INTERNATIONAL GATEWAY STUDY

Highlights report

Peninsula Transport
Transforming the economic performance of the South West

Western Gateway
Sub-national Transport Body

CONTENTS

The purpose of this document is to summarise the findings from the International Gateway Study. Readers can refer to the main report and summary notes for further details and explanations.

01. INTRODUCTION

WSP and AECOM consultants were commissioned by Peninsula Transport, one of the shadow sub-national transport bodies (STBs) for the south-west of England, to deliver a study on international gateways. This study includes both the Peninsula Transport STB region and the Western Gateway STB region to create an integrated South West approach. The two regions have spatial interdependencies, particularly for freight, so there is merit in a joint approach. The study focuses on 'international gateways'; many of which sit outside the peninsula and across the wider South West region but play a pivotal in the peninsula economy.

This highlight report summarises the full International Gateway Study.

The vision and goals outlined for the transport strategy over the next 30 years provide the overarching purpose of this study (Figure 1).

PENINSULA TRANSPORT STB

Transforming transport across the Peninsula, enabling our society and economy to thrive and our unique and outstanding environment to flourish

- We will improve connections between people, businesses, and places.
- We will enhance resilience of the transport network.
- We will deliver affordable, zero-emissions transport for everyone.
- We will help to improve the health and wellbeing of communities in the peninsula.
- We will help the peninsula to be a great place to live and work.

Figure 1: STB vision, goals and objectives

The study aims to explore:

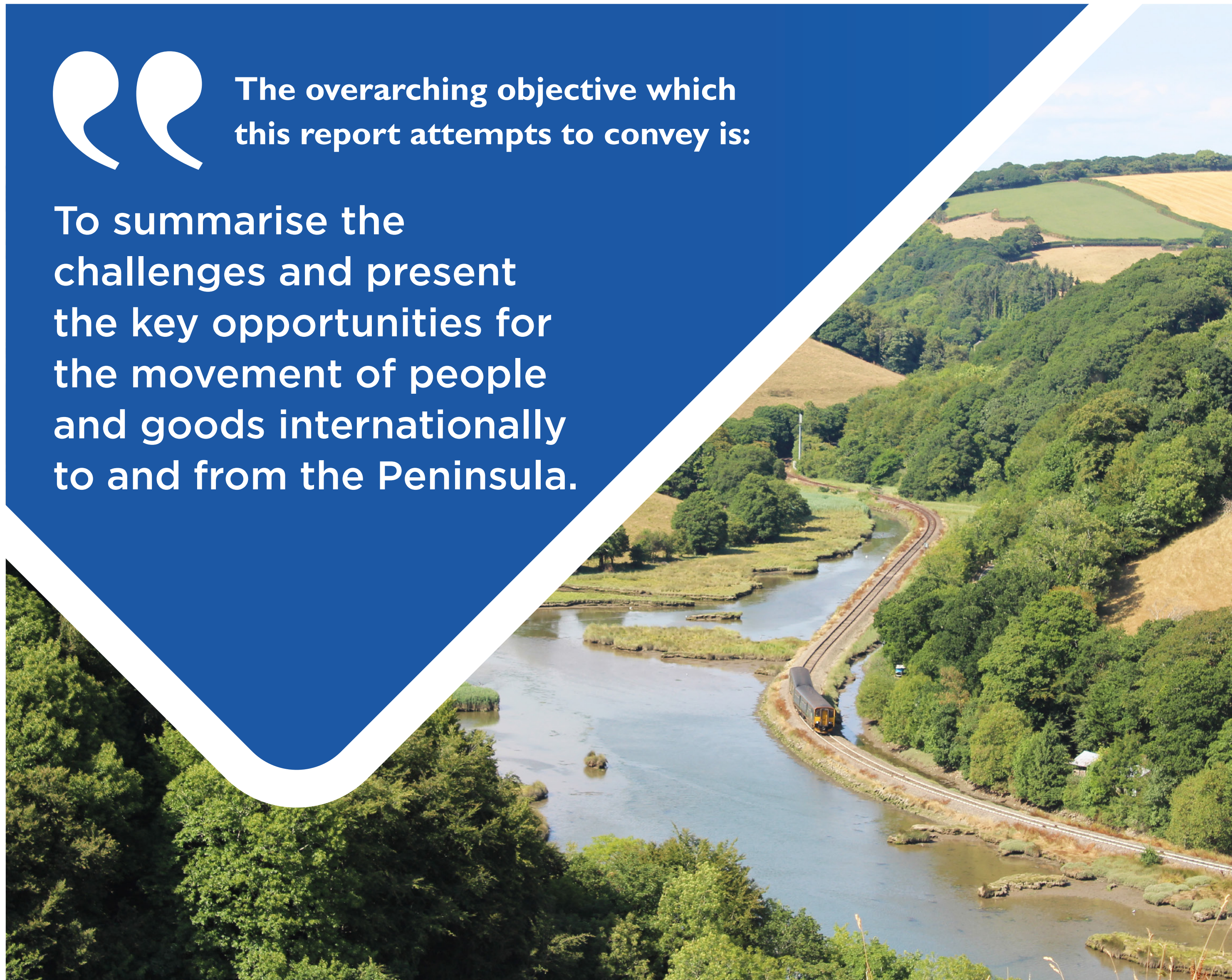
1. The role of ports and their component activities;
2. The importance of air connections servicing the region for both tourism and business;
3. The road and rail infrastructure constraints and the impact of neighbouring gateways on regional activity.

This study complements other work packages which form part of the emerging transport strategy:

WP04 High Level Transport Strategy	WP07 Technology & Electric Vehicle Strategy	WP08 Rail Strategy
WP05 Strategic Economic Corridor Studies	WP06 Carbon Transition Study	WP09 Freight Strategy

The overarching objective which this report attempts to convey is:

To summarise the challenges and present the key opportunities for the movement of people and goods internationally to and from the Peninsula.



SUB OBJECTIVES

To develop a better understanding of the existing international and inter-regional gateways, for movement of people and goods.	**Understanding gateway operational profiles, services offered, accommodated, catchment areas and surface access routes.**	**Consultation with key stakeholders to explore gateway history and consider future potential.**
Understanding current constraints impacting gateway performance and future potential.	**Determining growth, development and diversification opportunities.**	**Identifying barriers to be removed to help achieve growth.**
Exploring opportunities for improved efficiency and sustainability of transport services and operations	**Detailing connections with markets and facilities outside of the peninsula area.**	**Defining the role of the area's gateways in the future transport system.**
Benchmarking with comparable gateways elsewhere in the UK and internationally.	**Identifying best practice approaches and measures (across the UK and internationally).**	**Reporting dashboards and summarising their current positions, strengths, weaknesses, opportunities and threats.**

Figure 2: Study sub objectives

02. STUDY METHODOLOGY

The following tasks were undertaken as part of the study.

01 **Inception meeting**
Helping to define the specific scope of the output and the value added.

02 **Review of other gateway studies**
Capturing lessons learned and insights from similar studies conducted.

03 **Data collection and analysis**
Interrogating primary and secondary data sources per gateway and regionally.

04 **Stakeholder engagement**
Liaising with representatives across industry to gather insights and datasets.

05 **Best practice review**
Documenting relevant exemplar interventions as inspiration for the region.

06 **Facilitated stakeholder discussions**
Conducting sessions to share knowledge and forge collaborative partnerships.

07 **Developing dashboard profiles**
Illustrating a snapshot of international gateways' role, function and services.

08 **Showcasing dashboards**
Sense checking the content and useability of the dashboards to consultees.

09 **Draft and final reporting**
Developing a concise report and appendix documents as the study output.

10 **Close out workshop**
Conducting a workshop to convey findings and validate recommendations.

11 **Collection of summary notes**
Compiling datasets and more granular information to accompany the report.

Figure 3: Study methodology

03. INTRODUCTION TO INTERNATIONAL GATEWAYS

International gateways are locations that provide and facilitate the flow of people and goods across borders between the UK and the rest of the world. These are typically ports and airports, including their surrounding hinterland, which are crucial to helping sustain national prosperity and the quality of life experienced by people living, working or visiting in the UK and the south-west of England.

Sea ports are integral to the facilitation of bulk international freight movements but also serve passenger movements between Europe and the rest of the world. In the UK, sea ports are responsible for handling 95% of all cross-border movements, around a quarter of the UKs energy supply and almost half (48%) of the population's food arriving via the shipping industry and almost half of the UK's food imports (2018). Sea ports support in excess of 101,000 jobs and in 2015 directly contributed £7.6 billion in Gross Value Added (GVA) to the economy (i.e. GVA directly attributed to ports). Sea ports in the South West are also the point of contact for people accessing the UK or travelling abroad via cruise sailings and roll on-roll off (Ro-Ro) ferry services.

Airports play a critical role in moving people and goods quickly. Only a small fraction of cross-border freight movements (1%) are moved by air cargo with most activity concentrated at Heathrow, Gatwick and East Midlands. Before the pandemic, a record quantity of freight was handled at UK airports. This growth rate was twice as fast as the growth rate in global trade with cargo having risen by more than 25%. Disruptions to global shipping and regulatory changes rising from leaving the European Union are expected to stimulate new and renewed interest in air freight, due to its reliability and speed.

Airport Passengers travelling through airports generated £19.6 billion in benefits to the UK economy with the aviation sector directly contributing £22 billion to the exchequer supporting 353,000 jobs directly. Key industries dependent upon air freight exports include pharmaceuticals, computer/electronics and creative arts/entertainment, contributing £13.9 billion, £8.3 billion, and £5.3 billion in GVA respectively.

ISSUES & INITIATIVES

A number of issues and initiatives have been collated from other international gateways across the UK to compare and contrast current and future scenarios.

ISSUES

Impact of brexit
On trade relations, the level of access of the UK to the European single market and changes in immigration rules.

Lack of data
Especially freight data and lack of data sharing due to commercial sensitivity.

