STRATEGIC TRANSPORT PROJECTS REVIEW

PROTECTING OUR CLIMATE AND IMPROVING LIVES

Initial Appraisal: Case for Change

Argyll & Bute Region

February 2021

Jacobs AECOM

STRATEGIC TRANSPORT PROJECTS REVIEW 2

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Contents

Appendices

Figures

Tables

List of Acronyms

ACRONYM	
BRES	Business Register and Employment Survey
CO2	Carbon Dioxide
CPOP	Community Planning Outcomes Profile
CRWIA	Children's Rights and Wellbeing Impact Assessment
DfT	Department for Transport (UK)
EqIA	Equality Impact Assessment
FSDA	Fairer Scotland Duty Assessment
GVA	Gross Value Added
HGV	Heavy Goods Vehicle
ICIA	Island Communities Impact Assessment
KSI	Killed or Serious Injury
LULUCF	Land Use and Land Use Change and Forestry
MAAS	Mobility as a Service
NCN	National Cycle Network
NHS	National Health Service
NPF4	National Planning Framework 4
NRS	National Records of Scotland
NTS2	National Transport Strategy 2
ONS	Office for National Statistics
PPM	Public Performance Measure
PSO	Public Service Obligations
RTWG	Regional Transport Working Group
RET	Road Equivalent Tariff
ScotPHO	Public Health Information for Scotland
SEA	Strategic Environmental Assessment
SIMD	Scottish Index of Multiple Deprivation
STAG	Scottish Transport Appraisal Guidance
SPT	Strathclyde Partnership for Transport
STPR2	Strategic Transport Projects Review 2
TMfS	Transport Model for Scotland
TPO	Transport Planning Objective
UK	United Kingdom
VPD	Vehicles Per Day

1. Introduction

1.1. Background & Report Purpose

Transport Scotland is currently undertaking the second Strategic Transport Projects Review (STPR2) to inform the Scottish Government's transport investment programme in Scotland over the next 20 years (2022 – 2042). STPR2 takes a national overview of the transport network with a focus on regions and will help deliver the vision, priorities and outcomes that are set out in the National Transport Strategy (NTS2)[1].

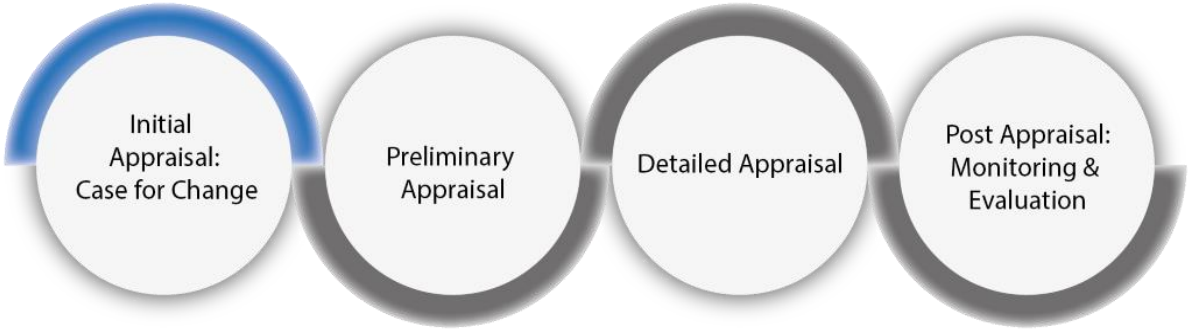

Figure 1: The Four Key Phases to the Scottish Transport Appraisal Guidance

STPR2 is being carried out in accordance with the Scottish Transport Appraisal Guidance (STAG)[2] which is an objective-led, evidence-based transport appraisal process. The 4 key phases of STAG are illustrated in Figure 1.

This report sets out the Initial Appraisal: Case for Change for the Argyll & Bute region as shown in Figure 2 and forms 1 of 11 STPR2 regions. The Case for Change constitutes the first phase of STAG and sets out the evidence base for problems and opportunities linked to the strategic transport network across the Argyll & Bute region drawing on relevant data analysis, policy review and stakeholder engagement. This report is supported by a national level Case for Change report which sets out the overarching vision for transport investment in Scotland and the challenges that must be addressed to support delivery of the priorities set out in NTS2.

STPR2 specifically focusses on Scotland's key strategic transport assets, which are wide ranging and varied. In the context of STPR2, the strategic transport network is defined as being:

- All transport networks and services owned, operated and funded directly by Transport Scotland;
- Transport access to major ports[3] and airports; and
- The inter-urban bus and active travel network and principal routes within the City Region areas.

[1] Transport Scotland, National Transport Strategy (NTS2), February 2020, www.transport.gov.scot/media/47052/national-transport-strategy.pdf
[2] Transport Scotland, Scottish Transport Appraisal Guidance (STAG), 2008, www.transport.gov.scot/media/41507/j9760.pdf
[3] List of major ports is still under review

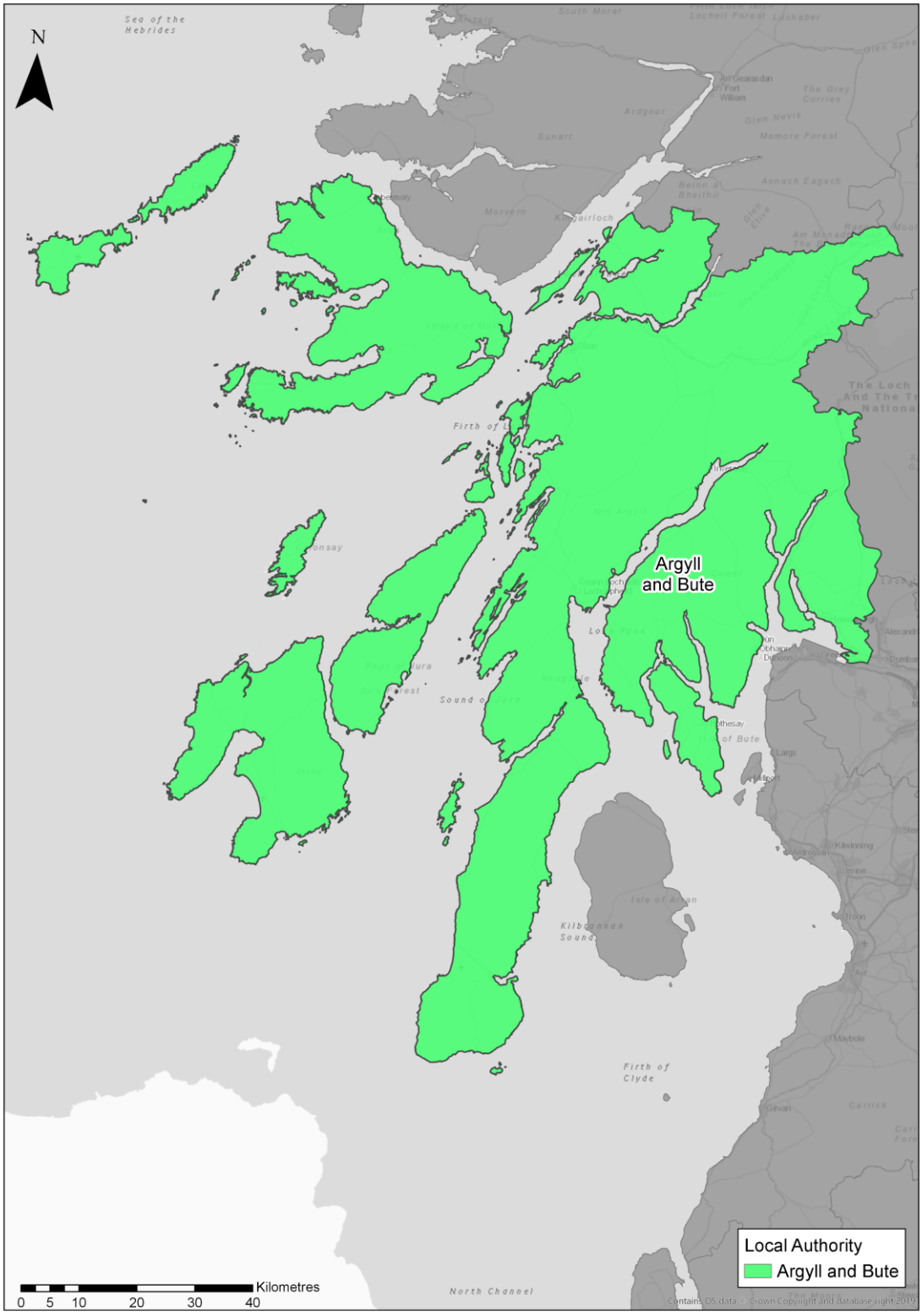

Figure 2: Argyll & Bute Study Area

(click image to enlarge figure)[4]

[4] Large scale figures can be found in Appendix A of this document or by following the link below the figure title where provided.

The Argyll & Bute STPR2 region comprises the Argyll & Bute local authority area. The region has an extensive transport network, including active travel, rail and road networks, ferry connections to the region's islands and peninsular areas as well as local airports.

To reflect the regional approach of STPR2, a Regional Transport Working Group (RTWG) has been established with representatives from Argyll & Bute Council, HITRANS, Strathclyde Partnership for Transport (SPT), Loch Lomond and The Trossachs National Park Authority, Scottish Enterprise and Highlands and Islands Enterprise, Transport Scotland and the STPR2 consultant team.

This Case for Change report also presents a set of Transport Planning Objectives, aligned with the national STPR2 objectives. The Transport Planning Objectives express the outcomes sought for the region. Additionally, the Transport Planning Objectives provide the basis for the appraisal of alternative options and, during Post Appraisal, will be central to Monitoring and Evaluation.

A long list of multi-modal options to address the identified problems and opportunities in the study area was developed and sifted in line with the proposed approach presented in this report.

Subsequent phases of the STAG process, the Preliminary and Detailed Appraisal phases, involve more detailed appraisal work, considering the feasibility and performance of options to tackle the identified transport-related problems and opportunities, and will be developed as the STPR2 process moves forward.

The following chapter sets out the socio-economic, environmental and transport context for the Argyll & Bute region.

1.2. COVID-19 Impacts

The draft version of this report was published in February 2020 and draws on data and stakeholder engagement collected before the COVID-19 pandemic. It is recognised that the pandemic and the restrictions implemented have changed the way society works and travels and that the long term impacts of the pandemic will have to be taken into consideration as STPR2 progresses. A more detailed review of the short term impacts of COVID-19 on STPR2 is provided in the National Case for Change document.

2. Context

2.1. Policy Context

At the national, regional and local levels, relevant transport, planning and economic strategies and policies have been reviewed to provide background context against which this Case for Change study is being undertaken. Figure 3 provides an overview of the strategies and policies reviewed, with the full list of documents presented in Appendix B. A summary of the key documents is presented below.

- **Programme for Government[5];** sets out the Scottish Government's ambitions and aims to make Scotland a more successful country with opportunities and increased wellbeing for all.
- **National Transport Strategy (NTS2)[6];** The NTS2 provides the national transport policy framework, setting out a clear vision of a sustainable, inclusive, safe and accessible transport system which helps deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. It sets out 4 key priorities to support that vision, namely: to reduce inequality; take climate action; help deliver inclusive economic growth; and improve health and wellbeing. The NTS2 Delivery Plan was published on 17 December 2020 detailing the actions being taken by the Scottish Government between 2020 and 2022 to achieve the vision of the NTS2.
  In addition to the 4 priorities, the NTS2 supports the adoption of a Sustainable Travel Hierarchy, which promotes walking, wheeling, cycling, public transport and shared transport options in preference to single occupancy private car use, as well as a Sustainable Investment Hierarchy, which prioritises investment aimed at reducing the need to travel unsustainably and maintaining and safely operating existing assets ahead of new infrastructure investment.
- **Climate Emergency[7];** declared by the United Kingdom (UK) and Scottish governments and multiple local authorities. As part of this, the Climate Change Bill commits the Scottish Government to a target of Net Zero emissions of all greenhouse gases by 2045. The Climate Change Plan update was published on 16 December 2020, and details Scottish Government's plans to meet new ambitious targets to end our contribution to climate change by 2045.
- **Emerging Rural Growth Deal (Argyll the Natural Choice)[8];** which brings together public and private sector partners to identify where investment would provide the

[5] Scottish Government, Protecting Scotland, Renewing Scotland: The Government's Programme for Scotland 2020-2021, https://www.gov.scot/publications/protecting-scotland-renewing-scotland-governments-programme-scotland-2020-2021/
[6] Transport Scotland, National Transport Strategy (NTS2), February 2020, www.transport.gov.scot/media/47052/national-transport-strategy.pdf
[7] Scottish Government, The Global Climate Emergency - Scotland's Response: Climate Change Secretary Roseanna Cunningham's statement, May 2019, https://www.gov.scot/publications/global-climate-emergency-scotlands-response-climate-change-secretary-roseanna-cunninghams-statement/
[8] Argyll & Bute Council, Rural Growth Deal, https://www.argyll-bute.gov.uk/rgd

biggest catalyst for change in delivering sustainable economic growth. Three key drivers have been used in developing the proposals, which are:

- **Growing** - doing more of what works; making more of Argyll & Bute's natural and built resources
- **Attracting** additional skills, training and learning opportunities; new residents, visitors and businesses
- **Connecting** high value business sectors with national and international business markets and local economic successes with national strategic priorities

Cognisance will be taken of the emerging Rural Growth Deal as it develops.

- **Regional Transport Strategies[9];** which set out the transport objectives and priorities for the Argyll & Bute region.
- **Other Regional and Local Policy Documents[10];** such as the local development plans, and regional economic strategies which set out non-transport specific objectives and priorities, but which transport plays a key role in both the enabling and delivery of their outcomes.

Figure 3 showing the policy review undertaken including titles of the plans, strategies, policies and statutory instruments reviewed at the National, Regional and Local level for the region.

[9] SPT, A Catalyst for Change - The Regional Transport Strategy for the west of Scotland 2008 – 21, http://www.spt.co.uk/wmslib/Documents_RTS/catalyst_for_change.pdf
HITRANS, Regional Transport Strategy, 2008, https://hitrans.org.uk/Strategy/Regional_Transport_Strategy
HITRANS, Draft Updated Regional Transport Strategy, May 2017, *ibid*

[10] Argyll & Bute Council, Local Development Plan 2015, https://www.argyll-bute.gov.uk/ldp#:~:text=The%20Argyll%20and%20Bute%20Local%20Development%20Plan%20provides,divided%20into%20the%20written%20statement%20and%20proposals%20maps.
Argyll & Bute Council, Economic Strategy, 2019-2023, https://www.argyll-bute.gov.uk/sites/default/files/economic_strategy_1.pdf

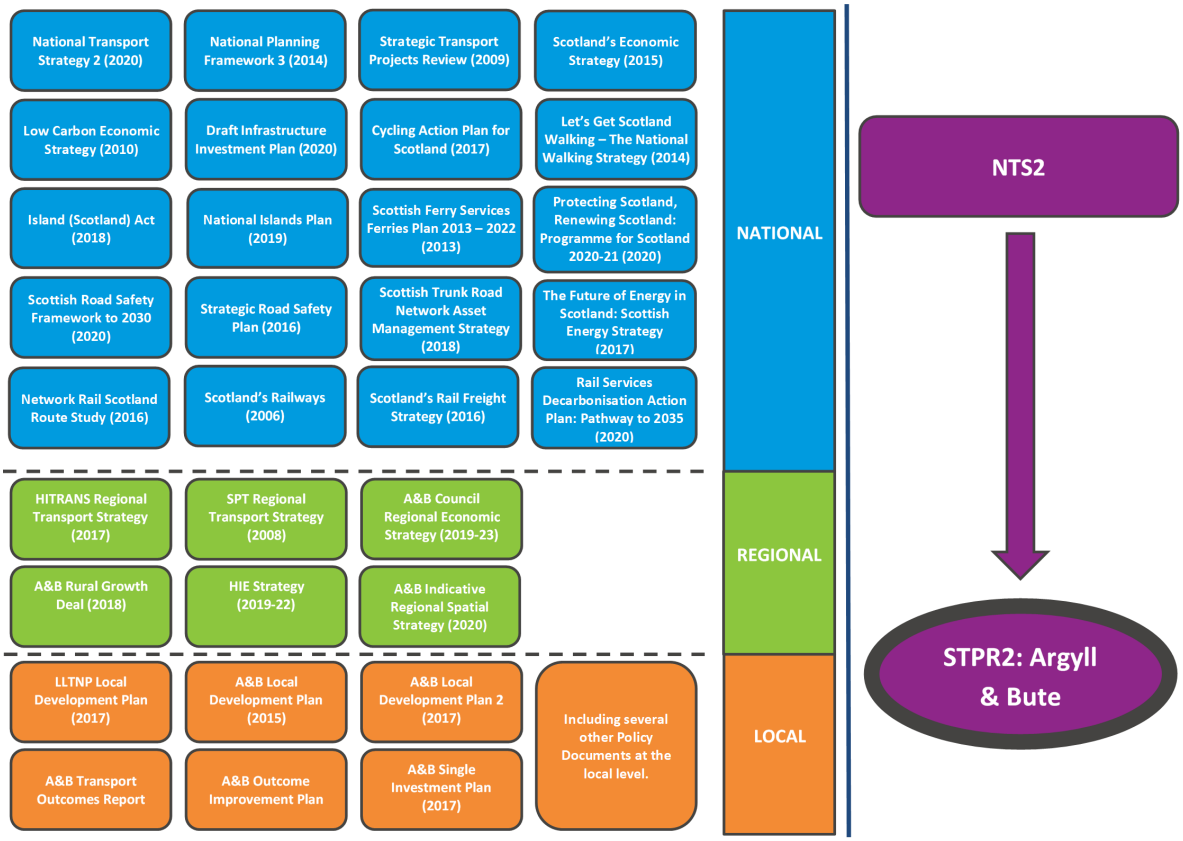

Figure 3: Policy Review

(click image to enlarge figure)

A Ministerial Taskforce on Population[11] has been established to develop new solutions to address demographic and population changes, which are disproportionately affecting the west of Scotland and rural areas.

Supporting and informing the development of STPR2, a Strategic Environmental Assessment (SEA), an Equality Impact Assessment (EqIA), a Children's Rights and Wellbeing Impact Assessment (CRWIA), a Fairer Scotland Duty Assessment (FSDA) and an Island Communities Impact Assessment (ICIA) are being undertaken. Early work on these assessments has informed this Case for Change.

2.2. Geographical 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.

[11] Scottish Government, Population Task Force, https://www.gov.scot/groups/population-task-force/

Figure 4 presents the Scottish Government's Urban Rural 2016 6-fold Classification for the Argyll & Bute region[12]. The 6 classifications are as follows:

- Large Urban Areas
- Other Urban Areas
- Accessible Small Towns
- Remote Small Towns
- Accessible Rural
- Remote Rural

Based on the 6 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)[13]. 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'.

The Scottish Government's Urban Rural 2016 8-fold Classification contains two additional classifications – 'Very Rural Small Towns' and 'Very Remote Rural'. Based on the 8-fold Classification, over two thirds (69%) of the region's population live in areas considered 'very remote' (i.e. Very Remote Rural and Very Remote Small Towns). The region is predominantly classified as 'Very Remote Rural' across Oban, Lorn & The Isles; Mid Argyll, Kintyre and the Islands; and Bute & Cowal administrative areas. A number of the larger settlements in these administrative areas (i.e. Oban, Dunoon, Campbeltown and Rothesay) are classified as 'Very Remote Small Towns'.

[12] Scottish Government, Urban Rural Classification, 2016, https://www.gov.scot/publications/scottish-government-urban-rural-classification-2016/pages/2/

[13] Based on NRS, Mid-Year Population Estimates, 2019, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates

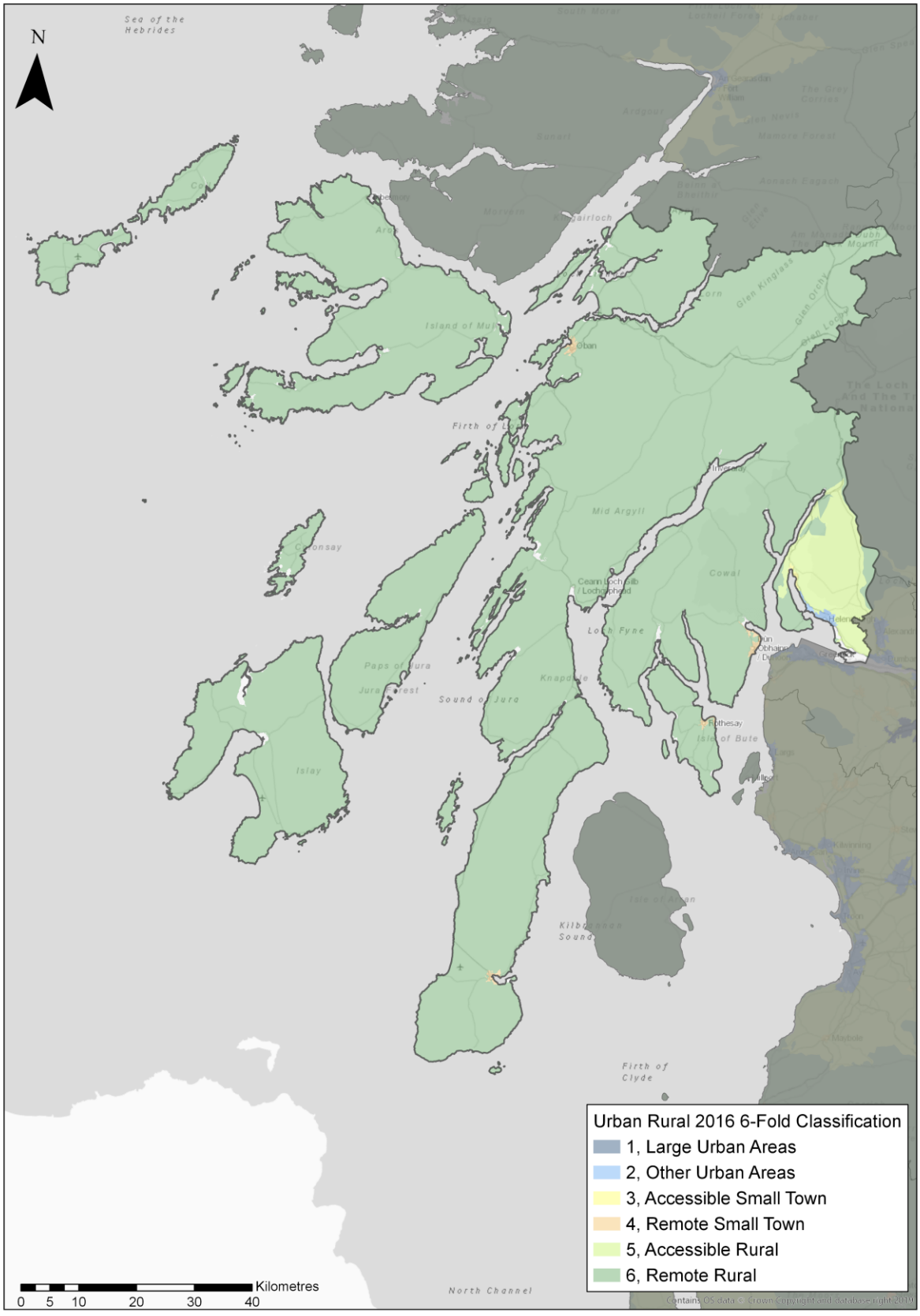

Figure 4: Urban Rural 2016 6-fold Scottish Government Classification

(click image to enlarge figure)

2.3. Socio Economic Context

Note that wherever possible the latest available datasets have been analysed to produce the statistics and results presented in this report. In some cases, however, the data used may not be fully up-to-date. This is typically because the latest data is not yet available, or because the data and/or the method of collection may have changed over time and can no longer be used in the same way. It is also recognised that the pandemic and the restrictions implemented have changed the way society works and travels. However, given the uncertainty over what the potential lasting impacts of the pandemic may be, pre-COVID-19 datasets have been used to reflect the baseline situation.

2.3.1. Population

The region's population in 2019 was 85,870[14] (1.6% of the total population of Scotland). Argyll & Bute has an average population density of 12 persons per square km[15] and is the third sparsest population of the 32 Scottish local authority areas. The Scottish average population density is 70 persons per square km.

A summary of the region's population statistics by locality is presented in Figure 5[16].

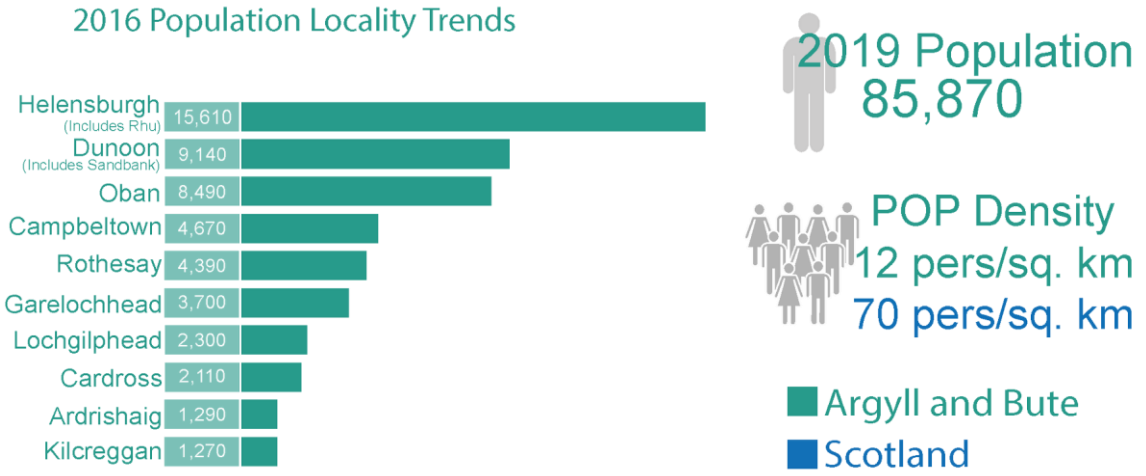

Figure 5: Argyll & Bute Largest Settlements by Population 2016, 2019 Population and Population Density

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.

Almost 80% of Argyll & Bute's population live within 1km of the coast, with around 98%

[14] NRS, Mid-Year Population Estimates, 2019, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates

[15] NRS, Mid-Year Population Estimates, 2019, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates

[16] NRS, Mid-Year Population Estimates for Settlements and Localities in Scotland, 2016, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/settlements-and-localities

living within 10km of the coast[17].

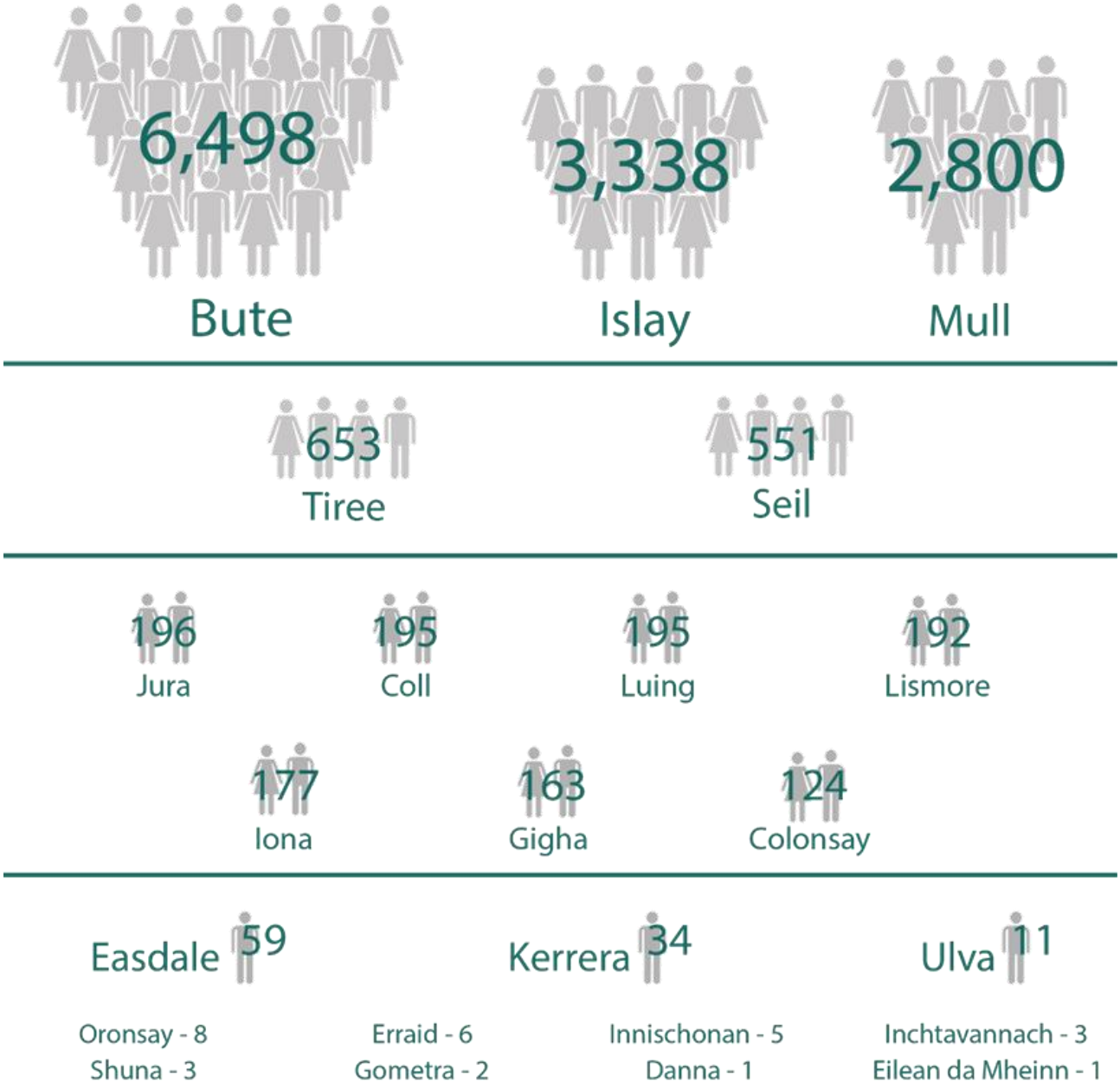

Figure 6: Population of Argyll & Bute's Inhibited Islands 2011

The region has 23 inhabited islands, more than any other local authority in Scotland. Seventeen percent of the regions' population inhabit the islands, and the population of the inhabited islands (as of 2011) are shown in Figure 6[18]. 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

[17] Scottish Government, Scottish Coastal Forum, 2002, https://www2.gov.scot/Topics/marine/seamanagement/regional/Scottish-Coastal-Forum

[18] NRS, Census 2011 (Scotland), 2011, Number of residents and households at individual island level, https://www.nrscotland.gov.uk/files/geography/2011-census/geog-2011-cen-supp-info-islands.pdf

children (e.g. on Coll, Colonsay, Gigha, Iona and Lismore).

The region's population has been in decline for over a decade, against a backdrop of a population increase at the national level[19]. The change in population over the period 2012 to 2016, for the 10 most populated localities in the region, is presented in Figure 7[20].

