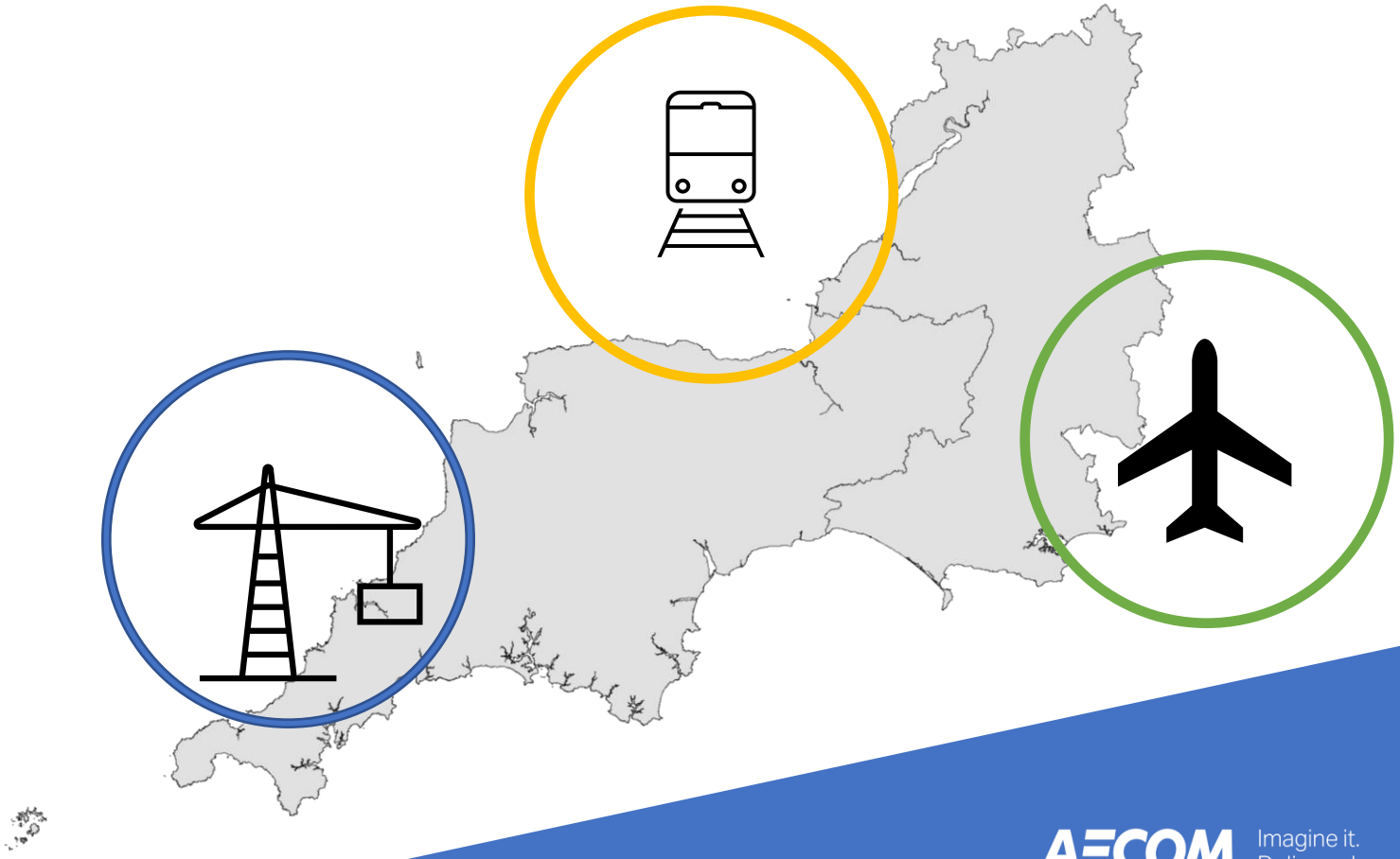

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Peninsula Transport & Western Gateway Sub-national Transport Bodies

WP12 International Gateway Study

Peninsula Transport

Transforming the economic performance of the South West

Western Gateway

Sub-national Transport Body

Quality information

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Abbreviations

Abbreviation	Full Text	Abbreviation	Full Text
2ZERO	Towards Zero Emissions in Regional Aircraft Operations	MCA	Mayoral Combined Authority
3PL	Third Party Logistic	MG	Manufacturing Groups
A&P		MoD	Ministry of Defence
AADF	Average Daily Traffic Flow	MRN	Major Road Network
ABP	Associated British Ports	MSC	Mediterranean Shipping Company
ACI	Airports Council International	MW	Megawatt
AECOM	Architecture, Engineering, Construction, Operations, and Management	N/A	Not Applicable
AONB	Area of Outstanding Natural Beauty	NATs	National Air Traffic Service
APD	Air Passenger Duty	NDA	Non-Disclosure Agreement
B2C	Business to Consumer	NDC	National Distribution Centre
BCP	Bournemouth, Christchurch and Poole		Outer Coaling Pier
BEIS	Business, Energy and Industrial Strategy	ONS	Office for National Statistics
BIG	Bournemouth International Growth	ORE	Offshore Renewable Energy
CAA	Civil Aviation Authority	OWIO	Offshore Wind Investment Organisation
CAV	Connected and Autonomous Vehicle	PASD	Plymouth & South Devon
COAST	The Coastal, Ocean and Sediment Transport	PCL	Port Centric Logistics
CORE	Centre for Offshore Renewable Engineering	PHC	Poole Harbour Comissioners
CORSIA	Carbon Offsetting and Reduction Scheme	R&D	Research and Development
CRP		RAF	Royal Air Force
DB	Deutsche Bahn	RCA	Regional & City Airport
DfT	Department for Transport	RDC	Regional Distribution Centre
DMO	Destination Management Organisation	RNO	Rail Network Operators
DP	Dynamic Positioning	Ro-Ro	Roll on-Roll Off
DSO	Distribution System Operator	RPD	Royal Portbury Dock
e.g.	Example	SAC	Special Areas of Conservation
EAC	European Aviation Air Charter	SAF	Sustainable Aviation Fuels
ECAA	European Common Aviation Area	SIC	Standard Industrial Classification
ECMT	European Conference of Ministers of Transport	SME	Small and Medium-sized Enterprise
EMU	Electrical Multiple Unit	SNCF	Société Nationale des Chemins de Fer Français (French National Railway Company)
EU	European Union	SOBC	Strategic Outline Business Case
EZ	Enterprise Zone	SPA	Special Protection Area
FDEC	Falmouth Docks and Engineering Company	SPEED	Smart Ports Entrepreneurial Ecosystem Development
FREN	Freeport Regulatory Engagement Network	SRN	Strategic Road Network
GDS	Global Distribution System	SSSI	Site of Special Scientific Interest
GHG	Green House Gas	STB	Sub-national Transport Body
GVA	Gross Value Added	STEM	Science, Technology, Engineering, Maths
GW	Gigawatt	SW GVA	South West Gross Value Added
GWML	Great Western Main Line	SWOT	Strengths, Weaknesses, Opportunities, and Threats
GWR	Great Western Railway	SWR	South Western Railway
GWR/XC		TE	Transport East
HGV	Heavy Goods Vehicles	TEN-T	Trans-European Network – Transport
HRH	His Royal Highnesses	TfN	Transport for the North
HS2	High Speed 2	TfSE	Transport for the South East
HVO	Hydrotreated Vegetable Oil	THC	Teignmouth Harbour Commission
IATA	International Air Transport Association	TOC	Train Operating Companies
ICT	Information and Communication Technologies	TPpH	Train Paths per Hour
IoT	Internet of Things	TUI	Touristik Union International
JIC	Just in Case	UK	United Kingdom
JIT	Just-In-Time	UK ETS	United Kingdom Emissions Trading Scheme
LEP	Local Enterprise Partnership	USA	United States of America
LLM	Large Local Major	USP	Unique Selling Point
LNG	Liquid Natural Gas	WECA	West of England Combined Authority
Lo-Lo	Load On-Load Off	WG	Western Gateway
MBTC	Marine Business Technology Centre		
MC	Midlands Connect		

Executive Summary

Introduction

This study explores the current and future role of international gateway for Peninsula Transport and Western Gateway Sub-National Transport Bodies (STBs) and forms a component part of a broader regional Transport Strategy for the South West of England. The study methodology consisted of undertaking the following:

Inception Meeting	Helping to define the specific scope of the output and the value added
Review of other Gateway Studies	Capturing lessons learned and insights from similar studies conducted
Data Collection and Analysis	Interrogating primary and secondary data sources per gateway and regionally
Stakeholder Engagement	Liaising with representatives across the industry to gather insights and datasets
Best Practice Review	Documenting relevant exemplar interventions as inspiration for the region
Facilitated Stakeholder Discussions	Conducting sessions to share knowledge and forge collaborative partnerships
Developing Dashboard Profiles	Illustrating a snapshot of international gateways role, function and services
Showcasing Dashboards	Sense checking the content and useability of the dashboards to consultees
Draft and Final Reporting	Developing a concise report and appendix documents as the study output
Close Out Workshop	Conducting a workshop to convey findings and validate recommendations
Collection of Summary Notes	Compiling datasets and more granular information to accompany the report

Table 1 Study Methodology

International Gateway Overview

A snapshot overview of the main themes, opportunities and issues/challenges associated with international gateways (ports and airports) have been provided below. These are not exhaustive and have been extracted from the main report body. A decision was taken to expand to geographical coverage of the reporting and the study generally to encompass the Western Gateways area because of the obvious synergies and relationships with regards to the movements of people and goods. This mirrors the approach taken to WP09 Freight Strategy.

It is important to stress the role of international gateways as being key to supporting supply chain and passenger movements at a strategic level for aiding wider economic prosperity as well as their fundamental, growing role as major employment centres that foster economic agglomeration on site and within their immediate hinterland. Whilst the region has several airports and ports of significant importance for economic activity, a high proportion of goods and passenger flows derive or seek to pass through established, larger and well-connected international gateways outside the region.

Ports

Overview

- Ports across the South West of England are critical to serving the local regional economy and often compete for both passenger and commodity flows serving cruise and short shipping sectors as well as being linked to the agricultural industry and moving both dry and liquid bulk into and out of the region.
- Bristol is the largest port across the region, handling an eclectic range of goods from overseas territories and positioning itself as a competitor to Southampton for intermodal volumes (serving the automotive industry). Plymouth caters for a mix of Lo-Lo and Ro-Ro traffic (although both have subsided in recent years due to the pandemic) as well as passenger services, in competition with Poole (and Portsmouth) towards mainline Europe.

Opportunities

- Ports have a pivotal role to play to help the region capitalise on its reputation as a ‘natural powerhouse’ by scaling and supporting the development of offshore renewable energy infrastructure through the provision of on-site facilities, area wide skills and local resources. There are already clusters of specialist industries cohabiting with ports and airports to unlock this opportunity.
- There are prospects for better connecting ports with local and regional supply chains providing there are more established links and communication between different sectors to cater for existing (e.g. manufacturing) and burgeoning (e.g. automotive and construction) markets. This could bring benefits to reducing freight miles across the region.

- Ports across the region area are already undergoing a process of diversification through embracing digitisation to improve operational efficiencies and responding to the decarbonisation agenda by exploring alternative fuels for powering the port estate and vessels. Ports are also living laboratories for the development of maritime technologies.
- There are aspirations and ongoing discussions to support better rail connections into and out of ports to reduce the reliance on road freight over the first and last mile. This would also support the movement of new commodity flows such as sea aggregates and materials associated with the automotive industry.

Challenges

- Port connectivity over the door to door journey, by road and rail is key. The reliability and resilience of strategic road and rail connections between international gateways and points of origin/destination within the region (and the UK more broadly). Large parts of the SRN through the region, particularly across Dorset, is widely recognised substandard due largely to the age of this part of the network and may come to hinder the pace of future growth through ports in the future.
- There are opportunities for better connecting ports with local and regional supply chains providing there are more established links and communication between different sectors to cater for existing (e.g. manufacturing) and burgeoning (automotive and construction) markets. The link between markets, industry and customers is an area requiring attention.

Airports

Overview

- Aviation is likely to play a growing role in supporting the regional economy across the South West region of the UK. Airports play a crucial role for supporting regional connectivity and access to markets and contribute positively towards GVA by playing a wider role as 'anchors' supporting local employment and hosting supply chain activity.
- Airports, like ports, experienced a substantial decline in passenger traffic during the pandemic but were previously experiencing positive growth in domestic and international travel into and out of the region. Regional airports primarily cater for short haul flights (chartered and scheduled) to European destinations but are expanding into new territories.
- Bristol Airport is a huge draw for populations within the South West of the UK because of its range of destinations whilst other regional airports have smaller catchment areas and higher prices. They increasingly rely on other forms of revenue generation to support their financial viability.

Opportunities

- Airports across the region are already fledgling economic clusters of innovation and living laboratories for new flight technologies. This forms a core part of their diversification to ensure long term resilience for the industry and to meet net zero ambitions alongside providing high quality, skilled future employment for the regional population.
- There is an increased concentration of sector activity, namely manufacturing and third-party logistics as well specialist industries (e.g. space) within the immediate hinterlands of airports which seeks to take advantage of access to and from international locations. Subsequently there is a new demand to improve access to sites for employees.
- There are interesting developments to reduce handling activity at airports and the cost effectiveness of transitioning goods from aircraft for distribution, including Truck-to-Tail operations. Rail is also be explored for moving volume goods and passengers from sites directly serving or adjacent to airports.

Challenges

- There is relatively limited attention paid towards the quality of surface access to airports across the region as part of the decarbonisation agenda and to managing travel demand in the future. Regional airports may also rely on revenue from car parking (especially during their recovery) which may contradict efforts to encourage sustainable access to site.
- The nature of future goods movement to and from airport sites, namely JIT requirements and express logistics operations, puts additional pressure on the reliability of the road network to meet service contracts. There is limited detail on how to prioritise freight movements versus that from passengers in the future.
- There will need to be added impetus given to decarbonising site based and surface access emissions and whether this can be reconciled with growth aspirations that proposed boosting passenger and freight volumes. There are lots of initiatives being pursued regionally that will need to scale up quickly. Most airports are sited at peripheral locations with limited or no rail access having grown organically from military bases in the mid to late twentieth century.

International Road & Rail

Overview

- Passengers and goods do not only come via airports and ports but also arrive via railway network (and stations) and the coach network; whether passing through directly from the continent or via hubs in the South East of England. The ease of access to and from railway stations to airports or ports can be enhanced across the South West of England.

Opportunities

- Tourism and business travel is a target sector for the rail industry and boosting passenger patronage whilst there is longer term scope for mode shift from road to rail freight, to and from international gateways across the region as well as direct between continent via the Channel Tunnel Rail Link (CTRL) or a South East based interchange.
- The South West has a number of high density long distance coach routes towards London and Birmingham which are operated by a number of companies. The region is lucrative for businesses due to higher proportions of students, tourists and a more elderly demographic to be able to sustain demand all year round.

- The Strategic Road Network (SRN) plays a pivotal role in providing connectivity to international gateways and thus driving economic growth. The rise of roads digitalisation and vehicle fleet decarbonisation, will improve the efficiency of the network and contribute to achieving sustainable transport.

Challenges

- There is an absence of rail terminals across the region that can facilitate goods transfer between road and rail (particularly for exploring the role of intermodal traffic in the future). Gauge clearances, weight restrictions and the lack of diversionary routes also present barriers to unlocking the potential compared to other regions.
- A joined up approach between industries is required to provide more attractive, workable ticketing options to use multiple modes of transport for travelling around the region. The same door to door perspective needs to be considered for goods movement too, including the need to accurately understand origins and destinations of freight movements.

Recommendations

Several recommendations were developed during the study, some of which have been cross referenced to WP09 Freight Strategy. These are indicated by the intervention numbers in brackets. It is important to note that road transport (for passenger and freight traffic) is an embedded part of the recommendations due to the fact that most movements to and from international gateways use the strategic road network. The list is as follows, with the most prioritised recommendations highlighted in green, which have been selected based on stakeholder engagement and the expertise of the project team:

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 decarbonising 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.

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) and safeguarding site and handling capacity is limited and local supply chains haven't been established.
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 and 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 and 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 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 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 on route to their final destination.

Rail			
ID	**Primary Theme**	**Recommendation**	**Description**
13	Rail	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 seeking 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 that 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.

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 to have alternative plans in the event of disruptions.

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 together and bring forward a relevant, live snapshot picture of international gateways freight, passenger and access arrangements (including Mobile Network Data)

STB Role & Quick Win Actions

The STBs have a pivotal role to play in facilitating many of the above recommendations and working with central government can shape the future of the industries that rely on connections and the integration with international gateways in the future (e.g. floating offshore renewable energy). Devolution is likely to be a major theme in forthcoming years which will influence how transport networks are planned and delivered and ultimately how people and goods move on the road and rail network. Maritime and short sea shipping are also integral to the facilitation of bulk international freight and passenger movements and enhancing connections to ports will be key for meeting current and future port traffic demand. Gateway operators are also primed to diversify in response to smart technologies, the decarbonisation agenda and changing regional demographics and economic geography. They will also need to take more responsibility to look more at surface access for both visitors, employees and tourists and need to be part of regional conversations around supporting regional economic activities.

The following (quick win actions) would also help accelerate ongoing conversations and set in motion some of the recommendations (the number refers to the ID):

- Engage with East Devon Council and Devon County Council on the status of the proposed aviation and aeronautical engineering Demonstration Zone proposals, including the buy in from the CAA (1) to ascertain timescales and costs.
- Help promote the need for update surface access strategies through existing regional forums (e.g. Freight Forum) with support from Airlines UK who advocate better plans being in place (2).
- Help to facilitate communication between international gateways (ports, airports) with regional DMOs and Manufacturing Groups with regards to promoting and publicising services and exploring ticketing options (5). This also includes how to propel and scale new regional industries, such as offshore renewables.
- Provide clear and consistent messaging through public relations and communication channels on the freeport designation (which could entail developing a live progress and impact map). The benefits must be clearly conveyed to different sectors (11).
- Continue to support and promote the use and reinstatement of rail connected facilities to ports and airports and to work closely with the rail industry and gateways operators to support and explore burgeoning markets (13).
- To engage with the Department for Transport (DfT) and Civil Aviation Authority (CAA) on the consistency of data collection and to look at capturing Mobile Network Data to understand origins/destinations of goods to and from international gateways, including supressed demand (18).
- To work with regional bodies (such as Hydrogen South West) and other businesses and groups investing in alternative fuel production, storage and distribution to explore the propensity for alternative fuels being deployed deployment and uptake across international gateways in the region (17). There may be opportunities for transferring knowledge (such as the Bristol ACT Programme) to other airports.

1. Introduction

1.1 The Commission

WSP and AECOM consultants have been 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 work also accommodates the geography covered by Western Gateway STB, who are not a funding client in this instance, because of the synergies between the two areas and the partnership work that has taken place previously on the development of the Freight Strategy for the region. The original remit of the study homes in on 'international' gateways; many of which sit outside the Peninsula but across the wider South West region and play a pivotal role in its regional prosperity.

The STBs represent the local authorities, combined authorities and Local Enterprise Partnership (LEP) with a vision of transforming the economic potential of the region. This study on international gateways supplements other, ongoing workstreams commissioned by Peninsula Transport as part of the emerging transport strategy for the region. The vision and goals outlined for the transport strategy over the next 30 years provide the overarching purpose of this study (Figure 2 1).

Peninsula Transport STB			
Vision	"Transforming transport across the Peninsula, enabling our society and economy to thrive and our unique and outstanding environment to flourish"	**Goals / Objectives**	• 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

1.2 The Study Aims

The initial scope of the study was formed in May 2020 after face to face and online engagements with Local Authority officers. This culminated in the development of the methodological study document that provides the basis for this study contents. This process helped to raise the profile of critical issues relating to the role, function and efficiency of international gateways across the region and the movement of **people and goods**. These discussions were wide ranging but centred on the need to explore:

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

The scope, definition and added value of this study was then confirmed in February 2022 and work commenced in March 2022. Particular emphasis was placed on collating together and cross-referencing evidence across multiple themes, disciplines and project work to inform the outlook of international gateways across the region. This was with specific regard to the following work packages which form part of the emerging transport strategy:

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

1.3 The Study Objectives

The overall objectives of this study were agreed with local authority officers prior to the study being commenced and were contained within the methodological study document that was signed off by the commissioning body. The overarching objective which this report attempts to convey is '***to summarise the challenges and present the key opportunities for movement of people and goods internationally to and from the Peninsula***". The following sub objectives (Figure 2) frame the requirements of the study and shaped the overarching methodology.

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.
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

1.4 The Study Methodology

The Methodological Study document provided the basis for business case for commissioning the study into international gateways. A variety of methods and techniques was used to develop the study and to ensure it is holistic to meet the needs of the Peninsula Transport STB area and to complement ongoing project work taking place concurrently to inform the emerging transport strategy. Data and information were obtained and complied throughout a six-month period, between February and August 2022 to develop a legible narrative for international gateways across the study area. The study provides both standalone material and components that can be absorbed into the overall transport strategy, particularly the development of gateway 'dashboards', as well as complementing the evidence base developed for other work packages. The following tasks were undertaken as part of the study.

Inception Meeting	Helping to define the specific scope of the output and the value added.
Review of other Gateway Studies	Capturing lessons learned and insights from similar studies conducted.
Data Collection and Analysis	Interrogating primary and secondary data sources per gateway and regionally.
Stakeholder Engagement	Liaising with representatives across industry to gather insights and datasets.
Best Practice Review	Documenting relevant exemplar interventions as inspiration for the region.
Facilitated Stakeholder Discussions	Conducting sessions to share knowledge and forge collaborative partnerships.
Developing Dashboard Profiles	Illustrating a snapshot of international gateways role, function and services.
Showcasing Dashboards	Sense checking the content and useability of the dashboards to consultees.
Draft and Final Reporting	Developing a concise report and appendix documents as the study output.
Close Out Workshop	Conducting a workshop to convey findings and validate recommendations.
Collection of Summary Notes	Compiling datasets and more granular information to accompany the report.

Figure 3 Study Methodology

1.5 The Study Value

1.5.1 Responding to Trends, Scenarios & Aspirations

A study identifying and exploring the current and future role of international gateways is timely. The way people go about their daily lives has undergone a change in recent years in response to several emerging trends and scenarios. These have brought into question the validity of conventional thinking about how to plan for the expeditious, safe and sustainable movement of goods and people in the future. International gateways, as defined in the subsequent chapter, are implicated by such shifts in how goods and services are consumed and play a pivotal role in door-to-door journeys of the future. They 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. The following macro level scenarios form the backdrop to this study and form a component part of later analysis of international gateways.

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

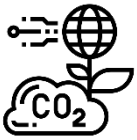
The consequences on supply chain efficiency, costs and availability and shift in attitudes towards sustainable, ethical sourcing and practices.

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.

1.6 Study Structure

The table below provides an indication of the structure of the International Gateways Study

2. Defining International Gateways	Outlining the significant role of international gateways, reflecting on other similar studies and providing a regional perspective of the role of gateways.
3. A South West Perspective	Presenting dashboards for each international gateway including headline statistics on freight and passenger flows, facilities and individual SWOT analyses.
4. Snapshot Statistics	Presenting 'core' statistics on trade flows, freight and passenger traffic across regional ports and airports as well as paying reference to national trends.
5. Stakeholder Consultation	Concisely describing the methodology for engagement and summary bullets to convey the main messages from stakeholders.
6. Regional Drivers	A high-level overview of the macro themes that will shape the role and activities of international gateways in the future.

7. Sectorial Trends	The changing nature of the freight and passenger industry in response to macro trends and scenarios and the relevance this has at a regional level.
8. Opportunities and Issues (Ports)	Highlight the opportunities being pursued for unlocking new markets, decarbonising and enhancing passenger and freight services.
9. Opportunities and Issues (Airports)	Highlight the opportunities being pursued for unlocking new markets, decarbonising and enhancing passenger and freight services.
10. Recommendations	Outlining a set of clearly defined recommendations and actions that can be taken forward by the STBs and associated forums.

Figure 4 Study Report Structure

2. Defining International Gateways

2.1 Introduction

International gateways, as the term implies, infers to 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. There are different interpretations of what constitutes an international gateway, based on several factors:

- **Scale and volume (tonnage and patronage).** The scale of operations and the scale and extent to which a gateway accommodates international flows of goods or people in relation to the rest of the region and nationally.
- **Short term versus long term role.** The extent to which gateways play a critical role for the movement of goods and people in the present day or as part of future plans.
- **Mode versus node**. The extent to which we define international gateways as points within the transport network and/or interchanges and corridors that act as conduit for movement on a door-to-door journey.

This chapter describes the significance of ports and airports as international gateways and their general importance to the prosperity of the nation, whilst reflecting on the approach and insights from other similar gateway studies to help define the geographical focus of this study.

2.2 Significance of International Gateways

2.2.1 Ports

Ports are integral to the facilitation of bulk international freight movements but also serve passenger movements between Europe and the rest of the world. They align with several sectors; ranging from tourism through to manufacturing and, increasingly, the energy industry. The type of services they offer range considerably depending on their location, capacity to handle goods and on-site provision, such as wharfs and berths for accommodating different types of vessels and passenger services. In the UK, ports are responsible for handling high volumes of goods, 95% in total, of all cross-border movements; with a quarter of the UKs energy supply and almost half (48%) of the populations food arriving via the shipping industry (2018)[1].

The UK port sector is one of the largest in Europe, handling 98% of the UK trade tonnage in 2018[2], connecting people and markets, and a key driver in attracting inward investment. Ports support in excess of 101,000 jobs and in 2015 directly contributed £7.6 billion in GVA to the economy[3] (i.e. GVA directly attributed to ports). Ports are constantly diversifying in response to market trends, such as changes to global shipping, as well as adopted regional policy, namely the recent freeport designation, to serve various roles beyond conventional norms. They are increasingly at the forefront of innovations to decarbonise maritime activity but are encouraged to develop sustainably to cater for longer term, forecast growth in imports and exports to aid economic prosperity[4].

[1] DfT (2019) Maritime 2050: Navigating the Future, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877610/maritime-2050-exec-summary-document.pdf
[2] Transport for East (2021) Unlocking for International Gateways, https://www.transporteast.org.uk/wp-content/uploads/1b-Unlocking-International-Gateways.pdf
[3] Maritime UK (2017) The economic contribution of the UK ports industry A report for Maritime UK, https://www.maritimeuk.org/documents/187/Cebr_Ports_report_finalised.pdf
[4] DfT (2012) National Policy Statement on Ports, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/3931/national-policy-statement-ports.pdf

2.2.2 Airports

Airports play a critical role in moving people and goods quickly. Only a small fraction of cross border movements (1%) are moved by air cargo with most activity concentrated at Heathrow, Gatwick and East Midlands. Air cargo typically consists of low volume high value consignments across four major sub-markets namely general cargo, express, specialist and niche products that serve Just in Time (JIT) supply chains, with the vast majority of items carried in the belly hold of commercial services (95%[5]). Across the UK, before the pandemic, record quantity of freight was handled at UK airports, growing twice as fast as global trade with cargo having risen by over 25% to 112,570 million tonnes between 2017-2018[6]. 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[7]. The value of airports ranges between UK regions; with air freight services contributing towards 9% of GVA in the North West (£14.9bn), the highest recorded, compared to London (2%), Wales (8.6%), East Midlands (7.6%) and the South West of England (6.8%)[8]. Aviation also moves 57% of all world tourists annually and has a positive multiplier effect other economic activity.

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[9]. However, the industry faces a dual challenge of recovering from the pandemic and internalising the externalities if it's (expanding) surface access and flight activities as part of the decarbonisation agenda; whilst evolving into the development epicentres of new sustainable aviation technologies.

2.3 Other Gateway Studies

This section provides a high-level review of previous work relating to international gateways across the UK and internationally to gain a comprehensive insight into core themes and best practice examples. This review has assessed the problems specifically relating to the freight sector and identifies the initiatives used to help resolve them. A comprehensive desktop research phase identified several strategy documents. These were reviewed to provide background information on the questions and issues identified in other international gateway reviews. This background knowledge helped guide the development of the international gateways piece of work.

Two separate reviews have been conducted, one based on documents from STBs and one based on documents from other bodies such as National Highways (NH) and DfT.

2.4 STB documents review

Documents from other STBs including Transport East (TE), Transport for the South East (TfSE), Midlands Connect (MC) and Transport for the North (TfN) were reviewed to help identify key issues affecting international gateways and the resulting initiatives identified. In addition, the Western Gateway (WG) Review of Multi-modal Access to Ports and Airports was also reviewed. This ensures that the findings of that review is fed into the scope of this project. Much like the South West Freight Strategy, it is a culmination of the work between the two STBs in the South West to reflect the fact that freight and the associated supply chains operate on a regional, national, and international basis. The spatial interdependencies between the two regions, particularly for freight movement, had significant merit in having a joint approach.

The documents reviewed as part of this process included:

- Transport East – Unlocking International Gateways (available at https://www.transporteast.org.uk/wp-content/uploads/1b-Unlocking-International-Gateways.pdf)
- Transport for the South East – Freight, logistics and gateway review (available at https://transportforthesoutheast.org.uk/app/uploads/2020/11/Freight-logistics-and-gateway-review.pdf)
- Midlands Connect – International Gateways (available at https://www.midlandsconnect.uk/media/1213/international_gateways_narrative_report.pdf)
- Transport for the North – Independent International Connectivity Commission Report (available at https://transportforthenorth.com/wp-content/uploads/International-Connectivity-Report_websafe.pdf)

[5] Airlines UK (2018) Assessment of the value of air freight services to the UK economy, Assessment of the value of air freight services to the UK economy, airlinesuk.org
[6] Steer (2018) Assessment of the value of air freight services to the UK economy, https://airlinesuk.org/wp-content/uploads/2018/10/Assessment-of-the-value-of-air-freight-services-to-the-UK-economy-Final-Report-v22-Oct-2018-b-SENT.pdf
[7] Oxford Economics (2014)
[8] Airlines UK (2018) Assessment of the value of air freight services to the UK economy https://airlinesuk.org/wp-content/uploads/2018/10/Assessment-of-the-value-of-air-freight-services-to-the-UK-economy-Final-Report-v22-Oct-2018-b-SENT.pdf
[9] Transport for East (2021) Unlocking for International Gateways, https://www.transporteast.org.uk/wp-content/uploads/1b-Unlocking-International-Gateways.pdf

- Western Gateway - Review of Multi-modal Access to Ports and Airports (available at http://weston.ndm-server.co.uk/wp-content/uploads/2020/09/Port-Access-Study-Report-FINAL.pdf)

The documents highlighted a number of issues and initiatives relating to the international gateways. These have been analysed in the following sections

2.4.1 Issues

2.4.1.1 Impact of Brexit

Brexit has had an impact on international gateways in several ways. MC notes that "the challenge of the EU market segment exists in the impact of Brexit on the trade relations between the United Kingdom and the EU and the level of access of the UK to the Single European Market going forward". This is likely to have an impact on patterns of freight from airports such as East Midlands. Furthermore, it is likely to impact passenger flows, especially with the impact on rights of travellers in and out of Britain.

TfN notes the importance of maintaining links with current partners, both in Europe and further afield, as well as considering additional links further afield in what TfN calls the "cross-border economy". Wider global markets cited in the report include China, the Indian sub-continent and Latin America.

For WG, the Port of Poole expressed concern that changes in immigration rules and any contraction of the economy could cause their European routes to suffer. The report also notes the general need for businesses to adapt to any impacts of post-Brexit policies on their operations and ensure that ports evolve effectively.

2.4.1.2 Lack of Data

TfSE cites a lack of data, especially freight data, as being a key issue and constraint. The report notes that "a lack of data prevents authorities from planning investments which focus on the priority areas and inhibits businesses from collaborating to improve their operations". This is both because of a lack of available data and as a result of a lack of data sharing, such as origin/destination and journey time data due to commercial sensitivity of the data.

TfN also notes the lack of market information about international freight movements to and from the North, with the information about tourist travel around the North also being limited. Addressing these gaps, on both the freight and passenger side, will help to strengthen and develop relevant policies to improve the overall offer of the region.

2.4.1.3 Surface Access

The TfN report notes that there should be improvements to international gateways within the north, and that interventions should be sought to reduce journey times of both passengers and freight to and from ports.

TfSE notes that there are opportunities to increase the numbers arriving at or leaving Heathrow airport by surface access using the train. Currently 13 million of the 48 million people arriving at or leaving Heathrow by surface access use the train, and fewer than 1 per cent of airline employees arrive by rail.

MC discusses that there is poor public transport provision to and from Birmingham and East Midlands airports early in the morning and late in the evening, especially for business travellers making day return journeys.

WG notes how their surface access strategies "highlight the issue of congestion, lack of capacity and roads being unfit for use as part of a strategic freight network for international gateway traffic". In particular, an increase in HGV traffic and a slow growth in modal shift to rail freight, as well as the growth of cruise and leisure markets in the region, has increased pressure on roads within the Western Gateway region.

2.4.1.4 Airport Capacity

TfSE notes a requirement for additional airport capacity in the South-East region, with both Heathrow and Gatwick airports operating close to maximum capacity. "By the mid-2030s, all major airports in the South-East are expected to be "full", which could place the UK's status as a major international hub at risk".

MC discusses that the airport capacity constraints for airports in the London and South-East area may lead to a proportion of passengers choosing to fly from the Midlands airports instead. Whilst this may provide an uplift to Midlands's airports, this may increase the surface access issues which have already been identified.

TfN mentions that the growth envisioned for the airports in the TfN region means that many will require infrastructure improvements, either to enable long-haul operations or additional terminal capacity.

2.4.1.5 Rail Capacity

TE notes that rail access to and from the Port of Felixstowe is at capacity despite some recent enhancements, which is a constraint to the growth of the port. This may also have impacts going forward on the success and effectiveness of Freeport East.

The report for TfSE notes that the planned expansion of airports in the region will also require improvements to rail capacity in order to accommodate passenger and freight growth going forward.

Rail Capacity is considered a key transport challenge in the WG port access study and is a key challenge for several ports in the region (including Weymouth, Portland and Poole) as well as several airports including Bournemouth, Southampton and Bristol.

2.4.2 Initiatives

The review of freight strategies identified several initiatives that can help international gateways to operate more efficiently going forward. Some of the key recurring initiatives identified were:

2.4.2.1 Freeports

TE notes how Freeport East (incorporating Felixstowe and Harwich) can help to drive demand post Brexit, with a faster customs experience as well as expansion of manufacturing and logistics.

WG suggests that freeports can have several benefits including helping to reduce the costs of trade and creating a more attractive business investment environment.

2.4.2.2 High Speed 2

MC notes that once Phase 1 of the High Speed 2 (HS2) rail link is complete, it can reduce travel times to airports in the Midlands from London. Once Phase 2 is complete, this will also reduce journey times from other locations, such as Manchester and to Birmingham Airport.

TfN suggests that HS2, alongside Northern Powerhouse Rail improvements, will help to bring more areas within two hours of Manchester Airport. This will help expand the catchment of the airport, both within the north and also further afield.

2.4.2.3 Short Sea Shipping

TE notes that domestic short sea shipping can be used as an alternative to road transport. This in turn can help to improve surface access to international gateways through reducing rail congestion.

TfSE discusses that short sea shipping is an option to redistribute port traffic throughout the UK, especially where the highway network is inadequate, and the network is operating inefficiently with high levels of congestion and delay.

TfN notes that short sea shipping routes can help ensure that imported and exported goods remain on land-based transport for as little time as possible.

NH emphasises that short sea shipping is an effective way to relieve congestion on the SRN where there is limited opportunity for the significant movement of freight by rail. This role remains limited to certain commodity types.

2.4.2.4 Digitalisation and Digital Technologies

TE notes that digital signalling will help to benefit rail freight flows and facilitate surface access improvements to London Gateway port. More generally, the report notes that digital connectivity is a key enabler of effective international gateway growth.

WG discusses that digitalisation and technological connectivity can improve the efficiency of ports, including by using real time data as well as vehicle to vehicle and vehicle to infrastructure communication.

TfN references how utilising digital capabilities within the TfN region can help support growth in international gateways, as well as help existing infrastructure operate as efficiently as possible and support wider capabilities in the region.

2.4.2.5 Progression towards Net Zero (inc Modal Shift)

TE notes that there is a need for airport operators to both decarbonise surface access to airports as well as the air side operations, including service vehicles. It notes that Stansted Airport is aiming to achieve net zero carbon by no later than 2038 with a transition to a fleet of ultra-low emission vehicles by 2030.

WG notes that modal shift to rail as a form of surface access to ports in the region, including the Port of Poole, will help to support meeting net zero emissions targets, and help to address issues around congestion, resilience and road capacity.

TfN describes how research has been commissioned into helping understand the carbon impact of moving freight on sea and rail routes in order to help maximise the opportunity to move freight with a reduced carbon footprint.

2.5 Non-STB document review

Similar to that done for STBs, documents from other bodies including NH and the DfT were reviewed to identify key issues affecting the area and the resulting initiatives identified as part of the reviews. It is important to note that, these are national documents rather than regional documents.

The documents reviewed as part of this process were:

- Department for Transport – Union Connectivity Review (Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1036027/union-connectivity-review-final-report.pdf)
- National Highways – International Gateways and the Strategic Road Network (Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600269/SEGP_-_Underpinning_Report_-_International_gateways_and_the_SRN.pdf)
- Department for Transport – Transport Infrastructure for our global future; A Study of England's Port Connectivity (Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/710030/transport-infrastructure-global-future-a-study-england-port-connectivity.pdf)
- Department for Transport - Aviation 2050 The future of UK aviation (Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/769695/aviation-2050-web.pdf)

2.5.1 Issues

Similar to those documents for STBs, the documents listed above discussed several key issues relating to their international gateways. These key issues are discussed in more detail below.

2.5.1.1 Congestion

The Union Connectivity review discusses congestion on several corridors that link international gateways across the UK. This includes roads linking gateways in Wales and Scotland.

The NH 'International gateways and the strategic road network' document notes that congestion at points on the network further away from gateways can be as significant as the performance of the network located immediately adjacent to the gateway. Additionally, the report notes that particular issues of congestion are experienced at gateways located closer to urban conurbations where road space may be shared more with other users.

The DfT Port Connectivity study noted that there needs to be a greater recognition of the cost of congestion to the supply chain overall, and the subsequent knock-on effects to the rest of the economy and international gateways.

2.5.1.2 Constrained Growth

The International Gateways and the SRN report references that connectivity issues were cited as a growth constraint at several locations, which impacts gateway users as well as the overall efficient operation of gateway related activities.

The DfT Port Connectivity study notes that connectivity issues at smaller ports can constrain the economic benefits for the surrounding areas as a whole. It also notes that connections in more remote locations can constrain port success.

The Aviation 2050 consultation reports how additional growth in passenger demand at airports may have a knock-on effect regarding slot allocation and the ability to effectively mitigate minor delays.

2.5.1.3 Environmental Issues

The Union Connectivity Review notes that there is a need for individuals, including those travelling to and from international gateways, to adopt more environmentally sustainable travel choices and adopt a "cultural shift in thinking" to help the natural environment.

The Aviation 2050 report includes the need for environmental issues, including those relating to emissions as well as noise and air quality, to be met in the context of airport expansion and a potential increase in airports as international gateways.

The International Gateways review discusses a potential expansion of Heathrow Airport, in the form of a third runway, which will require £3.6 billion in community compensation and environmental mitigation.

Worthy of note is the importance to acknowledge the potential conflicts of interest regarding plans for ports enhancement and expansion and wider environmental concerns. This is the case for the Port of Plymouth expansion plans and the need for dredging activities which will have adverse impacts on the environment. It is thus necessary to reconcile growth and environmental considerations.

2.5.1.4 Alternative/Diversionary routes to and from International Gateways

The International Gateways and the SRN report discusses that the availability of alternative routes to and from gateways when incidents occur is “as important as the quality of the ‘last mile’ network”.

The DfT Port Connectivity study discusses how the need for resilient and suitable diversionary routes to and from key gateways is a key priority.

The Union Connectivity review also reports how a lack of viable diversion routes for key links to international gateways, especially in Wales and Scotland, can lead to the risk of long diversions in the event of a closure. For example, the report notes that “this results in reduced reliability for freight and passenger traffic travelling to and from the ports of Cairnryan”.

2.5.2 Initiatives

The review of freight strategies identified several initiatives that can help international gateways to operate more efficiently going forward. Some of the key recurring initiatives identified were:

2.5.2.1 Big Data

The Port Connectivity Review discusses how there is a need to consider how big data and smart technology can be utilised in supply chains, including for routes to and from ports and other international gateways.

Aviation 2050 references how improvements in data sharing and acquisition of new data sources can help airports to grow, implement new routes and improve the overall passenger experience at airports.

The Union Connectivity review notes how data sharing and using high quality data is important for managing capacity and enabling a base for effective policy decisions to be made, including those concerning international gateways and routes to and from these nodes.

2.5.2.2 Modal Shift

The Union Connectivity review notes potential for modal shift on key routes, including those to and from international gateways, to reduce congestion on road networks to and from gateways as well as helping combat climate change.

The DfT Port Connectivity study specifically mentions modal shift in relation to routes to and from ports, in particular modal shift from HGVs to rail, to reduce road congestion on key strategic corridors.

It is worth noting that a large part of UK imported goods is increasingly related to the energy supply which could be transferred through pipes and cables avoiding the transport network all together and taking pressure off it entirely.

2.5.2.3 Addressing Skills and Knowledge Gaps

The Union Connectivity review notes how developing skills is one of the UK government’s three pillars of growth, ensuring that sectors including international gateways can have access to skilled labour.

The International Gateways and the SRN report discusses how some developments at international gateways are helping to develop skills, such as the up-skilling of 1,900 local employees at Green Port Hull.

The Port Connectivity study references how clustering of activities around ports can offer the potential for innovation and skills growth, for example in manufacturing, clean energy and logistics.

Aviation 2050 discusses how the UK Government and the aviation sector are looking to ensure that key skills such as airport operation, engineering and master planning are maintained, whilst also monitoring the changing nature of the sector and an evolution in the nature of roles at airports as technological advances continue.

Worthy of note is the recent disruption at various airports across the UK in 2022 where a shortage of personnel in many departments including ground staff, cabin staff, security and check-in staff has had serious effects on airport delays and flight cancellations. This practically illustrates the concern mentioned in the literature.

2.5.2.4 Financial Support for Schemes

The Port Connectivity study discusses that there will be increased coverage in major infrastructure investment decisions, including looking at ways of introducing more private financing and funding opportunities for enhancements to gateways and routes to and from these.

The Union Connectivity review references that the UK's exit from the European Union provides an opportunity to use the financial contributions that were made to the Trans-European Network – Transport (TEN-T) to provide a network that can better link the whole of the UK, including connections to international gateways.

Aviation 2050 also includes several instances where financial support may be available to airports including support for tacking climate change, undertaking airspace change proposals and providing 'start-up aid' for certain routes where needed.

2.6 Section Summary

The review of these documents relating to international gateways has brought to attention some issues faced by different bodies, as well as initiatives that can be implemented. Many of these issues and solutions are applicable to the South West given the diverse nature of the region. The Western Gateway Review of Multi-modal Access to Ports and Airports has some further insight into direct impacts for the South West region. When developing the interventions as part of this study, it is important that consideration is given to the needs of the region and consider key objectives.

3. A South-West Perspective

3.1 Introduction

This section outlines the main international gateways across the region and provides a comprehensive, granular assessment of the main ports and airports, in a dashboard format, across the region. This aims to set the tone for the rest of the study and is based on the collation of both primary and secondary data.

3.2 The International Gateways

A decision was taken to focus on what were deemed to be the most significant and recognisable international gateways for the purpose of the study. This came to represent a collection of airports and ports, as illustrated in Table 2, which was informed through stakeholder consultation and the assessment of international gateways in similar studies ((* Referenced in this study – see above description)

Figure 6). Those marked with an asterisk are mentioned and 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 (* Referenced in this study – see above description)

Figure 5 The South West covers a large geography (Author 2022)

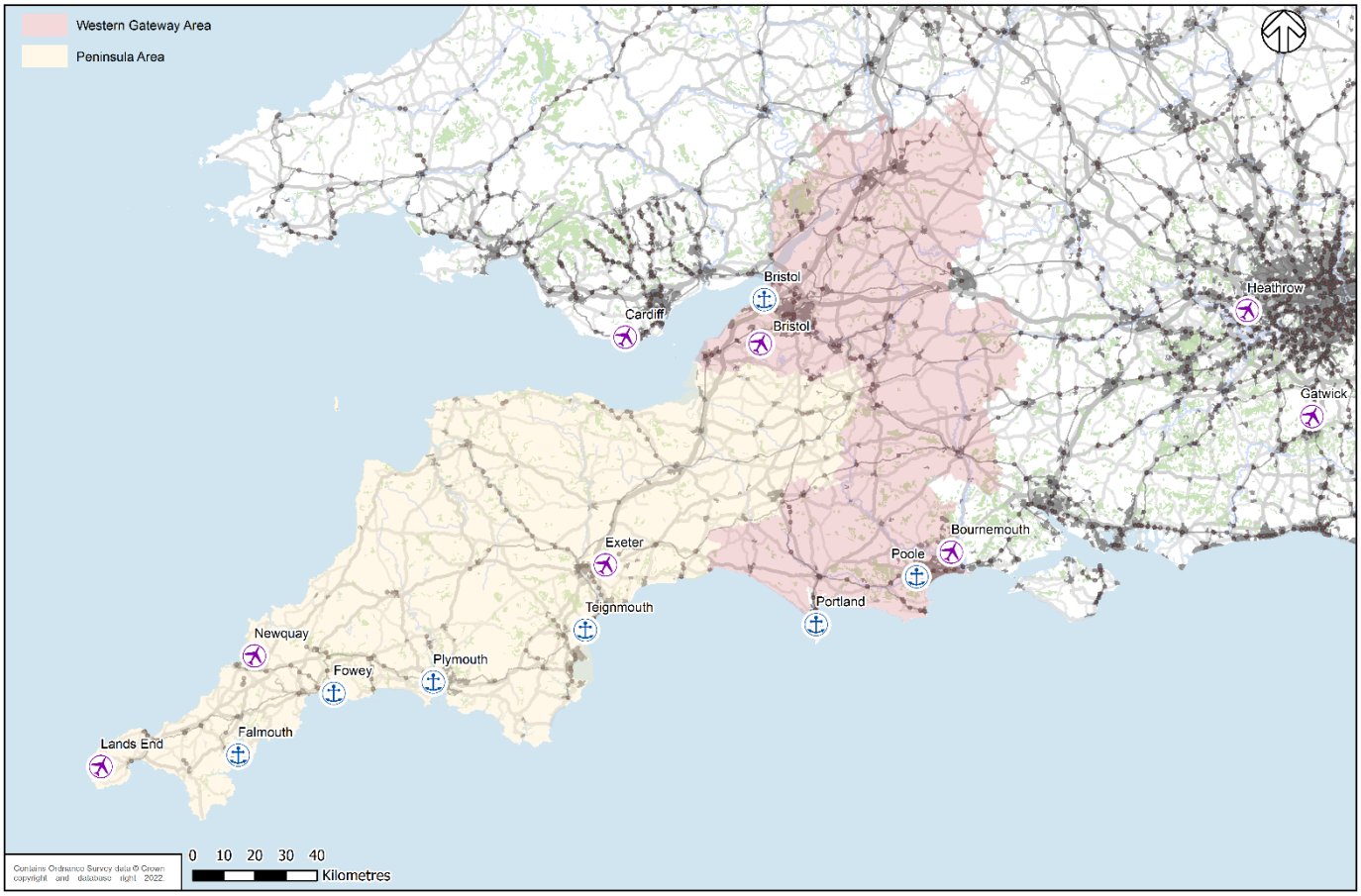


Figure 6 International Gateways in main focus for the study (Author, 2022)

The 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 of England should therefore be viewed as complementary to other UK gateways with a distinctive offer that supports the region's economic and natural geography.

At a high level, airports in the South West are heavily geared towards serving the regional economy and have strong connections with EU markets for moving goods (pharmaceuticals, transport equipment, mail and parcels) and passengers (with short haul scheduled and chartered flights to the continent being a mainstay). Ports across the region are close to major global shipping lanes (the English Channel) with strong EU trading links and routes for goods (such as minerals, aggregates, animal feed and liquid bulk fuels) and people (which is limited to Spain and France via short sea crossings and itinerary stops and turnarounds for cruise ships). New trade arrangements, commodity flows (e.g. automotive) and passenger markets (e.g. blue tourism) are also driving future connections with other continents whilst also redefining existing relationships between suppliers, providers and consumers.

It is important to stress the role of international gateways as being key to supporting supply chain and passenger movements at a strategic level for aiding wider economic prosperity as well as their fundamental, growing role as major employment centres that foster economic agglomeration on site and within their immediate hinterland. Whilst the region has several airports and ports of significant importance for economic activity, a high proportion of goods and passenger flows derive or seek to pass through established, larger and well-connected international gateways outside the region.

3.3 Port Dashboards

A set of 'dashboards' have been developed to profile each port, including the volume and type of goods conveyed through each port site and the scale of passenger services offered in each instance. This includes bringing together secondary information (providing the most recent, consistent data available) and supplementing this with primary data, namely stakeholder feedback, to provide a high-level overview of port and airport activities. The dashboards also include a SWOT analysis based again on information available within the public domain and stakeholder feedback. The 'future developments' and 'significance and expansion plan' sections for port and airport dashboards, also attempt to highlight known activities that are ongoing.

3.3.1 Port of Bristol

Gateway	Bristol	Type	Port	County	Bristol
Operator	Bristol Port Company	Size	2,400 acres	Employees	550 (Direct)

The Bristol Port Company was formed in 1991 when entrepreneurs purchased the Port of Bristol from Bristol City Council. Since privatisation the Port has developed with over £600M of private investment and is a modern business offering the full range of shipping, distribution, and logistics services. Bristol is the South West's only deep seaport with direct motorway and rail access from the port to the strategic road and rail networks.

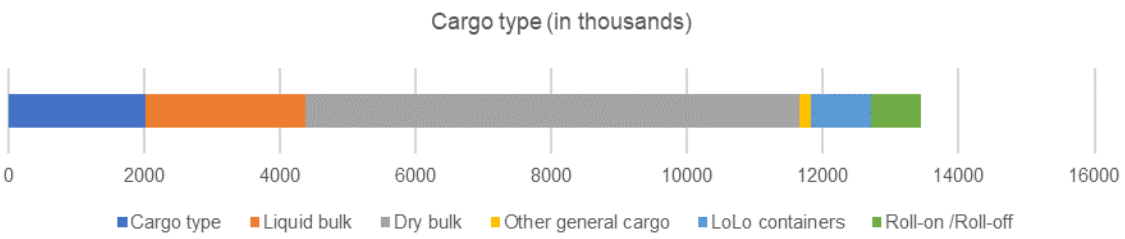
Bristol Port's position enables rapid connections to the commercial and consumer markets in the Midlands, London and South East in addition to South Wales and the South West. The dock estate is more than 2,400 acres with significant areas of open- and covered-storage. The port also has a critically important role in redevelopment of the South West's largest industrial centre and can reinforce that role through growth of new port facilities, as recognised in regional and local economic planning strategies. In total, the port employs *circa* 550 people directly with over 12,000 employed within the Dock Estate and a recent Oxford Economics' Study identifying that more than 22,000 people are dependent upon Bristol Port for their employment.

Freight Markets	Tonnage (2019)	8,190,000 (DfT)			Emerging Markets
Dry Bulk (Import/Export)	Aggregates (Import/Export)	Animal Feed (Import)	Grain (Import)	Wood Pellets (Import)	Minerals (Export)
EVs (Export)					
Automotive (Import/Export)	Steel/Metals (Import/Export)	Containers (Intermodal) (Import/Export)	Project cargoes (Import/Export)	Muster Port (Import/Export)	Jet Fuel (& other liquid fuels)
Cruise (Turnaround/ Transit)					

Description	Bristol Port is experienced in the handling of an eclectic range of cargoes with associated on-dock provision of storage and distribution for all inbound and outbound cargoes. **Royal Portbury Dock (RPD):** Able to handle vessels up to 130,000 dwt. 2 No. 350m long berths with 3 No. gantry cranes for containers, forest products and project cargo. 2 No. 350m long berths for vehicle import and export. 2 No. 350m long berths for bulk with 2 No. gantry cranes and grain loading equipment. 1 No. berth for jet fuel imports. Warehousing and appropriate storage available for all cargoes including grain and animal feed. RPD is dealing with increasing cruise calls both transit and turn-around. **Avonmouth:** Able to accommodate vessels up to 40,000 dwt. Multiple berths dealing with a wide variety of cargoes such as aggregate, animal feed, grain, wood pellets, minerals, project cargo and petroleum (diesel, petrol, jet fuel, etc).

Port & Industry Operations	This is what takes place on site or/and the immediate hinterlands		
Automotive (Storage)	Warehousing	Containers	The port is also a Muster Port for EDFs Hinkley C Connection Project and supporting coastal shipping down towards North Somerset to fulfil this obligation. Oil and aviation (jet) fuels are also received and transported to other international gateways, including Bristol Airport via underground pipelines.

Port cargo composition (2013-14)[10]



[10] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600269/SEGP_-_Underpinning_Report_-_International_gateways_and_the_SRN.pdf

<table>
<tr><td>Description</td><td colspan="4">The Port of Bristol serves several freight markets with strong links to the national, regional and local economy. The import and export of motor vehicles is one of the most important trades of the Port.
Automotive - There are now over 500 acres of open storage available for vehicles. More than 550,000 (down from 800,000 pre-Covid) vehicles per annum are handled by a permanently employed, highly trained work force. JLR, BMW, Vauxhall & Toyota are UK-built cars that are exported from Bristol Port. EVs are an increasingly significant proportion of the Port's vehicle numbers.
Warehousing - Bristol Port has over 2 million square feet of efficient and secure warehousing within the secure dock estate.
Containers - Bristol Port has two container terminals (Portbury and Avonmouth) which allows for extensive connectivity and efficient container handling.</td></tr>
<tr><td>Connections</td><td>Road Link</td><td>M5(& M4)/M49/A4</td><td>Rail Link</td><td>Severn Beach line for passengers
Avonmouth Dock directly linked with twin-tracks to Parkway junction
Royal Portbury Dock directly linked to Temple Meads</td></tr>
<tr><td>Rail Services</td><td colspan="4">GWR – Bristol Temple Meads to Avonmouth/St Andrews Road (Severn Beach Line) (Every 30min Monday-Saturday & Hourly Sunday) and Royal Portbury Docks.</td></tr>
<tr><td>Bus Services</td><td colspan="4">First Bus - Service 'Port' (Every 20 mins Monday-Saturday and half-hourly on Sunday). This primarily caters for employees as well as the local population.</td></tr>
<tr><td colspan="5">For people, Bristol Port can either be accessed from Bristol city centre via the A4 or via the M5 junction 18 (accessed from both directions). From Bristol, head to Avonmouth on the A4 Portway. Continue past Portway Park & Ride and follow signs for 'Avonmouth & Docks'. From the M5, leave the motorway at junction 18 and follows signs for 'Avonmouth & Docks' (A4).</td></tr>
<tr><td>Investment Timeline</td><td colspan="4">1887 - 2022</td></tr>
<tr><td colspan="5">1877 - Three entrepreneurial businessmen decided to build a new dock outside Bristol City centre at the mouth of the River Avon to handle large vessels as the challenges with the approach to the City Centre Docks become increasingly challenging.
1960s - Vessels around the world were getting larger and containerisation was taking hold. Avonmouth Dock struggled to cope with the demand and therefore Bristol City Council devised plans to build a new dock.
1977 - Bristol port was expanded when Royal Portbury Dock (RPD) was built and officially opened during 1977 (100 years after the opening of Avonmouth Dock. This was to accomodate vessels of increasing size due to the expansion of containerisation.
1991 - Privatisation of the port occured when Terence Mordaunt and David Ord purchased the business in 1991. The port has since been transformed with over £600 million worth of investment
Present day - Bristol City Council continues to benefit from the business within the port by receiving dividends from the profits each year as well as the economic benefit of having the stimulus of one of the UK's major ports here.</td></tr>
<tr><td colspan="5">Future developments</td></tr>
<tr><td colspan="5">• The consented Bristol Deep Sea Container Terminal (DSCT) will bring the largest container vessels closer to the UK market by constructing three 18m deep 400m berths.[11]
• Bristol Port plays an important role in the redevelopment of the largest industrial centre in the Southwest and will be strengthened through the growth of new port facilities, as recognised by regional and local economic planning strategies.[12]
• The port is working as part of a consortium on 5G Logistics to enhance operational efficiency and productivity for the sector, including a focus on security, traceability and road traffic management within the vicinity of the port.[13]
• The Port is looking to provide production and fabrication facilities to serve the floating offshore wind developments proposed for the Celtic Sea.
• Bristol Port is a founding member of Hydrogen Southwest and looking to import, produce, use and distribute this fuel and is actively working towards Net Zero for its operations by 2040.</td></tr>
<tr><td colspan="5">SWOT Analysis</td></tr>
<tr><td>Strengths</td><td colspan="4"></td></tr>
</table>

[11] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600269/SEGP_-_Underpinning_Report_-_International_gateways_and_the_SRN.pdf
[12] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600269/SEGP_-_Underpinning_Report_-_International_gateways_and_the_SRN.pdf
[13] https://www.westofengland-ca.gov.uk/what-we-do/innovation/5g-logistics/

- Bristol Port has direct motorway access to M4, M5 and M49 providing good, high-quality connectivity to London, Birmingham, Manchester, and South Wales.
- Direct rail connectivity from both Avonmouth and Royal Portbury Docks. Bristol Port is one of only a few ports in the UK with direct rail access and the only one in the South-West.
- Proximity to markets - 67% of the UK population (45 million people) is within 250km of Bristol Port and this is efficient for freight movements.
- The Port's commitment to the environment is demonstrated through an ongoing programme of conservation projects which have achieved major improvements in the local environment over the past 3 decades. Over 1/3 of the Port's electricity is provided by three wind turbines.

