STRATEGIC TRANSPORT PROJECTS REVIEW

PROTECTING OUR CLIMATE AND IMPROVING LIVES

Initial Appraisal: Case for Change
The Shetland Islands Region

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STRATEGIC TRANSPORT PROJECTS REVIEW #2

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List of Acronyms

ACRONYM	
ADS	Air Discount Scheme
CHFS	Clyde and Hebrides Ferry Service
CRWIA	Children's Rights and Wellbeing Impact Assessment
DDA	Disability Discrimination Act
EV	Electric Vehicle
EqIA	Equality Impact Assessment
FSDA	Fairer Scotland Duty Assessment
GVA	Gross Value Added
HIE	Highlands and Islands Enterprise
ICIA	Island Communities Impact Assessment
LNR	Local Nature Reserve
MPA	Marine Protected Areas
NCMPA	Nature Conservation Marine Protected Areas
NCN	National Cycle Network
NHS	National Health Service
NIFS	Northern Isles Ferry Service
NNR	National Nature Reserves
NRS	National Records of Scotland
NSA	National Scenic Areas
NTS	National Transport Strategy
ONS	Office for National Statistics
PSO	Public Service Obligations
pSPA	proposed Special Protection Areas
RET	Road Equivalent Tariff
RSPB	Royal Society for the Protection of Birds
RTWG	Regional Transport Working Group
SAC	Special Areas of Conservation
SEA	Strategic Environmental Assessment

SEPA	Scottish Environmental Protection Agency
SIMD	Scottish Index of Multiple Deprivation
SPA	Special Protection Areas
SPS	Shetland Place Standard
SSSI	Site of Special Scientific Interest
STAG	Scottish Transport Appraisal Guidance
STPR	Strategic Transport Projects Review
TPO	Transport Planning Objectives
UNESCO	United Nations Educational, Scientific and Cultural Organization
UK	United Kingdom
WEMWBS	Warwick Edinburgh Mental Health and Wellbeing Scale

1. Introduction

1.1. Background and 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 new National Transport Strategy (NTS2)[1].

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.

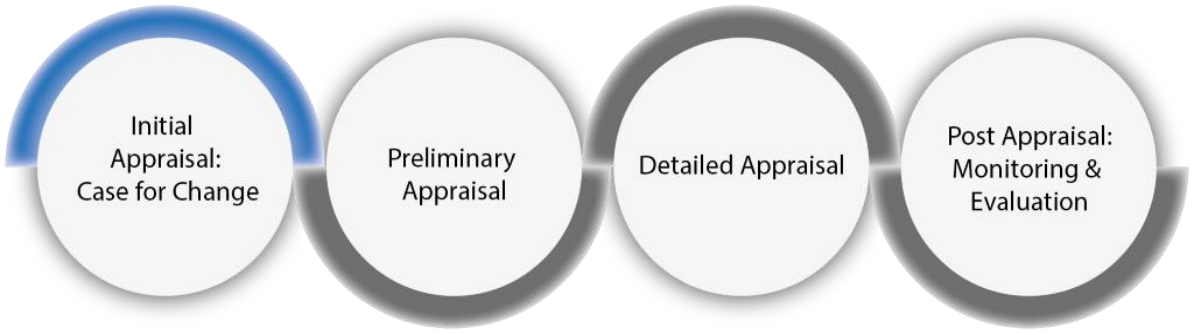

Figure 1: The Four Key Stages to the Scottish Transport Appraisal Guidance (STAG)

This report sets out the Initial Appraisal: Case for Change for the Shetland Islands 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 transport network across the Shetland Islands 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.

It is recognised that the vision set out in NTS2 will only come to fruition through working in partnership with others, including Local Authorities and Regional Transport Partnerships. This is particularly in areas of transport for which local authorities are responsible and which are not within the scope of this national strategic transport review.

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;

[1] Transport Scotland, National Transport Strategy (NTS2), 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

- 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.

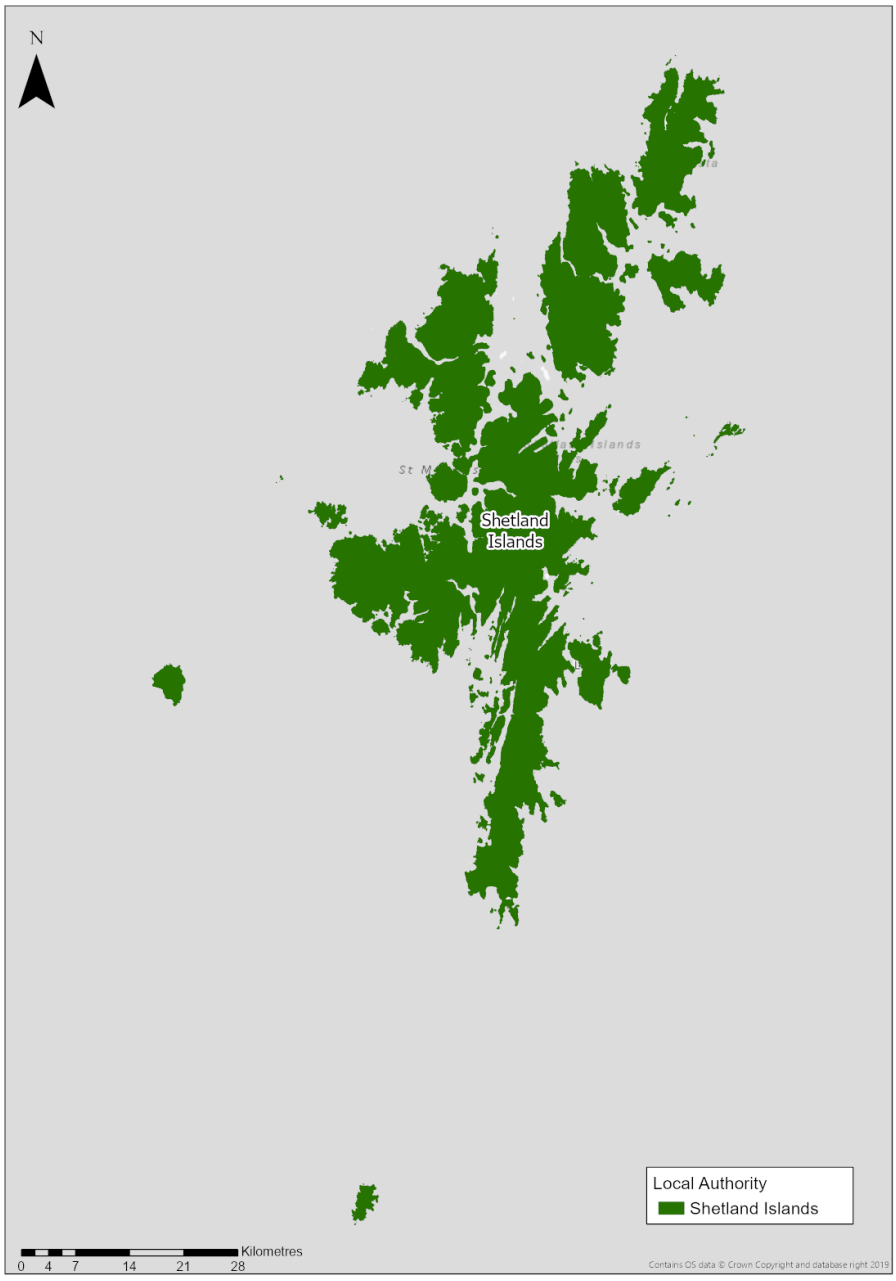

Figure 2: Shetland Islands Region Study Area

(Click to image to enlarge figure)[4]

The Shetland Islands region comprises of 1 local authority, Shetland Islands Council. The geographic remoteness of the Shetland Islands creates a unique situation whereby residents and tourists alike rely on a variety of transport modes to travel and transport

[3] List of major ports is still under review

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

goods and produce within the region and between the region and mainland Scotland. The inter-island and external air and ferry connections are lifeline services, providing access to the key services of employment, healthcare and education[5]. These connections also provide fresh produce to the islands and a route to market for the key exports, such as from the fishery and aquaculture sectors, which are essential to both the local and national economy.

To reflect the regional approach of STPR2 a Regional Transport Working Group (RTWG) has been established with representatives from Transport Scotland, Shetland Islands Council, Shetland's Transport Partnership ZetTrans, relevant partners and the STPR2 consultant team.

This Case for Change report also presents a final set of Transport Planning Objectives, aligned with the national STPR2 objectives. The Transport Planning Objectives express the outcomes sought for the region and 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 detailed later 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 Shetland Islands 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 longer 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.

[5] Transport Scotland, Lifeline Air Services, https://www.transport.gov.scot/public-transport/air-travel/lifeline-air-services/

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 has been developed. Figure 3 provides an overview of the strategies and policies reviewed, with a summary of key documents presented below:

- **Programme for Government[6];** 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)[7];** The NTS2 provides the national transport policy framework, setting out a clear vision of a sustainable, inclusive, safe and accessible transport system that helps deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. It sets out key priorities to support that vision: reduces inequalities; takes climate action; helps deliver inclusive economic growth; and improves our health & wellbeing. The NTS2 Delivery Plan was published on 17th December 2020 detailing the actions being taken by the Scottish Government between 2020 and 2022 to achieve the vision of the NTS2[8].
- **Climate Emergency[9];** declared by the Scottish and UK Governments in 2019. 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, detailing the Scottish Government's path to climate targets to 2032[10]
- **Growth Deal[11]:** The Scottish Government is committed to ensuring 100% coverage of Scotland with Growth Deals and together with the UK Government have agreed £100m funding in The Islands Growth Deal, which covers Scotland's 3 islands authorities - Shetland Islands Council, Orkney Islands Council and Comhairle nan Eilean Siar.

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[6] 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/

[7] Transport Scotland, National Transport Strategy, February 2020, www.transport.gov.scot/media/47052/national-transport-strategy.pdf

[8] Transport Scotland, National Transport Strategy (NTS2) – Delivery Plan – 2020 to 2022, https://www.transport.gov.scot/media/48839/nts-delivery-plan-2020-2022.pdf

[9] 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/

[10] Scottish Government, Update to the Climate Change Plan 2018 – 2032, https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/

[11] Scottish Government, £50 million for islands, July 2020, https://www.gov.scot/news/gbp-50-million-for-islands

- **ZetTrans' Shetland Transport Strategy[12];** sets out the regional strategic direction and outcomes to be achieved over its lifespan to 2028. Namely to "develop travel and transport solutions for Shetland that underpin our Economy, support our Communities and conserve our Environment". The Shetland Transport Strategy is due to undergo a full revision in 2021.
- **Other Regional and Local Policy Documents[13];** such as Shetland Local Development Plan, Shetland Economic Development Strategy and Shetland Local Outcome Improvement Plan set out related objectives and priorities, but which transport plays a key role in both the enabling and delivery of their outcomes.

In addition to the 4 Priorities presented above, the NTS2 supports the adoption of a Sustainable Transport Hierarchy. This 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.

[12] ZetTrans, Regional Transport Strategy Refresh, 2018, https://www.zettrans.org.uk/site/assets/files/1100/shetland_transport_strategy_refresh_2018_final-1.pdf

[13] Shetland Islands Council, Local Development Plan, 2014, https://www.shetland.gov.uk/downloads/file/1930/local-development-plan-2014
Shetland Islands Council, Economic Development Strategy, 2018 – 2022, https://www.shetland.gov.uk/downloads/file/1247/economic-development-strategy
Shetland Islands Council, Shetland Partnership Plan, :Local Outcomes Improvement Plan, 2017, https://www.shetland.gov.uk/downloads/file/1247/economic-development-strategy

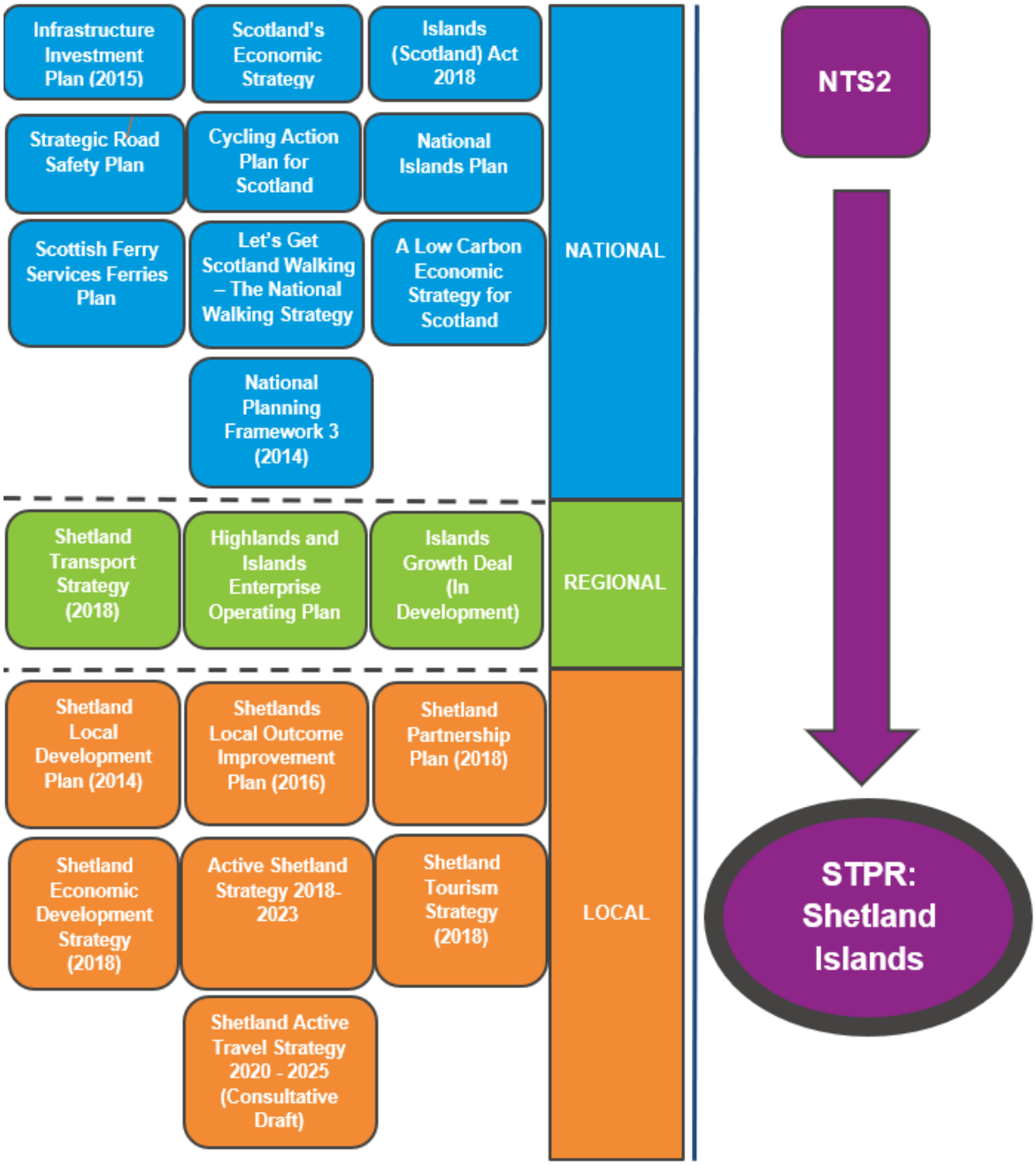


Figure 3 Shetland Islands Region Policy Review

The full list of reviewed documents is presented in **Appendix B**

To support and inform the development of STPR2, Strategic Environmental Assessment (SEA) and Equality Impact Assessment (EqIA) processes are being developed. Alongside these, assessments under the Fairer Scotland Duty Act (FSDA), the Child Rights and Wellbeing Impact Assessment (CRWIA) and the Island Communities Impact Assessment (ICIA) are being undertaken. Early work on these assessments has informed this Case for Change document.

2.2. Geographic Context

The entirety of the Shetland Islands region is classified as remote rural[14], with the exception of Lerwick (Shetland's only Burgh) which is classified as a remote small town[15], as shown in Figure 4[16].

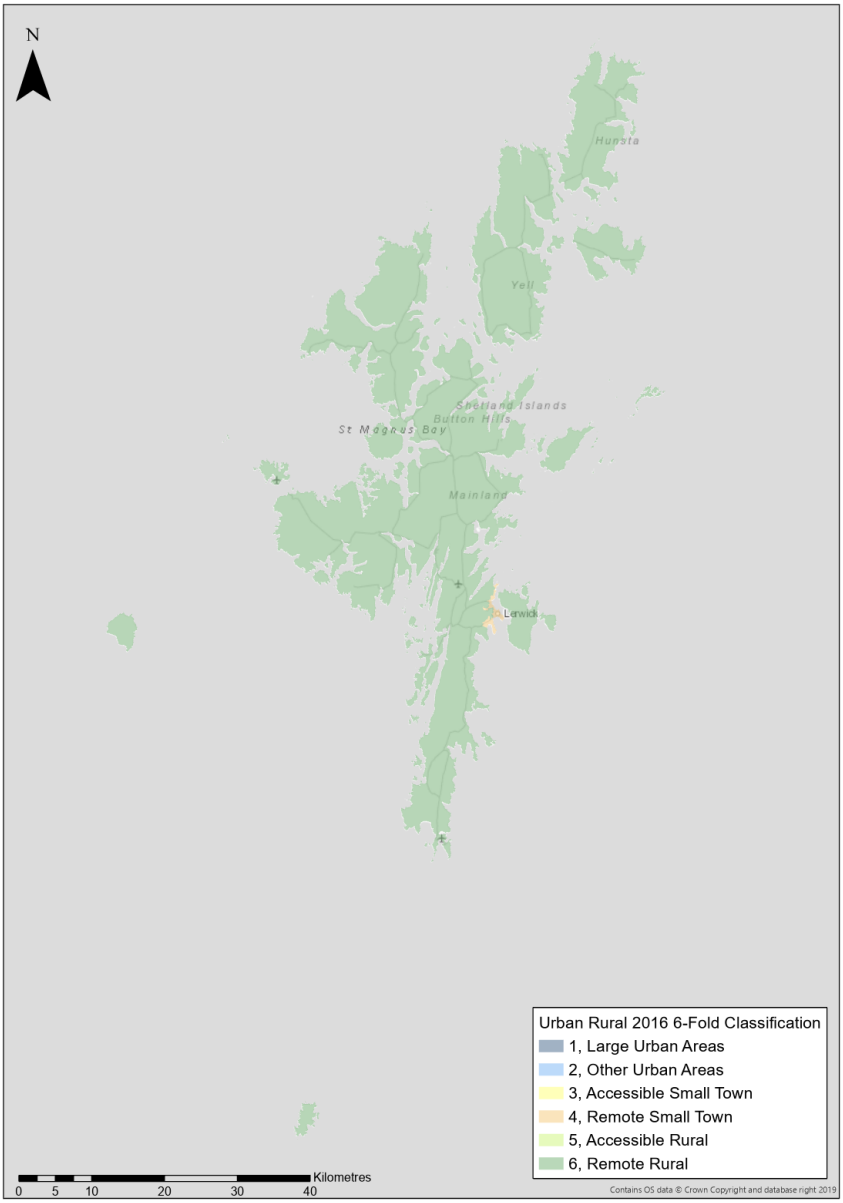


Figure 4: Scottish Government 6-fold Urban Rural Classification, 2016 (Shetland Islands)

(Click to image to enlarge figure)

[14] Remote rural pertains to areas with a population of less than 3,000 people, and with a drive time of over 30 minutes to a settlement of 10,000 or more.
[15] Remote small towns pertains to settlements of 3,000 to 9,999 people, and with a drive time of over 30 minutes to a settlement of 10,000 or more.
[16] Scottish Government, Urban Rural Classification, 2016, https://www.gov.scot/publications/scottish-government-urban-rural-classification-2016/pages/2/

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. Benchmarking

To compare the performance of socio-economic indicators for the region, benchmark categories were created using the Scottish Government Urban Rural Classification 2016. The classification defines the urban and rural areas across Scotland, based upon 2 main criteria: population and accessibility. This area classification is split and defined across categories ranging from large urban area to remote rural, where the geographies of local authorities are divided up in percentage terms across these categories. The local authorities selected are considered the most representative for each of the benchmark categories, generally being the top 5 or 6 local authorities within that related category.

The 4 benchmark categories are:

- Scottish Cities (Dundee, Aberdeen, Edinburgh and Glasgow);
- Urban (including Fife, Falkirk, Inverclyde, Midlothian, North Lanarkshire and West Lothian);
- Rural (including Perth & Kinross, Aberdeenshire, Highland, Scottish Borders, Dumfries & Galloway and Moray);
- Islands (including Na h-Eileanan Siar, Orkney and Shetland Islands)

The region has been compared against the Islands benchmark.

2.3.2. Population

In 2019, the Shetland Islands region comprised of a population of 22,920 people, with a low population density (16 persons per square km) when compared to the national average (70 persons per square km)[17].

[17] NRS, Mid-Year Population Estimates by Settlement, 2016, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates/archive/mid-2016
NRS, Mid-Year Population Estimates Scotland, 2019, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates/mid-2019
NRS, Mid-Year Population Density Scotland, 2019, https://www.nrscotland.gov.uk/files//statistics/population-estimates/mid-19/mid-year-pop-est-19-report.pdf

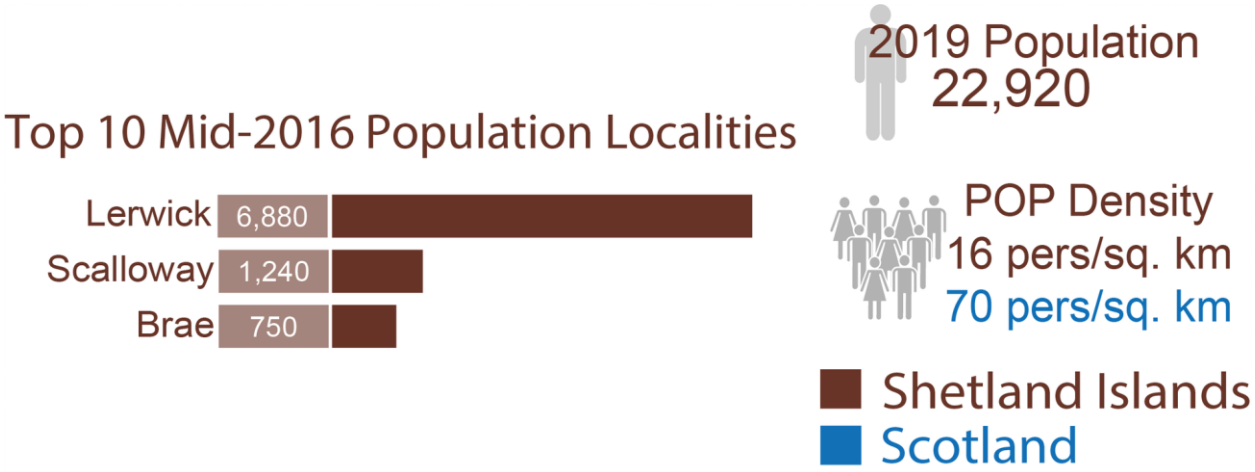


Figure 5: Population Settlements by Population 2016 and Population and Density 2019

As demonstrated in Figure 5, the most populated locality is Lerwick, with a population of 6,880 in 2016; this was more than 5 times greater than the population of Scalloway and more than 9 times greater than the population of Brae. Between 2012 and 2016, Lerwick was the only settlement to reduce (2.3%) in population; the highest population growth was experienced in Scalloway, at 12.7%[18]. Between 2011 and 2019 the overall population in the Shetland Islands region reduced by 1.1% (22,920 compared to 23,167)[1920].

Relative to Scotland as a whole, in 2019 the working age population was 2.8 percentage point lower in the Shetland Islands and the population aged 65 and above was 1.3 percentage points higher in the Shetland Islands. A comparison of the region's population by age in 2011 and 2019 are presented in Figure 6. The figure demonstrates that the working age population is decreasing in the Shetland Islands (6%), whilst it remains stable in Scotland as a whole. There has also been a significant decrease in the number of people aged 15 and under (6%) within the region, and a significant increase in those aged 65 and over (24%). This shows the ageing population in the region and indicates that the working age population is set to decrease further in future, meaning there may be a need to attract more working age people to the region.

[18] NRS, Mid-Year Population Estimates by Settlement 2012 and 2016, https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates
[19] NRS, Population Estimates for Scotland, Census 2011, https://www.nrscotland.gov.uk/news/2012/census-2011-population-estimates-for-scotland
[20] 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

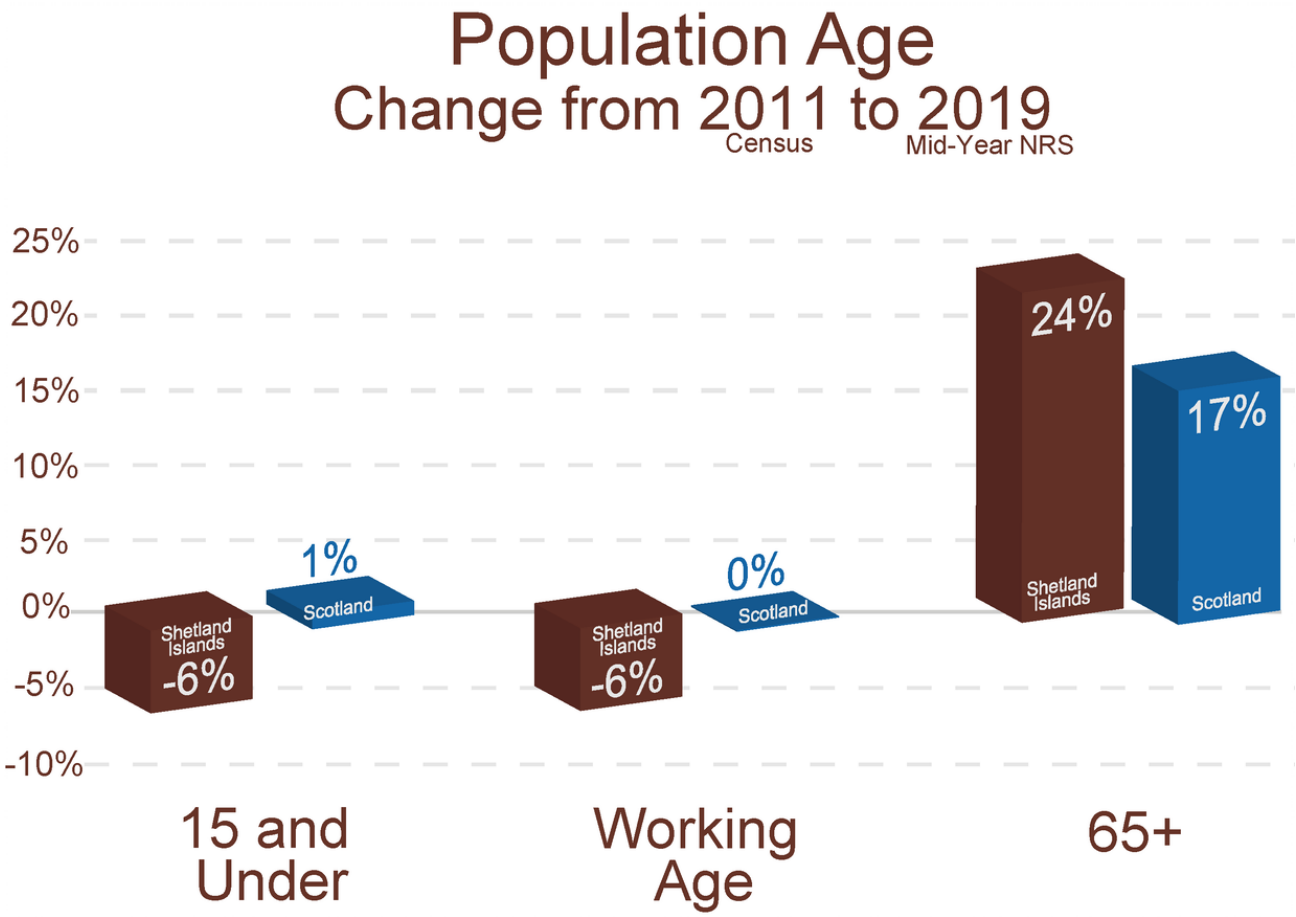


Figure 6: Population Age Structure Comparison – 2011 to 2019

2.3.3. Travel to Work – Car Availability

Figure 7 shows that in the Shetland Islands region, the percentage of households that did not have access to a car (19.1%) was relatively similar to the regional benchmark (20.1%), but considerably lower than the national average (30.5%). Across the Shetland Islands region, the highest proportion of households without access to a car or van was in southeast of Unst, at 30% or less. Relative to other regions within STPR2, households that own 3 or more cars or vans were most common in the Shetland Islands region: 38.6% of households in the region had access to multiple cars or vans[21].

[21] ONS, KS404UK, Car or Van Availability, 2011, https://www.nomisweb.co.uk/census/2011/ks404uk

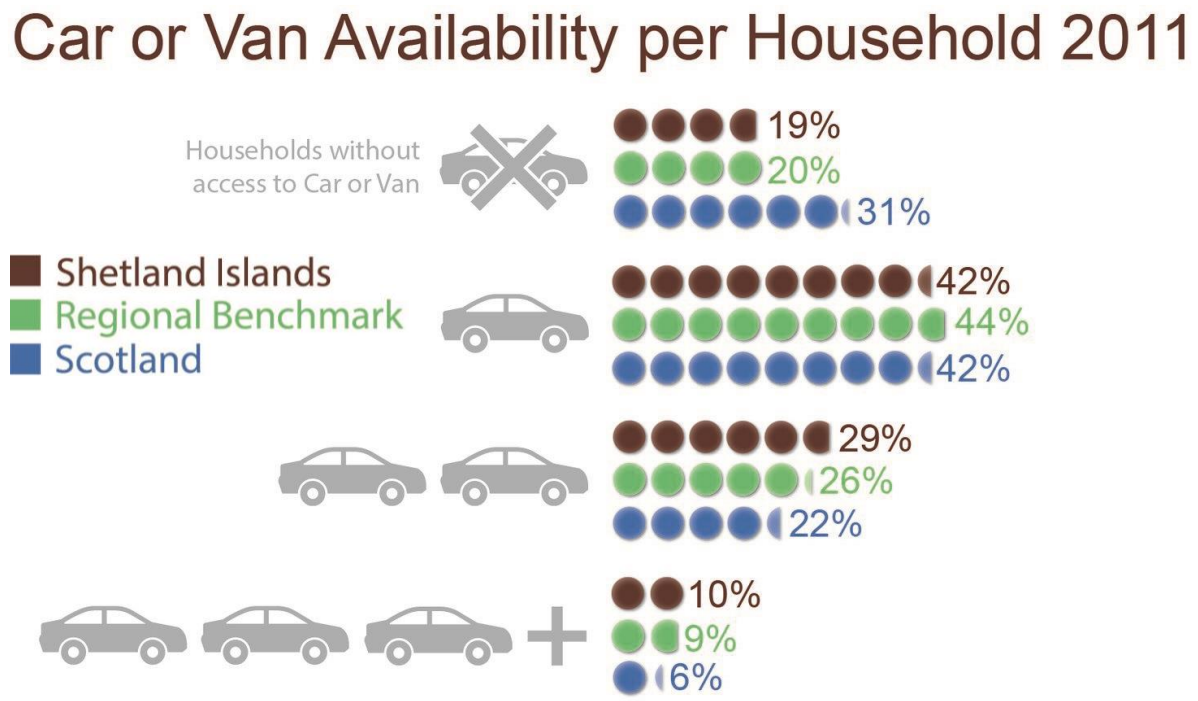


Figure 7: Car or Van Availability 2011

2.3.4. Travel to Work – Mode Share

A relatively high number (71.4%) of commuters travelled to work by car[22], compared with the regional benchmark (65.1%)[23] and national average (61.8%)[24]. As shown in Figure 8, travelling to work via active travel in the Shetland Islands region was consistent with both the regional benchmark figure and the national average. A noticeably low level (3.4%) of commuters travelled via bus in the Shetland Islands region when compared with the national average (10.0%)[22].

