Solent Skills Advisory Panel

Local Skills and Labour Market Analysis

June 2020

Contents

Foreword

As we publish this analysis, we are acutely aware that organisations and individuals are facing a number of challenges as a result of the global pandemic and many are looking to formulate actions or recovery plans as they seek to rise to such challenges. We are entering a new era where global challenges, technology advancements and remote platforms are changing the way people think about work and this will influence and shape the way businesses operate as they move forward with their recovery plans and look to the future.

The work of the Solent Skills Advisory Panel (SAP), has never been more important, ensuring the Solent economy and our businesses have access to the skills and talent they need and also to ensure that our residents have the opportunities to develop skills for the future.

The Solent Skills Advisory Panel (SAP) brings together local employers and skills providers to pool knowledge on skills and labour market needs, and to work together to understand and address key local challenges. This includes both immediate needs and challenges and looking at what is required to adapt to future labour market changes and to grasp future opportunities. This will help colleges, universities and other providers deliver the skills required by employers, now and in the future.

This Local Skills and Labour Market Analysis is an important first step, providing a forensic understanding of the existing and future skills gaps and employment priorities. This analysis has already supported our wider evidence base for our new economic strategy - Solent 2050 - which will be published this summer, and will now feed into the development of a Skills Action Plan, which will be developed around identifying priorities and responding local skills needs, with each priority linked to specific actions which state how they will be addressed. The priorities this analysis points to are: the importance of the skills our world-leading maritime sector needs to remain at the vanguard of maritime innovation; the impact of autonomy on the demand for labour and the skills needed by businesses; the need to ensure a strong supply of labour to replace those that will be moving out of the labour market; and also the importance of softer skills, such as social skills and communication skills.

Of course, we are publishing this Local Skills and Labour Market Analysis at time when the economy is in the throes of an economic shock unlike any other in living memory, brought about by the COVID-19 pandemic. This is having a devastating impact on many business and communities and moving forward it will be our people that drive this recovery through their resilience and ability to adapt, supported by major advances in the uptake of technology to afford new ways of working. This will have a lasting legacy on the way businesses operate, the way we work, and the skills businesses need and we need to pivot our skills and training to support the transition to this new world

This Local Skills and Labour Market Analysis acknowledges the impacts of COVID-19, but we will update our analysis in the months to come as the data emerges so that we fully understand the impact of COVID-19 on the skills ecosystem, and what this means for the skills our businesses need.

But in the immediate term, this Local Skills and Labour Market Analysis does identify the key priorities on which our Skills Action Plan will be developed, and, recognising the need to support economic recovery the SAP will develop an interim Skill Action Plan that will identify the key short-term actions to ensure the skills system plays a key role in supporting our businesses and communities to restart, restore and recover.

1 Introduction

From the industrial revolution to the knowledge based digital economy of the 21st century, accumulation of knowledge and technological progress have played a central part in the process of economic development. Economic development is a matter of growth and growth depends on the productivity enhancing skills of the population. This implies that differences in economic growth can be largely explained by spatial disparities in the accumulation of human capital. In the new technologically driven age, human capital (knowledge and skills), rather than natural resources will be the main driver of regional and local competitiveness and productivity growth. Therefore, investment in skills is a strategic priority for the Solent Local Enterprise Partnership (LEP).

As such, the long-term economic competitiveness and wellbeing of the Solent area will crucially depend on a steady supply of relevant skills and ability of its residents to compete in the local labour market. Failure to ensure the appropriate supply of skills that will be needed in the years to come would involve a greater reliance on in-commuters and/or migrant labour. This would also lead to an increase in inequality and a decline in competitiveness through for example, the business community seeing the area as a less attractive location for business investment and growth.

The Solent Local Enterprise Partnership (LEP)

The emerging Solent 2050 strategic framework has been developed and has been informed by a detailed evidence base and policy review as well as wide-ranging consultation, in which the LEP has consulted with over 1,600 people and over 500 businesses.

The framework outlines that we want the Solent to be the best place to live, work and trade in the UK. Our vision is that the Solent in 2050 will be at the helm of coastal renaissance and pioneering approaches to climate change.

Our mission to achieve this vision has five emerging principles:

- A world-leading marine and maritime economy.
- Pioneering approaches to climate change and decarbonisation.
- The UK's capital for coastal renaissance.
- A thriving visitor and cultural economy
- Developing a world-class talent base.

In addition, there will be a sixth priority focusing on business environment and taking into account the economic impact of Covid-19. This will be captured in our dedicated economic recovery plan.

The Solent 2050 Strategy is currently being finalised and the Skills Action Plan will be developed in accordance with the direction set by the Solent 2050 Strategy and this local skills and labour market analysis.

Skills Advisory Panels

Skills Advisory Panels have been set up with the aim of bringing together employers and skills providers to pool knowledge on skills and labour market needs, and to work together to understand and address key local challenges. Solent's Skills Advisory Panel is expected to provide a strong leadership role on skills in the Solent LEP area and to engage with local employers and training providers.

In addition to this work and recognising the seismic impact of the Covid19 pandemic on our economy, the Solent LEP will be preparing a recovery plan for our economy through 2020 and beyond. This will include the provision of sustained support to our business community, skills enhancements through our Skills Advisory Panel to support our resident workforce, and a renewed emphasis on our capital investment programme for the area.

This document provides the main evidence base on the existing local labour market and skills in the Solent and identifies key areas of future skill needs relating to projected employment and occupational needs, and the challenges facing the labour market and skills provision at the outset of the 4th industrial revolution. This document is structured around four broad sections.

In Section 2 we look at the Economic & Labour Market Landscape of the Solent. We focus on four core areas: demographic change, the labour market, Solent businesses and economic landscape – gateway economy, economic output (Gross Value Added (GVA) and Gross Domestic Product (GDP) and labour productivity. The labour market is a lagging indicator of economic activity and current data does not capture the impact of the pandemic on the labour force. The sudden and sharp fall in economic output due to the shutdown of large parts of the economy will inevitably see a sharp rise in unemployment in the short-term which might persistent in the medium term.

In Section 3 we look at the Demand for Skills in the Solent. We focus on the demand for skills (proxied by qualifications) by industry and occupation, how it has changed over time and how this is expected to evolve over the medium to long term. To estimate future employment by industry and occupation, and future skills requirement that will arise from both expansion demand and replacement demand, we use a small forecasting model of the Solent LEP economy that includes a skills module. We conclude this section by looking at the 4th industrial revolution and skills for the future and how automation might affect employment across the Solent LEP area.

In Section 4 we examine the Supply of Skills across the Solent. We start by examining skills in the existing workforce, followed by a detailed examination of the skills system in Solent. The skills system in this paper comprises secondary education, further education, higher education and employer sponsored training. We conclude this section by providing a broad overview of skills deprivation and inequality in the area focusing on young people not in education, employment and training (NEETs) and education and skills deprivation.

In the final Section we examine whether the supply of skills in the area is equal to the demand for skills. We focus on several indicators of skills mismatch for which we have local data, namely skills shortages, skills gaps and skills underutilisation in the Solent LEP area.

This report is accompanied by a considerable evidence base that has been developed by the Solent LEP over the past couple of years.

| 1.2 million People | 42,000 Enterprises | £37bn Economy | Above average productivity but 2% decline since 2010 |

some evidence of skills underutilisation

.mismatches in several intermediate and higher-skill occupations

25,700 or 5.8% of employment, unmet demand

Key
Motorway
A Road
Mainline Rail
IoW Ferry Routes
Major Port
Airport

▲ Higher Education Institutions
1 University of Southampton
2 Solent University (Southampton)
3 University of Portsmouth
■ FE college, School 6th Form/6th Form College

M3 Eastleigh
A338 Fordingbridge
M27
Totton Southampton
A31 New Forest
A326
Hamble
A337
Holbury
Ringwood Brockenhurst
A27 Fareham
A3(M) Havant
M27
A27
A35
Gosport Portsmouth
New Milton
Cowes
A3020 Ryde
A3054 Newport A3055
Isle of Wight
A3056 Sandown

0 4 8 12 16 Miles

+240,000 job openings over 10-year horizon

+93,600 advanced skills, slowing demand for intermediate skills

41.6% - 48.4% probability of automation, emergence of new occupations

| 3 universities with 60,000 students, strong STEM provision | 130,000 FE starts including 10,000 apprenticeships | 309,000 with intermediate skills, above the average | 274,000 highly skilled but skill gap with the average |

2 Economic & Labour Market Landscape in the Solent

- Solent is already facing demographic pressures and like in the rest of the country; these pressures are expected to become more significant in the years to come.
- Solent has benefited from an influx of migrant workers, but it is likely that there is going to be less scope for migrant workers to boost the supply of skilled labour in future years.
- Overall, the working age population is projected to grow by just 0.5% by 2041. This will have economic consequences in terms of future supply of skilled labour and on skills provision in the area. Ageing population coupled with technological advances point to a greater need to re-skill existing workers and residents.
- There are 609,500 economically active people in the Solent LEP area and the proportion of economically active in the working age population stands at 79.1%, marginally above the UK average. 587,800 of Solent's residents are employed which corresponds to 76.3% of the working age population, again slightly above the national average. Unemployment stands at a historically low level (3.5%) but some unemployment is 'hidden' within economic inactivity.
- The growth in both economic activity and employment in the Solent LEP area was below the national average since the 2008/9 recession but the area compares better when compared to the regional average.
- Over eight out of every ten workers in the Solent LEP area reside in the area. Much of external commuting is still mostly local and commuting between the two Solent cities is insignificant.
- The Solent LEP area is home to 42,000 enterprises. Business growth was relatively strong but driven by micro businesses (businesses that employ relatively few people).
- In GVA terms the economy of Solent generated some £30bn of goods and services in 2018 but in GDP terms Solent was a 37bn economy.
- The coast has shaped the economy of Solent in many ways. Solent's geography is reflected in the dominant role of its large maritime sector, the size of its visitor economy and the presence of Fawley Oil Refinery which provides 20% of the UK's oil refinery capacity.
- Solent-based maritime sector and Portsmouth Naval Base support £5.8 billion in GVA. Total GVA contribution comprises of £2.1bn in direct contribution to the economy, followed by £2.2bn worth of GVA that is supported in the supply chains (indirect impact) and £1.4bn worth of GVA in the wider economy when direct and indirect employees spend their earnings. It is estimated that the Solent-based maritime sector and Portsmouth Naval Base directly employed 28,800 people in 2017. Total number of jobs supported by this sector amounts to 152,000.
- Real (inflation adjusted) GVA growth in the Solent LEP economy averaged about 0.9% per annum since the recession, below the national and regional average. Faster growth in Solent was held back by falling output in several large sectors – manufacturing, public administration & defence and education.
- Output growth was on average relatively strong in construction and accommodation & food. This was followed by growth in information & communication and professional, scientific & technical services, albeit from a relatively low base.
- Labour productivity in Solent is slightly above the UK average but in real terms it decreased between 2010 and 2017. All but one (South Hampshire) of the economic areas in Solent registered decreases in real productivity.

In this section we provide a broad overview of the Economic and Labour Market Landscape of the Solent LEP area and its sub-areas. Where possible and appropriate we compare the performance of Solent against the national and regional averages and against a small 'basket' of Local Enterprise Partnerships (LEPs) – Dorset, Liverpool City Region and West of England. These LEPs are similar to Solent in terms of their geography and/or industrial structure.

This section has five broad themes. The first looks at the demographics of the Solent LEP area and its sub-areas, past trends and the latest projections over the long term. The second theme examines the labour market in the area. This theme looks at economic activity, employment and unemployment in the area and its sub-areas and at commuting patterns. The third theme looks at Solent businesses, sectoral concentrations, business and jobs density and business growth over time. The fourth theme examines economic output (GDP and GVA) in the area using the latest official data from the UK Office for National Statistics (ONS). The focus here is on real (inflation adjusted) GDP growth in the Solent LEP area and its subareas and on sectoral distribution and GVA growth. We conclude this section by examining labour productivity in the area. The focus is on the official measures of aggregate productivity, GVA per hour worked and GVA per workforce job. We examine the relative performance over time and the growth in real productivity.

Further information on the Economic and Labour Market Landscape is available in the most recent Solent Economic Profile published in July 2019 and in the extensive evidence base available on the Solent LEP website.[1]

2.1 Demographics

Population trends in developed countries and in advanced economies, such as the Solent, are marked by declining fertility and rising life expectancy with populations continuing to increase. The primary consequence of both trends will be an increasingly ageing population. The age women on average give birth has increased and for the past 15 years, women in the 30 to 34 age group is the largest cohort[2]. Rising participation in further and higher education combined with an increase in school leaving age to 18 are all possible reasons for fewer teenagers and younger women having babies. These demographic changes will shape the current and future supply of skilled people within the Solent labour market.

2.1.1 Population by Broad Age Group

The Solent was home to nearly 1.25 million residents in 2018, and this accounts for 2.2% of England's population and 13.7% of the South East region. Since 2011, the total Solent population has grown by nearly 51,000 residents, an increase of 4.2% (Table 2.1). This is slower than both the national (5.4%) and South East (5.6%) averages, and while this was also slower than the West of England (7.7%) the growth rate in Solent was higher than in the Liverpool City Region (3.0%) and Dorset (3.6%).

---

[1] Lichfields (2019) *Solent Economic Profile*, July 2019
[2] UK Office for National Statistics (ONS)

The overall population growth rate is less significant for the labour market than whether certain broad age groups are growing or shrinking. This is particularly important for children and young adults as new entrants to the labour market. In the 1990s many schools were closing or merging classrooms due to slowing demand driven by a decline in the child population. However, the baby boom in the 00's has seen schools facing a significant expansion in their intake and pressure of places and classroom sizes. This trend could reverse in future years and highlights the challenges faced by the school system.

Table 2.1: Growth Rates (%) by Broad Age Groups 2011-2018

	All Ages	Aged 16 to 64	Aged 0 to 15	Aged 16 to 24	Aged 25 to 49	Aged 50 to 64	Aged 65+
Solent	4.2 (+50,800)	1.2 (+9,000)	3.7 (+7,800)	-1.3 (-2,000)	-1.8 (-7,000)	8.2 (+18,000)	15.4 (+34,000
Dorset	3.6	-1.0	5.3	-6.9	-4.3	7.4	14.9
Liverpool City Region	3.0	-0.2	4.9	-8.0	-0.6	5.6	13.2
West of England	7.7	6.2	7.5	9.5	4.5	7.1	13.6
South East region	5.6	1.9	6.8	-2.1	-1.5	10.4	17.8
England	5.4	2.0	7.2	-4.3	0.2	9.9	16.6

Source: ONS (2011-2018)

While the 0 - 15 age group in the Solent stands at 219,900 in 2018 and grew by 3.7% (7,800) since 2011, this was almost half the national rate (7.2%) and the slowest of all the other benchmark areas (Table 2.1). Yet this disguises some significant Solent sub-area disparities. Southampton saw growth rates of 11.9% (4,900) that are well above the national average, and alone accounted for 55% of all the Solent's growth in the 0-15 age group. This contrasts to Southampton contributing 33% of all the population growth in Solent since 2011. Although lower than Southampton, both Portsmouth (5.7%) and Eastleigh (5.9%) had similar growth rates, and when combined, accounted for a further 40% (approx. 3,600) of growth in the 0-15 age group, which is again higher than the share in overall population growth of 30%.

The young working (16-24 years) and core working (25-49yrs) age groups in the Solent stood at 153,300 and 383,100 respectively in 2018. However, both age groups contracted between 2011 and 2018 by 1.3% and 1.8% (approximately 2,000 and 7,000) respectively.

This means that between 2011 and 2018 100% of the 1.2% growth (+8,900) in the working age population (16-64 years) came from older workers (50-64yrs). This older age group expanded by 8.2% (+18,000). While there are degrees of variation across the comparator areas the general trend is broadly consistent. The working age population has got proportionately older. At the Solent sub-area level, the older working age population grew above the Solent average in Portsmouth, Southampton, Gosport and Havant but below average in Eastleigh, Fareham, New Forest and Isle of Wight. However, the population aged 65 years and above has grown at an even faster rate, 15.4% or by 34,000 additional people in this age group.

Looking to future trends, population projections look at how birth rates, life expectancy and international migration may change in future years[3]. Although recent national trends show women having fewer babies and therefore fewer children coming through in future years, this will still take time to work through the

---

[3] Population projections use assumptions based on past trends over time that are representative of what has happened rather than what will going forwards. They are not predictions of what future populations will look like in the Solent, especially given the uncertainty around Brexit and future migration policy nor do they account for any recent or planned developments

population structure to potentially impact future entrants to the labour market. Furthermore, the rate of increase in life expectancy has slowed, reducing the size of any projected future increases. Therefore, with the number of births and deaths being similar it will be migration assumptions (internal or international) that will provide stronger contributions to future population growth in Solent.

Table 2.2: Projected Growth Rates (%) by Broad Age Groups 2019-2041

	All Ages	Aged 16 to 64	Aged 0 to 15	Aged 16 to 24	Aged 25 to 49	Aged 50 to 64	Aged 65+
Solent	8.9 (+111,700)	0.5 (+3,800)	-1.0 (-2,200)	9.1 (+13,900)	1.4 (+5,200)	-6.3 (-15,300)	42.6 (+110,100)
Dorset	8.7	-1.6	-3.9	9.4	-3.9	-3.5	40.7
Liverpool City Region	5.8	-0.8	-0.4	6.4	0.6	-7.0	33.1
West of England	16.3	11.4	13.4	16.1	13.3	4.3	37.1
South East region	11.1	2.7	-0.9	11.1	-0.4	3.3	49.3
England	9.9	2.8	-0.3	10.7	0.6	2.5	44.6

Source: ONS (2019)

Using the latest ONS subnational projections the overall Solent population could grow 8.9% to reach approximately 1.39 million by 2041, an increase of 111,700 residents over the period (Table 2.1).[4] On current projections the Solent would still account for 2.2% of England's population in 2041, but marginally lower for the South East region at 13.4%.

As before, Solent's population is projected to grow at a slower pace than both the national (9.9%) and South East (11.1%) averages, and significantly slower than in West of England (16.3%). The baby boom of the early 2000's will have begun to work through in future years and the 0-15 population is expected to shrink across all comparator areas except for the West of England. The shift sees the previous younger cohort enlarge the 16-24 population and to a lesser extent the core working age group.

However, the older working age population could shrink as the decrease across the 16-49 age groups from earlier years filters through. Overall, the working age population is projected to grow by just 0.5% by 2041 (+3,800) with the projected growth attributable to the 16-49 age groups. The number of people in this broad group is projected to peak at around 2028/29. Projected sluggish growth in the Solent working age population is therefore likely to have economic consequences in terms of workforce availability, which could imply a greater focus on re-skilling of existing residents and workers. However, changes to state pension age (SPA) will see in a gradual enlargement of the working age population from 66 beginning from 2019 and to 67 from between 2026-28. In the Autumn Statement in 2013, the Chancellor announced that the Government believes future generations should spend up to a third of their adult life in retirement. This principle implies that SPA should rise to 68 by the mid-2030s, and 69 by the late 2040s.

In the 16-24 age group in Southampton, Portsmouth and Eastleigh robust growth in the youth cohort between 2011-2018 is projected to move up over time to the core working age group (25-49 years). In contrast, the New Forest and the Isle of Wight are expected to see a decrease in their working age populations in the region of 6% over the period and this could present some challenges in terms of future labour supply in these areas.

---

[4] This is probably a conservative estimate as local policy and planning decisions are omitted.

2.1.2   Internal and International Migration

There are two components to migration that can have an impact on the supply of skills to the labour market in the Solent LEP area. The first component is internal migration from elsewhere in the UK to the Solent LEP area for work, retirement or other reasons. The second is international migration to the area from outside the UK. Nationally, net EU migration has begun to decrease as planned Brexit deadlines move closer.

Migration can alter the demographic and skills, and labour marker composition of the Solent LEP area. At the subnational level, international and internal migration is a difficult area to analyse, since it is hard to capture flows in the labour market, and there is no single source of migration data that provides a full picture. However, international migration can have major consequences for service provision and planning, as well as the labour market, and the requirements for local amenities, as was the case with enlargement of the European Union from 2004. There are particularly strong pull factors (jobs, more affordable housing, established communities) to urban areas, which is probably why Southampton and Portsmouth account for a significant share of all international migrants to the Solent. Both are home to universities that attract foreign students. In contrast the two cities have seen internal migration fall, which suggests Portsmouth and Southampton are perhaps more reliant on international migrants to make up any shortfall in labour supply (Table 2.3).

Table 2.3: Long term International and Internal Migration Flows

Sub-area	2010-11		2017-18	
	Long-Term International Migration	Internal Migration (within UK)	Long-Term International Migration	Internal Migration (within UK)
Eastleigh	79	698	47	1,038
Fareham	139	558	47	332
Gosport	8	-201	33	-390
Havant	106	130	90	843
Isle of Wight	18	-51	65	287
New Forest	297	775	312	713
Portsmouth	1,230	217	854	-1,226
Southampton	2,107	-963	2,158	-2,811

Source: ONS (2018)

In 2010-11 England saw net international migrant inflows of 235,000 while net internal flows decreased. In 2017-18 there has been a small increase nationally in international net migration to approximately 254,000, while internal migration has decreased by an even larger amount.

International migration, as previously stated, has exerted a stronger influence nationally on demographic change. There is no readily available migration data for Solent as a whole[5], but at district level this is also clearly the case for the two Solent cities, which both exhibit strong long-term international migration.

In contrast, most other Solent districts are more reliant on internal migration from within the UK. In the case of Southampton and to a lesser extent Gosport, net internal migration was negative in 2010-11 and in 2017-18 (Table 2.3).

---

[5] It is not possible to aggregate the district totals as there may be some internal migration between the Solent districts.

Figure 2.1: Population share by Country of Birth and Nationality (2018)

Population by Country of Birth (%)

	UK	South East	West of England	Solent	Dorset	Liverpool City Region
Non-EU	9	8	7	7	6	5
EU27	5	5	5	4	4	3
UK	86	87	88	88	90	92

Population by Nationality (%)

|	UK	South East	Dorset	Liverpool City Region	Solent	West of England
Non-EU	4	3	3	3	2	3
EU27	6	5	5	3	4	3
British	91	92	92	93	94	95
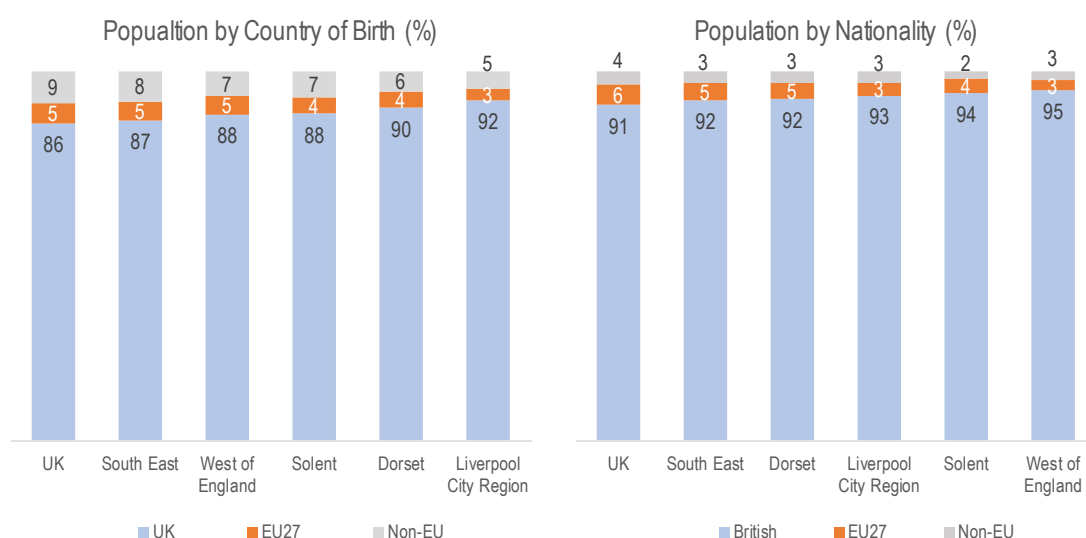
Source: ONS (2018)

The level of net international migration alters the demographics of an area. According to the ONS data the Solent had an estimated 143,000 (11%) non-UK born residents in 2018, of which 90,000 (7%) are non-EU and 53,000 (4%) are EU born residents (4%), Figure 2.1. The number by nationality is lower at 84,000 non-British, of which an estimated 43,000 (4%) are EU nationals and 39,000 (2%) are non-EU. This would suggest a higher proportion of non-EU born nationals have taken British nationality while fewer EU-born nationals have done so – as might be expected under current EU freedom of movement arrangements. However, this may change depending on Brexit and settled status of EU migrants. The overall proportion of Solent residents that are non-UK born, or non-British nationals combined are smaller than the national average and regional averages, but not significantly different to the other benchmark areas (Figure 2.1).

However, at the Solent sub-area geography there are significant disparities. An estimated 25,000 EU nationals reside in Southampton and the city accounts for 60% of the Solent total, whereas the total Southampton population makes up 20% of the Solent total. Just over two fifths of EU nationals in Southampton are from EU8[6] accession countries, with a further two fifths from the EU14[7]. The city is therefore the primary location of EU residents and while many will live and work in the city, more affordable housing will also see out-commuting to other areas for work (Eastleigh, Fareham, New Forest). Portsmouth has 8,000 EU migrants accounting for 20% of the Solent total, which is less significant than Southampton (Portsmouth accounts for 17% of the overall population of Solent). Of the 39,000 non-EU nationals almost half reside in Southampton (44%, 17,000) and a further 23% (9,000) in Portsmouth.

---

[6] EU8 joined in 2004 are: Czech Republic, Estonia, Poland, Hungary, Latvia, Lithuania, Slovakia and Slovenia.
[7] EU14 consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain and Sweden.

Figure 2.2: EU/non-EU workers by sector, South East 2013-15
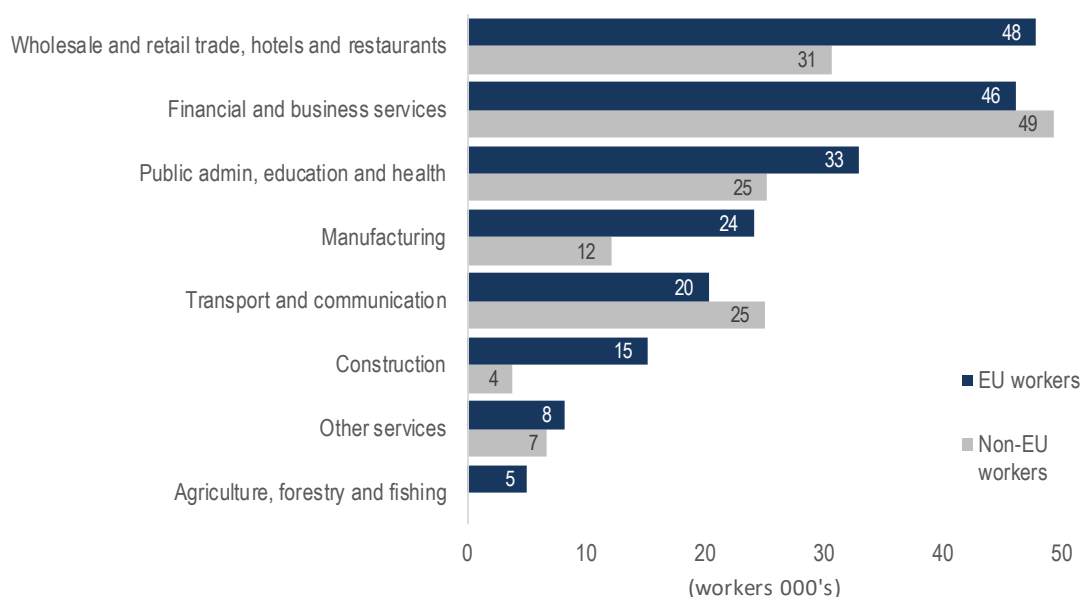
Source: ONS (2017). *employees and self-employed.

Regional data suggests that some sectors are more dependent on migrant labour than others. In the South East the broad wholesale, retail trade, hotels & restaurants employs the most workers by EU nationality at nearly 48,000, followed closely by financial & business services (46,000). For non-EU workers the broad administration, health and education (more likely health) at 49,000 is the main sector (Figure 2.2). This probably explains the marginally higher number of professional occupations such as doctors and in caring occupations (Figure 2.3). Workers of EU nationality are twice as likely to be employed in manufacturing (24,000) in the South East than non-EU workers (12,000) and almost four times for construction (15,000 to 4,000). The agriculture sector (5,000 EU workers), although relatively small in comparison to most other sectors, is far more reliant on workers of EU nationality with numbers for non-EU workers too small to show in the data.

What is clear from Figure 2.3 is the number of EU and non-EU workers at each end of the skills spectrum where professional occupations are followed by elementary occupations in terms of employee numbers. While there is little difference between EU and non-EU worker numbers in professional occupations, there is a marked difference in elementary occupations where workers of EU nationality outnumber non-EU workers two-to-one. The same is evident for skilled trades and process, plant and machine operatives.

The outbreak of the global pandemic alongside associated measures that have been implemented to contain the spread of the virus may impact on migration patterns in the short term. At the time of writing most countries have travel restrictions alongside a reduction in transport and border closures. The obvious short-term impact will be on the immediate supply of seasonal workers in the food and agriculture sectors but skills supply in other sectors have most likely been disrupted.

These recent trends tie in with major implications for education, skills and training identified by the OECD (Organisation for Economic Co-operation and Development), where International flows of migrant

workers will continue to grow, although to what extent in the Solent is hard to predict.[8] The same study also identified two trends relevant to demographic changes summarised in Section 2.1.1. Firstly, economic growth will depend even more heavily than today on the productivity of the workforce, complemented by rising labour force participation rates, especially among women and older workers. This presents challenges for lifelong learning, particularly among ageing but economically inactive people. Secondly, a slower growth in the youth cohorts and changing skills demand will continue to challenge both education and training systems.

Figure 2.3: EU/non-EU workers by occupation, South East 2013-15
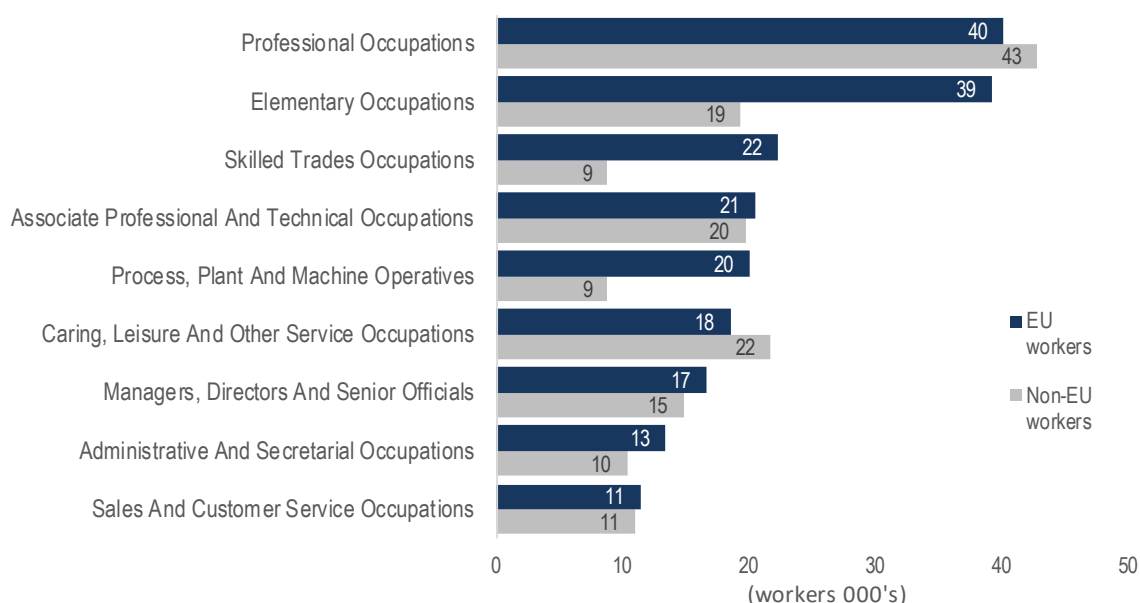
Source: ONS (2017). *employees and self-employed.

2.2 Labour Market

In this section we focus on several core measures of the labour market performance such as economic activity, employment, unemployment and commuting patterns. Other aspects of the labour market are covered in the analysis of skills demand and skills supply (section 3 and section 4).

2.2.1 Economic Activity

In the year to June 2019 there were 609,500 economically active residents in the Solent LEP area. The economic activity rate of the Solent LEPs working age population was 79.1%, marginally above the UK average and well above the Liverpool City Region (75.5%) but slightly below Dorset (80.5%) and below West of England (82.5%), Figure 2.4. The relatively large student population in Solent is a factor that accounts for some of the gap with Dorset and West of England.

---

[8] OECD (2010) A Skilled Workforce for Strong, Sustainable and Balanced Growth

Economic activity in the Solent LEP area increased by 0.8 percentage points or about 25,000 economically active people of working age since the 2008/9 recession (since the year to June 2009), this was slower than the national average (2.1 percentage points) and below Dorset, West of England and Liverpool City Region (Figure 2.4).

Figure 2.4: Economic activity, selected LEPs
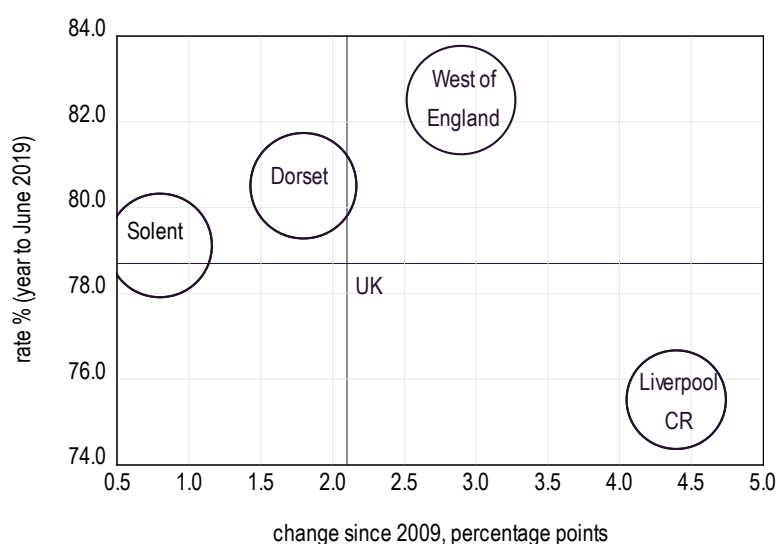
Source: ONS (2019)

Economic activity rates in Eastleigh, Fareham, New Forest, Southampton and Havant are above the Solent LEP average, with Gosport having a rate below the LEP average, but slightly above the national average (Figure 2.5). In the year to June 2019 the highest rate was found in Eastleigh, 82.6% and the lowest in Portsmouth at 75.3%. The economic activity rates in New Forest and Southampton increased by 4.6 percentage points and 3.8 percentage points respectively since the recession, above the Solent and UK averages (Figure 2.5). The rates remained broadly unchanged in Eastleigh, Fareham and Havant which is perhaps not surprising given the already high economic activity rates in these areas, but the rates decreased in Portsmouth and Gosport.

Figure 2.5: Economic activity in Solent
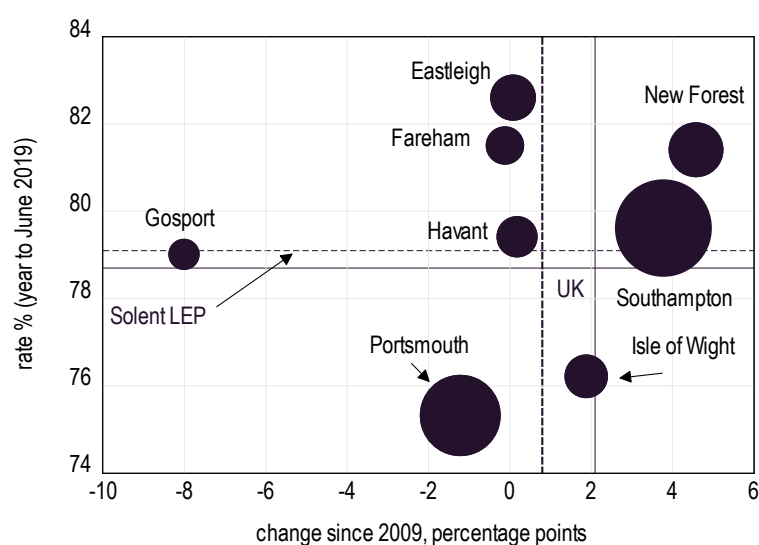
Source: ONS (2019)

Southampton accounted for about 22% of the economically active population of the Solent LEP area, but the city accounted for most of the increase in the number of economically active people in the Solent LEP area since the recession. The number of economically active people in Portsmouth increased by over 8,000 but economic activity rate decreased by 1.2 percentage points. The opposite happened in the Isle of Wight, the number of economically active residents decreased but the economic activity rate increased by 1.9 percentage points. These differences are explained by the changes in the working age population which increased in Portsmouth but decreased in the Isle of Wight between 2009 and 2019.

There are 161,000 economically inactive residents of working age in the Solent LEP area. Students account for about a quarter of all economically inactive people in Solent. Among the non-student economically inactive population there are concentrations of long-term sick, people looking after family/home and retired people (Table 2.4).

Table 2.4: Labour Market in Solent – year to June 2019
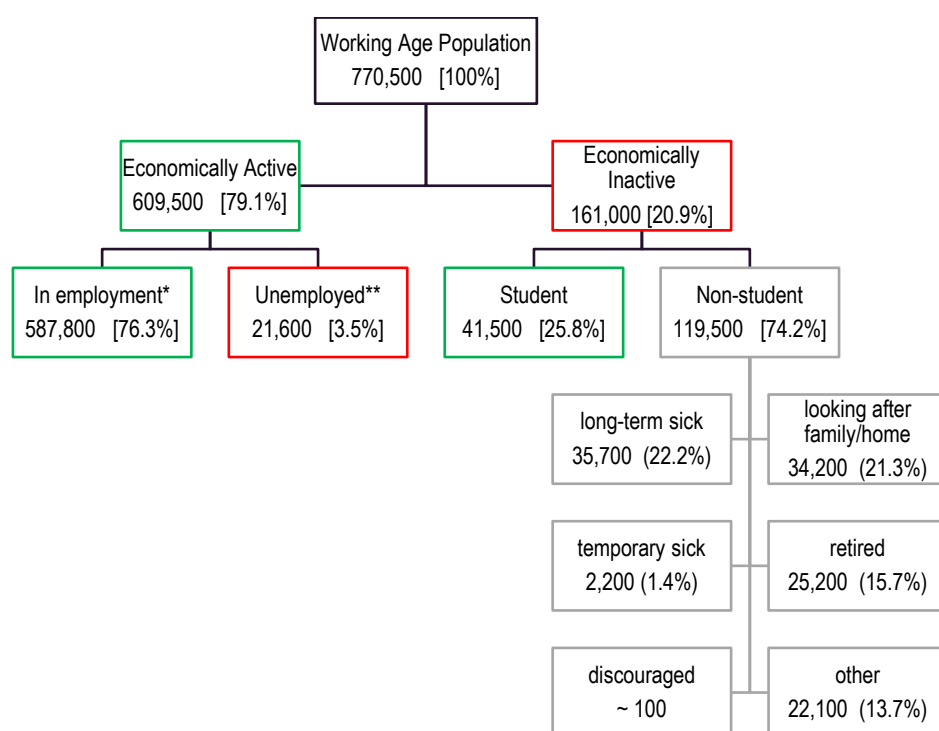
Source: ONS (2019)

Note: *employment rate is the share of the population of working age, **unemployment rate is the share of the economically active population, (*) % of economically inactive population.

Given that the working age population in the Solent LEP area is expected to peak towards the end of the next decade and given the expected slowdown in migration the economically inactive population could become an important source of labour in several sectors and occupations.

2.2.2 Employment

Employment growth alongside productivity is the main driver of economic growth and economic prosperity over the short to medium term. Of the Solent LEPs working age population of about 770,500 in the year to June 2019, 587,800 or 76.3% were in employment. The employment rate in the Solent LEP area was again slightly above the UK average (75.5%), well above the Liverpool City Region but below Dorset and West of England (Figure 2.6).

Figure 2.6: Employment, selected LEPs

Source: ONS (2019)
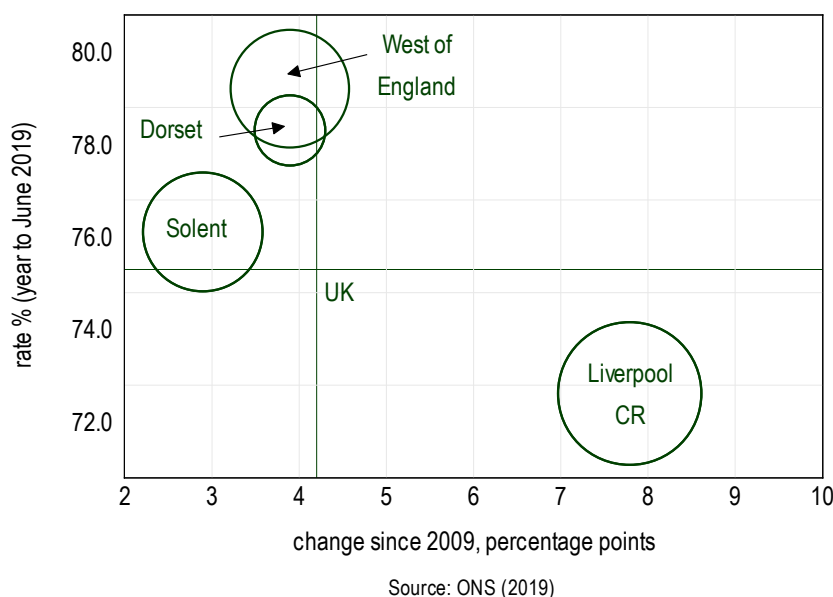
The number of Solent residents in employment increased by over 39,000 since the 2008/9 recession and the employment rate increased by 2.9 percentage points.[9] In the year to June 2019 the number of people in employment was 34,000 higher than in 2005 and the rate was marginally higher than in 2005. Resident employment in the area has been driven by both the growth in demand for labour within the Solent LEP area and in the rest of Hampshire. As shown in Figure 2.6, the increase in the employment rate in Solent was slower than the national average and slower than in the comparator LEP areas. Nevertheless, the increase in the employment rate in Solent (+2.9 percentage points) was marginally faster than in the South East average (+2.8 percentage points).

The latest data suggests that the employment rates in Fareham, New Forest, Eastleigh and Havant are above the Solent LEP average with Southampton having the rate slightly below the LEP average but above the national average (Figure 2.7). In the year to June 2019 the highest rate was found in Fareham and New Forest, where 80% of the working age population were in employment and the lowest in the Isle of Wight with 72.3%.

The employment rates in New Forest and Southampton increased by 8.2 percentage points and 5.3 percentage points respectively since the recession, above the Solent and UK averages (Figure 2.7). The increase in the rate in Fareham was below the national average but faster than the Solent LEP average.

---

[9] Year to June 2009 to year to June 2019

The employment rate in Eastleigh in the year to June 2019 was comparable to the year to June 2009 but the rate in Gosport was well below the 2009 rate. However, due to small sample sizes such a sharp decrease in employment rate in Gosport needs to be treated with a high degree of caution.

Figure 2.7: Employment in Solent
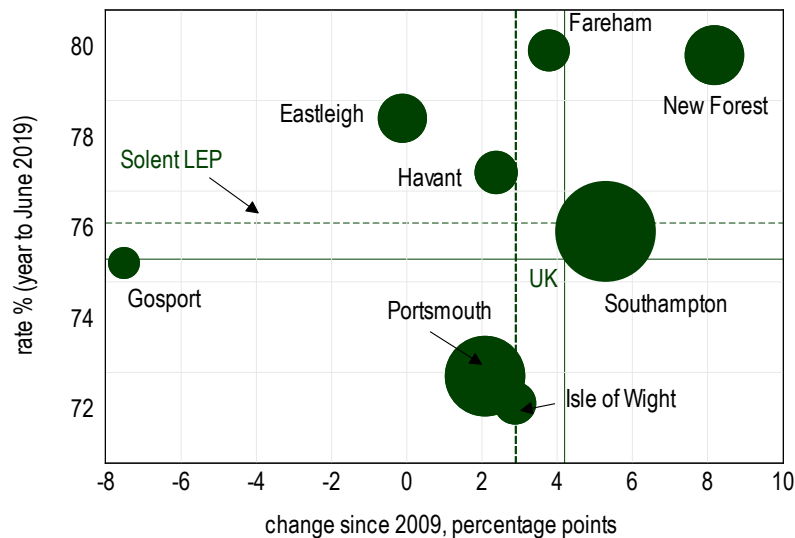
Source: ONS (2019)

Much of the increase in resident employment in the Solent LEP area was registered in Southampton, Portsmouth and New Forest. The latest data suggests that Gosport and the Isle of Wight had fewer people in employment in the year to June 2019 than in the year to June 2009, but the numbers are small and within the margin of sampling error in the Labour Force Survey.

