PUSH Economic Development Strategy

Headline Sustainability Assessment

DTZ
125 Old Broad Street
London
EC2N 2BQ

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Contents

1. Introduction and Scope

PUSH (the Partnership for Urban South Hampshire) commissioned DTZ to refresh the Economic Development Strategy (EDS) for the sub-region. As part of this work, PUSH and DTZ identified the need to ensure that sustainability considerations were integrated into the drafting of the EDS update as far as possible, and extended the scope of DTZ's work to include a headline sustainability assessment.

The key aim of this component of work is to ensure that the EDS is sustainable and future-proof by highlighting any major conflicts with the sustainability agenda. Much work has been undertaken at both Local Authority and PUSH level in relation to sustainability issues. But few studies have considered the interaction between economic development and sustainability issues. The aim of this element of work is to consider the scenarios from the EDS (preffered scenario and baseline scenario) against the available suite of evidence, identify areas of concern, and suggest potential mitigation options to feed back into the EDS.

1.1 Need for a Sustainability Appraisal

The European Directive on Strategic Environmental Assessment places a mandatory requirement on authorities to incorporate an SEA into the process of drafting certain land use plans (i.e. Regional Spatial Strategies, Development Plan Documents, and Supplementary Planning Documents). The scope of the directive covers plans which are required by 'legislative, regulatory or administrative' provisions. In the UK, SEA is often undertaken alongside a Sustainability Appraisal – a methodology which was already in use in the UK prior to the transposition of the SEA directive into UK law.

There is no formal requirement to undertake an SEA or SA in the preparation of an Economic Development Strategy (an EDS is not a land use plan, and is also not required by legislative, regulatory or administrative provisions). However, authorities may choose to apply the principles of a SEA/SA in the preparation of other studies such as an EDS.

PUSH commission DTZ to undertake a *headline* sustainability assessment to consider the emerging EDS options against sustainability criteria, and the available suite of evidence on sustainability issues within the PUSH area. For the avoidance of doubt, this is not a formal Sustainability Appraisal or Strategic Environmental Assessment, nor is there a requirement for such a study to be completed. Only a limited amount of resource was available for the study, hence the focus of the study was to draw on currently available documentation, and carry out a workshop with relevant stakeholders. The overall aim of this study is to bring a consideration of sustainability issues into the preparation of the EDS to ensure that any major conflicts with the sustainability agenda are identified and resolved as far as possible.

It is also worth highlighting that PUSH will be considering the need and process for preparing a new spatial strategy in due course. If and when this spatial strategy is prepared, it would seek to deliver the aspiration of the EDS by teasing out the spatial, land use and related implications of the EDS. It would need to be subject to its own sustainability testing process, allowing the opportunity for further refinement of the approach and involvement from interested stakeholders.

1.2 Scope of the Assessment

Following discussions between PUSH and DTZ, the following key sustainability themes were identified for consideration within the headline sustainability appraisal:

- Land Use & Environmental Quality
- Climate Change (Adaptation) & Flooding
- Energy & Carbon
- Cultural & Historic Assets
- Demographic Change
- Deprivation
- Labour Market & Skills

1.3 Method & Process

For each of the above themes, the available published evidence was reviewed to identify key issues in the sub-region. We then compared the PUSH preferred growth scenario and policy aspirations within the draft EDS to the baseline growth projections, to identify potential positive and adverse outcomes within each theme.

The assessment therefore considers the ***relative*** outcomes of the preferred scenario compared to the baseline. Whilst the Sustainability Appraisal has not considered the absolute levels of growth in detail, the absolute levels of growth in the preferred scenario are lower than the previous PUSH growth aspirations and development levels (housing, employment floorspace etc) within the South East Plan, which have previously been subject to testing and consideration. Notwithstanding this, the understanding of the sustainability situation is constantly developing and there may well be substantial challenges associated with the baseline levels of growth.

Our initial analysis was tested and validated within a workshop with a number of key stakeholders (a full list of stakeholders is provided at Appendix 2). The EDS was consequently amended; particularly to build in mitigating actions against potential adverse impacts.

2. Review of Evidence Base and Thematic Assessment

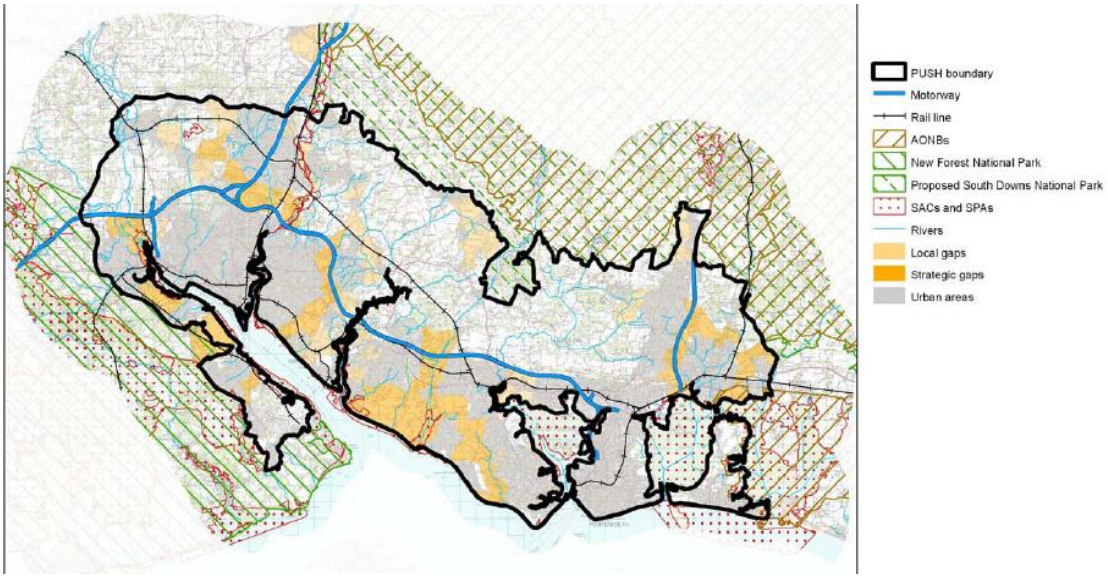
2.1 Land Use and Environmental Quality

2.1.1 Review of Literature

Following a review of relevant available literature, the following key points were identified:

- The natural environment is fundamental to quality of life in Hampshire.
- Hampshire is extremely rich in wildlife and biodiversity - with the greatest diversity of species of any county in England. The county embraces a remarkable diversity of habitats unparalleled in the South East – from ancient woodlands and wildflower meadows, lowland heathlands and chalk streams, to river valleys and coastal habitats. 23% of Hampshire's area is designated for its nature conservation importance.
- Hampshire has 145km of coastline - 78% of which is nationally or internationally designated. Freshwater and wetland habitats are under pressure from increased water demand and diffuse pollution via run-off.
- Many environmental assets are fragile or in decline.
- Hampshire includes the South Downs & New Forest National Parks. The New Forest is the largest area of semi-wilderness left in lowland England. The South Downs area was recently designated as a National Park. It extends to 1,600 sq km, including much of the Northern part of Hampshire. 108,000 people live within the park area.
- Investment is required to maintain and enhance environmental assets.
- Hampshire has a network of 'Green Infrastructure' - green spaces, landscapes, and natural elements that connect cities, towns, and villages. Green infrastructure provides benefits in terms of recreation, health, resources, the economy, and a sense of place and identity.
- 15% of Hampshire is urban or sub-urban – with a concentration of built up areas within the PUSH area. Urban areas can have considerable biodiversity
- South Hampshire has 20% less open space than other city-regions in the UK.
- Climate change will have a wide range of impacts on Hampshire's biodiversity. There will be adverse effects such as the loss of saltmarsh and mudflat due 'coastal squeeze' caused by sea level rise; and impacts to river and wetland habitat due to changes in flow, water availability and quality. Wet heathland will reduce in extent. The timing of naturally occurring events is being altered by climate change; resulting in population decline in some species. Climate change will also offer opportunities for biodiversity – such as expansion of the range of some butterflies Northwards. There is the potential for green infrastructure to reduce the impacts of climate change - reducing surface run-off, creating cooler micro-climates, and absorbing pollution. Wetlands and woodland have the potential to soak up water – reducing flooding.

The following diagram provides an overview of land use in the PUSH area:



2.1.2 Assessment of EDS against this sustainability theme

The following table provides a summary of the main interactions between this sustainability theme and the options identified in the EDS. The second column provides an assessment of the EDS Preferred Option relative to the EDS Baseline Option in relation to each interaction identified.

Key interactions with EDS	Comparison of EDS Preferred Option to Baseline
Impact of further development on habitats and biodiversity	**Positive:** less development overall in the preferred option, with a 'cities first' policy focusing development in urban areas
Impact of further development on urban green infrastructure	**Negative:** 'cities first' policy will lead to increased development in cities, which is likely to lead to loss of urban green infrastructure
Risks around increased mineral extraction and water usage	**Positive:** less development overall in the preferred option, leading to reduced mineral extraction and water usage in the local area
Limit on development in/near designated areas	**Positive:** there will be less development in the preferred option, with more of a city focus. Therefore there will be less tension between development and (rural) environmental assets.
Tourism / recreation potential	**Uncertain:** tourism/leisure is identified as a key sector in the preferred option. This will lead to increased growth in this sector, but may create risks to environmental assets of increased tourism and leisure activities if not managed correctly.
High quality assets have potential to attract/retain workers	**Positive:** there is an explicit focus on place marketing within the preferred option which will lever on the high quality environmental of the area to attract workers and investment.

2.2 Climate Change Adaptation and Flooding

2.2.1 Review of Literature

The review of literature identified the following key points:

- The PUSH area is exposed to flood risk from a number of sources. Flooding from the sea due to extreme tides is the predominant source of flood risk to the sub-region's most populated areas on low lying coastlines in Portsmouth, Southampton, Gosport, Havant, Fareham, and the New Forest. Flooding of coastal settlements from extreme tides and from normal high tides will increase due to sea level rise. Currently about 15% of Southampton city centre and 30% of Portsmouth's administrative area are in coastal flood zones. This will increase to about 50% and 67% respectively by 2115 due to sea level rise.
- All of the PUSH areas are at risk of flooding from rivers and watercourses, with the Rivers Test, Itchen, Hamble, Meon, Wallington, Hermitage Stream, and Lavant Stream passing through existing developed areas. In addition, the coastal frontages of Portsea and Hayling Island have experienced flooding caused by wave overtopping; and flooding due to excessive overland flow has caused significant problems in East Hampshire in the past. A number of areas in Winchester, Test Valley, and East Hampshire have been affected by groundwater flooding. Groundwater flooding of low lying areas of the coastal plain may increase as average sea levels rise.
- The sub-region has erosion protection works along the majority of its coastal frontages; the majority of which are privately owned. There are significant publically owned or maintained sea defences in parts of Portsmouth, minor ones elsewhere and none at Southampton. The management of these public sea defence assets is carried out by Operating Authorities. Central government funding (Flood Defence Grant in Aid) to operate, maintain and renew these assets is available (by competitive bidding) for the benefit of the existing community only. This funding is limited. It is likely to reduce in real terms, whereas demand for it is likely to increase in real terms due to climate change, hence its availability is likely to reduce significantly.
- There are no significant flood defences on rivers in the sub-region, although localised flood protection measures such as bank protection and maintenance of structures provide benefits in terms of flood risk in a number of locations.
- Climate change, in particular sea level rise, poses a significant risk to the sub-region. Sea-level-rise will reduce the standard of protection provided by existing sea defences. It will also increase the level of ordinary high tides. This will increase coastal groundwater levels which could increase coastal groundwater flooding and 'drown out' underground services. In addition, increasing severity of storm events is predicted to result in an increase in river flood flows, which will subsequently increase the risk of flooding from rivers.
- Research has shown that natural hazards such as flooding, and perhaps more importantly the fear of flooding, can have a major impact on the economic development of communities. It can affect inward investment, insurance, and where people want to live, work and invest. This is especially so for coastal communities, such as those within the PUSH area, which are threatened by sea level rise.
- There is also evidence to suggest a link between flooding and mental health at both an individual and community level.
- Significant investment in sea defences is required to protect the existing settlements and any future development in at-risk areas. Analysis has shown that investment of at least

£250 million[1] is required to protect existing developments alone (the additional investment associated with new development has not yet be quantified).