Weaknesses

- Market conditions mean that Bristol Port relies upon road transport for most freight movements given the cost of the rail alternative. Congestion on the M5 can be a challenge for freight movements though this is generally limited to the Friday peak during summer weekends.
- Bristol Port has two intermodal facilities: one at Portbury and one at Avonmouth, neither are served by suitable rail loading gauges on key corridors to compete with some other ports such as Southampton, London Gateway and Felixstowe. This also includes movements deeper into the South West region.

Opportunities

- The Avonmouth Severnside Enterprise area has grown in recent years due to its proximity to motorways (adjacent to the M4/M5 and M49 junction), mainline rail connections and a skilled workforce within the area (mainly the populations of Bristol, Bath and South Wales). This has enabled the scaling up of port centric and logistical operations.
- The port, which is already a major employer with more than 22,000 jobs directly or indirectly dependent on port-based businesses, will create further employment opportunities as new facilities and expansion takes place.
- The move towards smart port technology will help to drive efficiencies and enable the port to compete with others across the UK who are investigating similar pathways.
- Rail connectivity, in particular gauge clearance for containers, will be important for the Port of Bristol.

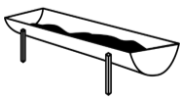
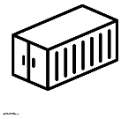
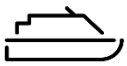
Threats

- Ports such as Bristol that serve the automotive industry are witnessing fewer vehicles moving through the port due to the semiconductor shortage experienced globally. This has affected the production of vehicles with some UK manufacturers being forced to close their premises as a consequence. But this is a temporary occurrence.

3.3.2 Port of Plymouth

Gateway	Plymouth	**Type**	Port	**County**	Devon
Operator(s)	Multiple	**Size**	750 acres	**Employees**	Approx.15,000

The 'Dockyard Port of Plymouth' is located between the mouths of the rivers Plym to the east and Tamar to the west. Port operations consist of two main elements: the Royal Navy and Ministry of Defence (MoD) facilities in Devonport and commercial port activities primarily taking place in Millbay (ABP), Cattewater and Sutton Harbour. Devonport is the largest naval base in Western Europe, covering more than 650 acres. The Queen's Harbour Master has statutory control and manages the vessel traffic for the entire port.

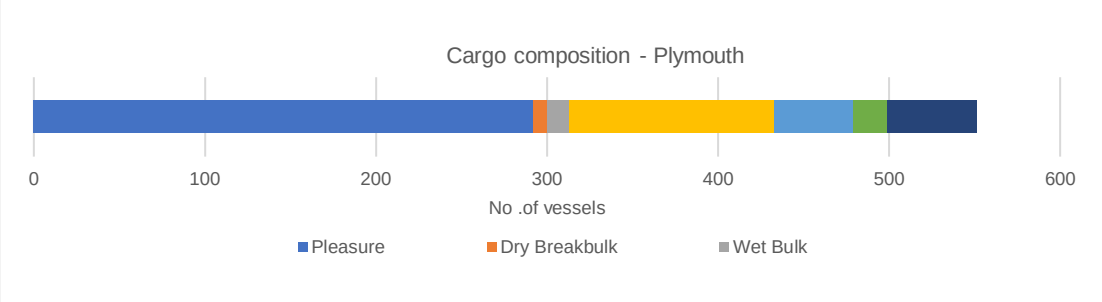
Freight Markets	Tonnage (2018)	2.441m (DfT)				
 Petroleum (Import)	 Animal Feed (Import)	 Clay (Export)	 Aggregates (Export)	 Fish (Export)	 Bulk Fertilisers (Import)	 Containers (Import)
Description	The commercial terminals at Cattedown, Victoria, Corporation and Turnchapel wharves handle a variety of cargo. Cattedown Wharves predominately handles bulk liquid products (i.e. petroleum tankers). A variety of dry cargo vessels call at Victoria Wharf to discharge and load salt, clay, fertiliser and wood chips. Corporation Wharf is the cement terminal for Plymouth. Sutton Harbour is where vessels land the fish they have caught. Millbay is predominantly a ferry hub but also handles an array of industrial cargoes (high value/small goods). Underpinning the successful Freeport bid is the aim to build on Plymouth's marine innovation strengths and historic reputation as the 'ocean' city.					
Passenger Markets		People (2018)	432,000 (DfT)	Berths/Docks	1	
 Continental & Local Ferries (Timetable)	Brittany Ferries operates two services out of ABP's terminal in Millbay: • Pont-Aven Ferry (Plymouth-Santander), two round trips per week • Armorique Ferry (Plymouth-Roscoff), daily round trips Local ferries run on seasonal timetables: • Plymouth Boat Trips – Cremyll Ferry, every 30 minutes, 8-minute duration • Plymouth Boat Trips – Cawsand Ferry, summer only, every 90 minutes between 9AM and 5PM • Plymouth Boat Trips – Barbican, RWY and Mt Edgcumbe Ferry, every 90 minutes between 9.30AM and 5.00PM • Mount Batten Ferry (Barbican-Mount Batten), every 30 minutes, daytime only					

Cruise Services (Itinerary)	The Port of Plymouth caters for passenger cruises with the landing facilities and ship berth in the Millbay terminal (vessels up to 220m) and are actively encouraging larger vessels to anchor at three anchorages in the Sound. The port is less than a mile from Plymouth centre and therefore gives easy access for a day visit to the city. After the pandemic, seven cruise ships visited Plymouth in 2021 and at least nine are calling in 2022. The Visitor Plan 2020 to 2030 sets out a key objective to increase capacity for cruise ships and will be achieved through the development of a second smaller berth facility at Trinity Pier. There are plans for investing in the port to cater for super ferries of the future; providing there is sufficient traffic and perceptions change through marketing.

Port & Industry Operations	This is what takes place on site or/and the immediate hinterlands

Dockyard Services (Babcock International)	Yacht Builders (Princess Yachts Ltd)	Fuel (Greenergy)	Cargo Handling (Victoria Group)	Quays Storage (Victoria Group)	Maritime Innovation (Oceansgate)	

Port cargo composition (5th July-25th June 2022)[14]



Description	Devonport is home to the largest naval base in Western Europe, yacht manufacturer Princess Yachts and a diverse range of local companies under the auspices of the Oceansgate Enterprise Zone. Oceansgate on South Yard together with Turnchapel Wharf on the Cattewater are hubs for marine industries, R&D and innovation. Most of the West Country's fuel comes through Cattedown and Mayflower tank farm facilities for Greenergy. Victoria Wharf handles and stores most of the port's dry cargo. Sutton Harbour primarily caters for the local fish industry and has been development around waterside recreation and leisure activities.			
Connections	Road Link	A38 & A374	Rail Link	Devonport (Passenger)
Rail Services	GWR – Penzance to Plymouth Branch Line (hourly). Plymouth's central railway station is less than a mile (1.6km) from the port entrance and has regular services to Bristol, Birmingham and London.			
Bus Services	Services 14, 34, 25 and 48 pass through the various port areas			

The Port of Plymouth (Millbay/Devonport, Cattewater) can be accessed by the A38 and A374 for private vehicles and HGV movements servicing the port environment and for passengers seeking to access the terminal facilities. This requires navigating through the city and mixing with local traffic travelling between the centre and the A38 (SRN).

Investment Timeline	2007 - 2021

2007 - Babcock International buys Plymouth's Devonport naval dockyard from Devonport Management Limited.

2008 - Greenergy acquires Plymouth's fuel terminal and starts a five year regeneration programme.

2009 - Princess Yachts acquires a 15 acre site .at South Yard to commence the construction of a new range of large yachts

2012 - The Coastal, Ocean and Sediment Transport (COAST) laboratory, housed in the Marine Building at the University of Plymouth opens to provide access to test facilities and attract academic and commercial research. projects

2021 - The second phase of Oceansgate, the first marine enterprise zone in the UK, is completed. Plymouth successfully wins Freeport status.

Future developments

[14] https://www.marinetraffic.com/en/ais/details/ports/429?name=PLYMOUTH&country=United-Kingdom

- Plymouth City Council are drawing together a package of 'transformational' infrastructure projects under the Levelling Up Fund to unlock the opportunity presented by the areas freeport status. This includes the Oceangate innovation centre (at the South Yard), upgrading port access infrastructure (to meet export demand) and to create high value jobs through repurposing waterfront buildings and the development of a mobility hub.
- At proposed plans include improvements include more border control booths and better traffic management to allow swifter boarding and disembarking for goods and passenger traffic (making the former more appealing for hauliers). A new passenger boarding bridge and modernising the terminal building are also part of the bid.
- The redevelopment of Devonport Dockyard into a maintenance centre for new nuclear submarines (Devonport's 10 Dock) is the first part of a £2bn overhaul of facilities at the UK's largest dockyard. This supports the Astute programme and will help deliver local jobs.

SWOT Analysis

Strengths

- Well established and diverse port environment with established infrastructure and a natural clustering of associated businesses and industries; including naval, boat building, R&D, fish market, marine services
- Relatively deep water & natural harbour to accommodate the largest vessels for freight and passenger movements, especially as vessels extend in size and weight across the industry.
- Devonport and naval heritage help to define Plymouth both domestically and internationally. This is also a major selling point for the city.
- Major centre for higher education and research and development in the marine sector (Oceansgate, Marine Business Technology Centre (MBTC))

Weaknesses

- Access by road from the A38 is poor and causes delay in freight turnaround times, especially for the Devonport end as the city centre lies right in between the dockyard and the A38.
- HGV parking needs to be incorporated into new freeport designation and matched against growing HGV flows.
- Limited water depth at low tide and navigational constraints prevents larger vessels from using the port.
- Limited by its peripherality, it serves largely local and regional commercial markets.
- Limited mix of cargos - no regular container services and heavily dependent on liquid bulk oil.
- Low level of exports and outward traffic.
- Rail – restricted mainline loading gauge - limited rail freight facilities, sidings truncated so don't serve all of the Port.
- Congestion on the surround highway network, including the A38, with significant planned development in the area adding to the pressures.

Opportunities

- Plymouth has become a Freeport unlocking million pounds of funding for the area. Three key sites in and around Plymouth will form part of the Freeport: South Yard will be developed as a tax site and will include a new innovation centre, a mobility hub and new factory developments, Langage will be developed as a tax site with a customs zone and industrial units for high-value marine, defence and space engineering and manufacturing and a logistics hub with a tax and customs boundary with warehousing storage and engineering space at Sherford.
- There is a long-term opportunity for the port to service the renewable energy sector in its different guises; especially developing further innovations for floating offshore wind turbines.
- The Crown Estate is releasing 4GH of sea-bed estate by 2035 to accelerate offshore wind power (especially in light of the energy crisis).
- Work has begun on the £80million transformation of Plymouth's main railway station into a modern transport hub with shops and offices. Land at the Railway Station is allocated for a mixed-use regeneration scheme that delivers a high-quality gateway and arrival point to the city and increases the capacity of the station to accommodate increasing numbers of passengers.
- The cruise market is another growth opportunity and with ABP's plans to develop a second berth at Trinity Pier to expands Millbay's capacity the building blocks are being laid. This includes new 'super' ferries to Africa.
- The refurbishment of Devonport Dockyards represents an opportunity to help develop local supply chains and also explore coastal shipping for the movement of bulky materials to and from site.
- Enhanced signage and wayfinding alongside enhancements to the visual amenity around Millbay are aligned with improvements to city centre upgrades due to take place to improve the first & last mile for passengers.

Threats

- Competition for cruise and renewable energy sector (Falmouth).
- No current 'live' plans to re-instate Cattewater rail access which may limit the potential for modal shift from road to rail. This could be addressed by conducting a feasibility study.
- European Marine Site designation requires any development to ensure no significant environmental impact.
- Funding gaps can delay or halt the infrastructure development.
- There are concerns that inflation, energy costs and interest rate increases will have implications on Plymouth Fisheries (Englands second largest fish market) which operates out of Sutton Harbour
- With aspired growth comes the need for Millbay to provide laydown space for unaccompanied trailers. This may be satisfied through land within the freeport designation inland.

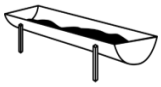
3.3.3 Port of Falmouth

Gateway	Falmouth	**Type**	Port	**County**	Cornwall

Operator	A&P (FDEC)	**Size**	30 hectares	**Employees**	17 Tenants

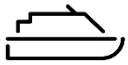
The Port of Falmouth is located within the Fal Estuary, the third deepest natural harbour in the world. Falmouth Docks and Engineering Company (FDEC), part of the A&P Group are the statutory port authority with responsibility for the docks and working closely alongside Falmouth Harbour Commissioners, the trust port overseeing the inner harbour up the Penryn River (as far as Boyers Cellars), the southern part of Carrick Roads and a large part of Falmouth Bay. Falmouth is the westernmost port of its size and scale on the British mainland and a strategic location for vessels entering or exiting the transatlantic sea and English Channel.

Freight Markets	Tonnage (2018)	152,000 (DfT)	Emerging Markets

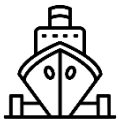
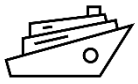
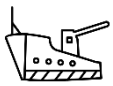
 Bulk Fertilisers (Import)	 Animal Feed (Import)	 Recyclables (Export)	 Aggregates (Export)	 Biomass (Export)	 Renewables (Import)	 LNG (Import)

Description	The Port of Falmouth serves a small number of freight markets with strong links to the local economy. Imports of goods primarily serve the large agricultural sector in the region whilst the port is a key component on Cornwall's sustainable waste management supply chain moving glass and similar materials to mainland Europe. There are also emerging market areas namely the movement of aggregates from local quarries for coastal shipping and pilot initiatives for floating offshore windfarm infrastructure in the Celtic Sea/English Channel.

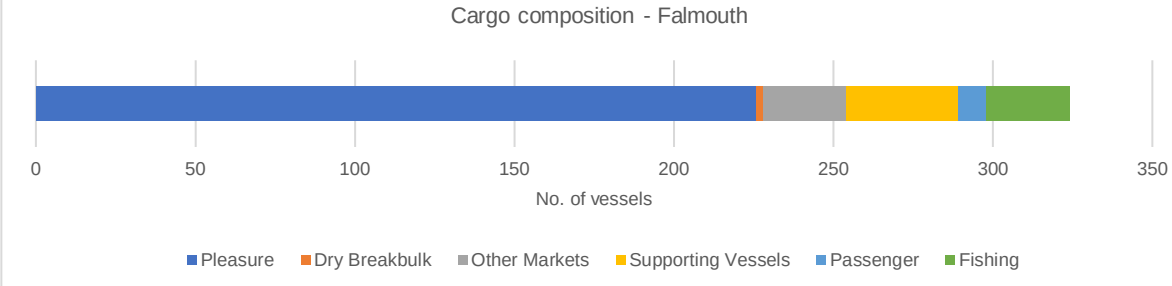
Passenger Markets	People (2018)	15,663 (DfT)	Berths/Docks	4 (Operational)

 Cruise Services (Itinerary)	The Port of Falmouth caters for passenger cruises with dedicated landing facilities and ship berths (to cater for 223-240 metre classes) within close proximity to the town. The vast majority are itinerary/transit services berthing for a day before heading to other destinations or ports, such as Dover or Southampton. Approximately 35 cruises visited per annum pre Covid. Passengers (typically with higher disposable incomes) staying and visiting the town or/and local attractions such as the Eden Project. This is growing annually; A&P, who are responsible for overseeing cruise ship operations, are also increasing turnaround activity (embarkation/disembarkation). The cruise services include: • Viking Cruises (Bergen-Barcelona) • Fred Olsen Cruises (France, Ireland and UK only Itineraries)
 Local Ferries (Estuary Trips)	The local ferry (Fal Ferries) run on seasonal timetables (seven days a week): • King Harry Ferry (Feock-Philleigh), Every 20mins, 10 min duration • St Mawes Ferry (Falmouth-St Mawes), Every 90mins, 20min duration • Enterprise Boats (Falmouth-Trelissick), Every 2hours, 50min duration • Place Ferry (St Mawes-Place), Every 2hours, 10min duration • Flushing Ferry (Falmouth-Flushing), Every 90mins, 10min duration

Port & Industry Operations	This is what takes place on site or/and the immediate hinterlands

 Vessel Repair (A&P Group)	 Yacht Builders (Pendennis Ltd)	 Fuel Bunkering (Azure Oil Services)	 Cargo Handling (A&P Group)	 Quays Storage (A&P Group)	 Towage (A&P Group)

[Port cargo composition (5th July-25th June 2022)][15]



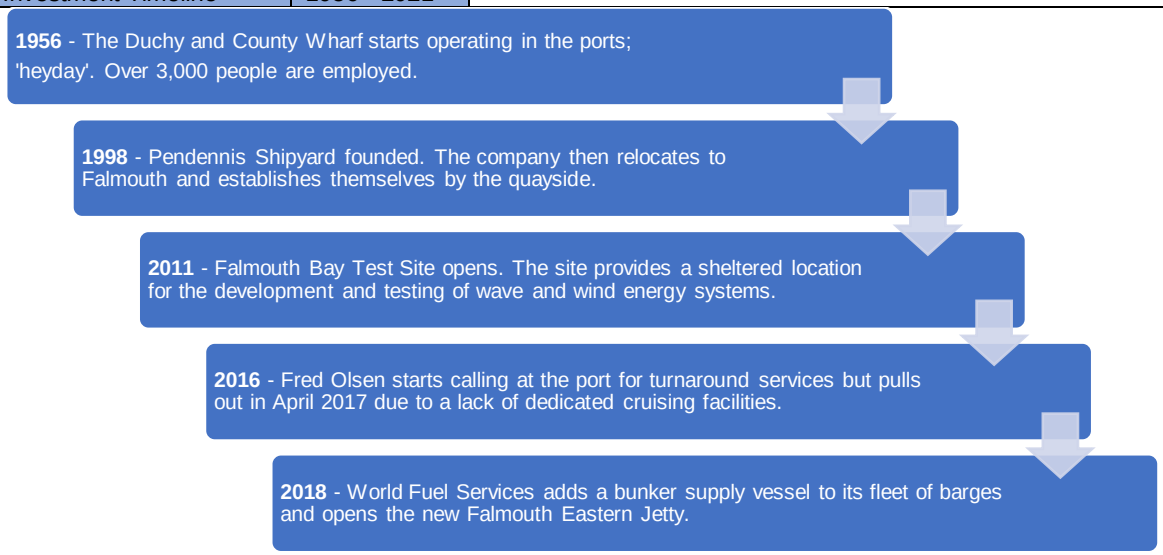
Description	The Port of Falmouth is home to the UKs largest ship repair complex and a diverse range of local companies under the auspices of the Cornwall Maritime Enterprise Zone. These provide a range of revenue and workstreams annually throughout the year and contribute towards local skills development and servicing the local economy. LNG bunkering facilities, contracted by Falmouth Petroleum Limited at the Falmouth Anchorage, serve vessels moving through the English Channel and not at quayside. South-West Water also

[15] https://www.marinetraffic.com/en/ais/details/ports/747?name=FALMOUTH&country=United-Kingdom

	have a facility on site adjacent to oil bunkering facilities and a centre of excellence has also been established to serve the Ministry of Defence contractual workstreams.			
Connections	Road Link	A39 (Melville Road)	Rail Link	Falmouth Dock (Passenger)
Rail Services	GWR - Truro to Falmouth Branch Line (Every 30min Monday-Saturday & Hourly Sunday)			
Bus Services	GoCornwall - Service 67 (Falmouth Town Centre (Hourly Monday-Saturday)			

The Port of Falmouth can be accessed by the A39 (Melville Road) for HGV movements servicing the port environment and for passengers seeking to access the terminal facility. This requires navigating through the town and mixing with local traffic travelling between quayside and the A39 north of Penryn. The port is exploring the viability of reinstating the rail link into the quayside for shifting goods from road to rail. Falmouth Dock Station (Patronage of 96,726 in 2018-2019) sits adjacent to the port site and is the terminus for the line.

Investment Timeline: 1956 - 2021



Future developments

- It is anticipated that the turnover and personnel count at the Falmouth Docks will increase by up to 80% as a result of Pendennis Shipyard's recently announced expansion of business. The provision of Superyacht-specific amenities is necessary for this expansion.[16]
- Currently, France, the Baltic, Scandinavia, and the Rotterdam region provide the majority of imported petroleum cargoes. Brazil, which is very advanced in manufacturing low/no sulphur distillates, may supply considerably more in the future. Larger ships (such as Panamax) than those currently in use would be required for this. Even though Falmouth Petroleum Ltd. had a 15,000 tonne tanker, larger ships would import petroleum from countries like Brazil.[17]
- Future dry bulk cargo volumes are not anticipated to increase significantly as a whole because they are all strongly correlated with the size of the regional economy, and the Port is anticipated to maintain its niche position.[18]
- Falmouth Harbour Commissioners have plans to expand the number of berths in Falmouth by 80.[19]

SWOT Analysis

Strengths

- Falmouth is an attractive Port because it provides deep water access to Falmouth Bay and can (in theory) accommodate the largest vessels (which are increasing in size and capacity)
- Falmouth is well placed geographically for transit (call-in) cruises, including new transatlantic markets and is only one day/night steaming away from cruise ports along the South-East of England.
- Falmouth Docks represent a unique buoyant business cluster of different sectors, such as ship repair, bunkering and yacht building; with potential to build on the enterprise zone designation.
- The port has close connections with the local economy and major sectors (agriculture, energy, waste) which are stable and growing commodity flows in the near future.

Weaknesses

- Whilst the port is plugged into the A39, traffic mixing takes place (HGVs and private vehicles) for local and strategic journeys which impacts on congestion and air quality.
- There is a need to improve first and last mile connectivity between the port and the railway station (Falmouth Docks) including enhanced wayfinding and legibility – especially to cater for future growth.
- The proximity of the port to residential areas limits growth potential and can lead to conflicts over land safeguarding and development of new technologies (e.g. LNG bunkering/Ammonium Nitrate Storage).
- Limited infrastructure and provision for embarking/disembarkment of cruise ship passengers and ability for promoting and supporting increased number of people staying and moving around the town.

Opportunities

[16] https://planforfalmouth.info/wp-content/uploads/2016/12/Falmouth-Harbour-Masterplan.pdf
[17] https://planforfalmouth.info/wp-content/uploads/2016/12/Falmouth-Harbour-Masterplan.pdf
[18] https://planforfalmouth.info/wp-content/uploads/2016/12/Falmouth-Harbour-Masterplan.pdf
[19] https://planforfalmouth.info/wp-content/uploads/2016/12/Falmouth-Harbour-Masterplan.pdf

- There is a long-term opportunity for the port to service the renewable energy sector in its different guises; especially transporting offshore wind farm materials and servicing related vessels.
- The Crown Estate is releasing 4GH of sea-bed estate by 2035 to accelerate offshore wind power development (especially in light of energy crisis), with the port helping deliver turbine parts and maintain devices.
- There are a plethora of tourist attractions within accessible distance (one hour) of the port (compared to competing ports) which would benefit from cross promotion and integrated travel offerings.
- Berth a cruise liner at the port to provide floating hospitality for the core summer season to help address accommodation shortages in Cornwall (estimate hosting 200,000 per annum). Need to consider shore power.
- Coastal shipping, using zero emission vessels, is potentially attractive for export of aggregates to other parts of the UK to remove HGV traffic on the road network (with the port potentially having a rail terminal).
- FDEC has received interest from Bulk cargo and project cargo customers to re-open the rail link into the docks (which was removed in 2014). Network Rail are interested to supporting this and commercial discussions are ongoing.
- Interest in direct sleeper rail services linked into Falmouth (Town or Dock Station) for passengers and working with Network Rail to reinstate the freight link into the port directly.
- The changes caused by Brexit and the fuel costs increases are opportunities for Falmouth to take advantage of its peninsula location in terms of proximity to shipping routes

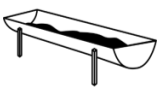
Threats

- Large parts of the Fal and Helford are designated as a SAC under the UK Habitats Regulations. This imposes strict criteria in relation to developments and requires plans to be "appropriately" assessed.
- Falmouth Docks and the surrounding seabed are known to have areas of historical contamination that require consideration when undertaking dredging and/or construction works.
- The growth of the cruise market will be increasingly constrained by the channel depths and issues with historical contamination of the seabed (when dredging) for larger vessels to enter the harbour).
- Currently the berths cannot accommodate the large class cruise vessels (340 metres) without expanding size of the berths. Peripherality always likely to be a challenge to serve wider UK markets.

3.3.4 Port of Teignmouth

Gateway	Teignmouth	**Type**	Trust Port	**County**	Devon
Operator	ABP	**Size**	7.5 Acres	**Employees**	N/A

Teignmouth is a commercial port owned and managed by ABP located on the south coast and is a hub for the construction, agriculture (agribulk) and ball clay markets. The port facility comprises of 3,000sqm of transit shed accommodation and operates from across two quays. The site features 9,300 square metres of warehousing plus a large area of quayside storage. The port can currently accommodate vessels up to 90 metres in length and up to 6.0 metres draft on the highest spring tides. There is a low level of ferry traffic and pleasure crafts using the harbour area.

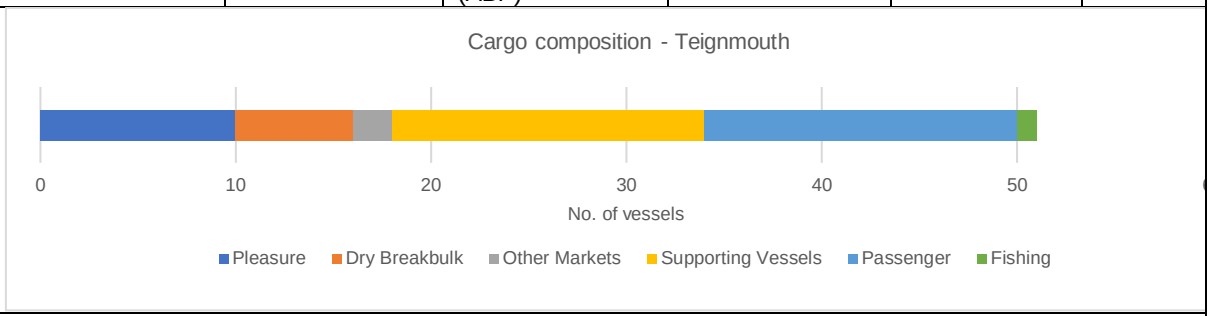
Freight Markets				Tonnage (2020)	460,000 (ABP)
 Clay Balls (Export)	 Animal Feed (Import)	 Aggregates (Import/Export)	 Furnace Slag (Import)	 Rape Seed (Import)	 Sunflower Pellets (Import)
 Grain (Import)	 Stone Chipping (Export)	 Salt (Import)	 Forest Product (Export)	Fish  Produce (Export)	 Fertiliser (Import)

Description	Teignmouth imports a variety of freight commodities ranging from furnace slag sourced from industry in South Wales, to agri-bulk materials from Northern Europe (Belgium & Netherlands) to support the local agriculture economy. The port also serves as the main gateway for the distribution of clay balls, which is mined locally and distributed to the Castellon province in Spain for the manufacturer of ceramics. Teignmouth is equipped to handle most types of cargo ranging from bulks, mini bulks to palletised, unitised and general cargo. It is estimated that the port accommodates over 700 movements annually.				
Passenger Markets		People (2018)	n/a	Berths/Docks	4 (Operational)
 Local Ferries (Estuary Trips)	The local ferry trips are listed below: • Teignmouth-Shaldon. This passenger ferry service operates all year round, but there is restricted service during the winter months. • 'We Ferry' Round Robin from Teignmouth Harbour (Teignmouth to Brixham via boat, Brixham to Paignton via boat, Paignton to Teignmouth via train). • Several pleasure crafts are moored at the port and harbour area for recreational use year-round. Teignmouth receives cruises on the very rare occasion.				

Port & Industry Operations	This is what takes place on site or/and the immediate hinterlands

Marine Electricians	Maritime Services	Cement Wharf (Hanson)	Forklifts/Handler (ABP)	Dry Bulk Storage (A&P Group)	Towage (THC)

Port cargo composition (5th July-25th June 2022)[20]



Description	Teignmouth Harbour Commission (THC) manages and maintains over 150 moorings in the harbour and estuary, which can be used at any state of the tide for boats up to 12m in overall length. THC also leases the fundus of the Teign Industry below the Mean High-Water Line from the entrance of the Stover Canal. The THC therefore allocates and licences all moorings in this area. The port will shortly be able to use permitted development rights to enhance economic opportunities in relation to existing users, including regeneration of fishing facilities at Fish Quay.			
Connections	Road Link	A381 / B3192	Rail Link	Teignmouth Station (Passenger)
Rail Services	GWR – South-West Mainline (Every 30min Monday-Saturday and Hourly on Sundays)			
Bus Services	Stagecoach - Service 2 (Newton Abbott-Exeter) & 22 (South Devon College-Dawlish Warren).			

The Port of Teignmouth is conveniently accessed by road from the Bitton Park Road/Exeter Road and is located directly adjacent to the town centre and local amenities. HGV access is also granted through the same point whilst the railway station is a short five minute walk via the town centre to access Back Beach or Polly Steps.

Investment Timeline	2015 - 2022

2015 - The port welcomed its first ever cruise, the Hebridean Islands Cruises Hebridean Princesss on a transit stop (50 passengers).

2016 - ABP invest in a new bulk storage facility alongside the purchase of a material handling crane to grow volumes moving through the port annually.

2016 - Teignmouth Harbour Commission undertakes dredging work to increase the depth of the shipping channel and allow deeper draughts.

2017 - The port celebrates an historic 4000 tonne single vessel shipment record, the heaviest in its history, in partnership with Sibelco. This was of clay for the Spanish ceramics industry. The main ball clay sites are quarried from Kingsteignton, near to Teignmouth.

2017 - The port had a record breaking year for handling tonnage since its previous peak in 2008.

Future developments

- No detail available.

SWOT Analysis

Strengths

- The port is well equipped to handle a wide variety of goods making it resilient to changes in commodity flows in the future (especially working with Plymouth, the other ABP port in the region).
- The port is very well positioned to take advantage of nearby access to the M5, direct rail services from Teignmouth to Birmingham New Street and London Paddington.
- The port has been the recent recipient of investment in deepened berths to accommodate larger and more frequent vessels to reduce ship turnaround times.
- Recent large-scale road network improvement projects including the A380 South Devon Expressway and Western Corridor Road widening have improved journey time reliability in wider region.

Weaknesses

[20] https://www.marinetraffic.com/en/ais/details/ports/472?name=TEIGNMOUTH&country=United-Kingdom

- There are a number of unused and derelict harbour facilities and ageing infrastructure in need for repair and restoration
- Lack of immediate road infrastructure connecting the port. A381 / B3192 are renowned for being congested. This impacts journey time reliability especially in the summer.

Opportunities

- Intra-port connectivity has recently improved with regular seasonal foot-passenger ferries to Torbay which will support the local economy.
- The port has longstanding relationships and partnerships with local customers such as Sibelco which ensure a constant revenue stream and tonnage is handled through the port annually.
- The port falls within the recently developed Teignmouth Neighbourhood Plan which seeks to safeguard the port and local area from climate change, support tourism and capitalise on its assets.

Threats

- Teignmouth port is already operating at close to capacity due to a lack of berths for cargo transhipments and the increased demand for coastal shipping to move goods
- Lack of holding areas for HGVs and their drivers after dropping off / collecting consignments. This can cause traffic backlogs on main roads.
- Restrictions are often in place which limits wide loads. There is a lack of suitable alternative routes and appropriate signage to aid forward planning.
- There are concerns around the impact of HGVs on the urban realm and the repercussions of air pollution, vibration, and collisions with listed structures in the tight confinements of smaller streets.
- Deindustrialisation and the closures of businesses and industries that produce furnace slag in South Wales, may have repercussions on the volume of this commodity flow in the future.

3.3.5 Port of Fowey

Gateway	Fowey	**Type**	Port/Docks	**County**	Cornwall
Operator	Imerys	**Size**	n/a	**Employees**	32

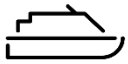
Fowey Harbour is a deep-water Lo-Lo port situated on the south coast of Cornwall. Imerys operates the dock terminals, such as Carne Point for transfer to rail (as well as those at the Port of Par) and oversees the four loading berths which primarily handle materials associated with the China Clay market alongside rock salt and aggregates. The harbour, the preserve of recreational crafts and used by cruise vessels, is located further down the Par estuary in proximity to the main settlement of Fowey.

Freight Markets	Tonnage (2018)	450,000 (Fowey Harbour Authority, 2020)

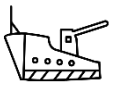
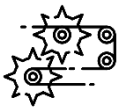
 China Clay (Export)	 Aggregates (Export)	 Rock Salt (Export)	

Description	Fowey is a critical port for the exports of bulk material from the South-West of England. Coastal shipping is used extensively with 250,000 tonnes moved annually by 120 vessels carrying between 2,000-7,000 tonnes individually. The Port of Tilbury, London is a key recipient of aggregates (150,000-200,000 tonnes annually) to serve the burgeoning construction industry. The port is one of few across the South-West of the UK with a direct rail connection. Approximately 80-90% of materials are moved by rail (by DB Cargo) with one train per day from Goonbarrow to Fowey Dock for export (to the Mediterranean and North Africa for the ceramics trade) and another service for the markets in the Midlands, particularly the potteries at Stoke on Trent. A typical train load carries 1,100 tonnes across 38 wagons (this drops to 34 wagons in inclement weather). In contrast only 10% is moved by road annually due to the limited road access and quality of rail connectivity.

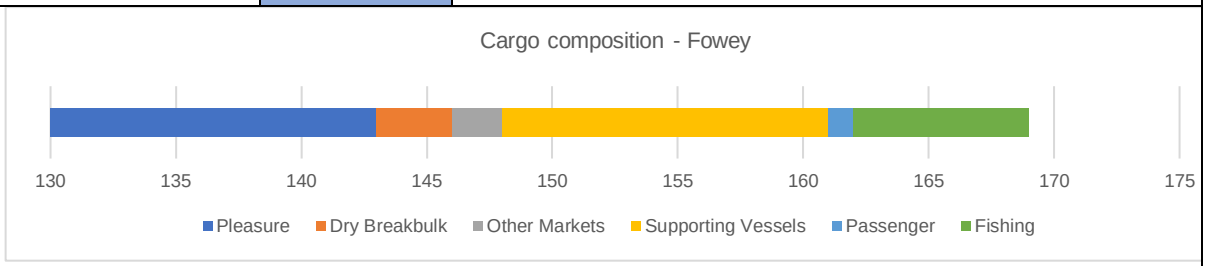
Passenger Markets	People (2018)	n/a	Berths/Docks	4 (Operational)

 Cruise Services (Itinerary)	The deep water harbour at Fowey is accessible in all weather and states of tide. Whilst the dockside mooring provision is limited, vessels drop anchor and rely on a local ferry to link passengers with the coastline and the town centre. Fowey welcomed five cruise vessels in 2019, carrying between 200-350 passengers. The largest vessel length that can be accommodated is 230m. The vessels must perform a three-point manoeuvre before dropping anchor for easier passage. Most services go onwards to Portsmouth, Southampton or the Isle of Wight (eastbound) or the Isles of Scilly (westbound). • Hapag-Lloyd Cruises (Antarctica, Artic, South America) • SilverSea Cruises (UK Domestic Stops via Southampton)
 Local Ferries (Estuary Trips)	There are a number of local ferry services operating from the harbour quays, namely Whitehouse Slip, Albert Quay and Riverside Quay. These are listed below: • Fowey - Lostwithiel. (3 hours round trip. Timetable dependent upon tides) • Fowey – Lerryn. (2 ½ hours round trip. Timetable dependent upon tides) • Fowey to Bodinnick. All year round but services differ on seasonality • Fowey- Polperro, Polridmouth or Lantic Bay (on demand)

	Fowey Harbour also accommodates a range of visiting craft (7,000 through a typical pre pandemic summer period) as well as 1,500 residential vessels. Water taxis also run crews to and from visiting yachts from the Town Quay providing direct access for cruise ships passengers to town centre amenities and attractions.

Port & Industry Operations	This is what takes place on site or/and the immediate hinterlands	
 Towage (Fowey Harbour Authority	 Dredging (Fowey Harbour Authority	Description: Fowey Harbour Authority is responsible for the overseeing the movement of passenger services across the estuary. The harbour does not offer any fuel or power supply services currently and this would typically be completely at adjacent ports downstream. It does however perform essential dredging of the estuary to allow larger vessels that need additional draft to dock. The harbour can also provide a towage service.

Port cargo composition (5th July-25th June 2022)[21]



Connections	Road Link	B3269 / B3415	Rail Link	Par and St Austell (Passenger)
Rail Services	GWR – South-West Mainline, services towards Penzance. Nearest stations to Fowey are Par and St Austell. (Every 30min Monday-Saturday & Hourly Sunday)			
Bus Services	First Kernow - Service 24/25 (Fowey Safe Harbour Hotel) (Hourly Monday-Saturday)			

Fowey Docks is a freight only terminal. Bus services to the harbour are also limited to a tight hinterland and serve local residents and visitors arriving by land. The road access to Fowey Dock (Passage Lane) is heavily constrained and is impacted by seasonality whilst the private road (via Pinnocks Tunnel) for dock traffic between Par requires HGVs to navigate a constrained tunnel environment. Some HGVs have to use Passage Lane due to the height restrictions.

Investment Timeline: 1869 - 2020

1869 - The first export of China Clay from Fowey Dock. It tended to be used as a port of refuge by vessels.

1960s - Coal was one of many imported commodities but was eventually phased out in with the last shipments made to Berrills Wharf.

1968 - The Pinnock Tunnel, the longest tunnel in Cornwall, closed to rail traffic and was later converted for dedicated use for road haulage of china clay.

2020 - Imery sign two year contract with DB Cargo to continue moving rail freight (china clay and aggregates) on the regional rail network.

2020 - Lord Berkeley submits an application to the Restoring Your Railways Programme to reintroduce passenger services on the Fowey branch line.

Future Developments

- Protecting Fowey Harbour and Polkerris Harbour from inappropriate development which may detract from the local character, including the fabric of quay, slipway, jetty, wharf or public landing place is proposed as there is a strong relationship between the town, the port, the river and its estuary setting, harbour and seascape. Historically, the port and river have always influenced the development of the town over the centuries.[22]

SWOT Analysis

Strengths

[21] https://www.marinetraffic.com/en/ais/details/ports/748?name=FOWEY&country=United-Kingdom
[22] https://www.cornwall.gov.uk/media/1oujxnuu/fowey-ndp-final-made.pdf

- Fowey is the principal port used for the export of China Clay produced in Cornwall. Of the 124 ships that visited the port in 2019, 116 were for the China Clay trade.
- The dock has a well-established, well utilised rail connection in the absence of a strong and reliable road link (80-90% of total port traffic annually).
- Fowey has a strong commitment to clean technologies on site and generates over 50% of energy requirements on site through solar, wind and water energy.
- The Harbour provides an essential service to the community, the sector is closely related to the wider tourism and leisure industry by providing the infrastructure, services, facilities, and accommodation.

Weaknesses

- Demand for Filler clays produced from the Cornish pits continue to reduce but still form the bulk of the exported tonnage (it is less resilient to changes in market demand)
- The port may find it starts competing with Falmouth for cruise itinerary stops along the south coastline – the latter possessing a superior range of added value services.

Opportunities

- To complement the use of renewable energy sources in Fowey, the port is also expanding into the use of HVO as a straight swap for red diesel. This is particularly significant considering the additional fuel duty being applied in 2021. They are also working with the University of Plymouth on unlocking the potential for hydrogen production.
- Fowey are keen to expand their export of aggregates by sea or rail to places like London Tilbury. Currently around 150,000-200,000 tonnes moves, with aspirations of growing this to 450,000 tonnes per year.
- Since there has been an annual decline in the tonnage of China Clay exported, the Harbour Commissioners are hopeful that the positive initiatives and investments being made in the port's infrastructure will attract alternative cargos to the Port.
- Road infrastructure improvements are key to unlocking the full potential of the Port and will allow a greater variety of cargo to be transported to/from the Port area.

Threats

- Poor road links to the port. Fowey is a relatively isolated town, and the roads are narrow, meaning access for HGVs is difficult. This includes a 1km HGV only road tunnel which is prone to maintenance issues and subsequent closures.
- There are concerns around the impact of HGVs on the urban realm and the negative repercussions of air pollution, vibration, and risk of collisions with listed structures in the tight confinements of smaller streets.
- The export of aggregate from the Port is the obvious commodity to exploit but a firm contract to do so remains elusive.
- The future sustainability of the port requires costs to be kept down for the China Clay industry, this in turn, can only be achieved by maintaining a sufficient volume of other cargoes through the Port.
- There is a notable absence of dockside capacity and infrastructure to cater for any growth in cruise ship activity beyond providing for itinerary stops.

3.3.6 Port of Poole

Gateway	Poole	**Type**	Port	**County**	Dorset (BCP)
Operator	PHC	**Size**	60 acres	**Employees**	?

Poole Harbour Commissioners is a trust port established by Act of Parliament in 1895. This means it is an independent statutory body, governed by legislation. Trust Ports hold a unique place in the UK ports industry as there are no shareholders or owners, and any surplus is reinvested back into the harbour and port operations.
As one of the largest trust ports in the UK, The Port of Poole is a thriving freight port for commercial shipping, as well as an important destination for a variety of passenger and vehicle ferries, and cruise vessels. Ships of up to 210 metres (689ft) in length and with a draft of up to 8.7 metres (28.5ft) can use the port thanks to new deep-water facilities that were opened in 2018.
As well as operating successful commercial markets, Poole also handles cruise ships and ferries which transport passengers to France, Spain and the Channel Islands.
The port also handles marine leisure (yacht exports). Poole Harbour is the world's second largest natural harbours in size, after Sydney's, and covers 10,000 acres. It's stunning location and extensive sheltered waters provide a magnificent haven for recreational sailing and water sports, and the mudflats and salt marshes are of great ecological value for feeding and roosting birds.

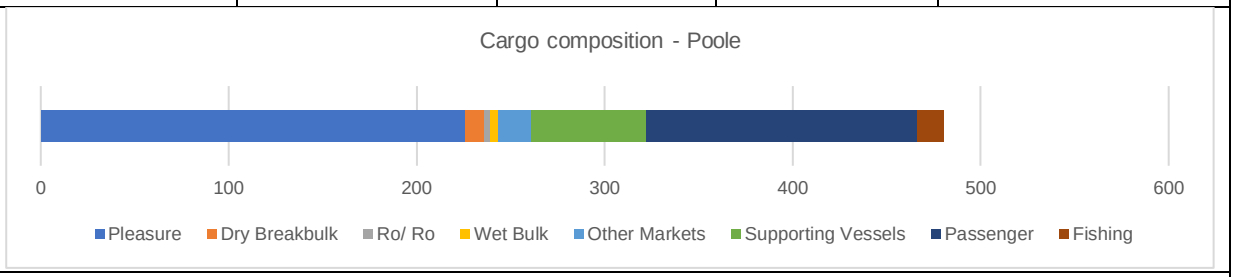
Freight Markets	Tonnage (2019)	812,000 (DfT)	Emerging Markets		
 Bulk Fertilisers	 Clay	 Steel	 Timber	 Grain	
Description	Poole port facilities are fully equipped to handle conventional cargoes of all shapes and sizes. This ranges from organic feeds and grains to sand and gravel, and includes commodities such as clay, steel, timber, grain, road stone, brick and fertiliser.				
Passenger Markets		People (2019)	376,000 (DfT)	Berths/Docks	7

Cruise Services (Itinerary)	South Quay Cruise berth enables the harbour to welcome cruise ships up to 220m in length. The port's central position on the South Coast is easily reached from London, Midlands and the West Country and enjoys convenient road and rail links. The historic Port of Poole offers a warm welcome to cruise guests and is close to some of the most diverse and beautiful locations on the South Coast. Offering the very best of countryside, coastline and itineraries it is the perfect place for those seeking clear air, spectacular award-winning beaches and magnificent landscapes.
Ferries (Passenger & Freight)	Ferries regularly depart from Poole Harbour to destinations such as France, Spain and the Channel Islands. The list below specifies the routes and journey times available for passenger ferries departing from Poole Harbour: • Cherbourg, France (Brittany Ferries). Crossing time: 4 hours 15 minutes. Ferry departs daily and operates all year round. 204,000 passengers during 2019 (DfT). • St Malo, France (Condor Ferries). Crossing time: 6 hours 20 minutes. Ferry departs daily and operates all year round. • Guernsey / Jersey (Condor Ferries). Crossing time: 2 hours 40 minutes / 3 hours. Operates between the months of April and October. 172,000 passengers during 2019 (DfT). Freight ferries also regularly depart from Poole Harbour for Cherbourg, France. They cover all conventional cargo and large vehicles such as HGVs.

Port & Industry Operations	This is what takes place on site or/and the immediate hinterlands

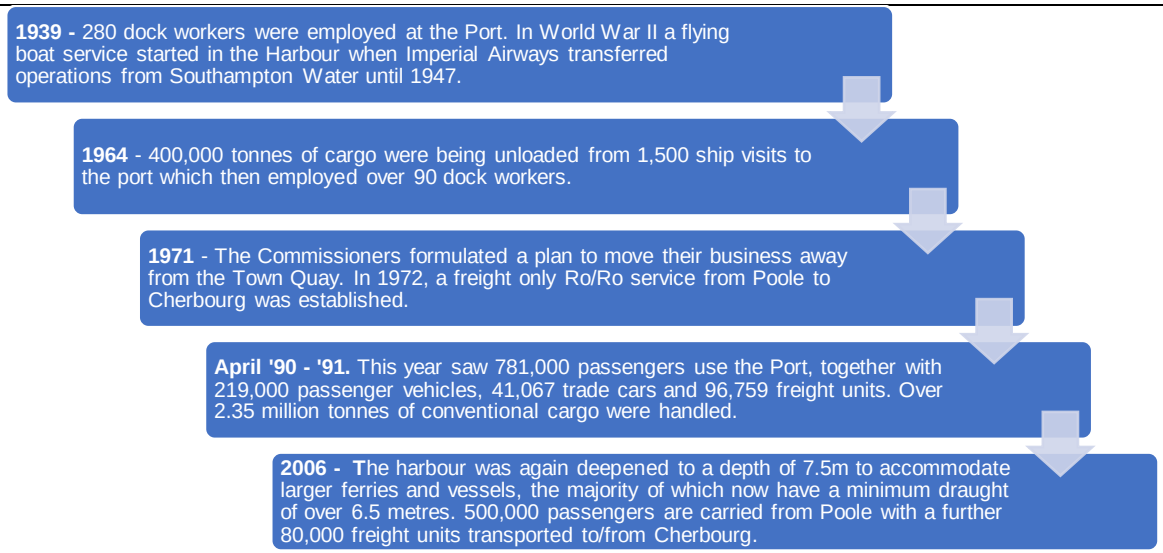
Cruising	Ferries	Yachts	Pilotage	Towage (A&P Group)	

Port cargo composition (5th July-25th June 2022)[23]



Description	The port has increased in recent years, has expanded with the increases in continental traffic.			
Connections	Road Link	A350/A35/A3049	Rail Link	Poole Train Station, Hamworthy branch to port (disused)
Rail Services	SWR – Trains from Poole to Bournemouth, Southampton and London (half hourly) and connections to the national rail network. The main rail line also runs westbound to Dorchester and Weymouth at least hourly for connections to Bristol.			
Bus Services	Poole Harbour can be accessed using Bus Service No. 1. No direct service to Poole Ferry terminal. Buses operate regularly throughout the day to Poole Bus and Coach Station (25 mins walk from ferry terminal).			
Poole Port can be accessed either from the A35 (west), A350 (north) or A3049 (North-East). From the West follow the A35 to Poole and then take A350 and follow signs to the port. From the East follow the A348 from Ferndown or the A35 from Bournemouth. First, follow signs for Poole and then Port.				
Investment Timeline	1956 - 2021			

[23] https://www.marinetraffic.com/en/ais/details/ports/747?name=POOLE&country=United-Kingdom



Future developments

- Poole Harbour Commissioners are dedicated to increasing the amount of Ro/Ro activity at the Port, and they will keep constructing high-quality ferry facilities and promoting the Port to current and potential operators. Poole is expected to remain a busy strategic ferry port.[24]
- The rail connection in Poole will be used to transport sea aggregates by Cemex towards the Midlands and the HS2 project. Consequently the branch line has been upgraded and presents an opportunity to move other materials northbound as well as to support export of goods from the UK.
- The proposed 'rail freight' motorway between Cherbourg and Bayonne, a distance of almost 1,000 kilometres to link freight markets in France, the UK, Ireland and Spain. The project will require the construction of two rail freight terminals in Cherbourg and Bayonne-Mouguerre with unaccompanied trailers being rolled on and off rail and ferry services.

SWOT Analysis

Strengths

- **Environmental Management:** Poole Harbour has long been recognised as important in terms of its biodiversity and significance for nature conservation. Most of the Harbour is designated as a Site of Special Scientific Interest and as a Special Protection Area (SPA).
- **Landscape:** The Harbour lies within an area recognised for its landscape value and is part of the Purbeck Heritage Coast and Area of Outstanding Natural Beauty (AONB).
- **Commercial Fisheries:** Poole Harbour sustains a significant fisheries resource. Mullet, bass, flounder, sole and plaice are caught commercially, whilst shellfish are harvested from the Harbour.
- **Dredging:** The removal of 1.8 million m3 of material has increased the port's ability to accommodate ferries and associated trade.
- **Marine and Leisure Industry:** The harbour has enjoyed a steady increase in demand for the letting of marina berths for leisure activities.
- **Boatbuilding:** Sunseeker International is an award-winning British luxury performance motor yacht brand with its factory on the quayside at Poole. The company employs around 2,600 (2019).
- **Commercial Shipping:** With its safe harbour and good central location on the South Coast it is suitable for a range of commercial shipping activities including dry bulks and ferry services.

Weaknesses

- **Geography:** Poole is a considerable distance away from the Strategic Road Network and lacks reliable north/south connectivity to the M4/M5. The A350 is unsuited to HGV traffic so freight often detours via the A31, M27 and A34.
- **Congestion:** Traffic levels in BCP have built up with expanding population and congestion in the summer particularly is among the most severe in England and has worsened in recent years, costing approximately £275 million per annum in productivity.
- **Proximity to Housing:** The harbour area is scenically attractive and has prompted the development of several areas of new housing on both sides of the port. This proximity to new residential areas may cause public reaction to potential port developments and restrict future operations.

Opportunities

- **Potential Business Growth and diversification:** Newquay currently being constructed at Poole, adding capacity for cruise vessels and bulk cargo.
- **Disused rail connection:** The Hamworthy branch off the main Weymouth to London railway line still has most of the track in situ even though the line has been disused for some time. It is believed that reinstatement of this branch could unlock the opportunity for modal shift from road to rail and encourage more environmentally friendly freight movements. Bridge heights on part of the mainline currently restricts access for some high cube container trains.
- **Cruise sector:** There are opportunities in the cruise sector, with the South-West continuing to develop as a destination.

Threats

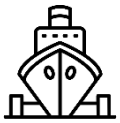
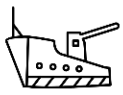
[24] https://www.phc.co.uk/wp-content/uploads/2019/10/phc-masterplan.pdf

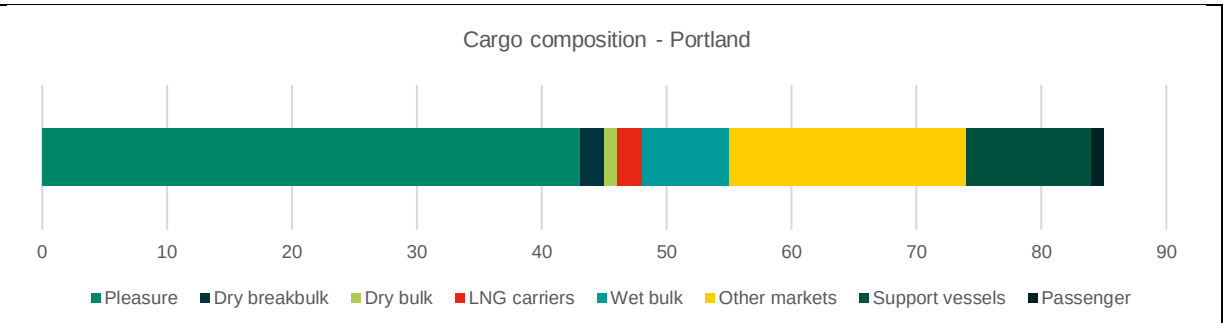
- **Climate Change and Flood Risk:** Possible effects of sea level rise include increased risk to life and property, increased risk of coastal erosion and landslips, loss of intertidal habitats and damaged flora and fauna due to increased water temperatures.
- **Reductions of Ro-Ro activities:** Competition between ports is strong.
- **Lack of investment:** into the ports infrastructure, leading to a decline of industry and services moving elsewhere. The port is currently constrained in its capacity to accommodate the larger vessels that are increasingly being used by shipping companies seeking economies of scale. Without the provision of additional deeper berths, Poole facilities risk becoming obsolete.
- **Conflicting interests:** Poole Harbour is potentially host to many interests - aspirations for continued infrastructural development, commercial port, recreational boating, leisure pursuits, environmental obligations, but also domestic housing interests.

3.3.7 Port of Portland

Gateway	Portland	**Type**	Port	**County**	Dorset
Operator	Portland Port Ltd	**Size**	494 acres	**Employees**	600

Portland Port, a former naval base for over 150 years (until 1996), is located within a sheltered harbour on the south coast of England in close proximity to the English Channel shipping lanes (20 nautical miles). It is one of the newer commercial ports in the UK and offers protection from prevailing winds (all year operations), quick access to continental locations and deep-sea channels (12.6 meters at their deepest) to host the largest of freight and passenger (cruise) vessels. The port has high growth ambitions, with four identified areas of development including Britannia Terminal Area, North of Coaling Pier Island, Camber Quay and the Floating Dry Dock off Queens Pier to expand its commercial operations.

