# Watford Local Plan Proposed Modifications

## Sustainability Appraisal Report

## Appendix B: Baseline Data

Prepared on behalf of:

**Watford Borough Council**

**Date:** May 2022

**Prepared by:**

ClearLead Consulting Limited

The Barn, Cadhay, Ottery St Mary, Devon, EX11 1QT, UK

01404 814273

# Quality Management

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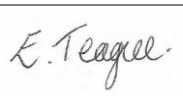
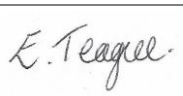
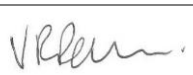
| **Prepared by** | I Teague / L Dunkerley | I Teague / L Dunkerley | V Pearson |
| **Signature** |  |  |  |
| **Checked by** | J Mitchell | J Mitchell | J Mitchell |
| **Signature** |  |  |  |
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# 1 Introduction

This Appendix presents the baseline information on the environmental, social and economic characteristics of the Watford Borough collated previously for the Sustainability Appraisal (SA) of the Watford Borough Local Plan Review. It now accompanies the Final Draft Local Plan SA Report and has been updated in 2018. For the production of the Final Draft Local Plan SA Report a full baseline update was not possible due to time constraints, data gaps and the uncertainty around some of the data sets due to the impacts of the Covid-19 pandemic.

Baseline data enables a characterisation of the plan area to be developed, including the sensitivity of the environment. Gaining an understanding of this information allows the impacts of the plan to be assessed and its performance to be monitored after adoption. Baseline information can put the plan area into context in relation to a national or regional situation or in relation to adjacent areas.

The detailed baseline information has been compiled in a series of topics (listed below) in line with published guidance[1] to include comparators, targets, trends and indicators and is presented in turn within this appendix:

- Economy;
- Employment & Skills;
- Population;
- Housing;
- Human Health;
- Crime & Safety;
- Transport & Accessibility;
- Air, Noise & Light Pollution;
- Climate;
- Biodiversity;
- Cultural Heritage;
- Landscape & Townscape;
- Soils & Geology;
- Water; and
- Waste.

[1] A practical guide to the Strategic Environmental Assessment Directive 2005 ODPM ISBN 1851127887

## 2 Economy

Watford's close proximity to London has always meant it has had a robust economy and has provided a strong location for business and industry. During the early 20th century the borough relied heavily on its print and traditional manufacturing industries but the demise of this during the 60s, 70s and 80s required a rejuvenation of the town's local economy. Today the borough is a successful commercial hub with 5,735 businesses[2] employing in excess of 57,000 people[3].

The borough has gained over £1bn in local investment since 2010 in order to help regenerate existing commercial areas and create new, high quality modern spaces for a variety of businesses.

Table 2.1 shows the share of business types in the borough. The majority of businesses in Watford are classed as micro (0-9 employees) which is a slightly lower than the Hertfordshire and the UK average. However, it does accommodate a higher proportion of medium to large firms when compared to the eastern averages which demonstrates the town's ability to attract major employers seeking a lower cost alternative to London.

**Table 2.1: Type of businesses[2]**

| | Watford (Numbers) | Watford (%) | East (Numbers) | East (%) |
|---|---|---|---|---|
| **Enterprises** | | | | |
| Micro (0 To 9) | 4,875 | 90.2 | 244,305 | 90 |
| Small (10 To 49) | 415 | 7.7 | 22,095 | 8.1 |
| Medium (50 To 249) | 85 | 1.6 | 4,000 | 1.5 |
| Large (250+) | 30 | 0.6 | 995 | 0.4 |
| Total | 5,405 | - | 271,395 | - |
| **Local Units** | | | | |
| Micro (0 To 9) | 5, 425 | 85.2 | 266,205 | 85.4 |
| Small (10 To 49) | 725 | 11.7 | 36,745 | 11.8 |
| Medium (50 To 249) | 170 | 2.7 | 7,765 | 2.5 |
| Large (250+) | 25 | 0.4 | 995 | 0.3 |
| Total | 6,365 | - | 311,600 | |

[2] Nomis, Labour Market Profile (Watford), 2020

[3] Watford Borough Council Economic Development Strategy, 2015-2020

Table 2.2 shows the number of new business registrations between 2014 and 2019. The number of new business registrations continues to rise, far exceeding the regional average. Watford had the highest business registrations rates in the east of England in 2019.

**Table 2.2: New business registration rate per 10,000 population (2014-2019)**[4]

| Year | Watford | East |
|---|---|---|
| 2014 | 95.3 | 67.4 |
| 2015 | 118.7 | 72.0 |
| 2016 | 118.0 | 79.5 |
| 2017 | 103.7 | 71.9 |
| 2018 | 106.4 | 69.6 |
| 2019 | 147.3 | 71.5 |

On the whole Watford is characterised as being a net importer of labour. Around 14,400 Watford residents work in the borough but 24,800 residents commute to work elsewhere (many in London, but also in neighbouring areas), while 28,800 people commute into Watford to work[5]. Increasingly; however, the borough is becoming a larger exporter of labour as the number of in-commuting workers has remained relatively unchanged whilst the number of residents working elsewhere has increased by 18% between 2001 and 2011[3].

In employment terms, the largest sectors in Watford in 2019 were professional, scientific and technical (20.3%), and wholesale and retail trade (including repair of motor vehicles and motorcycles) (17.2%) and human health and social work activities (12.5%),)[6]. The, manufacturing, arts, entertainment and recreation, and transportation and storage sectors are under-represented compared with the regional and national rates.

[4] Local Government Association, *New business registration rate per 10,000 resident population aged 16 and above in Watford*, 2020

[5] Hertfordshire Strategic Economic Plan, 2017

[6] Nomis, Labour Market Profile (Watford), 2020

Employment spaces are being lost in the borough and much of it is dominated by industrial uses although commercial office space is also fairly significant at just over 200,000m² [7]. Currently, the majority of employment activity in the borough is focused in four key locations:

- Clarendon Road, Watford's prime office location;
- Watford Business Park in the south west;
- Imperial Way/Colonial Way, immediately to the north of Watford Junction station; and
- Greycaine Road/Odhams Industrial Estate next to North Western Avenue (the A41).

WBC is working with Hertfordshire County Council on the best way to achieve maximum economic impact from new major developments across the borough. Most developments include the regeneration of brownfield sites to bring forward new spaces for much needed commercial developments. The biggest of these projects is the regeneration of a 29-hectare brownfield site surrounding Watford General Hospital and Watford Football Club, known as the Watford Health Campus. The £270m project will bring forward 750 new homes as well as significant new business and employment opportunities with new commercial and industrial spaces and capacity for up to 1,300 new jobs[3].

Other large-scale developments are also taking place in the borough which over the next 20 years should provide a total 9520 jobs and ~£582m per annum. The largest value project is the extension of the Metropolitan Line at £284.4m, but it offers the greatest long-term impact. However, due to a funding gap, this project is yet to be finalised. Table 2.3 shows the key major developments in the borough and the total number of jobs and long-term impact they are likely to have.

**Table 2.3: Major Developments[3]**

| Development Name | Total Direct Jobs | Gross Development Value | Long Term Impact (Direct GVA per Annum) |
|---|---|---|---|
| Ascot Road/ Cassiobridge | 3020 | £100m+ | £130.8m |
| Watford Business Park | 1,110 | £100m+ | £47.8m |
| Watford Health Campus | 1,280 | £270m | £41.4m |
| Watford Junction Interchange | 1,910 | £600m+ | £41.40 |
| Town Centre | 2,200 | £156.9m | £23.9m |

[7] Watford Economic Growth & Delivery Assessment, 2014

| Table 2.3: Major Developments[3] | | | |
|---|---|---|---|
| **Development Name** | **Total Direct Jobs** | **Gross Development Value** | **Long Term Impact (Direct GVA per Annum)** |
| Metropolitan Line Extension | - | £284.4m | £300m+ |
| **Total** | **9520** | **£1.5b** | **£582m** |

# 3 Employment & Skills

Employment is higher than the national average which is helped by the town's ability to attract a number of larger employers. However, many Watford residents are commuting into London for higher paid jobs. Job growth is forecast to increase significantly in the borough and the wider sub-region as the UK economy continues to stabilise

The economic activity rate in Watford is 80.7% which is higher than the national and average[8]. Levels of unemployment are lower than the national average (3.9%) at just 3.7%, although higher than the regional average (3.4%)[8]. Table 3.1 shows the levels of employment and unemployment in the borough, as well as the east of England and national averages.

**Table 3.1: Employment and unemployment (Jul 2016-Jun 2017)[8]**

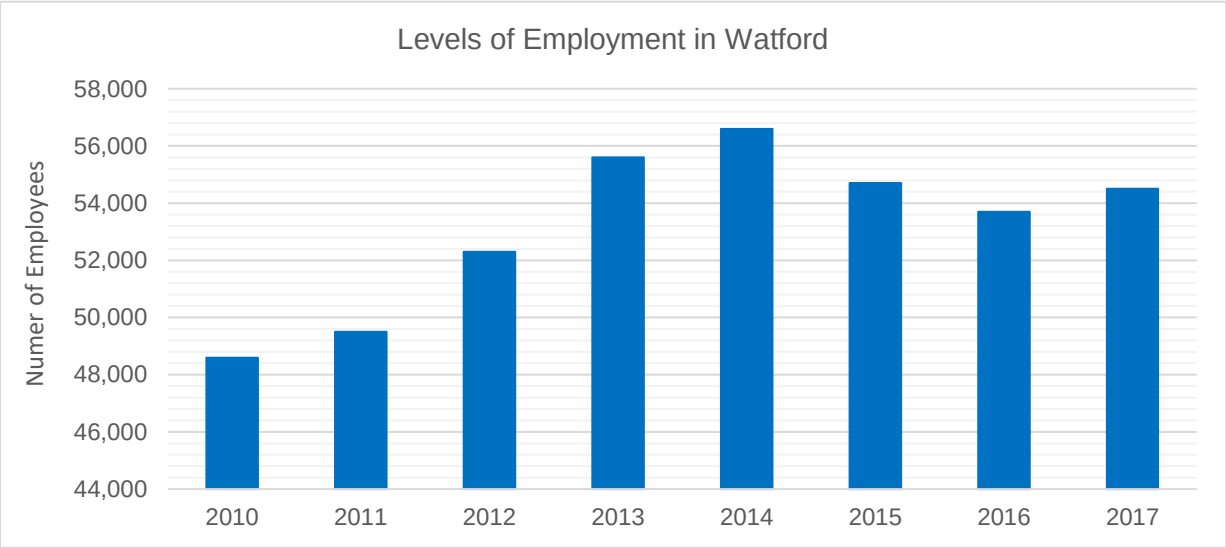
| | Watford | Watford (%) | East (%) | GB (%) |
|---|---|---|---|---|
| Economically Active | 54,700 | 80.7 | 81.1 | 79.4 |
| In Employment | 52,700 | 77.7 | 78.3 | 76.2 |
| Employees | 47,600 | 69.8 | 67.1 | 65.2 |
| Self Employed | * | * | 10.9 | 10.8 |
| Unemployed | 2,000 | 3.7 | 3.4 | 3.9 |

*sample size too small for reliable estimate

Figure 3.1 shows the levels of employment in the borough between 2010 and 2017. Overall employment has increased by 10.8% which peaked at 56,600 people in employment in 2014. Levels of employment dropped in 2015 and again in 2016 but they are steadily back on the rise.