- The statistical analysis undertaken within the Strategic Flood Risk Assessment (2007) concluded that the draft South East Plan housing target of 80,000 new dwellings in the PUSH sub-region by 2026 is feasible with regard to flood risk, when assessed at the sub-regional level. However, when assessed at the local planning authority (LPA) area scale, some of the housing targets may not be feasible due to the extent of the Flood Zones 2 and 3 within some LPA areas. In particular, the administrative areas of Portsmouth, Southampton, and Gosport are significantly constrained by the extent of Flood Zones 2 and 3.
- Climate change studies also predict temperature rises in the area – with an average predicted increase +1.6^{o}c by 2020; +2.3^{o}c by 2050; and +3.9^{o}c by 2080. This could lead to increased heat stress, infrastructure risks, risks to biodiversity, heat related deaths, and risks to food security. A greater incidence of heat waves could lead to an increased number of deaths of older and more vulnerable people.

2.2.2 Assessment of EDS against this sustainability theme

Key interactions with EDS	Comparison of EDS Preferred Option to Baseline
Risk of flooding on new development	**Negative:** there will be less development overall in the preferred option, but the cities which are the focus of new development in the preferred option are more prone to flooding. There is a significant tension between the 'cities first' policy and the risk of flooding in PUSH cities.
Risk of flooding on existing development	**Uncertain:** enhancements to flood defences to support future development may protect existing development, however there is a lack of evidence on this issue. It is likely that there will be a risk of flooding to existing development in both EDS options, but the relative risk is not clear.
The fear of flooding (or risk of flooding) may deter investment into the PUSH area	**Uncertain:** it is unclear whether there will be a positive or negative impact in the preferred scenario relative to the baseline scenario – the impact of flooding and the fear of flooding will be felt in both scenarios.
Increased temperatures	**Uncertain:** it is unclear whether there will be a positive or negative impact in the preferred scenario relative to the baseline scenario.
Impact of new housing development on water abstraction / protected wetland areas	**Positive:** there will be reduced population and housing in the preferred option relative to the baseline.

[1] The figure of £250 million was sourced from a Hampshire County Council report on non-transport infrastructure. However the Environment Agency has advised that this figure is likely to be too low, and have indicated that the required defences at Portsea Island alone have a whole-life cost of £372 million. The Environment Agency will develop an update to the assessment of cost in due course.

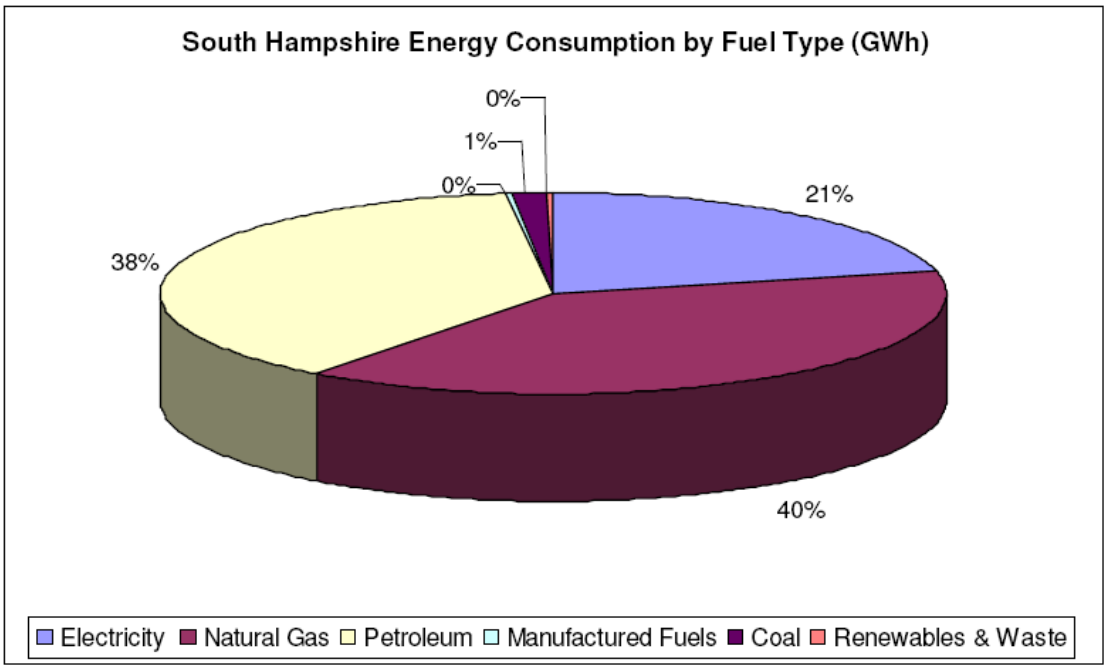
2.3 Energy & Carbon

2.3.1 Review of Literature

The review of literature identified the following key points:

Energy Consumption

- 99% of final energy consumption in the PUSH area is from conventional sources (21% electricity, 40% gas, 38% petrol, 1% coal). Less than 1% of energy consumption comes directly from renewable sources.
- Once the supply mix of electricity is taken into account (i.e. imports of grid electricity from elsewhere), around 2% of energy consumed comes from renewables and 9% from nuclear.
- There is a fairly even split in consumption between domestic (39%), non-domestic (32%) and transport (29%)
- One in five households lives in fuel poverty. The incidence of fuel poverty is highest within the PUSH urban areas (particularly Portsmouth), and is commonly associated with deprivation. Fuel poverty is also associated with the Winter Excess Death Effect – essentially an increase in the death rate particularly associated with older people in fuel poverty due to an inability to afford adequate heating.
- Based on production of emissions within the PUSH area – emissions stand at 6.7 million tonnes CO2 in 2006. In the business as usual scenario (taking account of future growth), emissions are forecast to increase to 7.7 million tonnes CO_2 by 2026.
- New development and retrofitting projects could result in demand for 250 GWh of biomass energy by 2026
- The trend for energy costs is an increase in costs over time – plus there are additional costs associated with energy use including carbon taxes such as the Carbon Reduction Commitment



Energy Supply

- The Fawley Refinery Complex supplies petroleum products across the UK – amounting to around 20 million tonnes of crude oil per annum. It produces petrol, diesel, jet fuel, heating oil, lubricating oil, and raw materials for a range of products.
- RWE Innogy operates an oil burning power station at Fawley – with around 1GW of capacity. It has 'opted out' of the EU Large Combustion Plant Directive; which means that it will eventually be forced to close.
- Marchwood Power has built a £400 million natural gas power plant (840MW) near Southampton which was opened in January 2010, employing 45 permanent staff.
- Local renewable energy supplies include: landfill gas (30MWe), incineration of waste (30MWe), and CHP plants including the university and RSH Hospital sites (30MWe). The CHP plants feed into a 12km heat network which serves 40 major consumers. There is a second CHP heat network at Portsmouth (0.5MWe), which serves the Charles Dickens estate.
- The opportunity for onshore wind is relatively low in the PUSH area, but Microgeneration could potentially meet 5% of total energy needs in the area if implemented as far as possible.
- There is a potential for 240MW of biomass capacity based on Hampshire's own biomass resources; and a further 200MW based on the concept of importing biomass through the port.
- Only 5 GWh of woodfuel per annum is supplied within the PUSH area at present (e.g. to put in context, a large secondary school uses 1GWh per annum). There is a *potentially available* biomass resource within PUSH area (plus 10km buffer) of 550GWh per annum. This is only around 3.5% of the PUSH region's energy demand.
- Hampshire is a leading county in terms of using its Municipal Solid Waste (MSW) to generate energy – with three Energy Recovery Facilities in the county (two in the PUSH area – Marchwood and Portsmouth). The ERFs utilise 430,000 tonnes of waste per annum to produce 30MW of electricity; but the waste heat produced by the plants is not currently used. Harnessing this would require significant capital investment.
- There may be possibilities to deploy very large chip boilers (e.g. 3MW+) alongside major developments / Strategic Development Areas
- Barriers to deployment of biomass include: weaknesses in the supply chain, technical issues, capital and running costs relative to conventional energy sources. The lack of local demand is to an extent holding back the development of the local supply chain.

Waste Management

- Hampshire currently spends £104 million per annum on waste management services.
- There is potential to reduce this through greater use of new technologies such as recycling and recovery.

Environmental Goods and Services sector and LCEA bid

- The EGS sector employed 16,700 people in the PUSH area in 2008; and has experienced +56% growth since 1998.
- There are 600 Environmental Technology firms in the area.
- The local universities have relevant expertise in environment, sustainability and engineering.
- The PUSH area has put together a bid for Low Carbon Economic Area (LCEA) status - focusing on the marine renewable sector in particular. The aim in gaining LCEA status is to accelerate R&D and business investment, attract companies and inward investment, and develop a critical mass of low carbon skills.

Policy and Strategy

- A range of legislative drivers are promoting a reduction in carbon emissions and an increase in the proportion of energy coming from renewable sources. Key targets include:
  - 26-32% reduction in emissions by 2020 (Climate Change Act)
  - 15% energy (consumed) coming from renewable energy sources by 2020 (UK Renewable Energy Strategy)
  - Zero carbon new homes by 2016, and zero carbon non-domestic buildings by 2019
  - Sub-regional renewable energy target for Hampshire of 115MW by 2010 and 122MW by 2016 (SW Regional Spatial Strategy – now defunct)
- A 26% reduction by 2026 could be achieved in the PUSH area on the basis of the following measures: greening the grid, code for sustainable homes, code for sustainable business, retrofitting (domestic and non-dom), decentralised generation, traffic measures and demand management, national and EU measures. However there are concerns about the economic viability of virtually all of these measures – i.e. they will only be possible with government support / carbon taxation.
- There is a need to retro-fit the existing housing stock within the PUSH area in order to reduce emissions. Cavity wall insulation and loft insulation are generally seen as the most cost-effective measures; but there are around 100,000 'hard to treat' properties in the PUSH area where these measures cannot be implemented (e.g. solid wall housing).
- The biomass sector could be supported further through: forming strategic links between supply and demand, creating demand by the uptake of biomass systems within PUSH authorities' own building stock, encourage decentralised energy through planning policy, ebaling demand through the creation of an ESCO; supporting the development of a medium scale wood pellet plant.
- An opportunity exists for the development of a 30,000 tonne per annum wood pellet plant using by-products from sawmills – half of the capacity could be used within the PUSH area.
- Legislation such as the WEEE Directive and End of Life Vehicles directive are placing more responsibility on producers of goods to consider end of life. This will create new industries around recycling / extending the lifetime of goods, and potentially reduce the overall consumption of resources.