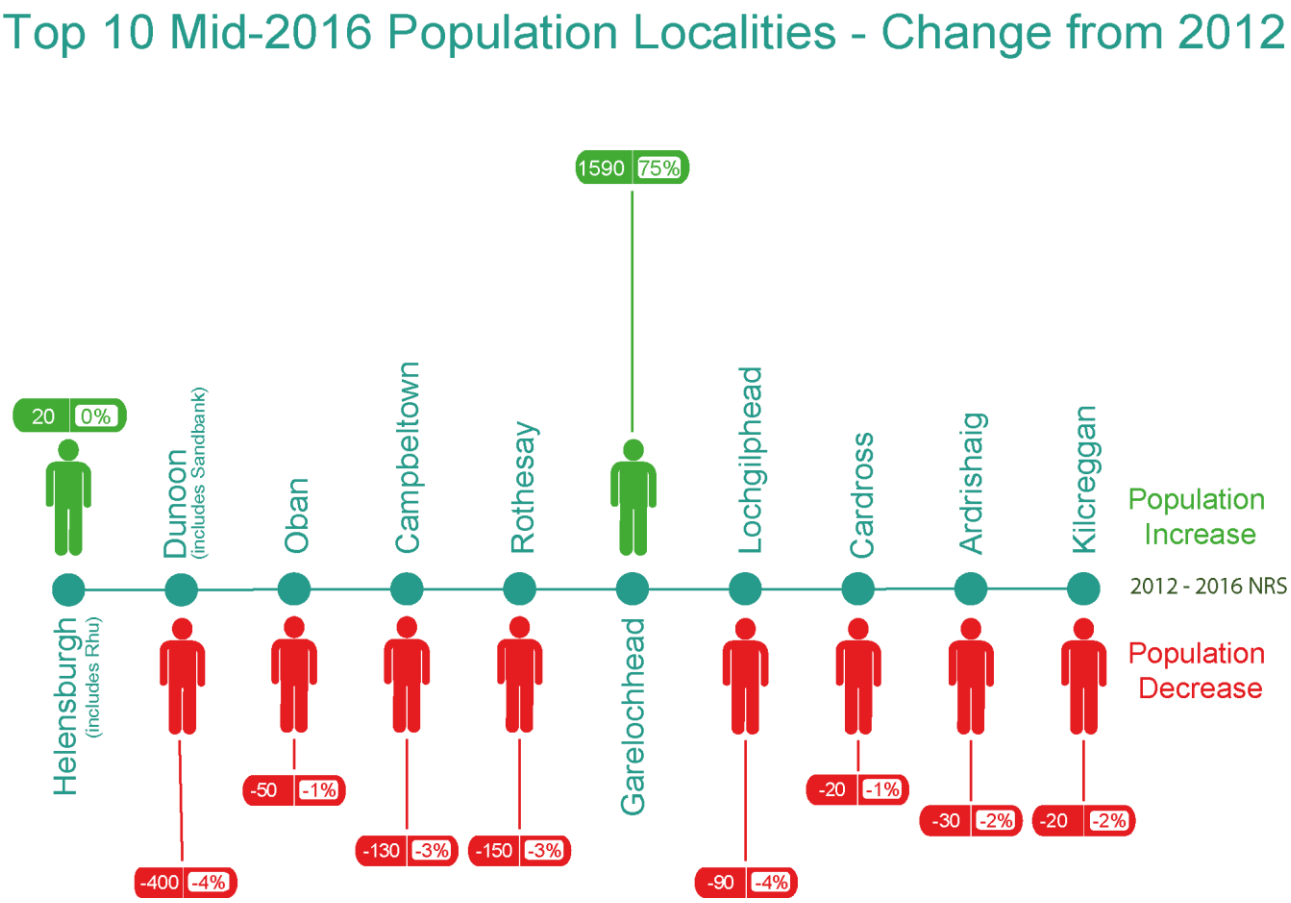

Figure 7: Argyll & Bute Population Change by Locality 2012 – 2016

Note: The increase in population noted in Garelochhead is likely due to a change in classification of local postcode areas.

Information from the National Records of Scotland (NRS)[21], presented in Figure 8, indicate that the population reduction in Argyll & Bute is a combined result of outward migration

[19] NRS, Mid-Year Population Estimates, 2019, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates

[20] NRS, Mid-Year Population Estimates for Settlements and Localities in Scotland, 2012 & 2016, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/settlements-and-localities https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/settlements-and-localities

[21] NRS, Migration Flows, Births and Deaths, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/migration

generally outweighing inward levels and deaths outweighing births.

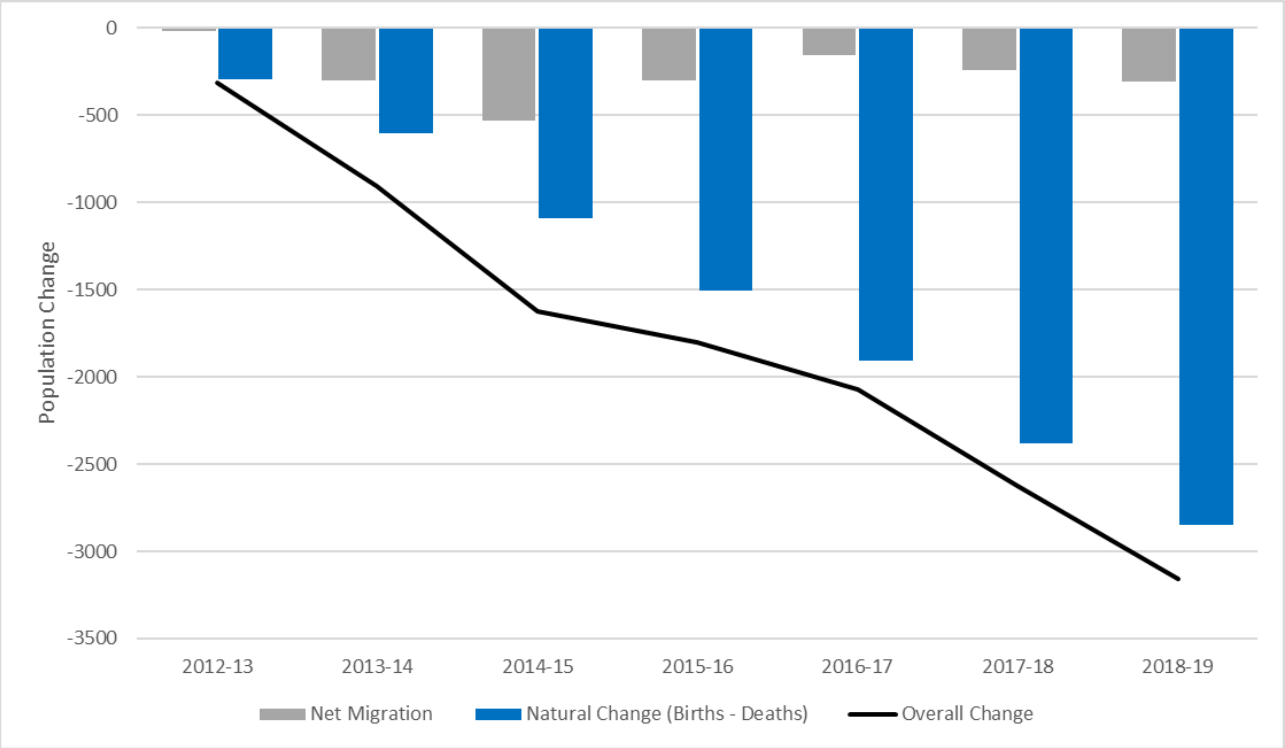

Figure 8: Argyll & Bute Annual Population Change, 2012-13 to 2018-19

Key factors for population decline include poor mobile and broadband connectivity, a lack of affordable housing and a lack of appropriate transport[22]. Outward migration is being driven by a combination of older individuals leaving to be nearer their families, health facilities or into care[23] and younger people moving out of the region to pursue higher education and employment opportunities.

Data from the Young People and the Highlands and Islands: Attitudes and aspirations research[24] carried out in 2015 and follow-up surveys in 2018 provides some insight into the impact of transport on people aged 15-30. In 2015, young people in Argyll and the Islands ranked affordable transport links as the third most important factor that would make the Highlands and Islands a more attractive place to live (55% saying this is very important). Just over 42% of young people in Argyll and the Islands regard public transport as adequate. In the 2018 research[25], affordable public transport was rated as the third most essential economic factor required to make the region a more attractive place for

[22] Argyll & Bute Economic Forum, Argyll & Bute Economic Forum Report, 2016, https://www.argyll-bute.gov.uk/sites/default/files/argyll_report_260216-v2.pdf

[23] Argyll & Bute Council, Argyll and Bute in numbers, 2019, https://www.argyll-bute.gov.uk/sites/default/files/Unknown/argyll_and_bute_in_numbers_v6_0.pdf

[24] HIE, Young People and the Highlands and Islands: Attitudes and aspirations research, 2015, https://www.hie.co.uk/research-and-reports/our-reports/2015/august/04/young-people-and-the-highlands-and-islands-attitudes-and-aspirations-research/

[25] HIE, Young People and the Highlands and Islands: Maximising Opportunities, 2018, https://www.hie.co.uk/research-and-reports/our-reports/2018/may/31/yp-research/

young people by 62% of respondents. The two highest rated factors were the availability of high quality jobs (68%) and opportunities for career progression (66%).

Approximately 64% of school leavers in 2018-2019 attained a Scottish Credit and Qualifications Framework Level 6 or higher. This is equivalent to a Scottish Higher or Scottish Vocational Qualification level 3 qualification. Of the total school leavers, 95%[26] entered 'positive destinations' defined as engagement in higher education, further education, training, voluntary work, employment or activity agreements[27] (which are plans to help young people prepare for employment, training, education and/or volunteering).

The available NRS data suggests that older, economically inactive individuals, perhaps attracted by the region's natural beauty in addition to the appeal of the region's property prices (which are low when compared to other rural areas) may form a large proportion of the inward migration total.

The proportion of residents in the age brackets – 15 and under, working age (16-65) and over 65 – is presented in Figure 9[28].

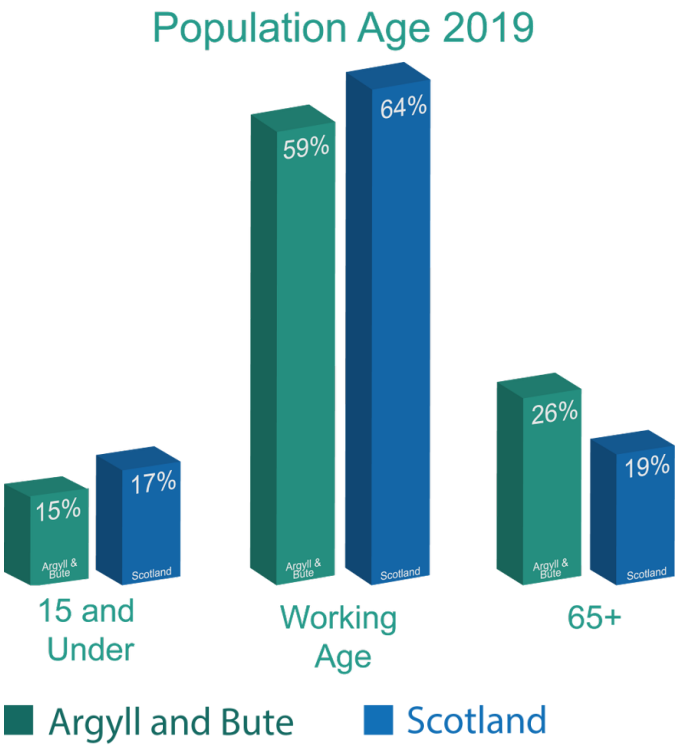

Figure 9: Age Population Levels in Argyll & Bute and Scotland, 2019

This indicates that 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

[26] Scottish Government, Attainment and Leavers Destinations Data, 2018 – 2019, https://www.gov.scot/collections/school-education-statistics/#schoolleaverinitialdestinationsandattainment

[27] Activity Agreements, https://www.mygov.scot/activity-agreements/

[28] NRS, Mid-Year Population Estimates, 2019, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates

the working age population is lower than the national level.

The change in the proportion of residents in each of the age brackets between 2011 and 2019 is shown in Argyll and Bute Scotland

Figure 10[29]. This indicates that Argyll & Bute's population is also ageing.

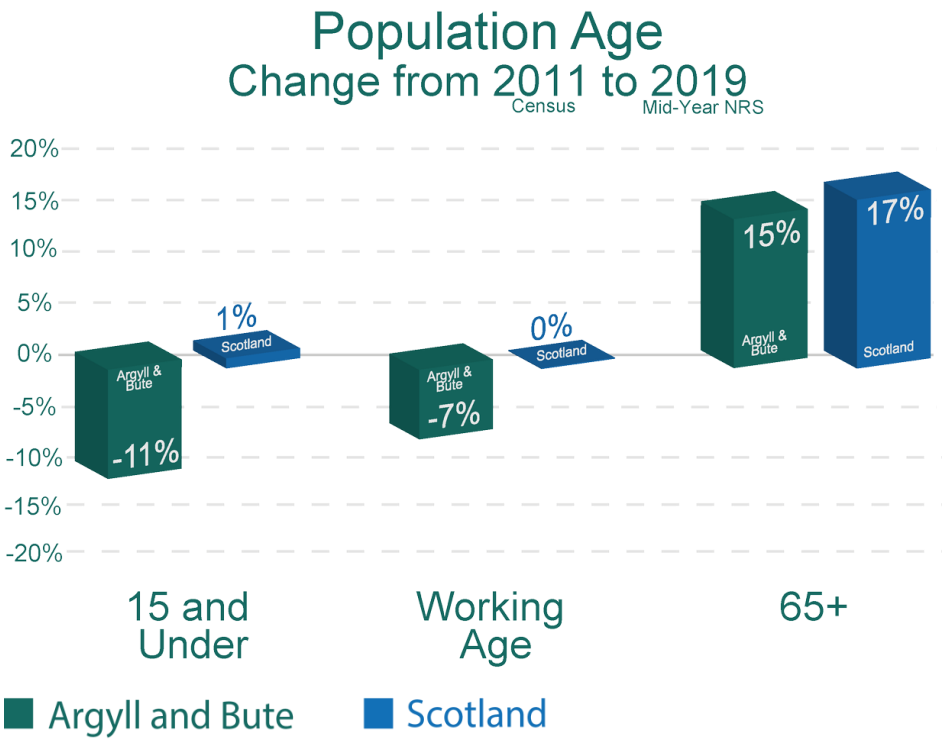

Figure 10: Population Age Change in Argyll and Bute and Scotland 2011 to 2019

The declining and ageing population in Argyll & Bute is forecast to continue. NRS population change projections indicate a population decrease of 3.4% between 2016 and 2026, with the number of people aged 75 and over forecast to increase by 30%.

Many active older people will be unable, or prefer not, to drive[30]. An ageing population has greater need for an efficient, accessible public transport system and the infrastructure to accommodate it.

The NRS 2011 Census data for Argyll & Bute indicates that the day-to-day activities of approximately 1 in 5 of the population are limited a little or a lot by a disability[31]. This equates to approximately 17,800 people with a disability in the region. There are also

[29] NRS, Mid-Year Population Estimates, 2019, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates

[30] Mayer Brown, Demographic trends: How will an aging population affect transport planning and urban regeneration?, 2017, https://mayerbrown.co.uk/keep-up-to-date/blog/posts/demographic-trends-how-will-an-aging-population-affect-transport-planning-and-urban-regeneration/

[31] NRS, Census 2011 (Scotland), 2011, https://scotlandscensus.gov.uk/ods-web/standard-outputs.html

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 National Health Service (NHS) Greater Glasgow and Clyde area[32]. This highlights the need for particular consideration in the planning and delivery of transport services to access healthcare within, and to/from, the region.

2.3.2. Economic Activity

The 2019 employment level in Argyll & Bute, at around 77%, is similar to the national average[33]. The region has a lower level of high skilled jobs, in sectors such as information & communication and financial & insurance (around 6% in Argyll & Bute, compared to over 13% nationally)[34] with higher levels of underemployment on average than in the national context. The average gross weekly pay (£439) is around 20% lower than the national average (£548)[35].

The region's economy is predominantly service-based, with over 85% of employee jobs in the area being provided within the service sector[36]. 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%[37].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[38].

Figure 11[39] shows the concentration of employment sectors in the region compared with

[32] HIE, Argyll and Bute Transport Connectivity and Economy Report, 2016, https://www.hie.co.uk/media/6412/argyllplusandplusbuteplustransportplusconnectivityplusandpluseconomyplusresearchplus-plusreport.pdf
[33] ONS, NOMIS Annual Population Survey, 2019, https://www.nomisweb.co.uk/datasets/apsnew
[34] ONS, NOMIS Business Register and Employment Survey (BRES), 2018, https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/businessregisterandemploymentsurvey
[35] ONS, NOMIS Annual Survey of Hours and Earnings, 2019, https://www.ons.gov.uk/releases/employeeearningsintheuk2019
[36] ONS, NOMIS Business Register and Employment Survey (BRES), 2018, https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/businessregisterandemploymentsurvey
[37] ONS, NOMIS Business Register and Employment Survey (BRES), 2018, https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/businessregisterandemploymentsurvey
[38] Argyll & Bute Council, Argyll and Bute in Numbers, 2019, https://www.argyll-bute.gov.uk/sites/default/files/Unknown/argyll_and_bute_in_numbers_v6_0.pdf
[39] Oxford Economics, International Research on Regional Economies - Implications for Delivering Inclusive Growth in Scotland, May 2019, https://www.scottishfuturestrust.org.uk/storage/uploads/internationalresearchonregionaleconomiesmay2019.pdf

Scotland as a whole. Argyll has more concentration of less productive sectors such as agriculture, forestry & fishing, and accommodation & food. Sectors which tend to drive growth at a national level, including financial & insurance, are less well represented in the region[40]

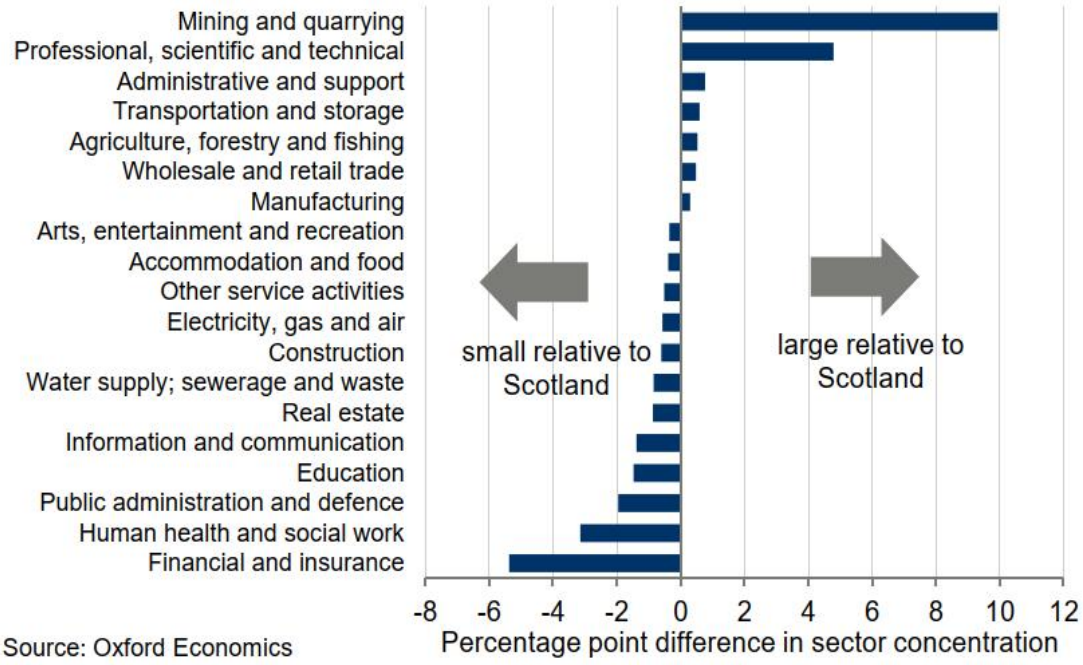

Figure 11: Sector GVA Share, Argyll & Bute vs Scotland, 2018

[40] Oxford Economics, International Research on Regional Economies - Implications for Delivering Inclusive Growth in Scotland, May 2019, https://www.scottishfuturestrust.org.uk/storage/uploads/internationalresearchonregionaleconomiesmay2019.pdf

Figure 12[41] shows how Argyll & Bute's Gross Value Added (GVA) has changed over the last decade. The region's economy tends to be heavily influenced by sectors with lower growth, such as agriculture and public services and, as such, has not performed as well as Scotland's since 2014. The scale of Argyll and Bute's economic activity is at its lowest level in the last 10-year period.

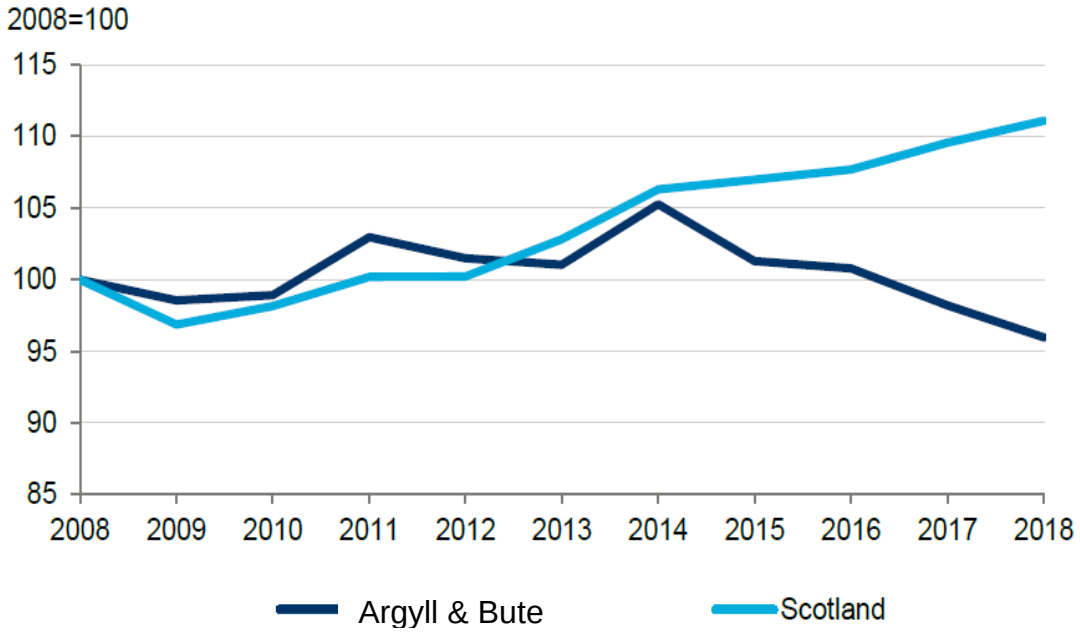

Figure 12: Index of GVA, Argyll & Bute and Scotland, 2008-2018

GVA is a measure of the increase in the value of the economy due to the production of goods and services. Argyll & Bute contributed £1.91 billion to the Scottish GVA, equivalent to 1.3% of the national total[42].

2.3.3. Travel to Work

Of the 30,100 employed residents of Argyll & Bute travelling to a workplace in 2011, approximately 81% worked within the region – with the remaining 19% (equating to 5,700 residents) commuting to other regions. Seventy-seven percent of the 31,600 employment opportunities in Argyll & Bute were taken by residents with almost a quarter (23%, equating to 7,100 opportunities) taken by non-residents commuting into the region[43].

[41] Oxford Economics, International Research on Regional Economies - Implications for Delivering Inclusive Growth in Scotland, May 2019, https://www.scottishfuturestrust.org.uk/storage/uploads/internationalresearchonregionaleconomiesmay2019.pdf

[42] ONS, Regional gross value added (balanced) by industry: local authorities by NUTS1 region: UKM Scotland current prices, 2018, https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgrossvalueaddedbalancedlocalauthoritiesbynuts1region

[43] Oxford Economics, International Research on Regional Economies - Implications for Delivering Inclusive Growth in Scotland, May 2019, https://www.scottishfuturestrust.org.uk/storage/uploads/internationalresearchonregionaleconomiesmay2019.pdf

Commutes in/out of the region are predominantly to/from Glasgow City and West Dunbartonshire, and this is likely to reflect the greater connectivity between the south east of the region and these areas.

A comparison of the Census 2011 Travel to Work mode share in Argyll & Bute with national levels is presented in Figure 13[44].

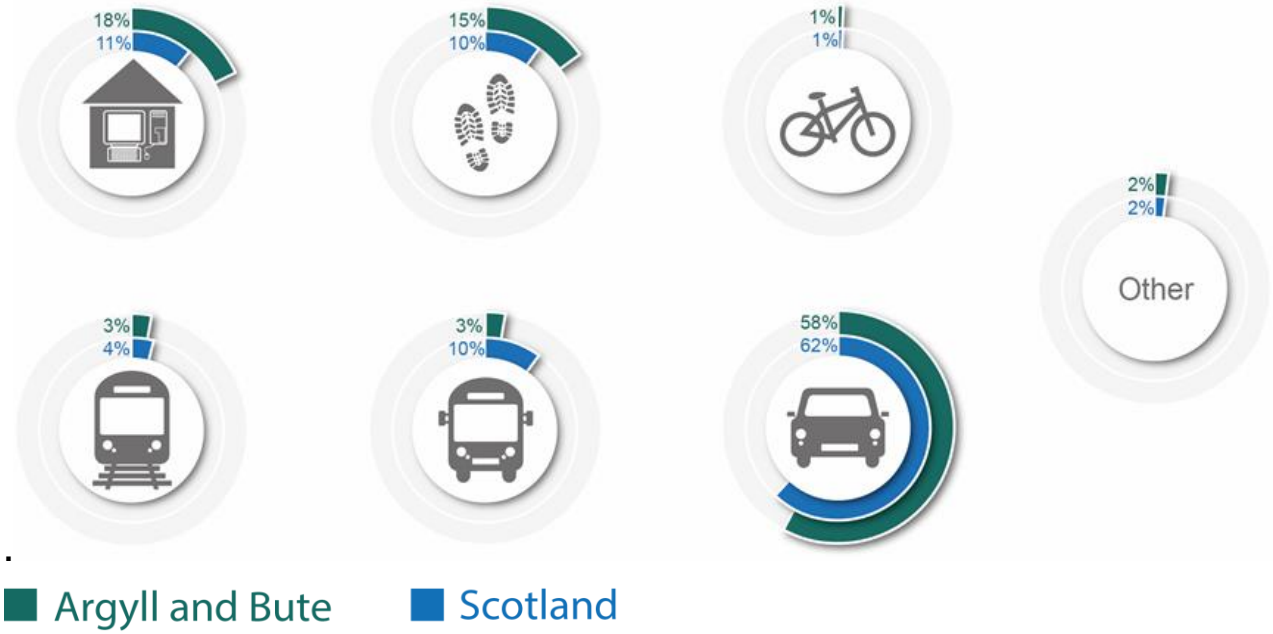

Figure 13: Travel to Work Mode Share, Argyll & Bute 2011

This data indicates that the share of people working from home and using active travel (predominately walking) is higher in the region than nationally. The share of public transport in the region is lower than nationally, particularly bus travel. The data shown in Figure 14[45] indicates why this may be the case. Over 24% of people in Argyll & Bute work within a reasonable walking distance (2 km) from home. Conversely, bus travel is likely to be less attractive as only 31% of people in Argyll & Bute travel between 2 km and 20 km to work, compared to 51% across Scotland as a whole. Although the use of a private car for travelling to work is lower than the national average value, it is still the highest mode share in the region. This is likely to be due to a combination of the propensity for residents to travel longer distances and the lack of suitable public transport alternatives.

The proportion of people working from home in Argyll & Bute (18%) is greater than the national average (11%). The proportion is higher among some island populations; over 30% on Coll, Colonsay, Easdale, Gigha, Iona and Mull[46].

[44] NRS, Census 2011 (Scotland), 2011, https://scotlandscensus.gov.uk/
[45] NRS, Census 2011 (Scotland), 2011, https://scotlandscensus.gov.uk/

[46] NRS, Census 2011 (Scotland), 2011, Inhabited Islands Report: Table A27, https://www.scotlandscensus.gov.uk/documents/analytical_reports/Inhabited_islands_report.pdf

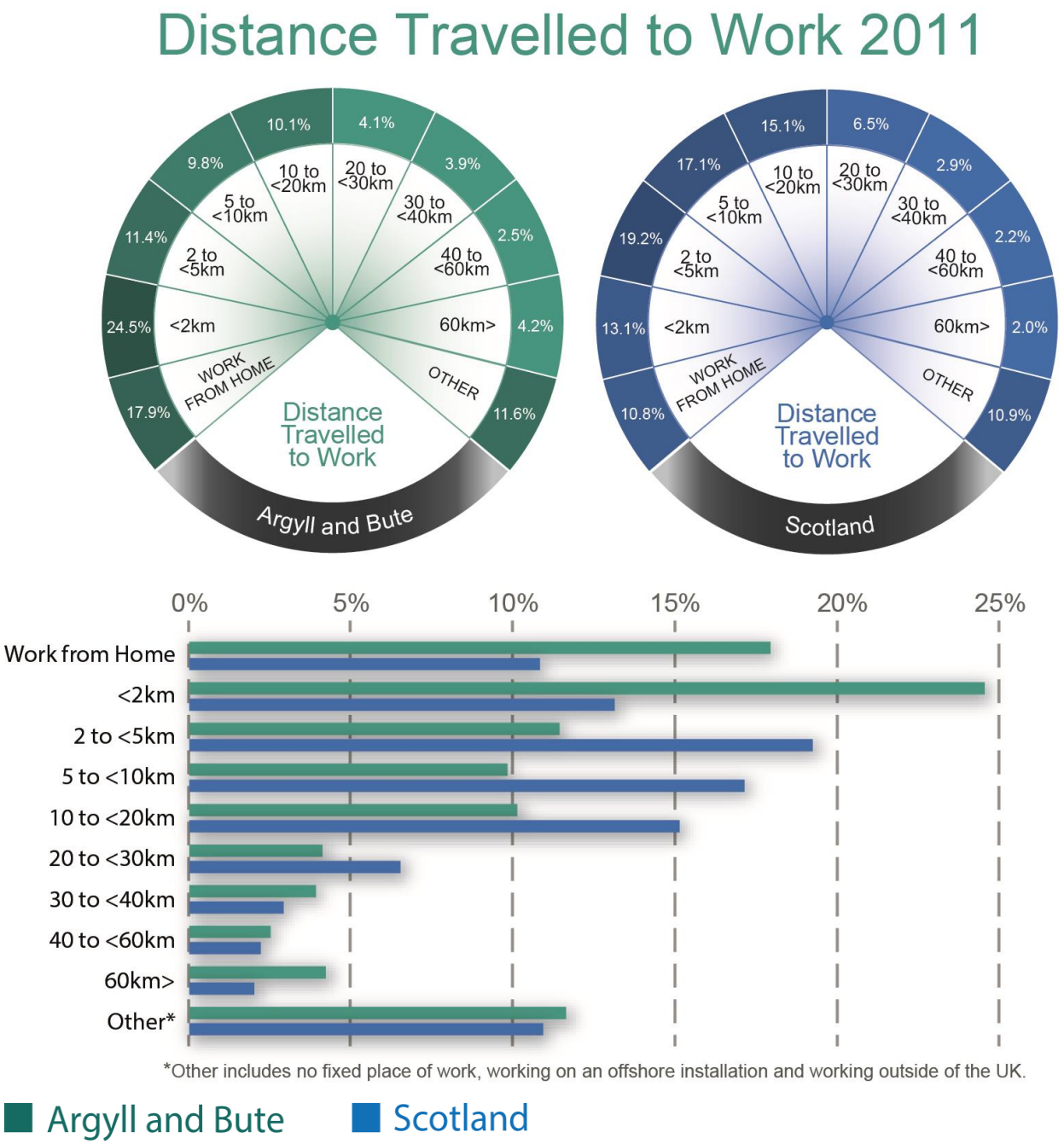

Figure 14: Distance Travelled to Work, Argyll & Bute 2011

2.3.4. Car/Van Availability

A comparison of the levels of car and van availability in Argyll & Bute with national levels, is presented in Argyll and Bute Scotland Figure 15[47].

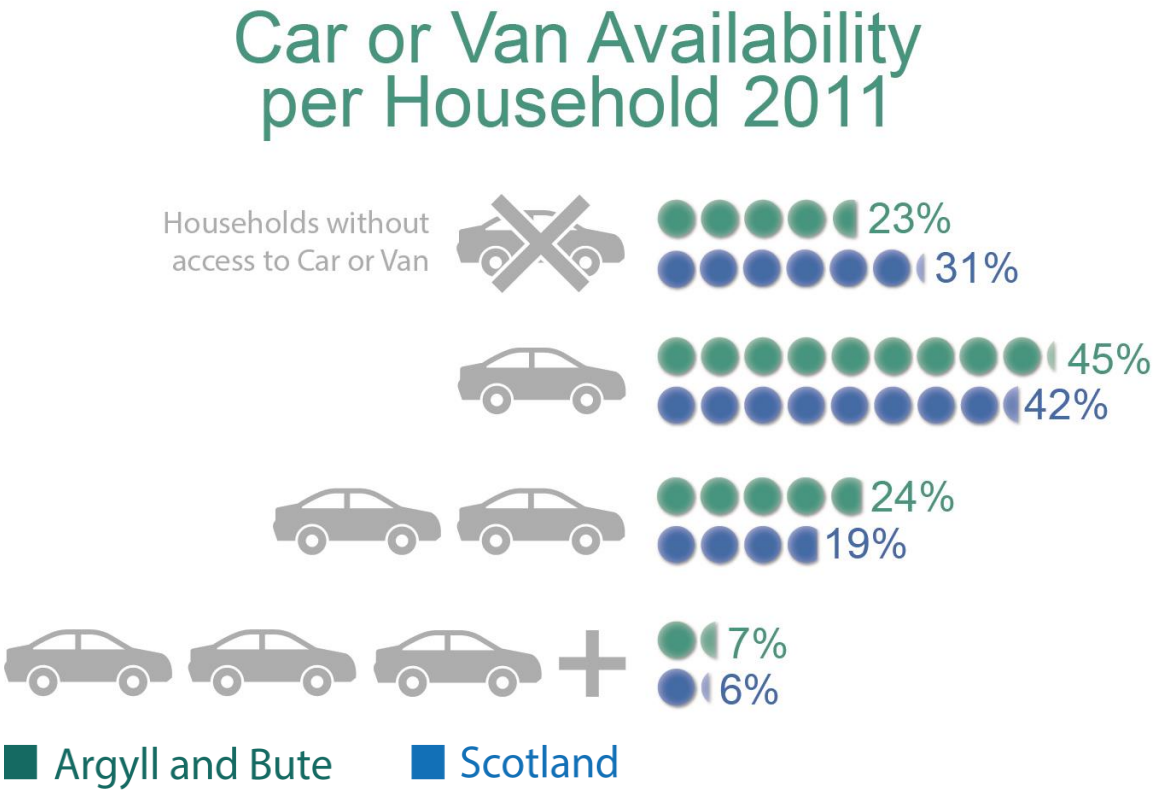

Figure 15: Argyll & Bute Car/Van Availability (2011)

A higher proportion of homes in Argyll & Bute have access to a car or van (77%) when compared to the national average (69%). As indicated in the 'Transport and Poverty in Scotland' report, this is likely to be influenced by a combination of the rural nature of the area requiring residents to travel longer distances and a lack of suitable public transport alternatives which obliges some low-income families to own a car[48].