[8] Nomis, Labour Market Profile (Watford), 2020

**Figure 3.1: Levels of Employment in Watford 2010-2017[8] ***




* The data has been taken from rolling 12-month totals, with data points shown at the end of each quarter. All data above has been taken from Q2 of each respective year.

Figure 3.2 shows the employment trend in the borough as well as the regional and national trends. The Watford trend differs considerably from the national and regional averages but during this period employment rates remained well above the national and regional averages. The regional and national trends demonstrate a steady rise over time with no significant increases or drops. Watford on the other hand, has had a significant increase in employment between 2010 and 2013, rising to 89%. This plateaued between 2013 and 2014 and then dropped dramatically between 2014 and 2016.

**Figure 3.2: Employment Trends Locally, Regionally and Nationally (2010-2017)[8]**

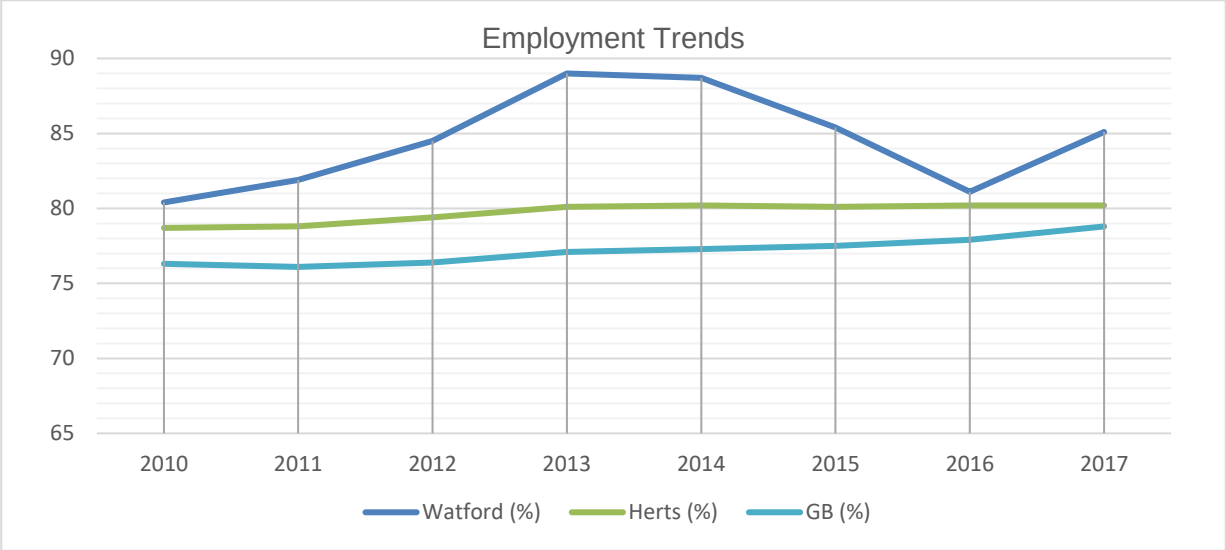



Table 3.2 shows the employee jobs by occupation in 2016. The majority of the working population in Watford are employed in managerial, technical or professional occupations, which is higher than the regional average and national average. The second biggest employment group is made up of administrative, secretarial and skilled trade occupations which make up 15.3% of the workforce and is 5% lower than the regional and national averages. The smallest employment group in the borough is the made up of process plant, machine operatives and elementary occupations with just 10% of the workforce being employed in these occupations.

**Table 3.2: Employee Jobs by Occupation (2016)[8]**

| Job Type | Watford | Watford (%) | East (%) | GB (%) |
|---|---|---|---|---|
| 1 Managers, Directors & Senior Officials | 6,800 | 13 | 11.7 | 10.7 |
| 2 Professional Occupations | 14,000 | 26.7 | 20 | 20.3 |
| 3 Associate Professional & Technical | 10,600 | 20.2 | 14.6 | 14.3 |
| 4 Administrative & Secretarial | 6,000 | 11.4 | 10.7 | 10.3 |
| 5 Skilled Trades Occupations | | | 10 | 10.3 |
| 6 Caring, Leisure & Other Service Occupations | 5,000 | 9.4 | 9.4 | 9.2 |
| 7 Sales & Customer Service Occupations | | | 7.2 | 7.5 |
| 8 Process Plant & Machine Operatives | | | 6.1 | 6.3 |
| 9 Elementary Occupations | | | 9.9 | 10.6 |

The Employment Deprivation measures the proportion of the working-age population in an area that are unwillingly excluded from the labour market. This includes people who would like to work but are unable to do so due to unemployment, sickness or disability, or caring responsibilities[9]. There are deprivation issues within lower super output areas (LSOA)* of Central, Meriden, Woodside, Leggatts and Holywell wards. Of these LSOA 009B within Central ward had the highest levels of employment deprivation ranking it within the top 20% in the country. Conversely, LSOAs with the wards of Park, Tudor, Nascot and Oxhey are ranked as some of the least deprived areas in the county in terms of employment deprivation.

Table 3.3 shows the average weekly (gross) and hourly pay for both men and women in the borough. Based on both weekly and hourly pay, employees in Watford earn more than those regionally and nationally with an average weekly salary of £608.1. This is £33.20 more than the average weekly salary in the East of England and £21.40 more than the national average. Men in 2020 earned on average, 2.5% less than women, although this is less pronounced in those who are paid hourly. This does not reflect regional or national trends.

**Table 3.3 Average weekly salaries (£)[10]**

| Job Type | Watford | East | GB |
|---|---|---|---|
| **Gross Weekly Pay** | | | |
| Full-Time Workers | 608.1 | 574.9 | 586.7 |
| Male Full-Time Workers | 596.7 | 600.2 | 622.9 |
| Female Full-Time Workers | 612.3 | 521.2 | 544.0 |
| **Hourly Pay - Excluding Overtime** | | | |
| Full-Time Workers | 15.61 | 14.37 | 15.17 |
| Male Full-Time Workers | 15.49 | 14.75 | 15.63 |
| Female Full-Time Workers | 15.53 | 13.73 | 14.41 |

[9] Indices of Deprivation, 2015

* Lower Super Output Areas (LSOAs) are fixed statistical geographies of about 1,500 people designated by the ONS.

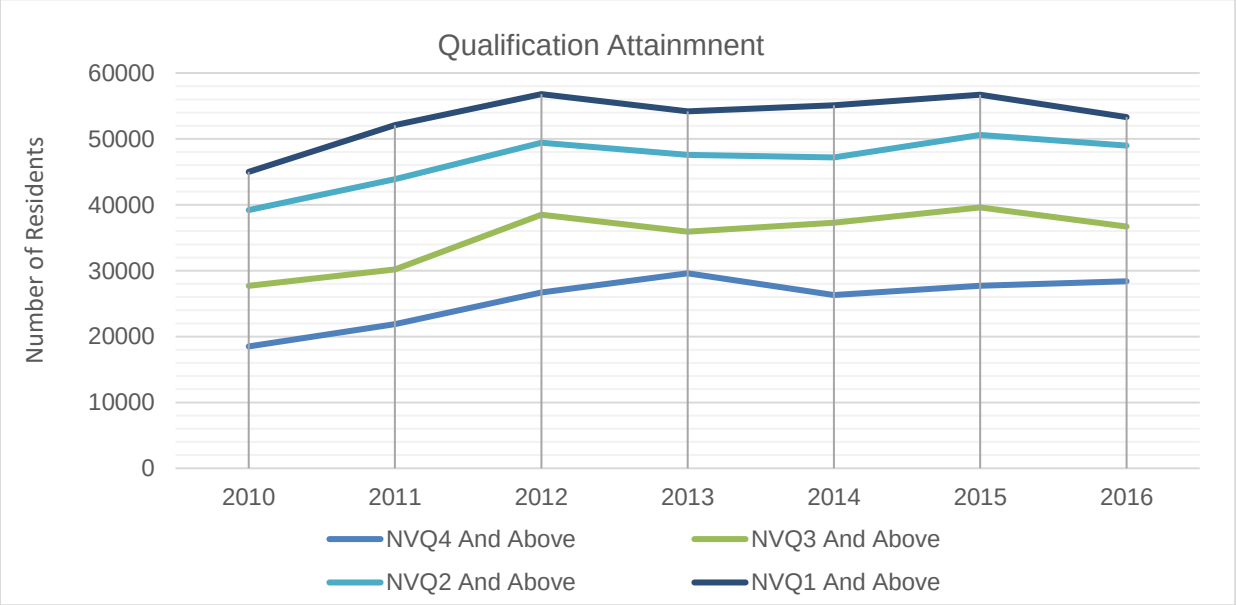
[10] Nomis, Labour Market Profile (Watford), 2020

Table 3.4 shows the qualification attainment in the borough. The number of residents who are qualified to NVQ4 level and above exceeds the regional and national averages at 44.4%; however, 10% of the population in the borough have no qualifications. Not only is the figure worse than the national and regional average, the number is on the rise; since 2010 the number of those with no qualification has risen by 26.5%. Conversely, the attainment of NVQ1-4 and above has continued to rise since 2010. The largest increase has been in the number of residents qualified to NVQ 4 level and above with a rise of 35%. Despite a peak in 2012, the smallest increase in qualifications is within the NVQ 1 level and above with a rise of 16%.

**Table 3.4: Qualifications[8]**

| | Watford | Watford | East | Great Britain |
|---|---|---|---|---|
| | (Level) | (%) | (%) | (%) |
| NVQ4 And Above | 28,400 | 44.4 | 34.9 | 38.2 |
| NVQ3 And Above | 36,700 | 57.4 | 53.5 | 56.9 |
| NVQ2 And Above | 49,000 | 76.7 | 72.4 | 74.3 |
| NVQ1 And Above | 53,300 | 83.5 | 85.9 | 85.3 |
| Other Qualifications | | | 6.5 | 6.6 |
| No Qualifications | 6,400 | 10 | 7.6 | 8 |

**Figure 3.3: Qualification Attainment (2010-2016)[8]**



The education, skills and training domain measures the attainment and skills of the local population within LSOAs. Once again there are disparities between wards within the area. LSOAs in Holywell, Meriden and Stanborough have the lowest attainment within the borough which is also reflected within income deprivation. Park, Oxhey and Tudor are the least deprived in the borough in terms of the education, skills and training domain.