The labour market is a lagging indicator of economic activity and current data does not capture the impact of the pandemic on the labour force. Protecting jobs and ensuring the Solent can get back on its feet when the crisis subsides is a key priority for the economy and despite the government's Job Retention Schemes – which pays furloughed workers 80% of their nominal salary up to £2,500 a month for four months - employment will fall. However, different sectors of the economy will have been hit in different ways by the sudden downturn in economic activity.

The accommodation and food services industries that are concentrated in the Solent Area are among those suffering most. In some cases, a reconfiguration of supply chains is already happening, both internationally and nationally, as well as shifts in business models (e.g. food wholesalers moving from restaurant supply to home delivery). It might take years for some sectors to recover and many jobs that have disappeared during the pandemic might never return.

2.2.3 Unemployment

Steady growth in employment since the recession has been accompanied by a substantial decrease in unemployment in the Solent LEP area. In the year to June 2019 there were about 22,000 unemployed people in the Solent LEP area or about 15,000 fewer than in the year to June 2019.

The unemployment rate on the headline (survey-based measure) stood at 3.5%, below the national average (4.1%) and marginally above the South East average (3.2%).

The decrease in the unemployment rate was comparable to Dorset and the national average, faster than in West of England but below Liverpool City Region (Figure 3.6). The decrease in the unemployment rate in Solent of around 2.7 percentage points was greater than the decrease found in the South East region (-1.9 percentage points).

Figure 2.8: Unemployment, selected LEPs
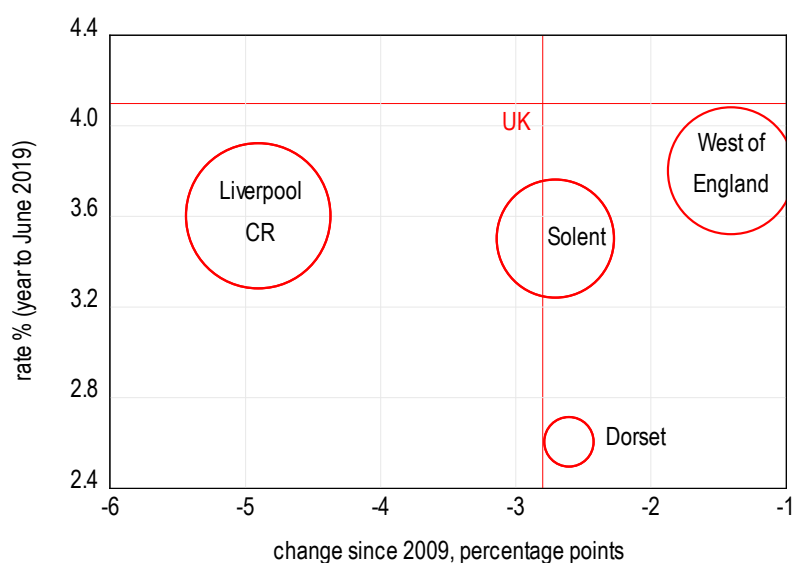
Source: ONS (2019)

The local survey-based data is incomplete, but it suggests that the lowest rate is found in New Forest at less than 2% with Southampton, Eastleigh and Gosport having the rates above 4%. The two cities account for about 44% of the total number of unemployed people in the Solent LEP area.

The spread of the coronavirus is having an unprecedent impact on the levels of economic activity in Solent, across the country and across the world not seen during peacetime. In its latest assessment of the UK economy the Bank of England has forecast that the pandemic will push the UK economy into its deepest recession in 300 years, with output falling almost 30 per cent in the first half of the year. Economic output (GDP) could fall as much as 14% in 2020.[10] The Bank's forecast for unemployment is to rise to 9% in the second quarter which is similar to the latest estimate from the National Institute of Economic and Social Research (NIESR). In its latest economic review, the NIESR expects unemployment in the UK to increase from 3.9% in 2019 to 10.5% in 2020.[11]

The unemployment rate in Solent is similar to the national average. In 2019 it stood at 3.9% for the population of working age and 3.8% for the 16+ age group. The increase in the rate to 10% in the coming months would imply that the total number of unemployed people in Solent would increase from 23,500 in 2019 to almost 61,000. Unemployment is forecast to fall sharply in 2021 but during the 2008/9 recession

---

[10] BoE (2020) Monetary Policy Report, Bank of England, May 2020.
[11] NIESR (2020) *Prospects Deeply Uncertain for the UK Economy*, National Institute Economic Review No. 252 May 2020.

unemployment in Solent increased between 2008 and 2010. It peaked at 7.3% in 2010, which was lower and not as long lasting as in the UK (UK unemployment peaked at 8.2% in 2011). This suggests that the labour market could constrain economic recovery for several years to come. The impact on skills demand is also likely to be significant over short-to-medium term while skills supply could also be disrupted over this period.

2.2.4 Commuting

Better matching of local demand with a local supply of labour could alleviate the adverse effect of commuting on Solent residents. At the same time, it could boost the economic performance through, for example reducing time lost to congestion, and longer journeys times which would lead to higher productivity.

The Solent LEP area and much of Hampshire is covered by two large travel-to-work areas (TTWAs), named after the two large cities, Southampton and Portsmouth. Each of the two Solent LEP TTWAs has over 75% self-containment on both resident and workplace populations.[12] It could be argued that the Solent LEP area as a whole could also be described as a non-conventional TTWA. Over eight out of every ten workers in the Solent LEP area reside in the area (Table 2.4).

Table 2.4: Solent Commuter Flows 2011

Solent LEP Commuter Profile			
Resident worker population	571,920	Workplace worker population	546,060
Live and work in Solent	427,660	Live and work in Solent	427,660
No fixed place	50,840	No fixed place	50,840
Out-commute	93,420	In-commute	67,570
Resident Self-containment	84%	Workplace Self-containment	88%

Source: Census 2011

However, overall there is a net outflow of nearly 26,000 residents from the area but as Figure 2.9 shows much of external commuting is still predominantly local. Nonetheless, the scale and range for out-commuting from the Solent is greater and wider than for in-commuting (Figure 2.9 and Figure 2.10). London (the City, Westminster and Heathrow), the upper M3 and even Gatwick are work destinations for Solent residents; most likely higher skilled residents.

In contrast in-commuting activity has higher concentrations from the immediate Solent hinterland (Figure 2.10). For obvious reasons of geographical proximity to large employment centres and access to major transport infrastructure there are significant commuter linkages between the Solent LEP area and to the rest of Hampshire[1], notably central Hampshire. Approximately 49,000 Solent residents commute to a place of work located within the rest of Hampshire. The rest of Hampshire for example amounts to just over half (52%) of all out-commuting from Southampton. Conversely, the Solent labour force is swelled by approximately 30,000 workers from the rest of Hampshire, representing just over two fifths (44%) of external labour supply.

---

[12] ONS Travel to Work Area thresholds where 75% of residents both live and work locally and 75% of workers both live and work locally.

Figure 2.9: Out-commuting numbers (2011)
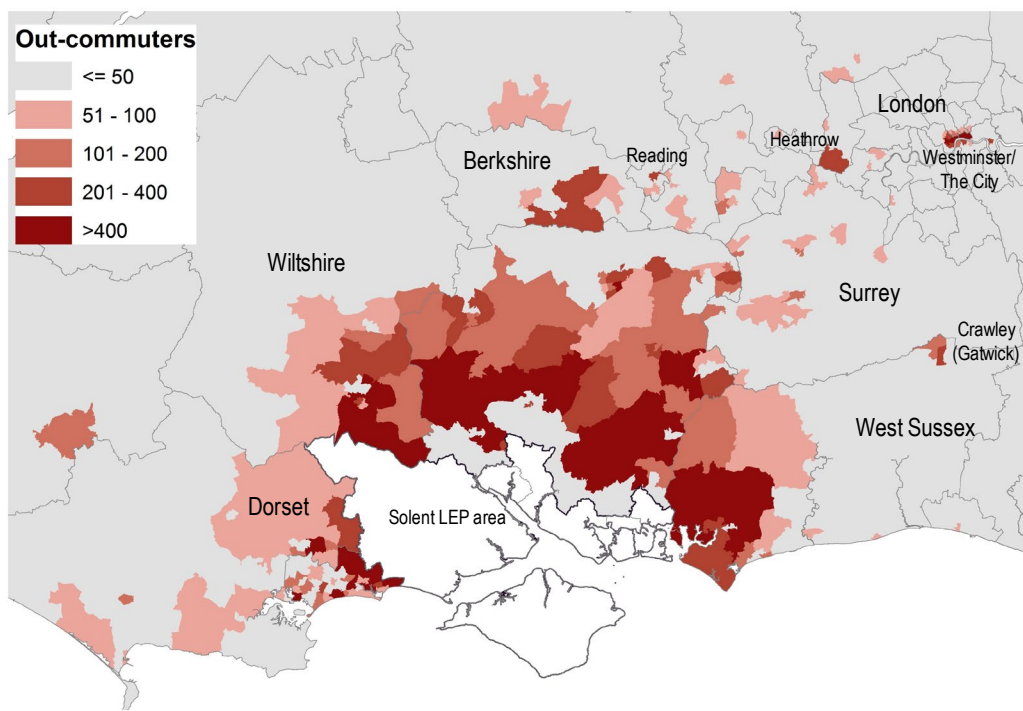
Source: ONS (2011)

Figure 2.10: In-commuting numbers (2011)

Source: ONS (2011)

Around four out of every five commutes to and from the Solent is undertaken using a car which only adds to congestion hotspots along the M27 and lower M3 corridors. This contrasts to approximately one in every twenty commutes taken by train.

While there are significant commuting flows between Solent and the rest of Hampshire, commuting between the two cities is insignificant. Portsmouth and Southampton are about 21 miles apart with each city relatively independent of the other in terms of labour supply. Approximately 1,700 Southampton residents commute to a place of work 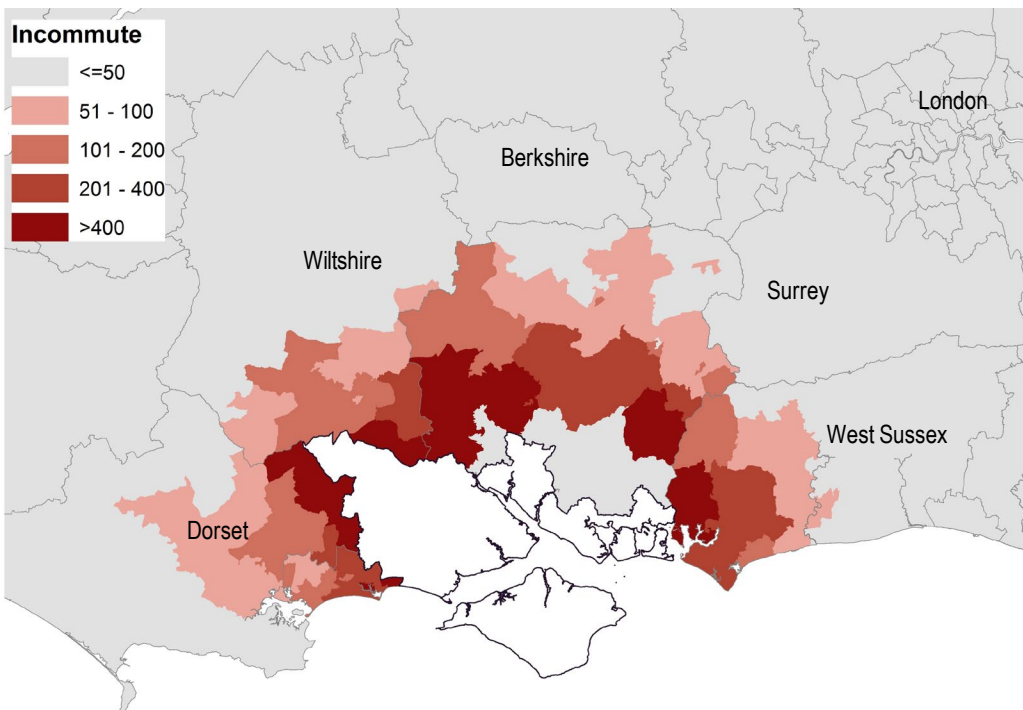in Portsmouth. This amounts to less than 5% of all out-commuting from Southampton. Conversely, approximately 1,400 Portsmouth residents commute to a place of work in Southampton. This also represents less than 5% of all out-commuting from Portsmouth.[13] Although commuter volumes are much smaller than with the rest of Hampshire, the main method of commuting between the two cities is by car; approximately seven in every ten journeys. Although commuting by train is in the low hundreds it is relatively high at 1 in every 10 commutes from Southampton to Portsmouth and approaching 2 in every ten from Portsmouth to Southampton.

In should be borne in mind that the pandemic has led to policies that have severely restrained labour mobility in Solent and the rest of the country. This has led to fewer journeys by car and public transport and more homeworking. The adoption of technology will likely see the more home working but for many commuting will remain a necessity. Any exit strategy could see limited mobility over the short-term but it is likely that we will see changes in commuting patterns and a shift from public transport to alternative modes of travel over short-to-medium term.

2.3   Solent Businesses

There are some 42,000 enterprises in the Solent LEP area. Micro enterprises (businesses that employ between 0 and 9 employees) account for 88.7% of all enterprises in the area. Small enterprises with between 10 and 49 employees account for 9.3% of all enterprises. The backbone of the local business base in terms of employment and turnover is found in medium and large enterprises. Medium sized enterprises with between 50 and 249 employees account for 1.6% of all enterprises, while large enterprises (250+ employees) account for 0.3% of all enterprises. In comparison, the South East and the UK both have higher proportions of enterprises in the micro and large groups, while the LEP area has a higher proportion of firms that are classified as small and medium sized. The distribution of medium and large businesses in Solent compares favourably with Dorset but the area has lower proportions of both medium and large businesses compared to the Liverpool City Region and the West of England.

The number of businesses (local business units) in the Solent LEP increased by 9,095 businesses or 20.8% from 2010. Over this period business growth in Solent averaged 2.1% per annum (p.a.) which was comparable to the South East average but slightly slower than the UK average (2.4% p.a.). Business growth in Solent was on average faster than in Dorset (1.5% p.a.) but slightly slower than in the Liverpool City Region (2.5% p.a.) and in West of England (2.4% p.a.). Business growth in Solent was disproportionally driven by micro businesses (micro businesses accounted for 92.4% of the increase since 2010). Cumulative growth in small and medium sized businesses was also relatively sluggish at

---

[13] Commuter Factsheet for all 14 Hampshire and Isle of Wight local authorities are available at:
https://www.hants.gov.uk/business/ebis/reports

8.7% and 9.4% since 2010. The number of large businesses remained broadly unchanged compared to 2010.

Figure 2.11: Business density and business growth in Solent

Source: ONS (2019)
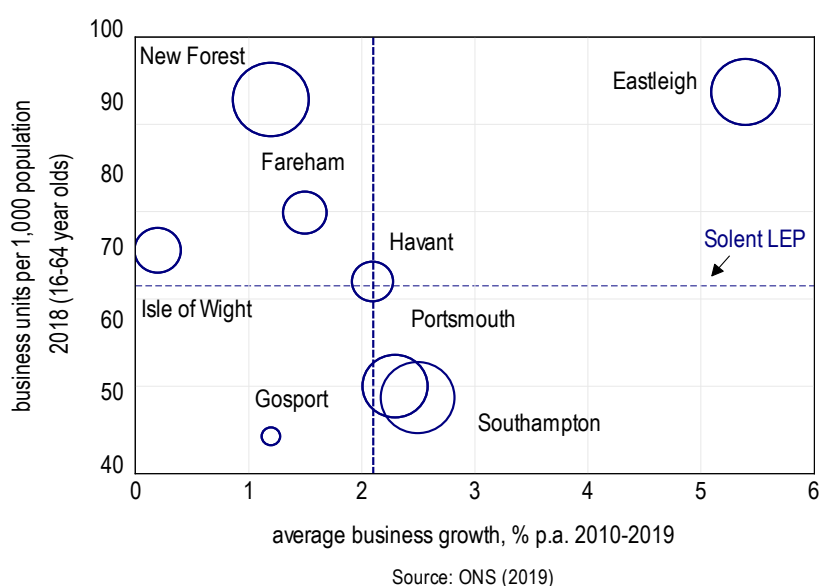
Large businesses are disproportionally concentrated in the two cities while New Forest and the Isle of Wight have above the average concentrations of micro businesses. New Forest, Eastleigh, Fareham and the Isle of Wight have business density above the Solent average with Eastleigh and New Forest having about 92 local business units per 1,000 population of working age compared to about 66% in the Solent LEP area as a whole (Figure 2.11). Business density in these local authorities was around 40% above the Solent average in 2019. On the other hand business density in Gosport was 45 and business density in Portsmouth and Southampton was 52 and 50 businesses respectively. Business growth in Eastleigh was exceptionally strong, it averaged over 5% p.a. since 2010. Growth in Portsmouth and Southampton (2.3% p.a. and 2.5% p.a. respectively) was above the Solent LEP average. Business growth was broadly flat in the Isle of Wight and sluggish in New Forest and Gosport (Figure 2.11).

Figure 2.12: Business density and job density in Solent

Source: ONS (2019)
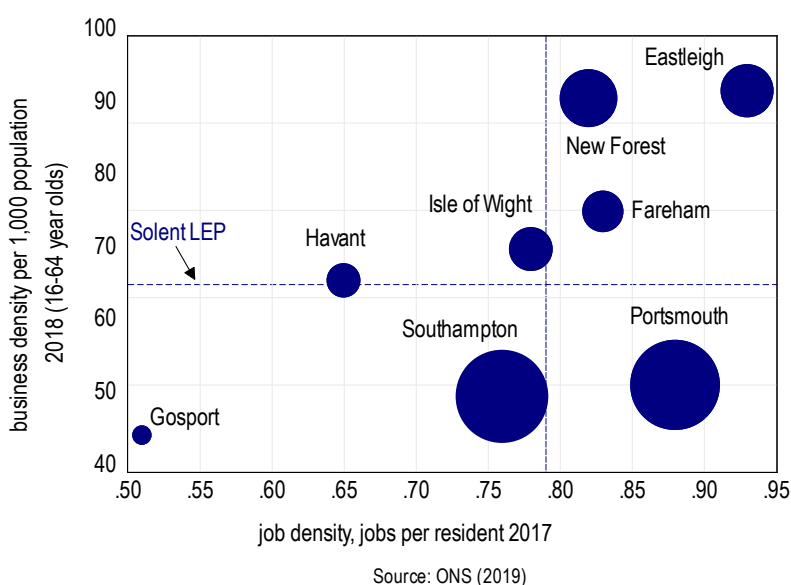
Business density is important, but job density is arguably more important. Job density in Solent is below both the South East and the national average (about 10% below the average) and Solent has a relatively large jobs gap with both the West of England and Dorset.

Eastleigh, New Forest and Fareham have both high business densities and high job densities. In 2017 there were 0.93 jobs per resident in Eastleigh compared to 0.79 jobs in the Solent LEP area as a whole (Figure 2.12). Job density in Eastleigh was close to one fifth higher than the Solent LEP average. Of the two cities Portsmouth had a relatively large job density, 0.88 jobs per resident or about 11% above the Solent LEP average but with 0.76 jobs per resident Southampton had a job gap with the average. The lowest job density in the area is found in Gosport and Havant, 0.51 and 0.65 jobs per resident respectively (Figure 2.12).

Sectoral data points to a relatively large number of businesses in construction, professional, scientific & technical and wholesale & retail trade in the Solent LEP area. There are significant spatial disparities in business concentrations across the area. Wholesale & retail, manufacturing and transportation & storage are concentrated in Eastleigh. Fareham have relative concentrations of manufacturing, construction and finance & insurance business. Gosport has business concentrations in manufacturing, accommodation & food and other services while Havant has relative business concentrations in construction, manufacturing and other services.

The two predominantly rural districts, the Isle of Wight and New Forest have business concentrations in agriculture, forestry & fishing and mining & quarrying (in both local authorities) and accommodation & food (Isle of Wight). Portsmouth has significant business concentrations in accommodation & food, construction and water, sewerage & waste with Southampton having significant business concentrations in transportation & storage, accommodation & food and health & social work.

The pandemic and subsequent containment measures have placed SMEs firmly at the centre of the economic crisis, perhaps more so than during the last recession. As such, the business composition of Solent may be different to the one presented in the report, although this will largely depend on the duration of the pandemic and whether there is a quick rebound, and the ability of businesses to access finance and deferring payments. To help mitigate for lost revenue the Government has introduced various policies geared mostly to SMEs such as: Job Retention Scheme; Business Interruption Loan Schemes; Business Rate Relief; VAT deferral; and some protection from eviction and cessation of repossession proceedings for a set period. Initially excluded, larger businesses can access the Large Business Interruption Loans Scheme.

2.4 Economic Landscape

The coast has shaped the economy of Solent in many ways. Solent's geography is reflected in the dominant role of its large maritime sector, the size of its visitor economy and Solent's strategic importance as one of the UK's most important energy gateways to global markets.

2.4.1 Gateway Economy

The Solent's geographical location makes it one of the UK's most important gateways to European and global markets, with direct highway and rail links to London and the strategic national corridor, and international connections through an airport and two ports, which lie just 20 nautical miles from the world's busiest shipping route from Shanghai to Rotterdam. The region is a gateway for both the export and import of goods. Whilst the Solent itself exports £5.6 billion of goods each year, the value of goods that are moved through the ports of Southampton and Portsmouth amount to over £77.5 billion per annum, with exports accounting for £42.8 billion of this trade. Of this 85% are moved through Southampton to the UK's non-EU trading partners.

The Solent region has above average levels of connectivity and its International Gateways play a crucial economic role in providing global connectivity to markets across the Solent and wider regional and UK economies. It is uniquely placed to strengthen the UK's trading relationship with the rest of the world.

Portsmouth International Port is the UK's best-connected port with the greatest number of routes to Europe. The port sees 8.9 million ferry passengers and 250,000 freight movements a year, contributing to an annual turnover of over £33 million. Furthermore, the Port of Southampton is the UK's number one vehicle handling port and home to the nation's second largest container terminal, which handles 14 million tonnes of cargo or 1.5m twenty-foot equivalent shipping containers, per year. As the number one cruise port in Europe, the port welcomes 1.7 million cruise passengers annually, and supports 15,000 jobs.

Southampton International Airport has significant potential to complement the UK's aviation offer, located within easy access to a large population, including just 60 minutes from central London.

The Solent's geography makes it one of the UK's most important energy gateways to global markets. Fawley Oil Refinery is the largest oil refinery in the country and one of the largest and most complex refineries in Europe. The refinery is a strategically important infrastructure asset for the United Kingdom. With total capacity of 270,000 barrels per day, Fawley provides 20% of the UK's refinery capacity. The refinery handles around 2,000 ship movements and 22 million tonnes of crude oil and other products every year. It also provides employment to 1,050 people on site plus 800 to 1,400 contractors at any time which generates £270m per annum in wages, salaries and purchases.

The pandemic will have significant impact on shipping and aerospace in Solent. Subdued demand and disruptions to supply chains around the globe has led to shipping firms scaling back operations. Southampton is the HQ for Carnival UK and the evidence shows that cruise sector operators are having to consider mooring cruise vessels for at least 2-to-3 months. The cruise industry is also likely to be

affected by a significant long-term behavioural impact associated with the pandemic having negatively influenced customers' perception of cruises as an attractive holiday choice.

The global pandemic has seen an unprecedented impact on the global airline industry as the sector experiences a continued lockdown in much of its passenger activities. The aviation sector in Hampshire and Southampton Airport will be hit particularly hard given the recent demise of Flybe. Flybe accounted for approximately 90% of flights from Southampton Airport, and it is unlikely to be the last casualty in the sector. However, the defence side of the aerospace sector is perhaps more resilient in the early phase of the downturn with demand largely coming from the government sector.

2.4.2 Economic Output

In GVA terms the economy of Solent generated some £30.1 billion of goods and services in 2018 according to the latest official but preliminary estimate of GVA from ONS.[14] However, in GDP terms Solent was a £37bn economy. The main difference between the two economic concepts is the treatment of taxes and subsidies on products. GDP estimates include the effects of taxes net of subsidies on products. In 2018 the Solent economy generated £3bn in VAT and £3.3bn in other taxes on products (Figure 2.13).

Figure 2.13: Economic output in Solent, 2018
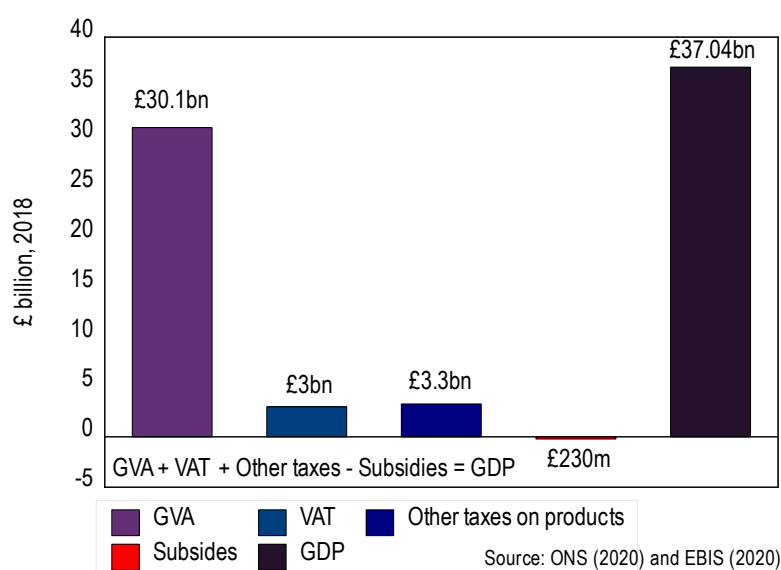
The real (inflation adjusted) GDP growth in the Solent LEP area averaged 0.8% p.a. since 2009, compared to 2.1% p.a. in the South East and 1.9% p.a. in the UK. GVA growth in Solent was slightly faster at around 0.9% p.a.

---

[14] New Forest is included in the Enterprise m3 area in the latest ONS estimate. However, following the recent changes in geography our estimates of GVA and GDP for the Solent LEP area at both aggregate and sectoral level includes New Forest.

In GDP terms the economy of the Solent LEP area is similar to the Liverpool City Region and West of England economies and much larger than the economy of Dorset (Figure 2.14).[15] Economic growth in the Solent LEP area as measured by GDP growth rate was on average faster than in the Liverpool City Region but slower than in Dorset and in the West of England (Figure 2.14).

With total GDP of around £8.5bn Southampton had the largest economy in the Solent LEP area in 2018. New Forest was the second largest economy with £7.4bn in GDP, ahead of Portsmouth's £6.2bn (Figure 2.16). However, GDP in New Forest is skewed by the effect of taxes (net taxes on products), most likely related to Fawley Oil Refinery. On the alternative GVA measure New Forest is smaller than Portsmouth (£4.4bn in New Forest compared to £5.6bn in Portsmouth).

Figure 2.14: GDP in selected LEPs, 2018

Source: ONS (2020) and EBIS (2020)
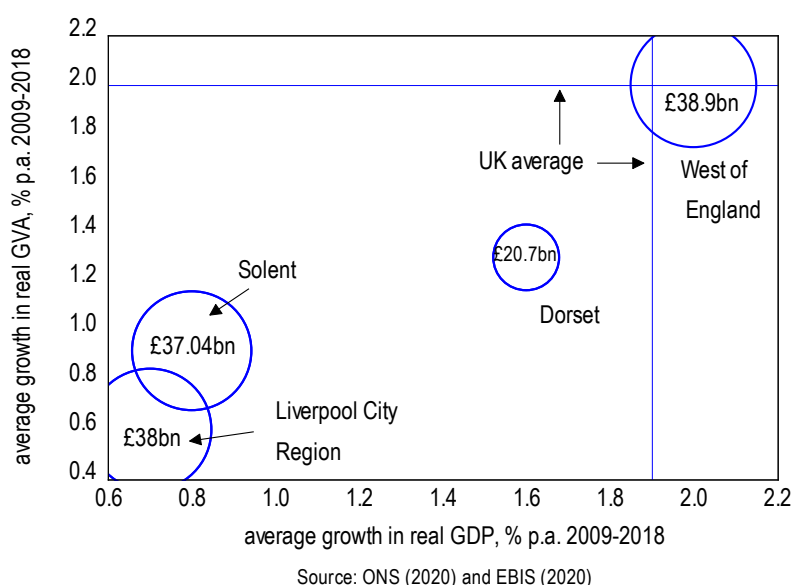
Total GDP in Eastleigh was around £4.6bn, followed by £3.2bn in Fareham. The Isle of Wight and Havant generated between £2.8bn and £3bn in GDP in 2018. With £1.2bn in GDP Gosport was the smallest economy in Solent in 2018 (Figure 2.15).

Since 2009 Eastleigh and Fareham have on average registered real (inflation adjusted) GDP growth rates of 3.4% and 2.8% respectively (3.1% p.a. and 2.5% p.a. respectively in GVA terms), Figure 2.15. Portsmouth on average expanded by 1.5% (1.1% in GVA terms). GDP growth in Havant was similar to the LEP average but economic growth in the Isle of Wight and Gosport was faster than the Solent LEP average. The latest estimate for Southampton suggests that adjusted for inflation both GDP and GVA growth were slightly negative (-0.7% p.a. and -0.3% p.a. respectively) between 2009 and 2018.[16]

---

[15] The latest official estimates of economic output include significant revisions to not just the preliminary 2017 data but also to historical estimates. Historical data for several local authorities within Solent and Southampton in particular has seen significant revisions and this has in turn affected the average rates of growth for the Solent LEP area.

[16] The latest estimates of GVA/GDP for Solent marks a significant departure in ONS view on the strength of Southampton's economy from the estimate published last year. Last year's data suggested that Solent was one of the better performing economies in the area but as shown in Figure 2.15 this was not the case in the December 2019 data release.

Figure 2.15: Economic output (GDP) by local authority, 2018

Source: ONS (2020)
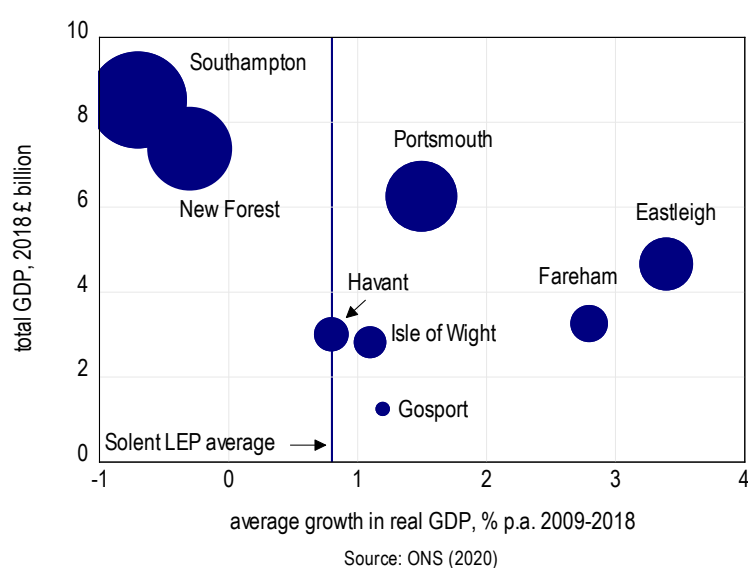
The share of the two cities in Solent's GVA had decreased from 44.7% in 2009 to 43% in 2018. Economic growth in New Forest was slightly negative on the GDP measure (-0.3% p.a.) but on the GVA measure of economic performance economic growth in New Forest was similar to the Solent LEP average (0.9% p.a.).

The spread of the coronavirus is having an unprecedent impact on the levels of economic activity in Solent, across the country and across the world not seen during peacetime. The impact is manifesting itself through several direct and indirect channels, behavioural changes, the impact on the financial markets and through fiscal and monetary responses. The fiscal and monetary policy responses announced to date are designed to prevent the economic crisis caused by the coronavirus from spiralling into the 1930s style economic depression.

The Office for Budget Responsibility (OBR), Bank of England and NIESR expect GDP to fall by between 30% and 35% in the second quarter alone or the first half of the year with the Bank of England expecting GDP to fall by 14% in 2020 as a whole.[17] If the lockdown is short and the recovery is quick the recession may follow the classic V shape (a quarter or two of falling output followed by a sharp rebound) and the consensus seems to be on the V shaped recovery. The Bank of England expects GDP growth to increase by 15% in 2021 and 3% in 2022. The average of independent forecasts is similar, 16.6% in the year to the second quarter of 2021, 3% in 2022 and 1.9% in 2023.[18]

However, the chances of a perfect V-shaped recovery appear to be lower at the time of writing given that the return to normality in the UK is likely to be much longer than anticipated. The labour market is another factor that will acts a constraint on the pace of economic recovery.

---

[17] OBR (2020), *The OBR Coronavirus Analysis*, Office for Budget Responsibility, April 2020. BoE (2020) and NIESR (2020).
[18] Bank of England (2020).

2.4.3 Economic Output by Sector

Sectoral data shows that over 14% of total GVA in the Solent LEP area is accounted for by the real estate sector but almost ¾ of the total output in this sector is explained by owner occupiers' imputed rents.[19] Manufacturing contributed £3bn to Solent's GVA or 10% of the economy. Over 50% of manufacturing output is found in manufacture of metals, electrical products and machinery. Wholesale & retail, health & social work, transport & storage and construction are other industrial sectors that make significant contributions to GVA in the area (Figure 2.16).

Higher value-added private services are relatively underrepresented in Solent's GVA. Information & communication accounts for about 6.2% of its GVA followed by professional, scientific & technical (5.1%) and finance & insurance (4.2%).

Figure 2.16: Economic output (GVA) by sector, 2018*
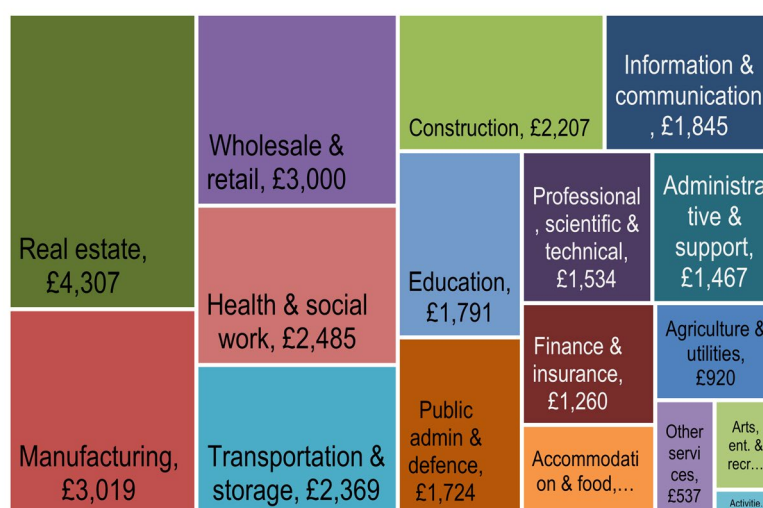
Source: ONS (2019) *GVA in 2016 prices

Sectoral data suggests that manufacturing output on average contracted by 0.4% p.a. since 2009. Within manufacturing sector growth was strong in 'other manufacturing, repair and installation' but output contracted in all other manufacturing subsectors. The overall performance of this sector was weighted down by a 0.9% p.a. contraction in the largest manufacturing subsector, 'manufacture of metals, electrical products and machinery'. Production as a whole contracted by 0.3% p.a. since 2009.

---

[19] Economic output at sectoral level is measured in terms of GVA. Owner-occupiers' imputed rental is an estimate of the housing services consumed by households who are not actually renting their residence. It can be thought of as the amount that non-renters pay themselves for the housing services that they produce. As such, imputed rental represents the economic value per period to homeowners of their dwellings, equivalent to if they were to rent out their properties. Since homeowners do not receive payment on their property this value must be 'imputed'.

Construction growth was robust at 3.3% p.a. Relatively strong growth was registered across all construction subsectors (construction of buildings, civil engineering and specialised construction activities) with the fastest growth in construction of buildings (4.4% p.a.) followed by 3.2% p.a. output growth in specialised construction activities.

GVA growth in the wholesale & retail trade sector was more than double the Solent LEP average and within this sector exceptionally strong growth was registered in motor trades, followed by the strong growth in wholesale trade.

GVA growth in transport & storage average 0.8% p.a. since the recession. Within this sector total real GVA in land, water and air transport, that accounts for about 70% of the total economic output of this sector was broadly unchanged (-0.1% p.a.). GVA in warehousing, transport support, postal and courier activities on average increased by 3.2% p.a. Accommodation & food accounts for almost £1bn in GVA in the area and real GVA in this sector on average expanded by 4.2% p.a.

GVA growth in higher value-added services was mixed. Information & communication output expanded by 2.9% p.a., but the positive contribution of this sector was cancelled out by a sharp contraction in finance & insurance (-6% p.a.). Output growth in professional, scientific & technical activities was sluggish but at 1.5% p.a. faster than the average growth for the Solent LEP economy as a whole. Within this sector architectural & engineering and other professional, scientific & technical activities expanded but output growth contracted in the head offices and management consultancy subsector. GVA growth was exceptionally strong in administrative and support service activities. In this sector growth was driven by employment activities; tourism and security services and office administration & business support services.

Faster GVA growth in Solent was held back by the relative underperformance of two large and mostly public sectors. Public administration & defence contracted by 3.2% p.a. while education contracted by 0.2% p.a. between 2009 and 2018. The contraction in this area was partially offset by relatively strong growth in human health & social work (1.9% p.a.). Output growth in arts, entertainment & recreation was sluggish, but Solent has seen strong growth in 'other service activities'.[20]

The official data does not capture the maritime sector, which will fall mostly under both manufacturing and transport. Nonetheless the maritime sector is a strategically important sector to both the Solent economy and the wider UK economy. The Solent-based maritime sector makes a significant economic contribution through turnover, Gross Value Added (GVA), employment and the compensation of employees. The recent research by the Centre for Economic and Business Research (CEBR) suggests that Solent's maritime sector and Portsmouth Naval Base generate £12 billion in turnover and £5.8 billion in GVA annually.[21] Total GVA contribution comprises of £2.1bn in direct contribution to the economy, followed by £2.2bn worth of GVA that is supported in the supply chains (indirect impact) and £1.4bn worth of GVA in the wider economy when direct and indirect employees spend their earnings. This sector supports 152,000 jobs and £2.5 billion in employee compensation. It is estimated that the Solent-based maritime sector and Portsmouth Naval Base directly employed 28,800 people in 2017. In addition to direct

---

[20] Additional information on both sectoral output and employment is available in Section 3.
[21] CEBR (2019) *The economic contribution of the Maritime Sector in the Solent LEP*, Centre for Economic and Business Research (CEBR) for the Solent LEP and Maritime UK.

impact on jobs there is a significant indirect and induced effect on jobs. For every 1 job initially created by these entities in 2017, a total of 5.27 jobs were contributed to the wider Solent LEP region.

The economy of Solent alongside other subnational economies in the UK is facing a period of unprecedent challenge following the outbreak of the global pandemic. Economic output is expected to fall sharply in the second quarter and in 2020 as a whole but some sectors will still weather the storm better than others. Short term risk to sectors post Covid-19 highlighted in Table 2.5 reinforces how different sectors might be impacted differently by the pandemic and the global recession.

Table 2.5: Short term risk to sectors post COVID 19

Sector	Impact Now	Impact Q1-Q3
Food and drink retail	Demand: Unpredictable spikes in demand Supply: Supply chain disruption Workforce: high risk of infection	Cashflow/lease costs /payroll Disruption to business/supply chains by Jun-Aug
Energy/utilities	Demand: Unpredictable spikes in demand (lockdown & isolation)	Supply chain disruption Workforce continuity
Health and social care	Demand: Increasing Workforce: Pre-existing workforce shortage	Rising demand, lack of workforce
Freight / logistics	Demand: Change in nature of demand Workforce: Pre-existing workforce shortage	Current and future workforce shortages impact distribution
Insurance	Demand: Steady increase in insurance claims	Insurance losses could be heavy
Banking	Proactively supporting vulnerable firms Little stress in funding markets currently	Reserves run short Cash flow/liquidity difficulties
Hospitality / tourism	Demand: Sharp decline in trade since Jan c. 500,000 redundancies in past week Seasonal hires of c 500,000 cancelled	National changes seeing 70% drop in bookings YOY Likely lose a full season of trade
Aviation /Travel	Demand: has declined rapidly	Revenue cashflow crisis Unlikely international travel will pick up in 2020
Retail & wholesale	Demand: for non-food retail depressed Supply: severe supply chain disruption Workforce:high risk of infection	Recession further depresses demand Cashflow problems–salaries and leases Disruption to supply chain
Manufacturing	Demand: urgent for some products Limited demand for others –e.g. automotive	Fall in export market and domestic demand Ongoing supply chain disruption
Construction	Demand: Site work ongoing Supply: Materials supply chain disruption	As work slows down, could see significant downturn and layoffs

Source: CBI (2020)

2.5   Productivity

In its simplest form, economic growth is driven by two factors; how many people are in work and on their productivity. Employment growth can drive economic growth over the short to medium term, but productivity growth is the main driver of competitiveness, economic growth and economic prosperity over the long run.

Labour productivity on the headline GVA per hour worked measure in the Solent LEP area was £34.7 in 2017, slightly above the national average and higher than in West of England (£33.1) and higher than in Liverpool City Region and Dorset (2.16), Figure 2.17.[22] On the alternative measure of productivity, GVA per filled job, labour productivity in Solent stood at £52,600 in 2017, below the national average, similar to the West of England and above Dorset and Liverpool City Region.

Figure 2.17: Productivity, selected LEPs
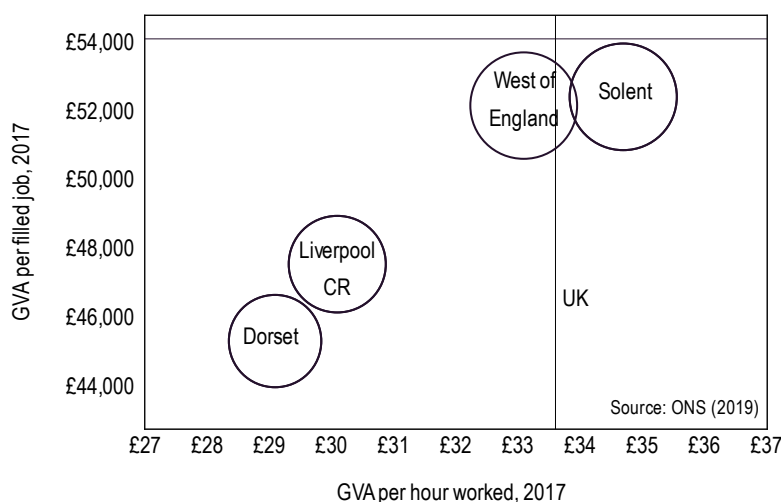
South Hampshire was the most productive economic area in Solent with GVA per hour worked of £37 per hour or about 7% above the Solent LEP average (Figure 2.18).[23] Labour productivity in the Isle of Wight and Portsmouth was about 5% below the Solent LEP average in 2017.

With £55,700 in GVA per job in 2017, Southampton was 6% above the Solent average on the alternative measure of labour productivity, marginally above South Hampshire with 5% above the average (Figure 2.18). With GVA per job of £47,500 and £48,200 Portsmouth and the Isle of Wight had a 10% and 8% productivity gap with the Solent average. Therefore, regardless of which measure is used, the evidence suggests that there are significant disparities in aggregate labour productivity within Solent.