[22] NRS, Table QS701SC - Method of travel to work. All people aged 16 to 74 in employment the week before the census (excluding full-time students), Census 2011, https://www.scotlandscensus.gov.uk/ods-analyser/jsf/tableView/tableView.xhtml

[23] The regional benchmark is an average created using data from the Shetland Islands, Orkney Islands and Western Isles Council areas.

[24] The national average is the average across Scotland.

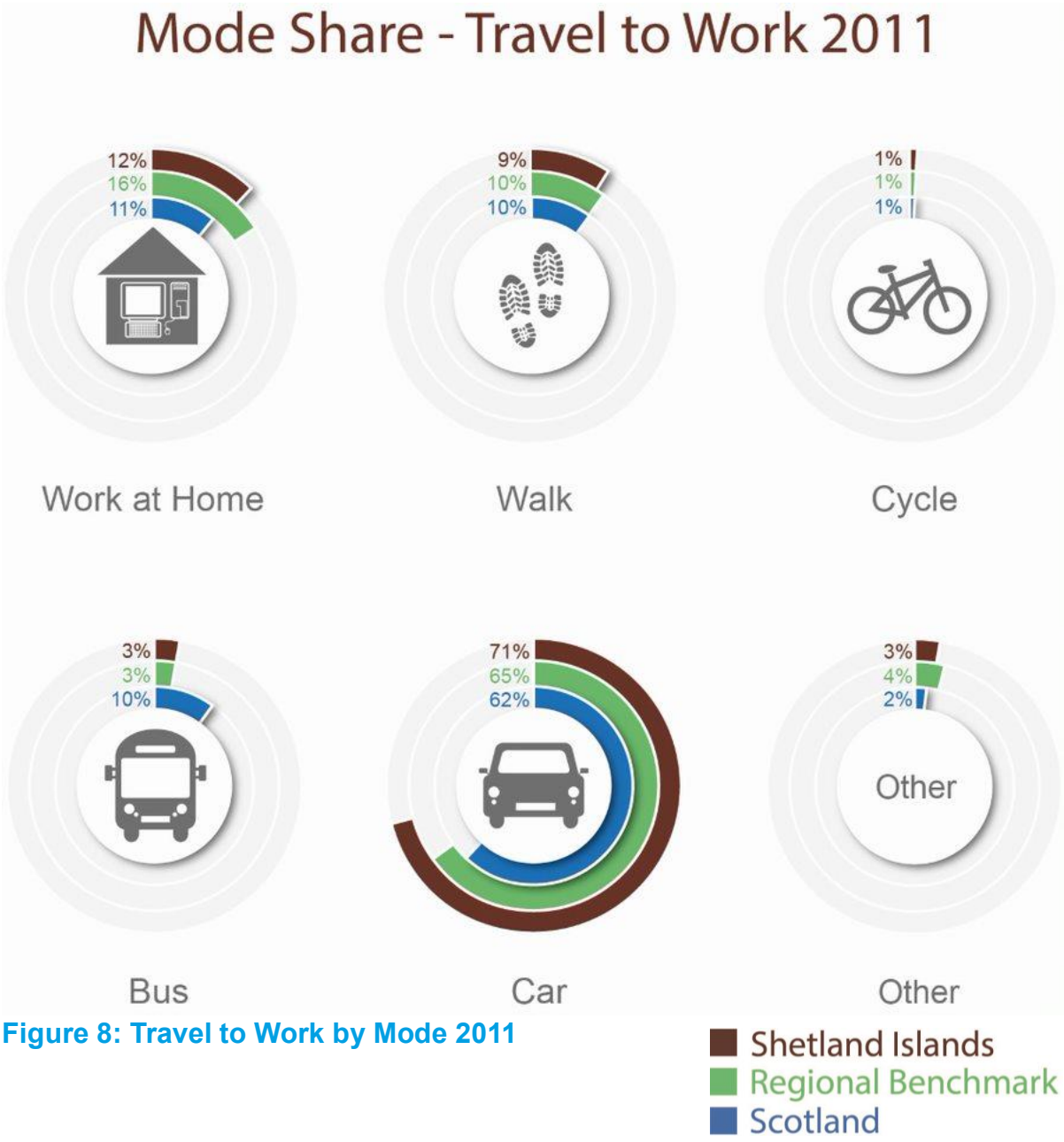


Figure 8: Travel to Work by Mode 2011

2.3.5. Travel to Work – Distance Travelled

In 2011, the proportion of the journeys to work undertaken within the Shetland Islands region with a distance less than 2km was 4.3% higher than the national average[25], as shown in Figure 9 overleaf. Travel between 2km and 5km and between 5km and 10km was less common in the Shetland Islands region compared to the national average, where it is 5.2% and 4.7% lower, respectively. Commuter distances of 20km to 30km and 30km to 40km were more common in Shetland than nationally, but the proportions of the longest distance travelled (40 to 60km and over 60km) were comparable to the national averages. The percentage of the working population working mainly at or from home in the Shetland Islands region was 12.2%; this was 1.4% higher than the national average. Overall, it

[25] NRS, Table QS703SC - Distance travelled to work. All people aged 16 to 74 in employment the week before the census (excluding full-time students) Census 2011, https://scotlandscensus.gov.uk/

appears that commuting distances in the Shetland Islands region are broadly similar to those across Scotland.

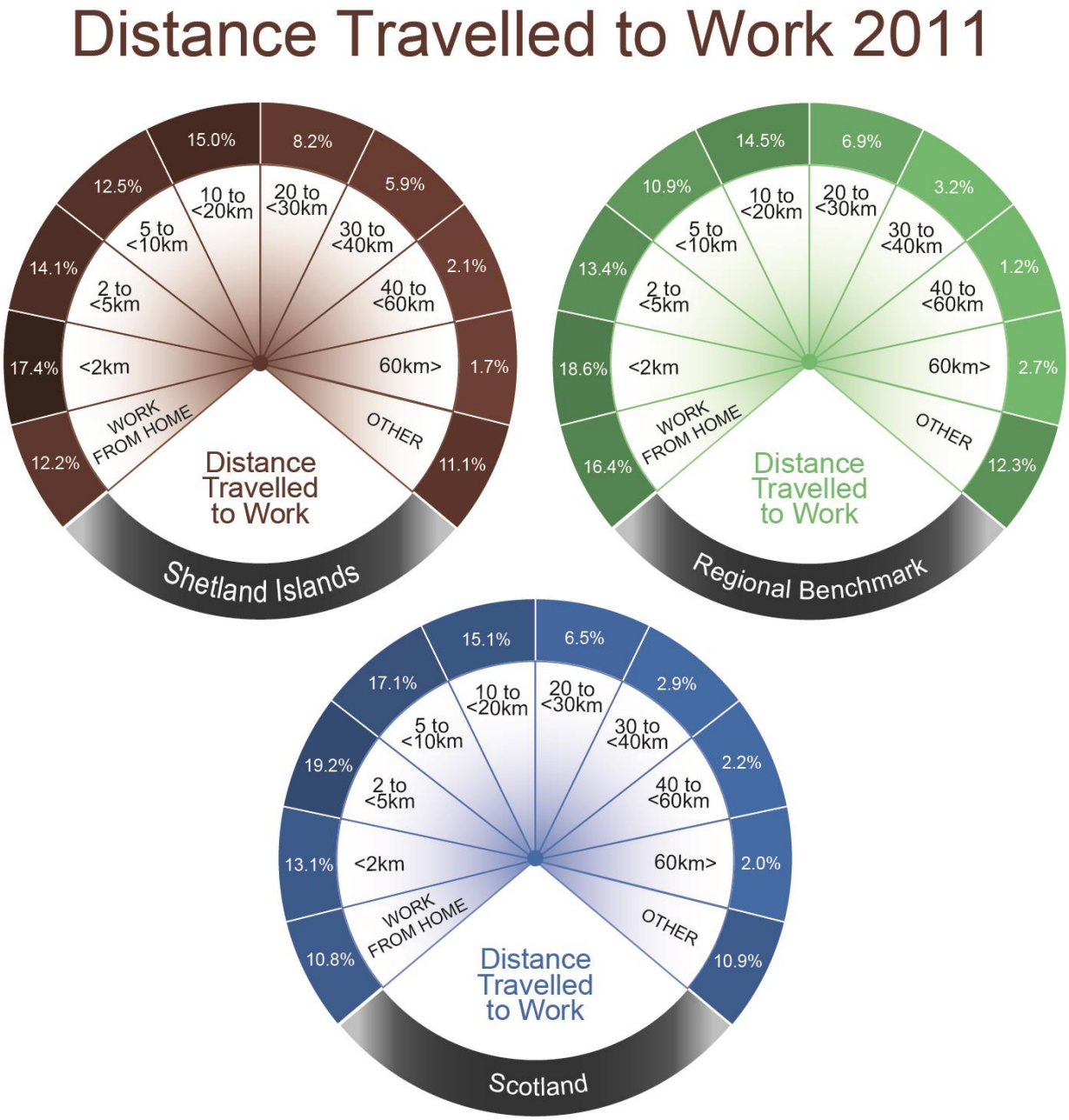


Figure 9: Distance Travelled to Work 2011

2.3.6. Economic Activity

Economic activity refers to an estimation of whether usual residents aged 16 to 74 were in work or actively looking for work. Annual economic activity estimates are produced by the Office for National Statistics[26]. Data reported in 2019 demonstrates that in the Shetland Islands region, economic activity was 3.7% higher than the national average. However, between 2014 and 2019 economic activity had fallen by 6.3% in the region; which is the largest decrease in any region.

[26] ONS, Official Labour Market Statistics (Nomis), 2019, https://www.nomisweb.co.uk/

Relative to other STPR2 regions, regional employment was the third highest in the Shetland Islands region at 77.5%; this was 2.7% higher than the national average. Between 2014 and 2019, employment decreased by 3.6%, compared to a 2.2% increase nationally for this period[27]. In the Shetland Islands region, the mean annual pay was £29,578; this is comparably higher (by £623) than the national average. Between 2014 and 2019, mean annual pay increased by 17.4%[28].

Employment growth in the real estate industry, public administration and defence industry, and mining and quarrying industry was significant between 2013 and 2018, with an increase of 33%, 60% and 200% respectively[27]. In 2018, the Agriculture, Forestry and Fishing industry was the largest employer in the Shetland Islands region, accounting for 18.9% of the employed population, as shown in Figure 10 overleaf; this was 15.7% greater than the national average figure. Human Health and Social Work was the second largest employment sector in the Shetland Islands region, accounting for 14.2% of the working population. However, this was 0.9% lower than the national average employment in the sector, and between 2013 and 2018, employment share in this sector fell by 10%. Between 2013 and 2018, the Professional, Scientific and Technical Activities, and the Accommodation and Food Service industries experienced the largest declines in employment, reducing by 28.6% and 20% respectively. Overall, the industry that employed the fewest people in 2018 was the IT, Finance & Real Estate industry, employing 2.1% of the working population in the region.

[27] ONS, Official Labour Market Statistics (Nomis), 2019, https://www.nomisweb.co.uk/
[28] ONS, NOMIS, Annual Survey of Hours and Earnings (2014-2019), 2019, https://www.nomisweb.co.uk/query/construct/summary.asp?reset=yes&mode=construct&dataset=30&version=0&anal=1&initsel=

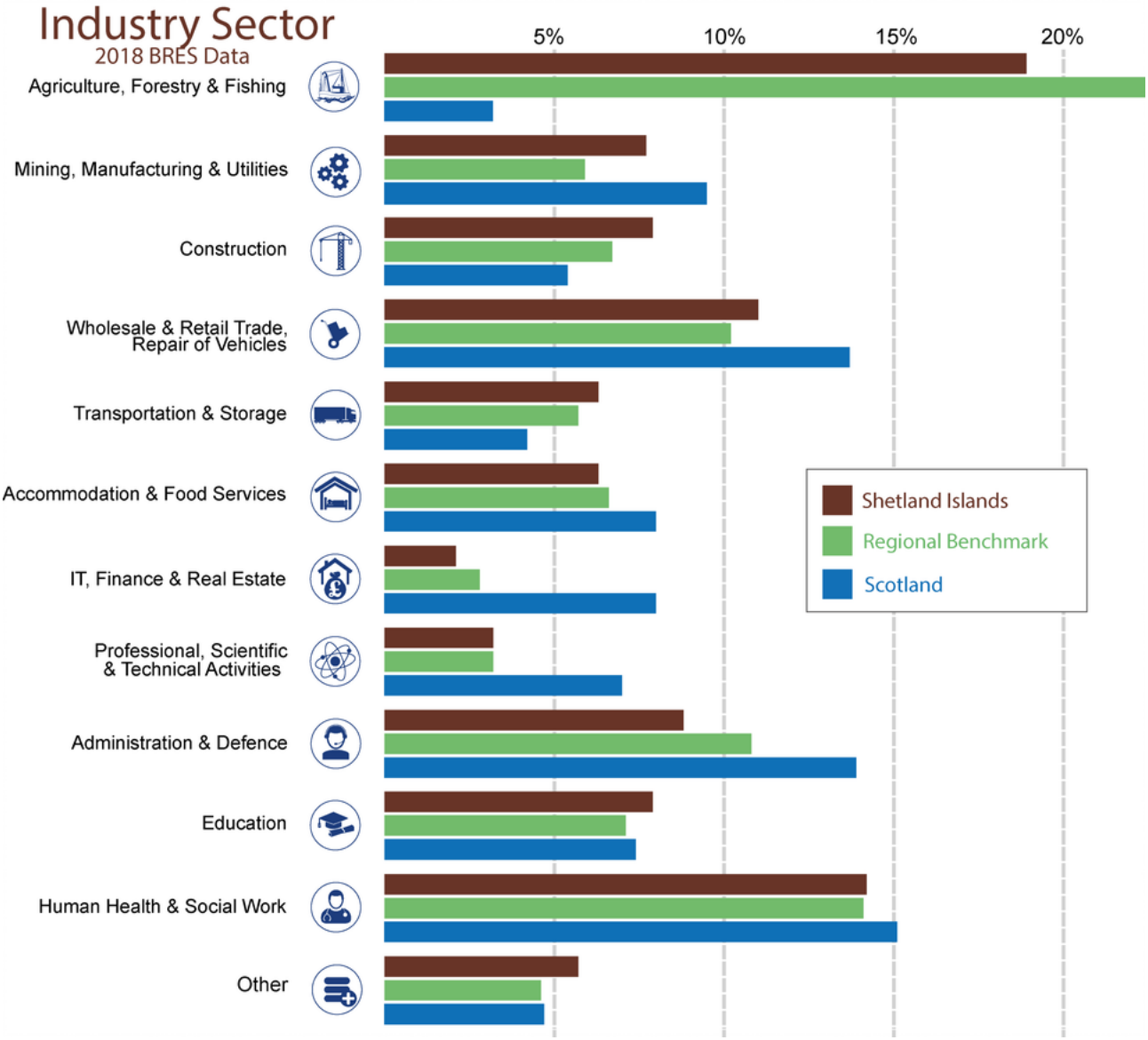


Figure 10: Percentage of People Working in each Industry Sector for Shetland Islands Region

The Shetland Islands welcomed 80,128 visitors to the region in 2019; this is an increase of approximately 9% from 2017[29]. Overall, the number of 'friends and relatives' visitors increased markedly (91%) within the same period, from 8,791 in 2017 to 16,827 in 2019. The number of leisure visitors rose slightly (7%) from 38,096 in 2017 to 40,865 in 2019. Tourism generated over £35 million for the Shetland economy in 2019, a 56% increase from 2017 at £23 million. Generally, the greatest expenditure for visitors was the cost of travel to the region from mainland Scotland at an average of £193 per person in 2019; this was over 10 times greater than the average amount spent per person on entertainment and recreation.

[29] Shetland Islands Council and Visit Scotland, Shetland Islands Visitor Survey (2019), 2020, https://www.visitscotland.org/binaries/content/assets/dot-org/pdf/research-papers/shetland-islands-visitors-survey-2019.pdf

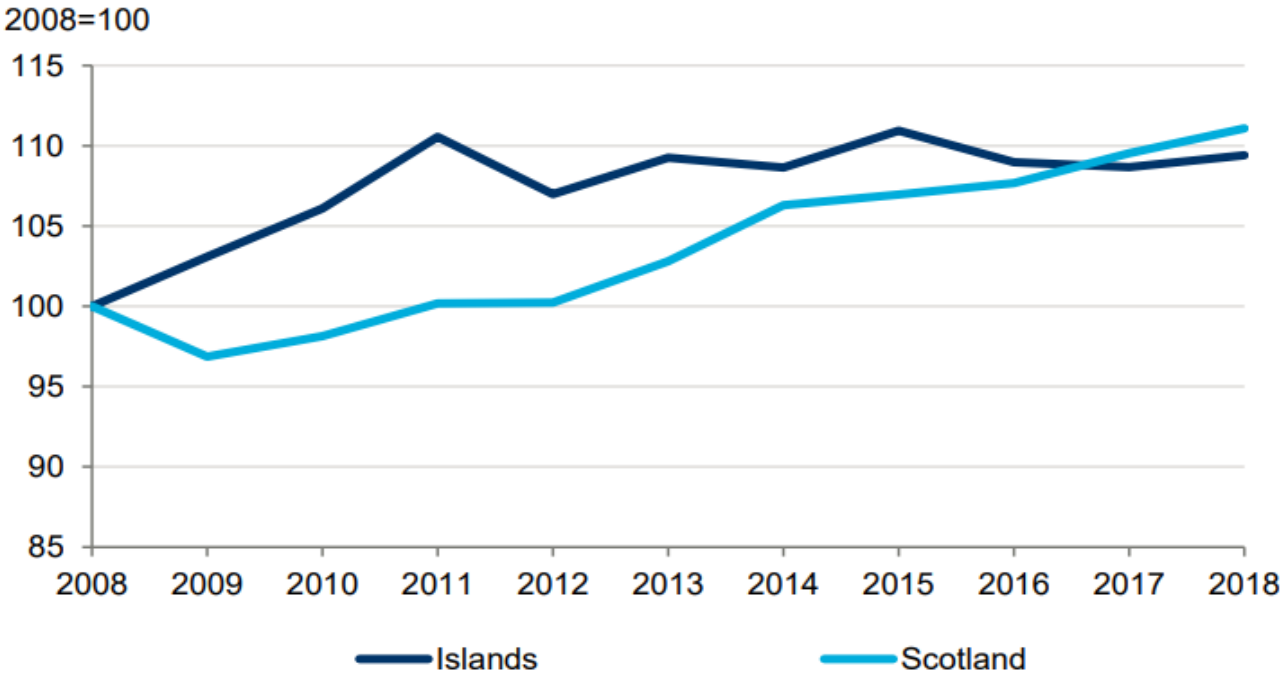


Figure 11: Index of GVA, Islands and Scotland, 2008-2018

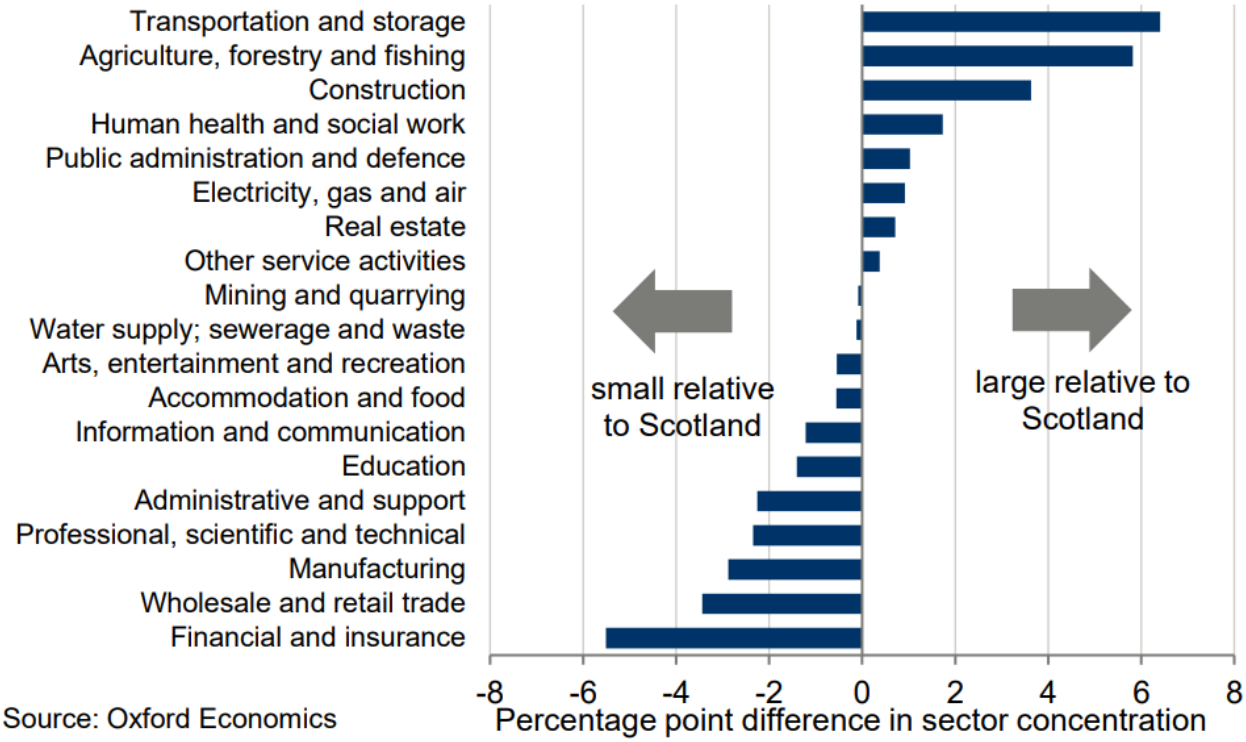
As shown in Figure 11, Gross Value Added (GVA) across the Western Isles, the Shetland Islands and the Orkney Islands, denoted as the 'Islands', experienced a distinct increase in GVA relative to the national average during the 2008-2009 economic recession[30]; the islands are the only region in Scotland that did not see a contraction in economic output during this recession. However, overall GVA on the Islands has fallen in 4 out of 7 years since 2011, despite steady growth across Scotland.

Between 2015 and 2018, the Islands' GVA declined by 2%. Between 2016 and 2018, the Islands' GVA remained relatively constant, approximately 9% higher than 2008 levels, and GVA for Scotland increased by approximately 3%, 11% higher than 2008 levels. In 2018, the Shetland Islands region contributed 0.5% or £762 million of the Scottish Gross Value Added (GVA)[31]. In 2018, the estimated average GVA per head in the Shetland Islands region sat at £33,145, above the national average of £26,134 GVA per head[32].

[30] Oxford Economics, International Research on Regional Economies. Implications for delivering inclusive growth in Scotland, 2019, https://www.scottishfuturestrust.org.uk/storage/uploads/internationalresearchonregionaleconomiesmay2019.pdf

[31] ONS, Regional gross value added (balanced) by industry: local authorities by NUTS1 region: UKM Scotland chained volume measures in 2016 money value, 2018, https://www.ons.gov.uk/

[32] Based on NRS, Mid-Year Population Estimates Scotland 2018 and ONS, Regional gross value added (balanced) by industry: local authorities by NUTS1 region: UKM Scotland chained volume measures in 2016 money value, 2018



Source: Oxford Economics

Figure 12: Sector GVA Share, Islands vs Scotland, 2018

Figure 12 shows the importance of the Transportation and Storage sector and the Agriculture, Forestry and Fishing sector to the Shetland Islands' economy; both are approximately 6% above the national average. In contrast, the Financial & Insurance sector and the Wholesale & Retail Trade sector, 2 of Scotland's most successful sectors, are both under-represented on the Islands[33].

2.3.7. Access to Employment

Figure 13, overleaf, illustrates the accessibility in the region to key employment centres by public transport on a typical weekday morning. Key employment locations are mostly located in Scalloway, Lerwick and surrounding the Sullom Voe Oil Terminal. The figure indicates that the majority of mainland Shetland can access a key employment centre within 2 hours travel time on public transport on a typical weekday between 06:00 and 10:00. Figure 13 demonstrates that most localities within close proximity to Lerwick can access a key employment centre within 1 hour or less via public transport on a typical weekday between 06:00 and 10:00. The unshaded areas on the map, namely the islands, indicate where journey times are either in excess of 2 hours or cannot be made via public transport on a typical weekday between 06:00 and 10:00.

[33] Oxford Economics, International Research on Regional Economies. Implications for delivering inclusive growth in Scotland, 2019, https://www.scottishfuturestrust.org.uk/storage/uploads/internationalresearchonregionaleconomiesmay2019.pdf

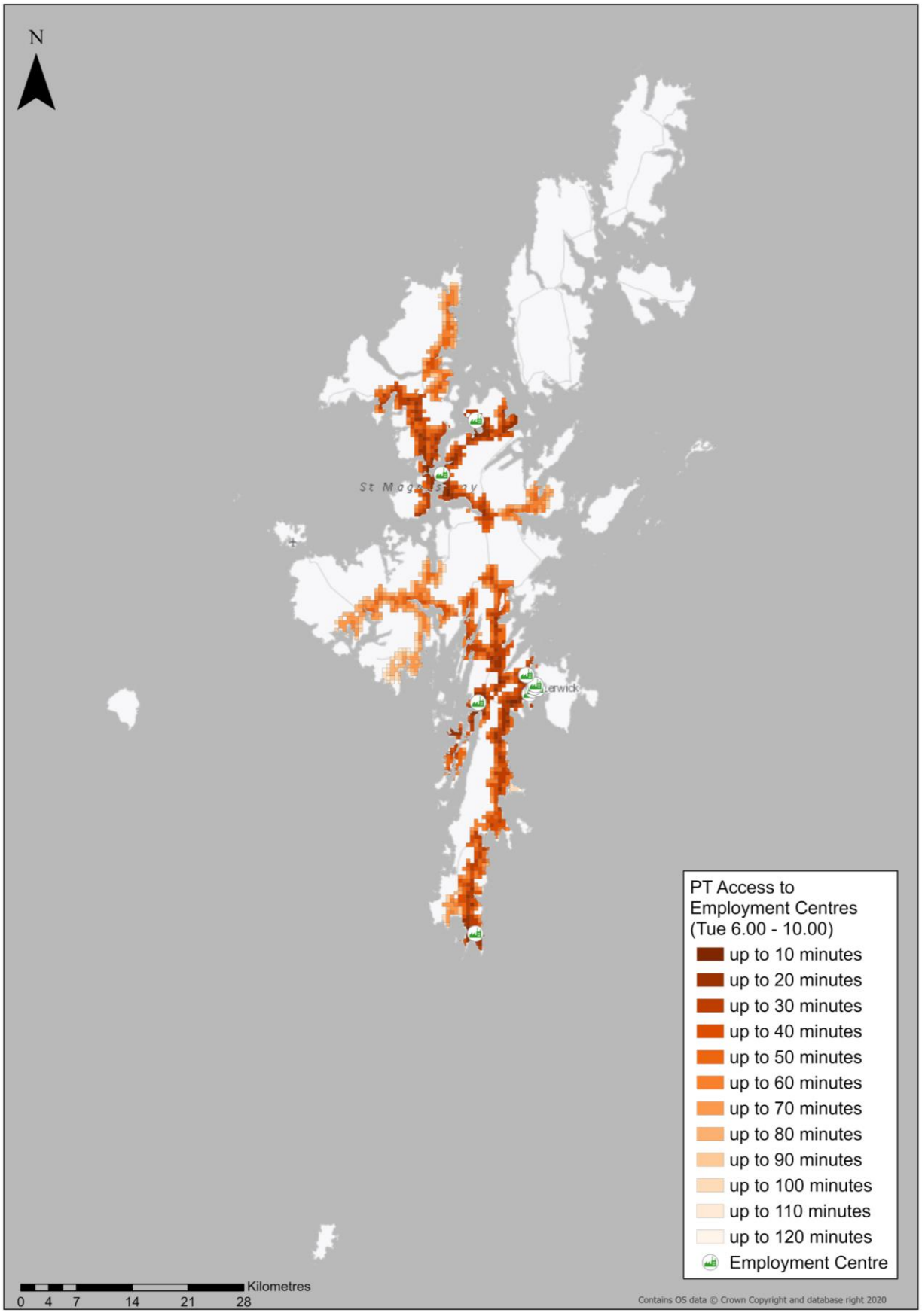


Figure 13: Access to Employment by Public Transport

(Click to image to enlarge figure)

2.3.8. Deprivation

In 2019, the percentage of the population that did not have any qualifications in the Shetland Islands region was 3.6%, 6.2 percentage points lower than the national average[34]. Between 2014 and 2019, the Shetland Islands had the largest decline (12.8 %) in people with the highest level of qualifications (NVQ4+) relative to other local authorities.

The Shetland Islands region contributed 0.2% of Scotland's total benefit claimants and made up 0.4% of the population[35].

Between 2012 and 2018, the mean house price sale in the Shetland Islands region increased by £44,475 (36.6%)[36]. The mean house price in 2018 was £165,008; this was £16,449 (10%) cheaper than the national average mean house price. The average salary in the Shetland Islands is 2.2% higher than the national average, at £29,578.

Relative to other STPR2 regions, in 2017, the Shetland Islands region had the second highest proportion (67.9%) of dwellings within the lowest council tax bands (A-C) and the highest mean social housing weekly rental price; 5.2% higher than the national mean[37]. Social rental is the rent paid by tenants for housing that is managed and owned by public authorities or housing associations.

Figure 14, overleaf, indicates that deprivation in the region, as measured by the Scottish Index of Multiple Deprivation (SIMD 2020), was generally low; there were no data zones on the Shetland Islands within the 20% most deprived in Scotland[38]. Owing to the remote nature of the region, it was ranked within the most deprived decile for the geographic access domain, which is intended to capture the issues of financial cost, time and inconvenience of having to travel to access basic services. Some types of deprivation exist on the North and East Isles and North Mainland, and pockets of deprivation exist within Lerwick North. Data zones surrounding Holmsgarth, which is an area of Lerwick, records high levels of crime in addition to health deprivation with both islands of Yell and Unst recording income deprivation.

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[34] NOMIS, Level of Highest Qualification: Annual Population Survey (2014-2019), 2019, https://www.nomisweb.co.uk/

[35] NOMIS, Benefit Claimants: Claimant Count, (2014-2019), 2019, *ibid*.