Alternative/diversionary routes to and from international gateways
Need for resilience in case of incidents.

Airport capacity
Heathrow and Gatwick airports are operating close to maximum capacity.

Rail capacity
As ports and airports grow, rail capacity must be able to accomodate passenger and freight growth.

Environmental issues
Emissions, noise, air quality.

Congestion
On corridors that link international gateways, including hot spots further away from gateways.

Constrained growth
Increasing passenger demand and issues with connectivity to sites may impact the sustainability of travel choices.

Surface access
Poor public transport connections or lack of use of these especially in the early morning and late evening. Congestion and lack of capacity for HGV traffic as well as slow growth in shift to rail freight.

INITIATIVES

High Speed 2

Helping to reduce travel times both between airports and other locations.

Freeports

Help with the costs of trade and creating a more attractive business investment environment.

Progression towards Net Zero (inc Modal Shift)

Airports and associated air side operators need to decarbonise surface access. The shift to rail is popular but aforementioned capacity needs to be addressed.

Financial support for schemes

Increased coverage in major infrastructure investment decisions; Brexit provides an opportunity to use the financial contributions that were made to the Trans-European Network – Transport (TEN-T); financial support may be available to airports including support for tackling climate change, undertaking airspace change proposals and providing 'start-up aid' for certain routes.

Short sea shipping

An alternative to road transport with traffic redistributed via the ports.

Modal shift

Shift to rail for bulk commodities to reduce the dependency on road freight haulage for long distances.

Addressing skills and knowledge gaps

A key issue for government and needed around ports for upskilling and innovation.

Digitalisation and digital technologies

Will improve the efficiency of ports with real time data, vehicle to vehicle and vehicle to infrastructure communication, rail and surface access improvements.

Big data

Could be used in supply chains, to help manage capacity, implement new routes and aid decision-making

04. CONSULTATION PROCESS

WHAT IS STAKEHOLDER CONSULTATION?

Stakeholder consultation involves communicating with relevant industry representatives in order to understand their point of view on a wide range of interests. By developing a relationship with several key stakeholders, a better understanding of the role they play within the South West was developed.

THE AUDIENCE

The study liaised with a wide variety of representatives at a local, regional and national scale to ensure representation from across the region and from various industries. A comprehensive database of contacts was collated including those from the other work packages and those from renowned organisations with a regional presence. It is important to ensure continuous engagement with stakeholders involved in the study and to ensure representation across different industries.

Freight generators

Organisations creating significant demand for goods movement via international gateways.

2

Public authorities

Organisations which create the legislative, policy and regulatory frameworks for the region.

4

Trade associations

Organisations which represent the interests of industry and report on future trends and scenarios.

2

Academic institutions

Organisations which conduct research and partner gateways on relevant subjects.

1

Transport operators

Organisations delivering services through international gateways or first and last mile provision.

6

Gateway managers

Organisations responsible for managing and coordinating surface access operations.

6

Market interests

Organisations who are currently or likely to have a freight or passenger demand to satisfy.

1

Infrastructure owners

Organisations responsible for the management and development of connecting road and rail links.

3

THE ENGAGEMENT STEPS

It was important that engagement with stakeholders would effectively bring their attention to the study and allow them to convey what they felt were the most important subject matters for discussion in relation to international gateways. This required the interviewer to facilitate conversation whilst falling back on a set of high-level discussion subjects (see below). The process map helps to illustrate the approach adopted and the steps taken to glean good quality feedback and insights. Notes from South West Freight Strategy were also consulted.

Contact database

January – February 2022

Developing a master matrix

Ports & airports

Focused in on the operations and efficiency of transport nodes

Engagement activity

March – May 2022

Three attempts per stakeholder via email, phone or in person

Industry & authorities

Understanding how gateways link and serve local demand/objectives

Thematic review

May 2022

Collating and analysing feedback and identifying key themes

Study narrative

June - July 2022

Research contributes towards the report output and facilitator sessions

Additional research

May – June 2022

Undertaking further research

VALUE OF THE FINDINGS

There were many subjects raised in relation to accessing sea ports and airports and the role that international gateways play in the region's economy. The development and diversification of international gateways is dependent on emerging factors and societal trends.

EMERGING FACTORS INCLUDE:

▶ New markets

Such as renewable energy, advanced manufacturing, the cruise industry and the rise in e-commerce, especially for the quick supply of goods in substantial volumes.

▶ Legislation

Emerging policy discourse surrounding the 'levelling up' agenda and associated freeport designations, alongside the symbiotic relationship with enterprise zones.

▶ Decarbonisation

Net Zero is demanding transport providers and international gateway operators to explore ways to mitigate the impact of their activities and unlock the potential for job creation.

▶ Digitisation

New technologies, such as smart ports and through ticketing, enhance operational efficiency and deliver a seamless experience for passengers and goods movements.

SOCIETAL TRENDS INCLUDE:

▶ Leaving the European Union

Impacting the flow of trade through continental facing ports and airports; labour shortages; and inbound visitors coming to the UK.

▶ Localisation

Supply chain disruptions experienced during the pandemic have led to re-shoring or near-shoring business activity.

▶ Changing demography

Domestically, a migrational pull towards the region during and post pandemic. Rise in affluence across the Far East also opening up opportunities for serving increased demand to access educational provision in the UK.

▶ Consumption preferences

Changing expectations around the ease of mobility and experiences alongside rising expectations by industry and individuals to respond to the key factors above, including environmental awareness, ethical consumption and good quality employment. Consumption also applies to the push towards STEM subjects and upskilling for new industries.

The transport industry is always seeking to respond to market conditions to remain competitive and attractive to prospective users whilst public authorities can shape the operational environment for enabling new innovations and the transition to net zero to take place across the region. The following infographic (Figure 4) attempts to distil the core findings from the engagement process on which changes are aspired to and which are in development across the region with respect to transport services and operations that intersect with international gateways. The infographic also shows that the drive towards diversification goes beyond delivering a 'transport remit'. To avoid operating in silos, partnership working must take place across multiple disciplines; ranging from acknowledging economic developments and the 'way, where, how, when' of 'work' through to dealing with the implications of leaving the European Union and the war in Ukraine on international trade. International gateways must be resilient to macro and micro scale change. Fortunately, there are many examples of innovative practices taking place where private business and public authorities are capitalising on the region's distinctiveness and natural attributes to support new industries and improve local and strategic connectivity.

STAKEHOLDER FEEDBACK

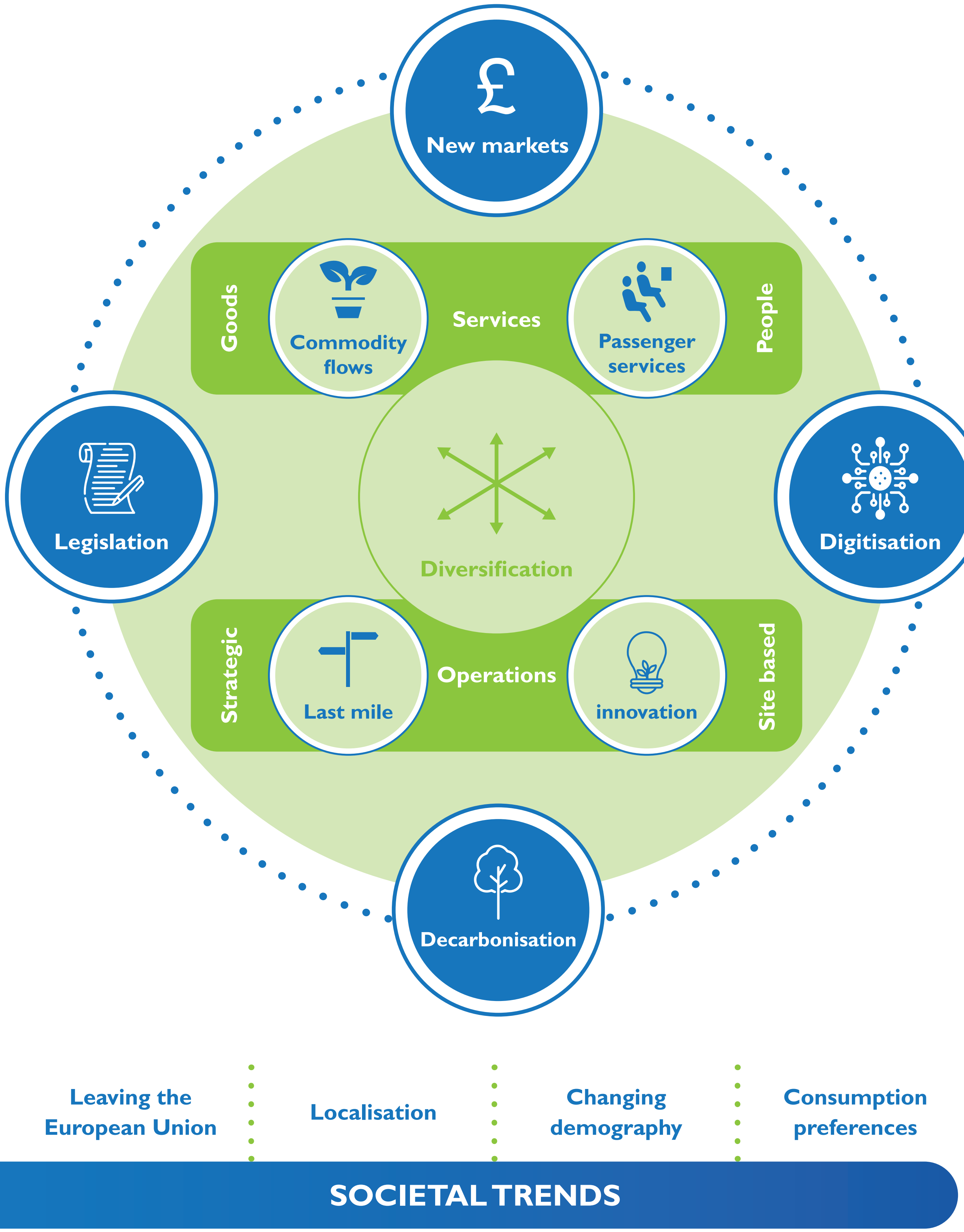


Figure 4: Summary infographic of stakeholder feedback

CONSOLIDATING MARKETS

South West continues to import and export core commodities irrevocably linked to the regional economy.