---

[22] Labour productivity estimate for Solent LEP is based on the 'old' LEP geography that excludes New Forest. These productivity estimates are consistent with GVA data published in December 2018. The subnational productivity estimates that are due to be published in February 2020 will be consistent with the latest GVA estimates.
[23] South Hampshire includes Eastleigh, Fareham, Gosport and Havant

Figure 2.18: Productivity by economic subarea

Source: ONS (2019)
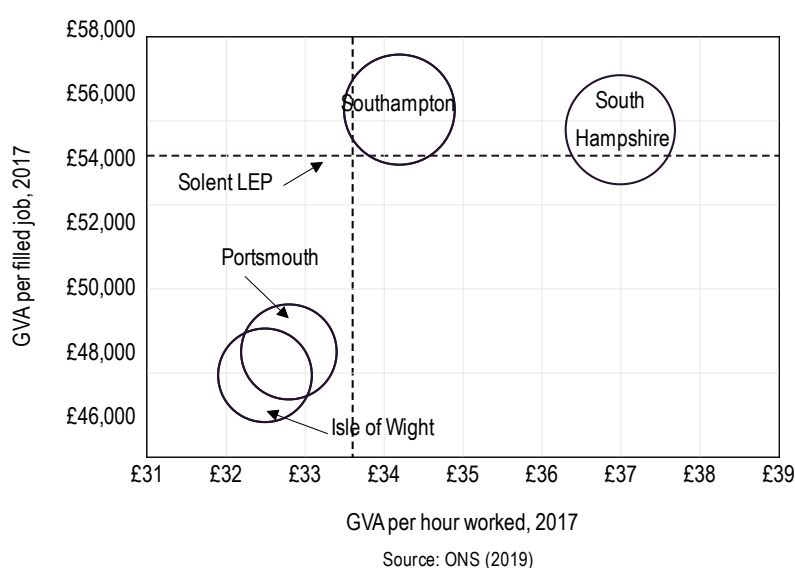
On the headline aggregate measure of labour productivity Solent was 3.1% more productive than the UK average in 2017. Between 2009 and 2016 this positive gap with the national average averaged 1.4% per annum (Figure 2.19). On the alternative, per job measure of labour productivity Solent has a 3.1% gap with the national average. This gap with the national average averaged 4.3% between 2009 and 2016.

Since GVA per filled job does not take into consideration differences in labour market structures or differences in work patterns GVA per hour worked is generally viewed as a more comprehensive indicator of labour productivity.[24]

Figure 2.19: Solent productivity relative to UK average

Source: ONS (2019)
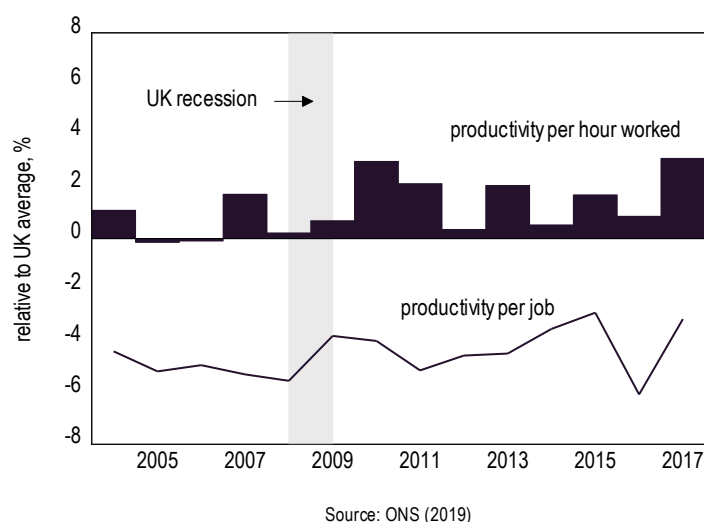
Productivity levels are important but real (inflation adjusted) growth in labour productivity is equally important for competitiveness and growth. Changes over time in labour productivity reflect changes in real output (GVA) growth and changes in hours worked. In the Solent LEP area, real GVA expanded by

---

[24] ONS (2019) *Regional and sub-regional productivity in the UK: February 2019*, UK Office for National Statistics (ONS).

about 5% since 2010, while total hours worked increased by 7.5%, resulting in a 2% decrease in labour productivity on the headline per hour measure. These productivity estimates are consisted with GVA data published in December 2018. The same approach can be applied to the economic areas within the Solent LEP. Figure 2.20 shows the estimates of real productivity growth between 2010 and 2017 by economic subarea.

Figure 2.20: Real growth in labour productivity between 2010 and 2017
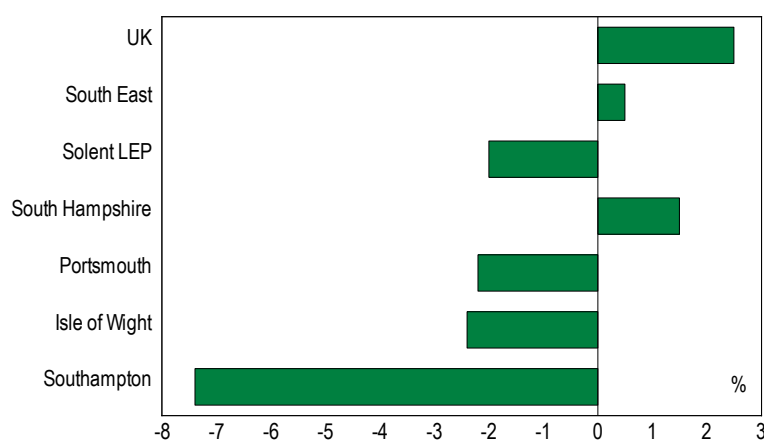
Source: ONS (2019) and EBIS (2019)

South Hampshire was the only economic subarea in Solent that registered real growth in labour productivity over this period. Labour productivity in South Hampshire was 1.5% higher in 2017 than in 2010 when adjusted for inflation. Growth in real productivity in South Hampshire was below the UK average (2.5%) but above the South East average, 0.5%. Labour productivity in Portsmouth and the Isle of Wight decreased by 2% between 2010 and 2017 but Southampton saw a 7% decrease in labour productivity over this period.

Figure 2.21: Real growth in labour productivity between 2016 and 2017
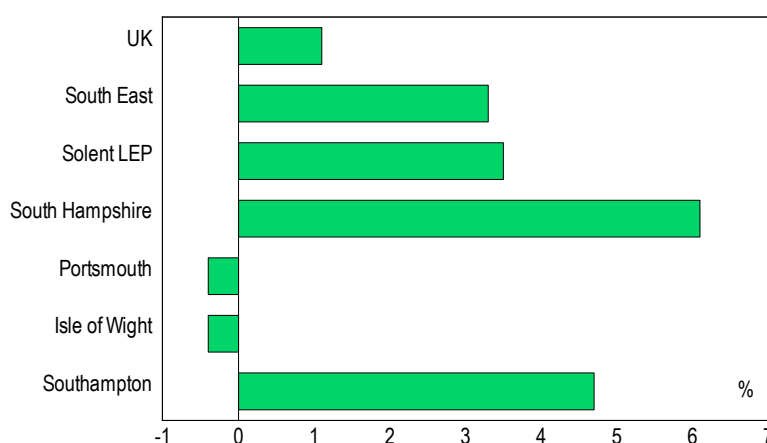
Source: ONS (2019) and EBIS (2019)

Productivity performance in the Solent LEP area and in its economic subareas in the latest year for which we have data was much stronger than when compared to 2010. Productivity in real (inflation adjusted) terms in the Solent LEP area increased by 3.5% in 2017, marginally faster than the South East average and faster than the UK average (Figure 2.21). The growth in real labour productivity in South Hampshire and Southampton was strong and above the Solent average. Portsmouth and the Isle of Wight saw a small decrease in the real productivity growth (-0.4% respectively).

Productivity growth was disappointing before the pandemic and in the short run productivity will fall. Some businesses will experience disruptions to their domestic and international supply chains. Traffic around ports has fallen which has affected deliveries by sea and we have seen a sharp decline in air transport. All of the above including a large fall in investment (including in research and development) will weigh down on productivity of the Solent economy. The latest Bank of England estimate suggests that on a per-hour basis productivity might fall by around 2% in the second quarter of this year, although this estimate is highly uncertain. The fall on a per job basis will be much larger — possibly as large as 20% — because furloughed workers are still counted as employed.[25]

How quickly productivity can rebound will be largely determined by the speed of the recovery and future policy decisions. Over the medium term, the social distancing, furloughing (job detachments) and persistent unemployment may cause workers to lose skills. However, increased use of technology facilitating remote working and other pandemic induced innovations may see a positive impact on productivity over longer term. Although there is a danger it also could engender digital inequality with workers in low income/low skilled occupation less able to access remote working technology than people in professional occupations.

[25] Bank of England (2020)

3 The Demand for Skills in the Solent

- The structure of Solent's economy has changed substantially over the past three decades, employment has continued to shift away from primary activities and the public sector to private services such as professional, scientific & technical activities.
- Manufacturing employment has been declining but manufacturing remains one of the most important industrial sectors across Solent. Manufacturing and seven other higher-value added sectors account for about a third of all employee jobs and 60% of economic output in the Solent LEP area.
- Within these broad industrial sectors Solent is home to a number of smaller and future key growth sectors such as high-technology manufacturing, marine & maritime, the visitor economy and transportation & logistics. The maritime sector alone creates 152,000 jobs and as such is a substantial contributor to the economy. It is imperative that demand for a skilled workforce in these key sectors is realised.
- Almost 30% of all jobs are found in professional occupations and among managers and senior officials but Solent has a relatively high concentration of jobs in the upper-middle occupational categories that were acquired through post-compulsory education such as technical and trade occupations.
- Demography, globalisation, competition, and technological change are some of the most important drivers behind the changing the pattern of demand for employment and skills in Solent.
- Total net job openings over a 10-year horizon in the Solent LEP area are projected at 240,000 with 93% of job opportunities becoming available due to replacement demand. Over an 18-year horizon the total net requirement is estimated at 400,000 job opportunities.
- Changes in job context and type of job tasks performed are expected to create a need for higher level qualifications. Over a 10-year period at least 93,600 job openings (39% of all jobs) are projected to require a Level 4+ skill. Relatively strong but slowing demand is projected for Level 3 and Level 2 (46,000 and 49,000 respectively).
- The area will require 45,400 people with first degrees and 26,800 with higher degrees but relatively strong demand is expected for other higher qualifications below degree level such as BTEC and RSA and some nursing qualifications.
- We are now at the outset of the 4th industrial revolution which is characterised by a fusion of technologies that is blurring the lines between the physical and digital worlds.
- The potential impact of automation is driven by industrial and occupational structure and the relative proportion of jobs at high risk of automation in each of those sectors and occupations.
- High-skill industries and occupations are less susceptible to the impact of automation on jobs. In the Solent LEP area these industries are information & communication, professional, scientific & technical, education, health & social work and the broad public administration & defence sectors.
- Independent estimates suggest that probability of automation across Solent ranges from 41.6% in Portsmouth to 48.4% in Gosport but the proportion of jobs at a high risk of automation remains relatively low in most local authorities in the area.
- Automation will create new jobs and occupations but identifying skills for the future is a challenging task. Recent evidence suggests that alongside digital and broad-based knowledge, interpersonal skills and cognitive skills are going to be increasingly important.

Skills are important for individuals and economic policy in general since they are associated with positive labour market outcomes for the individual (employment, better paid jobs etc.) while human capital is one of the most important drivers of productivity and economic growth over the long run.

In its simplest form skills is the ability to perform a task. Alternatively, skills can be broadly defined as 'any personal characteristics that is productive of value and can be augmented through some form of investment'.[26] Skills vary by level of aptitude and according to a specific type such as general skills, core or basic skills or practical skills. The term is frequently used without a formal definition. In this paper we make reference to 'direct' or 'softer' measures of skills, but we tend to focus on 'indirect' or 'proxy' measures such as educational attainment.

One of the advantages of qualifications is that we have rich and timely datasets on qualifications for the Solent LEP area and its districts. Another advantage is the link between qualifications and labour market outcomes via employers' use of qualifications as a proxy for skills. Qualifications also contain some information about type of skills that is demanded in a particular industry or occupation.

The new Skills Advisory Panel is tasked with assessing the labour market outcomes and skills system of the Solent LEP area and with identifying skills and employment priorities in the area. Given the importance of the skills system delivered primarily through local education providers it is also appropriate to focus on educational attainment.

Raising attainment sits within a broader objective around raising aspiration and for young people, our future workforce, it is equally important they are supported to make informed careers choices. The Government published its National Career Strategy in 2017[27]. It sets out the importance of careers information in influencing young people choices. The ambition is for young people to understand the full range of opportunities available to them, to learn from employers about work and the skills that are valued in the workplace and to have first-hand experience of the workplace. Within the Solent it will become increasingly necessary to embed employer engagement with schools to help young people develop the skills required by employers.

The skills demand section covers three broad themes. The first theme contains the analysis of industrial and occupational structure, followed by the analysis of skills demand by industry and occupation. Within this section we also cover job vacancies as a measure of skills demand.

The second theme examines future skills demand. The analysis contained in this section is largely derived from official data and from our forecasting model of the Solent LEP economy which contains a skills module. We analyse both expansion demand and replacement demand over a short-to-medium horizon (10-year horizon) and over a longer horizon (16 years).

The last of the three broad themes examines the 4th industrial revolution and its impact on skills. Within this section we also examine automation and future of employment in the Solent LEP area. Finally, we

---

[26] Green, F. (2016) *Skills Demand, Training and Skills Mismatch: A Review of Key Concepts, Theory and Evidence*, Future of Skills & Lifelong Learning Evidence Review, Government Office for Science, August 2016.

[27] Department for Education (2017) *Careers strategy: making the most of everyone's skills and talents*, DFE-00310-2017, London 2017

conclude the theme by providing an overview of skills for the future in the light of the 4th industrial revolution.

3.1   Industrial Structure

The current demand for skills in the Solent LEP area is determined by its sectoral and occupational composition and by the skills mix within its occupations. This can be seen by looking at trends over a longer time horizon and how the shape of its industry and occupation has evolved and is continuing to change. We start by analysing Solent's industrial structure which provides a benchmark for further analysis of current skills demand and future skills demand projected over the medium to long-term.

As shown in the previous section the number of jobs in Solent has increased substantially over time. Since the 2008/9 recession output growth has been sluggish by historic standards while employment growth has been unexpectedly strong. This in turn has led to a sluggish growth in labour productivity. Examining the trends from 1981 to 2018 at an industry level shows that the structure of Solent's economy has changed substantially over the past three decades. We have seen marked declines in employment in manufacturing and public administration & defence. This is demonstrated in Figure 3.1 which shows the change in Solent's employment by selected large sectors over time compared to 1981.[28] Manufacturing employment in Solent now stands at about a third of its 1981 level. In 1981 manufacturing accounted for almost a quarter of all employment in the area but today that stands at less than 8%. Solent is still a major manufacturing region in the UK, but its manufacturing has become more higher value-added as a sector.

Figure 3.1: Employment in Solent over time 1981 to 2018
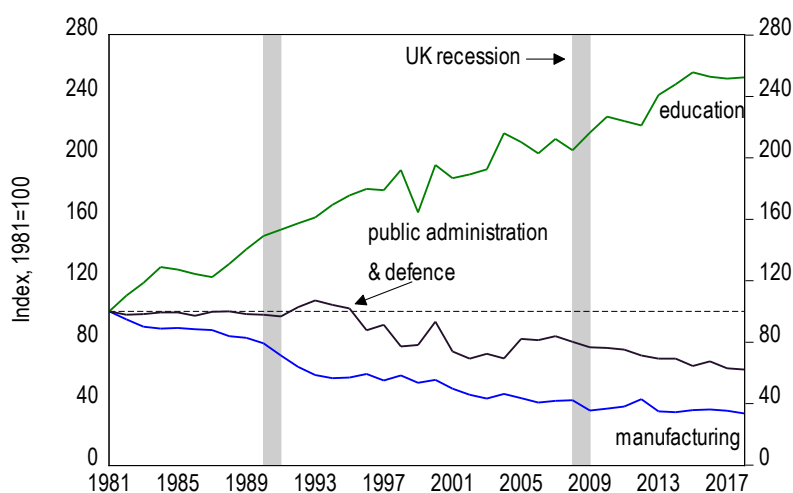
Source: ONS and CE (2019)

Public administration and defence is another sector that has declined over time. Employment in this sector started to decline in the mid 1990's followed by a sharp decline in the aftermath of the last recession. Today employment in this sector in Solent is over a third smaller than in the mid 1990's and

---

[28] This estimate includes self-employment and as such it is not directly comparable to ONS data that excludes self-employment.

the sector accounts for about 5% of all people in employment. On the other hand, total employment in education in Solent increased by about 2.5 times since 1981.

Over the past three decades employment in Solent has continued to shift away from primary activities to services. This is demonstrated in Figure 3.2 which shows the change in Solent's employment in several service activities relative to 1981. Employment in professional, scientific & technical activities increased by over 2.5 times over this period or about 25,000 jobs while total employment in administrative & support services increased by 32,000. In 2018 employment in this sector was three times higher than in 1981. Finance & insurance shed jobs throughout the 1980's and 1990's but by 2018 the number of jobs in this sector had recovered to early 1980's levels. Employment growth in finance & insurance and information & communication was stronger but the numbers started decreasing since the end of the last recession.

Figure 3.2: Employment in Solent over time 1981 to 2018
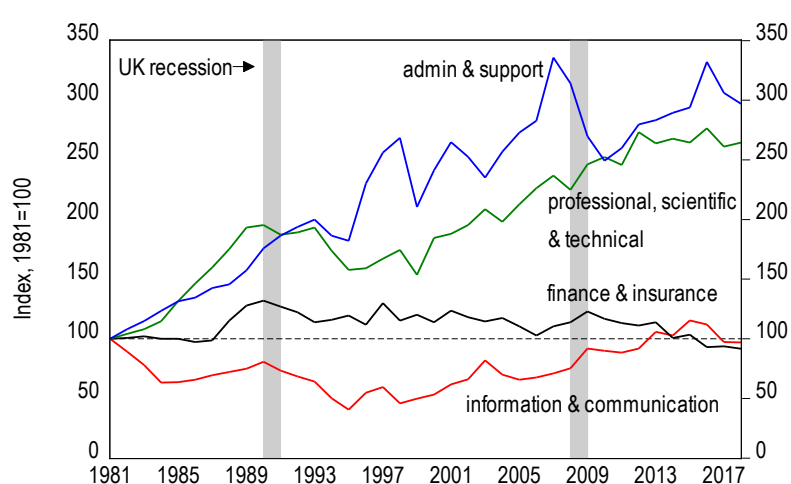
Source: ONS and CE (2019)

Industrial sectors in Solent can be classified into two broad groups of sectors – those with average or below average productivity and those whose productivity is above the average. This is demonstrated in Figures 3.3 and 3.4 that show sectors' share of total economic output (GVA), the number of employee jobs and the sectors' employment specialisation relative to the national (Great Britain) average. If Solent reflected the same employment proportions as the national average, then all the sectors would sit on the vertical green line in the two charts.

The first chart (Figure 3.3) shows that relative to the national average Solent is relatively specialised in education, health & social work, wholesale & retail and arts & entertainment. This is hardly surprising since the area is mostly urbanised and at its core it has two large population centres, Portsmouth and Southampton. What is perhaps surprising are relatively low concentrations of employee jobs in professional, scientific & technical and administrative and support services. Employee concentrations in professional, scientific & technical sector is about a third below the national average and productivity in this sector is comparable to the average. This sector accounts for about 6% of both GVA and employee jobs in Solent.

Figure 3.3: Solent sectors with average/below average productivity
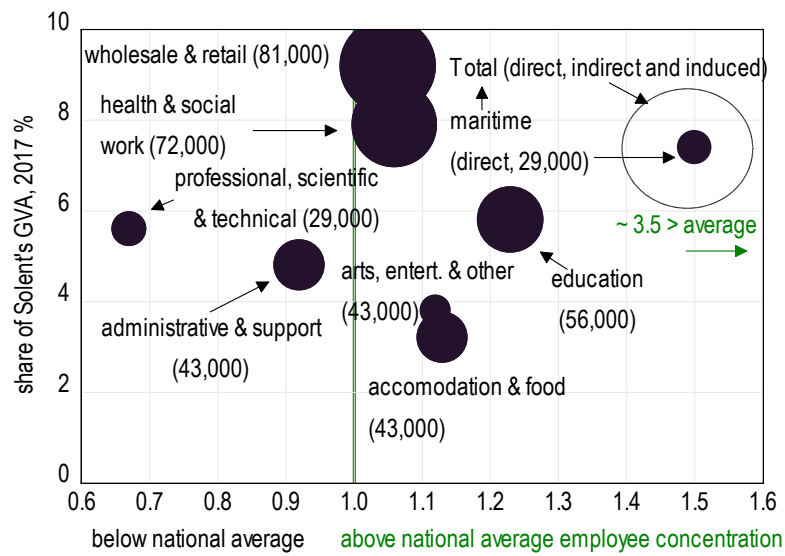
Source: ONS (2019)

Transport & storage, defence & public administration and construction are relatively specialised sectors in Solent in employment terms relative to the national average. These sectors are also relatively productive sectors compared to the Solent average (Figure 3.4). Manufacturing is a large sector in Solent in employment terms although slightly underrepresented relative to the national average (about 5% below the national average), but a high productivity sector in Solent. This sector accounts for 7.6% of all employee jobs in the area and about 11% of economic output.

Finance & insurance and information & communication (ICT) are higher value-added sectors but with employment concentrations below the national average. The number of employee jobs in ICT in the area is about 10% below the national average while the number of jobs in finance & insurance is over one fifth below the national average. Real estate appears to be the most important sector in the economy, but its importance is overstated by the inclusion of imputed rents in its GVA. These eight higher value-added sectors accounted for about a third of all employee jobs and about 60% of economic output in Solent in 2017.[29]

Maritime activities are crucial to a coastal economy, both directly and across other sectors such as tourism with its close linkages to the cruise industry. The difficulties in quantifying some maritime activities and separating them from terrestrial activities imply that the size and structure of the maritime economy is not specifically captured in the official data. According to a recent report by CEBR (2019) Solent's maritime sector and Portsmouth Naval Base directly contributed £2.2 billion to GVA in 2017 (Figure 3.4).[30]

---

[29] Based on ONS GVA data published in December 2018.
[30] CEBR (2019) The economic contribution of the Maritime Sector in the Solent LEP

Figure 3.4: Higher value-added sectors in Solent
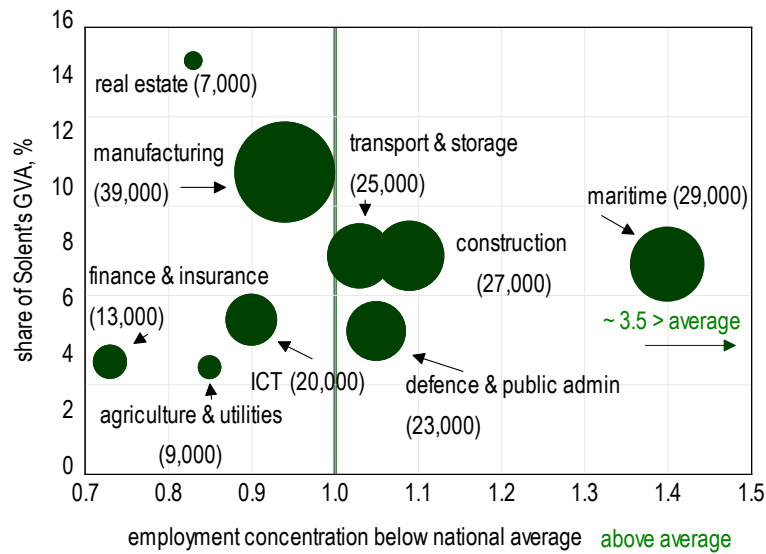
Source: ONS (2018)

It is estimated that these major economic assets directly employed 28,800 people in 2017 (Figure 3.4) but total employment effect amounts to 152,000 jobs (Figure 3.3). Maritime employment in Solent is several times more concentrated than nationally.

The spatial distribution of the higher value-added sector differs across Solent. This is demonstrated in Figure 3.5. Close to 40% of all employee jobs in Eastleigh and Fareham are found in these broad eight sectors and employment concentration is over a fifth above the Solent average. Employment concentration in Portsmouth is above the Solent average and Portsmouth has the largest number of jobs in the area (35,800). Southampton has 28,400 employee jobs and an employment concentration of around 20% below the average.

Figure 3.5: Solent's higher value-added sectors by local authority

Source: ONS (2018)

44

Within the broad industrial sectors analysed in this section, the Solent LEP area is a home to a number of existing and future key growth sectors. These include high technology manufacturing, marine & maritime industry, the visitor economy and transportation and logistics.[31] Some of these priority sectors are cross-cutting sectors or sectors that span across one or more traditional sectors such as marine and manufacturing. This is unsurprising since the manufacturing and marine sectors are closely linked. As shown in the Emerging Evidence Base for the Solent Local Industrial Strategy 'the Solent marine & maritime sector provides a vital link in the export and import chain of the full range of manufacturing sectors in the UK and this role comes in various forms'.[32]

Employment in the Solent LEP area is projected to increase over the next decade and beyond but demand for labour is expected to be weaker than in the past which is unsurprising given the strong growth in Solent and across much of the country since the 2008/9 recession.[33] The share of manufacturing in total employment in the Solent LEP area is projected to decrease from 7.2% to 5.9% by 2028 and to 5.2% by 2036. This is demonstrated in Figure 3.6 which shows the projected employment share by broad industrial sector in the Solent in 2028 and 2036.

Transport & storage, information & communication, finance & insurance and public administration & defence are projected to see a small decrease in their share of total employment in the Solent LEP area by 2028.

Figure 3.6: Projected employment share by broad industry, Solent 2028 and 2038
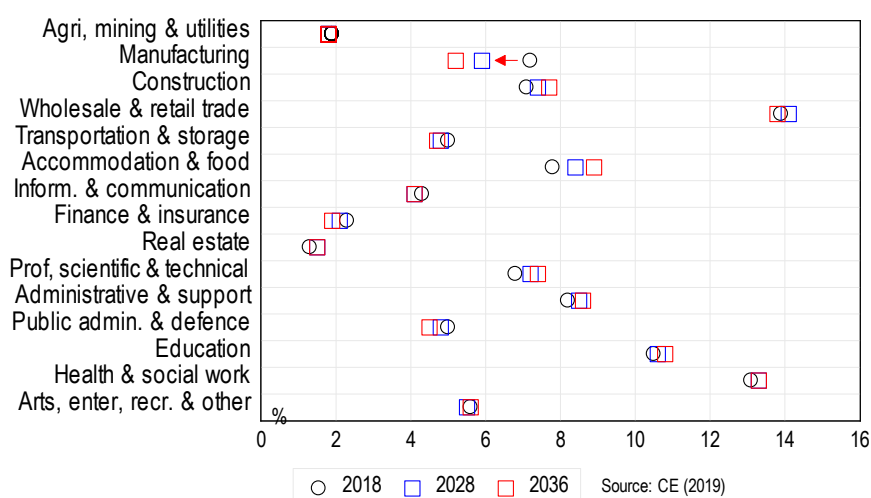
Accommodation & food, professional, scientific & technical and construction are projected to increase their employment share in the Solent LEP area. Employment share of accommodation & food is projected to increase to 8.4% by 2036. Professional, scientific & technical and construction are projected to see increases in their share of total employment to 7.2% and 7.4% respectively. Health & social work is

[31] Lichfield's (2019) *Solent Economic Profile Final Report*, Solent Local Enterprise Partnerships, July 2019.
[32] PWC (2019) *The Solent LIS: Emerging Evidence Base*, Solent Local Enterprise Partnership.
[33] The source of employment forecasts is a Local Economy Forecasting Model (LEFM) of the Solent LEP economy developed by Cambridge Econometrics in association with the Institute of Employment Research (IER) at the University of Warwick.

another sector that is projected an increase in its share in Solent followed by education. Future employment demand by sector is covered in section 3.5.

These projections are based on the economic conditions that existed before the outbreak of the global pandemic. We are potentially facing the sharpest decrease in economic output in over 300 years and with that in mind the industrial structure in the Solent LEP area may see some changes post Covid-19 as certain sectors either struggle, adapt or thrive in a challenging economic climate. Sectors vulnerable to social distancing measures such as accommodation & food and entertainment (tourism) will be hit hard, whereas health and pharmaceutical related industries are likely to grow. Parts of transport (air and public) are likely to suffer whereas courier pick-up and delivery services will have benefitted from the increase in online shopping. The cruise industry in Solent is also likely to be significantly affected over both short and longer term by a behavioural impact associated with the pandemic having negatively influenced customers' perception of cruises as an attractive holiday choice.

3.2   Occupational Structure

Information on the industrial structure is an indicator of the demand in the local economy but information on the occupational structure better reflects the nature of work. Occupational data is therefore particularly useful for understanding skill levels in the Solent LEP economy. Figure 3.7 provides a breakdown of the number of people employed by different broad occupational groups in the Solent LEP area. It shows that there were over 110,000 jobs (19%) of all Solent LEP jobs in professional occupations in 2018. The top occupational category, managers & senior officials accounted for 55,000 jobs or almost 1 in 10 of all jobs.

Figure 3.7: Employment by Occupation in Solent, 2018
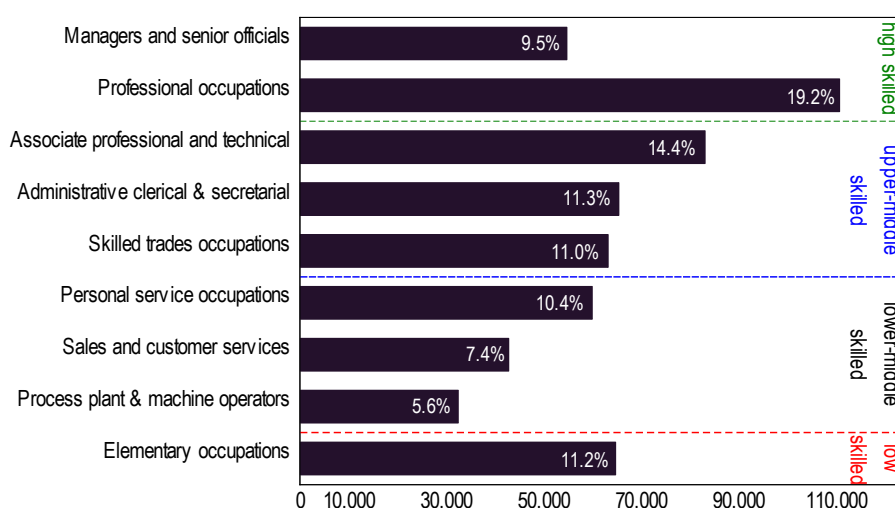
Source: ONS (2019)

Solent has a relatively high concentration of jobs in the upper-middle occupational categories that were acquired through post-compulsory education such as technical and trade occupations. Some 83,000 or 14.4% of all jobs were in associate professional & technical occupations. Skilled trades occupations alone accounted for 11% of all jobs in the Solent LEP area in 2018.

Personal service occupations account 10.4% of all jobs. The structure of the Solent LEP economy and its demographics imply that demand for lower-middle and low occupations is relatively high in the area. Sales & customer services occupations account for 7.4% of all jobs while process, plant & machine operators account for 5.6% of all jobs. Elementary occupations account for about 11% of all jobs in the area.

Approximately 29% of all jobs in the Solent LEP area relate to occupations that can be classified as high skilled occupations. A further 37% can be classified as upper-middle skilled occupations followed by approximately 23% in lower-middle skilled occupations. Almost 1 in 8 (11%) of all jobs in the area are related to low-skilled elementary occupations.

Solent LEP has a lower proportion of jobs in high skilled occupations than Dorset, Liverpool City Region or West of England LEPs. Its share of upper-middle skilled occupations is below Dorset but above other comparator areas in Table 3.1. Solent's concentration of lower-middle skilled occupations is comparable to the UK and above the South East average but below its comparator LEP areas. The share of lower-skilled occupations in the Solent LEP area is slightly below Liverpool City Region but above other comparator areas.

Table 3.1: Employment share by major occupational group: selected LEPs, 2018

Major Occupational Group	Solent	Dorset	Liverpool City Region	West of England	South East	UK
Managers and senior officials	9.5	12.3	9.4	9.8	11.6	10.8
Professional occupations	19.2	18.9	21.2	24.8	22.1	20.8
Associate professional and technical	14.4	13.8	13.5	16.3	15.4	14.6
Administrative clerical & secretarial	11.3	10.1	11.3	11.2	10.6	10.2
Skilled trades occupations	11.0	13.8	8.6	7.9	9.9	10.1
Personal service occupations	10.4	10.0	9.6	8.3	8.9	9.1
Sales and customer service occupations	7.4	6.4	8.1	6.9	7.6	7.6
Process plant & machine operators	5.6	4.8	6.6	5.4	4.6	6.4
Elementary occupations	11.2	9.8	11.7	9.5	9.3	10.4

Source: ONS (2019)

The top two high skilled occupations (managers & senior officials and professional, scientific & technical occupations) in the Solent LEP area were overrepresented in the broad public administration, defence, education & health, the broad financial & business services and transport & communications sectors according to 2011 Census. This is demonstrated in Figure 3.8 which shows occupation by major industry in the Solent LEP area. Agriculture, construction and the broad distribution, hotels & catering sectors all have lower proportions of highly skilled occupations.

Upper-middle skilled occupations (no. 3, 4 and 5 in Figure 3.8) are concentrated in construction, manufacturing, the broad public administration & defence (health and defence in particular) and in a range of other service activities. Lower-middle skilled occupations (no. 6, 7 and 8 in Figure 3.8) are concentrated in distribution, hotels & catering, agriculture, transport and manufacturing. Elementary occupations (no 9) are concentrated in distribution, hotels & catering and agriculture. There is little demand for elementary occupations in manufacturing, construction and the broad public administration, defence, education & health sector in Solent. Maritime sector is not captured in official data, but this

sector will have concentrations of occupations at high and intermediate level, from port managers, ship officers and engineers in senior and professional occupations through intermediate occupations in back-office and customer services and cargo handlers.

Figure 3.8: Occupation by Industry in Solent, 2011

Source: ONS (2019)
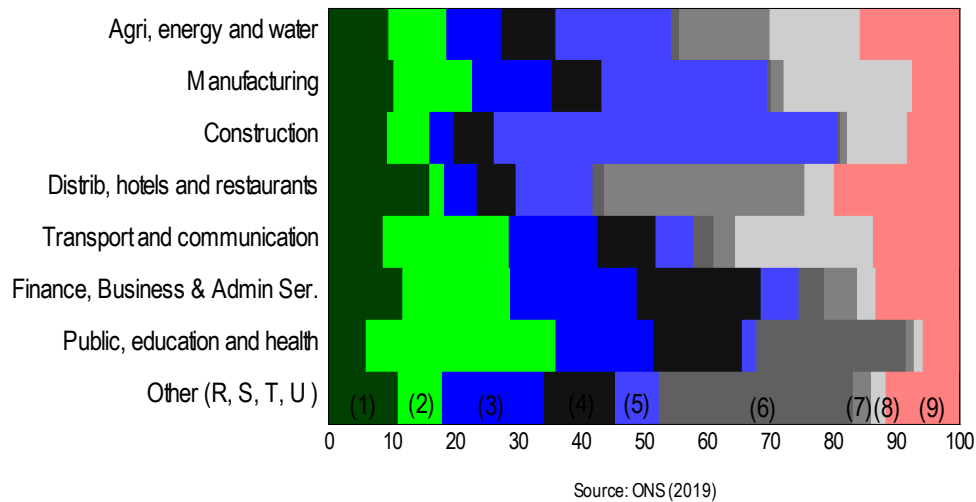
Note: (1) Managers and senior officials, (2) Professional occupations, (3) Associate professional and technical occupations, (4) Administrative clerical & secretarial occupations, (5) Skilled trades occupations, (6) Personal service occupations, (7) Sales and customer service occupations, (8) Process plant & machine operators, (9) Elementary occupations

Over the past couple of decades, we have witnessed rising demand for higher occupations (often used as a proxy indicator for higher skills) in the Solent LEP economy. This is illustrated in Figure 3.9 that shows changing occupational demand by major occupational category from 1981 through to 2036. The demand for higher-skill occupations (managers & senior official & professional, scientific & technical occupations) has increased from 18% in 1981 to over 27% by 2018. Independent occupational projections of the Solent LEP economy suggest the share of high-skill occupations in the Solent LEP economy is expected to reach 33% by 2036.

Figure 3.9: Changing occupational demand in Solent, 1981 to 2036

Source: ONS and CE (2019)

48
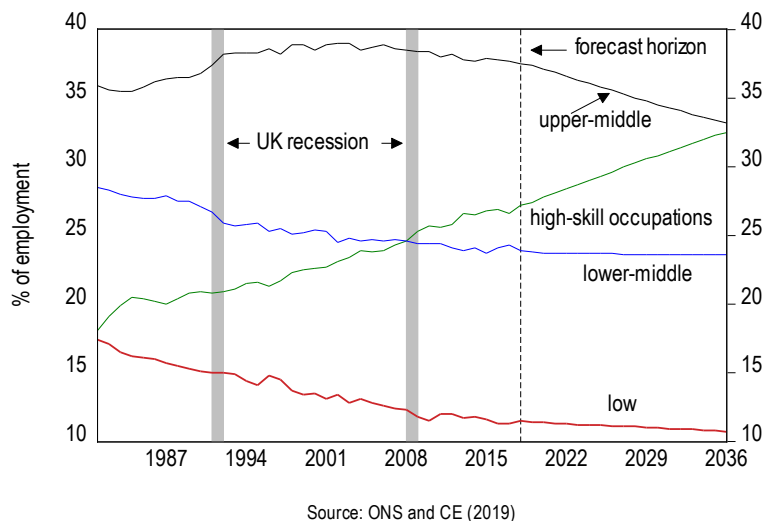
The share of upper-middle occupations in the Solent economy increased in the 1980's and it remained broadly unchanged between the last two recessions (1991/92 and 2008/9). Since the 2008/9 recession the share of this broad occupation category has decreased, and it is expected to decrease over the next 18 years. The share of upper-middle and lower (elementary) occupational groups in the Solent LEP economy has been decreasing but the share of the lower-middle occupations is projected to remain broadly unchanged in the future. The main reason behind this is found in falling manufacturing employment and in Solent's demographics (shifting demand for care and related occupations which are found in the lower-middle occupational category).

Given that skills are hard to define and hard to measure, occupational data is often used as a proxy indicator in the analysis of skills demand. Data on qualification attainment of people in employment is another proxy indicator that is frequently used to define skills demand. This indicator is of particular relevance here since one of the main objectives of the new Skills Advisory Panels is 'to assess the labour market and skills system of the local area and identify skills and employment priorities'.

3.3   Skills Demand by Industry and Occupation

This section presents the most likely scenario of future industrial and skills (occupational groups and qualification levels) trends up to 2028 and 2036. The key assumptions embedded in the Local Economy Forecasting Model (LEFM) of the Solent LEP economy are in line with the latest national, regional and local projections.[34]

We start by analysing skills (qualifications) demanded by Solent's industry which provides a benchmark for further analysis of skills demanded by Solent's occupations. There are stark differences in the distribution of qualification by industry in the Solent LEP area. This is illustrated in Figure 3.10 that shows skills (formal qualifications) demanded by industry in 2011. Timelier regional data suggests that we are continuing to witness rising demand for higher skills across all industries in the South East and most likely the Solent LEP area.

Education, professional, scientific & technical and information & communication sectors in the Solent LEP area have a high demand for the level 4+ or higher skills (higher education qualifications, degrees and higher degrees). Almost 60% of employees in education and professional, scientific & technical sectors respectively and 53% in information & communication had a level 4+ qualification in the Solent LEP area in 2011. Health & social work and public administration & defence also have a high requirement for higher-level skills (Figure 3.10).

The highest proportion of employees with Level 3 qualification (GCSE A-level or equivalent, grades A* to C) is found in accommodation & food and arts, recreation & entertainment (20% respectively). Almost 1 in 5 of all people in employment in the construction sector have an apprenticeship followed by 16.7% in manufacturing, 11.6% in transport & storage and 10.5% in accommodation & food. These sectors are concentrated in the Solent LEP economy relative to the South East and the national averages, and most are the sectors of strategic importance to the LEP economy.

---

[34] Summer 2019 Cambridge Econometrics (CE) forecast round.

Figure 3.10: Skills Demand by Industry, Solent 2011
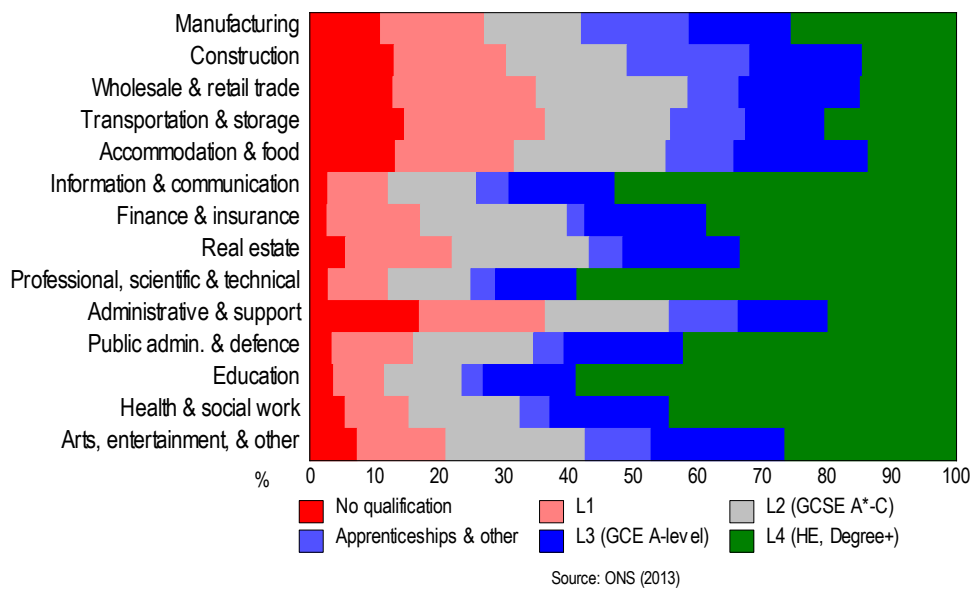
Level 2 skills (GCSE grades 4-9 or equivalent NVQ) are concentrated in wholesale & retail and accommodation & food with close to a quarter of employees having a level 2 qualification in Solent. There are also concentrations in finance & insurance and administrative & support services.

Level 1 (GCSE – grades 3,2,1 or equivalent NVA) qualifications are concentrated in wholesale & retail, transport and storage and administrative & support sectors. Administrative & support sector has a high concentration of employees with no formal qualifications, followed by a number of primary activities and lower value-added services (Figure 3.10).

Higher occupations tend to have a higher proportion of jobs that require higher-level skills. This is illustrated in Figure 3.11 that shows the distribution of formal qualifications by major occupational category in the Solent LEP area. In 2011, 84% of people in professional, scientific & technical occupational group had a level 4+ qualification. This is followed by 45% people holding associate professional & technical jobs and 40% of managers and senior officials.

Level 3 qualifications are concentrated in personal service occupations followed by sales & customer services, administrative, clerical & secretarial and associate professional & technical occupations. The highest concentration of apprenticeships is found in skilled trades occupations and process, plant and machine operators' occupations, the occupations associated with construction, manufacturing and logistics sectors.

The highest concentration of level 2 qualifications is found in administrative, clerical & secretarial and sales & customer services occupations followed by personal service occupations and elementary occupations. Level 1 qualifications are primarily found in the bottom three occupational categories in Figure 3.11 and administrative occupations. The bottom three occupational categories and skills trade have a high proportion of people with no formal qualifications. This ranges from 12% in skilled trades to 23% in elementary occupations.