2.3.5. Deprivation

The Scottish Index of Multiple Deprivation (SIMD) identifies concentrations of deprived areas across Scotland[49]. It is based on 38 indicators across 7 domains - Income, Employment, Health, Education, Geographic Access, Crime, and Housing. The SIMD is produced at data zone level, with data zones being ranked from 1 (most deprived – dark red) to 6,976 (least deprived – dark blue). The SIMD for Argyll & Bute is presented in Figure 16, in the form of deciles, from data zones of highest deprivation (decile 1) to data

[47] NRS, Census 2011 (Scotland), 2011, Table KS404SC, https://scotlandscensus.gov.uk/
[48] Poverty and Inequality Commission, Transport and Poverty in Scotland, June 2019, https://povertyinequality.scot/wp-content/uploads/2019/06/Transport-and-Poverty-in-Scotland-Report-of-the-Poverty-and-Inequality-Commission.pdf
[49] Scottish Government, Scottish Index of Multiple Deprivation, 2020, https://simd.scot/

zones of lowest deprivation (decile 10).

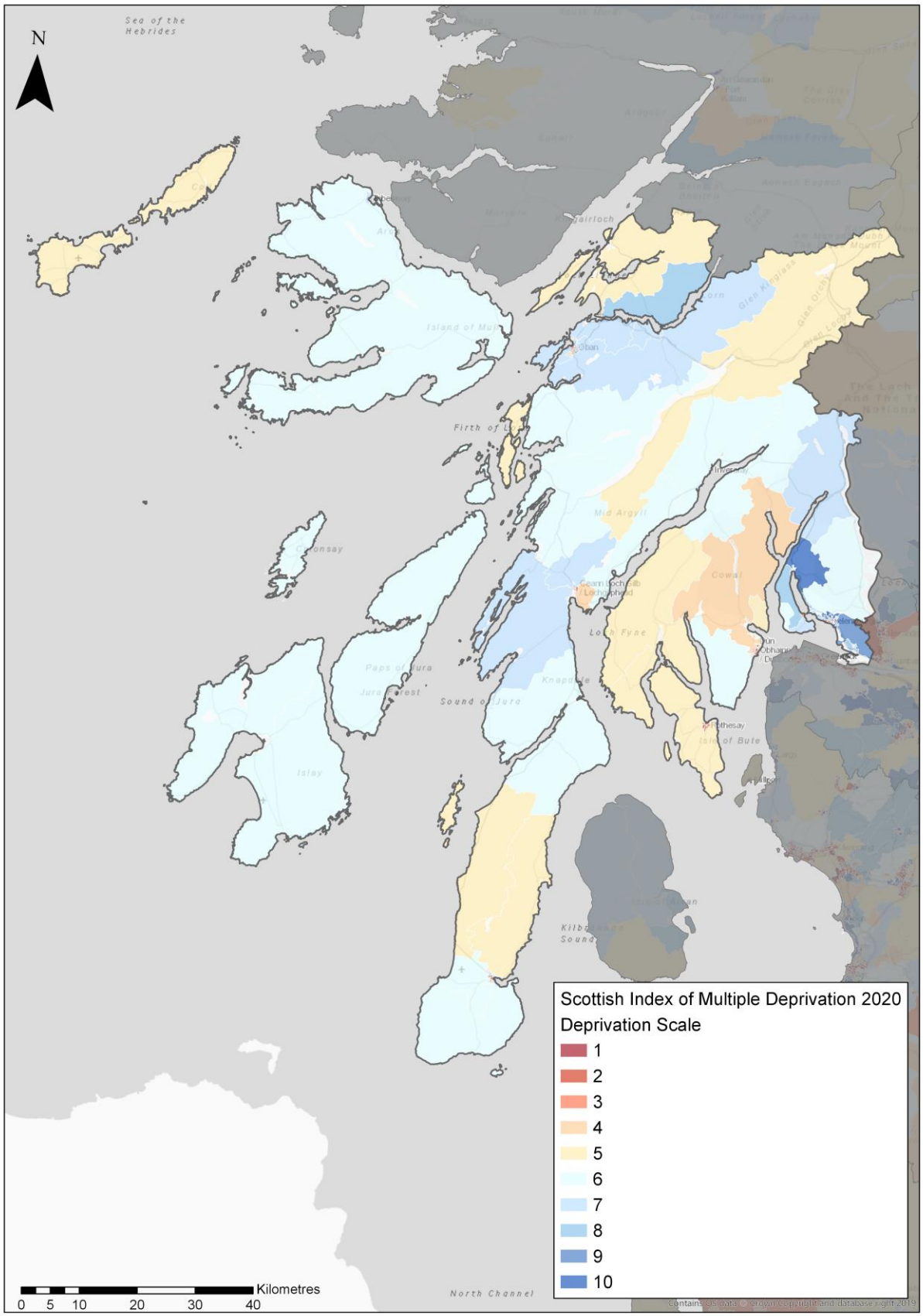

Figure 16: Scottish Index of Multiple Deprivation, Argyll & Bute 2020

(click image to enlarge figure)

Argyll & Bute consists of 125 data zones. Thirteen data zones (10%) were identified as being amongst the 20% most overall deprived data zones in Scotland. These are located in the region's 5 main towns - Helensburgh, Oban, Dunoon, Campbeltown and Rothesay. Whilst the most deprived data zones are located in the area's towns, it should be noted that smaller concentrations of deprivation can occur that are not picked up by the index.

Geographic Access to Services considers deprivation in terms of drive times and public transport times to a selection of basic services such as schools, health services and retail centres. Forty-six (37%) of Argyll and Bute's data zones are within the 15% most 'access deprived' data zones in Scotland – most of which are located outside the main towns.

2.3.6. Poverty

The Office for National Statistics (ONS) collects information on average weekly expenditure on goods and services in the UK. Based on the information available for the financial year ending 2018, the average household in the UK spends 14.1% of its overall household income on transport[50].

The 2018 proportion of overall household income spent on transport costs in Argyll & Bute is illustrated in Figure 17. Transport expenditure in 2018 within the region was generally greater than the UK average with a large proportion of residents spending more than 16% of their household income. This is likely to be greatly influenced by the distances involved for travel and relatively low incomes in the region, coupled with the necessity of car ownership (including 2+ car households) in rural and remote areas.

One in 5 children in Argyll and Bute live in poverty (after housing costs)[51] and during the period 2014-2016, approximately 12% of children were in families with limited resources[52] (Scottish Government, 2017).

[50] ONS, Expenditure, FYE 2018, https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/adhocs/11161averageweeklyhouseholdexpenditureukfinancialyearending2018

[51] End Child Poverty, 2019, http://www.endchildpoverty.org.uk/poverty-in-your-area-2019/

[52] The limited resources measure looks at children in families that have both low income and cannot afford 3 or more out of a list of 22 basic necessities, /https://www.gov.scot/publications/children-families-limited-resources-scotland-2014-2016/pages/5/

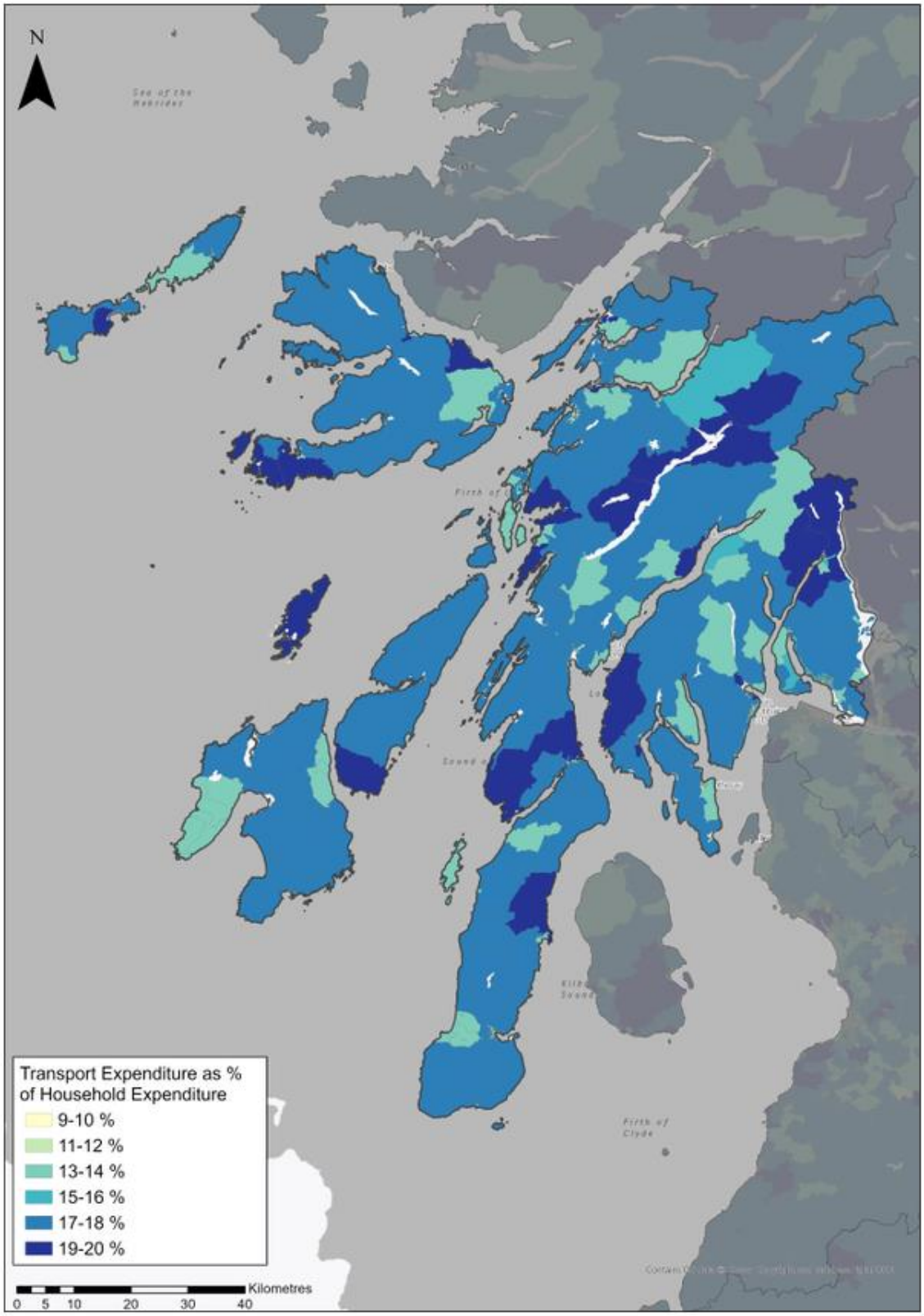

Figure 17: Transport Expenditure (%) as a Proportion of Household Income, Argyll & Bute 2018

(click image to enlarge figure)

2.4. Environmental Context

The 'Wild About Argyll' tourism campaign notes that Argyll and the Isles is "*a glorious coastal region of glittering sea lochs, islands, hills, forests and glens*" – the region is renowned for its outstanding natural and built environment, both of which are significant attractors of people, business and investment to the area.

Within the Argyll & Bute region, there are many areas classified as environmentally sensitive, with varying levels of statutory protection. Designated sites form part of the region's rich natural and built environment. Environmental designations within the region include the following biodiversity, landscape and heritage designations which fall either wholly or partly within the region:

- 120 Sites of Special Scientific Interest (SSSI)
- 21 Special Protection Areas (SPA)
- 31 Special Areas of Conservation (SAC)
- 5 Nature Conservation Marine Protected Areas (MPA)
- 7 Marine Consultation Areas
- 6 National Nature Reserves (NNR)
- 2 Local Nature Reserves (LNR)
- 10 Royal Society for the Protection of Birds (RSPB) Reserves
- 8 National Scenic Areas (NSA)
- 1 National Park (Loch Lomond and The Trossachs National Park)
- 21 Gardens and designed landscapes
- 33 Conservation Areas
- 803 Scheduled Monuments
- 1 Heritage Marine Protected Area (MPA).

An environmental mapping exercise has been undertaken, as presented in Figure 18[53]. As can be seen, 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[54]. Undesignated cultural heritage assets can be found throughout the region. Designated cultural heritage resources are shown in Figure 18. There are no Battlefields or World Heritage Sites within the region.

[53] Contains SNH information licensed under the Open Government Licence v3.0.
[54] Argyll & Bute Council, Historic Environment Strategy 2015-2020, https://www.argyll-bute.gov.uk/sites/default/files/hist_env_strat_combined.pdf

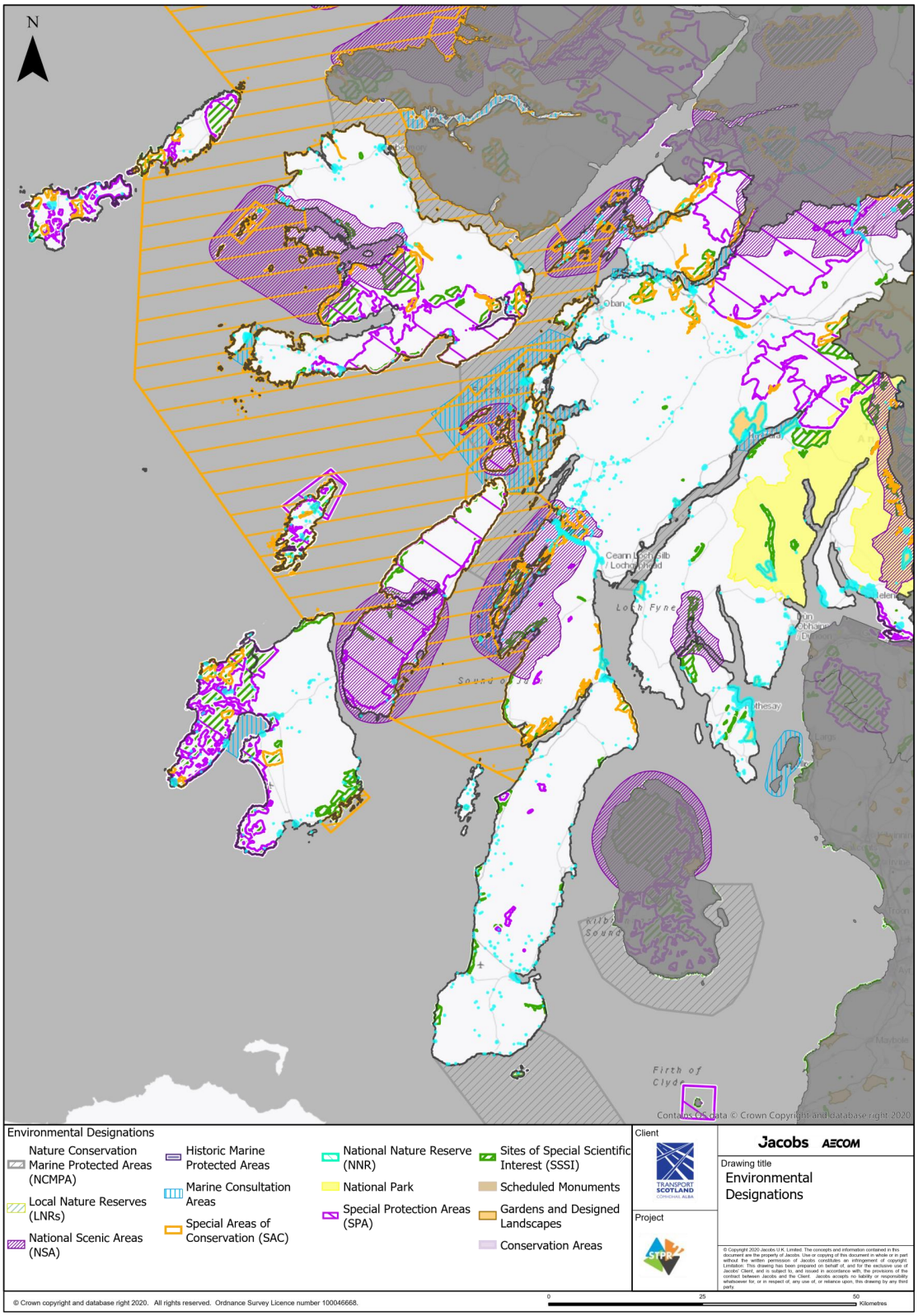

Figure 18: Environmental Designations for Argyll and Bute region

(click image to enlarge figure)

Scotland's noise map illustrates noise exposure from rail, road, air traffic and industry sources in response to the European Parliament and Council Directive for Assessment and Management of Environmental Noise 2002/49/EC. Scotland's strategic noise mapping represents step one in the process for managing environmental noise; with step two requiring competent authorities to prepare noise action plans in response. The latest mapping (Round 3 data[55]) mapped the following noise sources throughout Scotland: *"roads with more than 3,000,000 (three million) vehicle passages per year; major railways with more than 30,000 (thirty thousand) train passages a year; major airports with more than 50,000 (fifty thousand) movements; and transport sources and industry in qualifying agglomerations (urban areas with populations in excess of 100,000 (one hundred thousand): Aberdeen, Dundee, Edinburgh and Glasgow)"*[56].

Figure 19[57] illustrates the noise levels above 55 decibels (dB)[58] at specific points from modelled noise sources for the region, based on consolidated noise sources for the average day (Lday), evening (Levening) and night (Lnight) metric (referred to as Lden). 55 dB Lden is the EU indicator threshold for noise exposure defined in the Environmental Noise Directive (Directive 2002/49/EC)[59]. The figure shows limited modelled noise sources in the region due to its rural nature, with the only notable noise levels to be located in the south-east of the region, primarily associated with the A82 and A814; together with notable noise levels associated with the railway line south of Helensburgh.

[55] The noise mapping data is reviewed on a five year rolling programme. Round 3 is the latest 5 year update.
[56] Scottish Government, Scotland's Noise, https://noise.environment.gov.scot/index.html
[57] Based on data available from: https://noise.environment.gov.scot/index.html
[58] Only modelled noise levels above 55 dB have been included on the figure, in order to depict those noise levels with the greatest potential to cause annoyance to the population.
[59] Directive 2002/49/EC of the European Parliament and of the European Council, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0049&from=EN

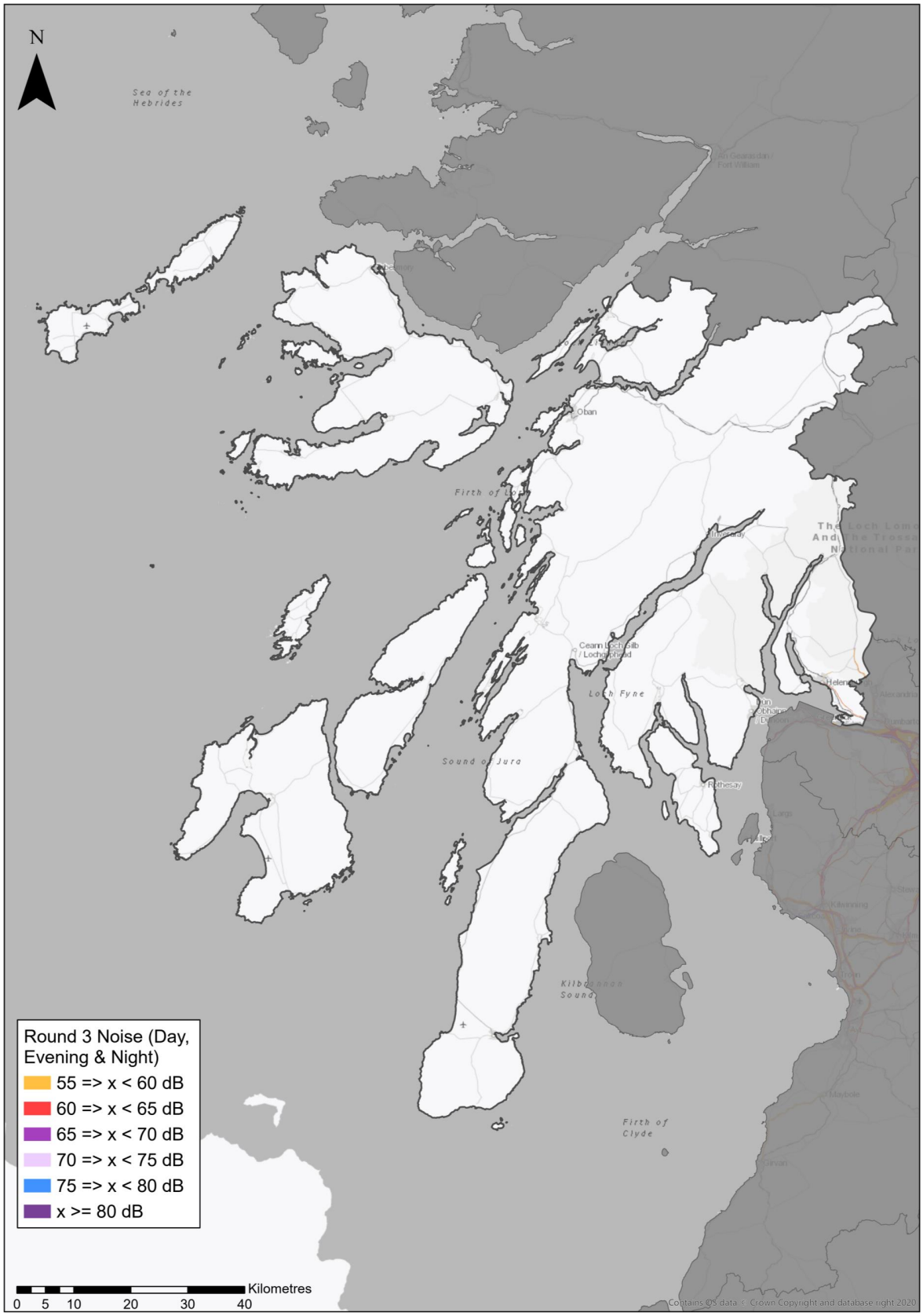

Figure 19: Noise Mapping for Argyll and Bute region
(click image to enlarge figure)

Scottish Environmental Protection Agency (SEPA) flood mapping identifies flood risk from river and coastal flooding at medium (1 in 200 year) and high (1 in 10 year) likelihood of flooding within the region, see Figure 20[60]. There are high number of areas at risk of coastal flooding throughout the region, however these tend to be localised in nature and away from major settlements. The highest risk of river flooding within the region is from rivers within the catchments of Loch Awe and Loch Lomond. The main receptors at risk include the settlement of Dalmally and road and rail infrastructure. There are also populated areas at high risk of fluvial flooding around the River Add in the vicinity of Bridgend.

Buried peats are an important carbon sink. More than 20% of Scotland is covered by peat soil; with soils representing over half of Scotland's terrestrial store of carbon.[61] Peat soils dominate the ground conditions throughout the region on the mainland and the islands. Figure 21[62] illustrates the distribution of carbon and peatland classes across the region with Classes 1 and 2 representing National important carbon-rich soils, deep peat and priority peatland habitat; Class 3 representing occasional peatland habitats with carbon-rich soils and some areas of deep peat; Class 4 representing predominantly mineral soils, unlikely to include carbon-rich soils; and Class 5 representing areas where no peatland habitat is recorded however soils are carbon rich and deep peat.

[60] SEPA (2021) https://map.sepa.org.uk/floodmap/map.htm
[61] NatureScot, Managing Nature for Carbon Capture, https://www.nature.scot/professional-advice/land-and-sea-management/carbon-management/managing-nature-carbon-capture
[62] Scottish Government, Scotland's Soils, Carbon and peatland 2016 map, https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/

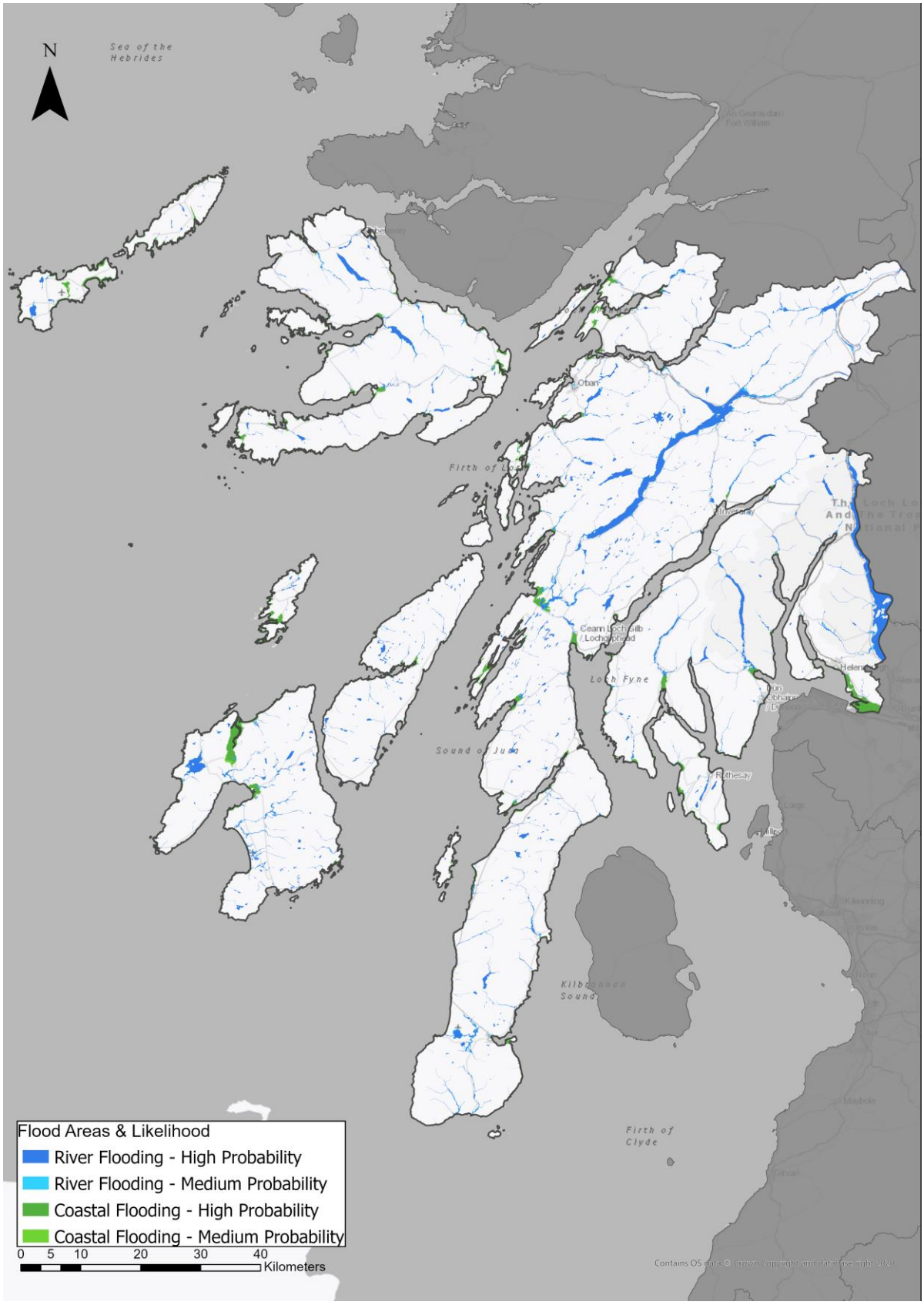

Figure 20: SEPA Flood Map for Argyll and Bute region

(click image to enlarge figure)

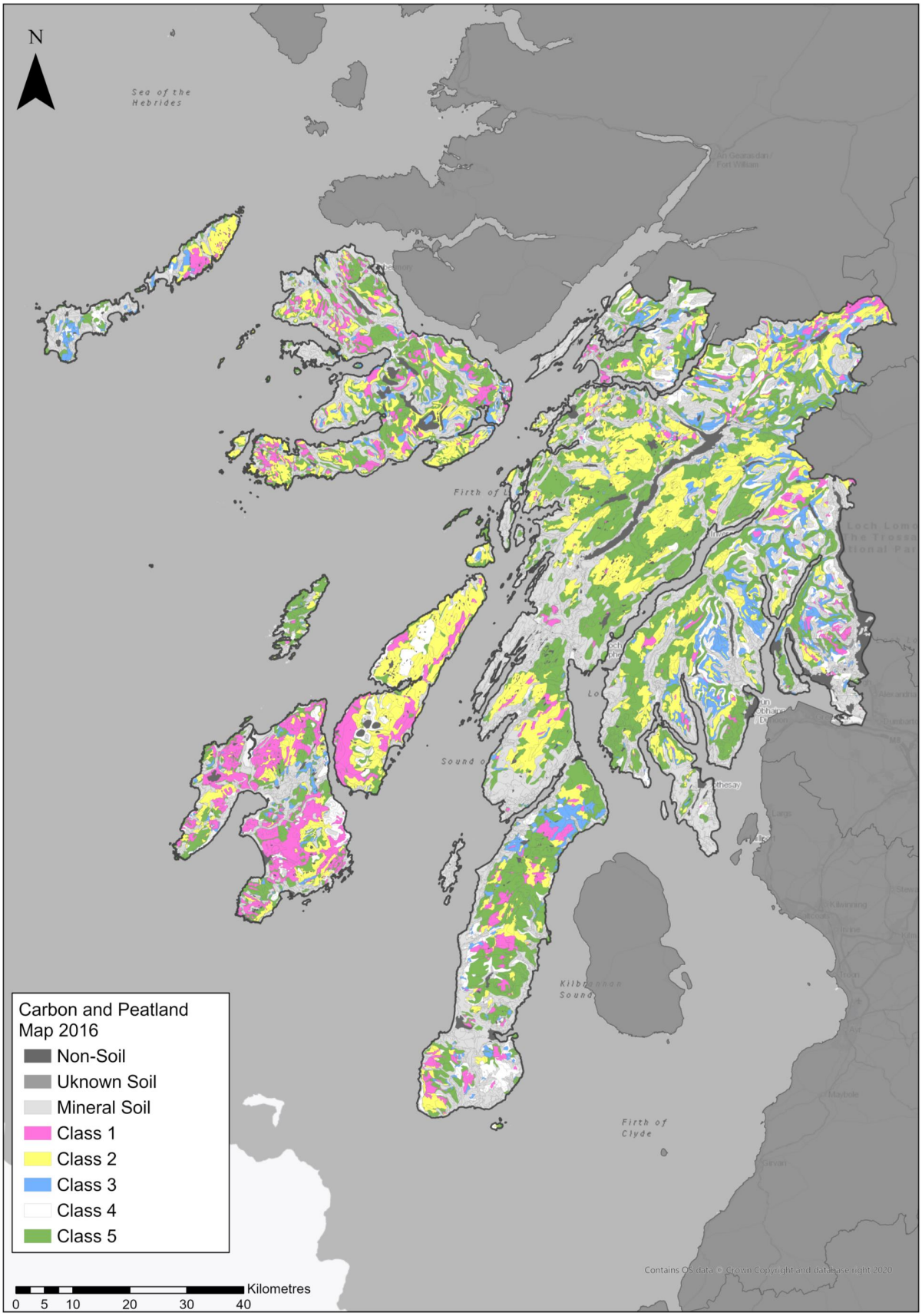

Figure 21: Carbon and Peatland Map for Argyll and Bute region

(click image to enlarge figure)

Due to the rural and coastal nature of the landscape, with a lack of densely populated urban areas, there are no Air Quality Management Areas (AQMAs) in the region.