[36] Scottish Government, House Price Mean Value (2012-2019), 2019, https://statistics.gov.scot/resource?uri=http%3A%2F%2Fstatistics.gov.scot%2Fdata%2Fhouse-sales-prices

[37] Scottish Government, Percentage of Houses in Council Tax Bands in 2019, 2020, https://statistics.gov.scot/data/dwellings-council-tax

[38] *The Scottish Index of Multiple Deprivation (SIMD) identifies small area concentrations of multiple deprivation across all of Scotland in a consistent way. It allows effective targeting of policies and funding where the aim is to wholly or partly tackle or take account of area concentrations of multiple deprivation. SIMD ranks small areas (called data zones) from most deprived (ranked 1) to least deprived (ranked 6,976). People using SIMD will often focus on the data zones below a certain rank, for example, the 5%, 10%, 15% or 20% most deprived data zones in Scotland*. Available at: https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/

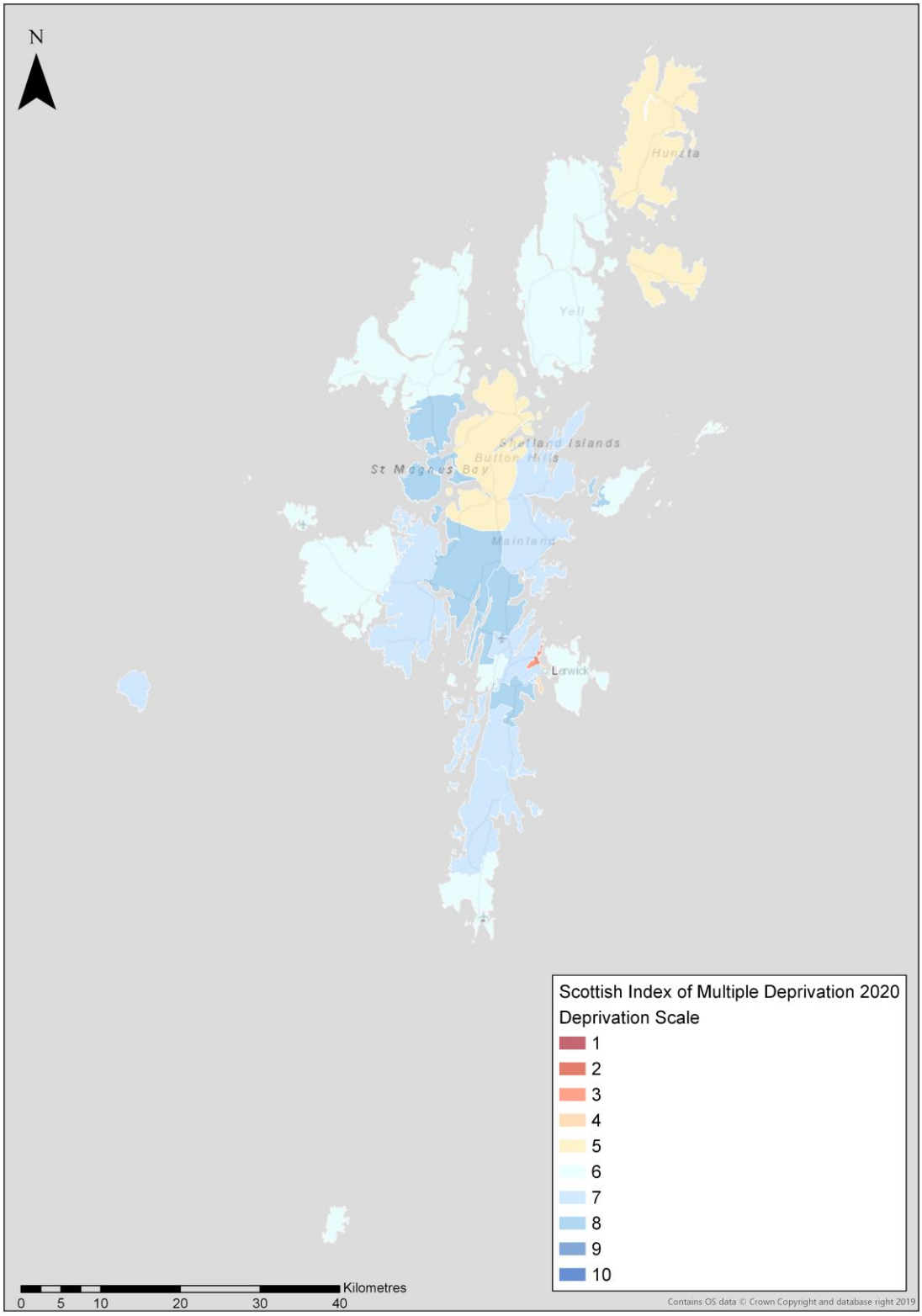

Figure 14: Shetland Islands Region Deprivation Index (SIMD)[39]

(Click to image to enlarge figure)

[39] The SIMD Deprivation Scale is measured from 1 (Most Deprived) to 10 (Least Deprived)

2.3.9. Health

The Scottish Health Survey data includes information on the proportion of the population of each local authority area that has a long-term physical or mental health condition; this can be used as a proxy indicator of health outcomes in addition to the ability of people to use all modes of transport. Between 2012 and 2015, the Scottish Health Survey employed the Warwick Edinburgh Mental Health and Wellbeing Scale (WEMWBS) recording a score of 50.7 for the Shetland Islands region[40], comparable to the mean scores of Scotland (50.0), Orkney (50.8), the Western Isles (51.1) and the Highlands (51.1). As such, people in Shetland are considered to have a similar level of mental wellbeing as comparable rural areas and slightly higher than Scotland overall.

According to the Scottish Household Survey, the prevalence of long-term physical or mental health conditions amongst adults in the Shetland Islands region was 32%, which is similar to the national average of 30%[41]. Long-term physical or mental health conditions were notably higher in Orkney Islands' at 36%, and considerably lower in Na h-Eileanan Siar, at 21%.

According to the 2011 Census data, 17.3% of the population within the Shetland Islands Council area were limited in undertaking day-to-day activities due to their disability[42], compared to 19.6% in Scotland overall. From 2001 to 2011 the proportion of the population in Shetland limited in undertaking day-to-day activities due to their disability increased by 1.6 %, whilst the proportion in Scotland declined by 0.7 %[42].

Between 2014 and 2017, the proportion of the population classified as overweight was relatively high in the Shetland Islands region at 71%, compared with the national average of 65%. Notably, relative to all other local authorities in Scotland, the Shetland Islands Council area was recorded the third highest level of overweight men (75%); this was

[40] NHS Shetland, Public Health Annual Report 2016-17: Mental Wellbeing in Scotland, 2017, https://www.shb.scot.nhs.uk/board/publichealth/documents/phar2017-mainreport.pdf

[41] Scottish Government, Scottish Household Survey, Chapter 2, Table 2.4, The Composition and Characteristics of Households in Scotland, Local Authority Tables, 2018, https://www.gov.scot/publications/scottish-household-local-authority-tables/

[42] NRS, Long-term activity-limiting health problem or disability by council area, Census 2011 (Scotland), 2001 and 2011, https://www.scotlandscensus.gov.uk/documents/censusresults/release2a/rel2asbfigure15.pdf

comparable with the Western Isles (74%) and the Orkney Islands (73%). As shown in

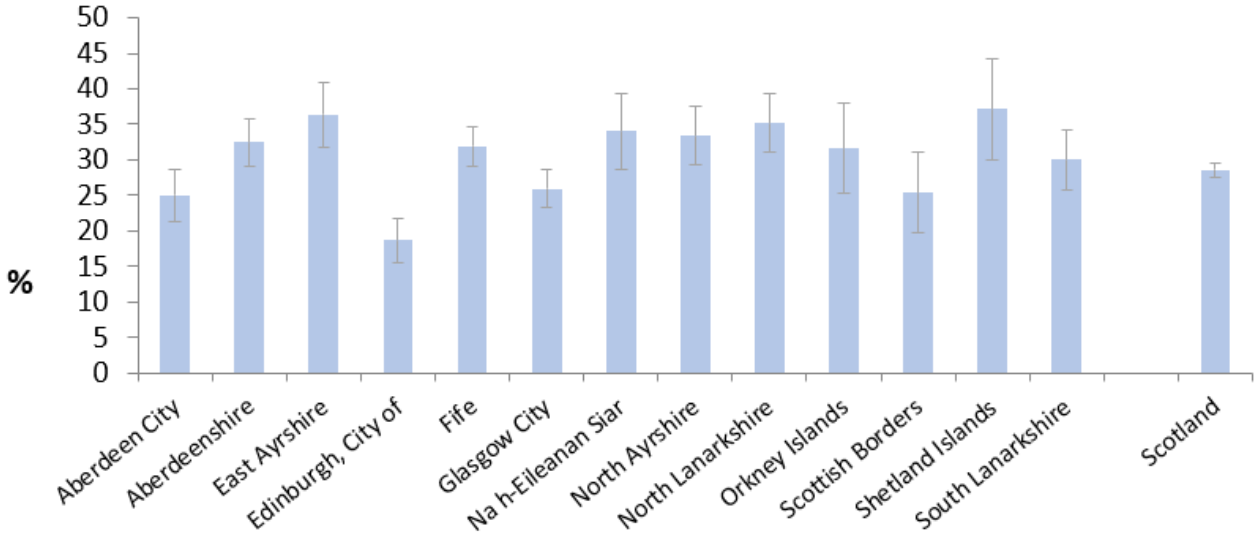

Figure 15, the prevalence of obesity in the Shetland Islands Council area was recorded as the highest of all Scottish local authorities within this time period, recorded at 37% of the adult population; this is 9% higher than the national average figure.

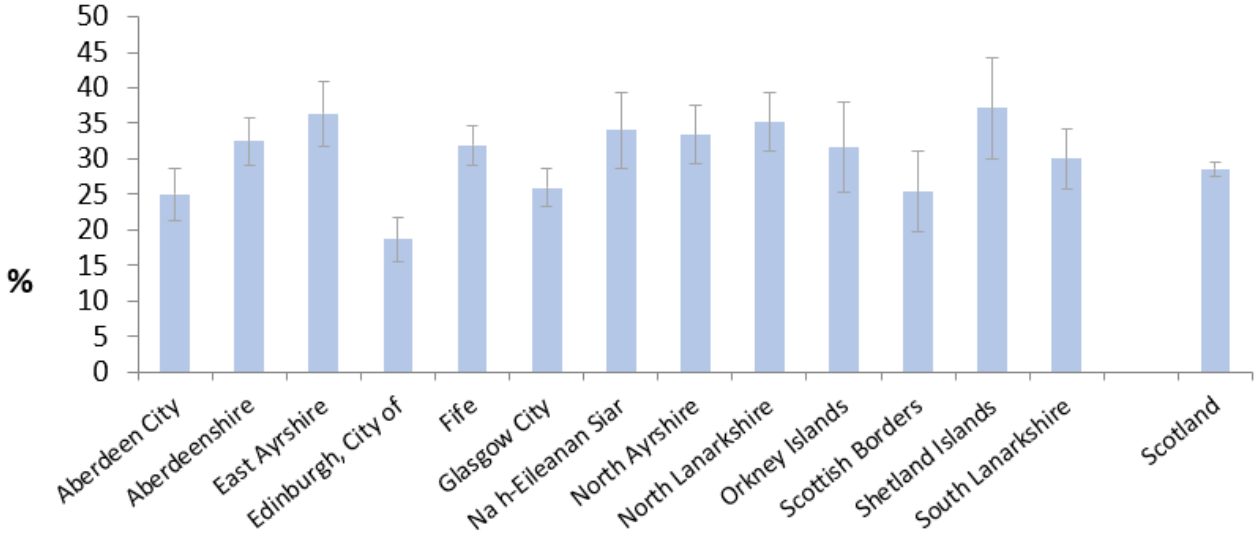

Figure 15: All adults: Prevalence of obesity by local authority (The Scottish Health Survey, 2014-17)

2.4. Environmental Context

Within the Shetlands islands region, there are many areas classified as environmentally sensitive, with varying levels of statutory protection. Environmental designations within the region include the following biodiversity, landscape and heritage designations, which fall either wholly or partly within the region:

- 78 Sites of Special Scientific Interest (SSSI)
- 12 Special Protection Areas (SPA)
- 13 Special Areas of Conservation (SAC)
- 3 proposed Special Protection Areas (pSPA)
- 1 Ramsar Site

- 5 Nature Conservation Marine Protected Areas (MPA)
- 1 Demonstration and Research Marine Protected Area
- 4 Marine Consultation Areas
- 2 National Nature Reserves (NNR)
- 1 Royal Society for the Protection of Birds (RSPB) Reserve
- 1 National Scenic Area (NSA)
- 4 Gardens and designed landscapes
- 3 Conservation Areas
- 390 Scheduled Monuments
- 2 Heritage Marine Protected Areas (MPA)
- 1 UNESCO Global Geopark.

An environmental constraints mapping exercise has been undertaken, as presented in Figure 16, which demonstrates the majority of the region's designated biodiversity sites are located in the north of the isles around the Yell Sound. There are no Local Nature Reserves (LNR), National or Regional Parks within the region.

In addition, the region contains a significant number of historic assets, including two Heritage Marine Protected Areas and 515 Category A-C Listed. Cultural heritage assets are scattered throughout the region, with the main concentration being found in Lerwick. There are no World Heritage Sites or Battlefield Sites within the region.

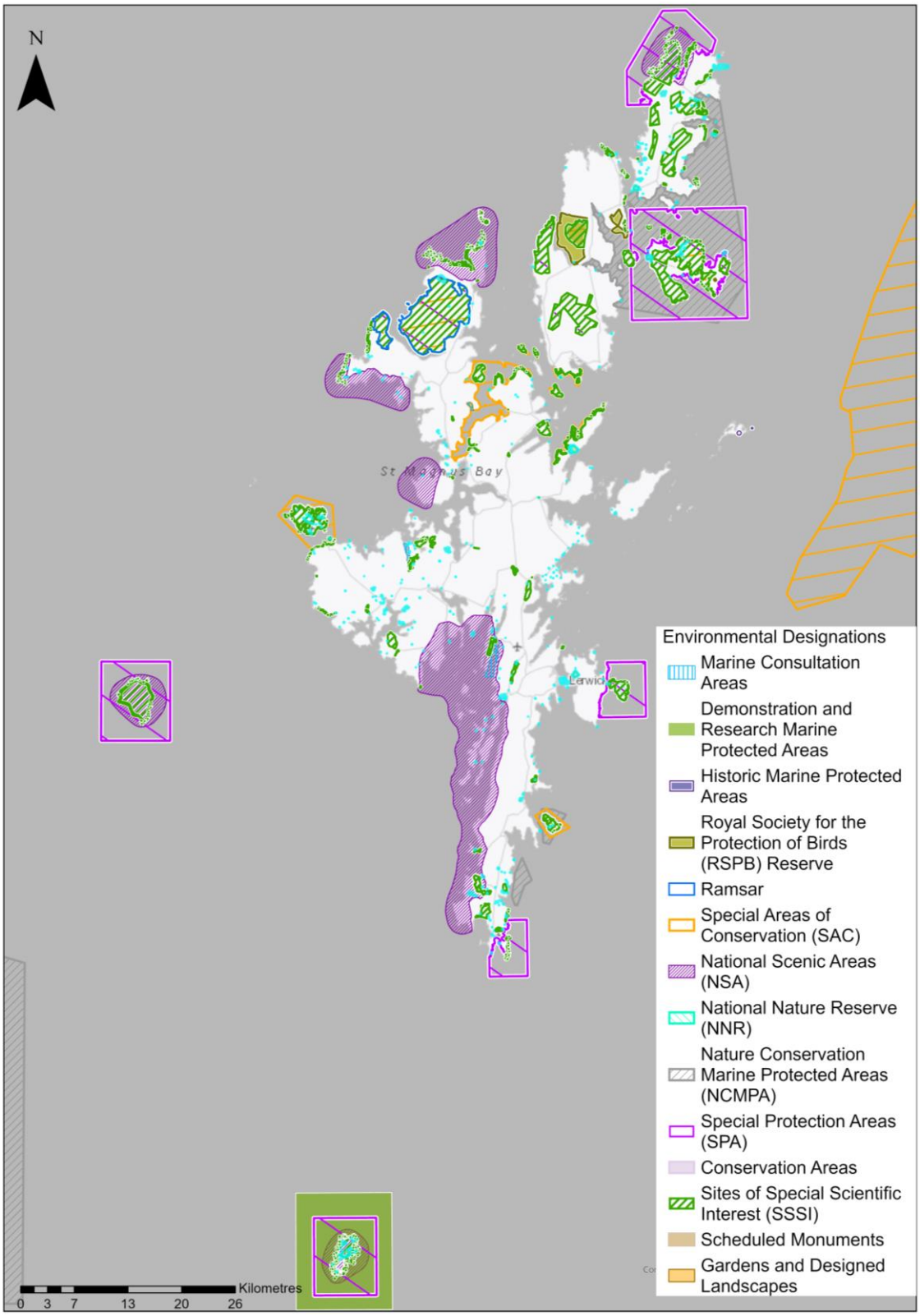

Figure 16: Environmental Designations for the Shetland Islands Region

(Click to 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[43]) 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 (two hundred and fifty thousand): Aberdeen, Dundee, Edinburgh and Glasgow)"[44].* Noise emissions from road, rail, airports and industry have not been modelled for the Shetland Islands region as they do not meet these requirements.[45]

Scottish Environmental Protection Agency (SEPA) flood mapping identifies the likelihood of flooding within the region from river and coastal flooding at medium (1 in 200-year return period) and high (1 in 10-year return period), as demonstrated in Figure 17.

Areas at risk of coastal flooding in the region are predominantly along the northern coastline; the likelihood of flooding in these areas are high (1 in 10 year). There are several areas at risk of river flooding throughout the region, however these tend to be localised in nature. Areas at risk of coastal and river flooding are rural in nature, with no major settlements or infrastructure at risk.

[43] The noise mapping data is reviewed on a five year rolling programme. Round 3 is the latest 5 year update.
[44] Scottish Government, Scotland's Noise, 2017, https://noise.environment.gov.scot/index.html
[45] Scottish Government, Scotland's Noise, 2017, https://noise.environment.gov.scot/index.html

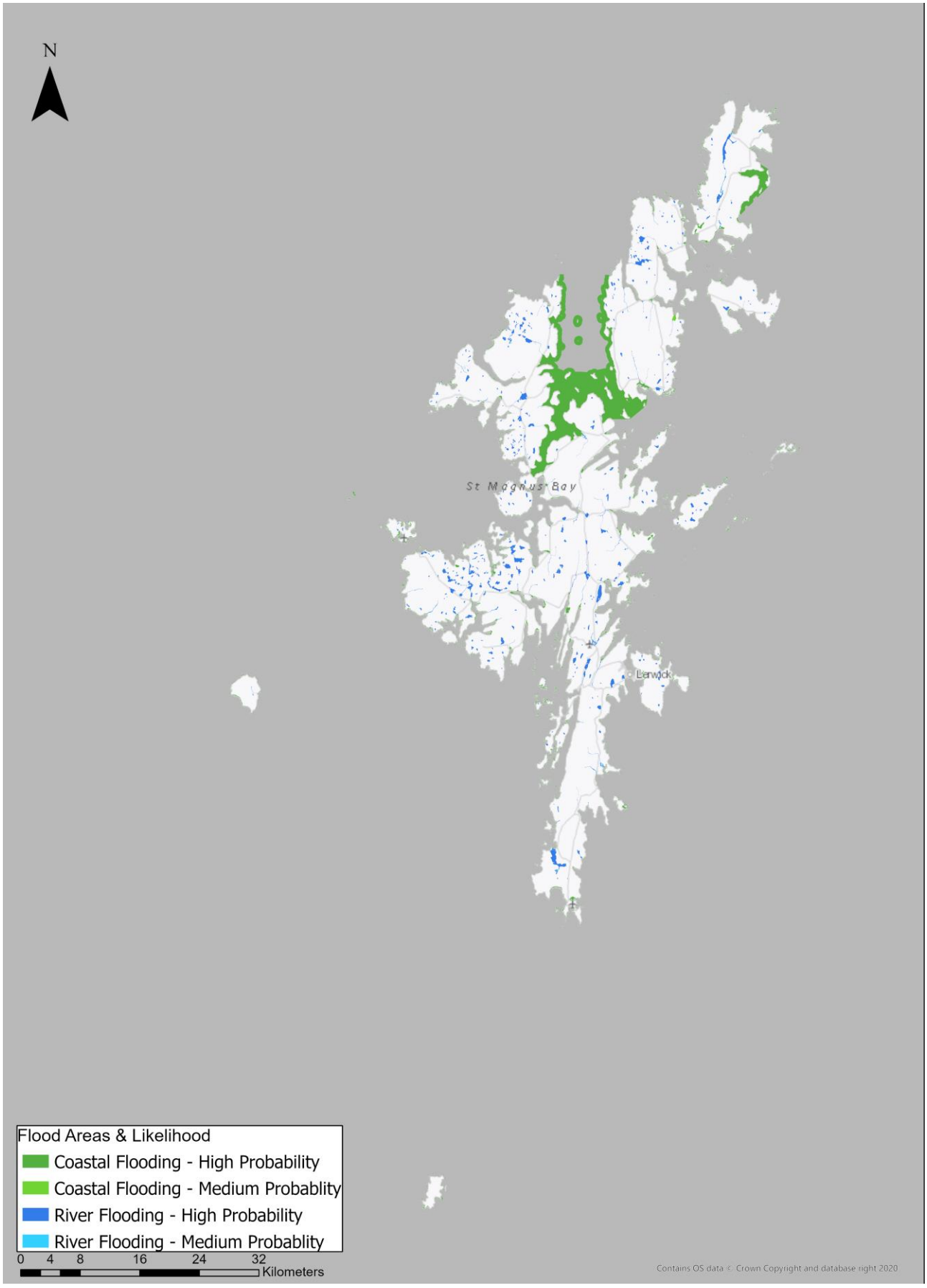

Figure 17: Likelihood of Coastal and River Flooding in the Shetland Islands Region

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.[46] The region's soil type is dominated by peat of varying types, which cover the majority of the land. Figure 18 shows the distribution of carbon and peatland classes for soils across the region. Classes 1 and 2 represent nationally important carbon-rich soils, deep peat and priority peatland habitat; Class 3 represents occasional peatland habitats with carbon-rich soils and some areas of deep peat; Class 4 represents predominantly mineral soils, unlikely to include carbon-rich soils; and Class 5 represents areas where no peatland habitat is recorded however soils are carbon rich and deep peat.[47]

[46] NatureScot, Managing nature for carbon capture, 2020, https://www.nature.scot/professional-advice/land-and-sea-management/carbon-management/manageing-nature-carbon-capture

[47] Scottish Government, Scotland's Soils, 2016, https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/

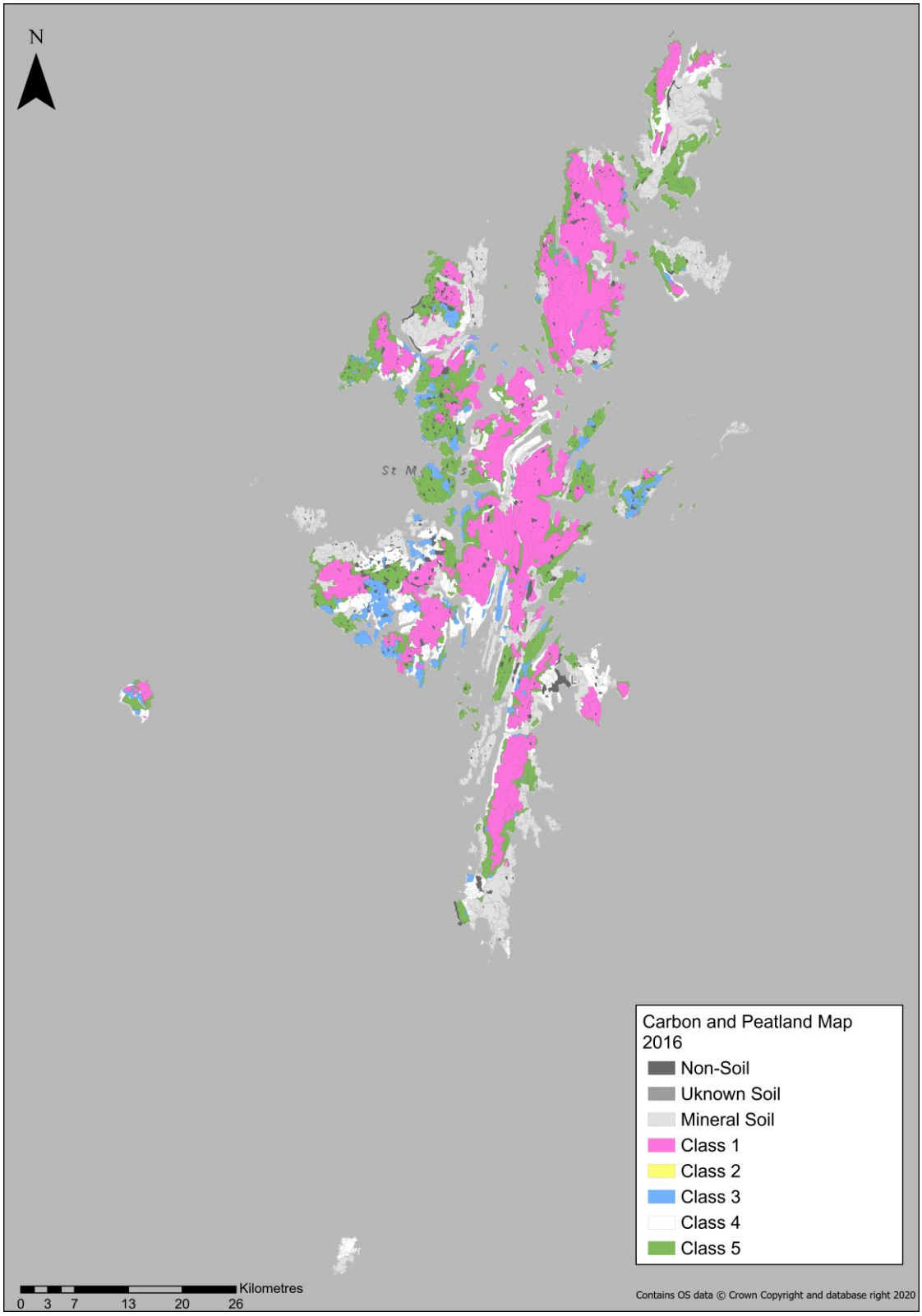

Figure 18: Carbon and Peatland Map for the Shetland Islands Region[48]

(Click to image to enlarge figure)

[48] Scottish Government, Scotland's Soils, 2016, https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/

Due to the remote rural nature of the region, air quality is not identified as an environmental concern, and there are no Air Quality Management Areas within the Shetland Islands region.

In 2018, the Shetland islands region recorded higher CO_2 emissions per capita relative to the Scotland National average, as shown in Table 1. Table 1 shows that the Shetland Islands region's percentage of total emissions from transport was notably less than the Scotland National average (39%) at 21%.

Table 1: CO_2 Emissions Per Capita and Percentage of Transport-related Emissions[49]

Area	Per Capita Emissions, 2018 (t) CO_2	% of total emissions from transport
Shetland Islands region	10.0	21%
Scotland average	5.3	39%

2.5. Transport Context

2.5.1. Strategic Transport Network

Within the definition of this study, the Shetland Islands region strategic transport network is limited to the subsided external ferry services from Aberdeen to Lerwick (via Kirkwall), operated by Serco NorthLink.

2.5.2. Active Travel Network

Sustrans have recently reclassified sections of routes on the National Cycle Network. The National Cycle Network Route 1 (NCN1) used to utilise the road network to connect the south of mainland Shetland (Sumburgh) and the northeast of Unst (Norwick) via Yell. This section of NCN1 remains on the NCN Map, however, is classified as an on-road route not on the National Cycle Network. Figure 19, overleaf, illustrates the Shetland Islands Council's Core Paths network.

[49] 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

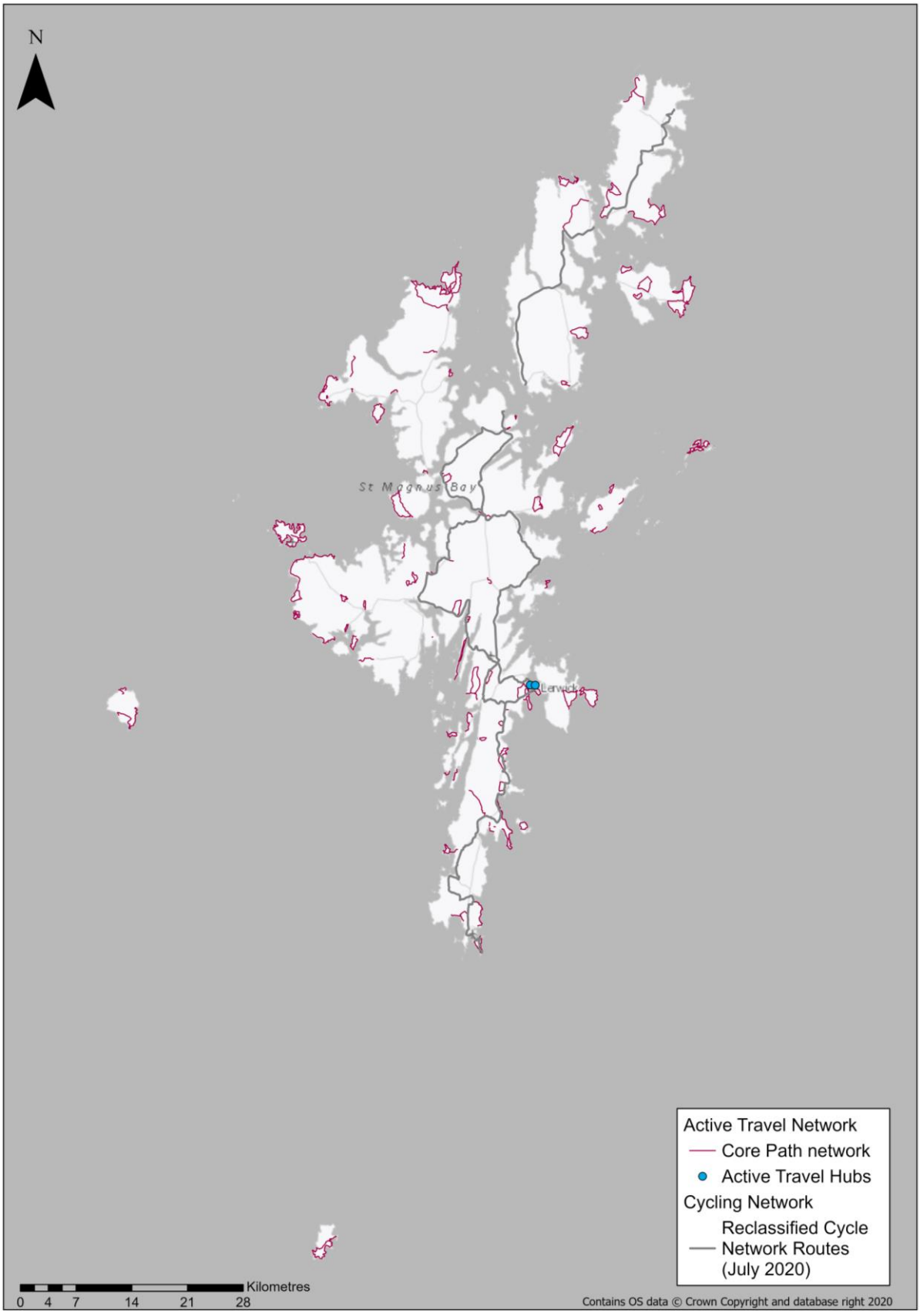

Figure 19: Shetland Islands Region Active Travel Network

(Click to image to enlarge figure)

2.5.3. Ultra Low Emission Vehicles

In 2019, Ultra Low Emission Vehicles (ULEVs) accounted for 1.1% of all licensed vehicles within the Shetland Islands region. The proportion of ULEVs relative to all licensed vehicles was ranked 19th highest compared to other local authorities in Scotland[50].

2.5.4. Bus Network

ZetTrans state that there is a comprehensive bus network in the region, consisting of frequent mainline services, rural connecting services and bookable dial-a-ride services[51]; these buses offer many rural communities services that provide access to essential services including work, healthcare and leisure. There are mainline or spine road services that run predominantly north to south. These services are more frequent and have larger, accessible vehicles. Feeder services provide access to the mainline services from rural outlining areas. These are typically less frequent and serviced by smaller vehicles, including minibuses.

All of the bus and coach operators that serve the region are local to the Shetland Islands and are all financed by ZetTrans.

2.5.5. Ports, Maritime and Aviation

There are 9 internal ferry destinations across the region[52]; as outlined in Figure 20 overleaf, Bressay, Fair Isle, Papa Stour, Foula, Whalsay, Skerries, Unst, Yell and Fetlar. Daily services operate between the Mainland and Yell, Unst, Fetlar, Whalsay and Bressay, with freight and limited passenger services operating between the Mainland and Foula, Skerries, Fair Isle, and Papa Stour. These serve as lifeline and seasonal crossings that connect communities to key services.