Figure 3.11: Skills Demand by Occupation, Solent 2011
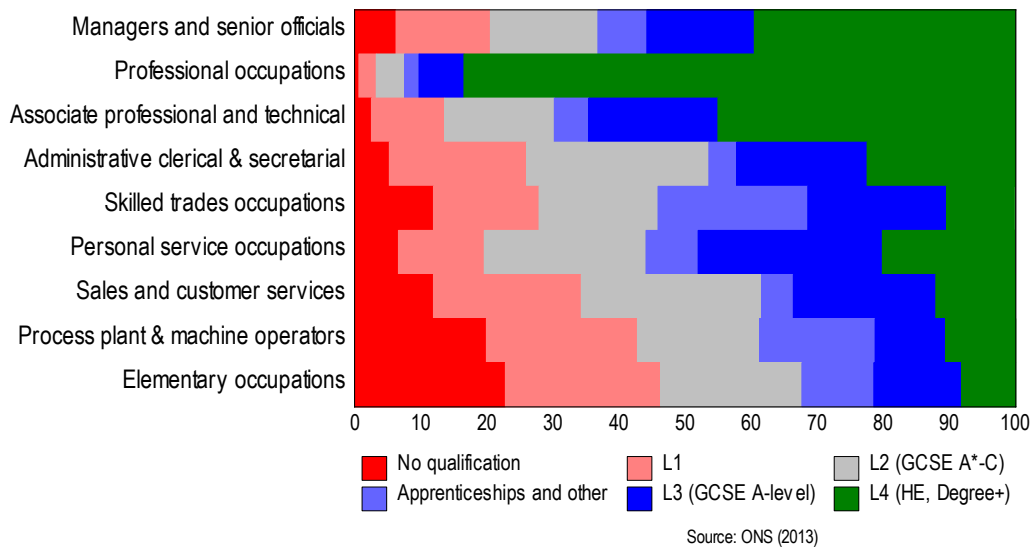
Earnings data is another alternative indicator of the value of skills (skills demanded) in an open labour market. However, the ONS Annual Survey of Hours and Earnings (ASHE) data by occupations is not available at the Local Enterprise Partnerships level.

3.4   Job Vacancies and Skills Demand

Employer skill surveys provide an alternative source of data on the types of job opportunities in the Solent LEP area and potential skills that are in demand. Figure 3.12 shows the proportion of establishments in the Solent LEP area that had vacancies in 2017 by sector, the number of vacancies and the share of the total number of vacancies in the Solent LEP by sector. Business services accounted for 3,500 job vacancies in the Solent LEP area or 22% of all vacancies. Some 17% of business services establishments had vacancies which was below the Solent LEP average.

Figure 3.12: Total vacancies in Solent by industry*, 2017

Source: ESS (2017)
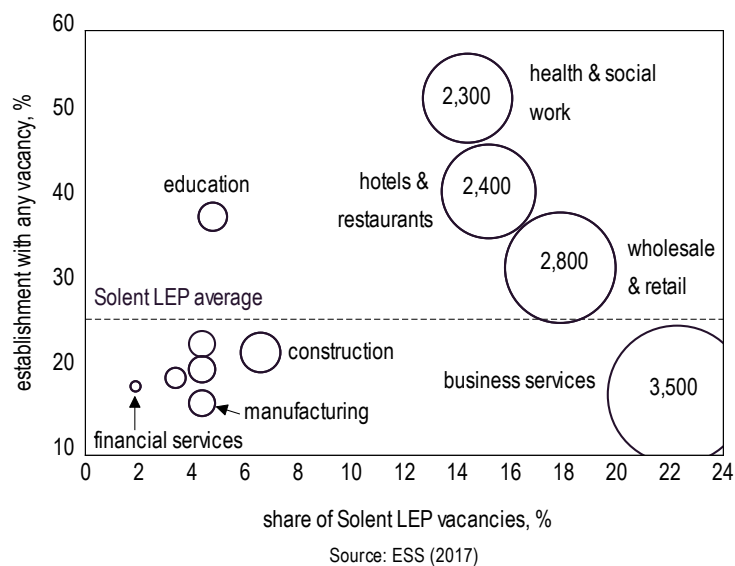
Large number of vacancies was found in several other large sectors such as wholesale & retail, hotels & restaurants and health & social work. Almost 40% of all educational establishments had vacancies but their number was small (750) and this sector accounted for just 4.8% of all vacancies in the area. Apart from health & social work and hotels & restaurants the level of vacancies in each sector broadly corresponds with the size of that sector in terms of the number of jobs in the Solent LEP area.

Solent had a higher number of establishments with vacancies than the UK average, the South East average and its comparator LEPs in England. These vacancies accounted for 4% of employment in the area which was slightly higher than in Liverpool City Region and comparable to all other areas (Table 3.2).

Table 3.2: Total vacancies: selected Local Enterprise Partnerships, 2017

	Solent	Dorset	Liverpool City Region	West of England	South East	UK
Establishments with any vacancies, %	26%	19%	23%	25%	20%	20%
Vacancies as a % of all employment	4%	4%	3%	4%	4%	4%

Source: ESS (2017)

Vacancy data is often used in the analysis of demand since this data can be taken as an indicator of growing demand for a particular moment in time. However, the level may also point to a high level of labour market turnover as this is most likely the case in wholesale & retail, hotels & restaurants and several other sectors.

3.5 Future Skills Demand

Demography, globalisation, competition and technological change are some of the most important drivers of changing pattern of demand for employment and skills in the Solent LEP area. Employment growth by sector and changes inside the sectors will drive future employment trends by occupation in the Solent LEP area. The available evidence suggests that changing occupational structure will in turn drive the demand for higher-level qualifications. Changing skills needs in the labour market are likely to lead to changes in job content and in type of job tasks performed in some occupations and sectors which will create a need for higher quality education and training.

Severe recession alongside behavioural impacts that might prevail in some sectors such as the cruise industry, aviation and tourism and hospitality might affect the demand for lower occupations more than occupations at the top of the occupational distribution. There could be fewer jobs in the future and there could be changes in demand for different skills types. In the case of some occupation this could mean less customer focused face-to-face interaction and more digital technological based interaction.

3.5.1 Expansion Demand and Replacement Demand

Future demand for labour in the Solent LEP area will come from two sources – future employment growth and the need to replace the existing workforce. Independent employment projections suggest that employment growth is likely to slow down following strong growth in employment since the 2008/9 recession. Over the long-term growth is likely to be dampened by demographic trends such as much

slower growth in the labour force. As shown in the first chapter the population of working age in the Solent LEP area is expected to peak at around 2029 which will also affect employment growth. Future employment growth by sector, also known as expansion demand, in the Solent LEP area is shown in Figure 3.13.

Figure 3.13: Expansion Demand, Solent 2018-2028 and 2018-2036

Source: CE (2019) LEFM Model of the Solent Economy
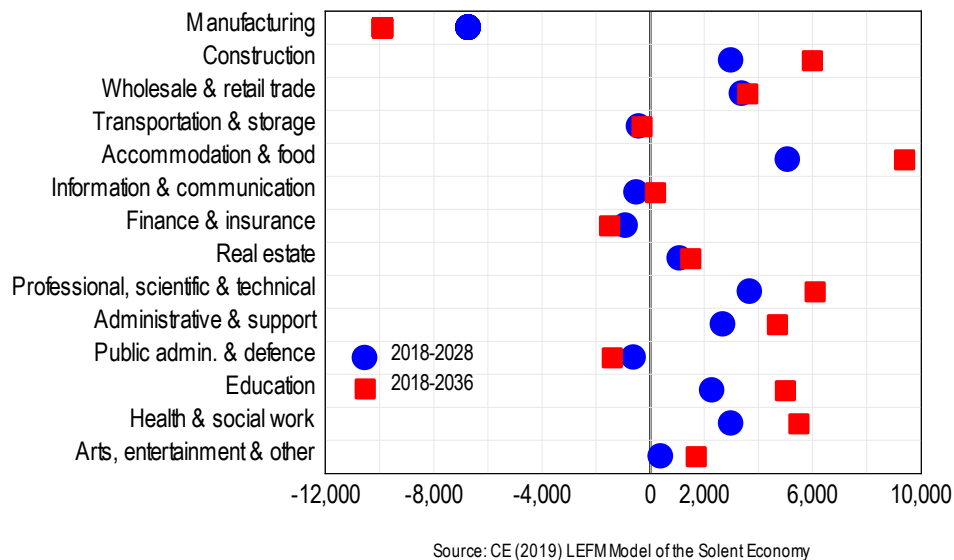
The strongest growth in the number of people in employment by 2028 and by 2036 is projected in accommodation and food. Total employment in this sector in the Solent LEP area is projected to increase by 5,100 by 2028 and by 9,400 by 2036. Professional, scientific & technical sector in the Solent LEP area is relatively small in comparison to the national average but this sector has seen a strong growth over the previous three decades and this sector is expected to expand strongly relative to other sectors in the area. Total employment in this sector is projected to increase by 3,700 by 2028 and 6,100 by 2036.

The wholesale & retail trade is the largest employment sector in the area. It is projected to increase the headcount by 2028 but employment in this sector is projected to decrease between 2028 and 2036. This is one of the sectors that is perhaps the most exposed to the combined impact of demographic factors, competition and technological change.

Construction has grown strongly in the past and this trend is expected to continue in the future with the increase in employment of 3,000 by 2028 and 6,000 by 2036. Health & social work, administrative & support services and education sectors are all expected to see the growth in employment over the medium to long-term in the Solent LEP area.

Information & communication is expected to shed employment over the medium term but over the longer-term employment in this sector is projected to increase in the area. Public administration & defence and finance & insurance are also expected to see small decreases in employment but by far the sharpest decrease in employment is projected for manufacturing. Manufacturing employment in the Solent LEP area is expected to decrease by 6,700 by 2028 and by 9,900 by 2036.

Figure 3.14: Projected Expansion and Replacement Demand in Solent
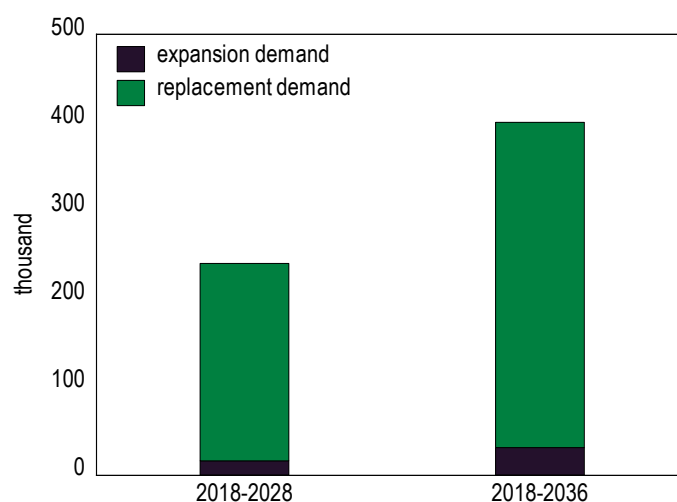
Source: CE (2019) LEFM Model of the Solent Economy

Expansion demand or the number of job openings that come from employment growth in the sector (or occupation) is one source of future demand for skilled labour. In any industry or occupation people that leave employment on either a temporary (maternity leave or sickness) or permanent basis (older workers retiring) will need to be replaced. This so-called replacement demand is the second source of job openings. Replacement demand in the Solent LEP area is expected to dwarf expansion demand in the Solent LEP area over the medium to long term. This is demonstrated in Figure 3.14 which shows the projected expansion and replacement demand in the Solent area over a 10-year horizon and over an 18-year horizon (up to 2036).

Total net job openings over a 10-year horizon in the Solent LEP area is projected at 240,000. Around 93.4% (14 in every 15) job opportunities in the area will become available due to replacement demand. Over a longer 18-year horizon the total net requirement is expected to be 400,000 with replacement demand accounting for 92.3% of all job opportunities in the area.

3.5.2 Net Skills Requirement by Occupation and Qualification

The latest data suggests that even in industries and occupations where employment levels are projected to decline quite rapidly replacement demand will lead to substantial numbers of projected job opportunities. This is demonstrated in Figure 3.15 which shows the projected expansion and replacement demand in the Solent area by occupation over a 10-year horizon.

Expansion demand is projected to be the strongest in the top two high-skilled occupational categories. The Solent LEP area is projected to see around 9,800 additional managers & senior officials over a decade which accounts for about a quarter of jobs that are expected to arise as a result of expansion demand. Professional occupations are projected to account for about a third or some 12,900 new job openings.

The rest of expansion demand is projected to be almost entirely met by two upper-middle occupational, namely associate professional & technical and personal service occupations. Associate technical & professional occupations are projected some 7,400 new job openings or 19% while personal service occupations are expected to account for 22% or about 8,600 new job openings.

Figure 3.15: Projected Expansion and Replacement Demand in Solent by Occupation

Source: CE (2019) LEFM Model of the Solent Economy
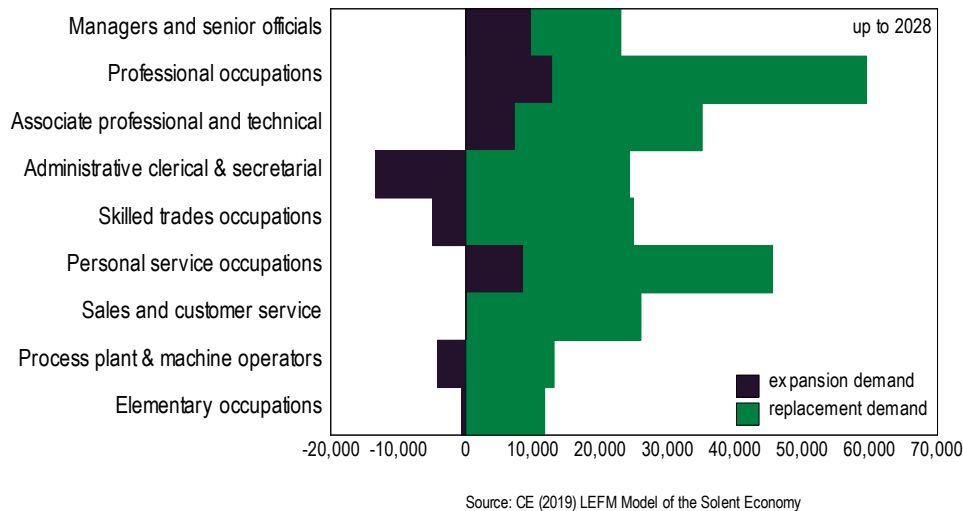
Sales & customer service occupations are projected a small increase in the number of new jobs but expansion demand in administrative, clerical & secretarial, skilled trades, process plant & machine operators and elementary occupations is expected to be negative over the next decade and beyond. Recruitment into declining industries and occupations could remain problematic and in Solent this is especially concerning in the areas of manufacturing and related activities that tend to have concentrations in skilled trades occupations and process, plant and machine operators occupations.

What is often less known is the fact these occupations are projected to see relatively strong growth in employment thanks to the strong growth in replacement demand. Replacement demand in skilled trades occupations is projected at 24,900 with some 13,100 job openings expected in process, plant and machine operators (Figure 3.15). Administrative clerical and secretarial and elementary occupations are projected to see 24,300 and 11,700 job openings respectively from the need to replace existing workers. The share of replacement demand in the overall job demand is expected to be the lowest for managers & senior officials and professional occupations at 57% and 78% respectively.

Professional occupations are projected to account for almost one in four of the overall net job demand (expansion demand plus replacement) demand in the Solent LEP area, followed by 19% in personal service occupations, 15% in associate professional & technical occupations and about 10% in both managers & senior officials and sales & customer service occupations.

We can use our knowledge of the skills requirements by occupation to turn these net job requirements into skills requirements. This is demonstrated in Figure 3.16 which shows the projected demand for skills by skill level over a 10-year horizon in the Solent LEP area.

Figure 3.16: Projected demand by skills level in Solent, 2018 - 2028

Level 2 , 49,200

Level 3 , 45,500

Level 4 , 93,600

Level 1 , 34,800

No qual, 17,100
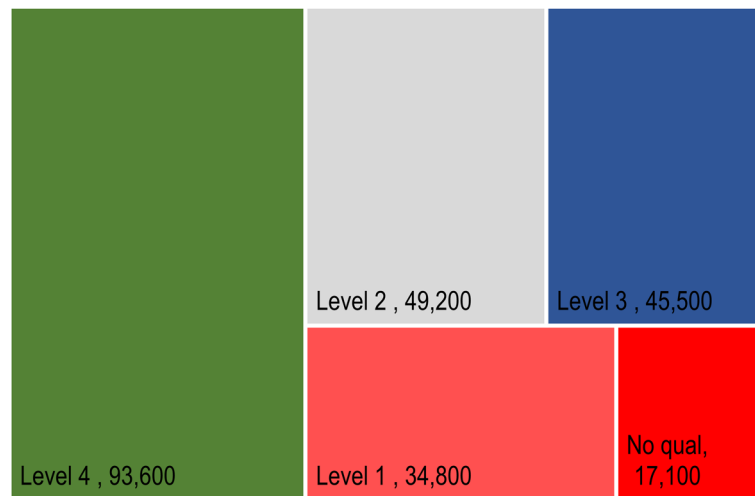
Source: CE (2019) LEFM Model of the Solent Economy

Out of 240,200 net job openings in the Solent LEP area over the next decade at least 93,600 jobs, or 39% of all jobs, are projected to require a level 4+ or higher skills. Level 3 and level 2 skills are projected to account for 46,000 and 49,000 job openings or around 19% and 20% respectively.

Apprenticeships are expected to account for about 8% of the overall demand. In Figure 3.16 apprenticeships have been split 50:50 between level 2 (lower apprenticeships) and level 3 (higher apprenticeships). Demographic and industrial structure of the Solent LEP economy implies that around 35,000 job openings is expected for people with level 1 skills and 7.1% for people with no qualifications.

Figure 3.17: Projected demand by qualification level in Solent, 2018 - 2028

First degree & equivalent, 45,400

GCSE below grade C, 28,100

Higher degrees, 26,800

BTEC first diploma etc., 21,500

ONC, BTEC national etc., 28,400

GCSE grades A to C, 27,000

A level & equivalent, 15,700

HNC BTEC & RSA Higher etc., 11,400

BTEC first certificate...

HE below degr...

Nursing and teach...

G

G

Source: CE (2019) LEFM Model of the Solent Economy

56
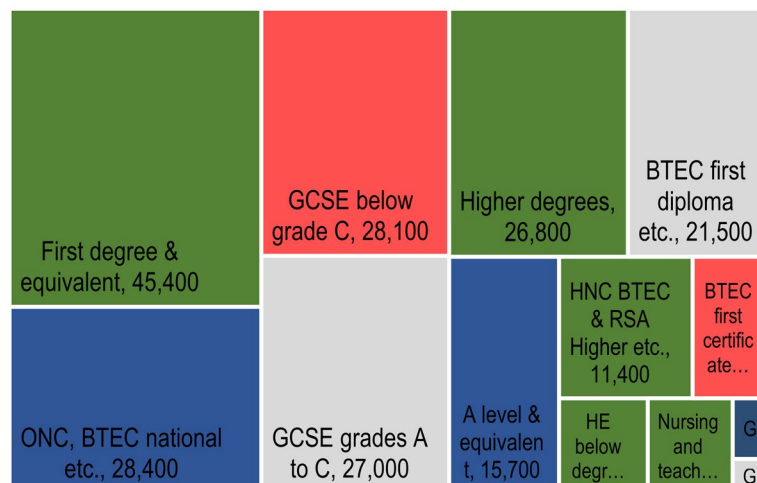
Figure 3.17 shows the projected demand for different qualifications in the Solent LEP area associated with these skill levels over a 10-year horizon. It suggests that the Solent LEP area will require a mixed workforce holding different qualifications. However, changes in job context and type of job tasks performed are expected to create a need for higher qualifications. First degree and equivalent qualifications and higher degrees are projected at 45,400 and 26,800 respectively but relatively strong demand is expected for other higher qualifications below degree level such as higher national certificates BTEC & RSA (11,400) and some nursing and teaching qualifications (4,900). Full details are available in the accompanying Qualifications Data Annex.

Figure 3.18: Projected demand by skills level in Solent, 2018 - 2036

Level 4 , 157,700
Level 2 , 81,100
Level 3 , 75,500
Level 1 , 57,700
No qual, 28,600
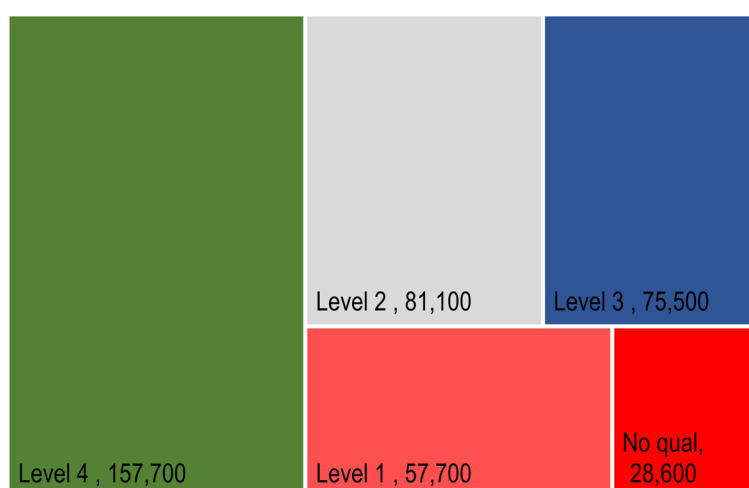
Source: CE (2019) LEFM Model of the Solent Economy

The projected demand by skills level over an 18-year horizon in the Solent LEP area is shown in Figure 3.18. The demand for skills over the long run is expected to shift further towards advanced level skills. Beyond 2028 and up to 2036 the share of the level 4+ skills is expected to increase in the Solent LEP area while the shares by all other skill levels are expected to decrease slightly. The largest decrease is expected for level 2 and followed by level 3 and level 1 skills. The share of the new jobs that require no formal qualifications is expected to remain steady at about 7%.

It is important to remember that these qualification requirements are indicative of the future skills needs. The supply of training can be inflexible, but the supply of labour is highly flexible for most industries and occupations. People work in sectors and occupations which do not relate directly to their training or qualifications. As people get older their experience becomes more important than their qualifications.

3.6   4th Industrial Revolution and Skills

The analysis in the previous section suggests that the Solent LEP area would require a balance of both degree-level or higher (Level 4+) and Level 3 intermediate (upper-intermediate and lower-intermediate) skills in order to support future demand that will come from both, expansion demand and replacement demand.[35]

Future economic growth in the Solent LEP are will be driven by several important drivers such as demographic change, technological progress, domestic and global competition and climate change. These factors will have significant impact on future employment and occupational structure and skills requirements in the Solent LEP area. One of the biggest unknowns associated with the future demand for skills is technological progress and in particular the unknown implications of automation (highly automated technologies such as the use of robots in services) on employment.

Over the past 200 years we have witnessed rapid advances in technology which have generally boosted productivity, living standards and job opportunities. The first two industrial revolutions have resulted in urbanisation of the workforce and have generally made people richer. The third industrial revolution gave rise to the era of high-level automation in production. It has generally boosted productivity and living standards but thanks to the ever-increasing integration of the global economy and rapid technological progress it has led to significant offshoring of manufacturing jobs from developed to developing economies.

We are now at the outset of the 4th industrial revolution which is characterised by a fusion of technologies such as artificial intelligence and advanced robotics that is blurring the lines between the physical and digital worlds.[36] The scale, speed and complexity with which the 4th industrial revolution manifests itself is unprecedented and its impact on economic growth and employment is uncertain. Those that believe that economic growth is driven by supply-side factors argue that there is nothing to fear since we have seen this before in previous industrial revolutions. Automation will boost productivity which will in turn result in lower prices and higher output. This will initially result in lower employment but once wages adjust employment will increase. With the pandemic and lockdown curtailing labour mobility the shift to automation is likely to accelerate with an increase in labour-replacing technology, especially in a recession and for certain types of jobs. Evidence suggests that most employment loss in routine occupations occurs in economic downturns[37].

The alternative view is that output and employment growth are driven by the demand side factors with income growth being the main driver of aggregate demand. The argument here is that this is happening too fast and there will be no time for the economy to adjust and this will depress employment. If automation were to increase productivity growth, the negative impact of automation on employment and in turn on income and consumption will still depress aggregate demand and output growth.

---

[35] Upper intermediate is NVQ Level 3 and Apprenticeships, while lower intermediate are NVQ Level 2 qualifications/skills
[36] BEIS (2019) *Regulation for the Fourth Industrial Revolution*, Department for Business, Enterprise, Innovation and Skills (BEIS) Policy Paper, June 2019.
[37] Jaimovich, N. and Siu, H.E. (2018) *Job Polarization and Jobless Recoveries*, Working Paper 18334. National Bureau of Economic Research, Cambridge Massachusetts

We do not know which of these two 'schools of thought' is right, but both suggest that the 4th industrial revolution and automation will pose a threat to some jobs and especially jobs whose features can be easily automated. Automation generally refers to the replacement of people working in some jobs by robots, artificial intelligence or machine learning technologies.[38]

The potential impact of automation on any economy is driven by its industrial and occupational structure and the relative proportion of jobs at high risk of automation in each of those sectors or occupations.[39] Frey and Osbourne (2013) were the first to provide a blueprint for the occupational-based approach to examining the impact of automation.[40] The study finds that 47% of American jobs are at high risk of automation by the mid-2030s. This does not imply that jobs in these occupations will get automated but compared with jobs in other occupations they are the most vulnerable to automation. Applying this methodology to the UK data generates an estimate of 35% of jobs. The probabilities of automation for a sample of occupations from the Frey & Osbourne (2013) study are shown in Table 3.3.

Table 3.3: Probability that computerisation will lead to job losses within the next two decades, (1-certain).

Job	Probability
Recreation therapists	0.003
Dentists	0.004
Athletic trainers	0.007
Clergy	0.008
Chemical engineers	0.02
Editors	0.06
Firefighters	0.17
Actors	0.37
Health technologists	0.4
Economists	0.43
Commercial pilots	0.55
Machinists	0.65
Word processors and typists	0.81
Real estate agents	0.86
Technical writers	0.89
Retail salespersons	0.92
Accountants and auditors	0.94
Telemarketers	0.99

Source: Frey, C. and Osborne, M. (2013)

A subsequent study by the Organisation for Cooperation & Development (OECD) used a task-based approach to estimate the risk of automation for jobs in 21 countries. The rationale behind the task-based

---

[38] Under automation we refer several technological trends such as nanotechnology, biotechnology, internet and other digital technologies that will have significant implications on skills demand and the composition of the workforce.
[39] PWC (2017) *Will robots steal our jobs? The potential impact of automation on the UK and other major economies*, PricewaterhouseCoopers LLP.
[40] Frey, C. B. and Osborne, M. A. (2013) *The future of employment: how susceptible are jobs to computerisation*? Oxford Martin Programme on the Future of Work, University of Oxford.

approach is based on the idea that automation of jobs depends on the tasks that are performed in jobs and how easily these tasks can be automated. According to this study only 9% of jobs are at high risk of automation and the potential for automating entire occupations is much lower than in the Fray and Osbourne study because certain part of 'bundles of tasks' are very hard to automate. Several other studies such as the PWC or the McKinsey study corroborate either the original Fray & Osbourne study or the OECD study.

Automation is often used to make firms and industries more efficient, not necessarily to replace people. It is important to recognise that technological progress does not necessarily only lead to job destruction, but may also lead to job creation as it gives rise to entirely new occupations.[41] Furthermore, exponential growth in technological power implies that it is becoming easier than ever to start up a business, bring new products to market and sell to hundreds of millions of people.

3.6.1 Automation and Future of Employment in Solent

A recent study by the UK Office for National Statistics (ONS, 2019) looks at the probability of automation in the UK across occupations and sub-areas (local authority districts). [42] This study is a modified version of the OECD approach which accounts for the fact that high risk occupations contain a share of tasks that would be difficult to automate. The ONS study finds that 7.4% of people in England were employed in jobs at high risk of automation (where the probability of automation is greater than 70%) but the estimate for 2017 is lower than for 2011. The same study finds that 27.7% of all employees were in jobs at low risk of automation (where the probability of automation is lower than 30%). This represents an increase on 2011.

The same study shows that women account for 70.2% of employees in jobs with a high risk of automation and 42.6% of employees in jobs at low risk of automation. People in part-time jobs seem to be more exposed to the high risk of automation (69.9%) than people in full-time employment. In 2017, younger people were proportionally more likely to be working in jobs at high risk of automation. People between the ages of 20 and 30 accounted for over 45% of the high-risk jobs. The share of the people in jobs at high risk of automation is the lowest for the 35 to 39-year olds. The risk then increases with age. The OECD study by Nedelkoska and Quintini (2018) has also found that the risk of automation is higher among young people's jobs than those of older workers.[43] The same study shows that the share of people in jobs at high risk of job automation decreases with age.

Employees with lower educational attainment below GCSEs (Level 2) and those with A-levels (Level 3) equivalent accounted for 59.8% and 39% of the jobs at high risk of automation respectively. The ONS study shows that 87% of jobs at low risk of automation were held by employees with a degree (Level 6) or higher qualification and that the probability of automation decreases as the proportion of employees in high-skill occupations increases. In industries where at least half of the workforce are high skilled their probability of automation is at least under 35%.

[41] Schneider, P. Bakhshi, H. and Armstrong, H. (2019) *The Future of Skills: Trends impacting on UK employment in 2030*, Nesta and Pearson.

[42] ONS (2019) *The probability of automation in England: 2011 and 2017*, UK Office for National Statistics, March 2019.

[43] Nedelkoska, L. and Quintini, G. (2018) *Automation, skills use and training*, OECD Social, Employment and Migration Working Papers, No. 202, OECD Publishing, Paris.

As shown in Figure 3.10 in the Solent LEP area these broad industries are information & communication (52.8%), professional, scientific & technical (58.6%) and education (58.7%). Two other sectors in the Solent LEP area have relatively high proportions of their workforce with a level 4+ qualification, health & social work at 44.5% and the broad public administration & defence 42.2%.

Figure 3.19: Probability of automation and employment in Solent, 2018
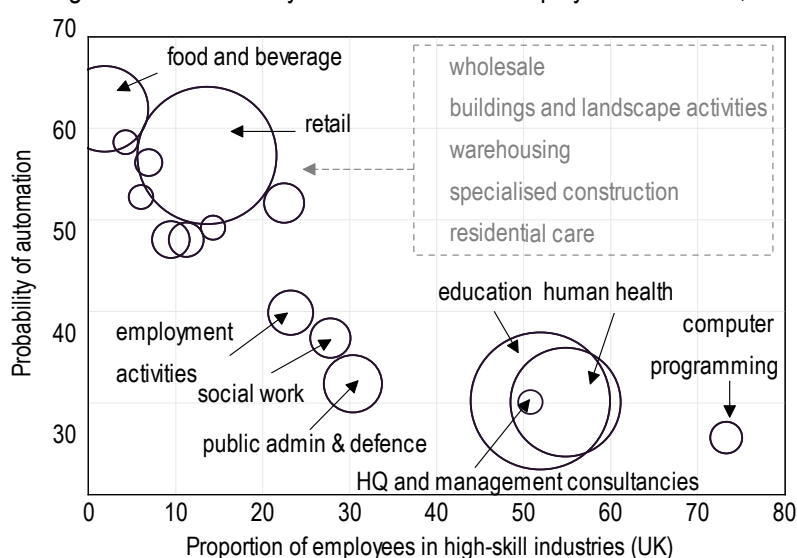
Source: ONS (2019)

The probability of automation has a linear relationship with the proportion of employees in high-skilled industries. This is demonstrated in Figure 3.19 which shows the probability of automation and the proportion of employees in high-skill industries in the UK alongside employment by industry in the Solent LEP area. Around 14% of the workforce in the retail sector is highly skilled and the probability of automation is around 58%. In employment terms this is a large sector in the Solent LEP area. Jobs in food and beverage services activities, accommodation, wholesale, warehousing & support activities for transportation activities are more exposed to automation than other activities. Several manufacturing activities (sub-sectors) are also associated with a high probability of automation, but they are relatively small in the Solent LEP area. It could be argued that automation has run its course in many manufacturing activities in Solent and the rest of the UK, but this process is expected to continue as shown in the latest projections (projections of expansion demand).

Skills and tasks that are associated with fairly routine and manual occupations are more likely to be automated, which is to be expected. This is demonstrated in Table 3.4 which shows words associated with occupations that are more likely to be affected by automation. At the opposite end are tasks and skills associated with management, planning and advisory occupations which are less likely to be automated.

Table 3.4: Words associated with occupations at high and low probability of automation

High probability of automation	Frequency	Low probability of automation	Frequency
machine	128	plan	72
operate	64	patient	62
clean	58	research	56
equipment	58	treatment	48
load	52	prepare	46
material	48	advise	44
good	42	monitor	44
check	36	service	40
vehicle	34	staff	38
hand	34	report	38
remove	34	client	36
assist	32	liaise	34
prepare	30	progress	34
control	30	professional	32
article	28	health	32
product	28	administers	30
machinery	28	social	30
customer	28	policy	30
monitor	28	student	30
tool	26	care	30
		development	26

Source: ONS (2019) and Frey and Osborne (2013)

The estimate of the probability of automation and the number of associated jobs that might be at high risk of automation for the Solent LEP area is not available. Incomplete local authority estimates suggest that in 2017 the probability of automation in the Solent LEP area ranged from 41.6% in Portsmouth to 48.4% in Eastleigh. This is demonstrated in Table 3.5. Almost 14% of jobs in Eastleigh are estimated to be at a high risk of automation compared to 4.9% in Portsmouth and 8.7% in Southampton and the Isle of Wight respectively. Relatively high concentrations of transportation and storage jobs in Eastleigh is one of the main factors that accounts for a relatively high share. Transportation and storage are sectors with the highest percentage of jobs at high risk of automation within the next 20 years according to Deloitte.[44] On the other hand, over a third of all jobs in Portsmouth are at a low risk of automation compared to about 18% in Havant.

It is important to remember that these estimates do not point to future job loses within the Solent LEP area. They merely suggest that places such as Gosport have a high concentration of industries and occupations that are at a higher risk of automation. The ONS estimates suggest most regions with a low probability of estimation are in the South East and London and that the proportion of jobs that are at a high risk of automation has decreased between 2011 and 2017. Furthermore, between 2011 and 2017

---

[44] Deloitte (2016) *Transformers: How machines are changing every sector of the UK economy*, Deloitte LLP.

we have seen jobs growth in several occupations associated with one of the highest probabilities of automation.

Table 3.5: Probability of automation in Solent by place of work, 2017

	Probability of automation	Number of (main) jobs at low / medium / high probability of automation				Proportions of jobs		
		Low	Medium	High	Total	Low	Medium	High
Eastleigh	48.3%	5,000	15,000	3,000	24,000	21.8%	64.5%	13.7%
Havant	47.7%	8,000	32,000	n/a	42,000	18.2%	75.2%	n/a
Fareham	43.9%	14,000	33,000	n/a	49,000	28.4%	66.9%	n/a
Gosport	48.4%	n/a	11,000	n/a	14,000	n/a	75.2%	n/a
New Forest	47.0%	10,000	37,000	5,000	53,000	19.2%	70.4%	10.4%
Portsmouth	41.6%	34,000	61,000	5,000	100,000	34.1%	61.0%	4.9%
Southampton	43.9%	39,000	78,000	11,000	128,000	30.5%	60.8%	8.7%
Isle of Wight	46.6%	9,000	26,000	3,000	38,000	23.8%	67.5%	8.7%
England						27.7%	64.9%	7.4%

Source: ONS (2019)

This process has already transformed some sectors in the Solent LEP area. For example, relatively large manufacturing and logistics sectors in the Solent LEP have already been significantly transformed by technological advances and they are likely to be affected in the years to come.

Maritime autonomy will accelerate as the sector shifts to greater digitisation and more autonomous and remotely operated vessels, as well as utilising autonomous onshore operational systems for mooring vessels to quays and docks (Smart ports). The use of new, innovative technologies will also be required to meet new environmental targets.[45]

The Government's Maritime 2050 Strategy highlights the changing nature of work and identities new technologies, such as autonomous systems as instrumental to reshaping the maritime workforce. As a result, Solent businesses have a part to play in influencing the pipeline of young people to acquire the skills the maritime industry requires. Maritime UK's careers portal is a good example of where this work is already being taken forward. [46] Going forward the local skills system will need to adapt developing a curriculum that responds to the changing needs of the economy in general and maritime in particular.

Over the short-to-medium-term jobs will inevitably be lost in the Solent LEP area as machines replace some human activities. However, it is likely that this process will create opportunities elsewhere, but those opportunities are likely to require different skills. The challenge here is to identify what skills will be needed in the Solent LEP economy in the future. Again Covid-19 and subsequent recession is likely to accelerate this process.

---

[45] Department for Transport (2019) *Maritime 2050 Navigating the Future*, January 2019
[46] https://www.maritimeuk.org/careers/

3.7   Skills for the Future

These recent studies on the impact of automation have largely ignored other relevant trends that will affect employment and skills demand such as demographic factors (populations ageing), globalisation or climate change and the rise of the green economy. In these studies, there was little focus on the potential effects of automation on job creation.

A recent study by Pearson and Nesta (Bakhshi, et. al. 2017) used a new method to map out the likely change in employment and implication for skills.[47] This study suggests that 10% of jobs are likely to grow in the future and 20% are likely to shrink which suggest that for 70% of jobs it is uncertain to know what the future holds for them. An ageing population implies that education, health care and occupations in the wider public sector are likely to grow which is good news for the Solent LEP economy since these sectors and occupations account for a significant share of employment in the Solent LEP area. These occupations tend to be labour intensive or involve tasks that are less susceptible to be automated. Several non-tradable elementary services and hospitality occupations will all likely grow in importance. Many of these jobs are poorly paid and filled by migrant labour so Brexit may have an impact on recruitment and skills supply. The study argues that many low and medium skilled occupations such as those that are typically found in manufacturing are expected to become less important in the workforce as a result of technological change and globalisation. The same is true of administrative, secretarial and some sales occupations. These results are broadly consistent with the estimates obtained from a LEFM of the Solent economy (expansion and replacement demand) shown in Section 3.5.

Survey evidence suggests that nearly 50% of companies surveyed by the World Economic Forum expect that automation will lead to some reduction in their full-time workforce by 2022 but 38% of businesses expect to extend their workforce to new productivity-enhancing roles, and over 25% expect automation to lead to the creation of new jobs.[48] Companies expect a significant shift to occur over a relatively short horizon. By 2022 some 42% of task hours are expected to be performed by machines across the 12 industries covered in the report, from 29% in 2018.

Digitalisation of many jobs in the UK and the Solent LEP area has already taken place but as artificial intelligence continues to develop this process this is expected to intensify. Several studies have shown that 80% of middle-skilled roles are digitally intensive, and that these jobs are growing twice as fast as those not requiring digital skills.[49] Identifying skills for the future is a challenging task but the Pearson and Nesta study shed some light on growing demand for 'soft skills' that will be in demand in the future. Alongside a broad-based knowledge, interpersonal skills and cognitive skills are going to be increasingly important, perhaps the things that robots cannot do. It is things like judgement and decision-making, problem solving and creativity that are going to be in high demand in the future and across jobs (Table 3.6).

---

[47] Bakhshi, H. Downing, J. M. Osborne, M. A. and Schneider, P. (2017) *The Future of Skills: Employment in 2030*, London, Pearson and Nesta.

[48] World Economic Forum (2018) *The Future of Jobs Report 2018*, Insight Report, Centre for the New Economy and Society.

[49] Cowen, J. and Morrin, M. (2019) *Skills for Jobs that don't yet exist: A new system for the fourth industrial revolution*, ResPublica, December 2019.

Table 3.6: Skills most likely to be in greater demand up to 2030

Judgement and Decision Making	Originality
Fluency of Ideas	Learning Strategies
Active Learning	Deductive Reasoning
Systems Evaluation	Complex Problem Solving

Source: Pearson and Nesta (2017)

Similar conclusions are reached in research undertaken by the World Economic Forum which points to a rapid change in 'soft skill' requirement over a short period of time (Table 3.7). For example, creativity is to become more important as negotiation and flexibility become less important due to the impact of automation.

Table 3.7: Skills requirements for the future of jobs

In 2015	In 2020
1. Complex problem solving	1. Complex problem solving
2. Coordinating with others	2. Critical thinking
3. People management	3. Creativity
4. Critical thinking	4. People management
5. Negotiation	5. Coordinating with others
6. Quality Control	6. Emotional intelligence
7. Service orientation	7. Judgement & decision making
8. Judgement and decision making	8. Service orientation
9. Active listening	9. Negotiation
10. Creativity	10. Cognitive flexibility

Source: World Economic Forum (2018)

The true extent of the 4th industrial revolution on employment remains unknown but as stated in a recent report by Cowen and Morrin (Cowen and Morrin, 2019) 'we will need a new system that allows us to retrain, shift careers and gain new skills to thrive in this new world'. One of the challenges will be to make education and training programmes sufficiently broad based so that participants are not overly tied to a particular occupation. The current skills supply tends to be inelastic, and this lag in skilling/re-skilling is one of the biggest challenges facing both modern businesses and education and training providers in the Solent LEP area and elsewhere in the UK. The fully analysis of what training provision should look like is beyond the scope of this paper. This issue will be covered in subsequent research and policy papers by the Solent LEP and the Skills Advisory Panel.

4 The Supply of Skills in the Solent

- The Solent has over 274,000 residents of working age educated to a degree or higher qualification, 55,000 more than in 2011. Advanced qualifications form the bedrock to a productive workforce and for faster economic growth. The gap between Solent and the UK has narrowed but to reach comparative rates with the UK and South East the Solent needs more residents with degrees or equivalent advanced qualifications.

- Solent has more working age residents with intermediate skills (309,300) than advanced or low skilled and above the national and South East averages. There has been little change in numbers since 2011. However, several priority sectors such as tourism, transport & logistics and parts of advanced manufacturing require intermediate skills.

- The Solent has an estimated 137,500 low skilled working age residents. The number of low skilled residents has decreased by approximately 47,000 since 2011. The gap with the UK has narrowed but half of the eight sub-areas have above national rates for low skilled residents.

- Approximately 11,000 pupils in state schools in Solent are eligible each year to take GCSE or equivalent examinations. Solent underperforms against the national average on the attainment of young people. Nonetheless most school leavers will go on to study at an education destination (6th Form/FE college).

- The most recent DfE Further Education (FE) data shows approximately 130,000 further education starts and about 98,500 further education achievements in the Solent LEP area in 2017/18. By the four main FE components, Education & Training was the largest with about 106,000 starts and 79,500 achievements, then Community Learning (13,000 starts and 10,750 achievements). Next, nearly 10,000 Apprenticeship starts and about 7,430 achievements. Lastly, the Traineeship Component accounted for just 0.8% of both further education starts and achievements respectively (or 1,050 starts and 743 achievements respectively).

- The number of apprenticeships starts in the Solent LEP area has decreased since 2014/15 but the number of achievements has increased. The area has seen rising numbers of advanced and higher apprenticeship achievements.

- The Solent LEP area has131 FE providers that act as an important bridge for those looking to progress to higher education (HE). The top ten education & training providers accounted for 76,257 starts or 71.9% of all starts from the Solent LEP area.

- The three universities in Solent have combined approximately 60,000 students. the University of Southampton is ranked 20th out of 131 UK institutions and ranked 2nd in the South East behind Oxford. Portsmouth and Southampton are placed in the bottom 10 cities for graduate retention.

- By volume business and administration studies is the most popular subject across Solent at over 9,100 students, followed by engineering and technology (7,250) the strongest of the STEM subjects. However, STEM is underrepresented in mathematical sciences.

- On average an estimated 30% of disadvantaged pupils with a Level 3 qualification will go on to higher education compared to 40% for pupils not from disadvantaged backgrounds. On both measures this is below the national average.

- The Solent has an estimated 640 NEETS, which equates to 2.8% and is above the England (2.6%) and South East (2.4%) averages. This is mostly down to higher NEET rates in Havant, Portsmouth and Southampton.

One of the key strategic priorities for the Solent LEP area is investment in skills which is needed to boost competitiveness of the area and ensure sustainable rates of growth. Upskilling of resident population is not only an objective of economic policy but also an objective of social policy in the area. In terms of equity, improving the skills of the low-skilled (including older workers), will not only affect economic growth but it also works to improve employment and the general distribution of incomes in the Solent LEP area. There is ample evidence that individuals' skills are rewarded in the labour market and, by ensuring Solent residents can participate in the modern high-tech economy, help raise the bottom end of the income distribution.

Differences in the rates of economic growth within the Solent area can be in large parts explained by spatial disparities in the distribution of human capital of its residents. However, improving resident skills can be difficult in the short-term because education and skills policies, unlike markets and business needs, are relatively inelastic. This is because the challenges facing education and skills are multifaceted and less responsive to sudden shifts in demand. The impact on investment and interventions in education and skills will often only be evident in future years. As improvement to the skills system will take time policy responses to evident shortfalls will require a long-term perspective.

It will take time for today's young people and students to enter the labour market in future years and for new, higher-skilled entrants to account for a substantial share of the Solent workforce due to the constant churn in the labour market. This needs to be borne in mind when assessing changes to the population outlined in Section 2 and in educational attainment against the demand for skills outlined in Sections 3.