Freight Markets	Tonnage (2019)	530,000 (DfT)		Emerging Markets
 Bulk Fertilisers (Import)	 Hazardous Goods (Import)	 Fuel Bunkering (Aegean Oil)	 Shellfish Fishery (Export)	 Renewables (Import/Export)
Description	Having been a historic centre for the defence industry, the port now serves as an international gateway for several commercial freight markets. The entrance to the port is 210 metres wide and over 12.6 metres deep allowing unrestricted access for most vessels. In total, the port accommodates more than 650 vessels annually (pre pandemic levels) and is popular with the agricultural sector – a major economic driver for regional prosperity. The site has developed its handling capabilities to manage general and specialist cargoes and is ideally placed for vessels to refuel on the western periphery of the Sulphur Emission Control Area (SECA). The harbour and port cater for the local shellfish industry (including storage tanks) whilst there is a commitment to the management of the marine ecosystem (through port tenants, Native Marine Centre).			
Passenger Markets	People (2020)	80,000	Berths/Docks	15 operational
 Cruise Services	Portland is an itinerary port accommodating passenger cruise services, approximately 60 per annum post pandemic (and growing), with landing facilities and berths (up to 350 metres) for hosting the largest of vessels across the industry. The port exploits its convenient location adjacent to Weymouth and along the Jurassic Coast; a UNESCO World Heritage site, when appealing to prospective audiences. Cruise services are provided by a range of operators serving Mainline Europe, Africa and Transatlantic corridors, including: • AIDA Cruises; Celebrity; Hapag-Lloyd; Hansa Touristik; Hebridean Island Cruises; Holland America Line; Hurtigruten; MSC Cruises; Mystic Cruises; Norwegian Cruise Line; Phoenix Reisen; Princess Cruises; Regent Seven Seas; Road Scholar; Saga Cruises; Seabourn Cruise Line; and TUI.			
Port & Industry Operations	This is what takes place on site or/and the immediate hinterlands			
 Vessel Repairs (Manor Marine)	 Cargo Handling (50-150 tonne)	 Towage (Portland Harbour Authority)	 Ship-to-Ship Operations	 Underwater Services	 Waste Removal
 Agribulk Storage (Grain)	 Site Storage (35 hectares)	 Transit Sheds (750m2)	The port has invested heavily in shop repair yards and dry dock facilities to support the growing demand for provision just off major shipping lanes (as per the Portland Harbour Revision Order (2010). This promotes commercial and industrial activities which generate crucial revenue for maintaining berth infrastructure.		

Port cargo composition in thousand metric tonnes (2017)[25]	

Description	Portland Port offers a range of services and hosts several tenants that specialise in marine, agriculture, and engineering operations. This includes Manor Marine, Relay Engineering & Denholm Industrial Services, who maintain and repair vessels, through to niche underwater services (SeaTec and SRN Group) and Global Marine Systems; who install and maintain cable installations. Other established tenants, such as Dragon Portland Cement and Glencore, store commodities and rely on the port (and the associated road network) for importing shipments of cement and grain respectively. The port is one of a few across the UK that is licensed to handle explosives (up to 5,600kgs/1.1 net explosive quantities) and 500,000kgs/1.1 net explosive quantities at anchor. Royal Navy vessels also still moor on occasion.			
Connections	Road Link	A354 / Weymouth Relief Road	Rail Link	Weymouth Passenger Station (Portland Branch Line (for freight) closed in 1965)
Rail Services	GWR – Weymouth to Bristol Temple Meads (Ranged from <30 mins to every 2 hours, Monday-Saturday) SWR – Weymouth to London (Twice Hourly, Monday – Sunday)			
Bus Services	First Wessex, Dorset & South Somerset - Service 1 (Weymouth-Portland, four per hour Monday-Sunday). Multiple services originate and depart from the centre of Weymouth.			

Portland Port can be accessed by the A354 / Weymouth Relief Road. However, vehicle traffic, particularly HGVs requires navigating local traffic on the Isle of Portland, along the Buxton Road and the centre of Weymouth. This routing passes via a number of residential neighbourhoods and an Air Quality Management Area (AQMA). A complimentary last mile bus shuttle service is provided to access Weymouth during cruise moorings. The Portland Harbour Revision Order also alludes to planned regional improvements between the port and the M27/ M3 to South-East England and M5 to the West and Midlands. The port estate abuts Portland Castle, the D-Day Centre and World War Two Museum and the National Sailing Academy; three major trip attractors which rely on access along the Portland Beach Road.

Investment Timeline	1998 - 2020

1998 - Two years after privatisation, the owners, Langham Group, transfer operations to the Portland Harbour Authority Ltd & Portland Port Group.

2011 - The A354 Weymouth Relief Road providing access between the port and the surrounding hinterland, is opened to accomodate traffic flows.

2014 - A major programme of works is undertaken to increase the site's capacity after bunkering jetties and a passener terminal was installed in 2000.

2018 - Berth improvement works proceed on OCP, to deepen seabed levels from 8 meters to 11 meters to allow for larger vessels.

2020 - Dredging programme completed on the ports main berths (OCP and Queens Pier) to enhance berth capabilities.

Future Developments

- A lease arrangement has been developed with UK Oil & Gas Plc (UKOG) for a 'energy hub' at the former Naval base with the plan to create caverns from existing salt deposits to develop a hydrogen storage facility (and green hydrogen generation). This is due to come online in 2025
- The port is exploring the redevelopment of the current deep-water berth able to take deeper drafted and longer ships, including large cruise liners, bulk carriers and RFA Bay and Tide Class vessels. Work is expected to start in October 2022 and finish in winter 2023.

SWOT Analysis

Strengths

- The site is an attractive because it provides deep water access to Portland Harbour and can accommodate some of the largest vessels (which are increasing in size and capacity).
- Portland Port is well placed geographically and has a significant advantage over other ports regionally due to the protection offered from prevailing winds; allowing for all year operations.

[25] https://www.marinetraffic.com/en/ais/details/ports/22541?name=PORTLAND-UK-ANCH&country=United-Kingdom

• The site is one of few locations in the UK that have the ability to host nuclear powered submarines and some of the largest vessels provided for the Royal Navy.
Weaknesses
• Whilst the port is located close to the A354, HGVs and private vehicles both use the local and strategic road network, which impacts on congestion and air quality. • The Port has no direct connection to a railway station / line (the nearest station, Weymouth, is 20-minute drive) although the number one bus service does provide 30 minute services direct to and from the station. • There is limited infrastructure and provision in the locale for promoting and supporting an increased number of people staying and moving around the area, particularly on the Isle of Portland.
Opportunities
• Medium to longer term, the port is well placed to support major offshore renewable projects due to its location, deep water access and strategic location. There is also land for laydown space on site, • There are several cultural and historic attractions within accessible distance of the Port (compared to competing ports) which could benefit from integrated travel offerings. • There are opportunities for the port to continue the leasing of land to other organisations as well as making most of its available estate (which totals 5,631 acres). • There are opportunities for the port diversify its offer as a location for film and television production and beyond conventional added value services. • Investment in goods and vessel handling equipment and 'Panamax' dock facilities would open up further opportunities to service the largest Royal Navy vessels and cross channel ferries. • The Rodwell Trial, which follows the alignment of the former Portland Branch Line, is a direct, traffic free route that offers an alternative route between the port and Weymouth for walking and cycling.
Threats
• Berths will have to continue to increase in size in order to accommodate large vessels (which are increasing in size and capacity) in order to remain competitive. • The electricity infrastructure and network capacity to provide shoreside power is limited; which could present a long-term loss of revenue for the port and neighbouring conurbations. • There has been no government backing for a A354 bypass around Wyke Regis to address challenges with road connectivity, congestion and HGV routing; which may influence the trajectory of future growth at the port.

3.4 Airport Dashboards

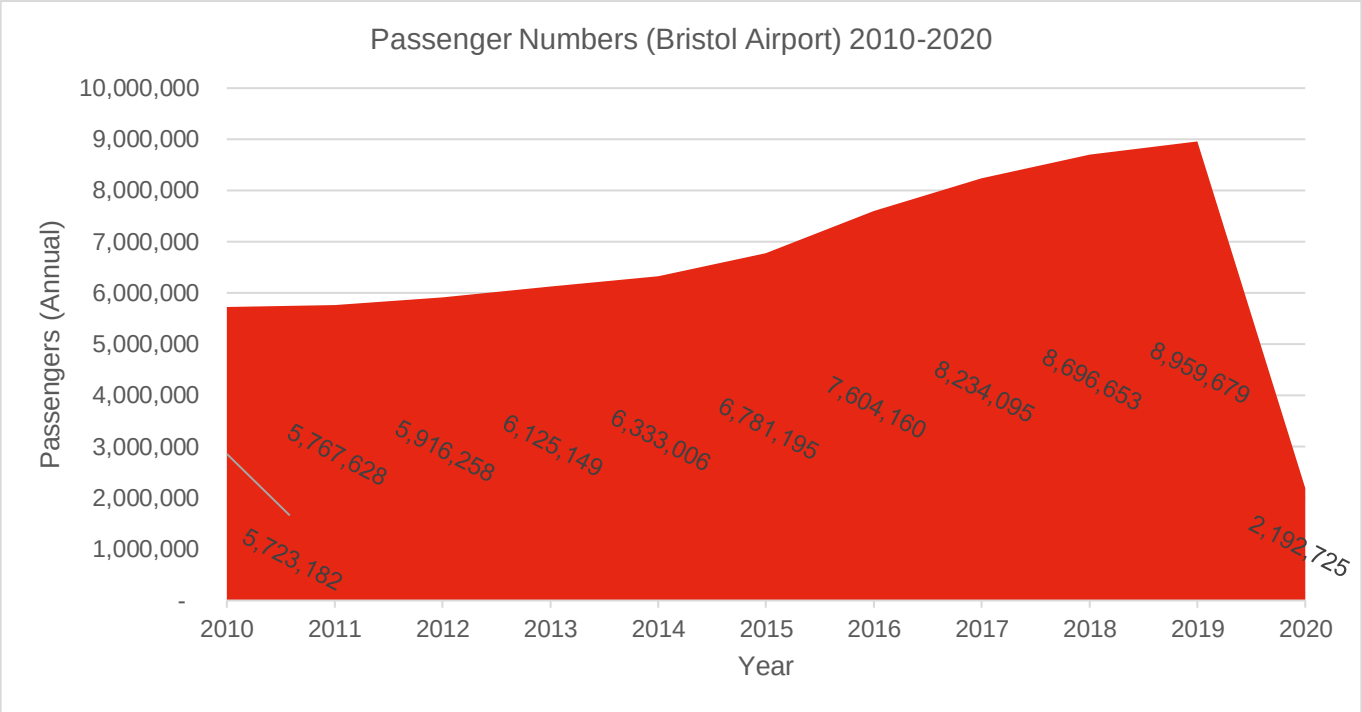
Similarly to each port, a set of 'dashboard' profile have been developed for each airport to showcase the types of traffic passing through each international gateway. This again includes bringing together secondary information and supplementing this with primary data, namely stakeholder feedback, to provide a high-level overview of airport activities. The SWOT analysis helps to frame decision making and investment opportunities to unlock the potential of each airport in the future.

3.4.1 Bristol Airport

Gateway	Bristol	**Type**	Airport	**County**	Somerset
Owner	Ontario Teachers Pension Plan	**Terminals**	1	**Employees**	3,500
Bristol Airport is located 8 miles southwest of Bristol city centre, on the northern slopes of the Mendip Hills, in North Somerset. It is directly located off the A38 which connects to the South-West via Junction 22 of the M5. Traffic coming from the North and East are directed to approach via the A4 and A4174. The airport is the fifth largest in the UK (patronage) outside of London and at the centre of an integrated network of over fifty individual employers, directly employing more than 3,000 people and supporting thousands more across the region. The Airport is projected to grow to approximately 15 million passengers per annum by 2035 and operates over a 24hr period (including night flights). It has a runway of circa 2,000m and was previously an RAF airfield before becoming a commercial operation in 1957. It gained its 'international' status in 2010. The wider economic impact of the airport across the South West region (including South Wales) cannot be understated; as it supports 6,700 FTEs and £525m GVA. (15,000 FTEs and £1.3bn GVA when tourism and productivity is included)[26].					
Freight Markets (2019)	Tonnage (2019)	11.04 tonnes			
 Air Mail		Bristol airport is not renowned as a major cargo hub and carries a relatively nominal volume of air mail and cargo in the bellyhold of a limited number of commercial services (due to the airline business models).			

[26] Acuity Analysis (n.d) Economic and social importance of the UK's regional airports, https://www.unitetheunion.org/media/3098/regional-airports-data.pdf

(0.4 tonnes[27])	Air Cargo (10.64 tonnes[28])				
Demand Analysis	% Passenger ATMs (2019)[29]	100%	% Cargo ATMs (2019)[30]	0%	
	% Pax (scheduled) (2019)[31]	91%	% Pax (chartered) (2019)[32]	9%	
Passenger Markets	Annual Passengers (2019)[33]	8,964,242 (CAA)	Aircraft Movements (2019)[34]	62,556 (CAA)	



10 Domestic Destinations Served (2018)	**128** International Destinations Served (2018)	Top Five Destinations Served – Passengers 2018 1. Amsterdam (433,802) 2. Dublin (429,127) 3. Malaga (353,430) 4. Mallorca (348,325) 5. Alicante (340,061)	**460,356 (2018)** Scheduled Flights (UK operator) **4,791(2018)** Scheduled Flights (EU operator)

Airlines with an Operational Base at Bristol Airport			Airlines Serving Bristol Airport
RYANAIR Ryanair (Operational Base)	Jet2.com Jet2 Holidays (Operational Base)	easyJet EasyJet (Operational Base)	Low Frequency - Aer Lingus, Aurigny, BH Air, Blue Islands, Corendon Airlines, Eurowings, Lufthansa, KLM, Loganair, Wizz Air High Frequency - TUI Airways, Jet2, Ryanair, EasyJet

Description	Bristol Airport is a regional base for several UK based budget airlines providing scheduled short haul and package holidays to the continent (over 90% of all passengers are bound for Europe). The airport hosts more UK operator scheduled flights (443,385, 2018) than any other airport in the UK and targets long haul flights

[27] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2305
[28] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4665
[29] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4646
[30] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4646
[31] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4644
[32] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4644
[33] https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2019/annual-2019/
[34] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2291

	towards the Middle East and North America; with the aim of reducing a proportion of the eight million car journeys to airports in and around London annually. The airport is a base for a number of budget airlines, most recently Jet2, who opened up their 10th UK location in 2021. Many airline schedules offer seasonal services; typically to warmer climates during the summer months (e.g. Mediterranean).
Site Activities	Bristol airport support an aviation business community alongside facilitating commercial flight operations which includes the Bristol Flying Centre and Bristol & Wessex Aeroplane Club. The site also hosts a multitude of SMEs in a growing cluster of businesses activity.
Connections	Road Link: M5/A38 — Rail Link: Bristol Temple Meads. No direct rail service
Rail Services	Bristol Airport has no direct rail link. However, Bristol Temple Meads is located just 8 miles away, offering frequent and reliable connections to the national rail network using the Bristol Flyer service (operated by First Bus and funded by the airport). The Bristol Flyer also serves Worle station from the southwest of the airport location. Previous feasibility studies have indicated the potential for a 'light' rail option from the line between Bristol and Exeter may be preferred to a 'heavy' rail line due to the areas challenging topography. The A3 Flyer provides direct express bus service to Weston Super Mare station.
Bus Services	Bristol Airport increasingly operates as a multi-modal interchange and is the destination for several direct bus and coach services namely: • Bristol & Western Flyer: Bristol City Centre or Western Super Mare – 20mins frequency during peak period (Mon-Sun) throughout the year. • Stagecoach Falcon: Plymouth to Bristol City Centre (via Exeter & Taunton) – 60mins frequency during peak period (Mon-Sun) throughout the year. • Airdecker: Bath City Centre to Bristol Airport – 60mins frequency during the whole course of the day throughout the year. Several intercity coach services provide access to Bristol Airport from the wider region, stopping at Bristol City Centre on route to Birmingham or London. This includes: • National Express – 21 services daily throughout the year (who also provide access to the Glastonbury Festival). • Megabus – 7 services daily throughout the year.

The Airport is partially located within the Green Belt in a semi-rural location. It is broadly equidistant to important urban centres of Bristol, Bath or Western Super-Mare. The range of longer distances stopping services at the airport reflects its regional pull, with over 1.95 million passengers having originated their journeys within the Peninsula region[35]. Indeed, over 76% of passengers originate or are destined for the South-West of England as well as Wales (21%). The airport aspires to increase passenger public transport mode share to 17.5% by 2030 with employee sustainable travel targeted to increase to 30%; with the roadmap to achieve this being set out in the emerging surface access strategy, which will be developed in partnership with its Airport Transport Forum (local authorities/ public transport operators). Very significant investment is planned in a new Public Transport Interchange in the next few years which will transform the public transport facilities provided at the airport.

Investment Timeline: 1930 - 2022

1930 - Bristol Airport is officially opened on 31st May by HRH Prince George, becoming only the third civil airport in the country.

1988 - Bristol Airport's rapid expansion continues with an annual total of 100,000 scheduled passengers passing through the airport for the first time.

2000 - A new terminal building opens its doors for the first time. Other upgrades include the introduction of a category III all-weather landing system.

2011 - Planning permission is granted for handling 10 million passengers per annum and work begins on the first of 30 component projects.

2022 - Permission is granted for futher airport expansion (to accomodate 12 milllion people) following an appeal to the Planning Inspectorate.

Significance & expansion plans

- Future Development and Airport Expansion - A planning application was submitted to North Somerset Council in December 2018. This was initially rejected by North Somerset Council in March 2020, however, was subsequently approved following an appeal to the Planning Inspectorate. This requires the airport to demonstrate how they will

[35] South-West Economic Link SOBC (2019)

ensure easy and reliable access for passengers, increase the use of public transport by passengers, and minimise congestion and other local impacts.

- Bristol Airport heads up the Aviation Carbon Transition (ACT) programme fund to kick start and fast track decarbonisation initiatives across various areas, including hydrogen and electricity storage, refuelling and distribution, and other technologies that can reduce and offset direct and indirect emissions. The fund is live in 2022. They are also working closely with EasyJet (Business in the Community) and have already launched initiatives that has reduced airport CO2 emissions from ground operations by as much as 97%.

SWOT Analysis

Strengths

- Bristol is the only airport across the South-West region to hold the Airports Council International (ACI) Europe Carbon Neutrality accreditation (an externally verified assessment of emissions from aircraft ground movements, transportation access to airports, electricity and fuel consumption with the airport aspiring to net zero operations by 2030.
- The airport is extremely well served relative to other regional gateways by public transport services which go some way to offsetting its challenging location (a legacy of its role as a RAF airfield). This is key as the airport has an extensive catchment range and 'pull' within the South-West of England.
- The airport is already in the throes of testing and developing alternative propulsion systems and exploring alternative fuel technologies for aircraft and surface access vehicles as part of its net zero ambitions. It is participating in government-funded programmes such as Fly Zero, Connect Places Catapult (ZEFI), Future Flight to support the acceleration of decarbonisation in the industry. It is also a founder member of Hydrogen South-West: Accelerating the Change – a business-led, multi-sector cluster designed to accelerate the use of hydrogen in the South-West economy. There is also a historic, ongoing link to Bristol and its rich aviation history.
- The Airport is investing in innovative technologies, including electric vehicles and buses. Hydrogen bus trials are also planned. A proposal for an EV filling station (subject to planning) will also help to incentivise the use of EV vehicles amongst employees, business partners and passengers.

Weaknesses

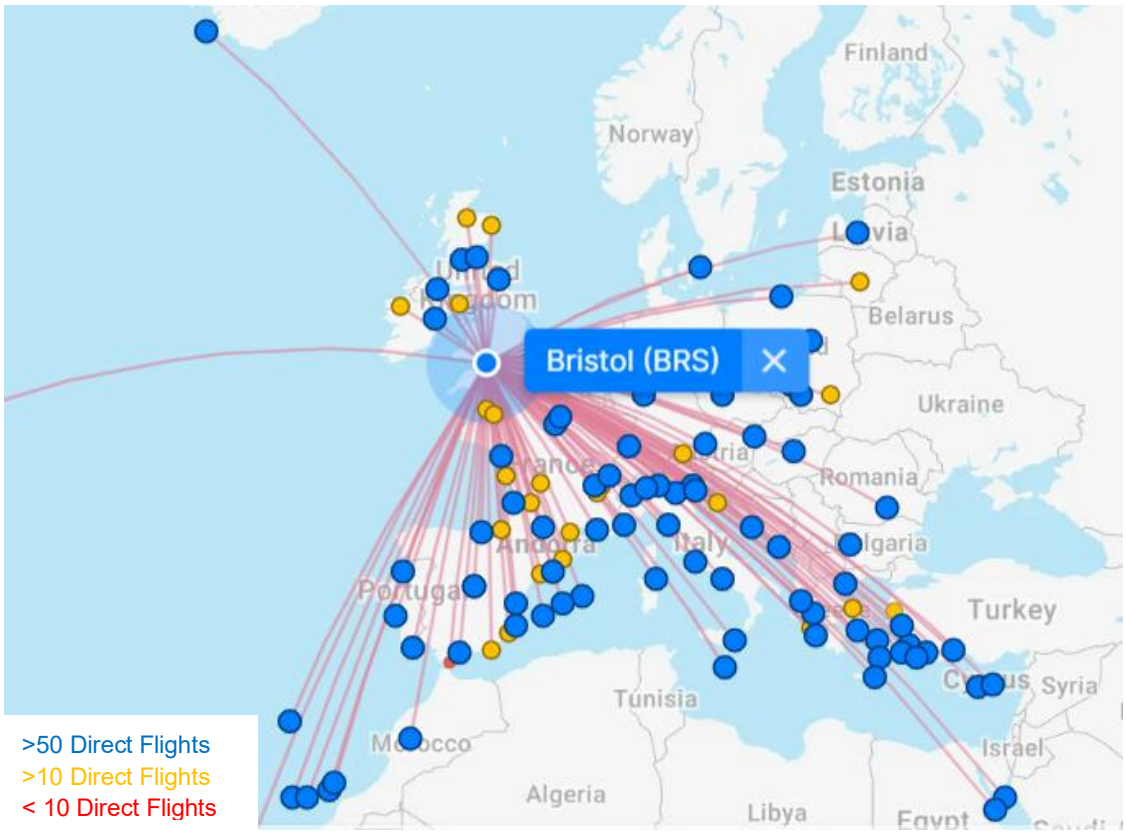
- The main access to the airport is via the A38 as there is not direct rail/mass transit access (the nearest station is Bristol Temple Meads or Worle). The A38 has limited road network capacity and is prone to congestion, particularly around junction 22 of the M5 during peak periods. Major works are planned on this corridor, subject to a MRN bid to government.
- The airport does not have the same ambitions to diversify into supporting freight markets and is more explicitly focused on passenger travel; leaving it more vulnerable to future fluctuations in patronage. Many of the budget airlines focus purely on passengers as opposed to commercial goods whilst first & last mile road freight access may act as a barrier to scaling up freight volumes.
- A growing number of off-site car park operators, many unauthorised, are setting up in the surrounding area. On-street parking is also a growing problem in local communities. Enhanced enforcement is required to minimise the amenity impacts on local communities.

Opportunities

- North Somerset Council and Somerset County Council have submitted a Strategic Outline Business Case (SOBC) for A38 route improvements to address traffic congestion along the A38 and at Junction 22 of the M5. This includes 10 locations between the South Bristol Link (Colliters Way) in North Somerset and Edithmead roundabout at junction 22 of the M5 in Somerset. This is alongside increased investment in sustainable travel, which will be set out in a new Airport Surface Access Strategy.
- The airport acts as a Gateway for the Region, facilitating employment and economic opportunities, as well as a mechanism to encourage inbound tourism (NB: stats can be provided if necessary).
- Developing Bristol Airport as a multi-modal interchange, can provide benefits for local communities but also provide opportunity for regional public transport travel, leveraging investment in services (A1 and A3) and infrastructure (Public transport infrastructure) being made by the airport operating company.
- The Bristol & Exeter Rail Corridor Study has identified upgrades to Worle Station and rebranding to 'Weston Parkway' to facilitate both major local housebuilding and enhanced access to the airport by multi modal (bus-rail) travel.

Threats

- Ongoing environmental credentials of airport expansion and public scrutiny of proposals to expand passenger numbers in light of the climate emergency. This includes many political figures who have been vehemently against expansion plans.
- The proposed expansion plans include additional car parking being developed on site (a key revenue stream) which contradicts the aim of making public transport the 'natural' first choice. Previous permission was granted in 2020 which altogether will add an additional 3,900 spaces in green belt land.
- As with many regional airports relying on domestic travel the drive to decarbonise is unlocking new opportunities for the rail industry to offer competing services on cost and journey times (especially to places such as Glasgow and Edinburgh).



3.4.2 Exeter Airport

Gateway	Exeter	**Type**	Airport	**County**	Devon
Owner	Exeter and Devon Airport Limited	**Terminals**	1	**Employees**	3,500

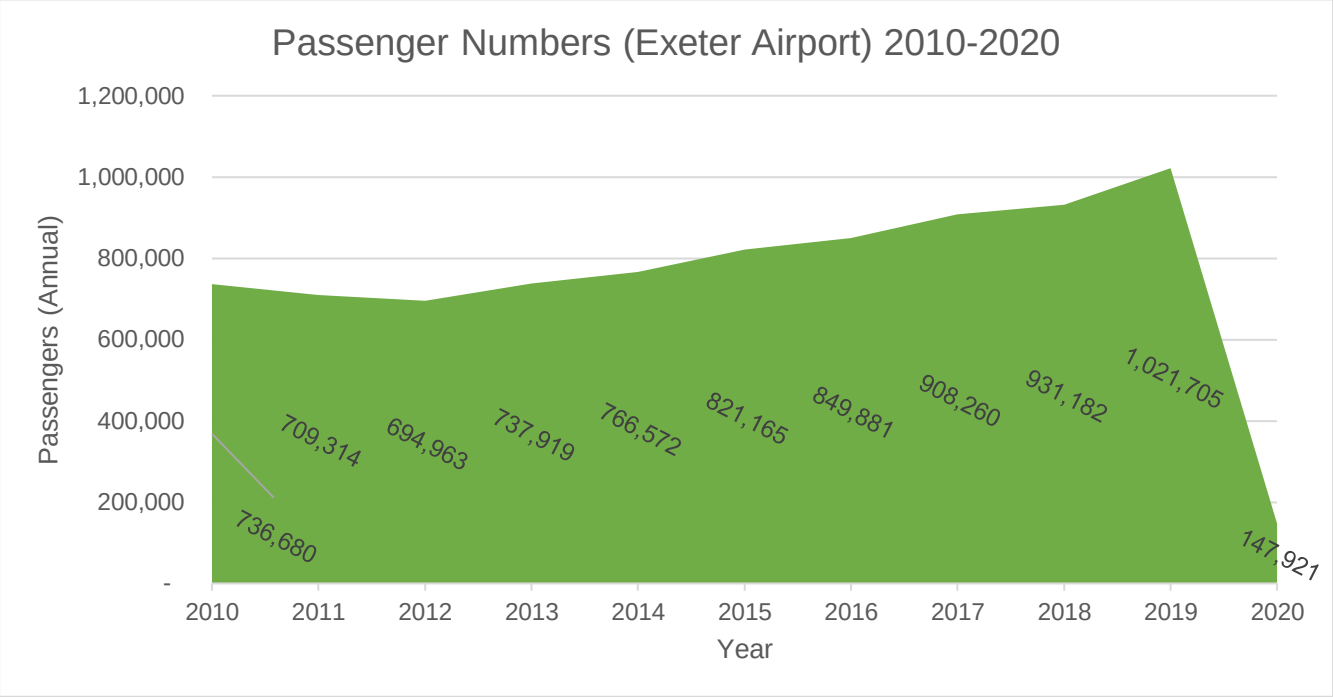
Exeter is an international airport in South-West England's County of Devon, adjacent to the city of Exeter. It is situated in Clyst Honiton in East Devon, adjacent to the A30 and about 6 miles from Exeter's city centre, close to M5 junction 29. The M5 and the A30 dual carriageways are close by, making Exeter Airport easily accessible. This makes it possible to connect effectively to Bristol, London, the Midlands, and beyond. Its CAA Public Use Aerodrome Licence (Number P759) permits passenger flights as well as use for flying lessons. Devon Air Ambulance and National Police Air Service are also located on site Within the United Kingdom and Europe, the airport offers both regularly scheduled and special charter flights. The airport offers a range of scheduled flights to British and Irish regional airports and charter flights. The airport contributes an estimated £159m of GVA annually.[36]

Freight Markets (2019)	Tonnage (2019)	3,363.006 tonnes	
Air Mail (3363 tonnes[37])	Air Cargo (0.006 tonnes[38])	Although Exeter airport is not renowned as a major international cargo hub, for many years it has been a key service point for the Royal Mail UK night air mail network. As the Exeter route network develops it is possible that hold cargo will increase; however, growth of complementary freight distribution and transportation business located at the adjacent Inter Modal Freight Exchange, being developed immediately North-East of the Airport, may result in additional dedicated air cargo movements both domestically within the UK as well as on international routes. Appropriate development to service that potential increase in air cargo demand, including the availability of transit, storage and distribution facilities (which will complement the Inter Modal Freight Exchange) is likely.	

Demand analysis	% Passenger ATMs (2019)[39]	96.59%	% Cargo ATMs (2019)[40]	3.41%

[36] Acuity Analysis (n.d) Economic and social importance of the UK's regional airports, https://www.unitetheunion.org/media/3098/regional-airports-data.pdf
[37] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2305
[38] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2300
[39] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4646
[40] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4646

	% Pax (scheduled)[41]	77%	% Pax (chartered)[42]	23%
Passenger Markets	Annual Passengers (2019)[43]	1,021,784 (CAA)	Aircraft Movements (2019)[44]	14,528 (CAA)



It should be noted that:

- 126,837 passengers were handled in 2021

10 Domestic Destinations Served (2018)	37 International Destinations Served (2018)	Top Five Int. Destinations Served – Passengers 2018 Amsterdam (52,725) Mallorca (51,7149) Paris (50,016) Tenerife (38,877) Alicante (37,380)	11,679 (2018) Scheduled Commercial Flights (UK operator) 20 (2018) Scheduled Commercial Flights (EU operator)

Airlines with an Operational Base at Exeter Airport			Airlines Serving Exeter Airport
Loganair Ryanair (Operational base)	TUI TUI Airways (Principal Airline)	WEST ATLANTIC West Atlantic (Operational base)	- Aer Lingus (operated by Emerald Airlines) - Aurigny - Blue Islands - Loganair - Ryanair - TUI Airways - West Atlantic (Cargo) - Seasonal: Isles of Scilly Skybus, AlbaStar, Freebird Airlines

Description	In addition to a traditionally strong domestic scheduled service network (until 2020 operated by based carrier Flybe, but since then operated by Aer Lingus, Aurigny, Blue Islands and Loganair), Exeter Airport has a strong Mediterranean leisure network operated principally by TUI Airways – which boasts a year-round base at the airport – in addition to Ryanair scheduled services to Spain. Exeter Airport has also, historically, handled regular seasonal transatlantic services to Toronto, principally operated by Canadian carrier Air Transat, which indicates the airport's capacity to handle long-haul traffic. There are also seasonal traffic links to the Isles of Scilly. The newest services are operated by Emerald Airlines, exclusive operator of the Aer Lingus Regional brand, which began services to Dublin and Belfast in Spring 2022, as Exeter Airport continues to grow its route network.
Site Activities	• Aviation Southwest, a flight training organisation based at the airport, provides instruction for everything from the Private Pilot Licence to the Commercial Pilots Licence and Instrument Rating.

[41] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4644
[42] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4644
[43] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2293
[44] https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2019/annual-2019/

	• The Exeter Aerospace hangar, operated by Dublin Aerospace, offers base maintenance services for a variety of aircraft, including the ATR 42 family, the Bombardier DHC- 8 Family, and the Embraer EJR 170 and 190 Series. • After leaving the Exeter police department's Middlemoor headquarters in 2014, Devon Air Ambulance and the National Police Air Service (NPAS) now share a purpose-built facility on the northern side of the airfield.			
Connections	Road Link	M5/A30	Rail Link	Exeter St David's. No direct rail service
Rail Services	Exeter Airport has no direct rail link – it is only accessible via bus. However, Exeter St David's is located just 6 miles away, offering frequent and reliable connections to the national rail network, including London Paddington, North Devon and Plymouth and Cornwall. Alternatively, Cranbrook is located 3 miles away and frequent connections are available to London Waterloo, Exeter Central and Exeter St David's.			
Bus Services	Stagecoach service number 56 links Exeter (St David's railway station), Exmouth and Woodbury to Exeter Airport. Buses depart every 30 minutes from Exeter St. David's, and it takes approximately 35 minutes to reach the airport terminal.			
Exeter Airport has benefitted recently from development activity within the wider hinterland and the additional service provision leveraging through the planning process to improve service connectivity by bus (and bike). Services integrated with rail stations (Exeter St David's and Cranbrook) is a key requirement of 3PLs to attracting workers to the area. The airport aims to achieve greater use of public transport, seeking to reduce the percentage using the private car for journeys to the airport from 80% in 2007 to 60% in 2030.				
Investment Timeline	1937 - 2007			

1937 - The airport is opened to traffic on 31st May. The airport was officially licensed for public use on 9th September.

1952 - Airline operations were recommenced by Jersey Airlines and continued for 40 years through a series of reorganisations - British United Airways (Channel Islands) Ltd, later British Island Airways and finally Air UK.

1999 - Exeter Airport celebrated its 60th Diamond Anniversary during July 1998 and a year later Her Royal Highness the Princess Royal officially opened Exeter Airport's new arrivals building on 2nd June.

2003 - The official opening of the new £950,000 Departure Lounge at was performed by David Jamieson MP on 5th June. The work on site was started in August 2002 and was designed to accommodate 400 people prior to their. flights.

2007 - On 5th January Devon County Council sold Exeter International Airport for £60 million to Regional and City Airports (Exeter) Ltd (RCA).

Significance and expansion plans

- The airport has made a strategic decision to implement Common Use Terminal Equipment (CUTE) to take full advantage of the limited number of check-in desks; which aims to enhance the seamlessness and customer experience of moving through the terminal.[45]
- The local economic contribution of the Airport is expected to increase significantly from £105m in 2007. Passengers are expected to increase to c. 1.5 million by 2030 as the airport's route network expands.
- Plans are underway to transform the vast agricultural area adjacent to Exeter Airport into a power park for different types of businesses. The programme will create up to 500 new jobs in the region. The 17-acre site is located in Long Lane, opposite the Future Skills Centre and the airport car park. It is part of the Exeter and East Devon Enterprise Zone (EEDEZ) designated in 2017. One of EEDEZ's main goals is to implement a simplified planning system like Local Development Orders (LDO) to support website deployment.[46]
- As the Exeter route network develops it is likely that cargo will increase.

  Increased demand for air freight, including the provision of transportation, warehousing and delivery facilities will take place to complement the planned adjacent intermodal freight exchange to the north-east of the Airport.[47]

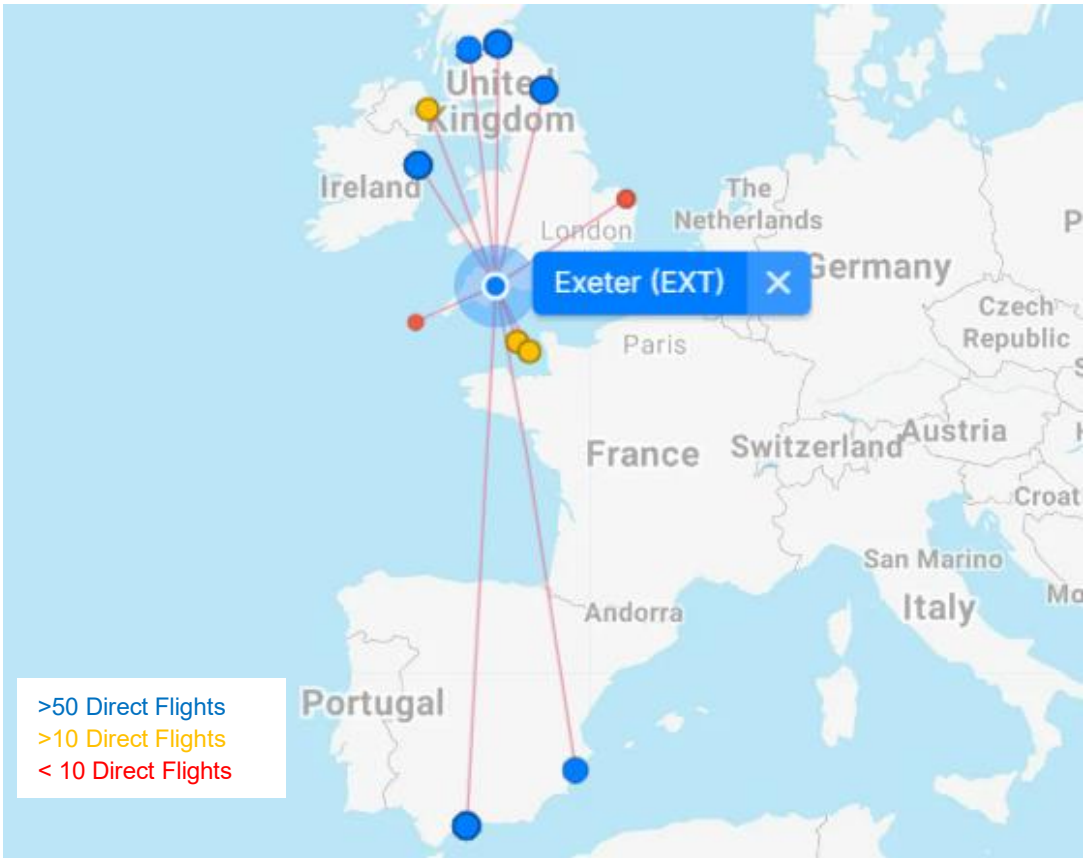
SWOT Analysis

Strengths

- Exeter International Airport is a thriving UK regional airport, serving a wide catchment area and exhibiting passenger growth, year on year.[48]
- Exeter Airport is conveniently located within a 5-minute drive of junction 29 of the M5. This location enables easy access for passengers across the South-West.

[45] https://www.damarel.com/case-studies/exeter-international-case-study-turn-key-solution-regional-airport/
[46] https://www.devonlive.com/news/devon-news/power-park-could-built-exeter-7090195
[47] https://www.airportwatch.org.uk/uk-airports/exeter-airport/
[48] https://www.damarel.com/case-studies/exeter-international-case-study-turn-key-solution-regional-airport/

Weaknesses
• Access to the Airport by public transport or cycling is limited and there has been discussion for many years on how this could be improved. There is only one major bus route from Exeter City Centre that departs from Exeter St David's and journey times can be unreliable, particularly during peak periods when congestion can be significant. • Congestion at M5 J9 and the mainline M5 around the City, especially between Spring and the end of the Summer has the potential to constrain growth at and around the airport.
Opportunities
• To accommodate increased growth of passenger numbers, there are a series of proposed improvements in the master plan to improve overall passenger experience, such as extensions, development, and modifications on existing terminal buildings. • Exeter Airport provides hundreds of direct and indirect jobs to residents of the south-west, and affiliates benefit from the success of this operation. • The Master Plan envisions an extension to land southeast of the current airport boundaries.[49] • Around 1,000 jobs could be created at the new 17 acre 'Skypark' in the process of phased development next to Exeter Airport.[50] • The city of Exeter is amongst the fastest growing economies in the UK. The city will move into the top 10 for Gross Value-Added growth during 2022 (UK Powerhouse, 2021). This will only serve to increase demand for services to and from Exeter Airport.
Threats
• As per the review of the Masterplan by the County Council, current infrastructure appears inadequate to deal with an increase in passenger numbers, given the rural nature of the access roads to the current terminal facilities. There is need for enhancement of access routes for buses, cars, goods vehicles, cycles and pedestrians.[51]



3.4.3 Cornwall Airport (Newquay)

Gateway	Cornwall (Newquay)	**Type**	Airport	**County**	Cornwall
Owner	Cornwall Airport Ltd	**Terminals**	1	**Employees**	448 (direct)

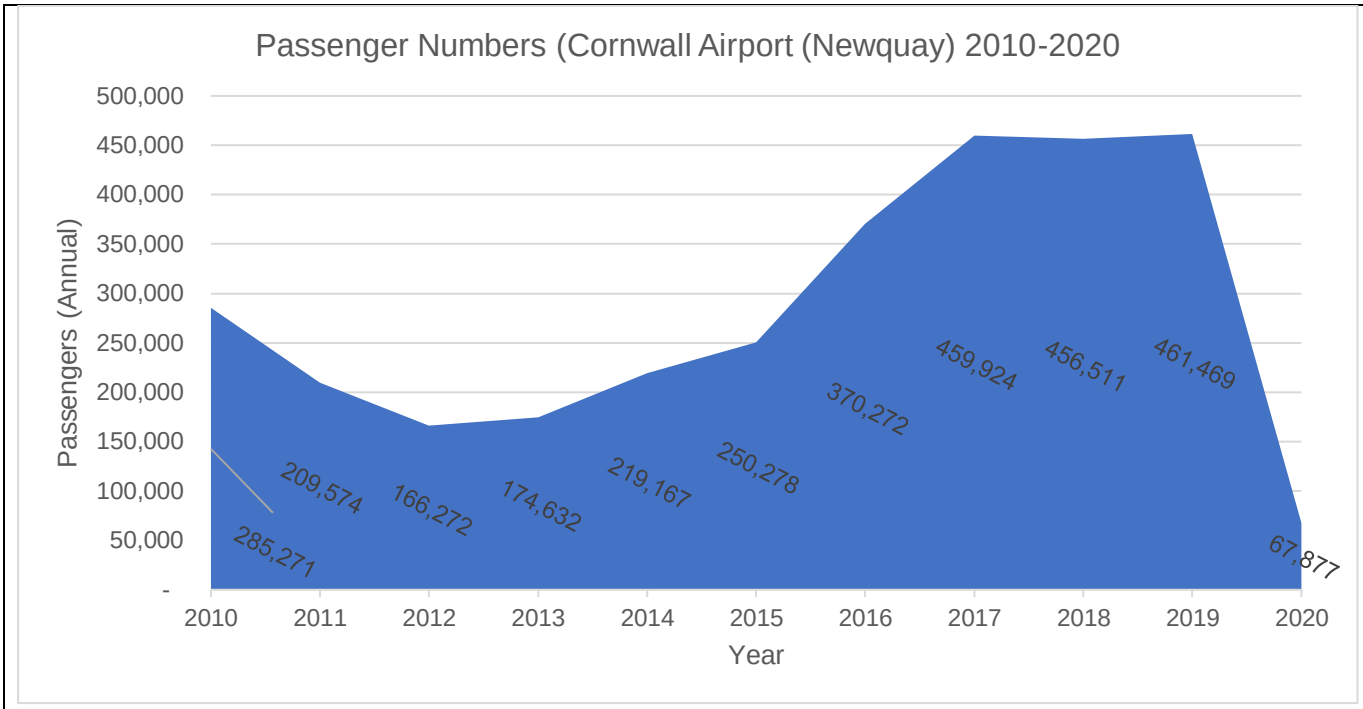
[49] https://www.airportwatch.org.uk/uk-airports/exeter-airport/
[50] https://www.devonlive.com/news/devon-news/exeter-airport-road-widening-plans-3916230
[51] https://democracy.devon.gov.uk/Data/Cabinet/20080902/Agenda/pdf-EEC-08-198-HQ.pdf

Cornwall Airport Newquay is located at St Mawgan - northeast of the town of Newquay on Cornwall's north coast. It is a component part of Cornwall's transport and economic infrastructure, providing national and international connectivity to and from the region. When combined with road and rail, the airport supports a more resilient transport system for Cornwall, providing speed & choice for business, residents, and visitors. It has an emerging cluster of high value economic activity with the overall economic impact of the airport currently totalling around £48m net (£62 million) annually[52].

Its runway was operated by RAF St Mawgan before 2008, and is now owned by Cornwall Council and operated by Cornwall Airport Ltd. The Cornwall Air Ambulance is based at the airport. Since 2012, the airport has hosted the Aerohub enterprise zone. As a result, there are 14 companies employing 448 people based at Newquay Airport. Overall economic impact of the Airport is currently around £48m net (£62m gross) a year. The consistent performance of the airport over the past decade (before Covid) has been aided by increased demand for the daily services to and from London Gatwick and Manchester. Over 100,000 of the total passenger throughput in 2014 flew between NQY and London Gatwick on the regular scheduled service.

Freight Markets (2019)	Tonnage (2019)	2.38 tonnes			
 Air Mail (0 tonnes[53])	 Air Cargo (2.38 tonnes[54])	Cornwall Airport Newquay is not a cargo hub and carries a relatively nominal volume of cargo in the bellyhold of a limited number of commercial services (due to the airline business models). However, the airport is uniquely positioned in the South-West and is home to global companies such as AgustaWestland, Bristow Helicopters Limited and Lockheed Martin. Given its location, Aerohub Business Park could prove attractive to companies looking for easy access to high-speed transportation links, aerospace links, and related supply chain activities (to support broader aerospace development), or both.			
Demand Analysis	% Passenger ATMs (2019)[55]	100%	% Cargo ATMs (2019)[56]	0%	
	% Pax (scheduled)[57]	100%	% Pax (chartered)[58]	0%	
Passenger Markets	Annual Passengers (2019)[59]	461,469 (CAA)	Aircraft Movements (2019)[60]	8,206 (CAA)	

[52] Acuity Analysis (n.d) Economic and social importance of the UK's regional airports, https://www.unitetheunion.org/media/3098/regional-airports-data.pdf
[53] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2305
[54] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2300
[55] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4646
[56] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4646
[57] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4644
[58] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4644
[59] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2293
[60] https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2019/annual-2019/



13 Domestic Destinations Served (2018)	9 International Destinations Served (2018)	Top Five Int. Destinations Served – Passengers 2018 1. Dublin (29,156) 2. Alicante (27,163) 3. Faro (20,868) 4. Hahn (17,617) 5. Cork (3,581)	6,376 (2018) Scheduled Commercial Flights (UK operator) 1,252(2018) Scheduled Commercial Flights (EU operator)

Airlines with an Operational Base at Cornwall Airport (Newquay)			Airlines Serving Cornwall Airport (Newquay)
Lufthansa	RYANAIR	Skybus	Operators: - Lufthansa - Ryanair - Skybus.

Description	Cornwall Airport (Newquay) provides important transportation links to London and other domestic destinations, as well as other seasonal locations in Europe and the United Kingdom. In June 2013, the government announced the Public Services Obligation (PSO) Fund to maintain major regional aviation services to London, including Cornwall Airport Newquay. The importance of airlinks became apparent in the winter of 2014, when the main railway infrastructure to and from Cornwall collapsed into the sea. Air transportation has ensured the resilience of Cornwall's transportation infrastructure. A four-year PSO contract from 2014 provided security for Cornwall. With this funding, the service continued to contribute millions of pounds to Cornwall's economy, ensuring that more than 100,000 passengers use the service each year.
Site Activities	• There are several other aviation activities which operate alongside the passenger operation – these include rotary training, executive/general aviation, commercial airline training, military training as well as humanitarian flying operations. • Cornwall Air Ambulance has had its base at the airport since 1987. The trust operates an AgustaWestland AW169 as of April 1, 2020. • HM Coastguard have a small operation base and operate two Sikorsky S92 helicopters from Newquay Airport. • To the south of the Northern Loop, a 2-acre plot of land was sold to Bristow, on which a UK Search and Rescue facility has been built. • A total of 500 public parking spaces are available (including 50 car-hire and 14 disabled spaces) with an average utilisation of around 42% in winter and 79% in summer.

Connections	Road Link	A30/A39/A3059	Rail Link	Newquay Train Station. No direct rail service to the airport.
Rail Services	Newquay Airport has no direct rail link – it is only accessible via bus. However, the nearest train station is located at Newquay and is approximately 6 miles away. Newquay connects to the main rail train line at Par via The Atlantic Coast Line. From Par, frequent and reliable connections to the national rail network can be accessed, including London Paddington, Exeter and Plymouth.			
Bus Services	Transport for Cornwall operate the bus service number 56 between Newquay and Padstow which stops at the Airport between the terminal and the west car park. Buses depart every hour from Padstow journey time approximately 50 minutes. The Atlantic Coaster, supplied by First Bus, also follows a similar route between Newquay and Padstow.			
Surface access alternatives to private mobility are limited to the airport, but there is an appetite, as captured through the masterplan to explore initiatives to stimulate mode shift and link with local railway station with the airport and Newquay Growth Area. An action plan has been developed for different tiers of airport growth up to 400,000 ppa and 1,500 Aerohub employees and up to 600,000 ppa and 5,000 Aerohub employees respectively. This comprises a mixture of travel behaviour change initiatives with staff and promotional/ticketing options but mainly upgrades to physical infrastructure, such as new footways and cycleways alongside traffic calming measures and new internal roads.				
Investment Timeline	1962 - 2015			

1962 - A portion of RAF St Mawgan became known as Newquay Airport (RAF St Mawgan) and a modest civil terminal was built.

1975: The first passenger terminal facility is erected by British Midland Airways.

2000 - The existing airport passenger terminal is extended with a single storey extension. A plane hangar for commercial use is erected and the existing car parking areas are extended and rationalised.

2008 - Brand new arrivals hall opened. This marks the 2nd stage of development in the last 2 years at the airport and is part of the airport's plans to increase the capacity of the terminal to meet a throughput of 700,000 passengers a year.

2015 - A rebranding exercise sees the birth of Cornwall Airport Newquay, to reflect the Airport's desire to represent Cornwall and be identified with Cornwall.

Significance and expansion plans

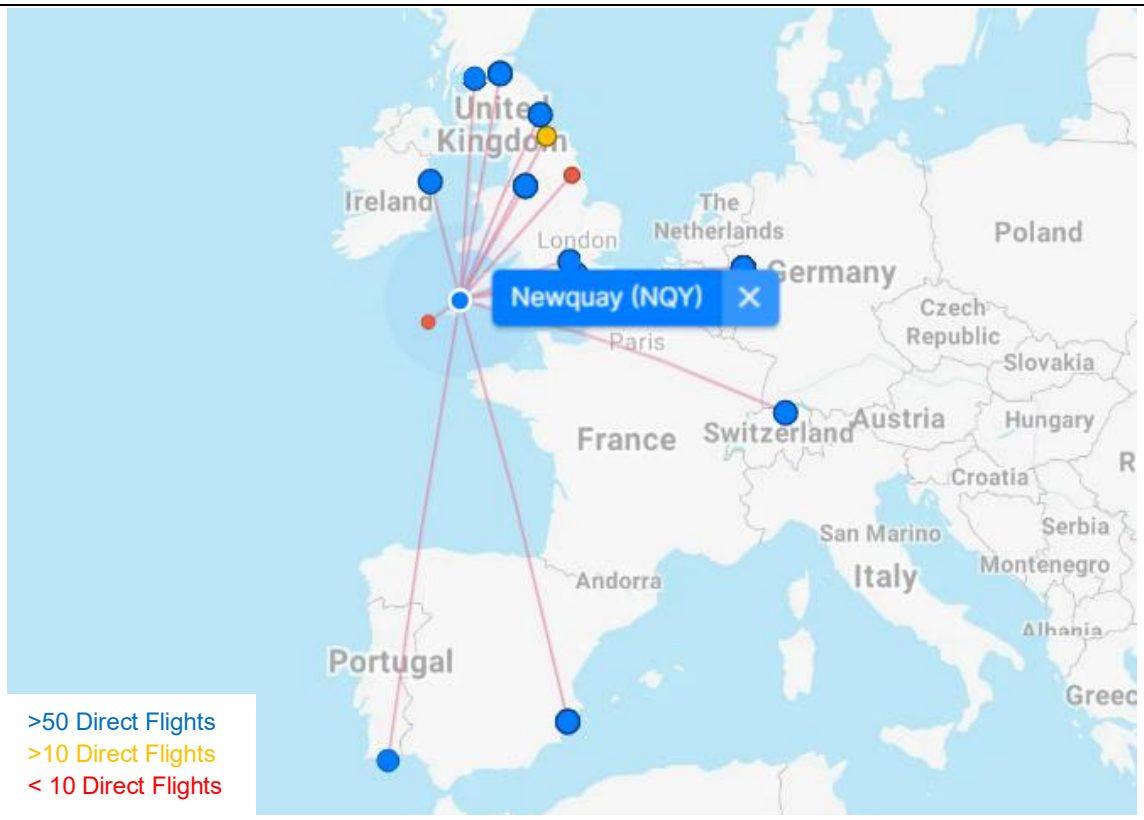
- Visitors to the airport contribute to around 440 jobs, in the wider local economy, spending about £13.2 million, and producing £9.1 million in GVA in 2014. By 2030, this is anticipated to increase to more than 1,000 jobs, £31.7 million in spending, and £22.0 million in GVA. Business travel is expected to produce GVA worth £11.5 million by 2030.[61]
- In September 2013, the National Aeronautical Centre (NAC) at Aberporth Airport announced it would use Newquay as its second airport for testing unmanned aerial vehicles (UAV). The UK government and Cornwall Council also declared their willingness to invest up to £20 million in the airport to build Spaceport Cornwall as a base for Virgin Orbit in June 2019. Depending on the business case presented, the system would launch satellite-carrying rockets to space from under the wing of a converted Virgin Atlantic Boeing 747 jumbo jet by the early 2020s.
- Aerospace-related investment opportunities were central to the Aerohub Enterprise Zone (EZ) project. The airport provides an investment-friendly business environment and offers the added benefit of a comprehensive local development order (LDO) that provides a planning free development zone. An additional 24 hectares (53.5 acres) of development land outside the LDO (covering the Business Park area) can accommodate long-term growth and provides Aerohub a strong advantage as EZ benefits can be offered to companies that need to have direct access to the Airport's facilities. NQY's commitment to promoting the aerospace sector, investor engagement and developing a skilled workforce could boost its position as an aerospace hub. [62]
- Airport Surface Access Strategy (ASAS) has been prepared which sets out a number of actions and targets to improve transport. However, as the terminal will remain on the north side, there is limited opportunity to improve northern access via Ball Lane. Improved access to the south side includes a bus loop, additional car parking and cycle parking.[63]

SWOT Analysis

[61] https://www.cornwallairportnewquay.com/uploads/downloads/Cornwall-Airport-Newquay-Masterplan-2015-2030.pdf
[62] https://www.cornwallairportnewquay.com/uploads/downloads/Cornwall-Airport-Newquay-Masterplan-2015-2030.pdf
[63] https://www.cornwallairportnewquay.com/uploads/downloads/Cornwall-Airport-Newquay-Masterplan-2015-2030.pdf

Strengths
• The Airport provides crucial transport links for a relatively remote part of the UK population. This includes domestic destinations such as London Gatwick as well as other seasonal European and UK locations. • Cornwall is a major UK tourism destination, particularly for domestic visitors and some key overseas markets (e.g., Germany). Cornwall remains the fourth most visited location in the UK for domestic tourists, accounting for more than 4m visitors per annum. Newquay Airport plays a key role in the transportation of these passengers. • Having survived the economic downturn, Cornwall Newquay Airport has evolved into a growing cluster of high value economic activity, making a real difference to Cornwall's economy and providing well paid high skilled work for the local residents.[64] • The Airport makes a substantial contribution of almost £50m to the Cornish economy in terms of its Gross Value Added (GVA) output. Over 700 skilled jobs are directly dependent on the operational Airport. • In the wider context of the aerospace sector, Cornwall Airport Newquay now supports one of the largest aerospace clusters (outside Bristol) in the West of England with several global businesses operating from the Airport. There are 14 companies employing 450 people on the Airport site.
Weaknesses
• Access to the Airport by public transport or cycling is very limited and there has been discussion for many years on how this could be improved. There are a couple of bus services that originate from nearby Padstow and stop at the airport, but these services are relatively infrequent. • Based on the Employment Land Review conducted in 2010, there are significant areas of commercial development land available across Cornwall however take-up rates have been slower than anticipated.
Opportunities
• The Airport was awarded Enterprise Zone (EZ) status in 2011 and Aerohub EZ became operational in 2012. Since then, 8 new companies have created or safeguarded over 150 jobs. By 2030 over 2,200 jobs and £162m of GVA could be generated from the Enterprise Zone including the developing Business Park. This will serve to benefit the local economy. • The Airport continually strives to reduce its carbon footprint, through both reducing energy use and increased use of renewable sources such as the nearby Kernow Solar Farm. • There are several development opportunities that have been identified for Newquay Airport. This will require the pursuit of public sector support from European, national, regional and local sources. This includes the development of the terminal zone and other business development zones. • Cornwall Airport Newquay is not a major cargo hub and carries a nominal volume of air mail and cargo in the bellyhold of a limited number of commercial services (due to the airline business models). • Cornwall is uniquely positioned within the South-West and is home to global companies like AgustaWestland, Bristow Helicopters Limited and Lockheed Martin. Given its location, Aerohub Business Park will prove attractive to companies trying to find quick access to high-speed transportation links, aerospace links, and related supply chain activities (to support broader aerospace development), or both.
Threats
• Land use constraints consist of covenants that restrict development close to the Cornwall Air Ambulance Trust facility located to the east of a Development Zone. Adjacent land use and other sites not in CC ownership outside of the immediate site boundary may also limit future land use development. • There are areas of wet woodland and grassland that are important for biodiversity that surround the Airport. Many species of bats (some rare) use the Airport for roosting and feeding, as well as dormouse, otters, badgers and reptiles. • Cornwall has a long history of supply shortages due to the feasibility of commercial development. The reason for the lack of market supply is construction costs (including land costs and profits), which usually exceed the final value of the building, resulting in a cost-value gap.[65]

[64] https://www.cornwallairportnewquay.com/uploads/downloads/Cornwall-Airport-Newquay-Masterplan-2015-2030.pdf
[65] https://www.cornwallairportnewquay.com/uploads/downloads/Cornwall-Airport-Newquay-Masterplan-2015-2030.pdf



3.4.4 Bournemouth Airport

Gateway	Bournemouth	**Type**	Airport	**County**	Dorset
Owner	Regional & City Airports (RCA)	**Terminals**	1	**Employees**	2,700

Bournemouth Airport is a key asset for the region and the south of England and is one of the UK's fastest growing regional airports. Bournemouth Airport was originally built during World War II to provide an operating base for the RAF and since then it regularly had services to the Channel Islands. Its rapid growth over the past decade has primarily been due to the introduction and expansion of a variety of routes by low-cost operators. The site lies within the county of Dorset, on low-lying land between the Stour and Moors Rivers. Bournemouth, Christchurch and Poole are all located nearby, whilst Southampton, Winchester, Salisbury, Dorchester and Weymouth are all within an hour's drive of the airport. The total area of the airport site is approximately 366 hectares. 67 hectares are designated as areas of nature conservation interest.