Argyll & Bute has seen the largest fall in net CO_2 emissions of all local authorities since 2005, with 'land use and land use change and forestry' (LULUCF) offsetting a significant volume of its emissions. In 2018[63], transport emissions in Argyll & Bute made up over a third (37%) of the region's total emissions (excluding LULUCF), which was slightly less than the equivalent proportion at the Scottish national level (39%)[64].

Emissions from transport in 2018 are summarised in Table 1. This indicates that the Argyll & Bute region recorded slightly higher CO_2 emissions from transport per capita (2.3) relative to the Scotland National average (2.0), and that this equated to 1.8% of Scotland's total transport emissions overall[65].

Table 1: CO_2 Emissions Per Capita from Transport and Percentage of Scotland Total Transport-related Emissions [*]

Area	Per Capita Transport Emissions, 2018 (t) CO_2	% of Scotland Total Transport Emissions
Argyll & Bute region	2.3	1.8%
Scotland average	2.0	-

[*] Calculated based on total transport emissions per authority area.

2.5. Transport Context

Figure 22 shows the key transport network in the region. The transport network is wide-ranging, including rail stations, ferry links to, and between, the islands and peninsulas within the region, the trunk road network, and airports.

[63] Latest data available at this time

[64] UK Government, UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2018, 2020, https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018

[65] UK Government, UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2018, 2020, https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018

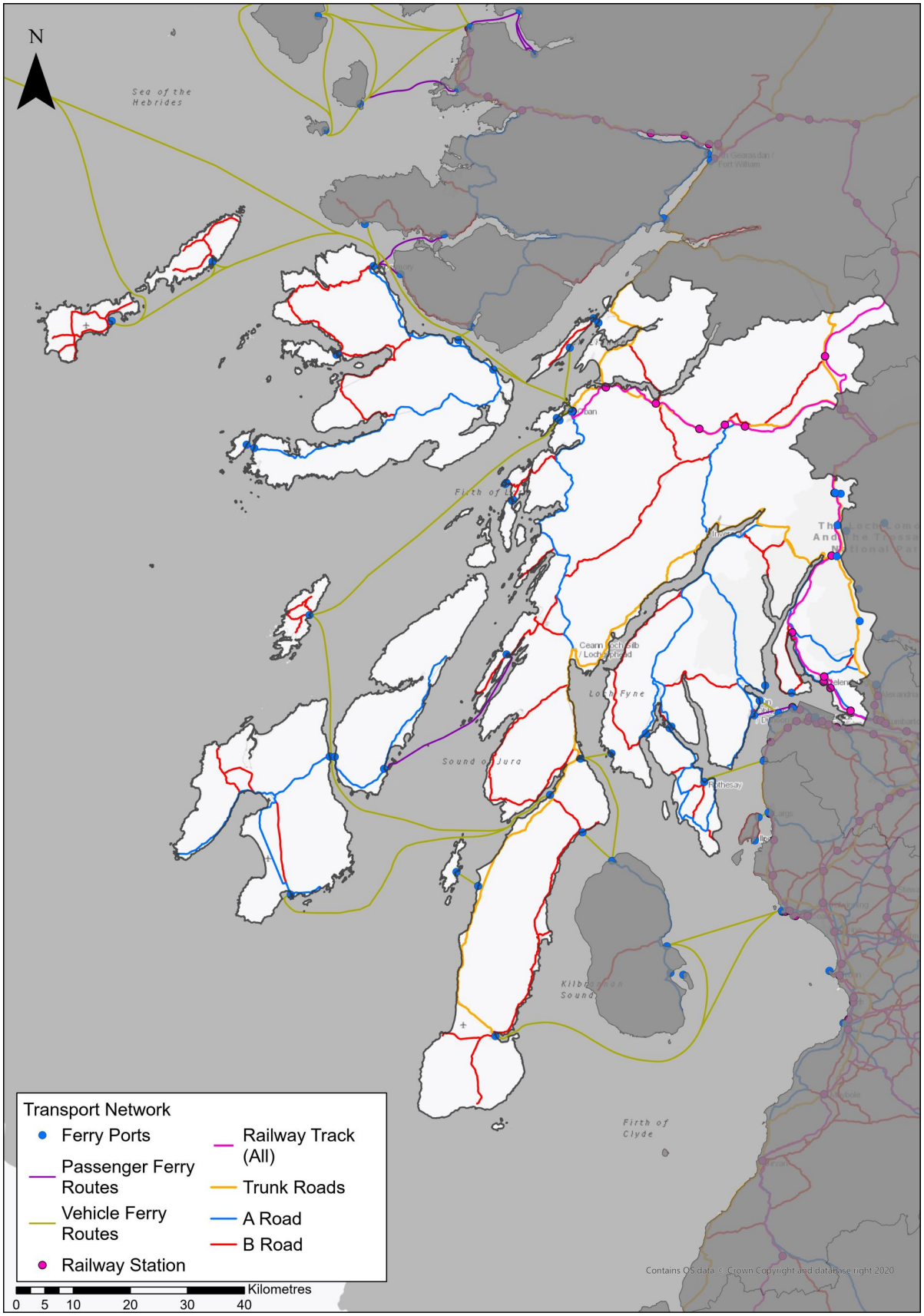

Figure 22: Argyll & Bute Transport Network

(click on image to enlarge figure)

2.5.1. Active Travel

The existing active travel network comprises 55 miles of National Cycle Network (NCN)[66], over 140 miles of recently declassified NCN routes, 30 miles of regional cycle network, 185 miles of long-distance walking routes[67] and 1,200 miles of core paths[68].

The Caledonian Way (former NCN Route 78) provides a long distance north-south link from Campbeltown to Oban, and onwards to Fort William and Inverness. Former NCN Route 75 provides an east-west link from Portavadie (linking to the Caledonian Way at Tarbert) to Dunoon and onwards to Glasgow. Both are well used routes for long-distance touring trips and for certain local community connections. They have been largely declassified as they are mostly on-road (in some cases on high-speed and narrow trunk road). Significant improvements have been made to sections of the Caledonian Way in recent years to provide an off-road path, which forms NCN Route 78.

The existing active travel network utilises the extensive ferry network to connect the different routes across the island and peninsulas of Argyll & Bute.

2.5.2. Bus

Over 60 services[69] (scheduled and demand responsive) operate within Argyll & Bute – a high proportion of which are subsidised. Scottish Transport Statistics contains information on bus demand for the 'region grouping' - Highlands, Islands and Shetland, which comprises Argyll & Bute along with Na h-Eileanan Siar, Highland, Moray, Orkney Islands and the Shetland Islands. This region has seen the greatest percentage reduction in bus demand, albeit from the lowest base, from circa. 14 million trips in 2007-08 to 10 million in 2018-19.[70].

There has been a general trend of decline in bus use nationally and this is reflected in Argyll & Bute. In 2019, approximately 5% of the population used the bus every day or almost every day, compared with over 8% at the national level[71].

2.5.3. Community Transport

Community Transport services operate in the region, assisting those with mobility problems, disability or isolation, allowing them to access key services including employment, education, health and leisure. Services are operated by a variety of providers (including the British Red Cross and certain Community Councils) within several areas within the region, including Mid Argyll and South Kintyre, areas of Cowal, Mull and Iona and the islands of Lismore and Bute[72].

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66 Sustrans, National Cycle Network, 2020, https://osmaps.ordnancesurvey.co.uk/ncn
67 Walkhighlands, Scotland's long distance walking routes, https://www.walkhighlands.co.uk/long-distance-routes.shtml
68 Argyll & Bute Council, Core Paths, https://www.argyll-bute.gov.uk/core-paths
69 Argyll & Bute Council, Timetables, https://www.argyll-bute.gov.uk/timetable/bus
70 Transport Scotland, Scottish Transport Statistics No. 38, 2019, https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/
71 Transport Scotland, Transport and Travel in Scotland 2019, 2019, https://www.transport.gov.scot/publication/transport-and-travel-in-scotland-2019-results-from-the-scottish-household-survey/
72 Argyll & Bute Council, Community Transport, https://www.argyll-bute.gov.uk/transport-and-streets/community-transport

2.5.4. Rail

The West Highland Line provides the sole rail link connecting the region to the central belt as well as Fort William and Mallaig in the Highlands[73]. There are 13 railway stations and 1 rail halt within the region – 6 on the section of the rail line between Crianlarich and Oban (Dalmally, Loch Awe, Falls of Cruachan (a rail halt open during the summer only), Taynuilt, Connel and Oban), 1 on the section of the rail line between Crianlarich and Fort William/Mallaig (Bridge of Orchy) and 7 on the section between Glasgow and Crianlarich (Cardross, Craigendoran, Helensburgh Central, Helensburgh Upper, Garelochhead, Arrochar & Tarbet and Ardlui).

A two-way total of twelve ScotRail services per weekday travel between Oban and Glasgow (Queen Street). The service allows people to be in Glasgow during normal working hours with the first service departing Oban between 05.15 and 05.30 and the last service departing Glasgow between 18:15 and 18:30 (arriving in Oban between 21:15 and 21:30).

Eight (two way) ScotRail services per weekday operate between Fort William/Mallaig and Glasgow (Queen Street), several of which combine with / separate from (at Crianlarich) services operating between Oban and Glasgow. The Serco Caledonian Sleeper Service also operates between Fort William and Glasgow (Queen Street) with 2 (2 way) services per day.

A total of fifteen services (2 way) per weekday operate between Helensburgh and Crianlarich, providing a largely half hourly service between Helensburgh Central and Glasgow (Queen Street), running from 06:00 to 00:30[74]. Figure 23 shows the passenger journeys with a start/end point in Argyll & Bute between 2007-08 and 2018-19[75].

[73] ScotRail, Route Information, 2020, https://www.scotrail.co.uk/scotland-by-rail/great-scenic-rail-journeys/west-highland-line-glasgow-oban-and-fort-williammallaig

[74] ScotRail timetable information, February 2020

[75] ORR, Annual estimates of the number of entries/exits and interchanges at each station in Great Britain Table 1415, 2018/2019, https://dataportal.orr.gov.uk/statistics/usage/estimates-of-station-usage

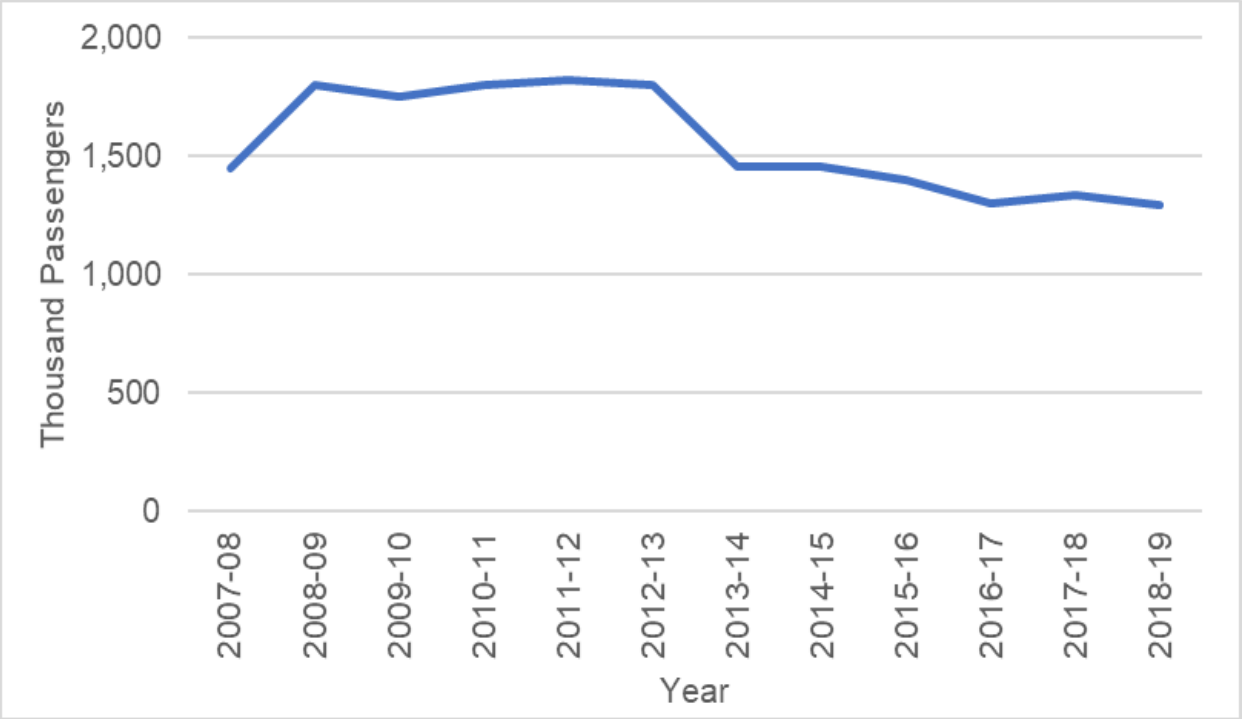

Figure 23: Rail Passenger Journeys, Argyll & Bute 2007-08 to 2018-19

Passenger journeys stayed fairly consistent from 2008-09 to 2012-13. Revisions to the methodology for estimating rail travel in certain regions (including Argyll & Bute), adopted by the Office of Rail Regulation (now Office of Road and Rail) in 2013--14, led to significant reductions in the overall number of journeys reported and their distribution[76]. Discussions with ScotRail have indicated that this was due to a change in the reporting methodology for SPT Zonecard season tickets at the end of the last franchise period (2014-15).

Starting from the new baseline in 2013--14, there has been a general downward trend in passenger journeys to 2018-19 of -11%, with passenger journeys in 2018-19 around 160 thousand below 2013-14 levels. This is against a backdrop of an increase in passenger journeys nationally of around 15% over the same period. Helensburgh Central serves the greatest number of passengers, with approximately 774,000 passengers in 2017-18. In 2018-19, the number of passengers had fallen to approximately 750,000.

The decline in station flow in the Argyll & Bute council area over this period was concentrated on the 3 stations which are on the North Electrics Line (Cardross, Craigendoran and Helensburgh Central). Work at Glasgow Queen Street during this period lead to a significant rescheduling of services, which may have affected demand.

[76] ORR, Regional Rail Usage Profiles (Passenger Journeys) 2013-14, January 2015, https://dataportal.orr.gov.uk/media/1128/regional-rail-usage-2013-14.pdf

2.5.5. Road

The road network within Argyll & Bute plays a vital role in supporting the local economy, facilitating the movement of people, goods and services throughout the area and connecting people with economic opportunities.

The strategic road network in Argyll & Bute consists of 296km of Trunk Road (A Roads) – making up 8.0% of Scotland's trunk roads[77]. The key north-south route is the A82 and this has 2 east-west connections – the A83 from Tarbet to Campbeltown, and the A85 from north of Tyndrum to Oban. The A828 provides a north-south connection from the A85 north of Oban to the A82 at Ballachulish in the Highlands.

Travel on the region's trunk roads rose steadily from 2012 to around 456 million vehicle km in 2018, as shown in Figure 24[78]. This equates to approx. 5.1% of the total distance travelled on rural trunk roads in Scotland in 2018.

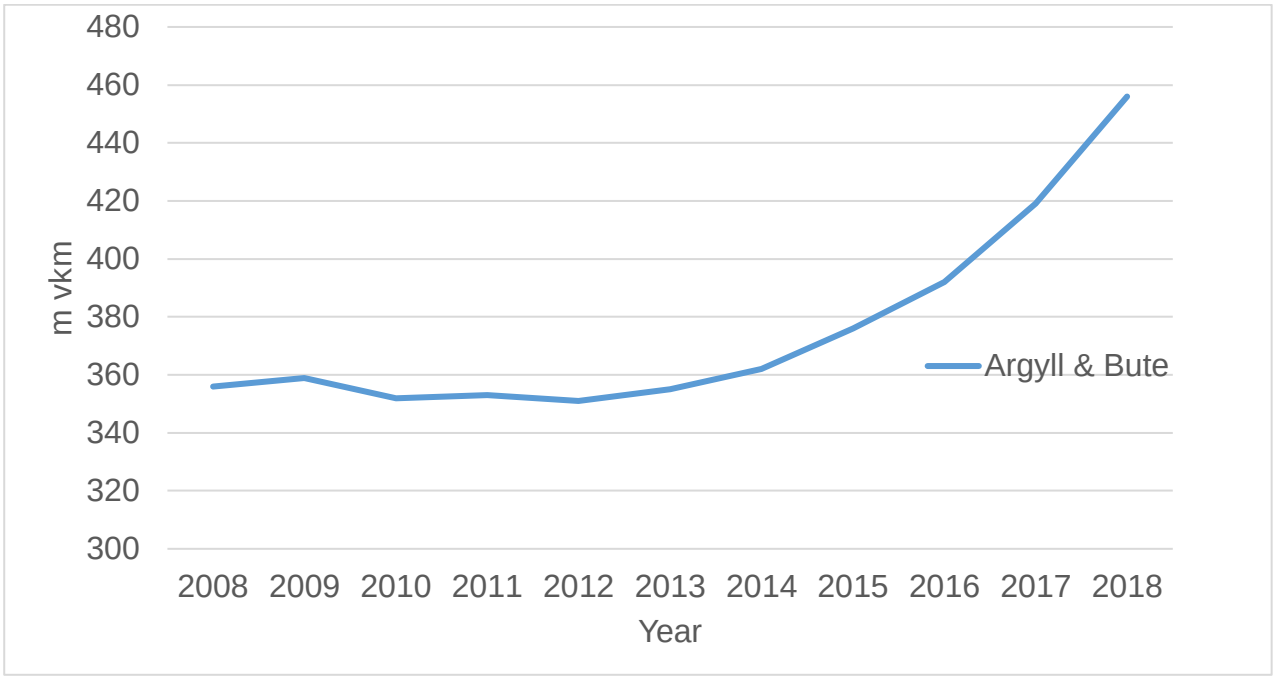

Figure 24: Traffic on the Trunk Road Network, Argyll & Bute 2008 – 2018

Traffic flows vary significantly across the region. Annual average daily traffic flow and HGV levels on the strategic trunk road network within the region in 2018 are shown in Table 2[79].

[77] Transport Scotland, Scottish Transport Statistics No. 38, 2019, https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/
[78] Transport Scotland, Scottish Transport Statistics No. 38, 2019, https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/
[79] Department for Transport, Road Traffic Statistics in Great Britain, 2018, https://www.gov.uk/government/statistics/road-traffic-estimates-in-great-britain-2018

Table 2: Argyll & Bute Trunk Road Flows and Percentage of HGVs

Route	Annual Average Daily Traffic Flow Range	Percentage HGVs
A82	Over 4,000 vehicles per day (vpd) north of Tarbet to 18,600 vpd north of Balloch (A82 / A811 Stoneymollan Roundabout)	4% to 7%
A83	2,300 vpd on the stretch between Campbeltown and Tarbert to 5,300 vpd west of Tarbet	7% to 10%
A85	4,600 vpd east of Connel to 8,900 vpd to the west of Connel	3% to 6%
A828	2,800 vpd near to the Argyll & Bute / Highland local authority boundary to 5,300 vpd north of Connel	3% to 6%

Travel routes to/from, and within, Argyll & Bute are highly seasonal, with greater volumes of people movements within the region during the summer months (predominantly as a result of increased visitor levels).

Significant volumes of road-based freight traffic use the trunk road network, providing the means to transport high value goods produced in the region, including seafood and whisky, to markets in central Scotland and beyond.

A summary of accident statistics for the trunk roads within the region, over the period 2014 to 2018, is presented in Figure 25[80].

[80] Department for Transport, STATS19 Road Safety Data, 2019, https://data.gov.uk/dataset/cb7ae6f0-4be6-4935-9277-47e5ce24a11f/road-safety-data

Based on the information presented in Figure 25, it can be seen that the total number of accidents occurring, per annum, on the key trunk roads within the region, over the period 2014 to 2018, has generally been reducing, suggesting an improving safety trend. More detailed examination of the data, however, suggests that while there has been a decrease in the number of slight accidents occurring per annum over the period examined (from between 63 and 70 accidents in 2014 / 2015 respectively, compared to 51 in 2018). The combined number of fatal and serious accidents occurring per annum has fluctuated between 20 and 31 accidents per annum over the period 2014 to 2018.

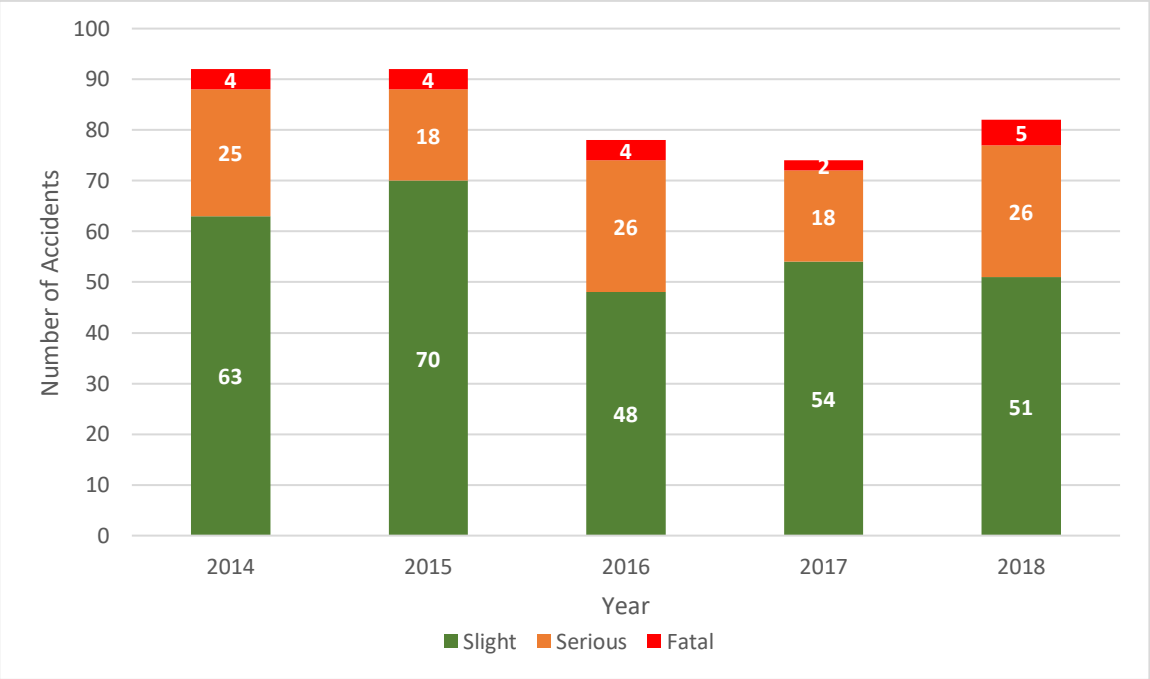

Figure 25: Key Trunk Road Accident Statistics, Argyll & Bute 2014 - 2018

2.5.6. Maritime

Given Argyll & Bute's geographical proximity to the coast, with its islands and peninsulas, ferry travel plays a vital role in the region's economy and transport system. Ferry services provide island communities with essential transport links to/from the mainland, inter-island connections and links with peninsulas. Most residents of islands and remote communities travel with a car on the ferry[81]. Where onward public transport connections are efficient, some residents travel as foot passengers on the ferry and make onward journeys with public transport.

There are 27 ferry routes operating in Argyll & Bute, 16 of which provide intra-regional travel and the remaining 11 inter-regional. Argyll & Bute Council operates 4 routes (Luing, Lismore, Jura and Easdale) with a further 18 routes operated by Caledonian MacBrayne. Western Ferries operates the service between Dunoon and Gourock. The remaining 4 routes are operated by small private operators, offering services to island communities in the region (Jura and Ulva) and Highland peninsulas (Ardnamurchan and Morvern). A range of other services are provided within the region, mostly on a seasonal basis, offering private charters for visitors.

Oban is a key port within Argyll & Bute and the wider region, with the ferry terminal

[81] Scottish Ferries Review Household Survey, 2009

providing access to 7 of the region's islands, as well as servicing inter regional travel to the Highlands and Islands. In 2018, ferry services to / from Oban carried in excess of 789,000 passengers[82] on 5 routes serving Mull, Coll, Tiree, Lismore, Colonsay and locations in Na h-Eileanan Siar. Other important harbours throughout the region, including Dunoon, Rothesay and Kennacraig play an equally important role in facilitating the movements of goods and people to and from the mainland and island communities. Rothesay and Kennacraig, carried in excess of 700,000 and 240,000 passengers in 2018, respectively. The privately-run ferry service operating between Dunoon and Gourock provides a key commuter linkage to the Glasgow City region. It is the busiest ferry route in Scotland (in terms of passengers and vehicles carried) with approximately 1.37 million passengers in 2018[83].

2.5.7. Aviation

Air services provide an alternative form of inter and intra-regional travel and play an important role in supporting some of the more remote communities in the region.

There are 6 airports within the Argyll & Bute region. The airports are owned and operated as shown in Table 3.

Table 3: Argyll & Bute Airports

Airport	Owned By	Operated By
Campbeltown	Machrihanish Airbase Community Company (MACC)	Highlands and Islands Airports Limited MACC Developments Ltd
Islay	Highlands and Islands Airports Limited	Highlands and Islands Airports Limited
Tiree	Highlands and Islands Airports Limited	Highlands and Islands Airports Limited
Oban	Argyll & Bute Council	Argyll & Bute Council
Coll	Argyll & Bute Council	Argyll & Bute Council
Colonsay	Argyll & Bute Council	Argyll & Bute Council

Services from Islay and Tiree connect the islands to the mainland and, along with Campbeltown, provide connections with the Central Belt. Airport terminal passenger numbers for these 3 airports, for the period 2008 to 2018, are presented in Figure 26[84]. Some freight services are also provided from these airports.

[82] Transport Scotland, Scottish Transport Statistics No. 38, 2019, https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/
[83] Transport Scotland, Scottish Transport Statistics No. 38, 2019, https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/
[84] Transport Scotland, Scottish Transport Statistics No. 38, 2019, https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/

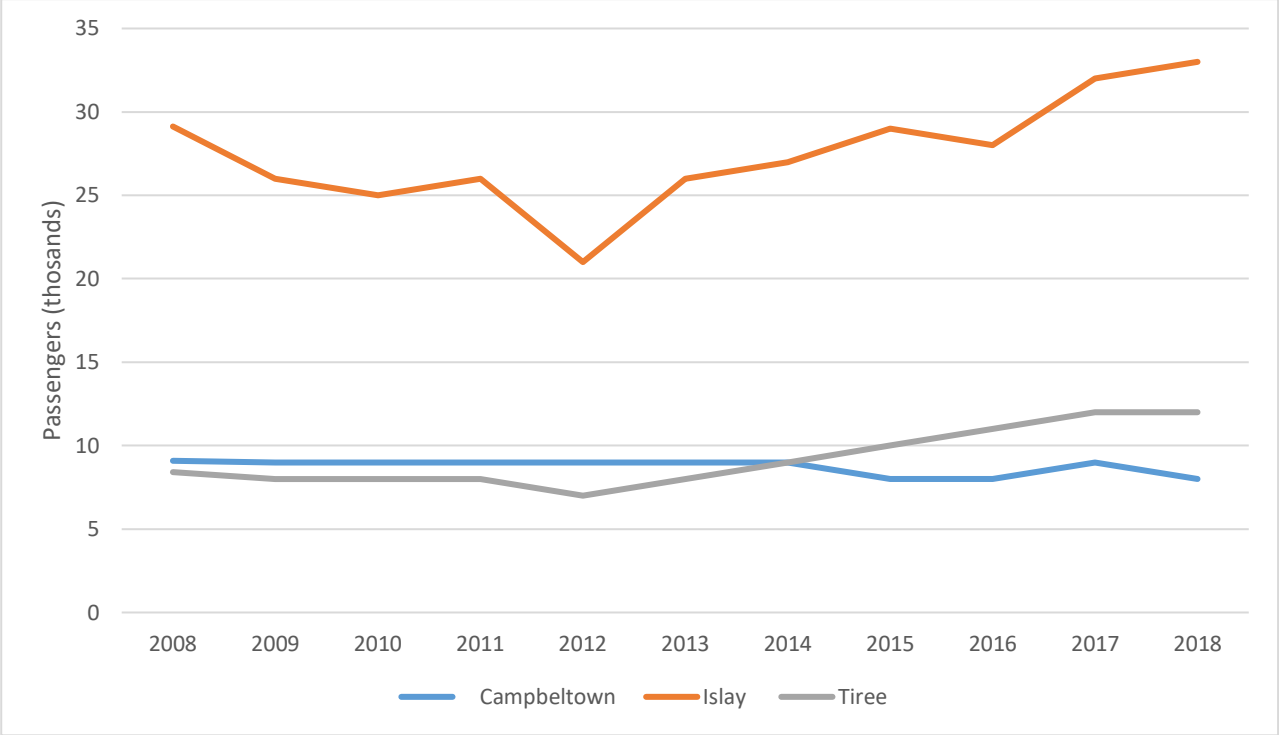

Figure 26: Campbeltown, Islay and Tiree Air Terminal Passenger Numbers 2008 – 2018

Several intra-regional services operate via the airport at Oban. Argyll & Bute Council supports 3 Public Service Obligations (PSO) contracts, providing pupils from Coll, Colonsay and Tiree with improved access to education opportunities in Oban. Seat occupancy levels on these flights are about 40% and consideration is being given to improving service utilisation.

2.6. Context Summary

The key points to note from the context review are:

- Argyll & Bute has a decreasing and ageing population. 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. One in 5 residents are limited by their disability during day-to-day activities. The region has a large number of patient referrals – more than half of which are to hospitals in the NHS Greater Glasgow and Clyde area.
- The region contains around 1.6% of the Scottish population and contributes a similar proportion to the Scottish GVA. The region's economy is predominantly service -based and tends to be heavily influenced by sectors with lower growth. In 2017, the largest industry employer was Administration & Defence. Tourism is increasingly forming a significant part of its economy.
- Employment in the region is relatively high (compared with the national average), however, the region has high levels of underemployment. The average gross weekly pay is around 20% lower than the national average.

- Areas within the 5 main towns (Helensburgh, Oban, Dunoon, Campbeltown and Rothesay) are amongst the 15% most overall deprived data zones in Scotland. The region suffers low levels of geographic access to services with over a third of zones in the region (predominately located outside the main towns) within the 15% most access deprived data zones in Scotland. Transport expenditure in the region is slightly greater than the UK average and is likely to be linked to the travel distances involved and lower income levels. The region has a relatively high percentage of children living in poverty (after housing costs).
- More than 80% of the working population (in 2011), worked within the region. Given the remote nature of the region, people either tend to work locally (including at home) or are required to travel long distances.
- A high proportion of the region's working population walk to their place of work – 15% compared with 10% nationally. A high proportion of homes in the region have access to a car (77% compared with 69% nationally). Travelling to work by car is by far the highest mode share in the region (at 59%). At 3%, bus usage in the region for travelling to work is well below the national level (10%).
- Argyll & Bute has seen the largest fall in net CO_2 emissions of all local authorities since 2005, with 'land use and land use change and forestry' (LULUCF) offsetting a significant volume of its emissions. In 2018, transport emissions in Argyll & Bute made up over a third (37%) of the region's total emissions (excluding LULUCF), which was slightly less than the equivalent proportion at the Scottish national level (39%).
- The policy framework applicable to the region aims to address the problems that face the region. It has a strong emphasis on attracting additional skills, training & learning opportunities, new residents, visitors & businesses; along with aspirations to grow the economy by making more of its natural and built resources and in connecting high value business sectors with national and international markets.
- The transport network is wide-ranging, including, rail stations, ferry links to, and between, its islands and peninsulas within the region, the trunk road network, and airports. Bus usage is low with both bus and rail patronage declining in the region. There is a high dependency on the private car and the distance travelled on the region's roads is increasing.

3. Problems & Opportunities

3.1. Approach to Problem and Opportunity Identification

Deriving transport-related problems and opportunities is a critical element of the Initial Appraisal: Case for Change. They are identified from a range of sources including a review of existing policy and strategy documents, data analysis and extensive stakeholder engagement. This Chapter sets out the problems and opportunities in the Argyll & Bute region and details the approach to their identification. Note that local problems and opportunities have been considered in the analysis to gain a full understanding of the regional issues, but options to address these may not be within the scope of this strategic study.

3.1.1. Data Analysis

A wide range of data sources and policy documents have been used to identify problems and opportunities in the region.

Analysis of the data has also enabled problems and opportunities identified through stakeholder engagement (as shown in Figure 27) to be evidenced to understand the real and perceived nature of feedback and comments raised. Sources of analysis have included primary data such as transport infrastructure provision and accident data, as well as data gathered from relevant reports and studies in the region. Key findings from the data analysis are presented below, to evidence the problem and opportunity themes set out.