# 4 Population

Watford is a small yet densely populated borough which is home to a total of 96,773[11] people who make up over 39,000 households. The borough has experienced a large population growth over the past 10 years which is set to continue. The age structure and diversity of the borough is also beginning to shift towards a more ageing and more diverse borough.

The population of Watford in 2016 was estimated to be 96,773[12] and the population has continued to rise over the past 5 years. The borough has a younger than average population with median age of 36.1 compared to 40 nationally and 39.7 countywide. Table 4.1 shows the population changes from the 2011 census and the 2016 mid-year estimates (MYE). The biggest population growth has been seen amongst the 0-4-year olds (+28%) and the 5-10-year olds (+22%), which may be reflective of the average of the borough. The biggest drop in population change can be seen amongst the 16-20-year olds. This may well be indicative of a larger number of younger residents moving away for university and employment opportunities.

**Table 4.1: Population Change (2011-2016)**

| Age Group | 2011 (Census)[13] | 2016 (MYE)[11] | % Change |
|---|---|---|---|
| **0-4** | 6,836 | 8,776 | 28% |
| **5-10** | 5,482 | 6,714 | 22% |
| **11-15** | 5,318 | 5,645 | 6% |
| **16-20** | 5,290 | 4,813 | -9% |
| **21-25** | 5,679 | 5,710 | 1% |
| **26-30** | 7,975 | 7,801 | -2% |
| **31-35** | 8,216 | 8,735 | 6% |
| **36-40** | 7,340 | 8,111 | 11% |
| **41-45** | 7,011 | 7,145 | 2% |
| **46-50** | 6,452 | 6,804 | 5% |
| **51-55** | 5,415 | 5,952 | 10% |
| **55-60** | 4,366 | 4,877 | 12% |
| **61-65** | 4,040 | 3,986 | -1% |
| **66-70** | 3,177 | 3,538 | 11% |
| **71-75** | 2,584 | 2,682 | 4% |

[11] ONS Mid-Year Estimates, 2016

[12] Watford Borough Council Monitoring Report, 2016

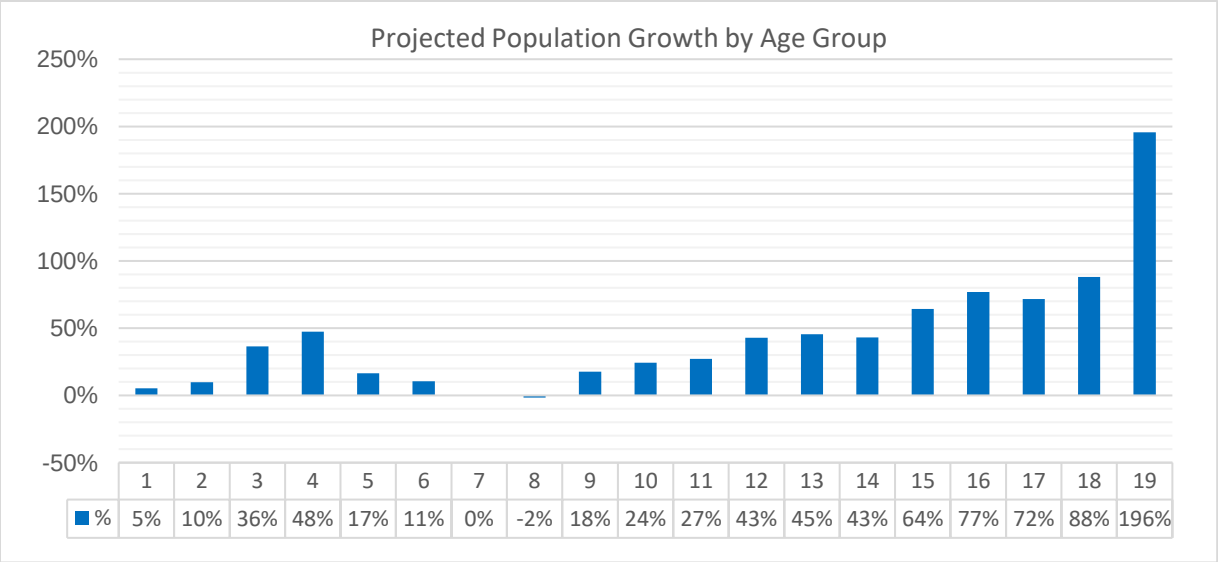
[13] ONS, Census, 2011

| Table 4.1: Population Change (2011-2016) | | | |
|---|---|---|---|
| **Age Group** | **2011 (Census)[13]** | **2016 (MYE)[11]** | **% Change** |
| **76-80** | 2,183 | 2,255 | 3% |
| **81-85** | 1,702 | 1,652 | -3% |
| **86-90+** | 1,587 | 1,577 | -1% |
| **Total Population** | **90,653** | **96,773** | **7%** |

The population is set to continue to rise over the next 20 years with a rise of 26% bringing the total population to in 2036 to 124,655. Watford is projected to be the fastest growing district within Hertfordshire surpassing neighbouring boroughs of Decorum (19%), Hertsmere (19%), St Albans (18%) and Three Rivers (19%).

By 2039 the age demographic is likely shift towards a more ageing population. Figure 4.1 shows the percentage increases across different age groups within the borough. This shows a significant increase in the number of 90+ year olds (196%). Large increases are also projected amongst the 71-89 year olds. The smallest increases are projected within the 0-4 year olds and the 5-10 year olds. No further growth is projected amongst the 31-35 year olds and the number of 36-40 year olds is likely to drop by 2%.

**Figure 4.1 Projected Population Growth by Age Group[14]**




[14] ONS, Subnational Population Projections for Local Authorities in England, 2016

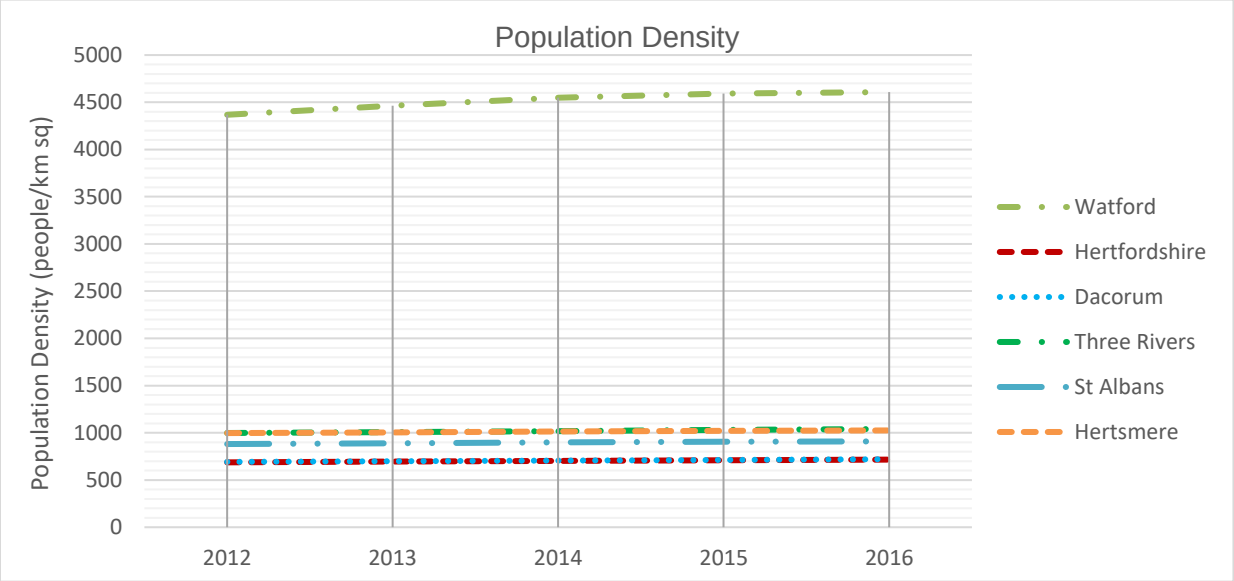
Despite the largest increase in the population projected to be amongst the over 70s by 2039, the age structure is likely to still be fairly young with the largest age group consisting of 5-10-year olds. 12.5% of the population will be aged over 70 compared to 8.6% currently and 33.6% of the population will be aged 51 and over. Almost a third of the population (32%) is aged between 31 and 50 but this group is expected to decrease to 27% by 2039.

**Table 4.2: Population Structure[14]**

| Age Group | % of Total Population (2017) | % of Total Population (2039) |
|---|---|---|
| 0-4 | 7.7% | 6.5% |
| 5-10 | 8.8% | 7.7% |
| 11-15 | 6.1% | 6.6% |
| 16-20 | 4.9% | 5.7% |
| 21-25 | 6.0% | 5.5% |
| 26-30 | 8.3% | 7.3% |
| 31-35 | 9.2% | 7.3% |
| 36-40 | 8.5% | 6.7% |
| 41-45 | 7.4% | 6.9% |
| 46-50 | 6.9% | 6.8% |
| 51-55 | 6.3% | 6.3% |
| 56-60 | 5.2% | 5.9% |
| 61-65 | 4.1% | 4.7% |
| 66-70 | 3.7% | 4.2% |
| 71-75 | 2.9% | 3.8% |
| 76-80 | 2.3% | 3.2% |
| 81-85 | 1.8% | 2.4% |
| 86-89 | 0.9% | 1.4% |
| 90+ | 0.7% | 1.7% |

Watford is relatively a relatively small borough at 21 sq.km but it is densely populated with 4,608 people per sq.km. The population density in the borough far exceeds that of both the county (716 per sq.km) and national average (271 per sq.km). With the continual rise in the population the population density will also continue to increase over time. Figure 4.2 shows how Watford compares to the surrounding local authorities and Hertfordshire.

**Figure 4.2: Population Density[15]**




The borough is becoming more ethnically diverse with the British White population which includes English, Welsh, Scottish and Northern Irish decreasing from 79.1% to 61.9% between 2001 and 2011. This means that 38.1% of the population come from a black or minority ethnic (BME) background which is higher than the county (19.1%) and national (20.2%) averages[13].

Table 4.3 shows the ethnic diversity of the borough. The non-white population in Watford has doubled from 14% in 2001 to 28% in 2011 which is more than twice the county average of 12.4% and almost double the average for England of 14.6%[16]. People identifying as Black or Black British in Watford increased from 2.7% to 5.8%, as compared with 2.9% across Hertfordshire. The largest proportion of Watford's non-White population identifies as Asian or Asian British. This has increased from 8.8% to 17.9% compared with 6.6% overall across Hertfordshire.