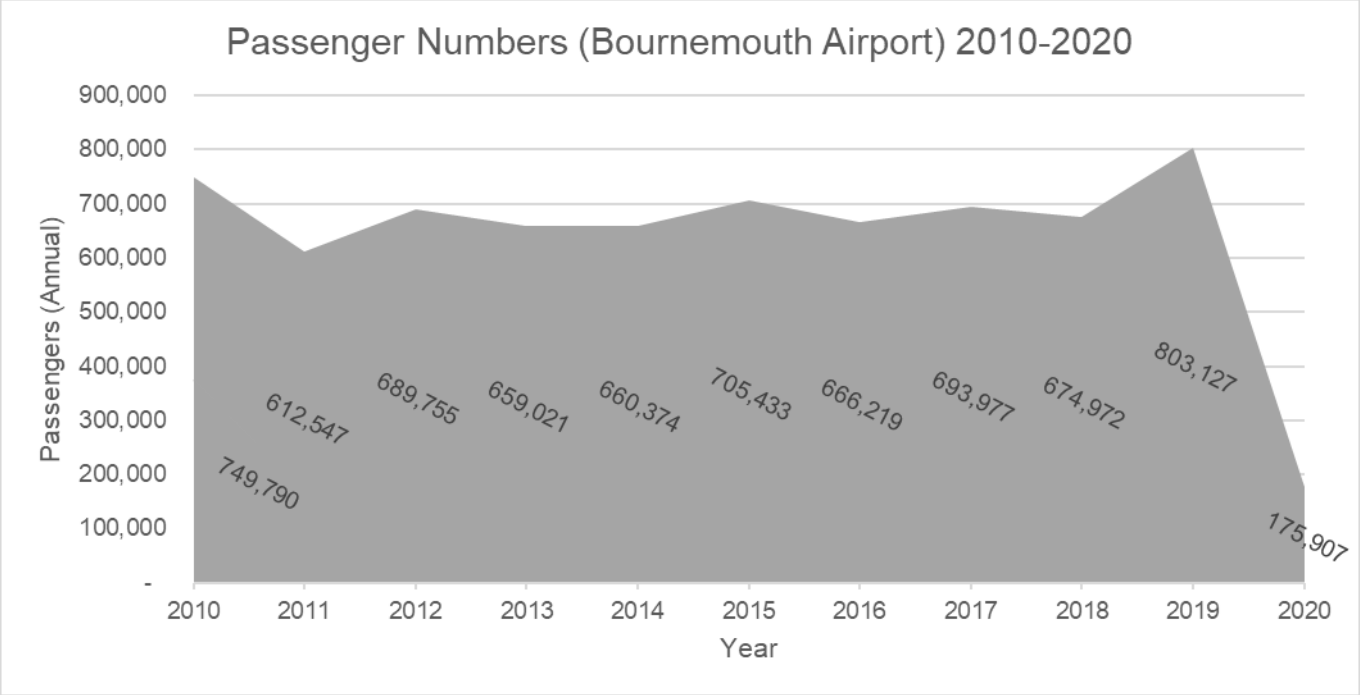
The Bournemouth Airport Management Team, together with over 120 members of staff, oversee the daily running of the airport. The primary function is the management, delivery and operation of a range of airport services which enables passengers to move through the airport terminal building onto and from an aircraft in a safe manner with minimal delay and disruption.

Freight Markets (2019)	Tonnage (2019)	0.14 tonnes	
Air Mail (0 tonnes[66])	Air Cargo (0.14 tonnes[67])	Bournemouth airport anticipates becoming a major cargo hub serving the region in the future and catering for short and long-haul air cargo operations. Bournemouth processed 20,000 tonnes in the year to March 2022, from the very small amount of cargo in April 2020. Whilst this is about 1% of what goes through the London market, there are business ambitions to scale quickly in conjunction with established and expanding local customer bases (e.g. 3PLs etc). The airport owned by Regional & City Airports (RCA) hopes to expand its air cargo business to reach 35,000 tons by 2025 and up to 50,000 tons by 2030. To meet this ambitious plan, the airport expects to develop approximately 900,000 square feet of airfield space filled with primary and secondary cargo facilities.	

Demand Analysis	% Passenger ATMs (2019)[68]	100%	% Cargo ATMs (2019)[69]	0%
	% Pax (schedule)[70]	74%	% Pax (chartered)[71]	26%

[66] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2305
[67] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2300
[68] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4646
[69] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4646
[70] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4644
[71] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4644

Passenger Markets	Annual Passengers (2019)[72]	803,127 (CAA)	Aircraft Movements (2019)[73]	4,973 (CAA)



2 Domestic Destinations Served (2018)	**32** International Destinations Served (2018)	Top Five Int. Destinations Served – Passengers 2018 1. Mallorca (103,608) 2. Malaga (78,862) 3. Alicante (61,093) 4. Faro (429,127) 5. Girona (41,641)	**193 (2018)** Scheduled Commercial Flights (UK operator) **2,671 (2018)** Scheduled Commercial Flights (EU operator)

Airlines with an Operational Base at Bournemouth Airport			Airlines Serving Bournemouth Airport
Ryanair (Principal Airline)	TUI Airways (Principal Airline)	European Cargo Limited (ECL)	- easyJet - Ryanair - TUI Airways - AlbaStar - Freebird Airlines - European Cargo Limited (Cargo) - Cargojet (Cargo) - MNG Airlines (Cargo) - Air Atlanta Icelandic (Cargo)

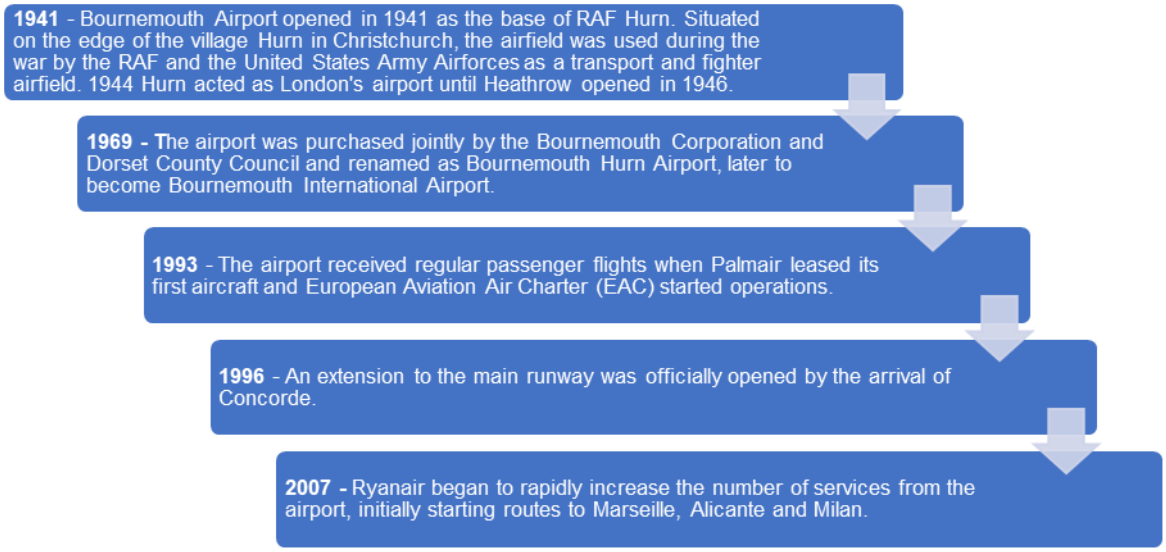
Description	Bournemouth Airport is growing in reputation as a major airport in the South of England. Despite the pandemic, over 200,488 moved through the site in 2021 and in excess of 800,000 passengers are forecast in 2022. The airport is also expanding their range of services to include long haul to and from overseas territories, including China. This takes advantage of the airport's long runway and apron. However, around half of all departing passengers reside in the Bournemouth and Poole area suggesting that the airport, at present, has a limited pull relative to other airports across the region.			
Site Activities	The airport provides a wide range of aviation services including aircraft manufacture, maintenance and refitting, the design, production, and supply of avionics systems and instruments, defence contract work, pilot tuition and air traffic control training. Much of the employment is of a highly skilled nature.			
Connections	Road Link	A338 / A31 / A35	Rail Link	Bournemouth Train Station. No direct rail service
Rail Services	There is no direct rail service at Bournemouth Airport, however the airport conveniently connects to Bournemouth Train Station via the Yellow Bus service 737. From here, many destinations across the national rail network can be easily accessed, including Southampton and London.			
Bus Services	Bournemouth Airport is covered by Yellow Buses service 737, which serves Bournemouth Square, Railway Station, Winton, Moordown, Northbourne and Parley Cross from 6am to 1.30pm. The service currently runs five days per week, Monday to Friday, excluding public holidays.			
At a strategic level, road access and local roads are fairly poor. The airport lies 7km to the north of Bournemouth town centre, 5km to the north-west of Christchurch town centre and 2km to the west of the A338 Ringwood to Bournemouth spur road, a dual carriageway				

[72] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2293
[73] https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2019/annual-2019/

that joins the A31 trunk road at the Ashley Heath interchange. The A338 also provides road access to Bournemouth for rail, bus and coach interchanges. At the local level, the B3073 Parley Lane connects the airport to the local primary route network and runs along the southern perimeter providing links to both sectors of the airport. To the west, the B3073 joins the A347 and A348, which form the principal links from the airport to Poole. Matchams Lane passes to the east of the airport and provides limited access to the eastern half of the northern sector.

Investment has been allocated under The Big Programme of works which is focused on improving connectivity, easing congestion, protecting existing jobs and creating new ones in and around Bournemouth Airport and Wessex Fields. A £49.5 million package of funding was secured to fund a series of economy-building transport and infrastructure investments along the A338 and B3073 corridors to boost road access; with future scope to enhance service provision for passengers into and out of the city and regional trip attractors.

Investment Timeline	1941 - 2007



Significance and expansion plans

- Bournemouth airport plans to develop approximately 900,000 square feet of airfield space filled with primary and secondary cargo facilities, of which, 200,000 sq ft will comprise repurposed existing buildings. Bournemouth Christchurch Poole (BCP) Council is supporting the airport's plans and a planning application for it is already well progressed for most of the 900,000 sq ft, while more detailed planning permission has been granted for some of the pockets of development.[74]
- Further plans include aircraft parking and handling infrastructure for both widebody and narrowbody around the "Taxiway Tango" area in the north of the airfield. Transit shed facilities will be in an adjoining area.[75]
- The airport aims to expand its transit facilities. The second transport facility, to the left of the European cargo hangar, is 30,000 square feet and is currently ready for use. To the left of this is a new hangar just developed by a third party, with further development opportunities on the north side of the airport. Beyond this area the airport is considering second line landside logistics, freight forwarding and trucking operations. The second plot of land is on the east side of the airport and has also been identified for development, but there is no final vision for this, and development will be based on demand.[76]
- Plans are being made to connect the east and west sides of the airport with roads, allowing the airport to function more effectively.

SWOT Analysis

Strengths

- Bournemouth Airport is a vital infrastructure facility in an increasingly global society. Access to national and international markets and transport links are essential for local businesses. Airports with good connectivity can act as a powerful magnet for companies.
- 24-hour capability, open slot availability and uncongested airspace are enabling Bournemouth Airport to style itself as a small but flexible alternative to London's Heathrow and Gatwick airports.
- Bournemouth has thriving 'air intensive' financial, business, educational and tourism services sectors, which are somewhat dependent upon air service accessibility. Development of new terminal and airfield facilities has only helped to improve the attractiveness of Bournemouth and its airport.
- The business parks located adjacent to the airport are an attractive option for a wide variety of employment sectors including general manufacturing, advanced engineering, financial and business services, ICT, distribution and logistics.

Weaknesses

- Achievement of the airport's development potential is limited by poor strategic and local road access and traffic congestion. The main access to the airport is via the A338. The current condition of the A338 is poor and has limited road network capacity.

[74] https://www.aircargonews.net/monthly-exclusive/bournemouth-ventures-into-cargo/
[75] https://www.aircargonews.net/monthly-exclusive/bournemouth-ventures-into-cargo/
[76] https://www.aircargonews.net/monthly-exclusive/bournemouth-ventures-into-cargo/

Significant improvements are required to the highway network and associated junctions. Without concentrated government investment, road users will suffer continued disruption and journey time unreliability, whilst future development opportunities at the airport will be impeded and restricted.

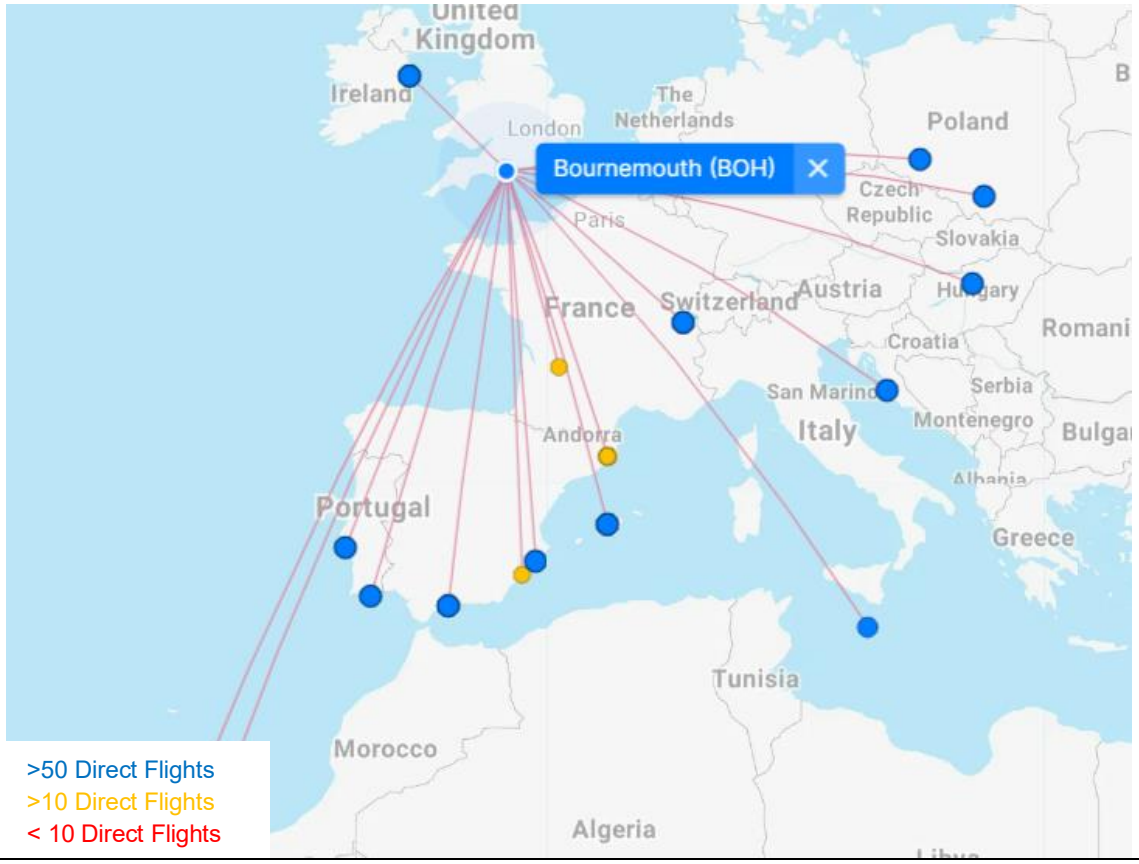
- The vast majority of passengers travel to the airport by private car. Approximately a quarter of these passengers park their car at the airport whilst the majority are 'dropped off'. A small minority of passengers travel by bus.
- Access to the Airport by public transport or cycling is very limited and there has been discussion for many years on how this could be improved. The enhancement of public transport services/facilities for cyclists for the airport and business park is a priority in reducing harmful emissions associated with vehicular access to the airport. As part of the Government's Transforming Cities Fund (TCF), works are underway in which will result in Bournemouth Airport being included within two key sustainable travel routes (including improved bus routes and new cycle paths) by the end of 2022.

Opportunities

- Economic Development – The development of the Aviation Business Park directly adjacent to the airport has the potential to locate thousands of businesses over 59 acres and generate up to 16,000 jobs.
- There is an opportunity to make the various business parks located adjacent to the airport more attractive to potential tenants by improving access to and variety of convenience/retail, restaurant facilities, banking, amenity space and conference and leisure facilities. In addition to access to on-site amenities, improvements in public transport services to the business parks are also required.
- Road infrastructure improvements schemes such as A338 Spur Road Improvements and improved airport access will help to alleviate the pressure on the local road network.
- This development will enable the acceleration of plans to create an aerospace centre of excellence that aims to serve both the local economic region and national growth.
- Bournemouth Airport's freight business, which has emerged from the pandemic, is meeting substantial demand and is encouraging long-term investment in the new Freight-First businesses. The airport has been pursuing cargo growth since it was acquired by RCA in December 2017. The grounding of passenger flights and removal of belly capacity from the airfreight market that saw massive demand for capacity has provided that opportunity. Having European Cargo Limited (ECL) based at the airport is a major opportunity.

Threats

- It will be an ongoing challenge to manage and mitigate the negative impacts associated with rapid airport growth and expansion, such as increased noise pollution due to more aircraft take-offs/landings, increased air and road traffic emissions, damage to local habitats and increased flood risk.
- The north of the airport comprises an area of heath and river corridor, most of which has Site of Special Scientific Interest (SSSI) status. The heath is also identified as a Special Protection Area (SPA) in recognition of its international value as habitat for supporting rare birdlife. The proximity of sensitive environmental habitats and European designated sites is a constraint on the level of development that can ultimately come forward at the airport and the business park. The Airport has a long-term stewardship policy to ensure that the SSSI/SPA zones within its ownership are protected, conserved and that species present are encouraged to flourish.
- Fulfilling the future potential of the airport and business park will depend on the implementation of mitigation measures as set out in various assessments and ecological studies that have been undertaken over the past decade. Bournemouth Airport has a clear strategy towards Net Zero, included within which are plans for an on-site Solar PV array which will generate 100% of the site's annual energy needs.



3.4.5 Lands End Airport

Gateway	Isles of Scilly	**Type**	Private	**County**	Cornwall
Owner	Isles of Scilly Steamship Company (ISSC)	**Terminals**	1	**Employees**	n/a

Land's End Airport is the most southwestern licensed airport on the mainland of the United Kingdom, 9.3 km west of Penzance, near St. Just. Featuring four RNP (GPS) approaches and four all-weather runways, the airport is privately owned and operated by the Isles of Scilly Steamship Group. The company's airline, Skybus, operates a dedicated "lifeline" service between the airport and the Isles of Scilly, an archipelago 45 km southwest of the Cornwall Peninsula.[77]

Freight Markets (2021)	Tonnage (2021)*	346 tonnes	*2018/2019 figures could not be obtained
Air Mail (252 tonnes[78])	Air Cargo (94 tonnes[79])	Air cargo is a mainstay of the service offer from the airport and is crucial for supporting communities on the Isles of Scilly. Cargo ranges from pharmaceutical products to working with parcel networks to deliver consumables. The proportion and volume of air mail is greater than many larger airports in the region.	

Demand analysis	% Passenger ATMs (2019)[80]	88.92%	% Cargo ATMs (2019)[81]	11.08%
	% Pax (scheduled) (2019)[82]	100%	% Pax (chartered) (2019)[83]	0%
Passenger Markets	Annual Passengers (2019)[84]	64,056 (CAA)	Aircraft Movements (2019)[85]	8,310 (CAA9)

[77] https://ukfiremag.mdmpublishing.com/a-world-first-for-lands-end-airport/
[78] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2305
[79] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2300
[80] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4646
[81] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4646
[82] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4644
[83] https://www.caa.co.uk/Documents/Download/9115/8cce8a5d-a76b-4652-8fab-41ae2288f104/4644
[84] https://www.caa.co.uk/Documents/Download/3951/e925ed1f-e4b5-4d12-ad1c-e95e0b5b3307/2293
[85] https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2019/annual-2019/

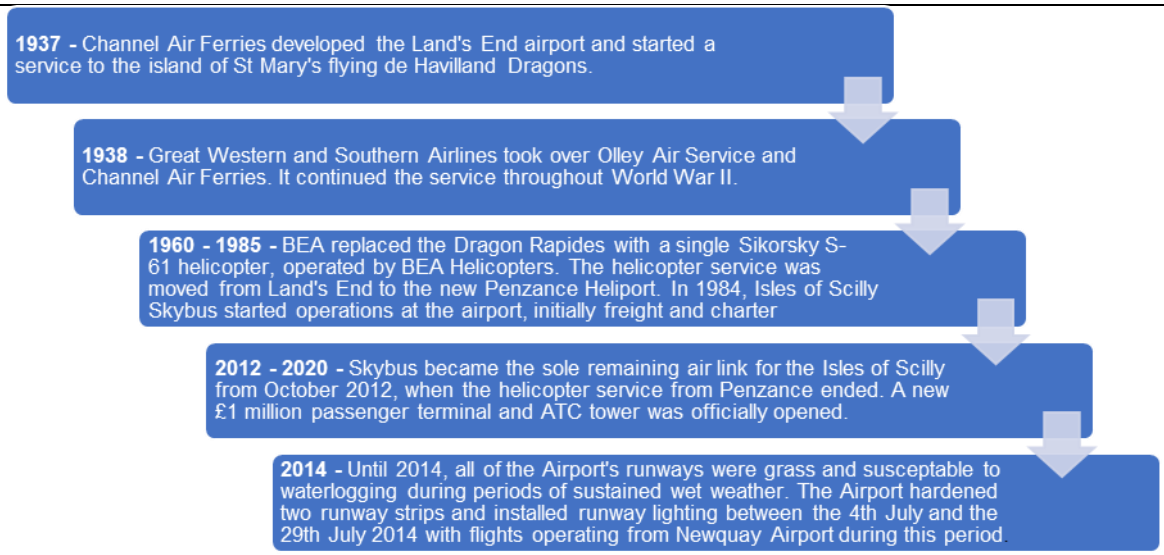
1 Domestic Destinations Served (2018)	0 International Destinations Served (2018)	Top Five Int. Destinations Served – Passengers 2018 1. St. Mary's (ISC)	8,587 (2018) Scheduled Commercial Flights (UK operator) 0 (2018) Scheduled Commercial Flights (EU operator)

Airlines with an Operational Base at Lands End Airport	Airlines Serving Lands End Airport
Isles of Scilly Skybus(ISSC) (Operational Base)	- Isles of Scilly Skybus

Description	Skybus operates de Havilland (Canada) DHC-6 300 (Twin Otter) aircraft, with 17 seats, and Britten Norman BN2 Islander aircraft, with 8 seats, for scheduled passenger services to St Mary's in the Isles of Scilly from Land's End, with additional seasonal services (Mar-Nov) from Exeter and Newquay Airports.			
Site Activities	The passenger terminal features a modern café area with seating for up to 30 people, panoramic views of the airfield and out towards Longships Lighthouse and the Isles of Scilly, outdoor patio areas, internet access and full disabled facilities. There is also a new baggage handling facility, a dedicated arrivals area, new Air Traffic Control tower, upgraded car parks and security and hangar improvements.			
Connections	Road Link	A30/B3306	Rail Link	Penzance Main Line station with dedicated shuttle bus service link to the Airport.
Rail Services	There is no direct rail connectivity to the airport. The nearest train station is Penzance, both GWR and Cross-Country trains operate from there, including the night sleeper service from London Paddington.			
Bus Services	There is a bus stop situated directly outside Land's End Airport. The buses are operated by the First Bus Group. Skybus operate a shuttle bus from Penzance railway station to the airport. The transfer takes around 20 minutes and is timed to coincide with flights.			

Investment Timeline[86]	1937-2014

[86] https://en.wikipedia.org/wiki/Land%27s_End_Airport#:~:text=Cobham%20was%20subsequently%20acquired%20by,1937%2C%20flying%20de%20Havilland%20Dragons.



Significance and expansion plans

- Land's End Airport is an important life-line link to the Isles of Scilly. Following on from recent Airport improvement works, the Airport is now looking to increase its reliability in reduced visibility weather conditions. This will mean that key services such as mainland medical/hospital appointments, stretcher flights, Royal Mail deliveries, newspapers, magazines as well as business trips will be better served.[87]
- It is expected that there may be a modest annual increase in aircraft movements in the coming years if the economy continues to improve. However, the Global Navigation Satellite System (GNSS) procedures will not be the driver of new traffic and will only improve the reliability of the operations already scheduled to operate.[88]
- ISSC has acquired a new Twin Otter aircraft, which will bring its Skybus fleet up to seven (Four Twin-Otters and Three Islanders), increasing capacity for flights to and from the Isles of Scilly.[89]
- Land's End Airport has introduced an enhanced airspace solution to the block of airspace linking the mainland to the Isles of Scilly called a Radio Mandatory Zone (RMZ). The RMZ provides greater protection to all scheduled flights (fixed-wing and rotary) using this busy corridor. The RMZ is approximately 38nm long and 15nm wide (Surface to 4,000ft altitude).
- The Airport has partnered with Flylogix to introduce a daily drone freight service between the mainland and Scilly for a trial period, and work towards a full commercial operation using a bespoke freight UAV within two years thereafter.[90]
- Under 'Project Fresson', the Airport and Skybus are working with Cranfield Aerospace Solutions, Britten-Norman, Rolls-Royce, Ferranti, Delta Motorsport and Warwick Manufacturing Group to develop the world's first zero emissions, regulatory certified, commercially viable, Hydrogen aircraft (a Skybus Islander aircraft) and associated ground infrastructure.
- The Airport is also home to Trinity House operations who oversee/administrate all marine shipping aids from the Needles in Dorset to lighthouses in the South of Wales from their Land's End base. The Trinity House helicopter is also based at Land's End for regular scheduled periods.
- The Airport also has Agreements with SITA (who send/receive transatlantic messages to/from aircraft flying over the Atlantic), Meteorage (French Met Authority), local Flying Schools and facilitates Royal Navy helicopter training from nearby RNAS Culdrose (including night time NVG exercises).

SWOT Analysis

Strengths

- Land's End Airport is the closest mainland gateway to the Isles of Scilly and the reliability of its air services help to underpin tourism that makes up 85% of the economy of the islands. [91]
- The airport is of great local importance as it provides job security and essential lifeline air links to the Isles of Scilly.
- It is an important employer with more than 83 jobs on site, many of which are highly skilled professional roles such as pilots, air traffic controllers, aviation fire fighters, aircraft engineers and others.[92]
- Land's End Airport's fleet mix of aircraft types is made up predominantly of some of the most efficient aircraft in terms of noise, emissions and fuel consumption.[93]

Weaknesses

- The short runway lengths at Land' s End Airport and St Mary' s Airport mean that it is not feasible to operate larger commercial aircraft types on the route.[94]

Opportunities

- The drone trial has the potential to unlock same/next day delivery. This connection could bring significant benefits to the island community, especially when it comes to water sample testing, medical supplies, and other necessities, as services may be

87 https://www.caa.co.uk/media/vuvi3gfp/lands-end-consultation-document.pdf
88 https://www.caa.co.uk/media/vuvi3gfp/lands-end-consultation-document.pdf
89 https://www.caa.co.uk/media/vuvi3gfp/lands-end-consultation-document.pdf
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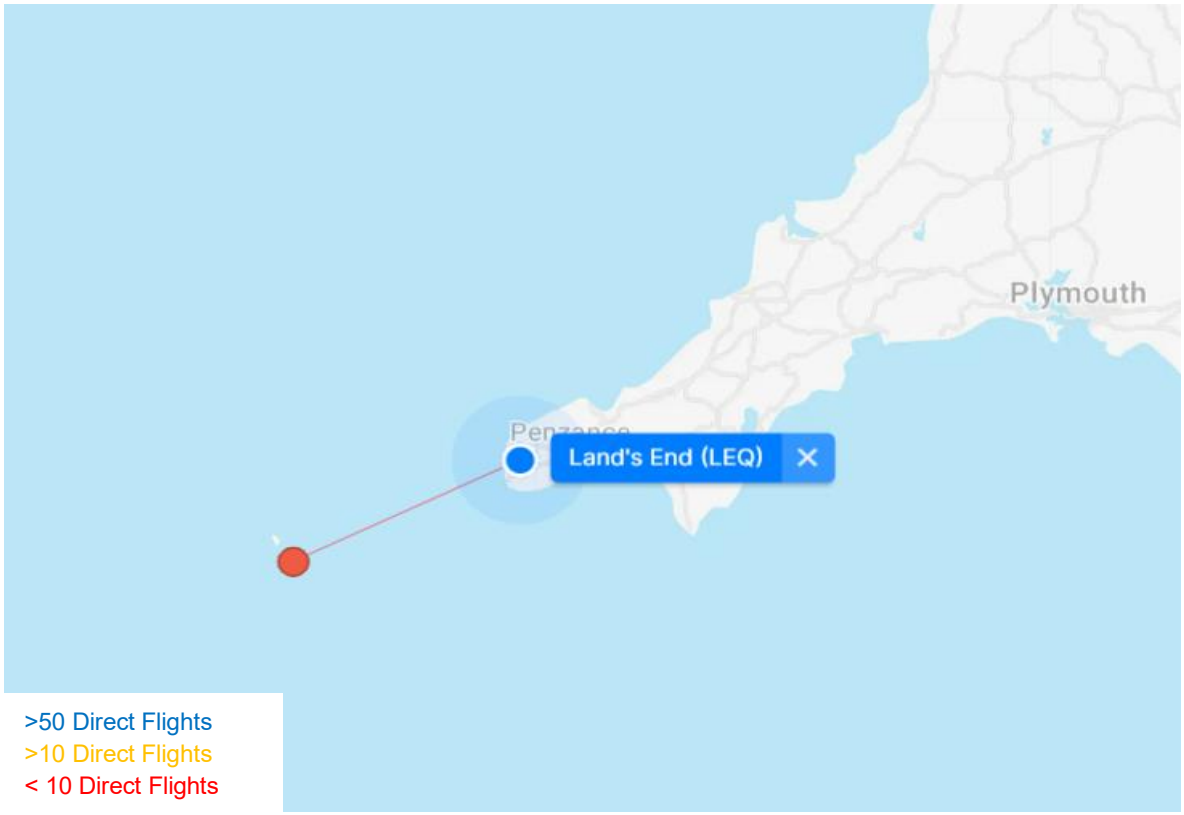
93 https://www.caa.co.uk/media/vuvi3gfp/lands-end-consultation-document.pdf
94 https://www.caa.co.uk/media/vuvi3gfp/lands-end-consultation-document.pdf

	less affected by weather issues than other means of transportation. A drone freight service is not only technically feasible but there is also a potential demand for its ability to deliver time-sensitive and high value items for the island community, using aircraft that have 98% fewer emissions than a manned equivalent.
Threats	
• That other locations see servicing the Isles of Scilly as attractive and they increase existing services or commence new offers in competition. However presently, the airport relies fundamentally on connectivity to the Isles of Scilly and custom derived from airborne travel relative to ferry. Whilst this is likely to be the case into perpetuity, diversification may be necessary to help top up revenues moving forward.	



3.4.6 Other Regional Gateways

3.4.6.1 Weymouth Harbour

Weymouth harbour is located at the Heart of the Heritage Coast of World Heritage Natural Heritage site on the South Coast of England. It is able to accommodate a range of craft and is easily accessible at all times due to the smallest tidal range in the UK. The harbour caters predominantly for recreational craft and pleasures activities with visitor berths are located both on the south and north side of the harbour and facilities being accessible 24hrs daily. In total, there are 800 permeant moorings, mostly owned by the local authority[95]. Fishing fleet is the largest commercial user of Weymouth Harbour with the largest concentration of charter boats in the UK, averaging around 60 annually. Short sea shipping (Ro-Ro) towards the continent ceased in 2014/2015 and remnants of the rail connection to the harbour were removed in 2021 after being disused since 1999.

3.4.6.2 Port of Brixham

The Port of Brixham, owned by Torbay Harbour Authority, is located on the southern aspect of Tor Bay and boasts one of the largest fishing fleets in the UK, plus a thriving fish market; with over 100 fishing boats landing and selling their catch at the local on the quayside.[96]. The harbour area accommodates visitor berthing which is positioned in a non-drying location along the Marina walkway, this facility is known as the Town Pontoon. During the summer season ferries run from Paignton Harbour to Brixham and Torquay every hour. The moorings in the outer harbour comprise of mainly deep-water swinging moorings for approximately 250 vessels whilst the inner harbour, which caters for approximately 50 vessels is tidal.

3.4.6.3 Port of Penzance

Penzance Port, owned and managed by Cornwall Harbours (Cornwall Council) is located in at the Penwith district at far west of Cornwall. The harbour serves as the mainland terminal for passenger and freight services to and from the Isles of Scilly, primarily

[95] Weymouth and Portland Borough Council & Weymouth Harbour (2019) https://www.weymouth-harbour.co.uk/fcimages/files/INF_20190331_Harbour%20Busines.pdf
[96] http://www.ports.org.uk/port.asp?id=154

served by the Isles of Scilly Steamship Company. A regular freight service sails from the harbour year-round. A number of project cargoes have been handled through the port and during recent years it has seen the return of cargo arriving under sail.

There are commercial ship repairs from the dry dock (which has been recently sold to a local engineering firm by the Isles of Scilly Steamship Company) and the harbour can also facilitate loading and unloading of wheeled vehicles via the slipway in addition to the quayside facilities. Penwith Marine Services, who specialise in marine engineering, primarily for the fishing industry, is located on the West Quay. Warehousing space is in demand and the access to the port has been a challenge historically. There are facilities for recreational craft including a public slipway, parking and up to 240 drying moorings together with visiting yacht berths for a further 50 vessels.[97]

3.4.6.4 Ilfracombe Harbour

Ilfracombe is the largest harbour on the North Devon coast and has been in existence as a port for several centuries. It is an ideal centre to explore the many attractions that North Devon has to offer, along with being at a strategic location to reach destinations such as Lundy Island and other harbours along the North Cornwall and Bristol Channel coasts.[98] Current predominant use is for leisure and tourism, however it is still a working harbour with fish and seafood landed daily.[99] There are aspirations to explore a ferry link service between South Wales and the port for passengers (with enhanced first & last mile connections by public transport) to reduce the pressure on the SRN, especially during peak summer periods. This would demand a separate study.

3.4.6.5 Padstow Harbour

Padstow has long been a busy port and part of the port was the port of Wadebridge. As the port grew, the town was built on raised reclaimed land without footings until present day. Padstow and the estuary are evolving and emerging continually. Tourism is a mainstay of the economy, with several ferry services across the Camel estuary including the “Black to Ferry” service carrying passengers between Padstow and Rock daily. Fish trawling is one of the activities on this port, although the industry’s presence has vastly shrunk over a number of decades.

3.4.6.6 Hayle Harbour

Port of Hayle is an important historic mining port, harbour, and former industrial centre located in the town of Hayle on the north coast of Cornwall. It is a thriving and growing port with several developments on the way and has a small fishing fleet along with numerous leisure users and charter boats. The harbour also has several clubs within its limits becoming a focal point of both the town and community.[100] Additionally, Hayle is also part of the Cornwall Marine Enterprise Zone which includes the Marine Renewables Business Park West (Hayle), a high-quality business park which has been built to support marine renewable and marine technology businesses.

3.4.6.7 Appledore Quay

Appledore is a village built on a historic tradition of fishing and boat making. Appledore is home to North Devon Maritime Museum. The quay is dotted with traditional fishing vessels and rubbing shoulders with yachts and pleasure craft, offering cruises up and down the estuary. Seasonal ferries take passengers to Instow village.[101] There is a good opportunity for Appledore, with its (currently) active shipyard to provide local employment through supporting vessel design and maintenance that will be associated with the push towards offshore renewable energy.

3.4.6.8 St Mary’s Harbour

St Mary’s Harbour is owned and managed by Duchy of Cornwall. It acts as the traffic hub of the Isles. It caters around 2000 visiting yachts each year. Harbour users include fishing vessels, local boat owners, inter island passenger launches and ships used of the Island’s mainland connections.[102] The harbour and ye fishing industry it supports, is vital for local prosperity and forms a key component of the local food supply chain.

3.4.6.9 Port of Sharpness

Port of Sharpness is a small port in Gloucestershire. The dock has strong road links and provides easy access to South Wales, West Midlands and M4 corridor. The port is connected to main Gloucester through Bristol railway line with its junction at the former Berkeley Road railway station site (although now forms part of a proposed heritage steam railway). Sharpness Dock can accommodate ships of up to 6,000 tonnes (with cargo) and handles dry bulks, minerals, timber and other products using modern quay-transfer equipment. It is also an important route for leisure boats getting to UK’s inland waterways (via the Gloucester & Sharpness Canal).

[97] Cornwall Council (2022) https://www.cornwallharbours.co.uk/our-harbours/penzance/
[98] North Devon Council (2022) https://www.northdevon.gov.uk/business/ilfracombe-harbour/
[99] Visit Ilfracombe (2022) https://www.visitilfracombe.co.uk/item/harbour/
[100] Hayle Harbour Authority (2022) https://www.hayleharbourauthority.co.uk/
[101] Devon Guide (2022) https://www.devonguide.com/appledore
[102] St Marys Harbour (2022) https://www.stmarys-harbour.co.uk/#:~:text=We%20are%20a%20Private%20Harbour,for%20the%20Island's%20mainland%20connections .

3.5 Section Summary

This section has provided a detailed, granular profile of each international gateway across the South-West of England and helped to illustrate the similarities and differences between the type of goods and the scale of passengers moving through ports and airports. More extensive data for each international gateway, including A4 maps illustrating the hinterland and transport connections (see Appendix A.6), can also be sourced through a separate annexe to this study.

4. Snapshot Statistics

4.1 Introduction

This chapter provides an overview of 'core' statistics to help communicate the trade flows and the role of international gateways across the region for the movement of people and goods. This also takes account of wider, national levels trends. Further datasets and information have been collated in separate annexe appended to this study.

4.2 International Trade

The South-West recorded a total trade balance of 4.5 with the value of traded goods in 2019 amounting to £1,236 billion in total[103]. This is far inferior in comparison to other regions, particularly the South-East of England. The relative scale of imports and exports to both EU and Non-EU markets pre pandemic operated below the UK average (see Figure 7) but the region posts positive trade balances in each instance (a higher level of exports than imports). It is important to note that despite facing towards the continent, higher values of goods are moved between other parts of the world.

There is a similar pattern illustrated for the trade in services for the region. Whilst the overall value of trade in services is well below the UK average, there is still a positive trade balance of exports over imports recorded in 2019 (see Figure 7). 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. Generally, the positive trade balance recorded for the region hints at the level of regional self-sufficiency and ability to balance the needs of the regional populace through imports and exports of goods and services.

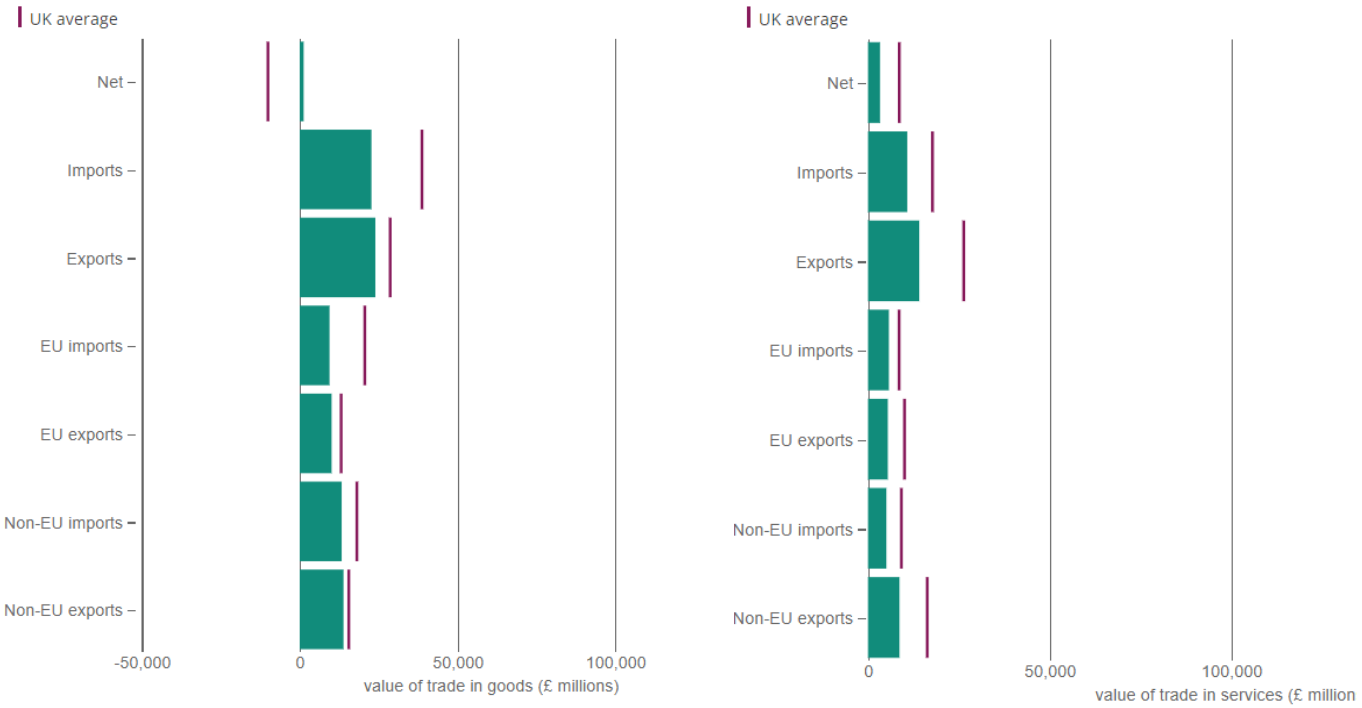


Figure 7 South West Trade Balance (ONS, 2019)

[103] ONS (2019) International trade in UK nations, regions and cities: 2019, https://www.ons.gov.uk/businessindustryandtrade/internationaltrade/bulletins/internationaltradeinuknationsregionsandcities/2019

The South-West region serves a large global catchment area and exports goods to many countries across numerous continents. 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 (Figure 8). The latter is also a key origin for imports to the region alongside Germany, Spain and China; the latter reflecting the reliable supply of consumables and hinting at the dependence on global shipping paths servicing international gateways. It is important to note the negative trade balance recorded in 2021 as a likely consequence of pandemic and the implications on economic activity.

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

are difficult to predict and depend on many factors including geo-political situations, transport and production costs, seasonal commodity cycles and shocks, such as war and conflict.

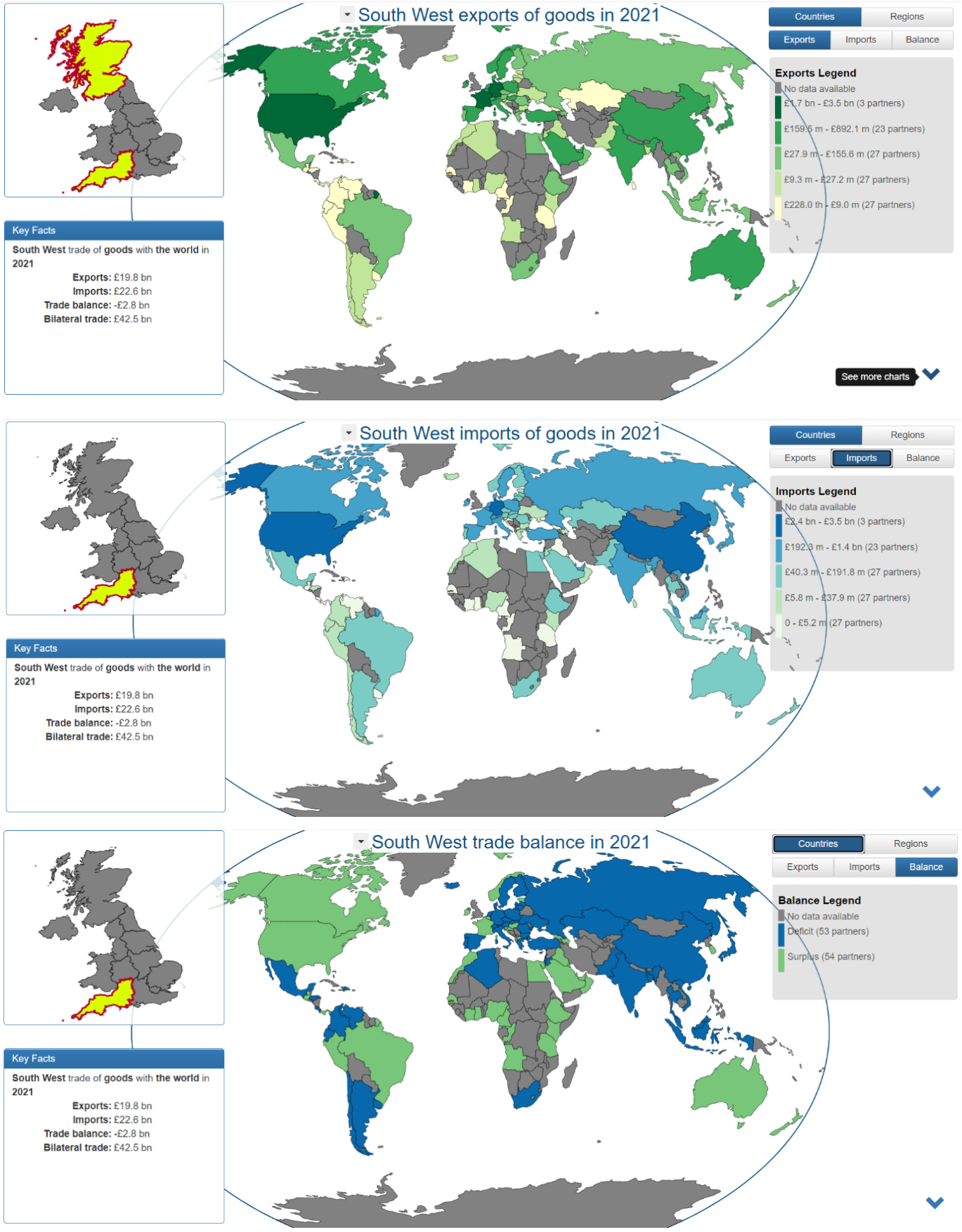


Figure 8 Import and export flows for the South-West of England (ONS, 2019)

4.2.1 Trade in Manufactured Goods

The Peninsula is not renowned for the manufacture of goods and secondary sector industry outside of core conurbations such as Plymouth. The area is also sparsely populated area compared to other parts of the UK. All being considered, the volume and value of trade flows in and out of the Peninsula are limited. In contrast, the scale of exports from the Western Gateway region is third to the value moving from the West and East Midlands; which reflects the presence of industry in major conurbations such as Bristol, Bath and Swindon amongst others in close proximity to major corridors, such as the M4/M5 (see Table 3).

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

A burgeoning area of trade, certainly for international gateways such as the Port of Bristol and regional airports overseeing JIT supply chain deliveries, is wholesale and motor trade imports. Currently, the South-West currently 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.

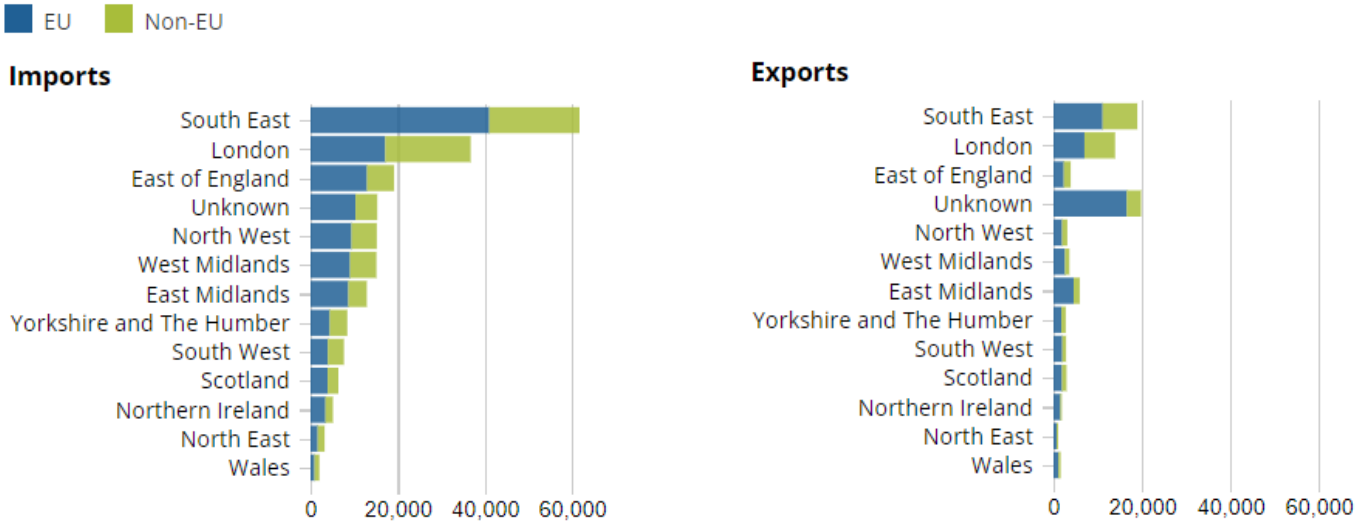


Figure 9 Import & Export of Manufactured Goods (ONS, 2019)

Interestingly, the South-West of England experienced a substantial decline in the number of exporters, 44.1% in total, across the region between 2017-2018; more so than any other region in the UK. This contrasts to the South-East where there is now over 47,600 exporters after a 6.7% increase from 2017 levels[104]. The South-West has a similar number of exporters (13,300) as the West Midlands (13,700) and raises questions about the longer-term prominence of shipping goods and global trade relations in the future,

4.2.2 Trade in Services

The South-West depends more on the EU for the import of services but exports more to the Non-EU countries. 'Services; range from the provision of travel industry activities through to financial transactions and other flows of information. This situation is generally true of most regions across the UK (as illustrated in fig x). Generally speaking, the highest value of net trade locations for services are the US, Rest of the World and Northern European countries (as illustrated in Fig x). The target of the travel service industry should be tailoring their offer around the needs around a non-continental audience and their respective expectations.

[104] Transport for East (2021) Unlocking for International Gateways, https://www.transporteast.org.uk/wp-content/uploads/1b-Unlocking-International-Gateways.pdf

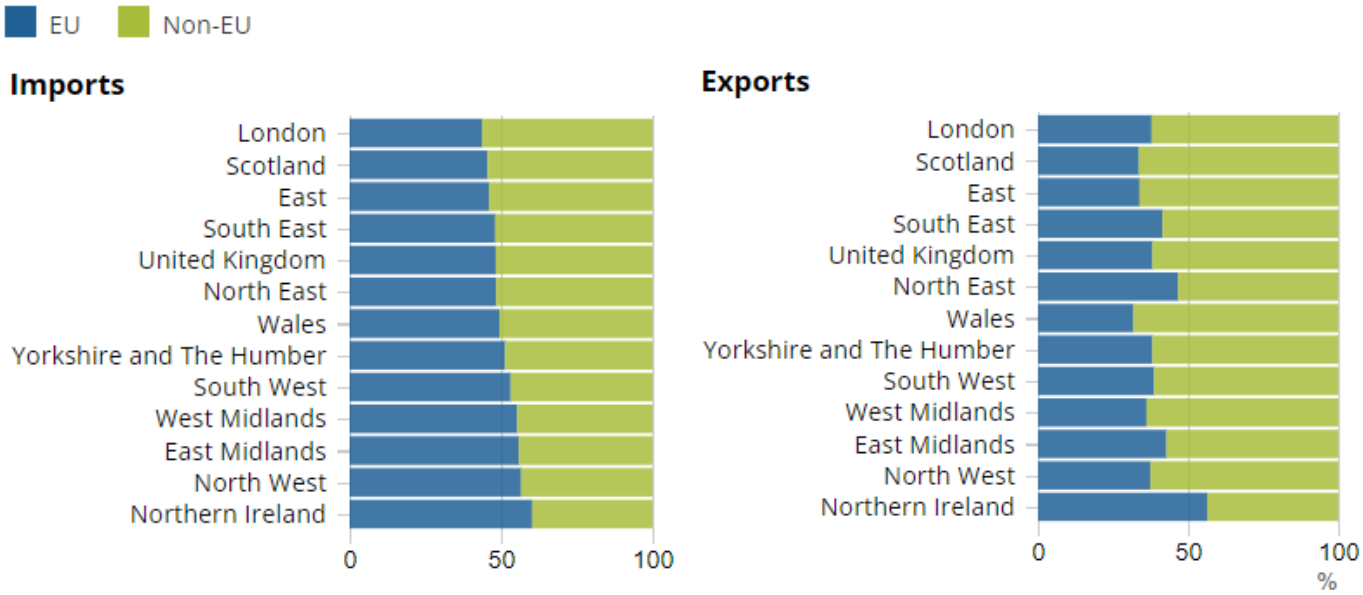


Figure 10 Trade in Services

Region (Peninsula & Western Gateway)	Top Three Net Trade Locations (Services)
Gloucestershire, Wiltshire and Bristol/Bath	USA (£1,212m), Rest of 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)

4.2.3 South-West Gross Valued Added (GVA)

The Gross Value Added (GVA) for a region hints at the productivity and contribution of different economic sectors (and organisations) to an economy. This typically measures the value of goods and services produced and is a useful barometer, in this instance, for understanding the extent to which international gateways can be helping to maintain and grow the role of indigenous industries and the exportation of tangible products and knowledge.

