

Draft Argyll & Bute 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 reports¹ 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.

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: Argyll & Bute

Regional Context

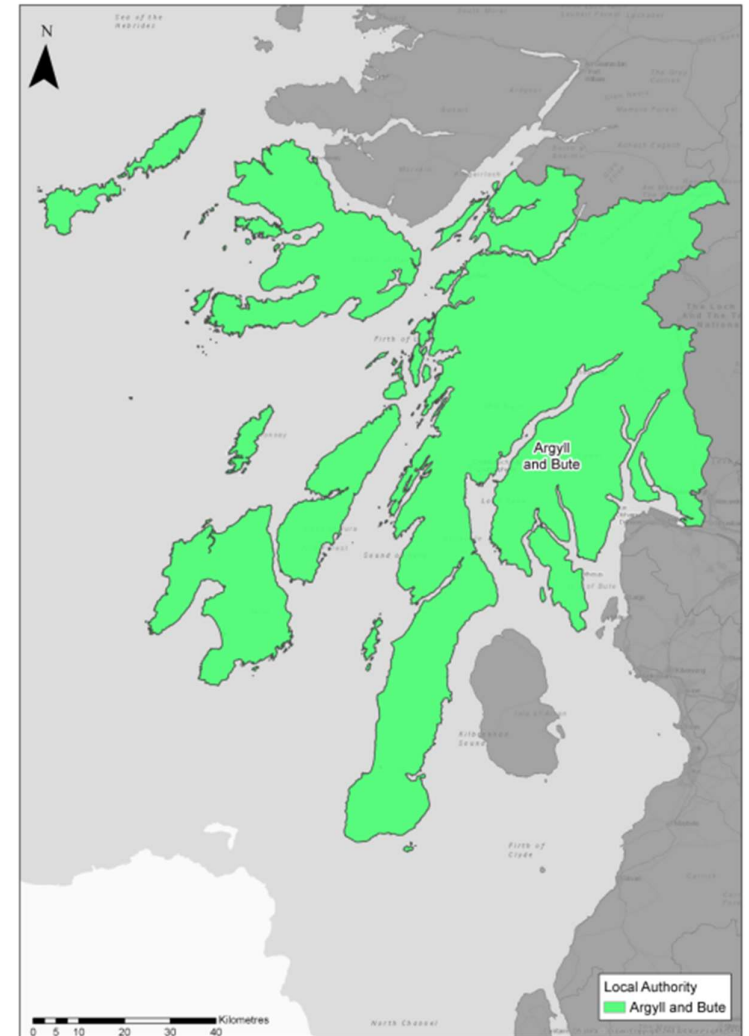
Geographic Context: The Argyll & Bute region consists of a mixture of rural and urban areas in the west of Scotland. The region follows the boundaries of the Argyll & Bute local authority area and is the second largest local authority area, following Highland. It covers 6,900 square km, which equates to 9% of the total Scottish land area.

The landscape of the area varies significantly, with mountainous upland terrain in the northeast, the highly scenic area of Loch Lomond and the Trossachs National Park in the east, numerous sea and inland lochs that form peninsulas, and an extensive coastline with a variety of islands, 23 of which are inhabited. The transport network is wide ranging, including active travel, rail, bus, road and ferry networks as well as airports. For the purposes of STPR2, major ports in the region are considered to be Rothesay, Dunoon (Hunters Quay), Oban and Kennacraig.

Based on the Scottish Government Urban Rural Six-Fold classifications, almost three quarters (73%) of the total population in the region live in areas considered 'remote' (i.e. Remote Rural and Remote Small Towns). Due to Helensburgh and Lomond administrative area being relatively close to the central belt, it is classified as a combination of 'Accessible Rural' and 'Remote Rural'. Within this area, Garelochhead is classified as an 'Accessible Small Town' with the area around Helensburgh and Rhu classified as 'Other Urban'.

Social Context: The region's population in 2019 was 85,870 (1.6% of the total population of Scotland). Argyll & Bute has an average population density of 12 persons per square km and is the third sparsest population of the 32 Scottish local authority areas. The Scottish average population density is 70 persons per square km. The region's population has been in decline for over a decade, against a backdrop of a population increase at the national level.

Argyll & Bute consists of 125 data zones. Thirteen data zones (10%) were identified as amongst the 20% most overall deprived data zones in Scotland on the Scottish Index of Multiple Deprivation. These are located in the region's 5 main towns - Helensburgh,



Oban, Dunoon, Campbeltown and Rothesay. One in 5 children in Argyll & Bute live in poverty (after housing costs) and during the period 2014-2016, approximately 12% of children were in families with limited resources.

The region has 23 inhabited islands, more than any other local authority in Scotland, and 17% of the regions' population inhabit these islands. The age profile of many island populations in the 2011 Census was different to the mainland, with higher proportions of people aged over 65 (e.g. over 30% on Lismore and Luing) and smaller proportions of children.

Key factors for population decline include poor mobile and broadband connectivity, a lack of affordable housing and a lack of reliable and resilient transport for the movement of goods and people. Outward migration is being driven by a combination of older individuals leaving to be nearer their families, health facilities or into care and younger people moving out of the region to pursue higher education and employment opportunities. Over 1 in 4 (25.9%) of the region's population is aged 65 or over, which is the highest proportion in Scotland. Conversely, the proportion of both the under 15s and the working age population is lower than the national level.

Economic Context: The principal towns of Helensburgh, Oban, Dunoon, Campbeltown and Rothesay play an important role as centres of economic activity within the region. Lochgilphead is the formal administrative centre for the region and is the home of Argyll & Bute Council headquarters.

The region's economy is predominantly service-based, with over 85% of employee jobs in the area being provided within the service sector. The location of Her Majesty's Naval Base Clyde continues to provide impetus to the regional labour market, with a high number of highly-skilled and highly paid jobs reliant on the naval base. Within Argyll & Bute, the largest industry employer (in 2018) was Administration & Defence, which employed approximately 18% of the region's working population, followed by both Human Health & Social Work and Accommodation & Food Service activities, at approximately 13%. Tourism is increasingly forming a significant part of the Argyll & Bute economy, with almost 2.7 million visitors to the region in 2017 – an increase of almost 38% on 2010 levels. Argyll & Bute contributed £1.91 billion to the Scottish GVA, equivalent to 1.3% of the national total.

Environmental Context: The region of Argyll & Bute is renowned for its outstanding natural and built environment, both of which are significant attractors of people, business, and investment to the area. The Argyll & Bute region, which includes part of the Loch Lomond and the Trossachs National Park, has many areas classified as environmentally sensitive, with varying levels of statutory protection.

Designated biodiversity sites can be found throughout the Argyll & Bute region, with the highest concentrations in coastal areas and on the islands of the Inner Hebrides. There are no Ramsar sites or Regional Parks within the region. In addition, the region contains a significant number of historic assets, including 2,812 Category A-C Listed buildings, 32 Conservation Areas, 24 Gardens and Designed Landscapes and over 800 Scheduled Monuments. Undesignated cultural heritage assets can be found throughout the region. There are no Battlefields or World Heritage Sites within the region.

Problems:

Connectivity: Transport and digital connectivity for the movement of goods, people and transfer of information is vital in Argyll & Bute and is a key contributor to developing a thriving economic climate for its communities. The lack of a good standard of transport infrastructure and public transport provision is considered to be constraining growth in the region. Rail, ferry and road connections are key aspects of the transport network and the impact of disruption on residents, visitors and businesses tend to be more severe due to the lack of alternative transport options. The transport options for taking residents and visitors from the bus stop, rail station, ferry port or airport the final mile to their destination is also considered to be poor.

Travel times and reliability: Travel times to/from, within and through Argyll & Bute under normal conditions (i.e. with no disruption due to accident or incidents) can be long and/or unreliable. The long journey times are a function of the region's geography, the quality of its transport infrastructure and the reliability of public transport services. There is potential for travel conditions on the transport network (such as on roads and/or ferries) to stagnate given the increase in slower moving traffic generated by the anticipated growth in key sectors including Marine Sciences, Forestry, Tourism, Aquaculture, and the wider Food and Drink sector.

