URBAN EDGE ENVIRONMENTAL CONSULTING

NATURAL PROGRESSION

Sustainability Appraisal and Strategic Environmental Assessment for the Fareham Local Plan

Baseline Update

December 2019

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Author:	Giulia Civello
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Abbreviations

AHBR	Archaeology and Historic Buildings Record
ALC	Agricultural Land Classification
ALS	Abstraction Licensing Strategies
AQMA	Air Quality Management Areas
ATL	Advance The Line
BAP	Biodiversity Action Plan
BMV	Best and most versatile
BOA	Biodiversity Opportunity Areas
BRT	Bus Rapid Transit
CCMA	Coastal Change Management Areas
CO / CO_2	Carbon monoxide / carbon dioxide
CRoW	Countryside and Rights of Way Act
DSP	Development Sites and Policies
GI	Green Infrastructure
GIS	Geographic Information Systems
GVA	Gross Value Added
HTL	Hold The Line
LA / LPA	Local Authority / Local Planning Authority
LBAP	Local Biodiversity Action Plan
LNR	Local Nature Reserve
LP	Local Plan
LSOA	Lower super output areas
MR	Managed Realignment
MWh	Megawatt hour
NAI	No Active Intervention
NIA	Nature Improvement Areas
NNR	National Nature Reserve
NO_2	Nitrogen dioxide
NPPF	National Planning Policy Framework
Pb	Lead
PM_{10}	Particulates
PfSH	Partnership for South Hampshire (formerly Partnership for Urban South Hampshire – PUSH)
PPPs	Policies, plans or programmes
RSL	Registered Social Landlord
SA	Sustainability Appraisal
SAC	Special Areas of Conservation
SEA	Strategic Environmental Assessment
SFRA	Strategic Flood Risk Assessment
SHMA	Strategic Housing Market Assessment
SHS	South Hampshire Strategy
SINC	Sites of Importance for Nature Conservation
SMP	Shoreline Management Plan
SO_2	Sulphur dioxide
SPA	Special Protection Areas
SPZ	Source Protection Zones
SRTM	South Hampshire Sub-regional Transport Model
SSSI	Sites of Special Scientific Interest
WCA	Wildlife and Countryside Act

WFD	Water Framework Directive

1 Accessibility and Transportation

1.1 Summary of Policy and Plan Review

1.1.1 European and UK transport policies and plans place emphasis on the modernisation and sustainability of the transport network. Specific objectives include reducing pollution and road congestion through improvements to public transport, walking and cycling networks and reducing the need to travel. National policy also focuses on the need for the transport network to support sustainable economic growth.

1.1.2 The PPPs highlight that congestion and poor air quality resulting from transport are key issues for a number of locations in the wider South Hampshire sub-region. Regional and local plans therefore focus on appropriate design, location and layout of development, increasing investment in infrastructure, improving the quality and accessibility of public transport, supporting walking and cycling, and enhancing road safety. The Hampshire Local Transport Plan 2011 to 2031[1] sets out the transport plan for the county.

1.1.3 Key policies outline that the use of public transport, cycling and walking should all be encouraged by creating more cycling networks, connecting and improving current links and networks, pedestrian proofing travel infrastructure, encouraging public transport use and discouraging single car use. New residential and employment development should be planned with good accessibility to transport services and facilities and walking and cycling networks. Transport planning should aim to minimise negative effects on the environment, and should be fully integrated with other areas of policy making, for example, economic development, energy and land-use planning.

1.2 Transportation Infrastructure

1.2.1 Fareham borough is easily accessed via Junctions 9 (west Fareham), 10 and 11 (east Fareham) of the M27 motorway, which provides good regional and national transport links via the Strategic Road Network, although junction 10 of the motorway is currently east-facing only and does not allow all-moves interchanges. The motorway junctions are all connected to the A27, which transects the borough east to west. The A32 offers connectivity to the eastern areas, crossing the borough in a north-south direction, joining the A27 in Fareham town centre. The north west of the borough can be accessed from the A27 via the A3051.

1.2.2 There are three rail stations in Fareham borough; one to the west of the borough in Swanwick, one in Fareham town centre and Portchester station in the east. Fareham rail station is located on the south coast rail route, and the town has direct trains to a range of destinations including London (Victoria and Waterloo), Portsmouth, Southampton, Brighton, Bristol and Cardiff.

[1] HCC (2013): *Hampshire Local Transport Plan 2011 – 2031*. Accessed online [3/6/19] at:
http://documents.hants.gov.uk/transport/HampshireLTPPartALongTermStrategy2011-2031RevisedApril2013.pdf

Fareham rail station and town centre are connected to Gosport town centre via the Eclipse Bus Rapid Transit service which runs along a disused rail line for part of the route.

1.2.3 The main regional airports are: Southampton Airport, which is approximately 24 kilometres (15 miles) from Fareham town centre and Bournemouth which is approximately 70km (43mi) away. Both Gatwick and Heathrow Airports are approximately 110km (68mi) away. Two international sea ports, Portsmouth European Ferryport and Southampton cruise liner and container port, are relatively close (11km/7mi and 22km/14mi, respectively). Figure 1.16 shows the area's road and rail network.

1.2.4 Fareham's local cycling strategy produced an action plan for the promotion of cycling and the development of cycle infrastructure[2]. As a result, there are extensive off the road routes in Locks Heath and Whitely, and a mix of on road and off road paths in the town centre. Various other routes are present on some link roads[3]. Additionally, Fareham borough is part of the National Cycle Network, which links cities all over the country by cycle routes. There is a network of public bridleways across the borough. Information on these routes and their locations is freely accessible via the Hampshire County Council (HCC) website[4]. HCC has also produced a cycling strategy through to 2025[5] and the HCC walking strategy[6] which set out a strategic framework to support the implementation of cycling and walking measures in the county.

1.3 Car Ownership, Commuting and Modal Share

1.3.1 The available road, rail and air links mask potential accessibility issues in the future. Congestion on the local road network, particularly around Junctions 10 and 11 of the M27, is a major issue, and one which is likely to increase as the emerging Local Plan is implemented. Due partly to Fareham's relative affluence, car ownership in the borough is higher than regional and national averages – according to the latest data available, 86.6% of households in Fareham have access to a car or van, compared to 81.4% for the South East and 74.2% for England[7] (2011 census data). The number of households owning two or more cars is also higher than regional and national averages; see Figure 1.1.

[2] FBC (2005): *Fareham Cycle Strategy 2005-2011*. Accessed online [9/5/19] at: https://www.fareham.gov.uk/pdf/planning/cyclestrategy.pdf)

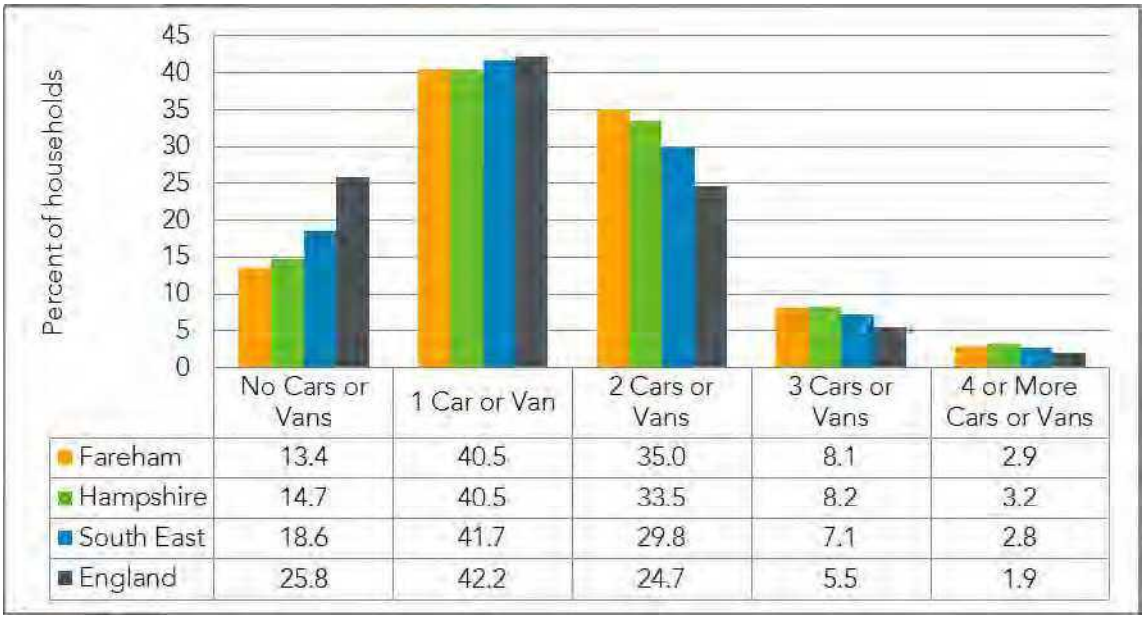
[3] FBC (2010): *Fareham Cycle Map*. Accessed online [9/5/19] at: http://www.fareham.gov.uk/pdf/planning/cyclemap.pdf

[4] Mapping Hampshire's countryside, accessed online[9/5/19] at: http://localviewmaps.hants.gov.uk/LocalViewmaps/Sites/ROWOnline/#

[5] HCC (2015): *Hampshire Cycling Strategy*. Accessed online [30/5/19] at: http://documents.hants.gov.uk/transport-strategy-documents/HampshireCyclingStrategy.pdf

[6] HCC (2016): *Hampshire Walking Strategy*. Accessed online [3/6/19] at: https://www.hants.gov.uk/get-decision-document?documentId=16315&file=Hampshire%20Walking%20Strategy%20-%20Appendix%202.pdf&type=pdf

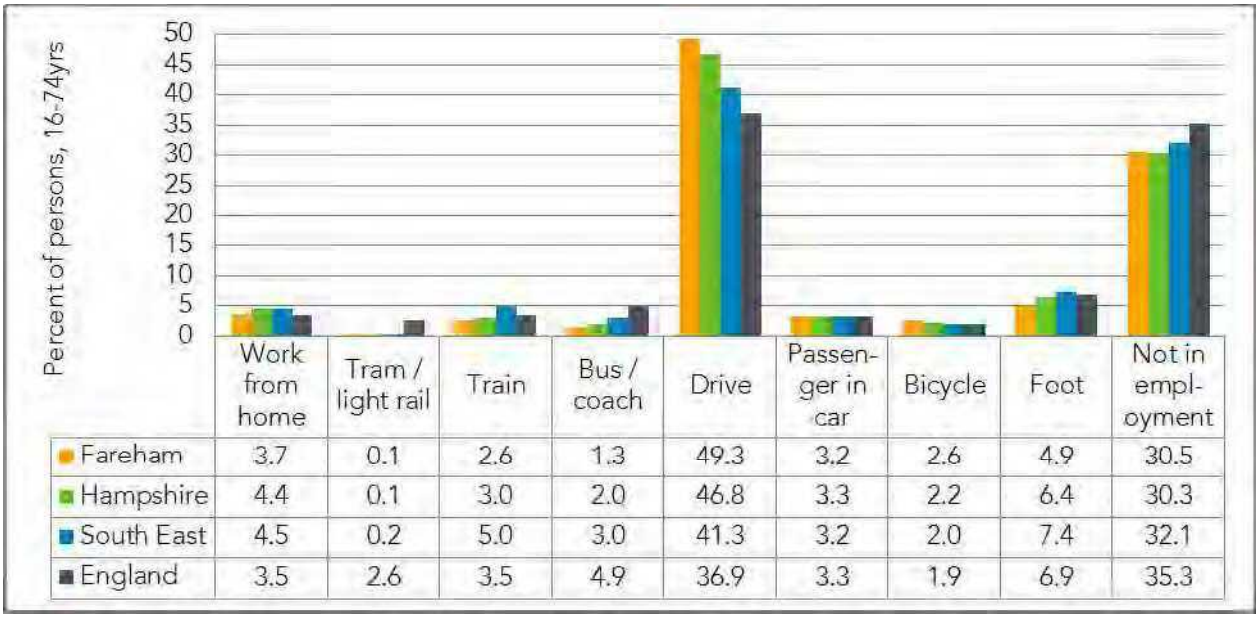
[7] Official Labour Market Statistics: Car or Van Availability, 2011 (LC4110EW) (2011). Accessed online [9/5/19].



	No Cars or Vans	1 Car or Van	2 Cars or Vans	3 Cars or Vans	4 or More Cars or Vans
Fareham	13.4	40.5	35.0	8.1	2.9
Hampshire	14.7	40.5	33.5	8.2	3.2
South East	18.6	41.7	29.8	7.1	2.8
England	25.8	42.2	24.7	5.5	1.9

Figure 1.1: Car Ownership in Fareham (Source: Census, 2011)

1.3.2 This is reflected by travel to work data, where a higher proportion of the population travel by car to work than county, regional and national averages, and a lower proportion of people travel by public transport or walking[8]. However, higher than average numbers travel to work by bicycle, perhaps reflecting the quality and extent of cycle infrastructure highlighted in the previous section; see Figure 1.2.



	Work from home	Tram / light rail	Train	Bus / coach	Drive	Passen-ger in car	Bicycle	Foot	Not in empl-oyment
Fareham	3.7	0.1	2.6	1.3	49.3	3.2	2.6	4.9	30.5
Hampshire	4.4	0.1	3.0	2.0	46.8	3.3	2.2	6.4	30.3
South East	4.5	0.2	5.0	3.0	41.3	3.2	2.0	7.4	32.1
England	3.5	2.6	3.5	4.9	36.9	3.3	1.9	6.9	35.3

Figure 1.2: Modal Share of Journeys to Work (Source: Census, 2011)

1.3.3 A large proportion of the working population (53% or 30,072 resident workers) travel to destinations outside of the borough for work, highlighting a trend of out-commuting from

[8] Official Labour Market Statistics (NOMIS): Method of Travel to Work, 2011 (QS701EW) (2011). Accessed online [9/5/19].

Fareham. The top five destinations for out-commuters in 2011 were Portsmouth (7,819), Winchester (4,943), Southampton (3,460), Eastleigh (3,206) and Gosport (2,878), as illustrated in Figure 1.3 and Figure 1.4[9]. Conversely, 24,674 workers in-commute to the borough, the principal sources being Gosport (7,090) and Portsmouth (4,223).

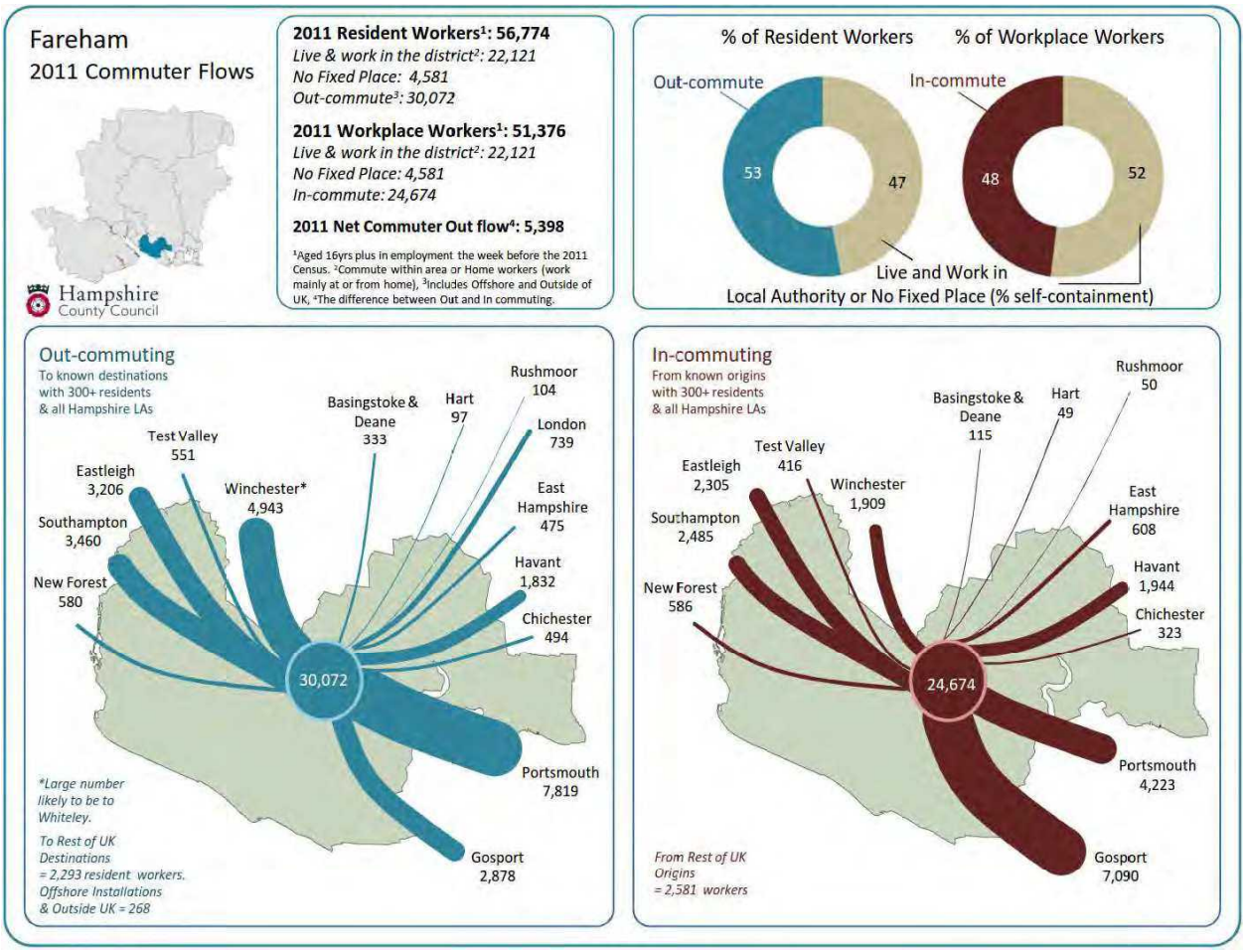


Figure 1.3: Commuting Patterns in Fareham Borough (Source: Census, 2011)

[9] Hampshire Facts & Figures: Commuter Flows. Accessed online [14/5/19] at:
http://documents.hants.gov.uk/Economy/FarehamCommuterFlows.pdf

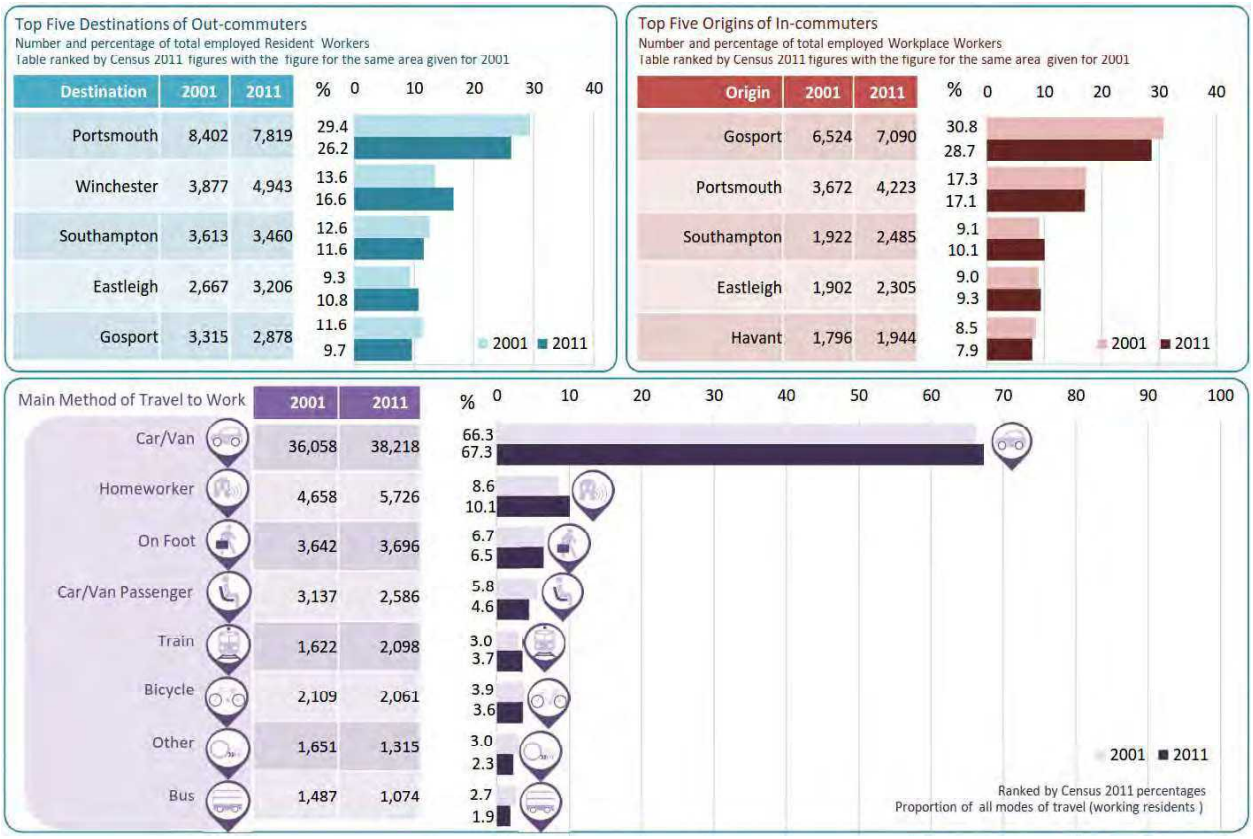


Figure 1.4: Commuter Destinations and Modes of Transport (Source: Census, 2011)

1.4 Traffic Flows

1.4.1 In 2017 Fareham Borough Council commissioned an Interim Transport Assessment as part of the evidence base for the Draft Local Plan[10]. The assessment reports the outputs from a run of the South Hampshire Sub-regional Transport Model (SRTM) undertaken by Partnership for South Hampshire (PfSH) (formerly Partnership for Urban South Hampshire – PUSH) to "*understand the transport impacts of the latest growth projections in South Hampshire through to 2036, excluding the proposed site allocations in the emerging Local Plan*". The outputs of the model provide the baseline against which the impacts of the proposed site allocations are assessed within the Interim Transport Assessment. Additional transport modelling work is due to be carried out alongside the Local Plan.

1.4.2 Figure 1.17 and Figure 1.18 show the locations where the network is forecast to be under strain in 2036, that is where demand is expected to exceed capacity in the morning and afternoon peak periods and therefore significant traffic queuing and delay is anticipated[11].

[10] Atkins (2017): Fareham Draft Local Plan - Development Site Allocations Interim Transport Assessment. Accessed online [21/10/19] at: https://www.fareham.gov.uk/PDF/planning/local_plan/DraftLocalPlanEvidenceBase/EV57FarehamLocalPlanTransportAssessment.pdf

[11] *Ibid*

1.5 Spatial Context

1.5.1 Figure 1.5 to Figure 1.14 illustrate the spatial variability in accessibility to key services by walking, public transport and cycling from different parts of the borough, based on Census 2011 data (Singleton, 2014). The data are mapped as travel time to employment centres, GP, hospitals, primary and secondary schools, foodstores and town centres. In general terms the data show that travel times are shortest for residents in town and district centres, particularly for accessibility to employment centres, schools and foodstores, but this pattern is less uniform for access to health care facilities. Warsash, Hill Head, Fareham East and Fareham North are the locations which tend to have the longest travel times to key services. The development of Welborne will improve accessibility to a range of services (employment, foodstores, schools and healthcare) in Fareham East and North.

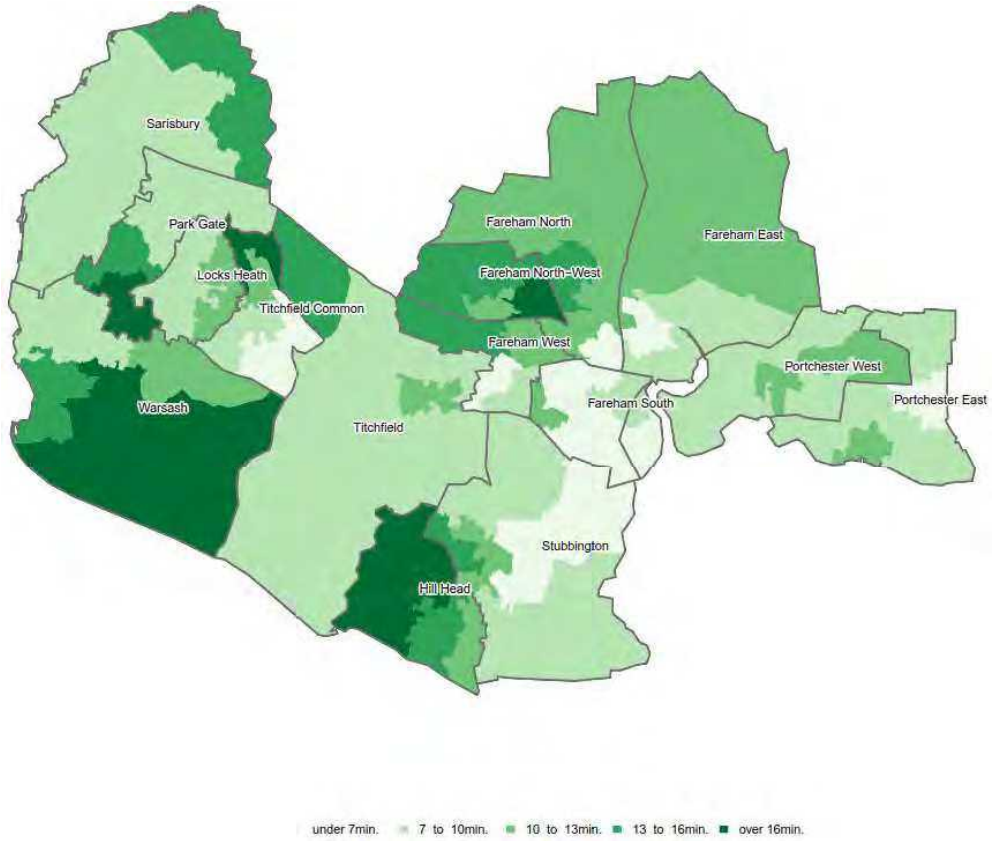


Figure 1.5: Travel Time to Nearest Employment Centre by Public Transport/Walking in 2011

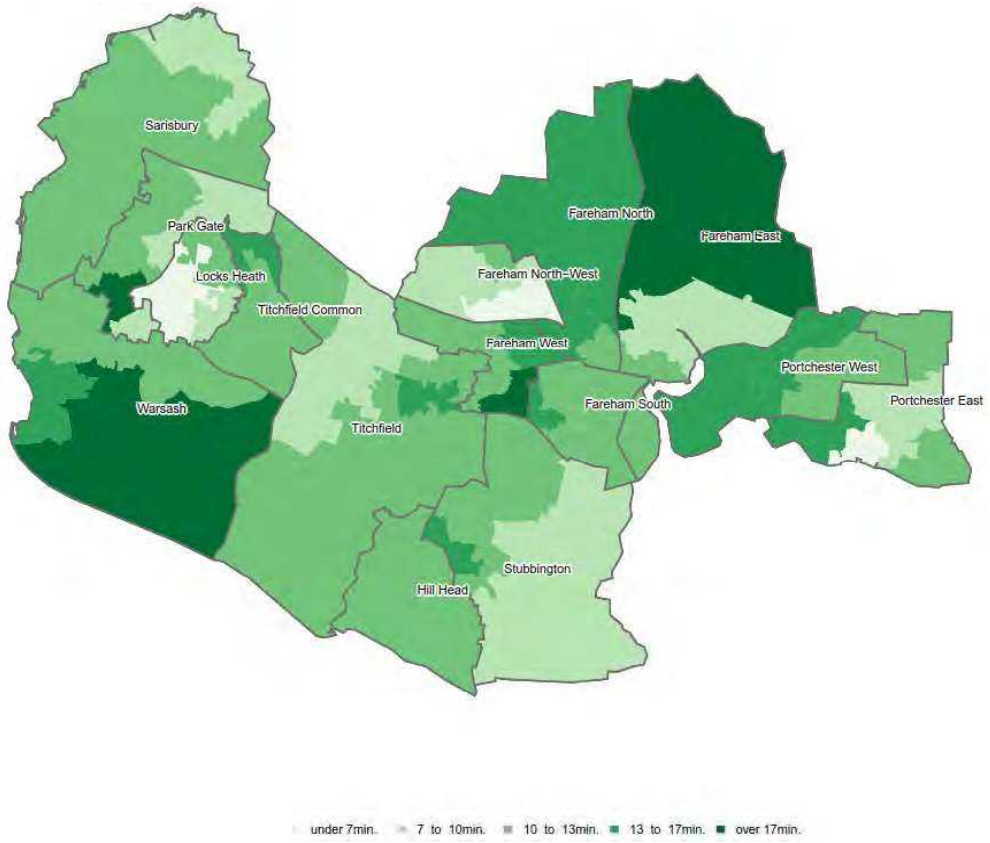


Figure 1.6: Travel Time to Nearest GP by Public Transport/Walking in 2011

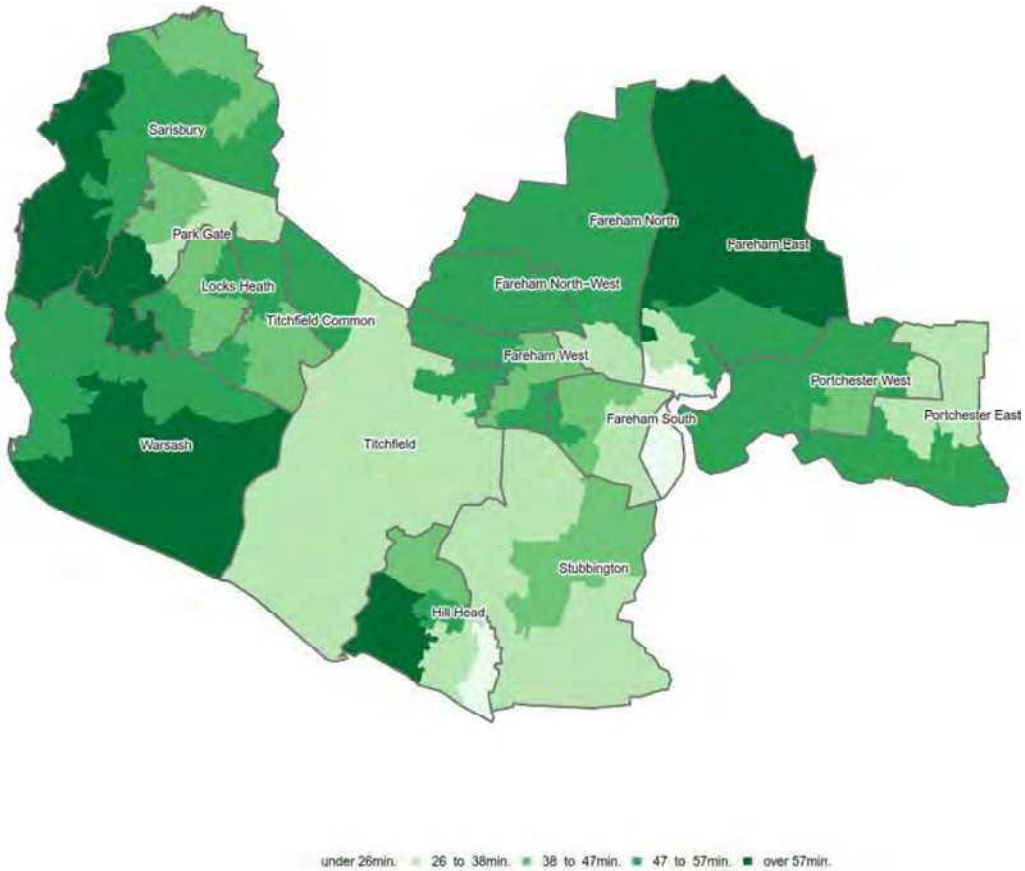


Figure 1.7: Travel Time to Nearest Hospital by Public Transport/Walking in 2011

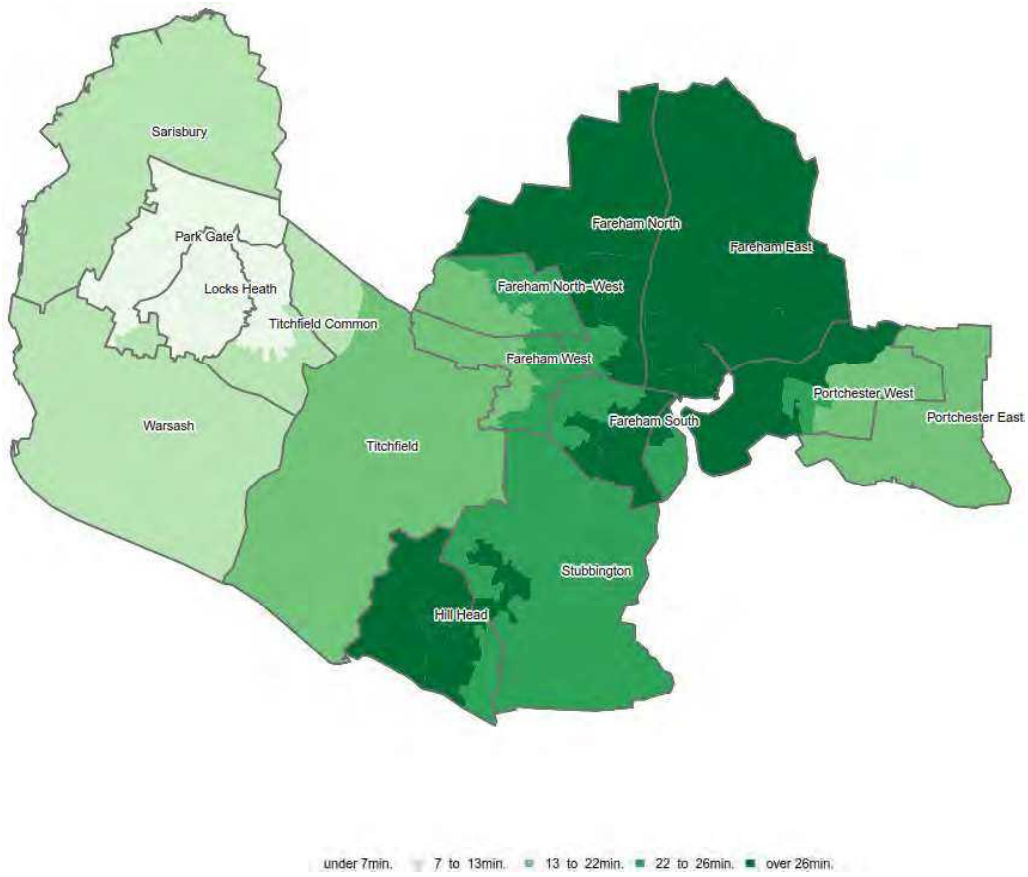


Figure 1.8: Travel Time to Nearest Hospital by Cycle in 2012

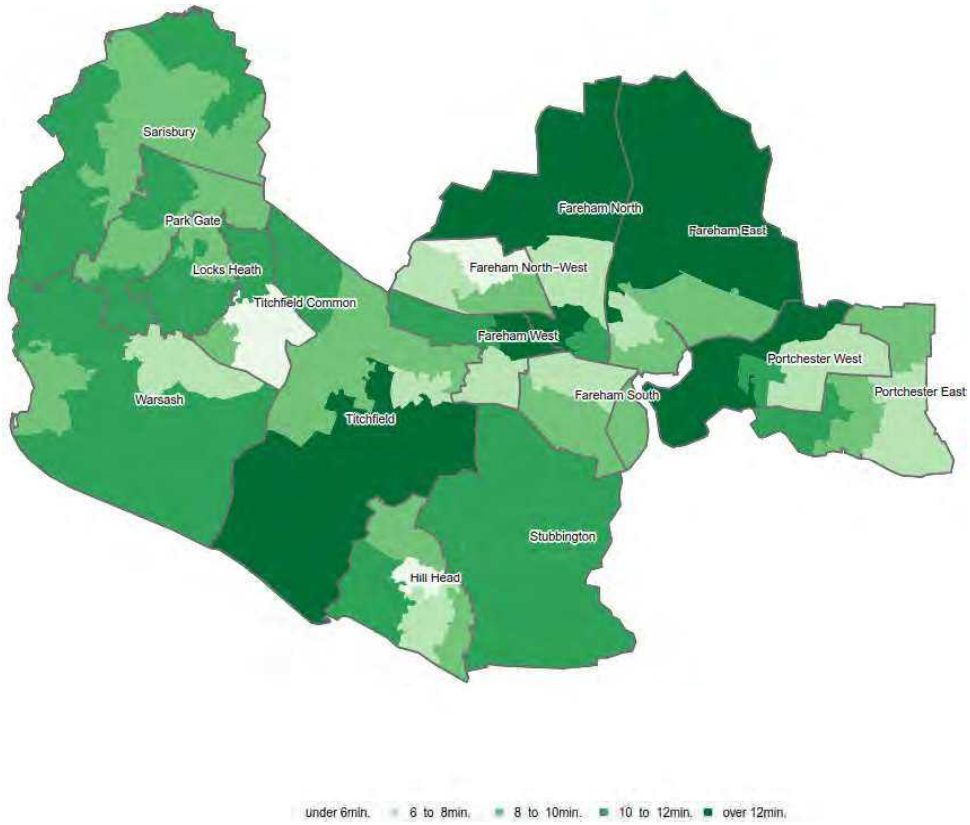


Figure 1.9: Travel Time to Nearest Primary School by Public Transport/Walking in 2011

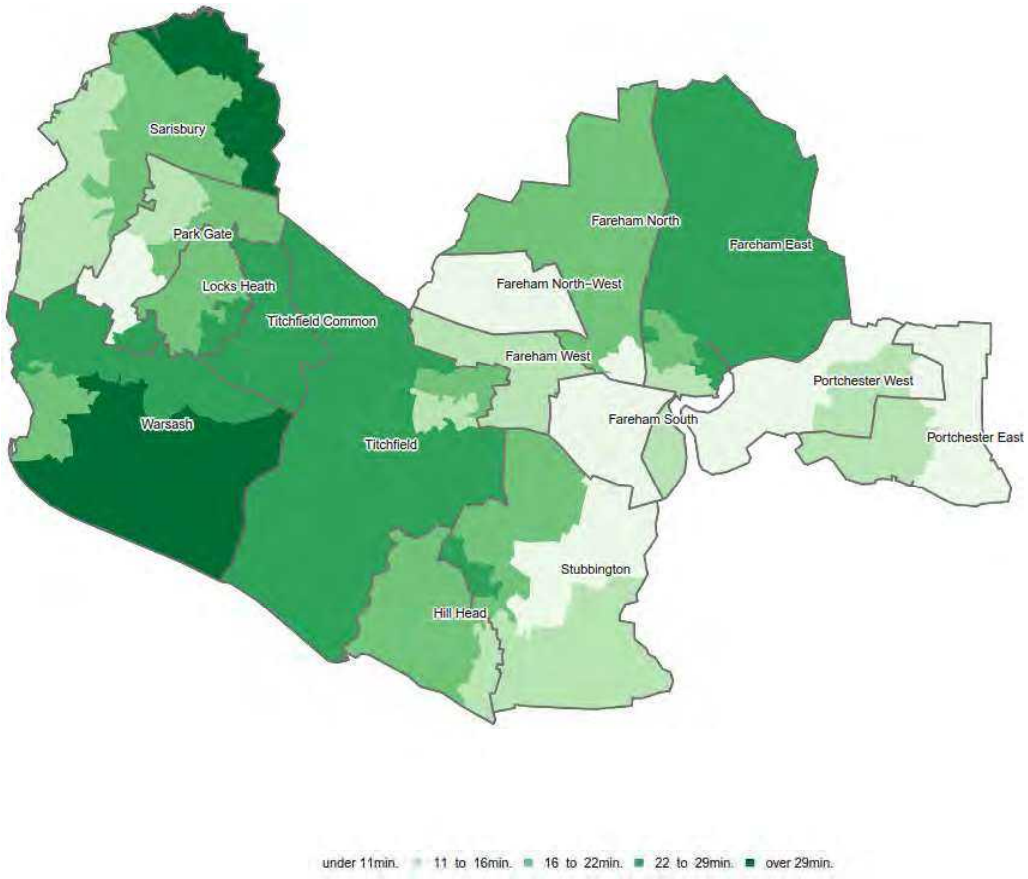


Figure 1.10: Travel Time to Nearest Secondary School by Public Transport/Walking in 2011

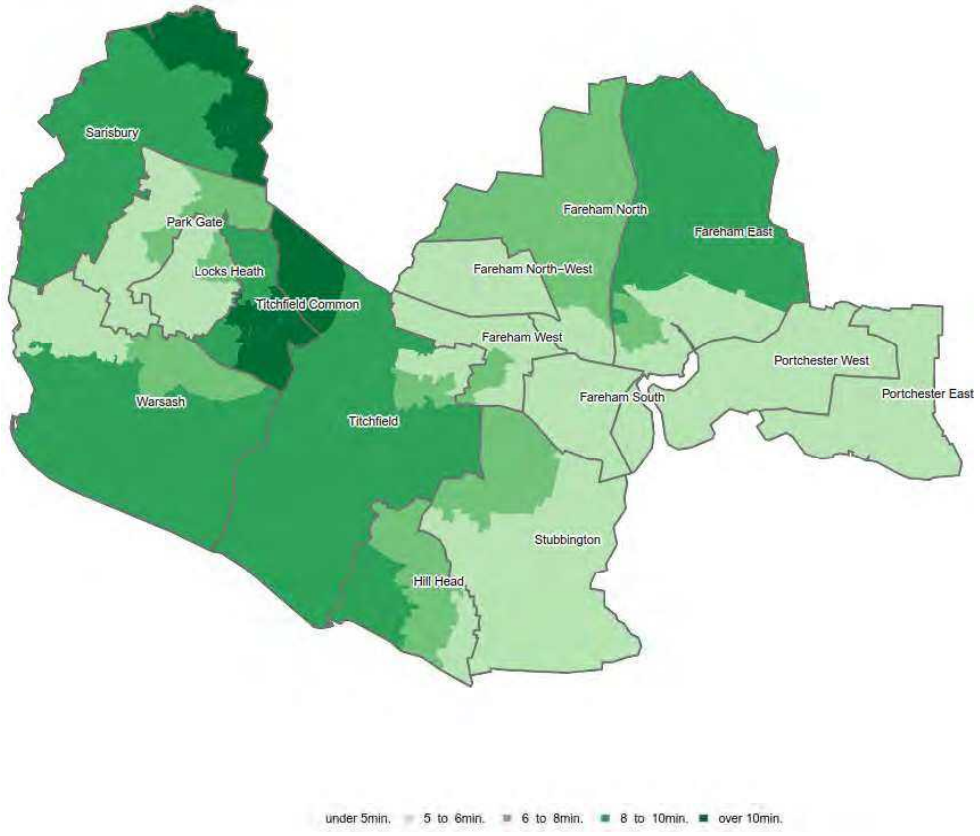


Figure 1.11: Travel Time to Nearest Secondary School by Cycle in 2012

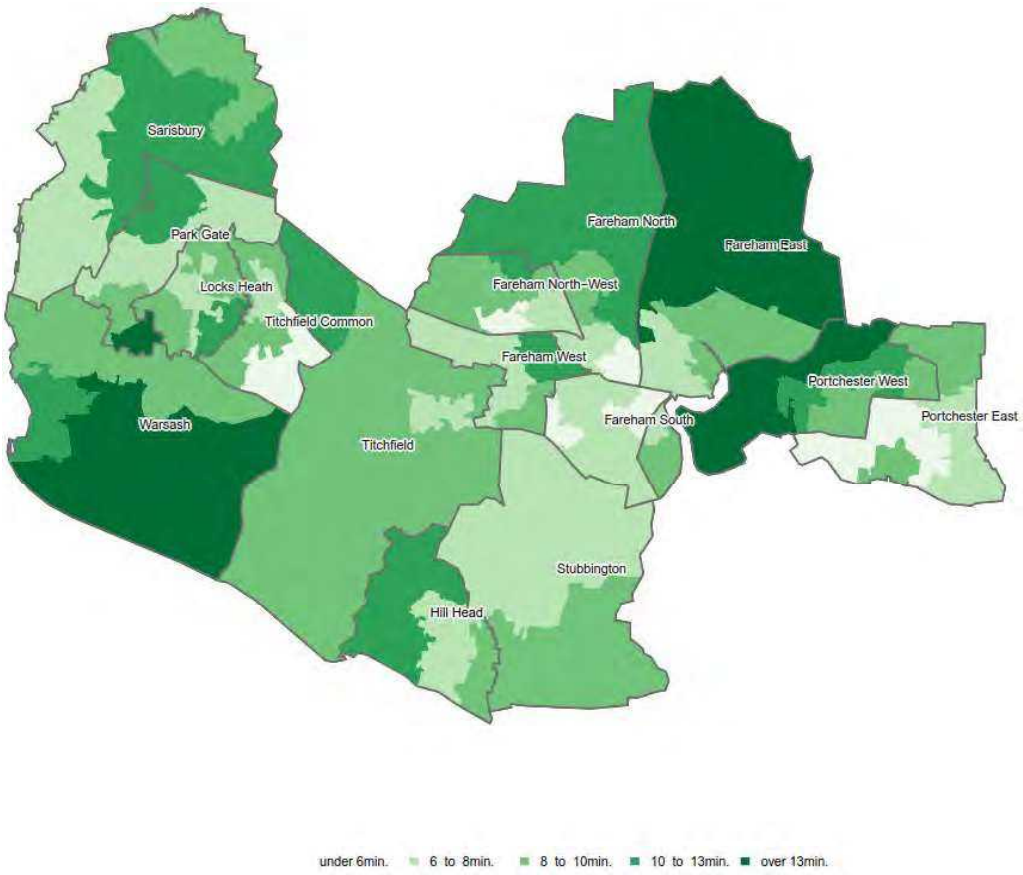


Figure 1.12: Travel Time to Nearest Foodstore by Public Transport/Walking in 2011

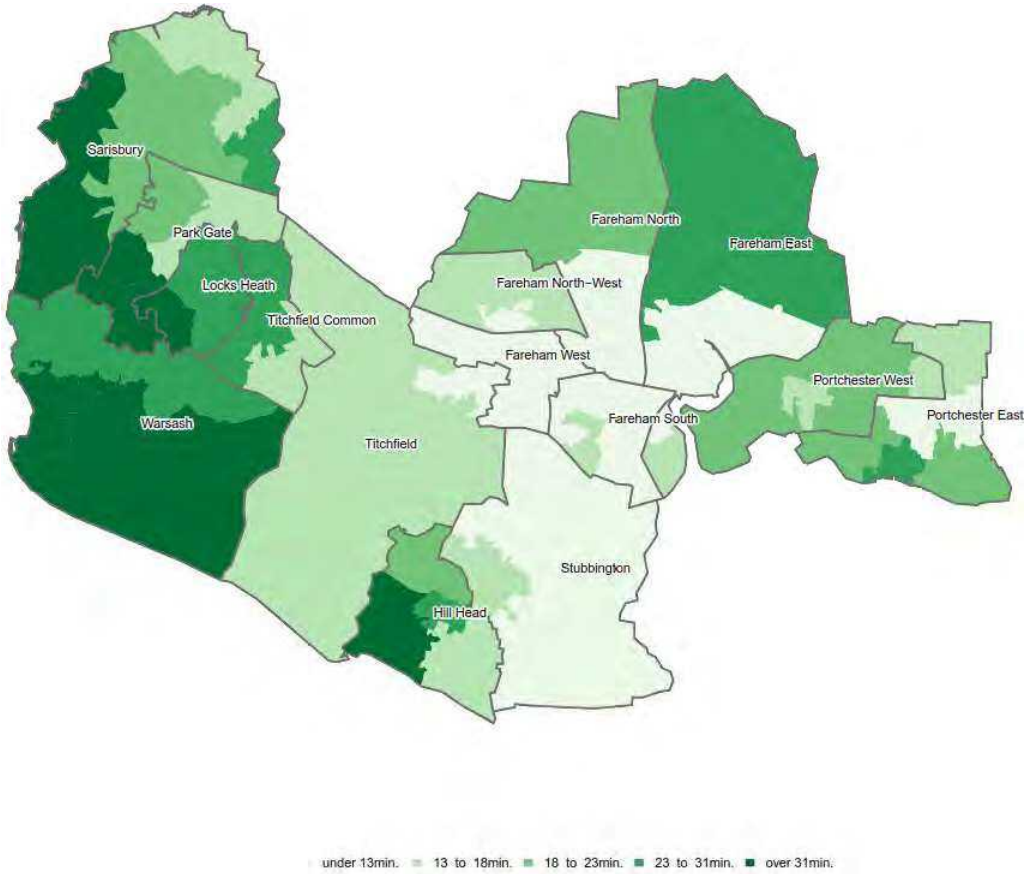


Figure 1.13: Travel Time to Nearest Town Centre by Public Transport/Walking in 2011

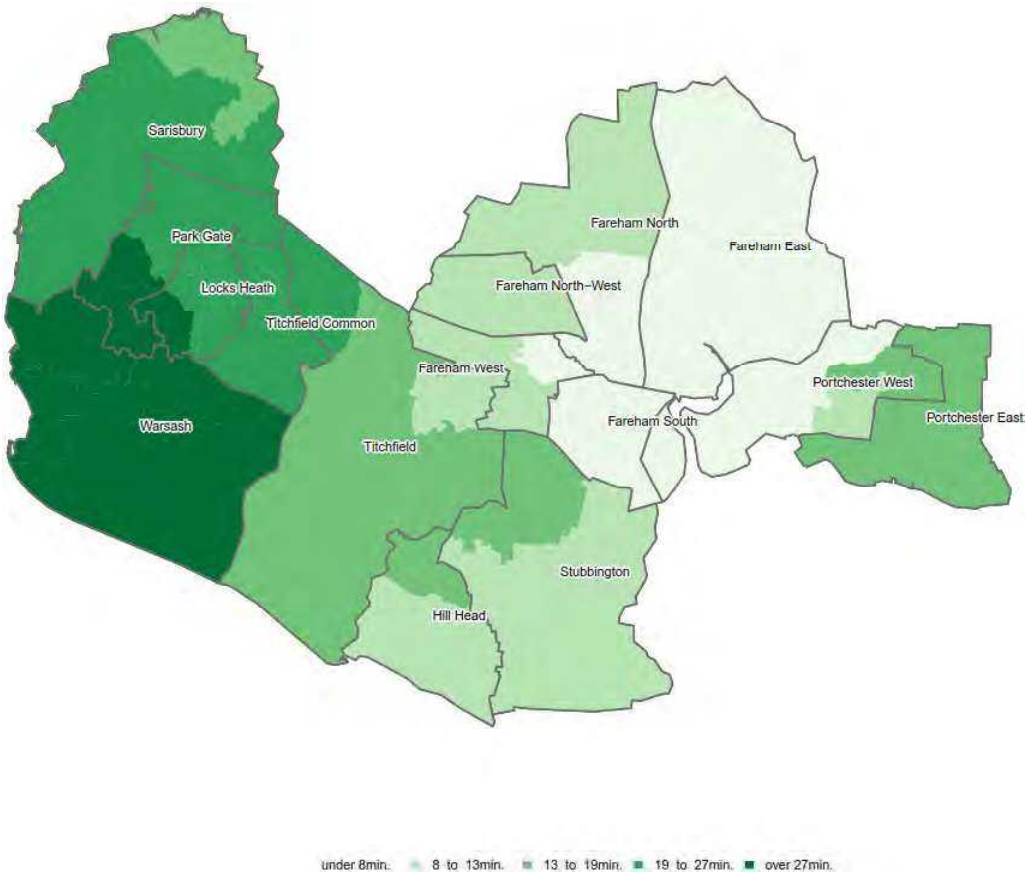


Figure 1.14: Travel Time to Nearest Town Centre by Cycle in 2012

1.6 Likely Evolution of the Baseline in the Absence of the Local Plan

1.6.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Baseline trends relevant to accessibility and transportation that may continue under such a scenario include:

- The implementation of the Hampshire Local Transport Plan will lead to improvements in sustainable transport infrastructure in the area. This will encourage the use of sustainable modes of transport, including public transport and walking and cycling opportunities.
- Traffic flows and congestion on the local and Strategic Road Network are likely to increase as the economic climate improves and South Hampshire's population increases.
- However, increasing congestion will be offset to a degree by a range of planned transport improvements, the most significant of which include:
    - Changing junction 10 of the M27 to an 'all-moves' interchange which will provide direct access to the M27 from the planned new development at Welborne but will also help improve access to the M27 for Fareham residents south of the Motorway taking pressure of adjacent junctions 9 & 11;
    - Four new roundabouts on the A32 Wickham Road north of the M27 to provide access to Welborne, and a general increase in traffic flows in the vicinity of Welborne, both during construction and operation;

- Public transport, cycling and walking accessibility improvements in the vicinity of Welborne, and between Welborne and Fareham town centre;
- Extensions to the existing Bus Rapid Transit route from Gosport to Fareham town centre, onwards to Welborne and Portsmouth; and
- A new Stubbington By-pass to reduce congestion within Stubbington and improve access to the Gosport peninsular; see Figure 1.15.

1.7 Key Issues

1.7.1 Key issues for accessibility and transportation relevant to the Local Plan are:

- Many key roads and junctions in the wider area experience congestion and delay, particularly during peak periods. This also affects the quality of public transport provision.
- The scale of development proposed, together with anticipated growth in the demand for travel from existing communities within the sub-region, will place further demand on already stretched transport networks. Traffic management measures will be required to ensure that the existing network is used effectively.
- Development located close to the M27 motorway has the potential to encourage car use and increase congestion in the area. This could lead to poor air quality, increased noise pollution, health issues, poor quality of the public realm and increased greenhouse gas emissions.
- Existing bus services require improvement to meet the needs of future growth associated with new development allocations. This raises significant accessibility issues for those without access to a car.
- Local accessibility issues especially affect people who experience social exclusion, with linked issues related to personal security, cost, lack of easy-to-understand travel information and reliability of services.
- In keeping with Fareham's local cycling strategy and the HCC cycling strategy, cycle networks should be extended to respond to new development allocations.
- A new borough-wide transport assessment is currently being commissioned as part of the evidence base for the Local Plan, information from which will inform future assessment stages of the SA.