[15] ONS Mid-Year Estimates, 2016

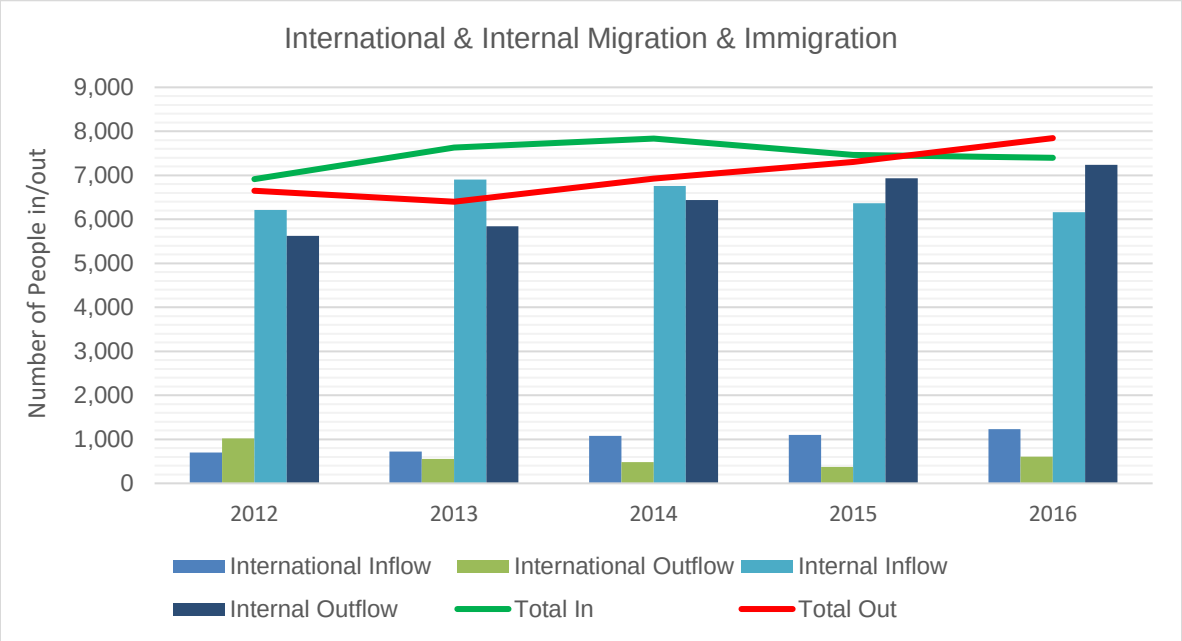
[16] Watford Borough Council Monitoring Report, 2016

| Table 4.3: Ethnicity[13] | | | | |
|---|---|---|---|---|
| Ethnic Group | Watford | | Hertfordshire | |
| | Population | % Population | Population | % Population |
| White British | 55,875 | 61.88 | 902,006 | 80.82 |
| White Irish | 2,063 | 2.28 | 17,260 | 1.55 |
| Gypsy or Irish Traveller | 61 | 0.06 | 1,149 | 0.1 |
| White Other | 6,947 | 7.69 | 57,080 | 5.11 |
| Mixed or Multiple Ethnic Group: White or Black Caribbean | 990 | 1.10 | 8,899 | 0.80 |
| Mixed or Multiple Ethnic Group: White or Black African | 412 | 0.46 | 3,250 | 0.29 |
| Mixed or multiple ethnic group: White and Asian | 939 | 1.04 | 8,703 | 0.78 |
| Mixed or multiple ethnic group: Other | 763 | 0.84 | 6,645 | 0.60 |
| Asian or Asian British: Indian | 4,923 | 5.45 | 28,848 | 2.58 |
| Asian or Asian British: Pakistani | 6,082 | 6.74 | 12,302 | 1.10 |
| Asian or Asian British: Bangladeshi | 362 | 0.40 | 5,608 | 0.50 |
| Asian or Asian British: Chinese | 822 | 0.91 | 8,462 | 0.76 |
| Asian or Asian British: Other | 3,981 | 4.41 | 17,361 | 1.56 |
| Black/African/Caribbean/Black British: African | 3,142 | 3.48 | 19,722 | 1.77 |
| Black/African/Caribbean/Black British: Caribbean | 1,558 | 1.73 | 8,713 | 0.78 |
| Black/African/Caribbean/Black British: Other | 529 | 0.59 | 2,966 | 0.27 |
| Other ethnic group: Arab | 294 | 0.33 | 2,359 | 0.21 |
| Other ethnic group: Any other ethnic group | 558 | 0.62 | 4,729 | 0.42 |

Figure 4.3 shows the internal and international migration and immigration within the borough between 2012 and 2016. International migration continues to increase and has now overtaken international out migration within the borough. Up until 2015 internal immigration was higher than

emigration but since then emigration has continue to rise. Due to this, as of 2016 total outflow exceeded the total inflow with 7,397 people arriving and 7,846 people leaving the borough.

**Figure 4.3: Migration & Immigration (2012-2016)[17]**




[17] ONS, Local Area Migration Indicators, UK, 2017

# 5 Housing

The borough's close proximity to London and its good transport links make it attractive to London commuters which in turn puts pressure on house prices and transport links. People from outside the area buying houses to closer to work to shorten commuter journeys limits the availability of housing that is affordable for younger buyers and those on lower incomes. This has seen the borough's house prices rise over the past 5 years and the average price now far exceed the national average.

House prices in Watford have risen by 16.97% over the past 5 years with the average house price of £364,927[18]. This exceeds the UK average of £244,513[18] and follow the trends of the surrounding local authority areas. Table 5.1 compares the average house prices (as of September 2020) of the surrounding local authorities and the percentage increase from September 2019. This shows that of the five local authorities in South West Hertfordshire, Watford has the lowest average house prices, but has had the largest percentage increase. This means that if people cannot afford to live in Watford they also cannot afford to live in the surrounding districts of South West Hertfordshire.

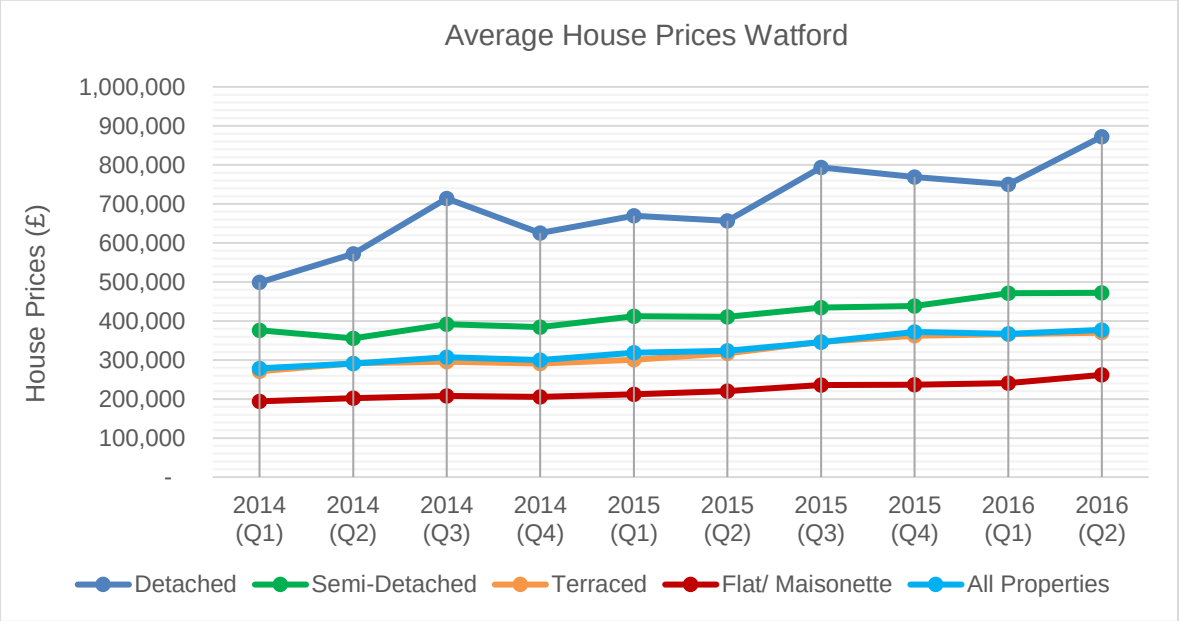
**Table 5.1: Comparisons of Average House Prices[18]**

| Local Authority Area | Average House Prices (£) | Year Trend (%) |
|---|---|---|
| Watford | 364,927 | +4.74 |
| Dacorum | 419,765 | +4.58 |
| Hertsmere | 459,839 | -0.87 |
| St Albans | 530,109 | +4.16 |
| Three Rivers | 520,226 | +2.59 |
| London | 496,485 | +4.05 |
| UK | £244,513 | +4.70 |

[18] UK House Price Index, September 2020

Figure 5.1 shows the continued increase in property prices across different housing types since the beginning of 2014. It should be noted that the prices quoted below are based on the average number of sales during each quarter and are not necessarily indicative of the actual price. Overall, prices have increased across all housing types with detached housing seeing the largest increase despite some drops 2014 and 2015.

**Figure 5.1: Average House Prices in Watford (2012-2016 Q2)[19]**




The average salary in Watford is £37,722[20], therefore house prices are approximately 9.7 times higher than the average salary. This will result in difficulties for residents when obtaining a mortgage. There is also difficulty with those residents who are benefit dependent in accessing accommodation in the private rented sector with a large shortfall between average rents and the maximum level of Local Housing Allowance per property type. Table 5.2 shows the differences between WBC housing allowances and the average rent paid per property type. All property types have a shortfall when comparing the average monthly rent to the local housing allowances, with the greatest shortfall in four-bedroomed housing at £950[21,22].