Resilience: When there is disruption i.e. accidents, incidents (related to weather, operational issues, etc) on the transport network, the lack of alternative travel options and/or routes with comparable journey times in the absence of the disruption, can have a significant impact on residents, businesses and visitors when it occurs (e.g. through missed connections, cancelled appointments and spoiling of perishables such as seafood). Data from NHS Highland estimates that there are 26,000 referrals for Argyll & Bute patients each year, of which 44% are to hospitals within the region and 56% are to hospitals in the NHS Greater Glasgow and Clyde area for required treatment/services. Disruption on the transport network can lead to missed appointments and adversely affect patients' health and wellbeing.

Road Safety: The trunk road network in Argyll & Bute is predominantly single carriageway. There are conflicts between fast and slower vehicles (particularly during the peak summer period when there is an increase of caravans and motorhomes on the roads). Based on DfT data, during the 5-year period 2014 to 2018 inclusive, 418 accidents occurred on the key trunk routes within Argyll & Bute. Almost a third of accidents (approx. 32%, equating to 132 accidents), resulted in a person being killed or sustaining a serious injury (KSI).

Opportunities:

Sustainable travel and the environment: There are opportunities for Argyll & Bute to contribute positively to the country's ambitious statutory targets to tackle the global climate emergency by reducing emissions generated by the transport sector. There is the potential for reducing emissions through a combination of reducing the need to travel, supporting a shift towards more sustainable modes of transport and decarbonising the transport system. Tourism forms a significant part of the Argyll & Bute economy and opportunities exist to help encourage low carbon travel for visitors. Argyll & Bute has an abundance of wind, water and wave energy, which if harnessed and managed correctly, could be used to support sustainable transport. Improving connectivity could support the growth of the renewable energy industry.

Detailed Appraisal Package Description

Package Groupings: Refer to Annex A for further grouping details

Active Travel	<ul style="list-style-type: none"> Improving Access to Bikes Connected Neighbourhoods Improving Active Travel on Trunk Roads through Communities 	<ul style="list-style-type: none"> Increasing Active Travel to School Village – Town Active Travel Connections Long-distance Active Travel Network Connecting Towns by Active Travel
Bus	<ul style="list-style-type: none"> Bus Priority Infrastructure Decarbonisation of the Bus Network 	<ul style="list-style-type: none"> Demand Responsive Transport/Community Transport
Rail	<ul style="list-style-type: none"> Decarbonisation of the Rail Network 	
Interchange	<ul style="list-style-type: none"> Mobility Hubs and Multi-modal Interchanges 	<ul style="list-style-type: none"> Regional Passenger Facilities/Station Enhancements
Behaviour Change	<ul style="list-style-type: none"> Behavioural Change Initiatives 	<ul style="list-style-type: none"> Expansion of 20mph Zones and Limits
Ferries and Ports	<ul style="list-style-type: none"> Mull Connectivity Arran and Campbeltown Connectivity 	<ul style="list-style-type: none"> Islay Connectivity Decarbonisation of CHFS and NIFS Ferry Network
Freight	<ul style="list-style-type: none"> Decarbonisation of Freight Deliveries Railway Freight Terminals and Facilities Freight Consolidation and Last-Mile Logistics 	<ul style="list-style-type: none"> Freight Reliability, Resilience and Efficiency Improvements Freight Incentives and Freight Best Practice Rail Freight Enhancements
Resilience	<ul style="list-style-type: none"> Improve Access to Major Ports and Airports Trunk Road and Motorway Network: Renewal for Reliability, Resilience and Safety 	<ul style="list-style-type: none"> Trunk Road and Motorway Climate Change Adaptation and Resilience
Technology	<ul style="list-style-type: none"> Incident Management Software (IMS) Upgrade Control Centre of the Future 	<ul style="list-style-type: none"> Intelligent Transport Systems Roadside Infrastructure Integrated Public Transport Ticketing
Road	<ul style="list-style-type: none"> North West Trunk Road and Motorway Network Improvements 	<ul style="list-style-type: none"> A National Action Plan to support the transition to Low Emission/Ultra Low Emission/Electric Vehicles Changing Road User Behaviour

* The A83 "Access to Argyll" is not included in this table as it is proceeding through the project development process out with STPR2 following the Phase 1 recommendation.

Fit with Established Policy

Package Performance Against NTS2 Priorities and Outcomes:

Reduces inequalities	Will provide fair access to services we need	Strongly Positive
	Will be easy to use for all	Moderate Positive
	Will be affordable for all	Slight Positive
Takes climate action	Will help deliver our net-zero target	Strongly Positive
	Will adapt to the effects of climate change	Moderate Positive
	Will promote greener, cleaner choices	Strongly Positive
Helps deliver inclusive economic growth	Will get people and goods where they need to get to	Strongly Positive
	Will be reliable, efficient and high quality	Moderate Positive
	Will use beneficial innovation	Slight 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, the Climate Change Plan Update 2018 - 2032, and HITRANS' and SPT's Regional Transport Strategy, as well as non-transport-specific plans, such as the Highlands and Islands Enterprise Strategy, and the Argyll & Bute Council Regional Economic Strategy.

Measures included in this package will also support more resilient connections to National Planning Framework 4 pumped hydro storage schemes in the region which support a net zero economy.

The policy framework for the Argyll & Bute Region has a strong emphasis on addressing inequality, and addressing barriers to employment, to help deliver well-connected, sustainable communities, 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. Therefore, the package closely aligns with established policy directives.

STPR2 Transport Planning Objectives (TPOs) Assessment

STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
<p>A sustainable strategic transport system that contributes significantly to the Scottish Government's net-zero emissions target.</p>	<p>Change in CO₂eq (non-traded and traded emissions from regional road transport inc. grid emissions from charging light-duty vehicles).</p>	<p>27,700 tonnes decrease of 0.5% in 2030</p> <p>21,600 tonnes decrease of 2.8% in 2045.</p> <p>1.3m tonnes reduction, of which -1.1m were traded, for the 60-year appraisal period from 2030 to 2089.</p> <p>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.</p>	<p>31,300 tonnes decrease of 0.4% in 2030</p> <p>65,300 tonnes decrease of 1.3% in 2045.</p> <p>3.7m tonnes reduction, of which 452,000 were traded, for the 60-year appraisal period from 2030 to 2089.</p> <p>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.</p>	<p>CO₂eq is treated as a nationally important pollutant so it has not been appraised for individual regions.</p> <p>National CO₂eq 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.</p> <p>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 CO₂eq emissions.</p> <p>Across both scenarios the interventions would reduce emissions of CO₂eq.</p>

<p>Change in mode share by active travel for all journeys</p>	<p>Potential increase in walking from 18% mode share to 22% mode share (4 percentage points)</p> <p>Potential increase in cycling from 0.8% to 13% (12 percentage points)</p> <p><i>Notes:</i> <i>Assumes all active travel and behaviour change interventions are fully implemented in every relevant location in the region.</i></p> <p><i>Cycling and walking growth forecasts have been developed independently. 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</i></p>		<p>There are predicted to be significantly higher overall emissions in the High Travel Demand scenario, either with, or without, the package.</p> <p>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.</p> <p>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.</p> <p>The package overall will contribute to the net-zero emissions target by:</p> <ul style="list-style-type: none"> • Decarbonising public transport operations • Facilitating uptake of electric vehicles • Enabling some road freight to switch to rail or other low carbon modes • Supporting a shift to active travel and shared transport
<p>Change in motorised veh kms travelled</p>	<p>Reduction of 8.4 million motorised veh km 2% decrease (See Annex C)</p>	<p>Reduction of 7.0 million motorised veh km 1% decrease (See Annex C)</p>	
<p>Scoring</p>	<p>++</p>	<p>++</p>	