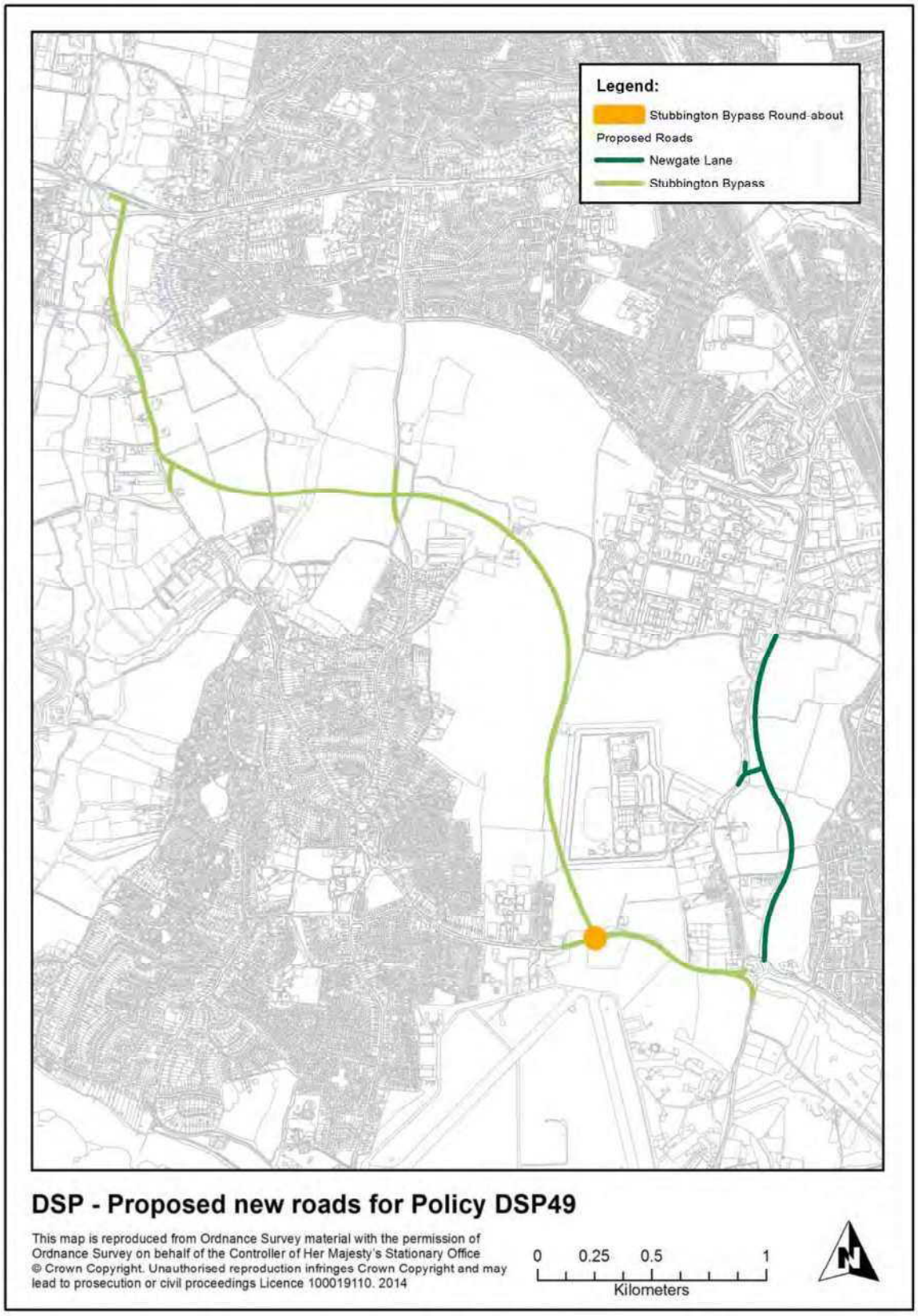
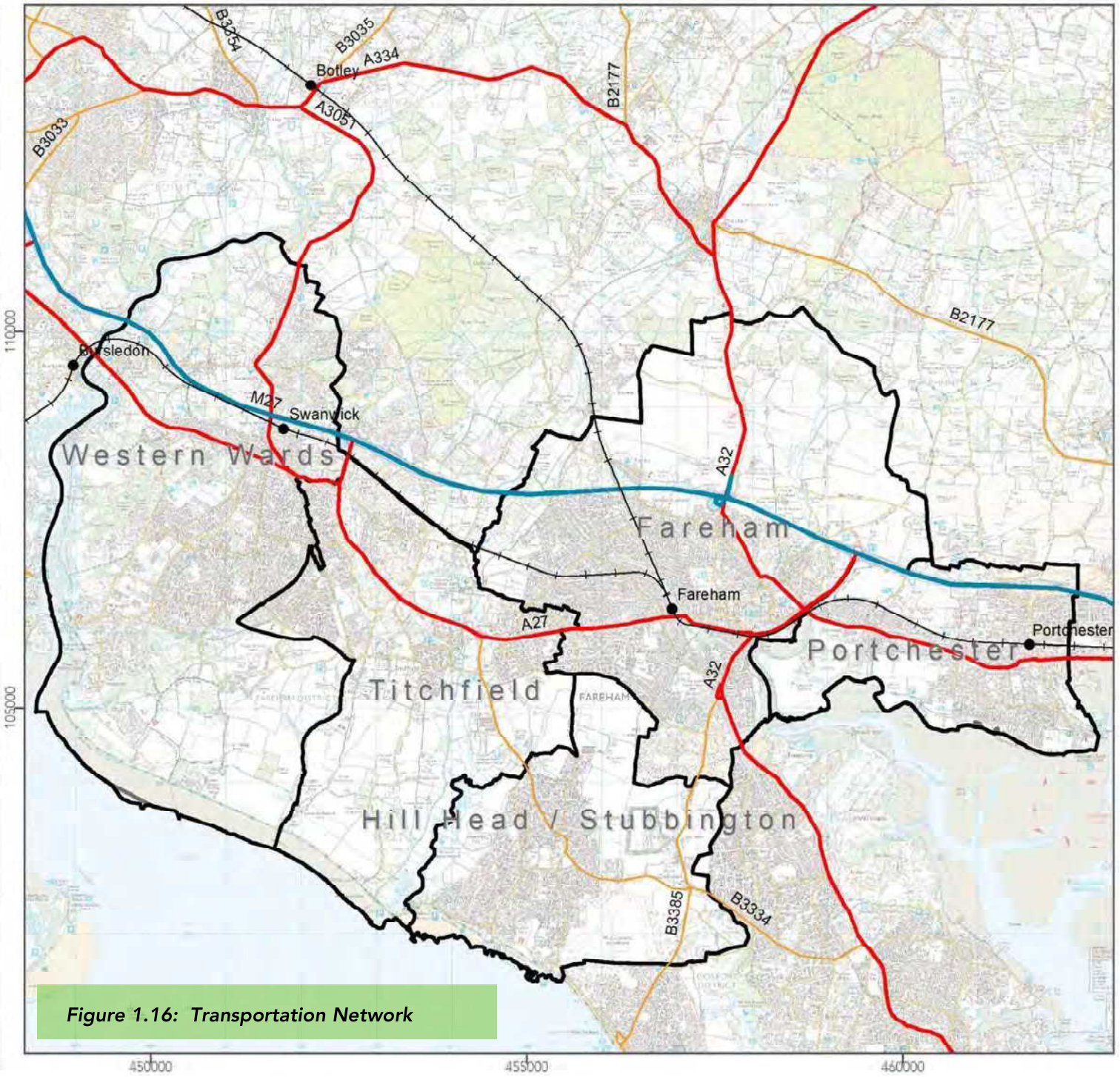


Figure 1.15: Proposed Route of Stubbington By-pass as shown on the Local Plan Policies Map[12]

[12] Fareham Borough Council (2015): Local Plan Policies Map. Accessed online [3/6/19] at: https://www.fareham.gov.uk/planning/local_plan/interactivepropmap.aspx

Fareham Local Plan

- Railway Station
- Railway Line
- Motorway
- A Road
- B Road
- Spatial Planning Areas
- Borough



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Tel: 01273 686 766
Email: hello@ueec.co.uk
Web: www.ueec.co.uk

Figure 1.16: Transportation Network

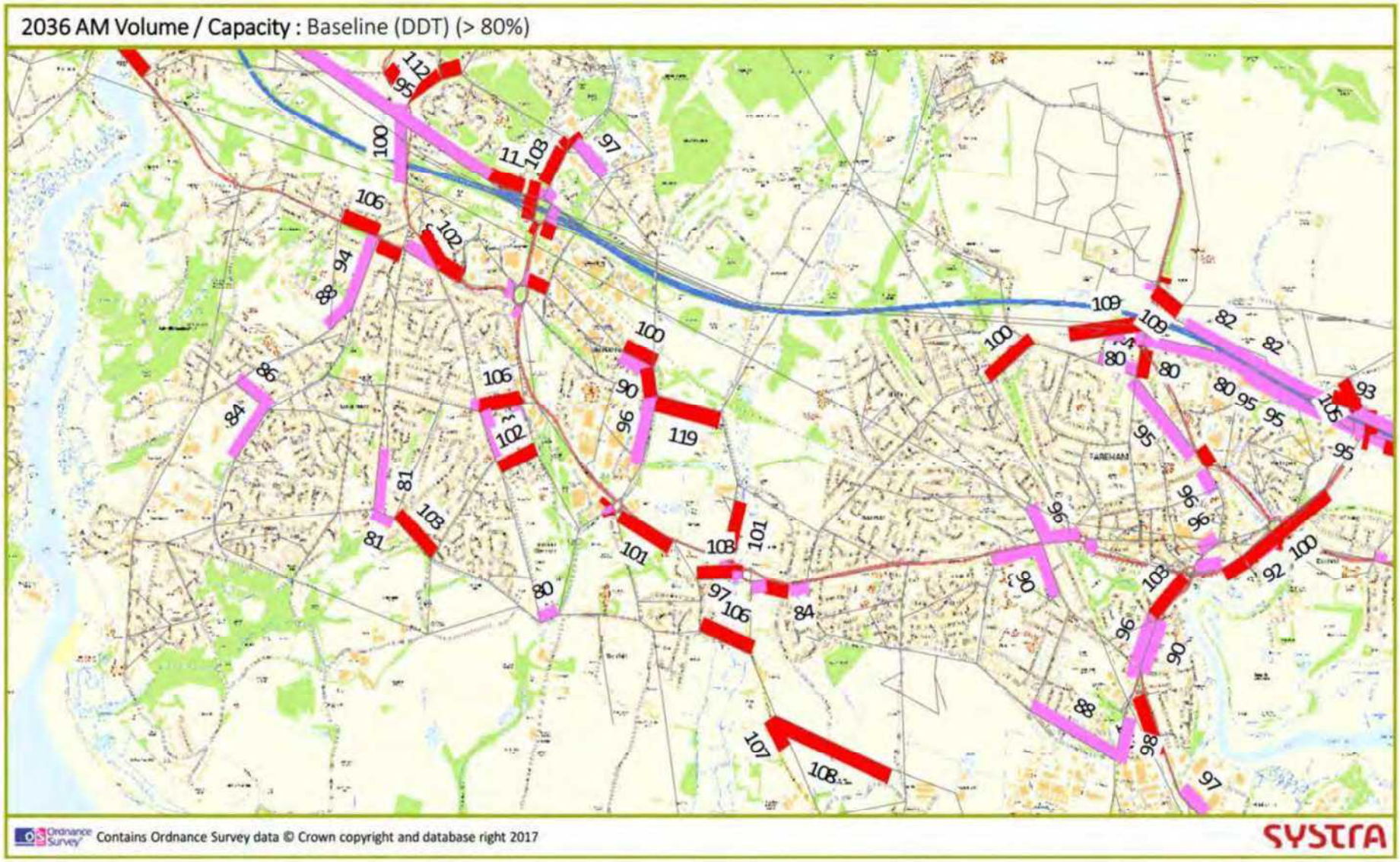


Figure 1.17: 2036 Baseline AM Peak Period (Source: Atkins, 2017)

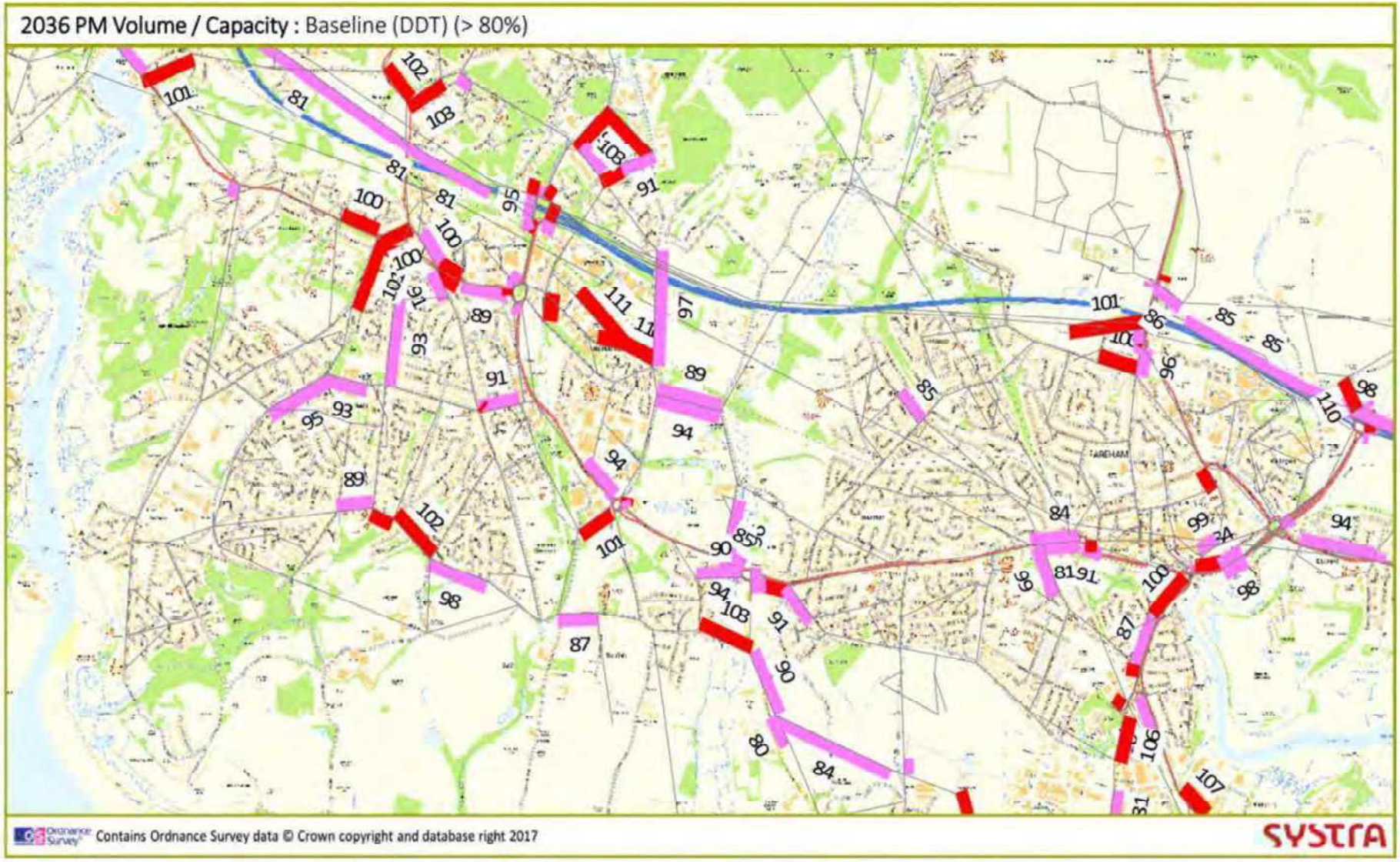


Figure 1.18: 2036 Baseline PM Peak Period (Source: Atkins, 2017)

2 Air Quality

2.1 Summary of Policy and Plan Review

2.1.1 A number of objectives have been established in relation to air quality at both the European and the UK level (emanating from the 1996 EC Air Quality Directive). This includes the setting of targets for reducing emissions of specific pollutants to minimise negative impacts on health and the environment. At the sub-regional and local level emphasis is placed on reducing emissions of nitrogen dioxide (NO_2) from the transport sector.

2.1.2 The location and layout of development should be promoted in a way which supports modal shift, clean technologies and the provision of green infrastructure. Air pollution should be limited by identifying key sectors contributing to national emissions. Public transport, walking and cycling should be promoted as real alternatives to a car in order to limit the growth in pollution.

2.2 Air Pollution Sources

2.2.1 There are currently no Defra-funded Automatic Urban and Rural Network air monitoring locations within Fareham borough.

2.2.2 Air quality is generally good in the borough, however, there are still some concerns over NO_2 levels caused by road traffic and as such the two Air Quality Management Areas (AQMAs) remain in place (Figure 2.2).

2.2.3 The Council does not currently monitor for any other pollutant other than NO_2. No other significant local transport sources have been identified since the previous Local Air Quality Management assessments. There have been no new or significantly altered sources of industrial, commercial or domestic emissions since the previous Local Air Quality Management assessments (Fareham Borough Council, 2014a).

2.3 Air Quality Hotspots

2.3.1 The Environment Act 1995 requires local authorities to periodically review and assess the local air quality against the air quality objectives contained in the Air Quality (England) Regulations 2000 (SI928, as amended). Objectives have been set for:

- Benzene;
- 1,3-Butadiene;
- Carbon monoxide (CO);
- Lead (Pb);

- NO_2;
- Particulates (PM_{10}); and
- Sulphur dioxide (SO_2).

2.3.2 In recognition of the fact that objectives for Benzene, 1,3-Butadiene, Carbon Monoxide, Sulphur Dioxide and Lead have been met for several years in the UK local authorities in England are no longer required to report on these pollutants unless local circumstances indicate otherwise.

2.3.3 Where air quality monitoring suggests that there is a risk of exceeding an air quality objective, a Detailed Assessment should be carried out to investigate whether the objective will be exceeded. If an objective will not be met, an AQMA is designated and action taken at a local level to ensure that air quality in the area improves.

2.3.4 The air quality in Fareham borough is generally good, with the main source of air pollution being road transport emissions (especially heavy goods vehicles), in particular from the M27 motorway, the A32 and the A27. Initial assessments of Fareham's air quality against a range of pollutants made in 1999 suggested that no AQMAs were required.

2.3.5 Following an Updating and Screening Assessment in 2003, which indicated that the level of air pollutants were within specified limits, an air quality progress report was submitted to DEFRA in May 2004. This report utilised results from an extended NO_2 survey in the borough using an increased number of monitoring sites. The report suggested that readings for NO_2 at some locations may exceed the National Air Quality Objective. Subsequently, after further monitoring, an AQMA was declared for NO_2 for a section of Gosport Road in Fareham in July 2006, and in December 2007 for Portland Street in Fareham. Both of these designations are due to emissions from transport. As part of the AQMA designation, continuous automated monitoring is being undertaken at these locations.

2.3.6 The 2015 Updating and Screening Assessment required the Council to undertake a Detailed Assessment of the air quality at Gosport Road (A32) to the north of the current Gosport Road AQMA, an area between the two existing AQMAs[13]. The assessment indicated an exceedance of the annual mean NO_2 objective at 26 receptor locations in this area, 19 of which were outside the AQMA boundaries. As a result of the Detailed Assessment the boundaries of both the Gosport Road AQMA and the Portland Street AQMA have therefore been extended, see Figure 2.2.

2.3.7 The latest air quality annual status report (2017)[14] for Fareham highlights that there were no exceedances of the annual mean Air Quality Strategy NO_2 objective in 2016, an improvement from 2015 where exceedances were measured at 5 sites. Across Fareham, the majority of sites experienced a reduction in NO_2 annual mean concentrations in 2016 compared to 2015. For

[13] Fareham and Gosport Environmental Health Partnership (2016). Annual Status Report, January 2017. Bureau Veritas, https://www.fareham.gov.uk/PDF/licencing_and_inspections/HCU-170130_FarehamAndGosport16.pdf. Accessed online [14/5/19]

[14] Fareham and Gosport Environmental Health Partnership (2017). Annual Status Report, August 2017, https://www.fareham.gov.uk/PDF/licencing_and_inspections/AirQualityReport_FarehamAndGosport2017.pdf. Accessed online [14/5/19]

PM_{10} there continue to be no exceedances of both the annual mean objective and the daily mean objective.

2.3.8 The council does not currently monitor $PM_{2.5}$ concentrations. The current 2016 background maps for Fareham (2013 based) show that all background concentrations of $PM_{2.5}$ within Fareham are far below the 2020 annual mean Air Quality Strategy objective for $PM_{2.5}$ of 25 µg/m3. The highest concentrations are predicted in an area of Swanwick around the junction of the M27 and A27 is located.

PfSH Air Quality Impact Assessment

2.3.9 In 2018 PfSH (formerly PUSH) commissioned an assessment of air quality impacts across the region to support the PfSH local planning authorities in their reviews of the spatial strategy for the area[15]. A sub-regional model was used to model predicted air quality impacts across the PfSH study area at a 3m by 3m resolution. Traffic growth within the study area was provided by the SRTM. In total, four traffic scenarios were modelled:

- 2014 Reference Case;
- 2034 Baseline Scenario;
- 2034 Do Minimum (DM) Scenario: includes forecast development within the sub-region; and
- 2034 Do Something (DS) Scenario: includes forecast development within the sub-region and transport interventions aimed at mitigating impact of proposed developments on transport network.

2.3.10 For the 2014 reference case annual mean NO_2 concentrations exceeded the long-term objectives at the Gosport Road AQMA in Fareham and at several locations outside of the existing AQMAs where there is a risk of public exposure. For all three 2034 scenarios, the modelled annual mean concentration exceeded the long-term objective along the M27, however the annual mean concentration was predicted to be below the objective in all areas where the air quality objectives apply.

2.3.11 PM_{10} modelled concentrations for all the 2014Reference Case and the three 2034 scenarios only exceeded the long-term objective along the M27 and not in any areas where the air quality objectives apply. $PM_{2.5}$ concentrations exceeded the long-term objectives at the Gosport Road AQMA in Fareham in the 2014 Reference Case. As for PM_{10}, for the three 2034 scenarios the long-term objectives were only exceeded along the M27 and not in any areas where the air quality objectives apply.

2.4 Air Quality Management

2.4.1 Any changes in air quality which come about as a result of the Local Plan are likely to be closely linked to traffic flow through the borough. The location of allocations and their connections with the existing road network will therefore need to be carefully considered. This is particularly

[15] *Ibid*

important, despite the fact that annual mean concentrations of NO2 decreased in 2016 at non-automatic monitoring sites, as shown in Figure 2.1.

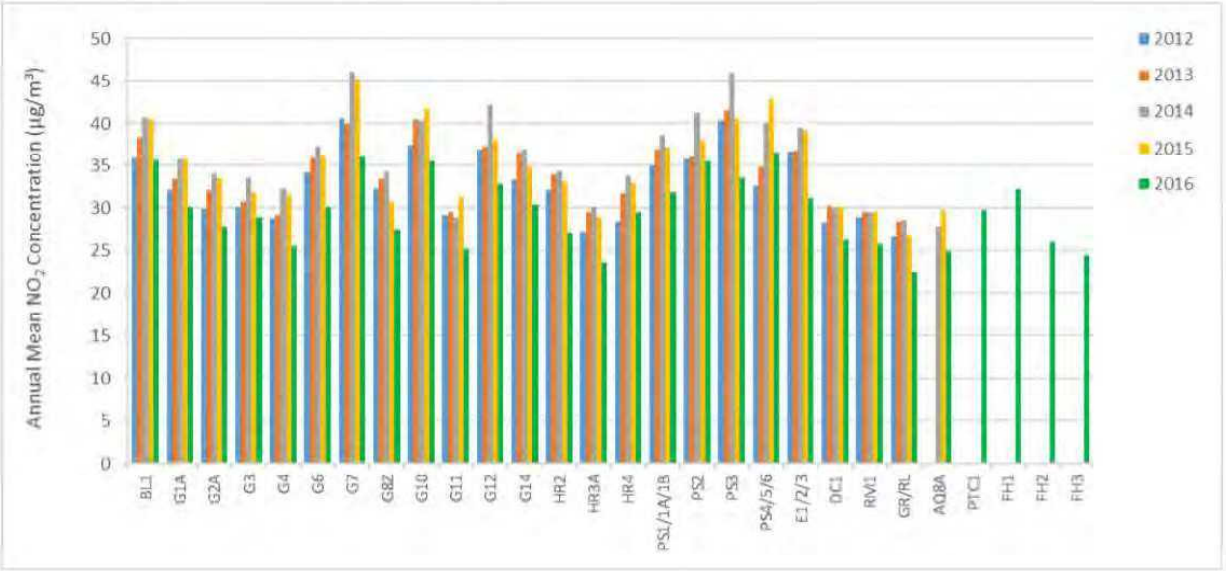


Figure 2.1: Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites (Source: Fareham Borough Council, 2017)

2.5 Spatial Context

2.5.1 Air quality in Hampshire is generally good, with road transport again being the single largest source of air pollution in the county. Five of the 11 local authorities in Hampshire have declared AQMAs, as well as the unitary authorities of Southampton and Portsmouth. Eastleigh and Winchester have particularly high NO_2 levels, exceeding 55µg/m^3 at Southampton Road in Eastleigh[16], and exceeding 50µg/m^3 at two sites in Winchester[17].

2.5.2 Within Fareham borough, air quality differs significantly across the five Spatial Planning Areas. Both of the borough's AQMAs are located within the Fareham Spatial Planning Area, whilst only Hill Head / Stubbington is unaffected by traffic along the M27 or A27.

2.6 Likely Evolution of the Baseline in the Absence of the Local Plan

2.6.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Traffic flow and congestion in and around the borough may increase as the economic climate improves and South Hampshire's population increases. This could lead to worsening air quality due to pollutants associated with transport, particularly within the Fareham Spatial Planning Area and areas adjacent to the M27 and A27, although

[16] Eastleigh Borough Council (2019): Air Quality Monitoring Data. Accessed online [3/6/19] at: https://www.eastleigh.gov.uk/environmental-health/pollution/air-quality/air-quality-monitoring

[17] Winchester City Council (2018): Air Quality Report 2018 (ASR). Accessed online [3/6/19] at: https://www.winchester.gov.uk/environment/air-quality/historical-air-quality-reports-for-government

could be offset to an extent by planned transportation infrastructure improvements (see section 1.6).

2.6.2 Fareham Borough Council previously identified the following local developments which may impact on air quality in the local authority area in the future, and which will be taken into consideration in future Local Air Quality Management reports:

- Industrial and commercial development at the Solent Enterprise Zone at Daedalus airfield; and
- The planned residential, commercial and industrial development north of Fareham at Welborne.

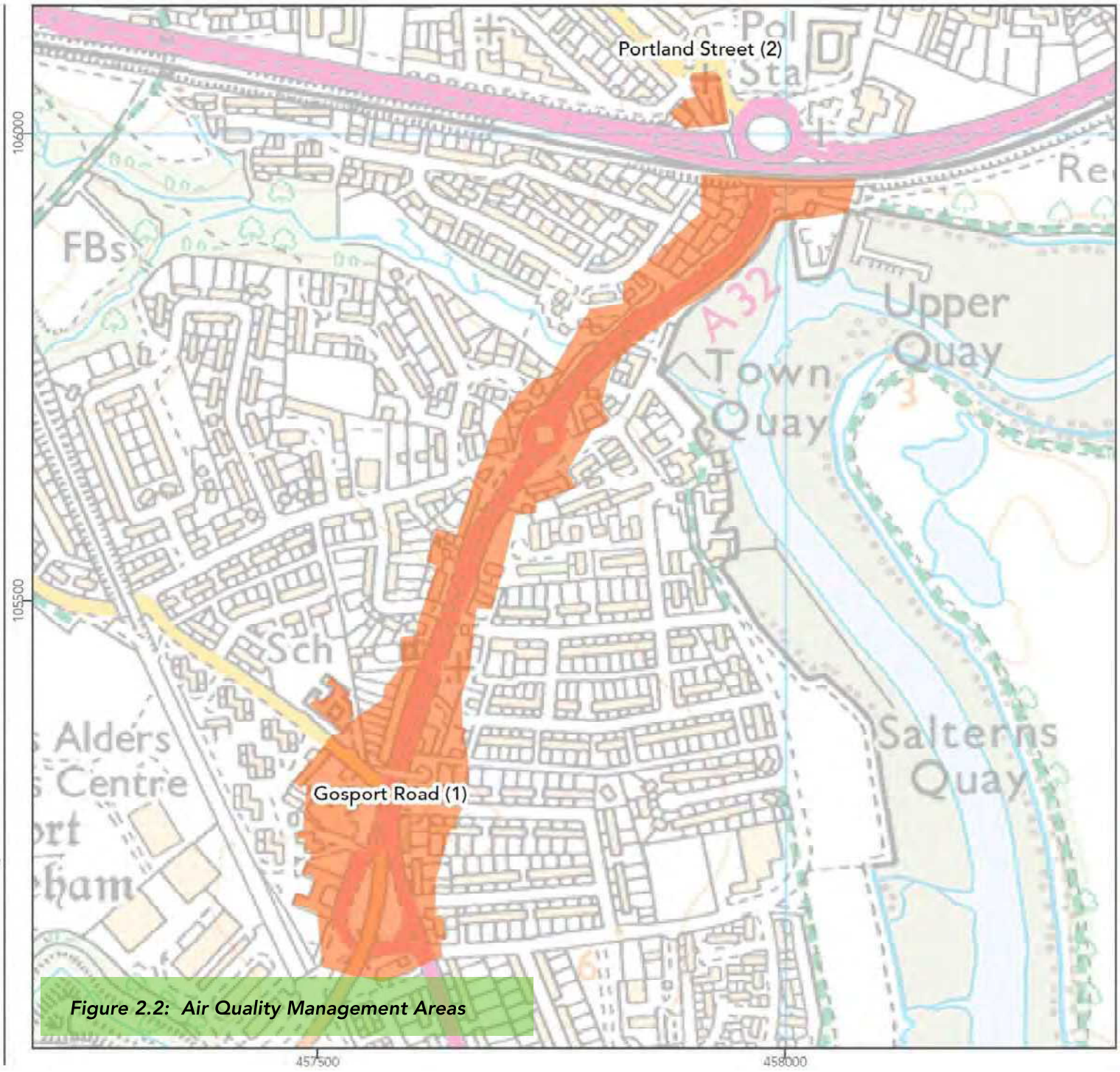
2.7 Key Issues

2.7.1 Key issues for air quality relevant to the Local Plan are:

- Increased traffic flows generated by the site allocations could add to overall emissions and pollutants associated with transport, leading to worsening air quality across the borough, particularly in areas already susceptible to traffic congestion.
- Increases in traffic flows may also undermine efforts to improve air quality in the existing AQMAs in the borough, at Gosport Road and Portland Street.

Fareham Local Plan

AQMA



0 0.1 0.2 Kilometers

N

Scale: 1:6,000 **Created by:** JC

Date: Dec 2019 **Reviewed by:** GC

Drawing number:

UE-0192_AQMA_191204

URBAN EDGE ENVIRONMENTAL CONSULTING
Tel: 01273 686 766
Email: hello@ueec.co.uk
Web: www.ueec.co.uk

Figure 2.2: Air Quality Management Areas

3 Biodiversity and Geodiversity

3.1 Summary of Policy and Plan Review

3.1.1 The objectives of policies and plans at all levels focus on the conservation of biological diversity (including a reduction in the current rate of biodiversity loss), and the protection and monitoring of endangered and vulnerable species and habitats. PPPs also emphasise the ecological importance of geodiversity. The integration of biodiversity considerations into all environmental and socio-economic planning is strongly advocated.

3.1.2 The Natural Environment White Paper[18] has a close focus on promoting high quality natural environments, expanding multifunctional green infrastructure networks and initiating landscape scale action to support ecological networks. The White Paper specifically seeks to: protect core areas of high nature conservation value; promote corridors and 'stepping stones' to enable species to move between key areas; and initiate Nature Improvement Areas, where ecological functions and wildlife can be restored. The White Paper is supported by the Biodiversity Strategy for England[19]. This seeks to halt overall biodiversity loss, support healthy, well-functioning ecosystems and establish coherent ecological networks with more and better places for nature for the benefit of wildlife and people.

3.1.3 Development which supports the borough's biodiversity and geodiversity resources should be promoted, especially where it improves the resilience of regional ecological networks. Green infrastructure and biodiverse design and layout should be encouraged. Opportunities to promote species conservation should be explored and promoted. Natural systems should be supported and the role of site allocations should be considered in facilitating people and communities to access and enjoy the natural environment.

3.1.4 The importance of the ecosystem service concept and the benefits of improved biodiversity infrastructure for climate change adaptation should be recognised. Sub-regional ecological networks can be promoted through facilitating the provision of green infrastructure, enhancements to habitats, promoting connections between biodiversity sites and facilitating the right conditions for native species. Increasing the biodiversity value of built up areas should be promoted through an expansion of a multifunctional green infrastructure network.

3.2 Habitats

3.2.1 The biodiversity of Fareham borough is represented by a diverse range of habitats which in turn support a variety of protected and priority species. Volume 2 of the Biodiversity Action Plan

[18] Defra (2011): The Natural Choice: securing the value of nature. Accessed online [at 26/11/19] at: https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature

[19] Defra (2011): Biodiversity 2020: A strategy for England's wildlife and ecosystem services. Accessed online [at 26/11/19] at: https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services

(BAP) for Hampshire[20] sets out action plans for 22 key habitats and 43 priority species, together with three grouped action plans for a further 25 of the 493 priority species within the county. Work to implement the Hampshire BAP is monitored and reported through the State of Hampshire's Biodiversity rep/ort and three-yearly corporate actions /plans for biodiversity, the latest of which covered the period 2008 to 2011.

3.2.2 Alongside the county-wide BAP, the Fareham Local Biodiversity Action Plan[21] sets out which Hampshire BAP priority habitats and species are present in the borough and additionally identifies habitats and species which are important in a Fareham borough context. It includes a five year action plan with targets and indicators of progress. Priority habitats highlighted by the LBAP are listed in Table 3.1.

Table 3.1: Fareham Local Biodiversity Action Plan Priority Habitats (Source: FBC, 2008)

Fareham LBAP Priority Habitats	
Ancient semi-natural woodland	Shingle
Plantations on ancient woodland sites	Maritime Cliffs
Secondary woodland	Ponds
Scrub	Grazing Marsh
Hedgerows	Reedbeds
Unimproved neutral grasslands	Rivers & Chalk Streams
Unimproved calcareous grasslands	The Titchfield Canal
Arable land	Estuaries
Heathland	Amenity Grassland
Intertidal Mudflats	Parks, Gardens and Allotments
Saltmarsh	Open Mosaic Habitats on Previously Developed Land

3.2.3 Fareham Borough Council provided updated GIS data from the Hampshire Biodiversity Information Centre (HBIC) (HBIC, 2018) for the currently known extent and distribution of priority habitats in and around the borough, as shown in Figure 3.1 and Figure 3.2. Table 3.2 lists these habitats by type and quantity within the borough.

Table 3.2: Priority Habitats in Fareham Borough (Source: HBIC, 2018)

Type	**Ha**	**Type**	**Ha**
Coastal and Floodplain Grazing Marsh	351.70	Lowland Meadows	22.56
Coastal Saltmarsh	30.71	Lowland Mixed Deciduous Woodland	468.38
Coastal Sand Dunes	0.0015	Maritime Cliff and Slopes	1.45

[20] Hampshire Biodiversity Partnership (2000): Biodiversity Action Plan for Hampshire, Volume Two. Accessed online [26/11/19] at: http://www.hampshirebiodiversity.org.uk/vol-two.html

[21] FBC (2008): Fareham Local Biodiversity Action Plan. Accessed online [26/11/19] at: https://www.fareham.gov.uk/planning/conservation/biodiversity.aspx

Type	Ha	Type	Ha
Coastal Vegetated Shingle	12.93	Purple Moor Grass and Rush Pastures	4.21
Eutrophic Standing Waters	1.10	Reedbeds	49.26
Hedgerows	0.10	Saline Lagoons	1.24
Intertidal mudflats	311.60	Traditional Orchards	0.15
Lowland Calcareous Grassland	16.21	Wet Woodland	54.98
Lowland Dry Acid Grassland	6.28	Wood-Pasture and Parkland	22.12
Lowland Heathland	2.08		

3.3 Species

3.3.1 Reflecting the habitats present, Fareham borough contains a wide range of priority species. Of the 493 priority species listed in the Hampshire BAP, 50 species which are representative of the various habitat types present are regularly reported on to gain an overall assessment of change in priority species status in a regular and consistent way. Based on reporting between 2000 and 2010, the Hampshire Biodiversity Information Centre has compiled a list of priority species which are present in the various local authority areas in Hampshire. This is accompanied by an assessment of whether their status changed between 1995 and 2011, i.e. whether numbers of each species are increasing, stable, declining, fluctuating or lost. Table 3.3 sets out the priority species known to occur in Fareham borough and their trend status between 1995 and 2011.

3.3.2 Under the Natural Environment and Rural Communities Act 2006, the Council has a duty promote the conservation of habitats and species of principal importance in England. A 'section 41' list of these habitats and species is maintained by the Secretary of State. The list includes all UK priority habitats and species occurring in England, plus hen harrier (*Circus cyaneus*)[23].

Table 3.3: Monitored Priority Species' Population Trends, 1999-2011 (Source: HBIC, 2017)

Scientific name	Common name	1995-2005	2000-2010	2001-2011	2002-2012	2007-2017
Triturus cristatus	Great crested newt	Decline	Decline **	[Decline **]	Decline **	Decline**
Bombus humilis	Brown-banded carder bee	Unknown	[Increase]	[Increase]	[Increase]	[Stable]
Lucanus cervus	Stag beetle	Stable	[Stable]	[Stable]	[Stable]	[Stable]

[23] Natural England: Habitats and species of principal importance in England. Accessed online [14/5/19] at: http://webarchive.nationalarchives.gov.uk/20140605090108/http:/www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx

Scientific name	Common name	1995-2005	2000-2010	2001-2011	2002-2012	2007-2017
Alauda arvensis	Skylark	Decline*	Stable	Stable	Decline	Decline
Branta bernicla bernicla	Dark-bellied Brent goose	Decline*	Decline	Decline	Stable	Stable
Caprimulgus europaeus	Nightjar	Increase	Stable	Stable	Stable	Stable
Lullula arborea	Woodlark	Increase	Stable	Increase	Stable	Stable
Luscinia megarhynchos	Nightingale	Decline?	Decline	Decline	Decline	Decline
Milaria calandra	Corn bunting	Decline**	Decline	Decline	Decline	Decline
Pyrrhula pyrrhula	Bullfinch	Stable	Stable	Stable	Decline	Stable
Streptopelia turtur	Turtle dove	Decline**	Decline	Decline	Decline	Decline
Sylvia undata	Dartford warbler	Increase	Decline	Decline	Increase	Increase[3]
Tringa totanus	Redshank	Decline**	Decline	Stable	Decline	Decline
Vanellus vanellus	Lapwing	Stable	Decline	Decline	Decline	Decline
Argynnis paphia	Silver-washed fritillary	Stable	Increase	[Stable]	[Increase]	Increase
Cupido minimus	Small blue	Decline*	Decline *	Decline *	[Decline*]	Fluctuating
Lysandra coridon	Chalkhill blue	Fluctuating	Fluctuating	Fluctuating	[Stable]	Fluctuating
Chamaemelum nobile	Chamomile	Stable	[Stable]	Stable	Stable	Decline*
Orchis morio	Green-winged orchid	Decline*	[Decline]	Decline	Decline	Decline*
Thesium humifusum	Bastard toadflax	Stable	[Stable]	Stable	Stable	Decline**
Zostera marina	Eelgrass	Unknown	Stable	[Stable]	[Stable]	Stable
Arvicola amphibius	Water vole	Stable	Stable	Stable	[Stable]	Stable
Eptesicus serotinus	Serotine bat	Decline**	[Decline]	Stable	Stable	Decline?
Lepus	Brown hare	Stable	Stable	Stable	[Stable]	Stable

Scientific name	Common name	1995-2005	2000-2010	2001-2011	2002-2012	2007-2017
europaeus						
Muscardinus avellanarius	Dormouse	Stable	Stable	Stable	[Stable]	Decline*
Apoda limacodes	Festoon	Increase	[Stable]	Stable	Stable	Increase
Hypena rostralis	Buttoned snout	Increase	[Stable]	Stable	Stable	Increase

* Decline slowing; ** Decline continuing and accelerating; [Square brackets] indicate an assessment by HBIC

3.3.3 Other pertinent legislation affording various levels of protection to species includes; The Conservation of Habitats and Species Regulations 2010 (as amended; 'the Habitats Regulations'), Wildlife and Countryside Act 1981 (as amended; WCA), Countryside and Rights of Way Act 2000 (CRoW), Protection of Badgers Act 1992, Convention on the Conservation of European Wildlife and Natural Habitats 1979 (Bern Convention) and Wild Mammals Act 1996. Desk studies and field surveys will be required to ascertain the presence of protected/priority species within an appropriate geographical range of development site allocations.

3.3.4 It should be noted that arable land of relatively low intrinsic ecological value can have the potential to support notable species. An example of this is the dark-bellied Brent goose (*Branta bernicla bernicla*), a qualifying feature on the citation for Portsmouth Harbour SPA/Ramsar (see below) and a priority species in Hampshire and Fareham. During the winter months Brent goose relies on amenity grassland and arable land as a high-tide food resource, with such sites having a role to play in supporting Brent goose numbers particularly during cold winters, or in years when their numbers are especially high. The Solent Wader and Brent Goose Strategy[24] contains information on important sites used by Brent goose and waders, as well as a suggested policy response. Sites within Fareham borough listed within the strategy as "Core Areas", "Primary Supper Areas", "Secondary Support Areas" and "Low Use Areas" are shown on Figure 3.3 and Figure 3.4.

3.4 Nature Improvement Areas and Biodiversity Opportunity Areas

3.4.1 There are no Nature Improvement Areas (NIA) within the borough, the closest being the South Downs Way Ahead NIA approximately 10.5km to the north. However, there are six Biodiversity Opportunity Areas (BOA) partially within the borough; see Figure 3.5. Biodiversity Opportunity Areas are a non-statutory initiative established at the south-east regional level in 2009 and represent priority areas of great opportunity for the restoration and creation of priority habitats. BOAs do not include all the priority habitats in a region, but contain concentrations of wildlife habitat. Targeting nature conservation action towards BOAs is intended to result in a landscape scale approach to conservation. The statements for Forest of Bere, Portsdown Hill,

[24] Whitfield (2019): Solent Waders and Brent Goose Strategy 2019 Interim Project Report: Year One. Hampshire and Isle of Wight Wildlife Trust. Curdridge.

Portsmouth Harbour, Meon Valley, The Solent, and Hamble Valley BOAs are summarised in Table 3.4[25].

Table 3.4: Biodiversity Opportunity Area Statements

Biodiversity Opportunity Area Statements
Forest of Bere BOA
Landscape Character Area: South Hampshire Lowland and Heath, Avon, Test, Itchen and Meon Valleys Landscape Type: Settled Lowland Mosaic Ancient Forest / Major River Valleys Geology: Predominantly Clay, Silt and Sand and Sand bedrock with Clay, Silt, Sand and Gravel river terrace deposits in the valleys. Biodiversity: The core area of the Forest of Bere is centred around the Southwick Estate and includes the present Forest of Bere Site of Importance for Nature Conservation (SINC), West Walk SINC, and Bishops' Inclosure SINC on the western boundary of the BOA, owned by the Bishop of Winchester in medieval times. This area contains high concentrations of ancient woodlands, wooded common, wood pasture, unimproved grassland and relic heath and is of particular importance for its small-leaved lime woods. Targets & Opportunities: Lowland Heath; Lowland Dry Acid Grassland; Lowland Mixed Deciduous Woodland; Wet Woodland; Lowland Meadow
Portsdown Hill
Landscape Character Area: South Hampshire Lowland and Heath Landscape Type: Open Downland Geology: Chalk bedrock with no notable superficial deposits. Biodiversity: Portsdown Hill is an isolated east-west chalk anticline with a long south-facing escarpment. Despite only limited grazing and extensive disturbance, these slopes still support a rich chalk grassland flora and a rich and diverse insect fauna. The BOA extends this area to include other relic fragments of species-rich chalk grassland (SINCs) and areas of high suitability for restoration to chalk grassland. Targets & Opportunities: Lowland Calcareous Grassland
Portsmouth Harbour
Landscape Character Area: South Hampshire Coast Landscape Type: Harbours / Settled Coast Plain Geology: The bedrock is predominantly chalk in the northern half, with Sand and Clay, Silt and Sand in the southern half. There are deposits of Clay, Silt, Sand and Gravel in northern and central regions, Sand and Gravel to the south-west and north-east, and Sand, Silt and Clay to the north and eastern fringes. Biodiversity: This area is centred on Portsmouth Harbour SSSI which is the westernmost of the three extensive and connected tidal basins - Portsmouth, Langstone and Chichester Harbours. The intertidal area of Portsmouth Harbour includes 776ha of mudflats & eelgrass beds and about 173ha of cordgrass Spartina marshes. The BOA has been extended to include further coastal habitats (many SINCs) along the perimeter of the harbour where opportunities exist to enhance and expand certain habitats. Targets & Opportunities: Coastal Grazing Marsh; Coastal Salt Marsh; Purple Moor Grass and Rush

[25] Hampshire Biodiversity Partnership: Biodiversity Opportunity Areas. Accessed online [10/7/19] at: http://documents.hants.gov.uk/biodiversity/BOAStatements.pdf

Biodiversity Opportunity Area Statements
Pastures
Meon Valley
Landscape Character Area: Avon, Test, Itchen and Meon Valleys / South Hampshire Downs Landscape Type: Major River Valleys Geology: Chalk bedrock occurs in the north-western half of the area, the south-eastern half made up of Clay Silt and Sand, Sand Silt and Clay, and Sand bedrock. Deposits of Clay, Silt, Sand and Gravel run through the river valley, with Gravel, Silt and Sand deposits occurring in some central and northern areas. Biodiversity: The River Meon arises on the chalk and supports a classic chalk stream flora. From its source south of the village of East Meon the River Meon forms a narrow, visually enclosed valley with only one principal water course and few meanders. Whilst much of the upper floodplain has been agriculturally improved there are a few fragmentary areas of ecological value, particularly at the lower end where there are several unimproved wet SINC meadows between Titchfield and Fareham. Titchfield Haven SSSI lies at the southern end of the river and comprises freshwater marsh with reedbeds, unimproved wet meadow and fen. Targets & Opportunities: Purple Moor Grass and Rush Pastures; Wet Woodland; Lowland Meadow; Reedbed; Lowland Fen
The Solent
Landscape Character Area: South Hampshire Coast Landscape Type: Major Estuary and Solent / Settled Coastal Plain / Major River Valleys Geology: A bedrock of Sand, Silt and Clay with just Clay to the north-west of the area. Clay and Silt and Clay, Silt, Sand and Gravel deposits run along the length of the coastal edges with Sand and Gravel river terrace deposits found further inland. Gravel deposits are found at the south-eastern end of the area and Peat occurs in the Alver valley. Biodiversity: This area extends along the eastern shore of Southampton Water from Lee-on-the-Solent to the mid-Itchen estuary and includes the lower estuary of the River Hamble. The area comprises extensive intertidal muds with a littoral fringe of vegetated shingle, saltmarsh, reedbed, marshy grasslands, soft rock cliffs and deciduous woodland. The site is an integral part of Southampton Water which is of international importance for over-wintering dark-bellied Brent geese, and of national importance for three species of wildfowl (great-crested grebe, teal and wigeon) and five species of wader (black-tailed godwit, dunlin, grey plover, ringed plover, redshank). The area also supports an outstanding assemblage of nationally scarce coastal plants. In addition, the cliffs at Brownwich and the foreshore at Lee-on-The Solent are of national geological importance. SSSIs include the Lee on Solent to Itchen Estuary, which includes Hamble Common, a mosaic of acidic grassland and wet heath, with neighbouring SINCs supporting species-rich grassland, secondary woodland with relic heath, also grazing marsh and a reed-fringed freshwater fleet at Hook Lake and ancient deciduous woodland extending inland along a former tidal re-entrant. Vegetated shingle, a nationally restricted habitat, is found fronting the reed bed at Hook Spit. Other SSSIs include Titchfield Haven which was formerly the estuary of the River Meon, and comprises an extensive freshwater marsh, supporting large reed beds, wet, unimproved meadows, pools and patches of fen. The area is important for surface-feeding ducks and possesses a rich wetland breeding bird community. Browndown Common SSSI, the Wild Grounds SSSI, other SINCs in the Alver Valley floodplain and at Gilkicker Point SINC are included, and include important areas of vegetated shingle/grass heath, acid oak woodland, wet woodland, swamp & reed beds and brackish grassland. Areas of less interesting vegetation are included where they are known to support over wintering Brent geese and other waders or are of high potential for re-creation of semi-

Biodiversity Opportunity Area Statements
natural coastal habitats. Targets & Opportunities: Coastal Grazing Marsh and Coastal Salt Marsh
Hamble Valley
Landscape Character Area: South Hampshire Lowland and Heath / South Hampshire Coast / Avon, Test, Itchen and Meon Valleys Landscape Type: Settled Lowland Mosaic Ancient Forest / Major River Valleys / Settled Coastal Plain Geology: The bedrock for the area consists of Clay Silt and Sand in the south and north with Sand scattered throughout the area. There is Chalk bedrock at the far north-eastern and eastern fringes. Deposits of Silt and Clay, Sand Silt and Gravel and Clay run through the river valley. Biodiversity: This area comprises the Upper Hamble Estuary and Woods SSSI, the Hamble river valley, its main tributaries and headwaters which extend to the Moors SSSI at Bishop's Waltham to the north and Botley Wood SSSI to the east. The upper section of the Hamble estuary supports a narrow zone of mudflats, saltmarsh, reedswamp and ancient semi-natural woodland. Twelve types of ancient broad-leaved woodland occur within the Upper Hamble SSSI. Of particular interest is the transition between zones of pedunculate oak/birch/hazel through sessile oak/birch/hazel to sessile oak/birch in response to changes from heavy London Clay soils to light, well-drained valley sands and gravels, and the gradation from ancient semi-natural woodland to estuarine saltmarsh. The Hamble woodlands are also notable for their stands of small-leaved lime. A number of small unimproved neutral/wet grassland SINCs occur further along the river valley & its tributaries, including complexes at Calcott Farm and Ford Lake. Unimproved wet meadows, draining into a central pool with associated mature alder can be found in the headwaters of a tributary of the River Hamble at the Moors SSSI which lies near the junction of the Chalk and Reading Beds. The meadows are fed by a series of springs which may yield water of differing base status since the vegetation exhibits both acid and basic elements. Another tributary of the Hamble drains from a dense concentration of ancient semi-natural & replanted woodland SINCs at Biddenfield, arising further along at Shedfield Common, an area of relic heath, valley mire and species rich grassland. A third tributary drains from Botley Wood SSSI though an area of species-rich rushy pasture & wet woodland SINCs at North Whiteley. Botley Wood SSSI itself comprises a large tract of ancient semi-natiral and replanted woodland in a poorly-drained low-lying hollow. Despite the coniferisation it is of exceptional importance for its rich insect populations which depend upon the woodland clearings, broad herb-rich rides and relict stands of semi-natural deciduous woodland. Where undisturbed, the semi-natural woodland cover consists largely of hazel coppice with oak/alder standards on the drier, acidic soils, grading to damp alder woodland on the poorly-drained clay. The alder is mostly grown from old coppice and supports a lush, species-rich ground flora. The ride vegetation is very varied and supports abundant herbs, sedges and rushes. Targets & Opportunities: Wet Woodland; Lowland Meadow; Lowland Mixed Deciduous Woodland; Purple Moor Grass and Rush Pastures

3.5 Nature Conservation Designations

3.5.1 There are a number of internationally, nationally and locally designated nature conservation sites within and near to Fareham borough. European sites provide ecological infrastructure for the protection of rare, endangered or vulnerable natural habitats and species of exceptional importance within the European Union. These sites consist of Special Areas of Conservation (SACs, designated under *European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora* ('the Habitats Directive')) and Special Protection Areas

(SPAs, designated under *European Council Directive 2009/147/EC on the conservation of wild birds* ('the Birds Directive')). Meanwhile, the National Planning Policy Framework (DCLG, 2019) and Circular 06/05 (ODPM, 2005b) require that Ramsar sites (UNESCO, 1971) and potential SPAs and possible SACs are treated as if they are fully designated European sites for the purposes of considering development proposals that may affect them.

3.5.2 The following European and Ramsar sites are within relatively accessible distance from the borough, the locations of which are shown on Figure 3.6 could potentially be affected as a result of development due to their specific environmental sensitivities. Collectively these sites protect some of Europe's best examples of calcareous grassland, deciduous woodland, heathland, bog, chalk river, estuarine and coastal habitats, supporting a rich assemblage of invertebrate, fish, amphibian, breeding and overwintering bird, and mammal species. A separate Habitats Regulations Assessment for the Local Plan will investigate the potential for adverse effects on European and Ramsar sites.

- Butser Hill (SAC)
- Emer Bog (SAC)
- River Itchen (SAC)
- Solent and Isle of Wight Lagoons (SAC)
- Solent Maritime (SAC)
- The New Forest (SAC)
- Chichester and Langstone Harbours (SPA)
- Portsmouth Harbour (SPA)
- Solent and Dorset Coast potential SPA (pSPA)
- Solent and Southampton Water (SPA)
- The New Forest (SPA)
- Chichester and Langstone Harbours (Ramsar)
- Portsmouth Harbour (Ramsar)
- Solent and Southampton Water (Ramsar)
- The New Forest (Ramsar)

3.5.3 Fareham borough contains a number of nationally designated nature conservation sites, and there are six Sites of Special Scientific Interest in the borough, covering over 500ha. Two of these SSSIs have also been designated for the geological interest. Geological SSSIs are discussed in more detail below. The SSSIs in the borough are presented in Table 3.5 and represented in Figure 3.7.

3.5.4 Additionally, the Botley Wood and Everett's and Mushes Copses SSSI is located approximately 2km north of Fareham borough, within Winchester district. Within Hampshire as a whole, more

than 91% of SSSIs are in favourable or unfavourable-recovering condition[26]. The condition of SSSI units in Fareham is shown on Figure 3.8.

3.5.5 Natural England encourages local authorities to formally designate appropriate sites as Local Nature Reserves under Section 21 of the National Parks and Access to the Countryside Act 1949. A Local Nature Reserve (LNR) designation demonstrates a commitment by the local authority to manage land for biodiversity, protect it from inappropriate development and provide opportunities for local people to study and enjoy wildlife. Within Fareham borough, there is one National Nature Reserve (NNR) at Titchfield Haven, and five Local Nature Reserves; Hook-with-Warsash LNR, Kites Croft LNR, Gull Coppice LNR, Holly Hill Woodland Park LNR, Titchfield Haven LNR, and Warsash Common LNR, as shown on Figure 3.7. There is also the Swanwick Lakes Nature Reserve, managed by the Wildlife Trust.

3.5.6 There are a number of sites that are important for nature conservation but are not covered by statutory national and international designations. As highlighted by Figure 3.9 and Figure 3.10, there are over 100 Sites of Importance for Nature Conservation (SINCs) within the borough, including ancient woodlands, grassland, heathland, coastal and wetland habitats, and sites which support notable species.

Table 3.5: Site of Special Scientific Interest Feature Summaries

SSSI name	Notified features
Downend Chalk Pit	ED - Cenomanian-Maastrichtian (Geological)
Lee on the Solent to Itchen Estuary	Aggregations of non-breeding birds - Black-tailed Godwit, *Limosa limosa islandica*; Dunlin, *Calidris alpina alpina*; Great crested Grebe, *Podiceps cristatus*; Grey Plover, *Pluvialis squatarola*; Redshank, *Tringa totanus*; Ringed Plover, *Charadrius hiaticula*; Teal, *Anas crecca*; Wigeon, *Anas penelope* Vascular Plant Assemblage EC – Aves (Geological) EC - Mesozoic - Tertiary Fish/Amphibia (Geological) EC - Quaternary Of South Central England (Geological)
Portsdown Hill	CG2 - *Festuca ovina - Avenula pratensis* lowland calcareous grassland CG3 - *Bromus erectus* lowland calcareous grassland CG4 - *Brachypodium pinnatum* lowland calcareous grassland CG5 - *Bromus* erectus - *Brachypodium pinnatum* lowland calcareous grassland Invertebrate Assemblage
Portsmouth Harbour	Aggregations of non-breeding birds - Black-tailed Godwit, *Limosa limosa islandica*; Brent Goose (Dark-bellied), *Branta bernicla bernicla*; Dunlin, *Calidris alpina alpina*; Grey Plover, *Pluvialis squatarola* CG2 - *Festuca ovina - Avenula pratensis* lowland calcareous grassland Population of Schedule 5 crustacean - *Gammarus insensibilis*, Lagoon Sand Shrimp Population of Schedule 5 sea anemone - *Nematostella vectensis*, Starlet Sea

[26] Natural England: Designated Sites View. Accessed online [14/5/19] at: https://designatedsites.naturalengland.org.uk/ReportConditionSummary.aspx?countyCode=19&ReportTitle=HAMPSHIRE

SSSI name	Notified features
	Anemone
	SM13a - *Puccinellia maritima* saltmarsh, *Puccinellia maritima* dominant sub-community
	SM14 - *Atriplex portulacoides* saltmarsh
	SM15 - *Juncus maritimus* - *Triglochin maritima* saltmarsh
	SM16a - *Festuca rubra* saltmarsh *Puccinellia maritima* sub-community
	SM6 - *Spartina Anglica* Saltmarsh
	Vascular Plant Assemblage
Titchfield Haven	Aggregations of non-breeding birds - Teal, *Anas crecca*; Wigeon, *Anas penelope*
	Assemblages of breeding birds - Lowland open waters and their margins
	M22 - *Juncus subnodulosus* - *Cirsium palustre* fen meadow
	M23 - *Juncus effusus / acutiflorus* - *Galium palustre* rush pasture
	MG10 - *Holcus lanatus* - *Juncus effusus*
	MG11 - *Festuca rubra* - *Agrostis stolonifera* - *Potentilla anserina* grassland
	MG12 - *Festuca Arundinacea*
	MG13 - *Agrostis stolonifera* - *Alopecurus geniculatus* grassland
	MG9 - *Holcus lanatus* - *Deschampsia caespitosa*
	S10 - *Equisetum fluviatile* swamp
	S12 - *Typha latifolia* swamp
	S14 - *Sparganium erectum* swamp
	S19 - *Eleocharis palustris* swamp
	S20 - *Scirpus lacustris ssp. tabernaemontani* swamp
	S21 - *Scirpus maritimus* Swamp
	S22 - *Glyceria fluitans* water-margin vegetation
	S23 - Other water-margin vegetation
	S25 - *Phragmites australis* - *Eupatorium cannabinum* tall-herb fen
	S26 - *Phragmites australis* - *Urtica dioica* tall-herb fen
	S28 - *Phalaris arundinacea* tall-herb fen
	S4 - *Phragmites australis* swamp and reed-beds
	S5 - *Glyceria maxima* swamp
	S6 - *Carex riparia* swamp
	S7 - *Carex acutiformis* swamp
Upper Hamble Estuary and Woods	MG5 - *Cynosurus cristatus* - *Centaurea nigra* grassland
	S21 - *Scirpus maritimus* swamp
	S4 - *Phragmites australis* swamp and reed-beds
	S5 - *Glyceria maxima* swamp
	Sheltered muddy shores (including estuarine muds)
	SM14 - *Atriplex portulacoides* saltmarsh
	SM16a - *Festuca rubra* saltmarsh *Puccinellia maritima* sub-community
	SM24 - *Elytrigia atherica* saltmarsh
	SM4-28 - Saltmarsh

SSSI name	Notified features
	SM6 - *Spartina anglica* Saltmarsh
	W10 - *Quercus robur* - *Pteridium aquilinum* - *Rubus fruticosus* woodland
	W16 - *Quercus spp.-Betula spp.-Deschampsia flexuosa* woodland
	W6 - *Alnus glutinosa* - *Urtica dioica* woodland
	W7 - *Alnus glutinosa* - *Fraxinus excelsior* - *Lysimachia nemorum* woodland
	W8 - *Fraxinus excelsior* - *Acer campestre* - *Mercurialis perennis* woodland

3.6 Ecological Network Map

3.6.1 HBIC has produced a detailed Ecological Network Map on behalf of the Local Nature Partnership (LNP). An ecological network is a group of habitat patches that species can easily move between, maintaining ecological function and conserving biodiversity. The network includes the hierarchy of international, national and locally designated sites, plus other priority habitats and areas identified for habitat restoration and creation. The Ecological Network Map is intended to guide the location, layout and design of development to enable habitat and species mitigation, restoration and re-creation to inform green infrastructure and achieve biodiversity net gain (Figure 3.12 and Figure 3.13).

3.7 Geological Features

3.7.1 The geodiversity of the borough is an important asset. Geodiversity is the collective term describing the geological variety of the Earth's rocks, fossils, minerals, soils and landscapes together with the natural process which form and shape them. Geodiversity underpins biodiversity by providing diversity of habitat, with the soil being the link between them. It also embraces the built environment by providing the basis for neighbourhood character and local distinctiveness through building stone and material.

3.7.2 Figure 3.11 highlights the geology of Fareham borough and the surrounding areas. The basic underlying geology of the wider area is formed by a bed of chalk, which was laid down in the late Cretaceous Period. This is evident to the east of Fareham where an outlier of the South Downs forms the prominent ridge of Portsdown Hill. Across the remainder of the borough, this chalk is buried beneath younger deposits of clays, silts, sands and gravels from the Paleogene and Quaternary Periods.

3.7.3 Whilst there are no Regionally Important Geodiversity Sites in the borough, there are two SSSIs notified for geological features. Downend Chalk Pit SSSI is a large former chalk quarry on the south side of the western end of Portsdown Hill in the east of Fareham borough, and provides an insight into the geology of the Late Cretaceous Period. Lee on the Solent to Itchen Estuary SSSI yielded the first British bird fossils of the mid-Eocene, a rich source of sharks teeth and a range of Palaeolithic artefacts, while the cliffs north of Hillhead provide a cross-section through the 'staircase' of Solent terraces.

3.8 PfSH Air Quality Impact Assessment

3.8.1 The PfSH Air Quality Impact Assessment also addressed potential air quality impacts on ecological designated sites based on predicted annual average airborne concentrations of oxides of nitrogen (NO_x) and ammonia (NH_3) as well as annual deposition of nutrient nitrogen and acid. The sites assessed included European designated sites as well as SSSIs, many of which fall within the European sites. Results were presented for the 2034 Do Minimum (DM) and 2034 Do Something (DS) where the DM scenario includes proposed development of 100,000 dwellings across the sub-region and the DS scenario also includes additional transport interventions. All four pollutants exceeded the 1% screening threshold in the DM and DS scenarios for a number of European designated sites within a relatively accessible distance from Fareham Borough, including River Itchen (SAC), Solent Maritime (SAC), Chichester and Langstone Harbours (SPA), Portsmouth Harbour (SPA, Ramsar), and Solent and Southampton Water (SPA). Therefore significant effects to these sites from air quality impacts cannot be ruled out. This is considered further as part of the Habitats Regulation Assessment (HRA) accompanying the Local Plan.

3.9 Spatial Context

3.9.1 Titchfield and the Western Wards support the greatest abundance of priority habitats, particularly grazing marsh and woodland respectively. The coastal parts of the borough (Portchester, Hill Head/ Stubbington, Titchfield and Western Wards) tend to have better access to, and be more constrained by, nature conservation designations particularly those of national or international importance. However, sites of local importance and fragments of ancient woodland are dotted throughout the borough, albeit with less frequency within the settlement boundaries.

3.10 Likely Evolution of the Baseline in the Absence of the Local Plan

3.10.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Baseline trends relevant to biodiversity and geodiversity that may continue under such a scenario include:

- Biodiversity in the borough is likely to be affected by development proposals, although policies DSP13-15 include requirements for biodiversity gain and avoidance of negative impacts.
- Improvements in biodiversity are likely to arise due to the increasing integration of biodiversity considerations within forward planning in the borough and the wider sub-region.
- Increased demand for water coupled with diffuse pollution via run-off may place additional pressures freshwater, wetland and coastal habitats.
- Although some of Hampshire's priority species continue to decline, studies indicate that the rates of decline are slowing. Many priority species have stable populations, and some are increasing, particularly where focused conservation effort has taken place (e.g. heathlands, chalk grassland SSSIs).