[50] Department for Transport, Table VEH0132: Licensed ultra low emission vehicles by local authority: United Kingdom, 2020, https://www.gov.uk/government/statistical-data-sets/all-vehicles-veh01 *Ultra low emission vehicles (ULEVs) are vehicles that emit less than 75g of carbon dioxide (CO_2) from the tailpipe for every kilometre travelled. In practice, the term typically refers to battery electric, plug-in hybrid electric and fuel cell electric vehicles.*

[51] ZetTrans, Shetland by Bus, 2020, https://www.zettrans.org.uk/travel/public-transport/bus

[52] Shetland Islands Council, Routes and Destinations, 2020, https://www.shetland.gov.uk/ferries/mapofservices.asp#RoutesandTerminals – accessed 18/02/2020

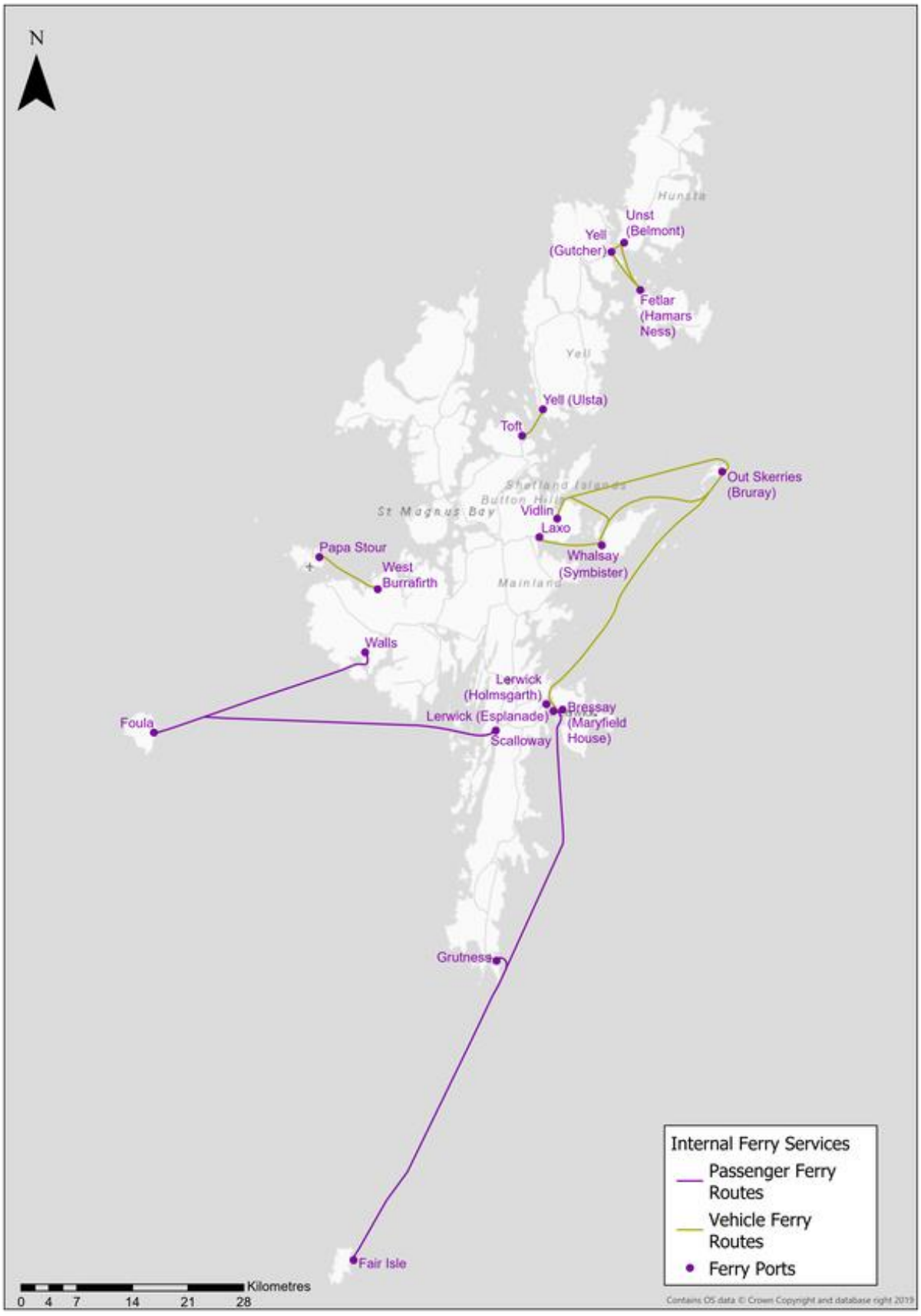

Figure 20: Internal Ferry Services - operated by Shetland Islands Council

(Click to image to enlarge figure)

As demonstrated in Figure 21, the ferry route across the Yell Sound proved to be the most popular internal route in 2019; carrying over 422,000 passengers, cars, coaches and commercial vehicles, accounting for 36% of all internal ferry trips within the Islands[53].

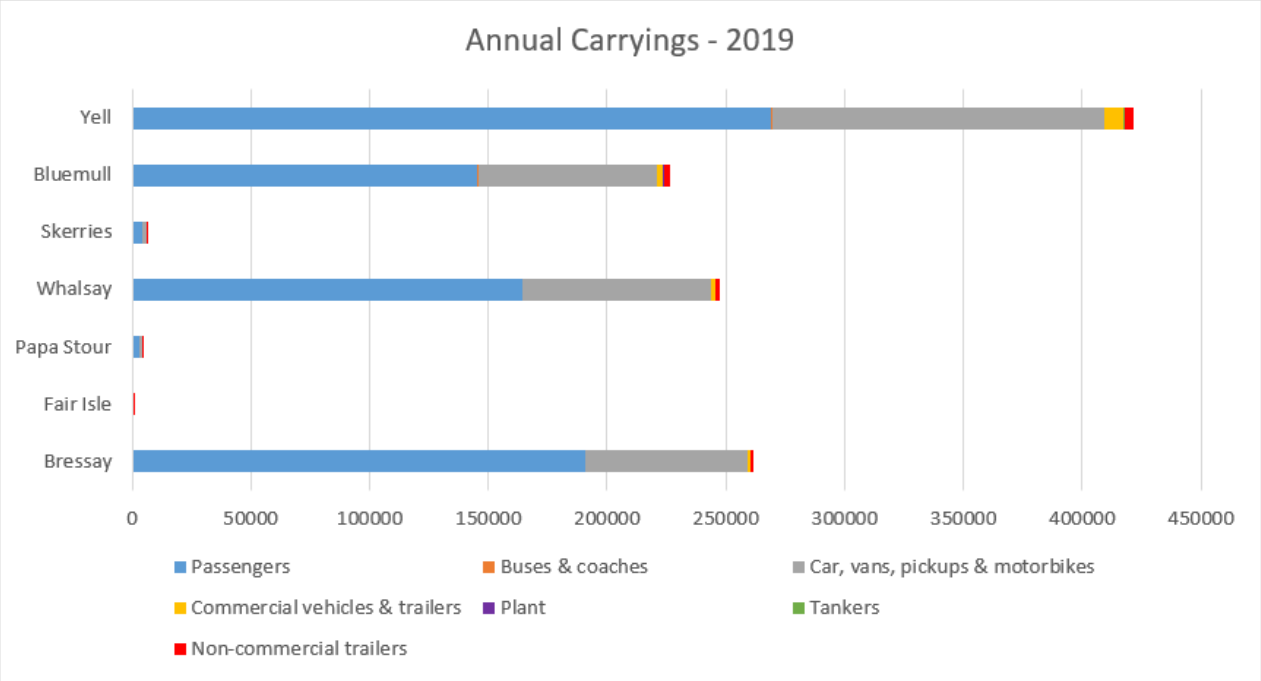

Figure 21: Internal Ferry Utilisation (2019)

External ferry services travel between Lerwick and Aberdeen, with some services travelling via Kirkwall. The external ferry services are operated by Serco NorthLink and are subsidised by the Scottish Government. As demonstrated in Figure 22, the ferry route connecting Aberdeen to Lerwick proved to be the most popular in 2019; carrying over 477,500 passengers, cars, coaches and commercial vehicles[54]. Notably, commercial vehicles, which predominantly carry produce from the Fishery and Aquaculture industry, accounted for approximately 70% of the utilisation for this service. Approximately 58,500 passengers, cars, coaches and commercial vehicles travelled between Kirkwall and Lerwick, with commercial vehicles accounting for approximately 60% of these trips.

[53] Shetland Islands Council, Performance Explorer, https://www.pentanarpm.uk/CovalentWebModule/Dashboard?c=412&i=5127626#
[54] NorthLink Ferries, Annual Carryings, 2019, https://www.northlinkferries.co.uk/wp-content/uploads/2020/06/2019-Annual-Carryings.pdff

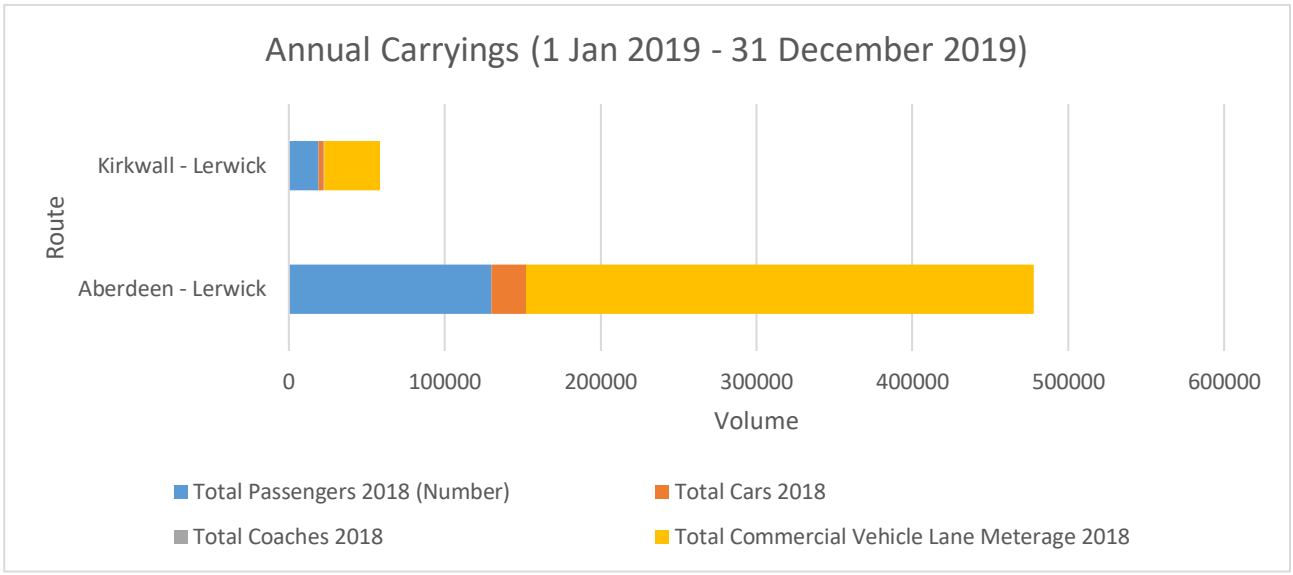

Figure 22: External Ferry Utilisation (2019)

Review and analysis of available datasets relating to ferry services has been undertaken to support the preparation of a baseline for ferry service provision serving Scotland's islands and remote communities. This baseline is informing STPR2 and serves as an evidence base to support the problems and opportunities emerging from STPR2 stakeholder engagement.

Regional airport use is growing in the Shetland Islands region through the provision of internal air services. Tingwall Airport (Lerwick) provides scheduled direct internal flights to 2 islands: Fair Isle and Foula, as shown in Figure 23 overleaf. Flights to Foula and Fair Isle are operated by Airtask Group, who were awarded the Public Service Obligations (PSO) Contract in June 2005[55]. These flights are subsidised by Shetland Islands Council. Flights were previously available to Papa Stour, however these ceased on the 31st March 2020. Airtask Group also operate a weekly flight from Sumburgh Airport to Fair Isle on a Saturday.

Operating from Sumburgh Airport, Loganair provide direct, external, commercial flights to Inverness, Aberdeen, Edinburgh, Glasgow, Kirkwall, Manchester and Bergen[56]. The use of external flights had been increasing; exemplifying this, external flight patronage exceeded 270,000 passengers in 2015[57], relative to fewer than 139,000 passengers in 2009. Notably, between 2016 and 2018 patronage decreased to approximately 250,000, however in 2019 patronage level exceeded 265,000.

[55] Airtask, Shetland Islands Inter Island Air Service, 2020, https://www.airtask.com/shetland-islands-inter-island-service

[56] Shetland Islands Council, Flights to Shetland, 2019, https://www.shetland.org/plan/how-to-get-here/flight

[57] Civil Aviation Authority, UK Airport Data, Table 10.3, https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-airport-data/

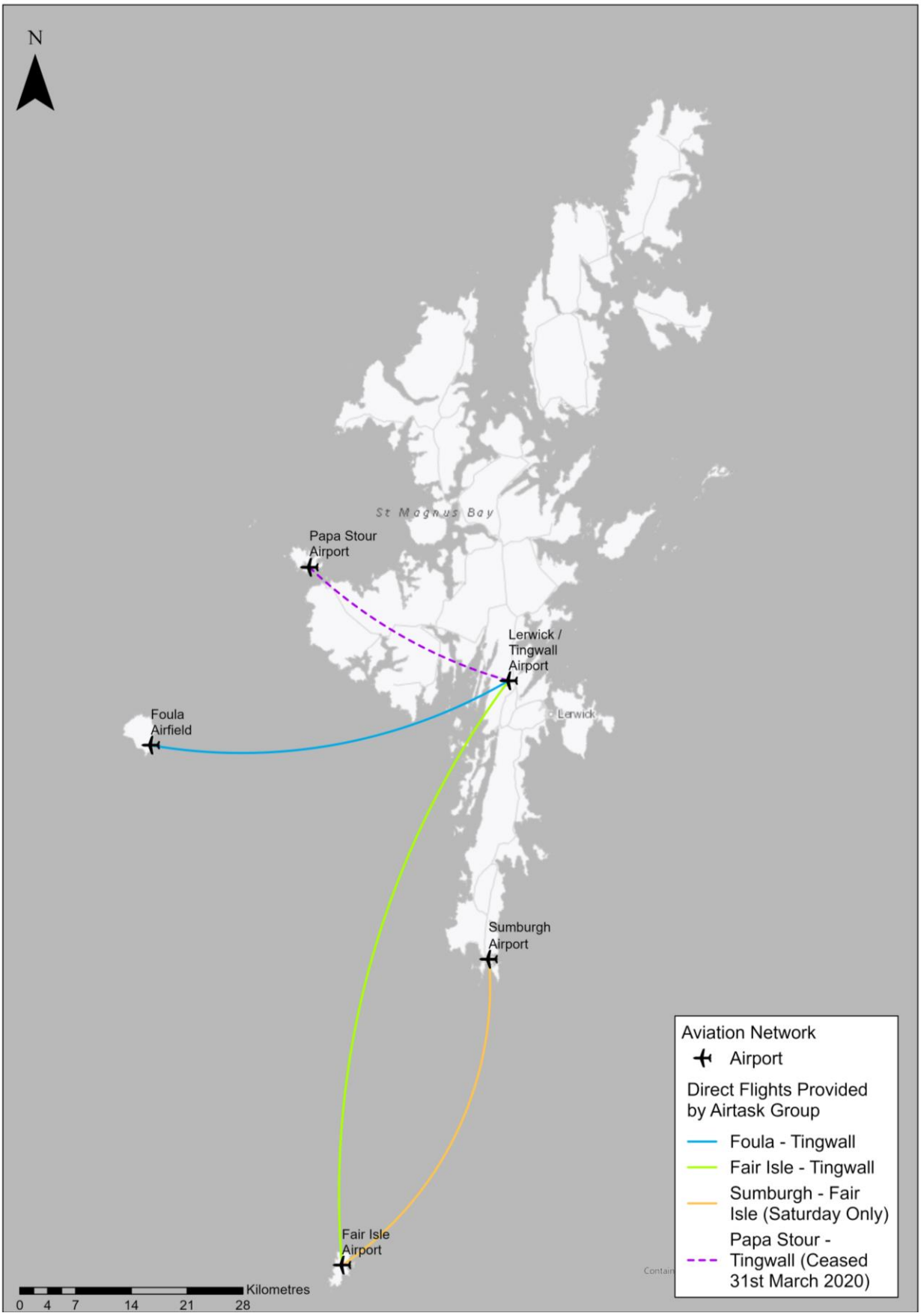

Figure 23: Shetland Islands Region Aviation Network

(Click to image to enlarge figure)

2.5.6. Internal and External Journeys

Only approximately 4% of vehicles travelling from the Shetland Islands has a destination outwith the Shetland Islands region, reflecting the remote geographic location of the region[58].

2.5.7. Road Network

There are no trunk roads in the region. The road network within the Shetland Islands region is the responsibility of the council.

Within the Shetland Islands region, the average number of casualties recorded in Department for Transport (DfT) STATS19 datasets fell by 44% between 2014 and 2018, compared to the period between 2004 and 2008[59], from 51 to 28.

Between 2014 and 2018, average yearly slight, serious and fatal casualties for all ages fell by 44%, 48% and 30%, respectively, relative to 2004 to 2008 levels. Across all modes, the average yearly casualties fell or remained unchanged between 2014 and 2018 and between 2004 and 2008.

2.6. Context Summary

The key points to note from the context review are:

- The Shetland Islands region has a relatively stable population; however, the region's demography is shifting towards an ageing population, with a decrease in the working age population and an increase in those aged 65 and over. Employment in the region was slightly higher than the national average, and third highest in Scotland, however the average salary is only marginally higher than the national average, relative to other local authorities.
- The industry with the highest levels of employment is the Agriculture, Forestry and Fishing industry; this industry has experienced notable growth of 20% and its significance in the region is 15.7 % greater than the national level. Within the same period, the Mining and Quarrying industry and Administration & Defence industry encountered significant growth of 200% and 60% respectively, whilst the Professional scientific and technical activities industry experienced the largest decline of 29%. Tourism in the region is growing, with the industry contributing 56% more to the Shetland Islands' local economy in 2019 relative to 2017 levels.
- In 2011, the proportion of the journeys to work undertaken within the Shetland Islands region with a distance of less than 2km (17.4%) was higher than the national average. Overall, it appears that commuting distances in the Shetland Islands region are broadly similar to those across Scotland.
- Car availability in the Shetland Islands is high relative to the national level, with 81% of households in the region accessing a car or van and 39% of households accessing 3 or more cars or vans; this rate of access to multiple cars or vans is highest of all the STPR2 regions.
- A high proportion of the region's working population drive to their place of work (71.4%), compared with nationally (61.8%). A significantly lower proportion of the population travel to work by bus (3.4%) compared to nationally (10.0%); which may be due to the limited accessibility to employment centre by public transport from the

[58] Transport Model for Scotland 2014, 2017 AM peak
[59] Department for Transport, Road Safety Data, 2019, https://data.gov.uk/dataset/cb7ae6f0-4be6-4935-9277-47e5ce24a11f/road-safety-data

islands. The remaining mode shares for commuting to work, including working at home, are similar to the national average.

- There were no data zones on the Shetland Islands within the 20% most deprived in Scotland. Owing to the remote nature of the region, the Shetland Islands was ranked within the most deprived decile for the geographic access domain, which is intended to capture the issues of financial cost, time and inconvenience of having to travel to access basic services.
- The National Cycle Network Route 1 (NCN1) used to utilise the road network to connect the south of mainland Shetland (Sumburgh) and the northeast of Unst (Norwick) via Yell. This section of NCN1 remains on the NCN Map, however, it is reclassified as an on-road route as it no longer comprise part of the National Cycle Network.
- There is a comprehensive bus network, with mainline services running north to south and feeder services connecting the more rural areas.
- The council operate internal ferry services to 9 islands in the region, with 2 islands also served by the internal air services. External ferry services travel between Lerwick and Aberdeen, with some services via Kirkwall, are operated by Serco NorthLink. Loganair provide external flights to destinations in mainland Scotland, Manchester and Bergen.

3. Problems and Opportunities

3.1. Approach to Problems and Opportunities Identification

Deriving evidenced 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 relating to or impacted by the transport network in the Shetland Islands region and details the approach to their identification.

Note that local problems and opportunities have been considered in 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 have been used to identify transport-related problems and opportunities in the region. Analysis of the data has also enabled problems and opportunities identified through stakeholder engagement to be evidenced, to understand the real and perceived nature of feedback and comments raised. Sources of analysis have included primary data such TRACC connectivity data[60], national datasets as well as data gathered from recent 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 and verification of problems and opportunities. For the Shetland Islands region this has consisted of:

- **Problems and Opportunities workshop** held in Lerwick with regional stakeholders in June 2019;
- **Option Generation workshop** held in Lerwick in November 2019 to identify potential interventions which may address the identified problems and opportunities;
- **Structured interviews** with senior

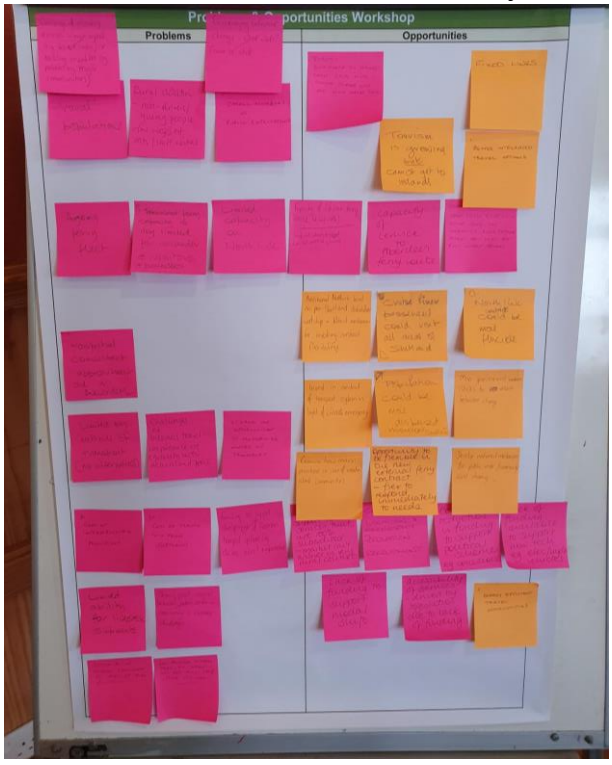

Figure 24: Stakeholder Engagement

[60] TRACC – Multimodal Accessibility analysis tool, which calculates journey times between a known set of origin and destinations using a physical network (i.e. roads and paths) and public transport timetables, where available. As such, it can provide detailed assessment of public transport and active travel journey times displaying the varying levels of accessibility in a study area.

officers across the local authorities and other organisations in the region;
- **Elected Members Briefing** held with elected members in February 2020 in Lerwick;
- An **Online Survey** undertaken 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. The survey generated 3,025 responses nationally from members of the public, representatives and / or businesses;
- **Regional Transport Working Group** meetings, which include representatives from Shetland Islands Council, ZetTrans, relevant partners, Transport Scotland and the STPR2 consultant team; and
- **School Engagement** has been undertaken across the country, engaging with pupils at selected primary and secondary schools to hear their ideas for transport priorities and interventions. Sessions were arranged with Scalloway Primary School and Anderson High School to take place in March 2020; these could not go ahead due to travel restrictions imposed as a result of the COVID-19 pandemic.

Further details of stakeholder engagement activities are available in **Appendix C.**

3.2. Problems and Opportunities

Based on the activities described above, the following transport-related problems and opportunities have been identified for the Shetland Islands region. Evidence to support the themes listed below is provided throughout Section 3.2.1:

- Ferry and Air Capacity Constraints
- Accessibility to Public Transport
- Resilience, Reliability and Integration
- Affordability
- Connectivity
- Emissions
- Depopulation

3.2.1. Problems

It is recognised that inter-dependencies between the identified problems exist and as such, these shouldn't be read in isolation.

FERRY AND AIR CAPACITY CONSTRAINTS

Internal Shetland Islands Transport

The Shetland Inter-Islands Transport Study (2016) states that there are capacity issues on commuter ferry services from the Islands to mainland Shetland[61]. For example, on the 08:30 departure from Bressay, the deck utilisation is frequently in excess of 80%, particularly in the summer months. Between 2013 and 2014, the 08:30 service sailed at over 80% deck utilisation 74 times; this is the threshold for high utilisation. Similarly, the 17:15 service from Lerwick is highly utilised. The study also raised similar capacity issues for Unst and Whalsay. The Shetland Inter-Island Transport Study: Whalsay Outline Business Case (2020)[62] reports that more than half (62%) of the 07:50 Monday morning sailings from Symbister operate at a load factor greater than 90%. On Tuesdays to Fridays just under half (45%) of the 07.50 services operate at this capacity. This highlights that the commuter service is operating at a high capacity, particularly on a Monday. The study also undertook a residents survey which reported that 62% of respondents stated that the current ferry service prevented them from making all of the journeys they wish to make.

From the smaller islands, the study identified internal ferry capacity issues between Fair Isle and Foula. For example, the MV Good Shepherd IV and The MV New Advance being very limited in terms of vehicle and passenger capacity, with the vessels having capacity for 1 or 2 cars and 12 passengers but cannot accommodate any heavy freight.

[61] PBA (now Stantec), Shetland Inter-Islands Transport Study, 2016, https://www.shetland.gov.uk/transport/documents/20161124SIITSDraftOptionsAppraisalReportvFINAL.pdf

[62] Stantec and Mott MacDonald, Shetland Inter-Island Transport Study: Whalsay Outline Business Case, 2020

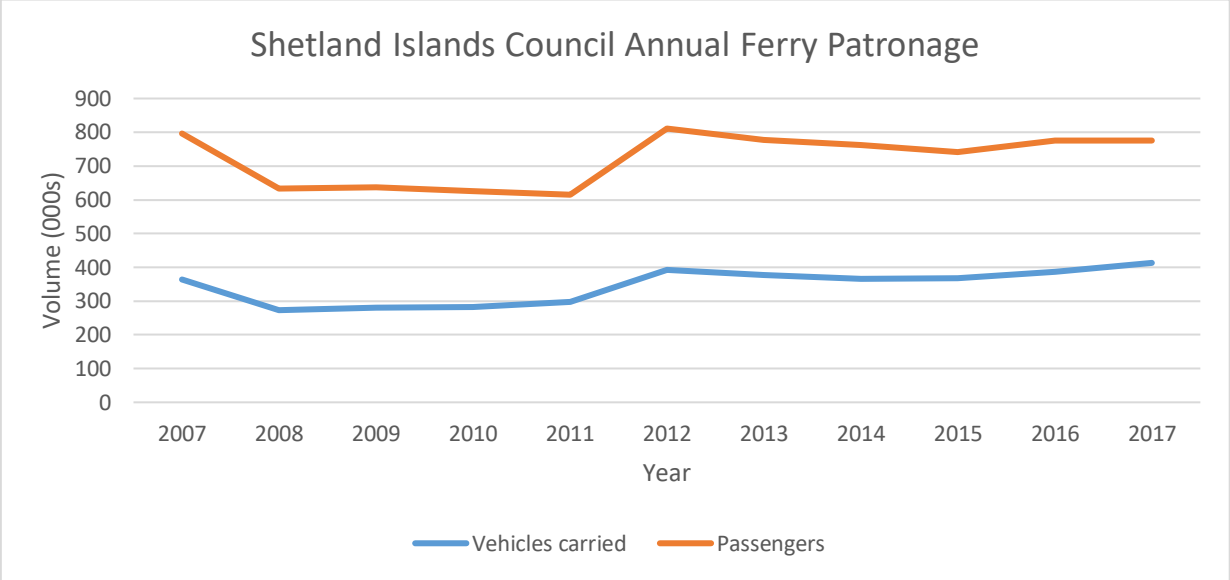

Figure 25: Shetland Islands Council Ferry Patronage

Figure 25 indicates relatively consistent patronage numbers on the Shetland Islands Council services since 2012. There was a significant drop in patronage between 2008 and 2011, however, this increased to 2007 levels in 2012 and has been relatively consistent since[63].

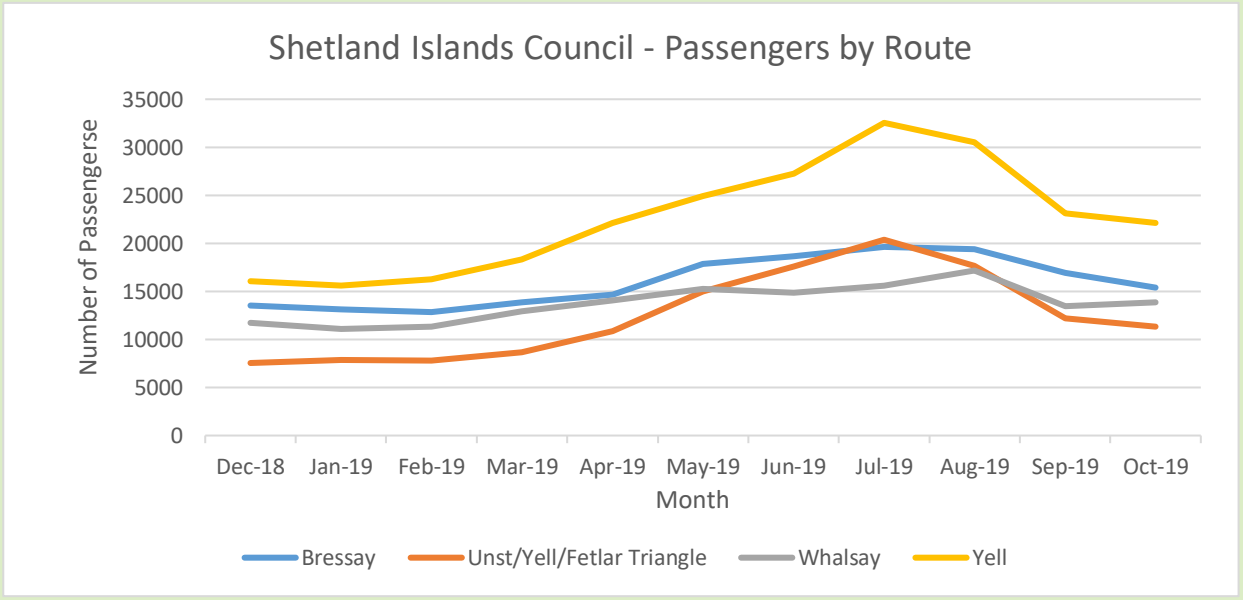

Figure 26: Shetland Islands Council Passenger Numbers by Route

Figure 26 highlights that the number of passengers increases in the summer months on the 4 main routes within the region[63].

Figure 27 highlights capacity issues, with the number of vehicles unable to travel on their desired service peaking in May 2019 at 09:28 on the Yell to Shetland mainland service[63].

[63] Shetland Islands Council, Shetland Islands Council Performance Explorer, https://www.pentanarpm.uk/CovalentWebModule/Dashboard?c=412&i=5127626

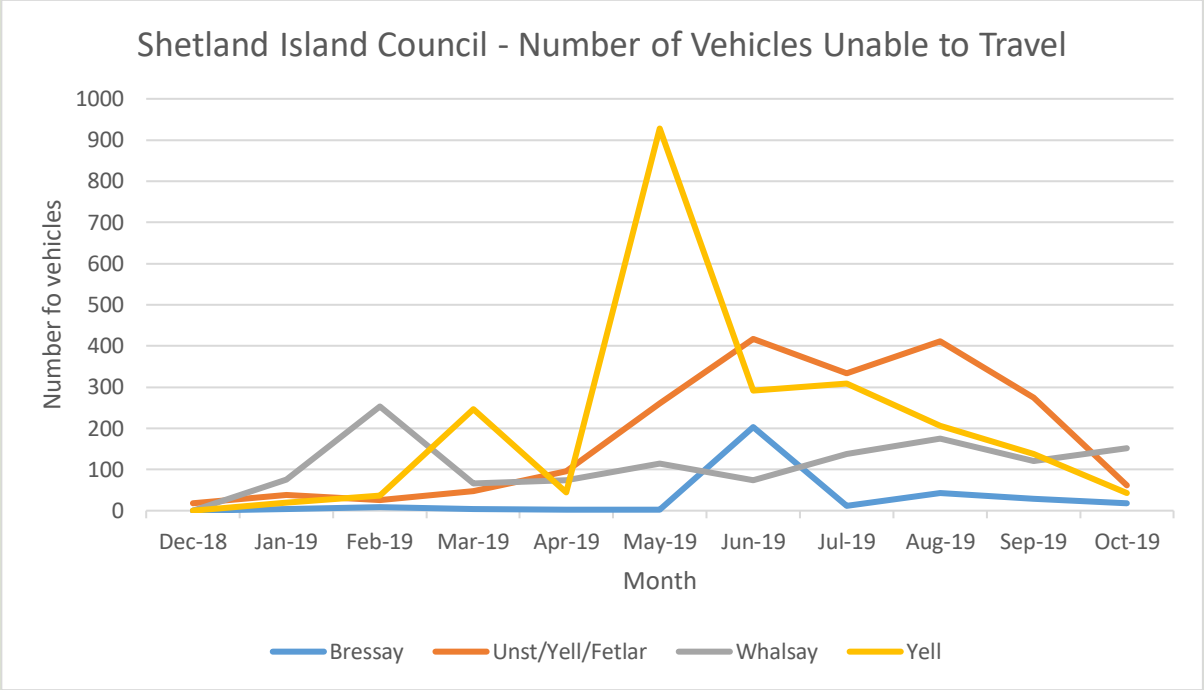

Figure 27: Shetland Islands Council Number of Vehicles Unable to Travel by Route

The Shetland Inter-Island Transport Study (2016) also identified that the air service on the Fair Isle is limited to 6 to 7 passengers but can take 8 to 9 passengers depending on weight, placing significant capacity constraint on travel to and from the island, particularly when flights and ferries are impacted by poor weather conditions.