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 in public transport availability.		<p>The package will improve the inclusiveness of the transport system by:</p> <ul style="list-style-type: none"> Improving accessibility to public transport stops/stations by 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). Seeking to promote public transport use and reduce operating costs, enhancing network sustainability.
	Change in Accessibility - population catchments increase to key services by journey time by public transport	<p>An improvement in population accessibility to higher education by public transport is forecast, with an additional 600 people able to access the nearest site by public transport in under 60 minutes compared to the without package assessment.</p> <p>Overall, across the region as a whole, average public transport journey times to the destinations considered (i.e. major hospitals, education, employment and retail) showed no significant change. Some settlements, such as Garelochhead and Kilcreggan, are however forecast to benefit from minor public transport journey time improvements.</p>		

		(See Annex B for mapping)		
	Scoring	+	+	

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	<p>Increase in walking from 18% mode share to 22% mode share (4 percentage points)</p> <p>Increase in cycling from 0.8% to 13% (12 percentage points)</p> <p><i>Notes:</i> Assumes all active travel and behaviour change interventions are fully implemented in every relevant location in the region.</p> <p><i>Cycling and walking growth forecasts have been developed independently. 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.</i></p>		<p>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:</p> <ul style="list-style-type: none"> • Improve many 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). • Reduce the adverse impacts of car use on communities and health (including reduced air pollution, noise, accident risk and perceived road danger). <p>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.</p>
	Potential for Change in 'Place'	The package will improve the quality of the region's places by improving local accessibility and reducing the adverse effects of traffic on active travel in communities that have a trunk road passing through them.		
	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 that approximately 2.8 premature deaths would be prevented per annum.		
	Scoring	+	+	

STPR2 Transport Planning Objectives (TPOs) Assessment

STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
<p>An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland.</p>	<p>Increased labour catchment by sustainable travel (PT/Active Travel)</p>	<p>Access to local employment is represented by the accessibility of employment located in the surrounding area of an origin within a 40 minute public transport journey time. No significant change in access to local employment is forecast for Argyll & Bute.</p> <p>Access to regional employment is represented by the accessibility of employment located in the surrounding area of an origin within a 60 minute public transport journey time (the Glasgow area, for example). Access to regional employment is forecast to improve for urban and accessible geographies (e.g. Helensburgh). For Argyll & Bute, as a whole, an average increase of around 4,000 additional jobs that can be accessed within 60 minutes by public transport is forecast with a further 3,000 additional jobs within a two hour journey by public transport. These changes can be largely attributed to the average increase in the number of regional jobs accessible from Helensburgh and Garelochhead.</p> <p>(See Annex B for mapping)</p>		<p>The package will contribute to sustainable inclusive growth in Scotland by:</p> <ul style="list-style-type: none"> Improving the coverage of the walking and cycling network Reducing disruption to road users caused by accidents and/or weather-related events, which will help remove socio-economic barriers and increase competitive transport access for businesses.
	<p>Change in lost time due to congestion (for business/commercial transport)</p>	<p>No significant change in vehicle hours forecast during normal operating conditions.</p>		

STPR2 Transport Planning Objectives (TPOs) Assessment

STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
	Scoring	+	+	

STPR2 Transport Planning Objectives (TPOs) Assessment

STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
<p>A reliable and resilient strategic transport system that is safe and secure for users.</p>	<p>Change in percentage of accidents (PIA and Damage-only)</p>	<p>Accident reduction related to motorised veh km is forecast to be 1% to 2%.</p> <p><i>Notes:</i> <i>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, walking and cycling journeys would increase. The number of accidents involving these active travel modes are therefore anticipated to increase, although each individual journey is anticipated be significantly safer.</i></p>		<p>The package will improve reliability, safety and personal security on the transport system by:</p> <ul style="list-style-type: none"> Reducing overall motorised vehicle kilometres through mode shift – reductions in travel of 2% and 1% under the low and high growth scenarios respectively reduces the risk of accidents occurring, improving resilience through a reduced number of road closures. Changing attitudes of road users – behavioural change campaigns are anticipated to increase awareness of interactions with those walking, wheeling and cycling as well as changing attitudes towards speed, making the network a safer place for all. Facilitating a shift to sustainable modes – by improving the quality of sustainable mode facilities (including improving natural surveillance), paths, stops, stations and services will be less isolated - improving perceived safety and security and enabling more people (particularly children, women, and older people) to travel independently. This is likely to be most effective in the more populated areas. The provision of targeted infrastructure improvements – carriageway realignment and widening, the provision of overtaking opportunities and junction improvements¹, for example, are anticipated to reduce the
	<p>Percentage accident change for Targeted Infrastructure Improvements over 60 years, using default accident rate (PIA)</p>	<p>Sections of Realignment/Widening – accident reduction of 23% to 59%</p> <p>Sections of Overtaking Opportunities – accident reduction of 35% to 73%</p> <p>Locations of Junction Improvements – accident change of 42% (increase) to 64% (decrease)</p>		
	<p>Change in lost time due to congestion</p>	<p>Reduction of 3,700 hours (-5%) (see Annex C)</p>	<p>Reduction of 5,400 hours (-2%) (see Annex C)</p>	
	<p>Journey Time Reliability / Availability of alternatives (modes/routes)</p>	<p>The package will improve journey time reliability on the trunk road network by reducing the likelihood and/or impact of significant network disruptions.</p>		

STPR2 Transport Planning Objectives (TPOs) Assessment

STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
				<p>accident and severity rate on the trunk road network 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.</p> <ul style="list-style-type: none"> Improving active travel provision and providing more dedicated and segregated routes for walking, cycling and wheeling. <p><i>Notes:</i> ¹ Replacing a priority junction with a signalised junction could increase the overall number of accidents, however the severity of accidents occurring should reduce.</p> <p>Reducing the likelihood of accidents and weather-related events will improve journey time reliability on the trunk road network.</p>
	Scoring	++	++	

STAG Assessment

STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
Environment	Air Quality	+	+	<p>Total emissions of NO_x were predicted to decrease in future in both the High and Low scenario.</p> <p>Total emissions of NO_x were predicted to be effectively zero in 2045 in the Low scenario, and 2051 in the High scenario either with, or without, the proposed package.</p> <p>Total emissions of PM were predicted to increase in future predominantly due to non-exhaust emissions from road, tyre and brake-wear.</p> <p>However, the package will reduce harmful emissions slightly. Over the 60-year appraisal period there was a predicted 100% reduction in NO_x, 2.3% reduction in PM₁₀ and 2.5% reduction in PM_{2.5} in the Low scenario, and a 2.5% reduction in PM₁₀ and a 2.7% reduction in PM_{2.5} in the High scenario.</p>
	Noise and Vibration	+	+	<p>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 effects on noise and vibration due to the construction and operation of specific interventions. The magnitude of effect will depend on the design and location of the intervention.</p>
	Biodiversity and Habitats			

STAG Assessment

STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
	Geology and Soils	See 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.		
	Land Use (including Agriculture and Forestry)			
	Water, Drainage and Flooding			
	Historic Environment			
	Landscape			
Climate Change	Greenhouse Gas Emissions	+	+	<p>CO₂eq is treated as a nationally important pollutant so it has not been appraised for individual regions.</p> <p>National CO₂eq 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.</p>

STAG Assessment

STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
				Across both scenarios the package will reduce emissions of CO ₂ eq, although the change is greater in the High 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 intervention specifically focused on adaptation.
	Potential to Adapt to Effects of Climate Change	+	+	
Health, Safety & Wellbeing	Accidents	<p>Change in percentage of accidents (PIA and Damage-only):</p> <p>Accident reduction related to motorised veh km is forecast to be 1% to 2%.</p> <p><i>Notes:</i> <i>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, walking and cycling journeys would increase. The number of accidents involving these active travel modes are</i></p>		<p>The package will reduce the number and severity of accidents through:</p> <ul style="list-style-type: none"> Targeted infrastructure improvements, such as carriageway realignment and widening, the provision of overtaking opportunities and junction improvements¹ are anticipated to reduce the number and severity of accidents on the trunk road network in the region. Encouraging modal shift away from private car, resulting in reduced accident risk due to reduced distance travelled on the network. <p><i>Notes:</i> ¹ Replacing a priority junction with a signalised junction could increase the overall number of accidents, however the severity of accidents occurring should reduce.</p>