- Climate change has the potential to affect biodiversity in a range of ways, including through changes in the distribution and abundance of species (including non-native species) and changes to the composition and character of habitats.

3.11 Key Issues

3.11.1 Key issues for biodiversity and geodiversity relevant to the Local Plan are:

- Potential impacts on priority habitats and species from new developments. Protected species are also present within the borough, including badger, bats, breeding birds, dormouse, great crested newt and reptiles.
- There are significant opportunities for biodiversity enhancement in the area, including at the landscape scale. Six Biodiversity Opportunity Areas, which are regional priority areas of great opportunity for restoration and creation of priority habitats, are present across the borough.
- Potential effects on designated sites of nature conservation interest, many of which are in coastal locations. All SSSIs in the borough have at least one unit in unfavourable condition or unfavourable recovering; all but two unit within Portsmouth Harbour are in unfavourable-recovering condition or worse with one unit classed as destroyed, while all units within Titchfield Haven are unfavourable, with half of those in decline. More than three-quarters of Botley Wood and Everett's and Mushes Copses SSSI is in unfavourable-recovering condition, with one unit destroyed.
- Hedgerows are important local biodiversity assets some of which may be lost to development.
- There are significant opportunities for tree planting and improved management of woodland through the development of the site allocations. This will help alleviate threats to parkland and veteran trees, including from development pressures, poor management and fragmentation.
- Protecting and enhancing the area's green and blue infrastructure network will support local and sub-regional biodiversity networks by helping to improve connectivity for habitats and species, and provide benefits to local communities in terms of health and wellbeing.
- Improvements in local ecological networks will support biodiversity's adaptation to climate change.
- Geodiversity is a key contributor to the area's natural (and built) environment.
- Access to the natural environment should be maintained and supported by the LPR. However, measures will need to be taken to ensure that disturbance impacts within Solent European sites are not exacerbated.

Fareham Local Plan

- Coastal Sand Dunes
- Coastal Vegetated Shingle
- Coastal and Floodplain Grazing Marsh
- Coastal Saltmarsh
- Eutrophic Standing Waters
- Hedgerows
- Intertidal Mudflats
- Lowland Calcareous Grassland
- Lowland Dry Acid Grassland
- Lowland Fens
- Lowland Heathland
- Lowland Meadows
- Lowland Mixed Deciduous Woodland
- Maritime Cliff and Slopes
- Purple Moor Grass and Rush Pastures
- Reedbeds
- Saline Lagoons
- Traditional Orchards
- Wet Woodland
- Wood-Pasture and Parkland
- Spatial Planning Areas
- Borough

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Kilometers

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Scale: 1:50,000 **Created by:** JC
Date: Dec 2019 **Reviewed by:** GC
Drawing number:
UE-0192_Priority_Habitats_191204

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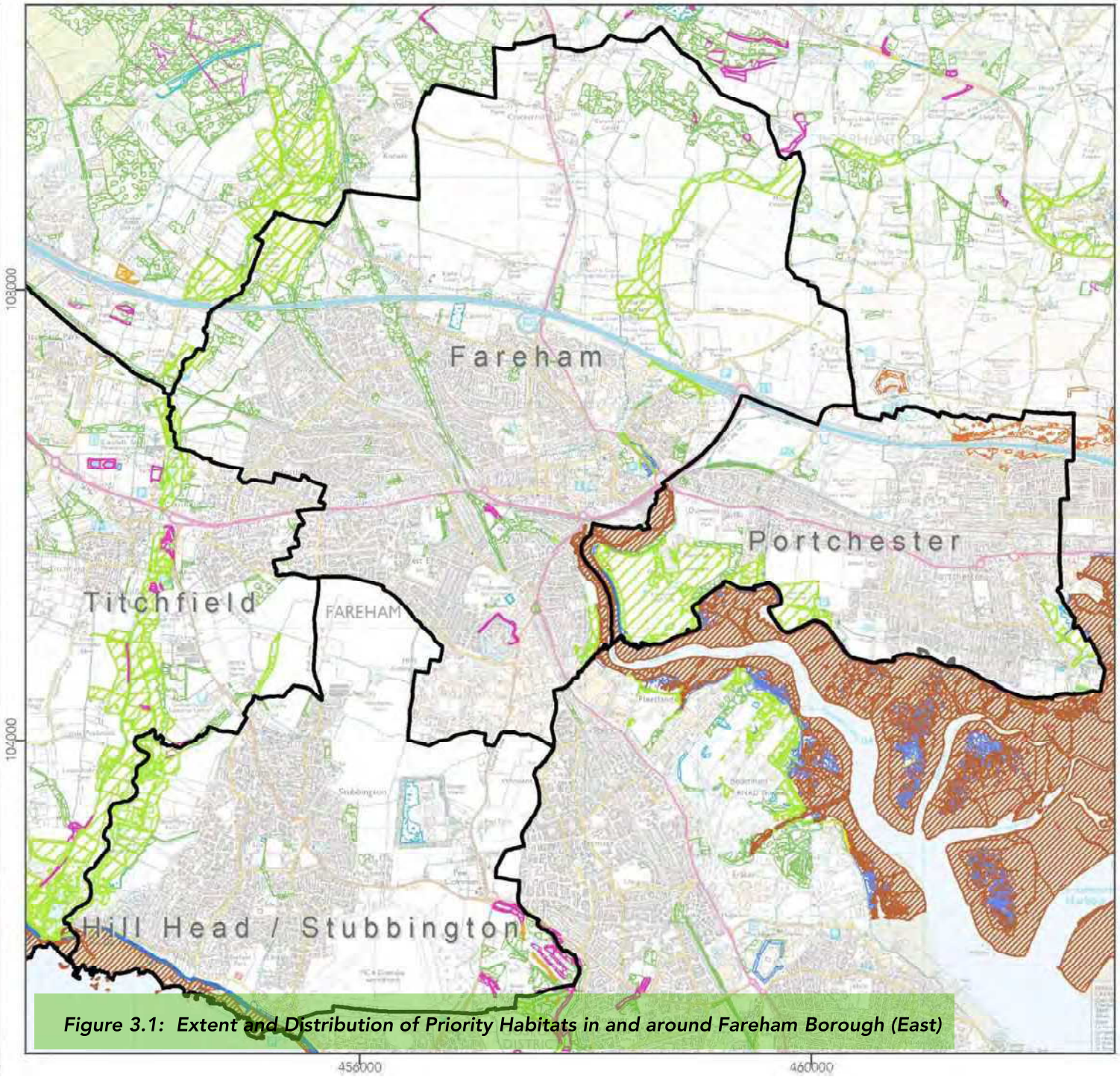

Figure 3.1: Extent and Distribution of Priority Habitats in and around Fareham Borough (East)

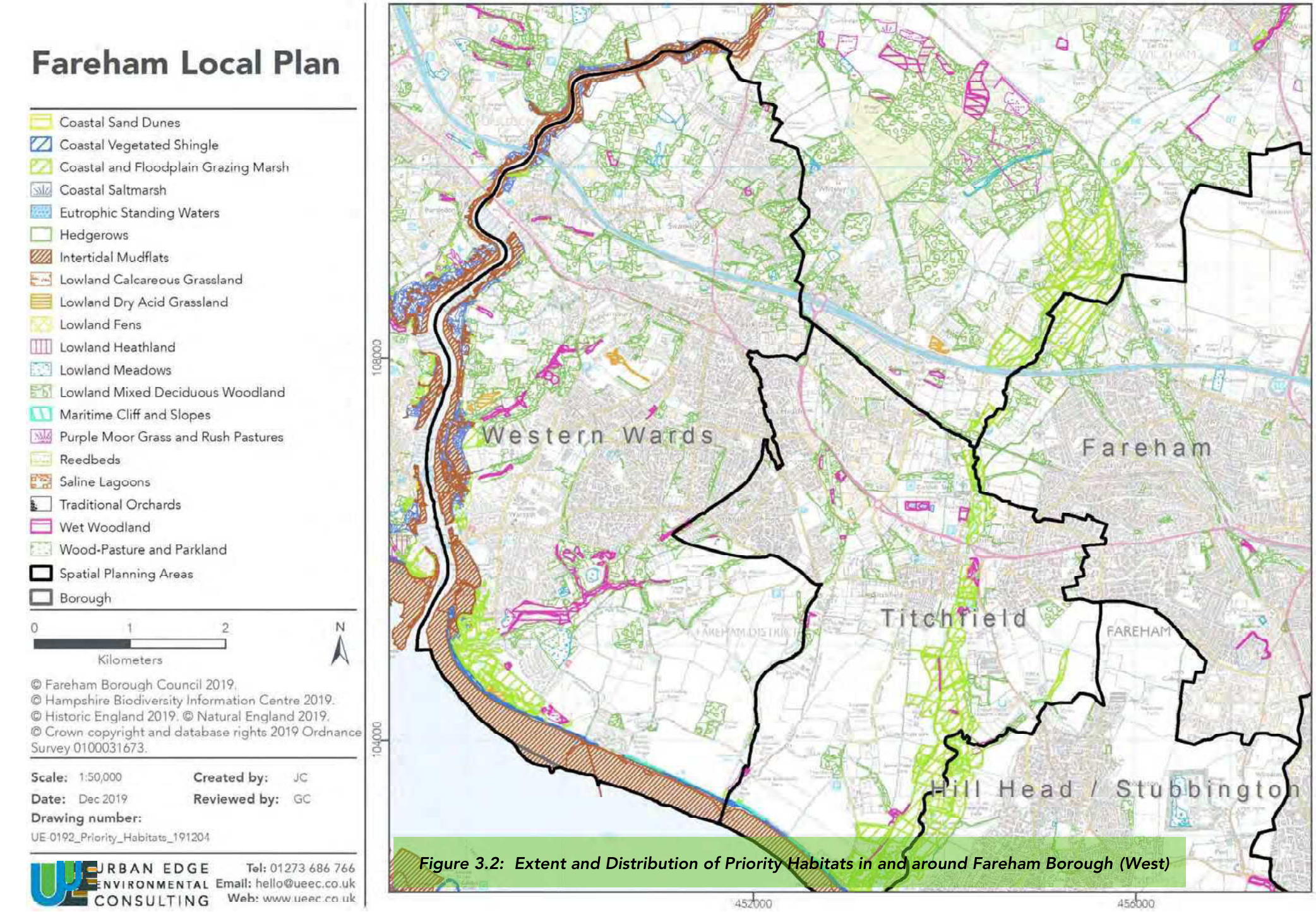

Figure 3.2: Extent and Distribution of Priority Habitats in and around Fareham Borough (West)

Fareham Local Plan

- Candidate
- Core Area
- Low Use
- Primary Support Area
- SPA site
- Secondary Support Area
- Spatial Planning Areas
- Borough

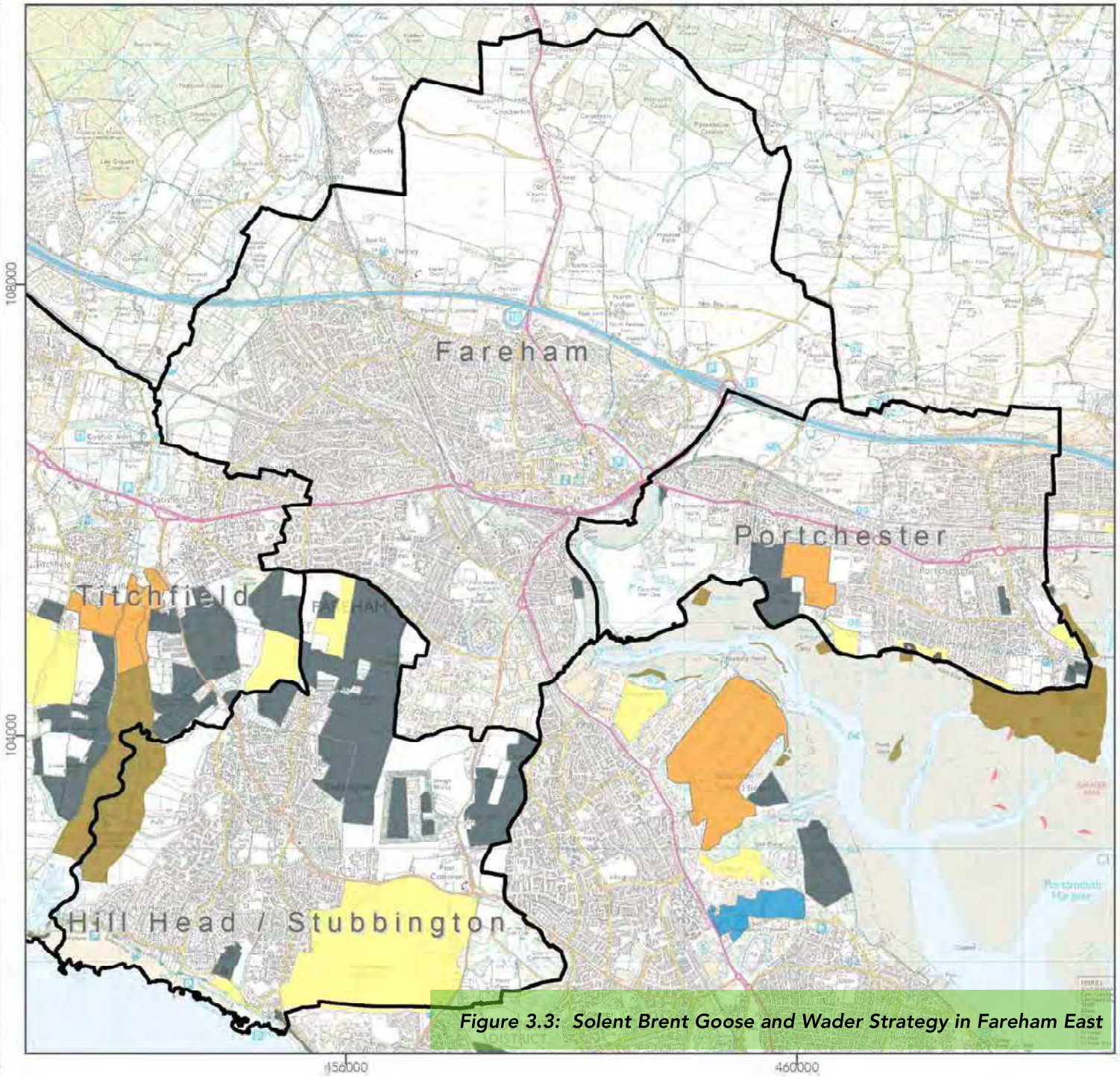

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Figure 3.3: Solent Brent Goose and Wader Strategy in Fareham East

Fareham Local Plan

- Candidate
- Core Area
- Low Use
- Primary Support Area
- SPA site
- Secondary Support Area
- Spatial Planning Areas
- Borough

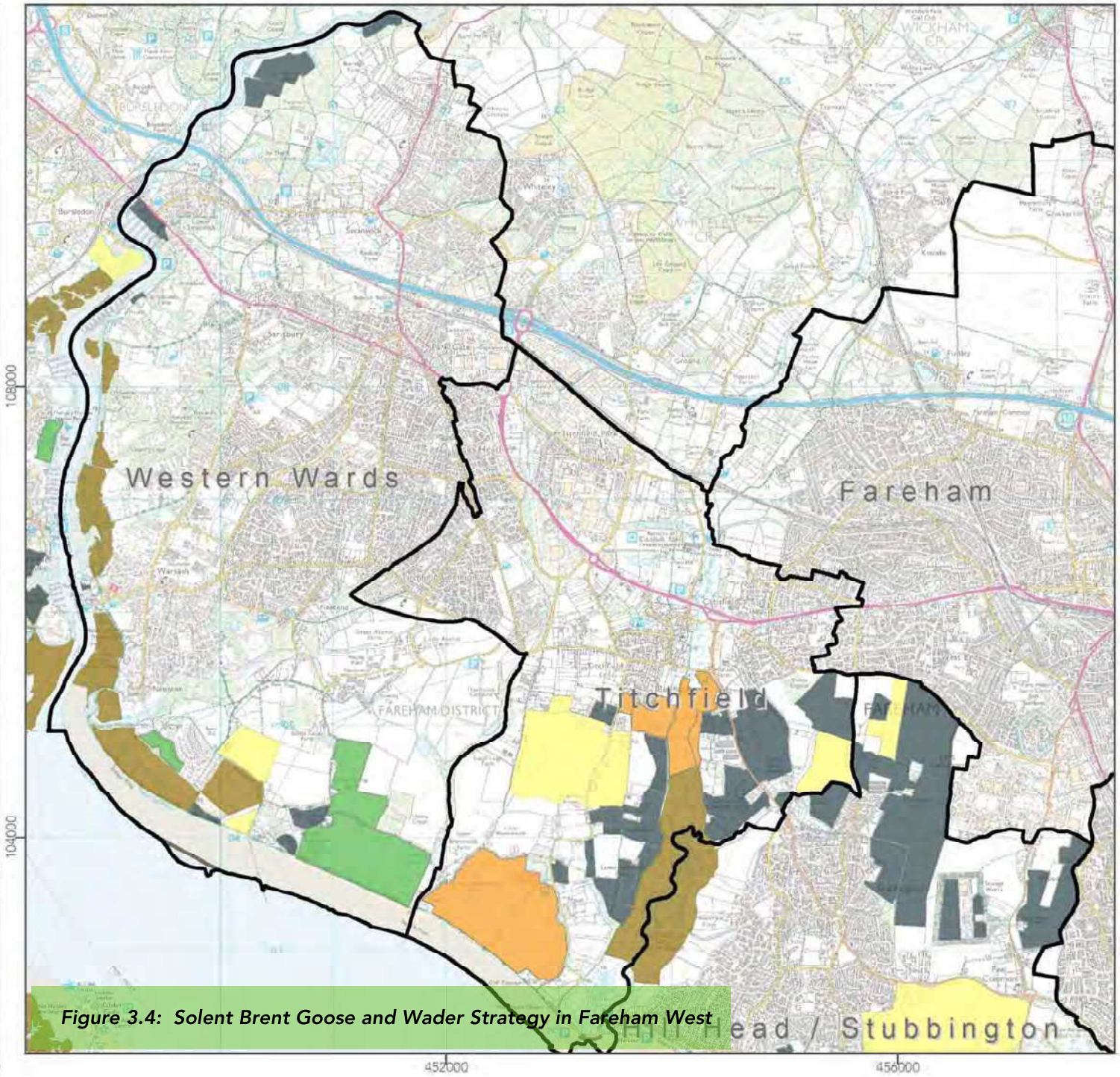

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Figure 3.4: Solent Brent Goose and Wader Strategy in Fareham West

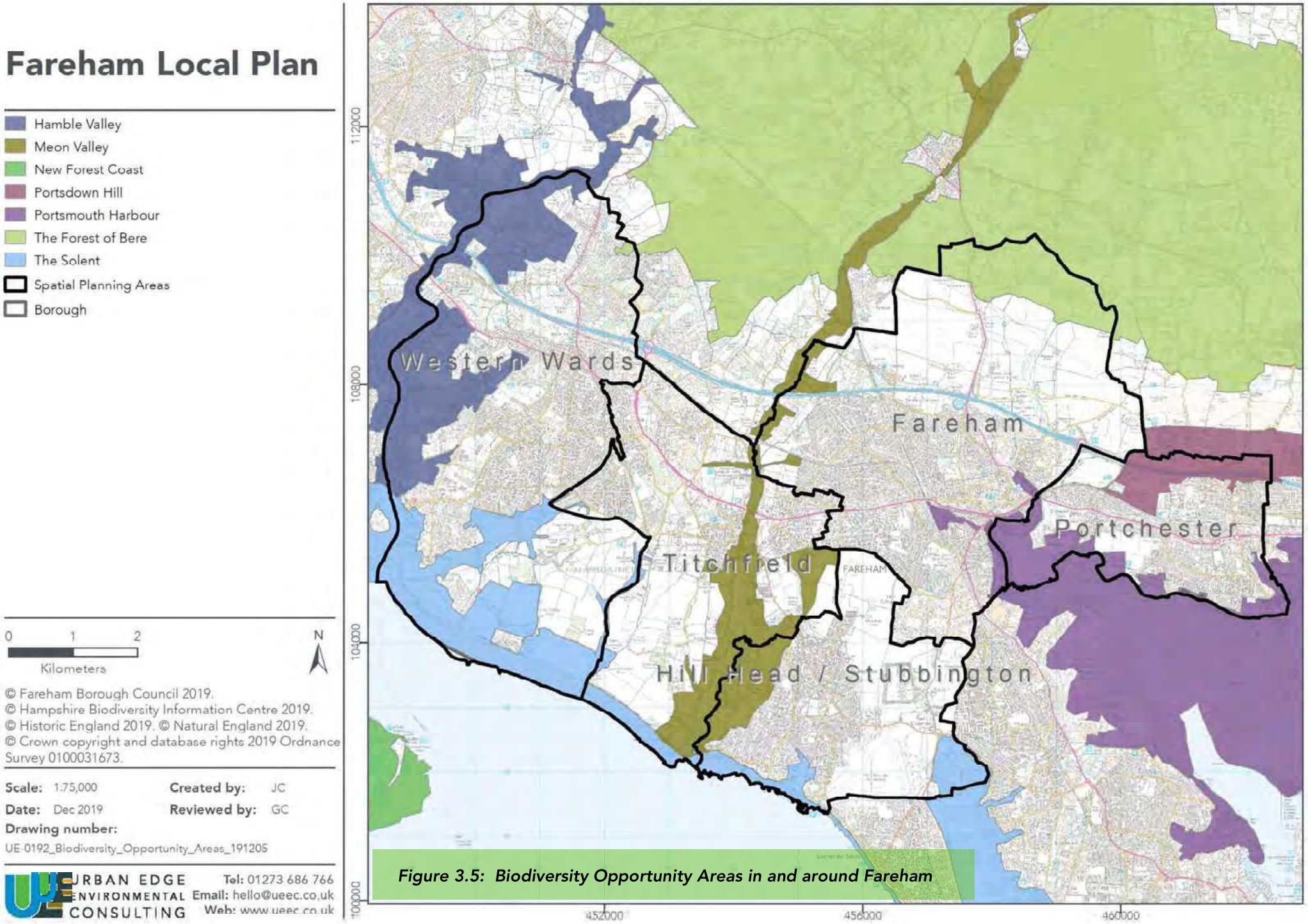

Figure 3.5: Biodiversity Opportunity Areas in and around Fareham

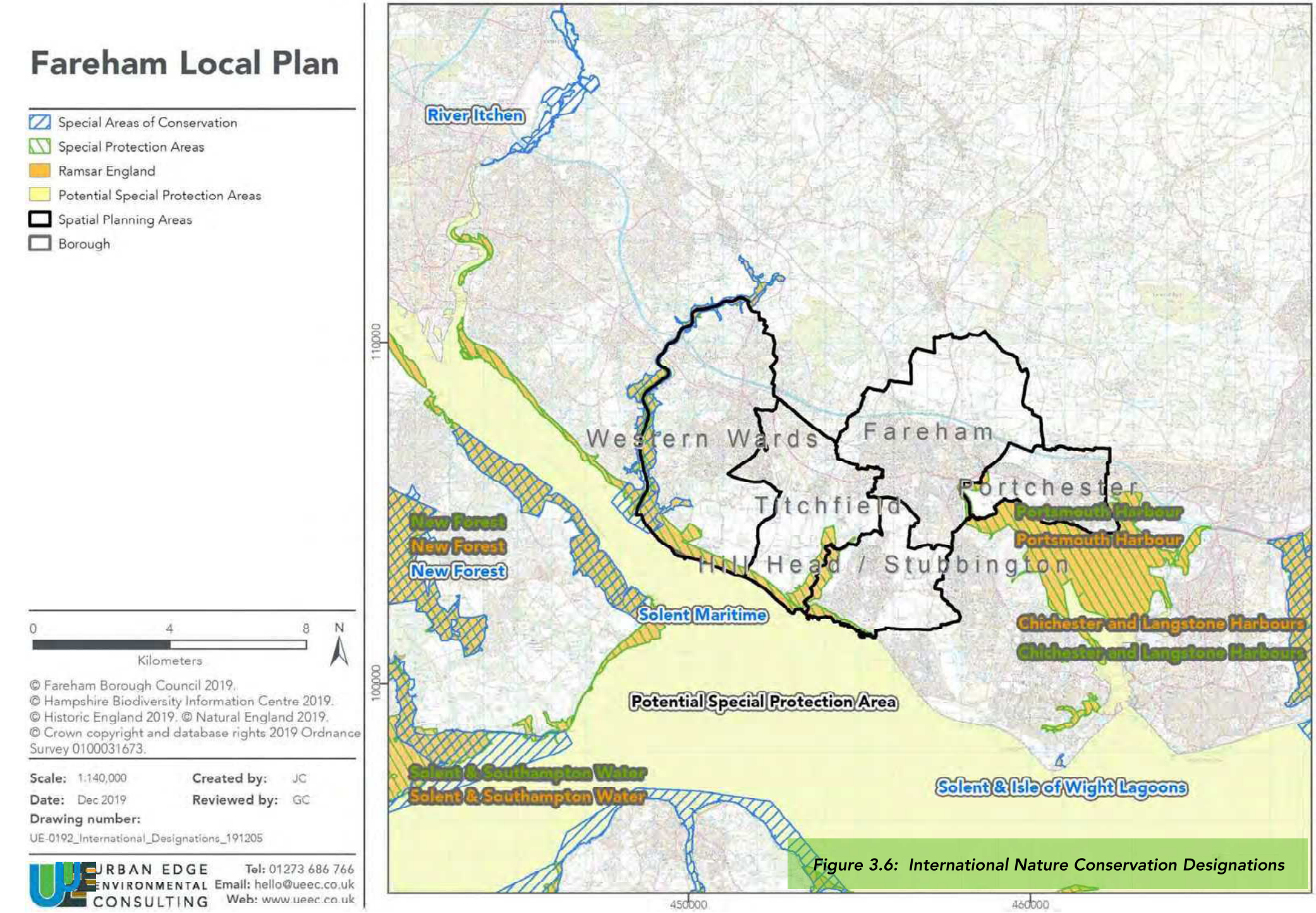

Figure 3.6: International Nature Conservation Designations

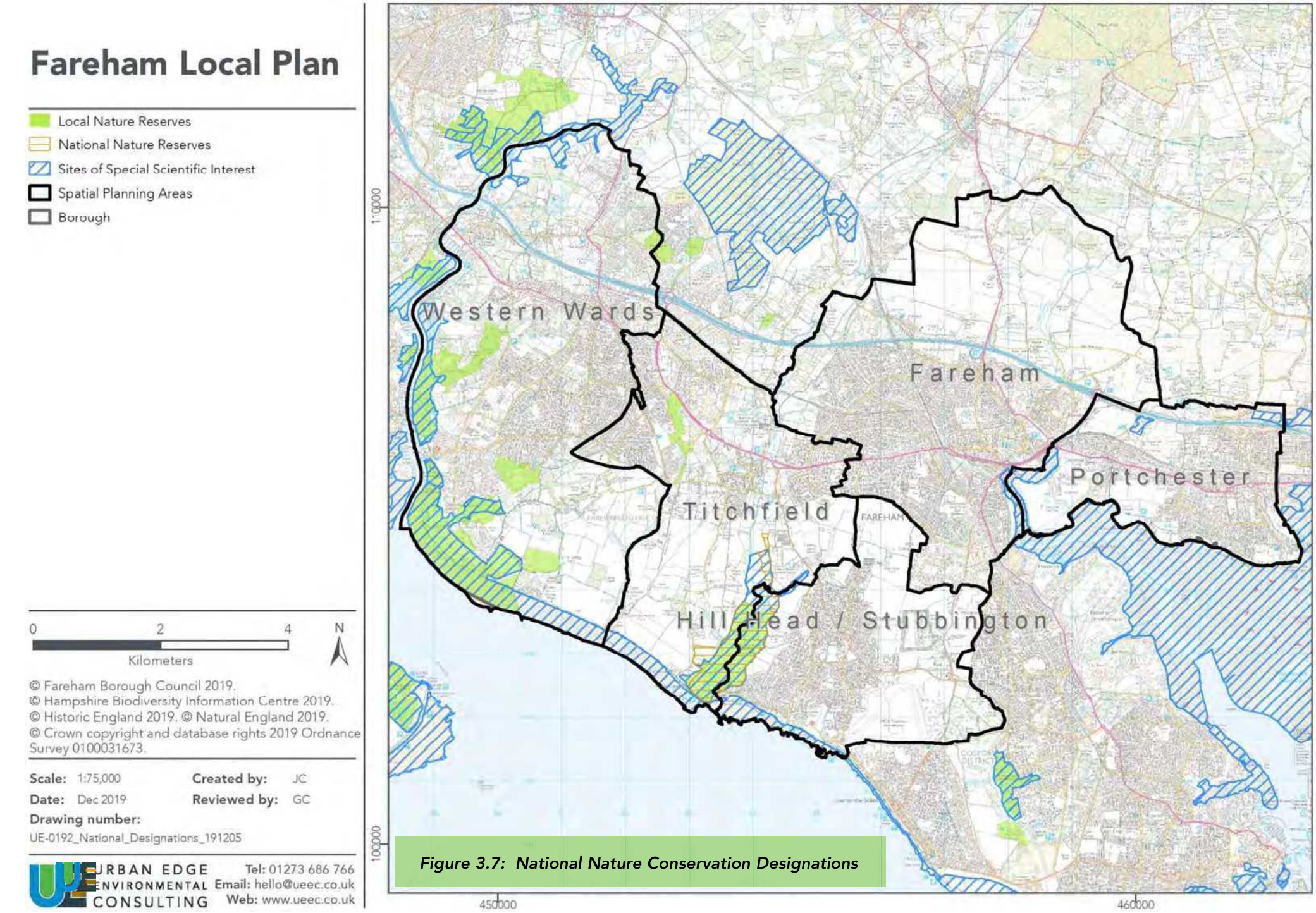

Figure 3.7: National Nature Conservation Designations

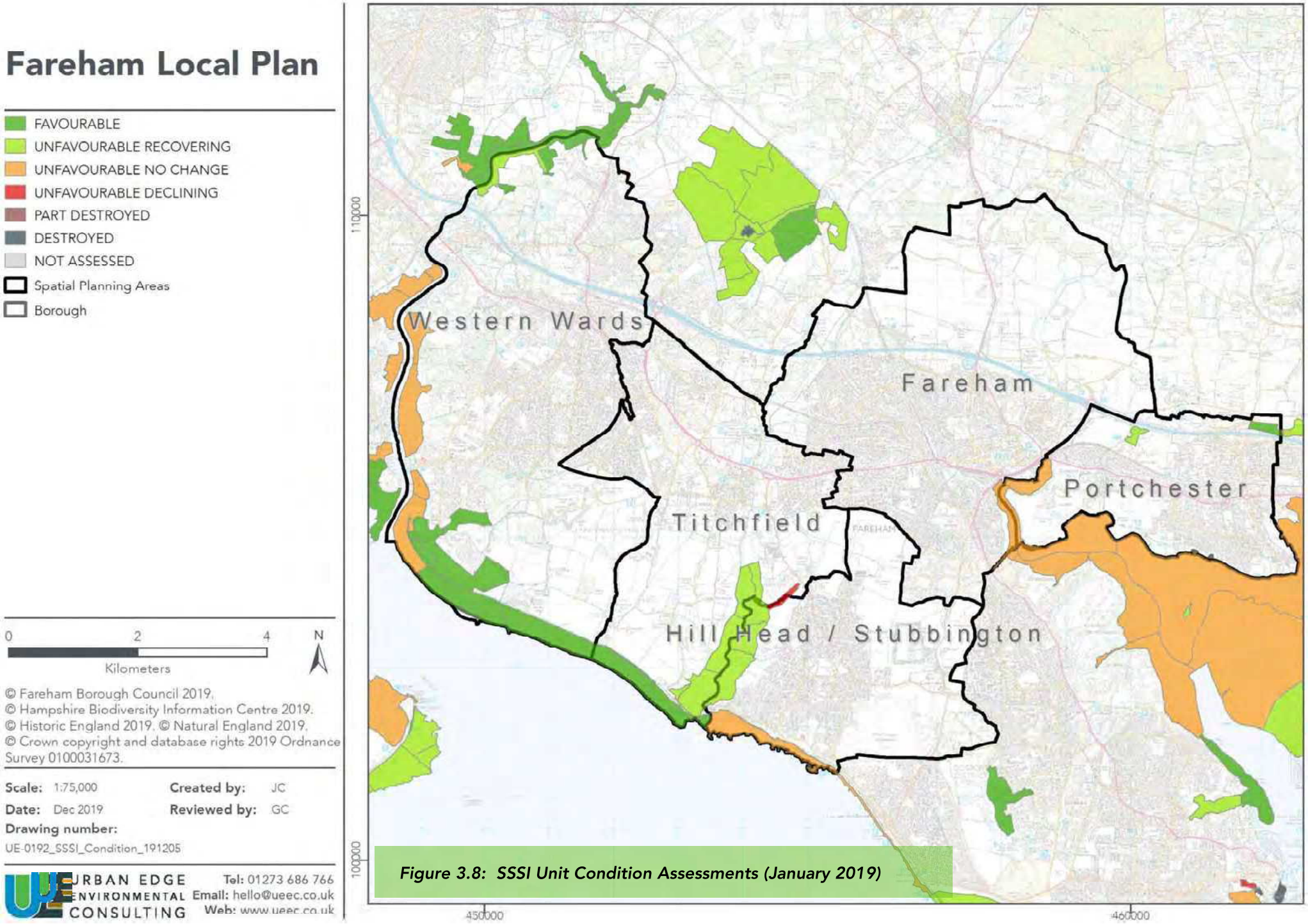

Figure 3.8: SSSI Unit Condition Assessments (January 2019)

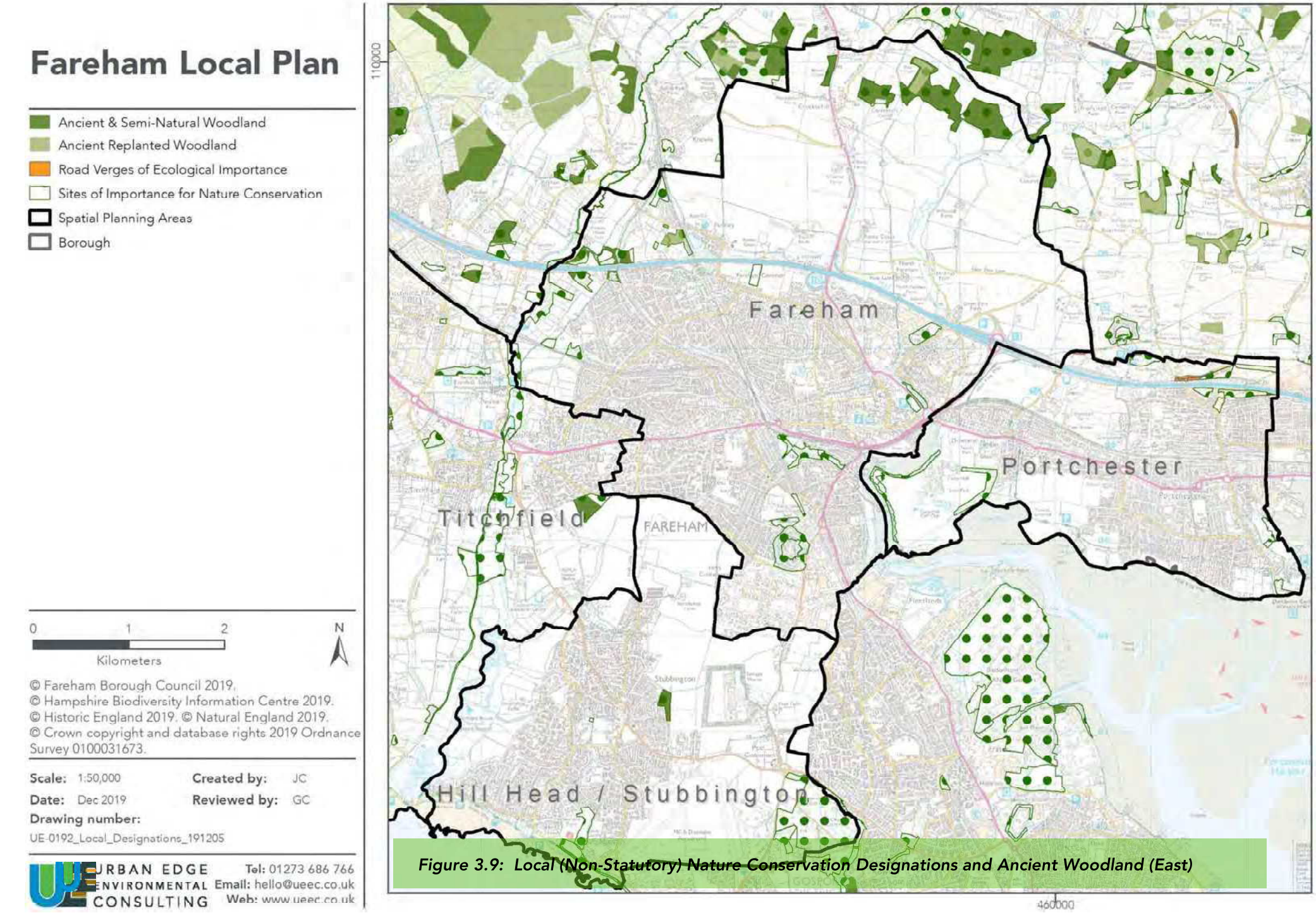

Figure 3.9: Local (Non-Statutory) Nature Conservation Designations and Ancient Woodland (East)

Fareham Local Plan

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland
- Road Verges of Ecological Importance
- Sites of Importance for Nature Conservation
- Spatial Planning Areas
- Borough

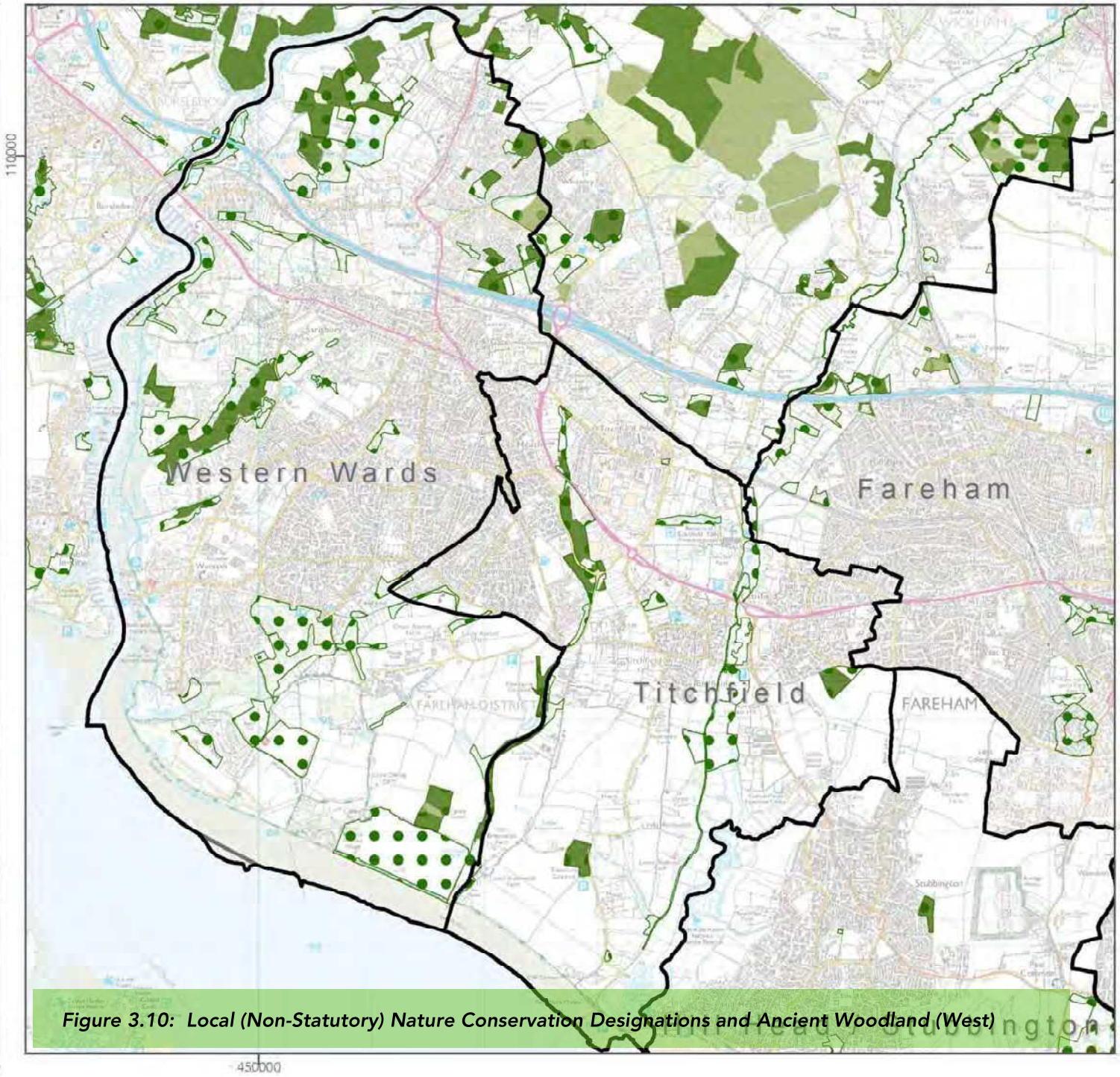

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Figure 3.10: Local (Non-Statutory) Nature Conservation Designations and Ancient Woodland (West)

Fareham Local Plan

District

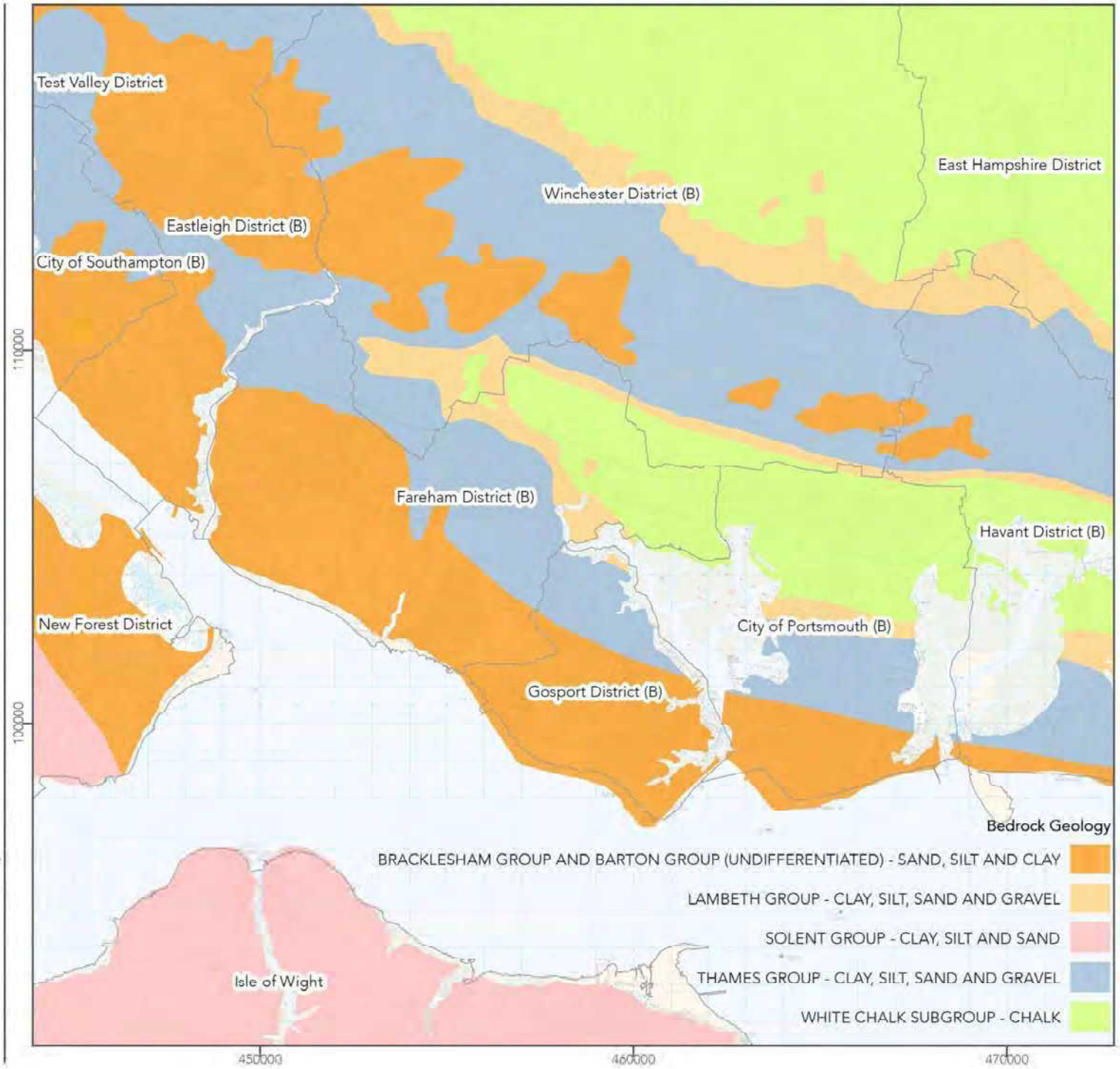

Figure 3.11: Bedrock Geology of Fareham and Surrounding Area (Source: BGS/NERC)

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Fareham Local Plan

- Ecological Network Opportunities
- Core Statutory
- Core Non-statutory
- Spatial Planning Areas
- Borough

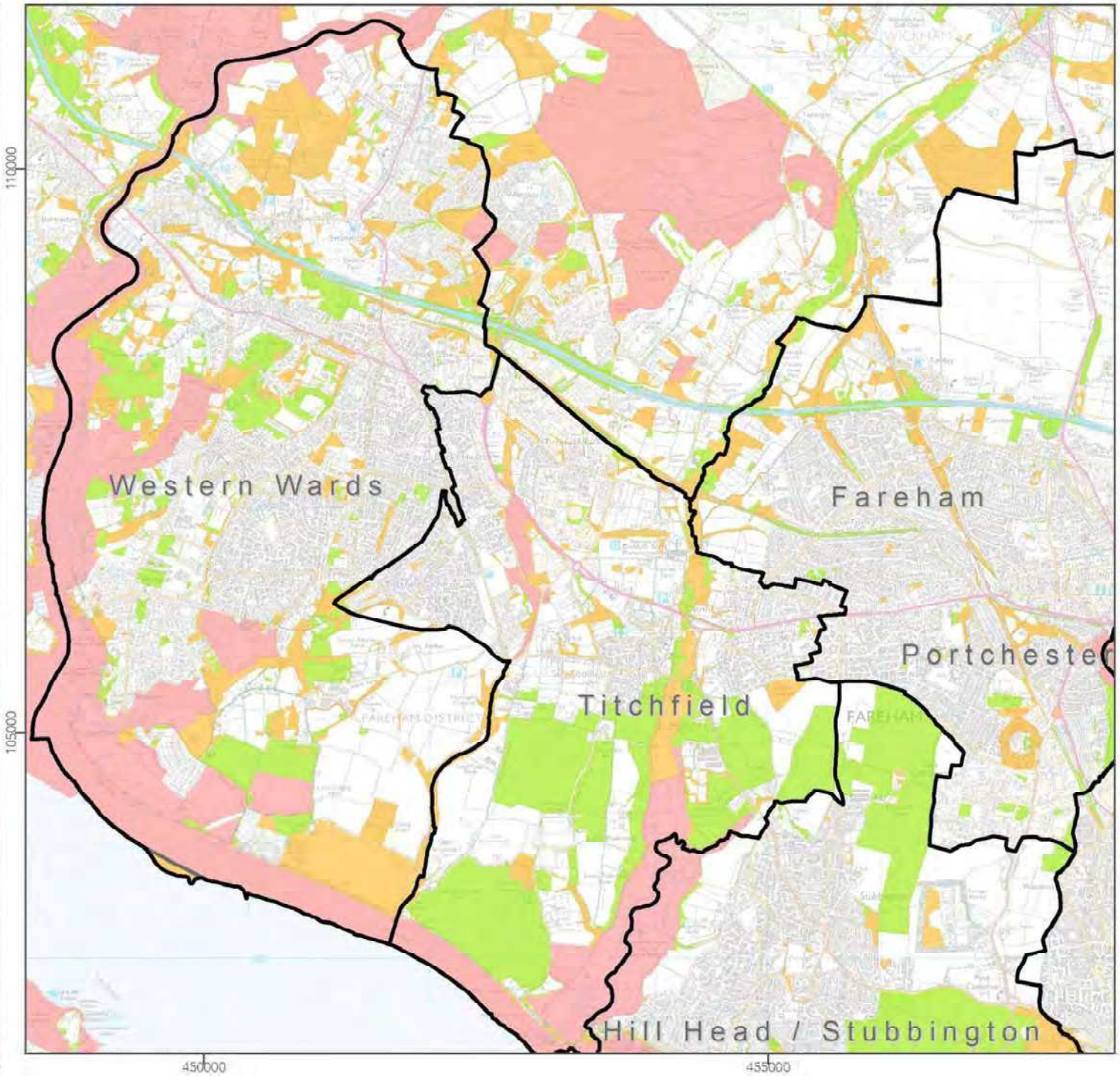

Figure 3.12: Ecological Network Map (West)

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Fareham Local Plan

- Ecological Network Opportunities
- Core Statutory
- Core Non-statutory
- Spatial Planning Areas
- Borough

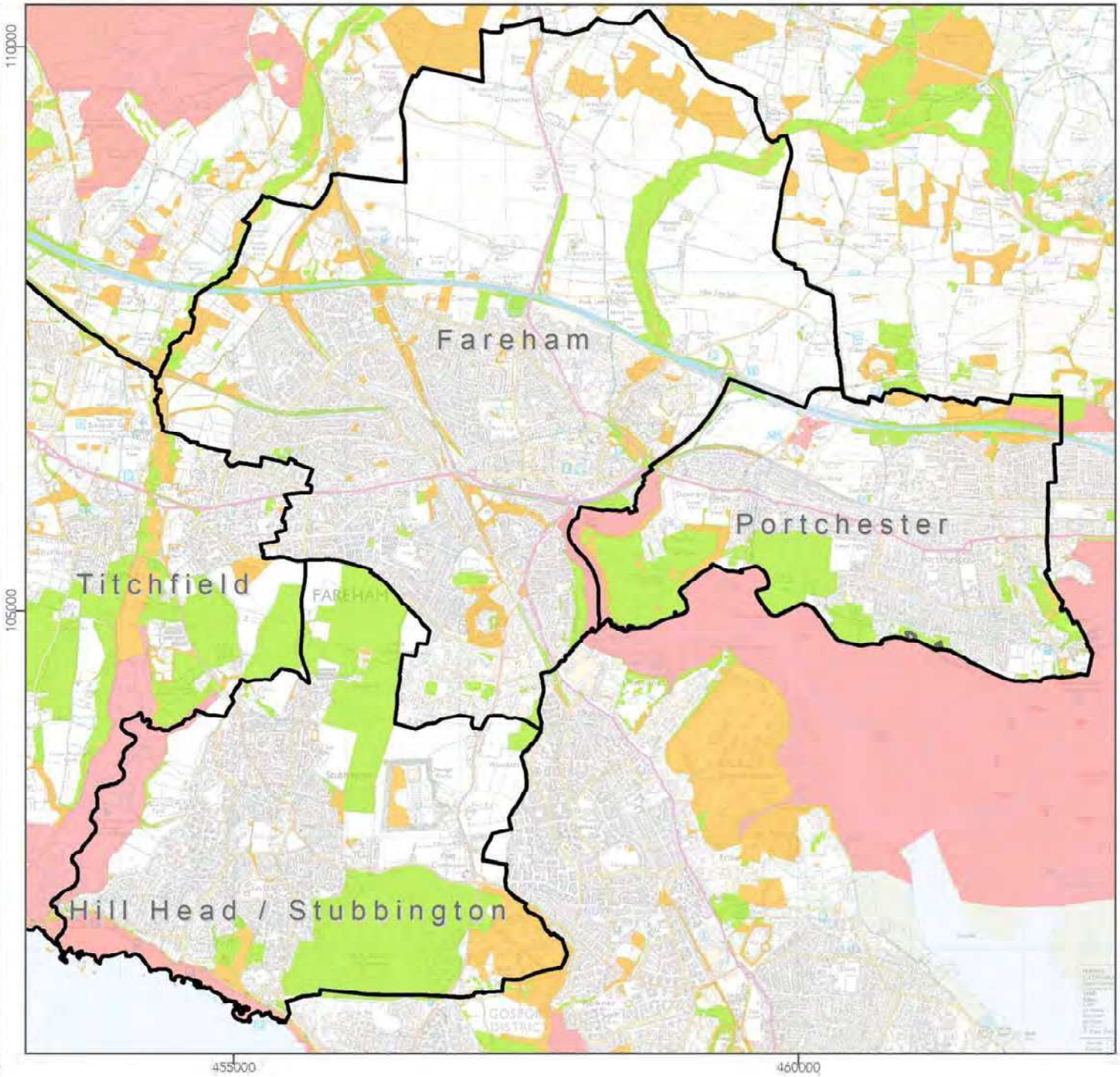

Figure 3.13: Ecological Network Map (East)

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4 Climate Change

4.1 Summary of Policy and Plan Review

4.1.1 Climate-related PPPs focus on both mitigating the causes of climate change and adapting to the effects of climate change. Commitments to reducing greenhouse gas emissions range from the international level to the sub-regional level. The PPPs address policy development across all sectors and at all levels, combining both demand management (reduced energy consumption and increased efficiency of use) and supply side measures (low carbon options including fuel mix and renewables). A number of the PPPs state specific targets to reduce emissions of greenhouse gases, including the 2015 Paris Agreement which will provide a legally binding framework for keeping the increase in global average temperature well below 2°C, and an aim to limit the increase to 1.5°C. This is led at the national level by the Climate Change Act 2008, which, due to a 2019 amendment, now sets a legally binding target of at least a 34% cut in greenhouse gas emissions by 2020 and at least a 100% cut by 2050 against a 1990 baseline ('net zero').

4.1.2 Adaptation measures proposed by the PPPs include a presumption against development in flood risk areas, appropriate design of new development, the promotion of new infrastructure such as sustainable drainage systems and improved maintenance to help address the changes that are likely to occur as a result of climate change. Through this approach the NPPF seeks to ensure that all types of flood risk are taken into account, over the long term, during the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk.

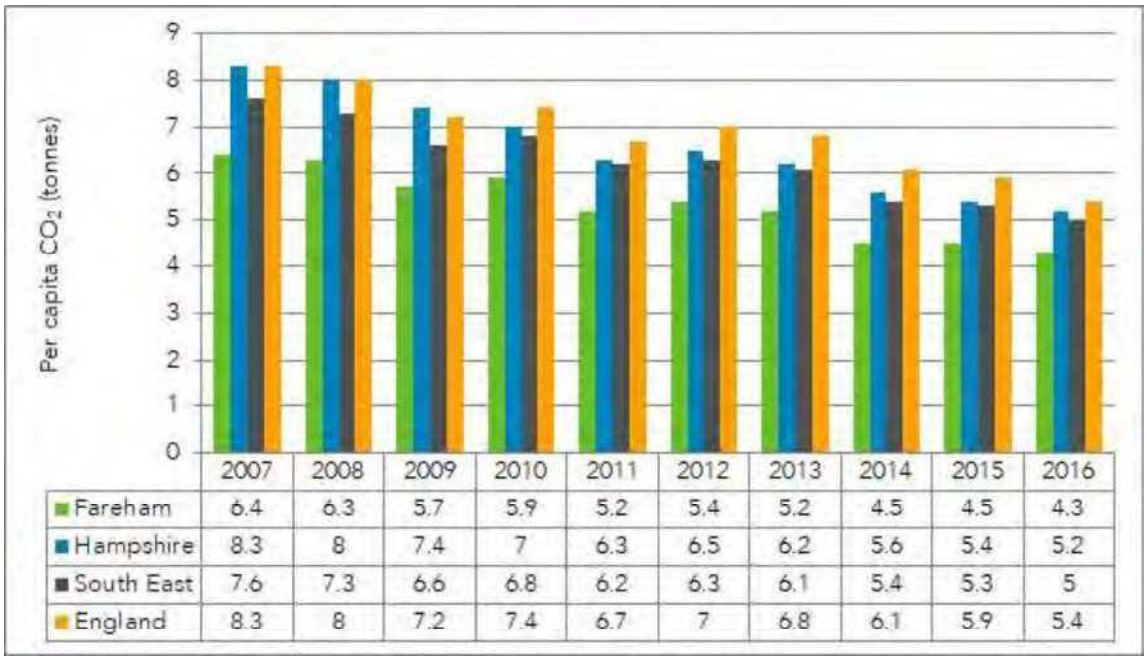
4.1.3 Policies and plans on climate change seek to ensure that new development and redevelopment is designed efficiently and in a way that reduces the need to travel and encourages walking, cycling and public transport use, and supports the provision of renewable energy. Green infrastructure and sustainable drainage systems should be provided alongside all development where feasible. Reductions in greenhouse gas emissions are required in order to assist with meeting national targets. This can be achieved by encouraging modal shift, good spatial planning for development, encouraging energy and resource efficiency and supporting renewable energy provision.

4.2 Greenhouse Gas Emissions: Sources & Trends

4.2.1 In 2016 Fareham borough had lower per capita carbon dioxide emissions (4.3 tonnes CO_2) than county (5.2 tonnes) averages[27] (Figure 4.1). Per capita emissions are also lower than the average for the South East (5.0 tonnes) and England (5.4 tonnes). Per capita CO_2 emissions in the borough fell by approximately 33% from 6.4 tonnes in 2007 to 4.3 tonnes in 2016, which was

[27] DBEIS (June 2018): *2005 to 2016 UK local and regional CO_2 emissions: full dataset.* Accessed online [15/5/19] at: https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-2016

slightly less than the Hampshire average where emissions fell by approximately 37%, but similar to regional and national averages.