[19] Watford Borough Council Monitoring Report, 2016

[20] Adzuna, Watford Salary Statistics, https://www.adzuna.co.uk/jobs/salaries/watford Accessed on: 09/12/2020

| Table 5.2: Comparison of average rents with Local Housing Allowance for South West Hertfordshire (2020) | | | |
|---|---|---|---|
| | **Average Rent per Calendar Month [21]** | **South West Herts Local Housing Allowance (2020)[22]** | **Shortfall** |
| **One Bedroom** | £970 | £800 | -£170 |
| **Two Bedroom** | £1,303 | £1,000 | -£303 |
| **Three Bedroom** | £1,832 | £1,300 | -£532 |
| **Four Bedroom** | £2,649 | £1,699 | -£950 |

Table 5.3 shows the gross average monthly private sector rental prices for two-bedroom properties in the borough (data has been taken biannually). Despite an overall rise between 2015/16 and 2019/20, rents in Watford have been decreasing slightly since 2016/17 (Biannual 1). However, this decrease is small (~£30), and housing allowances are not keeping up with the increase in local rental prices.

| Table 5.3: Gross Average monthly private sector rent for 2-bedroom properties (£) (2015- 2020)[23] | | |
|---|---|---|
| | **Watford** | **East of England** |
| 2015/2016 (Biannual 1) | 1,129 | 805 |

[21] Watford Market Rent Summary, http://www.home.co.uk/for_rent/watford/current_rents?location=watford Accessed on: 09/12/2020

[22] Local Housing Allowance rates applicable from April 2020 to March 2021 https://www.gov.uk/government/publications/local-housing-allowance-lha-rates-applicable-from-april-2020-to-march-2021 Accessed on: 09/12/2020

[23] Local Government Association, Average monthly private sector rent for a 2 bedroom property (gross) in Watford, http://lginform.local.gov.uk/reports/lgastandard?mod-metric=3477&mod-period=9&mod-

| Table 5.3: Gross Average monthly private sector rent for 2-bedroom properties (£) (2015- 2020)[23] | | |
|---|---|---|
| | **Watford** | **East of England** |
| 2015/2016 (Biannual 2) | 1,161 | 820 |
| 2016/2017 (Biannual 1) | 1,163 | 835 |
| 2016/2017 (Biannual 2) | 1,160 | 842 |
| 2017/2018 (Biannual 1) | 1,161 | 848 |
| 2017/2018 (Biannual 2) | 1,152 | 855 |
| 2018/2019 (Biannual 1) | 1,140 | 864 |
| 2018/2019 (Biannual 2) | 1,140 | 869 |
| 2019/2020 (Biannual 1) | 1,134 | 873 |

The increasing popularity and demand for housing in the borough has prompted concerns for rising levels of overcrowding and subsequently homelessness. The number of households applying to WBC for assistance under homelessness legislation and the number being accepted for assistance under homelessness legislation have both increased significantly since 2008.

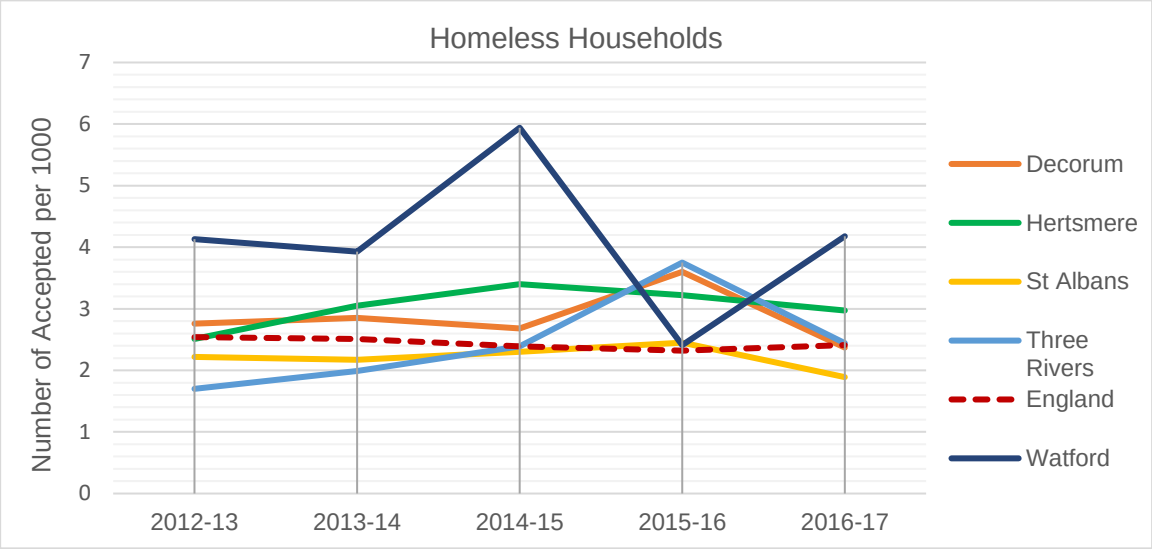
area=E07000103&mod-group=AllDistrictInRegion_East&mod-type=namedComparisonGroup Accessed on: 09/12/2020

| Table 5.4: Number of Homeless Households[24] | | | |
|---|---|---|---|
| **Year** | **Number of Households** | **Number of Accepted as Homeless per 1000 Households** | **% Change** |
| 2012-13 | 154 | 4.13 | +5 |
| 2013-14 | 149 | 3.93 | -3 |
| 2014-15 | 230 | 5.94 | +54 |
| 2015-16 | 95 | 2.41 | -59 |
| 2016-17 | 167 | 4.18 | +76 |

Table 5.4 shows that despite some fluctuations, the number of households being accepted as homeless in on the rise with the largest increase occurring between 2016 and 2017. The number homeless households exceeds both the regional and national average. Figure 5.2 shows that there was a significant drop between 2015 and 2016 but this figure is beginning to rise again following the national trend but bucks the regional trend.

[24] Local Authority Homelessness Statistics (England), 2017

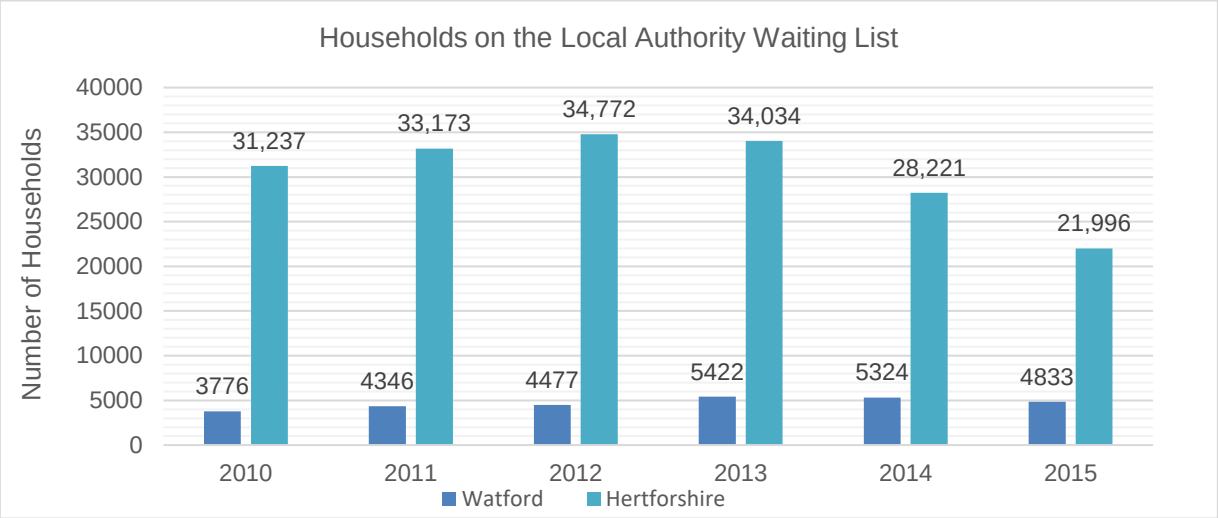
**Figure 5.2: Number of Households Accepted as Homeless[25]**




The number of households on the local Housing Register was gradually increasing until 2013 where the number a slowly begun to decline which matches the trend nationally and in Hertfordshire. Figure 5.3 below shows this trend.

[25] House of Commons Library, Local Authority Homelessness Statistics (England), Statutory Homelessness, 2017

**Figure 5.3: Number of Households on the Local Authority Waiting List in Watford and Hertfordshire[26]**




To reduce the number of households on the waiting list, the Council have committed to support developments which provide a range of tenures and are affordable. The Council is seeking to provide more affordable housing and their Core Strategy states that 35% affordable housing will be sought on major applications of 10 residential units and above with a mix of 20% social rent, 65% affordable rent and 15% intermediate, affordable housing[19].

Table 5.5 shows the number of homes delivered since 2006 and the proportion of those that were affordable. This shows that the affordable housing quota was only met three times in 2009/10 (41.5%), 2010/11 (48.3%) and 2017/18 (41.6%). In 2015-16, there were 25 affordable dwelling completions which fell well below the 35% target at just 10.2%. The table also shows the total net housing completions, which has fluctuated since 2006. Total delivery in 2015/16 was the lowest delivery over this period, with just 245 completions.

[26] Department for Communities and Local Government, Table 600, 2017, http://lginform.local.gov.uk/reports/lgastandard?mod-metric=105&mod-area=E07000103&mod-group=AllDistrictInRegion_East&mod-type=namedComparisonGroup Accessed on: 16/11/2017

| Table 5.5: Affordable Home Provision (2006 – 2019)[27] | | | |
|---|---|---|---|
| **Year** | **Affordable homes provided** | **Net Housing Completions (includes market and affordable)** | **Affordable Homes provided as average % of Net Housing Completions** |
| 2006/07 | 11 | 246 | 4.5% |
| 2007/08 | 72 | 291 | 24.7% |
| 2008/09 | 48 | 327 | 14.7% |
| 2009/10 | 214 | 516 | 41.5% |
| 2010/11 | 306 | 633 | 48.3% |
| 2011/12 | 95 | 417 | 22.8% |
| 2012/13 | 184 | 541 | 34.0% |
| 2013/14 | 82 | 398 | 20.6% |
| 2014/15 | 79 | 246 | 32.1% |
| 2015/16 | 25 | 245 | 10.2% |
| 2016/17 | 76 | 346 | 21.9% |
| 2017/18 | 137 | 329 | 41.6% |
| 2018/19 | 63 | 268 | 23.5% |

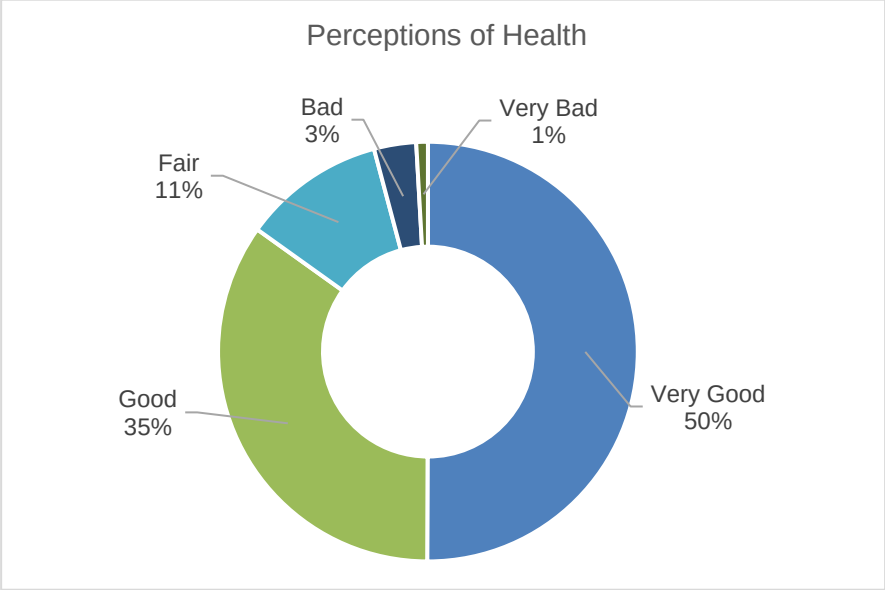
[27] WBC: Watford's Authority Monitoring Report, 2019

# 6 Human Health

The World Health Organisation define health as 'a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity'[28]. The health of people in Watford is varied compared with the England average with 14% (2,700) of children living in low income families[29]. Life expectancy is on the rise in the borough and almost 85% of the population regard themselves to be in either 'good' or 'very good' health. There are; however, large disparities within the borough between the most deprived areas of Watford than in the least deprived areas.