3.1.2. Stakeholder Engagement

Stakeholder engagement is an important element in the identification of problems and opportunities. For the Argyll & Bute region this has consisted of:

- **Problems and Opportunities Workshops** held in Helensburgh, Dunoon, Tarbert and Oban with stakeholders during May / June 2019;
- **Intervention Workshops** held in Lochgilphead and Arrochar with stakeholders during November 2019 to generate potential interventions which may address the identified problems and opportunities;
- **Structured Interviews** with Argyll & Bute Community Planning Partnership, businesses and other interested parties;
- **Elected Member Workshops** held specifically for the region's Elected Members in June and November 2019;
- An **Online Survey** carried out between 2nd December 2019 and 10th January 2020 for the public and organisations to provide their views on transport issues and challenges in their day to day journeys,
- **Regional Transport Working Group meetings**: meetings with representatives from Transport Scotland, Argyll & Bute Council, HITRANS, SPT, Loch Lomond and the Trossachs National Park Authority, Scottish Enterprise and Highlands and Islands Enterprise, and;
- **Schools engagement** has been undertaken across the country, with secondary pupils from high schools in Lochgilphead, Tarbert and Campbeltown involved in an exercise to consider the transport problems and opportunities in their area and to develop this into a transport plan setting out a range of potential interventions.

Details of the stakeholder events can be found in Appendix C.

Figure 27: Stakeholder Engagement

3.2. Problems & Opportunities

Based on the activities described above, the following transport-related problems and opportunities have been identified for the Argyll & Bute region. Evidence to support the themes listed below is provided in this section.

- Connectivity
- Travel times and reliability
- Resilience
- Safety
- Sustainable travel & the environment

3.2.1. 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 by stakeholders to be constraining growth in the region. When rail, ferry or road connections are severed, the impact on residents, visitor and businesses tend to be more severe due to the lack of alternative transport options.

In Business Panel surveys conducted by Highlands and Islands Enterprise in Autumn 2019[85], businesses were asked the extent to which a series of factors present a risk to their business within the next year or two. “Poor transport links” were ranked third, after “political and economic uncertainty” and “increased costs”.

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[86].

The pace at which digital connectivity is being rolled out across the region is acting as a barrier in reducing the need to travel and is considered to be constraining productivity[87]. Digital connectivity is outwith the scope of STPR2, but is reported due to its significance to Argyll & Bute.

The difficulties of completing a practical working day in cities was highlighted during stakeholder engagement, with the availability and timing of public transport services deemed to limit opportunities for those living and working in Argyll & Bute. It was felt that opportunities for residents and businesses to do business, attend meetings and courses, or participate in other activities across Scotland was hampered by the services available.

[85] HIE, Business Panel Survey Wave 13, 2019, https://www.hie.co.uk/media/6321/hieplusbusinesspluspanelplussurveyplus-plusplanningplusforplustheplusfutureplus-plusreport.pdf

[86] Argyll & Bute Council, Rural Growth Deal, Argyll the Natural Choice, 2018, https://www.argyll-bute.gov.uk/sites/default/files/Unknown/138022_text.pdf

[87] Argyll & Bute Council, Rural Growth Deal, Argyll the Natural Choice, 2018, https://www.argyll-bute.gov.uk/sites/default/files/Unknown/138022_text.pdf

Active Travel

There are gaps in the existing network with most of the existing cycle network in Argyll & Bute shared with vehicles, and often on narrow local roads. This results in a lack of dedicated, direct walking and cycle links between and within communities, and trip attractors/generators therein, and is therefore a clear deterrent to the use of the existing walking and cycle network especially for those less confident and less able users. Although these also provide opportunities for leisure trips, and in some cases connect to the wider NCN, the regional routes do not yet provide a fully joined up network.

Limited facilities on-board public transport and at trip-ends e.g. suitable capacity for cycle parking and storage are considered by stakeholders to be constraining active travel in the region.

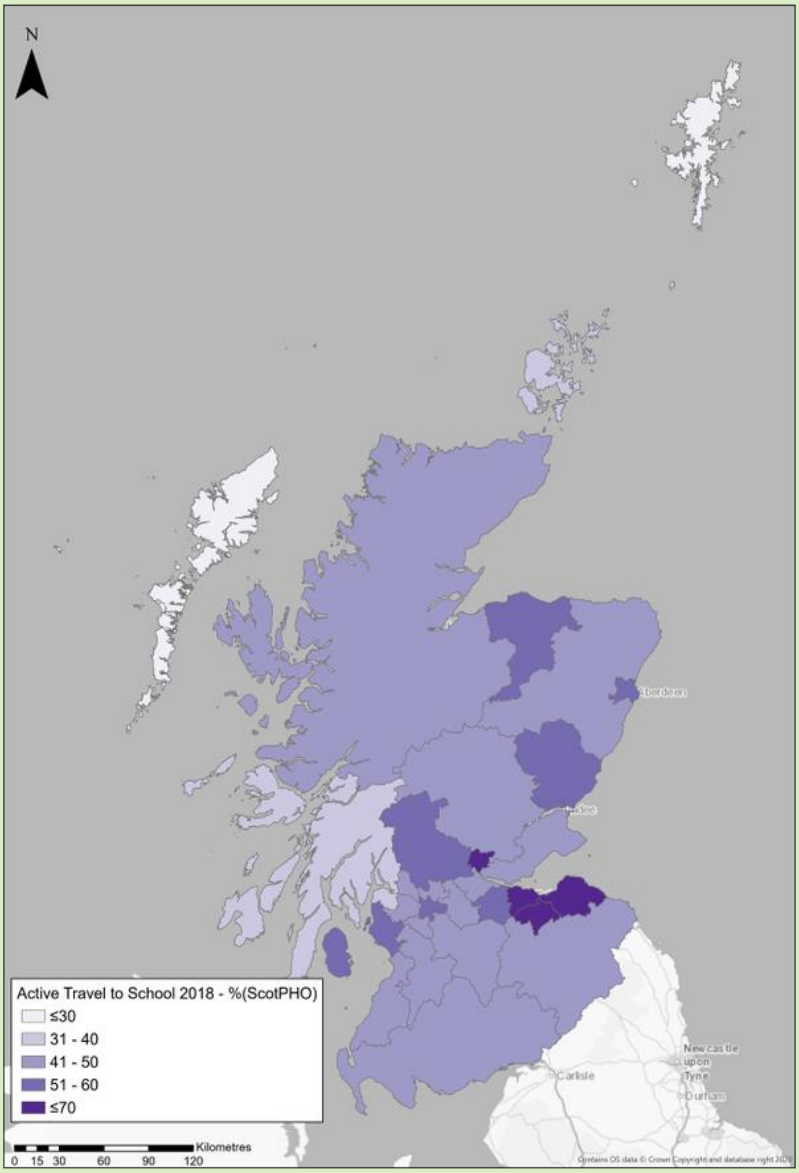

Figure 28: Active Travel to School 2018

(click image to enlarge figure)

Local active travel measures to, and within, the key settlements are not attracting cycling trips to/from school (as indicated in Figure 28) This indicates that the proportion of active travel to school in the region in 2018 was lower than elsewhere in the country.

Bus

Stakeholder feedback has indicated that bus service provision can fall short of residents' needs with, for example, limited options available for evening travel or attending events in the region. Given the remote nature of the region, and the low population density, some bus services are likely to be lightly used and not considered commercially viable by the private sector without financial support. It should be noted that revenue funding is outwith the scope of STPR2.

Some bus services between the main towns in the region do not provide a direct service, requiring interchange between 2 or more services, e.g. Campbeltown to Oban. This adds to journey times and the perception of how well areas are connected. Typical journey times between the main towns in the region by bus (compared with the private car) are as shown in Table 4[88].

Table 4: Typical Road Journey Times by Bus vs Car (Intra-Regional)

	Dunoon	Lochgilphead	Helensburgh	Oban
Campbeltown	3 ¾ hrs (+1 hr)	1 ¾ hrs (+½ hr)	4 ½ hrs (+1 ¾ hrs)	4 ¼ hrs (+2 ¼ hrs)
Dunoon		2 ¼ hrs (+¾ hr)	3 hrs (+1 ½ hrs)	3 ¼ hrs (+1 ¼ hrs)
Lochgilphead			2 ¾ hrs (+1 ¼ hrs)	1 ½ hrsD (+½ hr)
Helensburgh				3 ¼ hrs (+1 ¼ hrs)

Notes:
1. Values in brackets indicate additional time by bus compared with the private car
2. D indicates a direct service, i.e. no changes of service involved in trip

Rail

There is only 1 rail line in the region - the West Highland line, which connects the region to the central belt and Mallaig in the Highlands. There is no rail connection serving Kintyre, Mid Argyll or Cowal which, combined with the lack of direct bus service provision (see Table 4 above), adds to a reliance on the private car.

Road

The strategic trunk road network in Argyll & Bute is predominantly single carriageway, comprising a single route between Argyll & Bute and the central belt (A82) and 2 east-

88 Google Maps

west connections – one from the A82 to Oban (A85) and the other from the A82 to Campbeltown via Lochgilphead (A83). The A828 connects Oban to the A82 in the Highlands.

Accidents or incidents (e.g. roadworks, land-slips, flooding) occurring on any part of the strategic road network in Argyll & Bute can effectively cut off parts of the region for a period, significantly impacting residents, business and visitors due to the significant length of alternative routes and the travel times involved.

Dunoon (2016 population of 7,800) and Campbeltown (2016 population of 4,700) are situated on the Cowal and Kintyre peninsulas respectively. Their geographic location is such that the time taken to reach the town by road is disproportionately long when considered in relation to their direct line distances from other areas.

Key roads on the islands in the region tend to be single track with passing places – many of which struggle with the increased levels of visitor demand, particularly during the summer months.

Due to the region's topography, some local roads in the region perform intra-regional functions. These include connections to ports, providing resilience in the event of trunk road closure and supporting the transport of freight movements.

Maritime

Ferry services can struggle to cope with the competing demands of residents, business and the increased demand resulting from the growing popularity of Scotland's rural areas and islands as tourist destinations. There were almost 2.7 million visitors to the region in 2017 (an increase of almost 38% on 2010 levels)[89]. Stakeholders have indicated that the impact of the Road Equivalent Tariff (RET) is also considered a factor in increasing demand levels. Information from Transport Scotland indicates that even with 2 dedicated vessels operating a full timetable across the summer (including an increased frequency of service when compared to summer 2015), the service to Mull experienced high utilisation with the increased demand, and while the current vessels (MV Isle of Mull and MV Coruisk) continue to cover the route, high levels of unsatisfied car demand exist.

Stakeholders have raised concerns with connectivity to/from the islands, including comments on ferry service frequency and the suitability of vessels. Poor connectivity to the islands is seen as a constraint on local economies.

Comments were received from stakeholders on the timing of some services as these can provide a barrier to employment by preventing a full day's work on the mainland. The last ferry from Oban to Mull, for example, is at 16:00 on 3 of the 5 working days (Monday, Wednesday and Thursday). It is not possible to make a day trip to Oban by ferry from Coll, Tiree and Colonsay (or in the other direction).

Significant volumes of goods, primarily whisky, is transported via ferry from the ports on Islay. This is a significant growth market for the region and it is anticipated, with the continuing popularity of tourism, and the forecast to increase whisky production on the

[89] Argyll & Bute Council, Argyll and Bute in Numbers, 2019, https://www.argyll-bute.gov.uk/sites/default/files/Unknown/argyll_and_bute_in_numbers_v6_0.pdf

island by 33% in the next 3 years[90], the conflicting needs of visitors and freight traffic will be further exacerbated.

Aviation

It is felt by stakeholders that the lack of good connectivity from Argyll & Bute by air to the central belt and Na h-Eileanan Siar is a barrier to healthcare access and realising potential tourism benefits in north west Scotland. Services connecting Glasgow with Islay, Tiree and Campbeltown only allow 4 to 6 hours in Glasgow on any day, with travellers from Tiree having the least time available. Aviation is outwith the scope of STPR2, but is reported due to its significance to Argyll & Bute.

Digital

Digital connectivity in the region is currently lower than the national average, with limited access to high speed broadband.

Broadband connection details for Argyll & Bute in the context of all local authorities are presented in Figure 29[91]. This indicates that almost a quarter (24%) of premises in the region do not have access to high speed broadband (at least 30 Mbit/s), and that average broadband speeds in Argyll & Bute are the sixth slowest in the country at 34.3 Mbits/s.

Argyll & Bute is also poorly served in terms of mobile phone and 4G coverage[92]. Poor digital connectivity could reduce the take-up of innovative transport technology, e.g. Mobility as a Service (MAAS), smart ticketing and autonomous vehicles. This could result in further access deprivation and inequality in the region. Digital connectivity is outwith the scope of STPR2, but is reported due to its significance to Argyll & Bute.

[90] The Herald, Ferry crisis sparks call for new freight service to Islay, 2019, https://www.heraldscotland.com/business_hq/17906968.ferry-crisis-sparks-call-new-freight-service-islay/

[91] Ofcom, Connected Nations, 2019, https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2019/data-downloads

[92] Argyll & Bute Economic Forum, Argyll & Bute Economic Forum Report, 2016, https://www.argyll-bute.gov.uk/sites/default/files/argyll_report_260216-v2.pdf

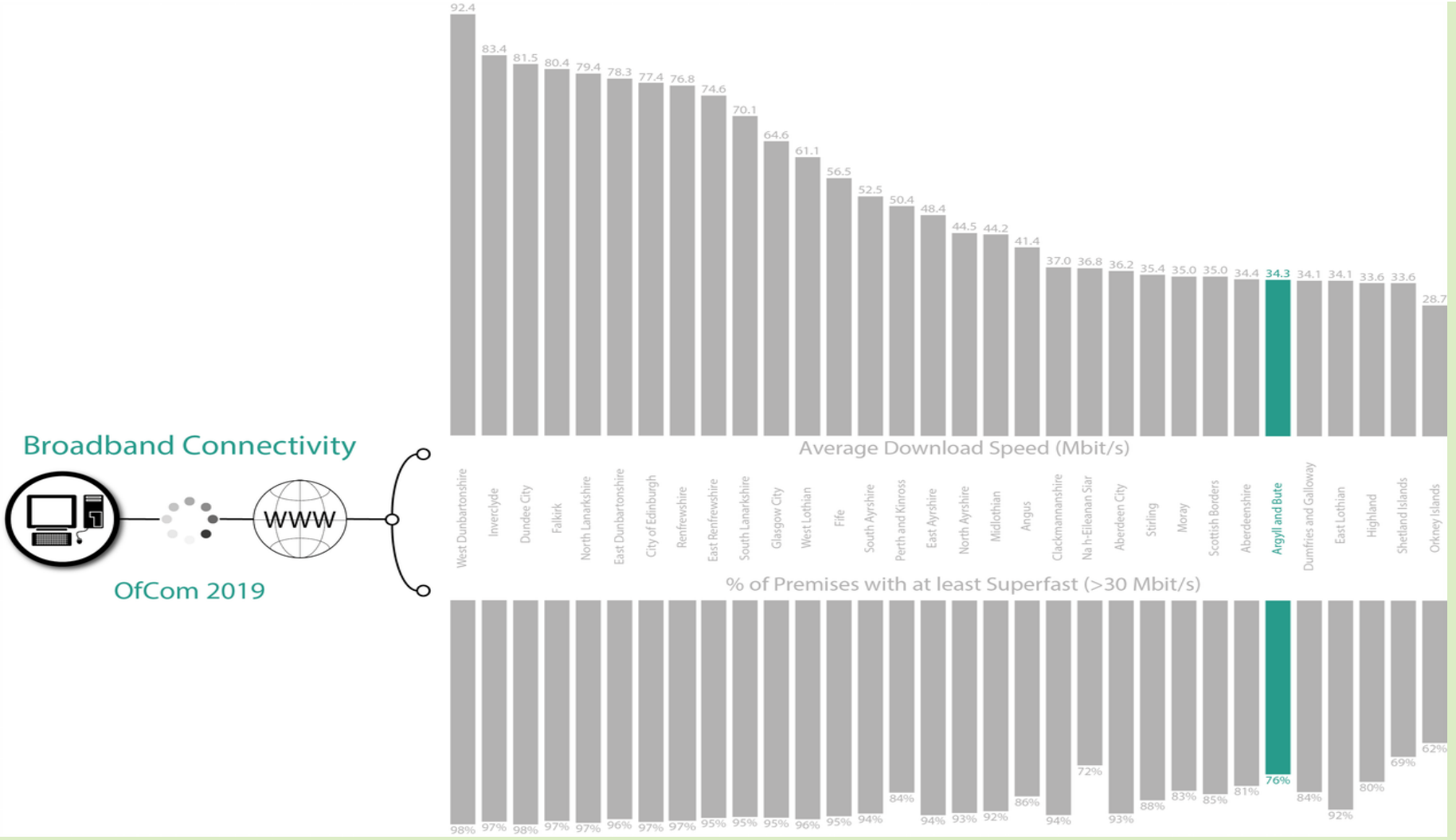

Figure 29: Broadband Connection (Argyll and Bute vs all Local Authorities) 2019

TRAVEL TIMES AND RELIABILITY

Stakeholder feedback indicates that 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 conditions on the transport network (such as on roads and/or ferries) to worsen 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[93].

Accessibility analysis was undertaken using TRACC - a multi-modal travel time analysis tool. Utilising public transport network data, public transport timetable data and active travel network data, the tool was used to calculate public transport and active travel journey times to / from key origins and destinations. These journey time thresholds (isochrones) were then used to calculate the population within this area. The population data used was 2011 Census Output Area populations. Journey times to the nearest town in the region by public transport are shown in Figure 30, where dark red areas signify up to 20 minutes and cream signifies up to 3 hours. White areas indicate where journey times are in excess of 3 hours or cannot be made.

[93] Argyll & Bute Council, Rural Growth Deal, Argyll the Natural Choice, 2018, https://www.argyll-bute.gov.uk/sites/default/files/Unknown/138022_text.pdf

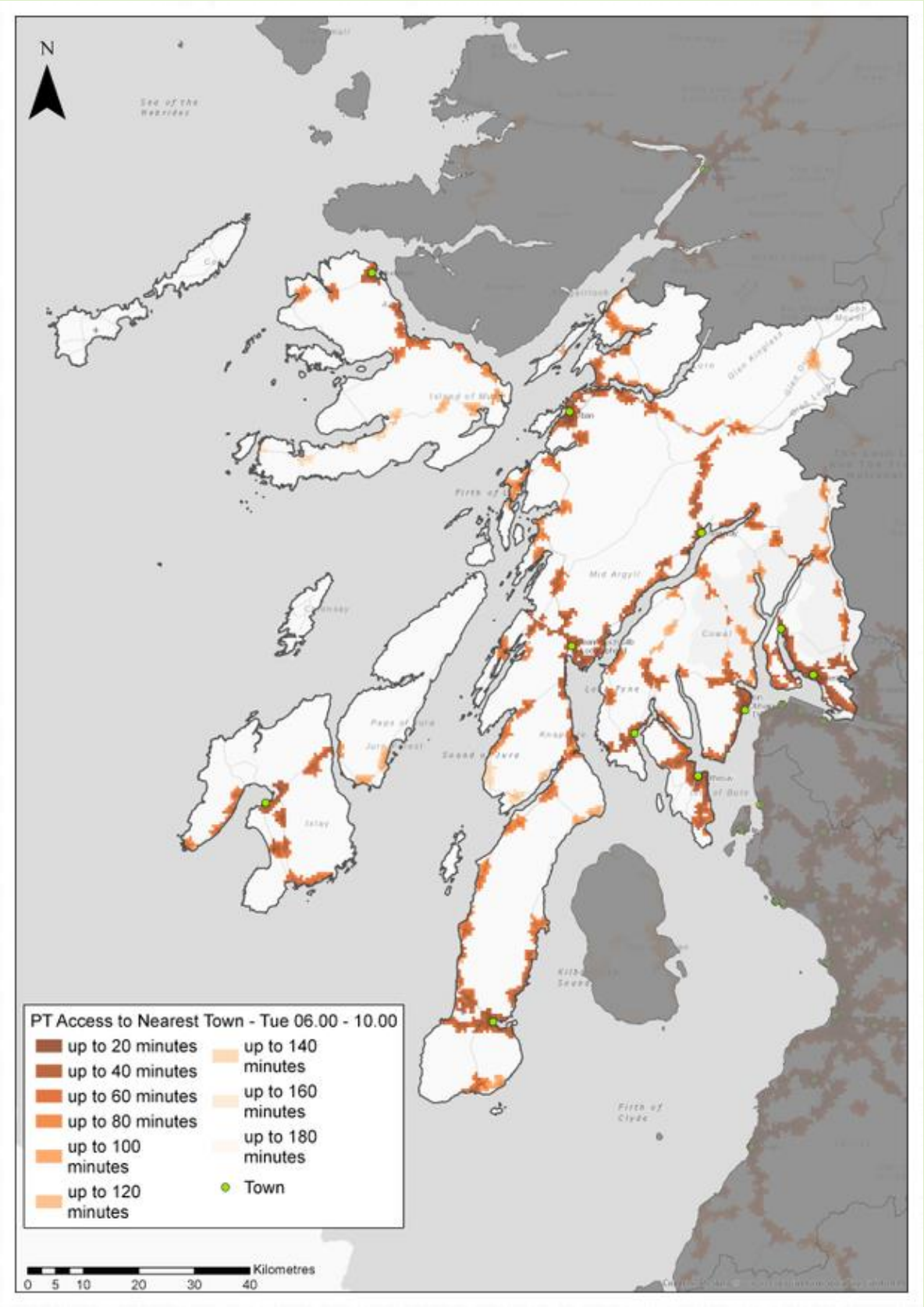

Figure 30: Public Transport Access to Towns (on a typical Tuesday 06.00 – 10.00)

(click image to enlarge figure)

Bus

Bus journeys tend to be disproportionately longer than the equivalent journey time by car. Typical bus journey times between Oban and the closest major cities (compared with car travel) are presented in Table 5[94] below.

Table 5: Typical Bus vs Car Journey Times from Oban (Inter-Regional)

	Glasgow	Edinburgh	Stirling
Bus	3 hrs	4 ½ hrs	5 hrs
Car	2 ½ hrs	3 hrs	2 ¼ hrs
Difference	½ hr	1 ½ hrs	2 ¾ hrs

Making the above trips by bus rather than car can add 30 mins to 2 ¾ hours onto journey times. Stakeholder feedback also highlighted a dissatisfaction with the frequency and reliability of bus services.

Rail

Rail journeys tend to be disproportionately longer than the equivalent journey time by car. Typical rail journey times between Oban and the closest major cities (compared with car travel) are presented in Table 6[95] below.

Table 6: Typical Rail vs Car Journey Times from Oban (Inter-Regional)

	Glasgow	Edinburgh	Stirling
Train	3 hrs	5 hrs	4 hrs
Car	2 ½ hrs	3 hrs	2 ¼ hrs
Difference	¾ hr	2 hrs	1 ¾ hrs

Making the above trips by train rather than car can add 45 mins to 2 hours onto journey times.

Only 49% of rail services arrive/terminate at Helensburgh Central (the busiest station in the region) on time with a Public Performance Measure (PPM) of around 86%[96].

This compares with Oban, where around 65% of services arrive/terminate on time (PPM of around 79%). Across the wider network in the north of Scotland, around 81%, 62%, 61% and 60% of services arrived/terminated on time at Mallaig, Inverness, Kyle of Lochalsh and Wick stations respectively, with corresponding PPMs in the order of 78% to 87%[97].

Single track formations on the West Highland Line and approaches to Helensburgh are constraints on capacity. Reliability issues are exacerbated by signalling faults and

[94] Google Maps
[95] Google Maps
[96] PPM measures the percentage of booked services which arrive within 5 minutes of their booked arrival time, having called at all booked stations along the route.
[97] ScotRail, Performance Update, July/August 2020, https://www.scotrail.co.uk/sites/default/files/assets/download_ct/20200828/VTGmWQNDeZY01EQ6uiA6Bu7-8eoFSyvTA4TKw-d5RkM/performance_update_26july-22august.pdf

other problems, such as track circuit failure due to the sea wall at Craigendoran.

Delays to rail services can lead to missed connections and/or appointments, the impact of which stakeholders report can be reasonably significant given the frequency of public transport services in the region.

Road

Due to the geography and topography of the region, seasonal fluctuations in traffic volumes and the presence of slow-moving vehicles[98], travel times by road between the key main towns / cities can be long relative to the distances involved. Typical travel times are shown in Table 7[99] below.

Table 7: Typical Road Journey Times between Key Main Towns and Settlements, (Intra and Inter-Regional)

	Dunoon	Lochgilphead	Helensburgh	Oban	Glasgow	Edinburgh
Campbeltown	2 ¾ hrs	1 ¼ hrs	2 ¾ hrs	2 hrs	3 ½ hrs	4 ¼ hrs
Dunoon		1 ½ hrs	1 ½ hrs	2 hrs	1 ½ hrs	2 ½ hrs
Lochgilphead			1 ½ hrs	1 hr	2 hrs	3 hrs
Helensburgh				2 hrs	½ hr	1 ½ hrs
Oban					2 ½ hrs	3 hrs

Routes within the region experience an increase in traffic volumes and slower moving vehicles (e.g. caravans, motorhomes) during the peak summer period due to the attractiveness of the region to day trippers and tourists. This can make journey times longer and less reliable.

Maritime

During the winter period (22nd Oct 18 to 28th Mar 19) of the circa 39,000 scheduled sailings on Caledonian MacBrayne routes, with an origin or destination port within the Argyll & Bute region, over 800 were delayed[100] (equating to approx. 2%).

The Oban to Craignure (Mull) route reported the greatest number of delayed services, with approximately 180 scheduled sailings (around 12% of scheduled sailings on the route) delayed. The Oban to Colonsay route had the highest proportion of delayed scheduled sailings with almost a third (29%), equating to around 40 sailings, delayed. Approx. 10% of scheduled sailings on the Kennacraig to Islay routes (which are key for

98 Argyll & Bute Council, Rural Growth Deal, Argyll the Natural Choice, 2018, https://www.argyll-bute.gov.uk/sites/default/files/Unknown/138022_text.pdf
99 Google Maps
100 Argyll Ferry Stakeholder Group Report, Winter 2018/19

the movement of whisky exports), were delayed (equating to around 90 sailings). In terms of delays to scheduled sailings operating between the islands and the mainland, 19% (around 10 sailings) to Tiree and 18% (around 30 sailings) to Coll were delayed.

Delays were also reported on inter-island services, including 24% of services between Islay and Colonsay (around 10 sailings) and 4% of services operating between Coll and Tiree (around 10 sailings).

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[101]. Stakeholders indicated that disruption on the transport network can lead to missed appointments and adversely affect patients' health and wellbeing.

Rail

Stakeholders indicated that cancellations to rail services are not infrequent and can occur for a variety of reasons. Examples of cancelations include landslip (April 2017), track default (January 2018), urgent repairs (April 2018), signalling fault (July 2018) and fallen trees obstructing the line (January 2020). Flooding in mid-2019 resulted in the closure of a section of the West Highland rail line for over 3 weeks, impacting journeys in and out the region.

Whilst replacement bus services are typically provided in such cases, this can lead to missed connections and/or appointments. Stakeholders report that the impact of late arrivals can be reasonably significant given the frequency of public transport services in the region.

Road

The A83 is a vital artery running through Argyll. The A83 Rest & Be Thankful is widely known to suffer from the effects of weather-related events, such as flooding and landslips. The road was closed for several days in 2014 following a landslip, then again in 2016 for safety reasons. The road was closed for 9 days in late 2018, and closed again on 2 instances, in August and September 2020 (for periods of 34 and 10 days respectively) due to major landslips.

The 'Old Military Road' was upgraded in 2013 for use as an alternative route to the A83 in the event of closures due to incidents and landslips, although it may not always be feasible to open this road due to safety concerns. In such instances, closure of the

[101] HIE, Argyll and Bute Transport Connectivity and Economy Report, 2016, https://www.hie.co.uk/media/6412/argyllplusandplusbuteplustransportplusconnectivityplusandpluseconomyplusresearchplus-plusreport.pdf

A83 at The Rest & Be Thankful can add up to 60 miles (adding over an hour) to journeys for road users. Closures can have a more severe impact on residents who want to make shorter journeys from one side of the Rest & Be Thankful to the other (such as Inveraray residents wanting to access services in Dumbarton or Helensburgh).

The A83 route is known to carry goods of significant value to both the regional and national economy (including whisky and seafood) and is a key transport corridor for the region. Anecdotal evidence suggests closures and restrictions costs the local economy £50k-£60k per day[102] and impacts on business investment within the region and, subsequently, the region's job market.

Maritime

Ferry services can be disrupted by adverse weather conditions and operational issues, and the lack of interoperability within the ferry network can have an adverse impact on its resilience. Island communities are reliant on transport links for fuel and fresh produce and service interruptions, especially during winter months, which can cause hardship.

Information from Transport Scotland[103] indicates that during the winter period (22 Oct 18 to 28 Mar 19), around 2,480 scheduled sailings on routes operated by Caledonian MacBrayne, with an origin or destination port within the Argyll & Bute region were cancelled (equating to approx. 6%). The Oban to Castlebay / Lochboisdale route had the highest proportion of scheduled sailings cancelled (approx. 25%), equating to around 100 sailings. Approx. 9% of scheduled sailings (around 80 sailings) on the Kennacraig to Islay routes (which are key for the movement of whisky exports), were cancelled.

The Gourock to Dunoon route reported the highest number of cancellations, with approximately 570 scheduled sailings (around 7%) cancelled[104]. Examples of service cancellations affecting island communities are:

Services between islands and the mainland

- Oban to Coll - 19% (around 40 sailings)
- Oban to Colonsay - 15% (around 20 sailings)

Inter-island services

- Fionnphort to Iona - 10% (around 230 sailings)
- Coll and Tiree - 15% (around 30 sailings)
- Islay and Colonsay - 23% (around 10 sailings)

[102] The Sunday Post, we can't rest and we have nothing to be thankful for, Argyll traders call for a solution to A83 closures that cost up to £6000 a day, 2018, https://www.sundaypost.com/fp/we-cant-rest-and-we-have-nothing-to-be-thankful-for-argyll-traders-call-for-solution-to-a83-closures-that-cost-up-to-60000-a-day/

[103] Argyll Group - Ferry Stakeholder Group Report –Winter 2018/19

[104] Clyde Group - Ferry Stakeholder Group Report –Winter 2018/19

ROAD SAFETY

As outlined in Figure 31, there are a number of locations along the trunk road network that have concentrations of fatal and serious accidents. In addition, there are parts of the road network with poor mobile coverage and this presents a potential safety and security risk to road users.

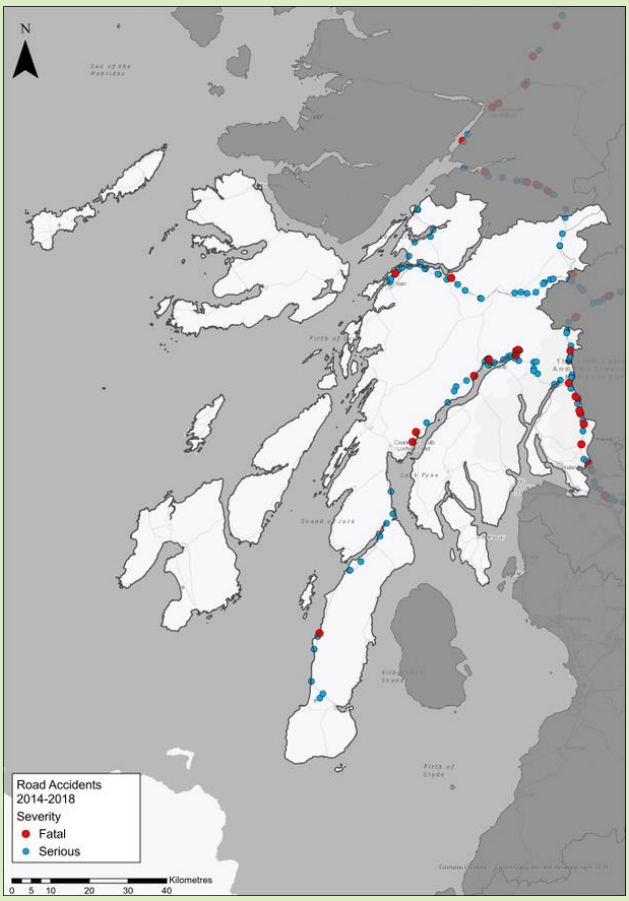

Figure 31: Argyll & Bute Trunk Road Serious and Fatal accidents, 2014-18

Road Accidents

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[105], 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). The location of these are shown in Figure 31.