EMERGING MARKETS

Exploiting burgeoning market potential (EVs/Express Parcels) to support the regional economy.

BUILDING RESILIENCE

Providing reliable services year round, accross multiple operators to increase choice.

DEVELOPING DOMESTIC DRAW

Encouraging and promoting use of regional gateways and quality of the customer experience.

MODE SHIFT TO RAIL

Decarbonising and planning for strategic freight and passenger movements to/from region.

ENHANCING DOOR2DOOR JOURNEY

Providing seamless multi-modal travel for new and existing audiences and customers.

ALTERNATIVE (SUSTAINABLE) FUELS

Fostering provision of facilities, trials and zones for experimentation and new technological developments.

BURGEONING KNOWLEDGE CLUSTERS

Developing symbiotic relationship between gateways and broader hinterlands in sector specialisms.

05.
A SOUTH WEST PERSPECTIVE

The most significant and recognisable international gateways represent a collection of airports and ports, as illustrated in Table 2 and Figure 5. Those marked with an asterisk are referred to within this study due to the interrelationship that they have with moving people and goods into and out of the region (the London airports) and significance to the wider regional economy and population (Lands End, Cardiff Airport).

Airports	Ports
Bristol	Bristol
Exeter	Plymouth
Bournemouth	Fowey
Cornwall (Newquay)	Teignmouth
Cardiff*	Poole
Lands End*	Portland
London Gatwick/Heathrow	Falmouth

Table 2: International gateways covered in this study

The South West Freight Strategy highlights the reliance on the movement of goods and people, mainly by road, from international gateways outside the region. In terms of physical trade and freight movements, most of the trade entering and leaving the south-west of England makes its way through a combination of national gateways as opposed to gateways across the region. However, regional gateways are a key stage of the passenger door to door journey to connect with international gateways outside the region. Ports and airports across the South West should therefore be viewed as complementary to other UK gateways with a distinctive offer that supports the region's economic and natural geography.

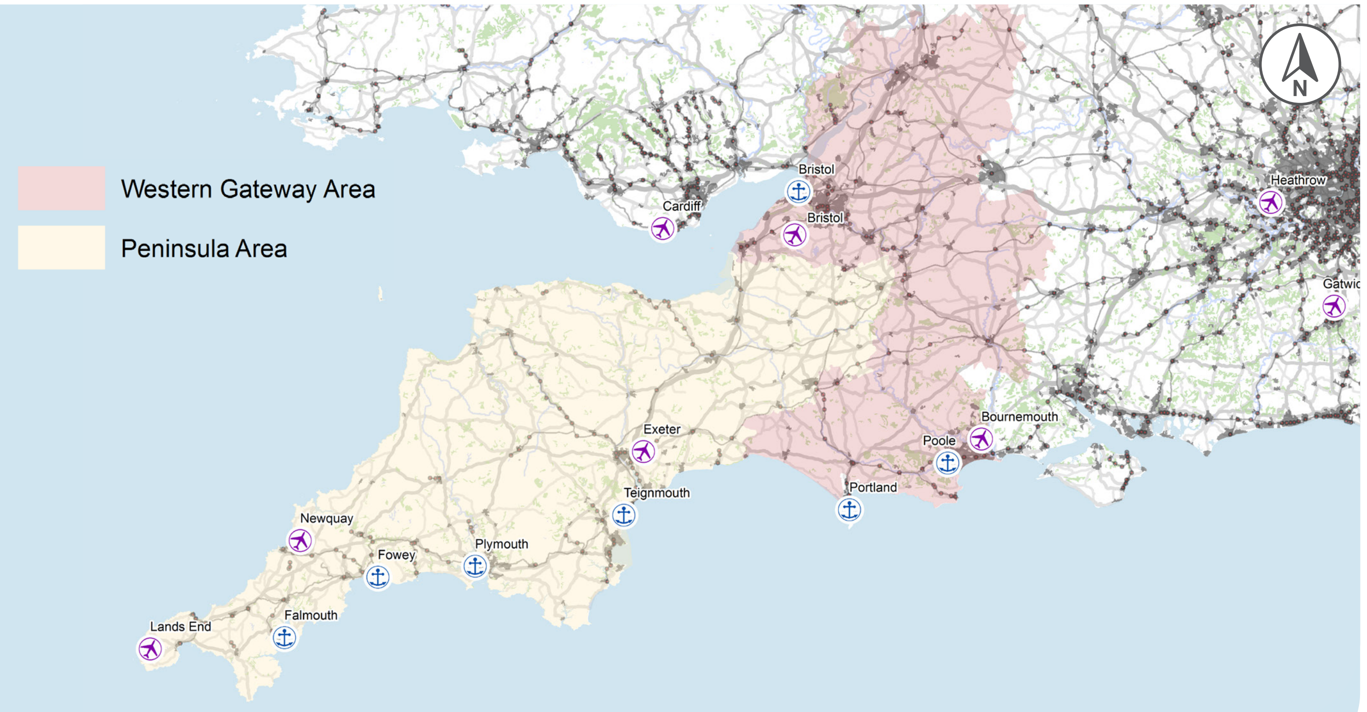


Figure 5: International Gateways in main focus for the study (Author, 2022)

06. SNAPSHOT STATISTICS

INTERNATIONAL TRADE

The SouthWest recorded a total trade balance of 4.5 with the value of traded goods in 2019 amounting to £1,236 billion in total. The relative scale of imports and exports to both EU and non-EU markets pre pandemic operated below the UK average, but the region posts positive trade balances in each instance (a higher level of exports than imports).

Research and development, the tourism offer and passenger services all contribute towards the value of trade which was £3,298 billion pre pandemic; with the region demonstrating a strong focus towards non-EU markets again. There is a clear link between the flow of exports (in terms of value) to and from Northern Europe, namely France, Germany and the Netherlands and a strong link across the Atlantic to the USA.

Overall bilateral trade was recorded at £42.5 billion with a notable trade surplus across Northern European Countries, the Americas and coastal parts of Africa and Oceania and a trade deficit across countries in the Far East and Eastern Europe.

Bristol Open Doors (2022)

TRADE IN MANUFACTURED GOODS

The peninsula is not renowned for the manufacture of goods and secondary sector industry. Currently, the South West caters for a relatively small proportion of overall imports compared to other UK regions but is well positioned to exploit its current position for moving goods to and from EU or non-EU states.

The South West has a similar number of exporters (13,300) as the West Midlands (13,700).

Region (peninsula & western gateway)	Exported value (goods)
Gloucestershire, Wiltshire and Bristol/Bath	£13,270 million
Dorset & Somerset	£3,253 million
Devon	£1,763 million

Table 3: Value in manufactured goods traded

Figure 9: Import & export of manufactured goods (ONS, 2019)

TRADE IN SERVICES

The SouthWest depends more on the EU for the import of services but exports more to non-EU countries. Services range from the provision of travel industry activities through to financial transactions and other flows of information. Generally speaking, the highest value of net trade locations for services are the US, rest of the world and Northern European countries.

Region (Peninsula & Western Gateway)	Top three net trade locations (services)
Gloucestershire, Wiltshire and Bristol/Bath	USA (£1,212m), rest of the world (£1,612m), France (£637m)
Dorset & Somerset	USA (£270m), rest of world (£470m), Switzerland £51m)
Devon	USA (£174m), rest of world (£191m), Netherlands £166m)
Cornwall & Isles of Scilly	USA (£123m), rest of world (£103m), Switzerland £37m)

Table 4: Top three trade locations (ONS, 2019)