On the whole levels of health within the borough are high with 85% of the population describing their health as 'good' or 'very good' and only 4% describing theirs as 'bad or 'very bad'. This trend is similar to that locally; however, perceptions of health in Watford are higher than both Hertsmere and Dacorum. 13.6% of the population have a limiting long-term illness or disability which is lower than the national average of 17.6%. Figure 6.1 shows the perceptions of health in the borough.

**Figure 6.1: Perceptions of Health in Watford[30]**




Life expectancy for men in Watford remains the same as the previous year at 78.9 years which is below the national average of 79.5 years. However, life expectancy for men is 8.9 years lower

[28] World Health Organisation (1948) Preamble to the Constitution of the World Health Organisation

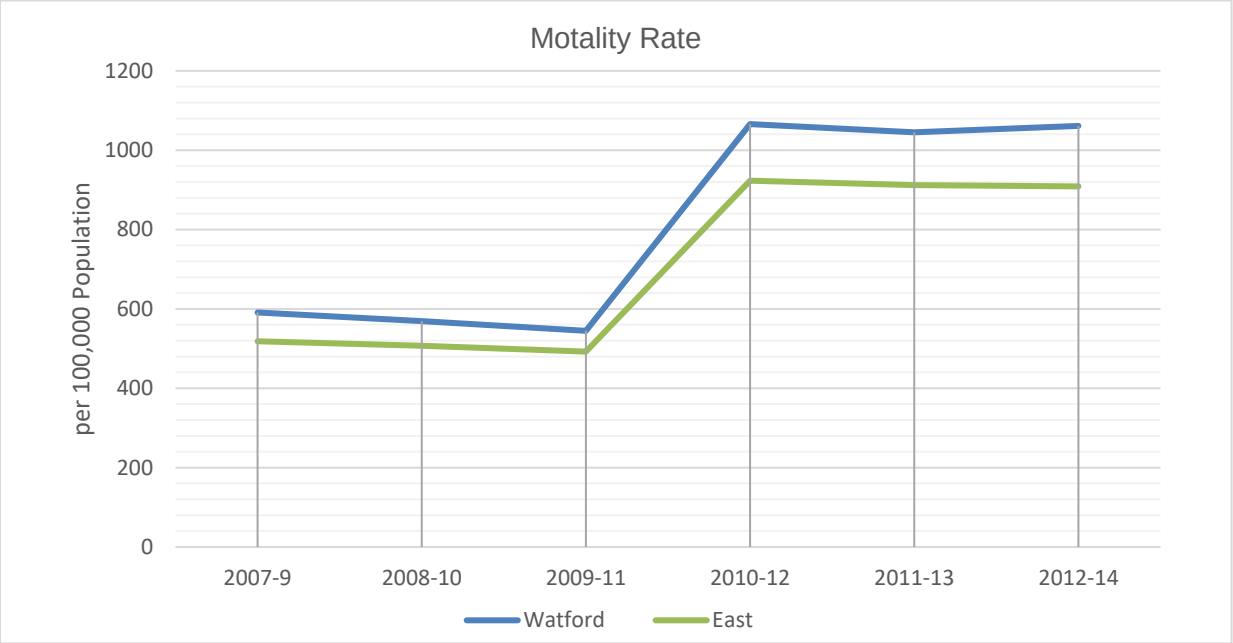
[29] Public Health England, Watford District Health Profile, 2017

[30] ONS Census, 2011

within the most deprived areas of Watford as compared with the least deprived areas. Areas of Vicarage, Central and Holywell have some of the lowest life expectancies for men in the borough. Female life expectancy in Watford has decreased slightly to 82.5 years from the previous year's 82.9 years, which is just below the national average of 83.2 years. The life expectancy gap is less from women at 5.8 years, but there are still disparities between wards with Nascot, Vicarage and Holywell having the lowest life expectancies for women.

Mortality rate in the borough exceeds the regional average and has the highest rates of all the local authority districts in the east of England. Mortality rates followed the regional trend and spiked in 2009-11, dropped slightly between 2011-13 but unlike the regional trend mortality rates rose slightly in 2012-14.

**Figure 6.2: Mortality Rates per 100,000 (2007-2014)[31]**




Watford ranks 194th out of 326 local authority areas in England on the 2015 Index of Multiple Deprivation rankings[32] (a rank of 1 being the most deprived). This is a deteriorating picture as the

[31] Local Government Association, *'All-age all-cause mortality rate - all persons in Watford'* http://lginform.local.gov.uk/reports/lgastandard?mod-metric=13&mod-area=E07000103&mod-group=AllDistrictInRegion_East&mod-type=namedComparisonGroup Accessed on:15/11/2017

[32] Indices of Multiple Deprivation, 2015

borough was ranked 197th in 2010, 203rd in 2007 and 223rd in 2004[33]. 6 of the borough's 53 LSOAs rank within the most deprived half of local areas nationally. The most deprived area in the borough is within the Central ward, which is within the 20% most deprived areas in England. Conversely, 7 LSOAs in the borough are within the 10% least deprived in the country. In regard to health, the LSOAs of Vicarage, Central and Meridian are the considered to be the most deprived in the borough, placing within the top 20% in England[54].

Table 6.1 shows the main causes of death in the borough. The largest number of deaths are caused by circulatory diseases at 28.39% which is slightly higher than the regional and national average. Circulatory diseases are the largest cause of premature death in the borough and a large contributing factor is smoking. Levels of smoking have continued to increase with 22% of over 18s in the borough smoking, compared to 18% regionally and 17.2% nationally[34]. Smoking is the leading cause of premature deaths in the UK with the biggest killers being heart disease, stroke and lung cancer.

The second highest cause of death is cancer (all types) at 25.5% which is lower than the national and regional averages. The percentage of deaths caused by strokes and respiratory disease is higher than the national and regional averages.

**Table 6.1: Causes of Death (2011-15)** [35]

| Indicator | Watford | Watford % | Hertfordshire | Hertfordshire % | England | England % |
|---|---|---|---|---|---|---|
| All cancer | 884 | 25.5 | 12,802 | 27.9 | 666,658 | 28.2 |
| All circulatory disease | 985 | 28.4 | 12,636 | 27.5 | 646,138 | 27.4 |
| Coronary heart disease | 381 | 11.0 | 5,330 | 11.6 | 289,738 | 12.3 |
| Stroke | 288 | 8.3 | 3,297 | 7.2 | 165,375 | 7.0 |
| Respiratory diseases | 524 | 15.1 | 6,717 | 14.6 | 325,764 | 13.8 |
| All causes | 3,470 | | 45,894 | | 2,357,381 | |

[33] TRL Watford Local Plan Part 2, Environmental Report, 2016

[34] Local Government Association, 'Smoking Prevalence in adults - current smokers (IHS) in Watford', http://lginform.local.gov.uk/reports/lgastandard?mod-metric=3527&mod-area=E07000103&mod-group=AllDistrictInRegion_East&mod-type=namedComparisonGroup Accessed on: 15/11/2017

[35] Public Health England, Health Profile (Watford), 2016

According to the World Health Organisation[36], physical inactivity is the 4th leading risk factor for global mortality and is directly responsible for 6% of deaths (about 3.2 million) globally. By achieving a minimum level of 150 minutes of physical activity a week, an adult could potentially experience a 19% reduction in mortality risk[37]. A survey carried out as part of the Hertfordshire Physical Activity and Sport Framework[37], identified that 58.8% of the adult population are physically active to the level of 150 minutes per week as recommended by the Chief Medical Officer. However, a quarter (25.3%) of the adult population are inactive and do less than 30 minutes physical activity per week.

[36] WHO, Global Health Risks, Mortality and Burden of Disease Attributable to Selected Major Risks, 2009

[37] Hertfordshire Physical Activity and Sport Framework (2015)

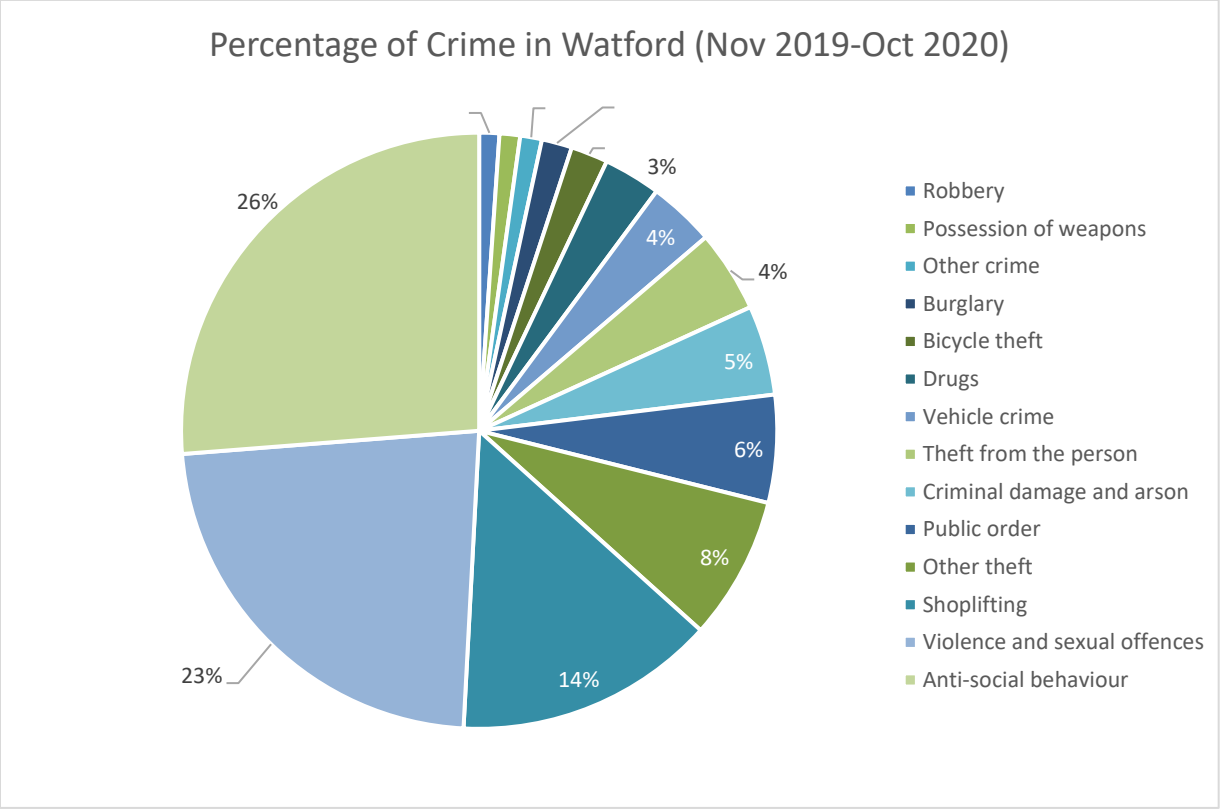
## 7 Crime & Safety

Ensuring community safety is key for achieving a positive state of well-being among people within social and physical environments. It is as much as about reducing and preventing crime as it is to build strong and vibrant communities. This means the perception of safety is as important as measuring crime rates.