Over a third of the KSIs (approx. 37%) occurred on the A83, with around 31% on the A82 and 27% on the A85.

[105] Department for Transport, STATS19 Road Safety Data, 2019, https://data.gov.uk/dataset/cb7ae6f0-4be6-4935-9277-47e5ce24a11f/road-safety-data

Whilst not part of the trunk road network, the A816 links Lochgilphead and other settlements along the A83 with Oban. Over the period 2014 to 2018, 16 KSIs (3 fatal and 13 serious) occurred on this route. Similar accident numbers (i.e. 20 KSIs - 2 fatal and 18 serious) occurred on the A815 route that links the A83 with Dunoon.

The higher proportion of KSI accidents on sections of the road network within Argyll & Bute can lead to a number of temporary road closures, with diversion routes often being significantly longer and of a differing standard to the intended route. This can result in drivers travelling on less familiar routes, and in some cases, the diversion routes available are unsuitable for larger vehicles.

Non-motorised usage of the trunk road network in the region is relatively low, however this cannot be avoided in some locations, due to the limited availability of both on-road and off-road active travel infrastructure. In the period 2014 to 2018, 45 cyclists / pedestrian casualties occurred on the trunk road network, including 1 fatality and 5 serious injuries (on the A83), 4 serious injuries (on the A85) and 1 serious injury (on the A828).

Mobile Coverage

There is a lack of 4G mobile network coverage across the Argyll & Bute region, which can have an effect on actual and perceived personal security on the transport network.

The available information indicates that no reliable 4G signal is available across approximately 18% of the major road network[106]. This is the highest of all local authority areas and compares with values of approximately 18% in Na h-Eileanan Siar.

A 4G signal is only available from all operators across approximately 17% of the major road network. This is the lowest across all local authority areas, with the exception of Na h-Eileanan Siar (approximately 13% coverage).

Online Survey: Reported Problems in the Argyll & Bute Region

As part of the wide-ranging engagement exercise undertaken for STPR2, an online survey was promoted to collect the views from the public and organisations across Scotland on the transport issues and challenges that impact their day to day journeys. As part of the survey, respondents were asked to rank their top 3 priority problems.

Top ranking problems for the Argyll & Bute region (as a whole) included:

- **Roads – Quality of roads infrastructure**, which **35** respondents ranked within their top 3 and **17** ranked as their top priority;
- **Ferry – Reliability of ferry services**, which **25** respondents ranked within their top 3 and **18** ranked as their top priority;
- **Roads – Network resilience (availability of suitable diversionary routes)**, which **16** respondents ranked within their top 3 and **7** ranked as their top priority.

Other commonly raised areas of concern related to the frequency and reliability of bus services, integration between different modes of transport safe overtaking opportunities

[106] Ofcom, Connected Nations, 2019, https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2019/data-downloads

and digital connectivity.

Considering Argyll & Bute island respondents only, the top-ranking problems included:

- **Ferry – Reliability of ferry services**, which **7** respondents ranked within their top 3 and **7** ranked as their top priority;
- **Cycle – Availability of safe cycling infrastructure**, which **6** respondents ranked within their top 3 and **2** ranked as their top priority;
- **Ferry – Connectivity to the Scottish mainland**, which **4** respondents ranked within their top 3 and **1** ranked as their top priority.

Other commonly raised areas of concern related to capacity on board ferries, frequency of ferry services, quality of roads infrastructure and resilience / adaptability of transport infrastructure to the effects of climate change.

The findings from the survey have been used to inform and validate the identification of the transport related problems described in this section.

3.2.2. Opportunities

This section provides a summary of key opportunity themes identified for the Argyll & Bute region.

SUSTAINABLE TRAVEL AND THE ENVIRONMENT

The rural nature of the area coupled with a lack of suitable public transport alternatives can lead to reliance on the private car.

Excluding 'land use and land use change and forestry' offsetting, Argyll & Bute (in 2018) recorded slightly higher CO_2 emissions from transport per capita relative to the Scotland National average with transport emissions in the region making up over a third (37%) of its total emissions[107]. While emissions in Argyll & Bute make up a small proportion (1.8%) of Scotland's total transport emissions[108], there are opportunities for the region to contribute positively to the country's ambitious statutory targets to tackle the global climate emergency.

Reduce the Need to Travel

Given the potential for longer distance travel in the region (e.g. 1 in 10 people travel 30km or more to their place of work[109]), improving on-line access to employment and education opportunities could help to reduce travel in the region. Better integration between transport and land-use planning could also help to reduce travel.

In considering such opportunities, it is important not to lose sight of the potential consequential impacts that reducing travel demand could have on the viability of public transport services in the region and on personal mental health/wellbeing through the

[107] UK Government, UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2018, 2020, https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018

[108] UK Government, UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2018, 2020, https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018

[109] NRS, Census 2011 (Scotland), 2011, https://scotlandscensus.gov.uk/

SUSTAINABLE TRAVEL AND THE ENVIRONMENT

potential reduction of social interactions.

Shift to More Sustainable Modes of Transport

Private car use for travelling to work is by far the highest mode share in the region (58%) with low levels of trips made by bus (3%) and cycle (1%)[110]. With almost a quarter (24.5%) of people travelling less than 2km to their place of work[111], opportunities exist to promote and enhance the uptake of more sustainable travel modes and / or active travel opportunities around the key settlements.

Better integration between transport and land-use planning also has the potential to lead to shorter distance trips that can be made more easily by walking, cycling and public transport. Improvements to the regional and national active travel network could help encourage sustainable tourism.

The Argyll & Bute region comprises areas of outstanding natural beauty – a significant draw for visitors to the area. Increasing sustainable travel options to / from, and within, the region provides an opportunity to continue growing visitor numbers while minimising the associated impact of transport-based emissions on local communities and the environment.

The Timberlink programme involves transporting timber from Campbeltown, Ardrishaig and Sandbank across the Firth of Clyde by boat to processors in Ayrshire via Troon Harbour, taking lorry traffic off rural trunk roads[112]. The coastal nature of the region provides opportunities to move freight from road haulage to water-based transport.

Decarbonisation of the Transport System

Given the high levels of travel in the region, coupled with the anticipated growth in key sectors including Marine Sciences, Forestry, Tourism, Aquaculture, and the wider Food and Drink sector[113], there is an opportunity in Argyll & Bute to contribute towards climate change targets by reducing the consumption of fossil fuels from the transport system.

Further decarbonising transport fleets present further opportunities to move towards Net Zero, with the alternative fuelled movement of people and goods offering an opportunity to reduce transport emissions.

Renewable Energy

Argyll & Bute has an abundance of wind, water and wave energy[114], which if harnessed and managed correctly, could be used to support sustainable transport.

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110 NRS, Census 2011 (Scotland), 2011, https://scotlandscensus.gov.uk/
111 NRS, Census 2011 (Scotland), 2011, https://scotlandscensus.gov.uk/
112 Scottish Forestry, Timberlink, https://forestry.gov.scot/forestry-business/timber-transport/timberlink
113 Argyll & Bute Council, Rural Growth Deal, Argyll the Natural Choice, 2018, https://www.argyll-bute.gov.uk/sites/default/files/Unknown/138022_text.pdf
114 Argyll & Bute Council, https://www.argyll-bute.gov.uk/planning-and-environment/renewable-energy

3.2.3. Future Conditions

The problems and opportunities identified above are focused on the transport system pre COVID-19, drawing on the findings from data analysis and engagement. Given the timescales for the delivery of STPR2, there is a need for 'horizon scanning' to better understand how potential future uncertainties could impact the operation and management of the transport network, a knowledge of which will support the identification of interventions that are resilient in the face of potential alternative futures. This process of scenario planning will consider major transport disrupters and uncertainties and is accordingly being carried out at a national level for the STPR2 programme as a whole.

For the Argyll & Bute region[115], a review of the national transport model, the Transport Model for Scotland (TMfS), has been undertaken to inform the Case for Change. The current version is TMfS14 which was calibrated and validated using available data for 2014. Note that modelling does not consider any impacts of the COVID-19 pandemic. Assuming current policies remain in place and no interventions beyond those already committed will be undertaken, the model suggests that between 2014 and 2037 the following may occur[116].

- Road Traffic (billion vehicle miles p.a.): a 36% increase in the region, slightly lower than the national growth of 37%.
- Road Congestion (PM Peak Delay seconds/mile): 58% increase in the region, much greater than 37% rise across Scotland
- Bus Passenger mileage forecasts: 2% increase, higher than the national decline of 5%
- Rail Passenger mileage forecast: 28% increase compared to a 42% rise across Scotland

While these projections need to be treated with some caution given the uncertainties around future travel behaviours brought about by COVID-19 and other potential future uncertainties, it is clear that there are major challenges ahead which STPR2 must respond to if the transport sector is to play its role in supporting the Scottish Government to meet its Net Zero emission target.

Other uncertainties in the region concern the future impacts of the Road Equivalent Tariff (RET) and the impacts of the emerging Argyll & Bute Council Rural Growth Deal on the transport network in the region.

3.3. Summary

This Chapter has discussed the transport problems and opportunities in the Argyll & Bute region informed through data analysis, stakeholder engagement and policy review and set in the socio-economic, geographic, transport and environmental context of the region. These inform the themes and objectives which any interventions should look to address.

Key problem themes are:

- **Connectivity (transport):** The lack of a good standard of transport infrastructure and public transport provision is considered by stakeholders to be constraining growth in

[115] Forecasts include the Highland, Argyll, Moray & Islands sub national area
[116] Transport Scotland, Transport Forecasts, 2018, https://www.transport.gov.scot/media/43316/transport-forecasts-2018.pdf

the region. When rail, ferry or road connections are severed, the impact on residents, visitor and businesses tend to be more severe due to the lack of alternative transport options. The transport options for taking visitors from the bus stop, rail station, ferry port or airport the final mile to their destination is also considered to be poor.

- **Connectivity (digital):** The pace in which digital connectivity is being rolled out across the region is acting as a barrier in reducing the need to travel and is considered to be constraining productivity.
- **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 conditions on the transport network (such as on roads and/or ferries) to worsen 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:** The lack of alterative travel options and/or competitive routes when there is disruption on the transport network, i.e. accidents, incidents (related to weather, operational issues, etc) can have a significant impact on residents, businesses and visitors when it occurs.
- **Road safety:** Sections of the trunk road network within the region have a higher propensity for more serious accidents to occur. This can lead to temporary road closures often resulting in road users taking diversion routes that are significantly longer and of a differing standard to the intended route. Additionally, parts of the road network have poor mobile coverage, presenting a potential safety and security risk to road users.

Opportunities exist around the following:

- **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 unsustainable travel, supporting a shift towards more sustainable modes of transport and decarbonising the transport system.

4. Transport Planning Objectives

4.1. National and Regional Objectives

Transport Planning Objectives (TPOs) are of central importance to the STAG process. In line with STAG, TPOs should express the outcomes sought by the study, be based on a comprehensive understanding of problems and opportunities and lend themselves to clear and transparent appraisal of transport options. They will be a key appraisal tool from initial option identification and sifting through to full scheme appraisal and subsequent monitoring / evaluation.

For STPR2, TPOs have been developed to sit at a national level, supported by regional sub-objectives. At a national level, an overarching set of programme-level TPOs have been established which are closely aligned with the vision, 4 priorities, 12 outcomes and 14 policies contained within NTS2. The TPOs are presented in Table 8 below.

A series of regional sub-objectives sit within the overall direction of the national TPOs but with a focus on the specific evidence-based problems and opportunities for the Argyll & Bute region. The national TPOs and regional sub-objectives are presented in Table 8 detailed below. Table 9 shows how the problem and opportunity themes identified for the Argyll & Bute region map to these objectives.

Table 8: National Objectives and Regional Sub-Objectives

STPR2 OBJECTIVES	REGIONAL SUB-OBJECTIVES
A sustainable strategic transport system that contributes significantly to the Scottish Government's Net Zero emissions target	▪ *Reduce the consumption of fossil fuels from the strategic transport system in Argyll & Bute and support a shift to more sustainable modes of transport, including shared transport* ▪ *Increase the share of active travel to, within and through the main settlements in the region for everyday journeys* ▪ *Increase the share of public transport to, within and through the main settlements in the region by providing viable alternatives to single occupancy private car use* ▪ *Reduce emissions generated by the strategic transport system*

An inclusive strategic transport system that improves the affordability and accessibility of public transport	▪ *Increase public transport share by improving the connections at transport interchanges, and recognising needs of remote communities* ▪ *Improve mobility and inclusion, recognising the needs of remote communities in Argyll & Bute, and disadvantaged and vulnerable users* ▪ *Reduce transport poverty in Argyll & Bute with a focus on increasing travel choice in the top 15% most access deprived zones in Scotland* ▪ *Reduce the reliance on private car for access to key centres for healthcare, employment and education, with a focus on shared transport in targeted areas*
A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing	▪ *Reduce the adverse impacts of the strategic transport system, on communities by embedding place-making principles in the strategic transport system* ▪ *Increase the share of active travel to, within and through the main settlements in the region for shorter, everyday journeys to key attractors* ▪ *Reduce demand for unsustainable travel arising from nationally significant growth areas, taking cognisance of the emerging NPF4*
An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland	▪ *Increase sustainable access to labour markets and key centres for employment, education and training* ▪ *Increase competitive transport access between Argyll & Bute and key markets, by reducing costs and improving journey time reliability for commercial transport between Argyll and the central belt* ▪ *Increase resilience of accesses to key domestic and international markets to encourage people to live, study, visit and invest in Argyll & Bute* ▪ *Increase the mode share of freight by sustainable modes, by improving the sustainable intra and inter region movement of goods on, and between, the mainland and islands*

A reliable and resilient strategic transport system that is safe and secure for users	▪ *Improve travel times and reliability on the transport system in Argyll & Bute, taking cognisance of the potential for future growth in key sectors, including marine sciences, forestry, tourism, aquaculture, and the wider food and drink sector* ▪ *Improve resilience from disruption on the strategic transport system in Argyll & Bute to strengthen connectivity within, and to/from, the region* ▪ *Reduce transport related casualties in line with reduction targets, with a particularly focus on the A82, A83 and A85* ▪ *Improve resilience through climate change adaptation within the management and maintenance of Argyll & Bute's strategic road, rail, ferry and aviation infrastructure* ▪ *Improve actual and perceived personal security on the transport system, particularly on parts of the transport network with poor mobile coverage*

Table 9: Mapping of Problem and Opportunity Themes to Transport Planning Objectives

STPR2 Objectives	Regional Sub-Objectives	Themes				
		Connectivity	Travel Times and Reliability	Resilience	Road Safety	Sustainable Travel and the Environment
A sustainable strategic transport system that contributes significantly to the Scottish Government's Net Zero emissions target	Reduce the consumption of fossil fuels from the strategic transport system in Argyll & Bute and support a shift to more sustainable modes of transport, including shared transport					■
	Increase the mode share of active travel to, within and through the main settlements in the region for shorter, everyday journeys					■
	Increase the mode share of public transport to, within and through the main settlements in the region by providing viable alternatives to single occupancy private car use	■				■
	Reduce emissions generated by the strategic transport system					■
An inclusive strategic transport system that improves the affordability and accessibility of public transport	Increase public transport mode share by improving the connections at transport interchanges, and recognising needs of remote communities	■				■
	Improve mobility and inclusion, recognising the needs of remote communities in Argyll & Bute, and disadvantaged and vulnerable users	■				■
	Reduce transport poverty in Argyll & Bute with a focus on increasing travel choice in the top 15% most access deprived zones in Scotland	■				■
	Reduce the reliance on private car for access to key centres for healthcare, employment and education, with a focus on shared transport in targeted areas					■
A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing	Reduce the adverse impacts of the strategic transport system, on communities by embedding place-making principles in the strategic transport system					■
	Increase the mode share of active travel to, within and through the main settlements in the region for everyday journeys to key attractors	■				■
	Reduce demand for unsustainable travel arising from nationally significant growth areas, taking cognisance of the emerging NPF4	■				■
An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland	Increase sustainable access to labour markets and key centres for employment, education and training	■				■
	Increase competitive transport access between Argyll & Bute and key markets, by reducing costs and improving journey time reliability for commercial transport between Argyll and the central belt	■	■			
	Increase resilience of accesses to key domestic and international markets to encourage people to live, study, visit and invest in Argyll & Bute	■		■		
	Increase the mode share of freight by sustainable modes, by improving the sustainable intra and inter region movement of goods on, and between, the mainland and islands	■				■

A reliable and resilient strategic transport system that is safe and secure for users	Improve travel times and reliability on the transport system in Argyll & Bute, taking cognisance of the potential for future growth in key sectors, including marine sciences, forestry, tourism, aquaculture, and the wider food and drink sector					
	Improve resilience from disruption on the strategic transport system in Argyll & Bute to strengthen connectivity within, and to/from, the region					
	Reduce transport related casualties in line with reduction targets, with a particularly focus on the A82, A83 and A85					
	Improve resilience through climate change adaptation within the management and maintenance of Argyll & Bute's strategic road, rail, ferry and aviation infrastructure					
	Improve actual and perceived personal security on the transport system, particularly on parts of the transport network with poor mobile coverage					

5. Option Generation and Sifting

5.1. Strategic Options

As set out earlier, STPR2 specifically focusses on Scotland's key strategic transport assets. In the context of STPR2, a strategic transport project is defined as any transport project that materially contributes to Scottish Government and Transport Scotland policies and strategies. Specifically, this will include:

- Any transport project that plays a significant part in supporting the 4 NTS2 priorities and related outcomes;
- Projects or groups of projects related to transport networks owned, operated and funded directly by Transport Scotland;
- Passenger and freight access to ports and airports of national significance; and
- The inter-urban bus and active travel networks and principal corridors within urban areas.

Within the overall definition above, the interventions considered within STPR2 may include:

- Appropriate transport policy and financial instruments (that are within the responsibility of Scottish Government);
- Demand management measures, including use of technology, innovation and behavioural change;
- Asset management and safety measures;
- Measures to increase travel by active travel modes;
- Public transport improvements, including interchanges, road space allocation, technology and ticketing;
- Transport links to/from areas of economic activity of national significance;
- Targeted infrastructure improvements on the transport networks owned, operated and funded directly by Transport Scotland;
- Changes to the operation of ferry terminals and services that are part of the CHFS and NIFS network;
- Infrastructure measures at ports and harbours of national significance; and
- Improved access to major airports.

5.2. Approach

In keeping with the principles of STAG, the Initial Appraisal: Case for Change has been developed to provide a robust method to generate, clean and sift options; ensuring a broad range of options across all modes are considered.

The STPR2 option generation, cleaning and sifting approach is summarised in Figure 32 alongside the number of options generated at the various key stages that are specific to the Argyll and Bute Region.

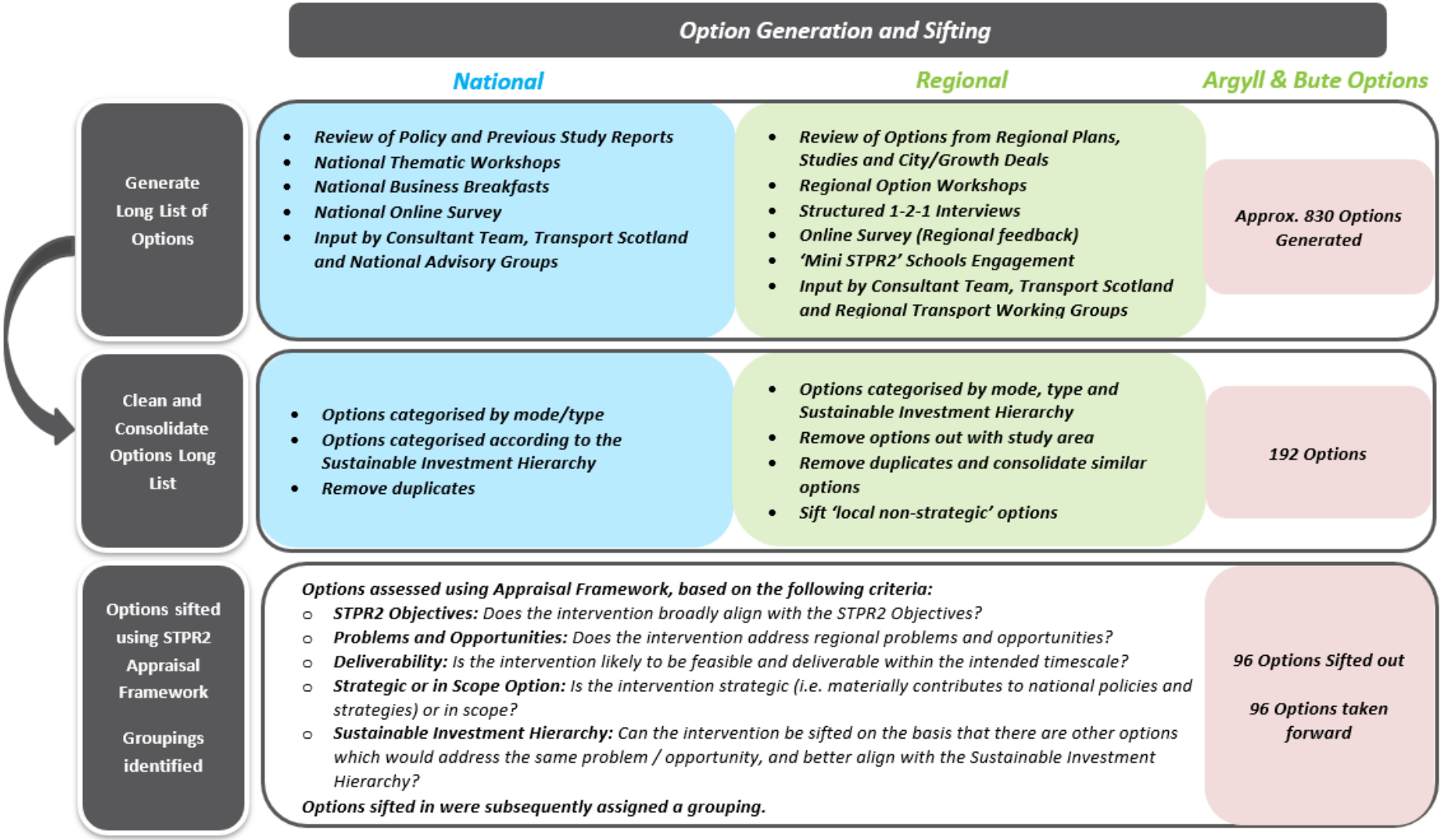

Figure 32: Approach to Option Generation and Sifting

5.2.1. Generation of Long List of Initial 'Options'

A long list of initial transport options was generated based on a range of sources, including: a review of options identified from recent local and regional studies and via extensive stakeholder engagement and public consultation activities. This included Stakeholder Workshops, Structured Telephone Interviews, an Elected Members briefing and an Online Survey. Options were also generated through discussions with the Regional Transport Working Group and supplemented by the Consultant team. Options were identified across all modes and encapsulate many of the main routes and key centres across the regions. Some of these options were well developed and had a clearly defined output, others were suggestions and ideas. All of these ideas/suggestions/options were collated and considered at this stage.

Specific to the Argyll & Bute Region, there were 830 options generated.

5.2.2. Option Cleaning

Although 830 individual ideas/suggestions/options were identified, this included a number that required further definition, duplicated options and options which were broadly similar. As such, an exercise was undertaken to clean this 'long list'. Options were reviewed at a regional level or a national level depending on the initial source of the information. Options that required further definition were developed, and similar options were consolidated.

Following the option cleaning exercise, 192 options were retained in the long list of interventions to be sifted specific to the Argyll & Bute Region.

5.2.3. Option Sifting

Each of the options included in the long list, following cleaning, have been assessed using an Option Sifting methodology developed to drive consistency in the sifting of options across STPR2.

The toolkit assesses options against the range of criteria shown in Figure 33 to ensure that any options removed from this stage of the process are done so on a robust and transparent basis. Importantly, this included consideration of the Sustainable Investment Hierarchy. Figure 33 provides more detail of the sifting process.

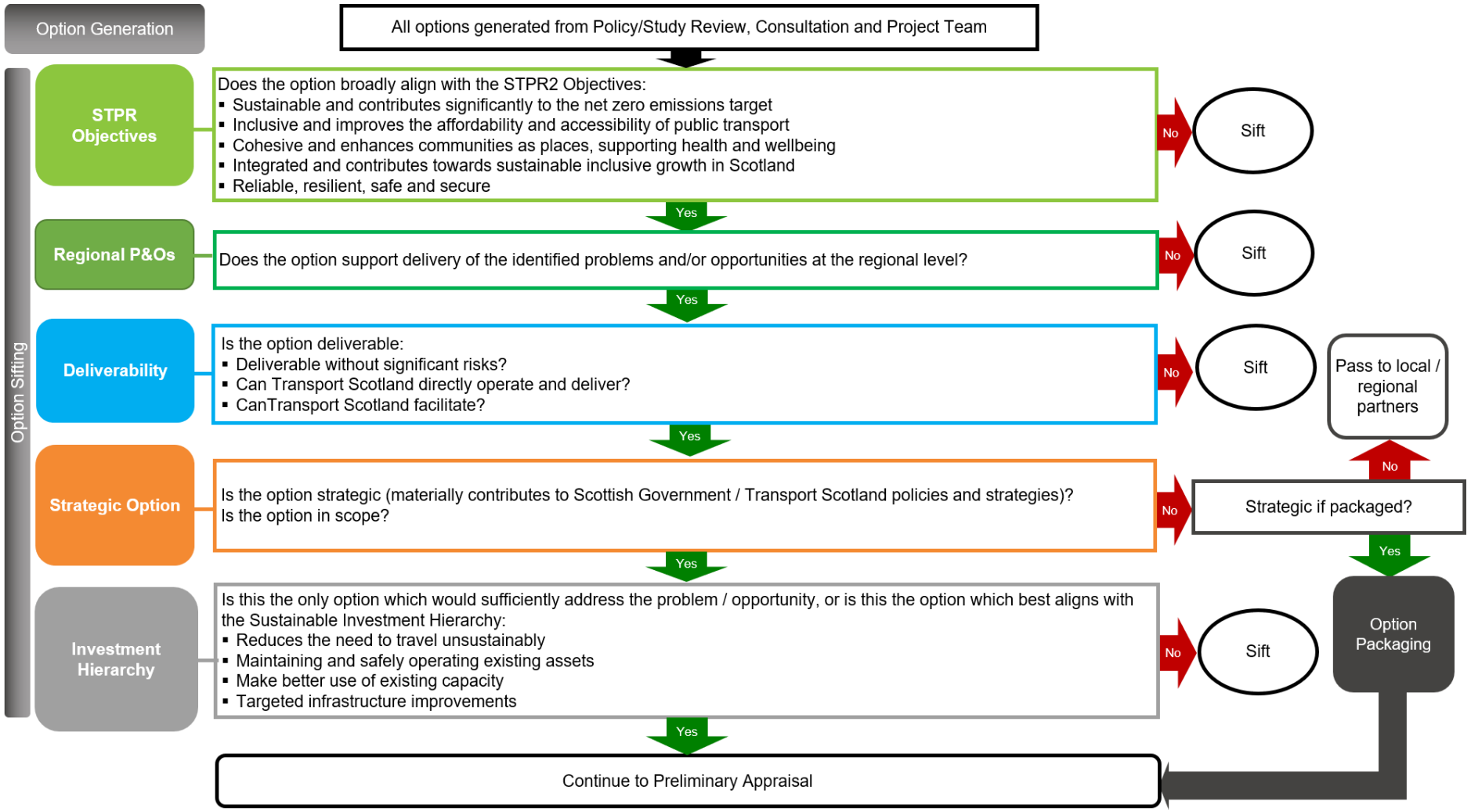

Figure 33: Option Sifting Process

Based on the toolkit, options were either:

- Sifted in for further consideration; or
- Sifted out from the process. If appropriate, these will be passed to other areas of Transport Scotland / Scottish Government, or the appropriate local/regional transport authorities and partnerships (through the RTWGs) for consideration out with STPR2.

5.2.4. Options sifted out

Options were sifted out at this stage for one of the following reasons:

- Option is out of scope and/or
- Option does not address the problems / opportunities in the region and/or
- Poor performance against transport planning objectives/sifting criteria, and/or
- Deliverability concerns and/or
- The problems/ opportunities are better addressed through another option and/or
- The option is being progressed out with STPR2

A full list of options that were sifted out across all regions and at a national level is provided as an Appendix to the National Case for Change. In the Argyll & Bute Region, 96 options were sifted out at this stage.

5.2.5. Options sifted in

Following the sifting exercise, 96 options specific to the Argyll & Bute Region remain in the process. There are many of these options that share common traits across the regions and many options which in isolation would not deliver the strategic improvements STPR2 is seeking to deliver. Recognising the strategic and national dimension, options that have been sifted in for further appraisal have been allocated to Groupings. Groupings have been established to:

- allow similar options to be collated together to provide a more manageable list for further appraisal
- collate similar options across regions, thus aiding consistency in definition and appraisal; and, where appropriate
- allow options that may, on their own merit, not be considered strategic, however when grouped address the identified national and regional Problems and Opportunities

These Groupings will be appraised in the next stages of STPR2. The Groupings represent the range of interventions that STPR2 will consider in the appraisal stages. The list of Groupings along with a short description is provided in Table 10 and a full list of options sifted in for further consideration alongside their allocated Grouping is provided in an Appendix to the National Case for Change

Table 10: Groupings Proposed to Progress to STPR2 Appraisal

Category	Grouping Name	Grouping Description
Active Travel	Access to Bikes	Options to improve access to bikes (conventional and e-bikes) and equipment such as charging facilities, lights, locks and helmets through bike libraries and other initiatives
Active Travel	Active Travel Hubs	Options to provide active travel hubs in Scotland's cities and major towns that provide advice, bike storage and maintenance facilities
Active Travel	Connect More Settlements to the National Cycle Network (NCN)	Options to expand the NCN to reach more settlements
Active Travel	Cycle / Public Transport Integration	Options (outside of franchise commitments) which allow the safe and efficient transport of bikes on public transport (bus, rail and ferry) and at transport hubs.
Active Travel	Current National Cycle Network	Options to upgrade the existing NCN, including addressing issues where there are safety concerns at on-road sections since their addition to the network.
Active Travel	Information & Signage for Active Travel	Options to provide good quality information, journey planning and signage of active travel networks and facilities

Category	Grouping Name	Grouping Description
Active Travel	Major Trip Attractor Accessibility by Active Travel	Options to provide safe, high quality active travel routes that enable easy access to major trip attractors (e.g. hospitals, major employment sites) in Scotland's cities and towns
Active Travel	Liveable Neighbourhoods	Options to make urban and suburban neighbourhoods in Scotland's cities and towns more conducive for active travel by improving conditions for walking, wheeling and cycling and reducing traffic dominance
Active Travel	Strategic Road Severance	Options to improve facilities and crossings for pedestrians and cyclists in locations where strategic roads have a significant severance effect in communities
Active Travel	Public Bike Hire Schemes	Options to facilitate the roll out of public bike hire schemes to enable their use by more people in more locations across Scotland
Active Travel	Quiet Roads	Options to implement quiet roads, potentially including measures such as traffic calming measures and speed limit reductions that form parts of strategic active travel networks, where appropriate
Active Travel	School Active Travel	Options to provide opportunities for safe and high quality active travel routes that enables school pupils resident in Scotland's cities and towns to walk, wheel or cycle to school
Active Travel	Strategic Expansions of the National Cycle Network	Options to expand the NCN to reach more settlements and complete strategic gaps in the network.