Transport to and from the Shetland Islands

Passenger Services

The cabins of the Serco NorthLink services operate at a very high capacity throughout the peak season. Figure 28 shows the annual patronage levels on Serco NorthLink services between 2008 and 2018[64]. This indicates that patronage has been relatively constant. Stakeholders reported capacity issues on individual services or at certain times of the year, which may be capping the overall annual demand.

Stakeholders report that it is very difficult to book a cabin, which is seen as essential for the overnight travel (particularly if travelling with a family) and a car berth on a service. There is often some availability to travel with a car but no cabins available or vice versa. However, stakeholders fed back that to book both on the same service, during peak time, it needs to be planned well in advance. Serco NorthLink have introduced Sleeping Pods on board to try to address the capacity constraint, however as mentioned above, stakeholders have indicated that a cabin is preferable.

[64] Transport Scotland, Scottish Transport Statistics No 38, Chapter 9, 2019, https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/chapter-9-water-transport/

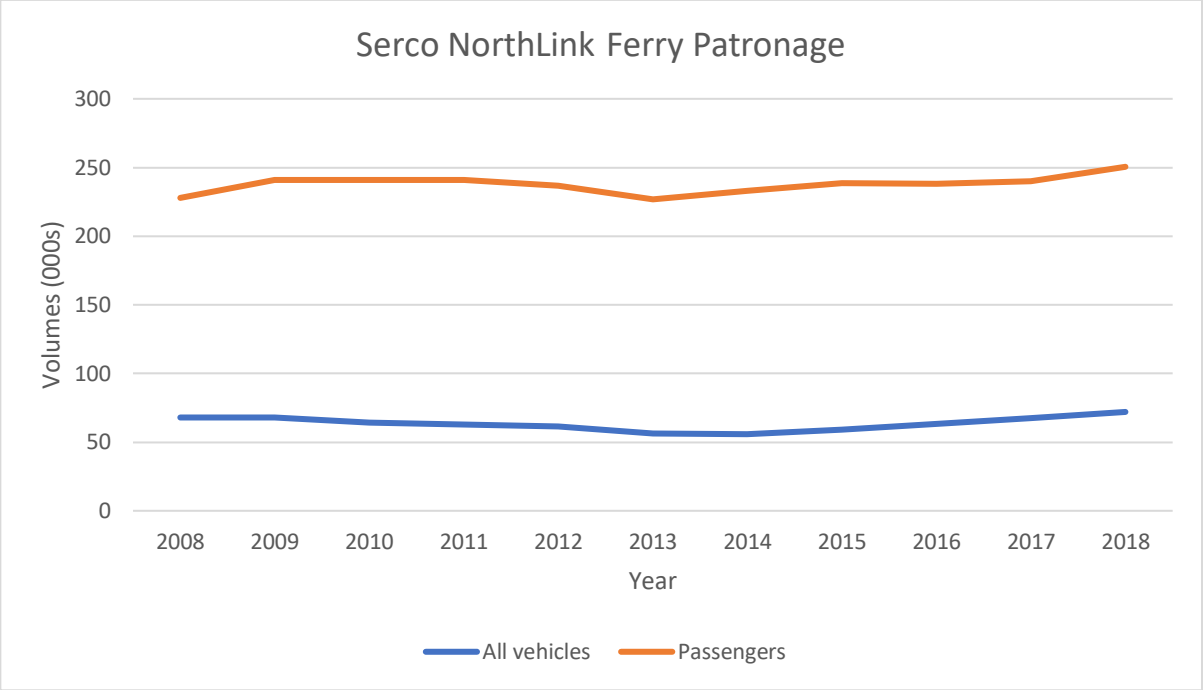

Figure 28: Serco NorthLink Ferry Patronage

VisitScotland have taken steps to increase tourism in the region and have been successful and set ambitious targets to grow the industry from £23 million to £33 million between 2018 and 2023; notably, tourism generated over £35 million for the Shetland economy in 2019. Total visitor numbers have increased by 23% between 2013 and 2019, from an estimated 64,655 to 80,128[65] .Within two years, between 2017 and 2019, the number of 'friends and relatives' visitors markedly increased by 91%, from 8,791 in 2017 to 16,827 in 2019. Within the same time period, the number of leisure visitors rose slightly (7%) from 38,096 in 2017 to 40,865 in 2019.

NorthLink Ferries have also encouraged tourism to the region, providing support for high-profile tourism initiatives, such as Shetland Wool Week[66], showcasing Shetland's tourism sector at events, such as The British Tourism & Travel Show[67], and promoting Shetland's calendar of events and festivals[68].

The Shetland Islands Visitor Survey (2019) highlights that a high proportion (98%) of leisure and 'friends and relatives' visitors reported they were 'likely' to recommend Shetland as a holiday or short break destination. However, the open-ended responses demonstrated that the aspect considered to most negatively impact visitors' experience was transport, specifically the cost of external travel and the limitations of the bus timetables.

Visitors tend to visit the Shetland Islands during the summer months. VisitScotland have tried to extend the tourist season through events out with the traditional tourist peak season. VisitScotland have reported, through stakeholder engagement, that further growth during peak tourist season is constrained by the capacity on both the external ferries and air routes to the region, which often operate at capacity.

Freight Capacity

Freight can travel into and out of the Shetland Islands on the passenger vessels in addition to the freight vessels. Serco NorthLink report annual carrying statistic on the

Northern Isles Ferry Service (NIFS) network. There was a reduction of 14% in commercial vehicle lane meterage between 2013[69] and 2016[70]. Since 2016, the commercial vehicle lane meterage has increase by 16% to 326,000 lane meters in 2019[71], 7% higher than 2013. Stakeholders reported that whilst the lane metres utilised by freight on the passenger vessels have remained relatively constant, there has been a gradual increase in the volumes using the freight vessels over the years. Stakeholders also reported that this was constraining investment in the Shetland Islands economy, with local industry representatives reporting that the Aquaculture and Fishery industry are reluctant to invest or are investing in expansion at risk as they do not have the confidence that there is sufficient capacity to export their product from the region, particularly during the livestock season (September to October) when freight services are further constrained.

As mentioned above, there is provision for freight on the passenger services. For example, seafood exports, which constitute 40% of the Shetland Islands region's freight exports, use a 50-50 split between the freight and passenger vessels. This creates competition for space between freight and passengers on the passenger services.

The Stewart Building Group provided figures that show exports of salmon have grown by 20% between 2015 and 2018, whilst whitefish, mussel and shellfish have grown by 42%, 24% and 26%, respectively, over the same period. All of these industries are forecast to continue growing between 2018 and 2021 by between 5% and 48%. Overseas food and drink exports were worth approximately £6 billion to the Scottish economy in 2017, which saw a rise of around 10% from 2016[72]. Fish and seafood accounted for the majority of the food exports, with salmon being the UK's largest food export. The Shetland Islands produce 25% of salmon exported from the UK, indicating how important the region is to the UK salmon industry. Additionally, in 2017, the Shetland Islands were the largest producing area for mussels in Scotland, with 81% of the Scottish mussel production occurring in the region[73]. This emphasises the importance of region to the Scottish shellfish industry. As mentioned above, tourism growth places additional demand on passenger vessels. The competing demands of freight and

[65] Shetland Islands Council and Visit Scotland, Shetland Islands Visitor Survey (2019), 2020, https://www.visitscotland.org/binaries/content/assets/dot-org/pdf/research-papers/shetland-islands-visitors-survey-2019.pdf

[66] Shetland Wool Week, 2020, https://www.shetlandwoolweek.com/about/

[67] NorthLink Ferries, NorthLink Ferries Showcases Orkney and Shetland at Leading Tourism Event, 2015, https://www.northlinkferries.co.uk/northlink-blog/leading-tourism-event/

[68] NorthLink Ferries, A Guide to Events and Festivals in Shetland, 2020, https://www.northlinkferries.co.uk/shetland-blog/festivals-in-shetland/

[69] NorthLink Ferries, Annual Carryings, 2013 https://www.northlinkferries.co.uk/wp-content/uploads/2020/06/2013-Annual-Carryings.pdf

[70] NorthLink Ferries, Annual Carryings, 2016 https://www.northlinkferries.co.uk/wp-content/uploads/2020/06/2016-Annual-Carryings.pdf

[71] NorthLink Ferries, Annual Carryings, 2019 https://www.northlinkferries.co.uk/wp-content/uploads/2020/06/2019-Annual-Carryings.pdf

[72] Figures provided by the Stewart Buildings Group in a presentation given on the 12th of September 2018

[73] HITRANS, HIE and SYSTRA, Fish'N'Trips, The Logistics issues Faced by the Scottish Aquaculture Industry, 2018, https://hitrans.org.uk/Documents/Fish_n_Trips_Report.pdf

passengers on the passenger vessels, during peak periods, exacerbates respective capacity issues. Stakeholders view this as a constraint on growth in the Aquaculture and Fishing industry.

Additionally, as per the Serco NorthLink's ferry website, and engagement with Serco NorthLink, freight service capacities experience further pressures during the peak livestock season (September to October), where the Monday night freight service from Lerwick to Aberdeen is removed to provide an additional sailing from Orkney for a 6 to 8-week period. During the Problems and Opportunities workshop, stakeholders echoed these concerns regarding the limited external freight capacity provisions, particularly on the ferry network, and the subsequent restrictions placed on industries.

Stakeholders have reported that there are also capacity issues on the external flights from the region, with capacity limited by the size of plane that can land at Sumburgh Airport. It is reported that this can be a problem during the peak tourist season, where flights are busier and can compound the issue of the passenger ferry capacity issues.

ACCESSIBILITY TO PUBLIC TRANSPORT

Equitable access

Background

As set out in the United Nations Convention on the Rights of Persons with Disabilities, the rights of disabled people are protected by legislation and policy in the UK; this convention requires governments to take action to remove barriers and provide disabled people freedom, dignity and equality. Going Further: Scotland's Accessible Travel Framework (2016) outlines the aims of the Scottish Government to ensure that disabled people are fully involved in work, to improve all aspects of travel and to support disabled people's rights by removing barriers and improving access to travel. Scotland's Accessible Travel Framework vision includes ensuring disabled people always obtain accessible travel information; get from where they live to public transport services unobstructed; access services with whatever support and help is necessary; enjoy the journey in comfort and safety; and complete the journey satisfactorily[74].

Ferry Vessels and Terminals

With regard to ferries, a number of vessels and terminals have been deemed "not suitable for wheelchair users or persons with serious mobility problems," such as the Whalsay MV Hendra[75]. Stakeholders highlighted that a number of internal ferry services do not provide for those with impaired mobility. Stakeholders suggested the standard of ferry terminals, including waiting room facilities and signage, are a problem. Symbister Terminal waiting room and toilets are currently unsuitable for wheelchair users and poorly lit. Stakeholder also highlighted that both Laxo and Vidlin Terminals currently offer no segregation between vehicles and pedestrians on the shore ramp. In 2019, NorthLink Ferries installed "Changing Places" toilet facilities onboard the MV Hjaltland, MV

[74] Scottish Government, Going Further, Scotland's Accessible Travel Framework, 2016, https://www.transport.gov.scot/media/20113/j448711.pdf

[75] Shetland Islands Council, Disability Access Whalsay, https://www.shetland.gov.uk/ferries/Disability/whalsay.asp

Hrossey, and MV Hamnavoe; providing accessible toilet and changing facilities for mobility impaired passengers on the external ferry services[76].

Bus Services

With regard to bus services, stakeholders have reported that accessibility to bus services is an issue, particularly on feeder services. The mainline bus services are generally accessible for those with mobility impairment, however, the connecting feeder bus services, particularly in the more rural areas, often are not; as such, they have no way of accessing the mainline services without a car. Information received from Shetland Islands Council confirmed that all 8 mainline bus services are operated by larger vehicles, which are accessible via either a low floor with an integral ramp or via a lift, if the route is serviced by an accessible coach. The council also stated that all 46 feeder services in the Shetland Islands region are serviced by smaller vehicles. Although the services are DDA compliant they are not accessible as they do not provide access for those with mobile impairment.

It has also been reported that there is also a limit to the availability of accessible taxis in rural areas. Within the Shetland Islands region, there are 2 wheelchair accessible taxis and 1 wheelchair accessible private hire car[77]. Of direct relevance to the vision of Scotland's Accessible Travel Framework to remove barriers to provide accessible travel for disabled people, the Shetland Place Standard (SPS) consultation in 2016 identified public transport as the top priority for improvement, with respondents pointing to distance required to travel to bus stops as a key concern[78].

The impact of limited accessible public transport services and provisions in the Shetland Islands region may be exacerbated by the ageing population, whom typically experience constrained mobility, with a significant increase (24%) in those aged 65 and over in the region between 2011[19] and 2019[20].

Bus Access

According to Census Travel to Work Data (2011), only 3.4% of trips in the region are made by bus, which is considerably lower than the national average of 10%. This may be due to the relative attractiveness of the bus services, compared to private car, being poorer than other areas and a perceived lack of network coverage.

[76] NorthLink Ferries, Serco NorthLink Ferries introduces 'gold standard' of accessible toilets, 2019, https://www.northlinkferries.co.uk/northlink-blog/the-gold-standard-of-accessible-toilets/

[77] Transport Scotland, Scottish Transport Statistics No 38, Chapter 1, 2019,https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/chapter-1-road-transport-vehicles/

[78] Shetland Islands Council, ZetTrans and NHS Scotland, Shetland: Our Place Place Standard Final Report, 2017, https://www.shetland.gov.uk/downloads/file/1100/shetland-place-plan

Stakeholders pointed to non-drivers and young people in rural areas experiencing isolation due to limited access to the public transport network. This was considered particularly problematic for low wage rural shift workers and on-site workers who do not have access to a private car and therefore rely on public transport to access employment, services and other opportunities. A number of stakeholders suggested low bus patronage has resulted in fewer bus services in rural areas.

Figure 29 shows the Scottish Access to Bus Indicator Decile for Weekday Services[79]. This indicator gives a score for the accessibility of bus services in each data zone and provides an objective measure of accessibility to public transport by bus in Scotland[80]. The majority of the Shetland Islands has a low indicator decile for weekday bus access, particularly in rural areas and on the Islands, with some locations as low as 1 out of 10. This indicates that there is poor access to public transport services in the Shetland Islands region, particularly in rural areas; this is comparable with a number of remote rural areas in Scotland.

The bus access (deciles 1 to 3) experienced in the Shetland Islands region is comparable with a number of remote rural areas in Scotland including, but not limited to, the Western Isles, the Isle of Islay, Machars (South West Scotland), and Sutherland (Highlands and Islands). This correlation between urbanity and bus access continues with 'other urban areas'[81], such as Inverness, Perth and Stirling, experiencing a higher level of bus access than rural remote areas but lower level of bus access than large urban areas, with the majority of data zones ranging between deciles of 6 and 10 for bus access.

Shared Transport

Notwithstanding the presence of bookable dial-a-ride bus services[82], ZetTrans outlined that there is limited evidence of on-demand and shared transport options for daily journeys within the Shetland Islands region.

[79] Scottish Government, Bus Accessibility, 2019, https://statistics.gov.scot/data/bus-accessibility
[80] Scottish Government, Bus Accessibility, 2019, *ibid*.
[81] Scottish Government, Rural Scotland: Key Facts, 2018, https://www.gov.scot/publications/rural-scotland-key-facts-2018/
[82] Shetland Islands Council, Shetland by Bus, https://www.zettrans.org.uk/travel/public-transport/bus

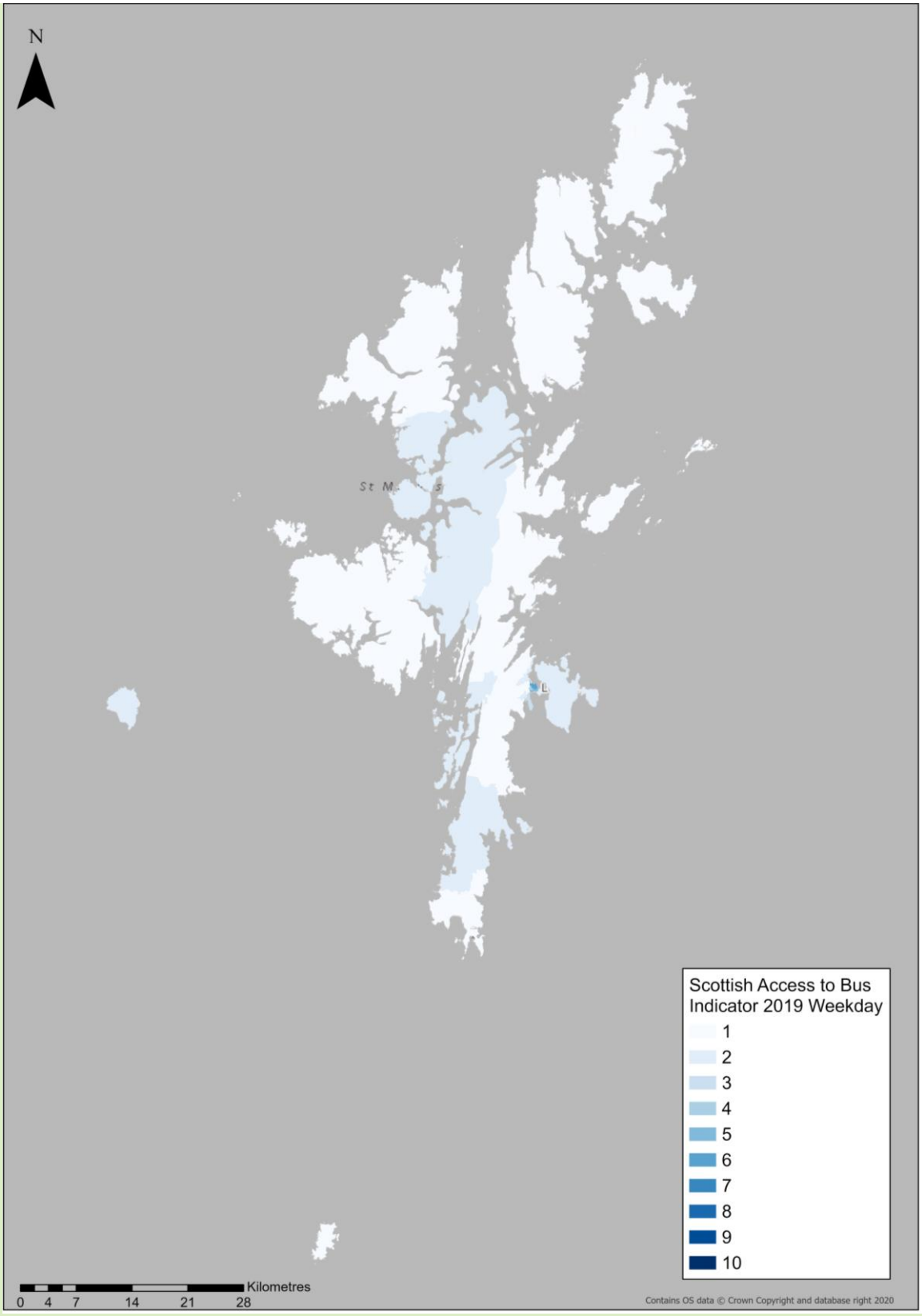

Figure 29: Scottish Access to Bus Indicator Decile – Weekdays (Shetland Islands Region)

(Click to image to enlarge figure)

RESILIENCE, RELIABILITY AND INTEGRATION

Road Network

As outlined in ZetTrans' Annual Report (2018)[83], the average percentage of roads in the Shetland Islands classed as 'red' (Audit Scotland statutory performance indicator - roads which are in poor overall condition[84]) or 'amber' (Audit Scotland statutory performance indicator - roads where there is some deterioration) for the 2014-15 and 2015-16 calendar years was 37.7%. This is similar to the levels of red and amber roads across the Scotland.

The Strategic Roads Network Programme Report (Shetland Islands Council 2019) has highlighted the importance of improving the Shetland Islands' road network resilience to meet current and future demands, particularly in relation to the significant growth of the Aquaculture industry across the region. For example, the report found that the deterioration rate of the B9082, which serves Cullivoe Harbour, is an issue that should be treated with "some urgency". Cullivoe Harbour was ranked 18th in the UK for total fish and shellfish landing in 2019[85] and was ranked 8th in Scotland in 2018[86]. In 2018, a total of 3,405 tonnes of fish and shellfish landed in Cullivoe, worth £6,918,000 (8% of the total seafood landings in the Shetland Islands in 2018). In addition to the values reported above, it is estimated by the Shetland Island Council Road service that approximately 45% of the farmed Salmon in Shetland is landed at Cullivoe Harbour and is transport via the B9082. This equates to approximately £100 million of Salmon[87]. Stakeholders reported that the road has experienced an increase in heavy goods vehicles (HGVs) using it, which has led to deterioration of the carriageway. There are challenges in undertaking maintenance work on this single-track road due to the absence of a road diversion road and the need to keep the road open to transport goods to market. As roads authority, Shetland Islands Council are responsible for the B9082.

The A970 is the main road of strategic importance in the region, and whilst it is not a trunk road, it is on national importance as it connects Sumburgh Airport to the Sullom Voe Oil Terminal and TOTAL Gas Plant. Oil and Gas is stored, processed and distributed worldwide from Sullom Voe, which relies on the A970 for access to Lerwick Harbour. The

[83] ZetTrans, Annual Report (2016 -2017), 2018, https://www.zettrans.org.uk/site/assets/files/1108/zettransannualreport2016-17v1_0.pdf
[84] Audit Scotland, Maintaining Scotland's Roads, 2011, https://www.audit-scotland.gov.uk/uploads/docs/report/2011/nr_110216_road_maintenance_bw.pdf
[85] Marine Management Organisation, UK Sea Fisheries Statistics, 2019, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/920679/UK_Sea_Fisheries_Statistics_2019_-_access_checked-002.pdf
[86] NAFC Marine Centre, University of Highlands and Islands, Shetland Fisheries Statistics (2018), 2019, https://www.nafc.uhi.ac.uk/t4-media/one-web/nafc/research/document/shetland-fisheries-statistics/statistics/Shetland-Fisheries-Statistics-2018.pdf
[87] Scottish Government, Scottish fish farm production survey, 2018, https://www.gov.scot/publications/scottish-fish-farm-production-survey-2018/

TOTAL Gas Plan processes gas produced in offshore fields to the west of Shetland and supplies around 8% of the UK's total gas consumption[88].

Ferry Network

According to NorthLink's Performance Monitoring review[89], in 2019 11% of external ferry sailings were disrupted, 1.2% of passenger sailing were cancelled and 3.1% of freight sailings were cancelled (accounting for 2.1% of all sailings). In addition, 2.8% of passenger sailings and 15.7% of freight sailings did not meet the punctuality targets (which accounts for 8.9% of all sailings). These statistics consider sailings that are affected by "relief events"[90], which are sailings cancelled due to bad weather in line with safety procedures or delays due to unavailability or operational restrictions of harbour facilities.

Feedback received from both Serco NorthLink and other stakeholders is that the passenger services are very reliable, with the vessels being sufficiently robust to sail during poor weather conditions but are generally altered (leave earlier/later) to avoid particularly bad weather conditions.

Freight vessels are more susceptible to cancelation during adverse weather than passenger vessels and are therefore subject to disruption more frequently, particularly during the winter period. Owing to the ongoing capacity issues for both freight and passenger services, and the emerging competition for space between the two, it was highlighted through stakeholder engagement that an out-of-operation freight vessel can have a significant impact on the profit margin of the load carried. It was reported that the unique selling point of the Shetland Island's Fishery and Aquaculture industry is the quality of the produce. However, owing to the distance between the region and the market in Aberdeen, this produce is typically 1 day behind the load landed on the mainland and any further delays can impact the quality of produce, and subsequently erode or eliminate the profit margin.

A University College London Energy Institute study (2017) noted that the expected ferry life expectancy is 25 years, and, as of 2014, the average age of the fleet operated by the Shetland Islands Council was 22 years old[91]. A Shetland Inter-Island Transport Study: Financial Review (2016), commissioned by the Shetland Islands Council, reported that, since 2005 - 06, the capital spend on ferry vessels and terminals for inter islands ferry services has sharply dropped[92]. Figures provided by Shetland Islands Council reported

[88] TOTAL, West of Shetland: An Innovative Underwater Facility in the North Sea, https://www.total.com/energy-expertise/projects/oil-gas/deep-offshore/west-of-shetland-innovative-underwater-facility-north-sea

[89] Serco NorthLink Ferries, Performance Monitoring by Month, 2019, https://www.northlinkferries.co.uk/news/statistics/

[90] Serco NorthLink Ferries, Performance Monitoring Contract Year Six, 2018, https://www.northlinkferries.co.uk/wp-content/uploads/2018/09/Performance-Monitoring-CY6.pdf

[91] University College London, Scottish ferries: Sailing towards greater energy efficient and decarbonisation, 2017, https://strathprints.strath.ac.uk/60291/1/FEC_41_1_2017_RehmatullaN.pdf

[92] PBA, Shetland Inter Islands Transport Study Financial Review, 2016, https://www.shetland.gov.uk/transport/documents/20160212financereviewv30.pdf

that total vessel-related costs associated with operation gradually increased from £12 million in 2009-10 to almost £17.5 million in 2018 -19 and total terminal-related costs increased from almost £600,000 in 2009-10 to £1.2 million in 2018-19[93]. Terminal related costs are also forecast to increase further to 2021. The Shetland Inter-Island Transport Study advises "major capital spend" on ferry vessels and terminals in the coming years. Stakeholder findings indicated that ageing ferry fleets and associated increased maintenance requirements can cause reliability issues. Stakeholders also reported that there is a challenge in attracting skilled engineers to work on the inter-island ferries to maintain the existing fleet.

Aviation Network

According to a ZetTrans Annual Report (2018), during 2016-17 a total of 34.4% of internal flights were cancelled: 22.2% for weather-related reasons, 0.4% for technical reasons and 11.8% did not fly because there were no passengers booked. During the same period, a total of 2.7% of external flights were cancelled: 1.7% for weather-related reasons and 1.0% for technical or operational reasons[94]. This is a particular problem for islanders as there are few alterative transport options, with a ferry being the only alternative in some instances, and in others there are no alternatives.

Integration

ZetTrans' Annual Report (2018) identified limited integration of public modes of transport as problematic across the region, with 42% of flight arrivals not connecting with a bus leaving between 30 minutes and 60 minutes after the plane's scheduled arrival time; 55% of flight departures not connecting with a bus arriving between 60 minutes and 90 minutes before the plane's scheduled departure time; and 14% of external ferry arrivals not connecting with a bus to Lerwick within 30 minutes[94]. Additionally, it was indicated during stakeholder engagement that public transport integration between Unst and Lerwick is poor, with only 1 integrated service in the morning and evening. Stakeholders pointed to limited timetable integration between buses and ferries as particularly problematic, resulting in long waiting times when relying on public transport. Stakeholder feedback outlined that the current public transport set up is not flexible enough to adapt quickly to changing needs. The connection between public bus services and school transport can lead to integration issues.

AFFORDABILITY

Car Availability

The majority (80.9%) of households on the Shetland Islands have access to a car or van. According to Scottish Government 2018 data, Shetland Islands has the fourth highest number of vehicles registered per 1,000 people in Scotland at 904, the Scottish average is 670 per thousand[95]. Across the Shetland Islands region there is a very low

[93] Shetland Island Council, 2020-2021 Ferry Funding Shortfall
[94] ZetTrans, Annual Report (2016 -2017), 2018, https://www.zettrans.org.uk/site/assets/files/1108/zettransannualreport2016-17v1_0.pdf
[95] Scottish Government, Scottish Transport Statistics No. 38 2019 Edition https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/chapter-1-road-transport-vehicles/

proportion of households without access to a car or van; the highest being on southeast of Unst at 30% or less.

Transport Expenditure

Overall, households within the Shetland Islands region spend a high proportion of their household budget on transport expenditure. As shown in Figure 30[96], the majority of households spend between 17% and 18% of their budget on transport. Households within Lerwick spend the lowest proportion (9% to 10%) of their budgets on transport costs and households in peripheral areas and on the Islands, such as Hillswick and Mid Yell, spend the highest proportion (19% to 20%).

[96] ONS, Based on UK Average weekly household expenditure by Output Area Classification (OAC) group, Living costs and food survey - Financial Year ending 2018, https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure

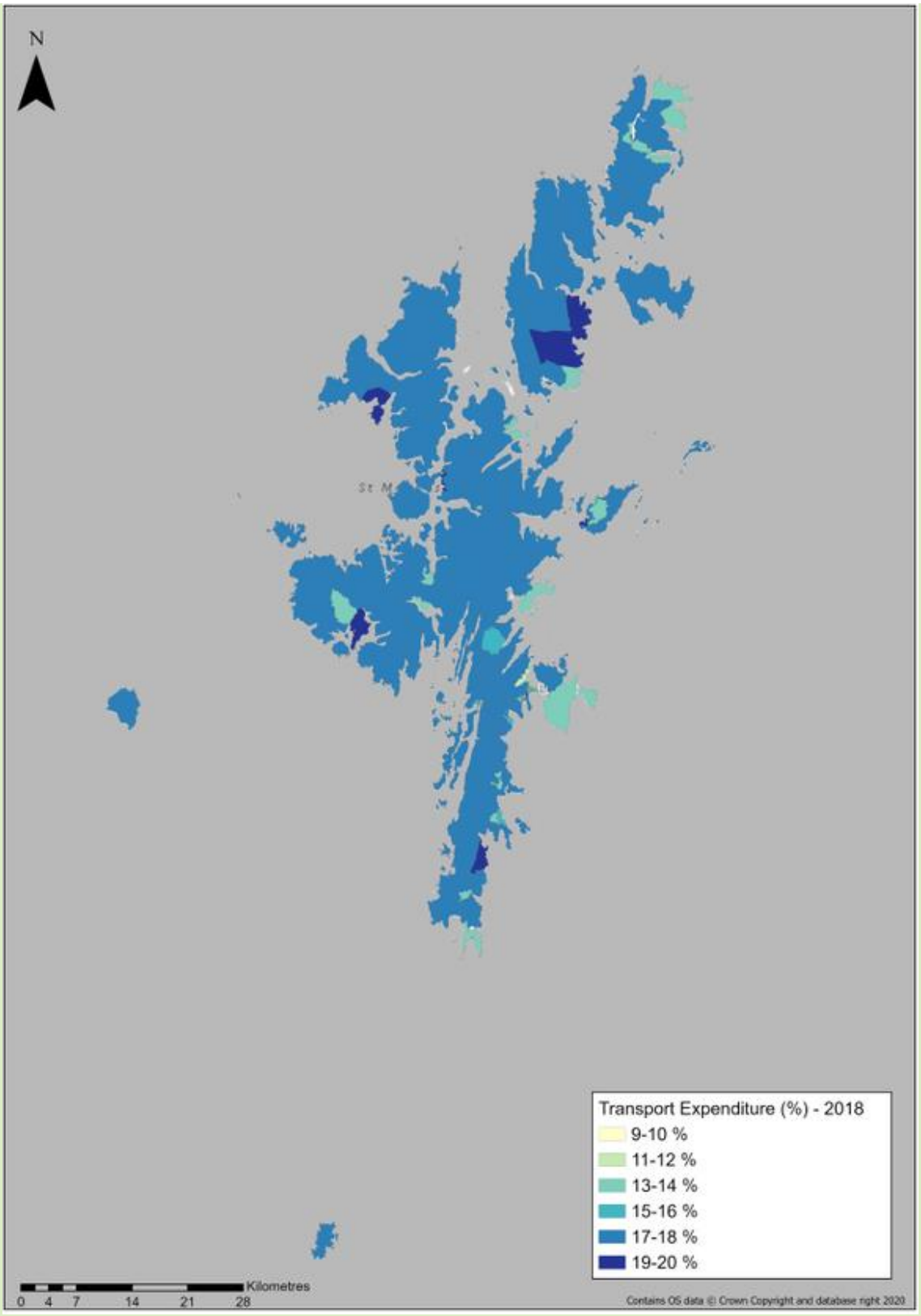

Figure 30: Transport expenditure (%) relative to Household budgets (Shetland Islands Region)

(Click to image to enlarge figure)

Transport Poverty

Transport Poverty is also an issue in the region with all areas outside the Lerwick North data zones deemed to be in the Medium to High Transport Poverty band, with all of the Islands categorised as high risk (Figure 31[97]). According to Sustrans, Transport Poverty indicates how likely those living in each data zone are to have a lack of affordable transport options to access essential services or work. During the structured interviews and workshops, stakeholders highlighted the pervasive impact transport poverty plays on participation in work and leisure activities, recruiting people and sustaining the population in the region, particularly in the rural and island communities.