The Peninsula region is growing with emerging strengths in advanced manufacturing, marine, clean energy, agriculture, defence and tourism sectors; contributing nearly £44 billion to the national economy (2016)[105]. 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 Economic Connectivity Studies for both Peninsula Transport and Western Gateway provide detailed insights into the GVA breakdown per sector and the profiling of each ones growth trajectory in the future.

There are burgeoning economic sectors that have yet to reach their potential and will play a definite role in the regional economy. This includes the global space economy, which is anticipated to be worth £490 billion by 2030. 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[106]. 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. Downstream space operations are growing at 2% annually. Similarly, the Maritime industry represents 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.

The defence industry has always played a prominent role across the region. Dorset is a growing UK Defence and Security Hub with vast movements of defence related activity occurring across the region every day. 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,

[105] AECOM (2019) Peninsula Transport Shadow Sub National Transport Body: Regional Evidence Base, https://www.peninsulatransport.org.uk/wp-content/uploads/2020/03/Peninsula-Transport-REBaddendum.pdf
[106] Space IGS (2014) Space Innovation and Growth Strategy 2014-2030 Space Growth Action Plan, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/298362/igs-action-plan.pdf

equipment and real estate blossoming in the county. This is industry-led, with support from the Ministry of Defence but and lacks overall co-ordination and leadership[107]. Improving this co-ordination will, in turn, impact on the growth of the wider manufacturing and engineering sector in Dorset who form the primary supply chain for the cluster. This complements the activity in Plymouth.

In many ways, the South-West of England is developing its own distinctive identity and areas of specialisation which should be closely aligned to the role of international gateways. 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

4.3 Port Statistics

Ports in the South-West play a critical role in contributing towards the regions overall Gross Value Added (GVA) by providing essential services and goods, local employment opportunities and supply chain activity. This amounted to £640 million, around 10% of GVA across all UK regions in 2019 and resulted in 10,100 jobs overall[108]. The passenger traffic moving through ports across the region are short sea crossings and cruise sailings. Data for this section is extracted from DfT maritime statistics online with more extensive accounts of passenger and goods movements captured in two separate summary notes (see appendix). It should be noted that there is inconsistent datasets available via DfT with ports, namely Portland, having no readily accessible data account for freight traffic within the public domain.

4.3.1 Regional Passenger Movements

4.3.1.1 Short Sea Routes

A select number of ports across the south coast offer a (relatively) small number of sailings to mainline Europe. The frequency and relative attractiveness of the regional offer pales in comparison to other ports across the South of England. Dover, and access across the Dover Strait, is the most prominent and critical route for passenger traffic and caters for over 90% of all passenger Ro-Ro (and walk on) volumes across UK ports. With the exception of Portsmouth, which sits within the Transport for South-East (TfSE) area, ports along the south coast and Peninsula/Western Gateway region provide a full service during seasonal highs but a skeleton timetable during the winter months.

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. It is important to note that Weymouth Port was fully functional in 2014, following port closure due safety concerns in 2012 and now caters for recreational craft within the harbour confines.

[107] Dorset LEP (2019) Dorset Local; Industrial Strategy, https://www.dorsetlep.co.uk/userfiles/files/LIS/Dorset%20Local%20Industrial%20Strategy%20-%20Draft%20.pdf
[108] DfT (2019) Englands Port Connectivity; The Current Picture, 9 Regional Case Studies, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/701352/england-port-connectivity-the-current-picture.pdf

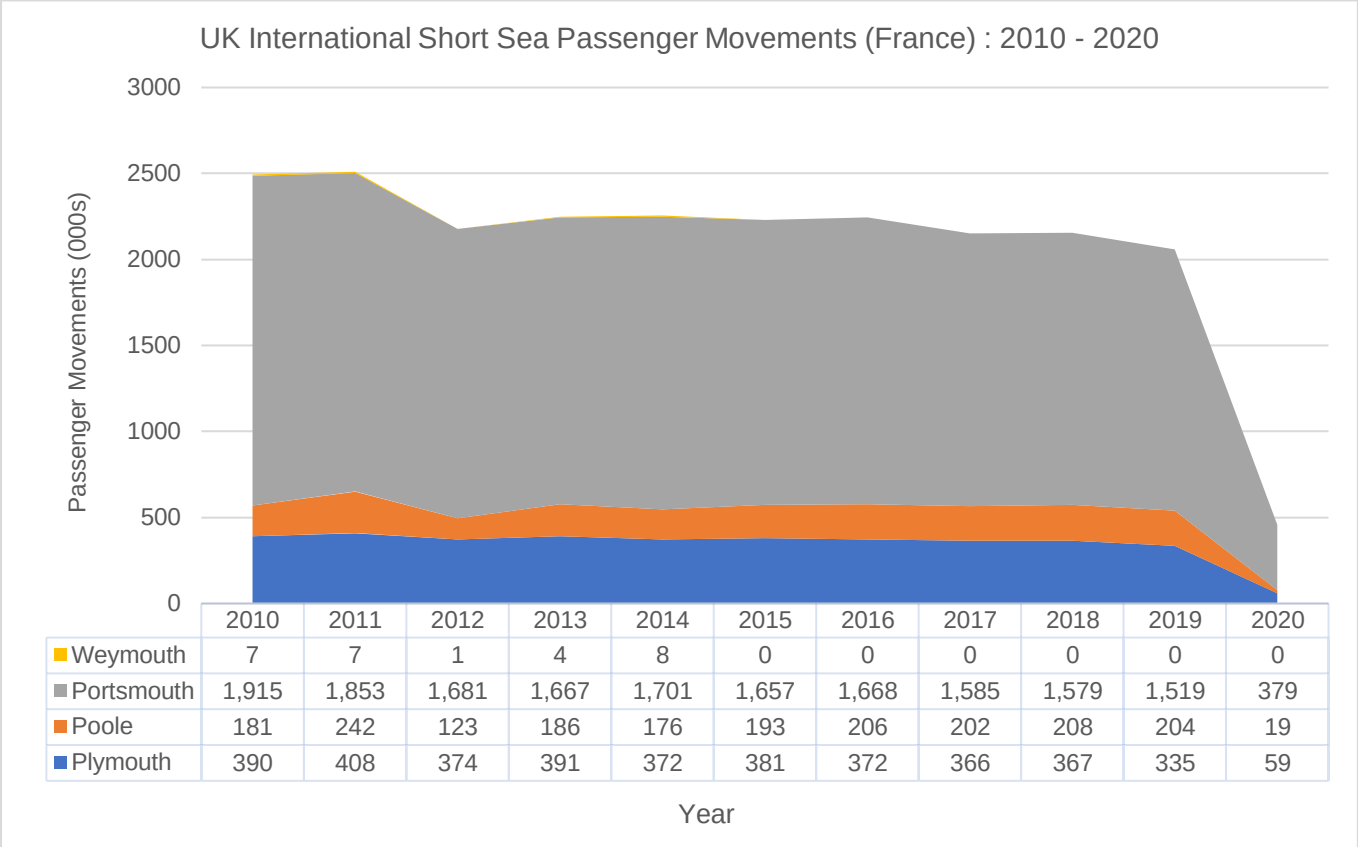
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Portsmouth	2,212	2,065	1,880	1,871	1,913	1,896	1,920	1,845	1,848	1,715	469
Southampton	0	0	0	0	0	0	0	0	0	0	0
Poole	189	252	132	193	294	193	206	202	208	204	19
Weymouth	7	7	1	4	8	0	0	0	0	0	0
Plymouth	484	478	433	457	437	449	440	431	433	425	78
Bristol	0	0	0	0	0	0	0	0	0	0	0
Southampton (Cruise)	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)[109]

The vast majority of passenger traffic from ports within the region (and neighbouring region) moves between Spain and France. Ports, namely Poole and Plymouth have experienced a steady flow of passenger traffic between both countries; with the notable exception of the spike in passenger numbers travelling between Poole and Spain during 2014 in response to the opening (and subsequent closure) of links to Gijon (LD Lines) and the dramatic decline in traffic brought on by the pandemic from 2019. Current demand is still supressed, and passenger levels have yet to reach previous heights, for both passenger and freight movements. In many respects, operators, such as Condor Ferries (Poole) and Brittany Ferries (Plymouth, Portsmouth) compete for the same (relatively small) customer base compared to the scale of traffic moving through the Dover Strait which remains the quickest and most 'obvious' bridge between the UK and Europe even post pandemic and amidst the disruptions presented from leaving the European Union. Connections to the continent from ports such as Poole are key for generating inbound tourism.

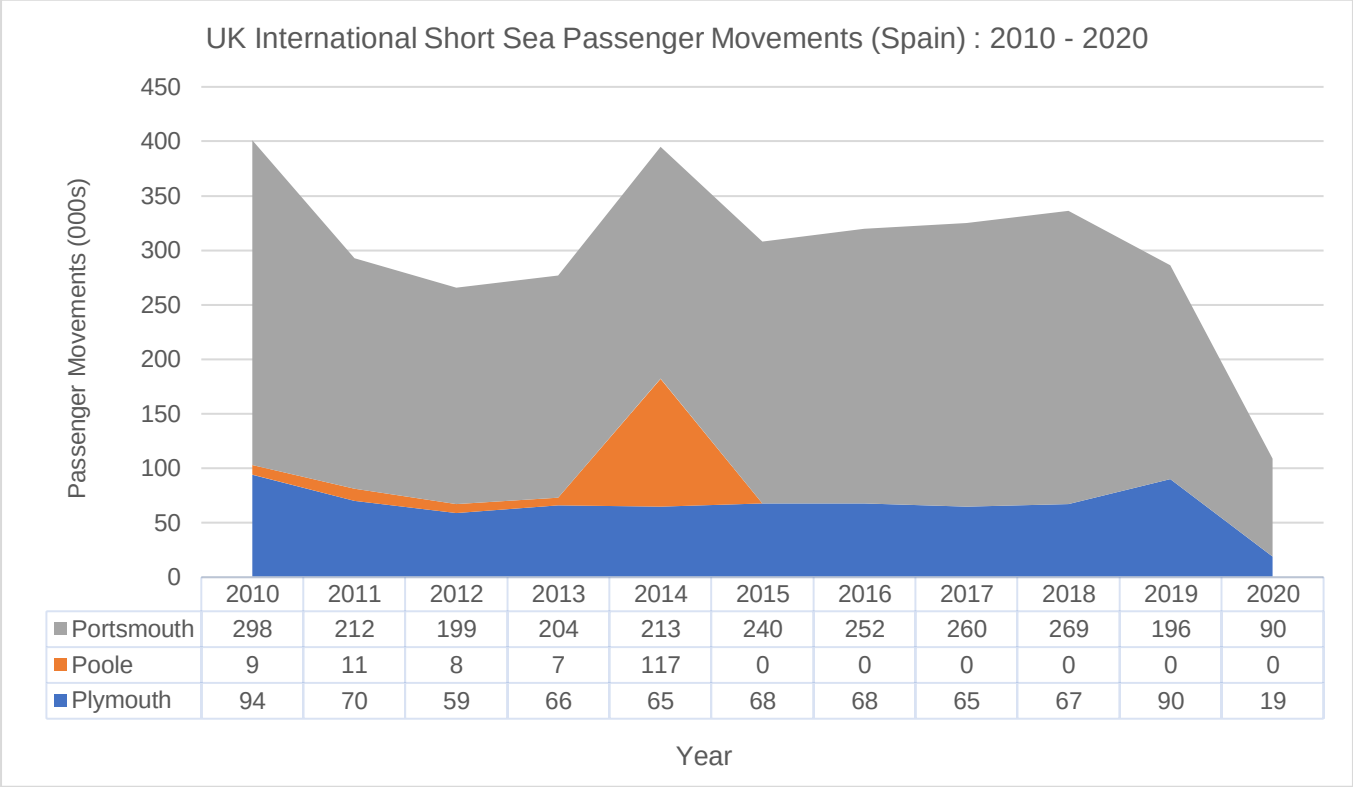
Poole, Portsmouth and previously Weymouth, also provide domestic crossings to Jersey and Guernsey. Route crossings have tended to fluctuate over the last decade (2010-2020) with Poole (and Condor Ferries) proving to be the most popular port for passenger sailings during this period. More detailed descriptions of routes and route patronage can be found in each port dashboard as well as the appended summary note.

[109] DfT (2022) Maritime and shipping statistics, https://www.gov.uk/government/collections/maritime-and-shipping-statistics



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Weymouth	7	7	1	4	8	0	0	0	0	0	0
Portsmouth	1,915	1,853	1,681	1,667	1,701	1,657	1,668	1,585	1,579	1,519	379
Poole	181	242	123	186	176	193	206	202	208	204	19
Plymouth	390	408	374	391	372	381	372	366	367	335	59

Figure 12 International short sea passenger crossings to France (DfT, 2022)



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Portsmouth	298	212	199	204	213	240	252	260	269	196	90
Poole	9	11	8	7	117	0	0	0	0	0	0
Plymouth	94	70	59	66	65	68	68	65	67	90	19

Figure 13 International short sea shipping crossings to Spain (DfT, 2022)

4.3.2 Regional Freight Movements

4.3.2.1 Freight Types

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). Short sea shipping can be best defined as the transport of goods by sea along a coast, across a channel and without crossing an ocean to nearby countries and destinations. This contrasts to intercontinental cross ocean, deep sea shipping (such as that operating out of Bristol and Southampton), which is synonymous with longer voyages, larger vessels and more substantially port infrastructure to handle the highest volume of goods. The English Channel is the most obvious, critical and relevant body of water in the South of England that facilitates the movement of people (and goods) between mainland Europe and UK markets.

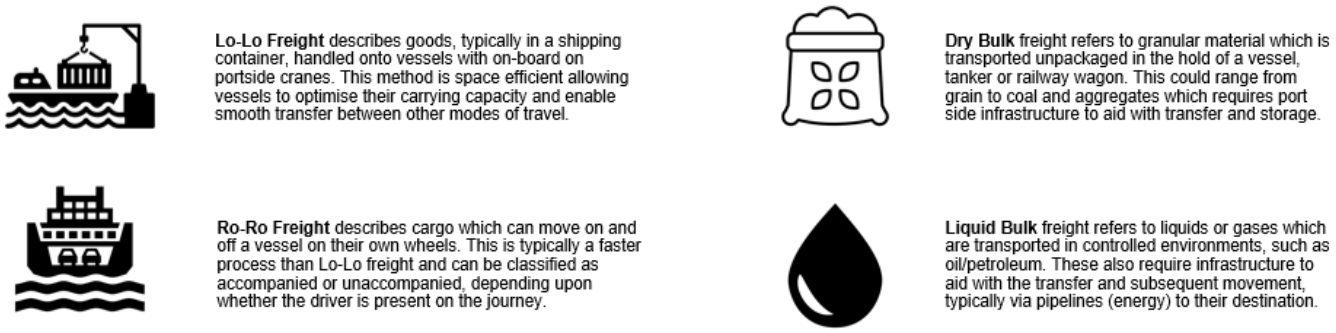


Figure 14 Freight types moving through regional ports (Author, 2022)

4.3.2.2 Tonnage

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 importers and exporters 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 and Western Gateway regions. Plymouth Port moves over two million tonnes of goods, with the majority being inbound.

Inevitably, the larger ports witness a greater turnaround of vessels although smaller ports also host a significant number annually Smaller ports are served by vessels which are shorter in dimensions suited to the length of berths and a lower deadweight tonnage (typically below 20,000 tonne vessels).which is often dictated by water depth. What is a standout feature is the number of 100,000+ tonne vessels visiting Falmouth (73) in comparison to all other major ports with the exception of Southampton (247); with the former accommodating vessels for bunkering fuels (for cruise vessels) and the latter hosting some of the largest container ships in the world. Portsmouth and Poole, as Ro-Ro ports, cater for a significant number of vessels below 20,000 tonnes.

4.3.2.3 Routes

Several of the ports are well established international gateway, with vessels serving a number of foreign destinations. lists out a typical number of destinations and usually the larger ports serve more destinations. The Ports of Bristol and Southampton provide extensive coverage (to EU and Non-EU locations) with other ports typically providing more services along fewer, established routes (see Table 5).

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

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

All ports handle a higher share of international goods (by tonnage) than domestic goods in both directions. However ports such as Plymouth transports a higher share of domestic tonnage (via coastal shipping) than a port such as Southampton (8%), Poole or Bristol whilst a smaller, specialised ports, namely Fowey, are almost exclusively tailored towards the international traffic of goods. A breakdown of commodities per port in tonnes has been provided in a separate summary note with a number of key observations havening been extracted:

- Whilst Southampton is outside the region it is strategically important as a number of goods are transported to and from the South West from the port, typically by road. Given the strong presence of containers, there is scope for modal switch

opportunities using coastal shipping and rail freight to help reduce demand on the road network and support the decarbonisation agenda. The use of rail as an alternative to road is also an alternative to/from the Port of Bristol.

- There are ports such as Plymouth, Bristol and Southampton where the highest tonnage levels were liquid bulk in the form of oils. This is significant with respect to the decarbonisation agenda and the transition away from fossil fuels and how this may have implications on throughout through the ports in the future.
- Dry bulk (steel, agricultural goods, aggregates) and road goods vehicles (across the three Ps of Poole, Plymouth, Portsmouth) are the other staples moving through the named ports currently, Intermodal containers, whilst making up a smaller proportion of overall volume is likely to grow in the future.

It is important to stress that data on all international gateways are consistently reported, such as the Isle of Scilly and the Port of Portland. There is potential to look at how international gateways can better report the goods that they move to help more accurately report the true scale of the goods transported from the South West and the impact it has on the South West's economy and industries.

4.4 Airport Statistics

4.4.1 Passenger Movements (Regional)

The Civil Aviation Authority (CAA) provides extensive accounts on passenger and aircraft movements to and from airports across the UK. A separate summary note has been developed which provides a granular breakdown of statistics to help understand the profiles of individual airports and offers comparisons between them across the region. This section provides a regional overview of passenger movements with some interpretation on what the data showcases for the role of airports as international gateways for the movement of people. Similarly to the previous section on ports, the data available within the public domain is inconsistent.

4.4.1.1 Passenger Destinations/Origins

In summary, 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. On balance, there are more passengers travelling outbound to international (and domestic locations) from living in the region than those travelling for holiday to the region from oversees territory. 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.

The regional airports across the region tend to vie for the same custom whilst serving similar countries (but varying numbers of locations) across the continent and domestically. 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 specific countries and destinations served are captured in the dashboard profiles and summary note with the following observations being noted:

- Regional airports tend to prioritise connections to warmer climates including renowned destinations within Spain (e.g. Alicante, Mallorca), Portugal (e.g. Lisbon, Faro) and the Mediterranean. These are sometimes charted flights and form part of package holidays delivered by tour operators. An (increasing) number of flights are also bound for major continental cities, such as Dublin and Amsterdam as well as Eastern Europe all year round.
- Bristol Airport has the greatest range of international flights and destinations served in contrast to Cornwall Airport Newquay which serves just nine locations across four countries (2018). In contrast, Newquay is an important regional hub for domestic flights including connections to Manchester and Gatwick airports. Likewise, domestic passenger numbers from Exeter and Bristol to other locations, such as Scotland, contribute significantly to airport volumes.

4.4.1.2 Passenger Numbers

Relatively, 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 firth largest airport in the UK (in terms of passenger numbers). Since 2010 (and previous to this time) there has been a similar, positive growth trajectory across all airports until this was dramatically curtailed by the onset of the COVID19 pandemic, lockdown measures and the subsequent travel behaviour change that was forced to ensue.

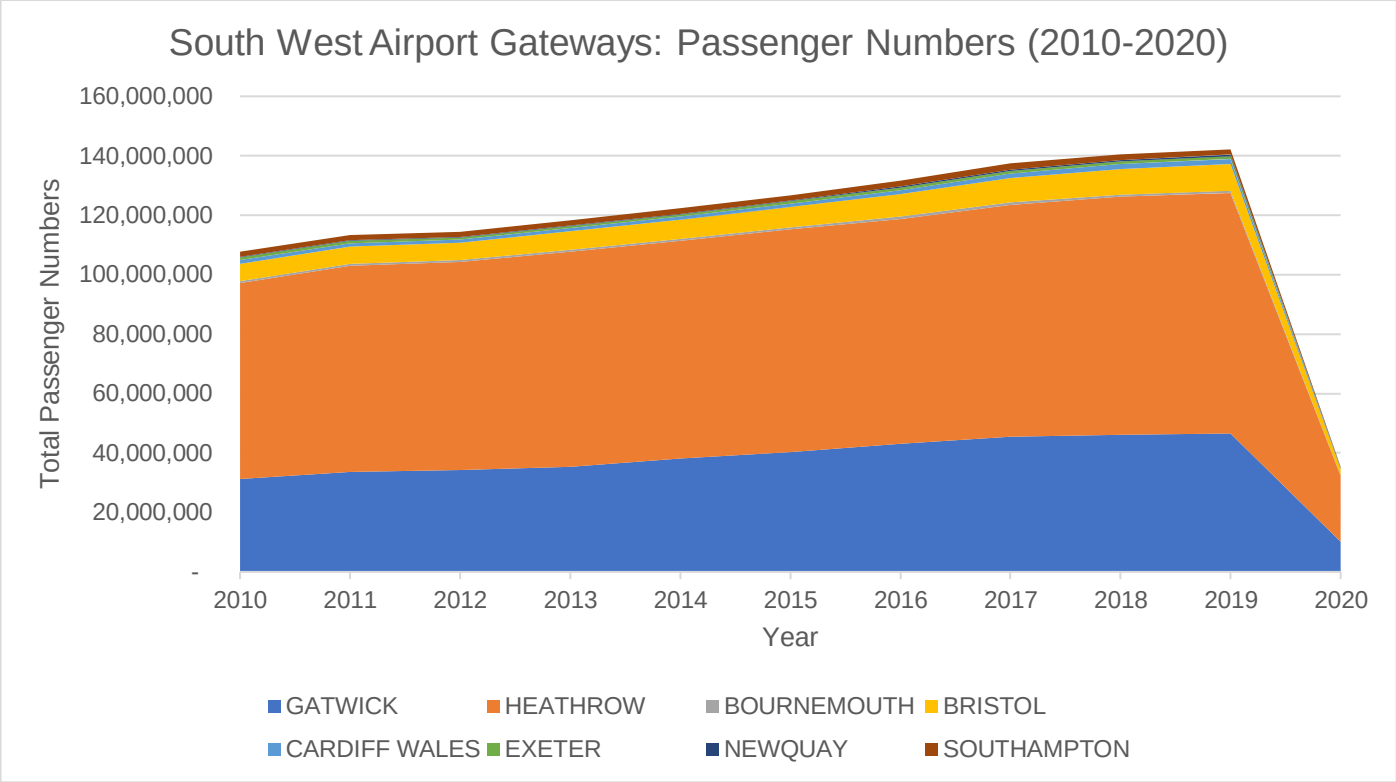


Figure 15 Passenger numbers across airports within the South-West of England (CAA, 2020)

4.4.1.3 Type of Passenger Services

There are a number of observations in relation to the split of scheduled and chartered flights serving airports across the region and the type of operators that are providing the services. Scheduled flights which are most common across the UK and comply to a strict timetabled and passengers purchasing tickets for a set service. Chartered flights are more synonymous with servicing periodic demands, such as summertime (and increasingly wintertime) excursions and involve passengers purchasing tickets through a tour operator for a specific itinerary. Several observations can be made in relation to the regional outlook across the South-West of England:

- Bristol Airport catered for substantially more scheduled flights by UK operators than almost Gatwick and Heathrow combined in 2018 (443,385). This hints at the prominent role of the airport as a regional hub for UK operators (especially when compared to Exeter and Cardiff Airports) and the reliance on this market/audience for serving regional needs.
- The notable absence and/or limited role of European operators in delivering scheduled flights based out of regional airports in the South-West of England; who instead tend to fixate on the major hubs, namely Heathrow and Gatwick.
- Bristol Airport also provides more chartered flights that any other airport across the region. These are overwhelmingly performed by UK operators (as opposed to EU operators). This split is similar for the bigger hubs of Heathrow and Gatwick although the number of charted flights is significantly higher from both airports generally.
- Heathrow and Gatwick also accommodate a significant scale of scheduled flights from other operators which could include a range of craft serving the freight, leisure and international aviation industry (which cannot be easily defined). There is minimal activity of this nature across the South-West of England.

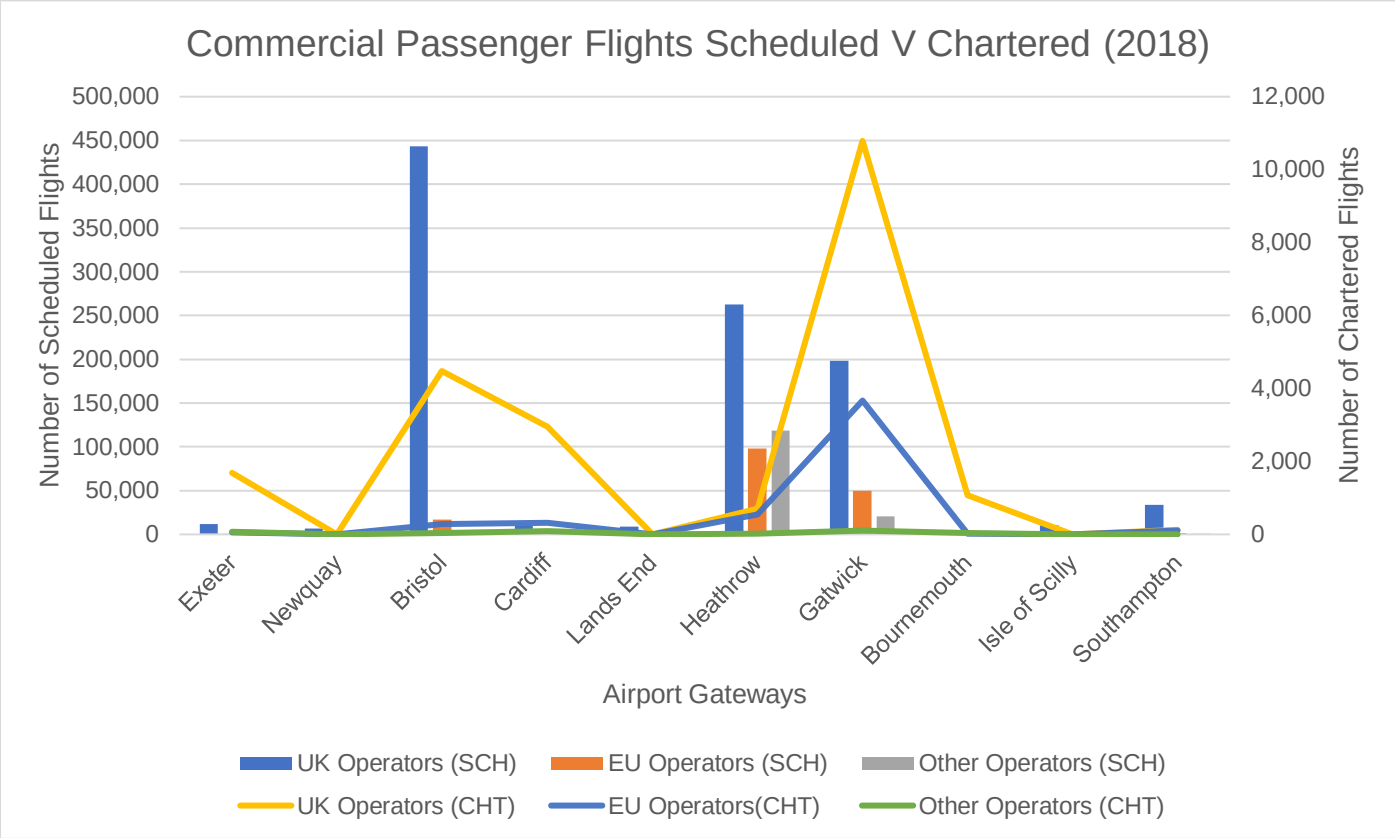


Figure 16 Chartered versus scheduled flights from airports across the South West of England (CAA, 2020)

4.4.1.4 Other Snapshots

The age profile of UK and oversees passengers travelling through the major airports (Bristol & Cardiff) tends to be similar to other airports; with the vast majority being categorised within the 20-24, 25-34 and 45-54 age groups. There is a higher proportion of more elderly passengers, especially across the 45–54-year-old demographic (relative to other passengers) than experienced across London Heathrow & Gatwick. UK business and foreign business travel is also more prevalent across these three groups as a share of all types of aviation travel for Bristol and Cardiff Airports respectively.

There are very limited differences between airports with regards to the split of journey types (e.g. business travel) and traveller numbers (e.g. travelling alone). The obvious and most interesting observation across the airports is the tendency for UK and foreign business travel is typically undertaken by single passengers (over 85%+) whilst a higher proportion of two person travelling arrangements can be observed for UK and foreign leisure excursions (around 20% on average of these journey types). This brings into question how so many single travellers and people travelling together access to the airports sustainably.

The positive experience expressed by passengers using Bristol and Cardiff Airports is similar to using London Heathrow and Gatwick based on 2019 figures. Only a small fraction of respondents scored their experience ‘poor’ or ‘extremely poor’ and the majority, over 40% in all instances, stating that it was either ‘good’ or ‘excellent’. This suggests that there is limited differentiating factors influencing choice of airports for aviation travel, at least based on this metric.

There were significant differences observed during the process of exploring the origin/destination of terminating passengers across the same four airports. Somewhat inevitably, the travel catchment area for London Heathrow and Gatwick was far more wide ranging; extending out to more regions across England (to varying degrees) although with the highest proportion of passengers (82% & 75% respectively) starting or ending their journeys within the South-East of England. In contrast, almost 95% of all passengers moving through Cardiff Airport travelled within Wales and a fraction from across the South-West of England and West Midlands. Interestingly, Bristol Airport is a huge pull for passengers from Wales too (21%) although over three quarters of passengers move within the South-West of England.

Bristol and Cardiff Airports, relatively to other major airports, facilitate a nominal number of passenger transfers; acting more as a destination for terminating international and domestic flights. This is commonplace for most UK airports with the exception of London Heathrow and Gatwick (and Manchester/London City to a limited extent) who are hubs for onward travel by all modes.

4.4.2 Freight Movements (Regional)

At a national scale, shippers pay airlines up to £3.1 billion annually to carry 2.3 million tonnes to freight, providing in excess of £1.3 billion in benefit to the shipping companies[110]. The proportion of GVA dependent on-air freight is quite significant for the South-West and hints at its importance as a sector for supporting to the economic prosperity of the region. The movement of transport equipment, computer/electronic materials and other manufacturing products are generally in accord with other regional averages whilst there is limited metal moved using air freight to serve this industry (see Figure 17). The summary note on 'Freight Data_Ports & Airports' provides a detailed breakdown per airport.

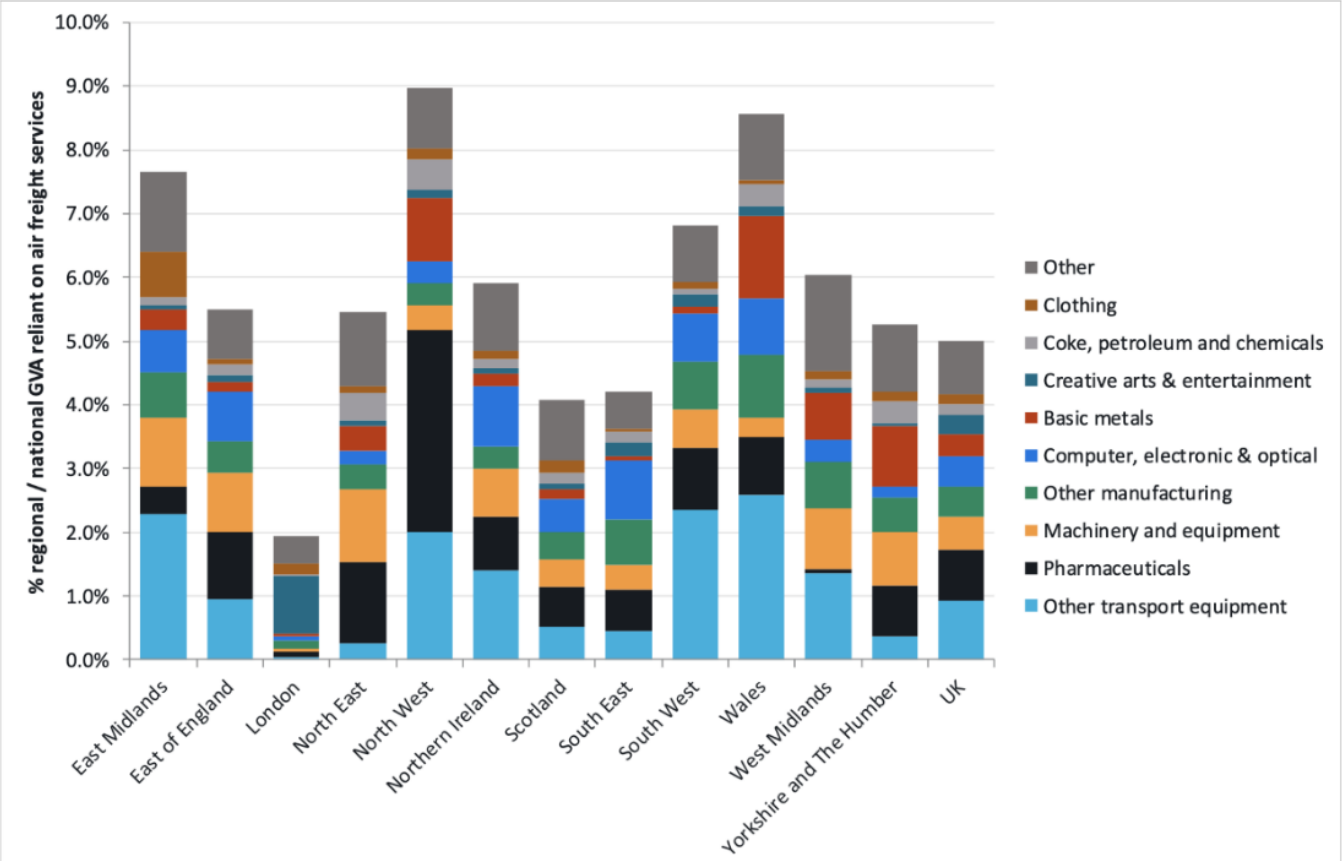


Figure 17 Regional GVA reliant on-air freight services (Transport for the East, 2021)

4.4.2.1 Air Cargo Movements

Air cargo can be transported in several ways, either on dedicated cargo aircraft or in the belly hold of passenger aircraft or by road movement to international cargo hubs. provides the number of cargo aircraft movements that occurred in 2018. This is heavily dominated by Heathrow due to its wide range of international services (and ability to cater for greater numbers and sizes of aircraft) and the facilities on offer in comparison to regional airports.

Airport	Cargo plane movements in 2018
Cardiff Wales	1
Exeter	492
Heathrow	2,972
Lands' End/Isles of Scilly	1,699
Southampton	1

Table 6 Cargo aircraft movements (CAA, 2020)

Interestingly, despite handling over 1.5 million tonnes of freight, Heathrow has a very small proportion of freight moved by dedicated cargo aircraft, especially in comparison to the Lands End' and the Isles of Scilly,; where almost half of freight goods moved was by dedicated cargo aircraft. Generally speaking, most cargo is carried in the bellyhold of planes at regional airports although airports , namely Bournemouth, are looking to expand into becoming a designated cargo hub working with partners operating dedicated

[110] Transport for the East (2021) Transport Strategy: Unlocking International Gateways, https://www.transporteast.org.uk/wp-content/uploads/1b-Unlocking-International-Gateways.pdf

services within this space. smaller airports in the South West typically move more goods domestically in the UK. As the airport size increases more goods are moved to and from EU and non-EU countries.

Airport	EU – tonnes	Non-EU – tonnes	UK – tonnes
Bristol	3.8 (52%)	0.2 (3%)	3.3 (45%)
Cardiff Wales	15 (1%)	1,444 (99%)	0.1 (0%)
Gatwick	1,516 (1%)	110,916 (99%)	168 (0%)
Heathrow	110,790 (7%)	1,573,430 (93%)	917 (0%)
Lands' End/Isles of Scilly	- (0%)	- (0%)	139 (100%)
Newquay	0.02 (1%)	- (0%)	2.74 (99%)
Southampton	44 (19%)	- (0%)	189 (81%)

Table 7 Internal and domestic freight tonnes (CAA, 2020)

4.4.2.2 Air Mail

In terms of air mail, a significant volume of mail being moved through Exeter which is solely moved by dedicated cargo aircraft. Lands' End and Isle of Scilly is the next significant mail movement within the South West which is split between passenger and cargo aircraft. This shows the importance of keeping these essential services maintained for the Isles of Scilly. A large proportion of the smaller airport primarily move domestic mail in comparison to the larger airports. Most of the EU and non-EU mail is moved by the larger hubs of Gatwick and Heathrow. Some of the domestic flights will be transferring mail to the major international hubs as part of their supply chain routes.

4.5 Section Summary

This section has highlighted the crucial regional role that ports and airports play in supporting the movement of goods and people as well as the relative prominence of international gateways located outside the region. Ports and airports have a crucial role in facilitating access to market for particular sectors and industries and serving the regional economy. The scale and volume of passengers and goods moved pales in comparison to other regions and the trajectory of future growth is uncertain due to a combination of the trading climate post leaving the European Union, the longer-term implications of the pandemic on global supply chain and consumer behaviours. There are, however, opportunities to better connect and link up sectors, such as tourism and advanced manufacturing with the services on offer through ports and airports across the region.

5. Stakeholder Consultation

5.1 Introduction

A core component of the study required the need to liaise with a cross section of representatives across the region who would provide insights and feedback on the role of international gateways and the relationship with constituent ports and airports for the movement of goods and people. Similarly to parallel workstreams, such as the development of the Freight Strategy, this process was 'frontloaded' in the delivery timeline for the study to provide sufficient time to engage, collect and collate information and report on the key findings. More importantly, this exercise in listening and recording stakeholder insights could help identify and steer future areas for investigation and ultimately help direct the narrative and objectives of the study.

This chapter provides a high-level overview of the methodology applied to the stakeholder consultation and a summary of the key conclusions. The full consultation report has been appended separately.

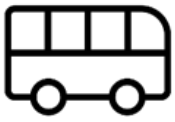
5.2 Methodology

5.2.1 The Audience

The study of international gateways and their relationship to both the movement of goods and people, required liaising with several representatives at a local, regional and national scale. A comprehensive database was collated; comprising of contacts involved in the formation of the aforementioned freight strategy and the rail equivalent, alongside renowned organisations with a regional operation or presence. This was supplemented with personnel details courtesy of the officer group on specific subject matters of interest alongside the consultant teams own internal department leads. The database can be viewed separately upon request and features a log of engagement activity with the following parties. The number indicates the feedback gathered from each category of stakeholder. It is important to caveat that the profile of the stakeholder group may not be wholly representative across industries.

Freight Generators 2

Organisations creating significant demand for goods movement via international gateways



Transport Operators 6

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

Public Authorities 4

Organisations who create the legislative, policy and regulatory framework for the region

Gateway Managers 6

Organisations responsible for managing and coordinating surface access operations

Trade Associations 2

Organisations who represent the interest of industry and report on future trends and scenarios

Market Interests 1

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

Academic Institutions 1

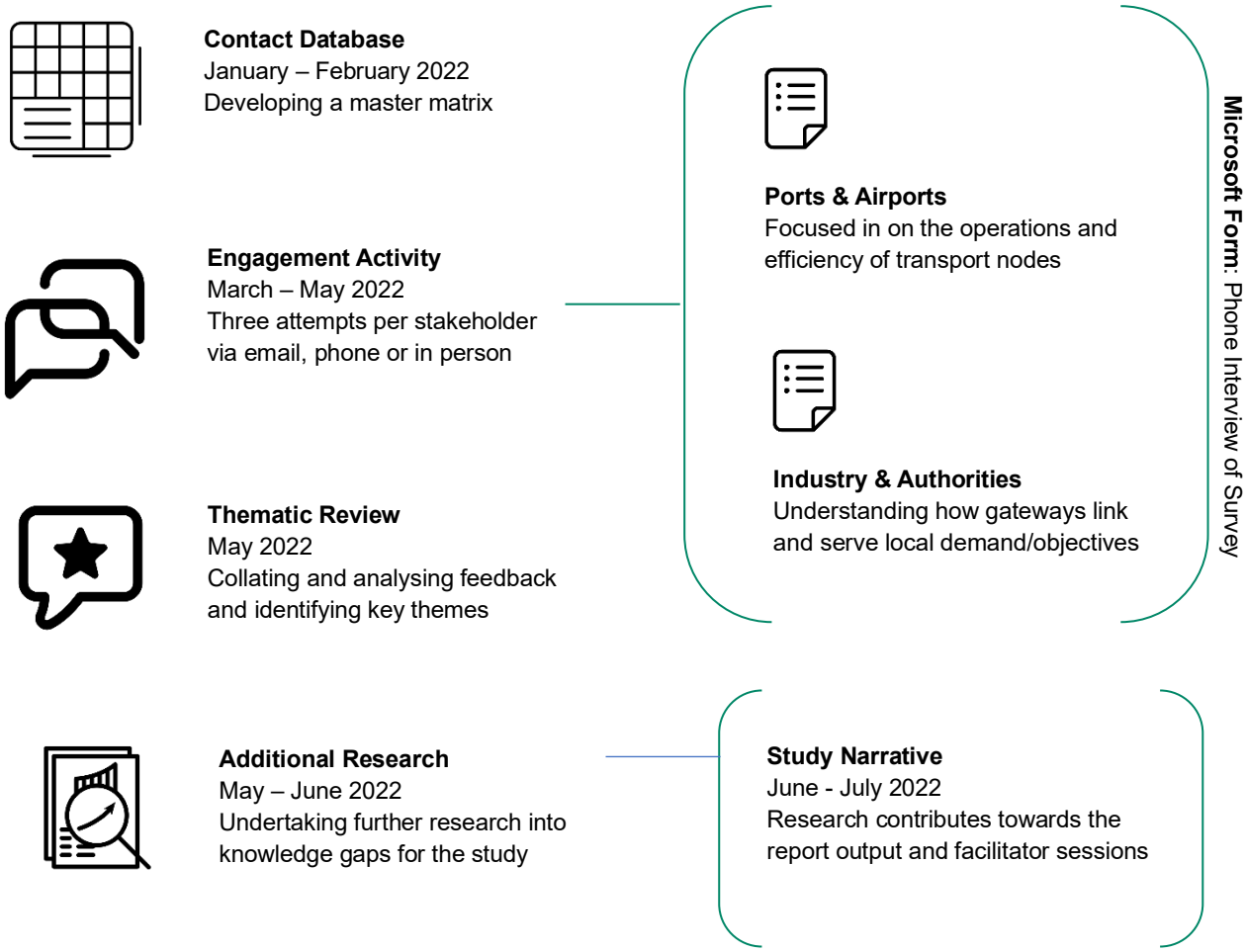
Organisations who conduct research and partner gateways on relevant subject matters

Infrastructure Owners 3

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

5.2.2 The Engagement Steps

A decision was taken during the initial scoping phase of the study to develop a methodology for engaging with stakeholders that 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 'interpretative' way of conducting the actual engagement with representatives across the different organisations 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 throughout the duration of the study and the steps taken to glean good quality feedback and insights.



5.2.3 Discussion Subjects

The discussion subjects varied slightly depending on the stakeholder and the Microsoft Form survey used. However, the questions posed aligned closely with the objectives of the study to capture meaningful and relevant feedback and insights. Much of the content captured (particularly from gateway operators) would also feed into the development of the dashboard profiles for each respective international gateway. The discussion subjects, and the rationale for posing the questions, were as follows:

Objectives/Discussion Subjects	Rationale
Understanding the flow of goods and people through international gateways (within and outside the region)	To gauge what volumes and commodities are likely to continue growing in the future (nationally/regionally)
Understanding gateway operations, services and catchment areas as well as surface access routes	To picture the offer and competitiveness of gateways relative to others across the South of England
Capturing gateway history, future potential in line with emerging trends and scenarios	To help plan for the physical, operational and behavioural interventions required for the future
Understanding current and future constraints impacting performance and efficiency	To begin scoping the role and responsibility of key actors to unlock growth and the partnerships required

Determining growth, development and diversification opportunities short and longer term	To understand the development roadmap for gateways tied to burgeoning market opportunities
Identifying barriers to be removed for improving sustainability and efficiency	To gauge the relative scale of investment and decision making required and by whom this rests
Detailing connections with markets and facilities outside the Peninsula area	To help scope where gateway locations need to be looking for unlocking supressed demand

Table 8 Objectives and discussion points (Author, 2022)

Early engagement was made with key leads of parallel workstreams, namely for the emerging rail strategy and economic corridor analysis to avoid duplication, or worse, contradictory messaging. Selected feedback generated through the stakeholder consultation as part of the Freight Strategy was also incorporated into this study with the notable exception of individual haulage companies within the freight and logistics industry.

5.3 Value of the Findings

5.3.1 Headlines

The stakeholder engagement process was a hugely valuable exercise in developing a strong narrative for the study. The feedback received has helped to create a clearer understanding on the factors influencing the role and growth of international gateways and the value of their component parts; alongside the challenges and opportunities linked to macro and micro level factors. In summary, **diversification** is at the very heart of understanding and planning for the current and future role of international gateways across the South-West of England. The need to diversify service provision, strategic and site-based operations, is influenced by the combined implications of four emerging factors, namely:

- **New Markets**: Burgeoning new sectors, such as renewable energy, advanced manufacturing and the cruise industry are requiring international gateways, and their immediate hinterlands, to adapt accordingly. The rise in e-commerce, which accelerated during the pandemic, is fuelling demand responsive supply of goods quickly and in substantial volumes.
- **Legislation**: Emerging policy discourse surrounding the 'levelling up' agenda and associated freeport designations, alongside existing enterprise zones, are creating the conditions for economic growth and concentrated economic activity; which supports and relies on access to international gateways. This includes skills development, access to employment and the introduction of new technologies.
- **Decarbonisation**: The golden thread running through the recovery plans of whole industries and forming a critical component to informing future investment decisions. Net Zero is demanding transport providers and international gateway operators to explore ways to mitigate the impact of their activities; from surface access arrangements to supporting new sustainable business activity.
- **Digitisation**: Moving beyond the physical infrastructure to incorporate ways in which new technologies, such as smart ports and through ticketing, to enhance operational efficiency and deliver a seamless experience for passengers and goods movements respectively. Data and knowledge sharing between institutions is crucial to unlocking opportunities for diversification and monitoring performance. This is reflected through 'smart port' developments in Plymouth, Falmouth through to Bus Services (Flixbus).

5.3.2 Societal Trends

Diversification and the four factors shaping this process, are also influenced by current and future trends. These shape market demand and ultimately the dynamics and speed of societal change, which filters down to how international gateways are used for movement of goods, people and their role, beyond being conduits for trade and traffic flows. Some of the core, macro trends include:

- **Leaving the European Union**: This has had a profound impact on the flow of trade through continental facing ports and airports, with additional customs and security requirements impacting the speed of transfer and reliability/availability of routes. Labour shortages have impacted workforce availability (such as drivers for international road haulage) and inbound visitors coming to the UK.
- **Localisation**: The implications of supply chain disruptions experienced during the pandemic have led to re-shoring or near-shoring business activity. Energy, cost of living and conflict add to the desire (and need) for greater self-sufficiency. This is not true in all cases and future trends also hint at forging greater links with non-EU markets (e.g. Port of Bristol have strong non-EU market and added flight destinations).
- **Changing Demography**: Domestically, a migrational pull towards the region during and post pandemic for businesses and residents seeking a better quality of life and access to international locations. Rise in affluence across the Far East also opening up opportunities for serving new tourist audience who also 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.

5.3.3 Services

The type of services and commodity flows providing and moving through international gateways has been forced to change in response to new markets and the implications of the aforementioned 'macro level' factors. This presents many opportunities going forward.

- **Commodity Flows: Consolidating Markets**

The South-West of England, particularly international gateways within the Peninsula, are heavily orientated and shaped towards serving the regional economy and are likely to remain so in the future. The scale and volume of bulk flows (e.g. animal feed), via regional ports, may be pending the implications of the energy crisis and conflict on supply chain costs in the future. Ports are also aiming to differentiate themselves with many competing with each other for international trade. Heathrow and Gatwick are likely to remain the dominant gateways for goods moving internationally in and out of the region, whilst burgeoning aspirations for an expanded cargo hub, to serve the South-West at Bournemouth Airport, take shape.

- **Commodity Flows: Emerging Markets**

The is a real opportunity for the region's ports to support burgeoning industry sectors, such as the EV automotive industry (imports/exports of raw materials and completed vehicles), advanced manufacturing for aerospace and maritime sectors and renewable energy schemes (FLOW). Bristol Port, for example, competes with Southampton but is primed for continuing to serve the automotive industry and proposed development sites (Gravity Park, Somerset) with ports along the south coast maximising the region's 'natural powerhouse' for harnessing wind and solar energy. Regeneration activity and freeport status (Plymouth) also aim to facilitate supply chain activity, with Exeter and Bournemouth seeking to serve express logistics and 3PL demands. Potential growth will need to be considered alongside enhancements to road connectivity to facilitate additional demand.

- **Passenger Services: Building Resilience**

To maintain the competitiveness and economic viability of regional international gateways demands a spread of reliable services and providers operating through the year. Addressing seasonality of ferry services and publicising the capacity and function of ports. Harbours may enhance the appeal of services for both freight and passenger markets, especially where they are actively promoted (from both sides of an international gateway). Expanding the range of airlines in operation safeguards against future fluctuations in the economy and looking towards business models that do not rely on car traffic to fuel revenue generation.

- **Passenger Services: Developing Domestic Draw**

Developing a quality customer USP experience at regional international gateways, such as dovetailing changes in Air Passenger Duty to boost domestic flights (aviation), working with Destination Management Organisations (DMOs) to boost place-based marketing, through to promoting international audiences (ports) and creating 'stations as places' across the rail network, to coincide with boosting tourism and business travel patronage.

5.3.4 Operations

- **Last Mile: Mode Shift to Rail**

Developing infrastructure, namely strategic terminals, facilitates the strategic movement of goods from major international gateways, such as Southampton and the Port of Tilbury, through to the South-West region. Removing long distance road haulage via the SRN corridors from the South-East generally is a key priority to mitigate the impact of traffic flows on congestion and journey time reliability (especially during peak tourism seasons). Mode shift also extends to unlocking supressed rail demand and dovetailing proposed upgrades in station facilities, to cater for better connections to airports across the region. National Highways is supportive of the need for mode shift from road to rail. This can help to relieve congestion on the SRN as well as reducing emissions. However, it needs to be recognised that new strategic rail terminals will need to be planned carefully and with appropriate highway access to avoid increasing congestion locally. Strategic rail terminals are a potential solution to relieve the SRN but the "last" mile requires careful planning and consideration depending on where the terminals are sited and their core function (in terms of flows). The rise of new technology, roads digitisation and decarbonisation of fleets, particularly alternative fuel technologies, will have a beneficial impact on providing improved transit and supporting achieve sustainable transport.

- **Last Mile: Enhancing Door2Door Journeys**

Providing convenience to current and prospective audiences through the provision of integrated travel offers (e.g. ticketing) and enhanced physical connectivity for making a seamless journey, using multiple modes of transportation. This may require and involve changes to governance arrangements at a regional level from a devolution agreement to facilitate multi-modality. Door2Door encompasses the need to develop safe and efficient routing between cognisant ports and inland origins or destinations, including ensuring network resilience.

- **Innovation: Alternative (Sustainable Fuels)**

All international gateways are becoming key nodes for expanding the provision of alternative sustainable fuel technologies, with potential to cater for multiple vehicles, aircraft and vessels. Unlocking funding potential to de-risk investment could help scale up decarbonisation across industries to help reach net zero. Ports and airports can make ideal hubs for hydrogen (e.g. Port of Plymouth and Land's End Airport) and electric propulsion, via shoreside power (ports), or charging networks (railway stations).

- **Innovation: Burgeoning Knowledge Clusters**

Facilitating specialist economic clusters which are redefining the role and custom of international gateways and their immediate hinterlands beyond a narrow role as conduits for movement; with added emphasis on creating employment zones, supporting skills development and developing living laboratories for experimentation. The region is extremely well positioned as an international leader across aerospace and maritime research and development and is attracting inward investment and migration to the region.

5.4 Section Summary

The following infographic attempts to distil the core findings and messages into a single plan on a page. As implied in the previous section, diversification is critical to the development course of international gateways in response to a set of prevailing societal trends and factors. Whilst industry increasingly looks to respond and adapt, whilst remaining responsive to current and new markets, public authorities can help support and coordinate, both financially and legislatively, to enable the transition to take place to the benefit of the region.

The infographic also implies 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 navigating the fallout of leaving the European Union and conflict in Ukraine on international trade through ports/airports. 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 regions distinctiveness and natural attributes to support new industries and improve local and strategic connectivity.

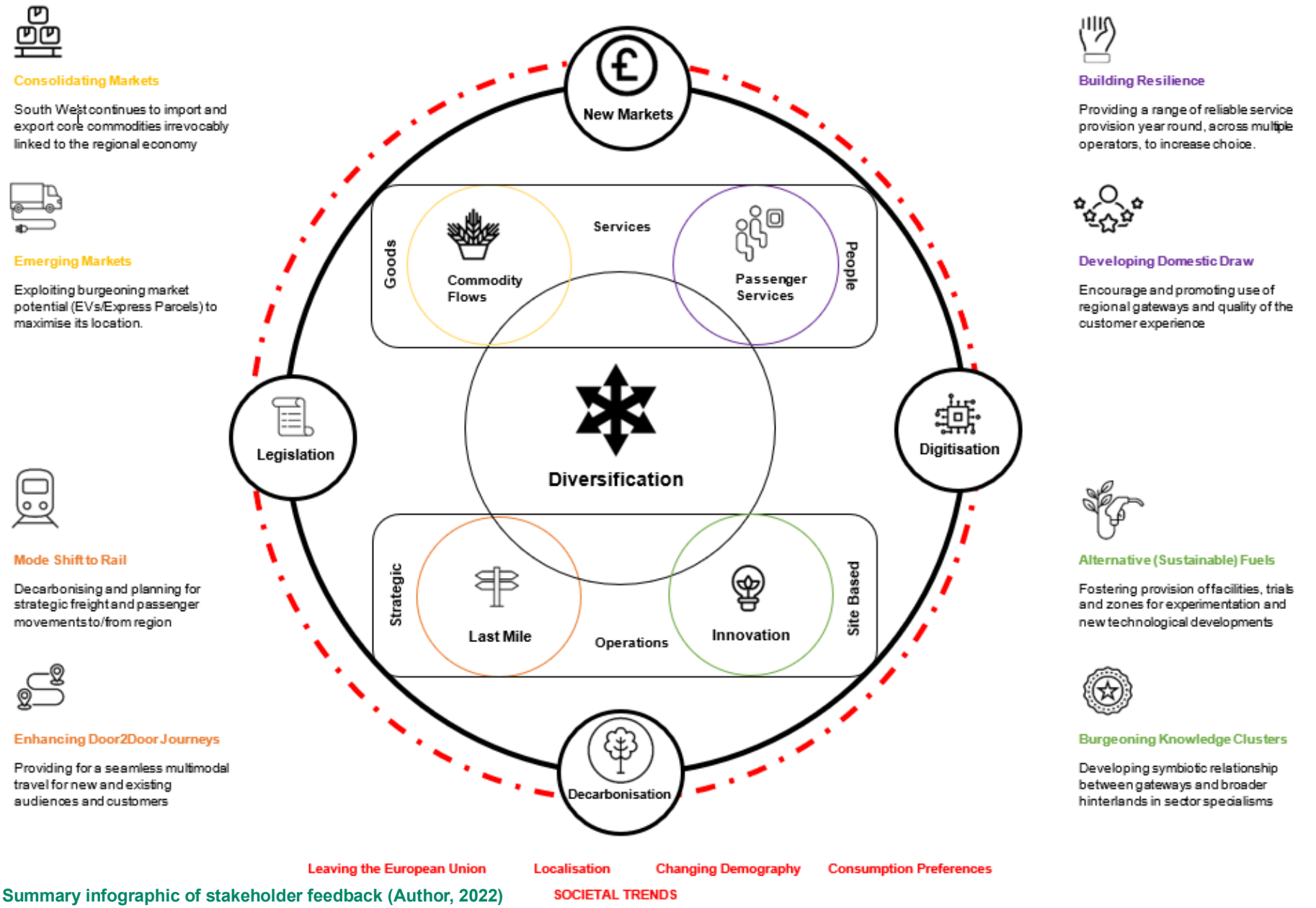


Figure 18 Summary infographic of stakeholder feedback (Author, 2022)

6. Regional Drivers

6.1 Introduction

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.

