interventions
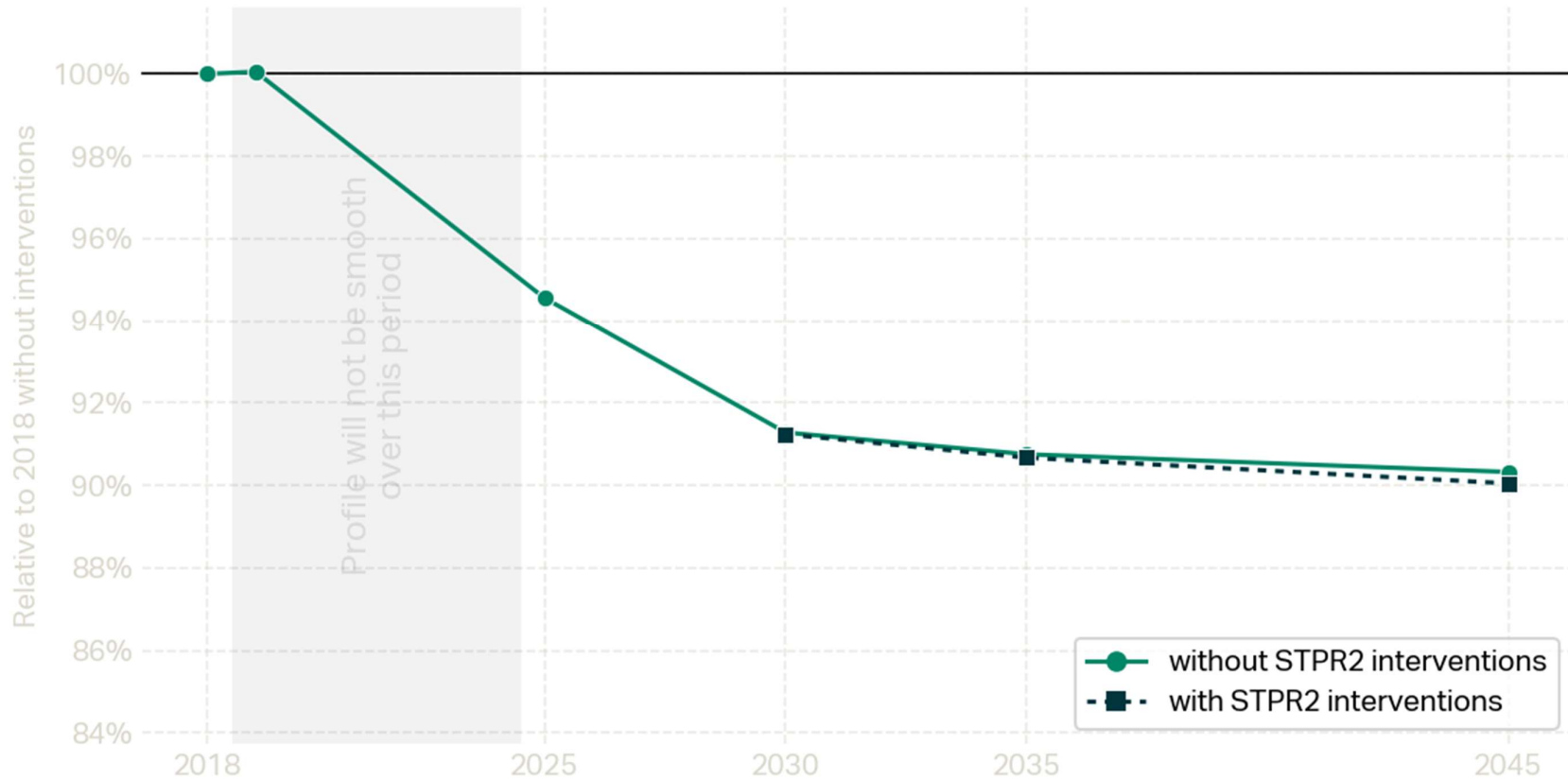- - ■ - - with STPR2 interventions

Analysis undertaken January 2022. "Road" includes both Car and Goods Vehicle trips.