Furthermore, stakeholder feedback pointed to the compounding socio-economic impacts transport poverty has on low-income households, who are less likely to have access to a car. Limited access to public transport can therefore have a larger impact on those that are already in a vulnerable economic situation, reducing their access to employment opportunities and essential services.

The risk of Transport Poverty increases the further away residents live from the Lerwick. Notably, Bressay is likely displayed as low risk of transport poverty as the island shares the same data zone, and therefore transport expenditure category, as Lerwick. Bressay faces increased transport costs owing to its heavy reliance on inter-island ferries. From Figure 26, located within the Ferry and Air Capacity section, it is evident that ferry utilisation is relatively stable throughout the year, with a slight increase in the tourist season. Assuming all trips in the winter months are residents, it can be assumed that on average, each resident makes 18 return journeys a month to the mainland (based on 13,000 journeys and 360 residents).

Fuel Poverty

Shetland Islands Citizens Advice Bureau (2013) estimate that 40% of households in Shetland Islands are in fuel poverty to some degree; that is, when the energy needs of a household exceed 10% of the household budget. It was also estimated that 13% of households in Shetland Islands are in 'extreme' fuel poverty; that is where the household is required to spend more than 15% of the household income on fuel use[98]. This is a result of the local climate combined with energy inefficient housing, a restricted fuel market (the cheapest type of fuel, gas, is not available in Shetland) and higher fuel costs. The average price per litre of petrol is £1.30 compared to £1.19 in Glasgow and Edinburgh[99]. Similarly, the average price of diesel is £1.33 in the region, compared to £1.21 in Glasgow and Edinburgh.

[97] Transport Poverty analysis is based on research which uses household income, car availability and access to the public transport network data. Based on Transport Poverty in Scotland, Sustrans 2016. Available at: https://www.sustrans.org.uk/media/2880/transport_poverty_in_scotland_2016.pdf

[98] Citizens Advice Bureau, Fuel Bills Survey Report Shetland Islands, 2013, https://www.cas.org.uk/system/files/Fuel%20Bills%20Survey%20Report.pdf

[99] Cheapest price of fuel within a 5km radius of town as of February 5th 2020, https://www.confused.com/on-the-road/petrol-prices

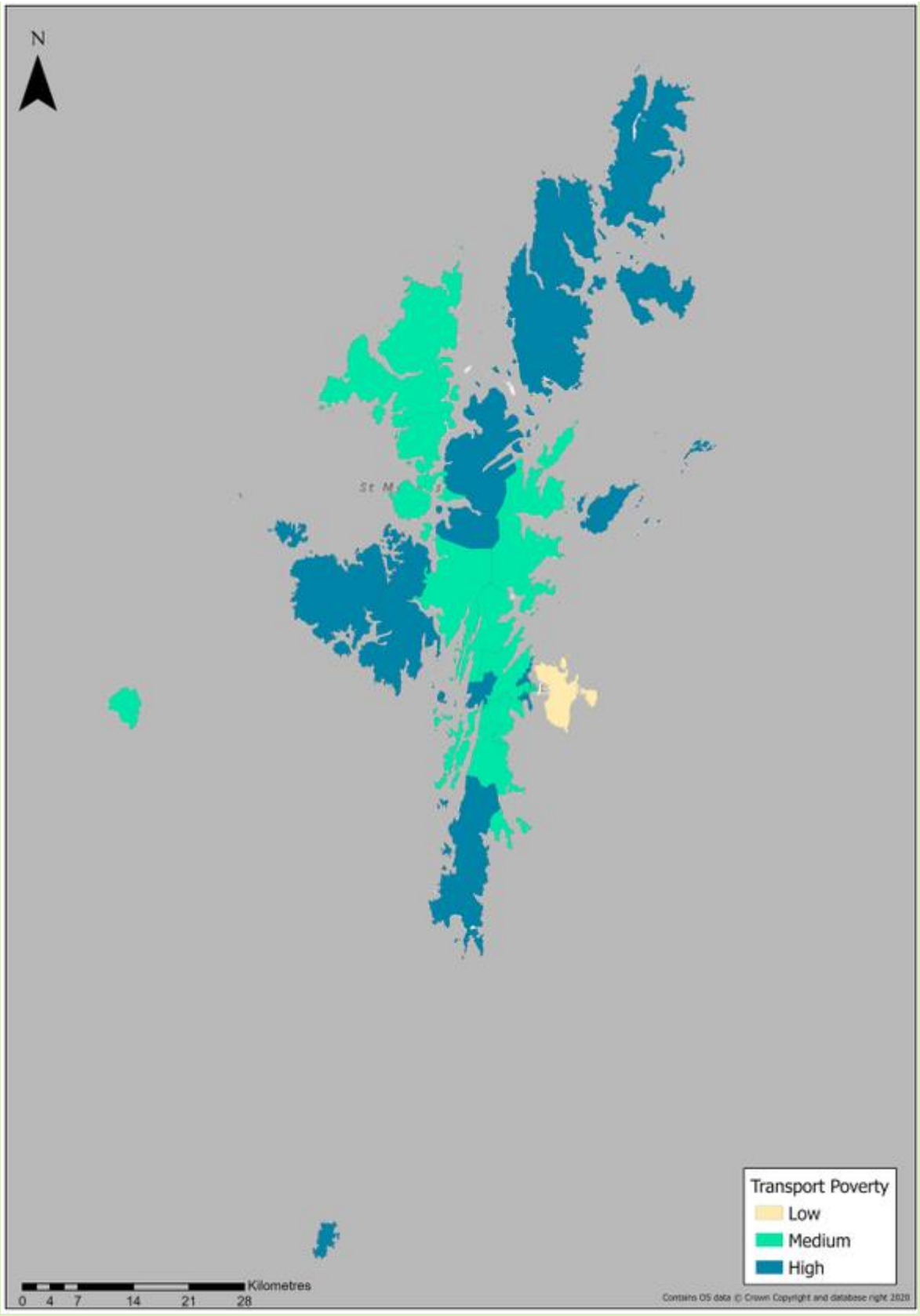

Figure 31: Transport Poverty within the Shetland Islands Region

(Click to image to enlarge figure)

Public Transport Cost

Notably, the cost of inter-island commuting in the Shetland Islands region is high, particularly for residents unable to afford the up-front cost of the multi-journey fares; for example, the multi-journey fare for commuters between Yell and Lerwick is £2,642 per year[100] whereas those unable to pay the monthly fare would spend £3,168 per year for the same journey[101]. During the structured interviews, an interviewee pointed to the issue of low-income residents disproportionately impacted by the high costs of travel across the region as these users are typically unable to afford the upfront monthly ticket costs and therefore not eligible for the discounted rate. For internal air travel, fares range between £69 and £84[102].

For external ferry services, as per Serco NorthLink's online booking system, the cost for a family (including 2 children under 16 years old) undertaking a return ferry journey between Aberdeen and Lerwick is £286 in winter, increasing to £443 in the summer, including a 4-berth cabin. Including a car increases the cost further to £469 in winter and £689 in summer[103]. For external air travel, the fares for a family of 4 (including 2 children under 12 years old) to travel from Sumburgh to Edinburgh with no discount is £1213.76 if travelling in the month booked[104], or slightly cheaper if booked in advanced at £1080.16, whereas islanders registered for the Air Discount Scheme (ADS) will pay notably less[105].

A ZetTrans' Annual Report (2017) highlighted that the Scottish Government spent £2,908,395 to support the ADS in the Shetland Islands during 2016-17 and the total subsidy cost for 2016-17 on the Northern Isles Ferry Contract was £34,789,940[106]. A number of stakeholders indicated the high travel costs across car, ferry and flight modes as problematic for residents and tourists alike travelling within the Shetland Islands region and between the region and mainland Scotland, with suggestions that the services covered by the concessionary scheme is insufficient, resulting in external travel being an option exclusive to the affluent population only.

During the Problems and Opportunities workshop, stakeholders raised their concerns surrounding the impact increasing public transport operating costs will have on the affordability of journeys for the user, especially those living on the Islands and in rural areas. The Shetland Islands Council Budget Book (2020) points to a disparity between the high transport operating costs in the region and the ring-fenced funding available to support the operating costs for ferry and bus services in the region[107].

CONNECTIVITY

Digital Connectivity

The Shetland Islands region has restricted digital connectivity, with 3G coverage for all networks only supported in 44% of the region and 4G coverage for all networks in 50%

[100] Based on 220 commuting trips a year
[101] Shetland Islands Council, Domestic Ferry Fares, https://www.shetland.gov.uk/ferries/ferry-fares
[102] ZetTrans, Annual Report, Page 19, 2016 -2017, https://www.zettrans.org.uk/site/assets/files/1108/zettransannualreport2016-17v1_0.pdf

of the region[108]. Wi-Fi is supported in 69% of the region[109]. As shown in Figure 32, the average download speed in the region is among the slowest in Scotland, although the speed is comparable with the local authority areas in the Highlands and Islands region.

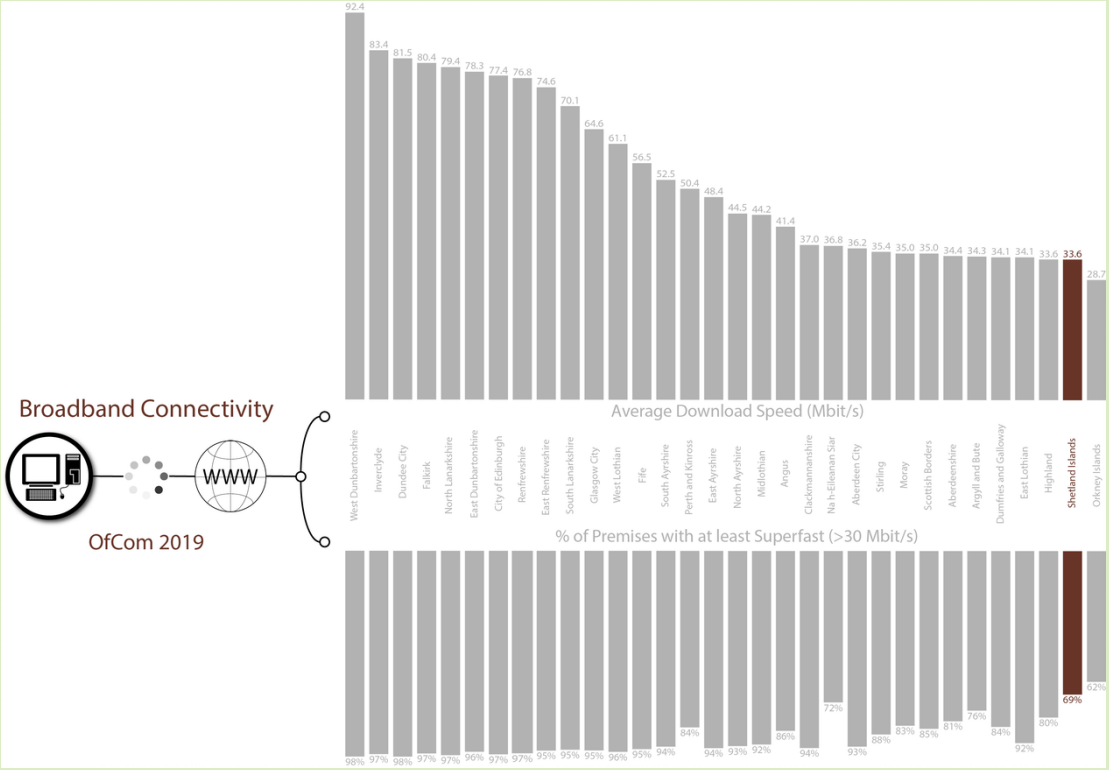

Figure 32: Average Broadband Connectivity Speed and Percentage of Premises with Access to Superfast Broadband

The fragility and absence of the digital connectivity in the Shetland Islands region was identified as a prevalent issue by a number of stakeholders at the Problems and Opportunities workshop. The lack of digital connectivity was also highlighted as exacerbating the sense of isolation felt amongst communities, particularly on the Islands and in rural areas, in addition to disrupting education as pupils cannot complete their school assignments due to the poor, or complete lack of, connection. Furthermore, stakeholders also said the fragility of the digital network results in people travelling across the region to get a connection, placing additional demand on the region's internal

[103] Prices calculated on February 5th 2020 for a return journey in February 2020 and July 2020, https://online.northlinkferries.co.uk/Booking/default_ajax.aspx
[104] Prices Calculated on 6th of February 2020 for a return journey on the 28-29th of February 2020 and 24-25th July, https://www.loganair.co.uk/
[105] The Air Discount Scheme is only available to those who live on the islands.
[106] ZetTrans, Annual Report (2016 -2017), 2018, https://www.zettrans.org.uk/site/assets/files/1108/zettransannualreport2016-17v1_0.pdf
[107] Shetland Islands Council, The Council Budget Book 2020-21, https://www.shetland.gov.uk/downloads/file/1319/budget-book-2020-2021
[108] OFCOM, Connected Nations 2019, https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2019/data-downloads
[109] OFCOM, Connected Nations 2019, *ibid*.

transport systems. Digital connectivity is also seen as one of the reasons for depopulation on the Islands in particular.

Ferry Timetable Constraints

Internal ferry timetable constraints during the winter period have been identified as a problem in relation to inter-island connectivity. According to a Ferry Connectivity report prepared by Peter Brett Associates LLP, there are 33 fewer internal ferry services during the winter months than the summer months[110], such as services to/from Fair Isle reducing from 3 sailings a week in summer to only 1 in winter.

EMISSIONS

Carbon dioxide (CO_2) emissions per capita place the Shetland Islands in one of the highest ranges for Scotland, sitting at the 10 tonnes per capita in 2018, which is the fourth highest local authority in Scotland - the second highest band. The proportion of CO_2 emissions from the transport sector in the Shetland Islands region increased from 13% in 2005 to 21% in 2018[111]. In 2013-14, ferries made up 47% of the Shetland Islands Council's energy consumption, with tugs making up 9%; notably, this carbon footprint is exclusive to the council operation and does not include those of privately-operated transport, such as Loganair or Serco NorthLink[112]. According to a ZetTrans report, in 2016-17 the internal ferry service consumed 4,352,228 litres of fuel and 47,324 litres of fuel was used to operate the internal air service[93]. A number of stakeholder interviewees pointed to the challenge of Shetland Islands' CO_2 emissions being inextricably linked with the region's geographic remoteness and coupled with the dominate industries the region supports, namely aquaculture, fishing and tourism.

DEPOPULATION

The Shetland Islands region experiences an ongoing challenge to retain its working population. Based on HIE Business Panel Survey[113] conducted between June 2019 and July 2019, around two-thirds (66%) of panel respondents highlighted that Shetland is likely to face challenges in recruiting and retaining staff due to its remote nature being 'off-putting' to staff; on this point, Shetland fared worse than all other areas (Argyll and the Islands, Lochaber, Skye and Wester Ross, Caithness & Sutherland, Inner Moray Firth, Moray, Orkney, and the Outer Hebrides). Between 2011 and 2019, the percentage of the Shetland Islands population aged 65 and over increased by 24% and those aged between 16 and 64 reduced by 6%. As such, given the population figures are relatively

[110] PBA, Ferry Service Provision, https://www.shetland.gov.uk/transport/documents/FerryConnectivity-v2.10.pdf

[111] UK Government, UK Local Authority and Regional Carbon Dioxide Emissions National Statistics 2005 to 2018, 2019,

[112] Shetland Islands Council, Carbon Management Strategy Carbon Management Plan (2015 – 2020), 2015, https://www.shetland.gov.uk/directory-record/6194/carbon-management-plan

[113] HIE, Business Panel Survey : Planning for the future, 2019, https://www.hie.co.uk/media/6321/hieplusbusinesspluspanelplussurveyplus-plusplanningplusforplustheplusfutureplus-plusreport.pdf

stable at 22,990, this indicates that the population is ageing and there is a need to attract more working age people to the region.

The Shetland Islands region contributed 0.2% of Scotland's total benefit claimants and made up 0.4% of the population. Those claiming benefits on the Shetland Islands are likely to have limited income to spend on transport. This increases the risk of transport poverty, as well as limiting their ability to access key services and employment opportunities.

According to a Scottish Government report (2013) on underemployment in Scotland, 13.6% of Shetland Islands' workers are underemployed[114]; the Shetland Islands have the joint highest underemployment rate in Scotland, with Dundee City. The transport provision within the region and between the region and mainland Scotland could be a contributory factor in the level of underemployment as the lack of transport services restricts the labour market.

It was highlighted at various stakeholder engagement events that there is currently a challenge in attracting skilled engineers to work on the inter-island ferries to maintain the existing fleet. In addition to these issues, the majority of the of the problems mentioned within this section are likely to be contributing to the depopulation within the region.

3.2.2. Online Survey: Reported Problems in the Shetland Islands 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 Shetland Islands region included:

- **Island - Connectivity to the Scottish mainland**, which 4 respondents ranked as their top priority and 4 ranked within their top 3;
- **Cycling - Availability of safe cycling infrastructure**, which 3 respondents ranked as their top priority and 6 ranked within their top 3; an
- **Wider Issues,** Digital connectivity which 3 respondents ranked as their top priority and 3 ranked within their top 3.

Other commonly raised areas of concern related to availability of safe walking/wheeling infrastructure, integration between modes, and availability of funding for new transport interventions.

The findings from the survey have been used to inform and validate the identification of the transport related problems described in Section 3.2.1.

[114] Scottish Government, Underemployment in Scotland, 2013, https://www.gov.scot/publications/underemployment-in-scotland/

3.2.3. Opportunities

This section provides a summary of key opportunity themes identified for the Shetland Islands region.

TOURISM

Tourism is a growing industry in the Shetland Islands region; according to Shetland's Tourism Strategy (2018 – 2023)[115]. Between 2017 and 2019, the region enjoyed a 91% increase in 'friends and relatives' visitors and 7% increase in leisure visitors. With the Shetland Islands welcoming around 90,000 cruise passengers in 2018, expanding the geographic reach of cruise liner passenger destinations beyond Lerwick, Scalloway and Fair Isle could enable the benefits of tourism to spread to other parts of the region. Visitors tend to visit the Shetland Islands during the summer months. Access to the Islands within peak season can also be restricted by capacity on external transport services. The opportunity exists to grow this industry within the region, which would provide a degree of resilience to the region's economy, which is currently dominated by the Aquaculture, Fishing and Oil and Gas industries.

RENEWABLE ENERGY

Whilst the Shetland Islands region is the smallest region in this study, both by land mass and population, it has a significant carbon footprint. The area relies on travel by private car, ferries and air, which has a large carbon footprint. The area also has low public transport usage and active travel usage for commuting trips. Harnessing the unique location of the region to produce renewable energy and developing a more sustainable transport fleet presents a significant opportunity to reduce the carbon footprint of the area. Work has been undertaken in Orkney on the development of a sustainable energy plan and the Shetland Islands are in a similar geographical and technical position where they can harness renewables but also develop the transferable skills and facilities from the Oil and Gas sector. Ofgem have recently approved an interconnector[116], connecting the Shetland Islands to Caithness, paving the way or the Viking Energy wind farm and other renewable energy developments within the Shetland Islands. Project Orion is another example of the renewable energy potential in the region, with the project aiming to transfer energy production from oil and gas to Hydrogen. These types of developments and projects should allow the Shetland Islands to harness their renewable resources and make a step change in the carbon consumption within the region.

Highlands and Islands Enterprise are also enthusiastic about the opportunities for growth in the Renewable sector in the Highlands and Islands (which includes Shetland) stating that "With superb natural resources, modern fabrication and port facilities, and transferable skills from the oil and gas industry, the Highlands and Islands is bidding to

[115] Shetland Tourism Association, Shetland Islands Council, Visit Scotland, Highlands and Islands Enterprise, Lerwick Port Authority, Shetland Arts Development Agency and Shetland Amenity Trust, Shetland Tourism Strategy 2018 – 2023, https://www.shetland.gov.uk/economic_development/documents/TourismStrategyFINAL17_10_18b.pdf

[116] Ofgem, Ofgem approved 600MW Shetland transmission link, https://www.ofgem.gov.uk/publications-and-updates/ofgem-approves-600mw-shetland-transmission-link

be a world capital in renewable energy. The region's strong legacy in the oil and gas industry, and abundance of renewable energy resources, mean it is ideally placed to be at the forefront of the energy industry."[117]

Renewable energy opportunities include futureproofing the transport network by exploring new technology and alternative energy use, reducing the region's heavy reliance on traditional fuels.

ACTIVE TRAVEL AND SHARED TRANSPORT

Currently, less than 30% of pupils travel to school actively and less than 10% travel to work actively within the Shetland Islands region[118]. In 2018, the proportion of pupils that actively travelled to school in the Shetland Islands Council area was low relative to other local authorities across Scotland, with the exception of Comhairle nan Eilean Siar. Development of the active travel network is a key opportunity for both leisure and commuter trips[119].

Stakeholders suggested there was an appetite to enhance the propensity to actively travel in the Shetland Islands region, with suggestions that improving the real and perceived safety of the network and offering access to supportive infrastructure (such as bike shelters and electric bikes) has the potential to play a significant role in uptake of active travel. In recognition of this public appetite to seek active travel activities and the key role transport can play in shaping the overall visiting and living experience for those tourists and residents alike, opportunities exist to promote, and enhance, the uptake of more sustainable travel modes and / or active travel opportunities across the region. ZetTrans are seeking to roll out multi-modal transport pilots to address gaps in the region's current public transport system through the provision of demand-responsive and shared transport options, including e-bike and / or scooter hires.

The Shetland Active Travel Strategy 2020-2025 is currently being developed; this strategy is partially driven by the opportunities of changing work and travel habits, in light of the temporary and long-term implications of COVID-19 on behaviour change[120]. To build on these positive changes in travel behaviour, in July 2020, ZetTrans secured Sustrans' Spaces for People funding to implement temporary active travel interventions across the Shetland Islands region.

With the Shetland Islands region comprising 7 sites of National Scenic Area (NSA) status, increasing accessibility to nature via active travel offers a multitude of opportunities, including the potential to attract more visitors; enhance the region's outdoor activities offer; and minimise the associated impact of transport-based emissions on local communities and the environment. Active travel could be utilised as part of a sustainable journey, connecting people to public transport services and

[117] HIE, Investment in Energy, 2019,https://www.hie.co.uk/our-region/our-growth-sectors/energy/investment-in-energy/
[118] NRS, 2011 Census (Scotland), 2011, https://scotlandscensus.gov.uk/
[119] Scottish Public Health Observatory, Hands Up Scotland Survey 2018, Sustrans (Official statistic).Available at: https://scotland.shinyapps.io/ScotPHO_profiles_tool/
[120] Shetland Active Travel Strategy 2020-2025 – Consultative Draft, 2020, ZetTrans. Available at: https://www.zettrans.org.uk/site/assets/files/1330/shetland_active_travel_strategy_consultative_draft_nov_2020.pdf

reducing the reliance on the private car. In terms of tourism, active travel hubs could be utilised to allow tourists to hire bikes and utilise active travel whilst visiting the region. This could be particularly fruitful for those visiting the Islands from cruise ships.

ECONOMICS DEVELOPMENT

Stakeholders identified the Fishery and Aquaculture industries as areas for economic development within the region. Figures provided from the Stewart Building Group show that exports of salmon grew by 20% between 2015 and 2018 and whitefish, mussel and shellfish grew by 42%, 24% and 26%, respectively, over the same period. According to forecasts provided, the aforementioned industries are forecast to continue to grow between 5% and 48% from 2018 to 2021[121]. Local industry representatives reported that the Fishery and Aquaculture industry are reluctant to invest in expansion as they do not have the confidence that there is sufficient capacity to export their product from the region, particularly during the livestock season (September to October) when freight services are further constrained. However, there has been recent investment to double the size of the fish processing plants at both Lerwick and Scalloway, which has been undertaken at risk.

The digital connectivity of the region was highlighted as a problem; however, this also provides significant opportunities in how island communities in particular access key services, employment and education, potentially reducing the need to travel unsustainably in many situations, including reducing the need to travel for employment opportunities through increased remote working.

3.2.4. Future Conditions

The problems and opportunities outlined in Section 3.2.1. are focused on current issues 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 disrupters and uncertainties (e.g. COVID-19 impacts, alternative working practices, new transport technologies, future transport policy developments) and is accordingly being carried out at a national level for the STPR2 programme as a whole.

3.3. Problems and Opportunities Summary

Chapter 3 discussed problems and opportunities highlighted through data analysis, identified by stakeholder engagement and informed by the policy review. The themes and Transport Planning Objectives (TPOs) which any intervention should look to address are derived from these findings in addition to the key points arsing in the socioeconomic, geographic, transport and environmental context of the Shetland Islands region, as outlined in Section 2.

The key problems to note from this review are:

[121] Figures provided by the Stewart Buildings Group in a presentation given on the 12th of September 2018

- Ferry and Air Capacity Constraints: given the unique geography of the region, the Shetland Islands are reliant on ferry and air connections to provide access to key services and to provide essential supplies to the islands. Capacity issues on the internal ferry service generally occur on the commuting services and can result in some vehicles not being able to access the service. The external services experience strain at certain times of the year, with capacity issues identified on the passenger services during the peak tourist season, making it difficult for islanders to travel to the mainland, particularly for an unplanned trip. VisitScotland have stated that the tourism industry is constrained by the capacity of the external services during the peak season. There are similar capacity issues on the freight services, particularly during livestock season (September to October), which is reported by stakeholders to be constraining the economic development in the region.
- Accessibility to Public Transport: levels of bus access within the region are low, however there are comparable to other remote rural areas, including the Western Isles and Sutherland. Levels of access to public transport was reported to be a problem for those with mobility issues and data provided by Shetland Islands Council indicates this to be the case, with all 46 feeder bus services operated using a minibus.
- Resilience, Reliability and Integration**:** the resilience and reliability issues are evident on both the internal and external ferry services. The internal services are disrupted by ongoing maintenance and are less resilient owing to an ageing ferry fleet. Both the internal and external ferry services are impacted by adverse weather. Flights are also impacted by adverse weather, leading to delays and cancellations. There is a lack of integration of sustainable modes of travel, with ferry and air services not coordinating with the bus timetable, leading to a reliance on the private car.
- Affordability and Public Transport Costs**:** the region generally falls within the medium and high-risk bands of for transport poverty, with the risk of transport poverty increasing the further away residents live from Lerwick. There is a variance in terms of the levels of expenditure spent on transport, with the majority of households spending 17% and 18% on transport, and households within Lerwick spending between 9% and 10% of their household budget on transport. Many residents within the region suffer from fuel poverty and this is exacerbated by the higher than average cost of fuel within the region. The cost of external travel from the region is also reported to be high, with ferry services to the mainland costing around £450 for a family of 4 and a car, and flights costing around £1,000.
- Connectivity: digital connectivity is poor within the region. The Shetland Islands Council area has the third lowest level of broadband coverage relative to other local authorities and has the third slowest average download speed (33.6 Mbit/s); this fragility can disrupt education and burden the transport network with additional trips due to residents travelling across the region to ascertain connection. The winter ferry timetable hampers physical connectivity for residents undertaking internal trips.
- Emissions: the Shetland Islands have one of the highest levels of CO_2 emissions in Scotland, with 47% of the Shetland Islands Council's energy consumption stemming from operating the ferries.
- Depopulation: as a result of the issues outlined above, the region is experiencing an ongoing challenge to retain and attract working age people and in the past 2 decades the region has simultaneously experienced an increase in the proportion of the population being aged between 65 and 74, and a decrease in its working age population.

The key opportunities to note from this review are:

- Tourism is viewed as a key area for growth within the region, building on the recent growth experience between 2013 and 2019. There are also opportunities to grow the aquaculture and fishery industries.
- The region is well-positioned to take advantage of renewable energy usage in order to reduce its carbon footprint. There are opportunities to develop the renewable energy industry, whilst also harnessing renewable energy to decarbonise the transport fleet; and
- With a small proportion of trips currently undertaken by active travel, there are opportunities to develop the active travel network to increase the number of trips undertaken by walking or cycling. Active travel is seen in the region as being part of a sustainable journey and could also be implemented to allow tourists to travel around the islands.

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.

A series of regional sub-objectives sits within the overall direction of the national TPOs but with a focus on the specific evidence-based problems and opportunities for Shetland Islands region. The national TPOs and regional sub-objectives are presented in Table 2 below.

Table 2: National TPOs and the Regional Sub-Objectives

NATIONAL STPR2 OBJECTIVES	SHETLAND ISLANDS REGION 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, capitalising on the renewables potential of the Shetland Islands economy, through a shift to more sustainable modes of travel* ▪ *Increase the mode share of active travel for shorter, everyday journeys.* ▪ *Increase the mode share of public transport, and opportunities for car sharing, to provide viable alternatives to single occupancy car use, with a particular focus on travel to Lerwick and for visitors to the islands* ▪ *Reduce carbon emissions generated by the strategic transport systems, with a focus on utilising renewable energy to provide inter island connectivity and connectivity to the mainland.*
An inclusive strategic transport system that improves the affordability and accessibility of public transport.	▪ *Increase public transport mode share by connecting sustainable modes of transport to facilitate integrated journeys, with a particular focus at key transport interchanges, including ferry terminals.* ▪ *Improve mobility and inclusion for residents, recognising the specific needs for disadvantaged and vulnerable users* ▪ *Reduce transport poverty by increasing travel choice for the islands and rural communities, improving the attractiveness of the Shetland Islands as a place to live, work, study and visit*

	▪ *Reduce the reliance on private car for access to key centres for healthcare, employment and education on both the Shetland Islands and the Scottish mainland.*
A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing.	▪ *Increase the mode share of active travel to improve health and well-being.* ▪ *Improve sustainable transport connections to promote an inclusive society* ▪ *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 competitive transport access to key domestic and international markets, by reducing costs and improving journey time and reliability for business and commercial transport* ▪ *Increase resilience of access to key domestic and international markets to encourage people to live, work, study, visit and invest in the Shetland Isles.* ▪ *Increase the mode share of freight by sustainable modes.*
A reliable and resilient strategic transport system that is safe and secure for users.	▪ *Improve resilience from disruption through adaptation of the region's trunk road, rail and strategic ferry infrastructure.* ▪ *Reduce transport related casualties in line with reduction targets* ▪ *Improve perceived and actual security of the transport network*

Table 3 overleaf demonstrates the alignment of the aims/outcomes developed for the Shetland Islands Region with the identified problems and opportunity themes in the region.