2.3.2 Assessment of EDS against this sustainability theme

Key interactions with EDS	Comparison of EDS Preferred Option to Baseline
Emission reduction	**Positive:** the city centre focus in the preferred option is likely to involved denser forms of development. This is likely to be more efficient than the baseline option in terms of emissions from the built environment and reduced need for car-based travel. Dense development also offers greater potential for biomass/heat networks – providing a concentration of energy demand. There is also lower population growth overall in the preferred option compared to the baseline option.
Developing the low carbon economy / Environmental Technologies sector, Renewables, Retrofitting, Recycling	**Positive:** Environmental Technologies and Marine are identified as key sectors within the preferred option. This activity will not only boost job growth, but also act as a catalyst in reducing emissions and environmental impact in the area.
Carbon leakage; impact of legislation on energy generation	**Uncertain:** it is possible in both scenarios that greater environmental legislation will lead some emitters/plants to close or relocate - for example, the oil burning power station at Fawley. However it is unclear whether this impact will be any different in the preferred and baseline options.

2.4 Heritage & Culture

2.4.1 Review of Literature

The review of literature identified the following key points:

- The PUSH area has a very special history and a range of unique historical assets – including Roman settlements; ancient woodlands; iron-foundries, shipbuilding and a rich industrial history; naval and military history; the history of cruise liners, including deep connections with the Titanic.
- The character and distinctiveness of South Hampshire is one of the factors in creating a 'sense of place'
- PUSH has a strong network of cultural infrastructure – a cultural mapping exercise for the PUSH area was carried out in 2008 and identified the following cultural provision in the area:

Category	Number of facilities
Public libraries	75
Community centres	75
Village halls	37
Museums	14
Art galleries	13
Performing arts venues	18
Arts production and rehearsal space	11
Visitor attractions	12

- The South Downs area was recently granted National Park status
- South Hampshire has a strong heritage, with a network of historical assets. There are 57 English Heritage registered historic parks and gardens in Hampshire (just under 5% of the nation's most significant historic parks and gardens). Hampshire (excluding Portsmouth and Southampton) also contains almost 13,000 listed buildings which range from churches, country houses, and picturesque cottages to Second World War structures, telephone boxes, walls, and railings. 95% of these fall into the Grade II category.
- The PUSH area has a buoyant creative/media sector with 32,000 employees in 2008 (+112% increase on 1998). The tourism/leisure sector in the PUSH area employs 14,000 people (+33% increase in 1998)
- There are opportunities in the PUSH area related to the 2012 Olympics – the yachting event is being held at nearby Weymouth, whilst the PUSH area has also been identified as a potential location for a training centre for archery.
- A proposal has been put forward for World Heritage Site status for Portsmouth's historic harbour – although the current status of this proposal is unknown.

2.4.2 Assessment of EDS against this sustainability theme

Key interactions with EDS	Comparison of EDS Preferred Option to Baseline
World Heritage Site proposal	**Uncertain:** if World Heritage Site status is granted it could constrain development in Portsmouth; but would support growth in the tourism sector. It is not clear how these impacts would vary across EDS options.
2012 Olympics	**Positive:** tourism & leisure is identified as a key sector in the preferred option
Impact of development on historic parks and gardens and listed buildings	**Positive:** there will be less development overall in the preferred option, reducing the impact on cultural and historic assets.
Potential to reuse historical buildings at risk within urban areas	**Positive:** the 'cities first' policy within the preferred scenario will support the re-use of buildings within the cities, potentially including those currently at risk
High quality assets have potential to attract/retain workers	**Positive:** there is an explicit focus on place marketing within the preferred scenario – the high quality environmental and cultural/historic assets of PUSH will be marketed to attract workers and investment

2.5 Deprivation

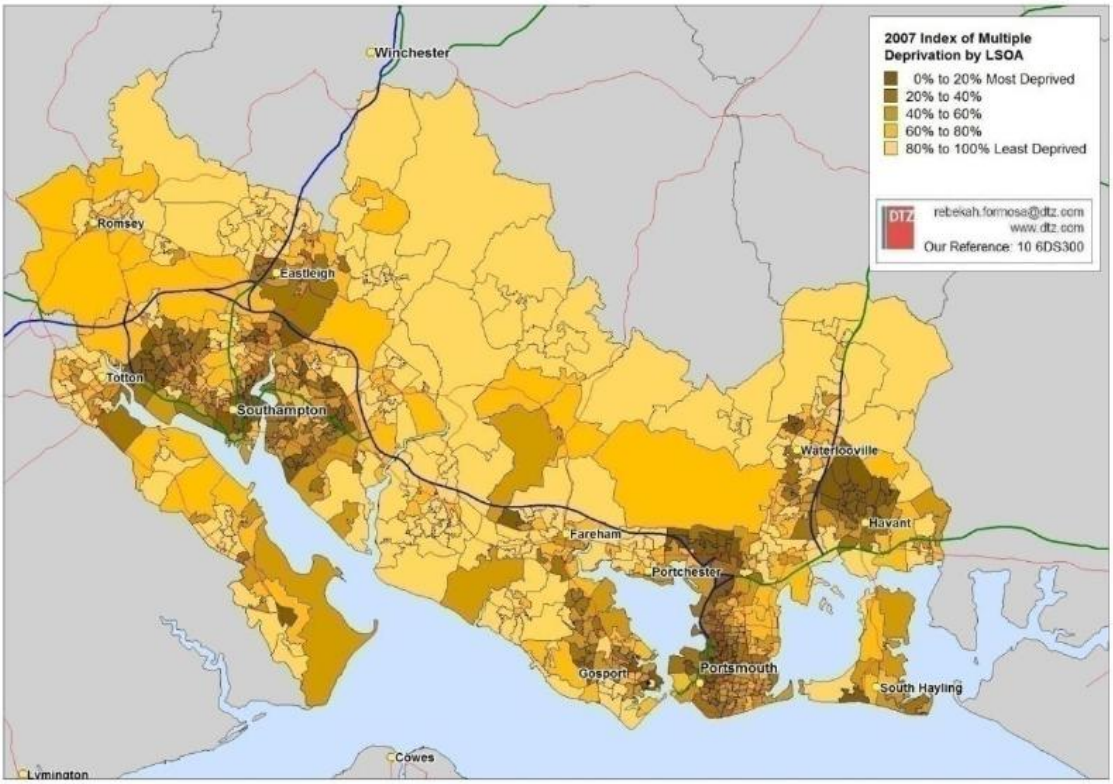
2.5.1 Review of Literature

The review of literature identified the following key points:

- Hampshire is generally a prosperous part of the South East economy, with the rural Hampshire districts amongst the least deprived in the country.[2] However, there is a concentration of deprived wards in urban South Hampshire – particularly the cities of Portsmouth and Southampton
- 66% of LSOAs in the PUSH cities are in the worst 50% LSOAs in England – meaning that the cities have above average levels of deprivation
- 8% of LSOAs in the PUSH cities are in the 10% most deprived areas in England, with a further 14% in the 10%-20% range
- In the PUSH cities, the key deprivation factors appear to be Living Environment, Education & Skills, and Crime
- The most deprived areas in Portsmouth are Charles Dickens, Paulsgrove, Cosham and St Thomas wards.
- The most deprived areas in Southampton are in Woolston (Weston), Bevois (Northam), Bitterne (Thornhill), Millbrook and Redbridge wards.
- There are some pockets of deprivation in the PUSH Rural Fringe, although the overall level of deprivation is low. The key deprivation factor in the rural areas is Barriers to Housing and Services.

[2] We recognise that some criticisms have been made of the use of the IMD as a measure of rural deprivation; however there are no alternative measures available which provide the same overview of deprivation as the IMD.

The following map provides an overview of deprivation levels across the PUSH area:



2.5.2 Assessment of EDS against this sustainability theme

Key interactions with EDS	Comparison of EDS Preferred Option to Baseline
Concentration of deprivation in PUSH urban areas	**Positive**: the city centre focus within the preferred scenario will mean new jobs will be located closer to deprived areas. There is also a higher level of job creation overall in the preferred scenario. Both of these factors will mean that the preferred scenario is more likely to address deprivation and worklessness than the baseline option.
Isolated pockets of deprivation in rural areas	**Uncertain/No impact:** the city centre focus in the preferred scenario means that there may not be any significant changes to deprivation within rural areas
Key deprivation factors: environment, crime, skills	**Positive:** there is an explicit focus on improving skills of the population within the preferred scenario

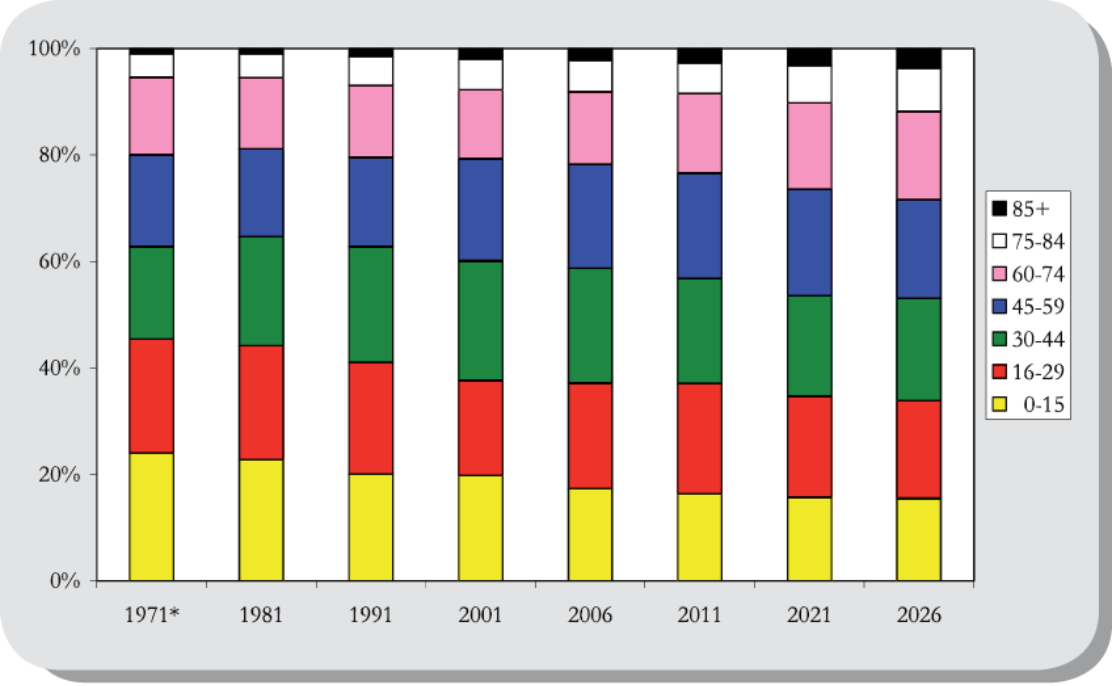
2.6 Demographic Change

2.6.1 Review of Literature

The review of literature identified the following key points:

- Hampshire has experienced significant net in-migration over the period 1961-2005
- There has been a significant increase in both the population and the number of households over the last 50 years
- The death rate is declining, leading to higher life expectancies
- There is an ongoing shift in the age structure – with an increase in the proportion of older people in the population (the proportion of over 60s increasing from 21% in 2001 to 27% in 2026)
- By 2026, over half of people will be aged 45 years and over
- The number of people aged 85+ is set to double over the period 2001-2026
- The proportion of people living on their own is increasing over time (proportion of single person households increasing from 20% in 1981 to 37% in 2026) – particularly people in their 30s, 40s and 50s

The following chart provides an overview of demographic trends in Hampshire:



The implications of these trends are as follows:

- More people will spend more time in retirement
- Low numbers of children entering education – the number of school age children will fluctuate over the coming years, with an overall decrease in the number of 5-15 year olds by 2021
- Changing housing needs due to increase in proportion of one-person households
- Increased energy and water use, since lower occupancy households (i.e. one-person households) tend to use more energy and water per head than in larger households.