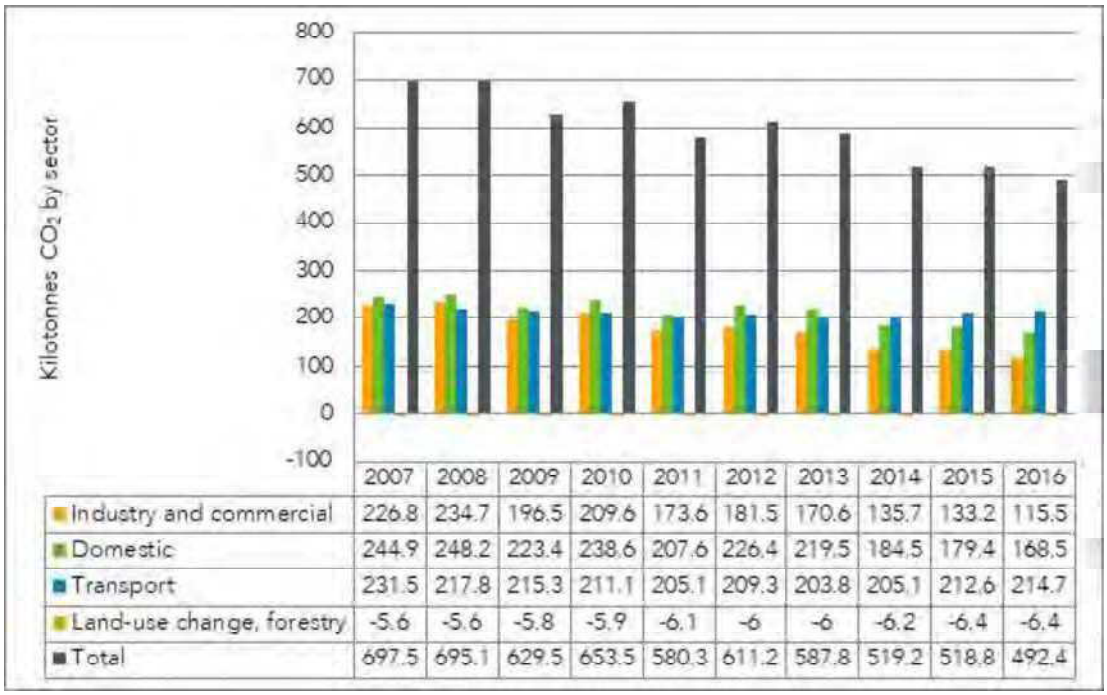


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Fareham	6.4	6.3	5.7	5.9	5.2	5.4	5.2	4.5	4.5	4.3
Hampshire	8.3	8	7.4	7	6.3	6.5	6.2	5.6	5.4	5.2
South East	7.6	7.3	6.6	6.8	6.2	6.3	6.1	5.4	5.3	5
England	8.3	8	7.2	7.4	6.7	7	6.8	6.1	5.9	5.4

Figure 4.1: Per Capita CO_2 emissions in Fareham in Comparison to County, Regional and England averages 2007-2016 (Source: DBEIS)

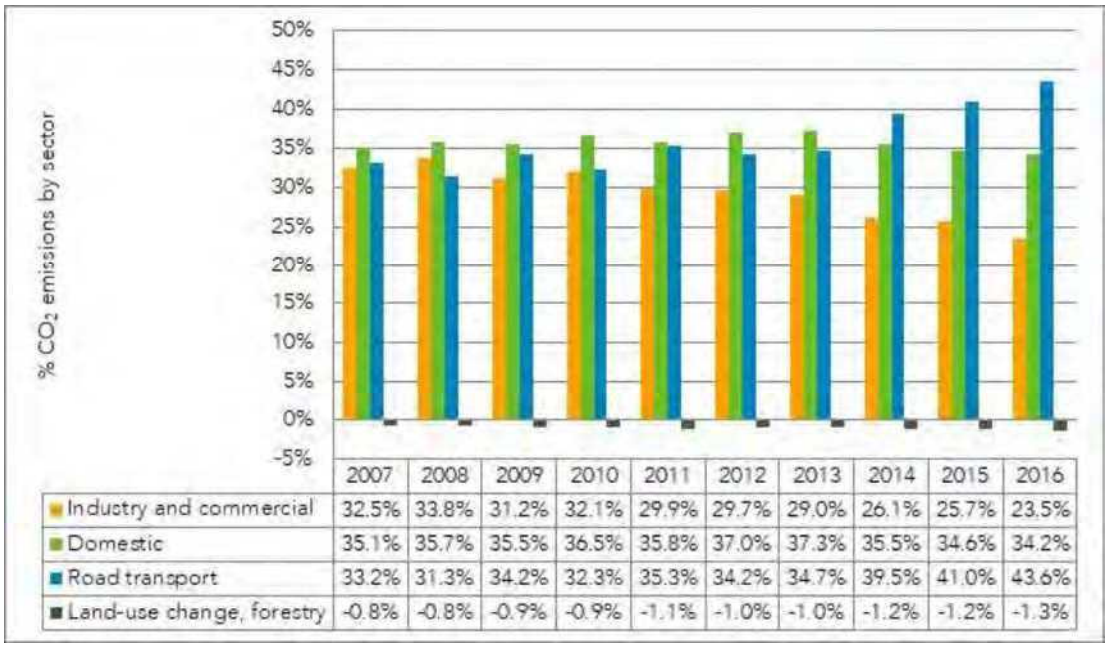
4.2.2 As Figure 4.2 and Figure 4.3 below highlight, in relation to CO_2 emissions by end user, between 2007 and 2016 the proportion of emissions originating from industrial and commercial sources in Fareham fell from 32.5% to 23.5%, with a steady decrease in total emissions year on year[28]. In the same period the proportion of emissions from domestic sources also decreased very slightly from 35.1% to 34.2%, although total emissions fluctuated over this period. The proportion of emissions originating from road transport increased significantly over this period by approximately 10%. Emissions from road transport and household emissions are now the two largest contributors to CO_2 emissions in the borough (which is similar to the rest of the South East, though industry and commercial emissions are highest for all other UK regions). Emissions from land use change and forestry include carbon sequestration; as a result, Fareham's net emissions from this sector are negative for the period, though the figures are negligible.

[28] *Ibid.*



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Industry and commercial	226.8	234.7	196.5	209.6	173.6	181.5	170.6	135.7	133.2	115.5
Domestic	244.9	248.2	223.4	238.6	207.6	226.4	219.5	184.5	179.4	168.5
Transport	231.5	217.8	215.3	211.1	205.1	209.3	203.8	205.1	212.6	214.7
Land-use change, forestry	-5.6	-5.6	-5.8	-5.9	-6.1	-6	-6	-6.2	-6.4	-6.4
Total	697.5	695.1	629.5	653.5	580.3	611.2	587.8	519.2	518.8	492.4

Figure 4.2: Emissions in Fareham by Source 2007-2016 (kilotonnes CO_2) (Source: DBEIS)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Industry and commercial	32.5%	33.8%	31.2%	32.1%	29.9%	29.7%	29.0%	26.1%	25.7%	23.5%
Domestic	35.1%	35.7%	35.5%	36.5%	35.8%	37.0%	37.3%	35.5%	34.6%	34.2%
Road transport	33.2%	31.3%	34.2%	32.3%	35.3%	34.2%	34.7%	39.5%	41.0%	43.6%
Land-use change, forestry	-0.8%	-0.8%	-0.9%	-0.9%	-1.1%	-1.0%	-1.0%	-1.2%	-1.2%	-1.3%

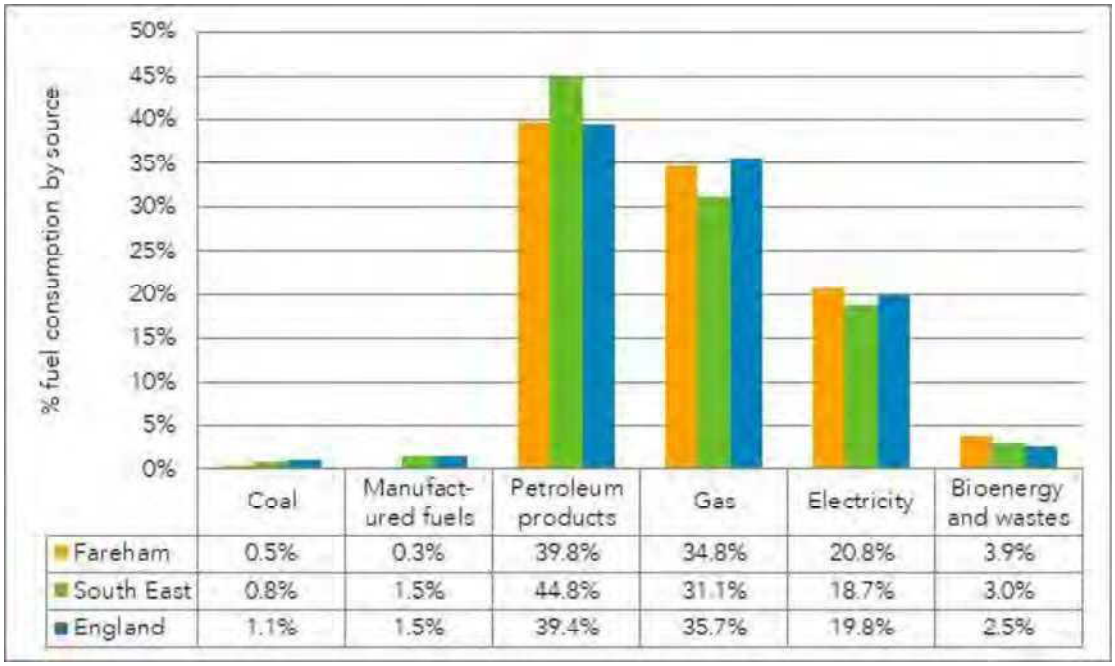
Figure 4.3: Emissions in Fareham by Source 2007-2016 (percentage) (Source: DBEIS)

4.3 Energy Consumption

4.3.1 According to total sub-national final energy consumption data for 2016, domestic consumption in Fareham borough was 66.6 thousand tonnes of oil equivalent (ktoe)[30]. Fareham derives less of

[30] DBEIS (2019): *Total final energy consumption at regional and local authority level: 2005-2016.* Accessed online [15/5/19] at: https://www.gov.uk/government/statistical-data-sets/total-final-energy-consumption-at-regional-and-local-authority-level

its fuel from coal, manufactured fuels and gas than the South East and England, however it consumes more electricity and bioenergy / wastes. Fareham's consumption of petroleum products is lower than the average for the South East but similar to the national figure.



	Coal	Manufact-ured fuels	Petroleum products	Gas	Electricity	Bioenergy and wastes
Fareham	0.5%	0.3%	39.8%	34.8%	20.8%	3.9%
South East	0.8%	1.5%	44.8%	31.1%	18.7%	3.0%
England	1.1%	1.5%	39.4%	35.7%	19.8%	2.5%

Figure 4.4: Consumption of Fuel Types in Fareham by Proportion, 2016 (Source: DECC)

4.4 Effects of Climate Change

4.4.1 Climate change is likely to result in a range of direct and indirect effects on the natural and built environments, with current projections suggesting that the south east will experience hotter, drier summers and warmer, wetter winters. This could lead to more frequent and severe drought and flood events and may also impact on soil condition and both supply of and demand for water.

4.4.2 The outcome of research on the probable effects of climate change in the UK was released by the UK Climate Projections (UKCP09) team in 2009 (Murphy *et al.*, 2009) and has subsequently been updated in 2018 (UKCP18). UKCP18 gives climate information for the UK up to the end of this century and projections of future changes to the climate are provided, based on simulations from climate models.

4.4.3 Projections are broken down to a regional level across the UK and are shown in probabilistic form, which illustrate the potential range of changes and the level of confidence in each prediction. UKCP18 uses scenarios for greenhouse gases called representative concentrative pathways (RCPs) of which there are four: RCP2.6, RCP4.5, RCP6.0 and RCP8.5. RCP2.6 represents a future in which the world aims for and is able to implement sizeable reductions in emissions of greenhouse gases. RCP8.5 represents a world in which global greenhouse gas emissions continue to rise and where the nations of the world choose not to switch to a low-carbon future. RCP2.6 is thought to be consistent with the long-term target specified in the UK Climate Change Act of limiting global warming to 2°C above pre-industrial levels.

4.4.4 The figures below show the estimates for a scenario for the 25km grid square covering Fareham Borough where greenhouse gas emissions are reduced in line with the Paris climate agreement targets by 2030 and then after 2030, no further emission reductions are achieved but emissions do not rise (RCP4.5). The figures show change in annual average temperature and average change in precipitation during the summer months between 2010 and 2100 for seven probability levels.

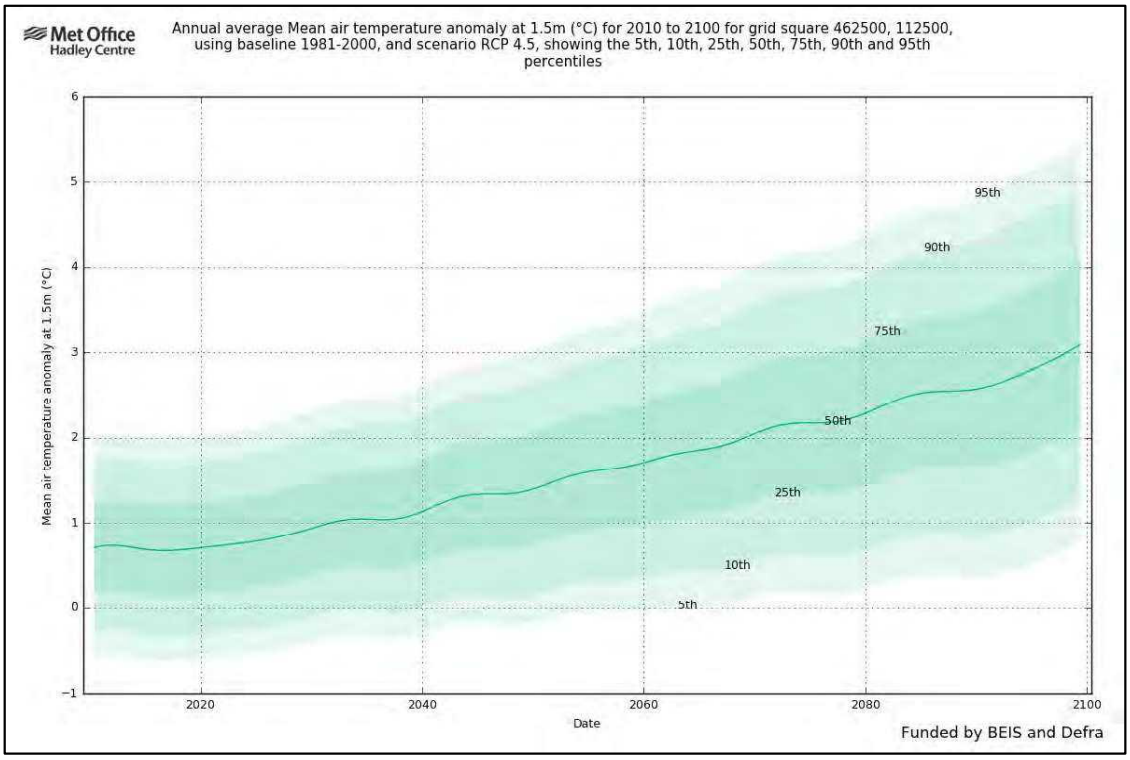


Figure 4.5: Changes in Mean Air Temperature in Fareham Borough to 2100 as a Result of the RCP4.5 Emissions Scenario (Source: UK Climate Projections 18)

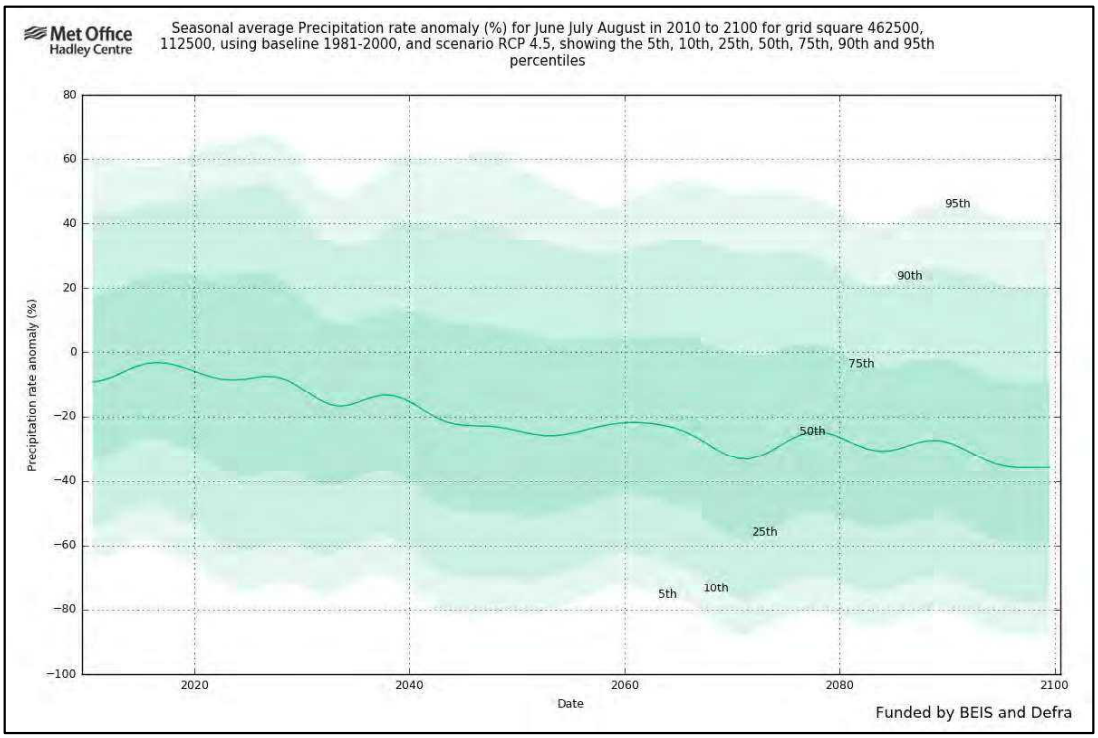


Figure 4.6: Changes in Summer Mean Precipitation in Fareham Borough to 2100 as a Result of the RCP4.5 Emissions Scenario (Source: UK Climate Projections 18)

4.4.5 Resulting from these changes, a variety of risks exist for Fareham borough. These are listed in Table 4.1. The health impacts of climate change are most likely to affect older people. Fareham borough has an ageing population with 28% aged over 60 years compared to the national average of 23%.

Table 4.1: Predicted Environmental and Socio-economic Effects of Climate Change

Environmental effects	Socio-economic effects
▪ Effects on water resources from climate change ▪ Reduction in availability of surface water in reservoirs and rivers for abstraction in summer ▪ Adverse effect on water quality from low river levels and turbulent rivers flow after heavy rain and a reduction of water flow ▪ Increased risk of flooding, including increased vulnerability to 1:100 year floods ▪ Changes in insurance provisions for flood damage ▪ A need to increase the capacity of wastewater treatment plants and sewers	▪ Increased incidence of heat related illnesses and deaths during the summer ▪ Increase incidence of illnesses and deaths related to exposure to sunlight (e.g. skincancer, cataracts) ▪ Increased incidence of pathogen related diseases (e.g. legionella and salmonella) ▪ Increase in health problems related to rise in local ozone levels during summer ▪ Increased risk of injuries and deaths due to increased number of storm events ▪ Deterioration in working conditions due to increased temperatures ▪ Changes to global supply chain ▪ Increased difficulty of food preparation, handling and storage due to higher temperatures ▪ An increased move by the insurance industry

Environmental effects	Socio-economic effects
▪ A need to upgrade flood defences ▪ Increased likelihood of summer droughts and soil and water deficits, leading to demand for increased irrigation ▪ Soil erosion due to flash flooding ▪ Loss of species that are at the edge of their southerly distribution ▪ Spread of species at the northern edge of their distribution ▪ Impact on the amount of grassland from a reduction in summer rainfall	towards a more risk-based approach to insurance underwriting, leading to higher cost premiums for business ▪ Increased demand for air-conditioning ▪ Increased drought and flood related problems such as soil shrinkages and subsidence ▪ Impacts from an increased number of tourists due to warmer weather ▪ Risk of rail tracks buckling and road surfaces melting more frequently due to increased temperature ▪ Flooding of roads and railways

4.4.6 In November 2006, Hampshire County Council established a Commission of Inquiry on climate change. The Commission revealed that rising sea levels would be a particular problem for Fareham borough, with impacts relating to increased flooding and reduced access to coastal paths (HCC, 2007). At the time of the study, 1,616 dwellings in Fareham borough were located in flood zones 2 and 3, set to rise to 1,963 dwellings by 2060 as a result of predicted sea level rise. Furthermore, the well-used footpath along the east bank of the River Hamble from Swanwick to Warsash (in the Western Wards Spatial Planning Area) lies atop an embankment protected by ad hoc defences. These have been eroded over time and remain in a poor state of repair in some locations, with overtopping of the embankment by the sea already a regular occurrence, and likely to worsen with rising sea levels.

4.5 Climate Change Adaptation

4.5.1 No formal climate change adaptation plan has been implemented by Fareham Borough Council. However, there are provisions in the NPPF for local authorities to identify Coastal Change Management Areas (CCMA) in their Local Plans for areas likely to be affected by coastal change (physical change to the shoreline through erosion, coastal landslip, permanent inundation or coastal accretion; Environment Agency, 2015).

4.5.2 Fareham Borough Council designated two CCMAs in its Local Plan Part 2: Development Sites and Policies, adopted in 2015. The CCMA from Hook Spit to Workman's Lane was proposed as a result of likely permanent inundation due to overtopping of the existing seawall, following the establishment of a policy of no active intervention in the Shoreline Management Plan. The second, from Hook Park to Meon Shore, was proposed as a result of erosion risk along a line of cliffs where again there is a policy of no active intervention. CCMAs facilitate the process of change over time while managing their impacts.

4.6 Spatial Context

4.6.1 The climate of Fareham borough is expected to change over the next century, with summers becoming hotter and drier, and winters becoming milder and wetter. This could have

implications for human health, business continuity, biodiversity and the environment, with more frequent and severe heat waves and storm water flooding likely to occur. The borough's coastal location means it could also be at risk of flooding and coastal erosion from sea level rise and storm surges, particularly in the Western Wards Spatial Planning Area.

4.6.2 The impacts of climate change are likely to be felt most in densely urbanised areas (such as Fareham), where temperature extremes and more frequent and intense storm water flood events are most likely to affect people and businesses. Despite these predicted impacts, Fareham Borough Council does not yet have a formal plan for dealing with climate change. The borough does have significantly lower per capita carbon emissions than the average for the South East and England, however, and these have been decreasing most years since 2007.

4.7 Likely Evolution of the Baseline in the Absence of the Local Plan

4.7.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Baseline trends relevant to climate change that may continue under such a scenario include:

- Increases in mean winter and summer temperatures.
- Increases in mean precipitation during winter and decreases in mean precipitation during summer.
- Increased frequency of extreme weather events.
- Increase in risks associated with climate change.
- Per capita emissions are likely to continue to decrease.
- Emissions from road transport and households are likely to continue to be the two largest inputs to greenhouse gas emissions in the borough.
- Road traffic use in and around the borough may increase as the economic climate improves and South Hampshire's population increases. This could lead to increases in greenhouse gas emissions.
- New developments may not include the incorporation of features which will maximise the resilience of the borough to the effects of climate change, such as sustainable drainage systems and green and blue infrastructure provision, although these are addressed by the Green Infrastructure Strategy for Fareham Borough (2014b).

4.8 Key Issues

4.8.1 Key issues for climate change relevant to the Local Plan are:

- Potential increases in greenhouse gas emissions linked to an increase in the built footprint of the borough. This includes increased car use and travel, housing provision and employment.
- Per capita emissions in the borough are lower than averages for the South East and England, and per capita emissions have been falling. The Local Plan should therefore

seek to support continued and ongoing reductions in per capita emissions in the borough.

- Road transport and domestic emissions are the two largest contributors to carbon dioxide emissions in the borough. The Local Plan should seek to limit emissions from these sources through energy efficiency, renewable energy provision, promotion of sustainable transport, and by reducing the need to travel through planning.
- The Local Plan should seek to support adaptation to risks linked to climate change through appropriate design and layout, and the incorporation of features which will maximise the resilience of the borough to the effects of climate change, such as sustainable drainage systems and green and blue infrastructure provision.

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5 Economic Factors

5.1 Summary of Policy and Plan Review

5.1.1 Achieving and maintaining high and stable levels of economic growth and employment are key aims of the strategies at UK and European levels. European strategies aim to make the European Union more dynamic and competitive. Other objectives include improvements to the education system to increase skills levels in both children and adults; and improved productivity and innovation, particularly with regards to technology. At a national level, policies set out to encourage businesses to employ highly-skilled people who have the potential to turn innovation into commercial opportunity. At a regional and local level, emphasis is placed on improvements to the cultural and visitor economy; enterprise and inward investment; and the use of Information and Communications Technology (ICT) to improve efficiency and skills.

5.2 Economic Sectors

5.2.1 Gross Value Added (GVA) per head of population in South Hampshire in 2017 was £23,863 slightly lower than the Hampshire and Isle of Wight and England averages, and further behind the South East England rate[31]; see Figure 5.1. Data are not available for Fareham borough.

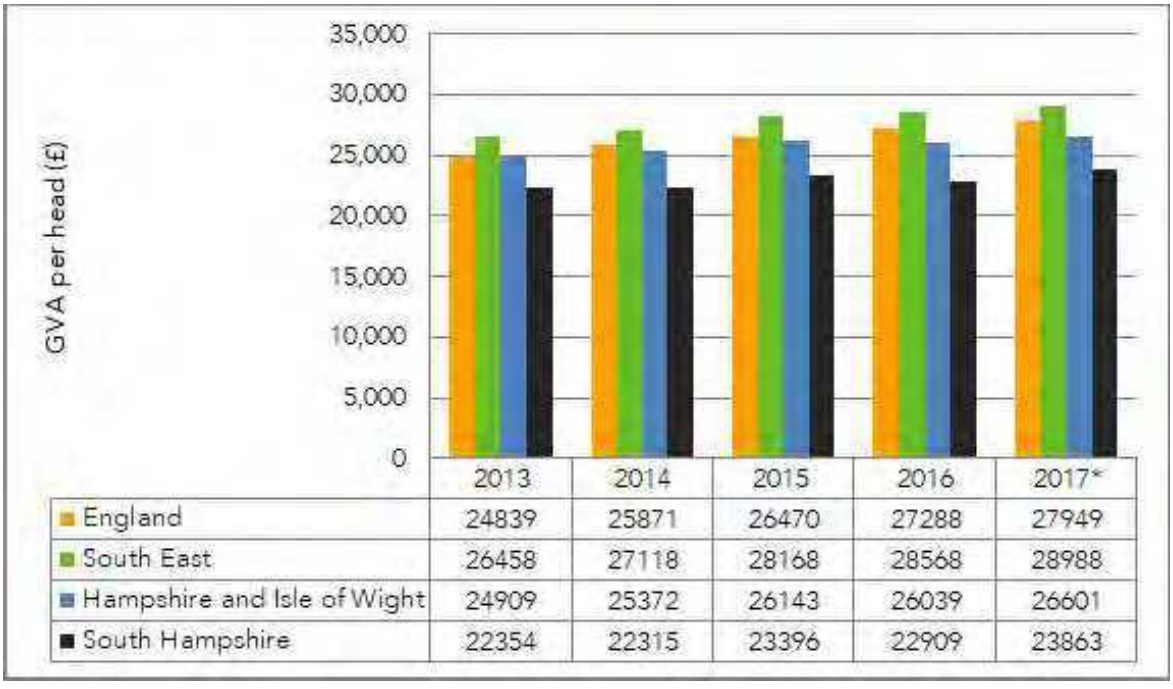


Figure 5.1: Gross Value Added (Income Approach) per head of population at current prices (£), 2010-2016 (Source: ONS, 2018)

[31] ONS (2018): *Regional Gross Value Added (Income Approach), 1997 to 2017*. Accessed online [15/05/19] at: https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgrossvalueaddedincomeapproach

5.2.2 In South Hampshire in 2017, as shown in Table 5.1, the sector of the economy with the highest GVA was distribution, transport, accommodation and food with £2,079million, followed by public administration, education and health (£1,543million) and real estate activities (£1,542million)[32]. This trend has been broadly consistent for the last five years, with manufacturing also being a significant economic sector in the sub-region. The sector of the economy with the lowest GVA in South Hampshire was agriculture, mining, electricity, gas, water and waste with £377million. Data are not available for Fareham borough.

Table 5.1: Gross Value Added (Income Approach) by Industry at Current Prices (£million) in South Hampshire, 2013-2017 (Source: ONS, 2018)

Sector (South Hampshire)	2013	2014	2015	2016	2017*
Agriculture, mining, electricity, gas, water and waste	343	306	456	354	377
Manufacturing	1,316	1,302	1,405	1,432	1,507
Construction	769	837	873	900	998
Distribution; transport; accommodation and food	1,916	2,055	2,065	2,047	2,079
Information and communication	659	604	701	672	654
Financial and insurance activities	519	452	482	443	478
Real estate activities	1,411	1,476	1,559	1,558	1,542
Business service activities	1,180	1,168	1,183	1,244	1,308
Public administration; education; health	1,505	1,499	1,514	1,412	1,543
Other services and household activities	371	348	339	356	426
All industries	9,989	10,047	10,576	10,418	10,912

* Provisional data

5.2.3 In Fareham, as can be seen in Table 5.2, the professional, scientific and technical broad industry group had the highest number of business units in 2018 with 835[33]. This is reflected in Hampshire as well as on a regional level in the South East, and on a national scale in England. Public administration and defence had the lowest number of business units at 0, which is also the same in Hampshire, the South East and England.

Table 5.2: Number of Local Business Units in VAT and/or PAYE Based Enterprises, by Industry in 2018 (Source: ONS, 2018)

Sector	Fareham	Hampshire	South East	England
Agriculture, forestry & fishing	45	1,990	11,830	99,615

[32] *Ibid.*

[33] ONS (2018): *UK Business: Activity, Size and Location, 2018.* Accessed online [20/5/19] at: https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation

Sector	Fareham	Hampshire	South East	England
Production	330	3,605	20,440	128,355
Construction	785	8,595	54,480	288,200
Motor trades	145	1,805	11,045	64,865
Wholesale	155	2,110	15,005	90,855
Retail	230	5,355	27,200	173,540
Transport & storage (inc. postal)	130	1,780	12,615	97,250
Accommodation & food services	185	2,500	19,080	126,685
Information & communication	435	6,295	44,650	202,500
Finance & insurance	105	1,140	8,105	52,320
Property	150	1,995	13,475	85,830
Professional, scientific & technical	835	12,040	81,230	418,850
Business administration & support services	395	4,885	35,265	200,700
Public administration and defence	0	200	1,200	6,735
Education	90	1,085	7,475	40,030
Health	170	2,165	15,475	94,665
Arts, entertainment, recreation & other services	270	3,600	25,985	147,065
TOTAL	4,455	61,145	404,555	2,318,060

5.3 Business Demography

5.3.1 Table 5.3 highlights a general rise in the number of new births of enterprises between 2012 and 2016[34]; however between 2016 and 2017 there was a decrease in the number of enterprise births on a national, regional, county and local level.

Table 5.3: Number of New Births of Enterprises 2012-2017 (Source: ONS, 2018)

Year	Fareham	Hampshire	South East	England
2012	450	5,745	41,245	239,660
2013	585	7,220	50,895	308,565
2014	555	7,135	51,280	312,920
2015	605	7,830	55,585	344,065
2016	615	8,325	55,955	373,580
2017	515	7,720	51,965	339,345

[34] ONS (2018): *Business Demography, 2018.* Accessed online [20/5/19] at:
https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/businessdemographyreferencetable

5.3.2 Table 5.4 shows a similar pattern with a general increase in the annual rate of business deaths at national, regional, county and local level between 2012 and 2017, with the exception of 2012 to 2013 when the number of business deaths decreased at all spatial levels[35].

Table 5.4: Number of Deaths of Enterprises 2012-2017 (Source: ONS, 2018)

Year	Fareham	Hampshire	South East	England
2012	425	5,555	39,000	221,465
2013	410	5,235	36,960	209,010
2014	450	5,255	36,765	217,645
2015	540	6,045	42,065	249,995
2016	510	6,175	42,925	255,075
2017	570	6,860	48,295	320,810

5.3.3 The total number of local business units increased by 555 units in Fareham between 2014 and 2018, with a steady increase over the five year period; see Table 5.5[36]. This trend is consistent with the South East and the England trend.

Table 5.5: Total Number of Local Units 2014-2018 (Source: ONS, 2019)

Year	Fareham	South East	England
2014	4,715	413,530	2,639,340
2015	4,930	438,890	2,825,485
2016	5,100	452,705	2,925,760
2017	5,260	465,560	3,043,775
2018	5,270	467,160	3,045,040

5.3.4 In 2015, as can be seen in Figure 5.2, 40.38% of enterprises were 10 or more years old, which is 0.7% lower than in the South East and 2.1% lower than in England[37]. The lowest proportion (14.7%) of businesses were between 2 and 3 years old in Fareham. This trend is mirrored in the South East and in England.

[35] *Ibid.*

[36] ONS (2018): *Labour Market Profile – Fareham, UK Business Counts (2018).* Accessed online [20/1/19] at: https://www.nomisweb.co.uk/reports/lmp/la/1946157303/report.aspx#tabidbr

[37] ONS (2016): *Age of business, counts by region and district, 2015.* Accessed online [10/6/19] at: https://www.ons.gov.uk/businessindustryandtrade/changestobusiness/businessbirthsdeathsandsurvivalrates/adhocs/005886ageofbusinesscountsbyregionanddistrict2015

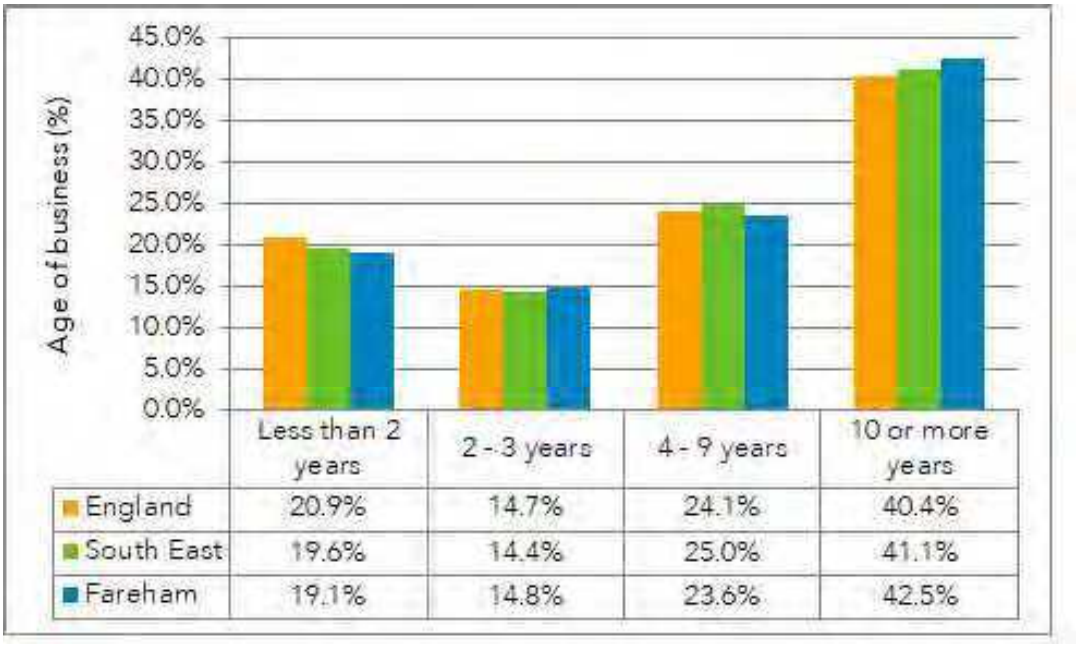


Figure 5.2: Percentage of Businesses by Age in 2015 (Source: ONS, 2015)

5.4 Employment Sectors

5.4.1 In Fareham the broad industrial sector which employed the greatest number of people in 2011 was the retail sector, followed by health & social work, public administration & defence, education and manufacturing; see Table 5.6 [38]. With the exception of public administration & defence, these sectors were also the top employment sectors at county, regional and national levels. At county, regional and national levels, construction replaced public administration & defence in the top five employment sectors. The sector with the fewest employees in Fareham was activities of extraterritorial organisations and bodies, followed by activities of households as employers and then agriculture, forestry & fishing.

Table 5.6: Employees by Broad Industry (Source: Census 2011)

Industry	Fareham	Hants	South East	England
Agriculture, forestry & fishing	149	4,829	28,582	203,789
Mining, quarrying & utilities	804	700	60,081	358,664
Manufacturing	5,581	59,425	306,391	2,226,247
Construction	4,506	53,606	339,761	1,931,936
Wholesale and retail trade; repair of motor vehicles and motor cycles	8,331	102,642	662,860	4,007,570
Transport & storage (inc. postal)	2,886	29,845	222,795	1,260,094
Accommodation & food services	2,357	31,859	214,329	1,399,931

[38] ONS (2013): *Economic activity QS601EW (30/01/2013).* Accessed online [21/5/19] at: https://www.hants.gov.uk/landplanningandenvironment/facts-figures/population/2011-census

Industry	Fareham	Hants	South East	England
Information & communication	2,513	38,120	235,081	1,024,352
Financial & insurance	2,368	27,573	191,566	1,103,858
Property / real estate	697	9,027	61,133	367,459
Professional scientific & technical	3,487	45,412	317,787	1,687,127
Business administration & support services	2,571	33,713	219,830	1,239,422
Public administration & defence	5,887	51,843	255,674	1,483,450
Education	5,587	61,622	432,119	2,490,199
Health & Social Work	6,329	74,772	495,212	3,121,238
Arts, entertainment, recreation & other services	2,337	30,399	208,963	1,206,021
Activities of households as employers; undifferentiated goods - and services - producing activities of households for own use	41	958	6,581	30,356
Activities of extraterritorial organisations and bodies	14	180	1,978	21,008

5.4.2 Figure 5.3 shows that in Fareham the greatest proportion of people (19.9%) were working in professional occupations in 2018. In the South East and in England professional occupations were also the most common occupation. The balance of occupations in Fareham is broadly similar to that of England as a whole, but with a greater proportion of associate professional & technical occupations, and administrative & secretarial occupations, and fewer process, plant and machine operatives and people in elementary occupations.

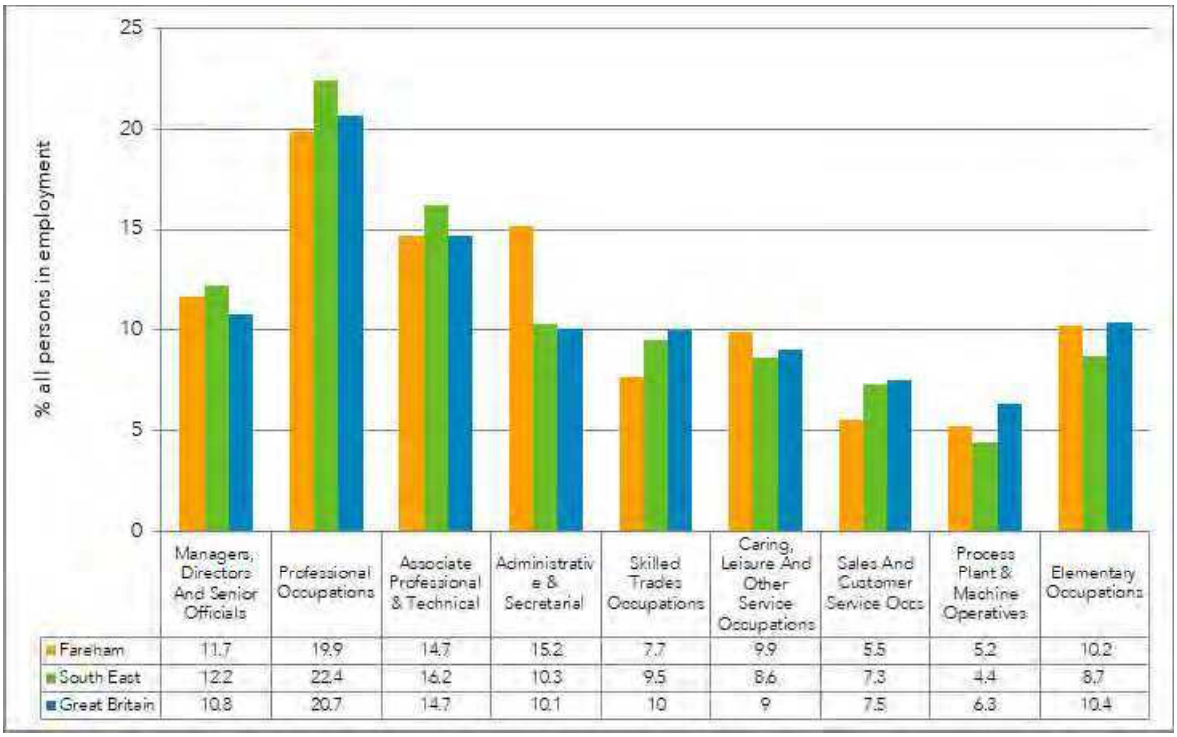


Figure 5.3: Occupation of Residents in Employment (%) (Source: ONS, 2018)

5.4.3 Table 5.7 shows that Fareham's median resident earnings are just above the UK's median resident earnings for males, but for females, all workers and full time workers, median earnings sit below the UK's median resident earnings[39]. In 2018 all workers in Fareham were on average paid £14.3 less per week than the UK average.

Table 5.7: Median Resident Weekly Earnings in 2018 (Source: Annual Survey of Hours and Earnings 2018, National Statistics)

Average Gross Weekly Resident Earnings (Median)	Fareham (£)	UK (£)
Males	559.4	555.0
Females	361.4	369.9
All workers	445.7	460.0
Full time workers	568.3	569.0

5.5 Land Supply

5.5.1 In 2018 the available industrial and office land supply[40] with permitted/agreed use classes of A2, B1, B2 and B8 was 177,441 m^2; see Table 5.8. This is around 12.4% of the total available supply

[39] ONS (2018): *Earnings and hours worked, place of work by local authority: ASHE Table 7*. Accessed online [20/5/19] at: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/placeofworkbylocalauthorityashetable7

[40] Includes sites with planning permission, sites permitted subject to legal agreement, and commitments in local plans, local development frameworks, and policy statements, with a floorspace greater than 200m^2.

for Portsmouth, Southampton and Hampshire[41]. In addition there were 8,667m^2 of permitted retail and leisure floorspace in the borough in 2018[43].

Table 5.8: Industrial and Office Land and Floorspace Supply (Source: HCC, 2018)

Area	A: Permitted (m^2)	B: Permitted (ha)	C: Not permitted (ha)	Total B+C (ha)
Fareham	177,441	17.7	6.0	23.7
Cities+Hampshire	1,432,267	1,432.3	287.8	1,720.1

Table 5.9: Retail and Leisure Floorspace Supply (Source: HCC, 2018)

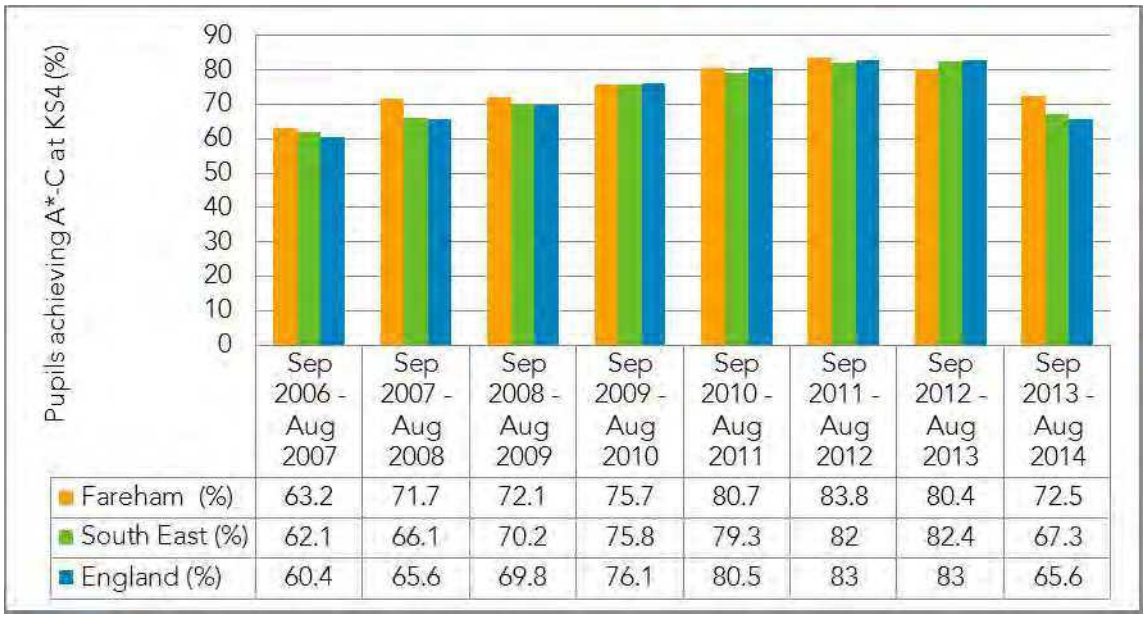
Area	A1 Retail (m^2)	A3/4/5 Retail (m^2)	D2 Leisure (m^2)	C1 Bedrooms
Fareham	7,700	883	0	84
Cities+Hampshire	140,877	9,120	83,890	1,752

5.6 Education and Skills

5.6.1 In England, Figure 5.4 shows an overall increasing trend in the number of pupils at the end of Key Stage 4 achieving 5+ A*-C grades (Census, 2011). This is reflected at a regional and local scale but Fareham has a higher percentage of pupils achieving 5+ A*-C grades than both regional and national levels. However, between September 2012 and August 2014 there was a significant decrease at all three scales as a result of changes to the way in which papers are graded, although this is less pronounced in Fareham.

[41] Hampshire County Council: *Industrial Land & Office Floorspace Supply*. Accessed online [20/5/19] at: https://www.hants.gov.uk/landplanningandenvironment/facts-figures/land-supply

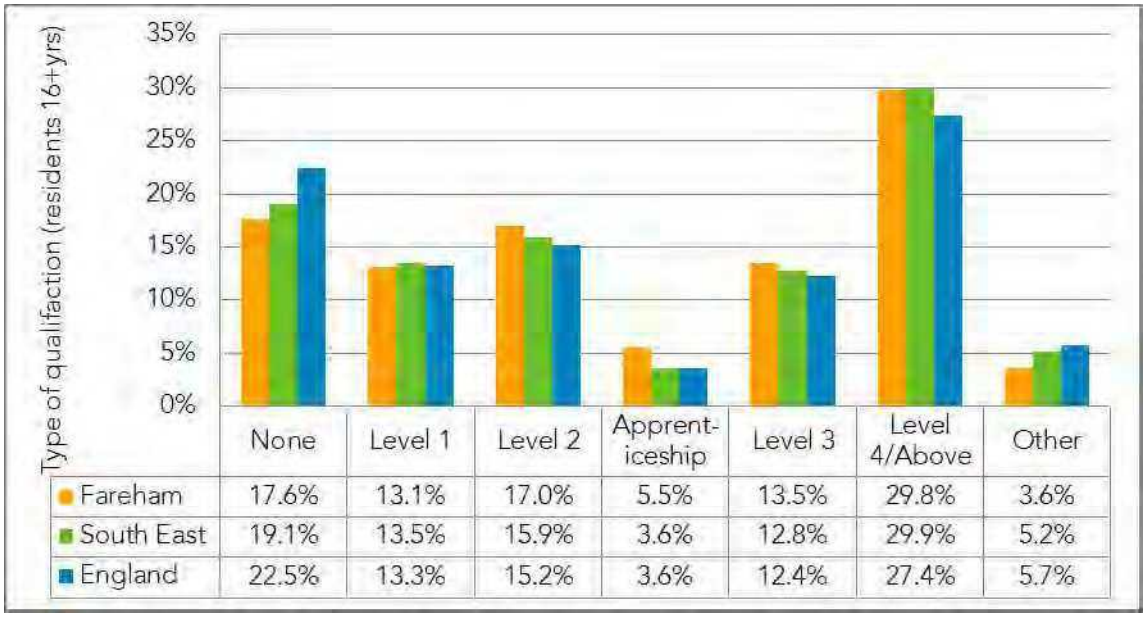
[43] Hampshire County Council: *Retail & Leisure Floorspace*. Accessed online [20/5/19] at: https://www.hants.gov.uk/landplanningandenvironment/facts-figures/land-supply



	Sep 2006 - Aug 2007	Sep 2007 - Aug 2008	Sep 2008 - Aug 2009	Sep 2009 - Aug 2010	Sep 2010 - Aug 2011	Sep 2011 - Aug 2012	Sep 2012 - Aug 2013	Sep 2013 - Aug 2014
Fareham (%)	63.2	71.7	72.1	75.7	80.7	83.8	80.4	72.5
South East (%)	62.1	66.1	70.2	75.8	79.3	82	82.4	67.3
England (%)	60.4	65.6	69.8	76.1	80.5	83	83	65.6

Figure 5.4: All Pupils at the End of KS4 Achieving 5+ A*-C (%) (Source: Census, 2011)

5.6.2 Figure 5.5 shows that most people in Fareham had Level 4 Qualifications and above in 2011, and this trend can also be seen at the South East and national scales. Fareham has a greater proportion of people in apprenticeships than the regional or national averages, and a smaller proportion of people without any qualifications.



	None	Level 1	Level 2	Apprent-iceship	Level 3	Level 4/Above	Other
Fareham	17.6%	13.1%	17.0%	5.5%	13.5%	29.8%	3.6%
South East	19.1%	13.5%	15.9%	3.6%	12.8%	29.9%	5.2%
England	22.5%	13.3%	15.2%	3.6%	12.4%	27.4%	5.7%

Figure 5.5: Working Age Population by Type of Qualification (%) (Source: Census, 2011)

5.7 Schools Capacity

5.7.1 The *Hampshire School Place Planning Framework 2019-2023*[45] presents currently available data on schools capacity and projected shortfalls for Fareham borough. The borough is sub-divided into five primary school planning areas and two secondary school planning areas. Table 5.10 and Table 5.11 set out the current and projected capacity figures for 2018 and 2023 in each of these areas. The data show that, in 2023 there is expected to be a shortfall in primary school places in Porchester but this is due to the fact that the Portchester schools attract applications from out of the county, Portsmouth, hence the deficit shown; the local schools have sufficient places for pupils living in their catchment.

Table 5.10: Projected Primary School Capacity in Fareham Planning Areas (HCC, 2019)

Primary Planning Area	Number of Infant/ Primary Schools	Year R: Total PANs* Oct 2018	Year R: Number on Roll Oct 2018	Year R: % surplus Oct 2018	Year R: Proposed PANs Oct 2023	Year R: Forecast No. on Roll Oct 2023	Year R: Forecast % surplus Oct 2023
Hill Head / Stubbington	4	150	126	16%	150	135	10%
Fareham Central / East	11	420	389	7%	450	415	8%
Fareham West / North	9	450	456	-1%	480	409	15%
Portchester	5	210	191	9%	210	220	-5%
Whiteley	2	120	122	-2%	150	145	4%

**'PAN' is the Published Admission Number. This is the number of school places that the admission authority must offer in each relevant age group in a school for which it is the admissions authority. Admission numbers are part of the school's admission arrangements.*

Table 5.11: Projected Secondary School Capacity in Fareham Planning Areas (HCC, 2019)

Secondary Planning Area	Number of Secondary Schools	Year 7: Total PANs Oct 2018	Year 7: Number on roll Oct 2018	Year 7: % surplus Oct 2018	Year 7: Proposed PANs Oct 2023	Year 7: Forecast No. on Roll Oct 2023	Year 7: Forecast % surplus Oct 2023
Fareham Central / East	4	774	761	2%	774	735	5%

[45] HCC (2019): *Hampshire School Place Planning Framework 2019-2023.* Accessed online [26/11/19] at: https://www.hants.gov.uk/educationandlearning/schoolplacesplan

Fareham West / North / Whiteley	2	570	543	5%	570	519	9%

5.8 Spatial Context

5.8.1 Indices of Deprivation (DCLG, 2019) for Employment, Income, and Education, skills and training are mapped spatially for Fareham borough on Figure 5.6, Figure 5.7 and Figure 5.8. These figures show that, in general, the Western Wards and Hill Head / Stubbington Spatial Planning Areas are among the least deprived communities in the country. The same can be said for north Titchfield but the rural areas are less advantaged. Fareham and Portchester have pockets of more deprived areas, with communities in west and south Fareham as well as in west Portchester most affected by deprivation.

5.9 Likely Evolution of the Baseline in the absence of the Local Plan

5.9.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Baseline trends relevant to economic performance that may continue under such a scenario include:

- Improvements to the economic climate are likely to increase economic opportunities in the wider south Hampshire area.
- Significant new employment development can be expected to come forward within the plan area, particularly at Welborne.
- Increases in south Hampshire's population are likely to increase the demand for jobs in the area.
- A high rate of out-commuting from the borough is likely to continue due in part to a disparity between housing and employment provision.
- Major development at Welborne of up to 6,000 homes will require three new primary schools and a new secondary school, and provision is made for these through the Welborne Plan.
- In addition to the 'Welborne' schools, Northern Junior School will be expanded to provide 2 form entry (FE) in 2019, and in 2022 Cornerstone Church of England (CE) Primary is to be relocated and expanded to 3FE and either Sarisbury Infant School or Hook with Warsash CE Academy (Primary) will be expanded by 1FE.

5.10 Key Issues

5.10.1 Key economic issues relevant to the Local Plan are:

- The growth of jobs and employment across a range of sectors should be supported, where necessary by identifying sufficient land supply to accommodate growth.

- New educational and learning facilities should be provided to improve skills and increase opportunities and address any projected shortfalls in schools capacity.
- Sustainable economic development which supports environmental improvements, improves community cohesion and enhances vitality and vibrancy of urban and rural areas is a central aim.
- There is potential to attract new companies and higher skilled people by supporting the vitality and vibrancy of the wider area and facilitating a high quality local environment through appropriate land use, design and layout.
- The borough has higher than average skills levels and a strong employment base in sectors including retail, health & social work, public administration & defence, education and manufacturing. These offer scope for economic growth alongside the strengths of the sub-regional economy which also include construction.
- Economic development and growth should be encouraged through the expansion of high speed ICT networks.
- The most common use of floor space in Fareham is for retail purposes.