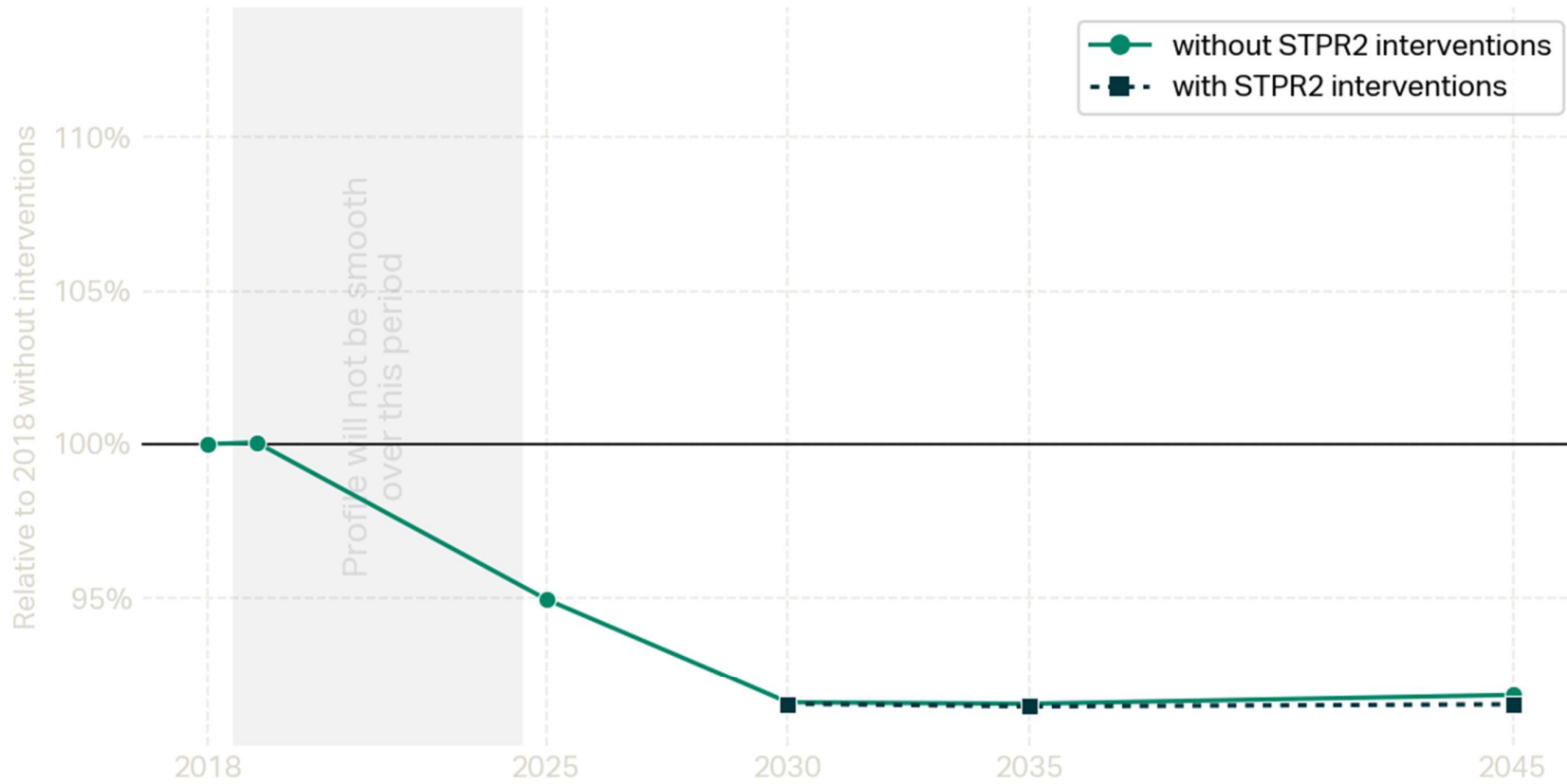# Highlands & Islands
Low Motorised Traffic / Emission Demand

Modelled Road Journey Time (minutes per km)

Relative to 2018 without interventions

Profile will not be smooth over this period

100%
98%
96%
94%
92%
90%
88%
86%
84%

2018   2025   2030   2035   2045

— without STPR2 interventions
-■- with STPR2 interventions

Analysis undertaken January 2022. "Road" includes both Car and Goods Vehicle trips.

Highlands & Islands
High Motorised Traffic / Emission Demand

Modelled Road Journey Time (minutes per km)

Relative to 2018 without interventions

Profile will not be smooth over this period

- without STPR2 interventions
- with STPR2 interventions

110%

105%

100%

95%

2018   2025   2030   2035   2045

Analysis undertaken January 2022. "Road" includes both Car and Goods Vehicle trips.