STAG Assessment

STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
		<p><i>therefore anticipated to increase, although each individual journey is anticipated be significantly safer.</i></p>		
		<p>Percentage accident change for Targeted Infrastructure Improvements over 60 years, using default accident rate (PIA):</p> <p>Sections of Realignment/Widening – accident reduction of 23% to 59%</p> <p>Sections of Overtaking Opportunities – accident reduction of 35% to 73%</p> <p>Locations of Junction Improvements – accident</p>		

STAG Assessment

STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
		change of 42% (increase) to 64% (decrease)		
	Security	<p>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.</p>		
	Health Outcomes	<p>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 £100m to £250m.</p> <p>The package will also tend, by encouraging car journeys to switch to less polluting modes, to improve local air quality, and hence health outcomes.</p>		

STAG Assessment

STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
	Access to Health and Wellbeing Infrastructure	<p>No significant change in accessibility to the nearest major hospital by public transport is forecast.</p> <p>Overall, across the region as a whole, average public transport journey times to major hospitals showed no significant change. There are, however, some localised journey time improvements forecast, for example: savings of up to 9 minutes are forecast for some settlements on the southern part of the Rosneath peninsula.</p> <p>(See Annex B for mapping)</p>		
	Visual Amenity	<p>The package should have a positive impact on visual amenity through improvements to walking and cycling infrastructure and an improved sense of 'place'.</p> <p>Care would be required in the development of rail freight facilities to ensure they did not</p>		

STAG Assessment

STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
		detrimentally impact nearby communities.		
Economy	Transport Economic Efficiency User Benefits (2010 prices and values for a 60 year appraisal period)	Present Value of Benefits (PVB) of approximately £10m to £25m Accidents Present Value of Benefits (PVB) of approximately £1m to £10m	Present Value of Benefits (PVB) of approximately £25m to £50m	<p>The modest 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 Bus Priority Infrastructure intervention, and to a lesser extent the Interchange intervention, are the main contributors to the public transport user benefits in the Low 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.</p> <p>The level of public transport user benefits are reduced slightly in the High scenario, although this is offset by an increase in road user benefits. Nevertheless, even under this high motorised travel demand</p>

STAG Assessment

STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
				<p>scenario the sustainable transport interventions contribute to the majority of user benefits.</p> <p>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.</p> <p>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.</p>
Equality & Accessibility	Public Transport Network Coverage	No significant change forecast		<p>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.</p> <p>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.</p>
	Active Travel Network Coverage	Improvements to the region's active travel network, both within and between		

STAG Assessment

STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
		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 and public transport (including ferries) 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	For regional employment that can be reached within 60 minutes by public transport from data zones within Argyll & Bute that were categorised within the 20% most deprived in Scotland, an average increase of around 7,200		

STAG Assessment

STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
		<p>additional accessible jobs is forecast.</p> <p>A small increase in the number of regional jobs accessible from the most deprived areas within a two hour public transport journey time is forecast, and is largely attributed to Helensburgh.</p> <p>Changes in accessibility to major hospitals, education, and retail from the most deprived areas are not forecast to be significant.</p> <p>(see Annex B for mapping)</p>		
	Affordability	No significant change forecast		

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. 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, and choice and to make transport cleaner, more efficient and more attractive. There may be acceptability concerns in areas where road space reallocation or priority measures are proposed, however the behavioural change elements of the package should also 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	<p>The package supports modal shift to more sustainable modes of transport. Improved access to airports and ports and the creation of mobility hubs/interchanges, 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 improvement in air quality.</p> <p>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.</p> <p>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.</p> <p>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 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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
EQIA	<p>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 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</p>

	<p>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.</p> <p>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.</p> <p>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.</p> <p>Mode shift to sustainable modes will make paths, stops, stations and services less isolated 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.</p> <p>The package would therefore be anticipated to have a minor positive impact on addressing this criterion.</p>
ICIA	<p>The Island Connectivity interventions are likely to result in positive effects related to population and human health as the enhancements seek to improve accessibility, reduce severance and increase transport choice. They will also have positive effects on material assets as the intervention supports plans for increasing the future capacity of the public transport network, taking demographic and other societal changes into account. Positive effects may also be related to climatic factors, air quality and water environment, particularly in relation to the achievement of a reduction in transport related emissions as it seeks to reduce emissions from ferries through decarbonisation and use of alternative fuels (electric, hydrogen). This would also have a positive effect on material assets as decarbonisation will promote a more sustainable use and management of the existing transport network.</p> <p>The Island Connectivity interventions are also anticipated to have a minor negative effect on population and human health, material assets, water environment, biodiversity, cultural heritage and landscape and visual amenity. The effects relate to existing ferry network expansions which may result in potential increases in noise and vibration, increased usage of natural resources and direct impacts on the water environment, such as increased pollution risk from ferry traffic. The Argyll & Bute region has a large area of coastline identified as being at medium and high likelihood of flooding by SEPA. Existing ferry network expansions may also have a direct impact on biodiversity, including potential damage to or loss of designated and undesignated wildlife or geological sites. The Argyll & Bute region includes many internationally and nationally designated biodiversity sites, including SACs, SPAs and Nature Conservation Marine Protected Areas (MPAs). These could be affected by land-take for construction of interventions, or indirectly through pollution or disturbance to designated species. The new fixed link and harbour infrastructure proposed could result in negative effects on designated and undesignated archaeological</p>

	<p>sites and other culturally and historically important features. New infrastructure could also affect key views to and from heritage assets. Key designations in the coastal region are likely to be threatened by the construction of any new infrastructure, including A-C Listed Buildings and a Historic Marine Protected Area. New links could affect national, regional and local landscape designations. Key designations in Argyll & Bute that are likely to be affected include National Scenic Areas.</p> <p>Further to the overall benefits of the package, the investment into decarbonisation of the ferry network would drive island connectivity improvements across the Clyde and Hebrides Ferry Service (CHFS) 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 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. The option for a potential fixed link between Mull and the Scottish mainland will increase connectivity and access to services as well as potentially supporting job growth on the islands. This enables residents of island communities to have more equitable and fairer access to opportunities and facilities and as such reduce the socio-economic disadvantages that are a consequence of living on islands compared to the Scottish mainland, or in urban areas for example. The reconfiguration of ferry services following the installation of Fixed Links may also support other island communities who will not benefit directly from Fixed Links but from increased or improved ferry connectivity.</p> <p>The package would therefore be anticipated to have a minor positive impact on addressing this criterion overall.</p>
CRWIA	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>The package would therefore be anticipated to have a minor positive impact on addressing this criterion.</p>

FSDIA	<p>The region currently experiences poor transport connectivity which exacerbate socio-economic disadvantage for low income groups and those living in remote areas. The improved public transport and active travel interventions contained in the package alongside climate change adaptation, resilience and safety measures for road and rail, have the potential to improve accessibility to employment opportunities and therefore support economic development and reduce inequalities caused by socio-economic disadvantage in the region.</p> <p>The package would therefore be expected to have a minor positive impact on addressing this criterion.</p>
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Annex A: Grouping Interventions