Over the past 5 years crime has continued to increase in the borough and a shift in the types of crimes being committed with a significant rise in reported cases of sexual offences, violent offences and hate crimes.

Figure 7.1 shows the spread of crimes within the borough with anti-social behaviour (26%) and violent and sexual crimes (23%) being the most prevalent. Robbery, possession of a weapon, burglary, bicycle theft, and other crimes are the least problematic in the borough.

**Figure 7.1: Percentage of Crime in Watford[38]**




[38] POLICE.UK Crime Statistics, 2020 https://www.police.uk/pu/your-area/hertfordshire-constabulary/watford-central/?tab=Statistics Accessed 10/12/2020

There are large disparities between the number of reported crimes across the wards within the borough during September 2017. Central ward has the highest number of reported crimes with 425 the majority of which are anti-social behaviour related. Holywell had the second highest number of reported crimes with 98 followed by Woodside with 93. Oxhey had the lowest number of reported crimes with 39 during the same period.

**Figure 7.2: Number of Reported Crimes by Ward, 2017** **Error! Bookmark not defined.**

Table 7.1 below shows that the total number of reported crimes over the past 5 years and the percentage change. Overall there has been a 27% increase in the total number of crimes; however, there has been a large decrease in drug offences (54%), fraud offences (100%) and theft from the person (39%), as well as a small decrease of 1.9% in criminal damage and arson. The largest increases in reported crimes have been in violence without injury (209%), homicide (200%), public order offences (102%) and sexual offences (109%).

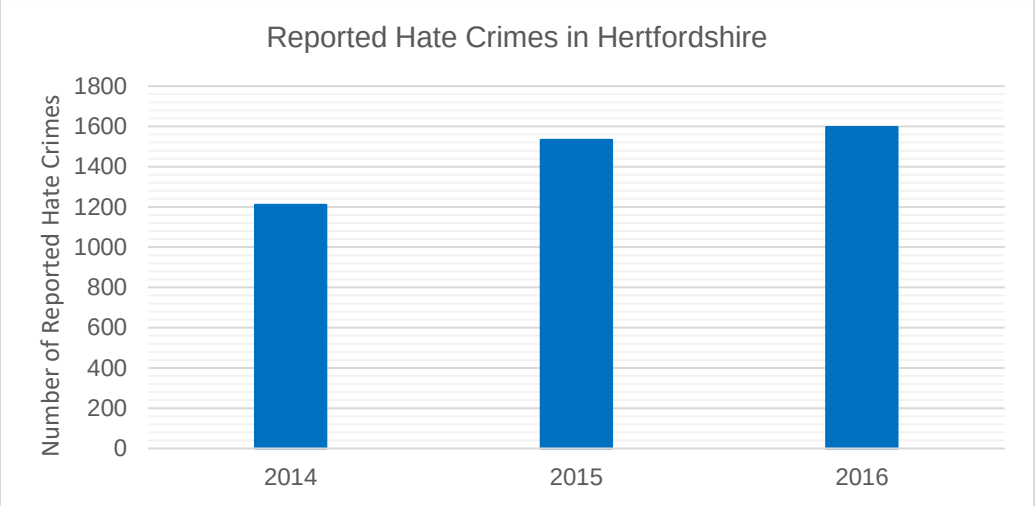
| Table 7.1: Number of Reported Crimes between 2013-2015[39] * | | | | | | |
|---|---|---|---|---|---|---|
| **Type of Crime** | **2013** | **2014** | **2015** | **2016** | **2017** | **% Change** |
| All other theft offences | 858 | 863 | 799 | 804 | 913 | **+6.4%** |
| Bicycle theft | 239 | 188 | 237 | 184 | 300 | **+25.5%** |
| Criminal damage and arson | 906 | 775 | 868 | 884 | 889 | **-1.9%** |
| Domestic burglary | 255 | 229 | 253 | 229 | 360 | **+41.2%** |
| Drug offences | 838 | 698 | 483 | 504 | 382 | **-54.4%** |
| Fraud offences | 69 | 0 | 0 | 0 | 0 | **-100.0%** |
| Homicide | 0 | 1 | 2 | 0 | 2 | **+200.0%** |
| Miscellaneous crimes against society | 89 | 93 | 114 | 110 | 130 | **+46.1%** |
| Non-domestic burglary | 225 | 191 | 223 | 179 | 226 | **+0.4%** |
| Possession of weapons offences | 49 | 36 | 36 | 53 | 70 | **+42.9%** |
| Public order offences | 341 | 352 | 406 | 501 | 691 | **+102.6%** |
| Robbery | 76 | 80 | 61 | 71 | 129 | **+69.7%** |
| Sexual offences | 82 | 103 | 153 | 157 | 172 | **+109.8%** |
| Shoplifting | 845 | 829 | 830 | 720 | 985 | **+16.6%** |
| Theft from the person | 362 | 226 | 212 | 251 | 220 | **-39.2%** |
| Vehicle offences | 472 | 477 | 615 | 644 | 778 | **+64.8%** |
| Violence with injury | 585 | 567 | 694 | 820 | 946 | **+61.7%** |
| Violence without injury | 465 | 496 | 865 | 1198 | 1440 | **+209.7%** |
| Total number of reported crimes | 6756 | 6204 | 6851 | 7309 | 8633 | **+27.8%** |

** The data has been taken from rolling 12-month totals, with data points shown at the end of each quarter. All data above has been taken from Q2 of each respective year.*

[39] ONS, Recorded Crime Data at Community Safety Partnership/Local Authority Level, 2017

Hate crime is any criminal offence that is targeted at a person because of hostility or prejudice towards their race, religion, sexual orientation, transgender identity or disability[40]. Hertfordshire has seen a 32% increase in the number of hate crimes over the past three years with the highest number of recorded hate crimes in 2016 being in Watford with 17% of the total recorded crimes.

**Figure 7.2: The Number of Reported Hate Crimes in Hertfordshire (2014-2016)[41]**




In order to tackle crime in the borough, the Council have partnered with other organisations to form the Watford Community Safety Partnership, known as 'One Watford'. The partnership works together to tackle crime and anti-social behaviour. Hertfordshire Constabulary have also invested in a number of Hate Crime Officers who can offer victims help, support and advice.

[40] Hertfordshire Constabulary, Hate Crime Advice, https://www.herts.police.uk/Information-and-services/Advice/Hate-crime/Hate-crime.aspx Accessed on: 06/11/2017

[41] Hertfordshire 2017-20 Hate Crime Strategy

# 8 Transport & Accessibility

Excessive road traffic leads to congestion, air and noise pollution and contributes further to climate change. In 2016, 325.1 billion vehicle miles[42] were travelled on Great Britain's roads; this is 1.7% higher than the previous year and marks a new record level. Government policy is focusing on promoting sustainable transport and encouraging walking and cycling for those journeys where these are realistic alternatives.

Watford has good public transport links to London and its major airports. Car ownership is currently lower that the county and national average; however, traffic growth is set to continue to rise at a higher rate than both the county and national levels.

Watford has good transport links and is well placed at the intersection of the M25, M1 and A41 which provides good access to the major London airports of Heathrow, Gatwick, Stansted and Luton. The borough is connected by mainline rail services to London Euston, the Midlands and the North, as well as being linked by the Metropolitan Line to Baker Street in Central London. Table 8.1 shows the variety of train services available in Watford.

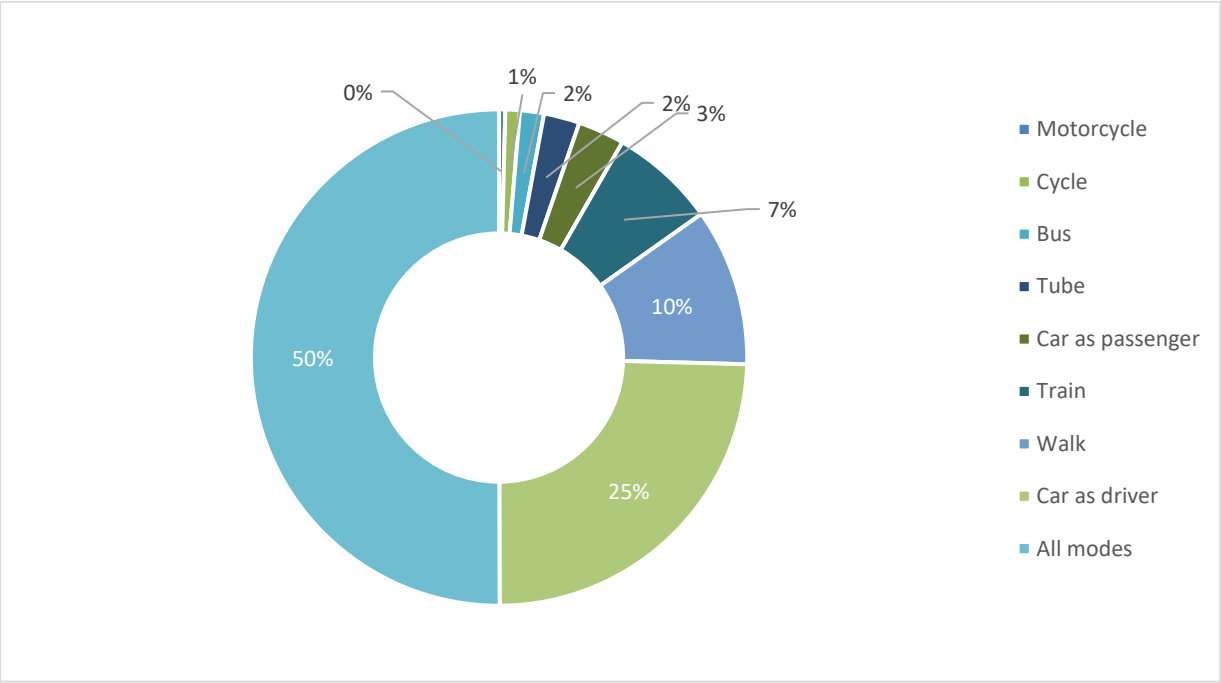
**Table 8.1: Train Services in Watford**

| Metropolitan Line | London Overground | National Rail Services |
|---|---|---|
| Watford | Watford Junction | Watford Junction |
| | | Watford North |
| | Watford High Street | Garson |
| | | Bushy |

Figure 8.1 shows the mode share of transport in Hertfordshire for commuting. The car is the most popular mode of transport in the borough with 56% of all daily journeys to work using either a car or motorbike. However, it is worth noting that the second most prevalent mode of transport used within Hertfordshire was walking (25%) as a means of accessing work.