▶ **Imports** ▶ **Exports**

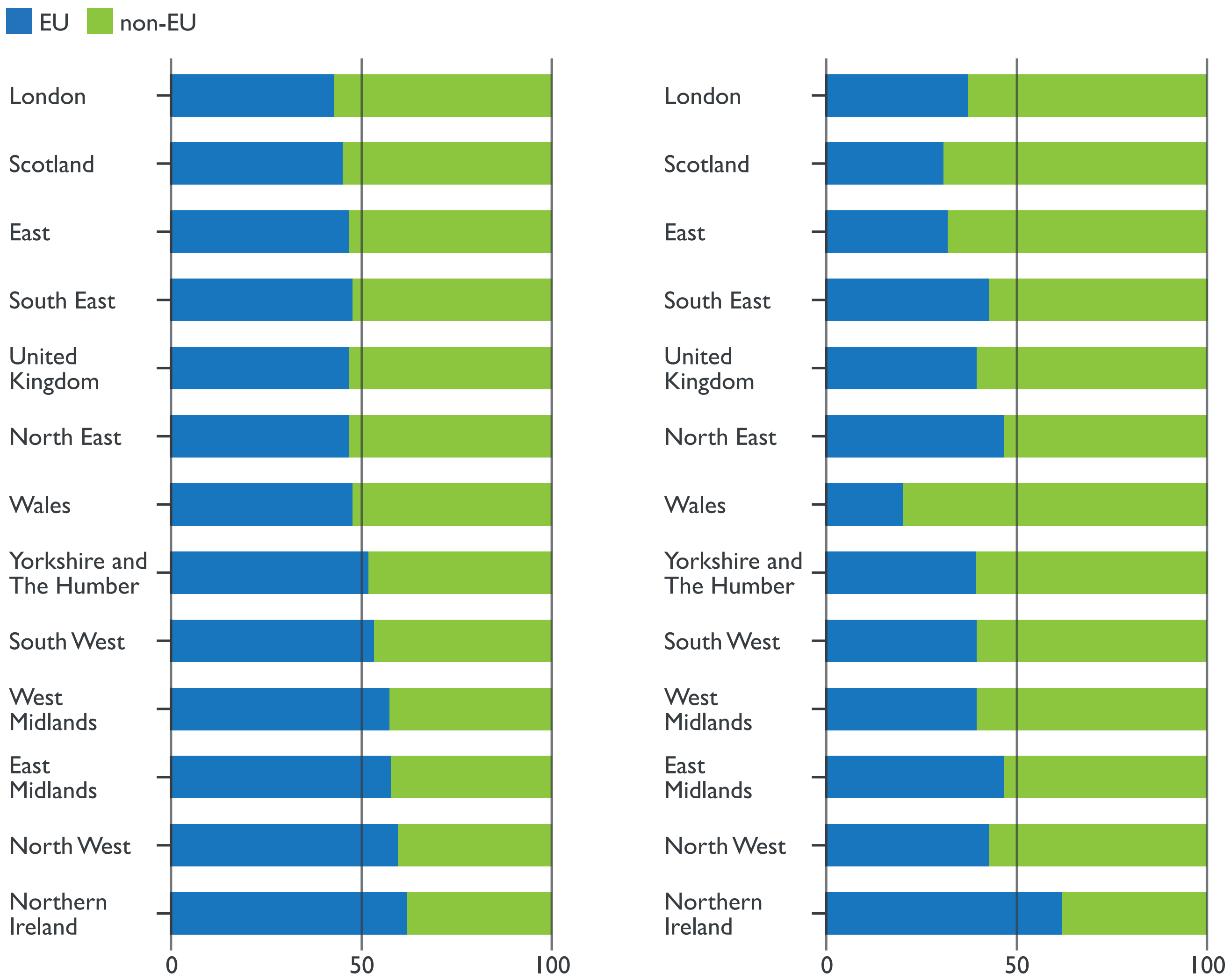


Figure 10: Trade in services

SOUTH WEST GROSS VALUE ADDED (GVA)

The peninsula region is growing economically with emerging strengths in advanced manufacturing, marine, clean energy, agriculture, defence and tourism sectors; contributing nearly £44 billion to the national economy (2016). Agriculture, farming, forestry, mining and quarrying are specialisms associated with Cornwall and the Isles of Scilly in particular, alongside accommodation and food services.
This is broadly similar for parts of the Western Gateway with construction, consumer services and manufacturing (concentrated in the larger urban conurbations) identified as leading sectors which would benefit from enhanced regional and international connectivity.

The peripherality of the region and its connection with the natural environment, instinctively fosters a unique economic environment which increasingly centres on the following sectors:

▶ **Digital futures**

Including e-health and high-tech engineering

▶ **Clean energy**

Including links to marine and biofuel technologies

▶ **Aerospace**

Including space and future aviation engineering

▶ **Tourism**

A mainstay of the regional economy

▶ **Environment**

Ranging from mining metals to agri-food

▶ **Defence**

Centred on naval activities. Thousands are employed either in the military or part of a large supply chain with an ecosystem of security related companies, infrastructure, training, consultancy, personnel, equipment and real estate blossoming in the region.

The UK Industrial Strategy, National Space Policy, and the UK Space Growth Action Plan, all share an ambition for the UK to capture 10% of the £400 billion global space-enabled market by 2030. The UK space industry grew by 3.3% to be worth £14.8 billion and took 5.1% of the global share of the industry in 2016/17.

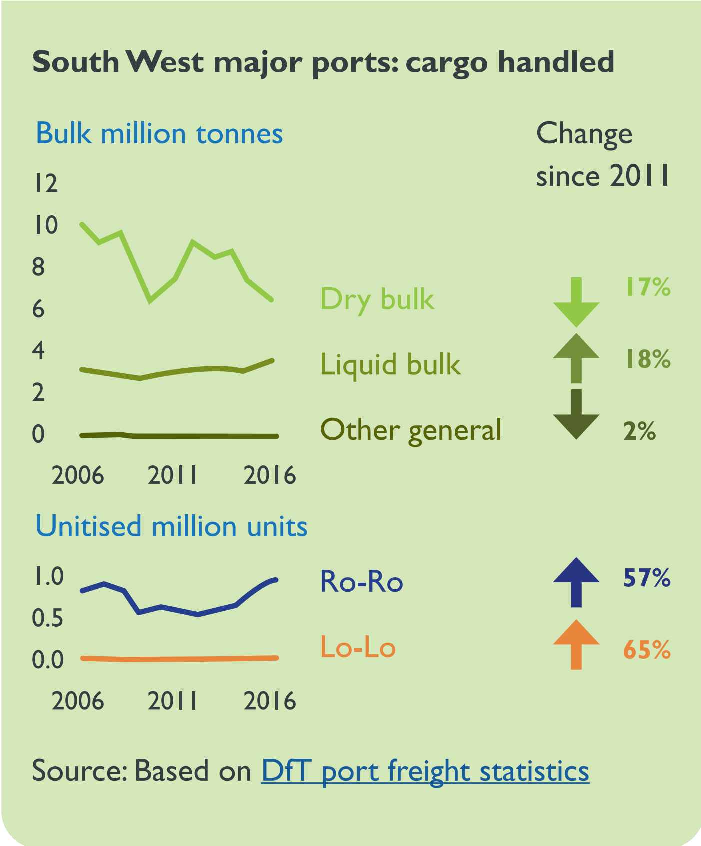
Maritime industry: a lucrative area of regional specialism and is an important sector in the peninsula economy providing more than 15,000 full-time equivalent jobs and contributing close to £3 billion of GVA to the UK.

PORT STATISTICS

▶ Ports in the South West contribute £640m towards Gross Value Added for the UK (10% of all UK port activity) and provide 10,100 jobs directly across the industry (13 per cent as a proportion of all UK ports).

▶ Maritime freight in the South West is increasingly viewed as a viable alternative to road-based freight transport and long-distance haulage as part of efforts to decarbonise the freight industry and improve supply chain efficiency.

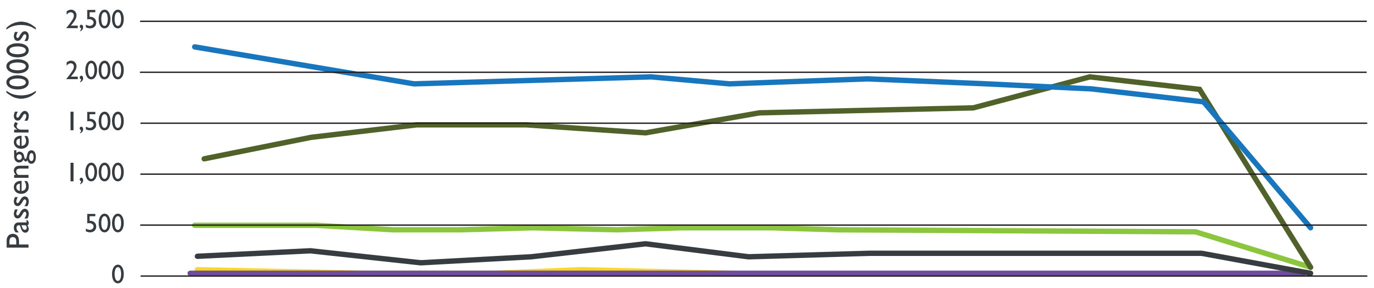
▶ The nature of commodities shipped, and goods handled at ports in the South West has changed significantly since the economic recession of 2008/2009. Dry bulk and coal imports have decreased, whilst container traffic (unitised) and liquid bulk has increased.



The vast majority of passenger traffic from ports within the region (and neighbouring region) moves between Spain and France. Poole, Portsmouth and previously Weymouth, also provide domestic crossings to Jersey and Guernsey. The volume of passengers using short sea routes to and from ports in the south of England was inevitably impacted by the pandemic and the enforced lockdown measures (see Figure 11). Patronage, which has been steady for many years, has yet to recover to previous levels which is likely attributed to the behaviour change that has taken place and the legacy from that period of time.

REGIONAL PASSENGER MOVEMENTS – SHORT SEA ROUTES

Passengers on short sea routes (000s): 2010 - 2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Portsmouth	2,212	2,065	1,880	1,871	1,913	1,896	1,920	1,845	1,848	1,715	469
Southampton	0	0	0	0	0	0	0	0	0	0	0
Poole	189	252	132	193	294	193	206	202	208	204	19
Weymouth	7	7	1	4	8	0	0	0	0	0	0
Plymouth	484	478	433	457	437	449	440	431	433	425	78
Bristol	0	0	0	0	0	0	0	0	0	0	0
Southampton (crusie)	1,160	1,370	1,482	1,462	1,404	1,581	1,603	1,648	1,908	1,807	80

Figure 11: Passengers on short sea shipping routes (DfT, 2022)

REGIONAL FREIGHT MOVEMENTS

There are many different ways that goods pass through ports across the region, based on the means in which it is transported and transitions between sea and land *(see Figure 14)*.

Lo-Lo freight describes goods, typically in a shipping container, handled onto vessels with on-board port-side cranes. This method is space efficient allowing vessels to optimise their carrying capacity and enable smooth transfer between other modes of travel.

Dry bulk freight refers to granular material which is transported unpackaged in the hold of vessel, tanker or railway wagon. This could range from grain to coal and aggregates which requires port side infrastructure to aid with transfer and storage.

Ro-Ro freight describes cargo which can move on and off vessel on their own wheels. This is typically a faster process than Lo-Lo freight and can be classified as accompanied or unaccompanied, depending upon whether the driver is present on the journey.

Liquid bulk freight refers to liquids or gases which are transported in controlled environments, such as oil/petroleum. These also require infrastructure to aid with the transfer and subsequent movement, typically via pipelines (energy) to their destination.