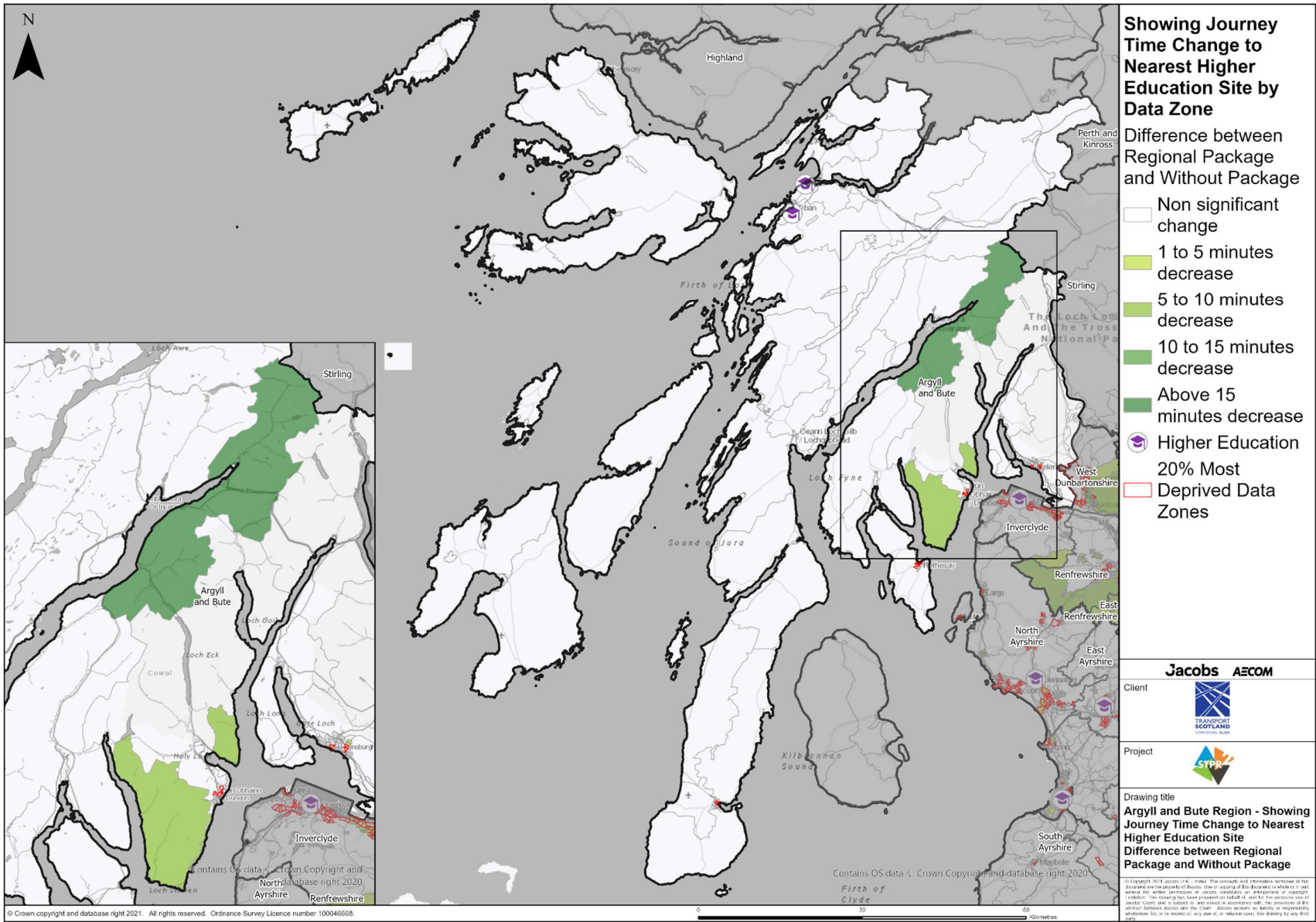
Argyll & Bute	
Grouping Title	Regional Description
Improving Access to Bikes	Improve access to bikes through a multi-faceted programme of interventions to enable people to cycle (and also to support walking/wheeling as appropriate), and to give them confidence and skills to do so, such that they can make use of new or existing active travel infrastructure. Measures 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 measures 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 footways and road crossing facilities).
Increasing Active Travel to School	Improved and safer walking, wheeling and cycling routes to schools, accompanied by traffic speed reduction measures and School Streets schemes where appropriate, as well as behaviour change measures. 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.
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.
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	Support for local/regional schemes to improve bus priority, funding for initial appraisal to be delivered through the Bus Partnership Fund.
Decarbonisation of the Bus Network	Bus fleet decarbonisation, including use of funding to further stimulate rapid commercial investment in the roll out of zero-emission buses and associated infrastructure, including for vehicles used by the home to school and community transport sectors.

Demand Responsive Transport (DRT)/Community Transport	<p>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.</p> <p>Support for local/regional schemes that seek to draw on innovative solutions, perhaps supported by MaaS or smart technology where appropriate, or on international best practice in bus service provision.</p> <p>These schemes would help to establish whether scarce existing resources could be better utilised across the public network, home to school transport, special educational needs travel and non-emergency patient travel, either on the basis of fixed route services or through flexible routing.</p>
Decarbonisation of Freight Deliveries	<p>Interventions to support the decarbonisation of freight deliveries, including awareness and education activities, alternative fuel infrastructure and alternative fuel HGV trials.</p> <p>These schemes would help to establish whether scarce existing resources could be better utilised across the public network, home to school transport, special educational needs travel and non-emergency patient travel, either on the basis of fixed route services or through flexible routing.</p>
Railway Freight Terminals and Facilities:	Investigation into feasibility of Oban multi-modal freight hub development
Freight reliability, resilience and efficiency improvements	Sets out options on how the road freight industry can be supported by implementing a variety of hard and soft measures that will reduce overall disruption, improving journey times and reducing costs for operators, such as: strengthening bridges, 50mph speed limits, implementing freight route signage.
Freight Consolidation and Last-Mile Logistics:	Introduction of measures 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	<p>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.</p> <p>Technical wagon solution is likely to be deployed instead of gauge clearance for taller and wider wagons.</p>
Mull Connectivity	Connectivity enhancements for the Isle of Mull. Grouping includes options to enhance Clyde and Hebrides Ferry Services (CHFS) including for freight and an option for a potential fixed link between Mull and the Scottish mainland.
Arran and Campbeltown Connectivity	Connectivity enhancements to Clyde and Hebrides Ferry Services (CHFS) serving Arran and Kintyre, including Campbeltown.
Islay Connectivity:	Connectivity enhancements to Clyde and Hebrides Ferry Services (CHFS) serving Islay including for freight.
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 Reliability, Resilience and Safety	Continued and increased investment in strengthening of the trunk road and motorway network over and above current maintenance levels. Potential measures would include carriageway and structure schemes as well as other roadside infrastructure, such as signage and safety barriers.
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 measures to strengthen the resilience of Scotland's trunk road and motorway network to adapt to a changing climate and unplanned events. Continuation of activities by Transport Scotland to: <ul style="list-style-type: none"> • Build on evidence available of vulnerable locations to develop a fuller picture of those areas on the trunk road and motorway network most at risk of disruption due to weather events; • Identify, prioritise and implement measures to strengthen the resilience of Scotland's trunk road and motorway network to the impacts of a changing climate and respond to unplanned events, such as flooding, landslides and high winds; and • Build on Transport Scotland's existing road asset management plan, disruption risk management process and incident response plans to help mitigate the impact of disruption associated with severe weather-related events as a result of the impacts of climate change.
Mobility Hubs and Multi-modal Interchanges	Interchange improvements.
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. Includes: <ul style="list-style-type: none"> • Physical accessibility improvements at and on approaches to bus and railway stations • Passenger assistance (potential to extend rail Passenger Assist to other modes) • Improvements to active travel facilities (cycle parking, lockers/storage) • Improvements to passenger waiting facilities (including shelters and seating) • Safety and security improvements • Placemaking • Information provision (including real time information, signage and easy-read timetables) • Bus and railway station improvements (improve layout for passenger access/egress/interchange)
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.
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. Measures include funding streams to support the delivery of infrastructure and innovative schemes to allow an equitable transition across the country.
Speed Management (Vision Zero) Measures 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.
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	New Incident Management System (IMS) Software to maintain and improve the current level of service across the 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).