Category	Grouping Name	Grouping Description
Active Travel	Footway Enhancements on Strategic Routes	Options to upgrade existing footways on trunk roads and principal routes in our towns and cities, such as width, surfacing, drainage and drop kerbs at crossings. In addition, safe crossing facilities on major desire lines and adequate security (such as sightlines, lighting) where feasible.
Active Travel	Strategic Active Travel Corridors within and between Urban Areas (Active Freeways)	Options to provide high quality, segregated active travel routes on major distributor routes in Scotland's towns and cities, with connections to major trip attractors
Active Travel	Thriving Centres	Options to make town and neighbourhood centres more conducive for active travel by improving the urban realm and reducing the dominance of vehicular traffic and car parking
Active Travel	Transport Node Connectivity	Options to provide high quality active travel routes between public transport nodes (rail stations, bus stations, interchange facilities) and their catchments (such as residential and key trip attractors), along with high quality cycle parking at the nodes
Active Travel	Village – Town Active Travel Connections	Options to provide active travel routes from villages to a nearby town or regional centre.
Active Travel	Former Rail Route Re-use for active travel	Options to create more active travel routes on former rail lines
Active Travel	Urban Placemaking	Options to facilitate placemaking schemes to improve the quality and ambiance of street spaces in Scotland's cities, towns and villages

Category	Grouping Name	Grouping Description
Behaviour Change	School Streets	Options to facilitate traffic exclusion zones on streets where it is appropriate to do so near schools at school start/end times
Behaviour Change	National Behaviour Change Programme	Options to implement a national, long-term campaign to promote the benefits of active and sustainable travel and give information on appropriate opportunities to do so
Behaviour Change	Regional Behaviour Change Programmes	Options to support regional, long-term campaigns to promote the benefits of active and sustainable travel and give information on appropriate local opportunities to do so
Behaviour Change	Expansion of Car Clubs	Options to expand car club availability and use across Scotland
Behaviour Change	Improved Information on Sustainable Travel Modes	Options to improve information (such as printed, real time and on-vehicle announcements) about active and sustainable travel routes and services
Behaviour Change	Sustainable Travel towns/Cities	City/Town-wide initiatives to give a holistic programme of promotion on active and sustainable travel choices
Behaviour Change	Road Safety Campaigns	Options that consider a national, long-term campaign (and/or support local/regional campaigns) to promote better driver behaviour and reduce road safety fears including people travelling actively
Behaviour Change	Travel Demand Management	Measures to effectively manage travel demand and encourage more sustainable travel options.

Category	Grouping Name	Grouping Description
Behaviour Change	Low Emission Zones (LEZ)	Options related to Low Emission Zones (LEZ), i.e. where only certain vehicles are allowed to enter, based on their emissions standards.
Bus	Bus Priority Infrastructure	Options to increase the roll out of bus priority measures, and where already available, improve existing measures
Bus	Decarbonisation of the Bus Network	Options related to decarbonisation of the bus network (incl. fleet).
Bus	Demand Responsive Transport (DRT) / Community Transport	Measures to support Demand Responsive (DRT) and Community Transport, excluding revenue funding
Rail	Central & North East Scotland Rail Improvements	Options to improve capacity, frequency and reliability of train services, such as, train lengthening and linespeed improvements
Rail	Glasgow, West Coast and South West Scotland Rail Improvements	Options to improve capacity, frequency and reliability of train services, such as, train lengthening and linespeed improvements
Rail	Edinburgh, East Coast and Borders Rail Improvements	Options to improve capacity, frequency and reliability of train services, such as, train lengthening and linespeed improvements
Rail	Highland and Far North Rail Improvements	Options to improve capacity, frequency and reliability of train services, such as, train lengthening and linespeed improvements

Category	Grouping Name	Grouping Description
Rail	Decarbonisation of the Rail Network	Options related to decarbonisation of the rail network (incl. rolling stock).
Rail	High Speed Rail	Development of High Speed Rail north of HS2 to Scotland and / or within Scotland
Rail	New Rail Lines, Including Re-Opening of Disused Lines for rail services	Options related to re-opening of disused rail corridors for rail and opening new rail lines including associated new stations
Rail	New Rail Stations	Options related to opening new rail stations on the existing rail network
Rail	New Sleeper Routes	Option related to the introduction of new or extensions to existing rail sleeper routes
Rail	Rolling Stock Quality	Improvements to the quality of heavy rail rolling stock not already committed to within the relevant ScotRail and Caledonian Sleeper franchise. This does not include decarbonisation options which are covered under RL5.
Public Transport	Public Transport Network Coverage, Frequency and Service Integration	Options to improve the network coverage, frequency and service integration of bus and rail, excluding revenue funding. Particularly access to key services such as healthcare, education, leisure and retail**.**
Public Transport	Mobility Hubs and Multi-modal Interchanges	Implement new / upgrade existing strategically important mobility hubs, Park & Ride sites and other multi-modal interchanges.

Category	Grouping Name	Grouping Description
Public Transport	Regional Passenger Facilities/Station Enhancements	Bus and rail passenger facilities and station enhancement improvements, including improved accessibility to facilities for passengers with reduced mobility.
Public Transport	Integrated Public Transport Ticketing	Integration of ticketing across public transport (bus, rail, light rail and ferries).
Ferries / Island Connectivity	Ferry Service Improvements on the CHFS and NIFS network	Options related to CHFS or NIFS network that suggest a change to ferry services, such as capacity, frequency or related port infrastructure.
Ferries / Island Connectivity	New Ferry Routes (Internal to Scotland)	Options related to new internal ferry routes (within Scotland) which may reduce operating costs or subsidy on the CHFS or NIFS network.
Ferries / Island Connectivity	New International Ferry Routes	Options relating to new international ferry services that could bring positive economic benefit to Scotland but which are not sufficiently attractive to the market.
Ferries / Island Connectivity	Decarbonisation of Ferry Network	Options related to decarbonisation of the ferry network (incl. vessels).

Category	Grouping Name	Grouping Description
Ferries / Island Connectivity	Fixed Links	Options related to fixed links which meet at least one of the following criteria: Connect the Scottish mainland to an island; Reduce the operating costs of the CHFS or NIFS network; Address a strategic problem as identified through evidence-based appraisal that cannot be addressed by reasonable alternatives.
Road	North West Scotland Trunk Road Network Improvements	Package of measures to improve the capacity, reliability and resilience of routes, such as overtaking opportunities, partial dualling, junction improvements and route realignment.
Road	North East Scotland Trunk Road Network Improvements	Package of measures to improve the capacity, reliability and resilience of routes, such as overtaking opportunities, partial dualling, junction improvements and route realignment.
Road	South West Scotland Trunk Road Network Improvements	Package of measures to improve the capacity, reliability and resilience of routes, such as overtaking opportunities, partial dualling, junction improvements and route realignment.
Road	South East Scotland Trunk Road Network Improvements	Package of measures to improve the capacity, reliability and resilience of routes, such as overtaking opportunities, partial dualling, junction improvements and route realignment.
Road	Low Emission/Ultra Low Emission/Electric Vehicle National Action Plan	A National Action Plan to support the shift to Low Emission/Ultra Low Emission/Electric Vehicles and help deliver Scottish Governments Net Zero targets.

Category	Grouping Name	Grouping Description
Road	Road Safety (Vision Zero) Measures	A national package of road safety measures, such as road safety campaigns and technology to target casualty reduction.
Road	Trunk Road Space Reallocation	Package of measures to reallocate road space on the trunk road network, such as reduction of on-street parking, high occupancy vehicle lanes and no parking zones.
Road	Review of speed limits (national)	Review of speed limits across the road network, including the potential to implement 20mph zones
Freight	Decarbonisation of Freight Deliveries	Measures to encourage low carbon fuels (including electric, hydrogen, CNG/LNG) that will decarbonise the freight transport sector in line with the Scottish Government targets and commitments.
Freight	Freight Consolidation Measures	Measures related to Freight Consolidation and Multimodal Hubs to help facilitate sustainable freight deliveries.
Freight	Freight Rest Stops	Measures to help facilitate the introduction of freight rest stops for HGV drivers to take breaks and rest periods as required by regulation.
Freight	Freight Reliability and Efficiency Improvements	Measures aimed at improving the reliability and efficiency of freight journeys.

Category	Grouping Name	Grouping Description
Freight	Last-Mile Logistics	Moving freight deliveries to low/zero carbon forms of transport, by encouraging the use of active travel measures and electric vehicles to service last-mile logistics
Freight	Sustainable Modal Shift of Freight	Transferring the delivery of freight from road vehicles to more sustainable modes, such as rail and water freight.
Freight	Rail Freight Enhancements	Measures to facilitate the growth of rail freight in Scotland, such as Gauge, Route Availability, Trailing Length, Terminals and Pathing
Technology	Connected Autonomous Vehicles (CAV)	Measures related to Connected Autonomous Vehicles (CAV), i.e. the operation of vehicles without direct driver input to control. This grouping relates to all modes of transport.
Technology	Co-operative Intelligent Transport Systems (C-ITS)	Measures related to C-ITS, which are a group of technologies and applications that allow effective data exchange through wireless technologies between vehicles and infrastructure which can also be applied to vulnerable road users such as pedestrians, cyclists or motorcyclists.
Technology	Transport Scotland Operational Communications	Options related to both wireless and fibre communications to support the management and operation of Transport Scotland services
Technology	Nationwide Open Data, Passenger Information and Communications	Options related to transport data and the provision of public transport information and passenger communications for journey planning.

Category	Grouping Name	Grouping Description
Technology	Adaptive Traffic Control on the Trunk Road	Options that allow optimisation of the performance of the Trunk Road Network through adaptive control.
Technology	Incident Management System Upgrade	Measures to improve the system software or architecture of Incident Management Systems.
Technology	Control Centre of the Future	Development of operation functions and procedures within the Traffic Scotland National Control Centre to adapt to changing requirements
Technology	Intelligent Transport Systems (ITS) Roadside Infrastructure on Motorways and Trunk Road Network	Options to improve transport outcomes such as transport safety, transport productivity, travel reliability, informed travel choices, social equity, environmental performance and network operation resilience
Multimodal	Improve Routes to Major Ports and Airports	Options related to improving surface access to Major Ports and Airports, by all modes.
Multimodal	Improved Resilience of the trunk road and rail networks	Options to improve the resilience of the trunk road and rail network including the impacts from climate change.
Multimodal	Mobility as a Service (MaaS) Digital Platform	Options which assist in the development and adoption of a MaaS digital platform for Scotland across a wide range of existing public, shared and demand-responsive transport services.

Category	Grouping Name	Grouping Description
Mass Transit	Glasgow Metro	Development of the public transport network within the Glasgow city region, with consideration of bus rapid transport, rail conversion, light rail and underground elements
Mass Transit	Edinburgh Mass Transit Options	Development of the public transport network within the Edinburgh City Region with consideration of bus rapid transit, rail conversion, and tram network extension
Mass Transit	Aberdeen Mass Transit Options	Development of the public transport network within the Aberdeen City Region, with consideration of bus rapid transit, and light rail

5.3. Next Steps

This chapter has described the process undertaken to arrive at a sifted list of options for STPR2. These options, presented within Groupings, will be taken forward for more detailed development and appraisal through the next stage of the STPR2 process.

This will include an assessment of the likely impacts of Groupings against the:

- STPR2 Transport Planning Objectives;
- STAG criteria [Environment, Safety, Economy, Integration, and Accessibility and Social Inclusion];
- Established policy directives; and
- Feasibility, affordability and public acceptability of options.

Commenting on this Report

As part of the STPR2 engagement process, feedback on the Transport Options contained within this STPR2 Case for Change report can be submitted using a comments form that can be accessed here. The closing date for comments is midnight on 31 March 2021.

STRATEGIC TRANSPORT PROJECTS REVIEW
PROTECTING OUR CLIMATE AND IMPROVING LIVES

APPENDICES

Jacobs AECOM

Appendix A: Figures

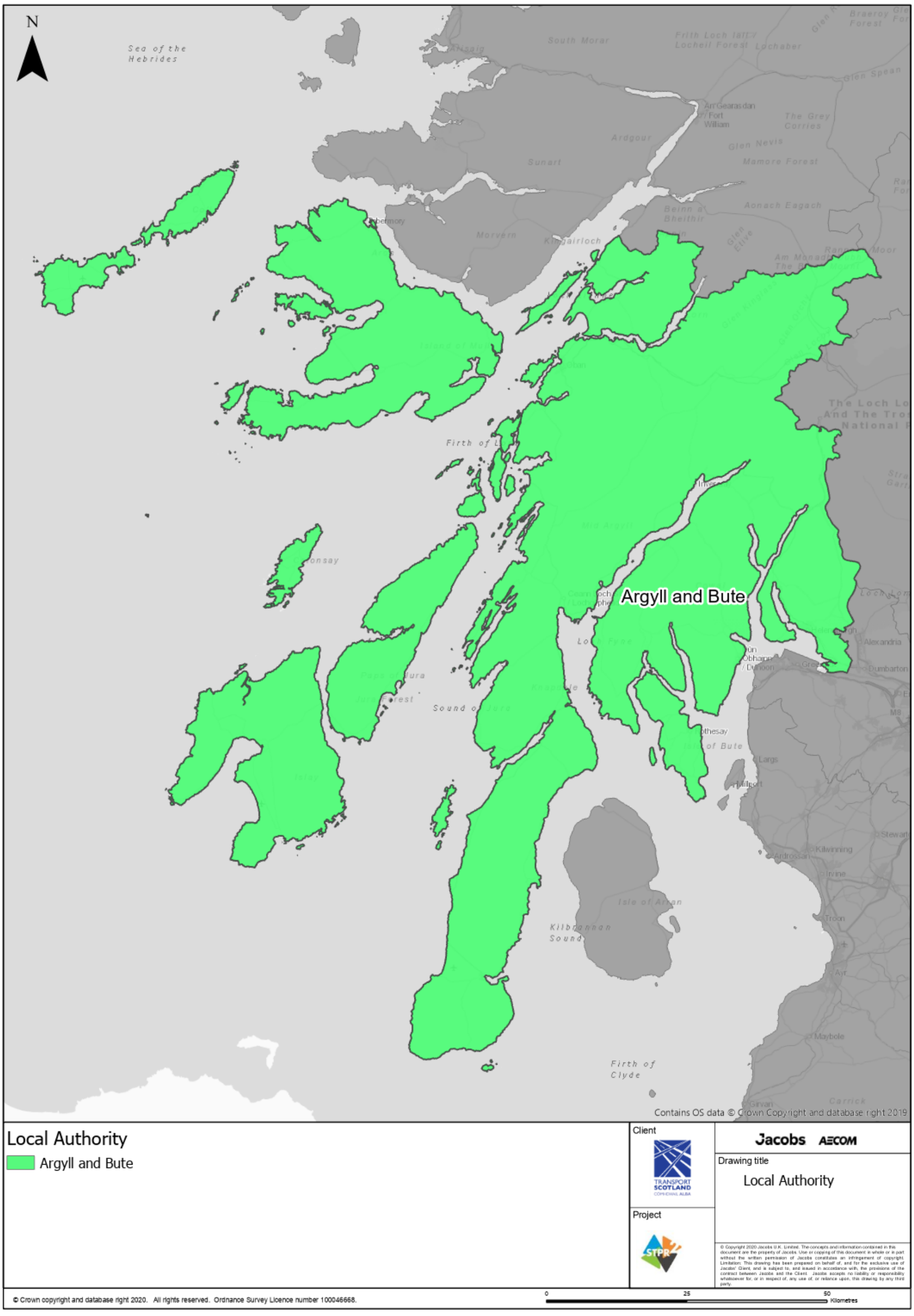

Figure A - 1: Argyll & Bute Study Area

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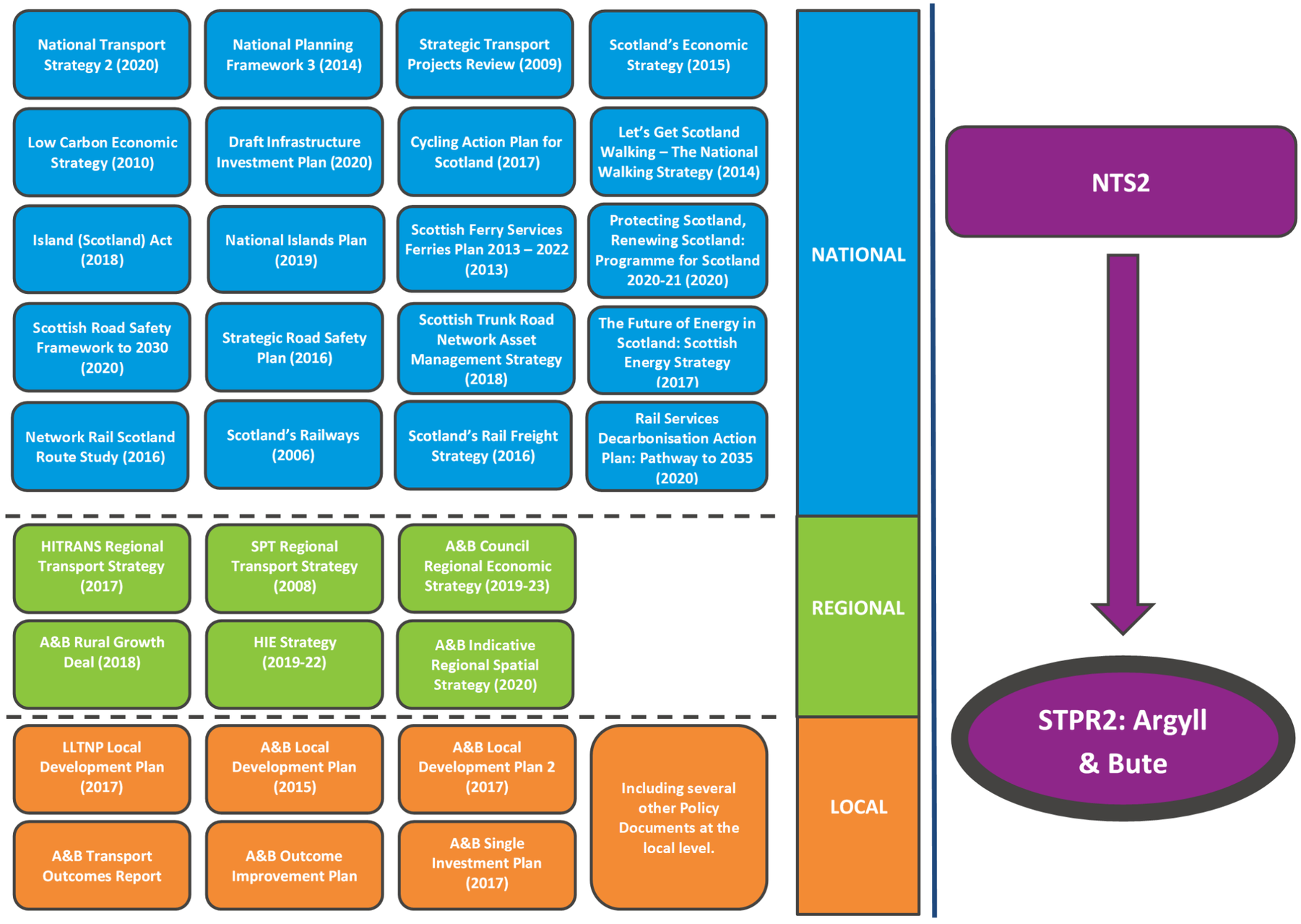

Figure A - 2: Policy Review

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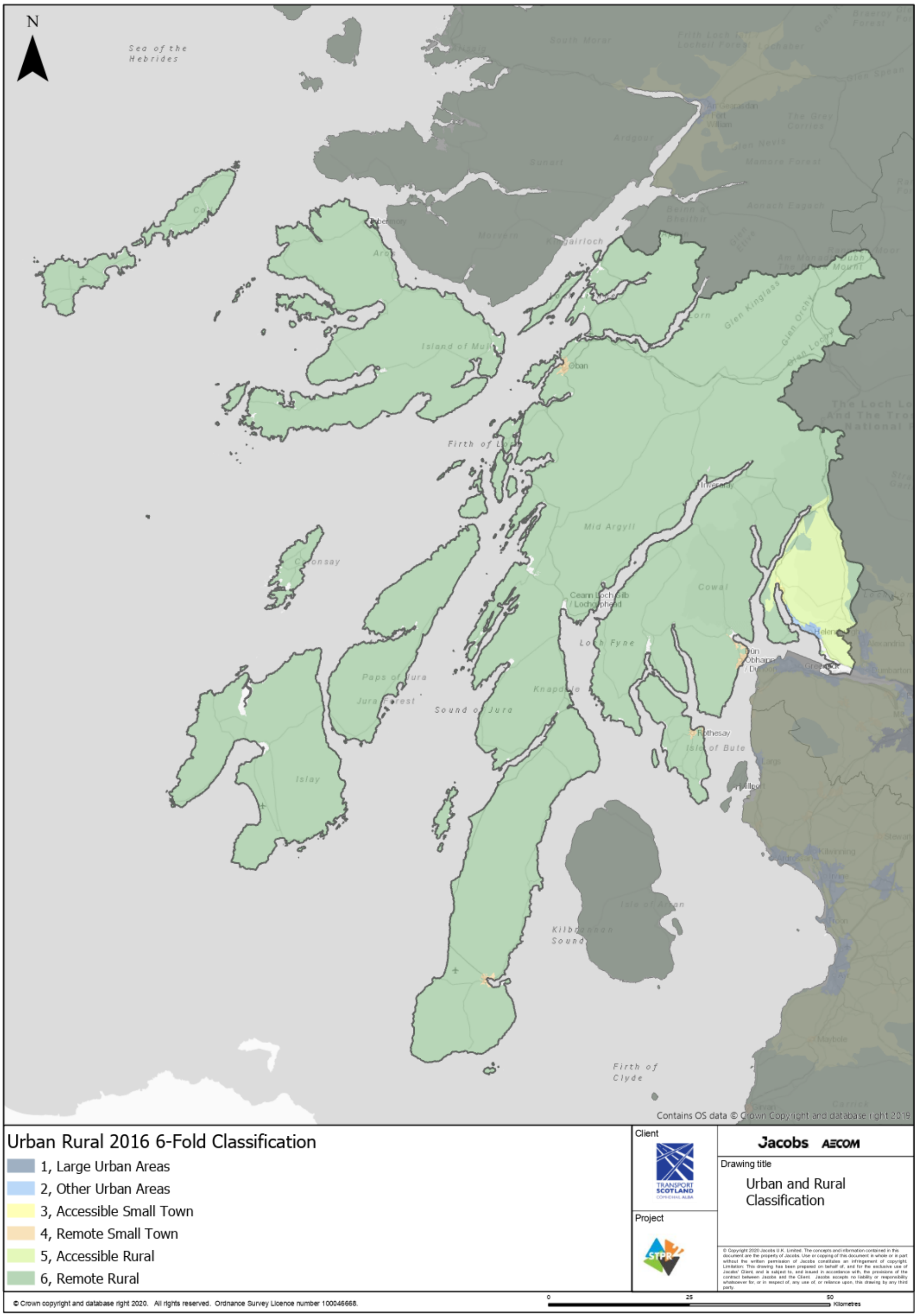

Figure A - 3: Urban Rural 2016 6-fold Scottish Government Classification

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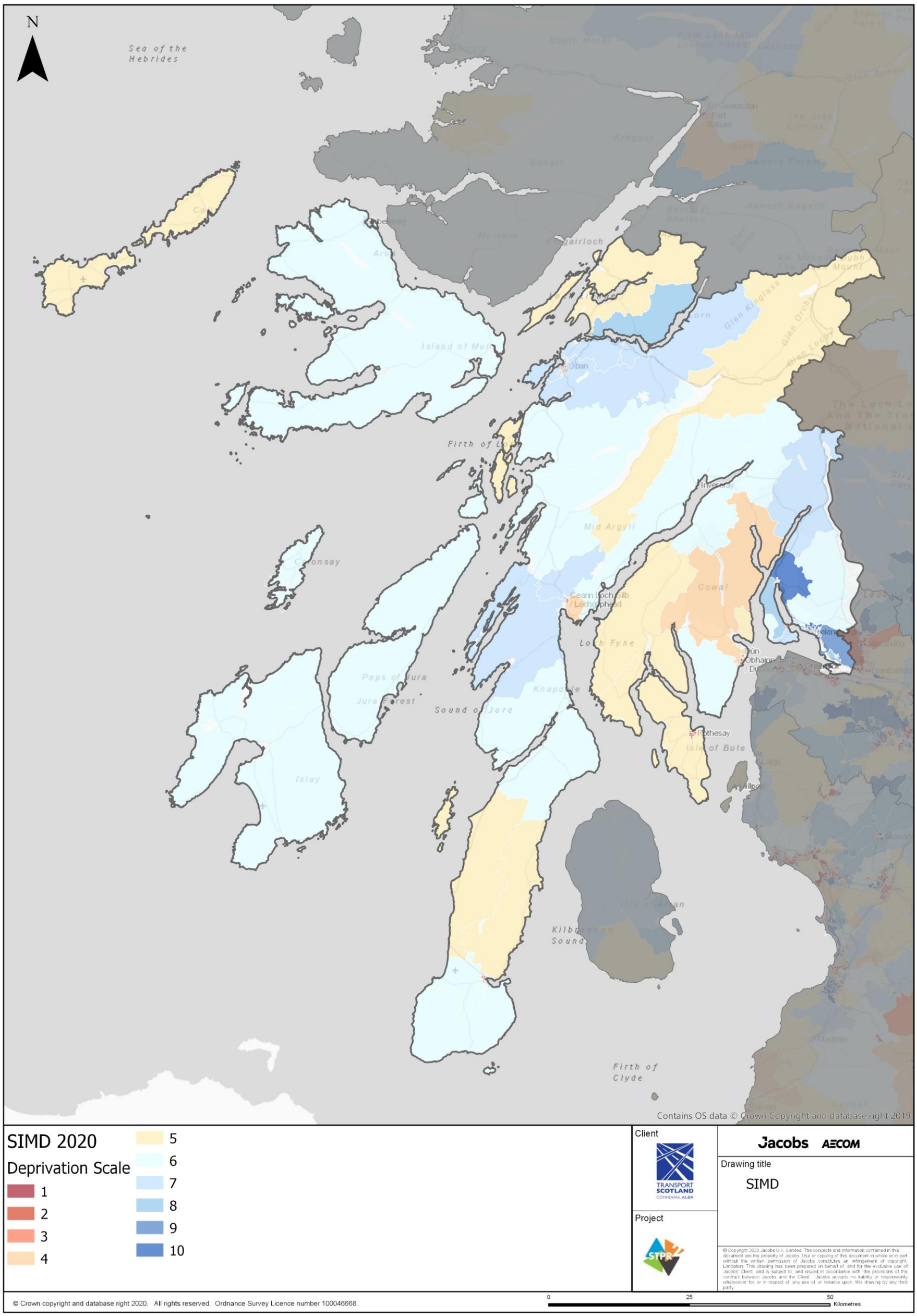

Figure A - 4: Scottish Index of Multiple Deprivation (2020)

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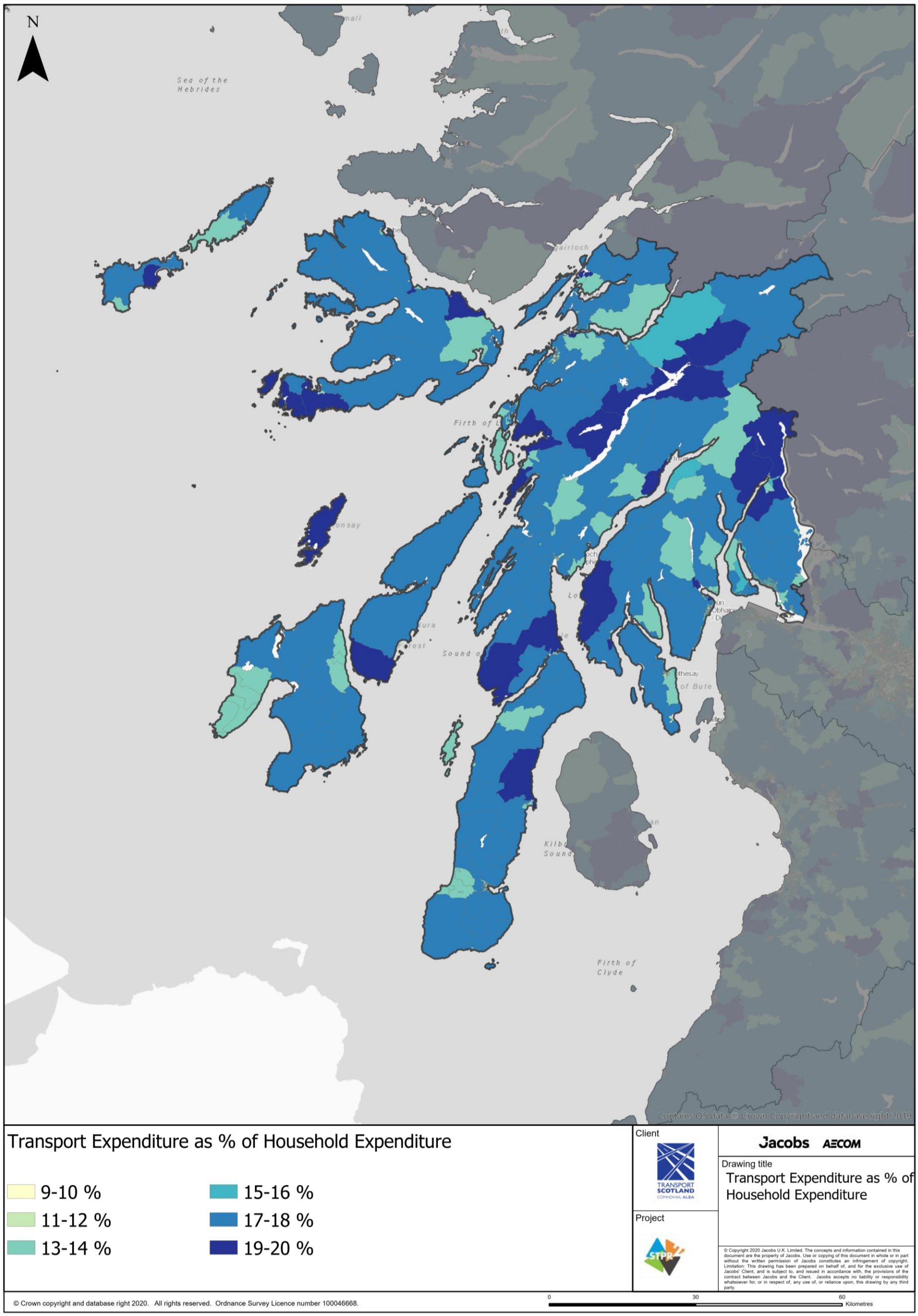

Figure A - 5: Transport Expenditure (%) as a Proportion of Household Income, Argyll & Bute 2018

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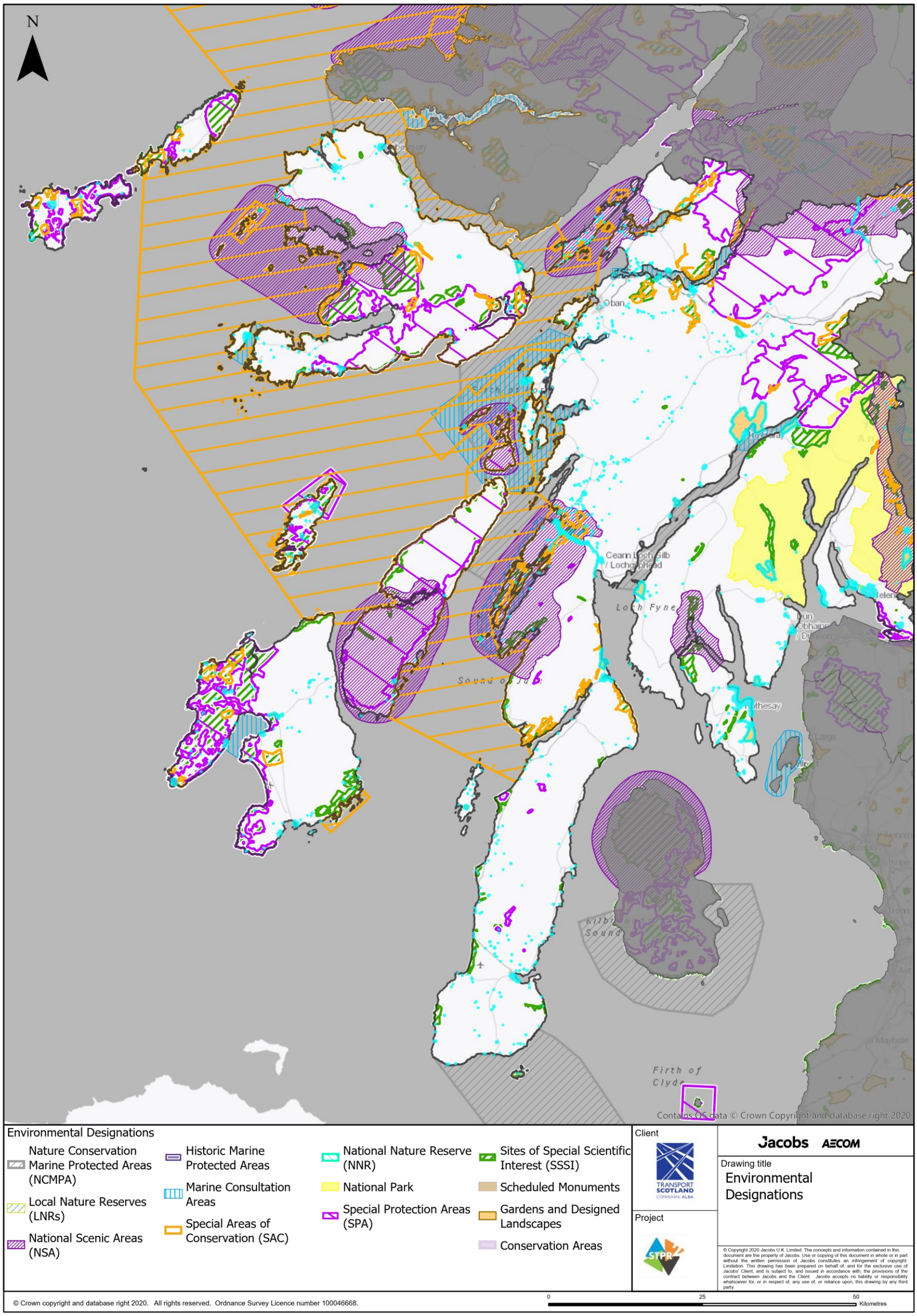