Figure 14: Freight types moving through regional ports (Author, 2022)

The South West has a lot of inward trade to the region. Over 8 million tonnes of goods is handled at the Port of Bristol making it the biggest importer and exporter of goods in the South West (although heavily skewed towards receiving goods for onward distribution within the UK). Southampton, located outside of the region handles substantially more goods in comparison (34 million tonnes in total, 2018) with distribution taking place, by road, to the Peninsula Transport and Western Gateway regions. Plymouth Port moves over two million tonnes of goods, with the majority being inbound.

Table 5 lists the number of destinations served by southern ports. All ports handle a higher share of international goods (by tonnage) than domestic goods in both directions.

Port	Destinations
Plymouth	24
Poole	14
Bristol	62
Southampton	82
Portsmouth	21
Fowey	17

Table 5: Major port traffic by destination (DfT, 2022)

AIRPORT STATISTICS

Airports across the South-west of England, but including Cardiff Airport, are mainly set up to cater for budget short haul domestic and international flights serving the travel demands and expectations of the regional population. There are more passengers travelling outbound to international (and domestic locations) from people living in the region than those travelling for holiday to the region from overseas territories. International visitors, whether travelling for leisure or business purposes, would generally speaking, arrive in a major UK hub with a view to travelling by coach, rail, car and plane. There are aspirations and a number of flights now serving overseas territories with airports catering for long haul flights to North America and China.

The volume of passengers moving through airports in the South-west of England pales in comparison to major international gateways, namely Heathrow and Gatwick. Bristol airport is the main hub for the region and the fifth largest airport in the UK (in terms of passenger numbers).

Civil Aviation Authority (CAA) statistics for commercial airports across the Peninsula Transport area. All figures are annual figures for 2019:

Airport	Air passenger movements	Freight (tonnes)	Mail (tonnes)
Exeter	1,021,784	N/A	3,363
Newquay	461,478	2	N/A
Land's End	64,056	71	201

Civil Aviation Authority (CAA) statistics for commercial airports across the Western Gateway area. All figures are annual figures for 2019:

Airport	Air passenger movements	Freight (tonnes)	Mail (tonnes)
Bristol	8,964,242	11	0
Bournemouth	803,307	0	0
Land's End	64,056	71	201

A significant volume of air mail is moved through Exeter using dedicated cargo aircraft. Lands' End and Isles of Scilly is the next significant mail movement within the South West which is split between passenger and cargo aircraft.

At a national scale, shippers pay airlines up to £3.1 billion annually to carry 2.3 million tonnes of freight, providing in excess of £1.3 billion in benefit to the shipping companies. Aviation, the movement of air cargo and mail consignments, plays a limited role comparatively to other freight networks across the South West and UK more broadly. The sector is typically associated with low volumes of air cargo and air mail alongside delivering high value goods in low volumes on a Just in Time (JIT) basis serving global supply chains. The movement of transport equipment, computer/electronic materials and other manufacturing products is generally in accord with other regional averages whilst there is limited metal moved using air freight to serve this industry (see Figure 17).

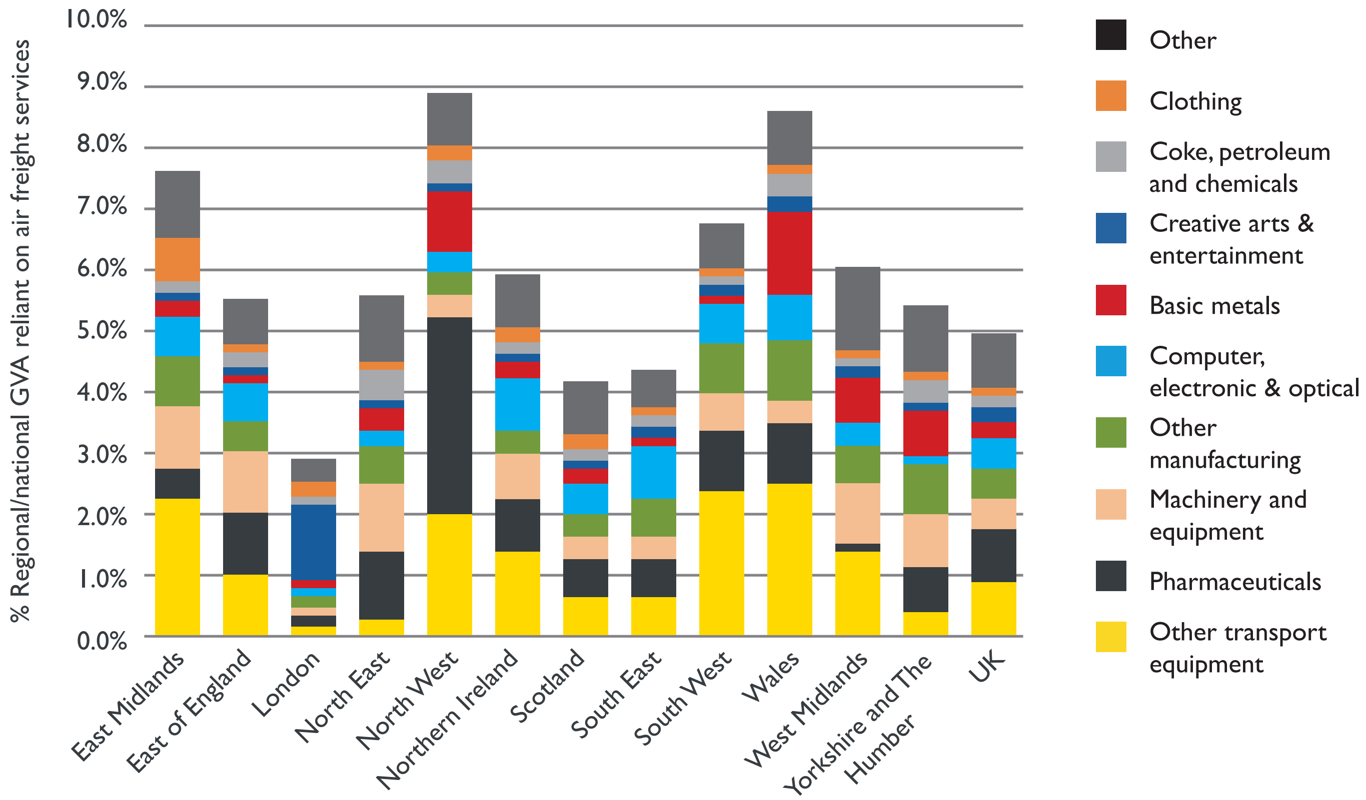


Figure 17: Regional GVA reliant on-air freight services (Transport East, 2021)

07. DRIVERS AND TRENDS

International gateways are influenced by many factors, shaping the operational environment, market demand and ultimately the type of investment and decision making required to remain commercially viable entities. A number of regional 'drivers', specific to the region, have been identified which have strong links to how ports and airports, and their contingent parts, operate in the future.

The way people go about their daily lives has undergone a change in recent years in response to several emerging trends and scenarios. International gateways must find a balance between being responsive to industry objectives and future trends whilst fulfilling the desires and requirements of the constituent areas where they are rooted.

NEW TRADE ARRANGEMENTS

The inevitable repercussions on customs processes, immigration flows and supply chain activity from future trade and border arrangements.

POST COVID-19 LIFESTYLES

The implications of changes to global shipping and marked changes in travel behaviours, consumption and ready supply of goods and services.

CONFLICT & CLIMATE CHANGE

The consequences on supply chain efficiency, costs and availability and shift in attitudes towards sustainable, ethical sourcing and practices.

INCLUSIVE LOCAL GROWTH

The optimism for 'levelling up' and delivering investment for communities across various sectors of the economy including reshoring activity.

NEW DEVOLVED GOVERNANCE

The move towards further devolution of decision making for transport, health and education to the regional level and new accountable bodies.

DECARBONISATION AGENDA

The acceleration towards net zero across all industries and the desire to reduce emissions and mitigate costs associated with rising energy costs.

HEADLINE REGIONAL DRIVERS

LEVELLING UP AGENDA

The UK Government's 'Levelling Up' White Paper marks a supposedly generational shift in power, resources and decision making towards places and people across the whole of the UK, including the South-West of England.

FREEPORT DESIGNATION

The recent designation of eight 'freeports' across the UK from April 2022, including Plymouth in the South West and across the Solent and Thames, is designed to have a catalytic impact on regenerating communities by incentivising development and stimulating economic activity around major international gateways. They enjoy direct access to regulators under the Freeport Regulatory Engagement Network (FREN) to minimise bureaucracy and unlock economic opportunities over the medium to long term. The benefits of the Plymouth and South Devon (PASD) Freeport are shown in Figure 19.

FUTURE DEVOLUTION

Local leadership is an especially pertinent subject area for leveraging the role and value of international gateways. Devolution through Mayoral Combined Authorities (MCAs) has already taken place across the region through the development of the West of England Combined Authority (WECA) representing Bristol, Bath and South Gloucestershire. Cornwall previously agreed a rural devolution deal in 2015 and is seeking to negotiate a new menu of powers to source greater powers and funding, alongside Devon, Plymouth & Torbay.

TOURISM

The UK attracted over 38 million international visitors in 2018 who contributed £23 billion to the economy and was forecast, prior to Covid 19, to deliver a 23% increase in inbound visitors by 2025. The South West region is one of the leading tourism destinations in the UK and is second only behind London for its contribution towards the UK's GVA. The COVID-19 has highlighted the need the need to build a more resilient visitor economy. This includes addressing challenges of seasonality, reducing the carbon footprint of the industry and improving accessibility and inequalities.

MIGRATION AND CHANGING DEMOGRAPHY

Demographically, the South-west of England, relative to other parts of the UK, has a skewed demographic; with a high proportion of more elderly households (and oldest median age in the UK) across the population (above 45 years of age) and one of the highest levels of internal migration as a region. The region is a major destination for inward migration as a place to live, which will be facilitated by and require access to gateways as part of the lifestyle changes accelerated by the pandemic in the last few years. There is a net flow of 25 people per 1,000 moving to the region from London with a net flow (of over 10 per 1,000) people coming in than leaving the South-west of England. The use of international gateways, for moving people and goods, will grow exponentially with plans to build around 200,000 new dwellings across the region by 2040. There are signs that the shift in workplace practices may have an impact on individuals' decisions to relocate as well as business-related travel; with the Office for National Statistics predicting that 57% of workers will work partly from home by 2023 whilst two thirds of Britons already work flexibly.