Annex B: NAPTAT MAPPING



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

JACOBS AECOM

Client

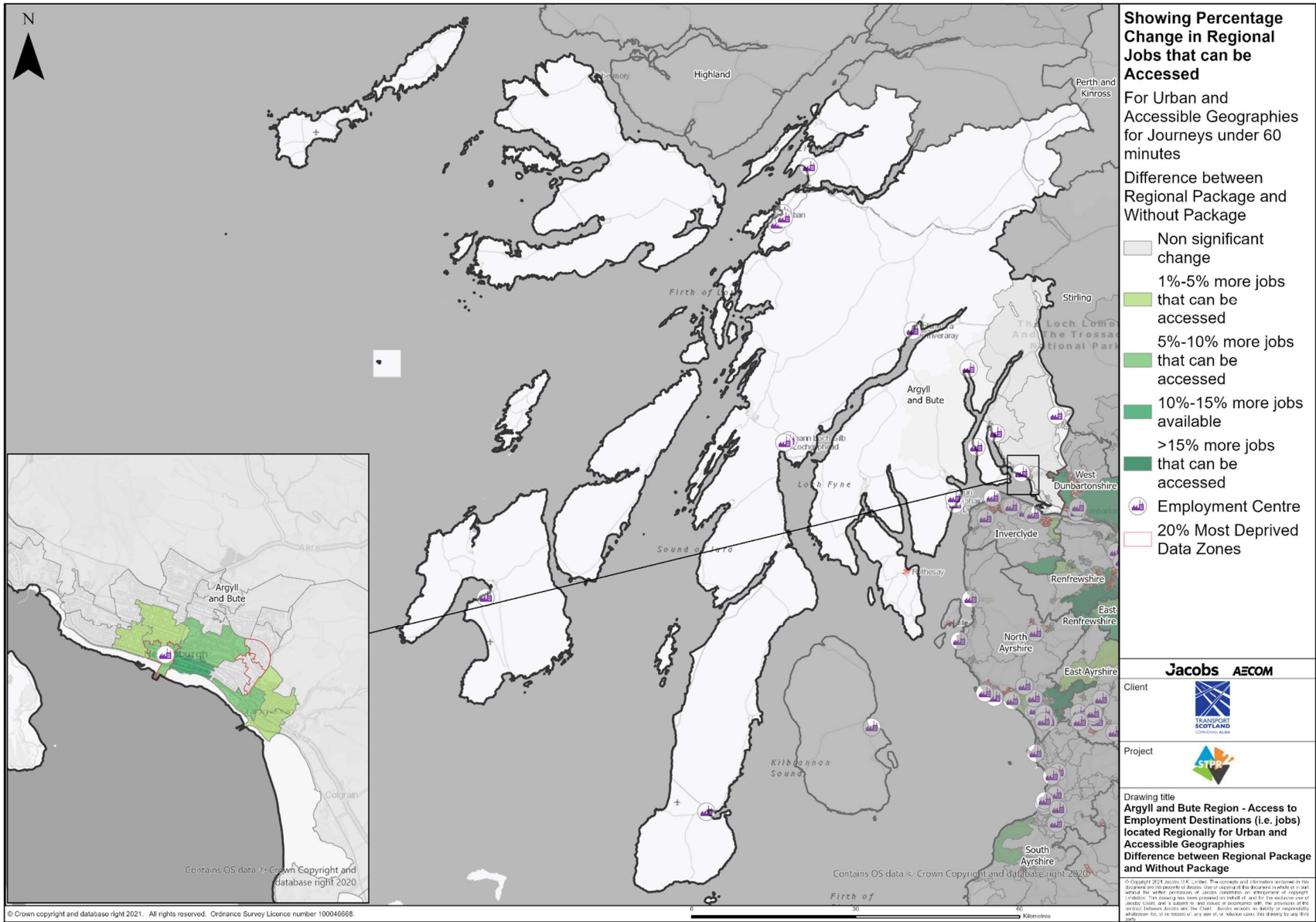
Project

Drawing title
Argyll and Bute Region - Showing Journey Time Change to Nearest Higher Education Site Difference between Regional Package and Without Package

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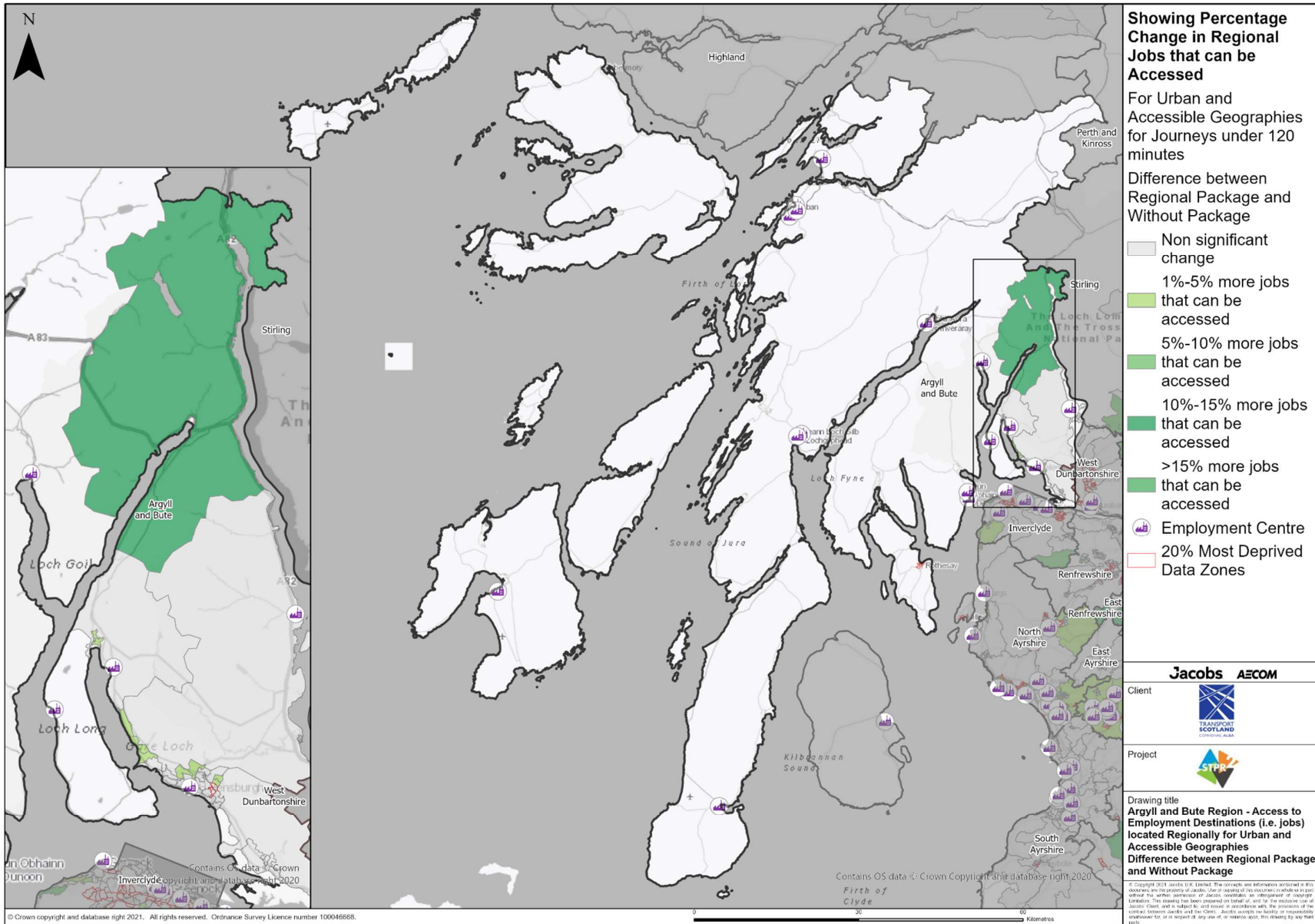
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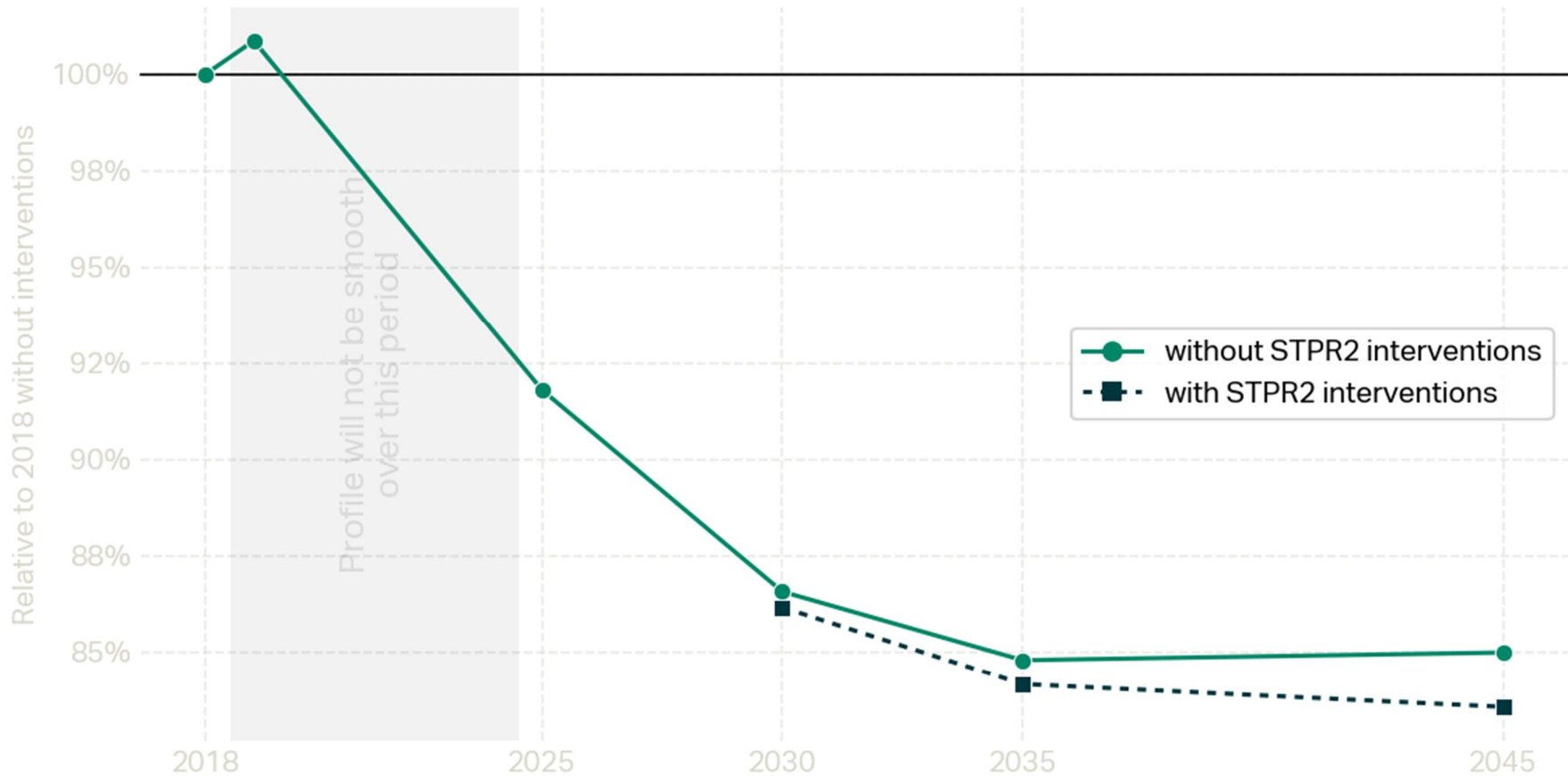