6.2 Levelling Up Agenda

The recent release of the UK Governments '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. International gateways, fundamentally intertwined with local social and economic dynamics of 'place', are key catalysts for unlocking new opportunities and addressing geographical disparities. Urban areas, including coastal towns and peripheral communities based around ports, airports and international interchanges, suffer disproportionately from high levels of deprivation, crime and poor health and wellbeing.

The agenda provides a framework of six 'capitals'. International gateways across the region can help in almost all instances to leverage each capital through their own actions and the relationships and connections locally and regionally. The agglomeration of all capitals maximises their role as engine of inclusive, sustainable and virtuous growth with exemplary transport connectivity working alongside a growing and high skilled workforce. The table below (Table 9) provides a high-level assessment of the relevance of each capital by applying a traffic light scoring system against how they are supported or facilitated by international gateways (green = high, red = low).

Capital	Description	Supporting Gateways	Facilitated by Gateways
Physical	infrastructure, machines and housing	Crucial. Transport connections and links	Conducive site operations & facilities (e.g. fuel bunkers)
Human	Skills and health of the workforce	Supports emerging R&D and business clusters	High wage, safe & secure employment options
Intangible	innovation, ideas and patents	Drive to decarbonisation, and operational efficiency	Providing the space & land for growing enterprises
Financial	financing of companies	Unlocking R&D and trials of innovative schemes	Funding through airlines & transport operators (match)
Social	communities, relationships and trust	Reducing brain drain and concentrating loyalty	Communities with strong sense of regional/local pride
Institutional	leadership, capacity and capability	Championing role as local anchor institutions	Raising industry standards & regional competitiveness

Table 9 Levelling Up 'Capitals' and alignment with International Gateways (Author, 2022)

A number of the 'Levelling Up Missions' outlined in the white paper, will help to support and can be facilitated by international gateways across the region. This includes:

- Raising domestic public investment in R&D outside of Greater South-East of the UK by 40%. International gateways, a hot bed for emerging industries, trials and scaling up innovations are ideal testbeds to bring together public and private sector investment long term.
- Enhancing local public transport connectivity closer to the standards of London, with enhanced services, simpler fares and integrated ticketing. To date, the transport network across the South-West of England has been fragmented and does not facilitate multi modalism. The seeds of change are being sewn through devolution (West of England)
- Increase in skills development; providing 200,000 more people with higher quality skills training annually with just under half from lower skilled areas. Ports and their incumbent coastal communities are primary targets for action (and monitoring); especially if this can be combined with the proposed 'skills bootcamps'.
- Local Leadership provided through greater devolution and simplified longer term funding settlements to plan effectively. This sits alongside city deals in places such as Plymouth, through to industry leadership and further mobilising Local Enterprise Partnerships (LEPs).

There is a real opportunity across the region to continue building on existing embryonic economic clusters and centres of innovation and job creation to satisfy the expectations of the levelling up agenda. the 'Great South-West' has a vision to become the leading region for green and blue economy and can use its competitive advantage and local distinctiveness to boost its sustainable credentials as a leader in it field. There is an opportunity to take advantage of the £299m R&D settlement secured by DfT for decarbonising transport to trial zero-emissions road freight, invest in maritime emissions reductions in and around major ports and

leverage private investment into decarbonised transport schemes across the UK. There are already international gateways across the region that are benefiting through the Levelling Up Fund namely the addition of three new vessels and upgrades to the ferry serving the Isles of Scilly. Over £48 million has been spent on a designated passenger, cargo and inter island vessel alongside related harbour improvements at Penzance to enhance lifeline links to communities and businesses on the Isles of Scilly.

International gateways in the South-West will help facilitate and benefit from this new economic model and should look to take advantage of funding via the British Business Bank Regional Investment Funds and Global Britain Investment Fund. Over £200 million is assigned from the former to Cornwall and the Isles of Scilly where there is potential to better link up St Just (Lands' End) with inland communities and tourists seeking to access the Penwith Heritage Coastline. The UK Shared Prosperity Fund, a component part of the Levelling Up Agenda, focuses on investment across three core areas; communities and place, people and skills and supporting local businesses. These are all synonymous with international gateways who have an opportunity to outline local labour and skills requirement to match the introduction of investment in skills provision as well as to better utilise brownfield land or partner for enhancing transport services to site.

There is a heavy reliance on the private sector, who mainly own and operate the majority of international gateways, to facilitate wealth creation and uphold the UKs competitive advantage. However, there is some debate as to whether globalisation has peaked and whether a process of reshoring, driven by autarky nationalist policies, are driving a move towards localised supply of goods and employment activity. Near shoring is also an approach that seeks to minimise the dependency on East Asia for the manufacturing and supply of goods to Europe. The emphasis placed on upskilling the workforce for a high skilled, high wage economy espoused within the Levelling Up Agenda is symptomatic of this trend away from securing cheap labour abroad. This may also represent the shift away from a high consumer economy towards a service and knowledge based quaternary economy; typified by 'specialist' and 'advanced' sectorial growth and agglomeration activity around international gateways. A separate summary note has been developed focusing on the role of international gateways as 'anchors' for the local economy.

6.3 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 catalytic impact on regenerating communities by incentivising development and stimulating economic activity around major international gateways. They are designed to boost trade and foster 'portcentricity'; the diversification of sea and airports into more holistic economic catalysts. This is a symptomatic move towards regional regeneration as part of the levelling up agenda with freeports enjoying 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 timing of the designation is significant as it mirrors the transition period and disruption taking to international movements of goods and people in response to leaving the European Union, the COVID19 crisis and changes to global shipping practises. The designation of freeports are emblematic of a reshoring of economic activity and more autarky polices within the UK to provide high skilled employment as well as shortening supply chains, diversifying added value services whilst still maximising access to domestic and international markets via the strategic road and rail networks. They are a flagship component of the Governments Levelling Up Agenda to foster a high wage, highly skilled workforce of tomorrow.

6.3.1 The Plymouth & South Devon (PASD) Freeport

The aim of the Plymouth and South Devon (PASD) Freeport will be to harness the power of high value manufacturing sectors across the marine, defence and space industries alongside addressing a shortfall in logistics and warehousing availability. The freeport aspirations are underpinned by the drive towards decarbonisation and digitisation of various sectors, including freight and logistics, whilst working with academic institutions and upskilling the local workforce to build a more resilient, sustainable and productive economy. Transport connectivity is essential to unlocking opportunities and the presence of the Port of Plymouth is an integral component of the designation for supporting supply chain movements and facilitating international trade. The freeport, which links into the Plymouth City Deal, is set to drive many benefits (Figure 19) and spans several sites, with various functions, as described below (also see Figure 20):

- **South Yard in Devonport (2022-2025);** This encompasses the Oceangate development and major anchor tenants such as [Princess Yachts, Babcock International and the Ministry of Defense (MOD). A core aim is to develop underutilised buildings and deliver a marine innovation centre, mobility hub and manufacturing facilities to the value of £63 million.
- **Langage Energy Park (2022-2027**): A large greenfield site situated in close proximity to the A38 Devon Expressway that will incorporate a customs zone (for tax purposes) and support high value manufacturing and engineering companies linked to marine, defence and space sectors. The site will play host to a green hydrogen plant and mobility hub and upgrades to sustainable transport infrastructure, such as active travel connections over the A38, to facilitate better connectivity with the rest of the city.
- **Sherford Employment Zone (2022-2025):** The development of integrated warehousing, logistics, storage and engineering space linked to its role as a tax and customs site which maximises its convenient location off the A38 Devon Expressway. The site will be heavily tailored towards expanding operations within new economic areas for Babcock as the major locale employer in the city (7,200 employees).

- **Port of Plymouth at Millbay Docks (2022-2027):** Transport and access improvements across the city include upgrades to enhance the flow of traffic around Millbay Port and Cattewater Harbour. ABP have also committed £5.7 million with a £1.3 million public sector investment in the developing new port infrastructure to ensure adequate additional capacity and to provide enhanced freight facilities for the movement of additional, new commodity flows and space for the burgeoning renewable energy sector on site.

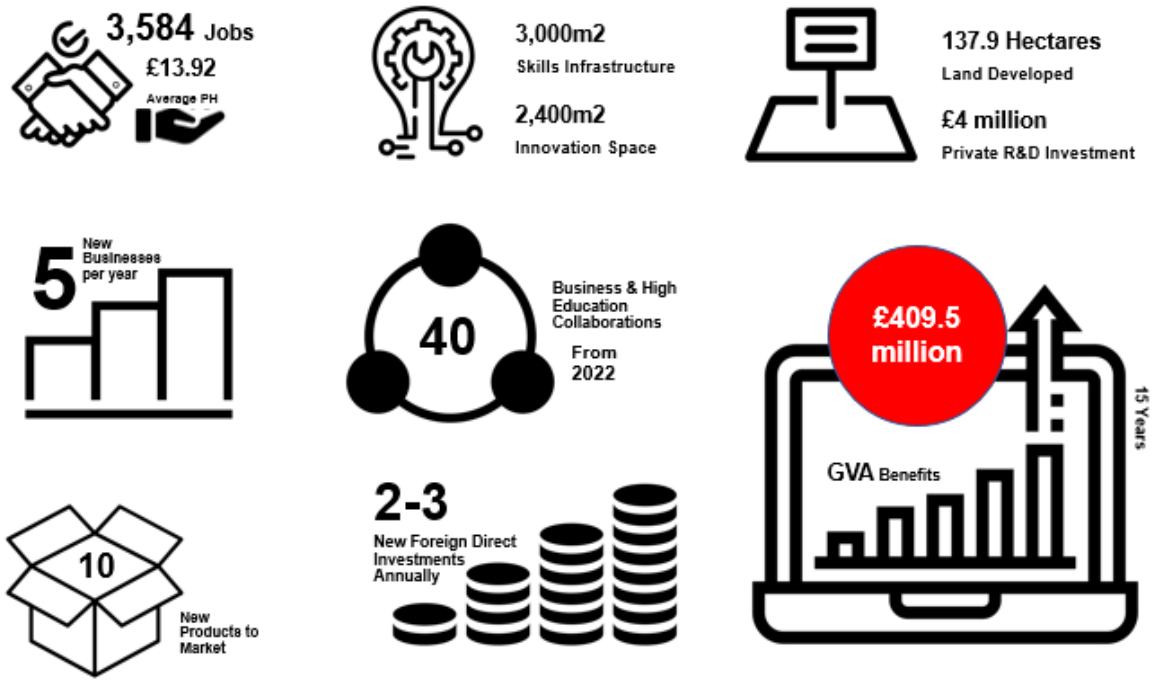


Figure 19 Overview of Plymouth & South Devon Freeport benefits (Author, 2022)

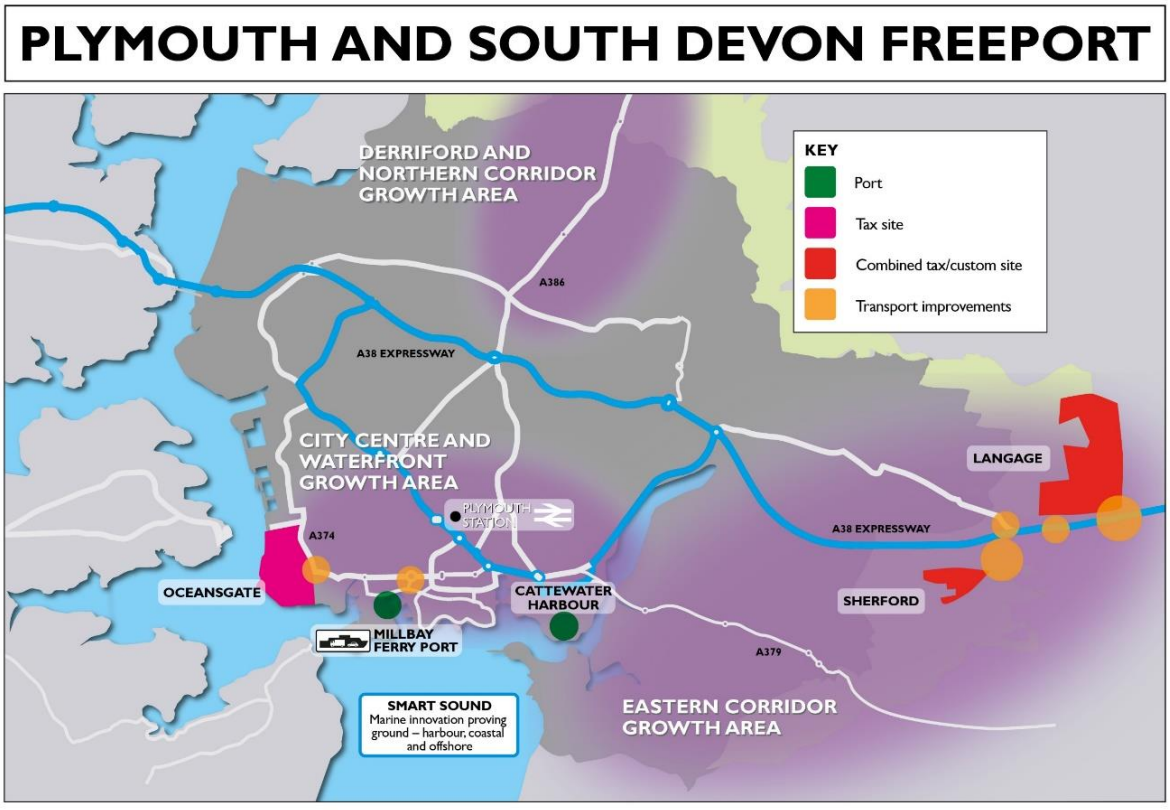


Figure 20 Map of the Plymouth and South Devon Freeport coverage (Plymouth City Council, 2022)

Oceangate
'Oceangate' is the premier incubator for productivity led growth; bringing together emerging marine technologies and laboratories with academic research partners, to become a gateway for international investment as well as a local centre for research and development. The city is a strong exporter of goods, and the Plymouth Plan acknowledges the scope for businesses to reap the additional rewards for international trade facilitating by its international outlook and connectivity to the world via comprehensive Research and Development (R&D).
The Marine Business Technology Centre (MBTC) is testament the marine centric activity and is an integral part of the smart port developments proposed in Plymouth which will help enhance port efficiency, decarbonise its operations and aid with revenue diversification longer term. This is crucial with the economic viability of the port currently relying on tonnage throughout during a period of some uncertainty for future freight flows and commodity markets.

The Freeport designation in Plymouth can take advantage of the city regions excellent connectivity and role as an international gateway in several ways. This includes:

- Generating new supply chain activity across the region including prototyping and conveying new products to the international marketplace and scaling the movement of manufacturing products moving through the Port of Plymouth. This would serve in the ports best interest as tonnage is the primary means of revenue generation.
- Unlocking land through coordinated investment in the road infrastructure, namely the A38 Devon Expressway which is a core route for both people and goods travelling within the city region and on strategic paths towards the rest of the UK. Reliable local and strategic access is a pre-requisite to foster further economic agglomeration. Sustainable travel links are also crucial for accessing workplaces and port access improvements are a pre-requisite for boosting port trade.
- Fostering relationship between major landowners, public and private sector organisations and trade associations to coordinate investment for mutual gain and to raise publicity and profile of existing services and provision offered through international gateways. This includes aiding with the diversification of the ports activities and enhancing operational efficiency (e.g. through Smart Port developments)
- Unlocking mode shift and enhanced rail connectivity for goods and passengers, especially if customer demand increases and streamlined planning processes can overcome notorious issues with siting Strategic Rail Freight Interchanges or developing rail terminals. This may include, with additional research, terminals at Tavistock Junction or reinstating the mothballed Cattewater Branch, especially if new intermodal or bulk traffic arrives/departs via Cattewater.

The freeport designation offers an opportunity for the Port of Plymouth to support the movement of trade in and out of the city concurrently with the rise in high value manufacturing and engineering imports and exports. Enhancing the visibility of opportunities by bringing together representatives of both industries, namely ABP, Plymouth City Council and the Plymouth Manufacturing Group representing businesses, would be a natural first step to discern exactly what can be achieved. This includes whether current shipping lanes, sailing types and capacity is conducive to the emerging market (e.g. Ro-Ro versus Lo-Lo).

Anchor Tenants at Plymouth Port
Princess Yachts are a key 'Anchor' tenant employing 3,000 staff within the South Yard Site. The company is seeking to consolidate Plymouth's role as a centre for luxury yacht manufacturing through utilising existing land provision and repurposing MOD land with a £21 million investment in a factory for building the next generation of yacht models. This will ultimately create 450 new employment opportunities and supporting regional supply chains.

The freeport status has stimulated further interest in coastal shipping for movements to bigger ports downstream (e.g. Southampton) to help offset HGV activity on the road network and decarbonise the supply chain. Promoting and supporting clean propulsion and reducing the ports carbon footprint are mutually reinforcing objectives with a clear opportunity being earmarked to lure marine engine manufactures to the city and also provide sufficient on-site capacity at the port to support the burgeoning offshore renewable energy industry. The lack of on site and berth capacity and laydown space has previously been a barrier to exploring new market territories which may be more land intensive. The freeport designation may therefore offer a chance to secure space inland to store, process and transfer goods as well as processing vehicles (HGV and passengers) using services.

Achieving the predicted benefits of the Freeport in full will require further investment in transport infrastructure as the highway network in the Plymouth area, including the SRN, is already under severe pressure. Additional congestion is forecast as a result of development contained in the Local Plan and National Highways' view is that further traffic growth expected from the Freeport is expected to be problematic for the road network, even accounting for the planned Major Road Network Schemes.

6.3.2 Solent Freeport

Whilst outside the South-West region, The Port of Southampton, also under the auspices of ABP, have latched on the potential of the freeport designation to leverage new clusters of economic activity and the infrastructure requires to inflate its status as an international gateway. Inspiration can be taken from the develop of strategic sectors, similar to economic zones across the

Peninsula region, focusing on marine, aerospace and defence, advanced manufacturing, engineering, transport and logistics businesses, low carbon and the visitor economy. Port centricity has the potential to unlock 3,000 new jobs and approximately £150m p.a. in Gross Value Added (GVA)[111].

Interestingly, the determinants of any enterprise zone performance is associated with existing infrastructure and transportation links and the importance placed on improving connectivity. Growth in Southampton will be heavily constrained by congestion and delays; reducing productivity and discouraging inward investment unless upgrades to the road and rail network are made concurrently. Unlocking constraints will enable the port to grow from contributing £1.75bn to national GDP to £2.9 billion by 2030. Southampton, despite running a different business model and a different scale of operation, demonstrates the causality between connectivity and economic performance for international gateways.

6.3.3 Great Western Freeport

The Port of Bristol, including both the Royal Portbury Docks and Avonmouth, was a component part of a submission for the Great Western Freeport which was not included in the initial shortlist across the UK. The premise of the proposal included scaling up freight and logistics operations within the immediate hinterlands across the Avonmouth Severnside Enterprise area and encompassed greater port centric activity through streamlined tax, custom and planning regulations. The area, ideal to catering for large scale fulfilment and waste management sectors, covers 1,8000 hectares, has witnessed tremendous growth in recent years due to its ideal proximity adjacent the M4/M5 (and new M49 junction), mainline rail connections and a skilled workforce within the immediacy (namely the populations of Bristol and Bath). It is heavily marketed because of its links to international transport nodes and remains an attractive proposition for freeport status in subsequent designations.

6.4 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 by the end of 2022. Currently, the South-West investment in transport per capita is £651 compared to £1564 average in England[112] which hints at the disproportionate.

There is limited knowledge of whether these deals will culminate in elected mayors to act a as single point of accountability. This will largely depend on the choice of three different levels of devolution deals which decentralise varying levels of power and funding to shape, influence and coordinate transport improvements and, ultimately, connections to and from international gateways. There is mutual ground between all local authorities particularly concerning transport and the opportunity presented for greater ability to shape and integrated network of buses and train to enhance regional connectivity. The minimum ‘Level Two’ powers would allow for control of local transport functions, including bus franchising, that will be pivotal to better accessing international gateways.

The region has a unique portfolio of opportunities to do things differently which can be partly attributed to its peripherality. It is successfully harnessing natural resources and developing distinctive clusters of business activity that play on its geography and local populace (e.g. the proposed Flight ‘Demonstration Zone’ funded through the emerging County Deal). Devolution, as a cog in wheel of levelling up the region, can unlock this potential.

6.5 Tourism

The visitor economy is a key sector of the UK economy and the country’s third largest export market. The UK attracted over thirty-eight 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[113]. 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 UKs GVA. In total, around 6% of all international visits to the UK land in the region (which includes Wiltshire and Dorset); equating to 2.2 million people annually (based on 2018 figures). To put this further in perspective, the visitor economy across the Peninsula accounts for over 4.5% of economic output and almost a sixth of employment at its peak during a ‘normal’ year’[114].

[111] Solent LEP (2014) Transforming Solent: Solent Strategic Economic Plan, https://solentlep.org.uk/media/1332/solent_strategic_economic_plan.pdf
[112] IPPR (2019) Revealed: North set to receive £2,389 less per person than London on transport, https://www.ippr.org/news-and-media/press-releases/revealed-north-set-to-receive-2-389-less-per-person-than-london-on-transport
[113] HM Government (2019) Industrial Strategy Tourism Sector Deal Building a world-class experience economy, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/812943/tourism-sector-deal-web.pdf
[114] AECOM (2019) Peninsula Transport Shadow Sub National Transport Body: Regional Evidence Base, https://www.peninsulatransport.org.uk/wp-content/uploads/2020/03/Peninsula-Transport-REBaddendum.pdf

The COVID pandemic has confronted the need to build more resilient visitor economy. Access and links to international gateways are a core component of a recovery plan to build back better and are implicit in emerging plans (such as the Building Resilience in the Visitor Economy) to help resolve long standing issues that have impacted the regions resilience. This includes[115]:

- Addressing recurrent challenges of seasonality; with tourism representing almost a tenth of the regions GVA.
- Reducing carbon footprint of the industry; with the aspiration for saving more than 138,000 tonnes of carbon of which transport is a key contributor.
- Improving accessibility and inequalities; extending to the role of supply chains and food production – a major employer and sector for the region.

There are direct links to the Levelling Up Agenda and Tourism Sector deal, namely to aspiration to be the most accessible and inclusive destination in the UK whilst rising to the challenge of Net Zero. International gateways can take advantage of the marketing and communications campaigns planned to help unlock new growth markets. They also have a critical role going forward to support the 1.4 million international visitors accessing the region annually; with significant interest from Germany, Netherlands and the USA alongside other English-speaking countries.

Englands Great South West Peninsula
A VisitEngland funded initiative led by Visit Cornwall, brings together other Destination Management Organisations to deliver targeted experiences including accommodation for family and friends from Australia and the USA, to showcase the region. It is an example of a campaign to attract visitors away from London and to explore the region using regional transport modes. You can view the route map online (WCW-Simple_Route_Map_A1-V4.indd (visitcornwall.com) and the variety of regional attractions, from castles, gardens and houses (160) to beaches (500+) and 20 areas of Areas of Outstanding National Beauty.

Bournemouth: A Premier International Destination
Bournemouth, located on the south coast of the UK attracts 6.8 million visitors a year and over 1 million stay overnight or for longer holidays. This includes those on international tourism (171k international visitors a year) which is worth £86m to local economy. The top three origins of visitors are Germany, Holland and the Nordic countries. Of the international visitors 70% come on holiday and 10% come to study, with International School of English, second biggest in UK after London, being a big draw for international students. Tourism overall is worth £500m, supporting 12,000 jobs and £3,000 per annum in supply chain.

There is a general consensus across partners involved in forging an enhanced tourism offer that reduces the reliance on road-based connectivity and travel arrangements radiating from London and the South-East, including international gateways such as the Port of Dover, Gatwick and Heathrow Airports. There is a desire to boost rail infrastructure to shorten rail journey times which will be based on local network resilience with the Greater South-West Tourism Partnership making it clear that partnerships with national rail, coach and bus partners are crucial in a 'network' approach towards making door to door journeys more attractive and convenient than car travel.

There is an opportunity to link up the provision and service options available at international gateways and proposals to enhance the local tourism offer with proposed actions in the prospectus for the region. Table 10 alludes to the most relevant actions for international gateways and how they can be better embedded within the framework of actions proposed by the partnership. Joined up thinking and action between representatives of each international gateway, operators and Destination Management Organisations are key, especially when around 80% of tourists would have help deliver sustainability standards and almost two thirds would pay more to ensure these are upheld.

Action	Name	Relevance to International Gateways
P1	A Sustainable Visitor Economy	• Uploading key data concerning public transport, EV charging infrastructure and other first & last mile support services to Visit South-West. International Gateways are the primary way in which international visitors access the region. • Fostering integrated ticketing offers and joined up timetables (including turn up and go services into city locations). This may be facilitated through new devolved powers and bus franchising.
P3	Make the South-West the Most Accessible Destination in the UK	• Raising awareness of existing materials (e.g. VisitEnglands Accessibly Guides), upgrading existing virtual content to ensure inclusivity and providing training for staff in disability awareness. It also requires information being provided on international gateways across specialist sites. • Reviews of current tangible, on site infrastructure provision at a public realm level including structural upgrades such as wayfinding, public transport stops and car parking areas.

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P5	Reduce Seasonality of the Current Visitor Economy	• International gateways should aim to be aligned with the emergence of new products and services year-round. This includes emerging trends such as activity and adventure breaks, experiential, wellness and cultural tourism alongside business events (the latter building the G7 legacy). • Influencing international visitors' regularity and duration of stay; which can be supported by transport and connections offering an experience in its own right and to 'normalise' the use of sustainable travel to and from international gateways.
P6	Data Led Decision Making	• Data sharing on international visitor 'profiling' with partnership agencies, including DMOs and transport operators to provide a full door to door experience tailored to audience demands. This extends to growth trends, behaviours and expectations. • Designing visitor surveys to be able to better capture stated preferences and journey characteristics in real time covering multi modal journeys. This would also entail sharing data through Non-Disclosure Agreements (NDAs).
P8	Strengthening Local Supply Chains	• Reviewing procurement processes to source key services and amenities locally in partnership with local SMEs. Anchor institutions, such as international gateways have significant spending power and need to be engaged in this discussion. The aim is for businesses at source 20% of goods and services locally.
P10	Promote the South-West as the Key Visitor Destination	• Ensure international gateways link into the proposed oversees marketing plan (with affiliated travel operators) to exploit current and new international audiences.
P11	Digitisation of the Destination	• Developing the concept of car free travelling by offering a package offer of services that seamlessly integrate as demonstrated in Torbay and the Mobility-as-a Service platform being developed by the West of England Combined Authority.

Table 10 Regional Tourism Objectives and International Gateways (Author, 2022)

6.5.1 'Hard' Infrastructure & 'Soft' Marketing

Infrastructure is the key component to moving visitors around the region. International gateways, combined with smaller domestic interchanges, are the major avenues for moving goods and people and must work in synergy with public transport and active travel networks. The network must be supported by travel demand management techniques and promotional campaigns through Destination Management Organisations (DMOs). There are separate entities across the region under the consistent 'Visit' brand but with some many voices there is no focal point for promotion and publicity (although the Great South-West Partnership aims to be unifying in this respect). Ultimately the 'final mile' challenge can literally be a lack of awareness of the sustainable options so building partnerships between DMOs, attractions and transport providers and international gateways is key to effectively 'packaging' options and offsetting the impact of seasonal tourism of the efficiency of the transport network.

Marketing to oversees audiences will a core component of the recovery from the pandemic and international gateways will need to play an enhanced role in rebuilding and exploiting new markets. This is whilst reducing overall carbon footprint of the industry, The target markets are primarily western Europe (linked to outdoor activities/heritage and culture) and North America (Air Lingus now operating flights from Exeter Airport in 2022). There is a link between marketing and enhanced digital connectivity, another facet by which international travellers will seek to engage for organising and planning journeys. International gateways can have a physical presence, but this needs to be complemented by a digital offer to raise its publicity. Indeed, virtual' integration between international gateways is equally as important as physical connectivity as it is estimated that 85% of inbound visitors to the United Kingdom book their travel online and 56% use location technology to find attractions whilst on holiday [116].

International gateways should look to play on the regions strengths as a tourism destination (inbound tourism). The South-West provides a particularly strong offer for scenery, coastline activities, water sports alongside food and drink (often interlinked) yet this tends to make the region susceptible to seasonality (48% of spend occurs between June and August). Cornwall and the Isles of Scilly are particularly prone to fluctuations in international visitor numbers and spend between the summer and the winter months. In 2022, The North Devon Coast was designated as first International Surf Location in the UK; another indication as to the value of this industry to the region that can be promoted. Cornwall has also applied to be UK City of Culture 2025 with the aim of 'showcasing a model of culture led placemaking which places environmentally sustainability at its heart' and 'leads a regenerative tourism movement and turns notions of peripherality on its head'.

6.5.2 Seasonality & Inclusivity

'Tourism Zones' are proposed under the Tourism Sector Deal and UK Government Industrial Strategy to bring together businesses and local organisations to coordinate a strategy for growth. The zones also aim to boost off season visits; which is particularly pertinent to the region where goods and passenger movements are heavily influenced by seasonality. To put this in perspective, most visitors to Cornwall and the Isles of Scilly, traffic volumes are 25% higher during August than average daily volumes and 57% higher than the quietest month of January.

International gateways must seek to address market failures and address barriers to productivity through this medium, including extending visitor seasons, enhancing accessible for those who associate with a Protected Characteristic Group (aiming to cater for

[116] Visit Britain (2020) Our Five-Year Strategy, https://www.visitbritain.org/our-five-year-strategy

33% of inbound visitors with disabilities as a standard across the UK) and innovating for the visitor experience (through tangible or intangible assets). These must be underpinned by sustainable development principles and practices, such as promotion of gateway access to National Parks. These aspirations must be upheld by international gateways and partners who need to rise to the 'grand challenges' of the data driven economy, clean growth and an ageing society; the latter to help ensure the UK becomes the most accessible tourism destination in Europe by 2025. At a regional level, passenger interchanges, including airports must also respond to increased demand for international business travel and the new Events Action Plan (2019-2025) created by the UK Government to maintain its position as a lead hosting nation.

6.6 Migration & 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. There is limited international migration into and out of the region with the exception of Plymouth due, in all likelihood, to the presence of the university and major employers. However, 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. According to Barclays, the South-West is the most sought-after location for those 'fleeing' London (30%) and Birmingham (32%) because of its attractive rural and coastal communities in counties such as Somerset, Cornwall and Devon[117]. 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[118].

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 (Table 11Table 11**Error! Reference source not found.**). Over a quarter are due to be c oncentrated around Greater Exeter which will demand upgrades to the sustainable transport network and service provision to negate car dependency and the implications of traffic on routes in and around the rail station, airports and major junctions on the SRN. A similar quantity of homes are likely to be dispersed across Cornwall and Somerset respectively. The scale of employment growth parallels this level of distribution; with the agglomeration of business activity being centred around international gateways and their immediate hinterlands. Presently however, the majority of Peninsula corridors have annual average daily traffic flows (AADFs) along their length in the 10,000 to 20,000 range, but with sections where the AADF exceeds 20,000. The corridors with the highest flows are those serving large urban areas or providing a strategic link to international gateways.

Area	Planned Dwellings
Cornwall	52,500
Plymouth & South West Devon	26,700
North Devon & Torridge	17,200
Greater Exeter	52,000
Somerset	42,180
Torbay	8,900
Peninsula Total	**199,480**

Area	New Jobs Created
Cornwall	38,000
Plymouth & South West Devon	20,410
North Devon & Torridge	11,000
Greater Exeter	40,000
Somerset	56,090
Torbay	5,500
Peninsula Total	**171,000**

Table 11 Housing growth figures across the Peninsula region (AECOM, 2017)

Population density is confined to the major urban conurbations across the region, which witnessed a 15-20% increase in population between 1991-2015[119] with Cornwall having been a frontrunner in driving employment growth during that period. There are signs that the shift in workplace practices may have an impact of individuals decision 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 this autumn (2022) whilst two thirds of Britons already work flexibly[120]. The proliferation of 'second homes' across the region in recent years, particularly across the North-East and south coast of Cornwall[121], has a profound impact on 'seasonality' whilst homeowners rely on excellent regional

[117] Barclays (2021) Go (South) West: City dwellers wish to relocate to the South West post lockdown, https://home.barclays/news/press-releases/2020/07/go--south--west--city-dwellers-wish-to-relocate-to-the-south-wes/
[118] RSA (2022) One Powerhouse, A Spatial Blueprint for the South West, https://www.thersa.org/globalassets/projects/psc/one-powerhouse/one-powerhouse-south-west.pdf
[119] Highways England (2016) Socio Economic Analysis, Future Forecasts and the Strategic Road Network, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600272/SEGP_-_Underpinning_report_-_Socio-economic_analysis_future_forecasts_and_the_SRN.pdf
[120] ONS (2022) Is Hybrid Working here to Stay? https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/ishybridworkingheretostay/2022-05-23
[121] Cornwall Council (2021) Housing in Cornwall, Second Homes, https://www.cornwall.gov.uk/media/k2vaas1v/cornwall_secondhomes_2021.pdf

connectivity via road, rail and air to other parts of the UK and internationally. There may be correlation between the popularity of the Cornwall Airport Newquay-London Gatwick connection and second home ownership with future decisions influencing home ownership and regional airports ultimately influencing future travel dynamics within the region.

Only specific conurbations within the South-West of England, such as Plymouth and smaller towns such as Hayle, Redruth, Cambourne and St Austell's traditionally supported primary and secondary industries such as mineral extraction (coal, copper etc) and manufacturing activity. Industrial developments would typically draw populations to relocate and rely on good international connectivity for moving goods and people, but the region is unlikely to experience growth of this nature in the future. This is partly attributed to the shift in employment structure towards a service and quaternary (research) based economy which increasingly rely on "intangibles" where 'intellectual property, knowledge, digitisation, brands and human capital are king'[122]. Nonetheless new industries increasingly demand high skilled workers with more 'hypermobile' lifestyles and higher expectations for accessing international destinations. This tends to be more concentrated to the north of the region.

One of the challenges faced by the region is housing affordability and the consequent difficulties in recruiting personnel because of extended travel. New industries, particularly offshore renewable energy, will need an 'army' of new recruits to scale; whether accommodation is accessible locally or whether they are forced to commute longer distances and putting further strain on the road and rail networks. This is not to ignore rising costs of living which will come to influence travel behaviour and the demand places on airports and ports to form part of global supply chains.

The Western Gateway area also has an ambitious growth agenda which aims to deliver 300,000 new homes and over 190,000 new jobs across its coverage in the next 20 years. A strong impetus is being placed on expanding the Bournemouth, Christchurch and Poole (BCP) city region by planning for growth for 30,000 homes and 20,000 jobs by 2026, with 80 hectares of new employment land delivered through the Bournemouth International Growth (BIG) Programme[123]. Dorset will also deliver 40,000 new homes and create 30,000 new jobs by 2033 based around towns and along the Portland-Weymouth-Dorchester growth corridor (linked to Poole and burgeoning advanced manufacturing sectors).

6.6.1.1 Students

Students also help contribute large amounts to the economy. Over 500,000 students visit to learn English each year. These English foreign language students also spend £2399 per visit which is four times more than the average spend and 88% of these students intend to come back to the UK for another holiday[124]. Students generate £1.2 billion in export earnings for the United Kingdom every year with the region being well placed to capitalise on the density of university (and school) establishments.

7. Sectorial Trends

7.1 Introduction

It is important to reflect on the role of international gateways situated within the region in relation to some of the big changes influencing passenger and freight markets. This will help to proactively plan future investment and allow for ports and airports to respond accordingly to industry changes. This section provides some oversight of broader passenger and freight trends (and scenarios) across the maritime and aviation sectors; with reference to its relevance at a regional level.

7.2 Ports

7.2.1 Freight Commodities

Enhancing connections to ports will be key for meeting current and future port traffic demand. At a national level, port traffic is forecast to remain stable in the short-term, but tonnage is expected to grow by 39% from 2016 levels to 2050[125]. This will be driven by unitised freight traffic (intermodal containerisation which grew 72% between 2009-2018 in the UK), increases in construction (aggregate) movements (including via coastal shipping) and emergence of component parts for new sectors, such as energy generation (e.g. offshore windfarm). This has taken place concurrently with a reduction in liquid and dry bulk movements, namely oil and coal; which has declined by 27% between 2009-2018[126]. These changes in commodity flows are reactions to increased production and imports of consumables from eastern economies (Eastern Europe and Asia), a burgeoning UK construction industry

[122] The Guardian (2022) The economy is collapsing. Yet I can't recall a government so devoid of a plan, https://www.theguardian.com/commentisfree/2022/may/08/the-economy-is-collapsing-yet-i-cant-recall-a-government-so-devoid-of-a-plan
[123] Western Gateway (2019) Regional Evidence Base and MRN / LLM Scheme Priorities, https://www.gloucestershire.gov.uk/media/2090915/wg-reb-introduction.pdf
[124] ONS (2019) Overseas travel and tourism: June 2019 provisional results, https://www.ons.gov.uk/peoplepopulationandcommunity/leisureandtourism/bulletins/overseastravelandtourism/june2019provisionalresults
[125] DfT (2019) UK Port Freight Traffic 2019 Forecasts, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/771852/port-freight-forecasts.pdf
[126] Transport for the East (2021) Transport Strategy: Unlocking International Gateways, https://www.transporteast.org.uk/wp-content/uploads/1b-Unlocking-International-Gateways.pdf

(still concentrated in the South-East of England) and the drive towards decarbonisation; the latter of which is fuelling demand for new materials and products and circular economy practises. Dry bulks, a mainstay of the regional economy, are more susceptible to fluctuations in the economy and macro scale policies shaping agricultural and construction industries.

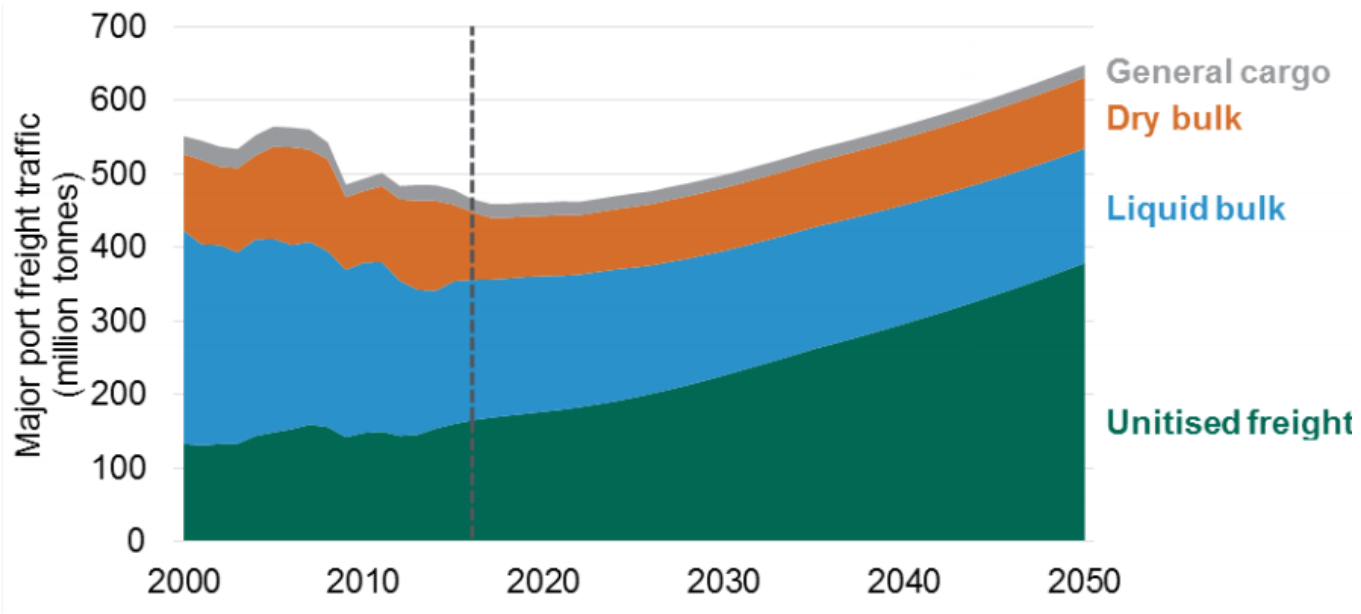

Figure 21 National level projections of port freight commodity volumes 2000-2050 (DfT, 2019)

Lo-Lo and Ro-Ro freight tonnages are forecast to increase by 2.5% annually, although predicting this is challenging in the current climate, due to changes in global shipping and the repercussions from leaving the European Union, the Covid 19 pandemic and the decarbonisation agenda on supply chains. Changes to global shipping paths and international supply chains will likely culminate in demand being further concentrated longer term at the largest ports because of their facilities and economies of scale (berth size for bigger vessels and proximity to major shipping lanes). Currently 98% of all port freight tonnage is delivered through major ports across the UK[127] which excludes all ports, apart from Bristol, within the South-West of England. Southampton and Felixstowe will likely be the major containerised shipping gateways serving the South West therefore connections between these ports by road and rail to the rest of the region will be key for supporting international supply chains.

Container traffic is projected to develop a greater share of the freight market for ports; driven by an increase in imports from the far east and new trading relationships with emerging economies outside the European Union. Whilst the major deep sea-ports able to handle Lo-Lo traffic at scale are located outside the region (namely Southampton), there is capacity (and future opportunities) for ports along the south coast to take advantage of being situated adjacent to the navigational channel and global shipping lanes as well as partnering with larger 'hubs' for feeder services in the future (e.g. Links to Northern Europe). Indeed, 50% of containers are delivered to or originate in the northern half of the UK; with the potential to for saving 200,000 lorry journeys and 150 million road miles per annum through redistribution[128]. Regional ports have fewer overheads to allow for competitive pricing and are well located to serve end users. Ports such as Portland and Plymouth (Devonport) have been on a journey of demilitarising their estates.

There is a clear shift taking place in how goods are moved internally via ports as part of the changing freight industry landscape. Unaccompanied trailers have witnessed an exponential rise in volume in response to changing trading relations between the UK and Europe generally. Organisations with globalised supply chains are avoiding undergoing custom clearances and the risk of incurring delays (and costs) by opting for driverless trailers on sailings. This is quickly becoming a selling point for Ro-Ro operators, such as Brittany Ferries (around 20% share of routes are currently unaccompanied), who can market the virtues of this approach compared to the potential delays of using the UK land bridge for services inbound/outbound via the Dover Straits. However, this shift demands extensive laydown facilities, capacity and quick turnaround times, facilitated through seamless technology to help safeguard against any port congestion and a reliance on domestic hauliers, despite being short in supply, to move goods over the first and last leg between ports and destinations/origins within the UK.

[127] DfT (2021) UK Port Freight Statistics: 2020, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1014546/port-freight-annual-statistics-2020.pdf
[128] Highways England (2017) The Road to Growth, Our Strategic Economic Growth Plan, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600275/m160503_the_road_to_growth_Our_strategic_economic_growth_plan.pdf

7.2.2 Future Port Evolution

Generally, it is very difficult to accurately anticipate future commercial opportunities. New shipping routes and technologies may emerge, and the needs of trading partners may change as their economic circumstances evolve in response to crisis, technologies and regulations. 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. The next generation of ports, applying 'big data' and technology beyond just purely enhancing operational efficiency is taking place concurrently with the decline and repurposing of traditional port responsibilities, such as naval duties.

The longer-term implications of the energy crisis sweeping across the continent and the conflict in Ukraine on the cost of producing and shipping synthetic fertiliser and animal feed, may impact the volume of imports coming through ports, especially those in the South-West of the UK who feed the local economy. Rocketing costs of animal feed, which has increased 60% from 2020, alongside energy and lubricants (38%), may reduce overall volumes arriving in the South-West to serve the agriculture industry whilst worker shortages, exacerbated by leaving the European Union, may lead to expanding the scale of food imports arriving by sea. Conversely, the rise in cost may accelerate a shift in alternative fuel technologies led by industry.

The Maritime 2050: Navigating the Future[129] helps to provide the framework for port development and the likely, expanded role of international gateways in the future. Diversification is at the heart of gaining competitiveness 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. Ports across the region are all at different stages of this journey, which will be informed by ongoing legislative and regulatory conditions intersecting multiple sectors and industries.

Figure 22 Future port evolution (Author, 2022)

The 4th generation ports are founded on security and communications systems and driven by data fuelled logistics platforms applying principles such as the Internet of Things which represents a convergence between the physical and digital worlds, to develop and implement more efficient on site and multi modal operations. The techniques of 4th generation are being applied in diverse settings; from last mile transport optimisation to warehouse and transport management systems and have been accelerated by decentralized networks that rely on the rapid availability and analysis of information. Ports across the region are faced with a concentration of stagnating, saturated markets where efficiency and protection of market share becomes central[130]. This drives a strategic shift towards maximising efficiency and delivering smarter operations as opposed to only growing in capacity in response to serve market demand over time (see Figure 23).

[129] DfT (2019) Maritime 2050: Navigating the Future, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877610/maritime-2050-exec-summary-document.pdf

[130] Deloitte (2020) Smart Ports Point of View, https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/energy-resources/deloitte-nl-er-port-services-smart-ports.pdf

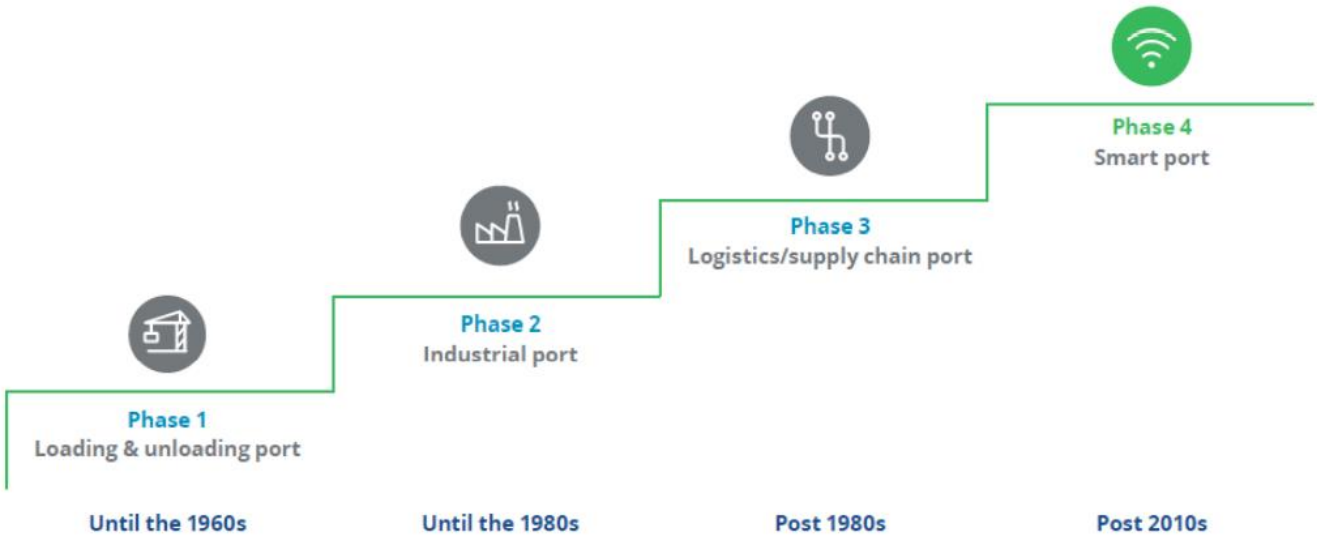

Figure 23 The four different generations of ports (1960s-2010s) (Author, 2022)

Ports across the region who are experimenting with forms of digitisation can help address issues with congestion, increase turnaround times and improve the transparency (and availability) of berths, as well as the ability to secure, track and seamlessly deliver goods along the supply chain. This offers a competitive advantage to shippers whilst smart ports can help accommodate the increased numbers of cruise vessels entering ports. The Port of Bristol are part of the West of England Combined Authorities (WECA) 5G logistics programme (alongside Gravity Park) which is focusing on security, traceability and real time tracking of goods). Plymouth too are engaged with a consortium of organisations through Oceangate (see Freeport section) and Poole are also developing port 'ecosystems'.

7.3 Airports

7.3.1 Passenger Movements

The aviation industry, until recently, had grown from strength to strength, with airports having expanded and evolved concurrently with rising demand for international travel. In particular, the proliferation of low cost 'budget' airlines synonymous with international gateways, was initially facilitated through the European Common Aviation Area (ECAA), a comprehensive 'open skies' arrangement that allows airlines to fly to destinations all over Europe without restriction. This arrangement, which facilitated the continued growth in passenger patronage since its introduction and has led to the continued expansion of destinations served by airports towards the continent, concluded in 2021 after leaving the European Union. The 'first four freedoms' introduced in its place still allow for unrestricted travel between the UK-EU with European operators having circumvented the lack of access to the single market by establishing new UK subsidiaries.

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. This potentially taps into the £50 billion trading relationship with the US and future opportunities for capitalising on global aviation and business opportunities. Nonetheless, short term, passenger figures and airline industry revenues dropped dramatically as consequence of the pandemic; impacting smaller regional airports disproportionately and requiring government intervention to uphold services and employment guarantees. Passenger revenues are the mainstay of the industry, even with air cargo heading in an upward trajectory. Evidence suggests that people are returning to aviation (see Figure 24) but that it will take a number of years to return back to pracademic levels.

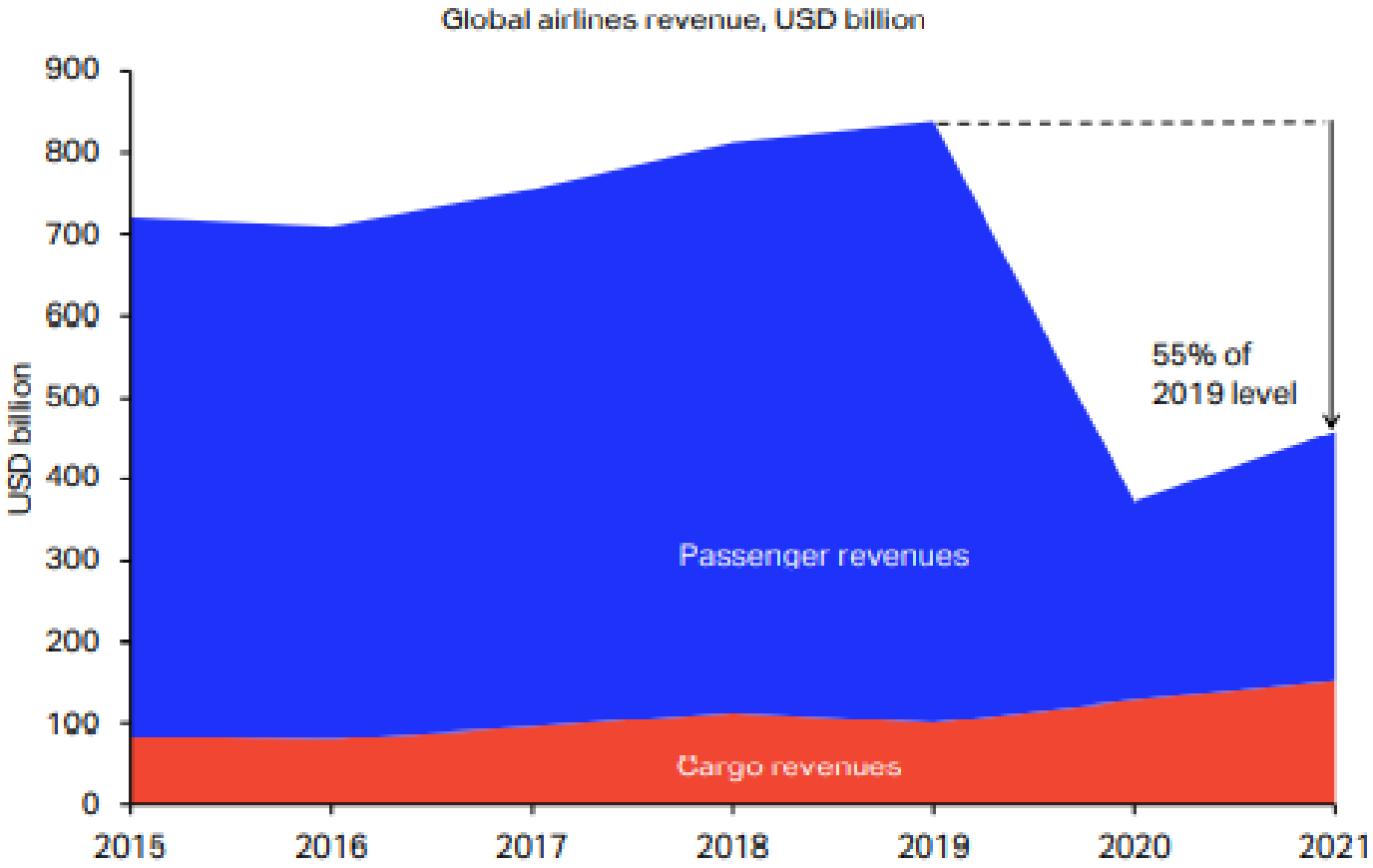

Figure 24 Global airline revenues (Airlines UK, 2018)

The UKs principal airports are located in the South-East of England. Many goods and people arriving or departing from the South-West of England rely on connectivity from London Heathrow and London Gatwick airports via road and rail. To put this into perspective, Heathrow allow caters for approximately one third of all air passengers using UK airports[131]and supports 78,000 jobs. East Midlands Airport, a major cargo hub, also has a relatively large market share for moving goods whilst Manchester and Birmingham, which offer a wider range of domestic and international destinations, draw upon passengers from a wide catchment area way beyond their constituent region. This is unlikely to change in the short to medium term, especially if plans for a third runway at Heathrow, which includes a new 11,700 ft (3,500m) runway, allowing for an additional 260,000 movements per year, is given government approval.

7.3.2 Freight Movements

Heathrow, in particular, holds monopoly on air freight in the UK with freight facilities positioned within the immediate hinterland, including freight forwarders with major consolidation centre and 3PLs with warehousing facilities. The airport is extremely well connected for both goods and passenger movements by rail and road networks. Large volumes of air freight are trucked to these facilities and then processed before being trucked onwards to other airports or destinations[132]. Bournemouth is aiming to compete

[131] Highways England (2016) International Gateways and the Strategic Road Network, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600269/SEGP_-_Underpinning_Report_-_International_gateways_and_the_SRN.pdf

[132] Airline UK (2018) Assessment of the value of air freight services to the UK economy, https:/ / airlinesuk.org/ wp-content/ uploads/ 2018/ 10/ Assessment-of-the-value-of-air-freight-services-to-the-UK-economy-Final-Reportv22-Oct-2018-b-SENT.pdf

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.