Figure A - 6: Environmental Designations for the Argyll and Bute Region

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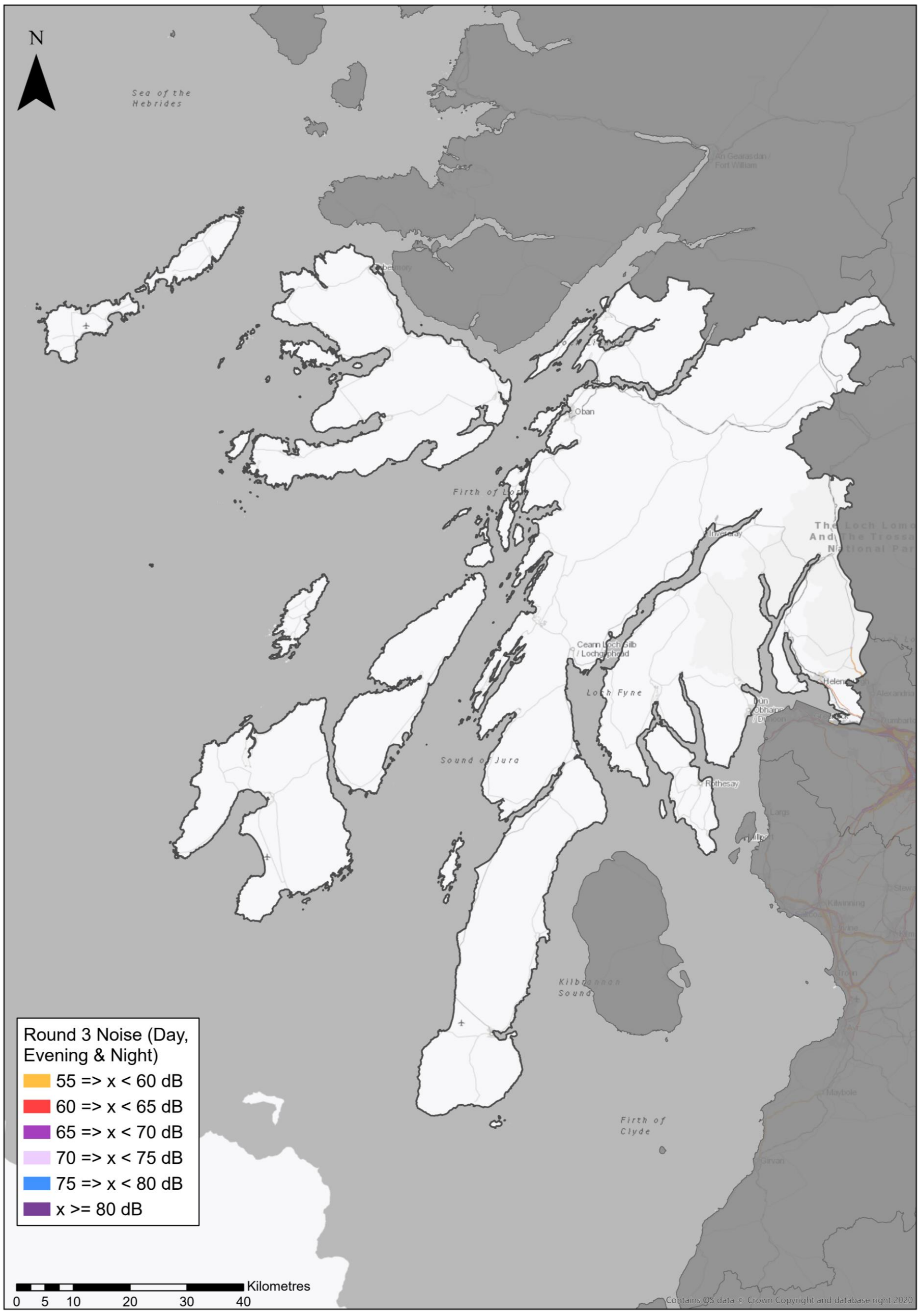

Figure A - 7: Noise Mapping for Argyll and Bute region

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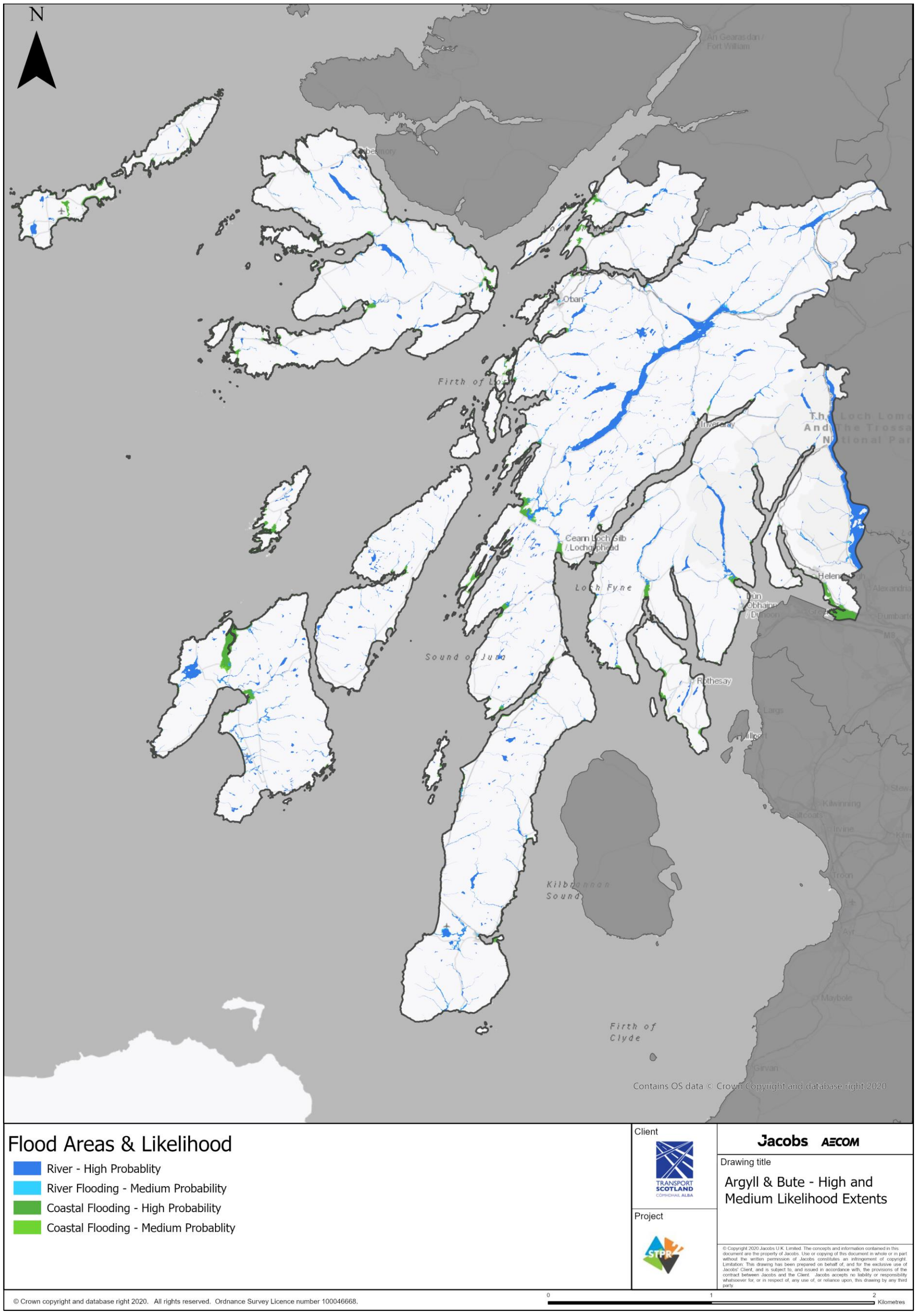

Figure A - 8: SEPA Flood Map for Argyll and Bute region

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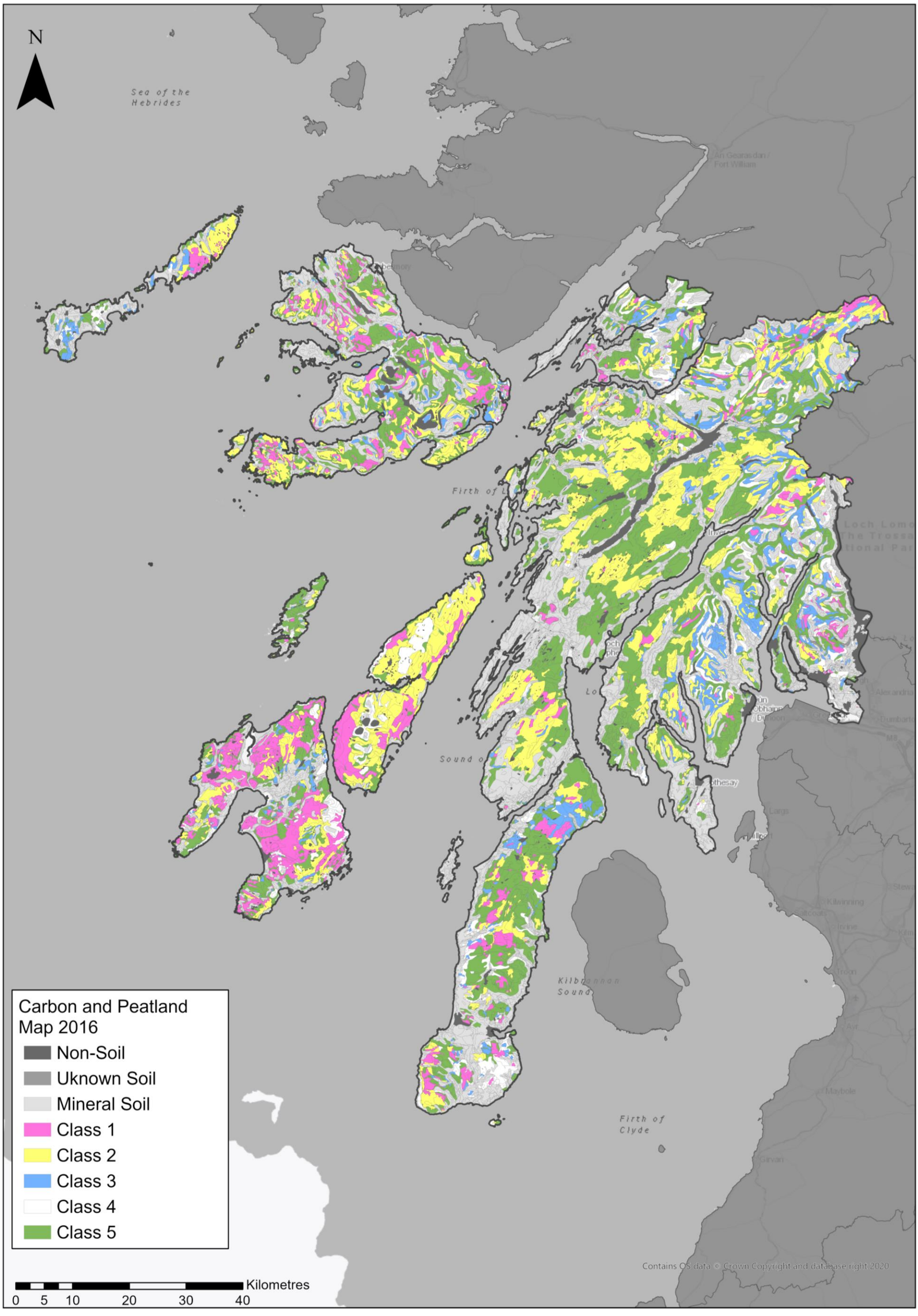

Figure A - 9: Carbon and Peatland Map for Argyll and Bute region

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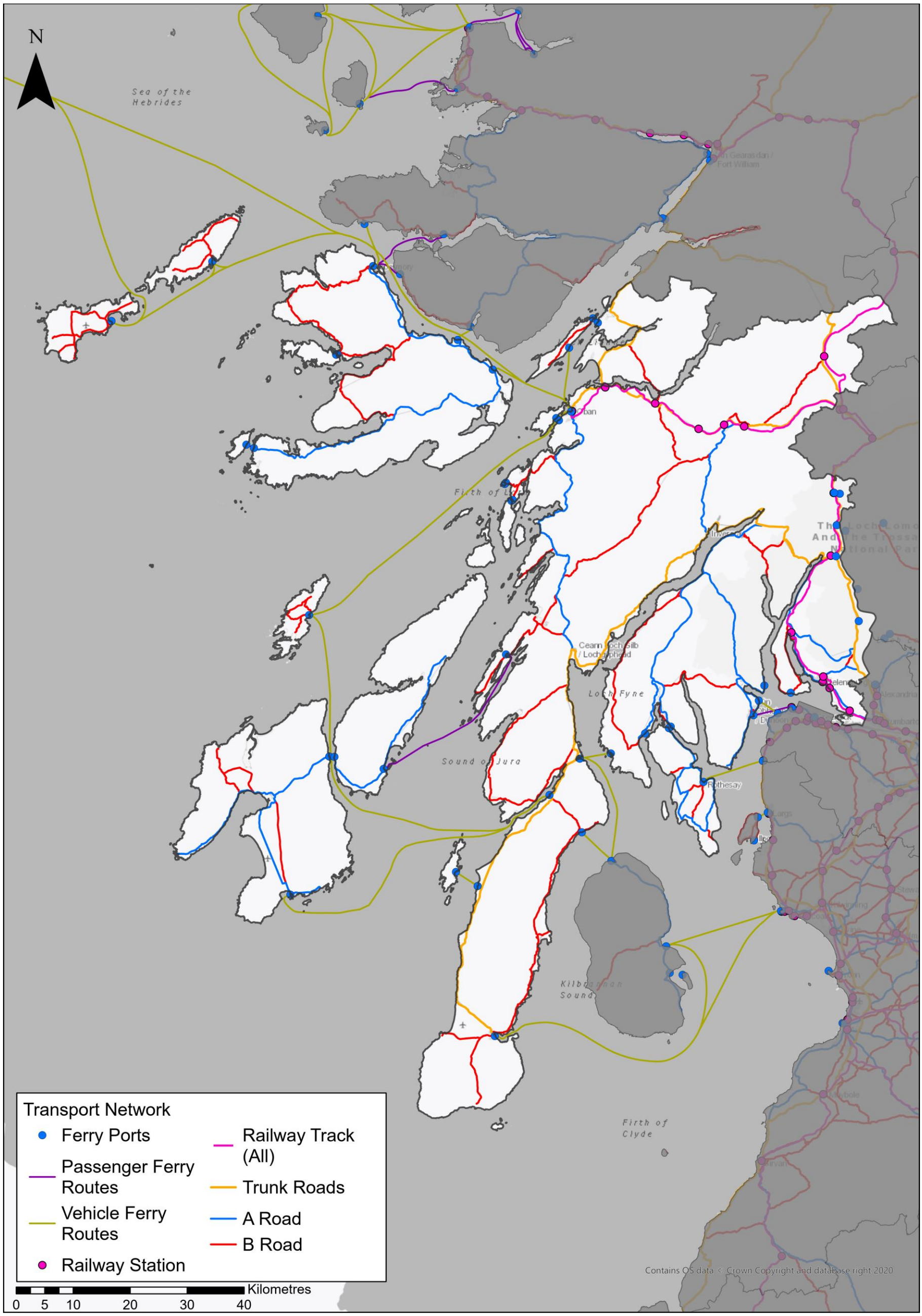

Figure A -10: Argyll & Bute Transport Network

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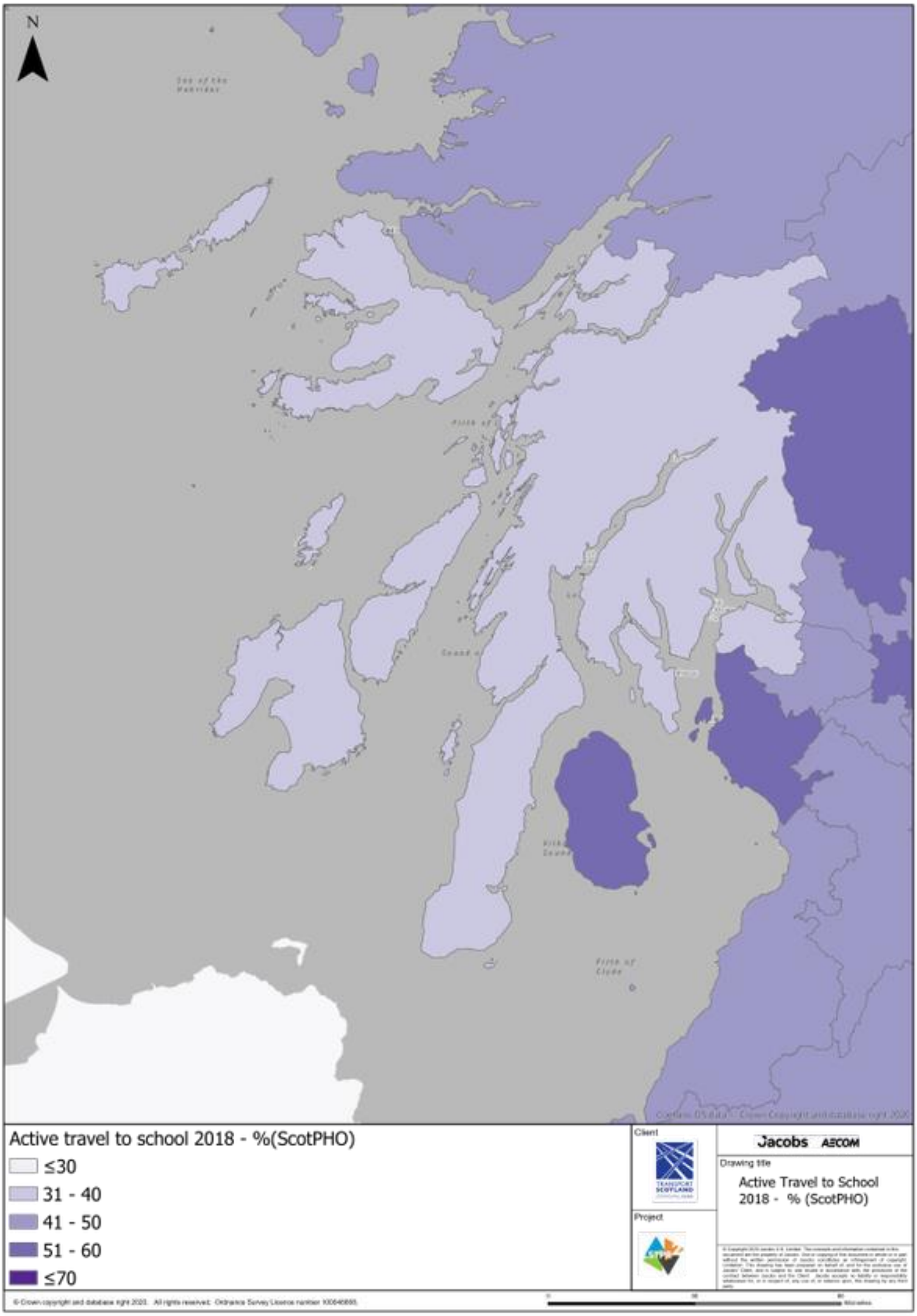

Figure A -11: Active Travel to School (2017)

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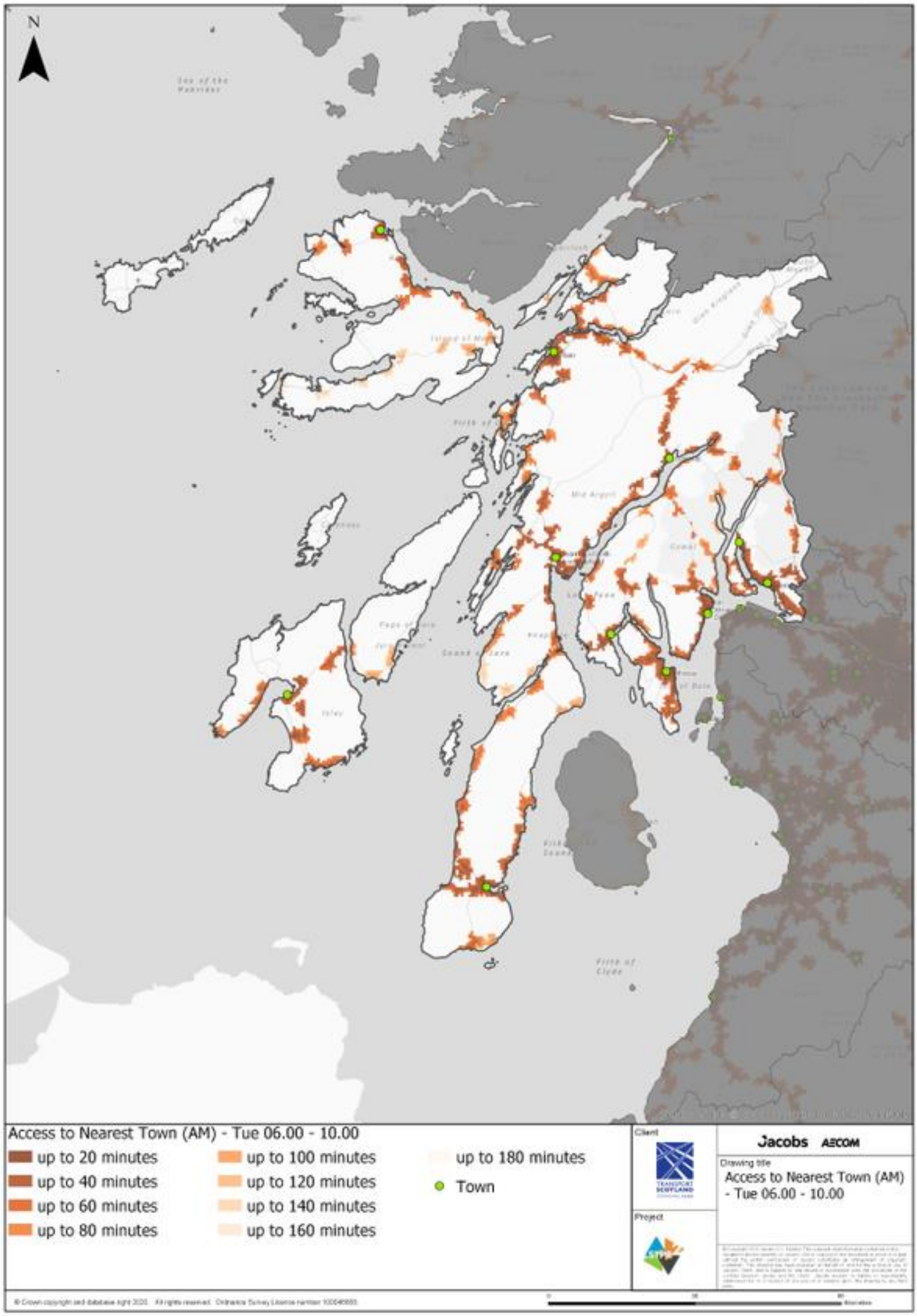

Figure A -12: Public Transport Access to Nearest Town, (on a typical Tuesday 06.00 – 10.00)

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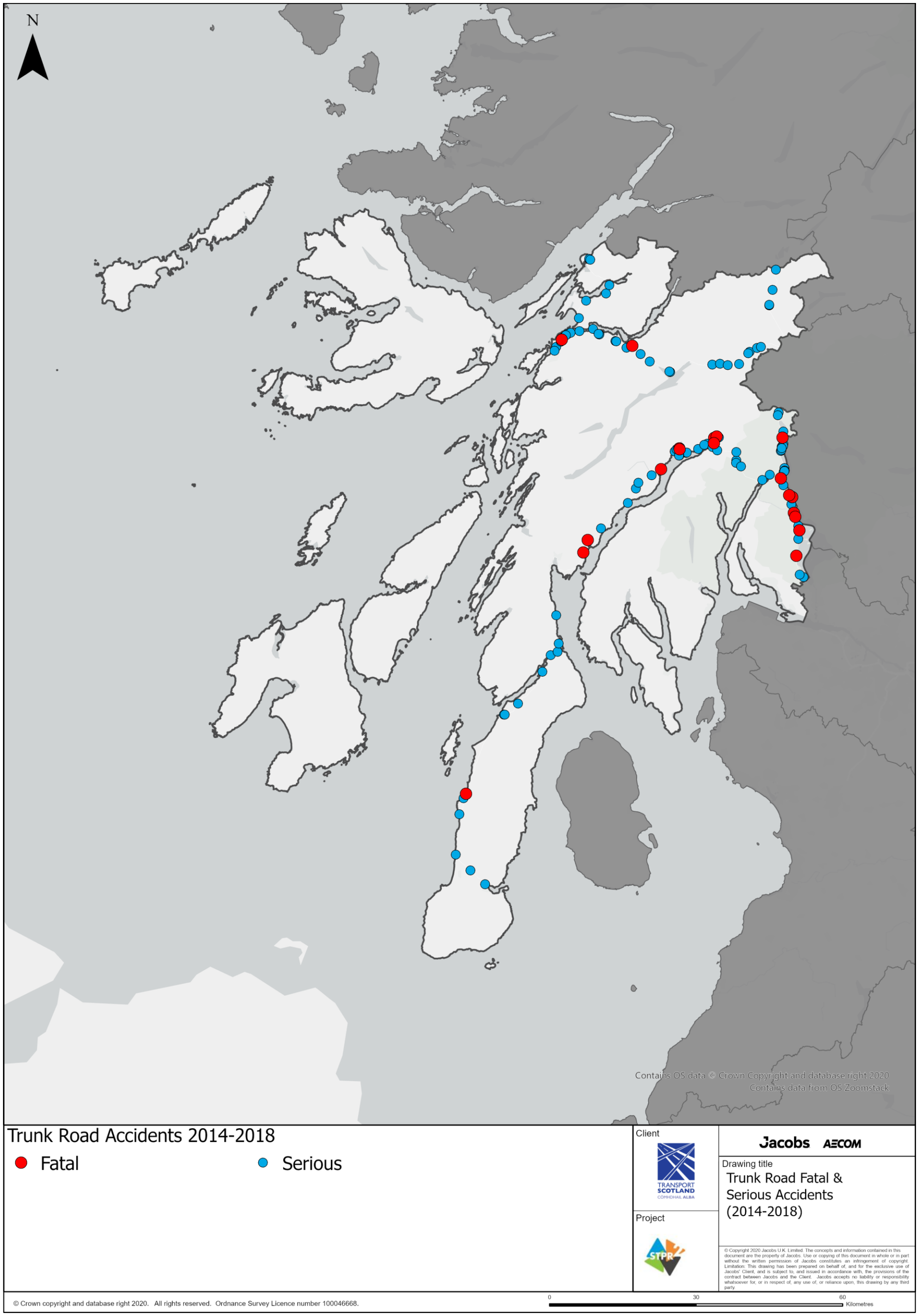

Figure A -13: Argyll and Bute Trunk Road Fatal and Serious Accidents 2014 - 2018)

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Appendix B: List of Policy Documents

Theme	Title	Author	Year
National			
Transport	National Transport Strategy 2	Transport Scotland	2020
Transport	National Transport Strategy 2 Delivery Plan	Transport Scotland	2020
Transport	Rail Services Decarbonisation Action Plan: Pathway to 2035	Transport Scotland	2020
Transport	Scotland's Road Safety Framework to 2030	Transport Scotland	2020
Development	Draft Infrastructure Investment Plan 2021-22 to 2025-26	Scottish Government	2020
Other	Protecting Scotland, Renewing Scotland: Programme for Scotland 2020-21	Scottish Government	2020
Other	Climate Change Plan update	Scottish Government	2020
Development	National Islands Plan	Scottish Government	2019
Transport	Scottish Trunk Road Network Asset Management Strategy	Transport Scotland	2018
Other	Islands (Scotland) Act	Scottish Government	2018
Transport	Cycling Action Plan for Scotland	Transport Scotland	2017
Energy	The Future of Energy in Scotland: Scottish Energy Strategy	Scottish Government	2017
Transport	Strategic Road Safety Plan	Transport Scotland	2016
Transport	Network Rail Scotland Route Study	Network Rail	2016

Theme	Title	Author	Year
Transport	Scotland's Rail Freight Strategy	Transport Scotland	2016
Economy	Scotland's Economic Strategy	Scottish Government	2015
Transport	Let's Get Scotland Walking	Scottish Government	2014
Development	National Planning Framework 3	Scottish Government	2014
Transport	Scottish Ferry Services Ferries Plan 2013 - 2022	Transport Scotland	2013
Economy	Low Carbon Economic Strategy	Scottish Government	2010
Transport	Strategic Transport Projects Review	Transport Scotland	2009
Transport	Scotland's Railways	Transport Scotland	2006
Regional			
Economy	Indicative Regional Spatial Strategy	Argyll & Bute Council	2020
Economy	Regional Economic Strategy 2019 – 2023	Argyll & Bute Council	2019
Economy	Highlands and Islands Enterprise 2019 – 2022 Strategy	Highlands and Islands Enterprise	2019
Economy	Rural Growth Deal	Argyll & Bute Council	2018
Transport	Regional Transport Strategy	HITRANS	2017
Transport	The Regional Transport Strategy	SPT	2008

Theme	Title	Author	Year
Local			
Transport	Transport Outcomes Report for Argyll & Bute	SPT	2018
Economy	The Single Investment Plan	Argyll & Bute Council	2017
Development	Local Development Plan 2017 - 2021	Loch Lomond & the Trossachs National Park	2017
Development	Local Development Plan 2 - Main Issues Report	Argyll & Bute Council	2017
Development	Local Development Plan	Argyll & Bute Council	2015
Development	Argyll & Bute Outcome Improvement Plan	Argyll & Bute Community Planning Partnership	2013

Appendix C: Stakeholder Engagement

Engagement Type	Date	Venue	Purpose and Details	No. of Attendees
Problems & Opportunities Workshop	Friday, 3rd May 2019	Helensburgh and Lomond Civic Centre, Helensburgh	Workshop with stakeholders including representatives from local authorities, transport operators & associations, business groups and organisations, community groups, campaign groups, tourism organisations, user groups, emergency services, higher education / research organisations and skills agencies to identify transport-related problems and opportunities in the region	12
	Wednesday, 8th May 2019	Tarbert Village Hall, Tarbert		7
	Wednesday, 15th May 2019	Queens Hall, Dunoon		14
	Thursday, 30th May 2019	The Royal Hotel, Oban		12
Structured Interviews	July – November 2019	-	Interviews with key stakeholders to identify transport-related problems in, and opportunities for, the region	6
Interventions Workshop	Monday 18th November 2019	Kilmory House, Lochgilphead	Workshop with stakeholders including representatives from local authorities, transport operators & associations, business groups and organisations, community groups, campaign groups, tourism organisations, user groups, emergency services, higher education / research organisations and skills agencies, to identify potential interventions to address problems and opportunities previously identified	23
	Friday 21st November 2019	Three Villages Hall, Arrochar		13

Engagement Type	Date	Venue	Purpose and Details	No. of Attendees
Elected Members Problems & Opportunities Briefing / Workshop	Monday 17th June 2019	Kilmory House, Lochgilphead	Elected Members from across the region attended a briefing session on emerging findings from STPR2 and to provide feedback on problems and opportunities that should be considered	17
Elected Members Interventions Briefing / Workshop	Monday 11th November 2019	Kilmory House, Lochgilphead	Elected Members from across the region attended a briefing session on emerging findings from STPR2 and to provide feedback on potential interventions that should be considered as the study moves forward	18
Online Survey	Monday 2nd December 2019 – Friday 10th January 2020	Online	Online survey promoted to members of the public and organisations to validate emerging problems from the STPR2 process and to provide feedback on potential interventions to improve the strategic transport network, across all modes, in the future	137 responses