Annex C: Detailed Appraisal Outputs

Model Forecasts - TELMoS / TMfS

Argyll and Bute Low Motorised Traffic / Emission Demand

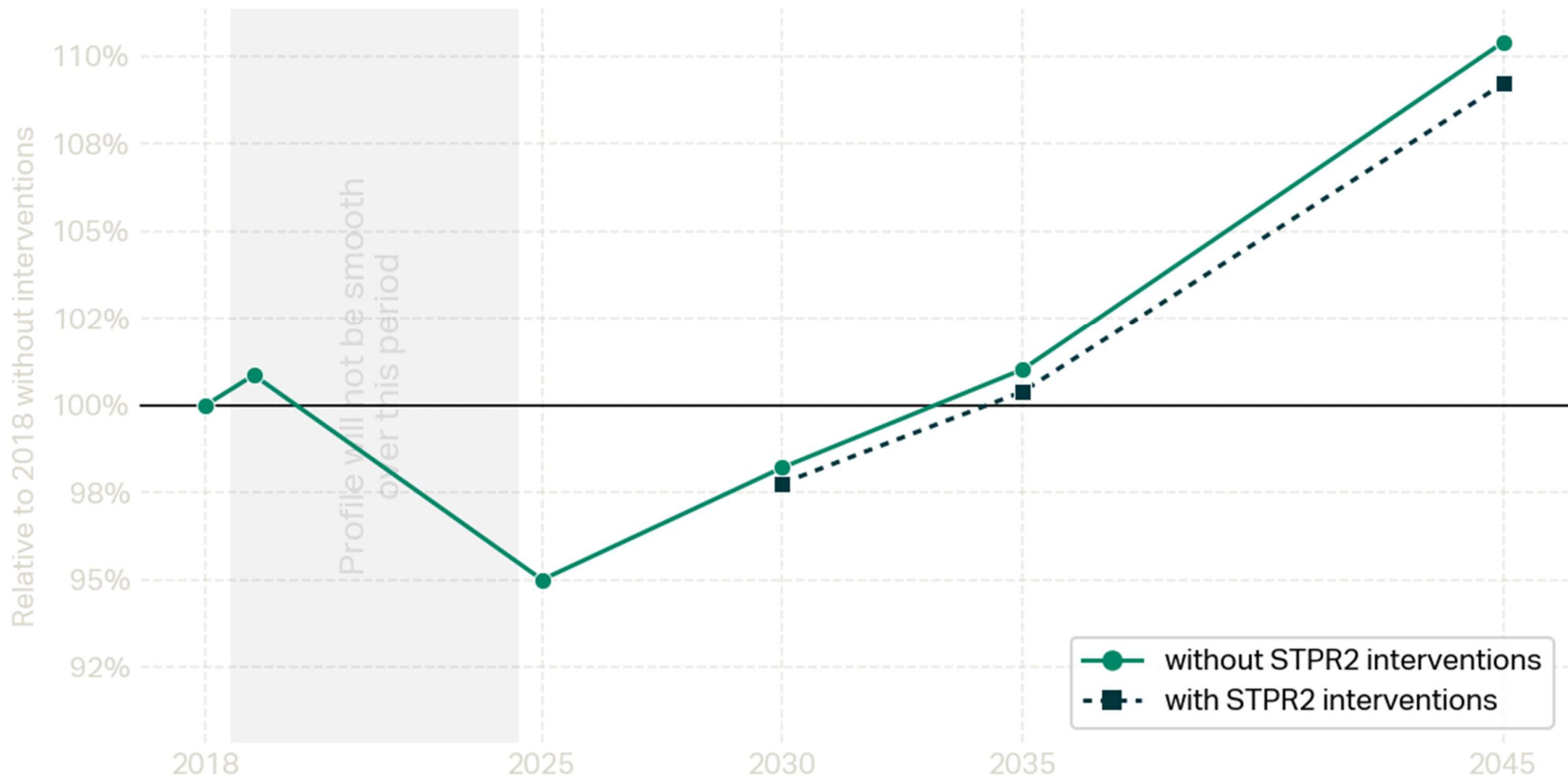
Modelled Annual Road Traffic (vehicle-kilometres)