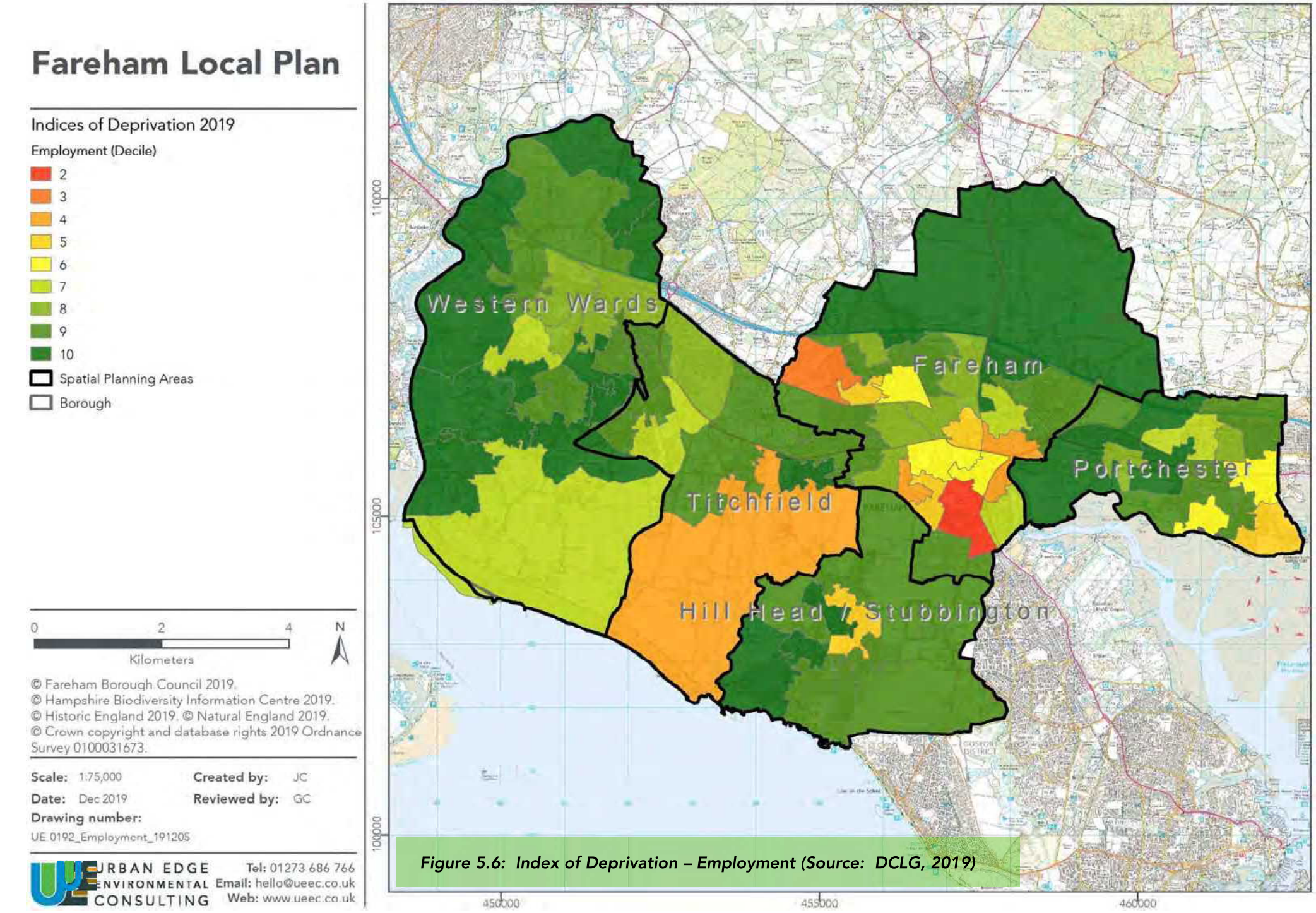


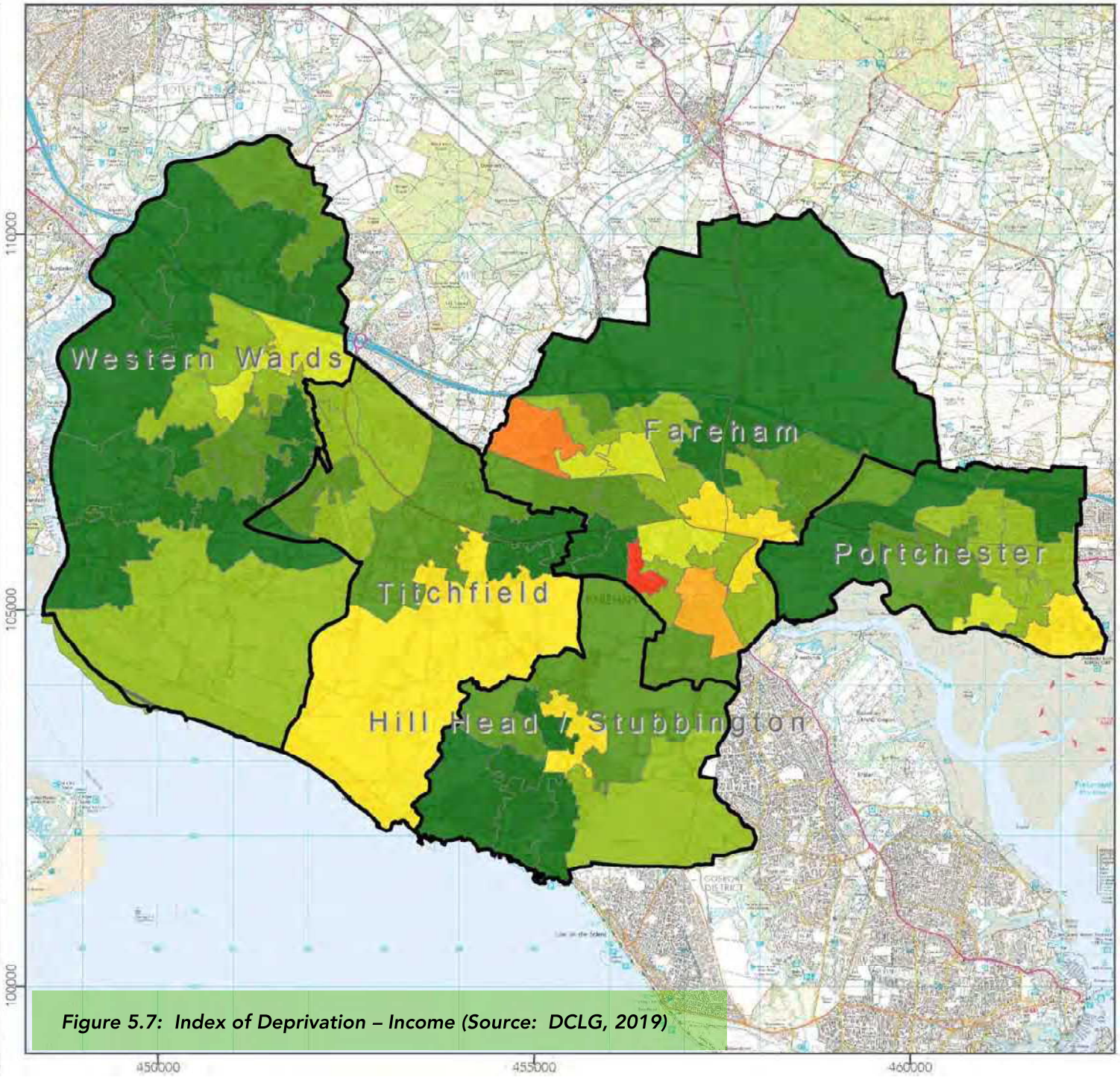
Figure 5.6: Index of Deprivation – Employment (Source: DCLG, 2019)

Fareham Local Plan

Indices of Deprivation 2019

Income (Decile)

- 2
- 3
- 4
- 5
- 6
- 8
- 9
- 10
- Spatial Planning Areas
- Borough



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Kilometers

Scale: 1:75,000 **Created by:** JC

Date: Dec 2019 **Reviewed by:** GC

Drawing number:

UE-0192_Income_191205

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Tel: 01273 686 766
Email: hello@ueec.co.uk
Web: www.ueec.co.uk

Figure 5.7: Index of Deprivation – Income (Source: DCLG, 2019)

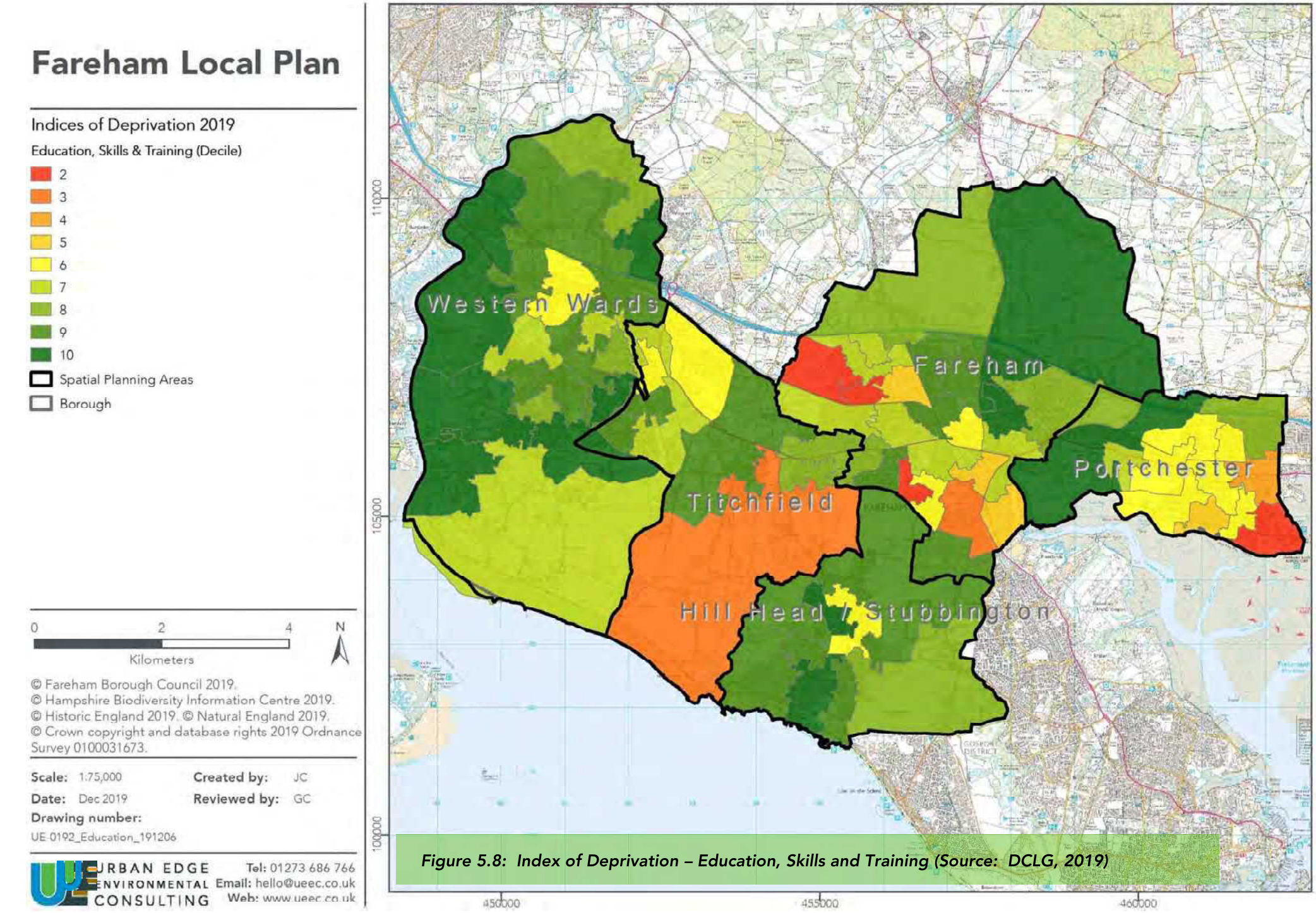

Figure 5.8: Index of Deprivation – Education, Skills and Training (Source: DCLG, 2019)

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6 Green Infrastructure & Ecosystems Services

6.1 Summary of Policy and Plan Review

6.1.1 European, national and local initiatives on green infrastructure and ecosystems services aim to: halt the loss of biodiversity and restore ecosystem health; incorporate valuation of ecosystems services and natural capital into policy making; improve resilience through connectivity; and identify opportunities for addressing multifunctional green infrastructure (GI) needs through local and sub-regional spatial planning.

6.2 Green Infrastructure and Ecosystems Services

6.2.1 This section examines the inter-relationship between all other environmental and socio-economic receptors through the lens of green infrastructure, blue corridors and ecosystem services which are cross-cutting topics of increasing importance (both concepts are defined below). The purpose of this section is to link environmental, social and economic issues in a more integrated way, and emphasise that a good quality environment is essential to continuing social and economic prosperity.

6.2.2 Green infrastructure is a network of multi-functional green spaces, green links and other green areas (for example gardens, allotments, street trees, parks and waterways) which link urban areas with the wider countryside. Blue corridors are where urban development is set back from watercourses, overland flow paths and ponding areas to create a mosaic of urban corridors designed to facilitate natural hydrological processes whilst minimising urban flooding, enhancing biodiversity and improving access to recreation. The underlying principle of green/blue infrastructure is that the same area of land can frequently offer multiple economic, social, and environmental benefits to people if its ecosystems are in a healthy state. These benefits arise through the provision of ecosystem services, which are categorised as follows:

- Provisioning services – the products obtained from ecosystems, such as food and water;
- Regulating services – the benefits obtained from the regulation of ecosystem processes, such as flood control and amelioration of extreme heat events;
- Cultural services – the non-material benefits people obtain from ecosystems, such as spiritual, recreational and aesthetic benefits; and
- Supporting services – necessary for the production of all other ecosystem services, these intermediate services include nutrient cycling (performed by soils) and habitat provision.

6.2.3 Ecosystem services make economic sense as they provide direct or strategic support of all human activities. The Council's Green Infrastructure Strategy[46] sets out a number of baseline

[46] FBC (2014): Green Infrastructure Strategy, September 2014. Accessed online [26/11/19] at: https://www.fareham.gov.uk/PDF/planning/DSPCoreDocuments/FarehamGI_Strategy_Sept2014.pdf

characteristics affecting, or affected by, green infrastructure (and thus its provision of ecosystem services). These are detailed and expanded upon below, whilst Figure 6.1 provides a spatial representation of the borough's green infrastructure assets.

6.3 Access and Recreation

6.3.1 The borough has a number of long distance walking routes and cycling routes as well as good quality, large open spaces for recreation and leisure. Warsash Common, Holly Hill Country Park and Titchfield Haven are particular assets, containing a wide variety of habitats and opportunities for recreation and associated cultural benefits. However, there are certain areas of the borough which experience qualitative and quantitative deficiencies in accessible green space.

6.3.2 The Fareham Open Space Study (2017) reveals that existing levels of provision of natural greenspace are above the required standard, although some wards have high deficits such as Fareham West. No natural greenspaces were found to fall below the 30% quality value. Provision of parks and amenity open space varies across the borough with 7 wards showing a very good quantity and 8 indicating a deficit. Fareham West again was found to have the biggest deficit, followed closely by Sarisbury and Locks Heath. Of the 18 parks and amenity open space areas subject to quality reviews, 13 were new areas around recently permitted residential housing developments such as at Coldeast and Peters Road and mostly scored well. However improvements were deemed necessary for the remaining areas with the exception of the Sensory Garden in Fareham Town Centre which has been given Green Flag status in recognition of its high quality and value. All but three wards in the borough were found to have a deficiency against the standards for Sports Pitches and Outdoor Sports with regard to both quantity and quality.

6.3.3 Table 6.1 shows the quantitative sufficiency/deficit analysis by ward for both natural greenspace, where there is a requirement for 2ha per 1,000 population, parks and amenity open space for which the requirement is 1.5ha per 1,000 population, and outdoor sport for which the requirement is 1.2 ha per 1,000 population (FBC, 2017). Across the borough as a whole, based on Census 2011 population figures, there was a surplus of both natural greenspace and parks and amenity open space of 372.17ha and 25.63ha respectively but a deficit of 72.73ha for outdoor sport facilities.

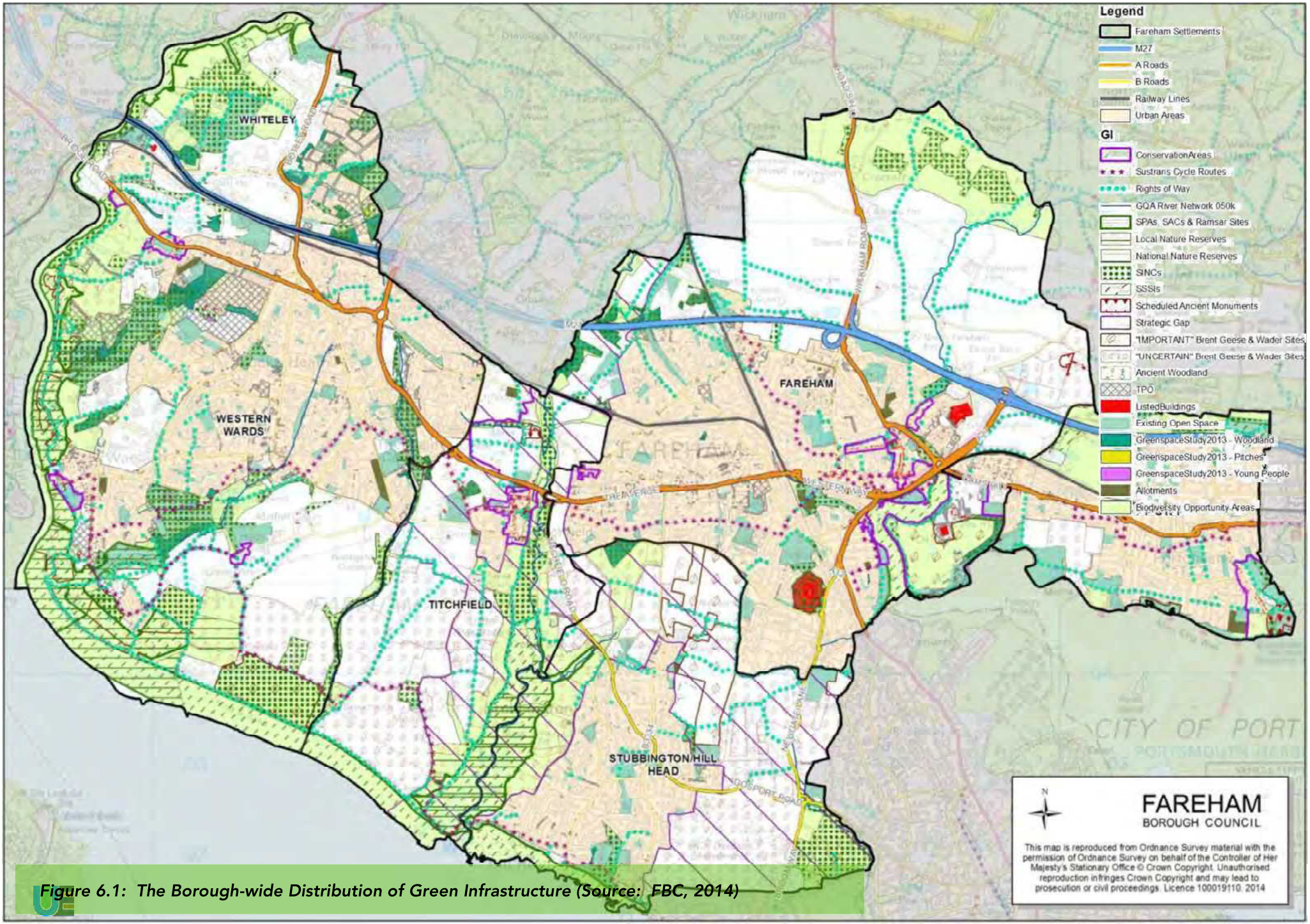


Figure 6.1: The Borough-wide Distribution of Green Infrastructure (Source: FBC, 2014)

6.4 Biodiversity

6.4.1 Fareham borough is an important area for biodiversity, especially along the Solent coastlines. Green infrastructure not only supports and enhances biodiversity assets by providing connecting corridors across the urban landscape, but it also provides people with access to nature, potentially encouraging an affinity with wildlife. The development proposed in the borough and other parts of South Hampshire could potentially have a significant effect on sites designated for their European nature conservation importance, for example through disturbance, erosion and pollution, so the provision of good quality, accessible green space close to new development is important for minimising such impacts.

Table 6.1: Overview of Surplus and Deficit in Provision (Source: FBC, 2017)

Ward	Natural Greenspace Sufficiency /Deficit (ha)	Parks & Amenity Sufficiency /Deficit (ha)	Sports Pitches and Outdoor Sports Sufficiency/Deficit (ha)	Total Provision (ha)
Fareham East	5.87	5.68	-6.23	5.32
Fareham North	30.38	-2.04	-8.33	14.92
Fareham North-West	-4.24	-2.03	-6.27	-12.54
Fareham South	3.04	1.28	0.82	5.14
Fareham West	-11.08	-6.94	-7.9	-25.92
Hill Head	50.79	-2.39	-8.59	39.81
Locks Heath	-3.04	-3.68	-8.05	-14.77
Park Gate	14.05	-1.81	-2.73	9.51
Portchester East	15.49	15.63	-7.4	23.72
Portchester West	25.12	-1.08	-2.19	21.85
Sarisbury	90.67	-4.71	4.05	90.01
Stubbington	-7.72	5.33	1.89	-0.5
Titchfield	110.12	13.12	-8.05	115.19
Titchfield Common	2.84	3.75	-6.93	-0.34
Warsash	54.97	5.52	-6.82	53.67
TOTAL	**372.17**	**25.63**	**-72.73**	**325.07**

6.5 Health and Wellbeing

6.5.1 Fareham borough has an ageing population (it is expected that by 2026 over a quarter of residents will be over 65); increasing occurrences of obesity (around 17% of year 6 children were

classified as obese in 2011); and pockets of health deprivation in and around Fareham town, and also in Fareham North West. This is putting increasing pressure on health services. However, the health benefits of green infrastructure in encouraging more active lifestyles and improving wellbeing is well documented. Safe, accessible green space and walking/cycling routes provide people with the opportunity and the incentive to take physical exercise (which also benefits mental health), whilst views of attractive green space is reported to improve recovery from illness, as well as employee productivity.

6.6 Climate Change Adaptation and Mitigation

6.6.1 Climate change is a significant challenge facing Fareham borough, with hotter summers, wetter winters and increased coastal flooding expected in future. Green infrastructure not only provides wildlife with the opportunity to move and migrate in response to climate change, but, crucially, it can also help society to adapt to the predicted effects of climate change. Green space, particularly trees, reduce warming through provision of shade and associated processes of reflection and evapotranspiration; and reduce flooding through intercepting rainfall, improving infiltration of water into the soil, and binding the soil thus preventing erosion during runoff. Plants also capture carbon from the atmosphere, storing it within their biomass, thus helping to mitigate against climate change. The greatest carbon store is actually the soil, and particularly wetland soil - the degradation of soils from development and unsustainable agriculture releases a substantial amount of carbon into the atmosphere.

6.7 Air and Water Quality

6.7.1 Whilst air quality is generally good in the borough, areas prone to high volumes of traffic are experiencing inflated levels of nitrogen dioxide, for example within Fareham town centre. Opportunities exist for greater tree planting along roads, where safety is not compromised, to help improve air quality, as certain tree species are known to intercept and/or absorb gaseous pollutants and particulate matter. The borough's key rivers, the Meon, Wallington and Hamble, generally show relatively high levels of nitrates and phosphates. This can lead to eutrophication and excessive growth of algae which affect water quality. The main sources are drainage from farmland (fertilisers and runoff from manure), sewage effluent (which contains dishwasher detergents, food and drink additives) and coastal background and urban runoff. The contribution of each of these sources to Nitrogen in the Hamble Estuary and Portsmouth Harbour waterbodies is shown in Figure 6.2. The use of green infrastructure assets such as trees, green spaces and sustainable drainage systems not only help alleviate surface water flooding, but also help to remove pollutants from water systems.

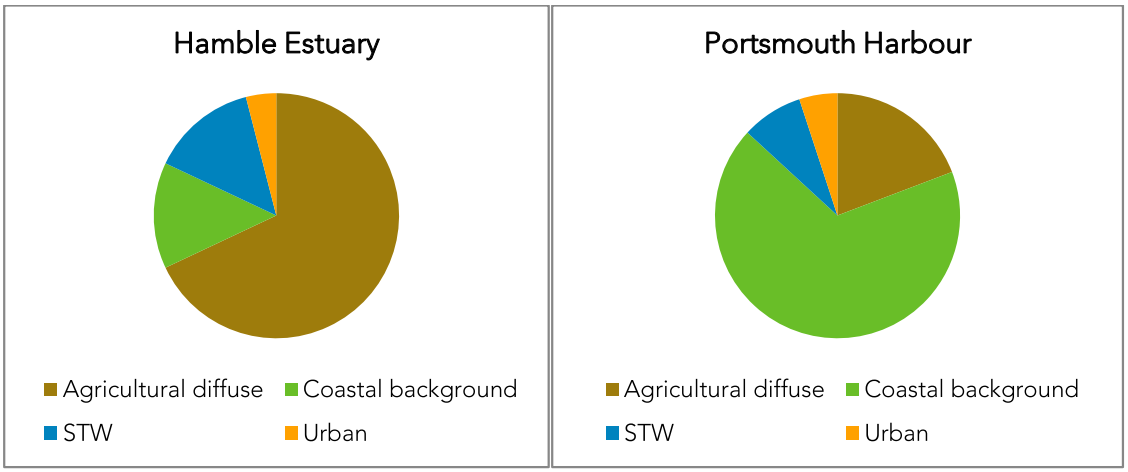


Figure 6.2: Percentage N Contribution to Waterbodies from different Sources (EA, 2019)

6.8 Economic Success

6.8.1 Green infrastructure has the potential to support economic growth, for example through attracting a skilled workforce and new businesses to the area; by reducing the frequency and severity of flood events that can cause financial setbacks to property and businesses; or indirectly through improving the physical and mental health of the workforce, reducing the number of sick days and boosting productivity. The borough's Tree Strategy (FBC, 2012) states that Fareham's Urban Forest contributes significantly to Fareham's reputation as being an attractive place to live, work in and visit.

6.9 Heritage and Landscape

6.9.1 Green infrastructure plays an important role in enhancing sense of place and identity, recreation and heritage management. Due to its location, the borough has the potential to provide a 'gateway' for tourists and visitors to enter the South Downs National Park and the coastal area; green corridors provide important links between residential areas or transport connections with these key landscape assets. However, residential growth can have significant effects on landscape quality, including through impacts on noise pollution, light pollution and broader effects on people's perceptions of tranquillity (see also section 10.6).

6.10 Spatial Context

6.10.1 In 2017 PfSH (formerly PUSH) published a Green Infrastructure Strategy seeking to maximise opportunities for the delivery of new development and green infrastructure features in a complimentary and coordinated way across the sub-region. The strategy focusses on strategic components of a landscape scale green infrastructure network, including Strategic Rights of Way, Country Parks, large-scale suitable alternative natural greenspace (SANG), community forest, river and strategic wildlife corridors, internationally important habitat areas, NNRs, and National Parks and AONBs . Ensuring these strategic components link together at the local levels is essential to guarantee the benefits described above are delivered. The Ecological

Network referred to in section 3.6 of this report is a tool that will help inform the location and nature of green infrastructure provision across the sub-region.

6.10.2 The strategy showed that some urban parts of Havant, Portsmouth, Gosport, Fareham (Stubbington), northern areas of Eastleigh and Winchester and Test Valley have no access to natural greenspace sites over 20ha in size within 2km (as recommended by Natural England's Accessible Natural Greenspace Standard). In terms of sub-regional scale green corridors, the Pilgrim's Trail and the Monarch's Way are both key routes, the former linking Winchester with Portsmouth, and the latter passing through Hampshire from north-east of Salisbury to Rowlands Castle on the Sussex border. Long distance routes are also present along much of the Hampshire coast.

6.10.3 All five of the Spatial Planning Areas in Fareham borough have good provision of rights of way and cycle routes, both within urban areas, and linking to the countryside or coastal areas. Titchfield in particular benefits from the accessible riparian corridor along the River Meon, which links the village with Titchfield Haven and beyond to the coastal path. Similarly, the River Hamble provides a recreation and wildlife corridor along the south and west of the Western Wards. The latter Spatial Planning Area also benefits from a good number of small areas of amenity open space dotted across the urban area, improving accessibility and visual amenity for residents and workers, as well as patches of woodland in the more peri-urban areas. Overall the Western Wards has a large surplus of both natural greenspace and amenity open space, though there is under-provision of both in the ward of Park Gate (FBC, 2014b). Hill Head / Stubbington, Fareham and Portchester have proportionally fewer yet generally larger areas of amenity open space, however Titchfield has a deficit of both open spaces and natural areas. The adjacent ward of Fareham West has a particular deficit of natural and amenity spaces.

6.11 Likely Evolution of the Baseline in the Absence of the Local Plan

6.11.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. The Green Infrastructure Strategy for Fareham would help to ensure that the needs and requirements for the borough's green infrastructure network are successfully being met, focussing on protection, enhancement, restoration and creation. However, without the Local Plan, housing development could put increased pressure on Fareham's green spaces, with a risk of degradation from increased use if no additional spaces are created, or even the possible loss of some green areas to development.

6.12 Key Issues

6.12.1 Key issues for GI and ecosystems services relevant to the Local Plan are:

- There are significant opportunities to improve linkages between areas of open space, parks and the open countryside.
- Establishing blue corridors would help relieve the pressure of flooding on upstream and downstream communities and make flood protection options within the urban area more resilient and flexible.

- Certain areas of the borough experience qualitative and quantitative deficiencies in accessible green space. The wards of Fareham West, Titchfield and Park Gate in particular lack access to both natural greenspace and amenity open space.
- Fragmentation of cycle routes in some locations does not help would-be cyclists to move to this mode of transport.
- The borough has an ageing population, worsening obesity levels, and pockets of health deprivation in and around Fareham town and Fareham North West.
- Opportunities exist for greater tree planting along roads, where safety is not compromised, to help improve air quality and provide shading.
- The urban areas of Fareham and Portchester are considered to be the least tranquil parts of the borough due to their highly urbanised nature.

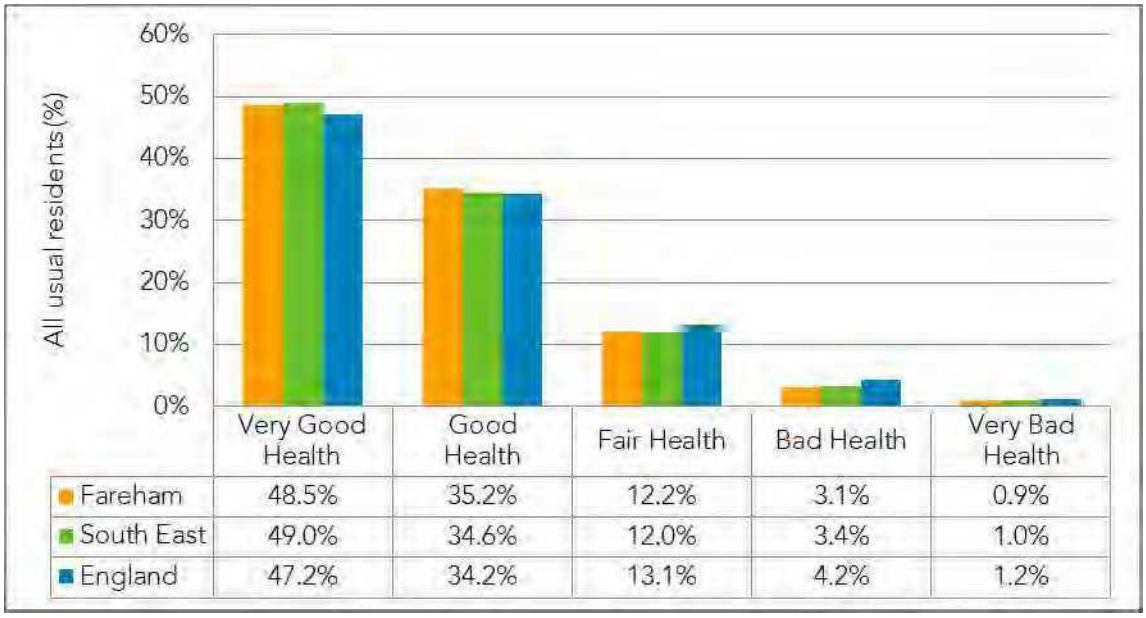
7 Health

7.1 Summary of Policy and Plan Review

7.1.1 National and regional health related PPPs focus on improving rates of infant mortality and life expectancy; reducing work related illness and accidents; significantly improving levels of sport and physical activity, particularly among disadvantaged groups; promoting healthier modes of travel; supporting the public to make healthier and more informed choices in regards to their health; improving accessibility to healthcare and leisure/recreational facilities; and reducing health inequalities, particularly for children and older people. New health, sporting, leisure and recreational facilities should be provided and should encourage walking, cycling and a more active lifestyle. Well located and affordable housing should be provided of high quality for all local residents' needs.

7.2 Health Indicators

7.2.1 As Figure 7.1 shows the percentage of people in very good health in Fareham borough was 48.5% which is slightly lower than the figure for South East (49.0%) and slightly higher than for England (47.2%)[47]. Additionally the percentage of people in good health in Fareham is quite high (35.2%) which is higher than the South East and England where the percentage of people in good health are 34.6% and 34.2% respectively. There is a low percentage of people in very bad health in Fareham, making up just 0.9% of the population.

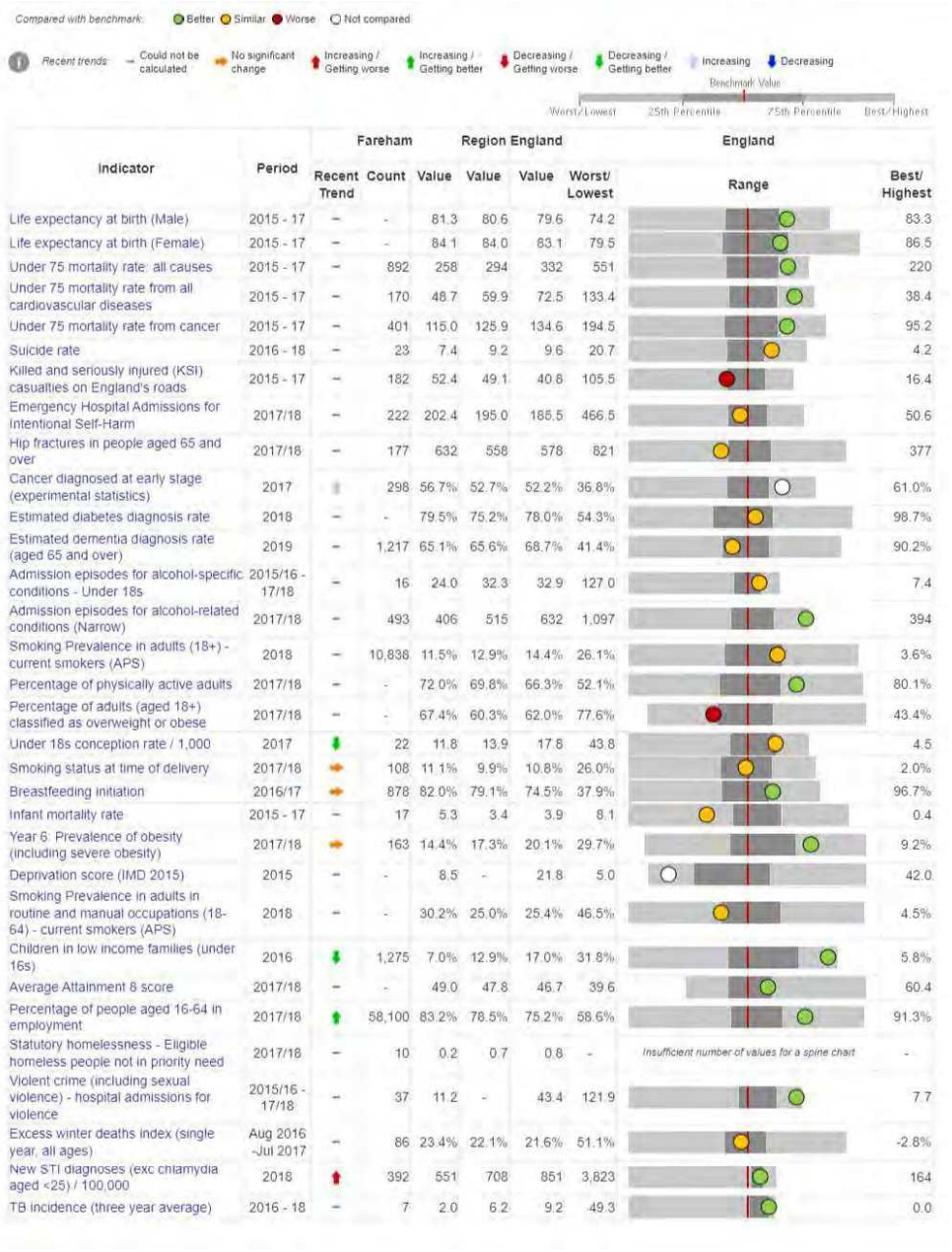


	Very Good Health	Good Health	Fair Health	Bad Health	Very Bad Health
Fareham	48.5%	35.2%	12.2%	3.1%	0.9%
South East	49.0%	34.6%	12.0%	3.4%	1.0%
England	47.2%	34.2%	13.1%	4.2%	1.2%

Figure 7.1: General Level of Health (All Residents) (Source: Census, 2011)

[47] Neighbourhood Statistics: General Health, 2011 (QS302EW). Accessed online [21/1/16] at: https://www.hants.gov.uk/landplanningandenvironment/facts-figures/population/2011-census

7.2.2 Public Health England's summary for the borough is presented in Figure 7.2 and shows that, for most indicators, Fareham borough residents report average or above average health when compared to regional and national averages[48]. Notable exceptions are for numbers killed or seriously injured on roads, dementia diagnoses (65+) and adult obesity.



Indicator	Period	Fareham Recent Trend	Fareham Count	Fareham Value	Region England Value	England Value	England Worst/Lowest	England Range	England Best/Highest
Life expectancy at birth (Male)	2015 - 17	–	-	81.3	80.6	79.6	74.2		83.3
Life expectancy at birth (Female)	2015 - 17	–	-	84.1	84.0	83.1	79.5		86.5
Under 75 mortality rate: all causes	2015 - 17	–	892	258	294	332	551		220
Under 75 mortality rate from all cardiovascular diseases	2015 - 17	–	170	48.7	59.9	72.5	133.4		38.4
Under 75 mortality rate from cancer	2015 - 17	–	401	115.0	125.9	134.6	194.5		95.2
Suicide rate	2016 - 18	–	23	7.4	9.2	9.6	20.7		4.2
Killed and seriously injured (KSI) casualties on England's roads	2015 - 17	–	182	52.4	49.1	40.8	105.5		16.4
Emergency Hospital Admissions for Intentional Self-Harm	2017/18	–	222	202.4	195.0	185.5	466.5		50.6
Hip fractures in people aged 65 and over	2017/18	–	177	632	558	578	821		377
Cancer diagnosed at early stage (experimental statistics)	2017		298	56.7%	52.7%	52.2%	36.8%		61.0%
Estimated diabetes diagnosis rate	2018	–	-	79.5%	75.2%	78.0%	54.3%		98.7%
Estimated dementia diagnosis rate (aged 65 and over)	2019	–	1,217	65.1%	65.6%	68.7%	41.4%		90.2%
Admission episodes for alcohol-specific conditions - Under 18s	2015/16 - 17/18	–	16	24.0	32.3	32.9	127.0		7.4
Admission episodes for alcohol-related conditions (Narrow)	2017/18	–	493	406	515	632	1,097		394
Smoking Prevalence in adults (18+) - current smokers (APS)	2018	–	10,838	11.5%	12.9%	14.4%	26.1%		3.6%
Percentage of physically active adults	2017/18	–	-	72.0%	69.8%	66.3%	52.1%		80.1%
Percentage of adults (aged 18+) classified as overweight or obese	2017/18	–	-	67.4%	60.3%	62.0%	77.6%		43.4%
Under 18s conception rate / 1,000	2017		22	11.8	13.9	17.8	43.8		4.5
Smoking status at time of delivery	2017/18		108	11.1%	9.9%	10.8%	26.0%		2.0%
Breastfeeding initiation	2016/17		878	82.0%	79.1%	74.5%	37.9%		96.7%
Infant mortality rate	2015 - 17	–	17	5.3	3.4	3.9	8.1		0.4
Year 6: Prevalence of obesity (including severe obesity)	2017/18		163	14.4%	17.3%	20.1%	29.7%		9.2%
Deprivation score (IMD 2015)	2015	–	-	8.5	-	21.8	5.0		42.0
Smoking Prevalence in adults in routine and manual occupations (18-64) - current smokers (APS)	2018	–	-	30.2%	25.0%	25.4%	46.5%		4.5%
Children in low income families (under 16s)	2016		1,275	7.0%	12.9%	17.0%	31.8%		5.8%
Average Attainment 8 score	2017/18	–	-	49.0	47.8	46.7	39.6		60.4
Percentage of people aged 16-64 in employment	2017/18		58,100	83.2%	78.5%	75.2%	58.6%		91.3%
Statutory homelessness - Eligible homeless people not in priority need	2017/18	–	10	0.2	0.7	0.8	-	Insufficient number of values for a spine chart	-
Violent crime (including sexual violence) - hospital admissions for violence	2015/16 - 17/18	–	37	11.2	-	43.4	121.9		7.7
Excess winter deaths index (single year, all ages)	Aug 2016 -Jul 2017	–	86	23.4%	22.1%	21.6%	51.1%		-2.8%
New STI diagnoses (exc chlamydia aged <25) / 100,000	2018		392	551	708	851	3,823		164
TB incidence (three year average)	2016 - 18	–	7	2.0	6.2	9.2	49.3		0.0

Figure 7.2: Health Summary for Fareham Borough (Source: Public Health England, 2019)

7.2.3 In 2018 the average life expectancy in Fareham for males (at birth) was 81.3, which is higher than the England average of 79.6[49]. For women (at birth) in Fareham average life expectancy was

[48] Public Health England (2018): *Fareham District Health Profile 2018.* Accessed online [20/5/19] at : https://fingertips.phe.org.uk/profile/health-profiles/area-search-results/E07000087?place_name=Fareham&search_type=parent-area

[49] *Ibid.*

higher at 84.1 years of age, which is also slightly higher than the average life expectancy in England at 83.1. The infant mortality rate in Fareham in 2018 was 5.3 per 1,000 live births, which is worse than the England rate at 3.9[50].

7.2.4 Obesity is an increasing national issue, and one that will contribute to significant health impacts in individuals, including increasing the risk of a range of diseases such as heart disease, diabetes and some forms cancer. In Fareham the percentage of Year 6 children classified as obese has decreased from 15.7% in 2011 (Census, 2011) to 14.4% in 2017/8 (Public Health England, 2019). However, the number of obese adults has increased from 62.6% in 2016/17 to 67.4% in 2017/18. Alongside this, an ageing population has the potential to have implications for services in the borough. This stems from the impact of the growth of the older population on the provision of health and social care services, and an ageing population will increase the dependency ratio in the borough.

7.3 Health Inequalities

7.3.1 Although Fareham residents enjoy relatively good health there are disparities both within the borough and between the borough and national rates. For men, as Figure 7.3 shows, significantly fewer of the least deprived men suffer early death (under 75yrs) than the English rate, however, for the most deprived men the rate has increase from parity with the English rate between 2006 and 2011 before coming back in line with the national rate. This pattern is not apparent for women where the rate has been consistently lower than the England average, although this gap is closing.

[50] *Ibid.*

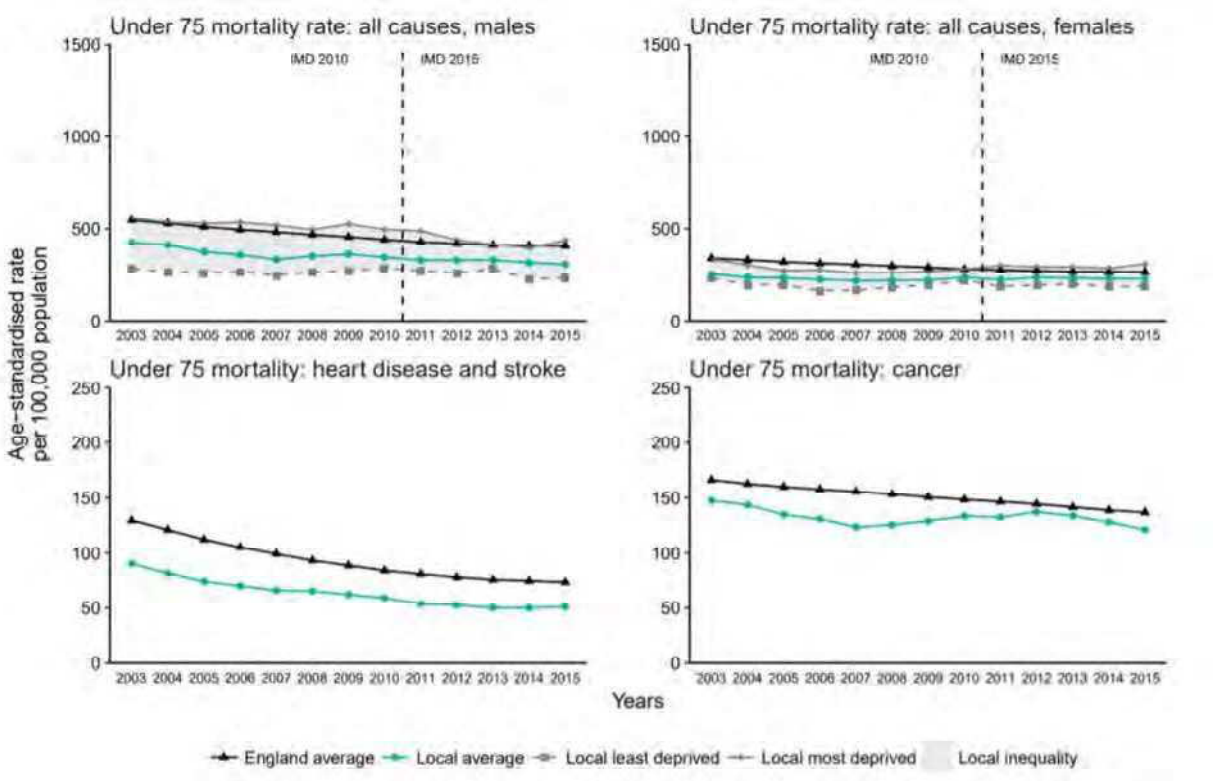
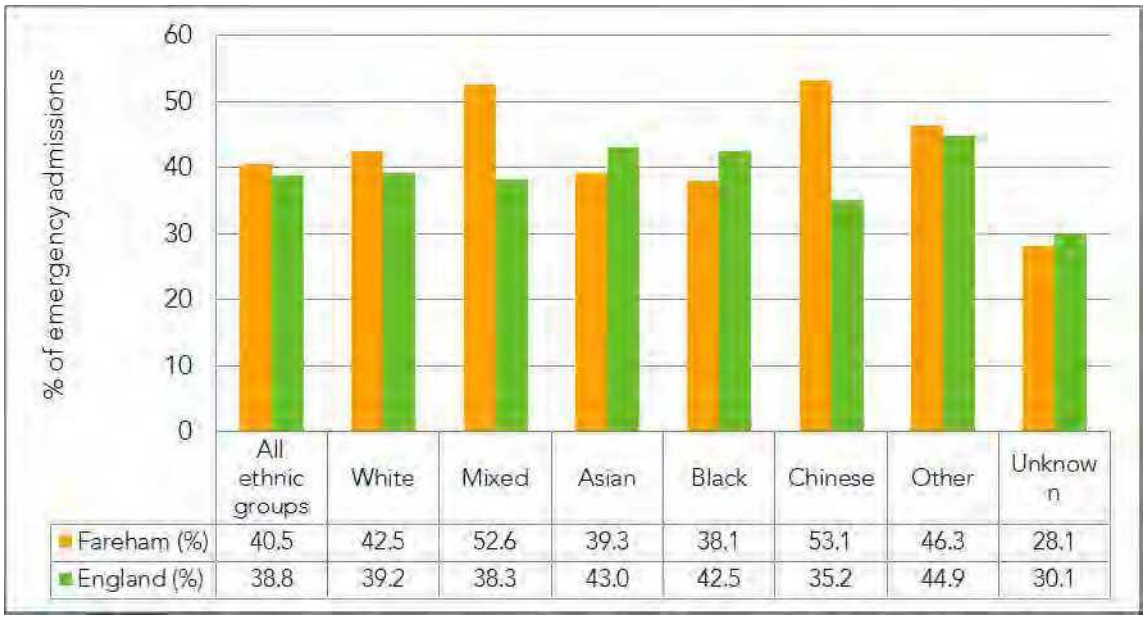


Figure 7.3: Rate of Early Deaths (Men & Women, per 100,000 Population, 2003-2015) (Source: Public Health England, 2018)

7.3.2 Health disparities by ethnicity can be seen in Figure 7.4. This chart shows the percentage of hospital admissions for each ethnic group that were emergencies, rather than planned. A higher percentage of emergency admissions may be caused by higher levels of urgent need for hospital services or lower use of services in the community. Emergency admissions in Fareham are generally in line with rates in England, however, a significantly greater proportion of people of Mixed (52.6%) or Chinese (53.1%) origin were admitted as an emergency than is the national average for these groups.



	All ethnic groups	White	Mixed	Asian	Black	Chinese	Other	Unknown
Fareham (%)	40.5	42.5	52.6	39.3	38.1	53.1	46.3	28.1
England (%)	38.8	39.2	38.3	43.0	42.5	35.2	44.9	30.1

Figure 7.4: Percentage of Hospital Admissions that were Emergencies, by Ethnic Group, 2013 (Source: Public Health England, 2015)

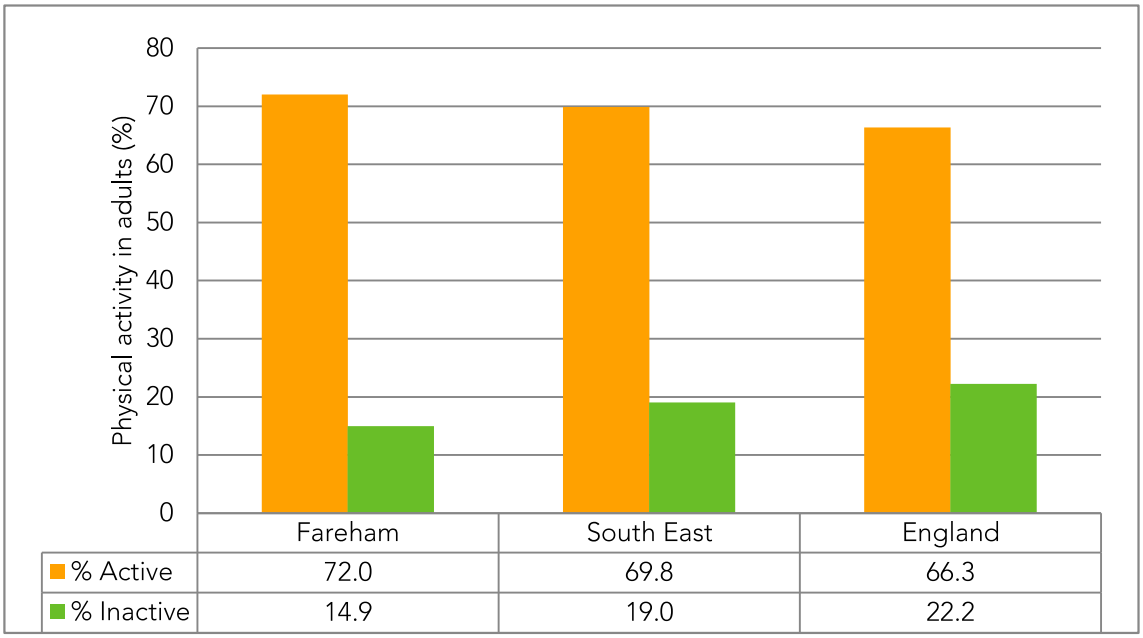
7.4 Participation in Sports and Fitness Activities

7.4.1.1 In 2017/18, 72.0% of adults in Fareham were active, which is 2.2% higher than in the South East and 5.7% higher than in England; see Figure 7.5[51]. Fareham also has the lowest percentage of inactive adults at 14.9%, compared to the South East (19.0%) and England (22.2%).

7.4.1.2 The trend for weekly adult participation in sport in Fareham, as highlighted by Figure 7.6, has fluctuated from 2005/06 to 2015/16[52]. In 2005/06 Fareham had a higher percentage of participation (40.7%) than the South East (37.1%) and England (34.6%). Participation in sport in Fareham increased annually to 2008/09 where it peaked at 45.9%. In 2015/16, 38.2% of adults participated in sports once a week in Fareham, which is similar to the South East value (38.3%) and England (36.1%).

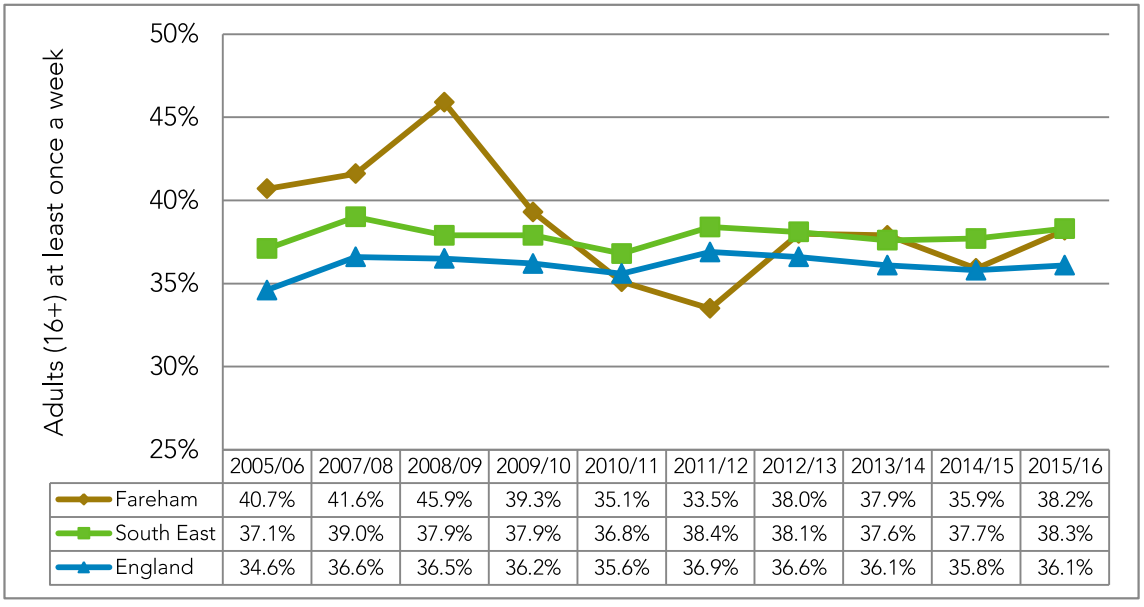
[51] Public Health England: Public Health Outcomes Framework – Health Improvement. Accessed online [21/5/19] at: http://www.phoutcomes.info/public-health-outcomes-framework#page/1/gid/1000042/pat/6/par/E12000008/ati/101/are/E07000087

[52] Sport England: Active People Survey, 2018. Accessed online [21/5/19] at: http://activepeople.sportengland.org/Result#ViewStateId=185&OutputType=2



	Fareham	South East	England
% Active	72.0	69.8	66.3
% Inactive	14.9	19.0	22.2

Figure 7.5: Percentage of Physically Active/Inactive Adults, 2017/18 (Source: Public Health England, 2018



	2005/06	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Fareham	40.7%	41.6%	45.9%	39.3%	35.1%	33.5%	38.0%	37.9%	35.9%	38.2%
South East	37.1%	39.0%	37.9%	37.9%	36.8%	38.4%	38.1%	37.6%	37.7%	38.3%
England	34.6%	36.6%	36.5%	36.2%	35.6%	36.9%	36.6%	36.1%	35.8%	36.1%

Figure 7.6: Adult (16+) Participation in Sport at Least Once a Week (Source: Sport England, 2018)

7.5 PfSH Air Quality Impact Assessment

7.5.1 Air Quality is a key issue impacting on human health. The key pollutants of concern with regard to human health are NO_2 and particulates (PM_{10} and $PM_{2.5}$). As described in section 2, the PfSH Air Quality Impact Assessment modelled predicted concentrations of these pollutants across the sub-region over the period up to 2034. Modelled levels were compared against air quality objectives, which are nationally set pollutant levels which must not be exceeded based on what

is considered to be acceptable in terms of what is scientifically known about the effects of each pollutant on health. The annual mean objective for NO_2 and PM_{10} is 40 µg/m^3, and 25 µg/m^3 for $PM_{2.5}$.

7.5.2 In the 2034 baseline scenario, that is without any further development above 2014 levels, the levels of these pollutants was predicted to be below the objectives in all areas where the air quality objectives apply, that is where there is a risk of human exposure.

7.6 Spatial Context

7.6.1 Figure 7.7 maps the Index of Health Deprivation (DCLG, 2019) for Fareham borough, and shows that, as with other indices, the Western Wards and Hill Head / Stubbington Spatial Planning Areas are among the least deprived communities in the country, together with urban parts of Titchfield and Portchester. Fareham has pockets of more deprived areas, with communities in west and south Fareham most affected by health deprivation.

7.7 Likely Evolution of the Baseline in the Absence of the Local Plan

7.7.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Baseline trends relevant to health that may continue under such a scenario include:

- Fareham, in common with many other areas, is experiencing an ageing population. This will have implications for health service provision and accessibility to other services, facilities and amenities.
- Obesity is seen as an increasing issue by health professionals, and one that will contribute to significant health impacts on individuals, including increasing the risk of a range of diseases, including heart disease, diabetes and some forms of cancer.
- Medical advances, including linked to improved diagnosis, pharmaceutical innovations and technological enhancements have the potential to lead to improvements in the prediction, prevention and treatment of illnesses.
- Changes in the extent of noise pollution alongside road traffic growth.
- Efforts to meet the borough's housing needs over and above the current Local Plan's provision would not benefit from strategic planning to help ensure that new homes are readily accessible to health and fitness resources, or co-located with a range of service to encourage travel by healthy modes (walking and cycling).

7.8 Key Issues

7.8.1 Key health issues relevant to the Local Plan are:

- New health, sporting, leisure and recreational facilities should be provided and should encourage walking, cycling and more active lifestyles.

- The development of a high quality multifunctional green infrastructure network should be promoted.
- The development of safe and accessible cycle networks to facilitate cyclist-friendly development, and enable intermodality with other modes of transport.
- The provision of high quality, well located and affordable housing appropriate for local residents' needs should be provided.
- Fareham has a good level of health, but disparities are present especially between males in the borough and between ethnicities.
- Health inequalities exist between the most and least deprived areas of the borough.
- Difficulties in meeting the needs of an ageing population.
- Adult participation in sport has decreased in Fareham in recent years, although participation levels are starting to pick up again slowly.
- The priorities for action identified for Fareham by Public Health England include alcohol and related disease, cancer, healthy ageing, improving provision and delivery of local mental health services and influencing health systems to improve primary care access and secondary care use.

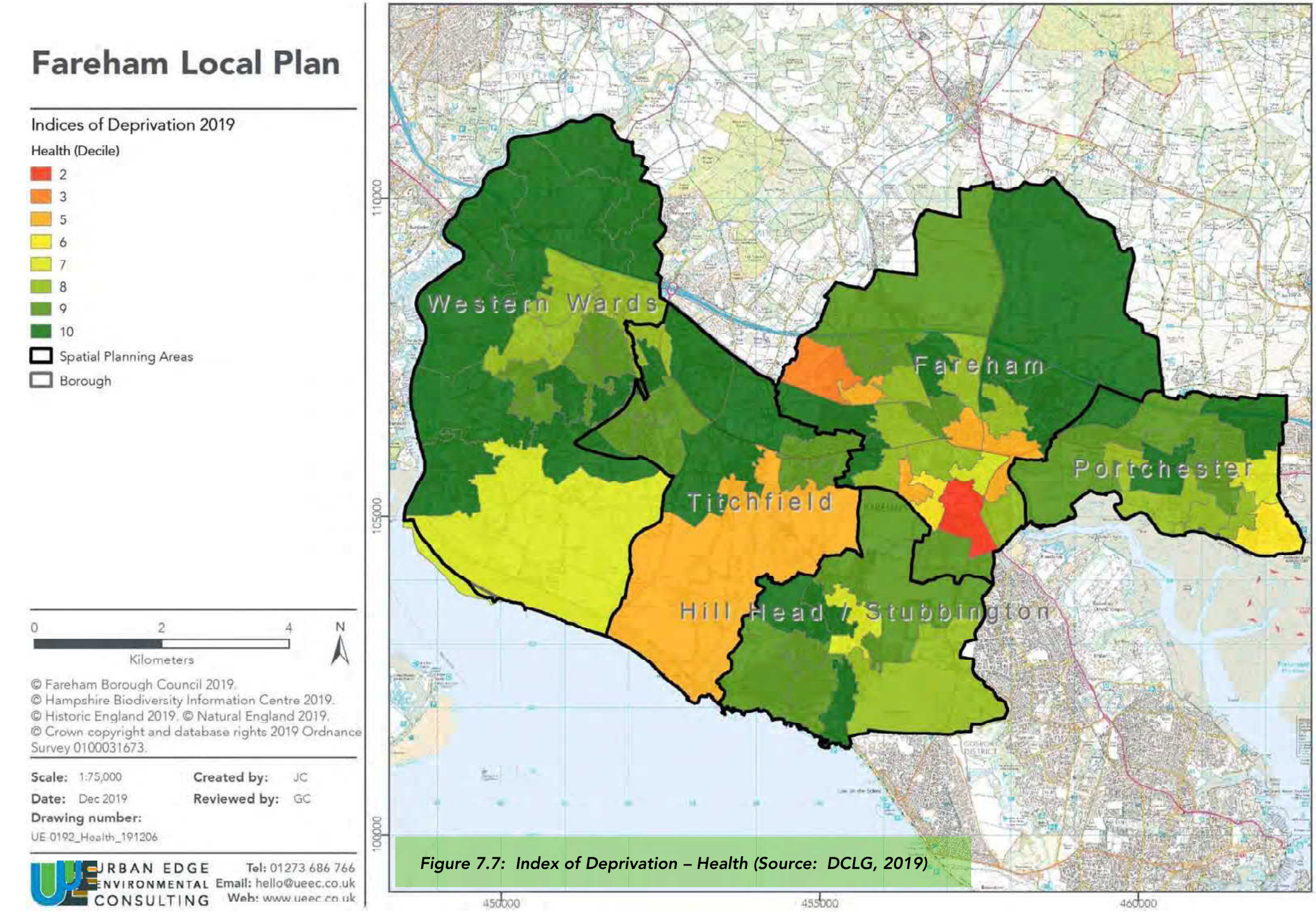


Figure 7.7: Index of Deprivation – Health (Source: DCLG, 2019)

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8 Historic Environment

8.1 Summary of Policy and Plan Review

8.1.1 Historic environment priorities from international to local level include protecting designated resources and their settings (such as listed buildings, conservation areas, scheduled monuments, and registered parks and gardens); recognising the cultural aspects of landscape and establishing mechanisms for their protection against inappropriate development; recognising the potential value of unknown and undesignated resources; and preserving/enhancing sites and landscapes of archaeological and historic interest so that they may be enjoyed by both present and future generations.

8.1.2 The protection and enhancement of cultural heritage assets and their settings should be evaluated and considered throughout the forward planning and development management processes. There is a need to support high quality design and appropriate layout of new development to preserve or enhance features of historical interest, including archaeological assets, both potential and realised. Development which protects, and where possible improves landscape and townscape character should be encouraged.

8.2 Historic Development of the Borough

8.2.1 The historic environment of the area, which influences its sense of place and identity, is defined both by its individual heritage assets, designated and non-designated, and the setting of these assets through historic landscapes and townscapes. The historic development of the area has been influenced by a wide variety of factors. These include:

- The Roman occupation of the area from AD43, culminating in the building of Portchester Castle in the late 3rd century;
- Saxon and Norman settlement;
- The development of Fareham as a market town from the 12th Century and subsequent expansion of naval and seaport activities;
- The development of the shipbuilding industry in the 17th/18th Centuries;
- Growth of Fareham in the Georgian and early Victorian era, linked with the proximity of the Royal Navy and naval dockyards;
- The arrival of the railway in 1841;
- Expansion of small scale industry from Victorian times, including the production of chimney-pots, leather-tanning, brewing, flour, woollen goods, sacking, timber, pottery, and clay-pipes; and
- Rapid expansion of the borough's population from the 1950s.

8.2.2 The historic development of the area is reflected by the area's diverse cultural heritage resource, and whilst this resource includes better known assets such as Portchester Castle, Fort Fareham, Forts Nelson and Southwick (just outside the borough), Titchfield Abbey and the Georgian architecture of Fareham, the historic environment in the borough is broad ranging, and incorporates a wide variety of features, sites and areas.