Air cargo has traditionally been synonymous with carrying high value goods in low volumes to meet the needs of JIT supply chains for the manufacturing and automotive sectors and played a crucial role in delivering pharmaceutical items during Covid 19. 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). It is likely that Exeter will continue to retain its presence in carrying air mail in dedicated aircraft but the scope to expand the use of spare capacity within the bellyhold of existing services across other airports, will be determined by individual airliners whose primary focus is passenger travel.

There is also an essential role to play into perpetuity for air freight (air mail and cargo) to serve communities on the Isles of Scilly and these route should be preserved to maintain the flow of different commodities. This was previously provided by Royal Mail.

7.4 Section Summary

Port traffic looks set to continue growing but with a shift in the type of commodity flows observed to 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 relationship with agricultural sector regionally whilst trading routes with the continent will remain of paramount importance even with diversification of activity to serve a wider markets abroad. Imports look set to continue growing at a faster rate than exports to the UK and shifts have taken place in how goods are delivered; for example the rise in unaccompanied trailers.

Generally there will be continued competition for custom between regional ports whilst most tonnage will continue to arrive via larger ports across the South of England. This situation, alongside the drive to decarbonise, has provoked an evolution in the role of ports (and the resilience of their revenue streams); from the digitisation of processes and operations to enhance efficiencies, through to the diversification of their role as major anchor institutions providing employment, technical expertise and as component parts of greater economic agglomeration.

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. Their role regionally cannot be understated as catalysts for local growth, employment and for meeting business travel and visitor needs. However, most people arriving or departing the South West will still rely on connectivity to airports further afield (London Gatwick/Heathrow) whilst Bristol Airport has a disproportionate pull regionally. Airports across the region are, however, looking to capitalise on their assets, such as runway length, historic links with manufacturing/industry and location, to expand air cargo operations.

8. Opportunities & Challenges (Ports)

8.1 Introduction

This section provides a high-level assessment of the opportunities available to ports and their wider hinterlands to unlock further revenue growth in the future and to support local, regional and national objectives shared by public authorities, industry and local populations. This is heavily influenced by secondary research and stakeholder consultation. A number of best practice 'case study' examples, relevant to the opportunity, have also been cross referenced to a separate annexe.

8.2 Opportunities

8.2.1 New Markets

8.2.1.1 Cruise Industry

The cruise industry presents a potentially lucrative part of the tourism economy for the region and the UK more broadly and produces one of the highest yields per cruise passenger and the highest revenue for shore excursions in mainland Europe[133]. 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. The situation contrasts to the fortunes of the industry in 2020 when passenger figures fell by 95% to 107,000 annually.

Ports within the region have generally featured as part of an itinerary sailing, whereby vessels stop on route, for a short duration, before moving onwards to turnaround ports, such as Southampton, the largest and most substantial operation in the UK. Turnaround ports involve the embarkation and disembarkation of passengers and requires significant more infrastructure and organisation to deliver an efficient and safe experience. There are several deep-water ports (and their cognisant estuaries or channels) in the region that can accommodate some of the larger cruise vessels with the necessary maintenance regimes and apparatus to permit drafting and mooring.

Ports in the South-West of England are extremely well placed to capitalise on the enthusiasm for Transatlantic, European and Mediterranean services and the appetite for the industry to develop an increasingly conscientious travel package that works with destinations to promote local cultural delights, landmarks and attractions whilst offsetting the environmental implications of visitor numbers. This presents an opportunity for cruise operators to work closely with Destination Management Organisations (DMOs) to support the local economy, including boosting port revenues, alongside transport providers; to negate the repercussions from spikes in vehicle-based movements within a locality. The former may also cluster and become established through regular returning custom; thereby building an employment base around the industry.

Developing a sense of arrival and clearly conveying attractions within the immediate hinterlands that are accessible by public or active transport choices, should be a key priority of aspiring ports. Coordination may also be required within a locality to prepare and actively offset any negative connotations with an immediate flow of people on the local transport network. This is a casing point in Weymouth whereby high volumes of passenger's onboard cruise vessels, berthed in Portland, descend on the road network onboard a mixture of vehicles during seasonal heights. This results in severe incidents of 'traffic mixing' compromising safety within sensitive environments and quickly evolving into acute levels of traffic congestion. Adopting travel demand management principles on a locality wide basis prior to receiving vessels may be constructive in alleviating concerns combined with consolidating private hire and public transport services in the short term

[133] CLIA (2019) 2019 Cruise Trends & Industry Outlook, https://cruising.org/-/media/research-updates/research/clia-2019-state-of-the-industry-presentation-(1).ashx

Figure 25 The cruise industry is booming and regional ports are benefitting from custom (Viking, 2022)

The desire to expand the number of cruse sailings and turnaround ports regionally, including in Portland where there are aspirations to host two cruise vessels simultaneously, demands broader consideration for access and connectivity. This should not immediately entail providing additional road capacity with emphasis instead being placed on the convenience and door to door offering presented locally through integrated ticketing and attractive timetable frequencies on days when vessels are moored. Wayfinding and legibility as well as the 'dwell time' experience moving through terminals are pre-requisities; especially if they can form a more integral part of the local transport network and, further still, stimulate a shift away from flying.

The various harbours that form a component part of the Port of Plymouth, are seeking new revenue streams to complement its freight offer and is being heralded as a new 'premier destination' for cruise ships, specialist embarkations and superyachts of up to 150metres[134]. This would be catered for at a new berth adjacent to Trinity pier or with passengers brought ashore on tender boast from Plymouth Sound; which is a popular option for other ports, such as Fowey, when dockside capacity is limited. Active marketing (Britain's Ocean City) has grown patronage levels with the port experiencing eight bookings and conveying 12,000 international visitors annually since registering no activity five years previously. However, this must coexist with improvements to ferry terminal facilities to provide a sense of arrival. Millbay and Commercial Wharf are targeted locations for investment; with scope for expanding berths to accommodate the largest of vessels (300 metres). The proposed streamlining of border controls and visitor welcome experience is part of an enhanced offer to boost patronage and drive custom away from competing ports along the south coast who are vying for similar trade.

Figure 26 Sunseeker International is a British luxury performance motor yacht brand, but based in Poole (Author, 2022)

[134] Blue Sail (2019) Plymouth Visitor Plan 2020-2030, https://democracy.plymouth.gov.uk/documents/s94808/PlymouthVisitorPlanBrandedFINALFINAL.pdf

Ports, namely Falmouth, are well positioned to take advantage of their reputation as a tourist destination and the access granted to trip attractors within their hinterland. They are literally the first port of call within the peninsula for transatlantic sailings and have innovated in recent years to host cruises as 'floating hotels'. This presents a unique and viable opportunity for all ports especially those situated in proximity to local services and amenities, to address the regions chronic shortage of standard accommodation during the height of the tourism season. The proof of concept was successfully trialled for the G7 summit in 2021. However, the energy and fuel requirements to sustain the supply of services onboard for any prolonged duration whilst berthed, brings into question the need to explore sustainable alternatives, such as a shoreside power, to mitigate/eradicate vessel emissions and pollution within sensitive environments.

8.2.1.2 Renewable Energy

Floating Offshore Wind

International gateways stationed in the South-West of England are well placed to capitalise on the region's potential as a 'natural powerhouse' for renewable energy generation and export through the manufacturing, construction, operations and maintenance of offshore wind and wave technology. The UK Government, having established the Offshore Wind Investment Organisation (OWIO), have 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. To put this in perspective, with the appropriate supportive actions, FLOW can deliver annual UK export value of at least £230 million by 2031 and £550 million by 2050[135]. In other words, this is a burgeoning industry that has yet to industrialised at scale.

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 seabed's 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 and present a huge opportunity for ports to diversify commodity flows (into associated components), build supply chain resilience (links with advanced manufacturers/engineering) and reimagine the port estate, including the provision for alternative fuel technologies. The latter is of particular concern for ports; in part due to the ambiguity surrounding a 'preferred' fuel source and the limited grid capacity.

There are many uncertainties about the form of floating platforms and whether the energy generated by offshore wind remains on site and transformed into hydrogen for refuelling or bunkering (through offshore electrolysis) or whether this is brought back to shore for conversion (which includes into ammonia as an alternative fuel for vessels). The practicalities and costs of different options are being deliberated. Carbon capture is another potential opportunity that has yet to gain commercial traction. Regardless, ports will play a pivotal role in any case as the hosts for supply chain activity; ranging from providing the laydown space for component parts (which will be substantial for a wind turbine exceeding the height of the UKs largest buildings which derive from mainland Europe by sea) to enhancing access to dockside for the import of raw materials and sub-components (of a smaller variety).

There is some debate as to what the makeup of the supply chain for floating offshore wind could look like in the future. Current manufacturing, especially for the turbine's blades, takes place off site by specialist manufacturers (based in Nordic countries), shipped and moved via the SRN from ports along the East of England. There is an impetus on local sourcing (and link with advanced manufacturing and engineering firms) presents an opportunity to reduce the carbon intensity of supply chains, but risks conflict with competition legislation. The industry, and ports, could foster an ecosystem affiliated with maintaining and servicing the industry and catalyse economic activity by helping manufacture vessels, anchoring and mooring equipment regionally as opposed to relying on imports.

There is a key ecosystem that can build around industrialising sector activities regionally. Smaller specialist ports, such as Appledore, and established anchor tenants, namely Harland and Woolf, are primed to build the required quantity of vessels (1500-2,000) to support the growth of the industry at bigger ports such as Falmouth and Plymouth; the former of which already has provision for shop repair and construction. The third phase of the Oceangate development in Plymouth, which sits under the auspices of the Royal Navy as well as the space and capacity at Cattewater Harbour, have been identified for supporting the industry to flourish in the city.

Nonetheless, there are already developments taking place regionally. The South-West Floating Offshore Wind Accelerator, a compilation of local authorities and businesses led by the Wave Hub, seeks to exploit wind off the coast of Cornwall and West Wale as part of the Local Industrial Strategy. This aims to support 3,200 jobs and facilitate a green transition to cleaner energy for tackling climate change. The proposed release of sea-bed by the crown estate by 2035 and formation of 'Offshore Development Zones', such as part of a £1.4 billion aquaculture enterprise growth in Poole, combine the proximity and extent of productive marine coverage with emerging institutional and economic clusters specialising in this field.

[135] HM Government (2020) Building Offshore Wind in England, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/405959/CoreBrochure_2015.pdf

There is a ‘natural’ link between established enterprise zones and the burgeoning industry. The Marine Enterprise Zone, covering Hayle, Tolvaddon and Falmouth is a demonstration site for a 32MW FLOW system for onshore, offshore and port infrastructure; with the latter taking advantage of tenant shipbuilding and repair organisations based on site to pilot initiatives. In most instances, regional universities are a crucial component part of driving diversification of ports and their immediate hinterlands and provide the impetus and knowledge base behind trialling new technologies to support new commodity flows and explore alternative revenue streams. Continuing to build relationships and initiate collaborate ‘living lab’ workstreams should be actively encouraged.

There is a crucial, continued role for academic institutions in the diversification agenda. Plymouth University, for example, is a prime partner for FLOW and maritime projects across the region and have worked more recently with Kongsberg Digital to create a new system, the K-Sim Dynamic Positioning (DP) simulator, to revolutionise the floating offshore wind sector and supplement the Marine Navigation Centre in the city. The system will be used to simulate, test and optimise marine operations throughout the lifecycle of installations, which will provide offshore wind project teams and crew with facilities where they can verify, test and optimise installation and maintenance projects. This culminates in the port being a critical component in facilitating sector activities within an immediate catchment; and not simply about calculating revenues through tonnage throughput and passenger revenues.

Figure 27 A birds eye view of Torpoint crossing and Devonport; which is central to plans for the area (AECOM, 2022)

Renewable energy has the potential to support grid capacity (40GW by 2030) and future endeavours, portside, to introduce shoreside power and electrify on site handling and ancillary operations. A commitment to supporting the industry requires substantial long-term investment to provide the necessary laydown space, berthing capacity alongside an ecosystem of vessel maintenance and servicing facilities; with scope to scale accordingly. There are challenges; the capital required for pipeline projects to expand the electricity network and the cost competitiveness of offshore versus onshore alternatives, and the ability to secure a Contract of Difference, negating scaling opportunities. A secure, guaranteed revenue stream is critical to unlocking private investment going forward.

Industrialising the sector and developing the mechanisms the industry at the speed required to compete with other ports across the UK and internationally. This can be partly attributed to the collaboration and communication between different industry representatives and the regulatory and legislative environment which shapes the consenting process and investment timescales. Maritime UK South-West is a key mediator alongside the Ports Working Group (led by Celtic Sea Power) to accelerate the

discussion but the relationships between ports, private entities requiring a constant short-term stream of funding to remain economically viable, could be further developed. There are fundamental challenges to overcome for the region to unlock the potential of the industry, namely:

- The prolonged lead time for the consenting process to be approved for floating offshore wind platforms and the potential for misalignment of port expansion and development to cater for the scale of growth required to meet 4GW targets by mid-2030. Ideally these need to take place concurrently at ports such as Plymouth, Falmouth and Poole.
- The challenges presented by a fragmented energy and maritime sector, particularly the National Grid, and the challenges posed by coordinate across multiple governmental departments for developing coherent plan and policies as well as delivering substantial investment, with minimal risk at greater speed.
- The capacity for ports to handle the requirements for offshore wind alongside other growing sectors, such as aquaculture, which is due to increase tenfold in the UK up to 2030 and relies of processing capabilities. The supposed doubling of the ocean economy by 2030 hints at the urgency of infrastructure requirements in the short and long term.
- The need to decarbonise the supply chain as well as the travel to work population; who may rely on the SRN to access port locations from further afield. This is a consequence of regional challenges with the availability and affordability of accommodation which may come to hinder the growth of the industry and ability to attract a skilled workforce.

Maritime UK South West
Maritime UK South-West is a public, business, research partnership which brings together the breadth of ocean economy to create a world leading ocean technology cluster. We enable innovation and collaboration, finding the right business support and skills and driving strategic development and investment. They have identified a number of investment sites across the region which can be found via https://maritimeuksw.org/maritime-investment-sites-south-west-uk/

Tidal Flow

The region has significant potential due to exploit the prevailing South Westerlies and the tidal range in the Severn Estuary and the Bridgewater Bay. This means unlocking the significant potential for tidal lagoon and tidal flow energy generation and the economic benefits this would present to ports affiliated with maintenance and servicing of facilities (Avonmouth being best placed geographically and as a muster port for Hinckley). 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 and between 200MW and 300MW could be deployed by 2020 and 27 GW's by 2050.

The power generated through tidal power can be harnessed in many ways; from tidal barrages, tidal lagoons or tidal streams. Historically, the UK failed to capitalise on the opportunity to be a frontrunner in wind technology after being hampered by a lack of investment by the government of the day[136]. The UK is now considered a leader in tidal power technology and can retain that position providing long term investment to industrialise can be secured through public and private investment. Regionally, plans for a tidal lagoon at Swansea Bay were dropped when government failed to back financial support to cover energy costs of the scheme. However, The West Somerset Tidal Lagoon development presents a new opportunity for the construction of a continuous breakwater mill, which would have the generating capacity of 2.8 GW per year. Similarly to floating offshore wind developments, such schemes would also support economic regeneration and offer local supply chain benefits for the region for the fabrication and delivery of turbines, generators and other commodities. Vessels required for installation and maintenance will need to be moored at adjacent ports and take advantage of specialist facilities and skillsets already being provided across the region.

8.2.1.3 Automotive & Energy

The use of ports by the automobile and manufacturing sectors will ultimately be shaped by supply side potential and competitiveness of the domestic economy and by global demand conditions. This is also uncertain in the current climate. However, emerging sectors dependent on sound international supply chain connectivity for exporting to market and the import of raw materials, includes 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, passenger and freight connections to site. The proximity to the Port of Bristol, alongside Bristol and Exeter Airports, make it an attractive setting for volume movements and JIT deliveries and providing direct links to international markets. Cornish Lithium, whose strategy for mineral extraction in Cornwall, has been designated a 'high potential opportunity' by the Department for International Trade, and will entail domestic and international movement of materials for the automotive and energy storage industries. This will rely on resilient road and rail corridors from deep within the peninsula region.

8.2.1.4 AgriTech

Agri-tech is set to play a greater role in the regional economy as a natural extension of current practices and activity and 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. There remains opportunity for investment to strengthen local supply chains and producers, especially in

[136] The Guardian (2022) Heat Wave: How Orkney is leading a tidal power revolution, https://www.theguardian.com/environment/2022/jun/18/heat-wave-how-orkney-is-leading-a-tidal-power-revolution

Dorset, whose food and drink sector is already well established[137]. Agri-tech Cornwall and the Isles of Scilly have also embarked on a programme of research and development to add value to every step of a supply chain to get produce to market. This could entail creating links into the circular economy and looking at ways in which to reduce food miles and support the agriculture sector; with repercussions on the demand for foodstuffs and supplies imported in via international gateways (ports mainly).

8.2.1.5 Hub & Spoke (Intermodal Containers)

Virtually all of the port traffic (freight) arriving into ports across the Peninsula (therefore excluding Bristol, Poole and Portland), is coastal or short sea. 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 SRN. High demand commodities, such as aggregates, are already moving through to the capital (via Tilbury) whilst the proximity of global shipping lanes (the so-called dual carriageway along the English Channel) and continental ports in present an opportunity for feeder vessels (who can navigate available water depth) of containers to land at the Port of Plymouth. Transhipment activity between large and smaller vessels as renowned ports such as Zeebrugge and Hamburg could then make their way to Plymouth, especially in the event of disruptions at Southampton, for last mile distribution inland. This type of activity may then stimulate interest in reactivating the mothballed branch line through to the mainline.

8.2.1.6 Aggregates & Construction

Ports across the region are already a key cog in the supply chain for moving dry bulk materials across the rest of the UK, via coastal shipping and between international locations on the continent on short sea shipping routes. 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. This would rely on good feeder connections by road to ports as well as to proposed intermodal terminals for distribution by rail. Mining around Plymouth and proposed sites for extraction of lithium deeper within the Peninsula put particular onus on nearby ports for coastal shipping opportunities and the impetus on good connections by road.

Figure 28 A train carrying china clay on the branch line to Fowey (AECOM, 2022)

8.2.2 Smart Ports

Smart Ports refers to the use of technology to improve the operational efficiency, integration and interface between road, rail and maritime transport systems. Similarly to the emergence of floating offshore wind, the collaboration of regional universities, ports and local authorities are 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 practises. This includes optimising vessel speeds to

[137] Dorset LEP (2021) Dorset Living Better, https://investindorset.com/wp-content/uploads/2021/03/Dorset-Investment-Prospectus-2021-30.pdf

maximise the value of commodity flows whilst reducing carbon intensity and scaling up the use of coastal shipping to transport materials from larger international gateways (such as Tilbury or Southampton) through to regional equivalents.

There are challenges, including the extensive safeguarding and security requirements of smart ports and the necessary research required to unlock the potential of smart ports longer term. An incremental approach, similar to that adopted a Rotterdam or Antwerp, offers a blueprint to the introduction of automated systems; with components of a digitised supply chain, such as vehicle booking systems, already in place at ports such as Plymouth across the region. The introduction of new technologies, particularly around automation, includes aligning investment with regulatory changes; with lead times potentially stifling investment and risking innovations taking place across other regions of the UK and internationally. To reiterate this point, smart ports require the financial and political buy in from government at the regional and national scale alongside the expertise offered by industry and institutions.

The University of Plymouth and the University of Exeter are working closely with the Port of Falmouth (A&P) and the Port of Plymouth (ABP and Cattedown Harbour Authority) to develop a 'living lab' scenario in each location to digitise and synchronise operations; ranging from developing a 'digital twin' to better optimise and organise port traffic to improve the flow of vessels and reduce dwell times; through to building on the scope for coastal shipping and bringing in commodities, such as container traffic or aggregates into Cattewater (and to prevent turning around vessels due to a lack of capacity) from Southampton or Falmouth respectively. Intelligent voyage planning is also being explored to improve fuel efficiency whilst the domestic framework mooted by central government to legislate for testing autonomous vessels in territorial waters could be a catalyse to attract investment and pilot services in the South-West of England.

The Smart Ports Entrepreneurial Ecosystem Development (SPEED) programme, an Interreg project which aims to improve ports in the UK by using new advances in technology and data science, is being delivered in Poole and Portland. This brings together multi-disciplinary teams around the development and use of the Internet of Things (IoT) to help the ports take advantage of increasing data insights whilst supporting the success of SME collaborators and the virtues this brings to the local economy. The Port of Bristol (and Gravity Park, who formed part of the freeport submission) are also unlocking the benefits of digitisation. They are involved with the West of England Combined Authority and the University of Bristol on a 5G Logistics programme with a particular focus on security, traceability, and real-time tracking of goods within and across extendable virtual boundaries[138].

8.2.3 Port Centric Logistics

Port Centric Logistics (PCL) looks to boost the role of ports as an integral part of supply chains. In practice, this approach covers a range of elements but with the primary aim of 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. Larger ports with good road and rail connectivity across the region, particularly Plymouth, are well placed to capitalise on demand for logistics space as well as their proximity to a large urban population.

The approach combines the use of technology with infrastructure and essentially reduces handling throughout the process and, in theory, saves time and money. In this context of this study, PCL can significantly reduce road freight miles and movements by minimising the length of supply chain connections and the interactions with road freight. This is attributed to the agglomeration of additional warehousing and distribution space reducing stem mileage and alleviating pressure on finding land inland. Warehousing and storage specifically, is a key issue at ports such as Teignmouth who is already operating at a high capacity.

PCL is also a response to how modern logistics has moved from being dominated by a cost minimisation agenda, to encompassing a wider range of value criteria when assessing the true cost of logistics services. 'Custom Warehouses', an increasing feature of port estates, are also set to become more prolific; where importers facilitate the storage and processing of goods imported from outside of the EU, without payment of import duty or VAT, before being re-exported. The level of port centricity, and the approach, will vary from port to port in each case with large ports, namely Bristol and Plymouth already looking to capitalise on this trend. In summary, PCL can entail:

- **Distribution & Warehousing**: The designation and development of land within or adjacent to a port complex for the storage and processing of goods as an alternative to NDCs or RDCs.
- **Utilisation Yard Space**: Expanded on-site capacity for transhipment and goods movement within the internal estate of the port, to enable efficient access/distribution, including for new markets.
- **Cargo and Container Handling**: Investment in equipment and apparatus to support the safe and efficient transhipment of goods between modes and different parts of the port estate.
- **Added Value Operations**: These can range significantly between ports and could well involve supporting road freight operator requirements, such as HGV Hydrogen refuelling.

Ports can use their estate and permitted development rights to open up such opportunities. The Port of Portland, for example, has 2m sqm (200 hectares) of land of which 400,000 sqm is designated permitted development. Over 300,000 sqm has already been

[138] University of Bristol (2021) University of Bristol part of multimillion pound project to harness power of 5G, http://www.bris.ac.uk/bristol-digital-futures-institute/news/2021/5g-ports.html

developed, leaving 100,000 sqm for future opportunities, including the potential for storage facilities to support the agri-bulk sector or laydown space for safeguarding the rise of floating offshore windfarms.

8.3 Key Challenges

8.3.1 Leaving the European Union

The implications on the freight industry of the UK leaving the European Union (Brexit) are numerous and continually unfolding, even after the transition period has officially concluded. In summary, the emerging trends include:

- The implications of evolving legislation on the UK road freight industry and the cross-border movement of goods to markets which has created uncertainty.
- A requirement for customs processing and procedures for freight forwarders to gain authorised access into and out of the UK and whether ports are geared for this adequately.
- Increased stockpiling of goods (Just in Case), witnessed through the early part of the pandemic, for minimising supply chain disruptions – which demands additional logistics land in the vicinity of the gateways.
- Potential mode shift and supply chain changes that intersect with maritime shipping and road freight transport and the pace at which this would ideally seek to take place.
- Direct changes to immigration policies and the subsequent effect on workforce availability and staff retention across the industry.
- The challenge faced by organisations with international supply chains serving the UK where meeting common standards has become more burdensome and costly.

8.3.1.1 HGV Driver Shortage

The HGV driver shortage has been well publicised as the consequence of inaction coupled with changes to immigration rules from leaving the European Union, has had an immediate, tangible and visible impact on supply chain efficiency, including direct and immediate impacts on freight forwarding and maritime shipping activity and the ability to meet consumer demand. This situation, compounded by the perfect storm of a pandemic and global supply chain disruptions and has led to a reshaping of how goods are moved cross boundary; namely the shift towards unaccompanied trailers (see section). This places greater impetus on domestic hauliers, despite being short in supply, to move goods over the first and last leg between ports and destinations/origins within the UK. Whether this trend is likely to manifest into a future scenario is still undetermined, but this trend navigates around Working Time Directives, driving licence requirements and ECMT International Road Haulage Permits (for EU travel), to maintain supply chain efficiency.

This situation has taken place concurrently with the reduction in HGV drivers from the continent as a consequence of changes to immigration legislation and influences the scale of international (foreign registered) vehicles moving through the UK and serving domestic (export) requirements. Evidence from other Ro-Ro ports, namely Dover, indicates that this trend is translating into changes to how supply chains are operating whilst maintaining high tonnage throughput. Future HGV flows through ports may also be influenced by short- and longer-term changes to cabotage rules, the number of consignments that foreign registered drivers can complete within a fixed period. Whilst this only accounts for a small proportion (1-2%) of all UK road haulage, the rules for collections and pickups are being relaxed to enable unlimited activity during a two-week period indefinitely to response to driver shortages. This contrasts to the original approach which sought to further restrict cabotage to two collections/pickups over a seven-day period which has been put on hold.

8.3.1.2 Trade Flows

The UK left the European Union (EU) Single Market and Customs Union on the 31 December 2020 which now results in all goods moving to and from the EU requiring customs clearance. The consequences of leaving the European Union on trade flows varies between ports although generally speaking the scale of goods tonnage and passenger movements are relatively small compared to other regions. To a large extent, ports have been insulated from the implications on trade flows through prior diversification and have already begun to explore and develop innovative ways in which to minimise the bureaucracy (and the time/cost implications) involved for moving goods through the supply chain. The appeal and allure of visiting the UK from the continent via the limited services available from ports in the South-West of England, is increasingly challenging as a consequence of the added complexity of travel, post pandemic travel behaviours and the continued dominance of Dover as the major international gateway for ferry traffic between the continent and the UK.

The proposed checks of animal and foodstuffs arriving into the UK has been repeatedly delayed over fears of the repercussions on UK supply chains and the ability for ports to be able to easily handle and process vehicles entering and leaving the site. Portsmouth for example, the UKs largest importer of fruit and vegetables from the continent, is grappling with the cost and infrastructure requirements to accommodate the scale and volume of trade through the port; which presents opportunities for adjacent ports, namely Poole, to scale up and complement operations. However, the costs of introducing the checks, especially for smaller items, would take place concurrently with rising costs of living as the consumer would be expected to cover the uplift in value. Short term, import flows are likely to continue making their way into the UK whilst more stringent legislation is in place to export goods in the opposing direction.

Figure 29 Trade through international gateways across the UK may shape new routing behaviours (AECOM, 2022)

A number of ports have demonstrated versatility in light of the changes induced from leaving the European Union. A new, direct ferry service operated by United Seaways connecting exporters from Morocco and Africa (new terrains of profitability) to the Port of Poole reduces an arduous six-day road trip involving two ferry crossings, to a three-day journey; overcoming future bureaucratic port side processing (and the cost implications on UK importers). Similarly, Cattewater Harbour Authority has recently secured a new trading arrangement to import clay form Mexico and the Port of Bristol, which has historically relied less on European trade, is expanding into markets across the North and South America, particularly for import and exports of high-tech products.

Leaving the European Union has presented challenges but also opportunities, albeit fused with other factors coalescing at the same time. The proposed 'Rail Motorway' being led by Brittany Ferries seeks to introduce a rail connected service shipping unaccompanied road trailers from Portsmouth and Poole to Cherbourg where they will be transferred onto trains from a new terminal in Cherbourg for connections to Bayonne. The rail service, operated by French Rail Network Operators (RNO) SNCF, will facilitate return journeys six or seven times a week using two trains aimed at carrying fresh fruit and vegetables; with the aim of saving 25,000 road trips annually[139]. This project offers the virtues of mode shift and decarbonising several legs of the supply chain to complement the provision of Ro-Ro services already moving between Spain and the UK and the transition taking place towards more unaccompanied freight traffic to reduce vehicle weights, garage space onboard vessels and overcome driver shortages.

Whilst changes to trade flows and shipping routes from leaving the European Union bring adverse impacts, ports can take advantage of their location along the South Coast to access one of busiest shipping lanes in the world. This would be applicable for container traffic (smaller consignments from feeder ports or where capacity is constrained elsewhere) as well as fuel bunkering.

[139] Brittany Ferries (2020) Plans unveiled for 2021 rail motorway from the port of Cherbourg to Bayonne-Mouguerre, https://brittanyferriesnewsroom.com/plans-unveiled-for-2021-rail-motorway-from-the-port-of-cherbourg-to-bayonne-mouguerre/

Furthermore, recent delays via Dover (the UK Land Bridge) has pushed holidaymakers to use alternative ports in the region, such as Poole, despite its relative expense[140].

Figure 30 Port of Poole with Poole Harbour (second largest natural harbour in the world, in the background) (Author, 2022)

8.3.2 Changes to Supply Chain Practices

The disruptions to supply chains can be attributed to several factors conversing at a similar time. 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. At one end of the scale, ports, namely Bristol serving the automotive industry, are witnessing fewer vehicles moving through the port due to the semiconductor shortage experienced globally. This has affected the production of vehicles with some UK manufacturers being forced to close their premises as a consequence. Mini and Jaguar Land Rover based in Oxford and Warwickshire respectively were both impacted.

Lean production and Just in Time (JIT) deliveries, based on the efficient movement of goods between different stages of the supply chain, has been the preferred model for the manufacturing and distribution sector to minimise inventory costs and tailor purchasing decisions around forecast demand. This assumes a reliable supply of goods at a known price point and a stable, transparent demand for goods to deliver a seamless operation. However, market conditions have significantly derailed this model. Businesses reliant on JIT have made tentative steps towards building supply chain resilience through adopting a Just in Case (JIC) approach towards inventory management to proactively meet any level of demand.

This prioritises preparedness over cash flow from holding inventory and protects against losing revenue or later paying inflated costs for raw materials; legitimate concerns in the short to medium term. This places pressure on port infrastructure and future developments to accommodate, transfer and store goods on site or, in the case of Plymouth, looking for logistics land within the

[140] Dorset Echo (202) Port of Poole used as alternative as Dover struggles with queues, https://www.dorsetecho.co.uk/news/20556453.port-poole-used-alternative-dover-struggles-queues/

broader hinterland for this purpose. Plymouth, as an example, is using its freeport designation to develop secure custom zones to aid with streamlining checks, but this degree of investment has not been afforded at other ports along the south coast.

The implications on freight and logistics activity, including HGV flows, could be pronounced. Holding large inventories required significant warehousing and storage capacity, often close to customer markets or at international gateways as part of an increasing trend towards Port Centric Logistics (PCL). Proactive 'bulk' purchases which don't need to religiously comply with fine time margins demanded of JIT model, will come at a cost. There has been incremental investment across most ports to expand storage facilities within the estate confines yet there will be a requirement to safeguard logistics land further afield through the planning system to avoid stunning continued commodity growth.

Organisations, especially multinationals dependent on raw materials, have also re-evaluated their supply chains to source locally and procure sustainably in the short term but also as part of a longer term forward planning and the circular economy. Tightening origin of goods regulations will mean UK industries may need to reshore or nearshore some of their supply chains; further placing pressure on competing demand for space.

8.3.3 Seasonality

The peripherality of the South-West of England and the relatively limited regional economic and freight related markets and demand, limits the viability of developing reliable, high frequency services that can compete with other ports and international gateways outside of the region. As well as relatively limited number of continental destinations served by the port (for Ro-Ro ferry services particularly), 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. Most of the ports across the region require vehicles moving through urban areas. During the summer period, traffic mixing between holidaymakers and port traffic can be particularly acute; leading to missed ferry (Ro-Ro) and loading (Lo-Lo) sailings.

Figure 31 A Brittany Ferries ferry arriving into the Millbay in the Ocean City of Plymouth (AECOM, 2022)

8.3.4 Decarbonisation

The path towards decarbonising ports and maritime activity is beginning to take course but scaling up the provision of sustainable alternatives to conventional fuels remains a challenge. As with the road haulage industry, it is likely that fuel mix will be explored which acknowledges the practical challenges of match making the ability for port authorities to invest in and develop preferred infrastructure at the same pace and extent as the operators of vessels carrying goods and people. There is also the extent to which port infrastructure can also 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. This advocates the circular economy approach, which is supported through regional policy discourse and dovetails the burgeoning importance of the renewable energy industry to ports across the region. However, decarbonisation and the reliance on renewable energy to meet net zero ambitions and obligations, requires grid capacity. This is a major constraint for ports, airports and many other projects that are all seeking to transition away from fossil fuels.

There are many trials and pilots already underway. This includes a hydrogen production barge being developed by Poole Harbour Commissioners and Green Hydrogen Solutions which will be used to generate, store and provide hydrogen to vessels bunkering at the port which avoids complex challenges around the safe and efficient transportation and storage on land. The recent launch of the Hydrogen South-West consortium, which aims to accelerate efforts to meet the UKs ambitious target of 10GW of hydrogen production by 2030, proposes to develop the necessary infrastructure ecosystem for many industries as well as providing new job opportunities and upskilling the region. Several pilots are planned, including a hydrogen hub at the Port of Bristol which includes receiving hydrogen (or ammonia) by ship, powering site-based vehicles and developing a production facility. The Port of Portland has also recently partnered to develop a hydrogen storage and generation facility that takes advantage of its local geography. This promises to provide alternatives to relying on the expansion of grid capacity and leads to greater commercial maturity of hydrogen as an alternative to conventional fuels. 'Green' hydrogen also promises to completely eliminate carbon emissions from the whole production and consumption lifecycle with ports (especially) being able to tap into available water resource.

In other contexts, Ports such as Falmouth and Plymouth (Cattewater), with existing bunkering and pipeline facilities, are also exploring the potential for shifting away from conventional maritime fuels towards biofuel equivalents with limited retrofitting required. Currently, Liquid Natural Gas (LNG) is the cleanest marine fuel available commercially to drive down GHG emissions and improve port air quality. TotalEnergies forecasts that the LNG bunker market could reach ten million tonnes a year by 2025 and represent 10 per cent of the bunkering market by 2030[141]. Bio-LNG is the next step the evolution which would take advantage of the regions strong agricultural market to support future supply of methane and help offset concerns that methane is 84 times more potent a greenhouse gas than CO2, then ammonia and hydrogen.

There is likely to be greater impetus on offshore renewable energy to power decarbonisation targets. The Supergen Offshore Renewable Energy (ORE) Hub is helping to bring together consortium of academia, industry and policymakers to maximise the societal value of offshore wind, wave and tidal. There is clear opportunity for this work to tie in directly with port efforts to establish the infrastructure to power on site apparatus and berthed vessels. However, as already practiced at Falmouth, refuelling can also take place outside the harbour to allow vessels along global shipping lanes to refuel or charge without docking. The broader principle of 'energy islands', led by ports, are also gaining momentum across the continent (see case study on Esbjerg, Denmark) where energy can be stored and distributed via an artificial structure, similar to a port setting, but with a conducive layout to accommodating all functions. This overcomes the spatial constraints on land which have been identified by various port authorities across the region whilst capitalising on Ro-Ro capabilities (at Poole and Plymouth in particular).

8.4 Section Summary

Ports, as part of their diversification journey, are at the forefront of serving new passenger markets, such as the cruise industry and the global supply of the automotive industry but will need significant investment and planning to help support the industrialisation of the renewable energy sector in the near future. This includes establishing an ecosystem of local supply chains and being able to optimise the use of existing services, skills and facilities on site and regionally to unlock significant economic prosperity. Ports are also pivotal to helping move goods on behalf of burgeoning regional markets in agritech, metals and the automotive industries and need to embrace digitisation and smart technologies to make operations more efficient and cost effective. There are barriers to growth, namely the difficulties presented by decarbonising site estates and the repercussions on passenger and goods movement between the European Union; but steps have already been taken to overcome these challenges.

[141] Total Energies (2021) The Drive towards Cleaner Marine Fuels, https://marinefuels.totalenergies.com/system/files/atoms/files/totalenergies_marine_fuels_the_drive_for_cleaner_marine_fuels_digital.pdf

9. Opportunities & Challenges (Airports)

9.1 Introduction

This section provides a high-level assessment of the opportunities available to airports and their wider hinterlands to unlock further revenue growth in the future and to support local, regional and national objectives shared by public authorities, industry and local populations. This is heavily influenced by secondary research and stakeholder consultation. A number of best practice 'case study' examples, relevant to the opportunity, have also been cross referenced to a separate annexe.

9.2 Key Opportunities

9.2.1 New Markets

9.2.1.1 Space Industry

The South-West is renowned as a testbed for innovations in aviation, aerospace and nuclear technologies with the burgeoning space industry closely aligned to the fortunes and diversification of international gateways across the region. 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. Goonhilly is the UK's Space Communications Gateway, and a recognised centre of excellence in Communications Engineering, Teleport Services, R&D, Manufacturing, Training, Outreach and Education. The 'ecosystem' of businesses, anchored by the presence of the airport, will create 150 direct jobs by 2025, which are 2.6 times more productive than the national average, whilst adding £200 million GVA to the economy[142].

The development of an economic and employment cluster, under the auspices of the Local Enterprise Zone, aims to be a catalyst for wider growth in associated sectors which use space-derived data and applications. As well as presenting a unique opportunity to develop a horizontal satellite launch site with a fully connected economy, built environment, and transport system powered by a zero-carbon smart grid and accessible green infrastructure, there are on site challenges including the lack of adequate grid capacity and distribution network and the necessary experience and infrastructure investment to meet the expectations of a world class facility[143].

9.2.1.2 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. The Peninsula region is particularly well catered comparatively for moving goods by air due to the spread of airports and the potential opportunities emerging to move away from the dependency on Heathrow and Gatwick for serving regional markets. The need for transiting high value goods in small quantities across international territories at speed is particularly pertinent to servicing regional industries (e.g. local manufacturing) and communities (e.g. Isles of Scilly) respectively. This sites alongside the opportunities presented burgeoning express logistics services and perishable air cargo goods, which all put renewed emphasis on seamless supply chain connectivity and door to door efficiencies via international gateways across the region.

International gateways are increasingly huge draws for express logistics supply chains seeking to serve the region. Exeter Logistics Park, for example, has been the recipient of private sector investment in warehousing and storage accommodation delivering a combined 83,5000sqm across a 55-acre site on behalf of Third-Party Logistics (3PLs) providers that takes advantage of the airports proximity. Similar manifestation are part of emerging developments at Bournemouth Airport (who are owned by the same company) to help establish more regional hubs of trade and activity and to reduce the dependency on airports and road connections from the South-East of England. The trial of quicker airside access arrangements are taking place at the latter to develop a proof of concept for showcasing the reducing handling time (and costs) for direct transfers between plane and vehicles on the airfield.

Bournemouth Airport is positioning itself at the forefront of becoming a cargo hub for the South-West of England having expanded its freight operations from virtually nothing to 20,000 tonnes over the course of a year. This is in large part to resident 'anchor' carrier European Cargo, which operate a fleet (15) of part-converted A340 freighters undertaking daily trips to China and three flights a week to New York. The appeal to 3PLs and core USP is the truck-to-tail services available at the airport to allow for direct tarmac transfers between bonded trucks and aircraft; a feature that suits urgent and sensitive cargoes. Equally, direct airside access to transit sheds and warehousing (including two transit sheds of 20,000 and 30,000 sq. ft and a 120,000-sq ft facility are on standby) help reduce the costs of goods handling.

[142] Cornwall Space Cluster (2022) Goonhilly Earth Station, https://www.cornwallspacecluster.co.uk/cornwalls-assets/goonhilly-earth-station/
[143] Cornwall and Isles of Scilly LEP (2017) Cornwall and Isles of Scilly DRAFT Industrial Strategy, https://cioslep.com/wp-content/uploads/2021/04/Final-CIoS-DRAFT-Industrial-Strategy-09.03.20.pdf

Figure 32 Air cargo is a new venture for Bournemouth Airport (Air Cargo News, 2022)[144]

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; especially in the event that the third runway proposals at Heathrow are withdrawn. Bournemouth airport is in the process of increasing its apron to facilitate ramp positions for wide-body freighter aircraft; with the aim of attracting new operators including airlines, forwarders, logistics and e-commerce companies. The addition of specialist Temperature Controlled Warehousing is another attractive strategic logistics asset, especially as this is short in supply across the South-West of England and can facilitate flows of perishable commodities.

9.2.1.3 Night Flying

Night flying is particularly relevant for major airports in the South-East of England 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. This in effect requires seamless supply chain integration and logistics to take place for moving goods between the airport and origins/destinations throughout the course of a 24hr period. Bournemouth Airport is 'ripe' for delivering regional needs as an emerging, aspirational 'cargo hub' with no night flying objections. However, the extent to which a paradigm shift in air cargo relocating from hubs at Heathrow, in particular, may largely depend on the status of the Northwest Runway scheme. This will nearly double the airport capacity to 3 million tonnes per year and incorporate a perishable/pharmaceutical centre, goods vehicle call forward facilities and expanded distribution centres on site in response to and to cater for local freight movements by road.

9.2.1.4 Advanced Manufacturing

Advanced manufacturing plays a key role in the economy of Dorset (Poole) and Plymouth now and in the future. This sector often relies on 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 the two locations. In Plymouth, a case has been built by a consortium of business interests and investors backing the

[144] Air Cargo News (2022) Bournemouth ventures into cargo, https://www.aircargonews.net/monthly-exclusive/bournemouth-ventures-into-cargo/

reopening of the mothballed airport, located off the Tavistock Road (A286) north of the city, to recommission services to enhance regional connectivity, boost local employment/skills and potentially move high value, low volume goods into and out of the region. Whilst immediate prospects of coming online have been dashed by other regional priorities and the need for a commercially viable business case, the aim of reopening could save the stem mileage involved in transferring goods from hubs across the South-East of England to the region. This includes high value parts of the automotive (e.g. Kawasaki) and defence (e.g. Babcock) industries. The programme around Poole is also designed to provide a competitive advantage to advanced manufacturing firms which include links with Bournemouth Airport as part of the 'Big' connectivity programme.

9.2.2 Enterprise Zones

International gateways are hugely significant assets that can drive regional and local regeneration and ensure that future growth is sustainable and inclusive and can look to play a greater role in harnessing the power of their significant assets and fulfilling their role as local anchor institutions that drive local prosperity. International gateways, by their very nature, are large scale entities rooted in place with sizeable spending power, land provision and policy sway and are instrumental for improving regional connectivity. They are reliable, consistent and recognisable engines fuelling local prosperity and wield substantial, transformative influence beyond their primary function as transport nodes.

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. They are locations that serve as major destinations and conduits for the movement of people; which relies on the virtues of high-quality surface access and connectivity. The most notable developments within enterprise zones, which are providing fertile ground for the airport diversification, are as follows:

- Aerohub Enterprise Zone
- Exeter & East Devon Enterprise Zone
- St Athans Enterprise Zone

International gateways advantage of co-habiting areas with other organisations and institutions through enhanced public transport connectivity and service provision and direct patronage uplift through the inward migration from uplifts in employment opportunities. This is particularly important as airports tend to be relatively isolated and peripheral to major urban centres.

9.2.2.1 Aerohub Enterprise Zone

Cornwall Airport Newquay is located within the Newquay Aerohub Enterprise Zone which has emerged in recent years as a world leader in facilitating aerospace and space business activity, research and innovation which includes 50 hectares of associated business park. Spaceport Cornwall will be a horizontal satellite launch site at the airport providing flexible, low cost, and resilient access to space for small satellite launch systems. This is with the aim of putting the county at the forefront of global innovation in rapid transit, launch technologies and human spaceflight whilst creating 150 jobs by 2025 and developing locals supply chains, including for the construction of the 18,5000 sq. metre hangar to host satellites equipment.

9.2.2.2 Exeter and East Devon Enterprise Zone

Exeter Airport is a component part of the Exeter and East Devon Enterprise Zone which facilities the growth, promotion and competitiveness of four core employment sites whilst simultaneously relying on its strategic location on the SRN (M5/A30 at J29) and the Exeter to London railway line via Cranbrook. The expansion of the successful SkyPark Business Park provides an opportunity for business growth at this sought-after location. The existing business park is a well-established and popular position providing a mix of office, workshop and storage space with over 2,000swm of logistics land being developed in the airport hinterlands including distribution facilities for the largest 3PLs. There is also a burgeoning development in the use of hydrogen and sustainable propulsion systems at the airport which are being driven by the LEPs ambition to be the 'greenest' in the country.

The airport has been impacted in recent years by a catalogue of external challenges which has affected its operational efficiency and overall offer as an international gateway in the region. The loss of airline operator Flybe in 2020 (including ancillary training and maintenance provision), the airport's main 'anchor' tenant, was a consequence of various factors, including the pandemic on patronage levels, coalescing at one time. This resulted in the loss of 2,200 jobs, 931 of which were based in Exeter. However, the recovery proposals are giving the airport a new lease of life. The financial rescue package provided by several public sector partners, including East Devon Council and Devon County Council, was a catalyst for the diversification of on-site operations to build longer term resilience to future economic shocks and to plan for future innovations within the aerospace industry (see Demonstration Zones). This has included:

- The development of a Future Skills Centre in partnership with Exeter College to upskill the next generation
- Re-establishing a maintenance, repair and overhaul service courtesy of Exeter Aerospace
- Upgrades to the A30 and Long Road through the LEP to facilitate better access to the airport and its hinterlands
- Expanding the range of operators serving the airport, including Logan Air, to avoid depending on a single carrier

Exeter Airport and SkyPark Business Park is an integral component of the broader Exeter and East Devon Growth Point which is expected to deliver 20,000 new homes and 25,000 jobs over the next 10-15 years. This agglomeration also includes a science park and freight terminal which will serve to benefit strategic and global supply chain activity but could have potentially negative repercussions on the local road network by concentrating traffic on an already congested section of the SRN.

9.2.2.3 St Athan Enterprise Zone

Cardiff Airport and the St Athan Enterprise Zone play host to manufacturing centres for iconic British brands, namely Aston Martin, who provide 750 highly-skilled jobs and a further 1000 jobs being created across the supply chain and local businesses as a direct result of the investment. The aim is to match the company's aspiration for any future growth and provides highly-skilled employment and world-class apprenticeship opportunities in the automotive sector in for many generations to come. Cardiff Airport is a component part of delivering high value goods for the automotive sector now and in the future with the arrival of new battery technology sites. Similarly to Exeter Airport, the airport required public subsidy during the pandemic because of its value to the regional and national economy and its pivotal relationship to new, local supply chains. The airport also looks towards supporting the aerospace sector with six of the largest companies for aircraft manufacture, research and development being based in Wales.

9.2.2.4 Dorset Innovation Park Enterprise Zone

Over 4000,000m^2 of employment land for the development of a secure, campus style technology park is being unlocked to the West of Poole to help drive forward advanced manufacturing which builds on its strengths in marine, defence, energy and cyber-security and the links to university and higher educational establishments. It also takes advantage of connections to various ports and airports, including Pool, Portland and Bournemouth international gateways for receiving visitors, business travellers and students. Good transport links will be key for the supply chains of businesses moving to the park.

9.2.2.5 Other Examples

Bristol Airport, which does not sit in an Enterprise Zone, is the fifth largest UK airport outside of London and at the centre of an integrated network of over fifty individual employers, directly employing more than 3,000 people. The airport has public transport linkages across its hinterlands including Bristol, Bath and Weston with high frequency limited stop airport bus operations linking all conurbations. A Surface Access Strategy is in the pipeline for development to help enhance sustainable access to and from the site; especially in light of the recent decision to allow for the expansion of the airports operations to cater for up to 12 million passengers annually.

Similarly, Bournemouth Airport sits adjacent to 'accelerated economic zones' with a predicted £1.7billion growth predicted over the next twenty years. The proposals, which would generate 5,600 new employment opportunities, are interwoven with 'The Big Programme' to support inter regional and local connectivity to address substandard connectivity to London, Bristol and the Midlands/North and to/from the West and South Dorset. The co-location and co-habitation of industries and institutions helps to unlock local transport improvement schemes through developer contributions, including better active travel and public transport links to and from each airport respectively. Much of the employment in the business park north of the airfield is high skilled.

9.2.3 Demonstration Zones

The South-West of England is ideally placed on several fronts to become a 'Demonstration Zone' 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. The South-West can leverage its historic and contemporary aerospace and aviation assets and links to educational and industry presence, including the Centre for Future Clean Mobility, to develop regional test corridors for trialling new innovations. The region has a relatively quiet airspace. The vision proposes:

- Flight test hub for sustainable aviation including UAS, hybrid, electric and hydrogen flight
- Vertical lift and fixed wing testing
- Integrated airspace development
- Sub-system testing and simulation including power and propulsion

Trials and pilots of new propulsion systems are already taking place to some extent on an airport-by-airport basis but with a proposed 'Demonstration Zone' seeking to develop a land-based test corridor between Yeovil, Exeter and Newquay, a sea flight equivalent via Plymouth, as well as exploring cross sectorial opportunities with maritime and energy sectors[145]. A feasibility study, led by the Heart of South West Sustainable Aviation Board, is underway to determine the extent to which shape this could take and the requiring financing and decision making necessary to bring a demonstration zone to fruition. There are challenges to overcome; namely engagement with the Civil Aviation Authority to meet regulatory and legislative standards alongside funding through the proposed County Deal.

[145] Frazer Nash (2022) Heart of South West LEP: Smart and Sustainable Aviation Feasibility Study – Summary

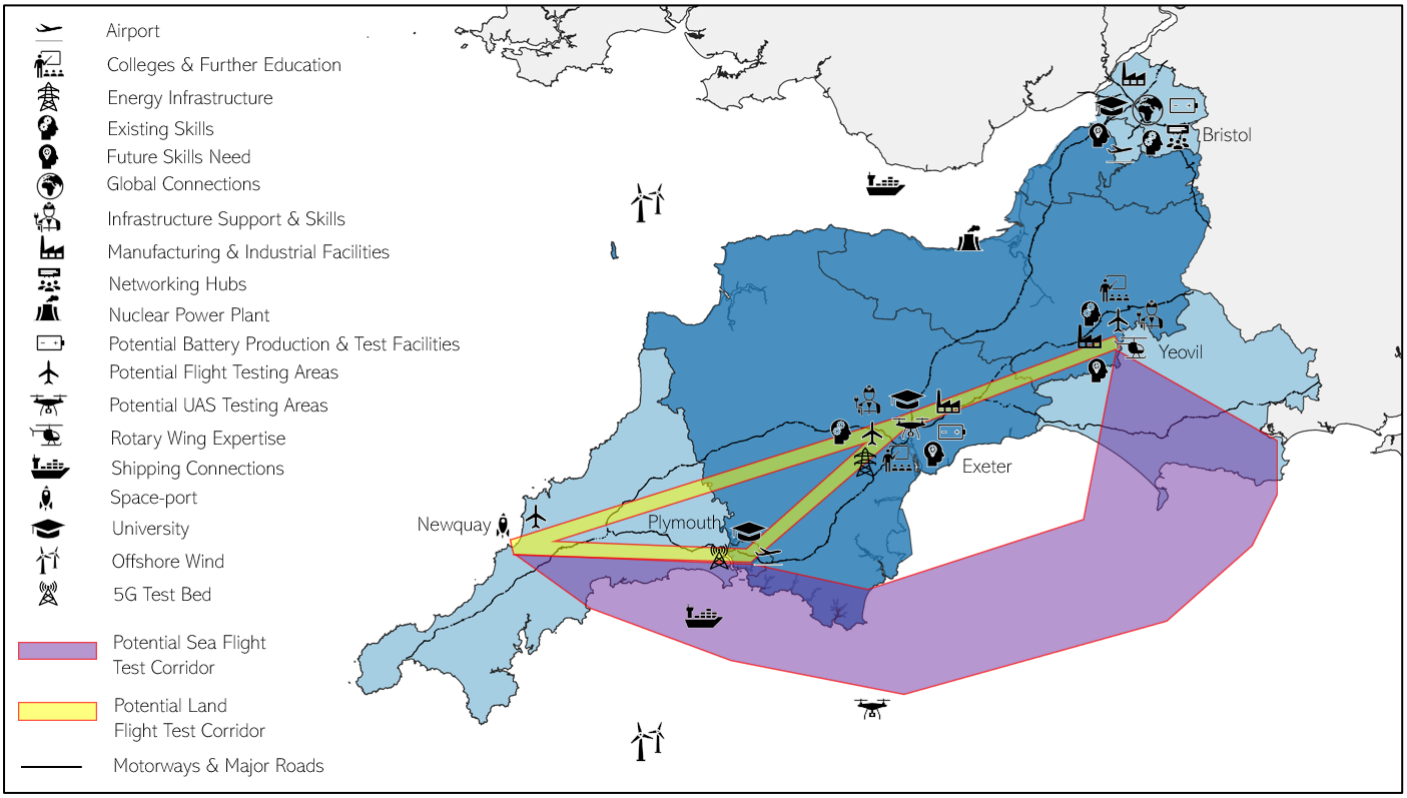

Figure 33 Proposed South West Demonstration Zone (Frazer Nash, 2022)

9.2.4 Decarbonisation

9.2.4.1 Strategy for Net Zero Emissions

The UK Jet Zero Consultation, the UK Governments strategy on net zero aviation[146], aims to confront industry forecasts for it to become the highest residual emitter of Green House Gases (GHGs) by 2050. 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 decarbonising the industry but have yet to be scaled up accordingly.

The speed of the transition towards alternative fuel and propulsion technologies may be dictated by rising fuel costs (and environmental taxes placed on carbon intensive sources) which could drive innovation and uptake of 'greener' options. This will take place concurrently with changing values and stated preferences for travel; raising questions about who will use aviation and demands for higher sustainability and transparency in supply chain operations and the conduct of airlines to addressing the major social and environmental challenges of this generation.

The strategy ultimately aims to preserve the virtues of the aviation industry and to maximise the opportunities of decarbonisation and changing role of airports and its hinterland infrastructure. System efficiencies can help mitigate emissions. Looking purely at airports, there is a role for addressing the sustainability of internal networks and surface fleets, such as the role of Connected and Autonomous Vehicles (CAVs) from airside vehicles (e.g. baggage dolly) to cargo pods through to external connections; which receives relatively little attention. Airports are also hosting solar parks (e.g. Bournemouth and Lands End) and reducing consumption through energy efficiency measures. Stakeholder feedback hints at the range of trials and pilots underway and being proposed internally to help decarbonise on site operations; from baggage handling vehicles and cherry pickers to investing in micro-generation to heat and power terminal facilities.