Table 3: Mapping of Problem and Opportunity Themes to Transport Planning Objectives

NATIONAL OBJECTIVE/OUTCOME	REGIONAL SUB-OBJECTIVES	PROBLEM THEMES							OPPORTUNITY THEMES			
		Depopulation	Ferry and Air Capacity Constraints	Accessibility to Public Transport	Resilience, Reliability and Integration	Affordability	Connectivity	Emissions	Tourism	Renewable Energy	Active Travel	Economic Development
A sustainable strategic transport system that contributes significantly to the Scottish Government's Net Zero emissions target	Reduce the consumption of fossil fuels, capitalising on the renewables' potential of the Shetland Islands economy, through a shift to more sustainable modes of travel							■		■	■	■
	Increase the mode share of active travel for shorter, everyday journeys			■			■		■		■	
	Increase the mode share of public transport, and opportunities for car sharing, to provide viable alternatives to single occupancy car use, with a particular focus on travel to Lerwick and for visitors to the islands	■		■		■	■	■	■			
	Reduce carbon emissions generated by the strategic transport systems, with a focus on utilising green energy to provide interisland connectivity and connectivity to the mainland							■		■	■	
An inclusive strategic transport system that improves the affordability and accessibility of public transport	Increase public transport mode share by connecting sustainable modes of transport to facilitate integrated journeys, with a particular focus at key transport interchanges, including ferry terminals	■		■	■	■	■	■	■		■	■
	Improve mobility and inclusion for residents, recognising the specific needs for disadvantaged and vulnerable users.	■		■	■	■	■				■	■
	Reduce transport poverty by increasing travel choice for the islands and rural communities, improving the attractiveness of the Shetland Islands as a place to live, work, study and visit	■	■	■		■	■		■		■	■
	Reduce the reliance on private car for access to key centres for healthcare, employment and education on both the Shetland Islands and the Scottish mainland.	■	■	■	■	■	■	■			■	■
A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing	Increase the mode share of active travel to improve health and well-being										■	
	Improve sustainable transport connections to promote an inclusive society	■		■	■	■	■	■	■		■	■
	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 competitive transport access to key domestic and international markets, by reducing costs and improving journey time and reliability for business and commercial transport		■	■	■	■	■					■

	Increase resilience of access to key domestic and international markets to encourage people to live, work, study, visit and invest in the Shetland Isles.											
	Increase the mode share of freight by sustainable modes.											
A reliable and resilient strategic transport system that is safe and secure for users	Improve resilience from disruption through adaptation of the region's trunk road, rail and strategic ferry infrastructure.											
	Reduce transport related casualties in line with reduction targets											
	Improve perceived and actual security of the transport network											

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 33* alongside the number of options generated at the various key stages that are specific to the Shetland Islands Region.

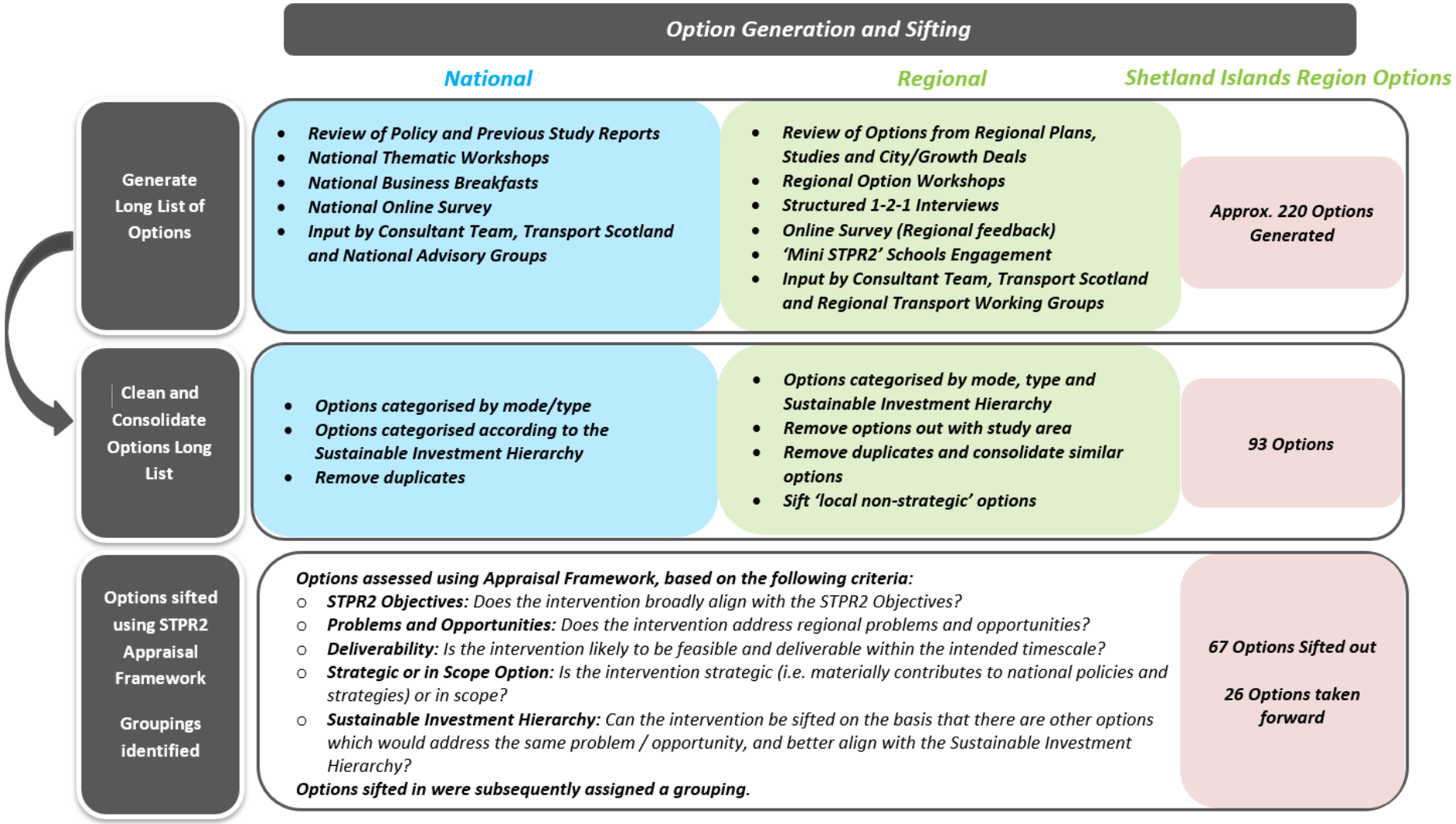

Figure 33: Approach to Option Generation and Sifting

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 Shetland Islands region, there were over 200 options generated.

5.2.2. Option Cleaning

Although over 200 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, 93 options were retained in the long list of interventions to be sifted specific to the Shetland Island region.

5.2.3. Option Sifting

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

Options will be assessed 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 34 provides more detail of the sifting process.

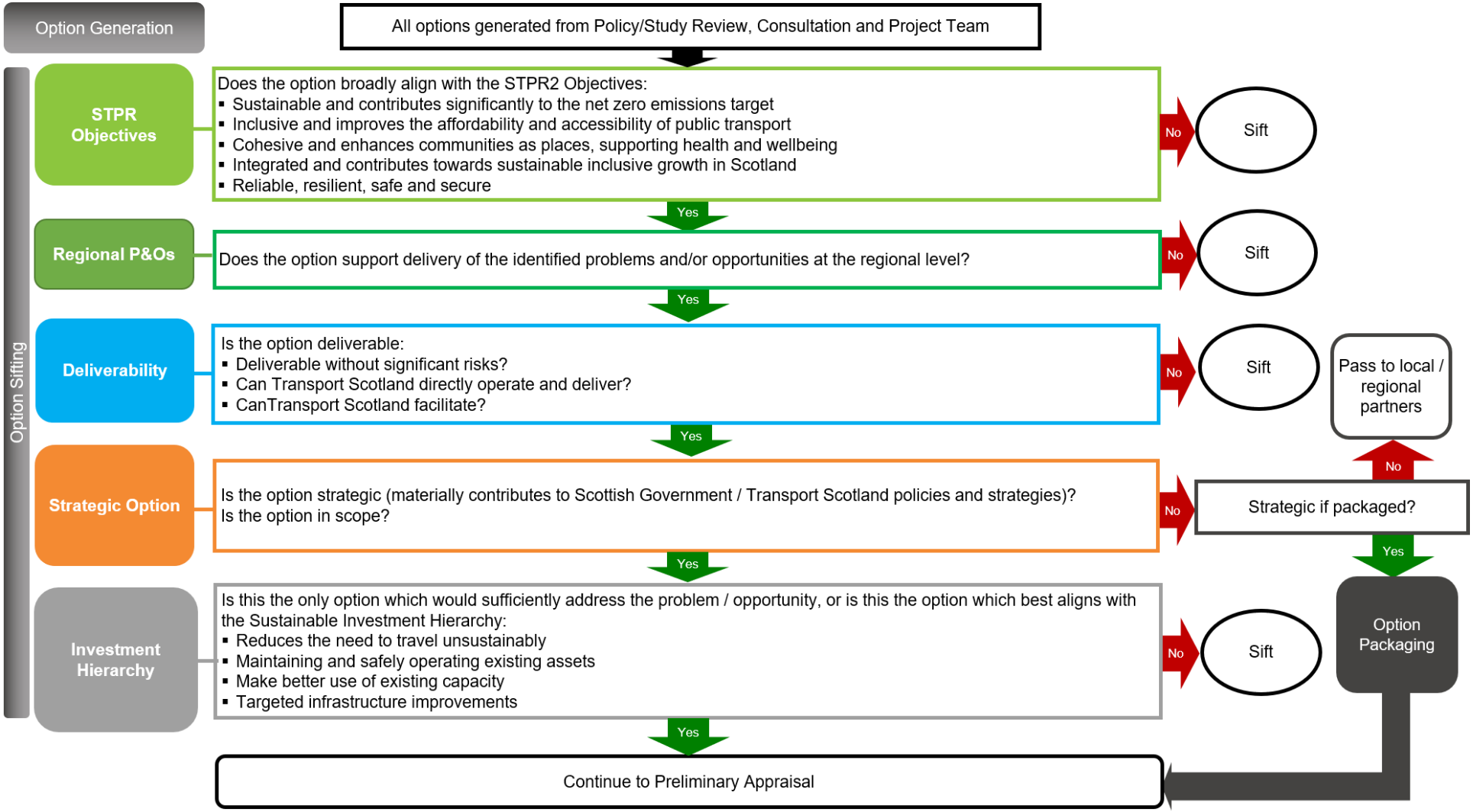

Figure 34: Option sifting process

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 Shetland Islands Region, 67 options were sifted out at this stage.

5.2.5. Options sifted in

Following the sifting exercise, 26 options specific to the Shetland Islands 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 4 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 4: Groupings proposed to progress for 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

Category	Grouping Name	Grouping Description
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.
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

Category	Grouping Name	Grouping Description
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
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

Category	Grouping Name	Grouping Description
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.
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).

Category	Grouping Name	Grouping Description
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
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

Category	Grouping Name	Grouping Description
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.
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.

Category	Grouping Name	Grouping Description
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).
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.

Category	Grouping Name	Grouping Description
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.
Road	Road Safety (Vision Zero) Measures	A national package of road safety measures, such as road safety campaigns and technology to target casualty reduction.

Category	Grouping Name	Grouping Description
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

Category	Grouping Name	Grouping Description
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.
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.

Category	Grouping Name	Grouping Description
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.
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.

APPENDICES

Appendix A: Figures

Jacobs AECOM

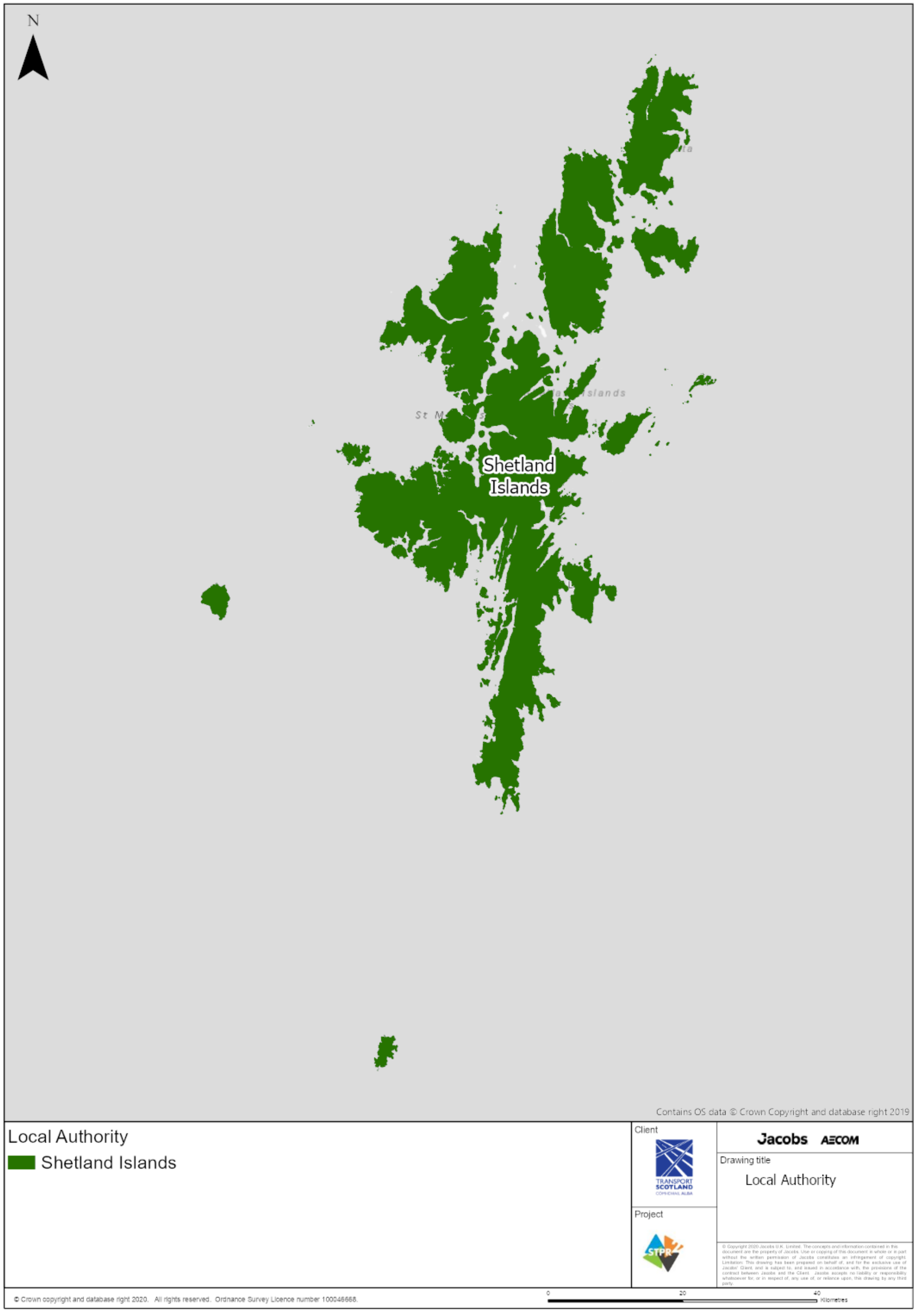

Figure A- 1 Shetland Islands Region Study Area (Click image to go back to main report)

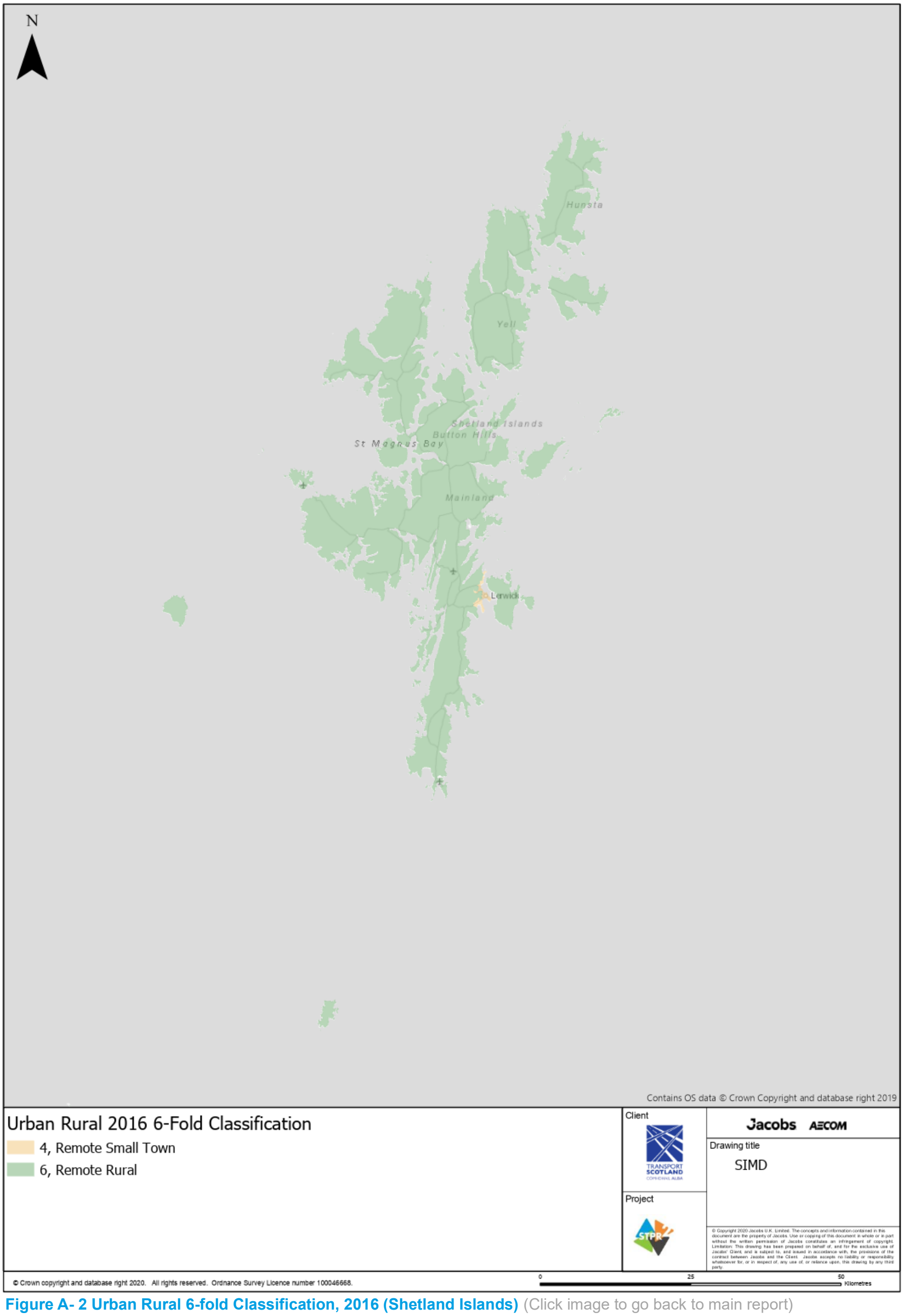

Figure A- 2 Urban Rural 6-fold Classification, 2016 (Shetland Islands) (Click image to go back to main report)

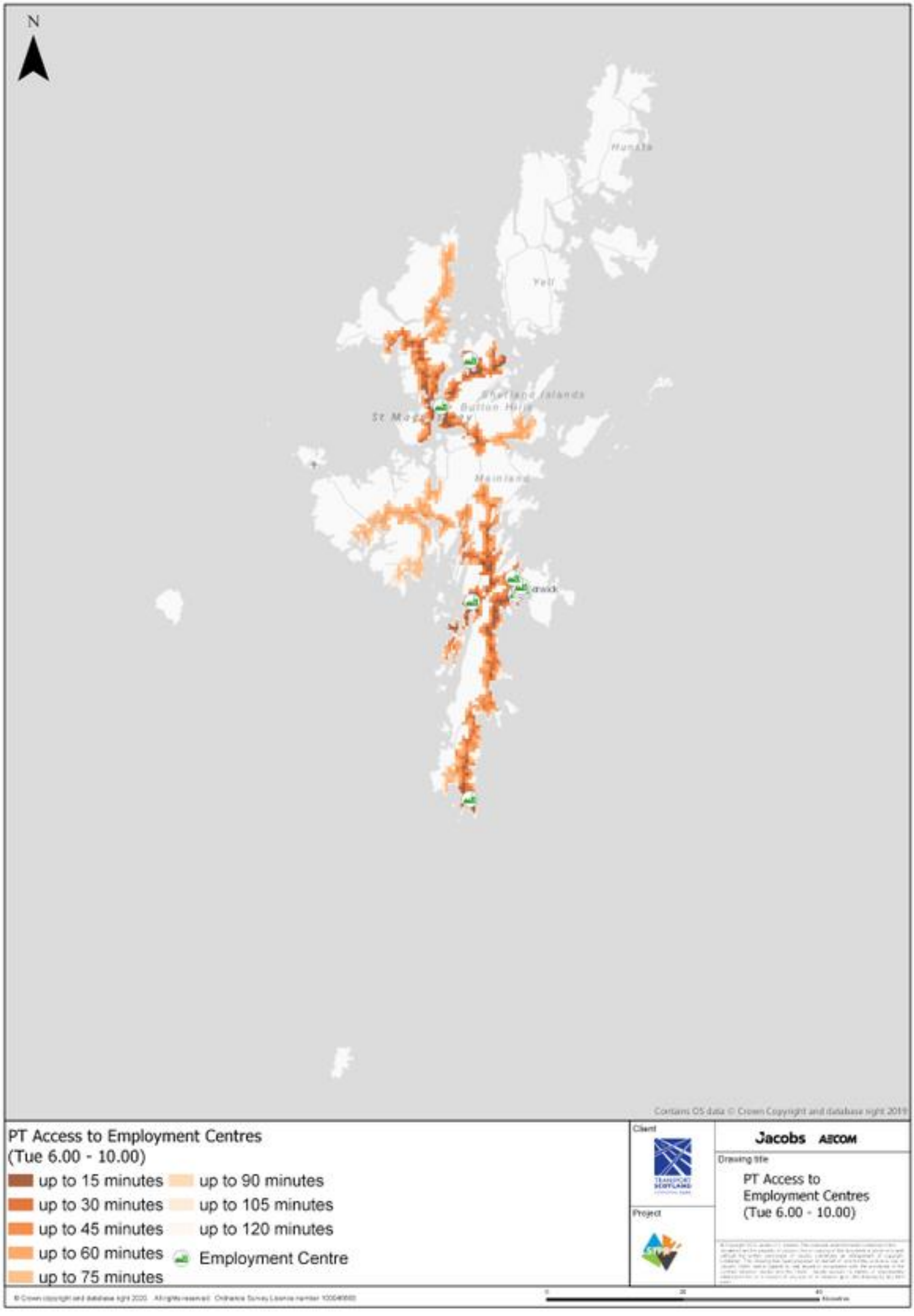

Figure A- 3 Access to Employment by Public Transport (Click image to go back to main report)

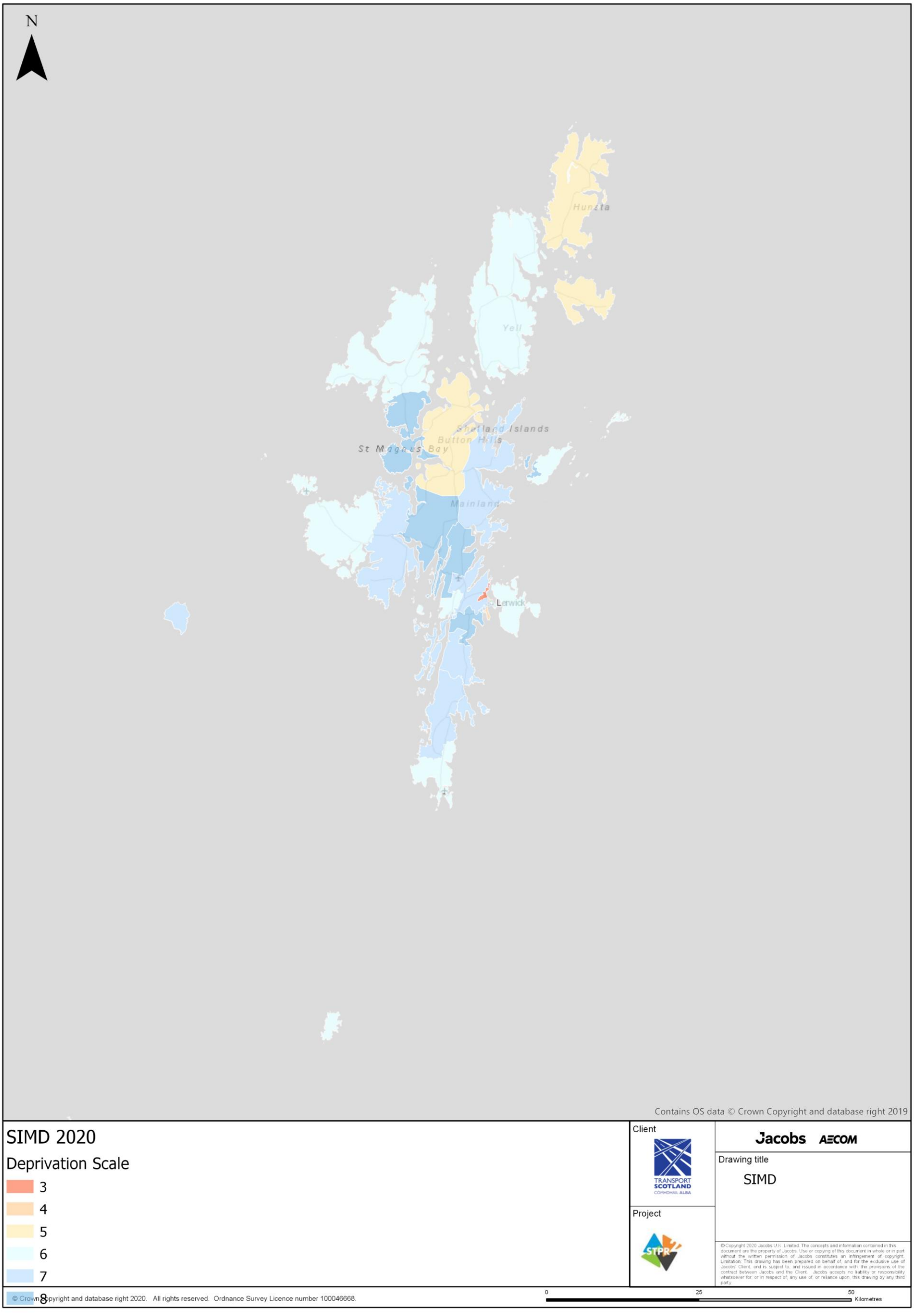

Figure A- 4 Shetland Islands Region Deprivation Index (SIMD) (Click image to go back to main report)

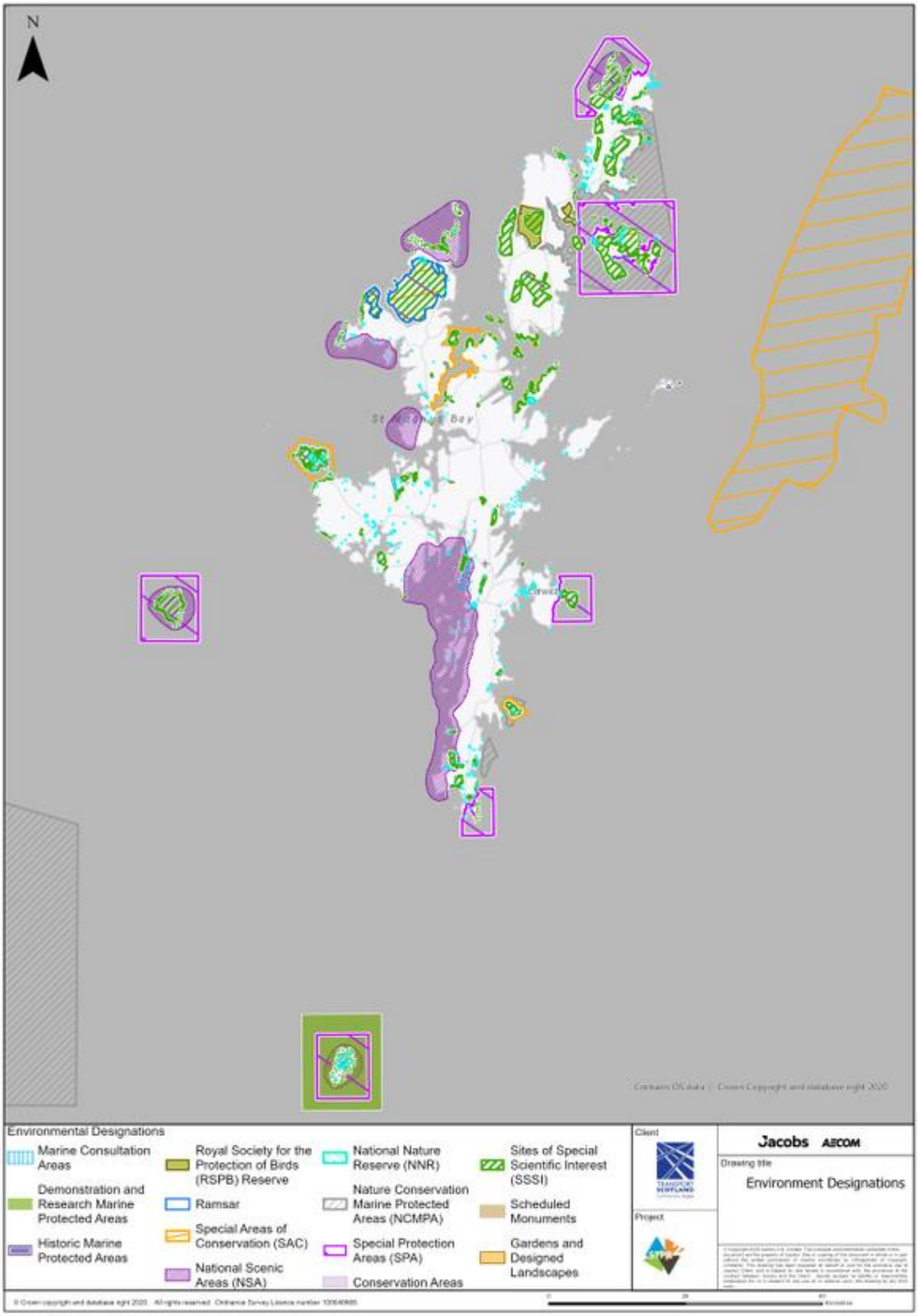

Figure A- 5 Shetland Islands Region Environmental Designation (Click image to go back to main report)

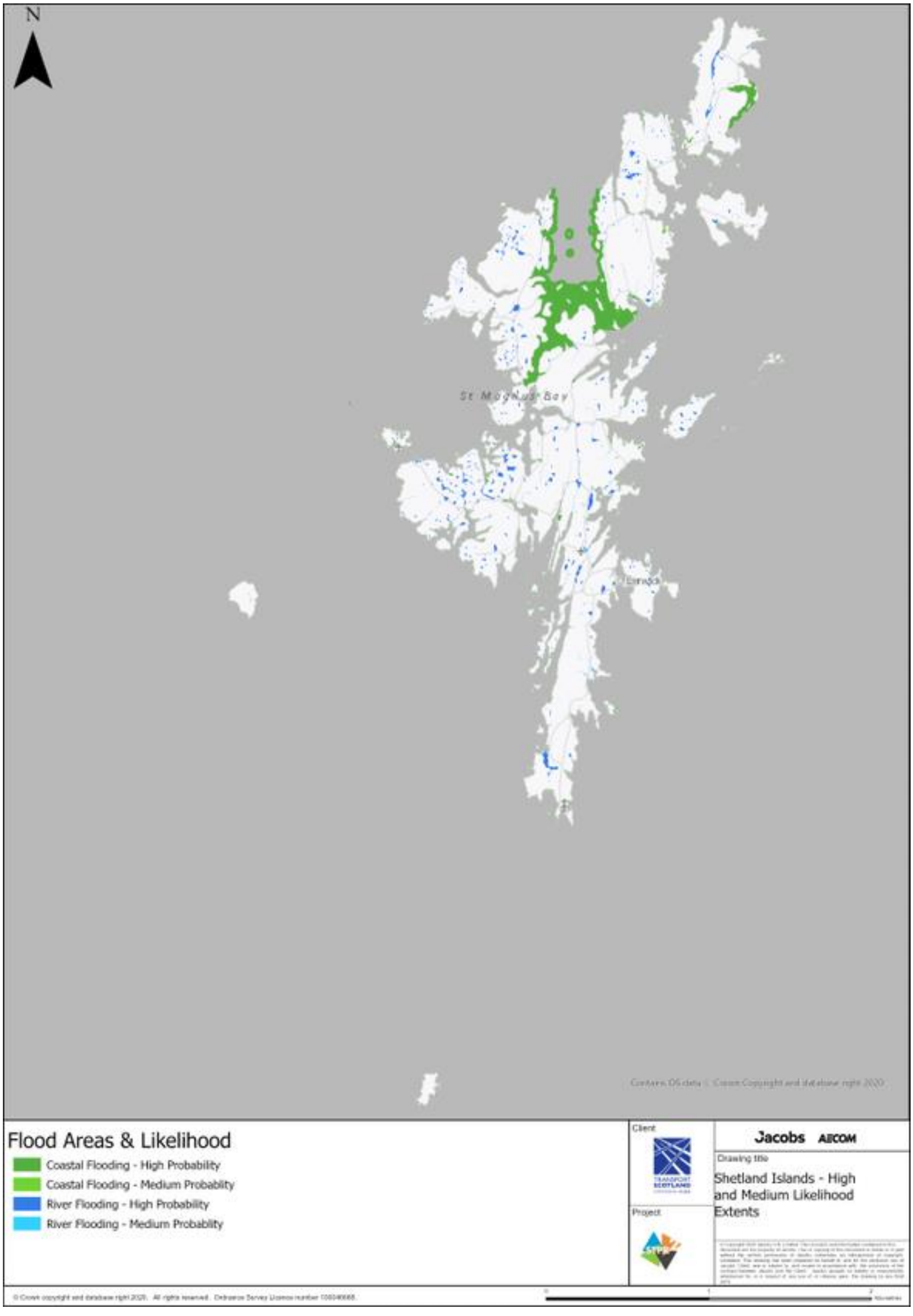

Figure A- 6 Likelihood of Coastal and River Flooding in the Shetland Islands Region (Click image to go back to main report)