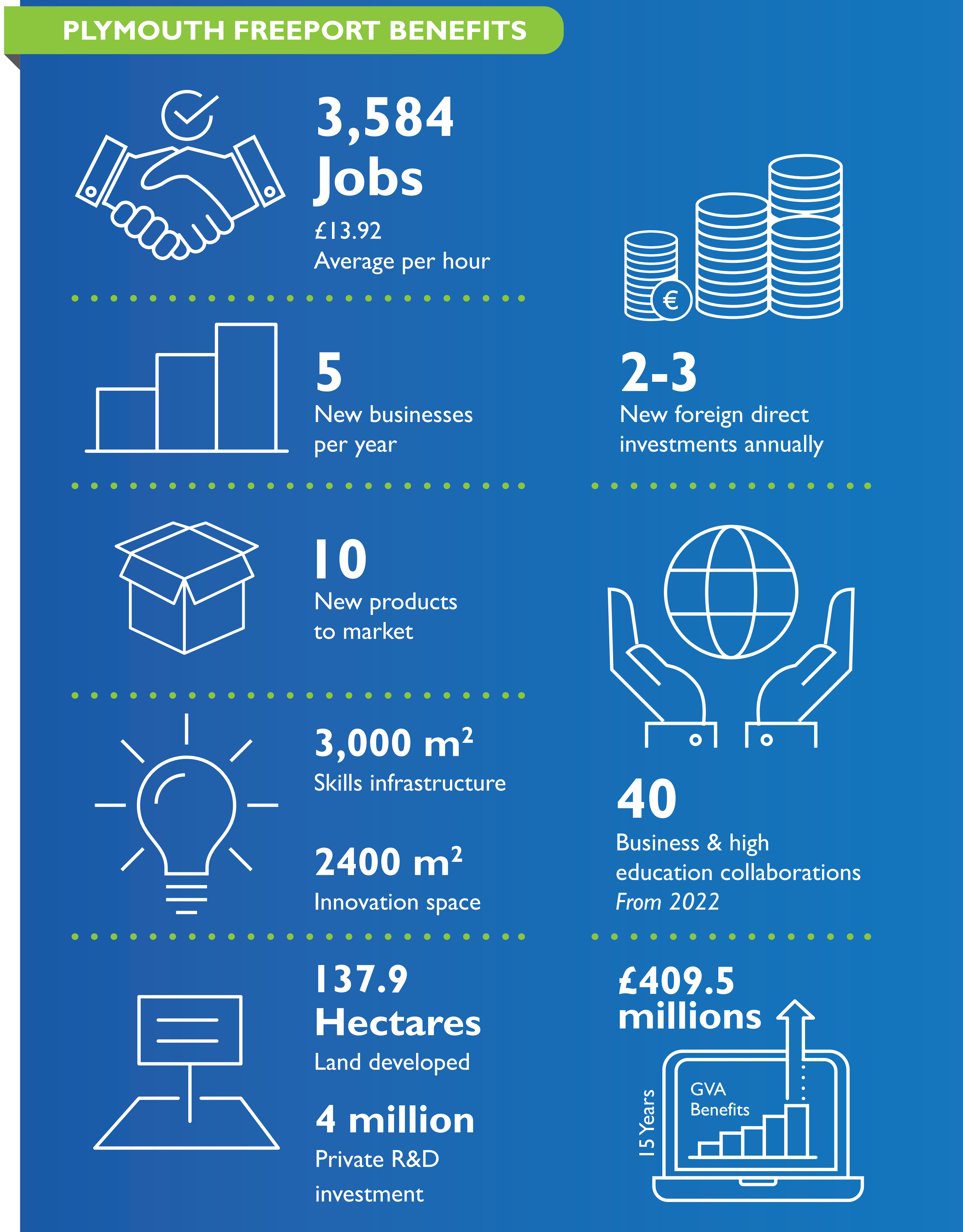


Figure 19: Overview of Plymouth & South Devon Freeport benefits (Author, 2022)

SECTORAL TRENDS

PORTS – FREIGHT COMMODITIES

Port traffic looks set to continue growing but with a shift in the type of commodity flows observed to those which support burgeoning industrial sectors, such as renewables (offshore wind), construction (aggregates) and intermodal (consumer products) goods. Dry bulk tonnage will remain a mainstay for many ports due to symbiotic relationships with the agricultural sector regionally. The trading routes with the continent will remain of paramount importance even with diversification of activity to serve wider markets abroad. Imports to the UK look set to continue growing at a faster rate than exports and shifts have taken place in how goods are delivered for example the rise in unaccompanied trailers.

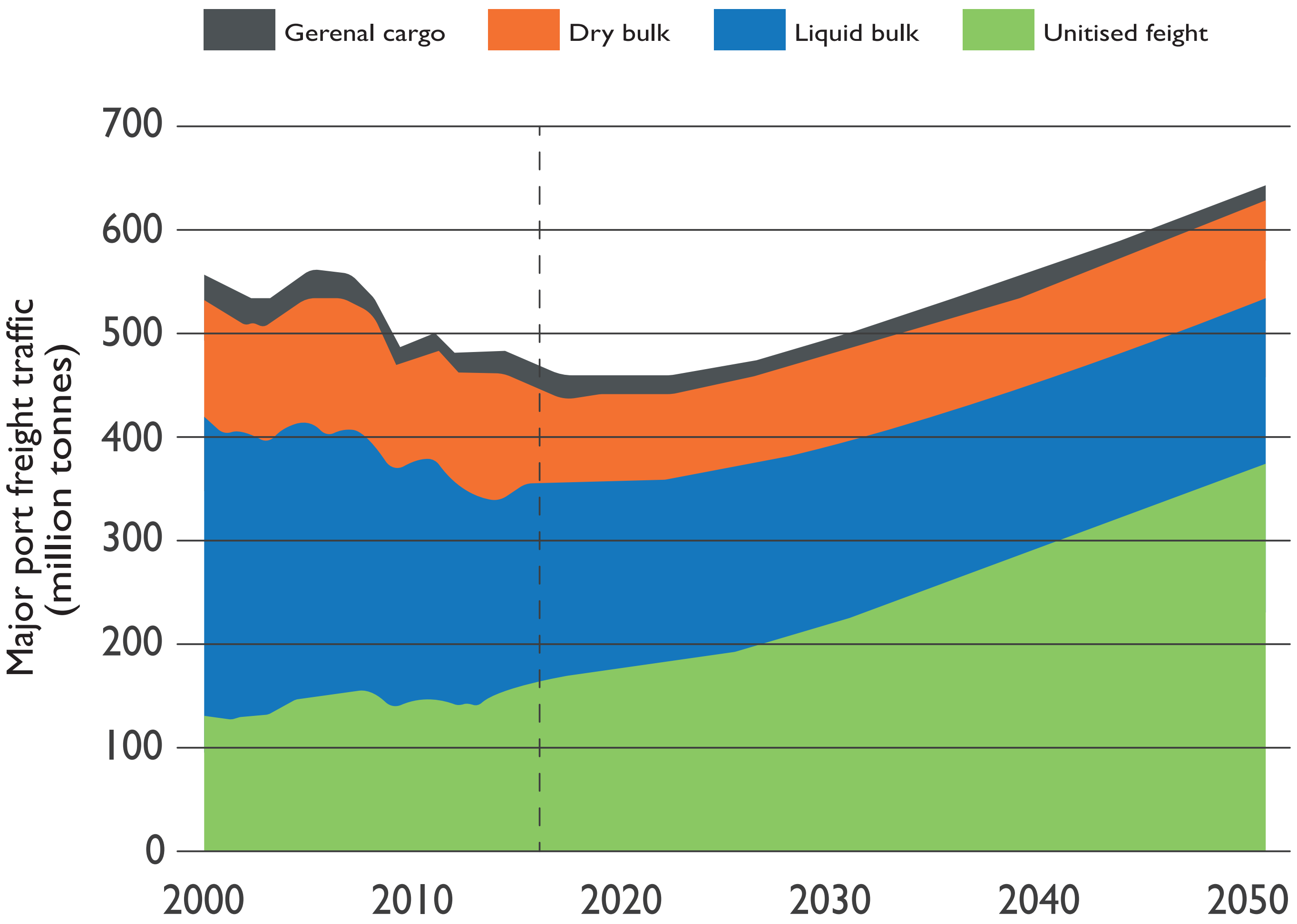


Figure 21: National level projections of port freight commodity volumes 2000-2050 (DfT, 2019)

PORTS - FUTURE PORT EVOLUTION

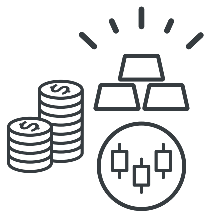
Capacity needs to be provided at a wide range of facilities and locations, to provide the flexibility to match the changing demands of the market, possibly with traffic moving from existing ports to new facilities generating surplus capacity. Diversification is at the heart of gaining competitive advantage and responding accordingly to shift trends and future scenarios; ranging from decarbonisation through to facilitating local economic prosperity and evolving with the rise of digitisation to improve operational efficiency.

AIRPORTS – PASSENGER MOVEMENTS

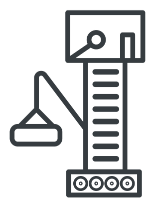
Airports, having witnessed exponential growth since the introduction of the ECAA and budget airline traffic (synonymous with regional airports), suffered especially from the pandemic travel restrictions but are rebounding and diversifying their service offer to cater for longer haul travel. The new open skies arrangement made between the UK and the United States has begun to trigger new ventures westbound for larger airports, such as Bristol and Bournemouth, who can exploit their larger runways to accommodate long haul flights.