The skills supply section has three broad themes. The first looks at skills in the workforce based on resident working age (16 to 64-year olds) by highest qualification and subsequently grouped under advanced, intermediate and low skills.[50] The second theme examines the skills system and local provision in Solent that will be key to current and future skills supply to meet changing demand. This theme looks at the attainment of young people, further education by major category including apprenticeships and higher education in Solent.

The final theme looks at skills deprivation and inequality by looking at residents outside the skills system and the local areas characterised by education & skills disadvantage. The primary indicators used in this section are those young people Not in Education, Employment, or Training (NEET) and measures of relative place-based deprivation using the 2019 Indices of Deprivation (2019 IMD).

4.1 Skills in the Workforce

Education is an important determinant of economic growth. Higher levels of educational attainment result in a more skilled and productive workforce that forms the bedrock of economic competitiveness and faster economic growth which leads to higher living standards. Through mostly general taxation the UK Government funds the education system to raise the knowledge and skills (human capital) of the population on the one hand, but also promoting social mobility on the other. Nonetheless, the rising cost of higher education met principally through student loans may have disproportionately impact on low income and debt averse households, which could reduce both future skills supply and social mobility.

---

[50] Advanced skills are NVQ4+, intermediate skills are NVQ Level 3 and NVQ Level 2 and Trade Apprenticeships, and Low skills are NVQ Level 1 and below.

As shown in the previous section globalisation and innovation driven by technological change have also been powerful drivers of economic growth that impact on the labour market in two critical ways. Firstly, by requiring a higher supply of workers with advanced skills and secondly in hollowing out intermediate and low skilled occupations through automation and offshoring. A side effect of this has been a gradual rise in the number of over-qualified and under-utilised employees in several occupations.

Table 4.1: Working Age Resident Highest Qualification – Solent, 2018

	NVQ 4+	NVQ 3	NVQ 2	Trade Apprenticeship	NVQ 1	No Qualification	Other qualifications
Solent LEP	274,100	154,100	128,800	26,400	95,800	41,700	45,900
Eastleigh	41,300	14,700	10,500	~	7,700	2,300	2,700
Fareham	27,400	14,100	13,200	~	6,800	1,300	5,100
Gosport	10,200	12,500	10,400	4,600	10,100	3,700	2,500
Havant	16,500	12,000	16,500	3,500	12,900	5,900	7,400
Isle of Wight	22,700	17,400	13,500	2,900	11,200	4,500	4,200
New Forest	39,300	15,200	16,800	4,000	14,000	4,000	4,100
Portsmouth	50,800	29,600	23,600	4,000	15,700	9,900	9,300
Southampton	65,800	38,600	24,200	5,800	17,500	10,100	10,600
South East	2.3million	1.0 million	869,400	152,700	569,600	312,900	287,800
UK	16.1 million	6.9 million	6.5 million	1.2 million	4.3 million	3.3 million	2.8 million
Dorset	156,700	97,200	75,100	19,900	51,200	22,600	22,700
Liverpool CR	318,300	170,000	187,400	28,300	96,300	103,500	62,800
WO England	338,400	135,600	100,300	23,900	63,800	28,600	40,600

Source: ONS (2019). ~ Estimate and confidence interval not available since the group sample size is zero or disclosive. CR (Liverpool City Region), WO (West of England).

The Solent LEP has 274,100 working age (16-64 years) residents whose highest qualification is NVQ4+; the equivalent of an HNC (Level 4), first degree (Level 6) or comparable qualification up to doctoral qualifications (Level 8). One in every eight of the 2.3 million South East working age residents with an NVQ4+ qualification comes from the Solent LEP area (Table 4.1).

The proportion of people of working age with advanced skills in Solent stands at 35.8%, below the national (39.2%) and South East region (42.2%) averages. Against the LEP comparator areas the Solent has fewer graduate residents than the Liverpool City Region (318,300) and West of England (338,400), but the Solent has over 117,000 more working age graduates than neighbouring Dorset. Compared to the LEP comparator areas the Solent advance skills rate (35.8%) is much lower than the West of England (46.3%). In contrast, Solent has higher rates compared to Dorset (35.2%) and the Liverpool City Region (32.9%). Two out of every five Solent residents with an NVQ4+ resides in Portsmouth and Southampton, which is also where the three Solent universities are located. Eastleigh and the New Forest also have a sizeable NVQ4+ population at 41,300 and 39,300 respectively although, unlike the other Solent districts, both have seen significant increases for 2018 NVQ4+ against previous years that are not easily explained[51].

As a proxy of educational equity, the ratio of residents with high to low qualifications in the Solent is 2.0 and broadly in line with the national average (2.1). The Solent is also close to Dorset at 2.1 but quite

---

[51] Although the confidence level is marginally wider in 2018 than in previous years i.e. less reliable, this alone wouldn't necessarily be enough for example, to explain the sudden increase in NVQ4+ for Eastleigh from 26,000 to 29,000 working age residents over the period 2011-2017 but to 41,300 in 2018. As such, Eastleigh and New Forest data should be interpreted with a degree of caution.

different to the Liverpool City Region (1.6 and the closest to educational equity) and to the South East region (2.7) and the West of England (3.7 and the least educational equity).

Table 4.2: Working Age Resident Qualification Rates (%) 2018

	Solent	Dorset	Liverpool City Region	West of England	South East region	UK
Level 4+ (advanced)[52]	35.8	35.2	32.9	46.3	42.2	39.2
Level 3 only (intermediate)	20.1	21.8	17.6	18.6	18.3	17.0
Level 2 only (intermediate)	16.8	16.9	19.4	13.7	15.7	15.8
Trade Apprenticeship (intermediate)	6.0	5.1	6.5	5.6	5.2	6.7
Level 1 only (low)	12.5	11.5	10.0	8.7	10.3	10.4
No qualification (low)	5.4	5.1	10.7	3.9	5.6	8.0
Other	3.4	4.5	2.9	3.3	2.8	3.0
Ratio High to Low	2.0	2.1	1.6	3.7	2.7	2.1

Source: ONS (2019)

While the Solent (35.8%) has a similar proportion of residents with an NVQ4+ qualification as Dorset (35.2%), the Solent is lower than the national average (39.2%). In the case of the Liverpool City Region, the lower ratio is due to both a lower share of NVQ4+ residents but also a higher share for low qualifications (Table 4.2). For the South East region and especially the West of England the opposite is true with each having much higher shares of NVQ4+ qualified residents and fewer low skilled residents.

Locally there are larger disparities across the skills distribution in Solent, with Eastleigh and Fareham having much wider ratios between high and low skilled residents (Table 4.3). In contrast, Gosport and Havant have much narrower ratios. Although Eastleigh and Fareham have a greater proportion of residents with an NVQ4+ it is a much lower share of residents with an NVQ1 or no qualification that makes the difference. This is also why the New Forest with an equally high proportion of NVQ4+ (40.4%) but with a high proportion for low skilled residents has a ratio closer to the national average, rather than with Eastleigh or Fareham.

Table 4.3: Solent sub-area Resident Qualification Rates (%) 2018

	NVQ4+	NVQ 3	NVQ 2	Trade Apprenticeships	NVQ 1	No qualification	Other	Ratio High to low
Eastleigh	51.9	18.5	13.1	~	9.7	2.8	3.3	4.2
Fareham	39.7	20.4	19.2	~	9.9	1.9	7.4	3.4
Gosport	18.9	23.1	19.2	8.5	18.6	6.9	4.7	0.7
Havant	22.1	16.1	22.1	4.7	17.3	7.9	9.9	0.9
Isle of Wight	29.8	22.8	17.7	3.7	14.6	5.9	5.5	1.5
New Forest	40.4	15.6	17.3	4.1	14.4	4.1	4.2	2.2
Portsmouth	35.6	20.7	16.5	2.8	11.0	6.9	6.5	2.0
Southampton	38.1	22.4	14.0	3.4	10.1	5.8	6.2	2.4

Source: ONS (2018)

---

[52] High and low skills take the UK Commission for Employment and Skills (UKCES) definition where high skill is Level 4+ and low skills is below NVQ 2 i.e. Level 1 and No qualification.

The 51.9% of NVQ4+ residents in Eastleigh should be read with a degree of caution due to small sample sizes. In contrast, Gosport and Havant have lower shares with NVQ4+ qualified residents but higher proportions with an NVQ1 or No qualification.

Qualification levels that are used as a proxy for skills in the Solent LEP area can be more easily understood if grouped into three broad skill levels. At the top end are advanced skills (NVQ4+), then intermediate skills (NVQ2-3 & trade apprenticeships) and low skills (NVQ1 & No qualification). Other qualifications are excluded from the broad groupings, of which there are an estimated 45,000 residents.

Using this typology Solent has more working age residents with intermediate skills (309,300), followed by advanced skills (274,100) and far fewer with low skills (137,500).This profile is dissimilar to the national, South East region and West of England where working age residents with advanced skills are more numerous than those with intermediate skills (Table 4.4). If the NVQ4+ data for Eastleigh is taken at face-value then this too is different in the same way to the Solent profile. In most cases, intermediate skills represent the most working age residents. In Fareham the number of working age residents with advance or intermediate skills is effectively the same.

Table 4.4: Broad skills level in 2018

	Advanced	Intermediate	Low
Solent LEP	274,100	309,300	137,500
Eastleigh	41,300	25,200	10,000
Fareham	27,400	27,300	8,100
Gosport	10,200	27,500	13,800
Havant	16,500	32,000	18,800
Isle of Wight	22,700	33,800	15,700
New Forest	39,300	36,000	18,000
Portsmouth	50,800	57,200	25,600
Southampton	65,800	68,600	27,600
South East	2.3million	2.0 million	882,500
UK	16.1 million	14.7 million	7.6 million
Dorset	156,700	192,200	73,800
Liverpool CR	318,300	385,700	199,800
WO England	338,400	259,800	92,400

Source: ONS (2019). Advanced (NVQ4+), Intermediate (NVQ3, NVQ 2 & Trade Apprenticeship), Low (NVQ 1 & No qualification).

4.1.1 Advanced Skills

A significant trend of the last hundred years has been the considerable expansion in university participation, notably in the UK since the 1990s onwards, that has seen an uplift in those with degrees or advanced vocational qualifications.

The Solent has an estimated 274,100 working age residents in 2018 with an advanced qualification, representing over one in every three working age Solent residents. There are sub-area disparities. Districts in the east of Solent have lower rates than both the UK and South East region average while only Eastleigh is above both benchmarks (Figure 4.1).

Figure 4.1: Advanced Skills 2018 (% working age)
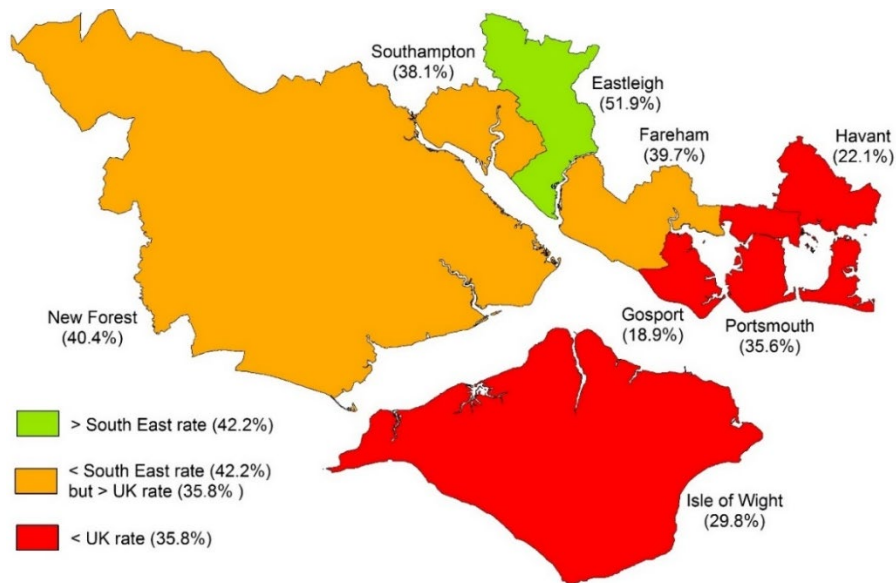
Source: ONS (2019)

The gap between Solent and the UK has narrowed between 2011 and 2018 and in a positive direction with the Solent LEP although the advanced skills rate remains lower than the UK. Only two sub-areas (Eastleigh and Fareham) were above the UK rate in 2011 and while the gap with the UK has widened in 2018 for Eastleigh it has narrowed in Fareham (Figure 4.2). The gap has narrowed with the UK in a positive direction for the New Forest and Southampton, although only the New Forest has surpassed the 2018 UK rate. Lastly, the four sub-areas below the UK rate in 2018 have also seen the gap widen since 2011. The data suggests a much wider gap to the UK in Gosport and Havant, although this should be interpreted with a degree of care due to smaller sub-area samples. Nevertheless, the inference is clear with underperformance with advanced skills in these sub-areas.

Figure 4.2: Solent Sub-area Advanced Skills Gaps with UK 2011 & 2018 (ranked by 2018 gap)
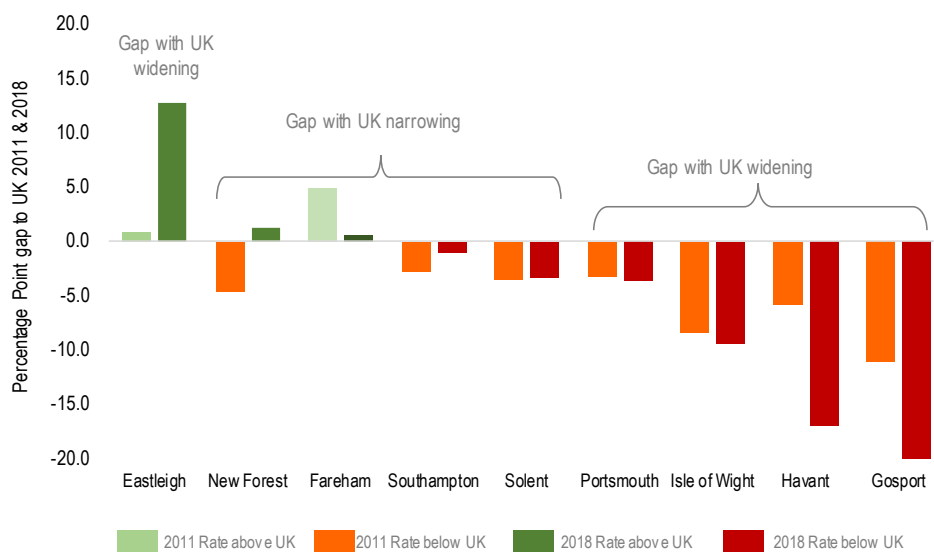
Source: ONS (2019)

Since 2011, Solent has seen the number of residents with advanced skills increase by 55,000 from 219,000 in 2011 to 274,100 in 2018. Locally, three fifths (60%) of the additional 55,000 Solent residents since 2011 can be attributed to Southampton (18,000, 32.4%) and to Eastleigh (15,300, 27.6%), Figure 4.3. However, not all sub-areas saw growth with Havant and Gosport both seeing a decrease over the period.[53]

Figure 4.3: Contribution to Advanced Growth 2011-2018
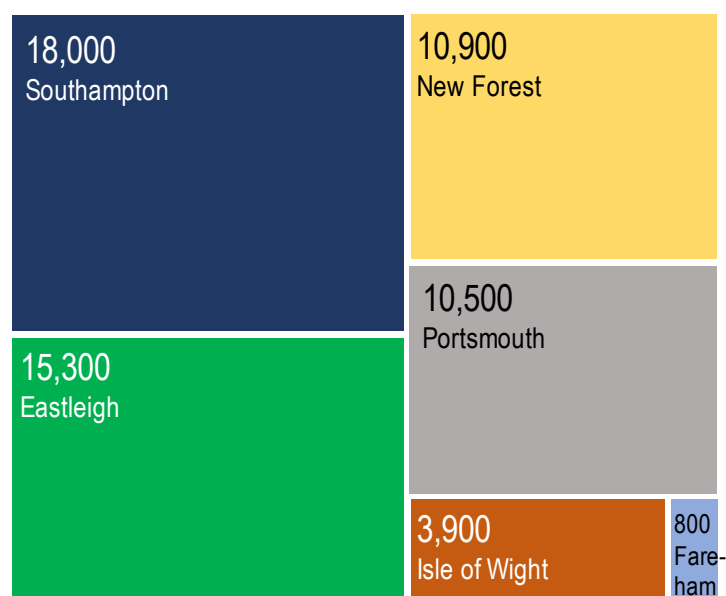
Source: ONS (2019)

Solent's growth rate in advance skills was 6.7% between 2011-2018. Compared to the other comparator areas this is marginally above the national average (6.6%), above the South East region (6.1%), well above Dorset (4.5%), but lower than Liverpool City Region (8.0%), and West of England (8.7%).

Closing the advanced skills gap to the national and South East region implies the Solent might need an additional 26,400 to 49,400 working age residents respectively (Figure 4.4). To achieve this could take between 2-6 years based on past average annual growth rates for Solent against fixed 2018 national and South East rates. This helps to frame the challenges for Solent. Taking the same approach to the West of England LEP, with the highest advanced skills rate of the comparator areas, the number of working age residents required for Solent to achieve the 2018 West of England rate would be 80,900. On the same growth assumptions this could take up to nine years to achieve.

The rates for advanced skills by broad age groups also varies. The core working age group (25-49yrs) has the highest number (386,800) and rate at 44%. In contrast, the younger working age group is the smallest (140,400) and has the lowest rate at 16.7% – although a sizeable share of this age group will be in the process of gaining an advanced qualification.

---

[53] Figure 4.3 excludes the negative contribution from Havant and Gosport of approximately 4,400 fewer residents of working age with advanced skills.

Figure 4.4: Closing the skills gap at the top of the skills distribution
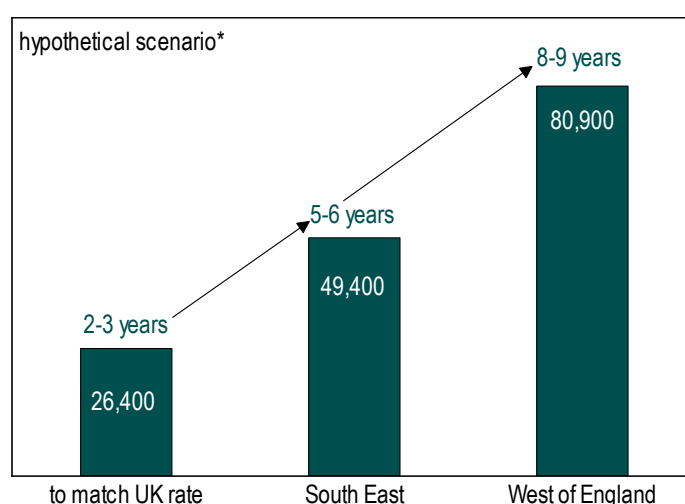
Source: ONS (2018) and EBIS (2019)

*estimated years to close the current gap in advanced skills based on current
growth in NVQ4+ and growth in working age population. Assumes growth rates
in other areas remain static.

The older working age group was in between with 239,500 and a rate of 33.7%. Going forward the core working age group should see an increase, although perhaps only marginally for the reasons already given, whereas the older working age group should steadily increase as more residents with advanced qualifications move up the working age structure. In both cases the extent of any changes will also be influenced by external factors, such as future migration and commuting patterns of skilled workers impacting on resident and workforce skills and qualifications respectively.

The age distribution across the LEPs was broadly in line with the overall working age trends whereby the Solent generally lags the UK, South East region and West of England rates but is mostly above Dorset and Liverpool City Region.

4.1.2 Intermediate Skills

While raising the level of advanced skills is seen as a priority to increasing productivity, a supply of skills to several priority sectors such as tourism, transport & logistics and parts of advanced manufacturing will require upper intermediate (NVQ3)[54] as well as lower intermediate skills (NVQ2)[55]. Many new entrants to the labour market begin their careers with an intermediate skill and through life-long learning (workplace or externally) move up the qualifications ladder.

In 2018 the Solent had an estimated 309,300 working age residents with an intermediate qualification, representing two in every five working age Solent residents. There are few sub-area disparities with all sub-areas having higher rates than both the UK and South East region average while only Eastleigh is above both benchmarks (Figure 4.5).

---

[54] A-level or equivalent vocational qualifications.
[55] GCSE standard passes and equivalent vocational qualifications (A-C or 5-9)

Figure 4.5: Intermediate Skills 2018 (% working age)

Southampton
(39.7%)

Eastleigh
(31.7%)

Fareham
(39.6%)

Havant
(42.8%)

New Forest
(37.6%)

Gosport
(50.9%)

Portsmouth
(40.0%)

Isle of Wight
(44.2%)

■ > South East rate (36.7%)

■ < South East rate (36.7%)
but > UK rate (35.7%)

■ < UK rate (35.7%)
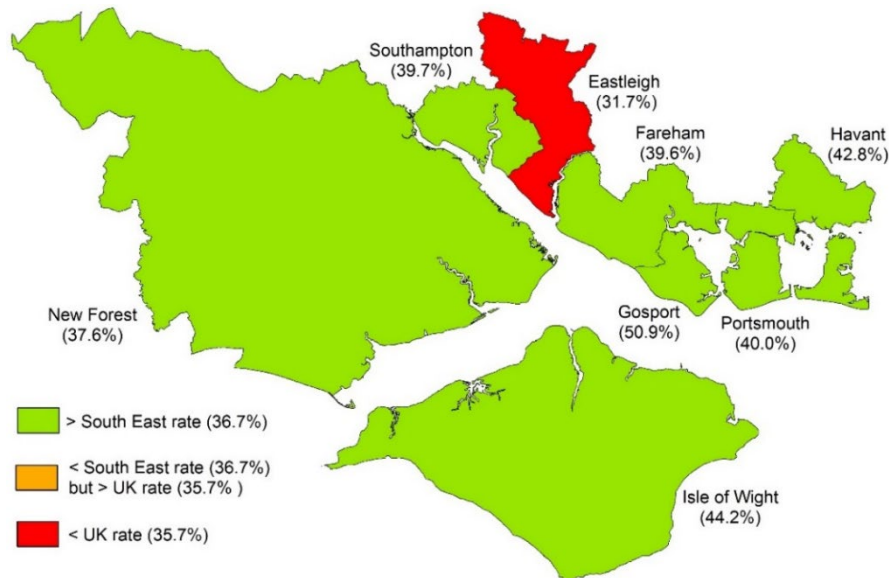
Source: ONS (2019)

The gap between Solent and the UK has widened between 2011 and 2018 with the Solent LEP intermediate skills rate still above the UK. All sub-areas except Havant and Southampton were above the UK intermediate rate in 2011 and while the gap with the UK has widened in 2018 both sub-areas are above the UK rate in 2018 (Figure 4.6).

Figure 4.6: Solent Sub-area Intermediate Skills Gaps with UK 2011 & 2018 (ranked by 2018 gap)
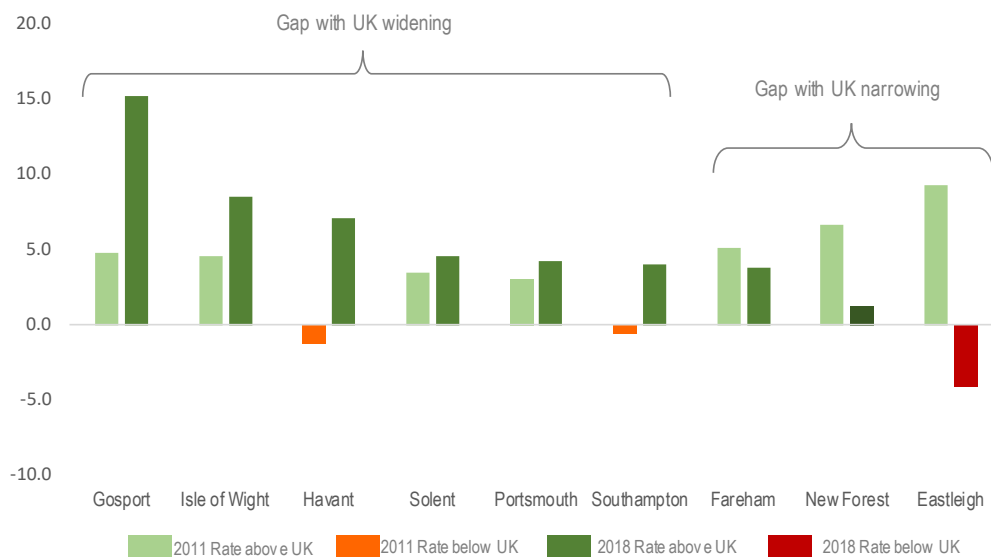
Source: ONS (2019)

Taking the view that a widening in intermediate skills against the UK is not necessarily a negative outcome the gap has narrowed with the UK in a positive direction for all areas except for Eastleigh. However, as the change intermediate skills in Eastleigh is mostly down to improvements in advanced skills the change

74

is not detrimental so long as intermediate supply meets demand. The data suggests a much wider gap to the UK in Gosport, although to be interpreted with a degree of care due to smaller sub-area samples.

Since 2011, Solent has seen the net number of residents with intermediate skills increase by just 7,400 from 301,900 in 2011 to 309,300 in 2018. However, this disguises considerable variation by sub-area as shown by the two tree maps (Figure 4.7).

Figure 4.7: Contribution to Intermediate Growth 2011-2018
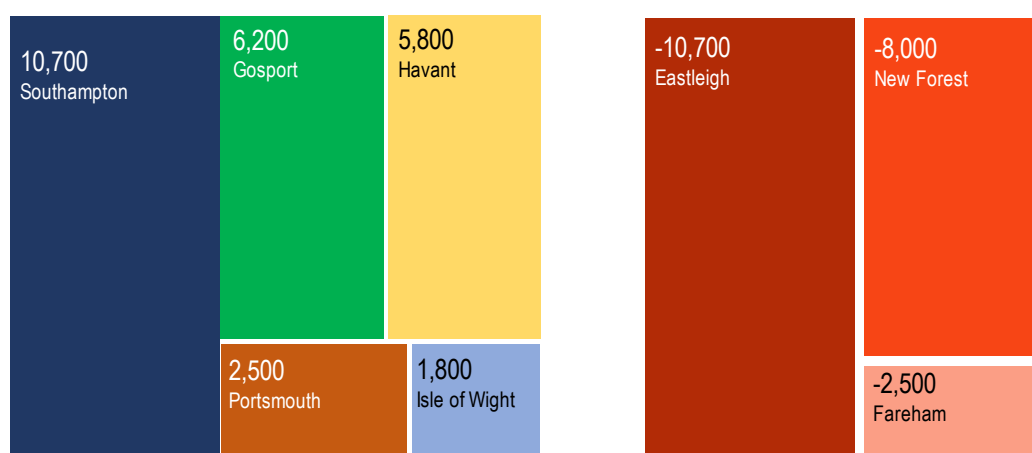
Source: ONS (2019). Note: the sum of the sub-areas for contributions minus the sum of decreases will not equal the Solent total due to rounding.

Contributions to intermediate skills growth ranges from 10,700 in Southampton to 1,800 from the Isle of Wight. However, large downward movements in Eastleigh and New Forest helped to offset overall growth. This is not necessarily a negative if growth shifted to advanced skills, as is the case in Eastleigh, although this may impact on local supply in demand for jobs requiring intermediate skills. A possible outcome of this could be graduates unable to get jobs requiring advance skills taking intermediate level jobs where there is a surplus of supply in advanced skills relative to workers with intermediate skills. Alternatively, employers could upskill existing employees with low skills or recruit from internal or international migration to meet demand.

Solent's growth rate in intermediate skills was 0.1% between 2011-2018. Compared to the comparator areas this is above the national average (-1.0%), the South East region (-0.4%), Liverpool City Region (-1.5%), and West of England (1.0%), but lower than Dorset (2.5%). How these growth rates are compared and interpreted will largely depend on whether an increase or a reduction in intermediate skills meets demand. Except for Eastleigh all the other Solent sub-areas have intermediate skill rates above the UK average, and this suggests there is probably adequate supply.

The age distribution across the Solent LEP is consistently higher across all three broad age groups for intermediate skill rates when compared to the West of England, but consistently lower across all ages groups compared to Dorset. Solent has as higher intermediate rates for 16-24 and 25-49 ages groups compared to Liverpool City Region but marginally lower for those aged 50-64 years.

4.1.3 Low Skills

Residents with low skills are more likely to be unemployed than those with higher skills. Unemployment can also be disruptive for the low-skilled to maintain and develop skills on the job if employment is precarious. There is also evidence that disability is disproportionate among low-skilled adults. Overall, low skills will limit the full gamut of employment opportunities in Solent and possibly lead to social and economic exclusion. Low skills are often cited as one of the drags on productivity, given that the proficiency of workers and how their skills are utilised is critical to raising productivity.

Figure 4.8: Low Skills 2018 (% working age)
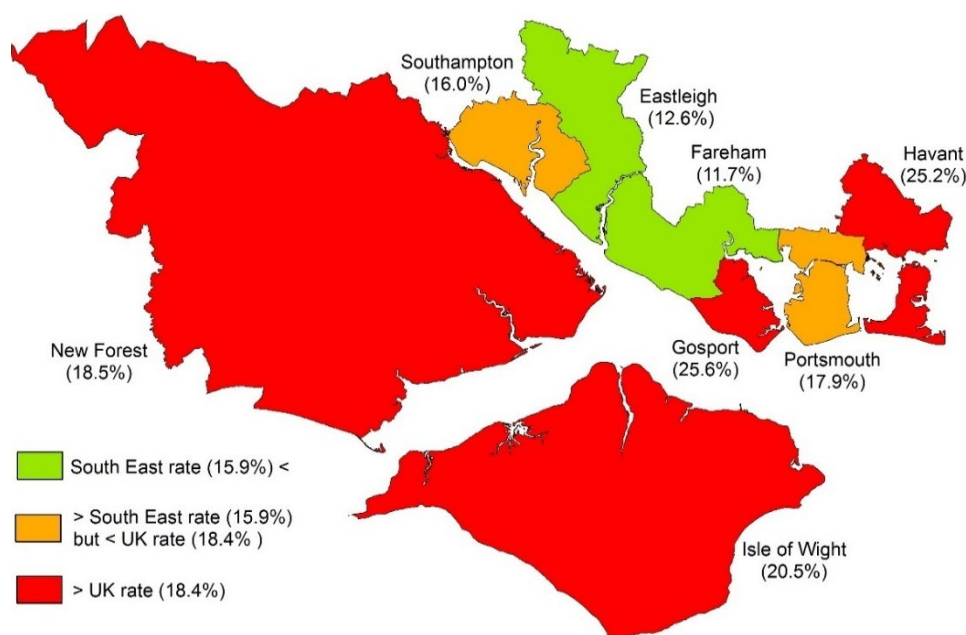
Source: ONS (2019)

The Solent has an estimated 137,500 low skilled working age residents in 2018 with either a NVQ1 or no formal qualification and representing just under one in every six working age Solent residents. There are sub-area disparities in the Solent with half of the eight districts with low skill rates above the UK average; two above but below the South East region, and only Eastleigh and Fareham below both benchmarks (Figure 4.9).

The gap between Solent and the UK has narrowed between 2011 and 2018 and in a positive direction. The low skills rate in Solent is now lower than the UK. The gap has also narrowed for all sub-areas except for Southampton. However, in the case of Southampton this is a positive outcome with the 2018 rate now below the UK average. In the case of Gosport, Havant and Isle of Wight the gap has narrowed but the rates remain above the 2018 UK average, whereas for the remaining sub-areas the rates have narrowed to varying degrees although rates remain below the 2018 UK average.

Figure 4.9: Solent Sub-area Low Skills Gaps with UK 2011 & 2018 (ranked by 2018 gap)
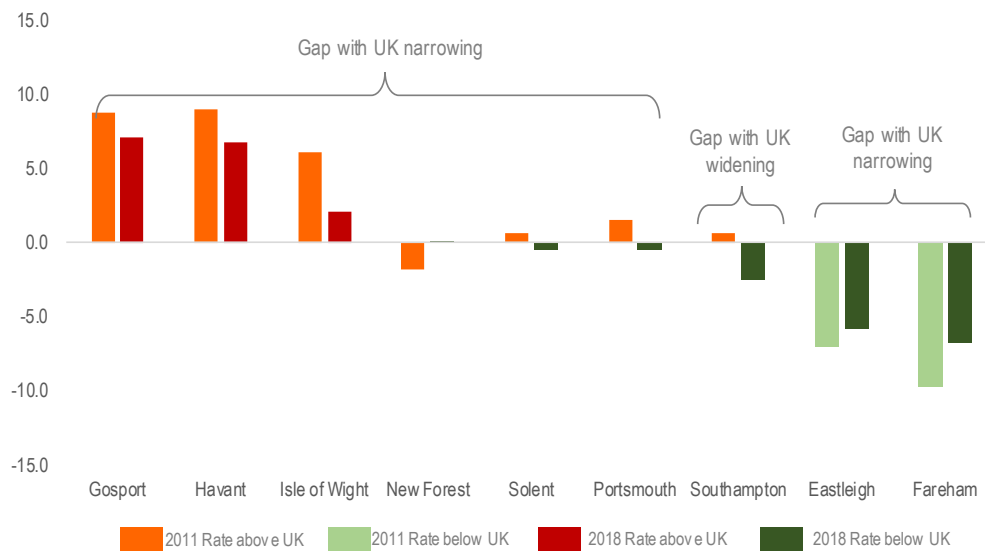
Source: ONS (2019)

Since 2011, the Solent has seen the number of low skilled residents decrease by close to 47,000, from 184,400 in 2011 down to 137,500 in 2018. All the Solent sub-areas contributed to the overall decrease of 47,000 low skilled residents, but more can be attributed to the two cities. Southampton accounts for 25.2% and 11,800 fewer low skilled residents while Portsmouth was 20% and 9,400 low skilled residents (Figure 4.10).

Figure 4.10: Contribution to Absolute Decline in Solent
Low Skilled Residents, 2011-2018
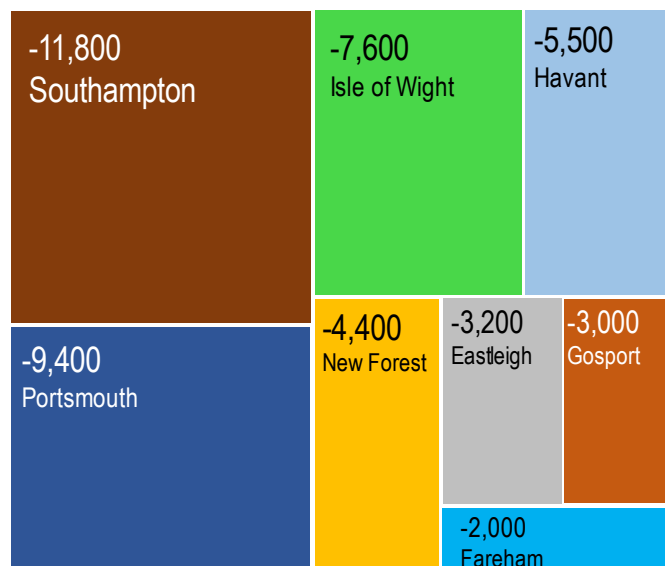
Source: ONS (2018)

Solent's growth rate in low skills was -6.6% between 2011-2018. This outperforms the national average (-5.5%), the South East region (-5.3%) and Dorset (-5.8%) but slower than Liverpool City Region (-7.5%) and West of England (-.7.8%).

Solent no longer needs to close the gap on low skills with the national average. However, to close the low skills gap to Dorset and South East region would require between 10,200 and 15,600 fewer Solent residents with an NVQ1 or no qualification (Figure 4.11). To achieve this could take between 2-4 years based on past average annual growth rates for Solent against a fixed Dorset and South East rates for 2018. This helps to frame the challenges for Solent. Taking the same approach to the West of England LEP, with the lowest low skills rate of the comparator areas, the Solent would require 40,900 fewer working age residents with low skills to achieve the 2018 West of England rate. On the same growth assumptions this could take up to 10 years to achieve.

Figure 4.11: Closing the skills gap at the bottom of the skills distribution
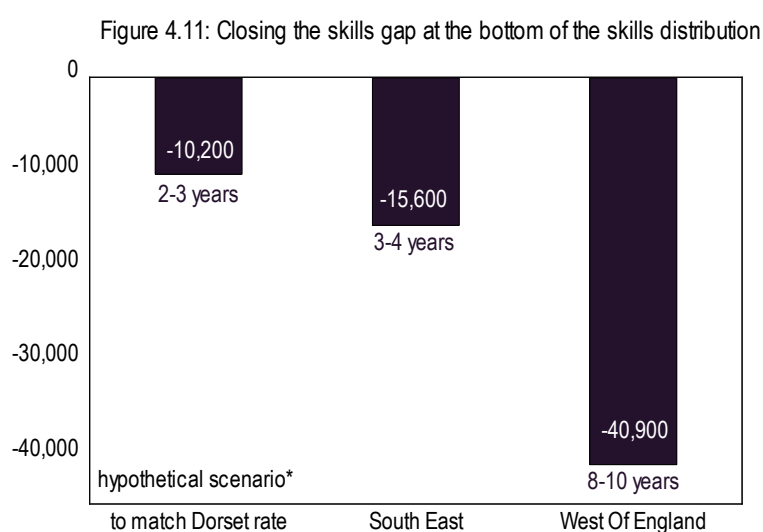
Source: ONS (2018) and EBIS (2019)

*estimated years to close the current gap in low skills based on current decline in the proportion of low skilled and growth in working age population. Assumes other areas remain static.

The working age rate for low skills differs by broad age group. One in four residents in the older working age group (50-64 years) has low or no skills, the largest proportion among the three broad age groups. In contrast the core working age (25-49 years) have the lowest rate at 13.9%. The difference can be explained by older workers being part of earlier generations when leaving school with few or no formal qualifications and going into work was the norm, or at least a more common occurrence. The rate for the younger age working group (aged 16-24 years) was 15.7%. This may include those aged 16-18 still in education yet to achieve a qualification but ideally this figure should be low.

Going forward the number of younger and core working age residents with low skills should decrease further given the school leaving age has increased to 18 years of age and more younger people participate in academic or vocational education. The older working age group may increase in the short term as residents move up the age structure but should begin to fall in the medium to long term as skill levels improve, although the skills structure will likewise be influenced by external factors such as future migration and commuting patterns impacting on resident and workforce skills and qualifications respectively.

The distribution across the LEPs is different to the overall working age trends whereby the Solent generally sees a lag with the West of England and South East benchmarks, but is mostly better than the UK, Dorset and Liverpool City Region; although not so much for older workers where only Liverpool is worse. This could simply reflect local concentrations in manufacturing and port related activities in the Solent and Liverpool City Region.

4.2   Skills System

Young people who are not integrated into the labour market at an early age are at a higher risk of experiencing long-term lower wages and employment insecurity. Youth unemployment rates also tend to be inversely proportional to the level of educational attainment. Increasing educational attainment, raising universal basic skills and ensuring access to good schools will all contribute to productivity and economic growth.

Future supply of skills in the area will in large part depend on how well the skills system operates in the Solent LEP area. This will be challenged further by the pandemic and effective closure of primary, secondary, and higher education and external training providers that has been partly mitigated by virtual learning environments or online courses. Exams for the current year 11 and 13 cohorts have been cancelled. The higher education sector's capacity and ability to deliver these benefits will be greatly reduced due to the financial impact of Covid-19, particularly institutions more reliant on foreign students. Employer led work-placed learning and apprenticeships that often require a physical presence will be harder to deliver.

In this section we focus on participation and attainment of young people in secondary education and on further and higher education provision in the area.

4.2.1 Secondary Education – Participation and Attainment

The Solent LEP area will see over 11,000[56] pupils in state schools be eligible each year to take GCSE or equivalent examinations. The standard measures of Key Stage 4 (KS4) are Attainment 8 and GSCE pass rates for Maths and English. There is also a Progress 8 score but that is difficult to average. Nonetheless, an unweighted average Attainment 8 score per pupil for Solent (43.4) was lower than England (44.6) and the South East region (47.4) scores, and against equivalent average[57] scores for the comparator LEPs (Figure 4.12). The Solent also underperforms for strong GCSE passes in English and Maths although performs marginally better for standard GSCE passes. Against all GCSE measures the Solent only outperforms the Liverpool City Region.

There are four local education authorities (LEA) that cover the Solent. However, none of the three LEA (two cities and the Isle of Wight) that are wholly within the Solent area out-performs the national and

---

[56] DfE Secondary Attainment Data 2015/16 by local authority district.
[57] Unweighted LEP averages are the Local Education Authority averages. For Dorset, Liverpool City Region and West of England the LEAs fit wholly within the LEP. The Solent average includes Hampshire as whole (11 districts).

South East region averages (Table 4.5). However, Hampshire does although this covers the Hampshire County Council area that extends beyond the Solent area boundary.

Figure 4.12: Average Attainment 8 and GSCE Maths & English Pass Rates (2016-17)
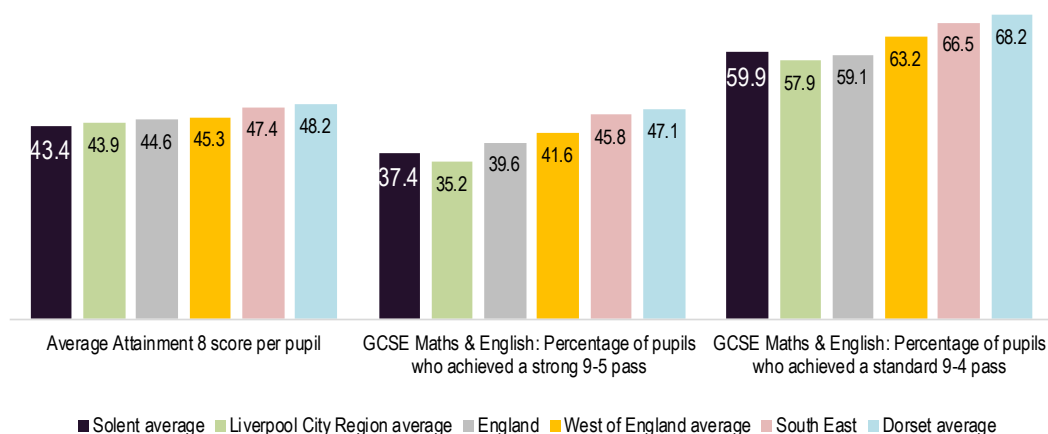
Source: DfE (2018).

Assessing state schools in the five South Hampshire districts that fall within the Solent area, approximately 44% scored above the Hampshire average Attainment 8 score and 47% scored above the England average. This contrasts with schools across the other Hampshire districts located outside the Solent LEP area, where the figure is higher at 54% and 57% above the Hampshire and England averages respectively. For the three local education authorities wholly within the Solent, Southampton is stronger on Attainment 8 per pupil and average Progress 8 scores, while Portsmouth performs better on GCSE achievement. In comparison, the Isle of Wight underperforms on all three measures.

Table 4.5: Average Attainment 8, GSCE Maths & English Pass Rates & Average Progress 8 (2016-17)

Local Education Authority	Average Attainment 8 score per pupil	GCSE Maths & English: Percentage of pupils who achieved a strong 9-5 pass	GCSE Maths & English: Percentage of pupils who achieved a standard 9-4 pass	Average Progress 8 score
Hampshire	47.0	45.5	68.3	-0.14
Isle of Wight	40.1	32.6	54.8	-0.36
Portsmouth	42.3	37.2	58.4	-0.13
Southampton	44.2	34.1	57.9	-0.02

Source: DfE (2019).

The fourth measure is the average Progress 8 score used in school and college performance tables (Table 4.4). The Progress 8 scores are grouped into five bandings ranging from well below to well above average, and where any score under zero is below average and any score greater than -0.5 well below average. On this measure, all average Progress 8 scores are negative and fall within the 'Below Average' category (0 to -0.5).

However, there will be significant variation across individual schools. A school or a college is below the secondary floor standard when the Progress 8 score is below -0.5. In 2016-17, only one state-funded school in Portsmouth, Southampton and Isle of Wight failed to meet the floor standard. The number was seven for Hampshire. Overall, most schools met the standard. The Progress 8 measure cannot be compared directly year on year.