[146] DfT (2021) Jet Zero Consultation, A Consultation on our strategy for net zero aviation, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002716/jet-zero-consultation-a-consultation-on-our-strategy-for-net-zero-aviation.pdf

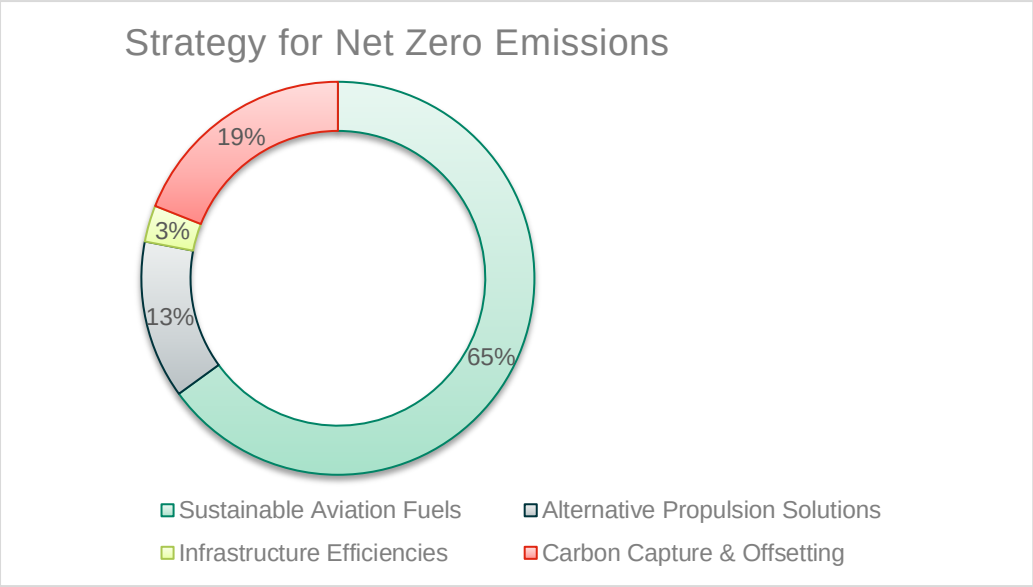

Figure 34 Strategy for net zero emissions (Author, 2022)

Success of meeting the target will require the coordinated combined efforts of the entire industry (airlines, airports, air navigation service providers, manufacturers) and the financial and legislative support of government to accelerate the transition. In the UK, the Jet Zero Council will be a key contact in efforts to help regional airports on their transition towards net zero emissions; with a broader focus on the externalities from the draw off international gateways. The IATA report, Future of the Airline Industry 2025, lays out a roadmap towards four potential scenarios of the future and eleven themes influencing traffic demand.

Regional Perspective

There is scope for the region to explore its natural resource and competitive advantage in the blue and green economy in partnership with international gateways. Sustainable Aviation Fuels (SAF) is upheld as a key industrial 'leadership' opportunity for the UK which could help reduce reliance on oil imports, create production facilities and lead to 5,000-11,000 new 'green jobs'147. This is on the provision that aviation levels and future forecasts remain on an upward trajectory. The Jet Zero Council SAF Delivery Group seeks to establish UK SAF production and accelerate the commercialisation of the sector, and the technologies and feedstocks that the UK should prioritise, with international gateways being primary targets of 'scaling up' use.

Bristol is the only airport across the South-West region to hold the Airports Council International (ACI) Europe Carbon Neutrality accreditation. This is a externally verified assessment of emissions from aircraft ground movements, transportation access to airports, electricity and fuel consumption with the airport aspiring to net zero operations by 2030, including across its fleets, buildings and airfield. Most of the focus of investment has so far centred on trials of decarbonising ground fleet operations (with airlines) and beginning to foster alternative fuel technologies, namely hydrogen. The pilot project at Bristol Airport, Project Acorn, involves working with EasyJet (both are members of the Business in the Community) to begin flying hydrogen aircraft alongside experimenting with hydrogen powered ground support equipment to decarbonise the sites overall operations. Conversely there is limited attention paid towards surface access to and from international gateways and little responsibility for accounting this emission within calculations and projections as well as the added cost and impacts of more private mobility trips on the network.

International gateways need to be on the cutting edge of the drive towards decarbonisation. There is further evidence that the region is making great strides in this respect in response to the urgency of the climate agenda and playing host to an increasing number of 'green jobs' across STEM (Science, Technology, Engineering, Maths) sectors. Exeter Aerospace, in partnership with Loganair, are simultaneously exploring alternative fuel technologies (battery electric and hydrogen) and providing new skilled jobs locally. Demonstration flights across the region funded through the 2ZERO programme (Towards Zero Emissions in Regional Aircraft Operations) are a testament to efforts for mitigating the impact of the industry. Bristol airport again are taking additional strides by also launching the Aviation Carbon Transition (ACT) Programme which includes designating funding for fast tracking initiatives that help decarbonise the airports operations. This could be a transferrable scheme across the rest of the region.

[147] DfT (2021) Jet Zero Consultation, A Consultation on our strategy for net zero aviation, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002716/jet-zero-consultation-a-consultation-on-our-strategy-for-net-zero-aviation.pdf

9.2.5 Air Passenger Duty

The 2021 UK Autumn Budget revealed changes to Air Passenger Duty (APD) to incentivise domestic UK flights by reducing the tax applied by 50% in contrast to the uplift applied to ultra-long-haul flights. The bands applied to APD will also increase from two to three; with flights up to 2,000 miles, which includes the whole of the EU will stay the same compared to rises of £3 for distances between 2,000-5,000 and £7 over 5,000 respectively. Despite the controversy, the proposal, which will only come into effect from April 2023, are designed to boost the use of regional airports and the cost competitiveness between domestic and international flights.

This announcement will be particularly pertinent for airports across the South-West of the UK which serve more domestic markets, particularly Newquay (who experienced substantial growth pre pandemic) and Bristol/Exeter who offer a significant number of chartered flights as part of package holidays. There is a desire for the changes to APD to be introduced earlier by industry to coincide with recovery efforts and to dovetail the public subsidy invested by public authorities. Any rise in domestic travel must seek to coincide with accelerated move towards SAF and alternative propulsion systems to offset the emissions generated from flight activity, especially if this leads to a shift away from sustainable long-distance travel by rail.

9.3 Key Challenges

9.3.1 Surface Access Arrangements

The International Air Transport Association (IATA) has committed members to ambitious net zero targets by 2050 (Fly Net Zero) in parallel with the proposals and recommendations outlined in the UK Net Zero Strategy. The approach mainly centres on targeting commercial operations on site; mainly through introducing and scaling up the use of Sustainable Aviation Fuels (SAF) and more efficient aircraft technology and propulsion solutions. This will aim to reduce emissions by 78% by 2035 on 1990 levels in the UK[148]. Crucially, there is very limited reference to addressing surface access and the sustainability of travel arrangement to and from airports. This is an especially pertinent issue in the South West of England where there are no direct rail connected airports and, consequently, a dependency on road based solutions for improving access to sites. This is further compounded by the business models deployed by some airports which view parking fees as a key revenue stream. This is especially the case where regional airports may be required to incentivise airlines to run scheduled services (in contrast to bigger hubs such as Heathrow).

There is a growing recognition across the region of the need to decarbonise and improve the sustainability of the whole door to door journey. Traffic management and vehicle booking systems for sustainable access as well as the potential afforded by decarbonising road access at international gateways and along the SRN presents an opportunity to support more sustainable transit. Bristol Airport are in the process of commissioning a surface access strategy concurrently with plans for expansion to boost passenger patronage beyond the 12 million mark. However, it is also employees that need high quality access to site; as the airport provides well over a third (37%) of employment within the surrounding area[149]. Exeter Airport, who possess Airport Carbon Accreditation and are recognised for their endeavours to reduce emissions, have a live strategy in place. Interestingly, the latter has also benefitted from the agglomeration activity abutting the site and the additional provision of services being provided to serve a burgeoning employment centre for the sub region. The peripherality of airports such as Cornwall Airport Newquay and Bournemouth, the latter of which will seek to benefit from the 'Big Programme' of access and connectivity upgrades, will need further attention. The notoriously poor connectivity (east-west and north-south) across Dorset for strategic freight (and passenger) journeys are a barrier to expanding the role of the airport as a genuine cargo hub for the region.

9.3.2 Integrated Travel

In theory, integrated ticketing for facilitating onward journeys should be relatively straightforward. This is on the provision that agreements can be made with surface transport providers or brokered through new powers afforded to devolved authorities to enhance through ticketing. However, compensation rules and the requirements for transport operators to hold a Global Distribution System (GDS) code (to apply cos savings) negate progress of this front beyond a (successful) trial initiative having already taking place with Great Western Railway (GWR) in the South of England.

9.3.3 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

[148] IATA (2021) Net Zero Carbon 2050 Resolution, Factsheet, https://www.iata.org/contentassets/b3783d24c5834634af59148c718472bb/factsheet_netzeroresolution.pdf
[149] Acuity Analysis (n.d) Economic and social importance of the UK's regional airports, https://www.unitetheunion.org/media/3098/regional-airports-data.pdf

and passengers seeking a more seamless experience of air travel elsewhere. This is particularly relevant short term across regional airports where staffing challenges have led to lengthy delays and impeded the passenger experience.

From a freight perceptive, many of the airline operators serving regional airports do not currently offer up significant capacity in the bellyhold of aircraft to cater for air cargo; partly due to the destinations served (continental breaks tend to amount to sizable luggage requirements), the agreement between shippers and airlines, and the ability to handle (and store) goods at the airports. Alternative revenue streams do derive from parking costs on site, which brings into question the contradiction between commercial goals with meeting objectives to increase the mode share of sustainable travel. This may be attributed to the fact airports may pay for airlines to provide stopping services as opposed to major hubs who command larger market share of the aviation industry.

However, airports across the region are increasingly looking towards the US and other overseas markets for trading goods. The launch of flights to North America via Dublin from Exeter Airport (courtesy of Air Lingues) includes through-ticketing, baggage transfer and pre-clearance of all US immigration and customs inspections; allowing for seamless travel. This is becoming a USP for regional airports by reducing the need for local businesses to use London airports (thereby cutting stem mileage and boosting exposure of the regional brand) and also welcoming tourists from key (increasingly popular) locations that support the regional economy through heightened footfall levels. Bristol and Bournemouth airports are also on a similar trajectory – which puts the onus on enhancing first & last mile links and the regional network for seamless door to door supply chain and visitor journeys by road and rail.

9.4 Section Summary

This section has cast light of the ambition of various gateway operators and public authorities to supporting the diversification of airports and the forging of symbiotic land uses within the immediate hinterlands. Airports, which have had to change in response to the financial climate, are attractive anchors for areas undergoing economic development with clustering of specific employment and industry activity taking place across the region. New market opportunities are presenting themselves serving the third party logistics sector and advanced manufacturing activity whilst the decarbonisation is driving research and investment into alternative flight propulsion.

A South-West Future Demonstration Zone would be ideally placed to capitalise on access to skills and investment and provide financial resilience longer term whilst the APD discounts will look to stimulate more regional, domestic traffic in the future. However, there are concerns about the quality and ease of access to airports and the relatively limited attention provided to improving surface access, especially where this conflicts with business model for generating revenue. However, integrated transport between multiple operators, remains a big challenge under current legislation.

10. International Road & Rail

10.1 Introduction

This short chapter provides a high-level overview of international movement of road and rail movements via different forms of transportation that penetrate the South-West region of the UK. Passengers and goods do not only come via airports and ports but also arrive via railway network (and stations) and the coach network; whether passing through directly from the continent or via hubs in the South-East of England. This chapter draws out key points from background research (complemented by stakeholder engagement) with a more detailed picture of the role and importance of 'travel corridors and interchanges' provided in a separate Summary Note (A.3).

10.2 Rail Network

10.2.1 Passengers

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. The pandemic has had a profound impact on patronage levels, passenger expectations and travel characteristics with 344 million passenger journeys made in Great Britain in 2020-21 equating to only 22.9% of the 1,504 million journeys recorded in 2019-20[150] . The South-West recorded the most journeys in 2020-21 as a percentage of journeys made in 2019-20 compared to other regions due in large part to the resilience of the tourism sector and domestic staycations.

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.

Rail revenue recovery will remain a challenge for TOCs with regional journeys still 82% of 2019 levels and long-distance movements within the South-West (including too and from the region) having stabilised at 75% of pre pandemic levels[151]. However, rail passenger volume across the region and particularly Devon and Cornwall is gradually growing with a lower 'lapse' rate being recorded in contract to typical commuter belt areas across the rest of the GWR network (such as the Cotswolds) for accessing the capital. There are seeds for strategic inbound and outbound journeys to facilitate regional access for business and recreational travel. Growth Deal Investment funnelled through the Cornwall and Isles of Scilly LEP, helped to upgrade the Night Riviera Sleeper Service including new sleeper lounges and changing facilities at Truro and Penzance and remodelling of supportive infrastructure to improve door to door journeys.[152]

There are challenges to accurately define international rail travellers' onboard services and therefore what stations and corridors could effectively be defined as international gateways for people arriving and leaving the country. This effects the ability to effectively cater for user demands and expectations and to plan seamless public and active transport connections. There are many stations that can support the transit of international travellers on a door-to-door journey; whether these are from services arriving or departing from locations within the UK, namely London, or arriving direct from the continent via the Channel Tunnel. The latter does not offer direct connections to the region presently so the quality and ease of transfer within London for travel via the WCML is key. Developing 'stations as gateways' alongside improving the ticketing offer will be key to attracting passengers to the region

[150] ORR (2022) Regional Rail Use, https://dataportal.orr.gov.uk/media/2047/regional-rail-usage-2020-21.pdf
[151] GWR (2022) Community Rail Conference 2022: Presentation Slides (Jeremy Clarke)
[152] CIOS LEP (2021) Rail developing a public transport system, Creating the Conditions for Growth, https://cioslep.com/wp-content/uploads/2021/03/A3-Sheet-Rail-Growth-Deal-2-graphic-pr9-1.pdf

Figure 35 A GWR Hitachi train at Penzance Station (Author, 2022)

10.2.1.1 Tourism

Although visits to London tends to dominate in terms of attracting tourists, there are an increasing number of people visiting the regions. Many European visitors drive their own vehicles to the UK using short sea ferries or Le Shuttle, others use Eurostar or short haul flights. Some of these visitors use rail services from London Waterloo or Paddington or via Heathrow connections to Reading station, for the wide range of destinations available by train. There are a number of railway stations in the South West that are regularly used by foreign visitors and hence they are International Gateways in their own right.

10.2.2 Goods

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 come international (and domestic) intermodal traffic (particularly consumables) as well as the automotive industry.

Southampton is the major port and player outside of London (Tilbury and Felixstowe) for moving this traffic at scale. Train lengthening programmes (to accommodate 775m trains) established freight paths with W10/W12 gauge clearance and diversionary routes make the port extremely attractive for customers. This is in contrast to the limited option presented through Bristol (Avonmouth and Portbury) presently and the absence of connections to and from the South-West more broadly. Links between Southampton and Bristol have been mooted for some time whilst the electrification and gauge clearance offers along the GWML offers huge potential for switching out long distance road haulage providing that there are the facilities to aid transfer to road over the first and last mile.

The relative immaturity of the rail freight market also plays a role with less than five trains per day being observed along sections of the network across the South-West of England. This should note be a deterrent with a number of factors supressing future demand namely:

- Limited Gauge Clearances: Most of the network is W4/W6 or at best W8 with rail services using old infrastructure with weight and height restrictions that restrict the use of standard intermodal containers and longer trains.
- Localised Market Demand: A large proportion of bulk goods are moved within the region with road haulage offering the greatest level of flexibility compared to rail connected ports (and airports).
- Intermodal Terminals: The absence of any intermodal terminals within the South-West of England to facilitate the exchange of goods from road to rail.

10.2.2.1 Channel Tunnel Rail Link (CTRL)

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 a direct services to the South West through the Channel Tunnel or at least connect with services at a London Freight interchange have been mooted. This may help to offset the large percentage of road movements drive from the South West across to the South East to use one of the short crossings from Hampshire or Kent ports and services across the Dover Straits as opposed to the slightly longer ferry services from Poole and Plymouth to France.

10.3 Road Network

10.3.1 Connectivity

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. This is especially the case as economic forecasts and growth concentrations are increasing clustered around the SRN and international gateways . However, 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 South West Peninsula Route Strategy , one of eighteen developed across the UK by National Highways (formerly Highways England) helps allude the road and network performance and the optioneering process for investment across the region. A revised version, replacing the current 2019 edition, is due for release in summer 2022 and will almost certainly relate to supporting upgrades to the same core corridors alluded to previously. The rationale for investment is strongly linked to emerging ‘Economic Opportunity Areas’; clusters of activity, including international gateways, which are key to regional and national prosperity. These should interrelate and support all international gateways not simply Bristol, because of their prominence in supporting employment, supply chain and passenger connectivity and driving the decarbonisation agenda.

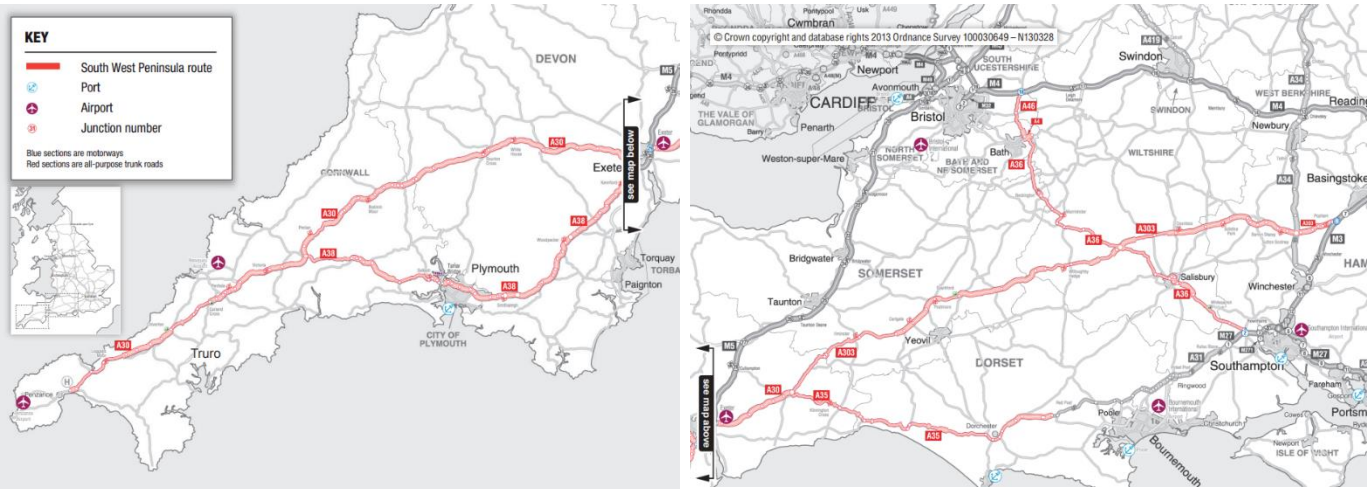

Figure 36 Investment proposals within the South West Peninsula Route Strategy (National Highways, 2019)

The key road corridors/axis for the Peninsula and Western Gateway region, as illustrated above (Figure 1), 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.

The key routes, listed below (Table 12) have also been assessed at a high level against their relevance and relationship to the international gateways (deeper grey indicates the strength/dependency on the link for goods/passenger movements) across the region. This includes reference to upgrade scheme laid out in National Highways Five Year Delivery Plan 2020-2025. There are a number of general observations in relation to the SRN:

- The absence of a dual carriageway on the A303, A30 and A358 is a notorious issue made worst 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 (e.g. managed motorway on the AM4/M5 Bristol) 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.

Road	Description	Falmouth	Teignmouth	Fowey	Plymouth	Poole	Portland	Bristol	Bristol	Exeter	Newquay	Bournemouth
A30	The main artery running through Cornwall and Devon linking Penzance & Lands End through to Exeter (and M5 J31). The route is heavily used for summer tourism traffic and will be key to supporting EOAs, including around Cornwall Airport Newquay & Exeter Airport.											
A38/A390	The 'mainline link' support inland movements for ports and airports along the south coast; connecting small and larger conurbations; but with issues of reliability along single/dual carriageways.											
A35/A37	A pivotal link serving the south coast ports connecting into the A30 and A303 for east-west connectivity and northbound towards Bristol. The route is only single carriageway (see 2.3.1.1 for planned upgrades – Scheme 67)											
A303	A component part of east-west connectivity between the peninsula and the M3 (avoiding the M4) for inter-regional travel between London and the South East of England (see 2.3.11 for planned upgrades – Scheme 64,65)											
A36/A46	A strategic route offering north-south connectivity but on a combination of single and dual carriageway with missing links through the region.											
A350	A key route for accessing Swindon and Wiltshire growth areas but is constrained, meandering and heavily used by the road freight industry, despite the impact on local communities.											
M5	The main artery supporting all international traffic making its way between Bristol, South Wales, Midlands, and the Peninsula; terminating in Exeter where it links into the A38/A30. (see 2.3.1.1 for planned upgrades – Scheme 66, 69)											
M4	The main east to west connecting piece between the South East and South West of England through to Wales. Several A roads from the south coast feed into the M4 to reach Bristol.											

Table 12 Key Road Corridors for International Gateways (Author, 2022)

10.3.1.1 Corridor Resilience

The scale of overall vehicle movements moving through the region is pale in comparison to the volumes and intensity of activity across other part of the UK along the SRN (see Figure 37). However, as is the case with other regions, there are sections on the SRN where significant delays are experienced along the core network of routes providing east-west and north-south connectivity. This impacts both localised and strategic flows of goods and people within the region and the reliability of door to door journeys to and from international gateways. They also hint at where road investment could be prioritised (albeit with a large degree of caution to avoid a predict and provide approach to transport planning).

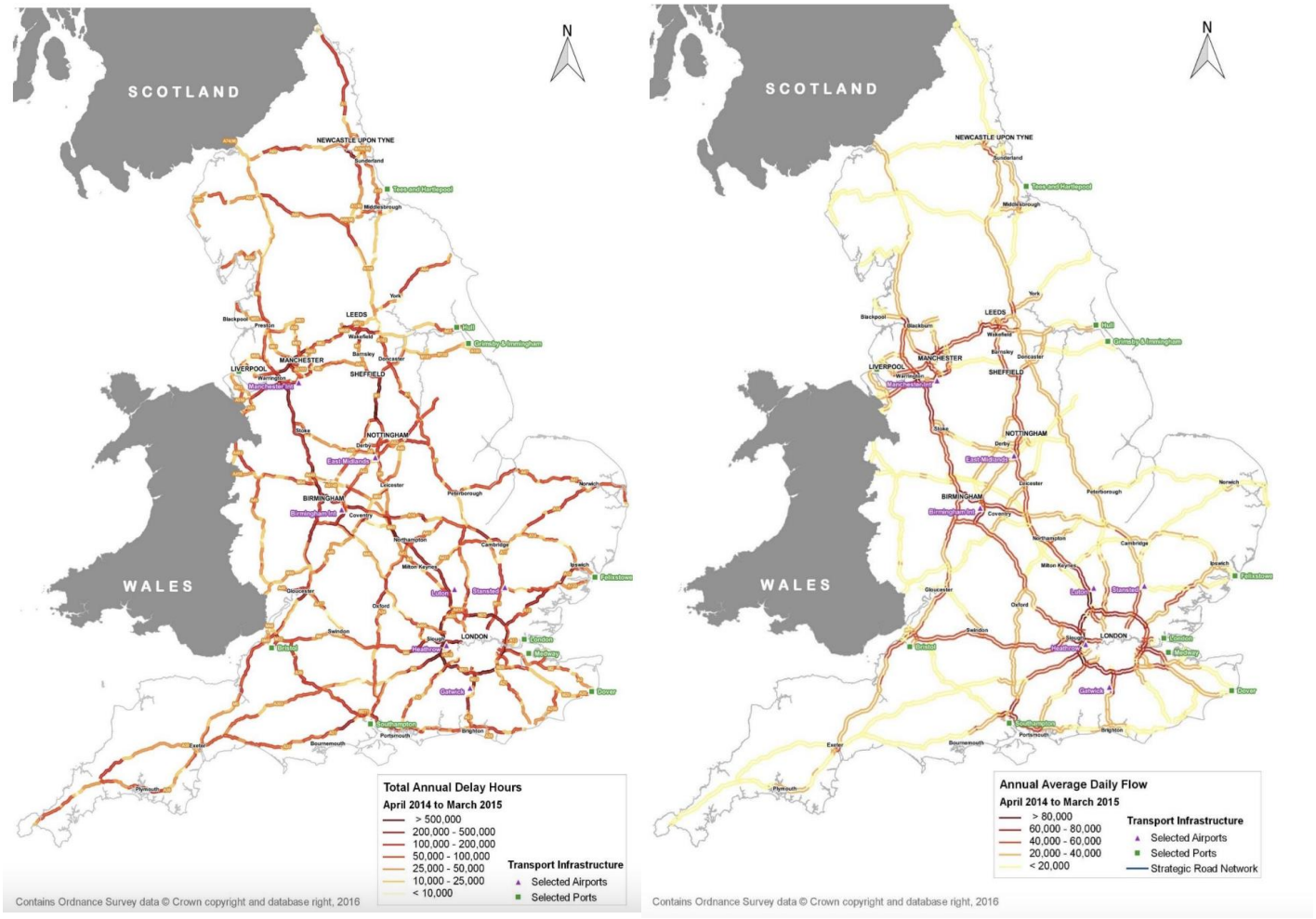

Figure 37 Total annual delays on the SRN (National Highways, 2014-2015)

Generally, the number of sections prone to delays across the region is a challenge for ensuring journey time reliability for goods and passenger movements, especially when this involves coordinating timings with scheduled sailings or flights. Whilst there is a degree of predictability about where delays are likely to take place, network resilience (a subject covered in the Freight Strategy), including diversionary routes, is key in the future; especially if ports and airports are expanding growth projections (a customary narrative as part of the UKs economic model).

There are particularly notorious routes, namely the A36, which experienced 200,000-500,000 hours delay annually (2014-2015) along its whole course and is a major north-south connecting link for goods and passenger movements from Poole Portland and Bournemouth international gateways as well as from the Solent ports and airports. Offsetting road based movements along this corridor, including through mode shift, is a necessity. Bristol and Bath are a key confluence for the SRN in the South West of England, as well as being the biggest conurbations in the region, and therefore experience substantial annual delay hours.

The Travel Time Reporting Tool developed by National Highways, illustrates the average Vehicle Hours Delay (VHD) along the SRN for 2020/2021. Generally, the same delay patterns can be observed but with notable exceptions between Honiton and Exeter Airport (A30), east of Bodmin (A30) and the stretch of the A36 between Totton and Bath. The most pronounced sections of average VHD of between 30-40+ are between Gordano services, Bristol, and Taunton (a major route for international traffic) as well as between Bere Regis and Southampton along the A31 coastal route (serving Poole, Portland and Solent Ports/Airports).

10.3.1.2 Traffic Flow Statistics

National Highways traffic statistics, namely traffic flows, on the SRN helps to illustrate the changes in volumes across various vehicle classifications between 2020 and 2022. Data was captured across varying geographies including at the national level (across the South West region and just the Peninsula to highlight the discrepancy between expected and actual vehicle volumes across each month respectively. A number of observations can be made (see A.3 Summary Note_Travel Corridors & Interchanges for the full insights), including:

- Traffic flows across the Peninsula Transport region were up 4.7% overall (covering all vehicle classifications) which is far superior than otherwise observed at a national scale or across the broader South West of England. This may be attributed to inward migration and heightened levels of tourism activity from 'staycations' in the UK (in contrast to international travel).
- The rapid raise in the volume of LGVs observed generally as a major trend implicating the national and regional picture. Similarly to overall traffic flows, this increase was particularly pertinent across the Peninsula (11.5%) and is symptomatic of the growth in e-commerce and servicing activity during various lockdowns which has continued to prevail longer term.
- There is an inevitable spike in HGV and LGV activity during the festive winter months in anticipation for the end of December across both 2020 and 2021. HGV traffic generally, has been a mainstay across the whole duration with traffic flows remaining relatively stable throughout the core pandemic period.
- Whilst LGVs (6.6m-11m) bounced back strongly from the initial lockdown in early 2020, smaller vehicles (5.6m-6.5m) failed to reach their pre pandemic heights into 2021 and 2022. This may be a consequence of greater optimisation of larger vehicles (LGVs 6.6m-11m) and followed the broader overall traffic flow trend for the region

10.3.1.3 South West Regional Transport Model (SWRTM)

To gain further insight in to flows on key corridors and in and around international gateways throughout the South West area, analysis has been performed using the South West Regional Traffic Model (SWRTM). The SWRTM is a strategic highway model, developed for NH having been developed for testing and appraisal of RIS highway schemes. There are five separate models (North, Trans-Pennine South, Midlands, South East, South West), which between them cover the whole of England. The base model reflects pre-pandemic traffic conditions in March 2019. A refreshed model is currently being produced.

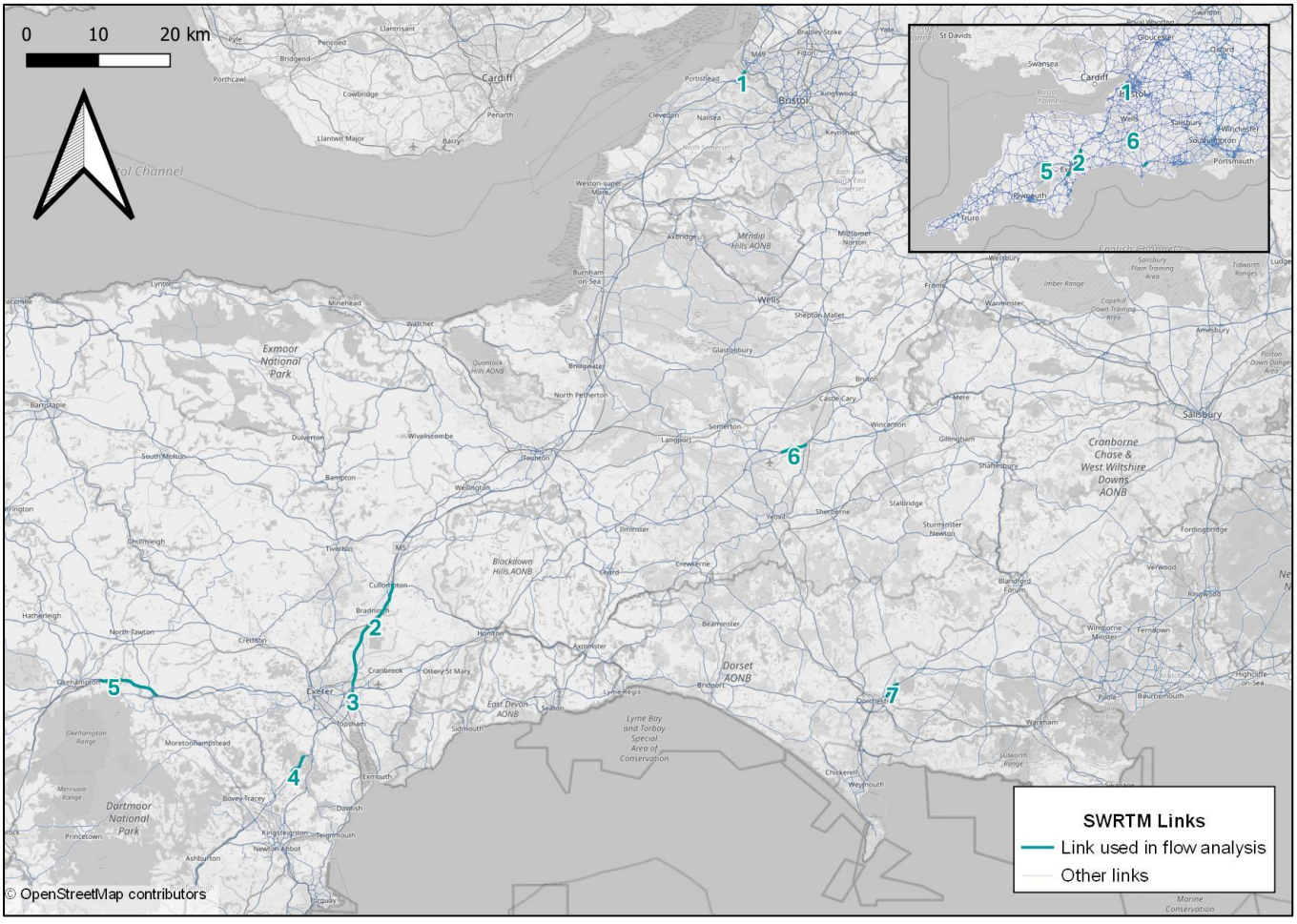

Figure 38 SWRTM Links Reviewed (Author, 2022)

A twelve-hour annual average daily flows (AADTs) for each link have also been captured. These have been separated by car, van and HGVs. Whilst there is currently no means by which to distinguish 'international traffic' from domestic movements, the modelled flows allude to a number of points:

- The M5 J19-18 North Bound (NB) carries the most substantial volume of car traffic during an average twelve hour period and the largest volume if overall traffic, across all links, during the 12 hour period. These two particular junctions serve through traffic making from the Peninsula region as well as local traffic mixing from the City of Bristol.
- The M5 J19-18 NB also conveys the highest volumes of vans and HGV movements across the links observed. This is again partly attributed to the links strategic location form north-south movements as well as the local traffic generated by the Port of Bristol and the Avonmouth-Severnside Enterprise Area; a regional location for large-scale industrial, distribution, energy, & waste-producing sectors.
- The highest proportion of HGV flows across the links observed, take place further south towards the east of Exeter, M5 J29-28 NB and South Bound (SB) where this meets the A30; a key strategic corridor for inter-regional movements between the Peninsula and Western Gateway areas. This is also the access route for Exeter Airport and is a key section for north-south movements of people and goods from international gateways located deeper inside the region.
- The other links located further south, namely along the A303, A38, A30 and A35 convey last less overall traffic volumes but do so on single or dual carriageways. The extent of traffic mixing on these corridors are similar, although with slightly higher proportions of van traffic in and around urban conurbations.

10.3.1.4 Modelled Tripends (Vehicle Origins & Destinations)

Several observations can be made from the assessment of vehicle origins and destinations at international gateways across the region. These are as follows.

- The Port of Bristol is a major generator and receiver of HGV traffic; with approximately a quarter of all movements radiating from the port (and immediate hinterland) linked to this type of vehicle type. This far exceeds other international gateways and symbolises the scale of freight and logistics taking place in this vicinity (despite not even hosting Ro-Ro freight) as well as the opportunity to explore how to stimulate mode shift goods on strategic and local journeys.
- Around a tenth of traffic originating or concluding trips in and around the Port of Portland (and its immediate hinterlands) is HGV traffic, yet the volumes (698 trips - originating) are small comparatively to the Port of Bristol (1,911) and Poole (1,748); the latter experiencing traffic mixing to a far greater extent (due to its town centre location). In contrast, Bristol Airport is not a major trip origin or destination for HGV (and LGV) movements due to the limited freight role.
- Van traffic, especially in conurbations, has accelerated in recent years, due in large part due to the increase in e-commerce and servicing requirements. The scale of trip activity within the immediacy of the Port of Plymouth (Millbay), adjacent to the town centre, is a casing point. This has the potential, if current trends continue to prevail, of impacting the journey reliability of Ro-Ro traffic and new trips from adjacent ports (Cattedown and Devonport).
- Other international gateways, namely Exeter and Bournemouth, serve burgeoning express logistics clusters with around a quarter of vehicle origins being symptomatic of the industry's (growing) presence within the vicinity. It is strongly anticipated that overall volumes (which stand at between 2,000-2,200 movements over a 12 hour period) will increase concurrently with the passenger (and private car) traffic flows radiating from the area in the future.
- The scale of cars originating and destined for (and within the immediacy of) international gateways also varies significantly; depending on their range of services available at ports and airports but also the extent to which other domestic trips are captured within the figures. The Ports of Plymouth and Falmouth, where the highest volumes of private car trips are observed, are centrally located but do not offer the same breadth of passenger (ferry) services as Poole comparatively. However, this does indicate the scale of traffic mixing in the vicinity of access routes.
- The figures for international gateways that are far more remote may provide a better representation. The likes of Bristol, Lands End and Newquay airports all have high proportions (and volumes) of car based movements originating from each respective site; which reflects their primary roles as passenger gateways. Investing in high quality connections for people would be an obvious choice in these instances.
- Lastly, the vast majority of international gateways help convey similar proportions of inbound and outbound vehicle trips (across the classifications), albeit with a 1-2% difference in each case (on average). However, Teignmouth is the exception, whereby there is a 10% less passenger trips destined for the port (compared to originating at the port) and a higher than average uplift in HGV trips (as a proportion) arriving at the port than leaving it for movement inland. This may be attributed to the ports heightened bulk export activities and affiliated quayside activities.

10.3.1.5 Lorry Parking

As referenced in the WP09 Freight Strategy, 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. The clustering of economic activity around ports such as Poole, Bristol and Plymouth in particular, warrants the need to integrate better provision, including through the planning process, to accommodate current and future HGV flows. The use of vehicle booking systems and intelligent transport systems could help manage access from the SRN via the local road network to site.

10.3.2 Coach Network

Long distance, intercity coach services play a critical role in supporting the tourism industry; a mainstay of the regional economy in the South-West of England. In 2019, 23 million visits to tourist attractions were undertaken by coach which contributed £14 billion to the UK economy. As a proportion of coach revenues, 11% derives from international tourist trips in the UK with 22% coming from domestic tourism[153] . Connections with international gateways will be crucial to fulfil VisitBritain's ambitions to attract 49 million more visits and boost tourism spending by £35 billion by 2035 whilst reducing traffic related factors, such as congestion. An average 15% increase in coach passenger journeys each year across the UK could save 47 million car journeys.

The corridor between the South-West of England and London is the most popular and well served in the UK. The link between the region and Birmingham, which is a major interchange on the network (Digbeth), is also popular with the same intercity coach services namely Megabus, National Express and Flixbus (see summary note for more details). There are a number of specific destinations which command high frequent services. This includes places with high student and youth population and a more elderly demographic; the two key target audiences for the coach industry (such as Plymouth, Bournemouth and Bristol). Private charter coaches also travel to the region direct from the continent arriving through Dover as the UKs main Ro-Ro port and travelling via London or destinations along the South Coast.

Figure 39 National Express coaches at Bournemouth Interchange. One is an express service to London (Author, 2022)

10.4 Section Summary

This section has reflected on the relative prominence, role and importance of road and rail networks for supporting the movement of people and goods to and from international gateways. 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 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.

[153] CPT (2021) Backing Britain's Coaches, https://www.cpt-uk.org/media/5giagic1/coach-strategy-full-strategy-document.pdf

11. Study Summary & Recommendations

11.1 Introduction

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 final section of this report sets out the role of the STBs and international gateways going forward and a few recommendations to pursue in line with other workstreams as part of developing the overall transport strategy for the region.

11.2 The Role of STBs

There are a number of highly relevant themes to the region. The role of government is key; whether through regulation, investment in infrastructure or support for flagship developments. This was demonstrated recently through approving the expansion of Bristol airport by the UK Government by the Planning Inspectorate. 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. This could be for logistics land or for educational and manufacturing establishments affiliated with future operations of the port or airport, including safeguarding land for future growth or port centric activities. They also have the ability, as demonstrated at Exeter, to help leverage funding through developer contributions to support better connecting public and active transport services which serve a dual purpose of transport visitors as well as commuters for inbound and outbound trips.

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, burgeoning markets, particularly centred around energy security and the potential offered by offshore renewables. Additional impetus could help stimulate local supply chains and kick start the development of port estates providing this can be matched with additional funding.

There is also a facilitation role that the STBs can play going forward. This includes forging links between public authorities and industry to help coordinate tourism efforts across multiple disciplines (in which transport is a part) through to potentially developing multi modal ticketing options under new devolution arrangements in the future. This is highly relevant in the context of providing genuinely attractive and convenient multi modal travel that serves visitors, business travellers and residents and meets the requirements of international gateways to reduce emissions and work towards carbon neutrality. STBs can also help to develop a more constructive culture around data collection and sharing to help provide better accounts of how they are meeting decarbonisation and mode share targets etc.

11.3 The Role of International Gateways

International gateways (ports and airports) are more than conduits for movement and are having to adapt to current and future scenarios, such as the decarbonisation agenda and the changes to supply chain activity brought on by the pandemic and leaving the European Union. Diversification is a central pillar to add resilience; whether this is entering into new freight markets or more widely promoting existing service offers to prospective customers or exploring new site-based activities (particularly around alternative propulsion and energy generation) which generate revenue in new ways. This is also highly relevant during the climate emergency.

Ports 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 and are uniquely placed to unlock burgeoning sectors, namely offshore renewables (ports) and space/aviation industry activities. This increasingly means that ports and airports are an embedded part of a wider ecosystem of organisations clustering around sites to benefit for co-location but, in the process, requiring a wider transport apparatus to facilitate access for visitors and employees. Co-location also applies to improving efficiencies, such as the push towards smart port technologies and demonstration zones (as examples).

There does, however, need to be a more concerted effort on updating access strategies for international gateways, whether this sits within existing or emerging masterplans or as standalone documents. This is more relevant for passenger movements and how to stimulate a shift away from the use of private mobility for accessing airports or ports, whilst acknowledging that the sites are often peripheral and draw audiences (particularly Bristol Airport) from a large catchment area.

11.4 Outline Recommendations

The following tables set out a number of recommendations. The first set of tables categorise each recommendation by theme and description and the second set of tables focus on the likely impacts and timescales. Reference has been made to the actions/recommendations in the WP09 Freight Strategy (in brackets) to demonstrate the synergies between the two studies. Those highlighted in dark green, are the top recommendations across all modes and gateways.

11.4.1 Recommendations: Themes & Description

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) and safeguarding site and handling capacity is limited and local supply chains haven't been established.
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 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 on 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 that 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 to have 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 together 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)

11.4.2 Recommendations: Impacts & Timescales

Aviation					
ID	Location/Corridor	Benefits (Audiences)	Modes Impacted	Timescales	Leads
1	Supporting links and testing alternative propulsion technologies across all regional airports in the Peninsula which need to source new revenue streams and meet decarbonisation targets.	Plays on the region's historic connections with aviation. Demonstration Zone is a component part of a symbiotic relationship between skilled employment clustered around international gateways.	Primarily about the aviation industry but brings into play the quality of connectivity for people accessing locations.	Currently being promoted by Devon Council – taking inspiration from Shannon Airport in Ireland. At early concept stage awaiting CAA buy in.	Broad range of sources but project underway to scope out potential through Nash Partnership with Devon Council.
2	A38 Bristol Airport which is notoriously congested. Cornwall Airport has poor links (especially to as an employment centre) and both local and strategic access to Bournemouth Airport is being improved. Exeter has upgraded recently (more exemplar).	Freight forwarders (now and to make it appealing to future air cargo), passengers (especially for looking at accessing remote sites sustainably as well as airports themselves are also (and becoming) major employers.	Road based access due to the peripherality of gateways sites and the reliance on private mobility. This is a key responsibility of the aviation industry.	Key to meeting decarbonisation targets (although less of a priority compared to SAF etc). Airports are also seeking to grow patronage in some instances.	Airline UK has stated the need to look more at surface access going forward across all airports (an opportunity to dovetail).
3	Bournemouth to China, Exeter to North America and Bristol to North America and other Non-EU territories.	The benefits of additional trading links have already been promoted via the South-West Business Council and Infrastructure Partnership for local businesses (footfall) and drawing tourists from other parts of the world. There is huge potential to reduce reliance on London Airports (and road-based travel).	Aviation and road.	Already taking place and likely to grow as airports expand and trading arrangements pivot.	Market led with support of the South-West Business Council and others.

Table 18 Aviation Recommendations: Impact & Timescales (Author, 2022)

Maritime					
ID	Location/Corridor	Benefits (Audiences)	Modes Impacted	Timescales	Leads
4	Plymouth, Falmouth and Poole/Bristol (WG) have the greatest potential. Local access to the first two ports is also a constraining factor to scaling up operations.	Can enhance communication between manufacturing groups and port authorities for localising supply chains to support local prosperity including local shipyards, such as in Plymouth, Falmouth and others across the region (e.g. Appledore).	Ports and maritime traffic would be directly impacted (positively) through additional custom (throughout). The resilience of the road network would be key.	The opportunity needs to be grasped sooner rather than later as part of the Levelling Up agenda and in response to building energy security/resilience.	Plymouth Freeport would be and early demonstrator; bringing together key industries, local actors and public authorities. The Centre for Local Economic Strategies would be an ideal partner

5	Regional angle - Forging links between the South- West Manufacturing Group and constituent international gateways, as well links between county/city Manufacturing Groups (MGs) and local ports/airports. All areas have DMOs that can start to engage more with operators.	Gateway owners and operators as well as companies involved in the sector. Local communities will also benefit from employment opportunities whilst additional visitor traffic will increase local spend.	Maritime and land use based but more around facilitating and influencing local supply chains to reduce freight miles.	A quick win that has already been partially facilitated through WP12 and can be expanded to cover promotion of short sea passenger services.	The Freight Forum established under WP09 is attended by the SW Manufacturing Group. Area specific facilitation would be required.
6	Plymouth in particular – linked to Freeport development, as well as Bristol (working on 5G network, alternative fuels and increasing mode shift to rail). Poole is also invested.	Port and authorities (who benefit commercially by creating additional capacity) as well as national distributions and manufacturing forms as part of a JIC model.	Implications on rail and maritime; raising the profile and scope for rail to play a more prominent role for distribution linked clustering around ports (maritime).	Smart ports are already underway supported by academic institutions, but port centric developments rely on land use planning and safeguarding of space as well as enhanced access by road/rail.	Should be a Ports Working Group consisting of ports across the region alongside representatives of the logistics industry.
7	This was piloted during the G7 summit in Falmouth and could be rolled out to larger ports such as Fowey, Plymouth, Portland and Poole). This could be a core part of proposed Tourism Zone for the region.	Port authorities will directly benefit from the additional custom alongside other transport operators (rail, bus etc). Local businesses will also experience higher footfall.	Primarily focused on the role of maritime to support the tourism industry.	Whilst this has already been piloted, more consideration needs to be given to the need for clean shoreside power when moored.	The Greater South-West Partnership would be ideally placed to work with Ports Working Group to explore this option.
8	Targeted at the major centres across the region with a view of reducing movements along the SRN, particularly intersecting Dorset and along the A30.	Reduced reliance on road freight and a step change in bringing forward rail freights mode share in the region.	Maritime (ports) and rail, with clear impact on road freight.	Needs further investigation alongside the above intervention to introduce terminal sites in each place (to link with Southampton services).	Network Rail alongside FOCs can help shape terminal sites and freight paths. Port authorities need to help shape this agenda too.
9	Looking at movements from smaller ports through to Plymouth and Bristol especially; which in turn then serve to transport via coastal shipping or short sea trips. Aggregate/construction sector as well as biomass and alternative fuels are a key target market.	Huge benefits through the port hierarchy across the region. There sis cope to also explore rail links to integrate with feeder services to support industry decarbonisation and road freight miles. Port operators and freight providers all benefit financially.	Maritime focused with links to rail. Ultimately the proposal reduces reliance on road freight.	Already taking place and works well with certain commodities (mineral extraction and waste transfer) so just needs new and existing industries to link together.	Market led process which will likely require bringing together demand (industry markets) and supply (ports).
10	A prime example is reinstating Brittany Ferry services from Plymouth throughout the year and not restricted to just the summer periods. This also needs greater promotion with the region but also through a partnership with bodies on the continent (for inbound flows).	Regular services can support Ro-Ro traffic and make the crossings to France more appealing that alternatives along the South Coast (Portsmouth/Dover) especially for freight forwarders working within and serving the region.	Maritime and Road Freight.	This is very pertinent in light of disruptions through Dover and Portsmouth and new services proposed for unaccompanied trailers (Poole).	Needs both a combined effort from local authorities and port authorities around promotion in the first instance.

11	Plymouth is the obvious target due to the official designation and proposed ambitions, but Enterprise Zones also play a key role in economic agglomeration. Advanced manufacturing, marine research and smart technologies as well as agri-tech are all burgeoning sectors that can be promoted.	The freeport designation, in theory, can trigger a multiplier effect and be a catalyst for local economic prosperity. This will be reflected in more high-quality employment opportunities, cutting edge research and the efficiency of transport and energy networks – including the role of rail and alternative fuels for the road freight industry.	Maritime.	The freeport plans have been developed and a stage approach is proposed – including enhanced access to the Port of Plymouth. The rail link to Cattewater Harbour could be explored in the future.	Led by Plymouth City Council but requiring the engagement of constituent organisations as part of supply chains (and beneficiaries).
12	Targeted interventions as 'gateway' railway stations through the proposed STP programme. This may include new or relocated parcel lockers, concierge services or enhanced last mile accessibility (signposting/wayfinding etc).	Tourists and business travellers as well as regular rail commuters will benefit from an enhanced station and rail offer. There is also a commercial interest and virtues of schemes to enhancing passenger satisfaction levels.	Rail.	This would ideally form part of a targeted STP Programme.	Would be delivered by the CRPs at smaller gateway stations alongside DMOs and TOCs at bigger stations.

Table 19 Maritime Recommendations: Impacts & Timescales (Author, 2022)

Rail					
ID	Location/Corridor	Benefits (Audiences)	Modes Impacted	Timescales	Leads
13	Reinstated links at Plymouth (former Cattewater branch line and link through to Tavistock junction) for future intermodal/bulk traffic flows and Falmouth for dry bulk traffic (both import & export). Opportunity to utilise link to the Port of Poole for additional flows through to the Midlands and South-West (again dry bulk). Bristol is primed for new flows through to Gravity Park with a new terminal in Avonmouth for hosting regional consignments. Aspirations for a connected terminal adjacent to Exeter Airport.	Opportunity for reducing emissions and road freight miles, particularly for strategic movements to and from coastal ports and Midlands (whether these are NDCs for industry specific sites e.g. Potteries). Ports in the region could offer overflow to larger ports (e.g. Intermodal traffic from Southampton) whilst in other areas establishing key sectorial links (e.g. EV industry to the Port of Bristol or 3PLs connecting depots across the UK with clustering around Exeter Airport).	The link between rail, port and airport hinterlands.	Need to define potential commodity flows for presenting a business case to reinstate links before any physical investment (so likely medium to long term).	Will require Network Rail and Port/Airport operators to work together for a business case to be presented. Industry should be able to pitch their requirements /aspirations for switching from road to rail.
14	Regional wide and linked to aspirations of the Great South-West Partnership and 'Tourism Zone' proposal. May be more around branding if interoperability is a challenge (something that may also be influenced by a future devolution deal – see WECA for the proposed MaaS scheme).	Tourist and visitors to the region would benefit from the added convenience and cost benefits of travelling via different modes. This appeal would, in theory, boost farebox revenue and attract people to the region (overcoming barriers for all prospective audiences).	All modes.	This is a discussion that has been taking place between train-bus operators but could have broader regional and mode-based implications.	Great South-West Partnership would be an ideal driver working more closely with international gateways and transport operators.
15	Namely ports with a burgeoning cruise industry (Falmouth/Poole/Portland) and stations such as Cranbrook (Exeter), Newquay airports. CRP could	Local employers and employees (e.g. 3PLs in Exeter as a secondary benefit) alongside visitors coming to the UK (linked to SW	Primarily centred on the opportunity for the rail industry	Depends on whether it's delivered through the TOC, Council or CRP and	Should consult GWR/XC and the CRPs (Devon &

	develop a 'corridor' based approach (see Abbey Line, Hertfordshire)	Tourism Zone). TOCs and CRPs will ultimately benefit from farebox revenue	with obvious links to Maritime and Aviation industry.	whether it's a trial/standalone or a programme.	Cornwall particularly) due to local knowledge.

Table 20 Rail Recommendations: Impacts & Timescales (Author, 2022)

Road					
ID	Location/Corridor	Benefits (Audiences)	Modes Impacted	Timescales	Leads
16	Impetus must be placed on targeted upgrades that enhance access to international gateways at a 'local' and 'strategic' scale. Locally, access between and around the A38 and city centre of Plymouth is key (aligned to freeport designation) as well as around Weymouth (Portland) alongside corridors between Dorset-Wiltshire and Cornwall-Devon.	Improvements to journey time reliability and network resilience (especially with suitable diversionary routes) to reduce traffic externalities and the repercussions of delays on meeting sailings and/or flights. This will also make regional gateways more appealing generally.	Road	National Highways have already earmarked investment (Five Year Plan) and studies (A36/A46/A303) to support corridor investments	National Highways alongside the STBs are well placed to lead efforts (perhaps too as a multimodal strategy with NR for connections between Cornwall/Devon
17	Focused mainly on ports and delivering an enhanced system, linked to the 'smart port' technologies coming forward, to manage access and parking across all gateways in the South West of England. The technology ranges from HGV vehicle booking systems through to live travel information for passengers and may require joint investment with local authorities on intelligent transport systems to use road access flexibly	FOCs will benefit from the additional reliability and communication to help with journey planning whilst on route whilst improvements to access with enhance the passenger experience (and likelihood of repeat custom). Port authorities will also benefit from being able to manage on site space more efficiently.	Road, Maritime	There are already some systems in place (such as Plymouth) to help manage access. Other ports could look to update their offer with local authorities in due course.	Port authorities alongside their constituent local planning and transport authorities. National Highways will also have an interest on the SRN
18	Understanding and mapping key goods and people movements to and from ports and airports, including across the continent (where possible) to accurately reflect door to door journeys. Ideally this would be across all international (and regional) gateways and would be best conducted (at least initially) using Mobile Network Data (MND).	This would provide a more robust assessment of the actual origin-destinations of movements going through ports and airports; with a view to understanding mode shift opportunities (when compared to rail) and making more informed assumptions on commodity flows. Future route investment priorities could also be planned	Road, Rail, Maritime, Aviation	This study could be undertaken quickly with a view to helping inform targeted investments in National Highways plans	STB to help steer investment in this study working with port authorities and National Highways to examine, analyse and plan future priorities

Table 21 Road Recommendations: Impacts & Timescales (Author, 2022)

Other					
ID	Location/Corridor	Benefits (Audiences)	Modes Impacted	Timescales	Leads
19	This would apply a regional lens and seek to bring together all constituent international gateways under the Greater South-West Partnership umbrella to help meet their action plan objectives. All airports, ports and connecting rail corridors (particularly CRPs too) can play a key role.	Opportunity to meet the objectives of the partnership, including enhancing accessibility, digitisation and joint promotion. There is also a key role for better collecting, processing and sharing data. A key component of establishing closer working relationships is the need to try and reduce seasonality by fostering all round visitor access to the region.	This would be relevant for all modes.	This can be initiated quickly with a view to developing synergies between industry and regional objectives for forthcoming years.	The STBs can bring together DMOs, National Park Authorities and International Gateways for an overarching approach.
20	Alternative fuels and propulsion systems are already being trialled across the region but have yet to reach commercial scale and maturity. The necessary energy infrastructure is needed at larger port entities (particularly around serving shoreside power as well as hydrogen hubs) as well as helping decarbonise surface-based movements on site and for transport modes over the first last mile.	Emissions reduction is a key requirement of international gateways meeting net zero pledges. The benefits do not have to be confined to site-based operations but also have a potential dual by enabling commercial traffic (e.g. hydrogen hubs/refuelling stations for road haulage and buses) through to the public use (electric vehicle bays).	Highly relevant across all modes, especially where future sites may be shared use (hub) locations.	The seeds for change are already developing in some instances. Grid capacity for shoreside power is a huge challenge and would need sizeable investment by private and public sectors.	Bringing together Distribution System Operators (DSOs) and gateway operators as well as via the LEP Sustainable Aviation Programme Board and SW Hydrogen Consortium.
21	Better, more accessible data on flows of goods and passengers and consistency over the type of datasets captured through each international gateway would help to establish an ongoing baseline and inform the pace and priorities of interventions. This includes the use of Mobile Network Data (MND) for live origin/destination information.	This would allow individual gateway operators to have a portal/platform conveying the current operational context, including data relating to road and rail access. This could also fall under the smart port developments of the future. There are new tools coming online (see National Highways Trave Time Tool Reporting Tool.	Relevant across all modes.	This will depend on what each organisation would consent to sharing and could simply be a data catalogue with signposting to existing materials.	This would likely be a STB endeavour with the buy in of gateway operators and infrastructure network managers.

Table 22 Other Recommendations: Impacts & Timescales (Author, 2022)