AIRPORTS – FREIGHT MOVEMENTS

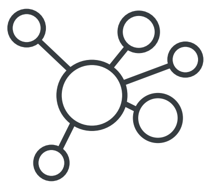
Bournemouth is aiming to compete with Heathrow and provide an alternative for air cargo arriving in bulk to the region that reduces road freight movements and takes advantage of ongoing, phased development around the site and along strategic corridors. The continued unpredictability of global supply chains could mean that the increased use of air cargo could remain in place to help guarantee delivery of essential items for some time (a 'Just in Case' scenario).



More specialisation in commodities sourced, shipped and handled.



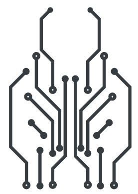
Fewer ports handling the majority of goods entering and leaving the UK.



Emerging port ecosystems fostering economic activity and SME growth.

Developing more capacity for 'blue' tourism and added value services.

Greater supply chain visibility and integration a door to door journey.



Living lab conditions established to pilot new, innovative technologies.

08. OPPORTUNITIES

PORTS

NEW MARKETS

CRUISE INDUSTRY

Passenger volumes have blossomed post pandemic as a viable alternative for international excursions and in response to the extension of the operating season beyond the summer period (May-September). This is driven by customer demand for excursions to warm and colder climates; the latter having grown substantially in popularity. Ports in the South-west of England are extremely well placed to capitalise on the enthusiasm for transatlantic, European and Mediterranean services.

RENEWABLE ENERGY

- **FLOATING OFFSHORE WIND:** The UK Government, having established the Offshore Wind Investment Organisation (OWIO), has recognised the potential of the industry to drive decarbonisation targets, ensure energy security (especially amidst the Ukrainian conflict) and the potential economic benefits of facilitating local supply chain activity. There are currently no ports which have been awarded CORE (Centre for Offshore Renewable Engineering) status across the South-West of England. This recognises existing port infrastructure, skills, supply chains and local government support for growing the sector regionally. This may be attributed to the fact that the seabeds across the region, namely the Celtic Sea, are too deep to accommodate 'static' windfarms. However, 'floating' variations to harness the power of the wind and waves are emerging in less congested offshore areas.

- **TIDAL FLOW:** The region has significant potential due to its ability to exploit the prevailing South Westerlies and the tidal range in the Severn Estuary and the Bridgewater Bay. In 2013, the Department for Business, Energy and Industrial Strategy (BEIS) estimated that this form of energy generation has the potential to meet up to 20% of the UK's current electricity demand.

AUTOMOTIVE & ENERGY

Emerging sectors dependent on sound international supply chain connectivity for exporting to market and the import of raw materials, include the proposed 635 acre 'gigafactory' facility titled Gravity Park. The proposed 'smart campus' north of Bridgwater, Somerset, would create 40,000 direct and indirect jobs, and rely on a package of infrastructure measures such as a new link road from the M5, and passenger and freight connections to site. It is also attractive due to its proximity to the Port of Bristol, alongside Bristol and Exeter Airports.

AGRITECH

To promote local supply chains for reducing food miles and supporting the agriculture sector as part of the response to the challenges of food security post pandemic and as a shield against the rising cost of living impacted, in part, by the conflict in Ukraine.

HUB & SPOKE (INTERMODAL CONTAINERS)

There are ambitions by the Port of Plymouth (Cattewater Harbour) to explore how it can play a role as a 'muster port' for consolidating and distributing goods on behalf of adjacent ports along the coast to remove road traffic (especially east to west) on the Strategic road network (SRN).

AGGREGATES & CONSTRUCTION

The huge aggregates potential for the region for domestic and overseas markets from the extraction of minerals and metals (such as tungsten mining), can be moved by a combination of rail and sea for distribution elsewhere to aid the construction industry.

SMART PORTS

The use of technology to improve the operational efficiency, integration and interface between road, rail and maritime transport systems. Exploring innovative practices pivoting around the theme of automation to better coordinate and accommodate transport services and reduce the time (and cost) implications of current practices.

PORT CENTRIC LOGISTICS

To boost the role of ports as an integral part of supply chains, streamlining operations (picking, sorting, processing, storing and distributing) from cluster sites within a port environment. This is a trend that has been accelerated by Brexit and COVID-19 in response to customs processes and the added requirement for storing stock in the event of delays to global supply chains

AIRPORTS

NEW MARKETS

SPACE INDUSTRY

Spaceport Cornwall will deliver Europe's first horizontal spaceport at Cornwall Airport Newquay in partnership with the UK Space Agency, the LEP, Cornwall Council, launch provider Virgin Orbit and Goonhilly Earth Station.

EXPRESS LOGISTICS

The rise in e-commerce has influenced the share of Business to Consumer (B2C) express air services and begun shaping the physical environment within the immediate hinterland of airports across the region. International gateways are increasingly huge draws for express logistics supply chains seeking to serve the region. The shift to the global economy in the next 40 years towards Asia, North America and Latin America and growth in long haul flights to emerging economies under new trade arrangements, may lead to further opportunities for regional airports.

NIGHT FLYING

To help deliver the express freight market and to meet the increasing expectations of consumers to receive products from around the world in ever shorter timescales.

ADVANCED MANUFACTURING

This sector often relies on Just-in-Time (JIT) supply chains, which have been partially discredited during the pandemic as a consequence of disruptions to globalised trade, yet this management strategy will still come to hold weight for automotive, defence and maritime industries based out of Dorset. (Poole) and Plymouth

ENTERPRISE ZONES

There are a number of enterprise zones affiliated with international gateways across the region which foster 'economic agglomeration' and depend on high-quality connectivity (domestically and internationally), supply chain efficiency and the benefits of co-location and proximity for driving innovation. Similar to freeports, enterprise zones aim to simplify planning procedures and provide tax relief for capital investment in the area.

DEMONSTRATION ZONES

Specialising in new flight propulsion systems and future aviation test environments by supporting regional airports' evolution into living laboratories. This principle, driven by the decarbonisation agenda and the opportunity to attract high-quality skilled employees and stimulate the regional economy, is part of the diversification aspirations for individual airports to build financial resilience.

DECARBONISATION

Strategy for net zero emissions: the proposals focus on the opportunity for the sector, and international gateways, to respond through research and development in manufacturing, engineering and emerging fuel and propulsion technologies alongside regulatory schemes, namely the UK Emissions Trading Scheme (UK ETS) and Carbon Offsetting and Reduction Scheme (CORSIA). Sustainable Aviation Fuels (SAF) are considered a core part of decarboning the industry but have yet to be scaled up accordingly.

AIR PASSENGER DUTY

The 2021 UK Autumn Budget revealed changes to Air Passenger Duty (APD) designed to boost the use of regional airports and the cost competitiveness between domestic UK flights and international flights.

09. CHALLENGES

PORTS

▶ LEAVING THE EUROPEAN UNION

Including legislation, customs, stockpiling, immigration polices and the effect on the workforce. For example, the HGV driver shortage which, combined with the pandemic, has led to the shift towards unaccompanied trailers moving cross boundary. Leaving the European Union (EU) Single Market and Customs Union now results in all goods moving to and from the EU requiring customs clearance, impacting trade flows.

▶ CHANGES TO SUPPLY CHAIN PRACTICES

The impact of the pandemic on shipping prices, workforce availability and product availability combined with repercussions of changing trade arrangements globally, is realigning freight business models and industry activity.

▶ SEASONALITY

For Ro-Ro in particular, services are limited during the winter (off peak) months. This limits the appeal for freight forwarders who rely on year-round reliability and frequency of connections to meet tight schedules on small operational margins. Traffic mixing between port traffic and holidaymakers can take place during the summer period which can cause delays on the road network.

▶ DECARBONISATION

Scaling up the provision of sustainable alternatives to conventional fuels remains a challenge. There is also the extent to which port infrastructure can support the drive towards decarbonisation across other industries through refuelling hubs and similar collective provision whilst also generating industry on site through electrolysis (hydrogen) and grid connections using on and offshore renewables. However, decarbonisation and the reliance on renewable energy to meet net zero ambitions and obligations, requires grid capacity which is a major constraint.

AIRPORTS

▶ SURFACE ACCESS ARRANGEMENTS

Within proposals and recommendations outlined in the UK Net Zero Strategy there is very limited reference to addressing surface access and the sustainability of travel arrangements to and from airports. This is an especially pertinent issue in the South-west of England where the lack of direct rail-connected airports causes a dependency on road-based solutions to improve access. There is a growing recognition across the region of the need to decarbonise and improve the sustainability of the whole door-to-door journey.

▶ INTEGRATED TRAVEL

Agreements have to be made with surface transport providers or brokered through new powers afforded to devolved authorities to enhance through ticketing. Compensation rules and the requirements for transport operators to hold a Global Distribution System (GDS) code (to apply cost savings) negate progress.

▶ BUSINESS MODELS

The business model of international airports and airlines is prone to change longer term. Future revenue and services may be more tailored around integration with other firms to deliver service diversification (e.g. air cruises, social travel) and non-aeronautical activities in and around airport sites, a trend that has already begun across the region. Air freight is particularly vulnerable to price fluctuations and fuel costs whilst passenger travel behaviour is still uncertain moving forward. Changes to customs procedures and agreements to air services after leaving the European Union may catalyse different business models to avoid air freight reallocation and passengers seeking a more seamless experience of air travel elsewhere.

10. INTERNATIONAL ROAD & RAIL

Passengers and goods do not only come via airports and ports but also arrive via the railway network (and stations) and the coach network, whether passing through directly from the continent or via hubs in the South-East of England.

INTERNATIONAL TRADE

Passenger rail services play a critical role in fulfilling regional requirements for commuting and recreational trips but also for strategic journeys supporting visitor and business travel, and connecting places and international gateways further afield. Prior to 2020, around 7.6 million passenger journeys by rail were made within the South-West of England (across its 170 stations), whilst the region was the origin or destination of 4.5 million passengers travelling on cross-boundary journeys. Travel within and to/from the region had grown incrementally over the last two decades up until 2020, with most journeys being made along the popular Great Western Mainline Corridor to and from London (41.3%) and the South-East (33%) of England.