The overwhelming majority of school leavers go to study at a sustained education destination and Solent is no different, although the proportion is lower in Portsmouth and Southampton (Table 4.6A). Depending on local provision most will go to either a Further Education or Sixth-form college provider. The Isle of Wight is different with a higher percentage going to School sixth form rather than Sixth-form college. Sustained apprenticeships account for a much lower percentage of school leavers and, except for the Isle of Wight, there is marginally higher apprenticeship participation in Solent authorities compared to the national average (Table 4.6B). More will take an Intermediate (Level 2) than Advanced or Higher apprenticeships.

Table 4.6A: KS4 Destination to Any Sustained Education Destination 2017 to 2018[58] (%)

	Any sustained education destination %	Further education college or another FE provider %	School sixth form - state funded %	Sixth form college %	Other education destinations[59] %
Hampshire	87	43	7	37	-
Isle of Wight	87	43	42	1	1
Portsmouth	82	45	2	35	1
Southampton	83	39	7	38	-
South East	88	35	38	14	1
England	86	37	38	11	-

Source: DfE (2019)

Table 4.6B: KS4 Destination to Sustained Apprenticeship 2017 to 2018[60] (%)

	Sustained apprenticeships %	Advanced and Higher apprenticeships (level 3 and above) %	Intermediate apprenticeships (level 2) %
Hampshire	5	1	3
Isle of Wight	3	1	3
Portsmouth	5	2	4
Southampton	4	1	3
South East	4	1	3
England	3	1	2

Source: DfE (2019)

---

[58] Reflects pupils who were at the end of key stage 4 (year 11) in the 2016 to 2017 academic year. To count as a 'sustained' destination, the young person has to be participating for 'two terms' or 'six months' the following academic year – the period considered is October to March.

[59] Includes Independent schools, alternate provision (e.g. Pupil Referral Units) and Specialist post-16 institutions.

[60] Young people are counted as being on an apprenticeship if they participate in relevant training for at least six consecutive months at any point in the destination year.

It is important to provide an indicator of students' overall attainment. The headline attainment measures from 2016-17 are the average point score (APS)[61] per entry and APS per entry expressed as a grade[62] for A-level, Tech Level and Applied General Students. As the participation age has been increased to 18, it is increasingly important that all young people are given suitable education and training opportunities that they see through to completion. On the A-level measures the three Solent unitaries under perform against Hampshire, South East region and England (Table 4.7). In comparison on Tech levels the Isle of Wight performs more strongly while Southampton fair better on Applied General Studies.

Table 4.7: Level 3 Attainment (2016-17)

| Local authority | A-Level[63] | | | Tech level[64] | | Applied General students[65] | |
	APS per[66] entry	APS per entry as a grade	% achieving at least 2 A levels[11]	APS per entry	APS per entry as a grade	APS per entry	APS per entry as a grade
Hampshire	32.50	C+	79.3	31.52	Dist-	36.85	Dist+
Isle of Wight	26.19	C	66.5	35.62	Dist-	34.69	Dist
Portsmouth	27.44	C	67.4	32.49	Dist-	34.83	Dist
Southampton	26.96	C	60.7	30.68	Dist-	37.68	Dist+
South East	32.07	C+	75.0	32.11	Dist-	35.86	Dist
England	32.39	B-	77.4	32.26	Dist-	35.72	Dist

Source: DfE. A student can be reported in more than one cohort, for example, a student who enters both A level and applied general qualifications will contribute to an institution's performance in both attainment measures.

Most of the school sixth form, sixth-form colleges or further education providers in Solent are rated as 'Good' by Ofsted (Table 4.8), with couple rated as 'Outstanding'. However, a small number require improvement.

The impact of Covid-19 on education and skills of the current cohort of young people in Solent is likely to be substantial. Young people are facing interruption in their learning, disruptions in internal assessments and the cancellation of public assessments for qualifications or their replacements by an inferior alternative. From an economic point of view the primary point of being in school is that it increases a child's ability and even a relatively short period of missed school tends to have consequences for skills growth. These interruptions are therefore unlikely to be short-term issues, but can also have long-term consequences on the individual and society as a whole. Furthermore, this could further increase educational and skills inequality.

---

[61] The average point score per entry is calculated by dividing the total number of points achieved by students in a particular cohort by the total size of entries for those students. The average point score per applied general and tech level entry is calculated in the same way, based on students entered for the relevant qualifications and their results.

[62] The average grade per academic qualification is calculated using the average point score per academic entry

[63] A level includes A/AS levels, applied single A/AS levels, applied double A/AS levels or combined A/AS level.

[64] Tech levels are rigorous level 3 technical qualifications on a par with A Levels and recognised by employers. They are for students aged 16 plus that want to specialise in a specific industry or prepare for a particular job.

[65] Applied general qualifications are rigorous level 3 qualifications that allow 16 to 19-year old students to develop transferable knowledge and skills. They are for students who want to continue their education through applied learning.

[66] The average point score (APS) performance measures across qualifications types should not be directly compared due to differences in entry patterns and grading structures between qualification types.

Table 4.8: KS5 (FE & 6th Form) Provision

KS5 provision	Local Authority	Ofsted Report
Barton Peveril Sixth Form	Eastleigh	Good
Bay House	Gosport	Good
Bitterne Park School	Southampton	Good
Brockenhurst College	New Forest	Good
Christ the King College	Isle of Wight	Inadequate
Cowes Enterprise College	Isle of Wight	Good
Eastleigh College	Eastleigh	Good
Fareham College	Fareham	Outstanding
Havant and South Downs College	Havant	~
Highbury College	Portsmouth	Requires Improvement
Isle of Wight College	Isle of Wight	Good
Itchen College	Southampton	Requires Improvement
Medina College	Isle of Wight	Requires Improvement
Oaklands Catholic School	Havant	Good
Portsmouth College	Portsmouth	Good
Richard Taunton Sixth Form College	Southampton	~
Ringwood School Academy	New Forest	Good
Ryde Academy	Isle of Wight	Good
Sandown Bay Academy	Isle of Wight	Closed August 2018
Southampton City College	Southampton	Requires Improvement
St Anne's Catholic School	Southampton	Outstanding
St Vincent Sixth Form College	Gosport	~
The Arnewood School	New Forest	Good
The Burgate School and Sixth Form	New Forest	Good
The New Forest Academy	New Forest	~
Totton College (part of Nacro)	New Forest	~
UTC Portsmouth	Portsmouth	~

Source: DfE (2019). ~ no Ofsted reports.

4.2.2 Further Education - Learning and Training

Further Education (FE) includes any participation in formal education or training after secondary education that is not part of higher education. Further education courses range from basic English and maths to Higher National Diplomas (HNDs).

In this section we provide an overview of the four main further education strands or components in the Solent LEP area (Education & Training, Apprenticeships, Community Learning and Traineeships) and we cover both core measures, starts and achievements.[67] The analysis of further education data is based

---

[67] The analysis of further education data is based on the most recent data from the Department for Education and Skills (DfE Data Cube learner base records). Starts' are the number of frameworks/other learning aims that have start dates within the timeframe selected, in this case, academic years 2016/17 and 2017/18. A 'start' refers to the number of learning aims or frameworks and not the numbers of learners (a learner can have more than one start). 'Achievements' are the number of frameworks/other learning aims that have an actual end date within the timeframe selected and have been recorded as achieved within that academic year.

FE data for Education & Training, Community Learning and Traineeship refer to components rather than programmes. Apprenticeships data refers to programs. This approach is consistent with the approach used in DfE's Statistical First Release methodology for the aim level measures included in the DfE Data Cubes. Further information is available in DfE (2018), *Guide to Localities Data Cubes*, Department for Education.

on the most recent data from the Department for Education and Skills (DfE).[68] Data Annex includes enrolments by major Further Education College in Solent including Southampton.[69]

Table 4.9: Further Education starts and achievements in Solent by major strand/component

| Strands | 2017/18 | | | | Change on 2016/17 | | | |
| | Starts | | Achievements | | Starts | | Achievements | |
	Number	%	Number	%	Number	%	Number	%
Education & Training	106,003	81.5	79,553	80.8	-4,445	-4.0	329	0.4
Community Learning	12,941	10.0	10,753	10.9	-1,637	-11.2	-1,635	-13.2
Apprenticeships Programs	9,994	7.7	7,429	7.5	-2,034	-16.9	-129	-1.7
Traineeship Component	1,080	0.8	743	0.8	-512	-32.2	-356	-32.4
Total	130,018	100.0	98,478	100.0	-8,628	-6.2	-1,791	-1.8

Source: DfE SFA (2018). Datacube, Learner base records. Note: the number of Achievements is the Number of apprenticeship frameworks/other learning aims that have an actual end date within the timeframe selected and have been recorded as achieved within that academic year.

The most recent data shows approximately 130,000 further education starts and about 98,500 further education achievements in the Solent LEP area in 2017/18 (Table 4.9). While the number of starts decreased by 6.2% on the previous year the number of achievements decreased by 1.8% (1,791).

The Education & Training component covers further education learning delivered mainly in a classroom, workshop, or through distance e-learning. It contains everything that is not an Apprenticeship or Community Learning. It includes programmes (not components), GCSEs, A-Levels, BTECs and NVQs as well as many other qualifications that are offered through General Further Education Colleges, Higher Education Institutions and External Institutions.

With about 106,000 starts and 79,500 achievements the Education & Training component accounted for over four in every five further education starts and achievements in the Solent LEP area in 2017/18. The number of starts decreased by about 4% on the previous year but achievement numbers edged marginally higher at 0.4% growth (Table 4.9).

The Community Learning strand includes a wide range of non-formal courses, ranging from personal development through to older people's learning, IT courses, employability skills, family learning and activities to promote civic engagement and community development. Courses may be offered by local authorities, colleges, or voluntary and community groups. Examples of Community Learning provision include entry Level qualifications such as English for Speakers of Other Languages (ESOL), English and maths and are mainly Level 2 or below and most Community Learning aims are non-regulated provision.

Community Learning accounted for nearly 13,000 starts and 10,750 achievements or about 10% of all FE starts and achievements in the area. The number of achievements in this category decreased by about 13.2% on the previous year, a faster decrease than for the number of starts (-11.2%).

---

[69] Southampton Travel to Learn Review is currently underway. The review will include an assessment of post-16 provision in terms of supply and demand, with a particular focus on City College Southampton.

There were nearly 10,000 Apprenticeship starts (or 7.7% of all FE starts) and about 7,430 achievements (or 7.5% of all achievements) were recorded in the Solent LEP area in 2017/18. The number of apprenticeships starts in the area decreased by 16.9%, or over 2,000 apprenticeships starts on the previous year but the decrease in the number of achievements was modest, -1.7% or about 130 apprenticeship starts.[70]

The Traineeship Component accounted for just 0.8% of both further education starts and achievements respectively (or 1,050 starts and 743 achievements respectively) in the Solent LEP area in 2017/18. In relative terms this further education component saw the sharpest decrease in both the number of starts and the number of achievements over the previous year. The numbers of starts and achievements decreased by about a third (Table 4.8).

4.2.3 Further Education - Education and Training

In 2017/18, there was just over 106,000 education & learning starts in the Solent LEP area, around 4,500 or 4.0% fewer starts than in 2016/17. The number of education & learning achievements was close to 80,000 achievements and increased by 329 or 0.4% since 2016/17.

The broad age distribution of the largest category in education & training suggests a young person aged between 16 to 18 is more likely to start an education & training course (57.2%) than an adult person (19+ year olds), although the achievement rate is slightly higher for the older age group (50.2% compared to 49.8%). The number of 19-year olds in compulsory education is small and accounts for 0.3% of all education & training starts and achievements respectively.

Table 4.10: Education & Learning starts and achievements by broad age group, Solent

16 to 18-year old	2017/18		2016/17		Change on 2016/17	
	Number	% of Total	Number	% of Total	Number	%
Starts	60,648	57.2	67,153	60.8	-6,505	-9.7
Achievements	39,636	49.8	44,212	55.8	-4,576	-10.4
19+ year old's	Number	% of Total	Number	% of Total	Number	%
Starts	45,355	42.8	43,295	39.2	2,060	4.8
Achievements	39,917	50.2	35,012	44.2	4,905	14.0

Source: DfE SFA (2018). Datacube, Learner base records. Note: age based on the age of the learner at 31st August. 16 to 18-year olds (young people category) include under 16-year olds. Under 16 years old age group is small (< 1% of the total).

The decrease in both education & training starts and achievements in 2017/18 was entirely driven by decreases in the 16 to 18 age group. The number of 16 to 18-year old starts decreased by 9.7% or -6,505 to 60,648 whilst the number of achievements decreased by 10.4% or 4,576 to 39,636 (Table 4.10). The numbers of both starts and achievements for the 19+ age group increased by 4.8% and 14% respectively to 45,355 and 39,917 respectively. The small increase in the total number of education & learning achievements in the Solent LEP area (Table 4.10) was driven by the increase in achievements among the 19+ year olds.

---

[70] Achievements cannot be directly linked to starts because both data sets are concerned with slightly different periods. Moreover, an achievement is not a measure of success; it merely reflects the number who achieved their apprenticeship within the expected time period.

Table 4.11: Geographical distribution of Education & Training across Solent

| | 2017/18 | | | | Change on 2016/17 | | | |
| | Starts | | Achievements | | Starts | | Achievements | |
Districts	Number	% of Solent	Number	% of Solent	Number	%	Number	%
Southampton	26,480	25	19,860	25	-922	-3.4	1,008	5.3
Portsmouth	22,222	21.2	16,834	21.2	-561	-2.5	419	2.6
Isle of Wight	11,653	11.0	9,518	12.0	735	6.7	671	7.6
Eastleigh	11,420	10.8	8,369	10.5	-1,829	-13.8	-1,134	-11.9
Havant	11,140	10.5	8,033	10.1	-721	-6.1	-580	-6.7
Fareham	9,520	9.0	7,042	8.9	-670	-6.6	-166	-2.3
Gosport	7,321	6.9	5,580	7.0	-252	-3.3	348	6.7
New Forest	6,247	5.9	4,317	5.4	-225	-3.5	-237	-5.2
Total	106,003	100	79,553	100	-4,445	-4.0	329	0.4

Source: DfE SFA (2018). Datacube, Learner base records.

The geographical distribution of this category suggests that Southampton was the local authority with the largest number of education & training starts (26,480) and achievements (19,860), accounting for a quarter of all starts and achievements in the Solent LEP area (Table 4.11), followed by Portsmouth with over one in five education & training starts (22,222) and achievements (16,864). The two cities therefore accounted for nearly a half of all education and training starts (46.0%) and achievements (46.2%) in the LEP area. This is slightly below their share of young people (55%) in the Solent LEP area.

The New Forest and Gosport accounted for the smallest share of starts and achievements in the Solent LEP area in 2017/18. The New Forest accounted for 5.4% of achievements compared to 7% in Gosport. The size of the local population and its composition (the proportion of the elderly population) are the main factors that explain these differences in the geographical distribution of education & training category across the Solent LEP area. The Isle of Wight was the only local authority to see an increase in education & training starts in 2017/18. The number of starts increased by 735 or 6.7% on the previous year. The largest numeric and relative decrease was in Eastleigh; down 1,829 or 13.8%. In relative terms. The decrease in the number of starts in Eastleigh was over three times faster than the decrease the average for the Solent LEP area. Fareham and Havant have also seen a relatively sharp decrease in the number of education & training starts in the Solent LEP area in 2017/18. The largest increase in the number of achievements was in Southampton (1,008 additional achievements), but in relative terms the largest increase was in the Isle of Wight (7.6% or 671 additional achievements). The sharpest decrease was registered in Eastleigh, -1,134 or -11.9%. Havant and New Forest have also seen relatively sharp decreases in the number of achievements in 2017/18.

Most starts can be assigned to one of several 'Sector Subject Areas'. People in the Solent LEP area are significantly more likely to study Preparation for Life & Work subjects followed by Science & Mathematics, Health, Public Services & Care and Business Administration & Law than other subjects (Table 4.12). Preparation for Life & Work accounted for around 36,300 starts or over one in three education & training

starts in Solent LEP area in 2017/18.[71] With 11,231 starts, or over a tenth of all education & training starts, Science & Mathematics had the second largest number of starts in the area. Health, Public Services & Care and Business, Administration & Law were popular subjects amongst Solent LEP learners with 8,824 and 7,502 starts respectively.

Table 4.12: Education & Training starts by Sector Subject Area, Solent

Subject	2017/18		Change on 2016/17	
	Number	%	Number	%
Preparation for Life & Work	36,292	34.2	2,895	8.7
Science & Mathematics	11,231	10.6	-2,587	-18.7
Health, Public Services & Care	8,824	8.3	-469	-5
Business, Administration & Law	7,502	7.1	937	14.3
Arts, Media & Publishing	6,875	6.5	-1,492	-17.8
Languages, Literature & Culture	6,219	5.9	-1,814	-22.6
Information & Communication Techno	4,703	4.4	284	6.4
Construction, Planning & the Built	4,179	3.9	-286	-6.4
Leisure, Travel & Tourism	3,950	3.7	-458	-10.4
Engineering & Manufacturing Techno	3,816	3.6	-325	-7.8
Retail & Commercial Enterprise	3,453	3.3	-316	-8.4
Social Sciences	2,899	2.7	-816	-22
Not Applicable	*2,206*	*2.1*	*113*	*5.4*
Agriculture, Horticulture & Animal	1,508	1.4	-77	-4.9
History, Philosophy & Theology	1,374	1.3	-250	-15.4
Education & Training	972	0.9	216	28.6
Total	106,003	100	-4,445	-4

Source: SFA (2018). Datacube, Learner base.

As shown in Table 4.8 the total number of education & training starts decreased in 2018/17 but there were some subjects which saw increases in the number of starts. The number of Preparation for Life & Work starts increased by 2,895 additional starts or 8.7% over the year and Business, Administration & Law increased by 937 or 14.3% (Table 4.12). In relative terms, the largest increase was in Education & Training (28.6%, albeit from a small base) followed by Business Administration & Law (14.3%) and Information & Communication Technologies (6.4%).

The Solent LEP area saw a large decrease in Science & Mathematics starts, down 2,587 or 18.7% fewer education & training starts than in the previous year. Languages, Literature & Culture and Arts, Media & Publishing subjects had sharp decreases in the number of starts with 1,814 and 1,492 fewer starts respectively between 2016/17 and 2017/18.

If we look at education (skills) Levels we find that Below Level 2 accounted for accounted for 34,977, or one third of all education & training starts in the Solent LEP area. This is followed by Level 3 with 29.8% (31,586 starts). Level 2 and Below Level 2 accounted for 57.4% of all education & training starts in the Solent LEP area in 2017/18 (Table 4.13).

---

[71] Further information on subject areas (including Preparation for Life & Work) and qualification types is available in Data Annex.

Table 4.13: Education & Training starts by education Level, Solent

Educational Levels	2017/18		2016/17		Change on 2016/17	
	Number	%	Number	%	Number	%
Level 4+	1,319	1.2	1,278	1.2	41	3.2
Level 3	31,586	29.8	38,827	35.2	-7,241	-18.6
Level 2	25,850	24.4	28,071	25.4	-2,221	-7.9
Below Level 2	34,977	33.0	32,285	29.2	2,692	8.3
Unassigned	12,271	11.6	9,987	9.0	2,284	22.9
Total	106,003	100	110,448	100	-4,445	-4.0

Source: SFA (2018). Datacube, Learner base. Note*: Level 2 is equivalent to GCSE. Level 3 is equivalent to A Level. Level 4/5 is equivalent to a higher education certificate, higher education diploma or a foundation degree (the first year of a degree). Level 6 is equivalent to a bachelor's degree and Level 7 is equivalent to a master's degree. These figures refer to commencements and not achievements (people obtaining qualifications).

In percentage terms, Level 3 starts decreased by 18.6% over the year while the number of Below Level 2 increased by 8.3%. There was a relatively large percentage of unassigned education & training starts in 2017/18. The share of Level 3 starts in the area decreased from 35.2% in 2016/17 to 29.8% in 2017/18 while the share of Below Level 2 increased from 29.2% to 33.0%.

The Solent LEP area data by education level is skewed by the inclusion of the Preparation for Life & Work sector subject category that accounts for over a third of all starts and with most of these falling within Below Level 2 or being unassigned (68%). Over 80% of sector subject category starts are at Level 2 or below (Table 4.14).

Table 4.14: Education & Training starts by sector subject category and education Level, Solent

Subjects sectors	Unassigned or Below Level 2		Level 2		Level 3		Level 4+	
	Number	%	Number	%	Number	%	Number	%
Business, Administration & Law	1,516	3.2	1,611	6.2	4,041	12.8	334	25.3
Engineering & Manufacturing.	636	1.3	1,703	6.6	1,243	3.9	234	17.7
Education & Training	15	0	375	1.5	386	1.2	196	14.9
Arts, Media & Publishing	1,181	2.5	680	2.6	4,820	15.3	194	14.7
Health, Public Services & Care	732	1.5	5,095	19.7	2,854	9	143	10.8
Science & Mathematics	548	1.2	4,125	16	6,501	20.6	57	4.3
Agriculture, Horticulture & Animal	190	0.4	500	1.9	765	2.4	53	4
Construction, Planning & the Built Env.	2,234	4.7	1,258	4.9	652	2.1	35	2.7
Information & Communication	2,963	6.3	570	2.2	1,136	3.6	34	2.6
Leisure, Travel & Tourism	592	1.3	981	3.8	2,347	7.4	30	2.3
Retail & Commercial Enterprise	1,246	2.6	1,690	6.5	508	1.6	9	0.7
History, Philosophy & Theology	372	0.8	6	0	996	3.2	-	-
Social Sciences	-	-	63	0.2	2,836	9	-	-
Languages, Literature & Culture	681	1.4	3,899	15.1	1,639	5.2	-	-
Preparation for Life & Work	32,136	68.0	3,294	12.7	862	2.7	-	-
Not Applicable	2,206	4.7	-	-	-	-	-	-
Total	47,248	100	25,850	100	31,586	100	1,319	100

Source: DfE SFA (2018). Datacube, Learner base. Note: "-" means zero.

Health, Public Services & Care account for about 1 in every 5 Level 2 starts (5,095 starts) followed by Languages, Literature & Culture sector subject category at 15.1% (3,899). Science & Mathematics accounts for about one fifth (6,501) of all Level 3 education starts in the Solent LEP area, followed by Arts, Media and Publishing (15.3% or 4,820) and Business Administration & Law (4,041 (12.8%).

The number of Level 4+ starts in the Education & Training category is relatively small in the Solent LEP area at just 1,319 starts in 2017/18. The Business, Administration & Law subject category accounted for 334 Education & Training starts at Level 4+, or over a quarter of all Level 4+ starts. Engineering & Manufacturing Technologies accounted for 17.7% or 234 starts, followed by Education & Training (196 starts) and Arts, Media & Publishing (194 starts).

Table 4.15: Education & Training starts by strategically important subject category and education Level - Solent

Subject sectors	Below Level 2		Level 2		Level 3		Level 4+	
	Number	%	Number	%	Number	%	Number	%
Engineering & Manufacturing Technologies	195	7.5	1,144	44.1	1,068	41.1	190	7.3
(Transportation Operations & Maintenance)	441	36.2	559	45.9	175	14.4	44	3.6
Science & Mathematics	548	4.9	4,125	36.7	6,501	57.9	57	0.5
Leisure, Travel & Tourism	592	15.0	981	24.8	2,347	59.4	30	0.8
Business, Administration & Law	1,516	20.2	1,611	21.5	4,041	53.9	334	4.5
Health, Public Services & Care	732	8.3	5,095	57.7	2,854	32.3	143	1.6
Information & Communication Technology	2,963	63.0	570	12.1	1,136	24.2	34	0.7

Source: SFA (2018). Datacube, Learner base records. Note: Transportation, Operation & Maintenance sits under Education & Manufacturing in the previous table. In the broad Engineering & Manufacturing Technologies subject sector, Higher National Certificate accounted for 75 starts, Higher National Diploma for 37 starts and Diploma for 11 starts.

Table 4.15 shows education & training starts by strategically important subject category and education level in the Solent LEP area. In total there were 40,026 starts or 37.8% of all starts in education & training across Engineering & Manufacturing Technologies, Transport Operation & Maintenance, Science & Mathematics, Leisure, Travel and Tourism, Business Administration & Law, Health, Public Services and Care and Information & Communication Technologies subject categories. These subject categories accounted for 20% of all starts Below Level 2, 54.5% of all starts at Level 2 (14,085), 57.4% of all Level 3 starts (18,122) and 63.1% of all Level 4+ starts (832 starts).

Many of the engineering & manufacturing technologies starts in the Solent LEP area are at Level 2 and Level 3 (44.1% and 41.1% respectively), with Level 4+ accounting for just 7.3% (Table 4.15). The provision of training in transportation operations and maintenance is skewed more towards Level 2 (559 starts or 45.9% of the total). Science and mathematics is skewed towards Level 3 with 6,501 starts or 57.9%. The same is true of leisure, travel and tourism and business, administration & law.

Health, public services & care was the subject with most Level 2 starts with 5,095, or 57.7% of all starts. The ICT subject category had the largest number of Below Level 2 starts with 2,963 starts, or 63% of all Level 2 starts, and accounts for just 4.4% of all starts in the Solent LEP area. Engineering & manufacturing technologies and leisure, travel & tourism also account for a low proportion of starts (2.4% and 3.7% respectively).

The Solent LEP area benefits from an extensive network of education & training providers (Table 4.16). In 2017/18 there were 131 further education providers that work to maximise the employability of students

or provide an important bridge for those looking to progress to higher education (HE). The top ten education & training providers accounted for 76,257 starts or 71.9% of all starts from Solent LEP. Highbury College Portsmouth tops the list of education & training providers with 11,653 starts or 11.0% of all Solent LEP area learners' starts. Havant & South Downs College and Brockenhurst College were the second and third providers with the largest number of starts from Solent LEP learners with 11,051 and 10,055 starts respectively (or 10.4% or 9.5% of all starts from Solent LEP respectively).

Table 4.16: Largest Education & Training providers in Solent, 2017/18

Top 10 Providers	Enrolments	% from SLEP	Number of starts	% from SLEP	Provider Type	% of Total E&T starts in Solent
Highbury College Portsmouth	12,492	87.7	11,653	88.7	General FE College	11.0
Havant & South Downs College	12,518	74.7	11,051	74.3	General FE College	10.4
Brockenhurst College	10,195	100.0	10,055	100.0	General FE College	9.5
Isle of Wight College	7,922	99.4	7,457	99.3	General FE College	7.0
Barton Perveril Sixth Form College	9,338	78.9	7,348	78.9	Sixth Form College	6.9
Eastleigh College	8,444	73.4	7,298	73.1	General FE College	6.9
Southampton City College	6,428	91.0	6,039	92.2	General FE College	5.7
Itchen College	6,557	91.1	5,899	90.6	Sixth Form College	5.6
Portsmouth College	5,625	97.9	4,829	97.7	Sixth Form College	4.6
Fareham College	4,922	90.7	4,628	91.5	General FE College	4.4
Total (Solent)	119,672	86.0	106,003	86.4	n/a	100.0

Source: SFA (2018). Datacube, Learner base.

Solent LEP area learners' ethnicity can provide a proxy for the nationality of learners. Over 21,200 education & training starts or one in five starts was undertaken by non-UK national students from the Solent LEP area in 2017/18 (Table 4.16).

Southampton had the largest number of starts from non-national Solent LEP learners, 9,755 starts or over one in three education & training starts from all Southampton education & training students. Likewise, Portsmouth had a high number of starts from non-nationals students accounting for over 6,000 education & training starts or 27.2% starts from all Portsmouth education & training learners. With 1,707 or 14.9% of all its education & training starts Eastleigh also had a relatively large share of non-national students compared with most of other Solent LEP area districts.

In 2017/18 the number of nationals' starts decreased by 4.4% compared to -2.4% in the case of non-nationals. The number of starts among nationals decreased in all but one local authority in the Solent LEP area (Isle of Wight) in 2017/18. Eastleigh saw a relatively large decrease in the number of education & training starts, -1,791 or -15.6% followed by Fareham, -8.5%.

Gosport and Havant saw a relatively large decrease in the numbers of non-nationals, -16.5% and -11.8% respectively, but the numbers of non-nationals increased by 18.8% in Fareham and 9.2% in New Forest, albeit from a small base (Table 4.17).

Table 4.17: UK nationals and non-nationals in Education & Training starts in Solent

| Districts | 2017/18 | | | | Change on 2016/17 | | | |
| | Nationals | | Non-Nationals | | Nationals | | Non-Nationals | |
	Number	%	Number	%	Number	%	Number	%
Southampton	16,725	63.2	9,755	36.8	-640	-3.7	-282	-2.8
Portsmouth	16,176	72.8	6,046	27.2	-480	-2.9	-81	-1.3
Eastleigh	9,713	85.1	1,707	14.9	-1,791	-15.6	-38	-2.2
Havant	10,127	90.9	1,013	9.1	-585	-5.5	-136	-11.8
New Forest	5,680	90.9	567	9.1	-273	-4.6	48	9.2
Fareham	8,684	91.2	836	8.8	-802	-8.5	132	18.8
Gosport	6,738	92	583	8	-137	-2	-115	-16.5
Isle of Wight	10,952	94	701	6	786	7.7	-51	-6.8
Solent Total	84,795	80	21,208	20	-3,922	-4.4	-523	-2.4

Source: SFA (2018). Datacube, Learner base. Notes: * Nationals are those in Education & Training that selected "English / Welsh / Scottish / Northern Irish / British" as ethnicity. ** Non-Nationals are those in Education & Training that did not selected "English / Welsh / Scottish / Northern Irish / British" as ethnicity, including those who do not provide any ethnicity (2.1% of all in Education & Training in Solent LEP area). Data includes ESOL provision. ESOL accounts for 3,159 of all education & training starts across non-national learners or 14.9% of all starts from non-national Solent LEP learners. Further information on non-nationals Solent LEP learners is available in the Data Annex.

4.2.4 Further Education - Apprenticeships

Apprenticeships are an important component of skills policy in the Solent LEP area. They are seen as one of the main mechanisms used for tackling skills shortages and developing stronger links between the labour market and employers.

Table 4.18: Apprenticeships starts and achievements in Solent, 2016/17-2017/18

| | 2017/18 | 2016/17 | 2016/17-2017/18 Change | |
			Number	%
Starts	9,994	12,028	-2,034	-16.9
Achievements	7,429	7,558	-129	-1.7

Source: SFA (2018). Datacube, Learner base.

In 2017/18, there were 9,994 apprenticeship starts or 2,034 fewer apprenticeship starts (-16.9%) than in 2016/17. The number of achievements stood at 7,429 or just 129 fewer than in the previous year (Table 4.18).

Table 4.19: Apprenticeships starts and achievements by broad age group, Solent

| 16 to 18-year old | 2017/18 | | 2016/17 | | Change on 2016/17 | |
	Number	% of Total	Number	% of Total	Number	%
Starts	2,999	30.0	3,285	27.3	-286	-8.7
Achievements	978	13.2	1,103	14.6	-125	-11.3
19+ year old's	Number	% of Total	Number	% of Total	Number	%
Starts	6,995	70.0	8,743	72.7	-1,748	-20.0
Achievements	6,451	86.8	6,455	85.4	-4	-0.1

Source: DfE SFA (2018). Datacube, Learner base records. Note: age based on the age of the learner at 31st August. 16 to 18-year olds (young people category) include under 16-year olds. Under 16 years old age group is small (< 1% of the total).

Between 2014/15 and 2017/18 the number of apprenticeships starts in the Solent LEP area decreased by 16.8% or 4.5% p.a. The decrease in the number of intermediate apprenticeships was twice as fast as the decrease in the overall number of apprenticeships starts in the area. There was a small decrease in the number of advanced starts in 2016/17 but the number of higher apprenticeships increased by 128%, or about 23% p.a. over this period (Figure 4.13).

Figure 4.13: Apprenticeships starts and achievements in Solent, 2014/15-2017/18

Source: DfE (2019)
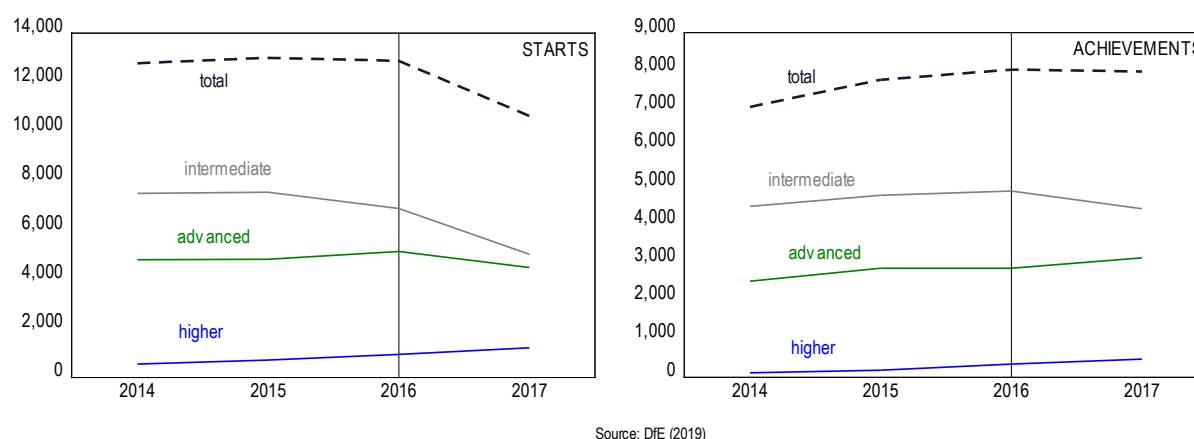
The number of achievements on the other hand increased by 13.2% or 3.1% p.a. over this period. The area saw a small decrease in the number of intermediate apprenticeships achievements (-0.3% p.a.) but advanced apprenticeships increased by almost a quarter (24.4% or 5.6% p.a.). There were 3.6 times as many higher apprenticeship achievements in the area in 2017/18 than in 2014/15. Annual growth averaged 46.5% p.a., albeit from a low base (Figure 4.13).

Around 3,000 apprenticeship starts, or 30%, were accounted for by young people aged 16 to 18-year olds in the Solent LEP area (Table 4.19). The number of achievements amongst young people was 978 or just 13.2% of all apprenticeship achievements. On the other hand, most apprenticeship starts (70.0%) and achievements (86.8%) in the Solent LEP area were amongst adults (19+ year olds) in 2017/18.

The decrease in apprenticeship starts in the Solent LEP area was driven by adults (19+ age group), down 20% on the previous year, while the decrease across young people was relatively modest (down 8.7%) on the year (Table 4.19). SFA data suggests that the number of apprenticeship achievements in the older age group remained broadly unchanged between 2016/17 and 2017/18 while apprenticeship achievements in young people decreased by 11.3%.

At local authority district Level, Southampton had the highest number of apprenticeships starts with more than 1,700 starts, or 17.2% of all starts in Solent LEP area in 2017/18. Fareham, Portsmouth and Gosport had nearly 1,600 apprenticeship starts each, or about 16% respectively (Table 4.20). The highest number of apprenticeship achievements was registered in Fareham and Gosport with 1,287 and 1,268 respectively. These two local authority districts accounted for over a third of all apprenticeship achievements in the Solent LEP area in 2017/18. The largest share in these two activities is closely related to training provision by the Royal Navy. About 1 in every 8 apprenticeship achievements in the Solent LEP area is found on the Isle of Wight.

Table 4.20: Geographical distribution of apprenticeships across Solent

| Districts | 2017/18 | | | | 2016/17-2017/18 Change | | | |
| | Starts | | Achievements | | Starts | | Achievements | |
	Number	% of Solent	Number	% of Solent	Number	%	Number	%
Southampton	1,716	17.2	1,137	15.3	-404	-19.1	-13	-1.1
Fareham	1,593	15.9	1,287	17.3	-251	-13.6	-62	-4.6
Portsmouth	1,568	15.7	1,081	14.6	-308	-16.4	-104	-8.8
Gosport	1,562	15.6	1,268	17.1	-182	-10.4	25	2.0
Isle of Wight	1,109	11.1	939	12.6	-439	-28.4	106	12.7
Havant	925	9.3	688	9.3	-270	-22.6	-11	-1.6
Eastleigh	920	9.2	605	8.1	-133	-12.6	-69	-10.2
New Forest	601	6.0	424	5.7	-47	-7.3	-1	-0.2
Total	9,994	100	7,429	100	-2,034	-16.9	-129	-1.7

Source: DfE SFA (2018). Datacube, Learner base records.

Apprenticeship starts decreased in all Solent LEP local authorities in 2017/18. The Isle of Wight was the local authority with the largest decrease in the number of starts (down 439 or a decrease of 28.4%). On the other hand, the two Solent LEP area districts with the lowest number of starts, the New Forest and Eastleigh, had the slowest decreases in apprenticeship starts (down 47 or 7.3% and -133 or -12.6% respectively). Gosport also saw a relatively low decrease with 182 fewer starts or about -10.4% of all apprenticeship start decreases in Solent LEP area since 2016/17.

The Isle of Wight had the largest increase in apprenticeship achievements in the Solent LEP area with an increase of 106 achievements or 12.7% on the year to 2017/18. This contrasts with the decrease seen in the number of starts (the largest across districts in the LEP). Gosport was the only other local authority in the Solent LEP area to register a small increase in the number of achievements in 2017/18. The New Forest saw the number of achievements remain broadly unchanged over the year. Eastleigh, Portsmouth and Fareham saw a relatively large decrease in the number of apprenticeships starts in 2017/18.

At sector subject Level, Engineering & Manufacturing Technologies and Business, Administration & Law had the largest number of apprenticeships starts across all sector subjects. Each had around 2,500 starts or about a quarter of all apprenticeship starts in the Solent LEP area. Health, Public Services & Care had close to 2,000 apprenticeship starts that accounted for about one in five apprenticeships starts, while Retail & Commercial Enterprise accounted for about 1 in every 8 apprenticeship starts (Table 4.21).

The overall decrease of 2,000 apprenticeships starts in 2017/18 was driven by Health, Public Services & Care with around 1,250 fewer starts and followed by Business, Administration & Law and Retail & Commercial Enterprise with around 400 fewer starts respectively. Apprenticeship starts increased in several sector subjects with Construction, Planning & the Built Environment and ICT registering the largest increases with 189 and 107 additional starts respectively.

Table 4.21: Apprenticeships starts by Sector Subject Area, Solent

Subject sector	2017/18		Change in 2016/17		
	Number	%	Number	%	% over total change
Engineering & Manufacturing Technologies	2,551	25.5	-170	-6.2	-8.4
Business, Administration & Law	2,464	24.7	-396	-13.8	-19.5
Health, Public Services & Care	2,006	20.1	-1,251	-38.4	-61.5
Retail & Commercial Enterprise	1,209	12.1	-430	-26.2	-21.1
Construction, Planning & the Built Environ.	686	6.9	189	38.0	9.3
Information & Communication Technology	626	6.3	107	20.6	5.3
Leisure, Travel & Tourism	186	1.9	-97	-34.3	-4.8
Education & Training	121	1.2	11	10.0	0.5
Agriculture, Horticulture & Animal Care	114	1.1	-6	-5.0	-0.3
Arts, Media & Publishing	29	0.3	15	107.1	0.7
Science & Mathematics	2	0.0	-6	-75.0	-0.3
Total	9,994	100.0	-2,034	-16.9	-100.0

Source: SFA (2018). Datacube, Learner base.

Level 2 and Level 3 apprenticeships (Intermediate and Advanced Apprenticeships) accounted for most apprenticeship starts in the Solent LEP area (88.8%), with 4,729 Level 2 and 4,149 Level 3 starts. There were 1,116 Level 4+ (Higher Apprenticeships) representing just over one in ten apprenticeships starts.

The decrease in the overall number of apprenticeships was driven by a large fall in the number of Level 2 apprenticeships, while Level 3 apprenticeships decreased by about 13% on the year. In contrast, Level 4+ apprenticeship starts increased by 276 starts or by nearly a third (Table 4.22).

Table 4.22: Apprenticeships starts by education Level, Solent

Educational Levels	2017/18		2016/17		Change on 2016/17	
	Number	%	Number	%	Number	%
Level 4+ (Higher/Degree Apprenticeship)	1,116	11.2	840	7.0	276	32.9
Level 3 (Advanced Apprenticeship)	4,149	41.5	4,757	39.5	-608	-12.8
Level 2 (Intermediate Apprenticeship)	4,729	47.3	6,431	53.5	-1,702	-26.5
Total	9,994	100.0	12,028	100.0	-2,034	-16.9

Source: SFA (2018). Datacube, Learner base. Note*: Level 2 is equivalent to GCSE. Level 3 is equivalent to A Level. Level 4/5 is equivalent to a higher education certificate, higher education diploma or a foundation degree (the first year of a degree). Level 6 is equivalent to a bachelor's degree and Level 7 is equivalent to a master's degree.

With 586 higher/degree apprenticeships, Business, Administration & Law accounted for more than a half of all Level 4+ apprenticeships in the Solent LEP area (Table 4.22). This is followed by 29.5% in Health, Public Services & Care. ICT is the only other subject with close to 10% of all Level 4+ apprenticeships starts (Table 4.23).

Similarly, Business, Administration & Law, Health, Engineering & Manufacturing Technologies Public Services & Care accounted for about three in every four Advanced Apprenticeship starts from the Solent LEP area in 2017/18. Engineering & Manufacturing Technologies was by far the largest subject at intermediate Level with 31.1% of all Level 2 apprenticeship starts in the Solent LEP area, followed by Business Administration & Law and Retail & Commercial Enterprise.

Table 4.23: Apprenticeships delivered by subject and Level in SLEP in 2017/18

Subjects sectors	Level 2		Level 3		Level 4+		Total	
	Number	%	Number	%	Number	%	Number	%
Business, Administration & Law	793	16.8	1,085	26.2	586	52.5	2,464	24.7
Health, Public Services & Care	671	14.2	1,006	24.2	329	29.5	2,006	20.1
Information & Communication Tech.	359	7.6	163	3.9	104	9.3	626	6.3
Retail & Commercial Enterprise	739	15.6	433	10.4	37	3.3	1,209	12.1
Engineering & Manufacturing Tech.	1,472	31.1	1,047	25.2	32	2.9	2,551	25.5
Construction, Planning & the Built Envi.	522	11.0	138	3.3	26	2.3	686	6.9
Science & Mathematics	-	-	-	-	2	0.2	2	0.0
Agriculture, Horticulture & Animal Care	62	1.3	52	1.3	-	-	114	1.1
Arts, Media & Publishing	6	0.1	23	0.6	-	-	29	0.3
Education & Training	24	0.5	97	2.3	-	-	121	1.2
Leisure, Travel & Tourism	81	1.7	105	2.5	-	-	186	1.9
Total	4,729	100.0	4,149	100.0	1,116	100.0	9,994	100.0

Source: SFA (2018). Datacube, Learner base. Note: "-" means zero.

Table 4.24 shows apprenticeships starts by strategically important subject category and education Level in the Solent LEP area. Apprenticeship starts in Engineering & Manufacturing Technologies and Transport Operations & Maintenance tend to be intermediate and advanced (Level 2-3) apprenticeships. The same is true of Leisure, Travel & Tourism, except in this case the proportion of advanced apprenticeships is higher than intermediate apprenticeships.

Table 4.24: Apprenticeship starts by strategically important subject category and education Level - Solent

Subject sectors	Level 2 Intermediate		Level 3 Advanced		Level 4+ Higher Apprenticeship		Total	
	Number	%*	Number	%*	Number	%*	Number	%**
Engineering & Manufacturing Techno.	1,330	57.9	937	40.8	32	1.4	2,299	23.0
(Transportation Operations & Maint.)	142	56.3	110	43.7	-	-	252	2.5
Science & Mathematics	-	-	-	-	2	100.0	2	0.0
Leisure, Travel & Tourism	81	43.5	105	56.5	-	-	186	1.9
Business, Administration & Law	793	32.2	1,085	44.0	586	23.8	2,464	24.7
Health, Public Services & Care	671	33.4	1,006	50.1	329	16.4	2,006	20.1
Information & Communication	359	57.3	163	26.0	104	16.6	626	6.3

Source: SFA (2018). Datacube, Learner base. Note: * Percentage over total number of apprenticeships starts in the subject. ** Percentage over the total number of Apprenticeship starts from Solent LEP (9,994). Note: "-"means zero

Almost a quarter of all Business, Administration & Law apprenticeship starts are at Level 4+ but a third of all starts are at an intermediate Level (Level 2). Health, Public Services & Care and Information & Communication have about 17% of apprenticeship starts respectively at Level 4+ but the distribution of starts between these two sectors differs for intermediate and advanced apprenticeships. In the case of Health, Public Services & Care 50% of all starts are at an advanced Level, but perhaps surprisingly 57.3% of all Information & Communication starts are at intermediate level (Table 4.24).