- Increased ageing, leading to impacts on the health, care and social support system. The overall level of healthcare required by older people may remain relatively static despite ageing, as the average period of ill health remains relatively constant. However, factors such as higher levels of divorce, family breakdown, smaller family sizes and migration will reduce the support provided by family members and consequently place more pressure on care agencies for health and long term care needs. The level of social support required for older people is likely to increase.

2.6.2 Assessment of EDS against this sustainability theme

Key interactions with EDS	Comparison of EDS Preferred Option to Baseline
Impact of ageing in terms of increased demand on health and care sector	**Positive:** health & care has been identified as a key sector in the EDS preferred scenario, which will boost economic activity and coordination in this sector
Fluctuation in number of 5-15 year olds, with overall decrease by 2026. Reduction in demand for schools in long term, but variation in short-medium term.	**Uncertain:** not clear how this will vary across EDS options
Increase in workforce	**Positive:** high levels of job creation in the EDS preferred scenario
Energy and water consumption in homes	**Positive:** changes in the size and structure of the population will lead to changes in the patterns of energy, water and resource use. The lower overall population growth in the preferred option is likely to result in lower energy and water consumption relative to the baseline. It is also worth noting however, that the increased prevalence of smaller households in both options (due to demographic changes) may have a bearing on consumption; since smaller households tend to use more energy and water per head than larger households.

2.7 Labour Market and Skills

2.7.1 Review of Literature

The review of literature identified the following key points:

- The Economic Activity rate in PUSH (80%) is below the rate for Hampshire (84%) and the South East (82%) but above the GB average (79%)
- The unemployment rate is rising, with a claimant count rate of 3.5% in PUSH in December 2009 compared to 1.7% in January 2008.
- The unemployment rate in the PUSH area is higher than the Hampshire and SE averages, but lower than the GB average of 4.1%.
- The youth unemployment rate is somewhat higher at 5.2% (in December 2009) – there are currently 6,000 18-24 year olds claiming unemployment benefit in the six core PUSH authorities. There is a risk that some of those unemployed become completely detached from the labour market.
- The PUSH area has a lower proportion of the working age population with NVQ4+ skills than comparator areas (27% in PUSH compared to 32% in the South East)
- The PUSH area has a relatively low proportion of managerial and professional jobs compared to the South East.

- In excess of 100,000 working age people in South Hampshire are currently economically inactive. It is estimated that 34,000 of these people would like to enter employment, but are held back by barriers such as disability, age, gender, race, or the need to look after family
- There are almost 78,000 inactive residents who hold no qualifications, 11,000 of these are between the ages of 16-24.
- The four local universities create a significant supply of supply of skilled graduates. The current student population is around 65,000 students – Southampton (24,000) Portsmouth (19,000), Winchester (6,000), Solent (16,000). However there are concerns that a high proportion of these students leave the PUSH area after graduating.

2.7.2 Assessment of EDS against this sustainability theme

Key interactions with EDS	Comparison of EDS Preferred Option to Baseline
High/rising levels of unemployment; Number of economically inactive workers	**Positive:** the preferred scenario will create higher levels of job growth than the baseline scenario, which will address unemployment and economic inactivity to a greater extent.
Relatively low levels of skills; skills as a barrier to employment	**Positive:** there is a focus on improving skills of population/workforce within the EDS preferred scenario

3. Summary of Sustainability Challenges and Mitigation

3.1 Positive Outcomes & Opportunities

The headline sustainability appraisal highlighted a number of ways in which the EDS preferred scenario will deliver beneficial outcomes relative to the baseline scenario. The majority of the positive outcomes stem from the following elements within the EDS:

- **Lower levels of development overall**. The focus on skills and employability is targeted at reducing some inward migration which in turn will reduce the total population and the demand for housing. The reduced demand for housing more than offsets the increased requirement for employment property as a result of higher growth. The focus on cities also creates the opportunities for higher densities of development and re-use of brownfield land. This brings benefits in terms of the potential for reduced impacts on habitats and biodiversity, and particularly for designated environmental or conservation areas.
- The **cities first focus** leads to a number of potentially positive outcomes including:
  - The proximity of employment opportunities to deprived communities, combined with a commitment to skills and workforce development and the multi agency ESB, will address barriers to employment and bring greater prosperity to deprived areas.
  - Employment opportunities will be more accessible via sustainable transport methods.
  - An increase likelihood of denser forms of development, improving land use and resource/energy efficiency. The dense pattern of development may also make the deployment of renewable technologies such as CHP heat networks more viable (due to the concentration of sufficient heat loads).
  - Potential to find new uses for historical buildings which are currently at risk, thus ensuring their future.
- The commitment to **skills and workforce development** will address a number of social issues such as deprivation, barriers to employment, and unemployment (including youth unemployment). It will also reduce the requirement for in-migration to meet the demand for skilled workers, with commensurate benefits (described above) in terms of reducing the requirement for housing.
- Focus on the **environmental technologies sector and the Low Carbon Economic Area (LCEA) bid**. This is a growth sector where PUSH has significant potential due to its existing business base and assets. The focus on this sector in the EDS scenario will bring economic benefits in terms of jobs and GVA. It will support job creation both within PUSH and the surrounding rural areas (for example through the supply of biomass). Moreover, there are potentially positive environmental impacts resulting from the focus on the sectors and LCEA bid due to its focus on improving energy, water and resource efficiency. There are further opportunities linked to planning measures to ensure new development is sustainable and future proof.
- The focus on the **tourism/leisure sector and tourism promotion**. This is likely to be of benefit in terms of job creation – particularly given the involvement of the PUSH area in the 2012 Olympics, and drawing on the sub-region's environmental and cultural assets.
- Identification of **health** as a key sector in recognition of the challenges of a growing and ageing population.