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

Argyll and Bute High Motorised Traffic / Emission Demand

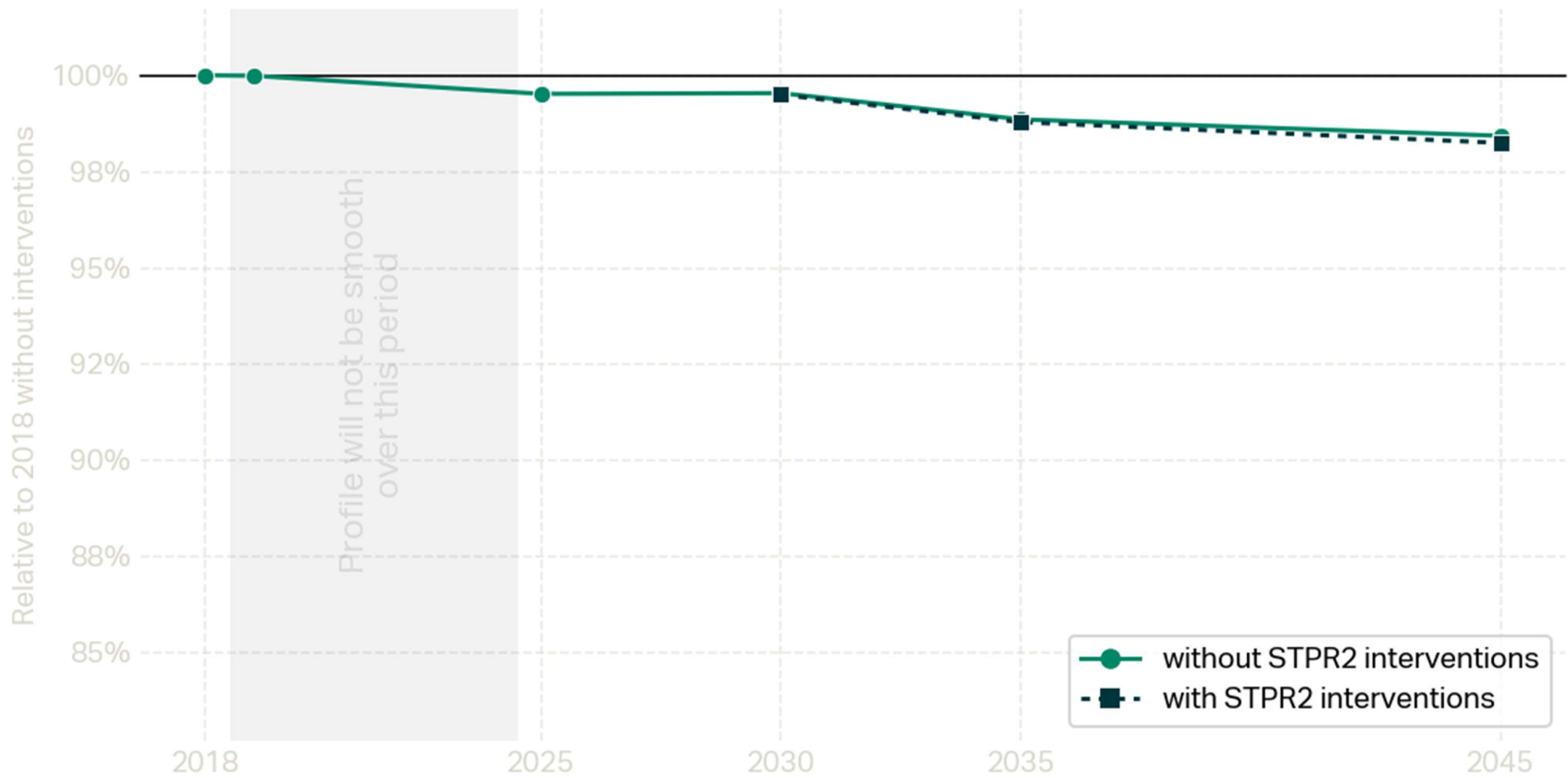
Modelled Annual Road Traffic (vehicle-kilometres)



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

Argyll and Bute Low Motorised Traffic / Emission Demand

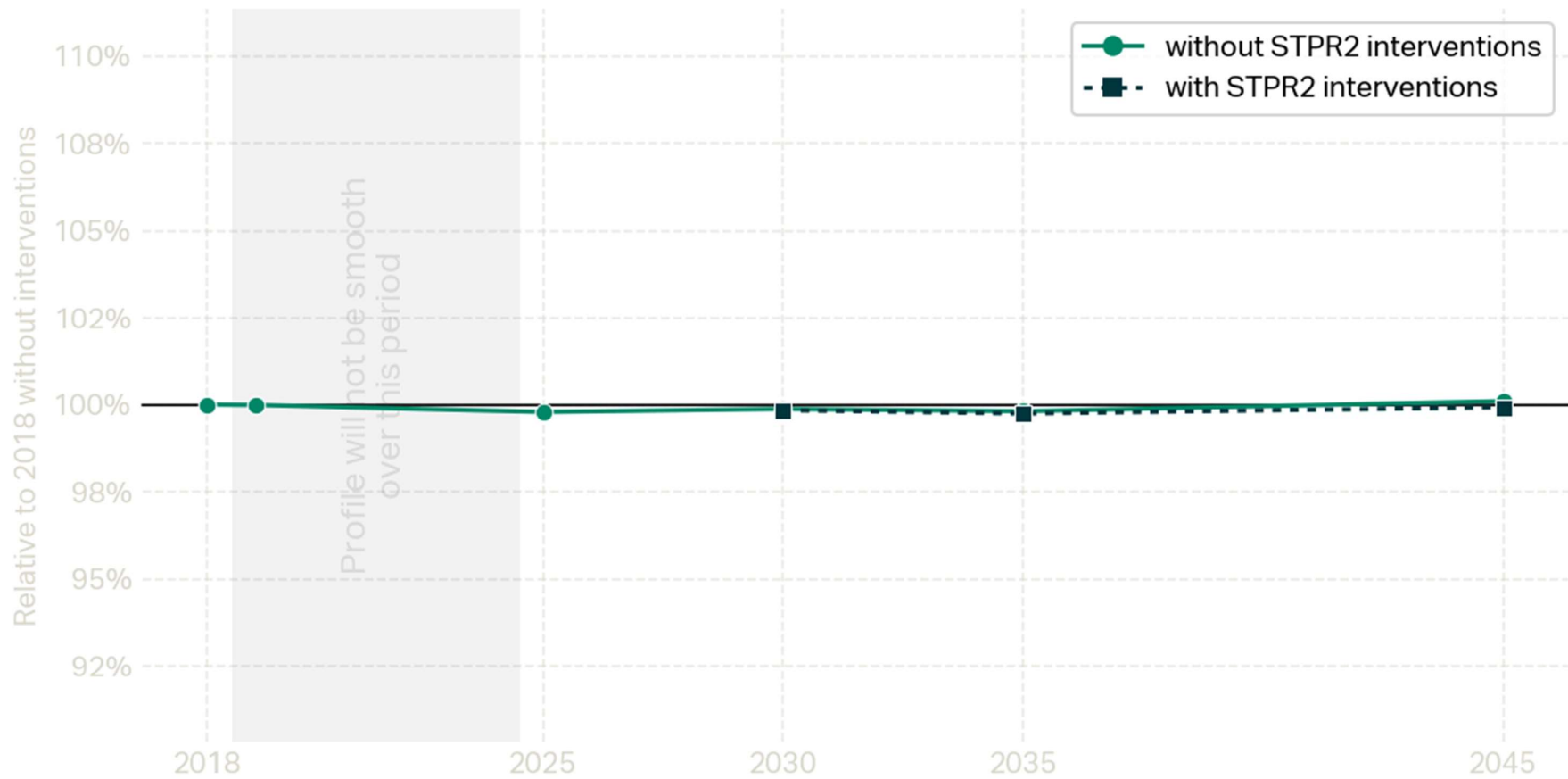
Modelled Road Journey Time (minutes per km)



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

Argyll and Bute High Motorised Traffic / Emission Demand

Modelled Road Journey Time (minutes per km)



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