An assessment of freight flows to and from international gateways within the region revealed that certain commodity flows by rail, such as the movement of aggregates and building materials have actually increased between the height of the pandemic and the spring of 2022. In contrast, freight paths for transporting coal have declined substantially. These observations are consistent with the changing flow of commodities through ports in response to serving the burgeoning construction industry and changing energy policy. Future growth is likely to be international (and domestic), intermodal traffic (particularly consumables) as well as the automotive industry.

The Channel Tunnel Rail Link (CTRL) was built and opened in 1994 with the idea of running up to 36 freight trains a day through the tunnel with direct services from all over the UK. This has never materialised but in light of the decarbonisation agenda, driver shortages, congestion and air quality, aspirations to run direct services to the South West through the channel tunnel or at least connect with services at a London freight interchange have been mooted.

In the future, rail will look to play a more prominent role in supporting first and last mile journeys, particularly within the leisure market with scope for better ticketing and journey planning integration. Ports in particular are also being primed for shifting goods from road to rail but will need more investment in the network and intermodal facilities to help make this attractive for potential customers.

ROAD NETWORK

Road connectivity is key for all international gateways, whether they are ports or airports serving freight needs (Lo-Lo or Ro-Ro) and access for public and private modes of transportation. The busiest strategic road corridors in the country, which generally have the highest levels of productivity, are situated around international gateways and experience significant levels of traffic mixing.

The key road corridors/axis for the Peninsula Transport and Western Gateway region have their challenges with route reliability whilst there are renowned connectivity gaps, particularly linking south coast ports (namely Poole & Portland) to the M4 and the Midlands and unlocking supressed demand for freight and passenger movements.

On the SRN, the absence of a dual carriageway on the A303, A30 and A358 is a notorious issue made worse by the aged design, steep gradients and sharp bends which all contribute to longer journey times, particularly for HGVs. This is further exacerbated by traffic mixing during summer months. Motorways are under constant pressure despite upgrades whilst there is a gap in motorway provision linking conurbations and airports in the South East with the South West for the movement of people and goods.

The quality and availability of lorry parking has been put into the spotlight in response to driver shortages and the challenges of recruiting into the road freight industry. However, access to parking facilities is particularly relevant for managing access in and around international gateways, namely ports, reducing the scale and level of informal parking activity and catering for freight forwarders using Ro-Ro services (in particular) between the UK and mainland Europe.

Long distance, intercity coach services play a critical role in supporting the tourism industry. The corridor between the South-West of England and London is the most popular and well served in the UK. An average 15% increase in coach passenger journeys each year across the UK could save 47 million car journeys.

Looking forward, road connectivity will remain the main way goods and people arrive and depart international gateways. Targeted investment is required on the SRN to match local investment alongside facilities for HGV parking in some instances. Decarbonising trips to ports and airports alongside reducing the demand to travel needs to be considered and scaled in the near future. Coach travel is also a key way in which international visitors access the region, albeit mainly via the south-east of England.

11. CONCLUSIONS AND RECOMMENDATIONS

This study has aimed to shed light on the current and future role of international gateways and to highlight some of the issues and opportunities that they will face in response to societal, industry and economic trends and scenarios.

THE ROLE OF STBS

The role of government is key, whether through regulation, investment in infrastructure or support for flagship developments. Public authorities, working with the STB, can use the planning system to safeguard and allocate land in and around international gateways to help unlock the virtues of economic agglomeration. The STBs working with central government have previously demonstrated an ability to secure funding for large scale infrastructure and therefore have a role to play in providing initial start-up subsidy, where feasible, for counteracting various 'chicken and egg' scenarios. They are also going to be central in helping unlock new markets and facilitating links between public authorities and industry.

THE ROLE OF INTERNATIONAL GATEWAYS

There is a need to adapt to changes such as those to supply chains and decarbonisation. Diversification is a central pillar to add resilience. Seaports and airports in the south-west of England are unlikely to compete on 'scale' with other UK international gateways (with the exception of Bristol) but can continue to capitalise on their strong links to the regional economy, their placement for offshore renewables (seaports) and space/aviation industry activities. There need to be improvements to access strategies, particularly shifting away from private vehicles, which will need to involve working closely with transport authorities.

OUTLINE RECOMMENDATIONS

The following tables set out a number of recommendations. Reference has been made to the actions/ recommendations in the South West Freight Strategy (in brackets) to demonstrate the synergies between the two studies. Those highlighted in green, are the top recommendations across all modes and gateways.

AVIATION

ID	Primary theme	Recommendation	Description
1	Aviation	Development of a South West Demonstration Zone (A1)	Part of the airport diversification process that involves transition towards de-carbonising the industry whilst facilitating economic agglomeration. This 'future aviation test zone' has been developed by the Heart of South West Sustainable Aviation Board.
2	Aviation	Updated surface access strategies for airport locations that have a greater focus on sustainable travel and future freight consignments (M5)	Many surface access strategies are out of date or being developed. No airports have direct rail connections so heavy reliance on private mobility. Parking revenue is also a key source of income.
3	Aviation	Development of international cargo and passenger flights from the South West (A3)	Awareness of the international flights from the South West and the opportunity this presents to local businesses/economy. This will need to be reconciled with meeting net zero targets.

Table 13: Aviation Recommendations (Author, 2022)

MARITIME

ID	Primary theme	Recommendation	Description
4	Maritime	Enhancing Local Supply Chain and Connectivity (O7, M2)	Huge potential for ports to support burgeoning offshore wind industry (renewables) by safeguarding laydown space, enhancing handling capacity and helping establish local supply chain relationships.
5	Maritime	Strengthen South West links between manufacturing groups, DMOs and international gateways (M4)	To help facilitate and raise awareness of the opportunities presented for import/export of goods, localisation of supply chain activity and promoting regional visitor destinations via ports and airports.
6	Maritime	Accelerate port centric logistics & smart port developments (M3)	Supporting the optimisation and improved efficiency of ports, creating added value services and responding to shipping trends. This also extends to laydown space and access roads to site.
7	Maritime	Explore and assess demand and feasibility for floating accommodation (tourism & events) (M4)	Exploring ways in which ports can host vessels for prolonged periods as floating accommodation during seasonal highs to address lack of local accommodation.
8	Maritime	Introduce feeder intermodal container trains to serve Southampton, Plymouth and Bristol (RL1)	There are opportunities to use rail freight to help transfer cargo off the roads and to help address the decarbonisation agenda.
9	Maritime	Better utilisation of ports through feeder vessels to serve Plymouth and Bristol (M1)	There are opportunities to use coastal shipping to help transfer cargo off the roads and reduce reliance on the SRN and to better utilise capacity at ports to help address the decarbonisation agenda.
10	Maritime	Supporting regular and consistent access to services at ports.	Opportunities to reinstate ferry services at ports to promote international gateways and encourage throughflow.
11	Maritime	Capitalising on the benefits of freeports.	Enhance the benefits of having freeports available in the South West by developing industries inside the port and enhance the skills, products, services and opportunities that the South West can promote.
12	Maritime	Improving the ability for international travellers to make day trips in the South West using the rail network.	Opportunity to make it easier for international travellers to make day trips in the South West and have left luggage offices/lockers to ease stopping en route to their final destination.

Table 14: Maritime recommendations (Author, 2022)

RAIL

ID	Primary theme	Recommendation	Description
13	Rail	Investigate how to optimise use of existing rail freight links into ports and scope the development of new connections and terminals to ports and airport hinterlands (M5, RL7)	Supporting the shift from road to rail for freight consignments by exploring the potential to reinstate former port links and developing the business case for new terminals within port/airport hinterlands.
14	Rail	Through ticketing for international passengers across multiple modes.	Enable ticketing to make it easier for international travellers to navigate around the South West which will allow them to use multiple modes of transport across different operating companies.
15	Rail	Re-establish, refresh and renew Station Travel Plan (STP) programme for railway stations near international gateways (RL4)	There is limited information and an integrated approach to supporting first & last mile access to international gateways with STPs helping to collect consistent data on travellers stated preferences, experiences and travel needs.

Table 15: Rail recommendations (Author, 2022)

ROAD

ID	Primary theme	Recommendation	Description
16	Road	Identify sections of the road network in need of improvement to support growth at international gateways (RD6)	Improvements will allow for better connections to international gateways, including their wider hinterland, and an opportunity to support multimodal access.
17	Road	Review suitability of technologies to help manage access to international gateways and reduce the risk of delays and congestion (RD14)	Technological advance will play a key role in allowing movements to and from international gateways to be done more efficiently and sustainably.
18	Road	Identify key routes to support connections to international gateways (RD13, RD11)	Establishing the key routes for freight and passengers to international gateways which need to have reliable journey times and alternative plans in the event of disruptions.

Table 16: Road Recommendations (Author, 2022)

OTHER

ID	Primary theme	Recommendation	Description
19	Other	Strengthen South West links between tourism groups (Greater South-West Partnership) and international gateways (RL6, RD13, RD14)	Building links between tourism-focused aspirations, policy and planning and longer-term investment with a direct link to the role of international gateways.
20	Other	Scaling alternative fuels and energy network capacity at international gateways (A1, O2, M2, RD1, RD4, RD14, RL2, RL3)	This looks at boosting investment in clean technologies (e.g. green hydrogen (as well as other synthetic fuels) and enhancing grid capacity.
21	Other	Enhanced data collection, monitoring and analysis for each international gateway (O1, O9, RD13, RD14)	To help collate and bring forward a relevant, live snapshot picture of international gateways freight, passenger and access arrangements (including Mobile Network Data).

Table 17: Other recommendations (Author, 2022)

Peninsula Transport

Transforming the economic performance of the South West

Western Gateway

Sub-national Transport Body