3.2 Negative Outcomes & Challenges

There are also some potentially adverse impacts of the preferred EDS scenario relative to the baseline scenario, as follows:

- Whilst the cities first policy provides a number of benefits in sustainability terms it also presents a number of challenges, in particular:
  - Potential challenges resulting from **sea level rise, flood risk** and the **fear of flooding**. There will be flood risks in the baseline scenario, but these could be exacerbated within the EDS preferred option due to the focus of development in the PUSH cities. Parts of Portsmouth, Southampton and Gosport have all been identified as being at significant flood risk, and there is a limit to the level of development which can take place within these districts without placing it at risk. This makes flood risk mitigation and adapting to sea level rise key requirements for existing and future development, and will require substantial financial investment. Sea level rise and flood risk have emerged as the most critical issues in this assessment and ensuring investment in flood defences and mitigation measures needs to be central within the EDS.
  - Potential pressures on **green infrastructure** within the cities as a result of higher levels of activity due to policy commitment. The PUSH cities already have a relatively low level of open space compared to other cities, and green infrastructure in the cities is already under pressure. The focus of further development within the cities will place green infrastructure under increased pressure. Steps will need to be taken to maintain and enhance green infrastructure within the cities where possible.
- **Identification of Tourism and Leisure** as a key sector, together with tourism promotion. Whilst these policies may support job creation and an improvement in the economic performance of the PUSH area; any growth in tourism and recreation may place an additional burden on environmental assets (many of which are already in a fragile state), and needs to be carefully managed.

3.3 Uncertainties

The trade off in terms of lower levels of population and housing versus higher levels of employment and business activity provides uncertainties in some areas. In particular:

- Resource usage in terms of water, minerals, waste etc.
- Transport usage and congestion
- Carbon emissions

There are uncertainties around the impact of climate change across the two options being considered – in terms of the impact of changes in weather conditions, sea level rise, and flood risk. There are already significant numbers of homes, workplaces and infrastructure at risk of flooding within the PUSH area, and this will increase with sea level rise. Further development within flood risk areas should be avoided. Given that there preferred EDS option is likely to require additional funding for enhanced flood defences this may also benefit existing areas at risk. The amount of long term funding which will be required to adapt to persistent sea-level-rise, and sources for that funding, should be investigated further.

There are also uncertainties around the extent of demographic change. It is likely that there would be an increase in the number of older people in both options under consideration, which may lead to an increased requirement for health and care services. The number of school children will fluctuate over the assessment period, and this will impact on the demand

for school places over time. There are also uncertainties around the extent to which future development will address the isolated pockets of deprivation within rural areas.

There are also uncertainties associated with the interaction between changes. For example climate change may impact on the demand for water resources (e.g. through an increase in washing due to higher temperatures) and water supply (e.g. due to changes in precipitation).

3.4 Summary

Overall, the comparison between the EDS preferred scenario and baseline scenario is generally positive. The thrust of the strategy development is around improving economic and social sustainability by securing growth, engaging and investing in the workforce to improve labour market outcomes and focusing development on the cities. The Sustainability Appraisal has shown that the proposed policy options will largely enhance economic, social and environmental sustainability.

The greatest challenge in achieving PUSH aspirations is that of flood risk and fear of flooding, particularly in the cities. If the cities are to fulfil a role as the drivers and hosts of growth in both employment and housing terms, there is a vital need to ensure underpinning investment in flood defence and mitigation is in place.

Appendix 1: Bibliography

In undertaking the headline sustainability assessment, the following documents were reviewed by DTZ:

- Draft Sub-regional Strategy
- South Hampshire Green Infrastructure Project (2008)
- The PUSH Green Infrastructure Strategy
- HCC – State of Hampshire's Biodiversity
- HCC – Impacts and Opportunities of a changing climate on Hampshire's Biodiversity (2007)
- South Hampshire Cultural Strategy (2009)
- Spatial Planning and the Provision of Cultural and Sporting Infrastructure in the PUSH area (2009)
- HCC – Historic Buildings Record
- HCC - Hampshire Parks & Gardens record
- HCC - Hampshire Historic Landscape Report
- Strategic Flood Risk Assessment for South Hampshire
- Flood Risk & District Housing Figure Report (2006)
- Sustainable Communities Strategy (for Hampshire County Council and some PUSH Local Authorities)
- South Hampshire Sub-regional Strategy – Background Paper 4: Infrastructure (2005)
- The PUSH Infrastructure Strategy (Nov 2006)
- Feasibility of an Energy & Climate Change Strategy for PUSH (2008)
- Biomass Supply Chains in South Hampshire (2009)
- Feasibility study for the establishment of an ESCo
- PUSH Sustainability Policy Framework
- HCC – Sub-regional demographic forecasts
- HCC – The Demographic Future of Hampshire (2007)
- Skills for employability & change (2009)
- HCC – IMD data analysis
- Portsmouth IMD 2007 analysis (2008)
- Southampton IMD 2007 analysis (2008)
- PUSH Economic Development Strategy
- PUSH LCEA bid

Appendix 2: Stakeholders attending Workshop

The following stakeholders attended the sustainability workshop on the 16th June 2010:

Name	Organisation
Edward Dawson	CPRE
Clive Chatters	Hampshire and Isle of Wight Wildlife Trust
Pauline Holmes	Hampshire and Isle of Wight Wildlife Trust
Richard Lemon	Natural England
Gareth Simmonds	Portsmouth Water
Steve Williams	English Heritage
Rob Gazzard	Forestry Commission
Charlotte Lines	Environment Agency
Tony Burch	Environment Agency
Gerrard Marsden	Young People's Learning Agency
Martin Shefferd	Hampshire County Council – Children's Services
Richard Ellis	Hampshire County Council – Adult Services
Peter Errington	Hampshire County Council - Planning
Frank Campbell	Havant Borough Council
Kishor Tailor	PUSH
Richard Howard	DTZ
Stuart Hardisty	DTZ