Table 4.25: Largest apprenticeship providers 2017/18

Top 10 Providers*	Enrolments	Starts	% of Total Apprenticeships starts*	Provider Type	Solent learners%
Lifetime Training Group Limited	1,151	570	6.9	Private, Public Funded	93.6
HTP Apprenticeship College	1,200	527	6.4	Private, Public Funded	97.2
Eastleigh College	1,218	525	6.3	General FEC incl Tertiary	86
Peta Limited	594	340	4.1	Private, Public Funded	87
Fareham College	595	322	3.9	General FEC incl Tertiary	81.3
Isle of Wight College	584	278	3.4	General FEC incl Tertiary	100
Highbury College Portsmouth	689	266	3.2	General FEC incl Tertiary	69.5
Paragon Education & Skills Limited	369	201	2.4	Private, Public Funded	98.3
CITB	412	191	2.3	Other (LA's and HE)	79.9
Southampton City College	457	157	1.9	General FEC incl Tertiary	95.6

Source: SFA (2018). Datacube, Learner base. Note*: Royal Navy is the largest apprenticeship provider from Solent LEP apprenticeship stars with 1,724 apprenticeships starts or 17.3% of all apprenticeships starts from the LEP area. These apprenticeship starts provided by Royal Navy are found in Gosport and Fareham with about 50% of them in both district (897 and 827 or 52.0% and 48.0% respectively).

Excluding the Royal Navy (the single largest provider of apprenticeships in the Solent LEP area) the market is dominated by private training providers which accounted for 5,271 starts or more than a half (52.7%) of all apprenticeship starts. The proportion of apprenticeship starts offered by colleges is under a quarter (2,320 starts or 23.2%). Excluding the Royal Navy, the largest providers in the area are Lifetime Training Group Limited and HTP Apprenticeship College followed by Eastleigh College. Four of the top ten apprenticeship providers there are private providers and five are colleges (Table 4.25).

Nearly one in ten (886 starts or 8.9%) apprenticeship starts in the Solent LEP area were from non-nationals. The proportion in Southampton was one in five and in Portsmouth one in eight of all apprenticeship starts (Table 4.26).

Table 4.26: Distribution of apprenticeship starts by UK nationals and non-nationals in Solent

Districts	2017/18				Change on 2016/17			
	Nationals*		Non-Nationals**		Nationals		Non-Nationals	
	Number	%	Number	%	Number	%	Number	%
Southampton	1,376	80.2	340	19.8	-280	-16.9	-124	-26.7
Portsmouth	1,378	87.9	190	12.1	-225	-14	-83	-30.4
Havant	865	93.5	60	6.5	-262	-23.2	-8	-11.8
Eastleigh	864	93.9	56	6.1	-83	-8.8	-50	-47.2
Gosport	1,473	94.3	89	5.7	-179	-10.8	-3	-3.3
Isle of Wight	1,049	94.6	60	5.4	-379	-26.5	-60	-50
New Forest	573	95.3	28	4.7	-43	-7	-4	-12.5
Fareham	1,530	96	63	4	-241	-13.6	-10	-13.7
Total	9,108	91.1	886	8.9	-1,692	-15.7	-342	-27.9

Source: SFA (2018). Datacube, Learner base. Notes: * Nationals are those apprenticeships that selected "English / Welsh / Scottish / Northern Irish / British" as ethnicity. ** Non-Nationals are those apprenticeships that did not selected "English / Welsh / Scottish / Northern Irish / British" as ethnicity, including those who do not provide any ethnicity (1.2% of all apprenticeships from Solent LEP area).

In 2017/18 the number of apprenticeships starts taken by non-nationals decreased by 27.9% compared to a decrease of 15.7% for nationals. Decreases among non-nationals on the Isle of Wight, Eastleigh and Portsmouth were significant and well above the average (Table 4.26). The decreases among the nationals were significant on the Isle of Wight and Havant with about a quarter of fewer apprenticeships starts in 2017/18 than in the previous year. Havant was the only local authority in the area where the proportional decrease in the number of nationals was greater than the proportional decrease among non-nationals.

As shown in Table 4.26 several local authorities in the area have a relatively large proportion of non-nationals among the total number of apprenticeships starts and the numbers among the non-nationals have decreased much faster than among nationals. At this stage it is not clear whether this is related to Brexit but should this downward trend among both nationals and non-nationals continue the future supply of apprenticeships in the Solent LEP economy could be constrained.

4.2.5 Higher Education

The Solent is home to thirteen sixth form and FE colleges that could potentially supply Level 3 students to the three higher education institutions; with two in Southampton and one in Portsmouth (Figure 4.14). Taken together, the three universities have approximately 60,000 students (Figure 4.15). There are also three universities in adjacent authorities to Solent in Bournemouth, Chichester and Winchester. Solent is also relatively close to other universities in the South East and London inter alia Reading, Surrey, Sussex, Brighton and the University of London colleges (e.g. Royal Holloway).
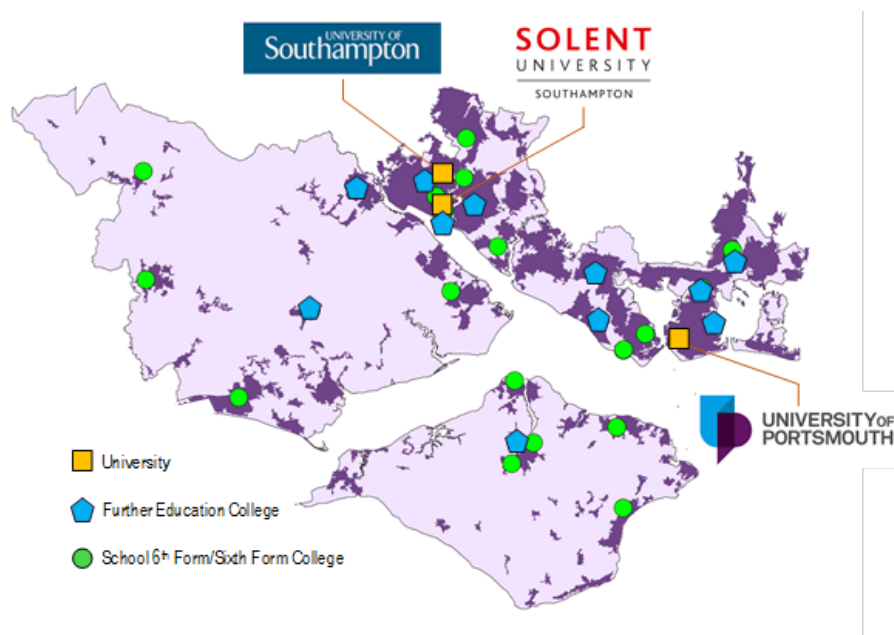
According to the 2020 University League Tables[72], the University of Southampton is ranked 20th out of 131 UK institutions and ranked 2nd in the South East behind Oxford.

The University of Portsmouth is ranked 53rd (in the top 50%) while Solent University is ranked 105th. The University of Portsmouth is rated Gold in the UK Government's Teaching Excellence Framework, awarded to institutions that consistently deliver outstanding teaching, learning and outcomes for their students and has a strong reputation for post-graduate teaching. Situated in a lively city centre destination, Solent University is a dynamic and ambitious international university and home to one of the world's leading maritime training academies.

There are several pathways by which universities may affect economic growth. By primarily adding to the skill supply, facilitating innovation (either directly as producers of innovation or through graduates acting as future innovators), and by increasing demand. In the case of demand, this is broadly achieved through direct consumption by students and staff and where universities' purchase goods and services locally that would impact on GVA. Before analysing local provision of higher education in the Solent, it is worthwhile looking at the proportion of Solent KS5 pupils that go on to study at a higher education institution (Table 4.27).

---

[72] https://www.thecompleteuniversityguide.co.uk/league-tables/rankings?tabletype=full-table May 2019

Figure 4.14: Higher and Further Education in Solent LEP area

Source: EBIS (2019)

Figure 4.15: Student Numbers by Solent Higher Education Institution 2017-2018 Academic Year
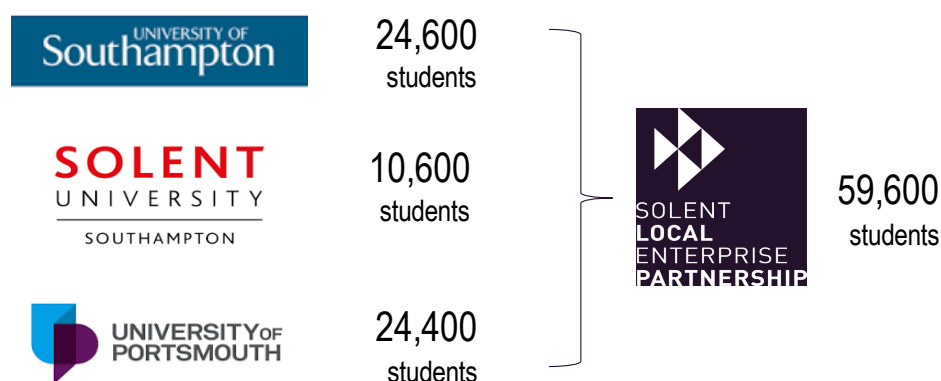
Source: HESA (2019)

The number of Level 3 students who reached the end of their 16 to 18 study in 2016/17 in Solent was approximately 8,300. Of those 1,230 were classed as disadvantaged, approximately 15% of the total Level 3 cohort. However, the proportion of students at Level 3 that went on to higher education is generally lower than those not classed as disadvantaged (Table 4.27). On average an estimated 30% of disadvantaged pupils with a Level 3 will go on to higher education compared to 40% for pupils not from disadvantaged backgrounds. On both measures this is below the national average.

By sub-area all eight Solent authorities have a lower percentage of disadvantaged Level 3 pupils going on to higher education than the national average (46%). This also applies to the total and in most cases all other pupils. For disadvantaged Level 3 pupils in this ranges across Solent from 12% in Fareham up

to 41% in Eastleigh. In all cases the percentage of disadvantaged Level 3 pupils going on to higher education is lower than for all other pupils.

Table 4.27: Percentage Student Destinations after 16 to 18 Level 3 study to Higher Education, and numbers of Level 3 students by status (2016-2017) – ranked by % Level 3 disadvantaged

	% of Level 3 going to Higher education (level 4 and above)				Number of Level 3 students		
	Disadv[73] pupils	All other pupils	Total	Difference Disadv. to other (percentage points)	Disadv[14] pupils	All other pupils	Total
England	46	50	49	4	69,736	309,705	379,441
South East region	34	45	44	11	7,753	57,981	65,734
Eastleigh	41	49	48	8	149	1,367	1,516
Isle of Wight	38	44	43	6	141	606	747
Gosport	35	50	49	15	40	374	414
Southampton	34	39	38	5	257	1,036	1,293
New Forest	31	40	39	9	179	1,388	1,567
Portsmouth	27	38	35	11	143	463	606
Havant	22	35	33	13	272	1,572	1,844
Fareham	12	21	20	9	50	258	308

Source: DfE (2019)

There are significant variations in the differences with the gap just 4 percentage points nationally compared to 15 percentage points in Gosport. Although the percentage of disadvantaged pupils is comparatively high in Gosport against the other Solent authorities, being designated as disadvantaged in Gosport has a larger impact, as it does for Havant and Portsmouth. In all cases the gap is wider for Solent authorities to the national average, but mostly healthier than the South East average (11 percentage points); only Havant and Gosport perform worse.

The Universities of Portsmouth and Southampton each have over 24,000 students and 41% the Solent total. Solent University is much smaller with over 10,000 students and 18% of the Solent total. Most students at the three Solent universities are from the UK and with the majority from England. The University of Southampton is a global centre for excellence in research and education and a founding member of the UK's prestigious Russell Group and this is reflected in the University of Southampton having a much larger international cohort (29%) and notably from outside Europe (22%). The University of Portsmouth and Solent University both has similar proportions of non-UK students, but Portsmouth has a relatively larger non-European presence while Solent University has more from Europe (Table 4.28).

---

[73] Disadvantage status is given as in year 11. Disadvantaged pupils are defined as those who were eligible for free school meals at any point in the previous six years or having been looked after by their local authority. These are the pupils who would have attracted the pupil premium when in year 11.

Table 4.28: Student Numbers and Percentage Broad Area of Origin 2017-2018 Academic Year

Origin of Students	From UK		From Europe		From Rest of World	
	Number	%	Number	%	Number	%
The University of Portsmouth	20,430	84	1,025	4	2,940	12
Solent University	8,745	83	1,265	12	565	5
The University of Southampton	17,430	71	1,820	7	5,370	22

Source: HESA (2019)

All three universities offer courses across most subject areas although there is a large variation by number of students (Table 4.29) and relative concentrations (Figure 4.16).

Business and administration studies is the most popular in student numbers overall across Solent at over 9,100, followed by engineering and technology (7,250) which is the strongest of the STEM subjects. However, STEM is underrepresented in mathematical sciences which had the lowest overall at just over 1,100 students (less than 2% of all students).

Table 4.29: Number of students by subject and Solent Higher Education Institutions
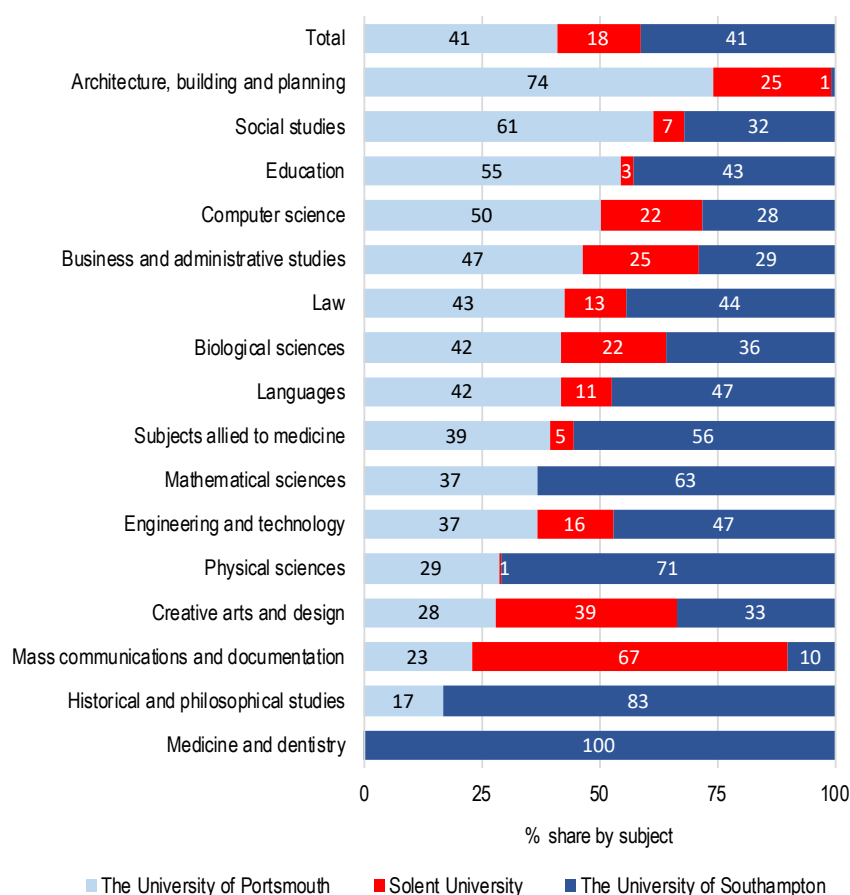
Subject	The University of Portsmouth	Solent University	The University of Southampton	Total
Business and administrative studies	4,250	2,250	2,630	9,130
Engineering and technology	2,655	1,195	3,400	7,250
Social studies	4,000	435	2,090	6,525
Creative arts and design	1,555	2,170	1,870	5,595
Biological sciences	2,280	1,210	1,950	5,440
Subjects allied to medicine	1,815	225	2,555	4,595
Computer science	1,895	815	1,060	3,770
Physical sciences	990	20	2,440	3,450
Languages	1,060	275	1,195	2,530
Mass communications and documentation	480	1,395	210	2,085
Education	1,080	50	845	1,975
Historical and philosophical studies	280	0	1,380	1,660
Medicine and dentistry	0	0	1,650	1,650
Law	615	190	640	1,445
Architecture, building and planning	1,020	345	10	1,375
Mathematical sciences	410	0	700	1,110
Total	24,395	10,575	24,625	59,595

Source: HESA (2019)

Individually, the University of Portsmouth has a strong offer in business administration, social studies, engineering & technology, and biological sciences, and relative to the other two Solent universities a higher number in architecture, building and planning. The University of Southampton has strengths across the board and especially in engineering & technology, business administration, subjects allied to medicine and physical sciences, and is the only institution to offer medicine and dentistry.

Solent University is strong on business administration, creative arts & design, mass communications & documentation and to a lesser extent engineering & technology and biological sciences. The only gaps were in agriculture and veterinary subjects which tend to be taught in specialist institutions. Although there are none in the Solent LEP there is the specialist Sparsholt College near Winchester.

Figure 4.16: Relative concentration of subject by Solent Higher Education Institutions

Subject	The University of Portsmouth	Solent University	The University of Southampton
Total	41	18	41
Architecture, building and planning	74	25	1
Social studies	61	7	32
Education	55	3	43
Computer science	50	22	28
Business and administrative studies	47	25	29
Law	43	13	44
Biological sciences	42	22	36
Languages	42	11	47
Subjects allied to medicine	39	5	56
Mathematical sciences	37		63
Engineering and technology	37	16	47
Physical sciences	29	1	71
Creative arts and design	28	39	33
Mass communications and documentation	23	67	10
Historical and philosophical studies	17		83
Medicine and dentistry			100

% share by subject

Source: HESA (2019)

There are two types of retention to consider in higher education. Ensuring graduates complete a university course as this is seen as a fundamental enabler of social mobility in the UK[74]. Individuals fail to complete their course generally have worse labour market outcomes compared to graduates from an economic perspective. Those from disadvantaged backgrounds (low income, low university participation neighbourhoods, ethnic minorities) are more likely to leave before graduating. The UK Engagement Survey (UKES) 2019 found that 27% of students have considered leaving their course. Among the insights, there is evidence that working and partnering with staff in areas such as 'activities other than course work', 'career planning' and 'evaluation and assessment' alleviates this risk. This reflects findings from the earlier research that suggest universities, schools and other institutions could make greater efforts to prepare and support students in advance of university whether through open days, taster sessions or other interventions.

Secondly encouraging Solent graduates to remain local after graduating. While distance to, and participation at, universities may matter more to some students than to others there is also the likelihood students may remain as workers in the same area as the university itself. The choice of location to study will be mostly based on the courses on offer or the criteria for entry, which can take choices about location away from the potential student. According to the HESA destination of leavers survey, approximately

---

[74] Social Market Foundation (2017) *On course for success? Student retention at university*

19% of graduates studying in Portsmouth and 18% in Southampton and remained in each city respectively upon completing their studies (Table 4.30). This ranked Portsmouth 35th and Southampton 37th out of 44 UK cities, placing both in the bottom 10 cities for graduate retention. This could be down relatively closer proximity of Solent to London and better opportunities for higher paid jobs.

Table 4.30: Retention Rates 2013/14 – 2014/15

Top 10 Graduate Retention			Top 10 Graduate Retention		
Rank	City	Retention rate	Rank	City	Retention rate
1	London	77%	34	York	20%
2	Manchester	51%	35	Portsmouth	19%
3	Belfast	50%	36	Oxford	18%
4	Birmingham	49%	37	Southampton	18%
5	Glasgow	46%	38	Cambridge	17%
6	Aberdeen	43%	39	Reading	17%
7	Edinburgh	42%	40	Coventry	15%
8	Middlesbrough	38%	41	Warrington	14%
9	Newcastle	36%	42	Exeter	13%
10	Swansea	33%	43	Chatham	12%

Source: HESA destination of leavers survey, 2013/14 – 2014/15. Cities with 100< responses not included.

The retention of students will only be beneficial to Solent if there are relevant employment opportunities. Otherwise, this may result in under-employment of graduates in jobs more suitable to those with lower level qualifications.

Recent research by the Southern Policy Centre (SPC) and Willmott Dixon provides some additional data on graduate retention, albeit restricted to the central South that covers six Higher Education Institutions. Wider geographic comparisons do not directly match the Skills Evidence comparator areas, although Bath/Bristol is broadly comparable.[75]

The SPC research suggests regional economies are competing with London for graduate talent, with one-third of all graduates taking jobs in the capital. However, HEIs such as Solent and Winchester recruit more of their students from the local community than more stablished universities, and this may partially explain why more graduates from newer HEIs remain local. Furthermore, more part-time and mature students go to the newer HEIs reinforcing the strong local links.

On average, 14.4% of graduates from the six HEI institutions chose to work or undertake further study in the place where they did their first degree. Around 37% of graduates from these same six institutions also remained in the central South, with 23% moving to work or study in London.

By institution, around 1 in 5 of University of Winchester graduates remained locally after graduation, whereas only 1 in 10 of the University of Southampton's graduates did so. Southampton and Portsmouth send the most graduates to London, while only 12 .7% from Winchester move to the capital.

Where the Solent should have advantage over London is in offering more affordable housing and making the Solent more attractive to graduate entrants to the labour market. Looking at the affordability ratio of housing and graduates aged 16-64, places Southampton and Portsmouth in strong positions with potentially more graduates and more affordable housing. Figure 4.17 shows this distribution for urban

---

[75] Eden, S. and Freeman, C. (2019) *The war for talent: graduates and the Central South's Economy*, Southern Policy Centre and Willmott Dixon), May 2019.

local authorities with Solent benchmark authorities highlighted. Liverpool and Bournemouth also have more affordable housing and more graduates.

Figure 4.17: Urban Attractiveness for Graduate Retention:
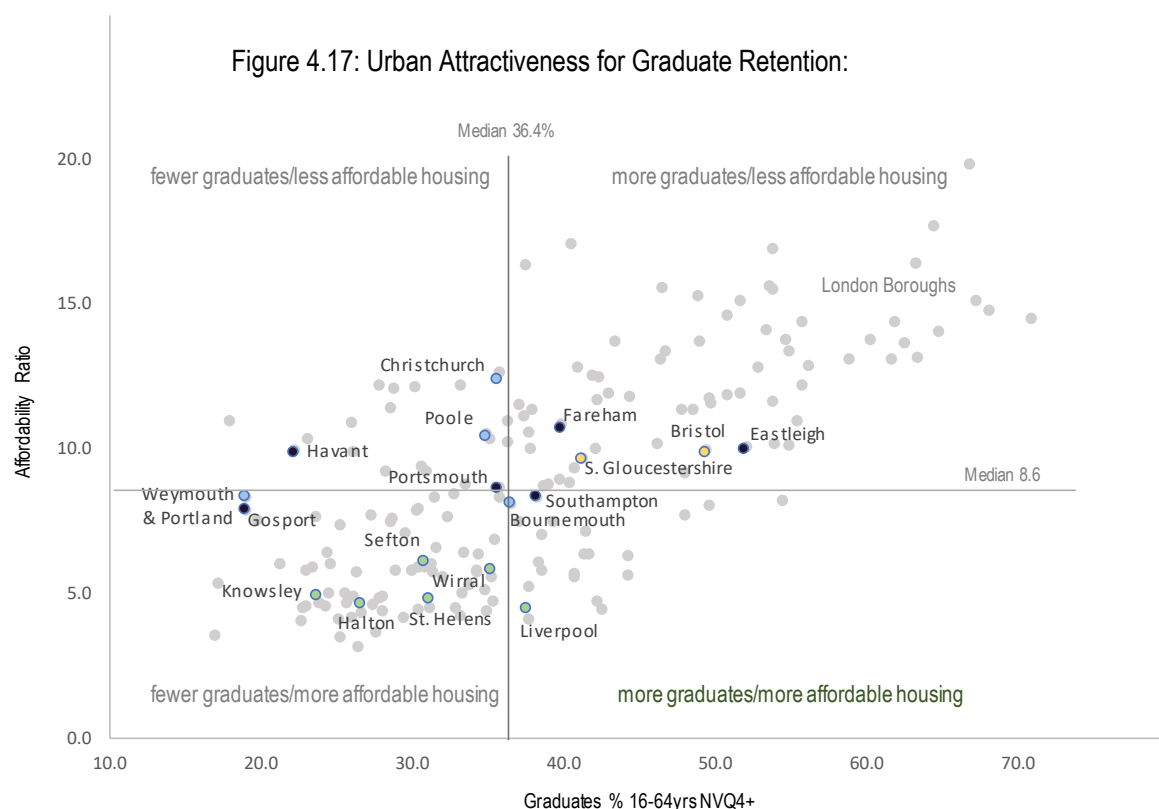
Source: EBIS using ONS (2019)

Bristol, in the West of England, is said to be one of the top cities in the world for attracting millennials according to the Millennial Cities Ranking 2017[76]. However, this may have made the city less affordable.

The appetite to commute over longer distances might diminish as a result of the pandemic which could boost graduate retention rates in Solent. For new graduates entering the labour market policies that support them accessing jobs or investing in their skills will be important to recovery and to avoiding longer unemployment periods. Poor market conditions at labour market entry cause recent graduates to accept lower paid jobs which in turn has permanent effects for the careers of some graduates.

4.2.6 Employer Sponsored Training

Employer sponsored training is the final component of the skills system in the Solent LEP area. Solent LEP compares favourably with the South East average and the all-England average on the most common indicators of workforce development.

In 2017 78% of all employers in the Solent LEP area arranged and/or funded training for their workforce compared to 67% in the South East and 66% in England (Table 4.31). The proportion of employers training staff in the Solent LEP area has increased from 70% in 2011 to 78% by 2017.

---

[76] https://www.nestpick.com/millennial-city-ranking/

The Solent data suggests that local employers are marginally more likely to have offered employees opportunities to undertake on-the-job training than off-the-job training. Close to six in every ten employers have provided online or e-learning to their employees over the last 12 months.

Table 4.31: Workforce development – employer training 2017

% of establishments	England	South East	Solent
training staff over the last 12 months	66.0%	67.0%	78.0%
providing off-the-job training in the last 12 months	48.0%	48.0%	56.0%
providing on-the-job training in the last 12 months	53.0%	55.0%	64.0%
providing online training or e-learning in the last 12 months	52.0%	52.0%	58.0%

Source: ESS (20174)

The survey estimated that a total of 294,800 employees in the Solent LEP area had received training in the last year, equating to 64% of the workforce. This was slightly above the regional and national average (62% respectively). The number of training days per employee in the Solent LEP area averaged 7.5, compared to 7 in the South East and 6.5 in England.

Sectoral data suggests that the incidence of employer-sponsored training is the highest in education and health & social work where 91% and 99% of all employers in the Solent LEP area have arranged and/or funded training for their workforce. On the other hand, relatively low incidence of employer-sponsored training is found in primary activities and utilities (46%). The proportion of employers that have arranged and/or funded training for their workforce in information & communication and manufacturing stands at 63% and 68%, below the Solent LEP average.

Table 4.32 shows the proportion of the workforce who have recently undertaken job-related training that is not necessarily funded or arranged by the employer. Levels of job-related training are again relatively high in the Solent LEP area compared with regional and national averages, with round 11.4% of 16-64-year olds in the area having undertaken training in the last four weeks, and 22.7% having done so in the last 13 weeks. The proportion for the 25-64-year olds is higher than for 16-64-year olds which suggests that younger people are less likely to undertake job-related training. This is probably related to their limited work experience and fewer opportunities.

Table 4.32: Proportion of the workforce who have recently undertaken job-related training, 2018

% of establishments	England	South East	Solent
% of all who received job related training in last 4 weeks - aged 16-64	9.8	10.2	11.4
% of all who received job related training in last 4 weeks - aged 25-64	9.7	10.3	12.2
% of all who received job related training in last 13 weeks - aged 16-64	18.5	19.7	21.1
% of all who received job related training in last 13 weeks - aged 25-64	19.1	20.6	22.7

Source: ONS (2019)

People employed in managerial and professional occupations in the Solent LEP area are more likely to undertake job-related training over the previous four weeks that people in service occupations. Employees in private services are about 1.6 times more likely to undertake job-related training than people in production activities. The highest incidence of job-related training is found in the public sector (double the average for private services). Data on job-related training by skill level suggests that highly

skilled people (those with NVQ4+) in the Solent LEP area are about 1.8 times more likely to undertake job-related training than people with upper intermediate (NVQ3) skills.

Solent LEP therefore compares favourably with both regional and national average on the most widely used measures of work-related training. However, as shown in the next section training provision has failed to boost performance according to a relatively large proportion of local employers.

4.3   Skills Deprivation and Inequality

Those outside the skills system are generally from neighbourhoods experiencing multiple types of deprivation and inequality. These place-based patterns of deprivation often require area-specific support, such as the Government's troubled families programme, to ensure that fewer younger people leave school without qualifications, or only achieve low levels of educational attainment, and to help working age and older residents access adult and community learning. To examine where working age deprivation exists in Solent the Index of Multiple Deprivation (IMD) and the Education and Skills deprivation are mapped and analysed. To gauge the extent young people are outside the skills system the widely used NEETS data is used to capture those Not in Education, Employment or Training.

4.3.1   Young People Not in Education, Employment or Training (NEETs)

The Solent has an estimated 640 NEETS, which equates to 2.8% of the total 16 to 17 cohort for the three months to February 2019[77]. The Solent NEET rate is above the England (2.6%) and South East (2.4%) averages. This is mostly down to high NEET rates in Havant, Portsmouth and Southampton. These three sub-areas all topped the Solent on deprivation. The Isle of Wight has a NEET rate below the England average but above the South East region. The remaining sub-areas (Eastleigh, Fareham, Gosport and New Forest) all have NEET rates below both the England and South East region (Figure 4.18).

Research suggests that variations in place-based patterns of inequality for young people implies there is no obvious intervention strategy, rather any programmes that seek to redress the NEETs may require a more flexible and localised response. [78] The data is clear that the greatest gains in reducing multiple and education deprivation and NEETS are to be made in the two cities and in Havant.

---

[77] NEETS are an average of the December 2018-February 2019 cohort and known NEETS. Isle of Wight, Portsmouth and Southampton NEET taken from DfE while Eastleigh, Fareham, Gosport, Havant and New Forest taken from Hampshire County Council NEET data. The average Solent cohort for Dec 2018- Feb 2019 was approximately 22,700 pupils aged 16-17 years of age.

[78] Boshoff, J., Jamie Moore, J. and Speckesser, S. (2019), *Inequality in education and labour market participation of young people across English localities: An exploration based on Longitudinal Education Outcomes (LEO) data*, London, Centre for Vocational Education Research.

Figure 4.18: NEET rates across Solent, 2019
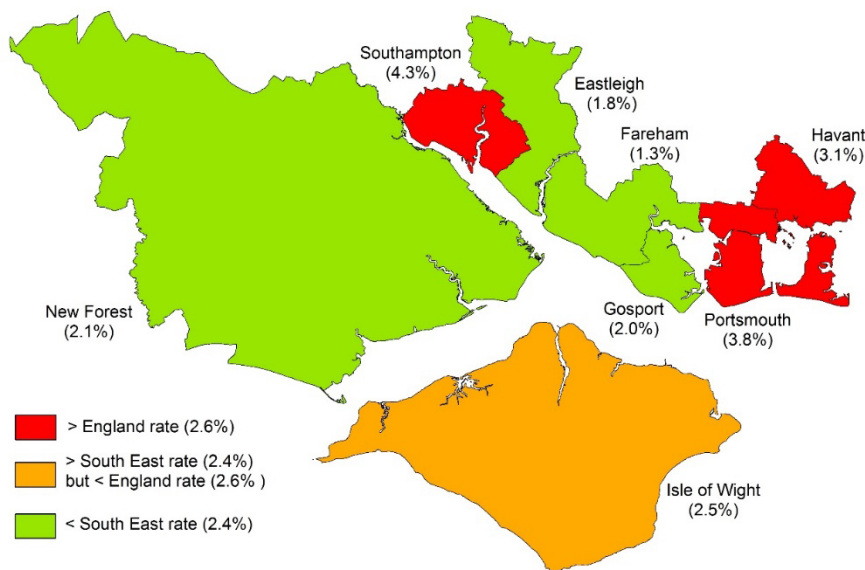
Sources: DfE (2019), HCC (2019)

4.3.2 Education and Skills Deprivation

There has generally been a Government policy focus on individualised, the so-called 'people-based' factors and initiatives, rather than broader place-based initiatives aimed at tackling deprivation. While individualised interventions can improve the outcome of a family or person, in practice they are often replaced by another family of similar socio-economic characteristics (identified as having complex needs). In this case place deprivation is maintained by a churn in individual deprivation. Targeting deprivation is therefore about a mix of people and place-based initiatives.

The Index of Multiple Deprivation (IMD) provides a combined weighted average of seven different types of deprivation: income, employment, education, skills & training, health deprivation & disability, crime, barriers to housing & services and living environment. The Solent has 757 Lower Super Output Areas of which 120 (16%) fall within the 20% most multiple deprived areas in England (Figure 4.19). The areas identified have a total population of approximately 195,000 although far for all residents who reside in these neighbourhoods would be classed as experiencing multiple types of deprivation. Four fifths of deprived areas (97 LSOA) and the population potentially affected (158,000) are from Havant, Portsmouth and Southampton.

The most deprived neighbourhoods are shown by darker blues in Figure 4.19 and are concentrated in urban areas. These are often characterised by their large stock of post-1945 social or ex-social housing. As well as older inner-city locations, such as neighbourhoods within Charles Dicken's Ward in Portsmouth and Bevois in Southampton while others are on the periphery of major urban centres (notably Leigh Park, Paulsgrove, Rowner, Thornhill and Wecock) with fewer local employment opportunities and more limited transport options. Such areas are likely to have more residents reliant on welfare benefits. Elsewhere, there are pockets of deprivation across most mainland districts and on the Isle of Wight (Newport, Ryde).

Figure 4.19: Patterns of Multiple Deprivation in Solent

Source: MHCLG (2019)
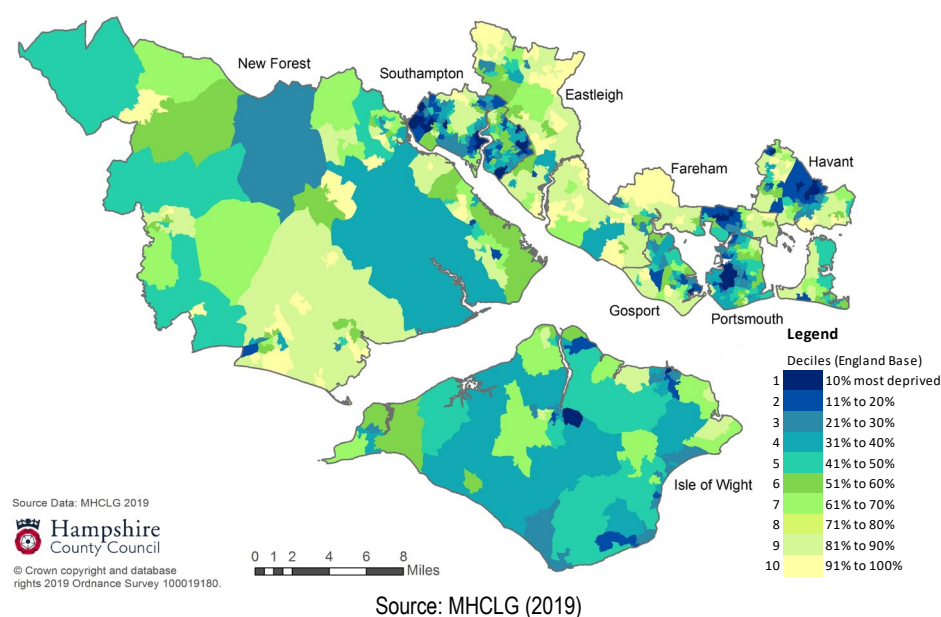
The Solent has 757 Lower Super Output Areas of which 157 (21%) fall within the 20% most deprived areas in England on education and skills (Figure 4.20). The areas identified have a total population of approximately 247,000 although far for all residents who reside in these neighbourhoods would be classed as experiencing education and training deprivation. Two thirds of deprived areas (102 LSOA) and the population potentially affected (165,000) are from Havant, Portsmouth and Southampton. The most education and training deprived neighbourhoods are shown by darker blues in Figure 4.20 and have a broadly similar pattern of concentrations in urban areas as the overall IMD. The obvious difference is more areas identified and more pockets across the districts.

Figure 4.20: Patterns of Education and Skills Deprivation in Solent

Source: MHCLG (2019)
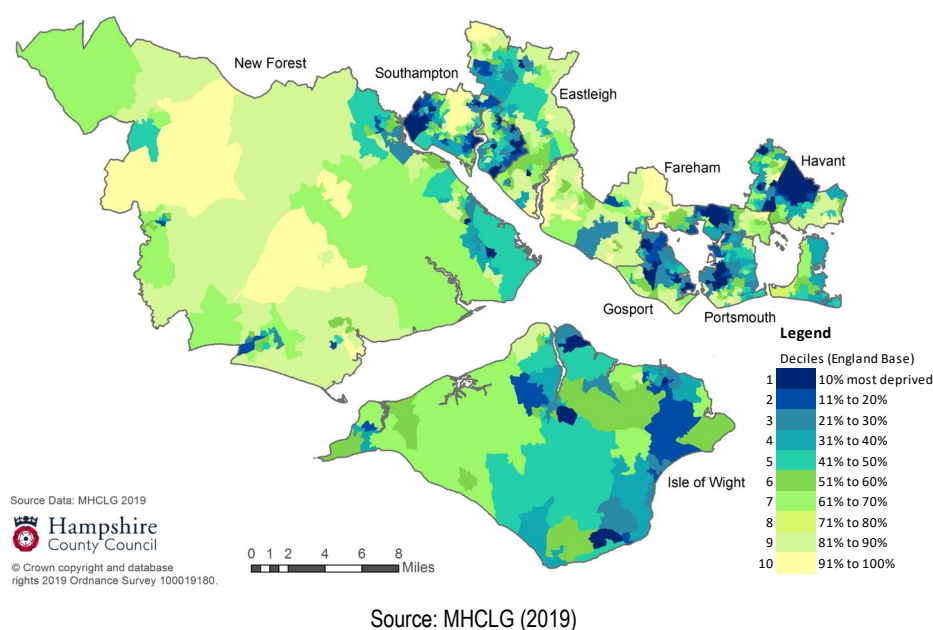
5 Skills Mismatch in the Solent

- Skills mismatches typically occur because of market failures (information failures, imperfect information and externalities) that are related to learner demand and an inadequate supply of training.

- In 2017 there were about 16,200 vacancies in the Solent LEP area or about 4% of all local employment. The Solent LEP area reported some 3,250 skill-shortage vacancies which equates to 1 in 10 of all skill shortage vacancies in the South East. Skills-shortage vacancies accounted for 20% of all vacancies in the Solent but just 0.8% of all employment.

- Skills shortage vacancies have decreased over the past couple of years and altogether the skills supply and skills demand appear to be broadly in balance. However, an apparent 'match' between demand and supply at the aggregate level does not hold for all industries and data suggests a mismatch between the supply and demand in construction; business services; health & social care; and hotels & restaurants. There appears to be little evidence of any significant skill-shortage vacancies in other sectors in the area including manufacturing and education. However, manufacturing is a broad sector and headline data is likely to under play the skills shortages reported by employers in advanced manufacturing businesses.

- Occupational data suggests that much of skills shortages in the Solent LEP area is at an intermediate level (NVQ Levels 3 and 2), both upper-middle and lower-middle skilled occupations (skill-shortage vacancies in skilled trades occupations and in personal service occupations).

- Some 22,400 employees in the Solent LEP area had skills gaps in 2017, where a skills gap is when demand exceeds supply internally within a firm or organisation, and this constitutes 5% of all employment in the area. Skill gaps are more prevalent in high end private services such as information & communication but also evident in sales & customer service occupations and administrative, clerical & secretarial occupations – intermediate occupations being more susceptible to automation.

- In aggregate, skills gaps and skill shortage vacancies suggest unmet skill demand of 25,660 or 5.8% of Solent's employment. This suggests a small mismatch overall between skills supply and skills demand at the aggregate level and, as stated above, this mismatch is more prevailing in some industries and occupations. From a policy perspective skills mismatches affecting the top occupational categories are often seen as more important for the economy.

- In terms of skills underutilisation, one third of all establishments in the Solent LEP area reported that at least one employee had both qualifications and skills more advanced than required in their current role. This was slightly below the national average. In volume terms, 34,400 workers or 7.4% of the Solent LEP area workforce have under-utilised skills.

- Education, health & social work and hotels & restaurants have a much higher incidence of establishments reporting having at least one underutilised employee than other sectors in the Solent LEP economy. Information & communication and financial services have the next highest proportions. The lowest incidence of establishments reporting staff underutilisation is found in the relatively labour-intensive manufacturing and construction sectors.

- The under use of skills in the Solent LEP area affects a considerably larger proportion of employers and the workforce than skills gaps in the Solent LEP area and across the country but that is likely to change with further advances in technology.

In section three we have described how demand for skills has changed in the past and how it is expected to change in the future. Section four looked at the supply of skills in the Solent LEP area, namely the skills of the existing workforce and the skills of the future workforce that is undertaking education and training. In this section we assess whether skills supply, and demand are in overall balance in the Solent LEP area. In other words, we are interested in whether employers' skill needs are met under the current system. This issue is important for both individuals and society. From the individual point of view, skill mismatches can limit employment and earnings opportunities and thus prevent people from reaching their full potential. Mismatches can also affect business investment and productivity and thus act as a drag on economic growth.

These skills mismatches typically occur as a consequence of market failures (information failures, imperfect information and externalities) relating to the supply of training to adequately meet demand.[79] Skills mismatches may simply reflect a temporary imbalance that may occur at a particular point in the business cycle (also known as transitory mismatches) or they may be structural. Skills mismatches will typically manifest in skills surpluses (an oversupply of skills) or skills shortages (an undersupply of specific skills). However, mapping skills demand and supply and assessing any skills mismatches is plagued by definitional and measurement issues. Some indicators refer to situations where supply of skilled labour is less than the demand for skilled labour while other refer to the opposite. It is also possible for the market for skills to be in equilibrium (the supply of skills is equal to the demand for skills) but both supply and demand are below the optimal level.

Wage differentials and relative wage growth at industry or occupational level is often used as a measure of skills mismatches in an economy but detailed timely wage data for the Solent LEP economy is not available. Furthermore, wage data is arguably less appropriate as a measure of skills mismatches over the short-to-medium term than over the long-term. The same is true of several other proxy indicators such as the employment or unemployment rates by qualifications or surveys of employee indicators. These indicators would provide some valuable information, but this data is not available at the LEP level.

In cases where the supply of skills is less than the demand for skills we typically focus on skills shortages, skill gaps and 'undereducation'. In cases where supply is greater than demand we focus on skilled worker unemployment rates, skills underutilisation, and 'overeducation'/undereducation. Lastly, in cases where supply equals demand the focus is often on skills deficit and benchmarking of skill levels against other areas/regions. In this section we focus on the core indicators where data at the local enterprise partnerships geography is available.

5.1   Skill Shortages

Employer reported recruitment difficulties related to skills shortages and skill gaps within their existing workforce are the most widely used measures of potential skill mismatches in the labour market. Skill shortages refer to the situation where supply of skills falls short of demand for skills in the labour market.

---

[79] Gambin, L. Hogarth, T. Murphy, L. Spreadbury, L. M. Warhurst, C. and Winterbotham, M. (2016) *Research to understand the extent, nature and impact of skill mismatches in the economy*, BIS Research Paper No. 265, Department for Business, Innovation & Skills, May 2016.

Skills shortage vacancies are typically used to assess skill shortages at the aggregate level and for different industries and occupations.

In 2017 there were about 16,200 vacancies in the Solent LEP area or about 4% of all employment in the area according to the most recent Employer Skills Survey (ESS). On this measure, Solent LEP was comparable to the South East and England averages. There were 3,250 skill-shortage vacancies in the Solent LEP area, which equates to 1 in 10 of all skill shortage vacancies in the South East. Skills-shortage vacancies accounted for 20% of all vacancies in the area but just 0.8% of all employment in Solent. The Solent LEP area was again comparable to the South East average but the incidence of skill-shortages in the area was slightly below the national average. In England, skill shortage vacancies accounted for about 0.9% of all employment. The number of skills shortage vacancies in Solent is very small and it stands at the lowest level since 2013.