8.3 Designated and Non-designated Sites and Areas

8.3.1 A number of features and areas for the historic environment are recognised through historic environment designations. These include listed buildings and Scheduled Ancient Monuments, which are nationally designated, and conservation areas, which are usually designated at the local level. Historic England is the statutory consultee for certain categories of listed building consent and all applications for scheduled monument consent. The historic environment is protected through the planning system, via conditions imposed on developers and other mechanisms, and information can be found on the Historic Environment Record[53].

8.3.2 Scheduled monuments are sites of national importance and protected by the Ancient Monuments and Archaeological Areas Act 1979. There are five scheduled monuments located in the borough:

- Fort Fareham;
- Portchester Castle;
- Titchfield Abbey and fishponds;
- Stony Bridge, Titchfield; and
- World War II Heavy Anti-aircraft gunsite at Monument Farm,

8.3.3 In addition, Fort Nelson and Fort Southwick scheduled monuments are located just outside the borough north of Portchester, and St Andrew's Castle (with Iron Age linear earthwork and additional remains) is on the other side of the Hamble at Hamble Common.

8.3.4 Listed buildings are those which have been placed on the Statutory List of Buildings of Special Architectural or Historic Interest. There are 432 nationally listed buildings and structures within Fareham borough, as follows:

- 4 Grade I listed buildings (Monastic Barn of Titchfield Abbey at Fern Hill Farm, Portchester Castle, Church of St Mary, and Parish Church of St Peter);
- 408 Grade II listed buildings; and
- 20 Grade II* listed buildings.

8.3.5 The site of the Grace Dieu in the Upper Hamble estuary is nationally designated under the Protection of Wrecks Act 1973; a Statutory Instrument identifies the location of the site and the extent of the restricted area to ensure it is protected. The site harbours the remains of an

[53] Heritage Gateway: Hampshire Archaeology and Historic Building Record. Accessed online [22/1/16] at: http://www.heritagegateway.org.uk/Gateway/CHR/herdetail.aspx?crit=&ctid=97&id=4774

English carrack which burnt in the River Hamble in 1439 after being struck by lightning. At 1,400 tons, the vessel was the largest of Henry V's 'great ships' and probably one of the largest clinker vessels ever built. Built in 1418, part of her crew mutinied on her one known cruise, and she never went to sea again, being laid up in Southampton Water for several years. She was then towed upstream to her final mud berth on the River Hamble. Following the lightning strike she was then partially broken up for salvage.

8.3.6 Conservation Areas are areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance. This is judged by local authorities against local and regional criteria, rather than national importance as is the case with listing. Conservation Area designation increases the local planning authority's control over demolition of buildings and over certain alterations to residential properties which would normally be classed as 'permitted development' and not require planning permission. There are 13 Conservation Areas in the borough of Fareham, each of which is supported by a character assessment and management strategy[54]:

- Cams Hall, Castle Street (Portchester), Catisfield, Fareham High Street, Hook, Osborn Road, Sarisbury Green, Swanwick Shore, Titchfield, Titchfield Abbey, Town Quay (Fareham), Wallington, and Warsash.

8.3.7 Hampshire County Council maintains the Archaeology and Historic Buildings Record (AHBR) for the county and together with GIS datasets for red, orange, yellow and green archaeological ALERT areas. This represents the most important and sensitive archaeological sites in the county; those sites which most clearly might impact the implementation of policy (both as positive opportunities and as potential constraints). The data is created by reviewing the whole of the raw AHBR data and is periodically updated. It comprises Red areas, which are nationally important and designated archaeological sites (i.e. scheduled monuments); Orange areas which are in HCC's opinion of national importance, are not designated but within planning would have equivalent weight to scheduled monuments; Yellow areas, which are archaeological sites of known complexity, importance and extent; and Green points, which are archaeological sites of known complexity but for which there is not yet a known extent.

8.3.8 The locations of scheduled monuments, listed buildings, conservation areas, protected wrecks and archaeological ALERT areas in Fareham borough are shown on Figure 8.1 and Figure 8.2.

8.4 Archaeological Assets

8.4.1 It should be noted that not all of the area's historic environment resource is subject to statutory designations, and non-designated features comprise a large part of what people have contact with as part of daily life – whether at home, work or leisure. For example, although not listed, many buildings and areas are of historic interest, and which are seen as important by local communities. Examples of these are likely to include parks (although there are no register parks and gardens within the borough) and the wider historic landscape. Undesignated actual or potential archaeological finds in the area are also of significance; for example, sites of

[54] Fareham Borough Council: Historic Environment webpages. Accessed online [24/10/2016] at: http://www.fareham.gov.uk/planning/conservation/

archaeological interest exist in the River Wallington area which suggests the likelihood of further archaeological finds of local and potentially regional significance.

8.4.2 The Hampshire Archaeology and Historic Building Record lists 41 monuments identified through cropmark data[55]. These range from post Roman field systems, and medieval / post medieval enclosures water meadows and quarries, to First and Second World War trenching, armaments and bomb sites, in addition to the Bronze Age Neolithic Long barrow in the centre of the Welborne site.

8.5 Heritage at Risk

8.5.1 Since 2008, Historic England has released an annual Heritage at Risk Register. The Heritage at Risk Register highlights the Grade I and Grade II* listed buildings, and scheduled monuments, conservation areas, wreck sites and registered parks and gardens in England deemed to be 'at risk'. The latest Heritage at Risk Register for Fareham includes two listed buildings deemed to be at risk in Fareham borough[56]:

- Fort Fareham, Newgate Lane, Fareham (Scheduled Monument); The site is at risk because unoccupied parts, including ramparts, are suffering from decay and vandalism. The exterior of the fort is owned by the Local Authority and the interior is owned by various private companies, functioning as a business/industrial estate.
- Titchfield Abbey and fishponds - "stables", Mill Street, Titchfield (Scheduled Monument); Part of the monument are overgrown with vegetation and have some structural problems. Geophysical surveys have not revealed more information. Investigations leading to a project for the conservation, explanation and maintenance of the ruins are now required.

8.6 Spatial Context

8.6.1 The Western Wards Spatial Planning Area has the site of the Grace Dieu, four conservation areas and a scattering of listed buildings. Titchfield has two scheduled monuments, three conservation areas and a concentration of listed buildings in Titchfield itself. Portchester has one scheduled monument, three conservation areas and groups of listed buildings at Cams Hall and around Portchester Castle. Fareham has three scheduled monuments, five conservation areas and a concentration of listed buildings around the town centre.

8.7 Likely Evolution of the Baseline in the Absence of the Local Plan

8.7.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Existing Policy DSP5 provides for protection and enhancement of the historic environment and sets out how development proposals should take

[55] *Ibid.*

[56] Historic England: Heritage at Risk Register. Accessed online [29/5/19] at: https://historicengland.org.uk/images-books/publications/har-2018-registers/

heritage features into account. However, the setting of cultural heritage assets within the borough may continue to be affected, both positively and negatively, by development coming forward under the plan.

8.8 Key Issues

8.8.1 Key heritage issues relevant to the Local Plan are:

- Potential direct effects on both designated and undesignated features, and the wider historic environment resulting from inappropriate development or poor design and layout of housing, employment, community and retail provision.
- Changes to the setting of historic features and historic landscapes as a result of development throughout the borough, including at Welborne, could lead to direct or indirect effects on their significance.
- Traffic growth stimulated could lead to effects on the historic environment over a wider area. This includes effects on the historic environment in surrounding settlements such as Wickham.
- Archaeological remains, both seen and unseen, may be negatively affected by new development areas.
- Development provides an opportunity for the discovery, recording and preservation of currently unknown archaeological remains and could provide funding for the conservation of the fabric of heritage assets within the plan area.
- Ideally, there would be opportunities arising from proposed development to enhance or better reveal the significance of heritage assets, to preserve them in situ, and to provide information about them to the public to promote their enjoyment.
- Development may provide an opportunity to secure the removal of a heritage asset from the Heritage at Risk Register for positive reasons.

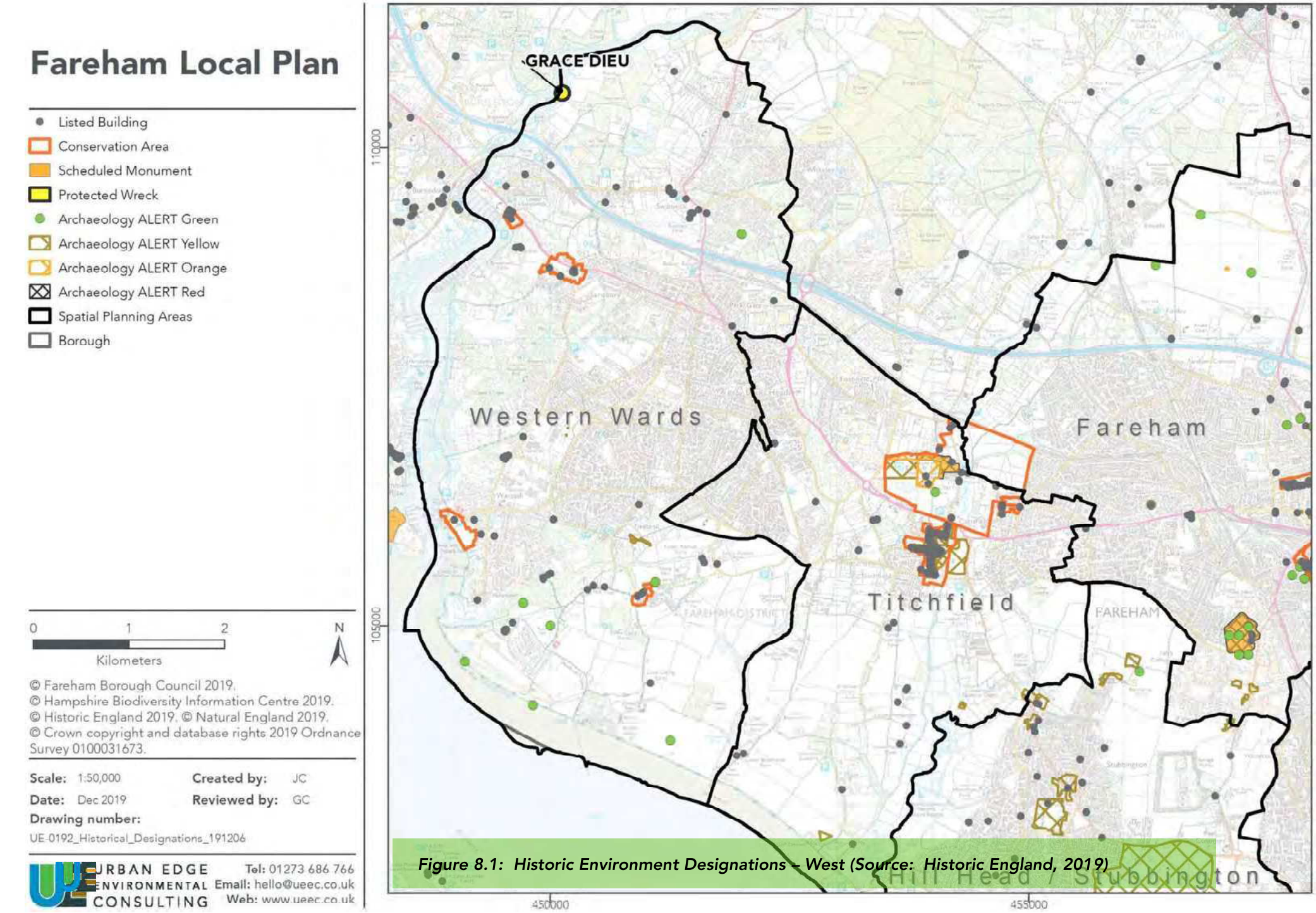

Figure 8.1: Historic Environment Designations – West (Source: Historic England, 2019)

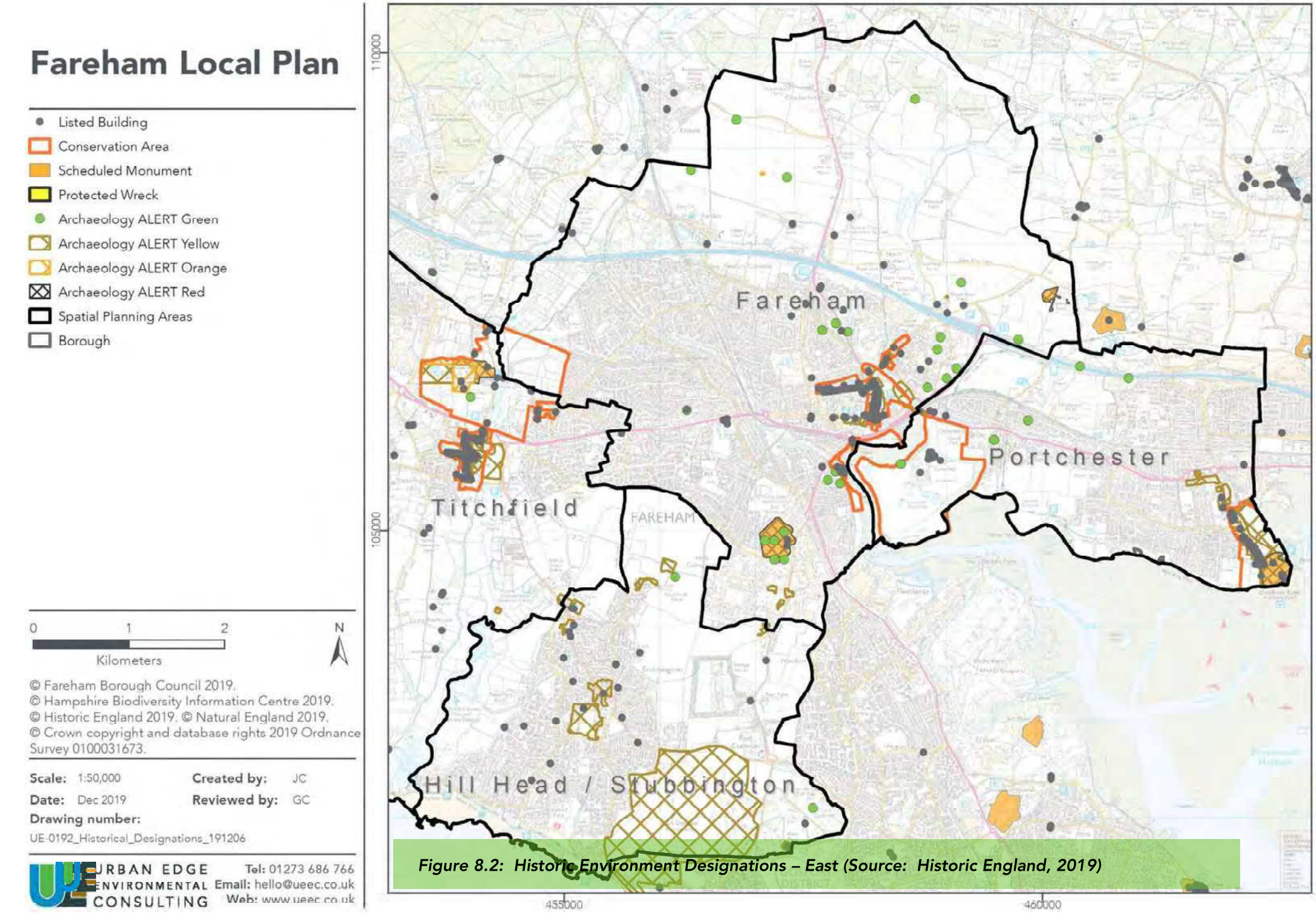

Figure 8.2: Historic Environment Designations – East (Source: Historic England, 2019)

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9 Housing

9.1 Summary of Policy and Plan Review

9.1.1 National and sub-regional objectives for housing include improvements in longer term housing affordability through increasing supply; high quality housing design and streetscapes; a more stable housing market; improved choice; location of housing supply which supports accessibility and patterns of economic development; and an adequate supply of publicly-funded housing for those who need it. In addition, new homes should meet the revised Buildings Regulations standards for water and energy efficiency.

9.1.2 Local plans and strategies focus on increasing housing supply to improve affordability, rural housing, the quality of housing, access to services, and meeting the housing needs of vulnerable people. The housing needs of elderly people, disabled people, gypsies, homeless people and travellers are also addressed by national, regional and local policies.

9.2 Housing Stock: Type, Tenures and Completions

9.2.1 In March 2011 the housing stock in Fareham was 46,579 dwellings[57]. Of this, 87.4% were whole houses or bungalows, 12.3% were flats, apartments or maisonettes, and 0.3% were caravans or temporary structures; see Figure 9.1. Significantly more people in Fareham live in whole houses/bungalows than regional or national averages. As shown in Figure 9.2, 91.9% of dwellings by household were owner occupier or private rented, 4.9% were Local Authority (LA) stock, and 3.1% were Registered Social Landlord (RSL) stock.[58] The proportion of privately owned stock to social (LA/RSL) housing stock is much greater in Fareham than in the south east or England.

9.2.2 Home-ownership is also notably higher in Fareham (80.4%) in comparison to the regional (67.6%) and national (63.3%) averages[59], with far fewer homes in the (private or social) rented sector (18.1% in Fareham, 30.0% in south-east, 34.5% in England); see Figure 9.3.

9.2.3 In terms of house building, Figure 9.4 shows that from 2018 to 201 there were 290 housing completions in Fareham[60], a decrease of 58 from the previous year and a decrease of 80 from

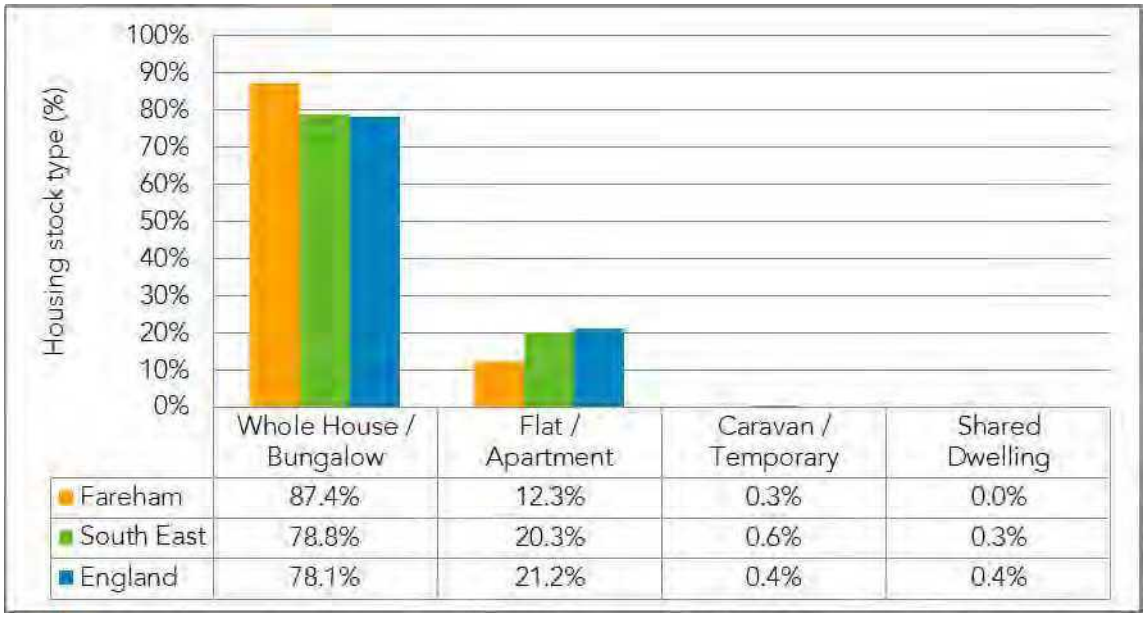
[57] Official Labour Market Statistics (NOMIS). Accommodation Type - Households (QS402EW). Accessed online [29/5/19] at https://www.nomisweb.co.uk/census/2011/quick_statistics

[58] Official Labour Market Statistics (NOMIS). Dwelling Stock by Tenure and Condition. Accessed online [29/5/19] at https://www.nomisweb.co.uk/census/2011/quick_statistics

[59] Official Labour Market Statistics (NOMIS). Tenure - Households (QS405EW). Accessed online [29/5/19] at https://www.nomisweb.co.uk/census/2011/quick_statistics

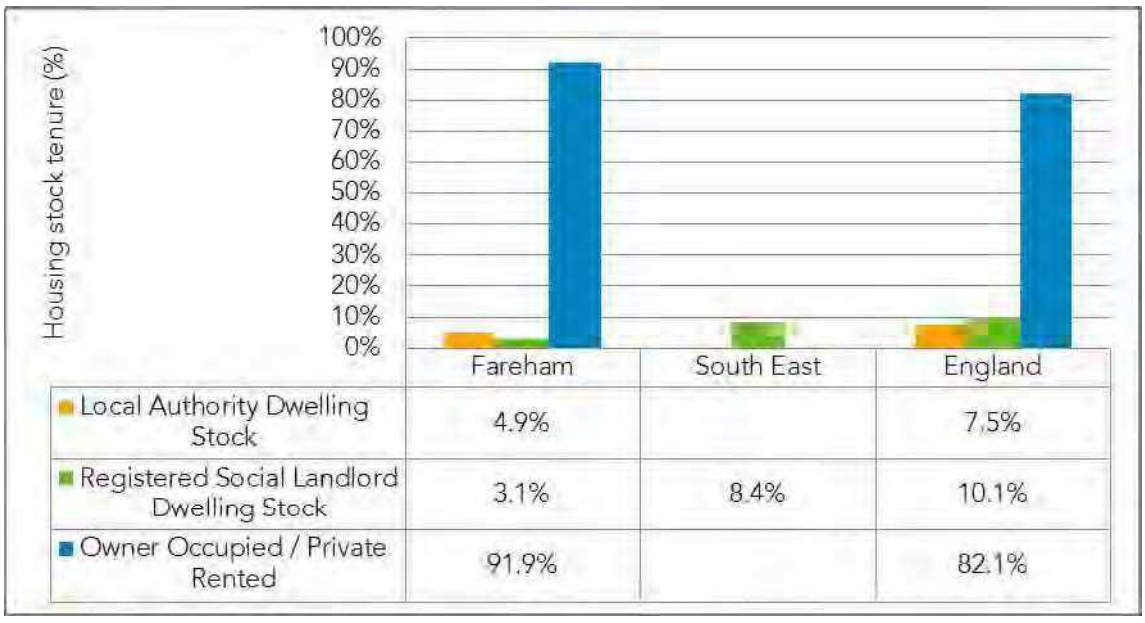
[60] Hampshire County Council (2018): Key Facts & Figures: Land Supply, Net dwelling completions by large, small and total sites by year from 2007 to 2018. Accessed online [29/5/19]: https://www.hants.gov.uk/landplanningandenvironment/facts-figures/land-supply

2015/16. The number of housing completions over the last twelve years peaked in 2007/08 when it reached 548, after which it slumped to 188 in 2009/10 and has fluctuated thereafter.



	Whole House / Bungalow	Flat / Apartment	Caravan / Temporary	Shared Dwelling
Fareham	87.4%	12.3%	0.3%	0.0%
South East	78.8%	20.3%	0.6%	0.3%
England	78.1%	21.2%	0.4%	0.4%

Figure 9.1: Housing Stock by Type (%) (Source: Census, 2011)

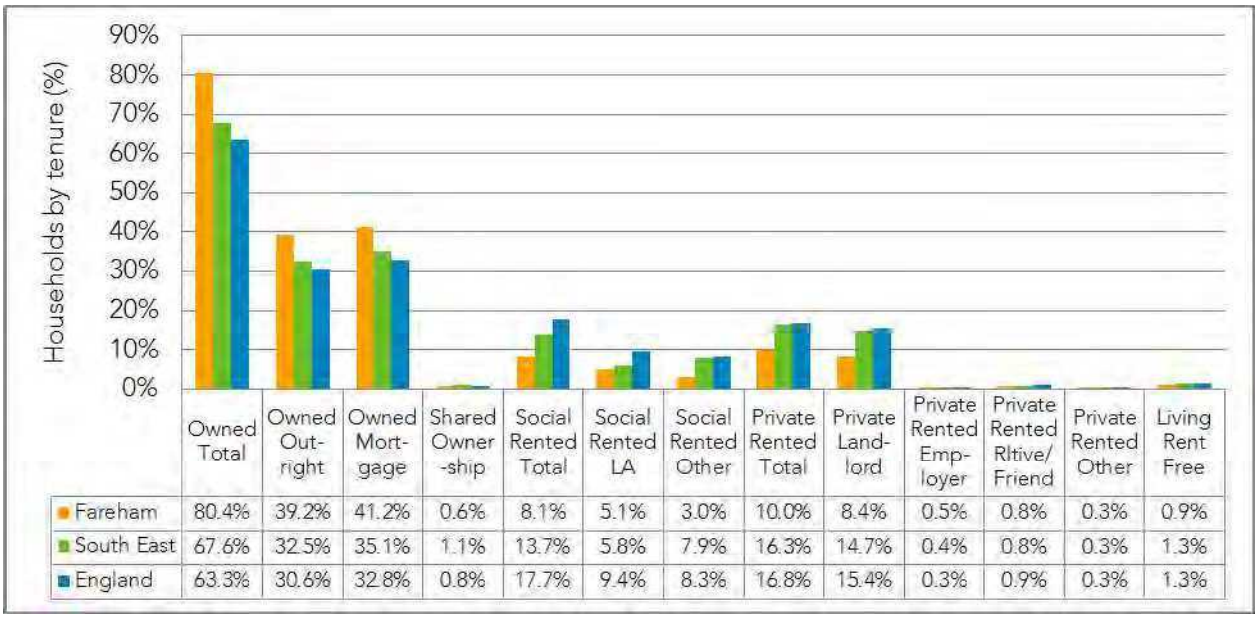


	Fareham	South East	England
Local Authority Dwelling Stock	4.9%		7.5%
Registered Social Landlord Dwelling Stock	3.1%	8.4%	10.1%
Owner Occupied / Private Rented	91.9%		82.1%

Figure 9.2: Housing Stock by Tenure (%) (Source: Census, 2011)

9.3 House Prices and Affordability

9.3.1 Figure 9.5 shows that in 2019 the average house price in Fareham was £288,768[61]. House prices have steadily increased from 2012 to 2019 with an overall increase of £83,647 over that period. The biggest increase occurred between 2014 and 2015. Looking to county and regional comparators[62], in 2019 the average house price in Fareham was slightly less than in Hampshire and the South East; see Figure 9.6. However, detached houses were significantly cheaper in Fareham than in Hampshire and the South East.



	Owned Total	Owned Out-right	Owned Mort-gage	Shared Owner-ship	Social Rented Total	Social Rented LA	Social Rented Other	Private Rented Total	Private Land-lord	Private Rented Emp-loyer	Private Rented RItive/ Friend	Private Rented Other	Living Rent Free
Fareham	80.4%	39.2%	41.2%	0.6%	8.1%	5.1%	3.0%	10.0%	8.4%	0.5%	0.8%	0.3%	0.9%
South East	67.6%	32.5%	35.1%	1.1%	13.7%	5.8%	7.9%	16.3%	14.7%	0.4%	0.8%	0.3%	1.3%
England	63.3%	30.6%	32.8%	0.8%	17.7%	9.4%	8.3%	16.8%	15.4%	0.3%	0.9%	0.3%	1.3%

Figure 9.3: Households by Tenure (%) (Source: Census, 2011)

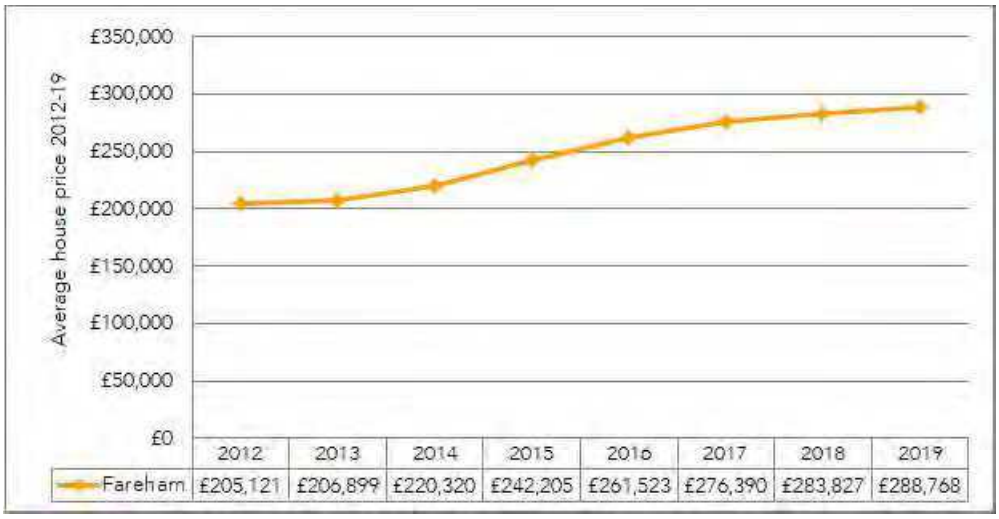
[61] HM Land Registry: UK House Price Index. Accessed online [29/5/19] at http://landregistry.data.gov.uk/app/ukhpi/browse?from=2019-03-01&location=http%3A%2F%2Flandregistry.data.gov.uk%2Fid%2Fregion%2Ffareham&to=2019-04-01

[62] *Ibid*

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Total Completions	548	320	188	364	275	238	154	287	371	349	291	290
Small Sites	104	86	68	67	60	39	52	56	73	71	65	71
Large Sites (10+)	444	234	120	297	215	199	102	231	298	278	226	219

Figure 9.4: Annual Housing Completions in Fareham (Dwellings) (Source: HCC, 2018 and FBC, pers comms)

9.3.2 The house prices to earnings ratio is published by HM Land Registry and calculates the ratio of median house prices to median earnings in an area, as well as lower quartile prices to lower quartile earnings. The results are shown in Table 9.1 and indicate that, for median income earners, houses are more affordable than in Hampshire but more expensive when compared to the national figure[63]. For lower quartile earners, houses in Fareham are less affordable than for similar income households in both Hampshire and England.



	2012	2013	2014	2015	2016	2017	2018	2019
Fareham	£205,121	£206,899	£220,320	£242,205	£261,523	£276,390	£283,827	£288,768

Figure 9.5: Average House Prices in Fareham, 2011-18 (Source: HM Land Registry, 2019)

[63] ONS (2019). House price to residence-based earnings ratio. Accessed online [29/5/19]: https://www.ons.gov.uk/peoplepopulationandcommunity/housing/datasets/ratioofhousepricetoresidencebasedearningslowerquartileandmedian

Figure 9.6: Average House Price by Type, 2019 (Source: HM Land Registry)

Table 9.1: House Prices to Earnings Ratio (Source: HM Land Registry, 2013)

Area	Median prices to earnings	Lower quartile prices to earnings
Fareham	9.11	10.94
Hampshire	9.59	10.29
England	8.00	7.29

9.3.3 The Core Strategy contains a target for affordable housing provision whereby sites yielding between 5 and 14 dwellings should provide 30% affordable units, and sites of 15 or more dwellings should provide 40% affordable units, which translates to 83 units per year between 2011/12 and 2017/18. The Council's latest monitoring report (FBC, 2018) sets out the latest affordable housing completions for the borough as shown in Table 9.2.

Table 9.2: Affordable Housing Completions (Source: FBC, 2018)

Year	Affordable Dwellings (net)	Total Dwellings (C3) (net)	% of Total Dwellings
2011-2012	93	275	34%
2012-2013	66	238	28%
2013-2014	41	154	27%
2014-2015	96	287	33%
2015-2016	79	371	21%
2016-2017	98	349	28%
2017-2018	54	291	19%

9.4 Housing Market Areas

9.4.1 The South Hampshire Strategic Housing Market Assessment (GL Hearn, 2014) found that there is a high level of self-containment in the sub-region and considered that there are two clear overlapping housing markets, based on Portsmouth and Southampton. The commuting and migration analysis in particular continues to highlight a distinction between Southampton and Portsmouth focused markets. Based on analysis of household migration, contextual data (e.g. travel to work / commuting) and housing dynamics, it found that Fareham borough straddles these two Housing Market Areas (HMA) as shown in Table 9.3.

Table 9.3: Fareham's Place in the South Hampshire Housing Market Areas

Southampton HMA	Portsmouth HMA
Test Valley (Part)	Portsmouth
Southampton	Gosport
Eastleigh	Havant
New Forest (Part)	East Hampshire (Part)
Winchester (Part) (Western Wards)	Winchester (Part) (Eastern Wards)
Fareham (Western Wards)	Fareham (Eastern Wards)

9.5 Vacancy Rates

9.5.1 From 2004 to 2008 the number of vacant dwellings in the UK in increased[64], as seen in Table 9.4, before decreasing annually from 2008 to 2016, and then rising again in 2016 and 217. At county level there was more fluctuation between years but overall numbers of vacant dwellings also peaked in 2008 before decreasing again. In Fareham, the number of vacant dwellings has also fluctuated frequently; the total number of vacant dwellings was 1,092 in Fareham in 2018, 16% higher than in 2004.

Table 9.4: Number of Vacant Dwellings, 2004-2018 (Source: DCLG, 2019)

Year	Fareham	Hampshire	England
2004	941	10,814	710,935
2005	1,088	12,877	723,509
2006	1,137	13,277	744,931
2007	983	12,727	763,319
2008	1,058	13,402	783,119
2009	990	13,212	770,496
2010	947	13,018	737,147
2011	1,030	13,391	719,352
2012	983	13,191	704,357

[64] DCLG (2019): Housing Statistics: 11/3/19. Accessed online [29/5/19].

Year	Fareham	Hampshire	England
2013	974	12,146	635,127
2014	1,075	11,642	610,123
2015	1,010	11,413	600,179
2016	889	11,124	589,766
2017	984	11,686	605,891
2018	1,092	12,154	634,453

9.6 Homelessness

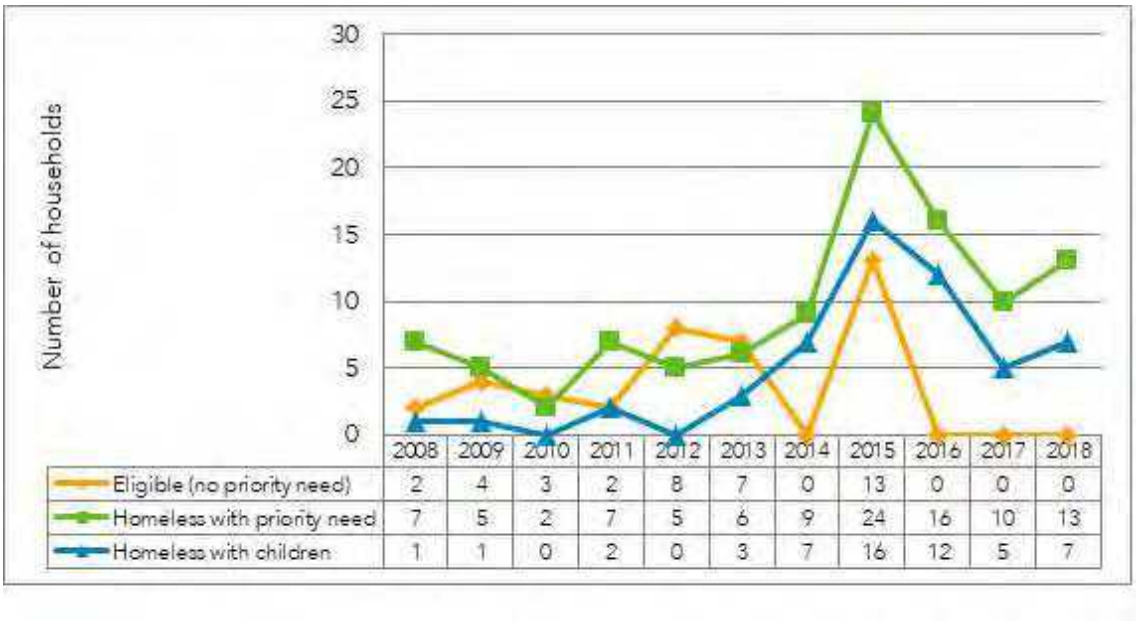
9.6.1 The number of households on the Local Authority Housing Register (Fareham's register of applications for social rented housing) in 2017 was 1,040[65]. There was a sharp decline in the number of households on the housing register in 2014 and since then there has been a slow downward trend; see Figure 9.7.

Figure 9.7: Number of Households on Housing Register, 2007-17 (Source: Shelter, 2019)

9.6.2 The number of households accepted as homeless in the borough was 13 in Quarter 1 2018, an increase of 3 from the previous year. The highest number of households accepted as homeless in the borough was recorded in 2015 and since then numbers have been slowly declining[66]; see Figure 9.8. Of these 13 households in 2018, 7 were families with children. The number of households in 2015 which, although they were homeless, had not had a duty to re-house accepted by the local authority because they did not fall into a 'priority need' category, was 13 which was also a relatively high figure in comparison to the previous eight years. No data for this category is available for any years beyond 2015.

[65] Shelter (2019): Housing Databank. Accessed online [29/5/19].

[66] *Ibid.*



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Eligible (no priority need)	2	4	3	2	8	7	0	13	0	0	0
Homeless with priority need	7	5	2	7	5	6	9	24	16	10	13
Homeless with children	1	1	0	2	0	3	7	16	12	5	7

Figure 9.8: Households in Fareham which are Homeless, Homeless with Children or Eligible Homeless but without Priority Needs, 2008 – 2018 (Source: Shelter, 2019)

9.7 Spatial Context

9.7.1 Figure 9.9 maps the Index of Housing Deprivation (DCLG, 2019) for Fareham borough, and shows that seven of the 73 lower super output areas (LSOA) within the borough are among the 20% most deprived communities in the country in relation to barriers to housing and services, 30 LSOAs are among the 50% most deprived. The barriers to housing and services index measures the physical and financial accessibility of housing and local services, including overcrowding, homelessness and affordability. In contrast to the other deprivation indices it tends to be the more rural areas of the borough which are facing greater barriers to housing, and the urban areas which are faring better. The least affected of the five Spatial Planning Areas are Fareham and Hill Head / Stubbington.

9.8 Likely Evolution of the Baseline in the Absence of the Local Plan

9.8.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Baseline trends relevant to housing that may continue under such a scenario include:

- Steady increases in the borough's housing stock (including affordable housing) as developments come forward under the existing Local Plan.
- Significant increase in the number of new homes being delivered towards the end of the plan period as Welborne is built out.
- Population increases as new dwellings become occupied.
- Continued high ratio between earnings and house prices in the borough and demand for affordable housing.

- A supply of housing not sufficient to meet identified needs.

9.9 Key Issues

9.9.1 Key housing issues relevant to the Local Plan are:

- House prices in Fareham, whilst lower than Hampshire and South East averages, are higher than other authorities (e.g. Havant and Gosport) in south east Hampshire.
- Affordability of housing is a key issue for Fareham; the ratio between median earnings and house prices in the borough remains in excess of 9 times earnings.
- Annual housing completions in the borough have fallen since the highs of 2006-07 and 2007-08, but have recovered to more than 250 per year over the last five years.
- An ageing population in the borough will increase demand for certain types of housing.

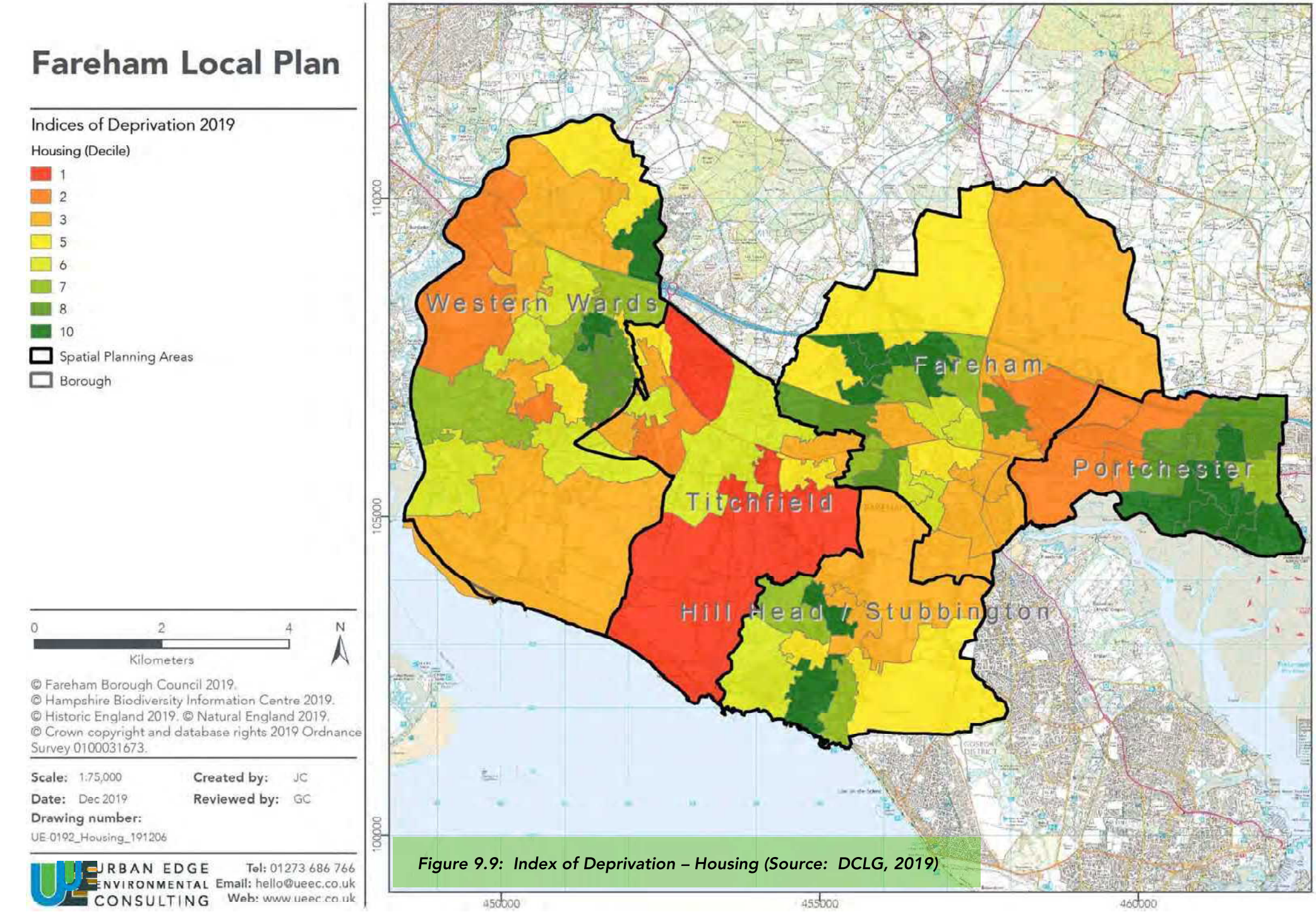


Figure 9.9: Index of Deprivation – Housing (Source: DCLG, 2019)

10 Landscape

10.1 Summary of Policy and Plan Review

10.1.1 At the EU, national, regional and local level, emphasis is placed on the protection of landscape as an essential component of people's surroundings and sense of place. The PPPs seek to increase recognition of the linkages and interplay between the different aspects and roles of landscape, including: local distinctiveness; the historic environment; natural resources; farming, forestry and food; educational, leisure and recreation opportunities; transport and infrastructure; settlements and nature conservation. Changes to the character of the wider landscape, not just designated areas, can compromise the quality of the environment. Development should respond positively to local landscape and townscape character and the effects of change should be measured through the effects on the key characteristics.

10.1.2 The link between landscapes and multifunctional green infrastructure is recognised, with policies advocating the provision of open space, green networks and woodland as opportunities for sport and recreation, creating healthier communities, supporting and enhancing biodiversity, reducing temperatures in built up areas during summer, reducing the impact of noise and air pollution, and limiting the risk of flooding.

10.2 Landscape and Townscape Character

10.2.1 The existing landscape character of the borough reflects both natural factors, including geology, landform and ecology, and human influences. Due to this interaction between natural and human influences, the historic environment and landscape character are closely linked. Urban growth and landscape change has created a landscape of mixed character consisting essentially of rural areas of unspoilt countryside and, through transitional landscapes, to urban landscapes (townscapes) of the borough's towns and settlements.

10.2.2 Fareham borough is approximately 60% rural and 40% urban. The borough contains attractive areas of countryside and coastal areas, some of its boundaries being defined by the river Hamble, the Solent and Portsmouth Harbour. Due to its location it has a rich variety of natural coastal and riparian landscapes including coastal saltmarsh, mudflats and wetlands, though some of these areas are subject to periodic tidal flooding.

10.2.3 Fareham borough straddles two National Character Areas[67] (NCA), the South Coast Plain NCA which covers the majority of the borough, and the South Hampshire Lowlands NCA which covers the area north of the M27.

[67] Natural England (2014): National Character Area Profiles. Accessed online [29/5/19].

10.3 Hampshire Integrated Character Assessment 2011

10.3.1 The Hampshire Integrated Character Assessment[68] sets out a county-wide landscape typology (see Figure 10.1) and identifies a range of Landscape Character Areas (LCAs), along with identified forces for change, as outlined in Table 10.1 below.

10.3.2 Situated in Urban South Hampshire, townscape character is also important for Fareham borough. The Hampshire County Integrated Character Assessment included townscape assessments for 23 of the larger settlements in Hampshire. Each Townscape Assessment is made up of Townscape Character Areas and Townscape Types. Townscape Character Areas are geographically unique areas of a town, and Townscape Types are generic and can occur in different parts of the town. Townscape Character Areas are likely to reflect a high degree of consistency of factors such as layout, vegetation and building type, but be unique in terms of their location. It can also be the case that a Townscape Character Area contains a high degree of small-scale variation and diversity and it is that which creates a strong sense of place. Table 10.2 describes the Townscape Character Areas for the four settlements in Fareham borough that underwent Townscape Assessments.

10.4 Fareham Landscape Assessment 2018

10.4.1 A new Landscape Assessment for Fareham Borough was undertaken to inform preparation of the Local Plan (LDA Design, 2018). For its relatively small size, Fareham Borough retains a rich and varied pattern of landscape character that has evolved as a result of the interaction of the physical and human influences of the past. However, open countryside is a diminishing resource and the outward spread and coalescence of settlements and urban infrastructure across the Borough has already begun to mask some natural features (e.g. minor river valleys) and erode the legibility of the underlying landscape structure and the distinctive character of surrounding landscapes. A key priority is to ensure that the essential character and local identity of the Borough's diverse landscape and settlements is protected and reinforced, so that it remains legible and distinct at both the large-scale and more complex, local levels.

10.4.2 At the large-scale, the basic structure of Fareham's remaining countryside can be distilled down to a few key components: the open, rolling chalk downland of Portsdown Hill and heavily wooded farmland of the Forest of Bere to the north; the flat, coastal plain framed by estuarine/marine landscapes to the south; and the Hamble and Meon Valleys, and other river valleys that cut through the Borough from north to south, connecting the rural hinterland with the coast. This basic landscape structure represents the 'essence' of Fareham's landscape and provides a framework for the Borough's settlements, shaping their form and their character.

[68] HCC (2011): Hampshire Integrated Character Assessment. Accessed online [26/11/19] at: https://www.hants.gov.uk/landplanningandenvironment/environment/landscape/integratedcharacterassessment

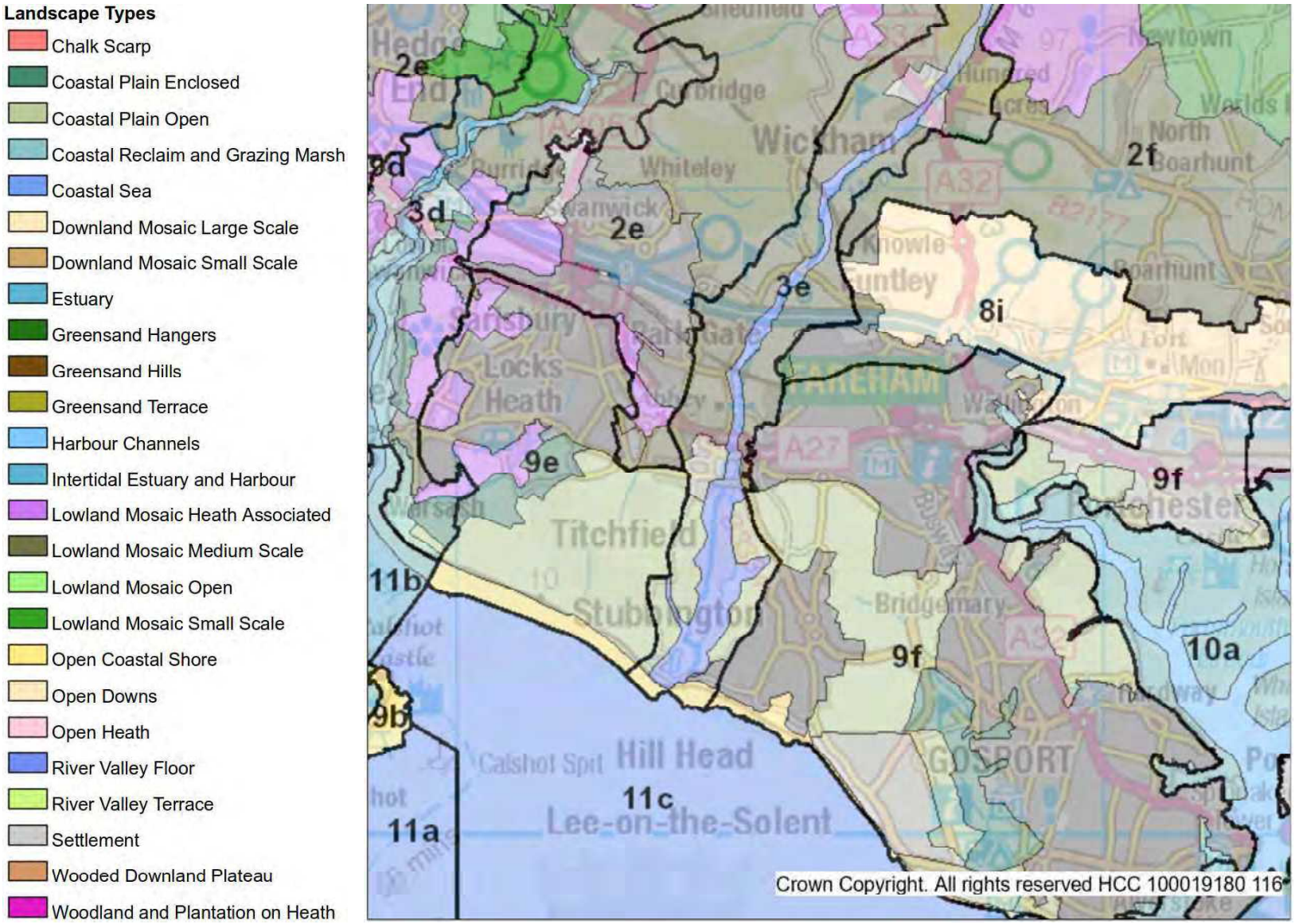


Figure 10.1: Hampshire County Integrated Landscape Character Assessment – landscape types (Source: HCC, 2011)

Table 10.1: Landscape Character Areas in Fareham Borough (Source: HCC, 2011)

LCA	Forces for change
Gosport and Fareham Coastal Plain	New development. MOD Land Release. Pressure from urban fringe use related activities. Recreation pressures. Climate change and coastal processes in particular sea level rise and increase in frequency of storms.
Portsdown Hill Open Downs	Development creeping up slope sides, especially pressure for large MDA style developments. Mineral extraction. Climate change; storm frequency and intensity, changes in precipitation and temperature extremes. Crop type and pattern changes and take up of agri-environment schemes. Urban fringe related activities, traffic from new major developments, fly-tipping, tall structure development such as telecommunication masts.
Meon Valley	New housing development mainly small scale and the cumulative impact of small infill sites to settlement morphology. Farmstead conversion to other uses. Pressure from urban fringe use related activities. Recreation pressures and increase visitor draw because of National Park. Climate change in particular sea level rise and increase in frequency of storms.
Chilling Brownwich and Locks Heath Coastal Plain	New development – possibly small scale urban infill and extensions. Mineral Extraction Pressure from urban fringe use related activities. Recreation pressures. Climate change and coastal processes in particular sea level rise and increase in frequency of storms.
Forest of Bere West	New large scale urban extensions. Farm conversion to residential and loss of traditional land management practices. Pressure for urban fringe use related activities. Enabling greater access opportunities for local people. Climate change impacts on semi natural habitats. Forestry and woodland management change.

Table 10.2: Townscape Character Areas by Settlement (Source: HCC, 2011)

Settlement	Overview	TCA
Locks Heath, Sarisbury and	The Sarisbury, Locks Heath and Warsash suburban area lies in the wider conurbation of south Hampshire on a relatively flat area of land off the coastal plain between the valleys of the River Hamble to the west and the River Meon to	1. Sarisbury 2. Warsash Waterfront 3. Park Gate District Centre 4. Locks Heath District Centre 5. Coldeast Hospital

Warsash	the east. In the first half of the twentieth century Park Gate, Locks Heath and Titchfield Common continued to grow, generally along the existing road network. Warsash expanded to the east between the wars and the area of Titchfield Park was first developed at this time.	6. Industrial Estates (Titchfield Park) 7. Residential suburbs
Swanwick and Whiteley	Swanwick lies in south Hampshire between Fareham and Southampton close to the edge of the lowland mosaic of south Hampshire where it meets the coastal plain. Swanwick is a hamlet of medieval origins, which, up to the late twentieth century, remained a small collection of farmsteads loosely clustered along Botley Road near its junction with Swanwick Lane; whilst Whiteley was no more than two isolated farms which bore the name. In the late-twentieth- and early-twenty-first century there was a large-scale programme of development for both housing and business use.	1. Swanwick and Whiteley residential suburbs – west 2. Swanwick and Whiteley residential suburbs – north 3. Whiteley Shopping Village 4. Solent Business Park 5. Whiteley residential suburbs – south 6. Segensworth North Industrial Estate
Fareham		
Hill Head and Stubbington	'Hill Head and Stubbington' is a small conurbation lying on the south coast to the west of Gosport and south of Fareham. The built-up area lies on the low-lying, flat coastal plain with the valley of the River Meon to the west. It was not until the later twentieth century that the bulk of the residential development was carried out, with the conurbation becoming a dormitory settlement to the larger urban areas of Fareham and Gosport. The Hill Head seafront is a popular local visitor attraction, with one of the only beaches between Portsmouth and Southampton.	1. Stubbington District Centre 2. Hill Head and Stubbington residential suburbs

10.4.3 Features of the landscape such as the coast, river valleys, extensive woodland, poorly drained soils or highly productive land have provided 'natural limits' to the growth of settlements that can still be discerned in parts of the Borough today. So, for example, the southern edge of Fareham coincides with the geological boundary between a band of heavy London Clay to the north (which underlies most of the built area of modern day Fareham) and the tertiary sands and clays of the intensively farmed coastal plain, forming the 'natural edge' of the latter. Similarly, the Meon, Brownwich and Hook valleys form the natural edge to settlement on the western edge of Fareham and the eastern and southern edges of the Western Wards and Warsash. These 'natural boundaries' are critical in maintaining a clear distinction between 'town and country' across the Borough and the separate, distinctive identity of individual settlements.

10.4.4 The processes of urban growth and landscape change described above have produced a landscape of very mixed character that embraces the broad spectrum of essentially rural areas of unspoilt countryside, through transitional landscapes on the fringes of built-up areas and along roads, to the true urban landscapes, or townscapes, of the Borough's towns and settlements. This transition means that the boundaries between types are not always clear and that the urban/rural boundary is blurred by the fringe landscapes. The overall distribution of the landscape types across the Borough is shown in Figure 10.2.

10.4.5 LCAs in Fareham borough are listed in Table 10.3. Each was assigned development potential category of A, B or C to reflect high, moderate or low sensitivity to landscape change, respectively.

Table 10.3: Landscape Character Areas (LDA Design, 2018)

LCA	Name
1	Upper Hamble Valley
2	Lower Hamble Valley
3	Hook Valley
4	Chilling - Brownwich Coastal Plain
5	Titchfield Corridor
6	Meon Valley
7	Fareham - Stubbington Gap
8	Woodcot - Alver Valley
9	North Fareham Downs
10	Forest Of Bere
11	Portsdown
12	Cams - Wicor Coastal Plain
13	Burridge - Swanwick - Whiteley
14	North Sarisbury

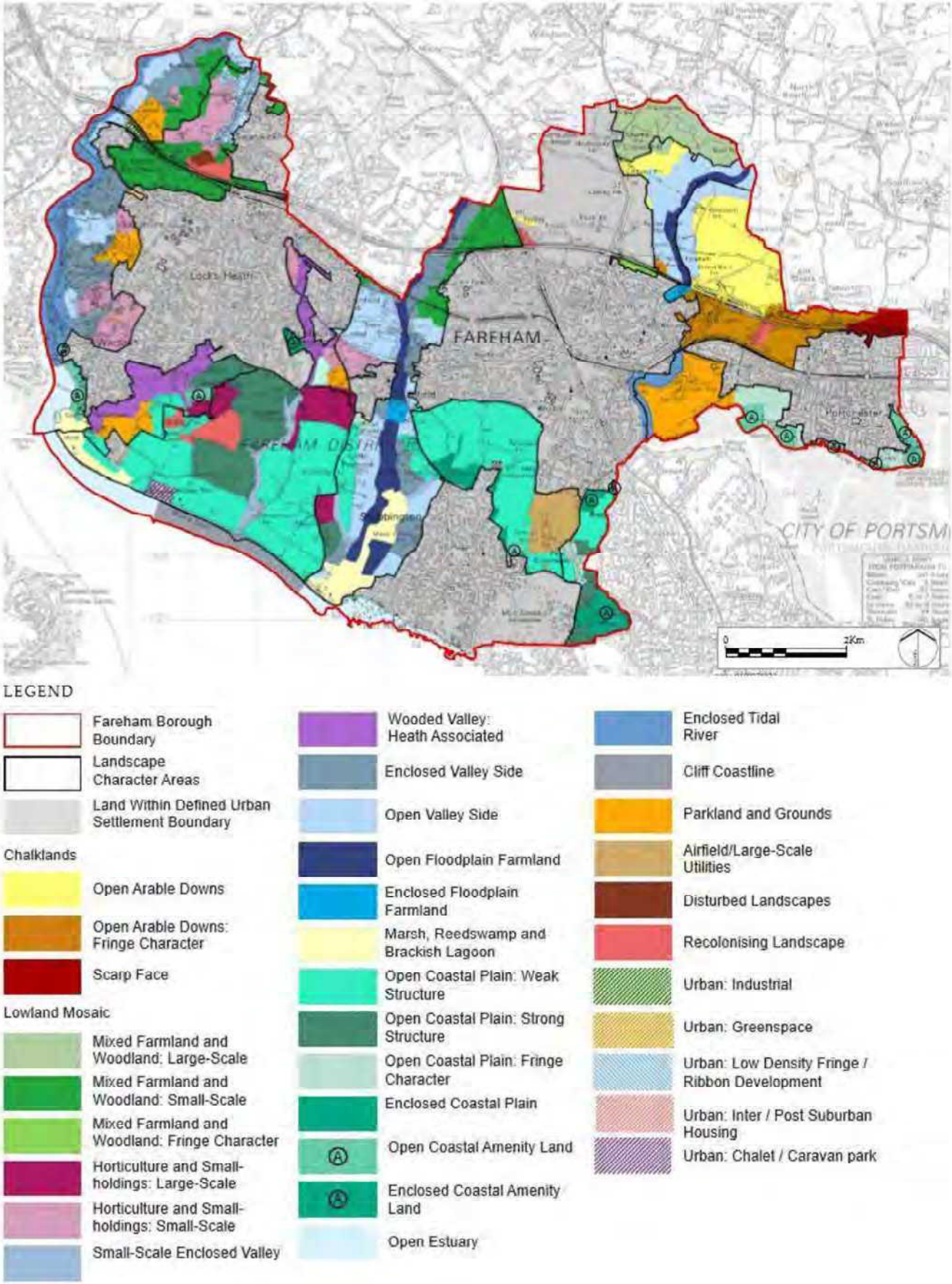


Figure 10.2: Landscape Types in Fareham Borough (LDA Design, 2018)

10.5 The South Downs National Park

10.5.1 National Parks are designated under the provisions of the National Parks and Access to the Countryside Act 1949 to protect high quality landscapes and to secure their permanent protection against development that would damage their special qualities. The Environment Act 1995 revised the original legislation and set out two statutory purposes for National Parks in England and Wales:

- Conserve and enhance the natural beauty, wildlife and cultural heritage; and
- Promote opportunities for the understanding and enjoyment of the special qualities of National Parks by the Public.