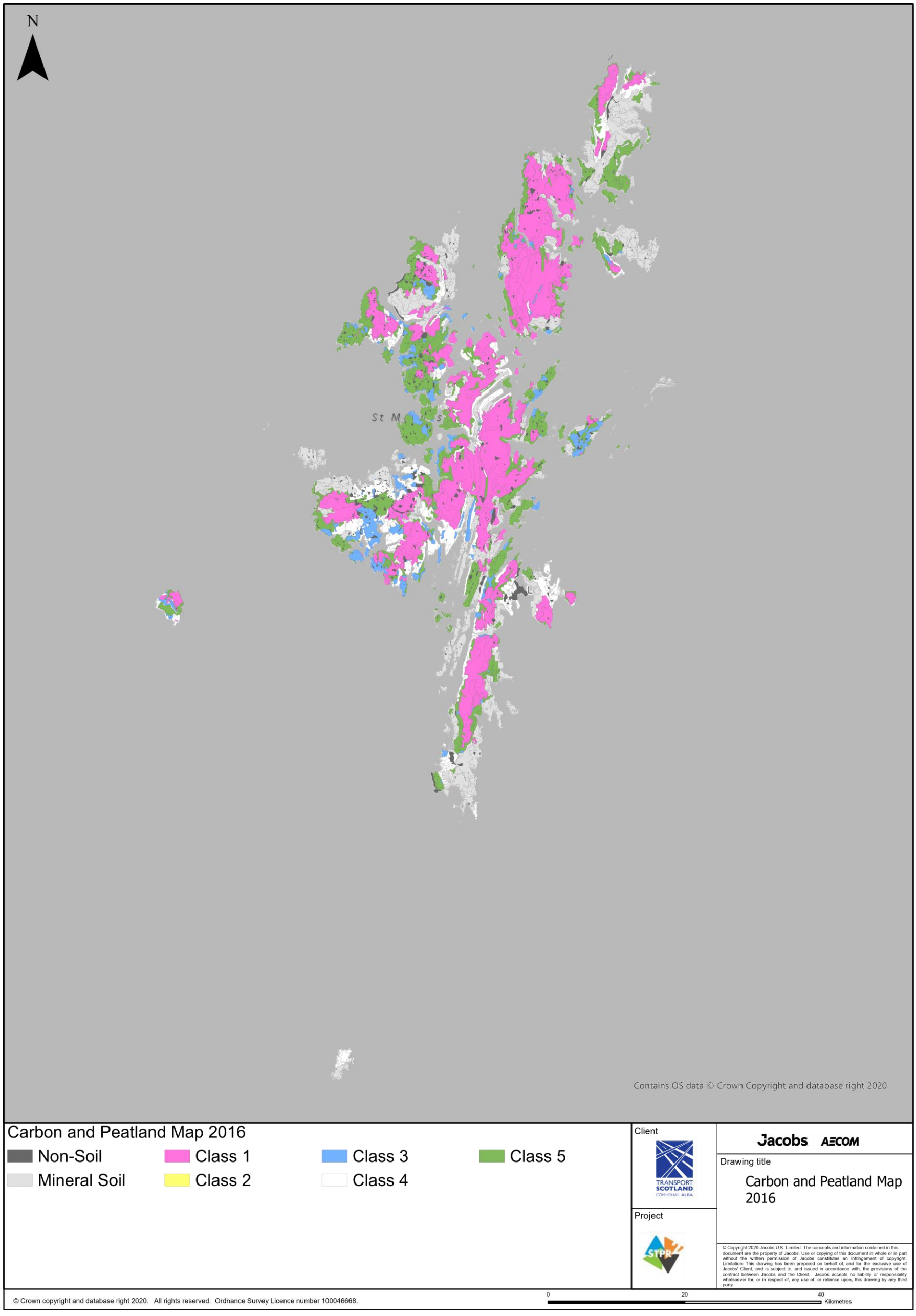

Figure A- 7 Carbon and Peatland Map for the Shetland Islands Region (Click image to go back to main report)

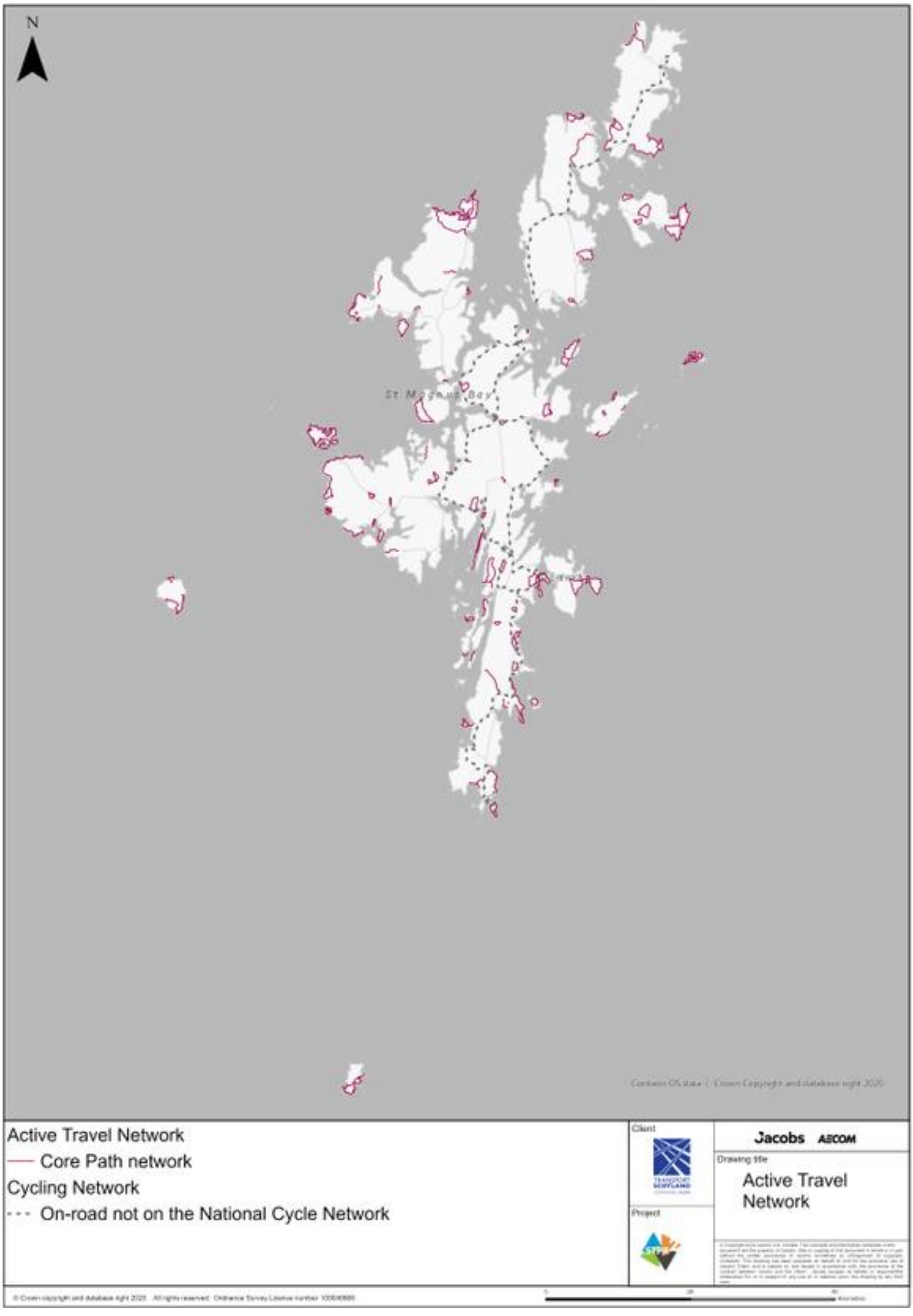

Figure A- 8 Shetland Islands Region Active Transport Network (Click image to go back to main report)

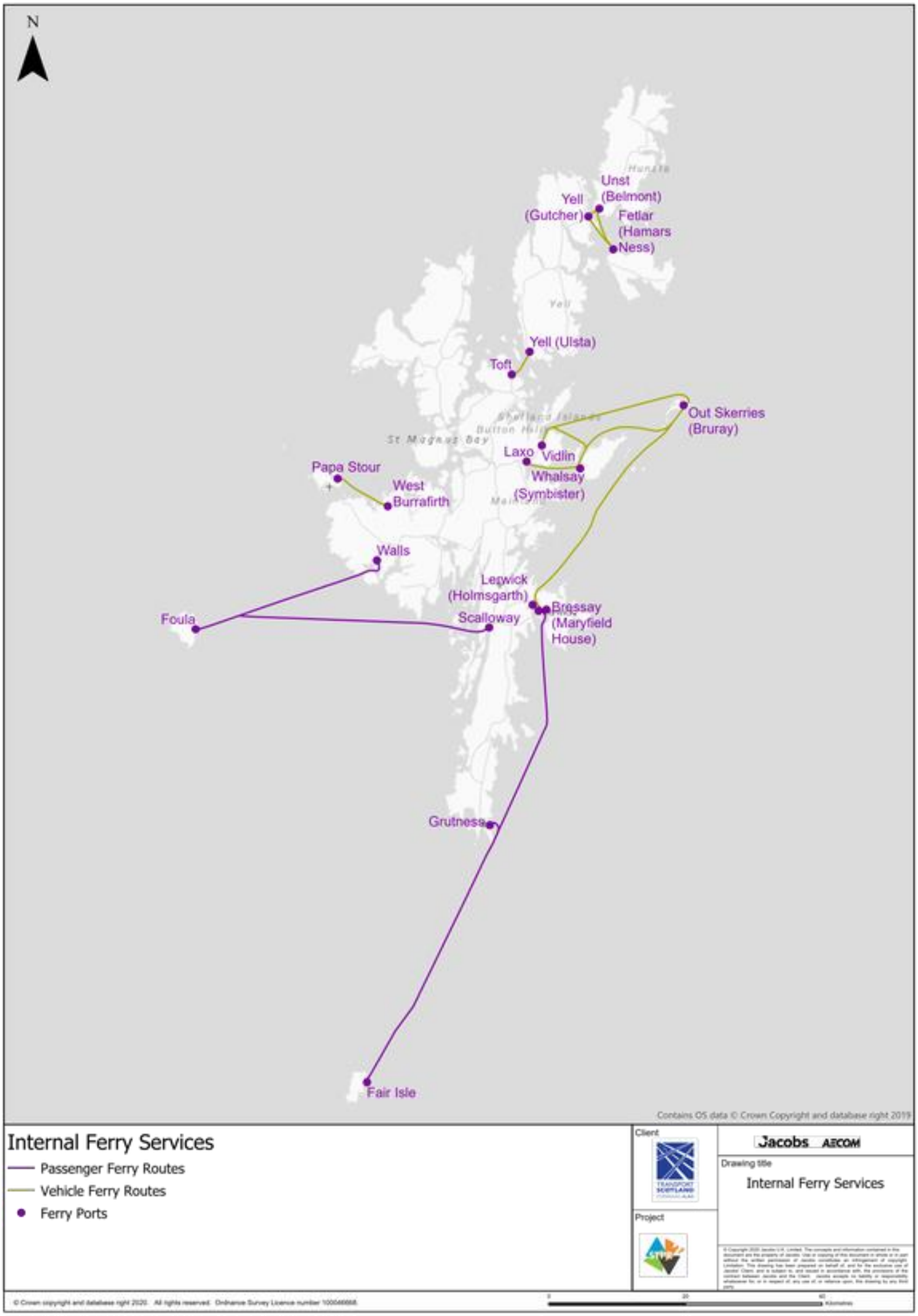

Figure A- 9 Internal Ferry Services - operated by Shetland Islands Council (Click image to go back to main report)

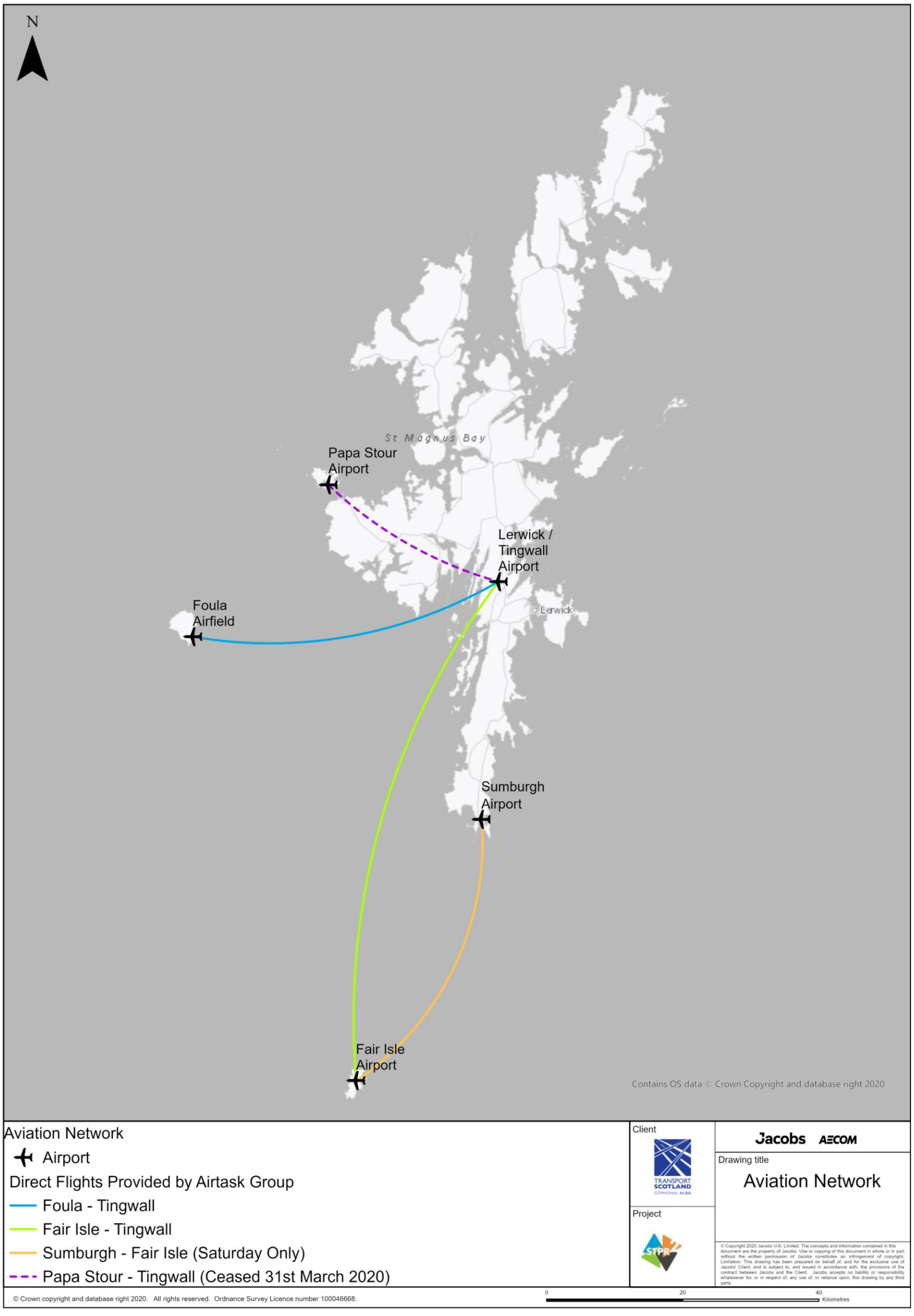

Figure A- 10 Shetland Islands Region Aviation Network (Click image to go back to main report)

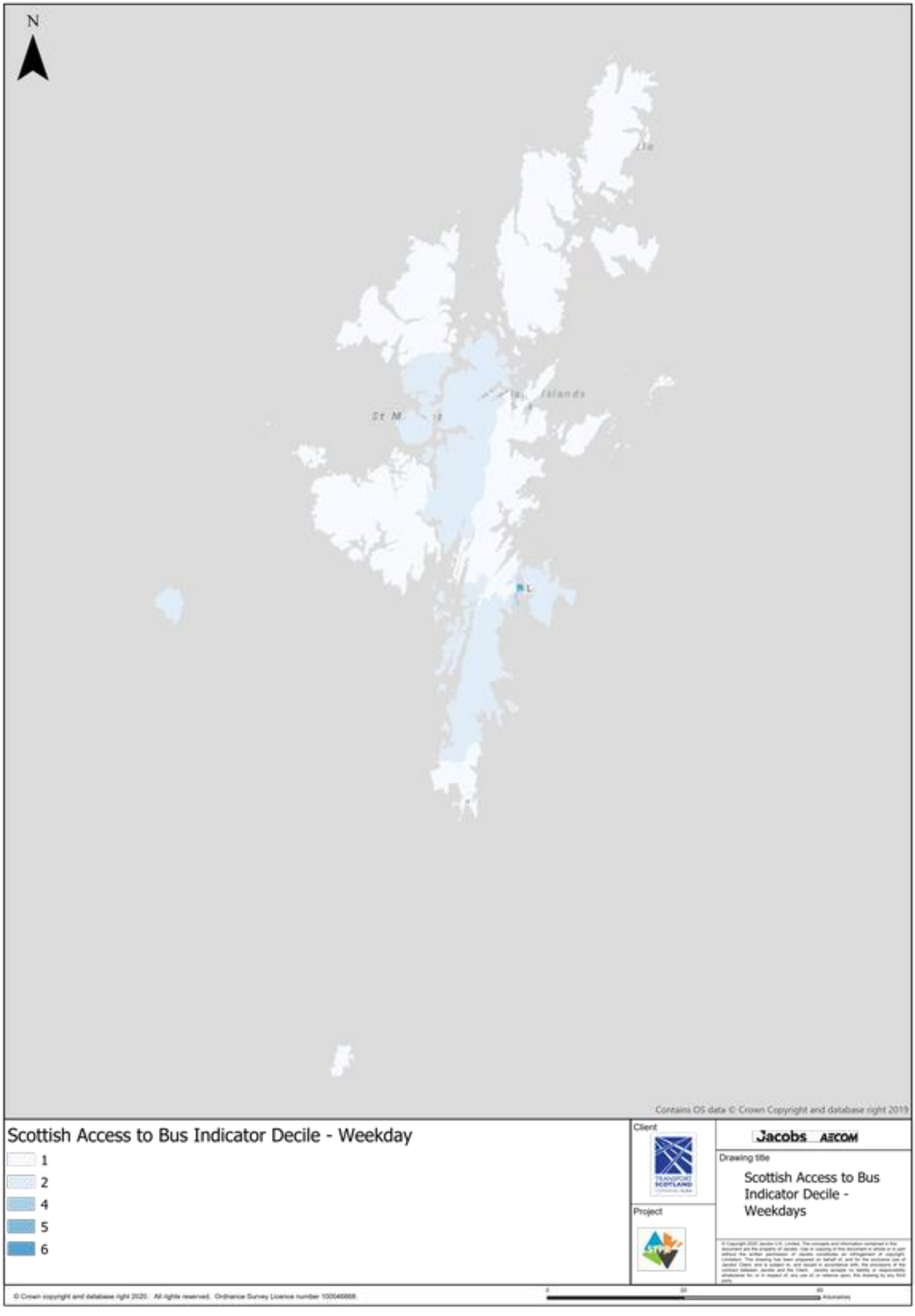

Figure A- 11 Scottish Access to Bus Indicator Decile – Weekdays (Shetland Islands Region) (Click image to go back to main report)

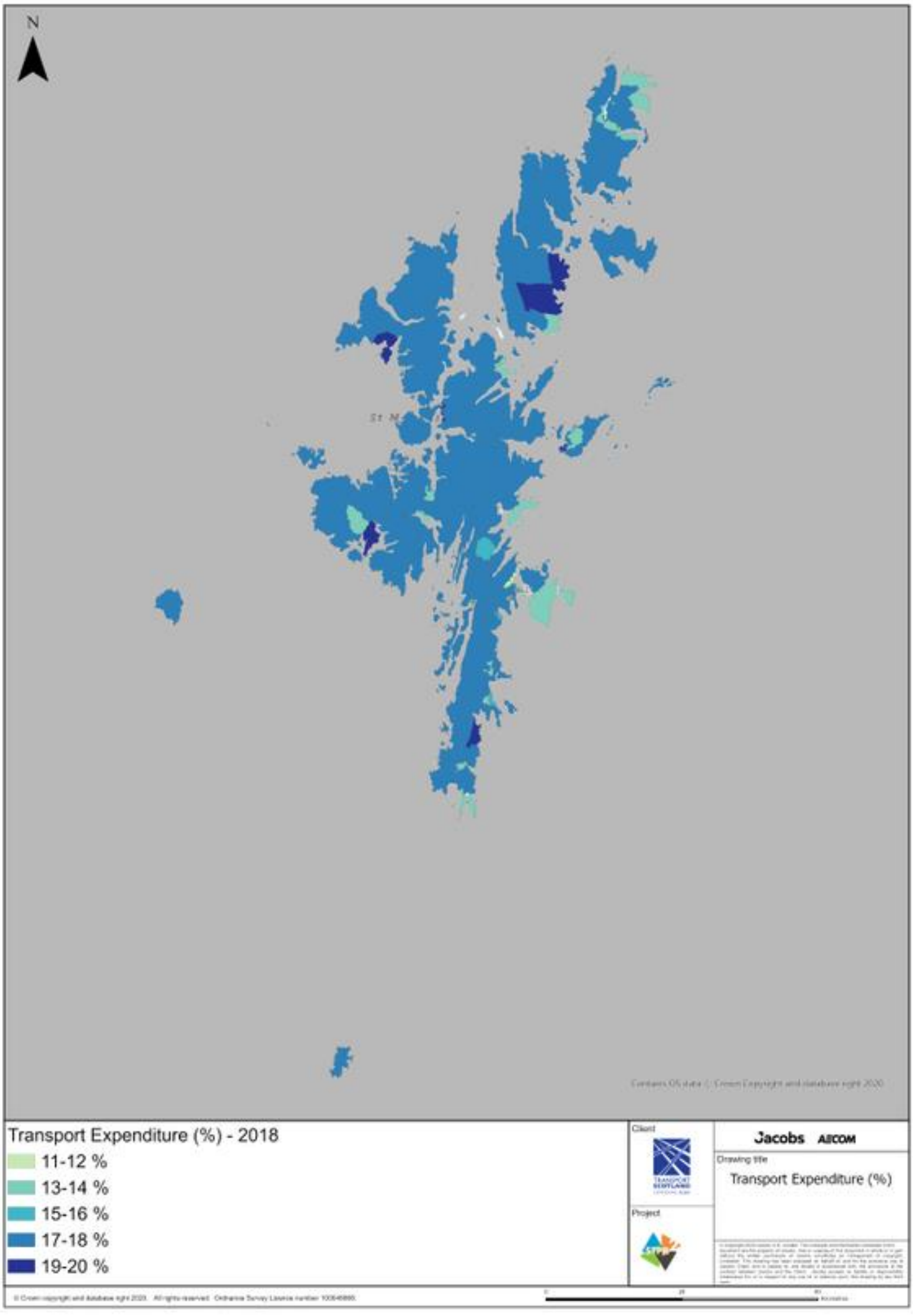

Figure A- 12 Transport Expenditure (%) relative to Household Budgets (Click image to go back to main report)

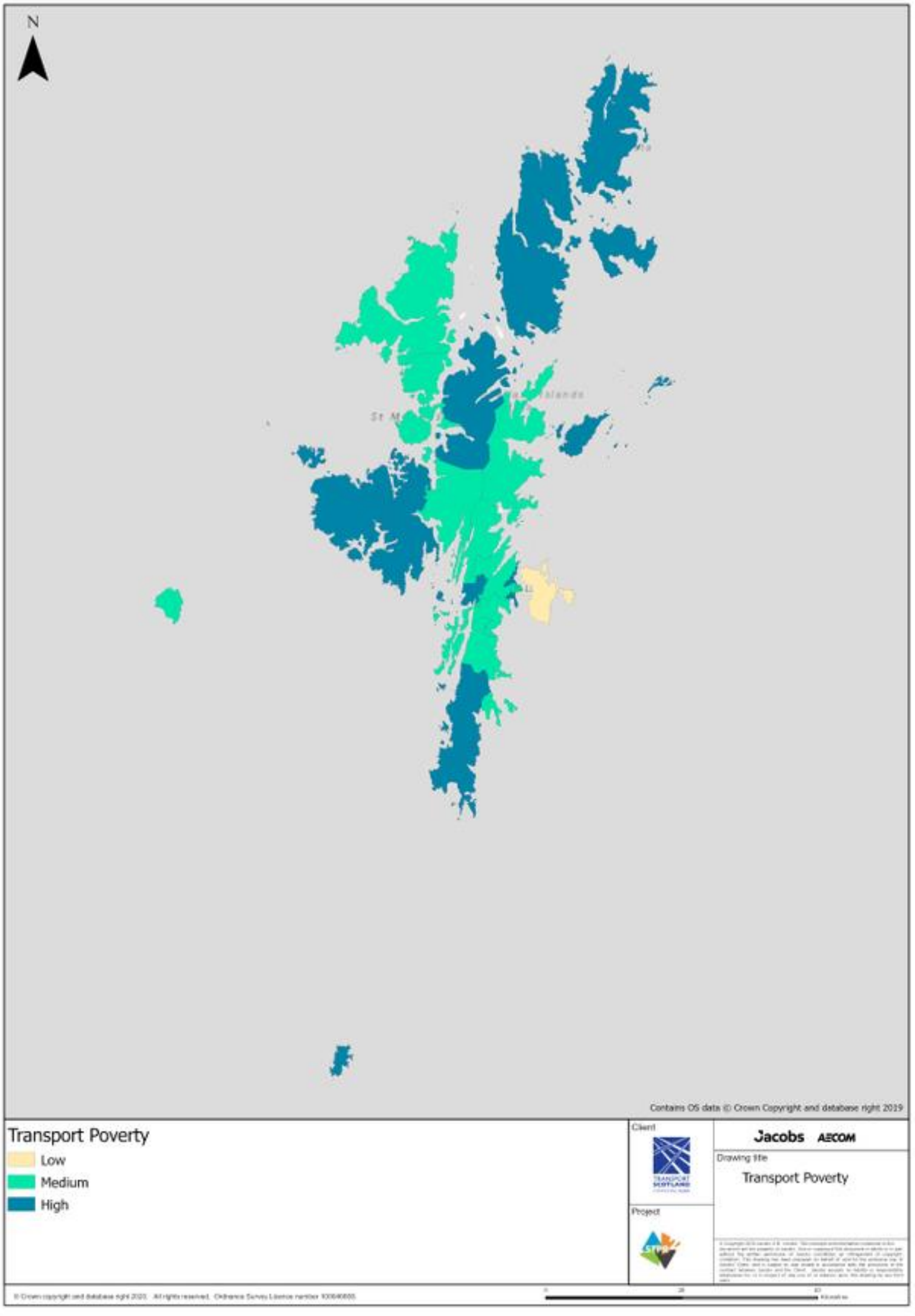

Figure A- 13 Transport Poverty within the Shetland Islands Region (Click on image to go back to main report)

Appendix B: List of Policy Documents

The following table presents the relevant national, local and regional level transport, planning and economic strategies and policies that have been reviewed to provide background context, against which this Case for Change has been developed.

Theme	Title	Author	Year
Development	Shetland Local Development Plan	Shetland Islands Council	2014
Development	Shetland Local Outcome Improvement Plan	Shetland Partnership Performance Group	2016
Development	Shetland Partnership Plan 2018-2028	Shetland Health and Social Care Partnership	2018
Development	Shetland Tourism Strategy	Shetland Tourism Association	2018
Development	National Planning Framework 3	The Scottish Government	2014
Development	Infrastructure Investment Plan	The Scottish Government	2015
Development	Islands (Scotland) Act 2018	The Scottish Government	2018
Development	National Islands Plan	The Scottish Government	2019
Development	The National Islands Plan	The Scottish Government	2019
Development	Programme for Government	The Scottish Government	2020
Economy	Highlands and Islands Enterprise Strategy and Operating Plan 2019-2022	Highlands and Islands Enterprise	2018
Economy	Shetland Economic Development Strategy 2018-2022	Shetland Islands Council	2018
Economy	A Low Carbon Economic Strategy	The Scottish Government	2010
Economy	Scotland's Economic Strategy	The Scottish Government	2015
Environment	Living Shetland: Local Biodiversity Action Plan	Shetland Islands Council	2018
Environment	Shetland Islands Regional Marine Plan	Shetland Marine Planning Partnership	2019
Environment	Climate Change Plan Update 2018 - 2032	The Scottish Government	2020
Transport	Shetland Transport Strategy Refresh 2018-2028	ZetTrans	2018
Transport	Active Shetland Strategy 2018-2023	NHS Shetland	2019
Transport	Shetland Active Travel Strategy 2020-2025 – Consultative Draft	ZetTrans	2020
Transport	Scottish Ferry Services Ferries Plan 2013 - 2022	Transport Scotland	2013
Transport	Strategic Road Safety Plan	Transport Scotland	2016
Transport	Road Safety Framework to 2030	Transport Scotland	2020
Transport	Cycling Action Plan for Scotland	Transport Scotland	2017
Transport	National Transport Strategy 2	Transport Scotland	2020
Transport	National Transport Strategy 2 Delivery Plan	Transport Scotland	2020
Transport	Let's Get Scotland Walking: Action Plan 2016-2026	The Scottish Government	2019

Appendix C: Stakeholder Engagement

The following table presents the stakeholder engagement undertaken to identify and verify problems and opportunities in the Shetland Islands Region.

Engagement Type	Date	Venue	Purpose and Details	No. of Attendees
Problems and Opportunities Workshop	Monday 24th June 2019	Islesburgh Community Centre, Lerwick	Workshop with stakeholders including representatives from transportation, health, equality, community and business sectors, in addition to local authority officers, to identify transport-related problems and opportunities in the region.	18
Structured Interviews	September – October 2019	-	Interviews with key stakeholders, including senior officers within the Shetland Islands local authority and business representatives, to identify transport-related problems and opportunities and potential options for the region.	7
Interventions Workshop	Monday 11th November 2019	Lerwick Town Hall, Lerwick	Workshop with stakeholders including representatives from transportation, business, environmental and equality sectors, in addition to local authority officers, to identify potential interventions to address problems and opportunities previously identified.	22
Elected Members Briefing / Workshop	Tuesday 11th February 2020	Town Hall, Lerwick	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.	13
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.	25 respondents