Small and falling numbers of skills shortage vacancies suggest that in aggregate the skills supply and skills demand are broadly in balance according to this measure. However, this apparent 'match' between demand and supply does not hold for all industries. This is depicted in Figure 5.2 which shows skill-shortage vacancies by sector and the relevant percentages (as a % of all vacancies and as a % of total employment).

Construction accounted for about 15% of all skill-shortage vacancies in the Solent LEP area. Almost a half (46%) of all vacancies in this sector in Solent are skill-shortage vacancies, which is well above the Solent average (20%). Skill-shortage vacancies account for about 1.8% of all employment in this sector in the area which is more than double the average of skills shortage vacancies for the Solent LEP area (0.8%).

Figure 5.1: Skill-shortage vacancies by sector - Solent, 2017
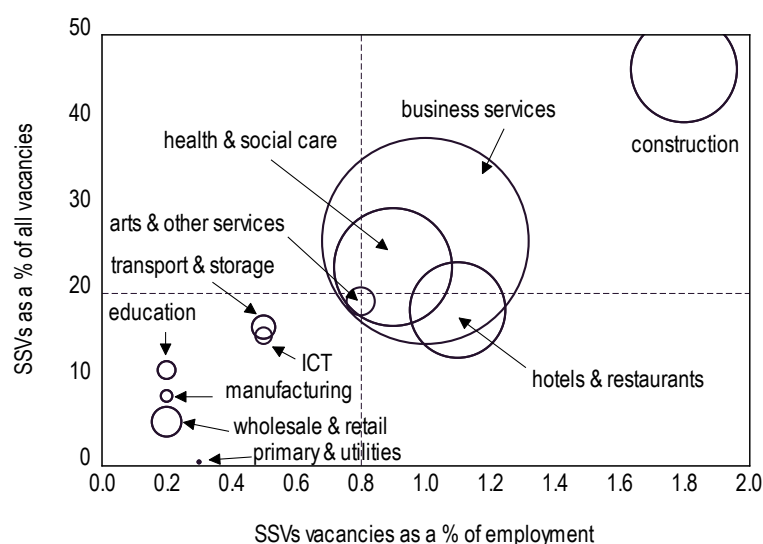
Source: ESS (2017)

Business services accounted for about 28% of all skill-shortage vacancies in the Solent LEP area. Over a quarter (26%) of all vacancies in this sector in Solent are skill-shortage vacancies, which is above the Solent average. Skill-shortage vacancies account for about 1% of all employment in this sector in the area which is again above the Solent LEP area average. Health & social care and hotels & restaurants

are two other large employment sectors in the area where skill-shortage vacancies account for a higher share of employment than is the case for the overall Solent LEP economy. Considering Covid-19, this is likely still to be true for health where demand has increased but in the short-term is less likely for hotels and restaurants where demand will be down if social distancing measures are more prolonged.

The above analysis based on skills-shortage vacancies therefore implies a possible mismatch between the supply and demand in construction, business services, health & social care and hotels and restaurants. Government data from the 2017 Employer Skills Survey (ESS) provides little evidence of significant skill-shortage vacancies in other sectors in the Solent LEP area including manufacturing and education. However, manufacturing is a broad sector and headline data is likely to under play the skills shortages reported by employers in advanced manufacturing businesses. More recent business intelligence suggests that the incidence of both skills-shortage vacancies and skills gaps in manufacturing sector is larger than indicted in the last ESS survey. Forward-looking data from the ESS survey also indicates that 57% of manufacturing companies in the Solent LEP area expect to see a need for new skills in the next 12 months. Furthermore, as shown in section 5.2 (Figure 5.3) the incidence of skills gaps in manufacturing is more prevailing than in most other industrial sectors in the Solent LEP area. An ageing population and the fact that 34% of people in employment in this sector are already over the age of 50 imply skills gaps and skills shortages are likely to increase in the future.[80]

Another way to look at a potential mismatch between the supply and demand is to analyse the profile of skill-shortage vacancies by occupation. Occupational data is often used as a proxy for skills and as such it is more informative of any mismatch between supply and demand. The analysis of occupational data suggests that in the Solent LEP area it is at an intermediate level (both upper-middle and lower-middle skilled occupations) where skills supply is not meeting skills demand. This is depicted in Figure 5.2. Almost one quarter of vacancies in skilled trades occupations and over one fifth in personal service occupations in the Solent LEP area are skill-shortage vacancies.

Figure 5.2: Skill-shortage vacancies by occupation - Solent, 2017
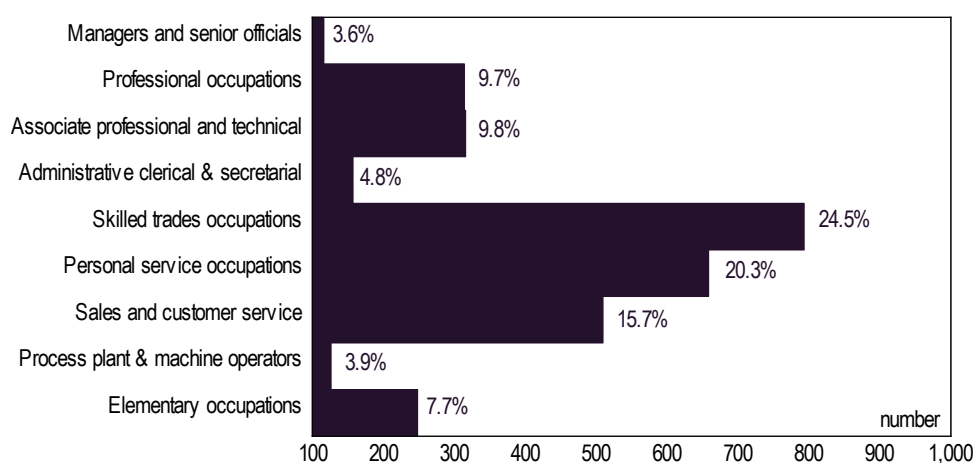
Source: ESS (2017)

---

[80] CIPD (2015) *Avoiding the demographic crunch: Labour supply and the ageing workforce*, Policy report, June 2015, Chartered Institute of Personnel and Development (CIPD).

About 10% of all skills-shortage vacancies in professional occupations and associate professional & technical occupations respectively are skill-shortage vacancies. As shown in Sections 3.6 and 3.7 technological progress and increasing use of automation in the production process is likely to have a far greater effect on for example sales & customer services occupations than on professional occupations or personal services occupations.

The ESS data suggests that in the case of skill-shortages middle-skill categories accounted for 29.3% of all skill-shortage vacancies in the Solent LEP area compared to 23% for the top three occupational categories.[81] Some 36.1% of all skill-shortage vacancies in the area are found in service-intensive occupations compared to 11.6% in labour-intensive occupations.[82]

5.2   Skill Gaps

The case where demand exceeds supply internally within a firm or organisation is termed a 'skills gap', which is indicated when employees are perceived by their managers to lack some competencies needed to carry out their tasks.[83] The Employment Skills Survey (ESS) shows that some 17% of establishments in the Solent LEP area had skills gaps compared to 12% in the South East and 13% in England. However, looking at skill gaps on a per-employer basis is potentially misleading, since this does not necessarily distinguish between employers with few or many skill gaps. It is more useful to look at the number of skill gaps on a per-employment basis.

Some 22,400 employees in the Solent LEP area had skills gaps in 2017 according to the latest ESS survey and this constitutes 5% of all employment in the area. The incidence of skills gaps in the Solent LEP area appears to be more prevailing than in the South East or England where skills gaps account for 4% of total employment respectively. However, the number of employees with skills gaps in the Solent LEP area decreased consistently from over 32,000 in 2013 down to under 22,500 in 2017.

Sectoral data suggests that the incidence of skill gaps is more prevailing in high end private services than in other sectors. This is depicted in Figure 5.3 which shows skills gaps by sector as a percentage of all employment. About 9% of people employed in information & communication are not fully proficient in their job, which is almost double the Solent LEP average (5%). In business services the corresponding estimate is 8% of staff.

Manufacturing, wholesale & retail and hotels & restaurants have about 6% of staff that is not fully proficient, slightly above the Solent LEP average. The above analysis points to a likely mismatch in higher value-added services and potential mismatch in manufacturing and several consumer services but this data is less informative than the corresponding occupational data.

---

[81] Middle-skill occupations are administrative & clerical and skilled trades occupations.
[82] Service-intensive occupations are caring, leisure and other services, sales and customer service. Labour intensive occupations are process, plant & machine operatives and elementary occupations
[83] Green, F. (2016) *Skills Demand, Training and Skills Mismatch: A Review of Key Concepts, Theory and Evidence*, Future of Skills & Lifelong Learning Evidence Review, Foresight, Government Office for Science.

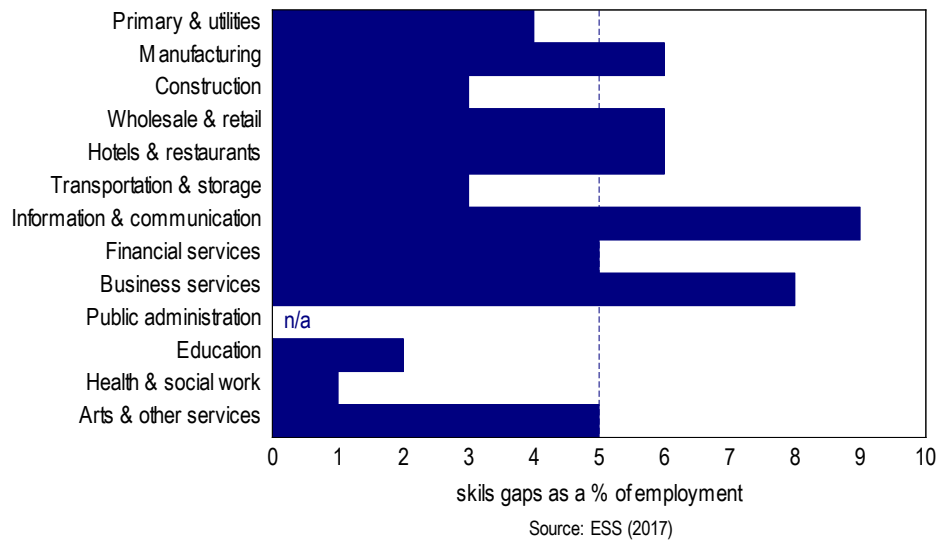Figure 5.3: Skill gaps by sector - Solent, 2017

Source: ESS (2017)

Figure 5.4 shows the proportion of people that are not fully proficient (skills gap) in their job by occupational category for the Solent LEP area. Relatively large incidence of skill gaps is found in sales & customer service occupations and administrative, clerical & secretarial occupations (32.2% and 11% respectively) additionally the available evidence suggests that these occupations are susceptible to the impact of automation more than other occupational categories.

Figure 5.4: Skil gaps by occupation - Solent, 2017

Source: ESS (2017)
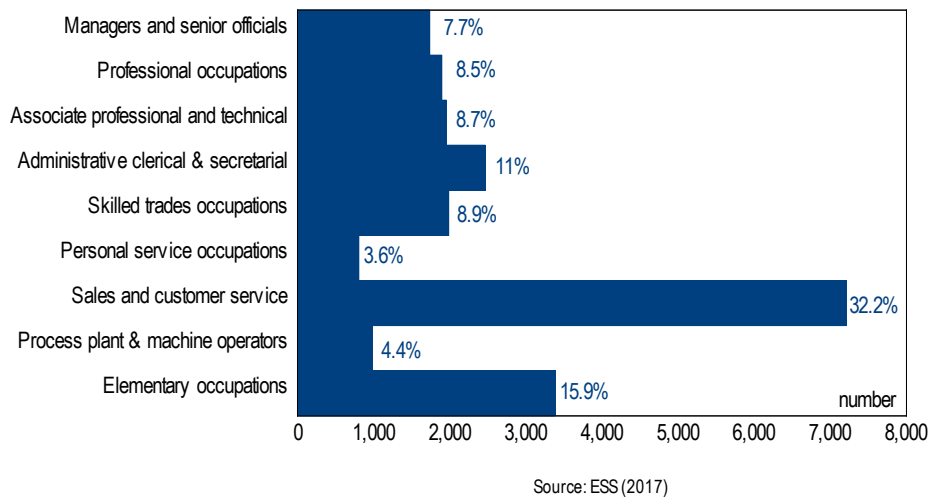
The ESS data suggests that in the case of skill gaps, the top three occupational categories accounted for 24.9% of all skills gaps in the Solent LEP area compared to 19.8% for the middle skill occupational categories. Some 35.8% of all skill gaps are found in service-intensive occupations compared to 19.5% in labour-intensive occupations. The analysis of occupational skills gap data therefore suggests that in the Solent LEP area mismatches between skills supply and skills demand prevail in several middle skill (intermediate) occupations and in higher-skill occupational categories. From a policy perspective skills mismatches affecting the top occupational categories will matter the most for the economy.

113

Unsurprisingly new recruits being new to a role was the most cited reason for skills gaps by employers followed by training only partially completed (Figure 5.5). This suggests that some of the gaps should resolve themselves over time and hence why these reasons are termed as transient skills gaps.

More persistent non-transient reasons also revolved around training, either where it has not resolved the skills gap, no training has been undertaken or there have been challenges in recruiting staff with the required skills. In the Solent LEP area, 28% of employers reported that their staff have been on training, but their performance has not improved sufficiently. Around a fifth of employers reported that they were unable to recruit staff with the required skills.

Figure 5.5: Reasons for skills gaps, reported by employers with skills gaps, Solent 2017

Source: ESS (2017)
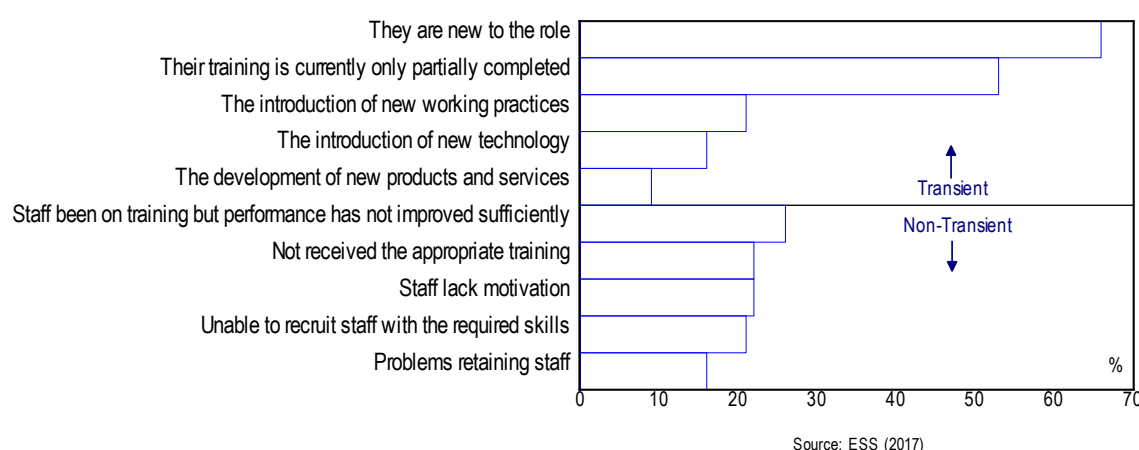
In the Solent LEP area, some 78% of establishments trained staff over the previous 12 months, a much higher proportion than in the South East or England (67% and 66% respectively) according to the most recent ESS survey. Some 56% of establishments provided off-the-job training while 64% provided on-the-job-training, again much higher than the South East or England averages. The above analysis suggests that training in the area compares favourably with the regional and national averages. However, it also suggests that in some instances there are issues with the quality of the provision which has failed to boost performance according to 28% of employers. Under supply of people with the required skills in the local labour market is also an issue in the area.

Table 5.1: Reasons for skills gaps, reported by employers with skills gaps against Benchmarks

Non-Transient	Solent	Dorset	Liverpool City Region	West of England	England
Problems retaining staff	16%	43%	17%	22%	21%
Unable to recruit staff with the required skills	21%	32%	29%	33%	27%
Staff lack motivation	22%	32%	43%	36%	31%
They have not received the appropriate training	22%	24%	38%	27%	24%
They have been on training, but their performance has not improved sufficiently	28%	41%	35%	31%	31%
Transient	Solent	Dorset	Liverpool City Region	West of England	England
The development of new products and services	9%	12%	17%	15%	15%
The introduction of new technology	16%	14%	25%	17%	18%
The introduction of new working practices	21%	22%	29%	27%	23%
Their training is currently only partially completed	53%	60%	63%	58%	56%
They are new to the role	66%	63%	57%	60%	62%

Source: Employer Skills Survey 2017. Grouped into 'transient' and 'non-transient' by EBIS

Looking at reasons given by employers for skills gaps across the four LEP areas the latest data does not suggest any significant differences for transient reasons (Table 5.1). On non-transient reasons the Solent LEP area scored relatively well across the board compared to the other LEPs and compared to the national average.

For example, 21% of establishments in the Solent LEP area were unable to recruit staff with the required skills compared to 27% in England. This is the lowest proportion among the Solent's comparator areas and well below Dorset and West of England LEPs where about a third of establishments struggled recruiting staff with the required skills. The same is true of staff performance after undertaking training. The Solent's proportion of 28% might appear high but this is still below the national average and the lowest among the comparator areas.

Employer surveys suggest that occupations associated with advanced skills (managers, professionals) are most affected by new skills (a need to acquire new skills). However, proportionately fewer Solent employers reported this compared to the other comparator LEPs (Table 5.2). Although Solent has a high number of residents with intermediate skills (Section 4.1.2), skilled trades was reported more by Solent employers than for the other three comparator LEPs.

Table 5.2: Occupation most affected by need for new skills (2017)

Occupation	Solent	Dorset	Liverpool City Region	West of England	England
Managers	31%	41%	38%	47%	43%
Professional	13%	7%	9%	8%	8%
Don't know	13%	11%	7%	11%	10%
Skilled trades	12%	9%	6%	6%	8%
Elementary	10%	7%	6%	3%	6%
Sales and customer service	8%	7%	11%	9%	7%
Associate professional and technical	5%	6%	5%	3%	4%
Administrative and secretarial	3%	7%	7%	9%	6%
Process plant and machine operatives	3%	1%	3%	1%	4%
Caring Leisure and Other Services	2%	4%	8%	4%	4%

Source: Employer Skills Survey (2017)

Traditional marine skills will still be needed but there will be a greater emphasis on new skills in digital and new technology. Developing, operating and maintaining these autonomous and technological systems will need highly qualified workers and in particular increasing the number who have studied STEM subjects[84]. This will be delivered in the workplace, but increasingly through specialist educational institutions. Southampton excels in providing education, training and ship management services while the CEMAST provides marine technology courses.

---

[84] Department for Transport (2019) *Maritime 2050 Navigating the Future*, January 2019

5.3   Unmet Demand for Skills in Solent

It is possible to combine the estimates of skills shortages and skills gaps to arrive at a rather 'lose proxy' estimate of the total size of unmet demand for skills in the Solent LEP area. This is demonstrated in Figure 5.6 which shows the size of this 'unmet' demand for skills in the Solent LEP area and the comparison with the national average and the comparator LEP areas.

In 2017 there were 22,420 skill gaps (5% of employment) and 3,240 skills shortage vacancies (0.8% of employment) in the Solent LEP area. Jointly this amounted to unmet skill demand of 25,660 or 5.8% of Solent's employment. This unmet skills demand as a proportion of total employment in the Solent LEP area is comparable to the South East average but slightly above the national average (both skills gaps and skill shortage vacancies as a proportion of total employment in Solent are above the national average). Skills mismatches in Solent are similar to the Liverpool City Region and compare favourably with Dorset and West of England.

Figure 5.6: Total size of unmet demand for skills, 2017
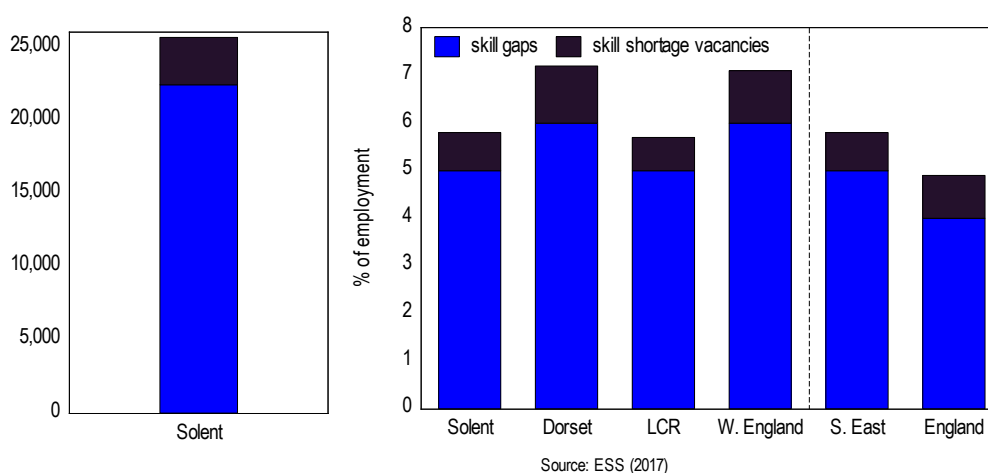
Source: ESS (2017)

Since 2013 this unmet skills demand in Solent LEP has evolved in the same way to Dorset and Liverpool City region with an increase in 2015 before falling back. The West of England has followed a different trajectory with a gradual increase. This is demonstrated in Figure 5.7 which shows skills gaps and skills shortage vacancies in absolute terms over the last three survey waves.

This suggests that in aggregate, there is a small mismatch between skill supply and skills demand in the Solent LEP area according to this measure. Given the small numbers involved it could be argued that skill supply and skill demand are broadly in balance but as shown in sections 5.1 and 5.2 there appears to be a mismatch between supply and demand in several occupations and industries.

In the case of skills shortages there appears to be a mismatch in construction followed by health & social care, hotels & restaurants and business services. Occupational data points to a mismatch in several middle skill categories such as skilled trade occupations, personal service occupations and sales & customer service occupations but also in professional and associate professional occupations. Prevalence of skills shortages is more pronounced in middle-skill occupations than in high-skill occupations.

Figure 5.7: Skill gaps and skill shortage vacancies – selected LEPs, 2013 to 2015
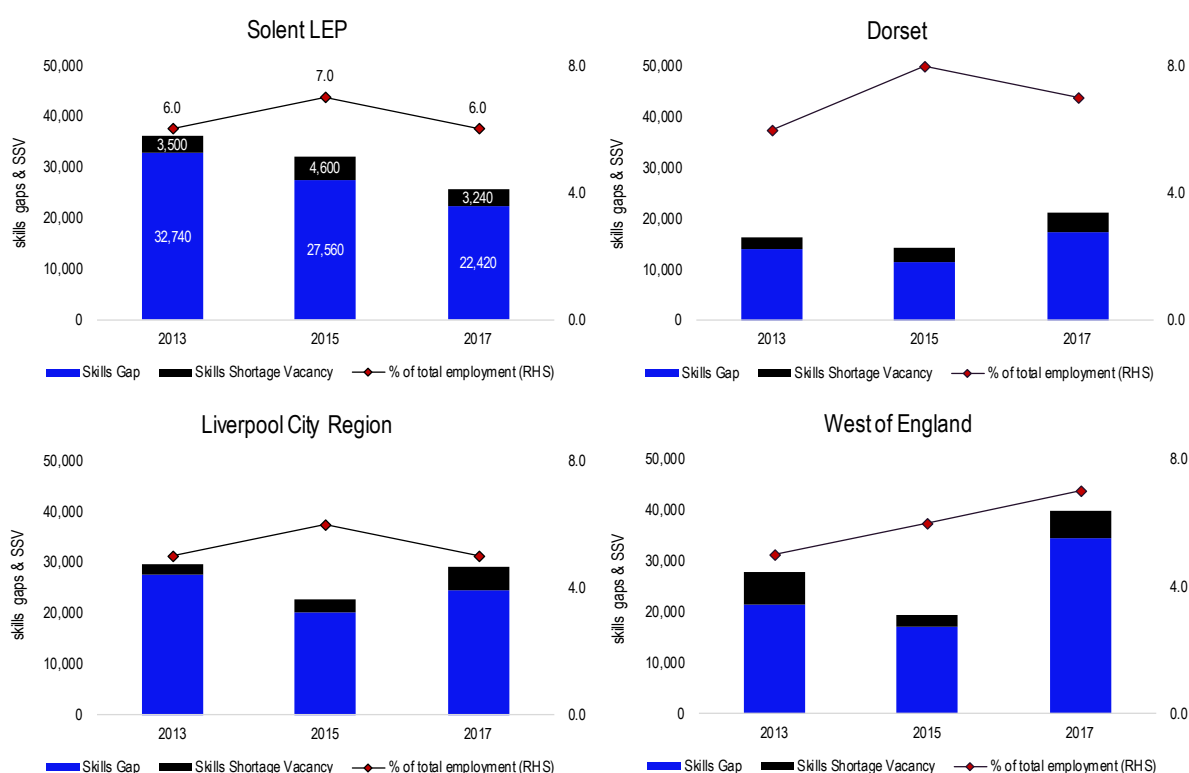
Source: Employer Skills Survey 2013-2017. Skill 'gaps': whether the employer has any staff now who lack proficiency, and 'Skill shortage vacancies' (SSVs): whether the employer has struggled to fill some vacancies due to a lack of appropriately skilled staff.

On the other hand, prevalence of skill gaps is more prevailing in high end services such as information & communication and business services followed by manufacturing, wholesale & retail and hotels & restaurants. Occupational data points to sales & customer service occupations and administrative, clerical & secretarial. If we just focus on the top two occupational categories, we find that higher-skill occupations, the top three occupational categories (managers & senior officials, professional occupations and associate professional & technical occupations) account for a higher share than middle-skill occupations.

As suggested elsewhere in this paper advances in technology are likely to reduce this unmet demand in several occupations such as sales or secretarial occupations but the effect of technological progress could have the opposite effect on higher-end occupations some of which are projected to see strong growth in demand over the next decade and beyond.

5.4   Skills Underutilisation

In addition to exploring situations where the supply of skills is less than the demand for skills (skill shortages and skill gaps) it is necessary to investigate the skills imbalances that arise from the situations where the supply of skills is greater than the demand for skills. In this case we are referring to situations where skills and qualifications held by employees are not utilised optimally within the labour market. Overeducation or underemployment is an indirect way of measuring skills underutilisation.

In the Solent LEP area one third of all establishments reported that at least one employee had both qualifications and skills more advanced than required in their current role according to the latest ESS survey. This was slightly below the national average. In volume terms, 34,400 workers or 7.4% of the Solent LEP area workforce have under-utilised skills. The proportion of the Solent workforce that has under-utilised skills is below the national average and West of England average, comparable to Liverpool City Region but slightly above Dorset.

Sectoral data suggests that education, health & social work and hotels & restaurants have a much higher incidence of establishments reporting having at least one underutilised employee than other sectors in the Solent LEP economy (Figure 5.8). Information & communication and financial services have the next highest proportions of establishments above the Solent LEP average. The lowest incidence of establishments reporting staff underutilisation is found in the relatively labour-intensive manufacturing and construction sectors. The under use of skills in the Solent LEP area affects a considerably larger proportion of employers and the workforce than skills gaps in the Solent LEP area and across the country. As shown in the previous section skills gaps in the Solent LEP area affect 17% establishment and 22,500 employees which constitutes 5% of the Solent LEP workforce.

Figure 5.8: Establishments with underutilised staff - Solent, 2017
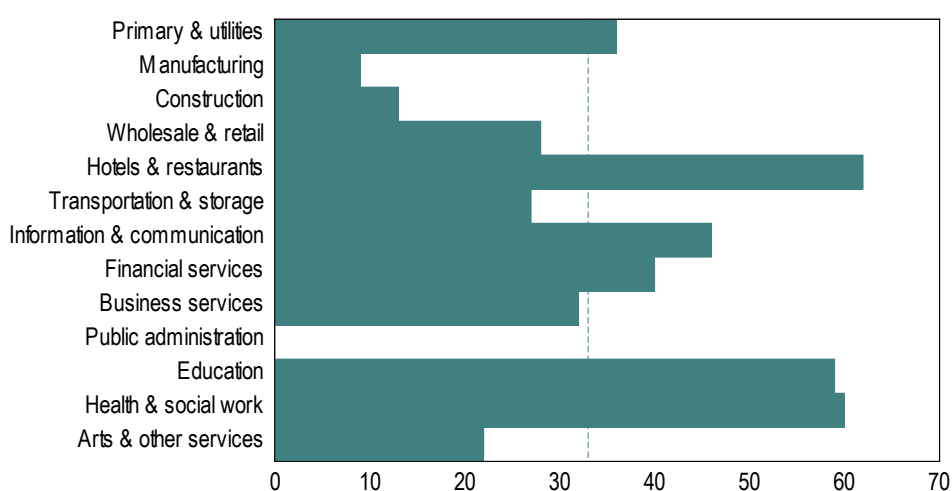
Source: ESS (2017)

The indicators that are used to measure skills underutilisation are subjective and need to be treated with a high degree of caution. The difficulties associated with measurements are major obstacle in understanding and remedying skills utilisation. Our understanding of skills underutilisation is insufficiently developed for supporting policy interventions in at least the near future (Green, 2016).[85] In this report we have frequently used qualifications as the main proxy indicator for skills level. However, qualifications are not a means to an end. Four out of every five Solent employers surveyed through the most recent Employers Perspective Survey (EPS) thought the ability of staff to do the job effectively was more important than formal qualifications. Nonetheless, qualifications remain the main yardstick used by employers for filtering young people's abilities and abilities of people in work with limited experience.

---

[85] Green, F. (2016) *Skills Demand, Training and Skills Mismatch: A Review of Key Concepts, Theory and Evidence*, Future of Skills & Lifelong Learning Evidence Review, Government Office for Science, August 2016.

Data Annex

A.1 Projected Net Job Requirement by Qualification

Qualification type	10-year forecast horizon	18-year forecast horizon
Higher degrees	26,800	45,200
First degree & equivalent	45,400	76,400
HE below degree level	5,100	8,600
HNC BTEC & RSA Higher etc.	11,400	19,400
Nursing and teaching	4,900	8,100
A level & equivalent	15,700	25,800
GNVQ advanced	1,400	2,300
ONC, BTEC national etc.	28,400	47,400
GCSE grades A to C	27,000	44,400
GNVQ intermediate	700	1,100
BTEC first diploma etc.	21,500	35,600
GCSE below grade C	28,100	46,500
GNVQ foundation	100	100
BTEC first certificate etc.	6,700	11,200
No qualification	17,100	28,600
Net Requirement	240,300	400,600

Source: CE (2019) Local Economy Forecasting Model (LEFM) of the Solent LEP Economy

A.2 Education & Training Starts by Sector Subject Area and Qualification

Qualifications data for Education & Training starts by Sector Subject Area (Table 4.12) - selected Sector Subject Areas.

Total Education & Training starts by Qualification

Qualification Type	2017/18	%
A Level	14,095	13.3
Access to HE	533	0.5
AS Level	1,280	1.2
Award	8,459	8.0
Basic Skills Maths and English	9,269	8.7
Certificate	13,674	12.9
Diploma	14,191	13.4
ESOL	3,213	3.0
GCSE Maths and English	7,371	7.0
GCSE Other	465	0.4
Other Non-Regulated	21,970	20.7
Other Regulated	1,620	1.5
QCF Unit	9,863	9.3
Total	106,003	100.0

Source: SFA (2018). Datacube, Learner base.

Preparation for Life and Work starts by Qualification

Qualification Type	2017/18	%
Award	2,344	6.5
Basic Skills Maths and English	9,269	25.5
Certificate	1,720	4.7
Diploma	160	0.4
ESOL	3,213	8.9
Other Non-Regulated	11,698	32.2
Other Regulated	1,072	3.0
QCF Unit	6,816	18.8
Total	36,292	100.0

Source: SFA (2018). Datacube, Learner base.

Science and Mathematics starts by Qualification

Qualification Type	2017/18	%
A Level	5,300	47.2
Access to HE	36	0.3
AS Level	526	4.7
Award	45	0.4
Certificate	596	5.3
Diploma	247	2.2
GCSE Maths and English	3,589	32.0
GCSE Other	283	2.5
Other Non-Regulated	75	0.7
Other Regulated	534	4.8
Total	11,231	100.0

Source: SFA (2018). Datacube, Learner base.

Engineering and Manufacturing Technologies starts by Qualification

Qualification Type	2017/18	%
A Level	112	2.9
Access to HE	3	0.1
AS Level	7	0.2
Award	697	18.3
Certificate	591	15.5
Diploma	1,637	42.9
Other Non-Regulated	755	19.8
Other Regulated	14	0.4
QCF Unit	0	0.0
Total	3,816	100.0

Source: SFA (2018). Datacube, Learner base.

Health, Public Services and Care starts by Qualification

Qualification Type	2017/18	%
A Level	138	1.6
Access to HE	345	3.9
Award	1,051	11.9
Certificate	4,465	50.6
Diploma	1,904	21.6
Other Non-Regulated	485	5.5
QCF Unit	436	4.9
Total	8,824	100.0

Source: SFA (2018). Datacube, Learner base.

Business, Administration and Law starts by Qualification

Qualification Type	2017/18	%
A Level	1,365	18.2
Access to HE	18	0.2
AS Level	105	1.4
Award	728	9.7
Certificate	2,404	32.0
Diploma	1,312	17.5
GCSE Other	7	0.1
Other Non-Regulated	417	5.6
QCF Unit	1,146	15.3
Total	7,502	100.0

Source: SFA (2018). Datacube, Learner base.

Construction, Planning and the Built Environment starts by Qualification

Qualification Type	2017/18	%
Award	525	12.6
Certificate	344	8.2
Diploma	1,724	41.3
Other Non-Regulated	1,510	36.1
QCF Unit	76	1.8
Total	4,179	100.0

Source: SFA (2018). Datacube, Learner base.

A.3 Education & Training – Major FE and Sixth Form Colleges

College	Enrolment	Provider Type
Havant And South Downs College	12,518	General FE College incl Tertiary
Highbury College Portsmouth	12,492	General FE College incl Tertiary
Brockenhurst College	10,195	General FE College incl Tertiary
Barton Peveril Sixth Form College	9,338	Sixth Form College
Eastleigh College	8,444	General FE College incl Tertiary
Isle Of Wight College	7,922	General FE College incl Tertiary
Itchen College	6,557	Sixth Form College
Southampton City College	6,428	General FE College incl Tertiary
Portsmouth College	5,625	Sixth Form College
Fareham College	4,922	General FE College incl Tertiary
Peter Symonds College	4,163	Sixth Form College
St Vincent College	4,117	Sixth Form College
Richard Taunton Sixth Form College	3,690	Other Public Funded i.e LA's and HE
Sparsholt College	2,198	Special Colleges
Totton College (Part Of Nacro)	737	Sixth Form College

A.4 Education & Training – Non-Nationals by Qualification

Qualifications data for Education & Training starts for Non-Nationals (Table 4.17) - selected Sector Subject Areas.

Qualification Type	Starts	% of All Starts
A Level	3,266	15.4
Other Non-Regulated	3,170	14.9
ESOL	3,159	14.9
Basic Skills Maths and English	2,492	11.8
Certificate	2,141	10.1
Diploma	2,132	10.1
GCSE Maths and English	1,491	7.0
Award	1,171	5.5
QCF Unit	1,140	5.4
Other Regulated	466	2.2
AS Level	373	1.8
Access to HE	106	0.5
GCSE Other	101	0.5
Total	2,1208	100.0

Source: SFA (2018). Datacube, Learner base.

Glossary of Terms

Achievements	Number of apprenticeship frameworks / other learning aims that have an actual end date within the timeframe selected and have been recorded as achieved within that academic year.
Advanced skills	Level 4+ (see Level 4+ definition).
A-Level (General Certificate of Education Advanced Level)	A-levels is a main school leaving qualification. Most students study three or four A level subjects simultaneously during the two post-16 years (ages 16–18) in a secondary school, in a sixth form college, in a further and higher education college, or in a tertiary college, as part of their further education (FE). Students choose which A-level subjects they want to study when they are doing their GCSEs and admission is usually dependent on GCSE grades.
Apprenticeship	A programme in which the apprenticeships are aged 16 or over and combine working with studying to gain skills and knowledge in a specific job.
Apprenticeship Start	A start refers to the number of apprenticeship programmes that begin in a given time period. This measure is helpful in determining the take-up of programmes. An apprentice is counted for each individual apprenticeship they start; for example, if one individual started one intermediate level apprenticeship and one advanced level apprenticeship, they would be counted as two start
Average Attainment 8	Attainment 8 is a measure of a pupil's average grade across a set suite of eight subjects. Once calculated, this Attainment 8 score is compared to the average Attainment 8 score of all pupils nationally with the same prior attainment at KS2 in order to calculate a pupils Progress 8 score.
Average Progress 8	A school's Progress 8 score is usually between -1 and +1. A score of +1 means that pupils in that school achieve one grade higher in each qualification than other similar pupils nationally. A score of -1 means they achieve one grade lower. The average Progress 8 score of all secondary schools nationally is 0.
BTEC (Business and Technology Education Council)	BTECs are specialist work-related qualifications. They combine practical learning with subject and theory content. There are over 2,000 BTEC qualifications across 16 sectors – they are available from entry level through to professional qualifications at level 7 (equivalent to postgraduate study).
Community Learning (CL)	CL funds a wide range of non-formal courses, ranging from personal development through to older people's learning, IT courses, employability skills, family learning and activities to promote civic engagement and community development. Courses may be offered by local authorities, colleges, and voluntary and community groups, and include activity

specifically targeted at deprived areas and disadvantaged groups. Examples of CL provision include entry level qualifications such as English for Speakers of Other Languages (ESOL), English and maths and are mainly level 2 or below and most CL aims are non-regulated provision.

Datacube (Locality Data cube)	The purpose of the data cubes is to provide Local Enterprise Partnerships (LEP) and Mayoral Combined Authorities (MCA) with data from the Individualised Learner Record (ILR) for their area. This provides information about the training in their area funded by the Skills Funding Agency and Education Funding Agency (and their predecessor organisations).
Department for Education (DfE)	The Department for Education is responsible for children's services and education, including early years, schools, higher and further education policy, apprenticeships and wider skills in England. DfE is a ministerial department.
Economically active	People aged 16 to 64 who are either in employment or unemployed.
Economic activity rate	The number of people who are economically active aged 16 to 64, expressed as a percentage of all working age people.
Economic growth	Refers to an increase in a country's or region's output, usually measured by changes in real GDP or GVA.
Economically inactive	People neither in employment or unemployed such as those looking after family and home or early retired.
Economic inactivity rate	The number of people who are economically inactive aged 16 to 64, expressed as a percentage of all working age people.
Education & Training (ET)	ET covers further education learning delivered mainly in a classroom, workshop, or through distance or e-learning. It contains everything that is not an Apprenticeships or Community Learning. It includes traineeship programmes (not components), degree and post-graduate courses, GCSEs, A-Levels, BTECs and NVQs as well as many other qualifications that are offered through General Further Education Colleges, Higher Education Institutions and External Institutions.
Employed	People aged 16 to 64 or over who did some paid work in the reference week, people with a job but temporarily away, people on Government supported training and employment programmes.
Employment rate	The number of people in employment aged 16 to 64 expressed as a percentage of all working age people.
Further Education (FE)	FE includes any study after secondary education that's not part of higher education (that is, not taken as part of an undergraduate or graduate degree).

General Certificate of Secondary Education (GCSE)	(In the UK except Scotland) an academic qualification, generally taken in a number of subjects by school students aged 14–16 in secondary education, at a level below A level.
Gross Value Added (GVA)	GVA is a measure of the increase in the value of the economy due to the production of goods and services. It is measured at current basic prices (value in £ million), which include the effect of inflation, and in "real" terms in chained volume measures (CVM), with the effect of inflation removed.
Gross Domestic Product (GDP)	GDP is a similar measure of total economic output to GVA. GVA plus taxes (less subsidies) on products is equivalent to Gross Domestic Product (GDP).
Higher Education (HE)	Higher education is third level education. It takes places at universities and Further Education colleges and normally includes undergraduate and postgraduate study.
Higher National Diplomas (HND)	HNDs are work-related (vocational) higher education qualifications. While bachelor degrees tend to focus on gaining knowledge.
Individualised Learner Record (ILR)	Information about learner data that publicly funded colleges, training organisations, local authorities and employers (FE providers) must collect and return. The further education (FE) and skills sector in England uses the Individualised Learner Record (ILR) to collect data about learners in the sector and the learning undertaken by each of them.
Intermediate skills	Levels 2-3 and Trade Apprenticeship (see separate definitions).
Jobs density	The numbers of workplace jobs per resident of working age.
Key Stage (KS)	From the ages of five through to eighteen, education is compulsory for all children in England and Wales. Relevant here are Key Stage 4: Years 10 to 11 (14-16 years old) and Key Stage 5: more commonly referred to as College or Sixth Form. Covers Years 12 to 13 (16-18 years old).
Learner base records (Datacube)	A locality data cube to include residents living in the postcodes covered by the area as defined by the Office of National Statistics.
Level 1	The Regulated Qualifications Framework (RQF) Level 1: achieved in Years 10 and 11 of secondary school, Level 1 qualifications are the first formal rung on the numbered system of qualifications e.g. GCSE (grades 1-4), Level 1 NVQ.
Level 2	RQF Level 2 is the next step up from Level 1 and is also often achieved in Years 10 and 11 e.g. GCSE (grades 4/5-9), NVQ 2.
Level 3	RQF Level 3 generally shows greater knowledge in a subject, and is often achieved in Years 12 and 13, or in centres for further education e.g. A level (grades A, B, C, D or E), Tech level, NVQ 3, International Baccalaureate diploma.

Level 4+	RQF Level 4+ covers Levels 4-8 and is indicative of a greater understanding and a higher level of learning and up a doctorate level of education, often known as a PhD e.g. Higher national certificate (HNC), Foundation degree, Bachelor's degree, Master's degree and PhD.
Low skills	No qualifications or Level 1 (see separate definitions).
Market failure	A situation when workings of the price mechanism are imperfect leading to inefficient or grossly unfair allocation of resources.
National Vocational Qualification (NVQ)	A qualification in a vocational subject set at various levels corresponding in standard to GCSE and A levels. This work-based award is carried out at a college, school, or workplace. To achieve an NVQ, candidates had to prove that they had the ability (competence) to carry out their job to the required standard.
NEET	Not in Education, Employment or Training, a young person who is no longer in the education system and who is not working or being trained for work.
No qualification	In the Annual Population Survey this means no formal qualifications held.
Other Qualification	Includes foreign qualifications and some professional qualifications.
Productivity per hour worked	Labour productivity per hours worked calculated by dividing output (GVA) by average actual hours worked and given as output per hour. This is the preferred ONS measure of Labour productivity.
Productivity per jobs	Labour productivity per jobs is calculated by dividing output (GVA) by numbers of jobs (employees and self-employed).
Skills Gap	When employees are perceived by their managers to lack some competencies needed to carry out their task.
Skill-Shortage Vacancies (SSV)	Where employers struggle to fill vacancies, this may be due to a lack of skills, qualifications or experience amongst applicants. Collectively these are known as 'skill-shortage vacancies'.
Starts	Number of apprenticeship frameworks / other learning aims that have start dates within the timeframe selected.
Trade Apprenticeship	In the ONS qualifications data the trade apprenticeships are split 50/50 between NVQ level 2 and 3.
Traineeship Component (TC)	TC are the aims that make up a Traineeship e.g. English, maths, work prep and work placement. A traineeship is a course that includes a work placement. It can last from 6 weeks up to 6 months. Traineeships are aimed at young people aged 16 to 24 to get ready for an apprenticeship or job if they do not have the appropriate skills or experience.

Travel to Work Area (TTWA)	TTWAs are a geography created to approximate labour market areas. They are derived to reflect self-contained areas in which most people both live and work. The current criteria for defining TTWAs are that at least 75% of the area's resident workforce work in the area and at least 75% of the people who work in the area also live in the area.
Unemployed	People without a job who were available to start work in the two weeks following their interview and who had neither looked for work in the for weeks prior to interview or were waiting to start a job.
Unemployment rate	The number of unemployed people aged 16 to 64 expressed as a percentage of the economically active population of working age.
Working age population	Resident people aged 16 to 64 (LFS measure of working age population).