10.5.2 When National Parks carry out these purposes they also have the duty to:

- Seek to foster the economic and social well-being of local communities within the National Parks.

10.5.3 The designation order for the South Downs National Park was given in November 2009; the National Park came into being on the 1st April 2010 and was operational from the 31st March 2011. The South Downs National Park replaces the East Hampshire and Sussex Downs Areas of Outstanding Natural Beauty which were designated in 1962 and 1966 respectively.

10.5.4 Part of National Park is located adjacent to the north east of Wickham, approximately 1.5km from the northern boundary of the plan area. The landscape of the part of the National Park nearest the borough comprises rolling chalk downland characterised by dry valleys and dotted woodland. Any development within visible range of the National Park (including Welborne) will need to consider both views to the South Downs, and views of the development from within the National Park.

10.6 Tranquillity and Wellbeing

10.6.1 Landscape is not just about physical attributes and biological processes, and it does not only represent the countryside; it is also about people and their experience of both urban and rural areas (HCC, 2011). The quality of landscapes and townscapes can affect people's well-being in a number of ways; these are discussed in section 6 on Green Infrastructure / Ecosystem Services.

10.6.2 In 2004 the Campaign to Protect Rural England undertook a study of tranquillity, which examined a range of factors including topography, light pollution, noise pollution, the location of man-made features, people's perceptions of tranquillity and other influences. Based on these factors an appraisal of tranquillity was carried out for the whole of England, which mapped the country in 500m by 500m quadrants[69]. Figure 10.3 presents the findings of the CPRE assessment of tranquillity in Fareham[70].

[69] A more detailed description of the methodology used can be found at [accessed 13/1/16]: http://www.cpre.org.uk/what-we-do/countryside/tranquil-places/in-depth/item/1688-how-we-mapped-tranquillity

[70] CPRE Tranquillity Mapping. Accessed online [13/1/16] at: http://maps.cpre.org.uk/tranquillity_map.html?lon=-1.17931&lat=50.85390&zoom=12&gclid=CjwKEAiAw4e1BRDfi7vghaWU9jESJACzo9juRLmI4yL5HYjv9Gs3CjqdjyIwUwhqWrBCMqa1B1jcbRoCDd_w_wcB

Figure 10.3: Tranquillity in Fareham (Source: CPRE)

10.7 Spatial Context

10.7.1 Hampshire is a predominantly rural county, comprising arable, grassland and woodland habitats, with just 15% of wards classified as urban (HCC, 2011). Fareham borough lies within the urbanised coastal area known as 'Urban South Hampshire'. To the north of this urbanised area lies a large expanse of downland, encompassing much of the local authority areas of Test Valley, Winchester, Basingstoke & Deane, and East Hampshire. These areas are dominated by arable farming. The county is also characterised by smaller areas of lowland, woodland and heathland, for example in the New Forest, southern parts of Winchester district, eastern parts of East Hampshire, and northern parts of Hart and Basingstoke & Deane boroughs. Where farmland occurs in these areas it is dominated by grasslands for livestock or dairy farming (HCC, 2011).

10.7.2 Within Fareham, more rural areas can be found in the Western Wards and Hill Head / Stubbington Spatial Planning Areas, as well as in the south of Titchfield and the northern part of Fareham Spatial Planning Areas. It is this northern part of the borough where chalkland landscapes can be found, as well as in the north and west of the Portchester Spatial Planning Area. The western side of the borough has more agricultural and coastal landscape types, as well as wooded valleys.

10.8 Likely Evolution of the Baseline in the Absence of the Local Plan

10.8.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. The Local Plan Part 2: Development Sites and Policies Plan should reduce the risk of coalescence of settlements in areas of high development demand through unmanaged development in the countryside. However, without the Local Plan, the higher identified need for housing provision could put increased pressure on Fareham's countryside and special landscapes.

10.9 Key Issues

10.9.1 Key issues for landscape relevant to the Local Plan are:

- Effects on landscape quality from residential growth (and to a lesser extent, employment and retail growth) linked to the Local Plan.
- Further loss of tranquillity from increasing traffic flows and new transport infrastructure, noise and light pollution.
- Effects on historic landscapes and cultural heritage assets and their settings.
- Potential effects on landscape quality from poor design and layout of new development areas.
- Pressures on non-designated sites and landscapes: loss of key landscape features such as woodland or hedgerows.
- Potential effects on the special qualities (e.g. tranquil; and unspoilt places) of the South Downs National Park, including through impacts on its landscape character and on views from the surrounding area.

11 Material Assets

11.1 Summary of Policy and Plan Review

11.1.1 The material assets sustainability theme covers a range of policy areas, including waste management, minerals, energy production and previously developed land. National level PPPs seek to protect minerals resources and promote restoration for when minerals workings cease. PPPs at all levels seek to promote the 'waste hierarchy'. This seeks to prioritise waste management in the following order: reduction; reuse; recycling and composting; energy recovery; and disposal. National and regional PPPs also support the use of previously developed land. At the county level, the Hampshire Minerals and Waste Plan[71] sets out the strategic approach to minerals and waste issues.

11.1.2 An expansion of renewable energy production is strongly promoted by European and national PPPs. Under the EU Renewable Energy Directives, the UK is required produce sufficient renewable energy to meet 15% of energy consumption by 2020, and there is an EU-wide target 27% of energy consumption to come from renewable sources by 2030.

11.2 Minerals

11.2.1 The Hampshire Minerals and Waste Plan includes eight Safeguarded Sites for minerals and waste infrastructure within Fareham borough, as listed in Table 11.1 and shown on Figure 11.1[72], as well as widely distributed deposits of minerals resources including sand, gravel and clay. The plan requires that Hampshire County Council must be consulted on planning decisions which could affect any of these safeguarded sites and resources.

Table 11.1: Minerals and Waste Safeguarded Sites (HCC, 2019)

Code	Name	Detail
FA032	Rookery Farm Swanwick, Fareham	Aggregates Recycling
FA069	Barnes Wallis Rd Segensworth (HWRC)	Household Waste & Recycling Centre
FA074	Peel Common WTW Newgate Lane, Stubbington	Wastewater Treatment Works
FA048	Fareham Rail Aggregates Depot Fareham	Aggregates Rail Depot
FA054	Upper Quay Aggregates Wharf, Fareham	Aggregates Wharf
FA070	Broadcut	Waste Transfer Station
FA064	Wallington Depot Fareham	Waste Processing, Aggregates Recycling

[71] HCC (2013): *Hampshire Minerals and Waste Plan*. Accessed online [29/5/19] at https://documents.hants.gov.uk/mineralsandwaste/HampshireMineralsWastePlanADOPTED.pdf

[72] HCC (2019): *Hampshire Minerals and Waste Local Plan Policies Map*. Accessed online [29/5/19] at: https://maps.hants.gov.uk/mineralsconsultationareas/

Code	Name	Detail
FA025	Warren Farm & Down End Quarry, Fareham	Aggregates Rec, Landfill (I), Chalk, Waste Transfer & Processing

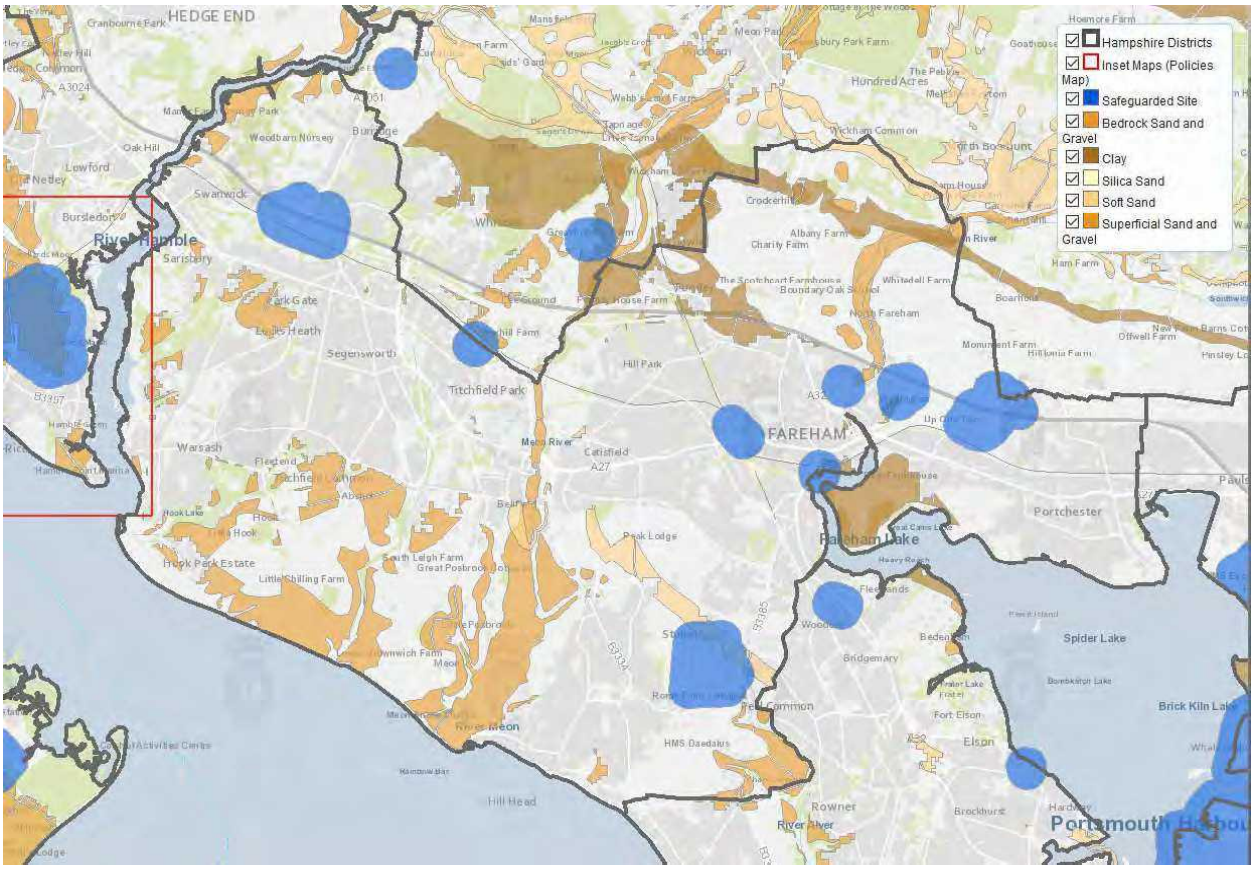


Figure 11.1: Minerals Consultation Area Policies Map for Fareham Borough (HCC, 2019)

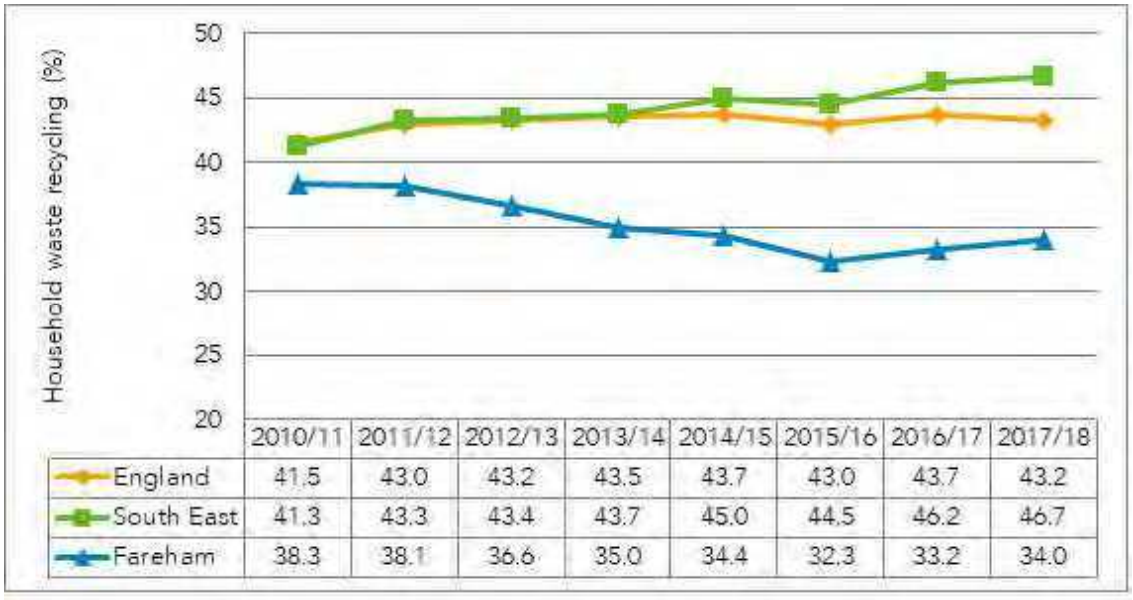
11.2.2 In addition there are 20 currently permitted minerals and waste sites in the borough:

- Hook Lane Landfill, Warsash, Fareham (completed and restored landfill);
- Warren Farm and Down End Quarry, Fareham (active; aggregates recycling, landfill, chalk extraction, waste transfer and processing);
- Rookery Farm, Swanick, Fareham (active; aggregates recycling);
- Portchester Chalk Pit, Fareham (closed/dormant; chalk extraction);
- Fareham Rail Aggregates Depot, Fareham (active);
- Upper Quay Aggregates Wharf, Fareham (active);
- Wallington Depot, Fareham (active; aggregates recycling, waste processing);
- Eastern Distributor Road, Segensworth (completed and restored landfill);
- Unit 6 Crompton Way, Segensworth (active; waste processing);
- Barnes Wallis Road, Segensworth (active; household waste and recycling centre);
- Broadcut (active; waste transfer station);

- Woodleigh Farm, Funtley (completed and restored landfill);
- Wallington Hill, Fareham (active; combined sewer overflow);
- Land within Allotment Gardens, The Gillies (active; waste water treatment works);
- Peel Common WTW, Newgate Lane, Stubbington (active; waste water treatment works);
- Wickham Road WTW, Fareham (active; waste water treatment works);
- Hook Park WTW, Workman's Lane, Hook, Warsash (active; waste water treatment works);
- Charity Farm, 127 Wickham Road, Fareham (inactive; waste recycling);
- Unit 1 Pinks Sawmill, Wickham Road, Fareham (active; waste transfer station); and
- Down Barn Farm, Boarhunt Road, Fareham (active; waste recycling).

11.3 Waste and Recycling

11.3.1 Over the last eight years, the amount of household waste generated in England and the South East has gradually declined while the proportion that is recycled has increased, although these trends have plateaued somewhat in the last four years[73]; see Figure 11.2. In Fareham the trend appears to be reversed, with recycling rates decreasing between 201/11 and 2015/16 and continuously below the regional and national rate. There has been some increase in recycling rates between 2016/17 and 2017/18 but these are still well below national and regional averages.



	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
England	41.5	43.0	43.2	43.5	43.7	43.0	43.7	43.2
South East	41.3	43.3	43.4	43.7	45.0	44.5	46.2	46.7
Fareham	38.3	38.1	36.6	35.0	34.4	32.3	33.2	34.0

Figure 11.2: Proportion of Household Waste Sent for Recycling/Composting (Defra, 2019)

[73] Defra (2015): *ENV18 - Local authority collected waste: annual results tables.* Accessed online [25/1/16] at: https://www.gov.uk/government/statistical-data-sets/env18-local-authority-collected-waste-annual-results-tables

11.4 Renewable Energy

11.4.1 The Renewable and Low Carbon Energy Capacity Study for the borough (Parsons Brinckerhoff, 2013) made a conservative estimate that there were approximately 3.8MW_e and 2.3MW_{th} of installed capacity in 2013. However, the available renewable energy resource is better than the average for the UK, with good opportunities available in wind, small-scale hydropower, biomass and particularly solar. The report estimates a maximum theoretical solar PV capacity of 1,664MW (ground-mounted) and 72.3MW of wind capacity (based on 300m property buffer and ecological designations), and presents maps of the least constrained areas of the borough (Figure 11.3 and Figure 11.4). The borough has a renewable energy target of 12MW installed capacity by 2020 but there is currently no system for monitoring new installations (FBC, 2015).

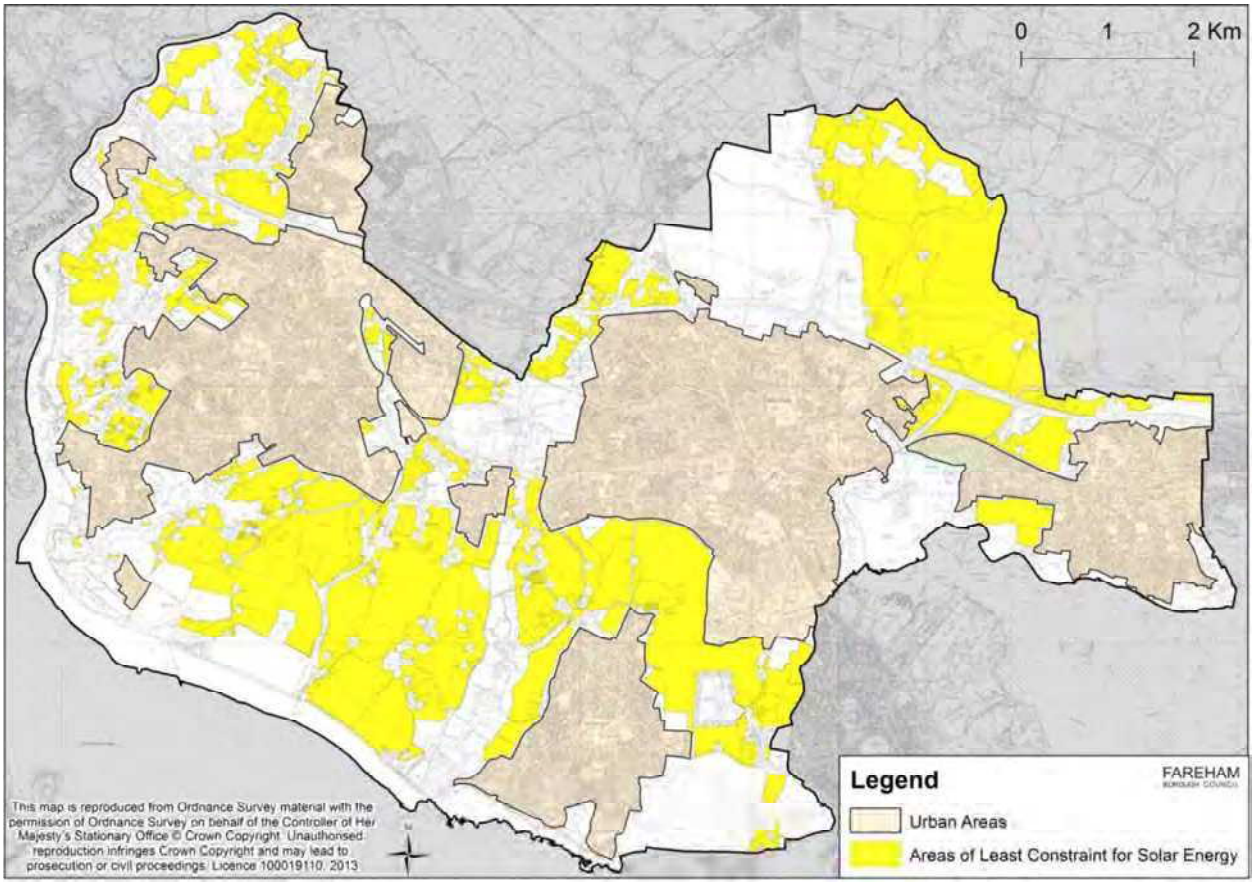


Figure 11.3: Areas of Least Constraint for Solar Energy (Source: FBC)

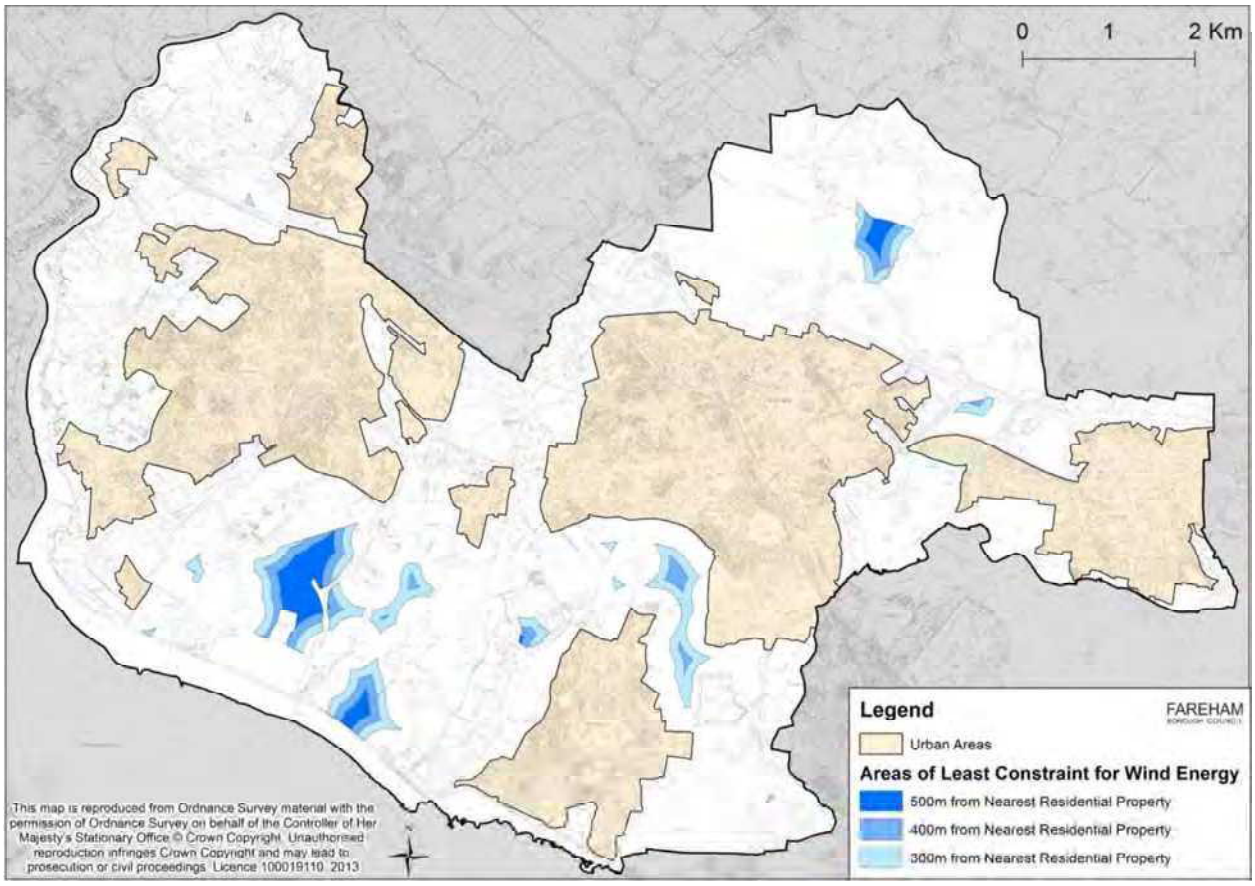


Figure 11.4: Areas of Least Constraint for Wind Energy (Source: FBC)

11.5 Infrastructure Delivery

11.5.1 The development of Welborne will require substantial infrastructure investment through a combination of developer funding and public sector support, including (FBC, 2014d):

- Affordable housing;
- Transport infrastructure (highways and public transport);
- Water supply and waste water treatment infrastructure
- Health and care facilities;
- Green and environmental infrastructure;
- Telecoms infrastructure;
- Public realm investment.
- Education & pre-school facilities;
- Energy supply infrastructure including potential renewable heat generation;
- Workspace and business support facilities;
- Waste management infrastructure;
- Sports and leisure facilities;
- Community facilities; and

11.5.2 The wider infrastructure needs of the borough are identified in the borough Infrastructure Delivery Plan (excluding Welborne; FBC 2017) and are funded through a combination of Community Infrastructure Levy funds, developer contributions from planning obligations and public sector support. The Infrastructure Development Plan is being updated as part of the Local Plan process.

11.6 Previously Developed Land

11.6.1 The borough has a target for >60% of all new homes to be built on previously developed land, which was being significantly exceeded between 2007/08 and 2009/10 but was then not met between 2010 and 2014[74]; see Table 11.2. This is because the definition of previously developed land changed to exclude residential garden sites. Since 2015 this target has been exceeded, with the exception of 2017/18 when completions on previously developed land were just below the target at 59.7%.

Table 11.2: Residential Completions on Previously Developed Land (Source: FBC)

Year	Dwellings on previously developed land (%)
2018/19	62.8%
2017/18	59.7%
2016/17	64.2%
2015/16	60.2%
2014/15	55.5%
2012/13	26.9%
2011/12	54.7%
2010/11	35.7%
2009/10	93.3%
2008/09	85.9%
2007/08	81.7%

11.6.2 The Fareham borough brownfield land register includes a list of previously developed sites which are capable of being redeveloped or converted to provide housing-led development in the borough. There are currently 33 sites on the register, 14 of which have already been granted planning consent. The remaining 19 sites have the potential to deliver 869 net dwellings.

11.7 Spatial Context

11.7.1 All five Spatial Planning Areas have at least one safeguarded site from the Minerals and Waste Local Plan. Large parts of rural Titchfield and the Western Wards harbour deposits of gravel, sand and clay, together with smaller sections of Hill Head / Stubbington, Fareham and Portchester.

11.7.2 Large parts of rural Titchfield, the Western Wards and Hill Head / Stubbington are mapped as least constrained regarding solar energy generation, with smaller areas of potential in Fareham and Portchester. Least constrained land for wind energy generation is far less prevalent and focused on Chilling (Western Wards), Brownwich (Titchfield) and north of Fareham.

[74] Fareham LDF Annual Monitoring Reports 2009 to 2015, the latest of which is available online [15/7/19] at: http://www.fareham.gov.uk/PDF/planning/amr2015.pdf

11.8 Likely Evolution of the Baseline in the Absence of the Local Plan

11.8.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Baseline trends relevant to material assets that may continue under such a scenario include:

- Increased overall production of waste and, possibly, increasing rates of recycling and composting as newer homes are designed to be more waste efficient and access to recycling facilities is improved.
- Increased renewable energy generation as progress is made towards the target of 12MW installed capacity by 2020 set out in Core Strategy Policy CS16.
- High proportion of housing completions on greenfield land (including Welborne) despite the Core Strategy's focus on previously developed land within the most sustainable and accessible settlements.

11.9 Key Issues

11.9.1 Key issues for material assets relevant to the Local Plan are:

- There is a need to protected safeguarded minerals and waste sites and minerals deposits from negative effects of development, including sterilisation.
- Household recycling rates are unfavourable compared to national and regional averages and require improvement to accommodate growth. New local recycling centres will be required to serve new development allocations.
- There is significant potential to utilise recycled and reused materials through development in the borough.
- Continuing to meet targets for the use of previously developed land will be challenging given the past change in definition of residential garden land and quantum of new development planned for Welborne.
- There are widespread opportunities to increase the capacity of the borough's renewable energy generation, particularly for solar PV, although the national policy context for such development is becoming less favourable.

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12 Population and Quality of Life

12.1 Summary of Policy and Plan Review

12.1.1 PPPs on population include a range of different objectives, including tackling social exclusion, improving human rights and public participation, improving health, and ensuring every child has the chance to fulfil their potential by reducing levels of education failure, ill health, substance misuse, crime and anti-social behaviour. At the regional and local levels, support for cultural diversity and young people are key aims. The Equality Act 2010 is the law intended to achieve equal opportunities in the workplace and in wider society. The act protects everyone against unfair treatment, on the basis of protected characteristics: age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, and sexual orientation.

12.1.2 Community cohesion can be supported through new education, health, leisure and recreational facilities. Deprivation should be limited by: promoting development location which improves accessibility to services, facilities and amenities; enhancing the local environment through appropriate land use, design and layout and incorporation of green infrastructure; facilitating the provision of new educational and learning facilities to help improve skills and increase opportunities; and supporting social inclusion.

12.2 Population Size, Structure, Density and Growth

12.2.1 In June 2016 the population of Fareham was 115,800 people, with 49% male and 51% female[77]. In 2011 the population density was high, at 15 persons per hectare in comparison to the South East (4.5) and England where density was 4.1 persons per hectare, and there were an average of 2.39 people per household[78].

12.2.2 Population growth in Fareham has recently progressed at a slower rate than that experienced regionally and nationally[79], as shown in Table 12.1. From 2008 to 2017 the population of the borough has grown from 110,200 to 116,200, an overall increase of 5.4%. This is a slightly lower rate of increase than the figures for the South East and England during the same period, which were 7.8% and 6.9% respectively.

12.2.3 It is also predicted that the borough's population will grow at a relatively steady pace in the next few decades, as suggested in Figure 12.1, from 115,800 in 2016 (start of the LPR period) to 122,100 in 2026 to 129,400 in 2036 (end of the LPR period), or a 11.7% increase over the plan

[77] ONS (2019): Population Projections for Local Authorities: Table 2. Accessed online [30/5/19].

[78] Based on a 2011 population of 111,581 within 46,579 households over 7,423.27ha in the borough. NOMIS: Population Density, 2011 (QS102EW) and Accommodation Type - Households, 2011 (QS402EW). Accessed online [30/5/19].

[79] NOMIS: Total population time series, all persons. Accessed online [10/6/19] at https://www.nomisweb.co.uk/reports/lmp/la/1946157303/subreports/pop_time_series/report.aspx?.

period[80]. This is lower than the 13.4% expected for the South East and 12.1% expected for England. The age group with the greatest projected percentage change in population is 65+ years at 50.9% over the plan period.

Table 12.1: Mid-Year Population Change 2008-2017 (thousands) (Source: ONS)

Year	Fareham	South East	England
2008	110.2	8,426.4	60,044.6
2009	110.8	8,490.9	60,467.2
2010	111.4	8,577.8	60,954.6
2011	111.9	8,652.8	61,470.8
2012	112.9	8,724.9	61,881.4
2013	113.9	8,793.2	62,275.9
2014	114.7	8,874.0	62,756.3
2015	115.2	8,949.4	63,258.4
2016	115.8	9,030.3	63,785.9
2017	116.2	9,080.8	64,169.4

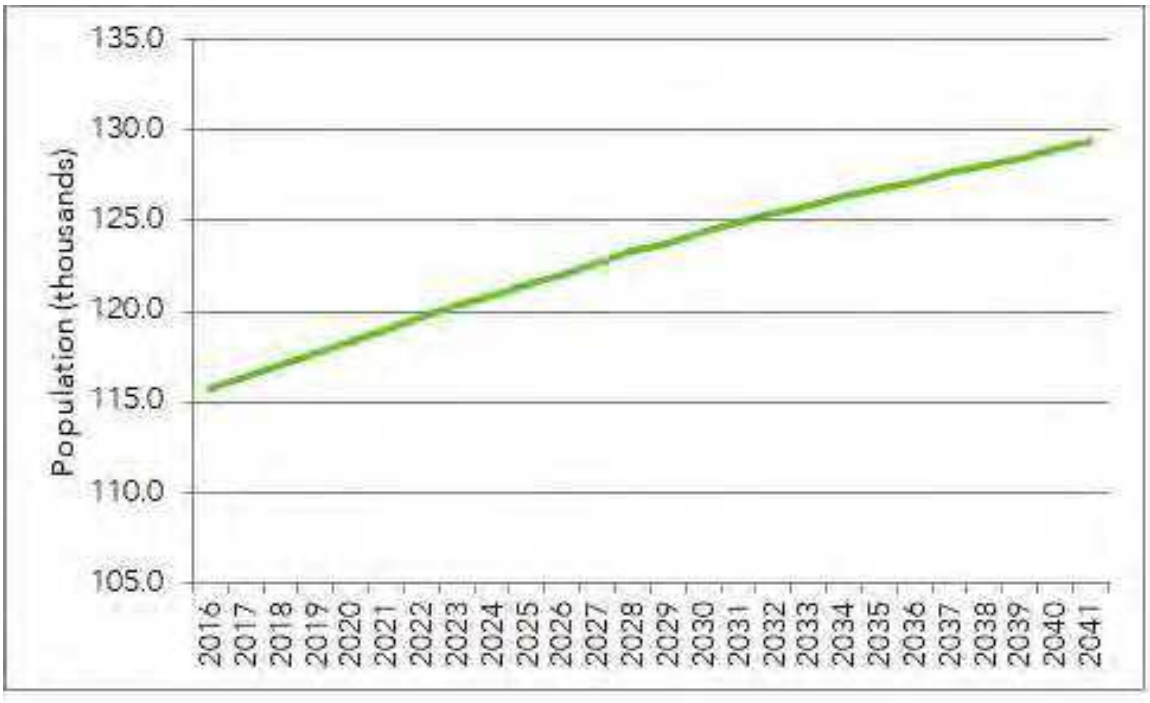


Figure 12.1: Fareham Population Projection (Thousands) (Source: ONS, 2019)

[80] ONS (2019): Population Projections for Local Authorities: Table 2. Accessed online [30/5/19].

12.3 Age and Ethnicity

12.3.1 Table 12.2 shows that the highest percentage of people living in Fareham were aged 25-44 in 2011[81]. This is also the largest age range in the South East and in England. The lowest proportion of people were aged 16-24 in Fareham where they accounted for 10.0% of the total population. Again this is mirrored on a regional and national level.

Table 12.2: Percentage of People by Age Range (2011) (Source: ONS, 2011)

Age range	Fareham	South East	England
0-15yrs	17.4	19.0	18.9
16-24yrs	10.0	11.2	11.9
25-44yrs	23.7	26.5	27.5
45-59yrs	21.5	19.9	19.4
60-74yrs	17.6	15.0	14.6
75yrs+	9.8	8.3	7.8

12.3.2 Using a decadal approach to age, Figure 12.2 shows that in 2016 the largest group in Fareham was those aged 50-59yrs, whereas in England the largest group was those aged 40-49yrs[82]. In Fareham the next largest groups are 40-49rs and 60-69yrs, whereas in England the next largest groups go down the scale to 30-39yrs and 20-29yrs, again illustrating the trend towards an ageing population in Fareham.

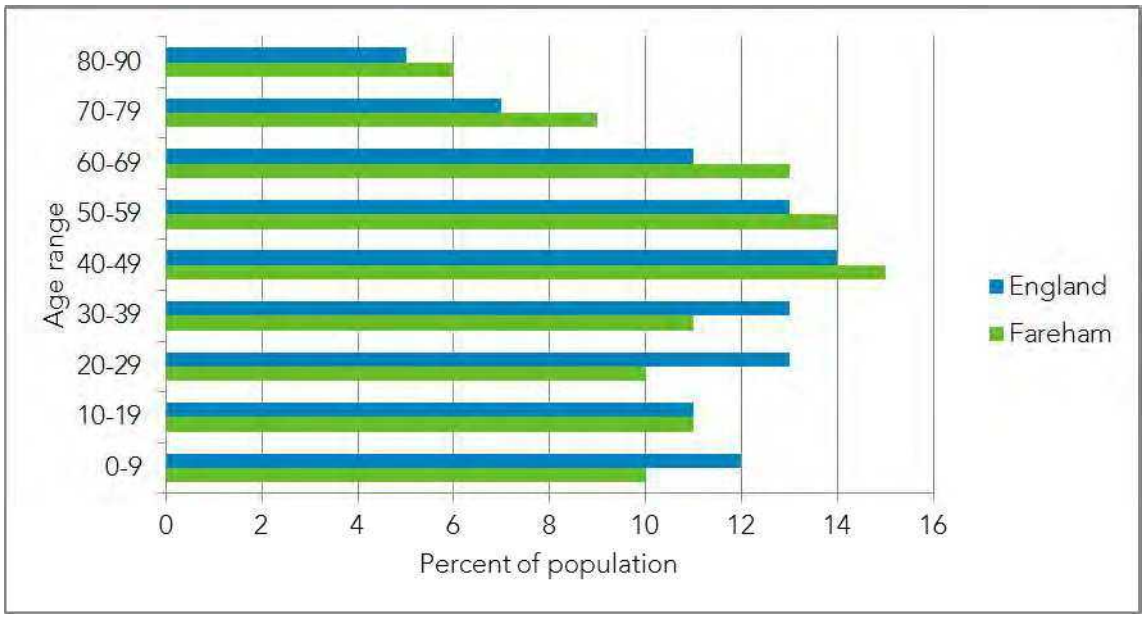


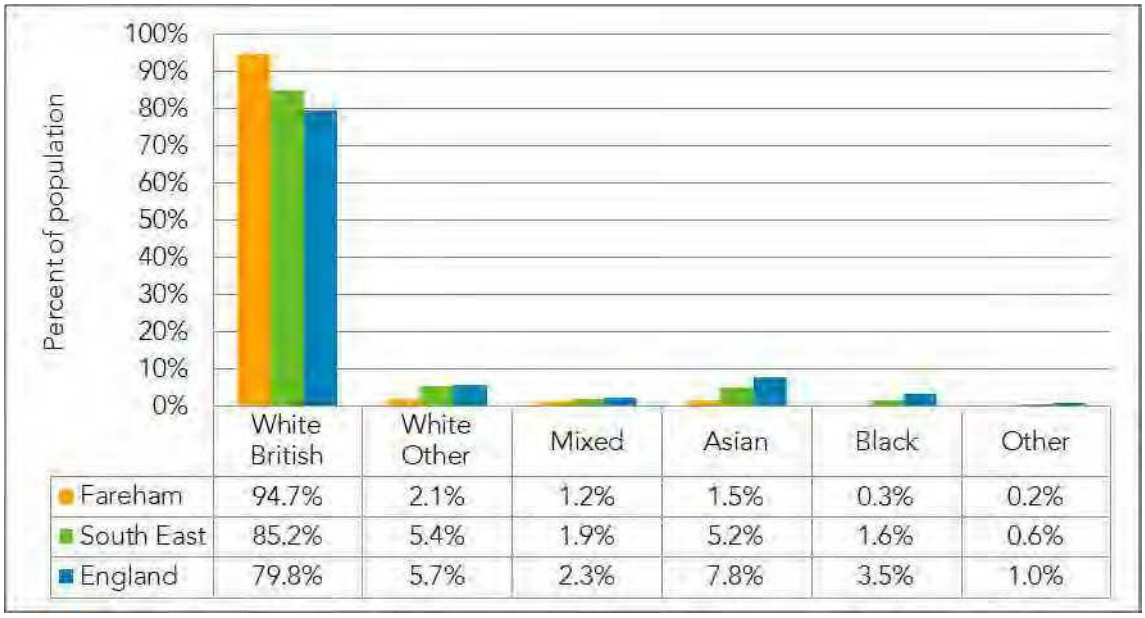
Figure 12.2: Percentage of People by Age Range (Source: ONS, 2014)

12.3.3 In Fareham in 2011, as can be seen in Figure 12.3, the majority of people identified their ethnicity as being White British, and this proportion was much higher than for the regional and

[81] HCC: Hampshire facts and figures: Age structure KS102EW. Accessed online [30/5/19].

[82] ONS (2019): Population Projections for Local Authorities: Table 2. Accessed online [30/5/19].

national averages[83]. Similarly, far fewer people in Fareham identified themselves as White Other, Mixed, Asian, Black or Other ethnicity when compared to the figures for the South East and England.



	White British	White Other	Mixed	Asian	Black	Other
Fareham	94.7%	2.1%	1.2%	1.5%	0.3%	0.2%
South East	85.2%	5.4%	1.9%	5.2%	1.6%	0.6%
England	79.8%	5.7%	2.3%	7.8%	3.5%	1.0%

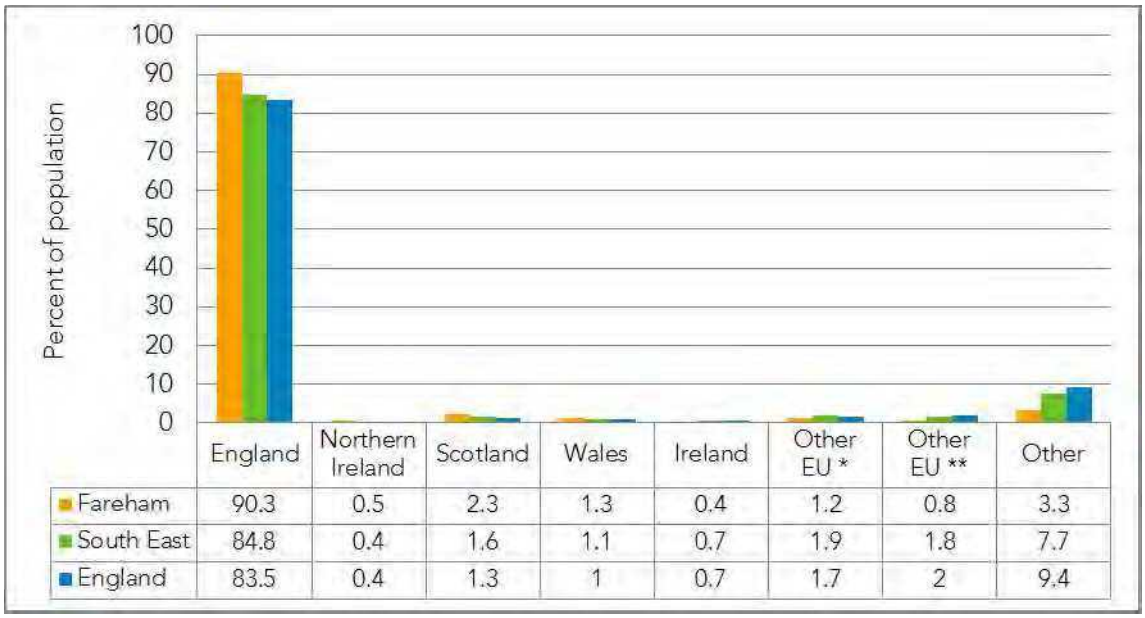
Figure 12.3: Percent of Population by Ethnicity (2011) (Source: ONS, 2011)

12.4 Migration and Community Patterns

12.4.1 Fareham, as can be seen in Figure 12.4, has a higher percentage of people born in England (90.3%) than the South East and England (84.% and. 83.5% respectively)[84]. The South East and England have a higher percentage of people from outside of the UK and Ireland. In comparison to Fareham, in the South East there are 6.4% more people born outside of the UK and in England there are 8.1% more.

[83] HCC: Hampshire facts and figures, Ethnic Group, 2011 (QS201EW). Accessed online [30/5/19].

[84] HCC: Hampshire facts and figures: Country of Birth, 2011 (KS204EW). Accessed online [30/5/19].

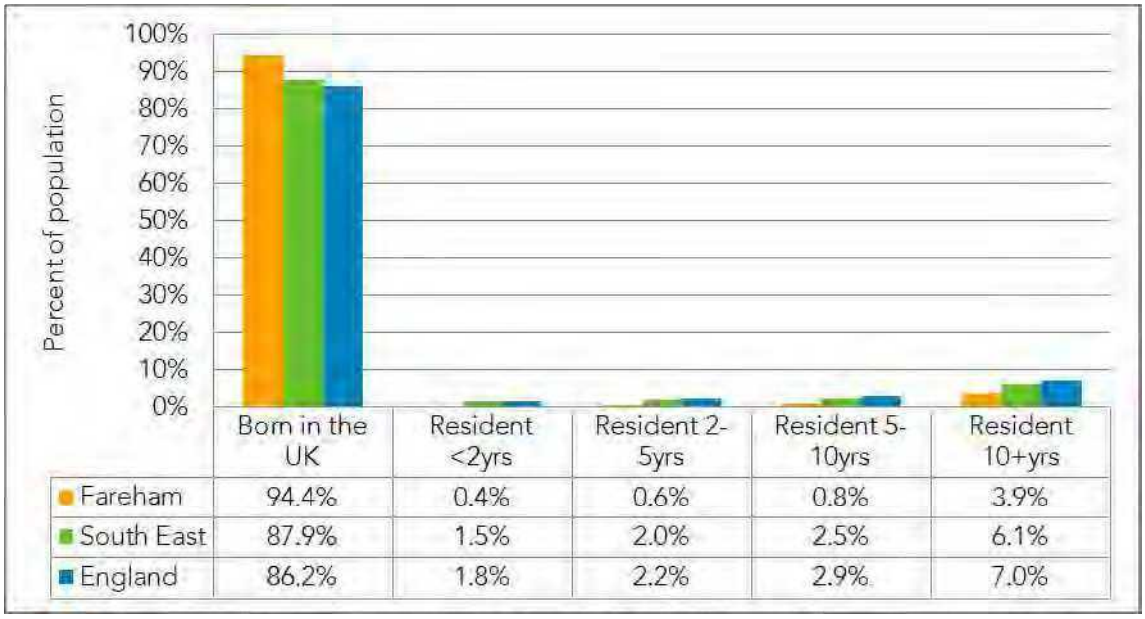


	England	Northern Ireland	Scotland	Wales	Ireland	Other EU *	Other EU **	Other
Fareham	90.3	0.5	2.3	1.3	0.4	1.2	0.8	3.3
South East	84.8	0.4	1.6	1.1	0.7	1.9	1.8	7.7
England	83.5	0.4	1.3	1	0.7	1.7	2	9.4

* Member Countries in March 2001; ** Accession Countries April 2001 to March 2011

Figure 12.4: Percentage of People by Place of Birth (2011) (Source: ONS, 2011)

12.4.2 Fareham also has a much lower percentage of people who have been resident in the UK for between 0 and 10 years at 1.8% (see Figure 12.5) which compares to 6.0% in the South East and in 6.8% England[85].



	Born in the UK	Resident <2yrs	Resident 2-5yrs	Resident 5-10yrs	Resident 10+yrs
Fareham	94.4%	0.4%	0.6%	0.8%	3.9%
South East	87.9%	1.5%	2.0%	2.5%	6.1%
England	86.2%	1.8%	2.2%	2.9%	7.0%

Figure 12.5: Percentage of People by Time Spent Living in the UK (2011) (ONS, 2011)

12.5 Indices of Multiple Deprivation

12.5.1 In general, deprivation in Fareham is low. Based on the Indices of Multiple Deprivation 2019 (DCLG, 2019), the borough is ranked the 19th least deprived In England at 298 out of 317[86].

[85] HCC: Hampshire facts and figures: Length of Residence in the UK, 2011 (QS803EW). Accessed online [30/5/19].

Hampshire was ranked the 15th least deprived upper tier authority in England[87]. In Fareham there are no lower super output areas (LSOA) in the 10% most deprived communities of England and no LSOAs in the 11%-20% most deprived communities; of the 73 LSOAs in Fareham, just six are among the 50% most deprived communities of England. As can be seen at Figure 12.7 these tend to be concentrated around central, south and west Fareham, and rural Titchfield.

12.6 Unemployment

12.6.1 Figure 12.6 shows that in Fareham between January 2010 and January 2018 the unemployment rate within the economically active population has fluctuated but overall has decreased from 4.7% to 2.9%[88]. In the South East and in Great Britain as a whole, there has been less fluctuation with a steady decrease in unemployment. However, Fareham's unemployment rate has been consistently lower than that of the regional and national scales.

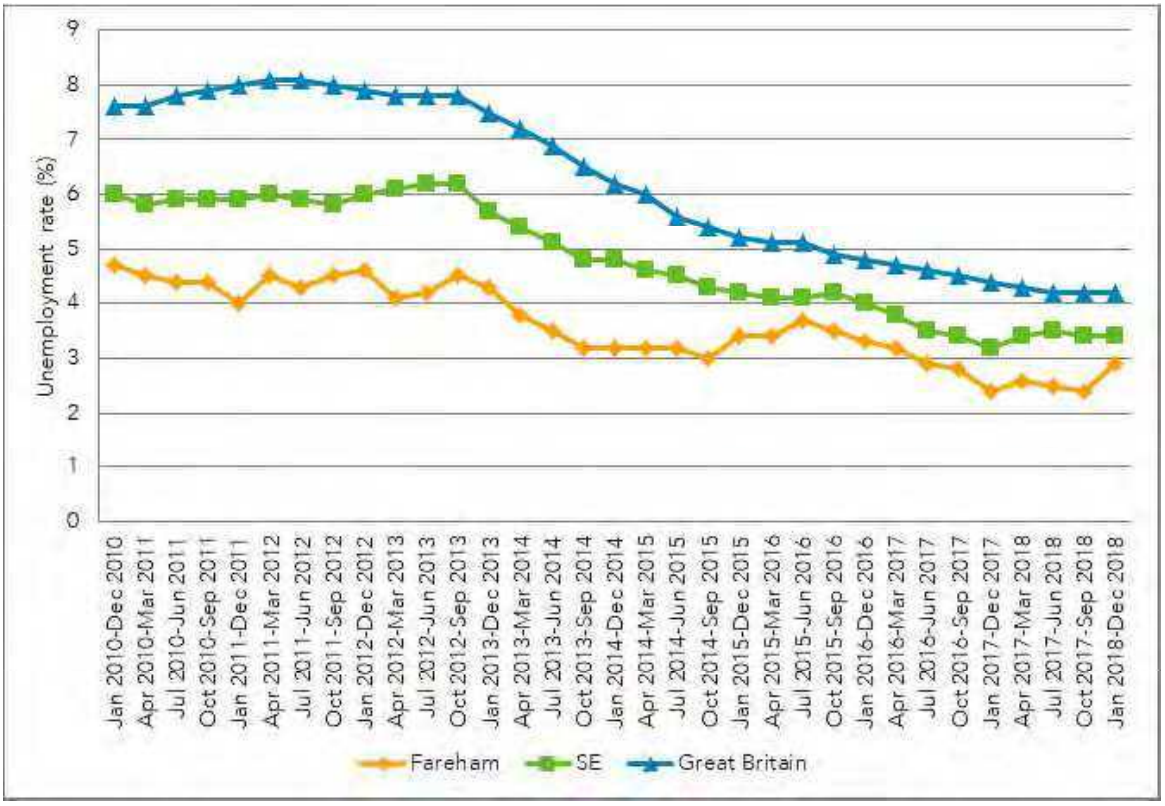


Figure 12.6: Unemployment Rate within Economically Active Population 2010-2018(Source: ONS, 2019)

[86] https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019 Accessed online [10/12/19]

[87] *ibid*

[88] NOMIS: Fareham time series, economically active, unemployed. . Accessed online [10/6/19] at https://www.nomisweb.co.uk/reports/lmp/la/1946157303/subreports/ea_time_series/report.aspx?

12.7 Crime

12.7.1 Fareham has generally low levels of crime. In 2009, the borough had a crime rate of 34 offences per 1,000 population, compared to a crime rate of 49 offences per 1,000 population in the Hampshire force area and 50 offences per 1,000 population in England and Wales[89]. Despite some difference in the classification of crimes between 2010 and 2018, as shown by Table 12.3, crime rates for most types of offences in the borough have increased over this period[90].

Table 12.3: Recorded Crime Data (Source: ONS, 2019)

Crime	Dec 2010	Dec 2018
All other theft offences	802	599
Bicycle theft	192	166
Criminal damage and arson	895	661
Death or serious injury caused by illegal driving	0	1
Domestic burglary	141	0
Drug offences	183	134
Fraud offences	103	No data
Homicide	0	1
Miscellaneous crimes against society	67	101
Non-domestic burglary	245	0
Non-residential burglary	No data	149
Possession of weapons offences	29	57
Public order offences	256	589
Residential burglary	No data	248
Robbery	16	37
Sexual offences	89	254
Shoplifting	494	762
Stalking and harassment	72	421
Theft from the person	80	60
Vehicle offences	456	674
Violence with injury	513	794
Violence without injury	437	934
Total	5,070	6,642

[89] Home Office (2010): Local Authorities: Recorded crime for seven key offences and BCS comparator 2007/08 to 2008/09. Accessed online [25/1/16] at: http://data.gov.uk/dataset/local-authority-recorded-crime-key-offences-2007-2009

[90] ONS: Recorded crime data at Community Safety Partnership and local authority level. Accessed online [10/6/19] at https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/datasets/recordedcrimedataatcommunitysafetypartnershiplocalauthoritylevel

12.8 Spatial Context

12.8.1 Figure 12.8 maps the Index of Crime Deprivation (DCLG, 2019) for Fareham borough, and shows that, as with other indices, the Western Wards and Hill Head / Stubbington Spatial Planning Areas are among the least deprived communities in the country, together with urban parts of Titchfield and Portchester. Fareham has pockets of more deprived areas, with communities in west and south Fareham most affected by crime deprivation.

12.9 Likely Evolution of the Baseline in the Absence of the Local Plan

12.9.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Baseline trends relevant to population and quality of life that may continue under such a scenario include:

- Population growth in the borough will increase demand for housing, services and infrastructure, particularly around Fareham and Welborne.
- The rate of population ageing may slow as new residential development at Welborne is likely to be occupied by a higher proportion of younger families at least in the first instance.
- Employment and earnings could increase as developments in the plan area become operational and the economic climate improves.

12.10 Key Issues

12.10.1 Key issues for population and quality of life relevant to the Local Plan are:

- Population growth in the borough will increase demand for housing, services and infrastructure, particularly around Fareham and Welborne.
- An ageing population and an increased dependency ratio in the borough have the potential to lead to implications for service provision.
- Whilst crime rates are low in the borough, perceptions of security and fear of crime are an issue for many residents and numbers of most types of crime are increasing.
- Unemployment has remained at a lower rate than regional and national averages since 2010.
- Although in general levels of deprivation in Fareham are low, the IMD sub-domains for outdoors living environment, geographical barriers to housing and services, and adult skills are those which the borough performs least favourably.
- The development of a high quality and multifunctional green infrastructure network in the area will be a key contributor to quality of life in the plan area.

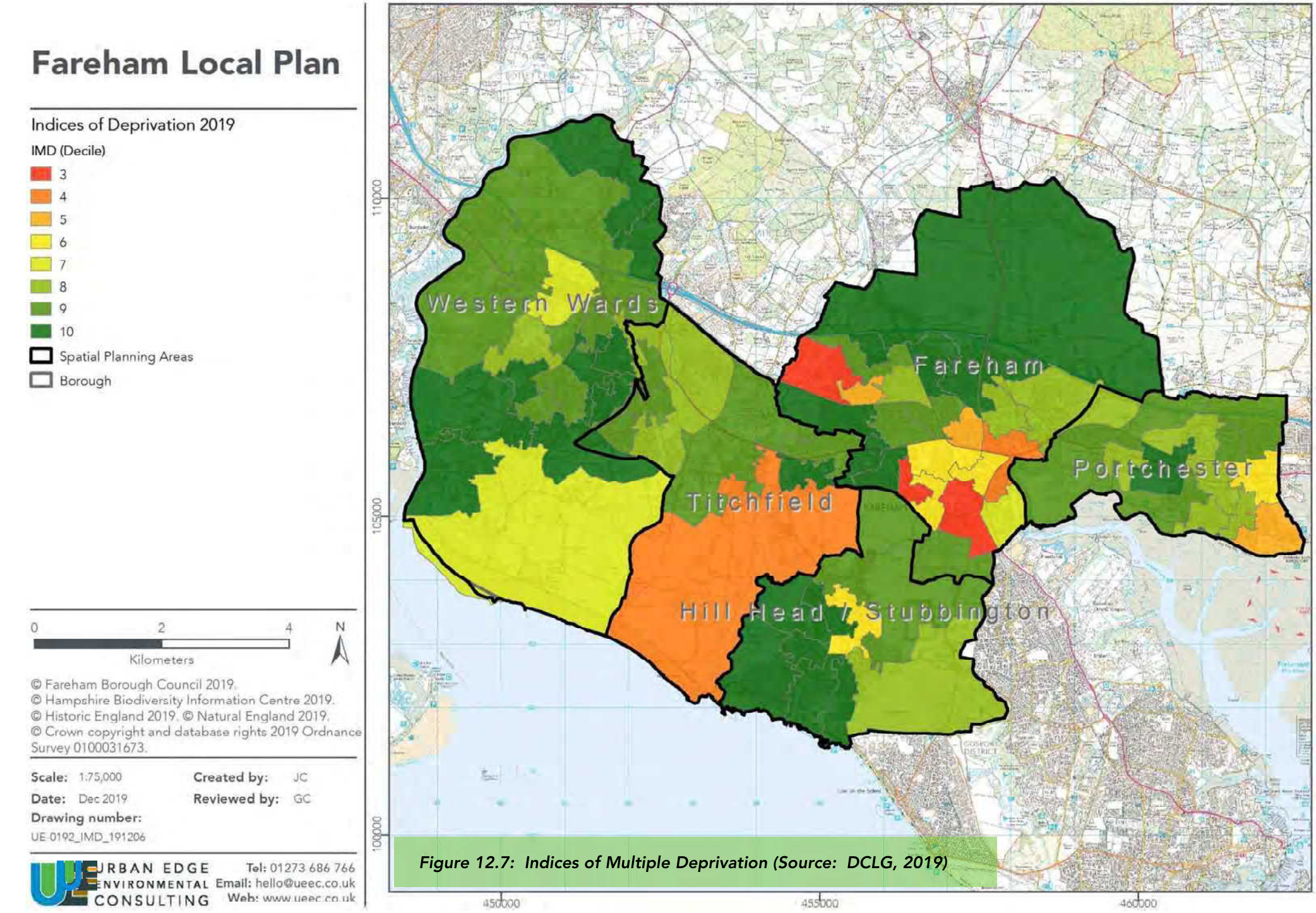


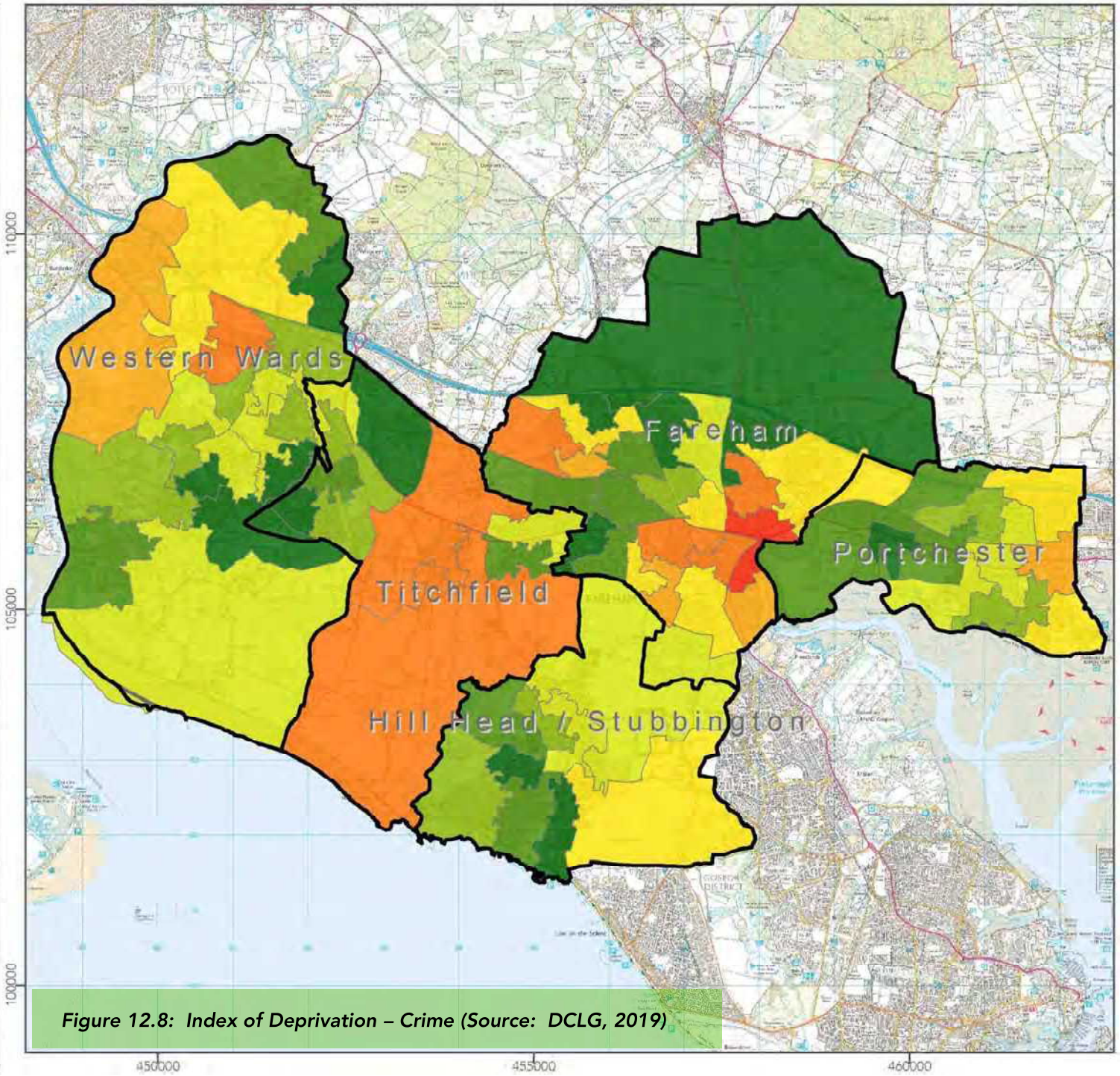
Figure 12.7: Indices of Multiple Deprivation (Source: DCLG, 2019)

Fareham Local Plan

Indices of Deprivation 2019

Crime (Decile)

- 2
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- Spatial Planning Areas
- Borough



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Kilometers

Scale: 1:75,000 **Created by:** JC

Date: Dec 2019 **Reviewed by:** GC

Drawing number:

UE-0192_Crime_191206

URBAN EDGE ENVIRONMENTAL CONSULTING

Tel: 01273 686 766
Email: hello@ueec.co.uk
Web: www.ueec.co.uk

Figure 12.8: Index of Deprivation – Crime (Source: DCLG, 2019)

13 Soil

13.1 Summary of Policy and Plan Review

13.1.1 National and regional policies and strategies on soil seek to: prevent soil pollution; reduce soil erosion from wind and water; maintain soil diversity; improve the quality of soil, including through the remediation of contaminated land and through promoting an increase in organic matter in soil; protect and enhance stores of soil carbon and water; recognise soils' role for natural systems; and increase the resilience of soils to a changing climate. The PPPs also have a focus on protecting the quality and availability of agricultural land, especially best and most versatile agricultural land, by reducing soil degradation, maintaining soil productivity, limiting compaction and a range of other approaches.

13.2 Soils and Agricultural Land

13.2.1 Soil is a vital natural resource with a range of key functions including (Defra, 2011c):

- Nutrient cycling;
- Water regulation;
- Carbon storage;
- Support for biodiversity and wildlife; and
- Providing a platform for food and fibre production and infrastructure.

13.2.2 Good quality soil hence underpins a number of important ecosystem functions and contributes to the provision of ecosystem services. The plan area has a soil resource which has developed since the last ice age 10,000 years ago. This encompasses a range of soils types which reflect complex interactions between underlying geology, landform, past and existing land use and climate.

13.2.3 Soil quality has a strong influence on the quality of agricultural land. The Agricultural Land Classification system provides a method for assessing the quality of farmland to enable informed choices to be made about its future use within the planning system. A number of consistent criteria used for assessment include; climate (temperature, rainfall, aspect, exposure, frost risk), site (gradient, micro-relief, flood risk) and soil (depth, texture, stoniness).

13.2.4 The Agricultural Land Classification (ALC) system classifies land into five grades, with Grade 3 subdivided into Subgrades 3a and 3b. The best and most versatile (BMV) land is defined as Grades 1, 2 and 3a, which is deemed to be the land which is most flexible, productive and efficient in response to inputs, and which can best deliver future crops for food and non food uses such as biomass, fibres and pharmaceuticals. Local Planning Authorities are required as part of the Local Plan process to prioritise the use of lower quality land (i.e. non-BMV) in

preference of that of higher quality (Grades 1, 2 and 3a) in line with paragraph 170b) of the NPPF.

13.2.5 Agricultural Land Classification maps were produced for England and Wales in the 1970s to provide general strategic guidance on land quality to planners, and are supplied by Natural England. They show only five grades because their preparation preceded the subdivision of Grade 3 and the refinement of criteria, which occurred after 1976. Figure 13.1 shows the ALC mapping for the borough and indicates that, while Grade 1 agricultural land is almost entirely absent, a large proportion of the plan area is classified as Grade 2 or 3.

13.2.6 Post-1988 data is also available from Natural England but only for selected areas which have been re-surveyed in greater detail and to revised guidelines and criteria. Additional surveys are carried out on an ad hoc basis as part of the development planning process for specific sites. Currently available post-1988 data for the borough are shown on Figure 13.2. This shows that land within the Welborne policy boundary immediately north and south of the M27 is Grade 3b, however, approximately 187ha in the north of the site is assessed as Grade 3a best and most versatile agricultural land. There are other pockets of BMV land around Portchester, Peel Common, Stubbington and Warsash.

13.3 Spatial Context

13.3.1 Hampshire as a whole is predominantly identified as Grade 3 agricultural land (56.9%), with only 4.9% identified as Grade 2, and 0.4% at Grade 1[91]. Fareham borough makes a significant contribution to the amount of Grade 2 agricultural land in the county, with other high quality agricultural land occurring in the North Downs near Basingstoke, to the east of Alton, southern parts of Winchester district, and coastal areas of the New Forest. In terms of soil types, much of Hampshire comprises 'freely draining slightly acid loamy soils' and 'shallow lime-rich soils over chalk or limestone', though the urban south of the county (as well as the New Forest) comprises mainly 'slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils'[92].

13.3.2 Within Fareham borough, better quality agricultural land is present in all five Spatial Planning Areas, particularly in the north of Fareham, the west of Portchester, the northeast of Hill Head / Stubbington, the south of Titchfield, and the southeast of the Western Wards Spatial Planning Area. The latter area differs from the rest of Fareham borough due to its 'freely draining very acid sandy and loamy soils', whilst there is an area of 'loamy soils with naturally high groundwater' at the confluence of the Hill Head / Stubbington and Fareham Spatial Planning Areas[93].

[91] Winchester District Council (2011): *North of Fareham Strategic Development Area: Summary Landscape Appraisal*. Accessed online [30/5/19] at: https://www.winchester.gov.uk/planning-policy/evidence-base/site-assessments/fareham-strategic-development-area-sda-site-assessments

[92] National Soil Resources Institute (2005): *Soilscapes (England)*. Accessed online [12/1/16] at: http://magic.defra.gov.uk/MagicMap.aspx

[93] *Ibid.*

13.4 Likely Evolution of the Baseline in the Absence of the Local Plan

13.4.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Soils in England continue to be degraded by human actions including urban development, which can make them vulnerable to erosion, compaction and loss of organic matter. The Local Plan Part 2: Development Sites and Policies, adopted in 2015, should reduce the risk of areas of high quality agricultural land outside of the settlement boundaries (including Welborne) being lost to development. However, without the Local Plan, the higher identified need for housing provision could nevertheless put increased pressure on Fareham's soil resource, and result in greater soil compaction.

13.5 Key Issues

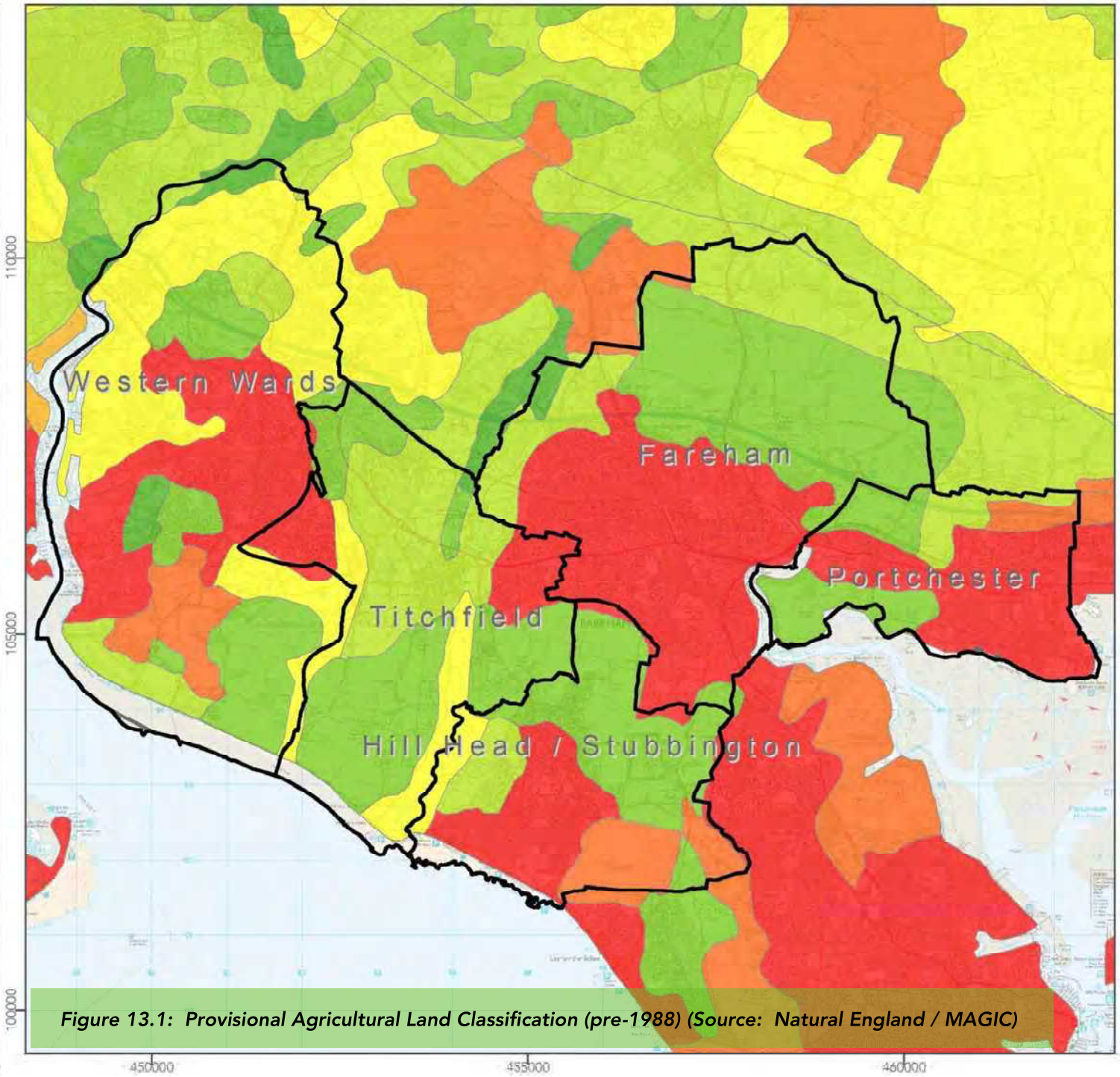
13.5.1 Key issues for soil relevant to the Local Plan are:

- The plan area is underlain with areas of the best and most versatile agricultural land.
- Growth has the potential to lead to a loss of soil resources, an increase in soil erosion, and a loss of productivity and function.
- Given the expected loss of c.187ha of Grade 3a best and most versatile agricultural land at Welborne, any future changes to defined urban settlement boundaries should seek to avoid further loss of BMV land.
- The Council should ensure there is sufficient detailed information to apply the requirements of the NPPF in order to provide the necessary evidence to underpin the Local Plan. Where no reliable information is available, it would be reasonable to expect that developers should commission a new ALC survey for any sites they wish to put forward for consideration in the Local Plan.

Fareham Local Plan

Provisional ALC © ADAS & Defra

- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Non Agricultural
- Urban
- Spatial Planning Areas
- Borough



0 2 4 N

Kilometers

Scale: 1:75,000 **Created by:** JC

Date: Dec 2019 **Reviewed by:** GC

Drawing number:

UE-0192_Agri_Land_pre-1988_191206

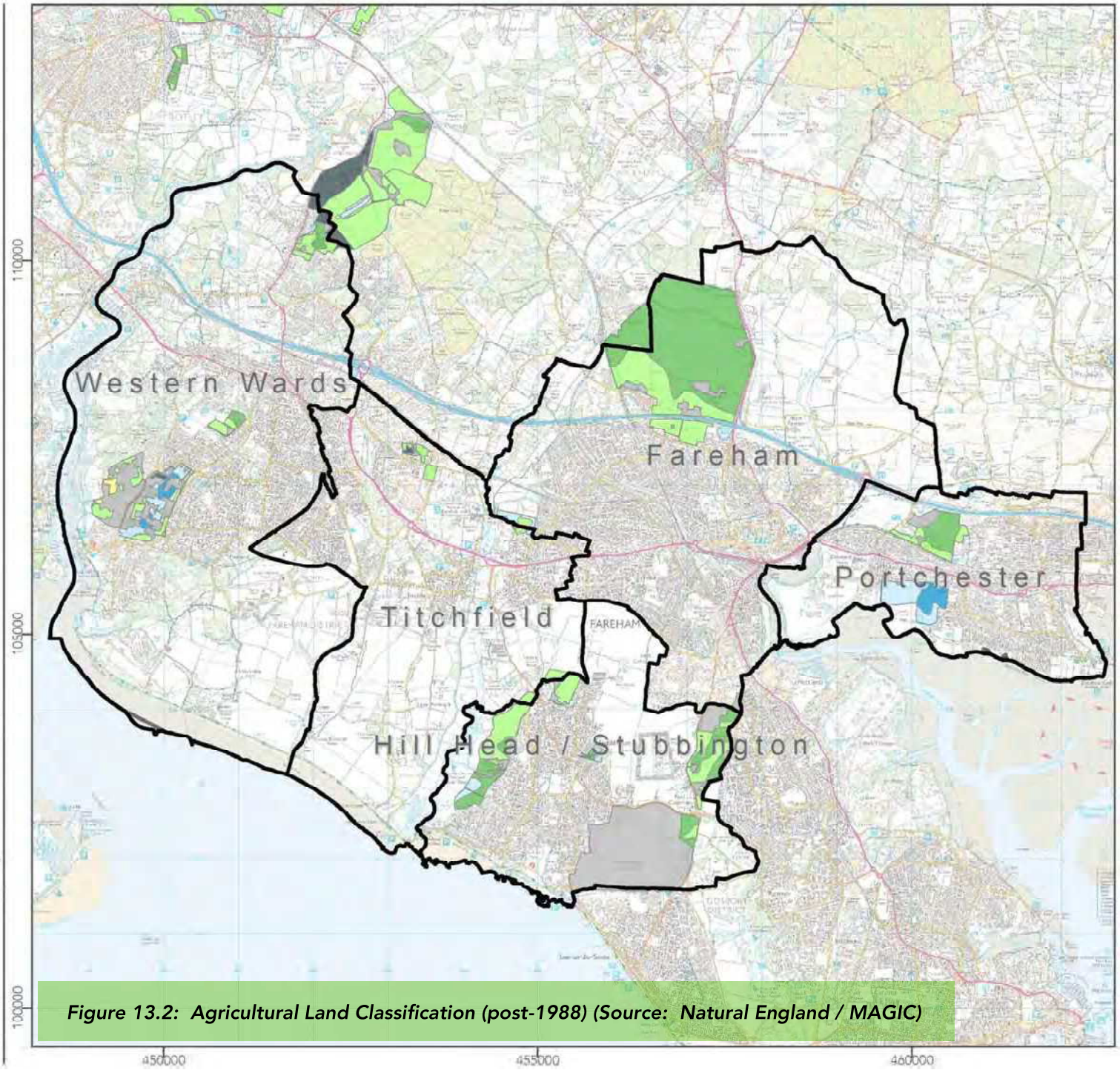
URBAN EDGE ENVIRONMENTAL CONSULTING
Tel: 01273 686 766
Email: hello@ueec.co.uk
Web: www.ueec.co.uk

Figure 13.1: Provisional Agricultural Land Classification (pre-1988) (Source: Natural England / MAGIC)

Fareham Local Plan

ALC Grades (Post 1988) © ADAS & Defra

- Grade 1
- Grade 2
- Grade 3a
- Grade 3b
- Grade 4
- Grade 5
- Other
- Not Surveyed
- Spatial Planning Areas
- Borough



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Scale: 1:75,000 **Created by:** JC

Date: Dec 2019 **Reviewed by:** GC

Drawing number:

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Figure 13.2: Agricultural Land Classification (post-1988) (Source: Natural England / MAGIC)

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14 Water

14.1 Summary of Policy and Plan Review

14.1.1 National water policies are primarily driven by the aims of the EU Water Framework Directive 2000/60/EC, as translated into national law by the Water Framework Regulations 2003. Key objectives include improving the quality of rivers and other water bodies to 'good ecological status' by 2015; considering flood risk at all stages of the plan and development process in order to reduce future damage to property and loss of life; and incorporating water efficiency measures into new developments.

14.1.2 The NPPF requires the planning system to contribute to and enhance the natural and local environment by: preventing new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability. It seeks to ensure that all types of flood risk are taken into account, over the long term, during the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk.

14.1.3 National and regional strategies also focus on maintaining and protecting the availability of water. Water treatment in Fareham borough is managed by Southern Water, whilst drinking water supply is managed by either Southern Water or Portsmouth Water, depending on the geographic location of the household. Portsmouth and Southern Water's Water Resource Management Plans provide the means of enabling water to be supplied and treated in the area covered by the plan. Water supply and use is guided by Environment Agency's Abstraction Licensing Strategies. The River Basin Management Plan (South East River Basin District) highlights the current state of watercourses in the area, and the opportunities and actions for improvements in order to meet Water Framework Directive objectives.

14.2 Watercourses

14.2.1 Fareham borough overlaps with the catchment areas of three main rivers; the River Hamble, the River Meon and the Wallington River. The River Hamble marks the western borough boundary, splitting at Botley, north of the borough, to form two main tributaries. The River Meon, which rises west of Petersfield, flows southwards to the west of Fareham town centre, and enters the Solent downstream of Titchfield. The Wallington rises close to Waterlooville, and flows through North Fareham, southwards into Portsmouth Harbour to the east of Fareham town centre.

14.3 Water Resources

14.3.1 Groundwater provides the majority of water in the wider South Hampshire area. A major intermediate aquifer underlies north Fareham and as such is an important source of water for the wider sub-region. In this context the most sensitive parts of the borough in terms of

drinking water overlie the Portsdown Chalk Formation and Spetisbury Chalk Member. Water for Fareham borough is supplied by both Portsmouth Water, who supply water to homes to the east of the Meon River, and Southern Water, who supply the remainder of the borough.

14.3.2 Portsmouth Water sources drinking water from a mix of natural springs, wells and boreholes and river abstraction, but water supplied to Fareham borough is mostly abstracted from the River Itchen. Most Portsmouth Water abstractions are linked to river flows, either directly at the Itchen via Gaters Mill, or indirectly through groundwater abstractions affecting the Hamble, Meon, Wallington, Ems and Lavant which were all (except for the Meon) subject to Water Framework Directive (WFD) investigations during the AMP5 period (2010 – 2015). Southern Water draws its supply from both surface and groundwater sources. Surface water is drawn from abstractions at Testwood on the River Test, and Otterbourne on the Itchen. Groundwater is drawn from the Chalk aquifer.

14.3.3 Abstraction Licensing Strategies (ALS) are six year strategies developed by the Environment Agency for managing water resources at the local level. ALS are produced for every river catchment area in England and Wales; Fareham borough is covered by the East Hampshire ALS (Environment Agency, 2019) which contains maps and descriptions of the local Water Management Units, groundwater and surface water, and an assessment of water availability at times of low flow – normally mid to late summer. ALS also classify each Water Management Unit into one of three main categories: 'water available for licensing'; 'restricted water available for licensing'; or 'water not available for licensing'. The East Hampshire ALS suggests that the Wallington River, the River Meon and the River Hamble catchments are in the latter category, i.e. their flows are below the indicative flow requirement to help support Good Ecological Status (as required by the WFD), and as such, no further consumptive licences will be granted. Groundwater is available for abstraction, though no further consumptive licences will be granted in the north of the borough.

14.3.4 The Environment Agency defines groundwater Source Protection Zones (SPZ) to protect sources such as wells, boreholes and springs from contamination risk via pollution protection measures and monitoring of potentially polluting activities. The vulnerability of groundwater to pollution is determined by the physical, chemical and biological properties of the soil and rocks, which control the ease with which an unprotected hazard can affect groundwater. SPZs are subdivided into four zones which show the risk of contamination from any activities that might cause pollution in the area:

- Zone 1 (Inner Zone): Defined as the 50 day travel time from any point below the water table to the source. This zone has a minimum radius of 50 metres. Zone 1c applies for subsurface only activity.
- Zone 2 (Outer Zone): Defined by a 400 day travel time from a point below the water table. The previous methodology gave an option to define SPZ2 as the minimum recharge area required to support 25 per cent of the protected yield. This option is no longer available in defining new SPZs and instead this zone has a minimum radius of 250 or 500 metres around the source, depending on the size of the abstraction. Zone 2c applies for subsurface only activity.

- Zone 3 (Total Catchment Zone): Defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source. In confined aquifers, the source catchment may be displaced some distance from the source. For heavily exploited aquifers, the final Source Catchment Protection Zone can be defined as the whole aquifer recharge area where the ratio of groundwater abstraction to aquifer recharge (average recharge multiplied by outcrop area) is >0.75. There is still the need to define individual source protection areas to assist operators in catchment management. Zone 3c applies for subsurface only activity.
- Zone 4 (Special Interest Zone): A fourth zone SPZ4 or 'Zone of Special Interest' was previously defined for some sources. SPZ4 usually represented a surface water catchment which drains into the aquifer feeding the groundwater supply (i.e. catchment draining to a disappearing stream). In the future this zone will be incorporated into one of the other zones, SPZ 1, 2 or 3, whichever is appropriate in the particular case, or become a safeguard zone.

14.3.5 Part of north Fareham from Wallington to Crockerhill is within a Source Protection Zone, which is the source of the Maindell public water supply abstraction. Zone 1 is centred on an area around Fort Wallington, just west of the M27 Junction 11 (Figure 14.1). Zones 2 and 3 surround this and extend northwards into open countryside, overlapping with the Welborne site.

14.4 Water Quality

14.4.1 In terms of the water quality of the main watercourses in the area, the 2009 South East River Basin Management Plan (Environment Agency, 2009a) highlighted the status and objectives of the Wallington River and River Meon. In 2009 the overall status of the part of the Wallington River within Fareham borough was "moderate". The river was not assessed as being of "good" overall status due to the presence of phosphates, the quantity and dynamics of the river's flow, and the biological status of the river in relation to the fish and invertebrates present. The River Basin Management Plan's objective was for the river to achieve "good" status by 2027, but its predictions were that the Wallington River would be unlikely to meet WFD targets by 2015, remaining in "moderate" condition. The status of the River Meon was more favourable, with a "good" overall status, suggesting that the river would meet WFD targets by 2015. In 2015, the Environment Agency published an update to the South East River Basin Management Plan. Specific data[94] were provided for the East Hampshire catchment including the ecological, chemical and overall water quality of watercourses and waterbodies in Fareham borough for Cycle 1 (2009) and Cycle 2 (2014, 2015 and later 2016); see Table 14.1.

14.4.2 Current data for the South East River Basin Management Plan reveals that overall compliance with the WFD in the East Hampshire catchment has not generally improved since 2009. Some rivers, such as the Meon and the Upper Wallington have actually deteriorated, but Titchfield Haven now meets Good status for all three categories. The issues preventing waters reaching good status are attributed primarily to physical modification of the watercourses (e.g. to allow for urban development and to help manage flood risk), as well as to pollution from urban areas (e.g. from domestic plumbing mistakes) and rural areas (e.g. from poor farming practices or septic tanks).

[94] Environment Agency: Catchment Data Explorer. Accessed online [10/6/19].

Table 14.1: Water Quality Status of Waterbodies in Fareham (Source: Environment Agency, 2016)

Waterbody	**Overall Status**			**Ecological Status**			**Chemical Status**		
-	*2009*	*2016*	*Objective*	*2009*	*2016*	*Objective*	*2009*	*2016*	*Objective*
Alver	Bad	Bad	Good 2027	Bad	Bad	Good 2027	n/a	Good	Good 2015
Meon	Good	Moderate	Good 2027	Good	Moderate	Good 2027	Good	Good	Good 2015
Portsmouth Harbour	Mod. (2013)	Moderate	Poor 2015	Mod. (2013)	Moderate	Poor 2015	Fail (2013)	Good	Good 2015
Solent	Moderate	Moderate	Mod. 2015	Moderate	Moderate	Mod. 2015	Fail	Good	Good 2027
Titchfield Haven	Moderate	Good	Good 2015	Moderate	Good	Good 2015	n/a	Good	Good 2015
Wallington (below Southwick)	Moderate	Moderate	Good 2027	Moderate	Moderate	Good 2027	n/a	Good	Good 2015

14.4.3 The groundwater catchment of East Hampshire consists of the East Hants Chalk, the East Hants Lambeth Group, the South Hants Lambeth Group and the South East Hants Bracklesham Group. Of the three underlying Fareham borough, South Hants Lambeth Group is at good chemical and quantitative status (in 2014); however the East Hants Chalk has poor quantitative and chemical status due to rising trends of nitrates (primarily from agricultural practices), and the South East Hants Bracklesham Group is at poor groundwater chemical status due to low dissolved oxygen and ammonia in the River Alver (Environment Agency, 2014).

14.5 PfSH Integrated Water Management Study

14.5.1 In May 2018, PfSH (formerly PUSH) published the Integrated Water Management Study (IWMS) (Amec Foster Wheeler, 2018) to assess any implications from the planned growth in the region for the water resource and water quality environment.

14.5.2 One of the areas addressed by the IWMS was the capacity of existing waste water treatment works (WWTWs) to deal with forecast growth. In Fareham borough, the IWMS notes that growth areas are predicted to drain to the Peel Common WWTW which may require improvements by 2025 to increase capacity. Sewer capacity upgrades are also likely to be required at this WWTW. The IWMS also notes that the catchment has nitrate problems and catchment level nitrate measures are required now.

14.5.3 Peel Common WWTW discharges into the Solent, which the IWMS reports to be achieving a 'Moderate' WFD water body status. Elements not achieving 'good' status include Angiosperms (Moderate) and Dissolved Inorganic Nitrogen (Moderate).

14.6 Flood Risk

14.6.1 In relation to flood risk in the area, the Strategic Flood Risk Assessment (SFRA; Eastern Solent Coastal Partnership, 2016) carried out for South Hampshire has assessed in detail the causes and potential for flooding. The updated online Planning Practice Guidance provides a Sequential Test to enable Local Planning Authorities to apply a risk-based approach to site allocations within their authority boundary. The test classifies land into one of four flood risk zones[95] based on the annual probability of flooding. These zones are as follows:

- Zone 1 (Low Probability): This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%);
- Zone 2 (Medium Probability): This zone comprises land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% – 0.1%) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% – 0.1%) in any year;
- Zone 3a (High Probability): This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year; and

[95] DCLG (2014): *Planning Practice Guidance: Flood Risk and Coastal Change Paragraph 065.* Reference ID: 7-065-20140306. Accessed online [10/6/19].

- Zone 3b (The Functional Floodplain): This zone comprises land where water has to flow or be stored in times of flood. This is land assessed as having a 1 in 20 (5%) or greater annual probability of river flooding in any year or is designed to flood in an extreme (0.1%) flood, or at another probability to be agreed between the Local Planning Authority and the Environment Agency.

14.6.2 The location of flood risk zones in Fareham borough are presented on Figure 14.2 and Figure 14.3 which show that tidal and fluvial flood risk are largely limited to areas adjoining the River Hamble, Hook Lake, Brownwich Stream, Titchfield Haven/River Meon, Wallington River and Portsmouth Harbour[96]. Flooding from watercourses is not a significant constraint for most of the non-coastal regions of the borough. However, flood risk from surface water run-off has the potential to be an issue in some urban areas, particularly Fareham Town Centre and Heathfield, and some localised areas within Stubbington, Warsash, Sarisbury and Locks Heath.

14.7 Coastal Defence

14.7.1 All coastal authorities' coastal defence works must comply with local Shoreline Management Plans. Fareham borough's geographical coastline is covered by the North Solent Shoreline Management Plan (SMP; NFDC, 2010). The Plan sets out the four generic Defra policy options available to each shoreline unit:

- Hold The Line (HTL): Maintain or upgrade standard of protection provided by defences. This policy should cover those situations where work or operations are carried out in front of the existing defences (such as beach recharge, rebuilding the toe of a structure, building offshore breakwaters, etc.) to improve or maintain the standard of protection provided by the existing defence line. This policy also involves operations to the back of existing defences (such as building secondary floodwalls) where they form an essential part of maintaining the current coastal defence system.
- Advance The Line (ATL): Construct new defences seaward of existing defences. Use of this policy should be limited to those policy units where significant land reclamation is considered.
- Managed Realignment (MR): Allowing the shoreline to move backwards or forwards, with management to control or limit movement (such as reducing erosion or building new defences on the landward side of the original defences).
- No Active Intervention (NAI): A decision not to invest in providing / maintaining defence.

14.7.2 Table 14.2 outlines the short (0-20 years), medium (20-50 years) and long term (50-100 years) policy choices for coastal defence in each of Fareham borough's shoreline units.

[96] Environment Agency (2016): *Flood Map for Planning (from Rivers and the Sea)*. Accessed online [10/6/19] at: http://apps.environment-agency.gov.uk/wiyby/37837.aspx

Table 14.2: Coastal Defence Policies for Fareham Borough (Source: NFDC, 2010)

Shoreline Management Unit			0-20yrs	20-50yrs	50-100yrs
5A21	Farlington Marshes w	Cador Drive	HTL	HTL	HTL
5A22	Cador Drive	A27	HTL	HTL*	HTL*
5A23	A27	Fleetlands (MOD boundary)	HTL	HTL	HTL
5B02	Gilkicker Point	Meon Road, Titchfield Haven	HTL	HTL	HTL
5B03	Meon Road, Titchfield	Hook Park	NAI**	NAI**	NAI**
5C01	Hook Park	Warsash North	NAI	MR	HTL
5C02	Warsash North	Swanwick Shore Road	NAI	NAI	NAI
5C03	Swanwick Shore Road	Burlesdon Bridge	HTL	HTL	NAI
5C04	Bursledon Bridge to Botley & Curbridge to Satchell Marshes		NAI	NAI	NAI

* Requirement for more detailed study for management of site to be determined following contaminated land investigations.

** Localised HTL for cross-Solent infrastructure.

14.7.3 There are three Coastal Defence Strategies that cover the Fareham coastline, the River Hamble to Portchester Strategy (currently being developed by the Eastern Solent Coastal Partnership), the Portchester Castle to Emsworth Strategy (Environment Agency, 2009b) and the Itchen to Hamble Coastal Defence Strategy. These Strategies aim to build detail on the work of the North Solent SMP in order to "reduce the risk of coastal flooding and erosion to people, the developed and natural environment by encouraging the provision of technically, environmentally and economically sustainable coastal defence and protection measures."[97]

14.7.4 The recommendations in the Portchester Castle to Emsworth Strategy are expected to have a lifetime cost of £113 million (excluding inflation), and the following benefits[98]:

- Reduced flood risk to 901 residential & 178 commercial properties for 2020, increasing to 4,257 residential and 433 commercial properties by 2110 across the whole Strategy area;
- Reduced flood risk from typically a 5% annual exceedance probability (aep) (1 in 20yr event) to a 1.33% aep (1 in 75yr event), sustained for 100 years;
- Improved flood risk and erosion protection to the M27, A3(M), and the South Coast Rail Link;
- Improved flood risk protection for numerous heritage and recreation sites and features such as Portchester Castle; and
- Maintenance of existing defences at Farlington Marshes, South Moor, Warblington and Conigar Point for the next 20 years, allowing time to develop the long-term management options for the sites and establish compensatory habitat as required.

[97] Eastern Solent Coastal Partnership (undated): *River Hamble to Portchester Strategy: Aims and Objectives of the Strategy*. Accessed online [10/6/19] at: http://www.escp.org.uk/rhps/aims-and-objectives

[98] Eastern Solent Coastal Partnership (undated): *Portchester Castle to Emsworth Strategy*. Accessed online [10/6/19] at: http://www.escp.org.uk/portchester-castle-emsworth-strategy

14.7.5 The Coastal Flood and Erosion Risk Management Strategies also aim to identify Coastal Change Management Areas (CCMA) to inform Local Authority planning. Fareham Borough Council designated two CCMAs in its Local Plan Part 2: Development Sites and Policies, adopted in 2015; see Figure 14.4. The CCMA from Hook Spit to Workman's Lane was proposed as a result of likely permanent inundation due to overtopping of the existing seawall, following the establishment of a policy of no active intervention in the Shoreline Management Plan. The second, from Hook Park to Meon Shore (including Solent Breezes and Chilling Cliffs), was proposed as a result of erosion risk along a line of cliffs where again there is a policy of no active intervention. Policy DSP16 of the Local Plan Part 2 states that any proposals for new dwellings or conversions of buildings to residential use in the CCMAs will not be permitted, whilst proposals for any other form of development must demonstrate that they would not increase the risk to life or property.

14.8 Spatial Context

14.8.1 All parts of Fareham borough are affected by water. The River Hamble marks the western boundary of the Western Wards; the River Meon passes through the Titchfield Spatial Planning Area, also marking part of the boundaries of both Hill Head / Stubbington and Fareham; whilst the Wallington River lies within the Fareham Spatial Planning Area, also marking the western boundary of Portchester. The latter river was classed as being of only "moderate" ecological status and unlikely to meet 2015 Water Framework Directive targets, whilst the River Meon deteriorated in quality between 2009 and 2014 from "good" to "poor". Only the Western Wards still has water available for new consumptive licences for abstraction, whilst the borough's single groundwater Source Protection Zone is located in the Fareham Spatial Planning Area.

14.8.2 Tidal and fluvial flood risk is largely limited to areas immediately adjoining the watercourses and the coast. However, flood risk from surface water run-off is more of an issue in Fareham town centre and Heathfield, and some localised areas within Stubbington, Warsash, Sarisbury and Locks Heath. Unlike the coastline around Fareham, Portchester and Hill Head / Stubbington, the coastal defence policies for much of the Titchfield and Western Wards Spatial Planning Areas from Meon Road, Titchfield Haven to Curbridge is No Active Intervention, resulting in two CCMAs.

14.9 Likely Evolution of the Baseline in the Absence of the Local Plan

14.9.1 If the Local Plan is not adopted, it is assumed that relevant policies in the current Local Plan and National Planning Policy would apply. Baseline trends relevant to water that may continue under such a scenario include:

- Population growth in the plan area and wider South Hampshire sub-region will increase demand for water placing increased pressure on water resources in Fareham and the wider area.
- Housing demand could result in an increase in the amount of land being developed in areas at risk of flooding.

- New development in the borough has the potential to increase diffuse water pollution through surface water run-off and via the release of contaminants into water courses/bodies from the re-use of previously developed land.
- Water quality in the Meon River is unlikely to meet Water Framework Directive targets in the short term.

14.10 Key Issues

14.10.1 Key issues for water relevant to the Local Plan are:

- Rates of water abstraction are currently over and above the capacity of water bodies in the area as illustrated by the East Hampshire ALS. New site allocations will require development to be delivered without requiring substantial new amounts of abstraction in the area.
- Groundwater quality is a significant issue, especially as parts of the sub-region are dependent on groundwater for drinking water. The presence of the Source Protection Zones north of Fareham will require the close management of surface water runoff. Certain types of development activities and/or surface water management methods such as deep borehole soakaways should be avoided in SPZ1 in particular, due to the sensitive nature of the environment and the potential for environmental impacts.
- Whilst most of the borough is not within areas at significant risk of flooding, downstream flood risk (including in settlements such as North Wallington and Titchfield), and issues related to surface water run-off and sewerage flooding will need to be considered and managed through site allocations.
- Ecological water quality in two of the borough's waterbodies (Alver and Meon) was "bad" or "poor" in 2014, while chemical water quality objectives were being failed in the Wallington River, Portsmouth Harbour and the Solent.
- Developments and their associated infrastructure should seek to avoid: negative impacts on waterbodies such that they prevent achievement of 'good' status (comprising good chemical status and good ecological status or, in the case of Highly Modified Waterbodies, do not prevent their achievement of good potential); causing a deterioration in status; and preventing the achievement of Protected Area objectives for the European Protected Sites incorporating or depending upon those waterbodies.
- The water quality of the borough's water bodies including the Hamble Estuary (part of Southampton water) to west, Portsmouth Harbour in the east, and main rivers Meon and Wallington require protection and improvement to support the biodiversity interests for these habitats. New development should avoid impacting on the quality of the water environment within the borough.
- Waste water will need to be effectively managed through the development of the borough. Current capacity and infrastructure is insufficient for additional site allocations.
- Unlike the coastline around Fareham, Portchester and Hill Head / Stubbington, the coastal defence policies for much of the Titchfield and Western Wards Spatial Planning

Areas from Meon Road, Titchfield Haven to Curbridge is No Active Intervention, resulting in two CCMAs.

- Waste water will need to be effectively managed through development and infrastructure planning. Current sewerage conveyance capacity and treatment infrastructure are insufficient to meet the needs of planned development at Welborne.

Fareham Local Plan

- SPZ1
- SPZ2
- SPZ3
- SPZ4
- Spatial Planning Areas
- Borough

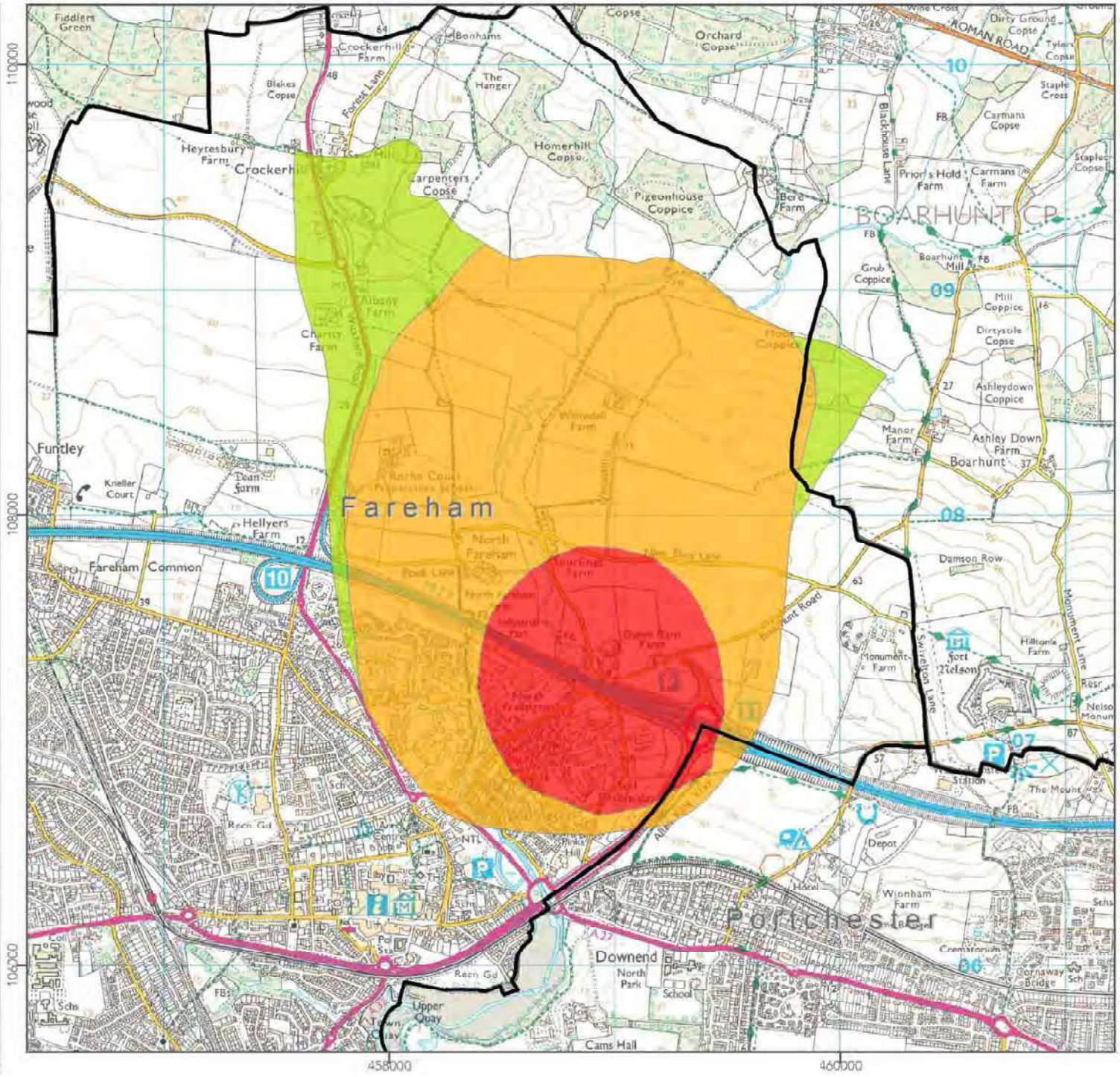

Figure 14.1: Source Protection Zones (Source: Environment Agency)

0 0.5 1 Kilometers

N

Scale: 1:25,000 **Created by:** JC

Date: Dec 2019 **Reviewed by:** GC

Drawing number:
UE-0192_SPZ_191206

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Tel: 01273 686 766
Email: hello@ueec.co.uk
Web: www.ueec.co.uk

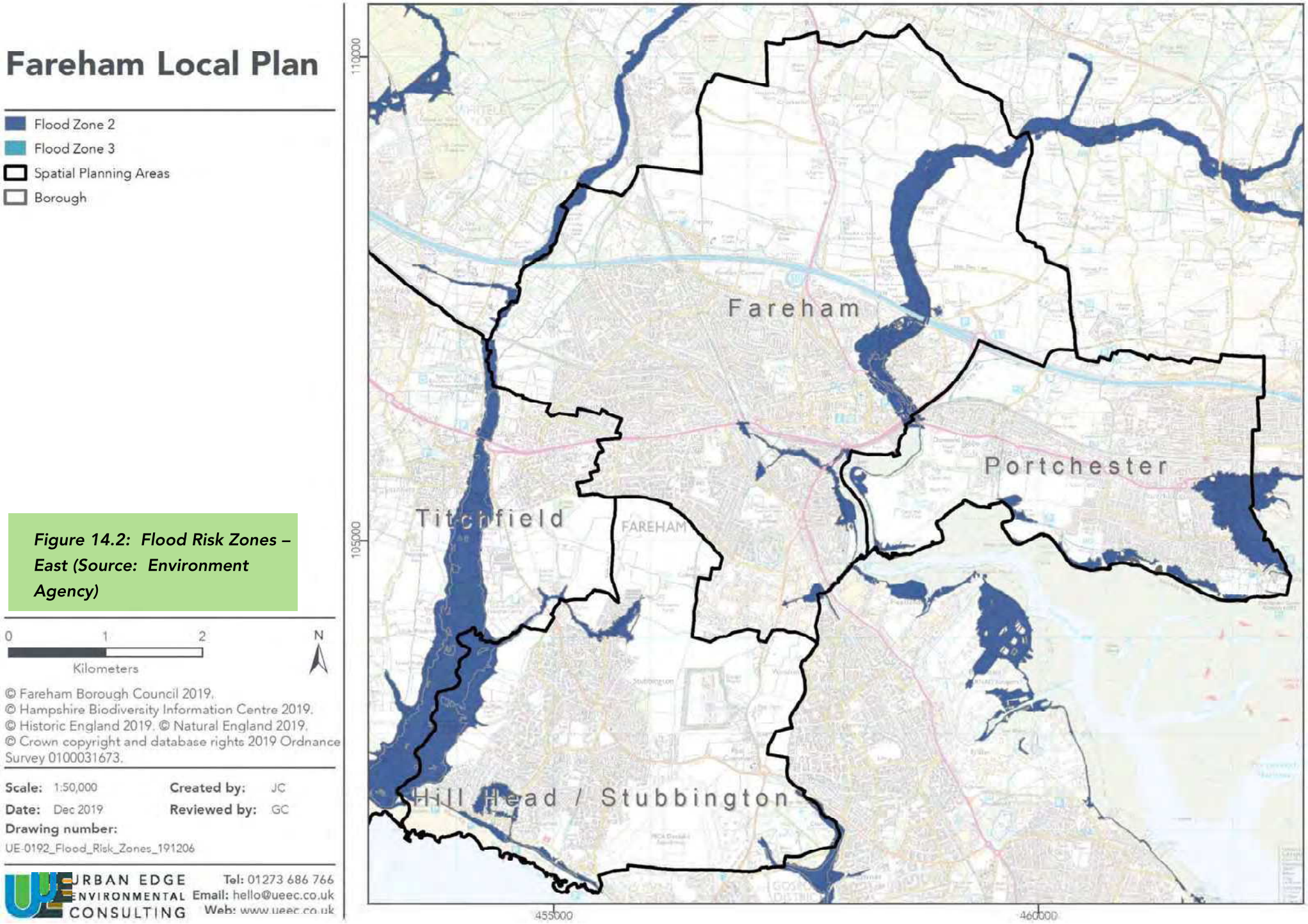

Figure 14.2: Flood Risk Zones – East (Source: Environment Agency)

Fareham Local Plan

- Flood Zone 2
- Flood Zone 3
- Spatial Planning Areas
- Borough

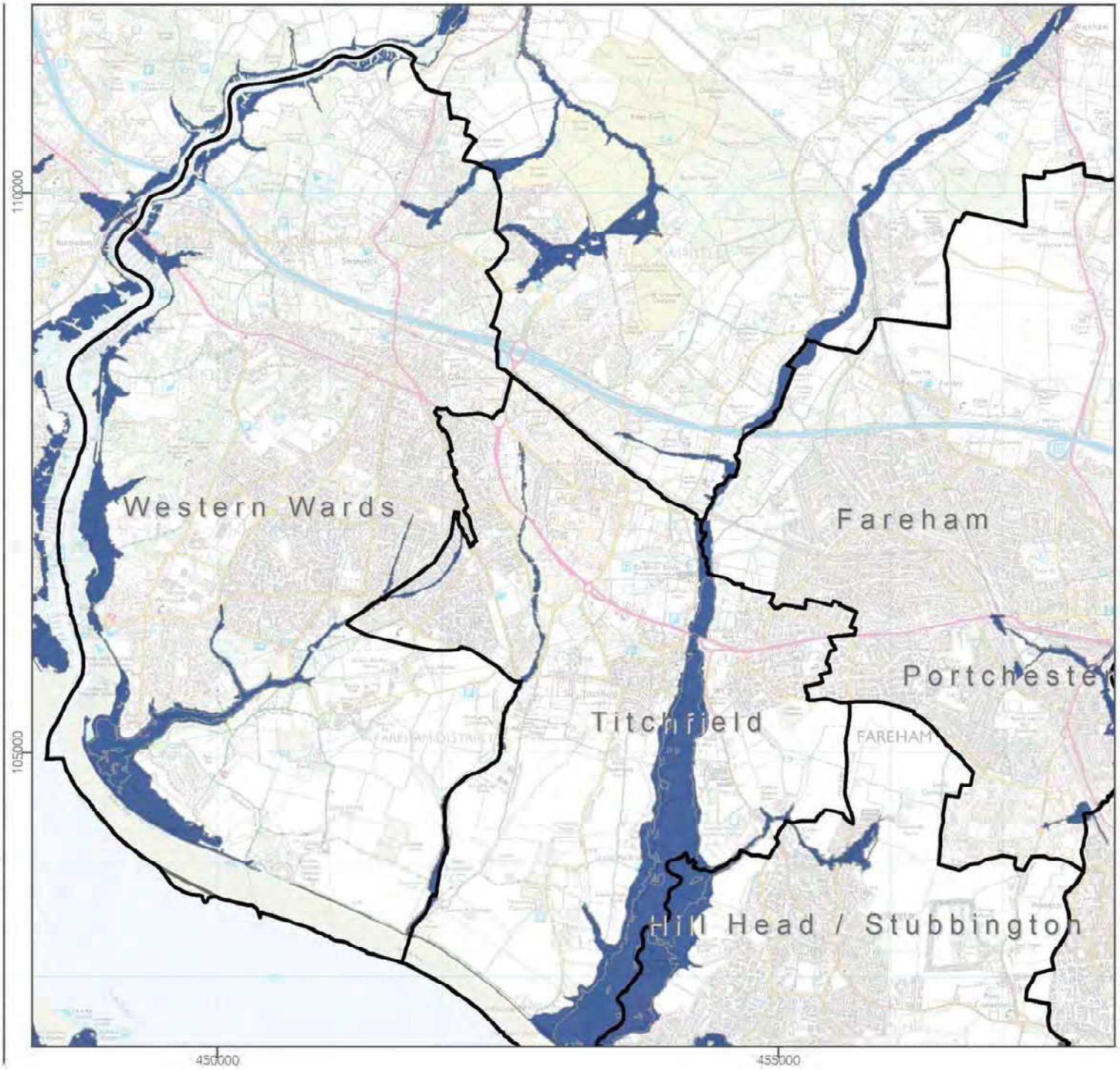

Figure 14.3: Flood Risk Zones – West (Source: Environment Agency)

0 1 2
Kilometers

N

Scale: 1:50,000 **Created by:** JC
Date: Dec 2019 **Reviewed by:** GC
Drawing number:
UE-0192_Flood_Risk_Zones_191206

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Tel: 01273 686 766
Email: hello@ueec.co.uk
Web: www.ueec.co.uk

Fareham Local Plan

- Coastal Change Management Area
- Flood Zone 2
- Flood Zone 3
- Spatial Planning Areas
- Borough

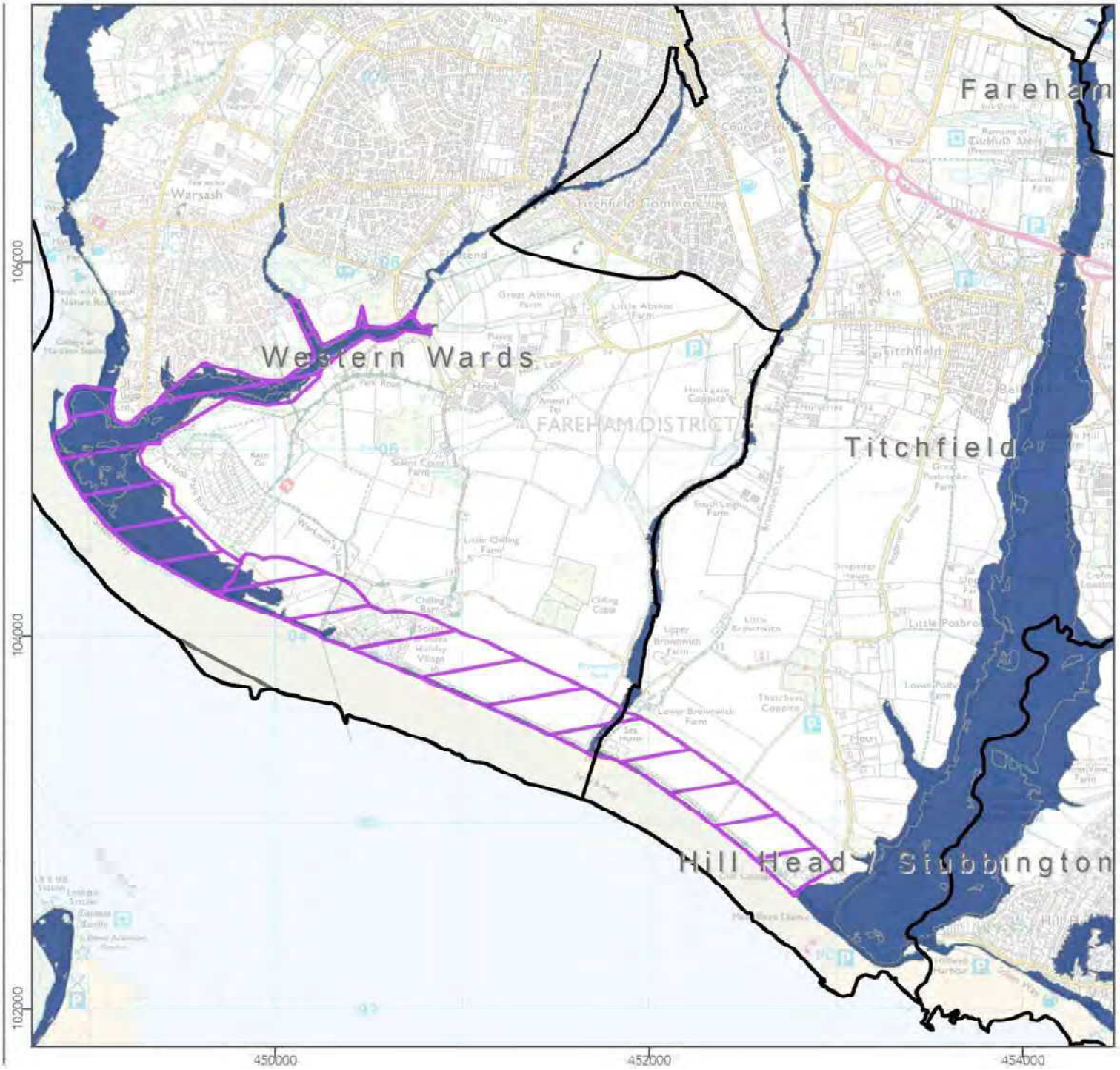

Figure 14.4: Coastal Change Management Areas (Source: FBC Policies Map, 2015)

0 0.5 1
Kilometers

N

Scale: 1:30,000 **Created by:** JC
Date: Dec 2019 **Reviewed by:** GC
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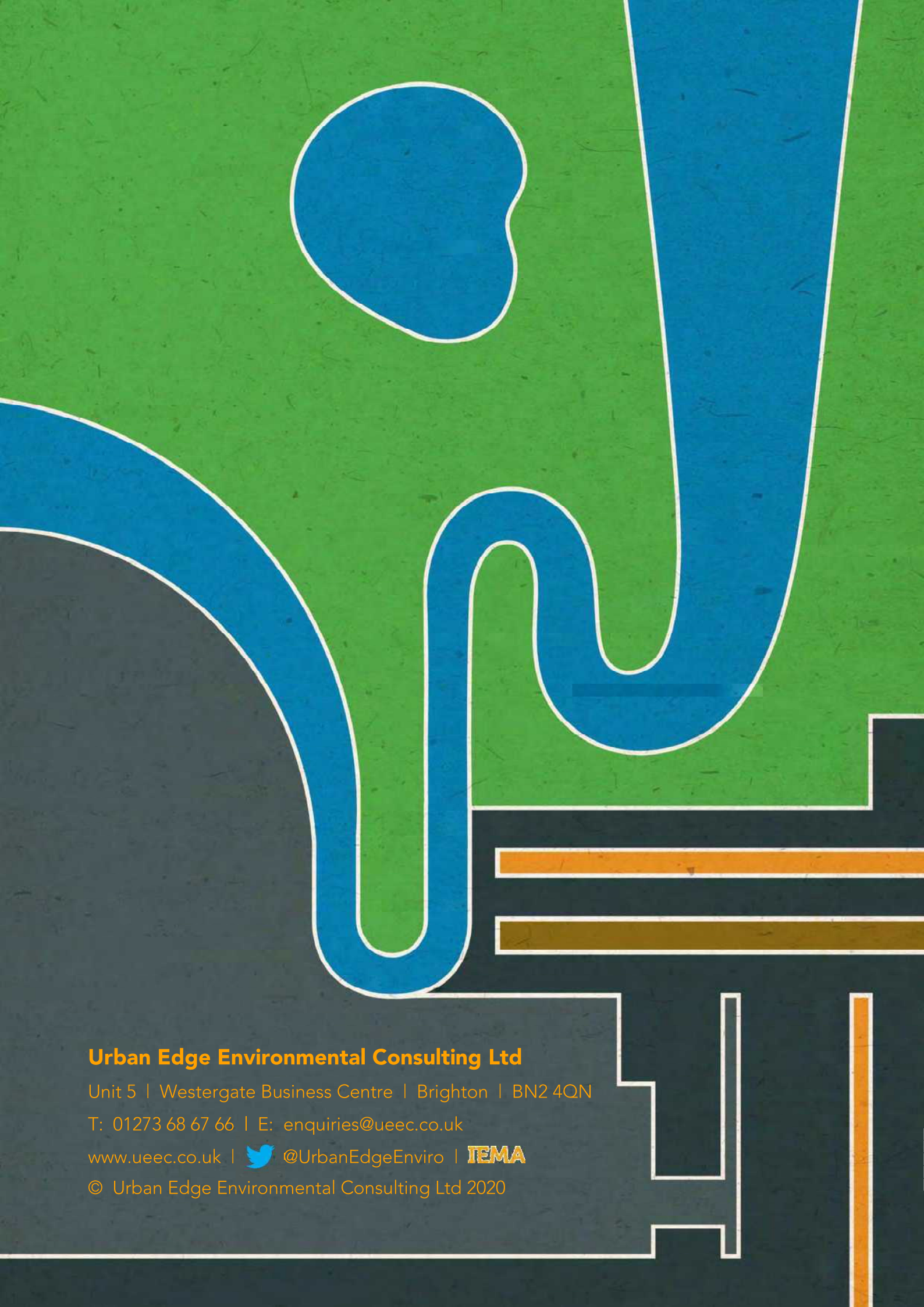
Email: hello@ueec.co.uk
Web: www.ueec.co.uk



Urban Edge Environmental Consulting Ltd

Unit 5 | Westergate Business Centre | Brighton | BN2 4QN

T: 01273 68 67 66 | E: enquiries@ueec.co.uk

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T: 01273 68 67 66 | E: enquiries@ueec.co.uk

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