[42] Department for Transport, Provisional Road Traffic Estimates Great Britain: July 2016 - June 2017

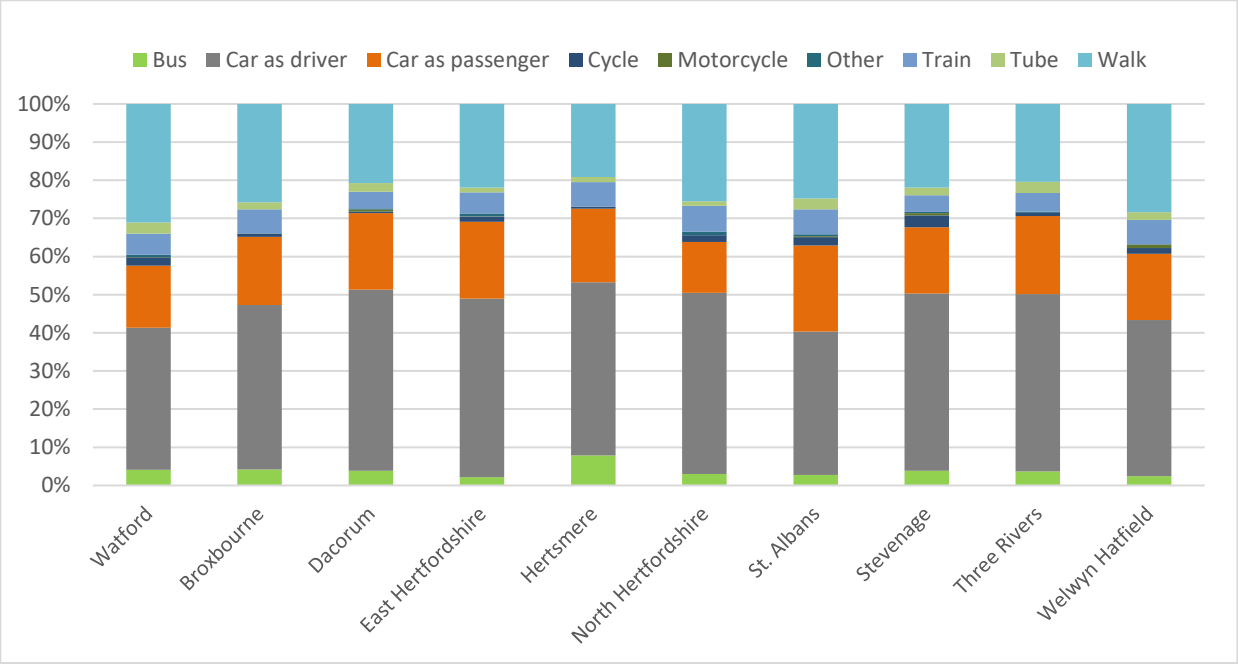
**Figure 8.1: Mode Share of Transport in Hertfordshire for Daily Work Travel in 2018[43]**




In comparison with other boroughs, Watford has a high number of trips overall made via sustainable means, in particular, through walking, the train and the tube (Figure 8.2).

[43] Hertfordshire Travel Survey-2018 Report, 2019

**Figure 8.2: Mode Share of Transport in Hertfordshire for Daily Work Travel in 2018[44]**




The vast majority of trips (67.4%) within Watford are those of less than 5 miles. The average distance travelled in Watford per trip is 7.3 miles, which is the second lowest in Hertfordshire**Error! Bookmark not defined.**.

Many car journeys made in Watford are of a walkable distance so in order to reduce car dependence the Council are working on alternative infrastructure plans, particularly with regards to walking and cycling[45]. Watford Borough Council intends to encourage cycling by developing a network of safe and usable routes around the Borough. Since 2003/04, 20.4 kilometres of new cycle routes have been provided and during 2014/15, 4.7 kilometres of cycle routes were constructed, including[46]:

- A412 cycle route Phases 1 & 2 (Stratford Way to Station Road);
- A412 cycle route Phase 4 (Dome Roundabout);
- Cassiobridge Station Links Phase 1; and

[44] Hertfordshire Travel Survey-2018 Report, 2019

[45] Watford Borough Council Infrastructure Delivery Plan, 2017

[46] TRL, Watford Local Plan Part 2, Environmental Report, 2016

- Queens Avenue cycle route.

In addition to these, the Watford Infrastructure Delivery Plan[47] had identified further schemes to deliver additional cycle routes in the borough:

- Horseshoe Lane (partially delivered);
- Leavesden High Route to Bedmond Links;
- Woodside Cycle Routes;
- Cassio Park Cycle Route; and
- Whippendell Woods Cycle Route.

Table 8.2 shows the traffic growth projections between 2015 and 2031 and clearly shows that traffic in the borough is set to continue to rise and at greater rate than both the county and national average. It is projected that by 2031 there will be nearly 13% more traffic on the roads which is predicted to be felt greatest on motorways and trunk roads. The road network within the borough is already under stress at key locations such as the A41 in North Watford and the A4008, A4178 and A411 going through Watford centre. There is also stress on the Strategic Road Network, particularly the M25 to the west of Watford and the M1 to the east[48].

**Table 8.2: Traffic Growth Forecast (% growth from 2015)[49]**

| | **2021** | **2031** |
|---|---|---|
| Great Britain | 4% | 11.9% |
| Hertfordshire | 4.1% | 12.4% |
| Watford | 4.5% | 12.9% |

[47] Watford Borough Council Infrastructure Delivery Plan, 2017

[48] Watford Local Plan Part 2, Publication Stage Environmental Report, Appendix 2 Baseline Information, 2016

[49] Hertfordshire Traffic and Transport Data Report, 2016

In 2020, a new version of the COMET model[50] (involving an updated zoning system) was developed and used to test the 2036 forecast and the cumulative impact of the Local Plan growth in Hertfordshire and selected neighbouring authorities[51] on the transport network.

In terms of highway trips originating in Hertfordshire, an increase of approximately 13% (at a 24 hour level) is forecast between 2014 and 2036. This increase is accompanied by a rise in travel distance of between 23% - 36% (depending on time period, longest distances travelled in the IP period), and an increase in travel time of between 44% to 50% (maximum increase in the Inter-peak). The relatively sharp rise in travel time compared to travel distance is indicative of increasing congestion and corroborates the maximum fall in average network speed of approximately -15% in the PM Peak. Forecast results show some significant congestion on key urban and inter-urban roads in 2036:

- Various sections of the M25, A1(M) and M1; Various sections of the A1(M) and M1;
- East-west routes between Bishops Stortford and Hertford and east of Hemel Hempstead; and
- Links around Maylands in Hemel Hempstead.

An interpretation of the COMET modelling was undertaken by Hertfordshire County Council for Watford[52]

Watford has one of the lowest levels of car ownership in the county with 74% of residents having access to a vehicle compared to 84% across Hertfordshire and 76% nationally.

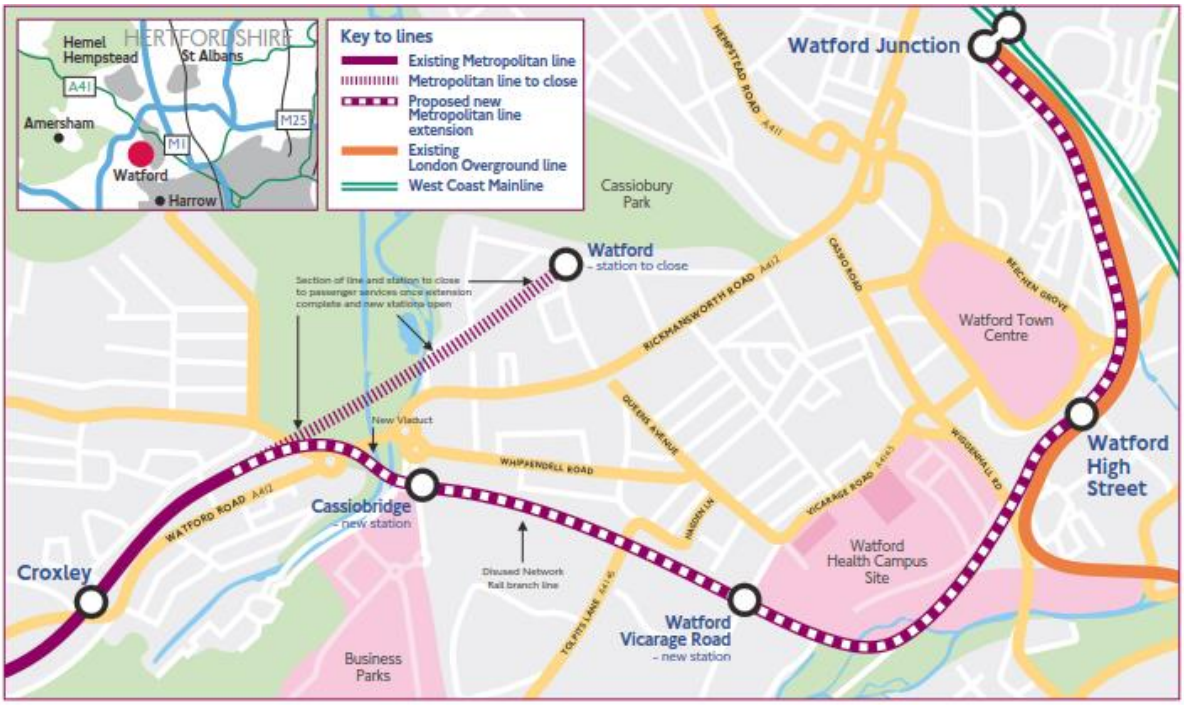
There are current discussions underway for the funding of the extension of the Metropolitan Line. This line will see the current Watford Underground Station close and the line diverted to serve Watford Junction and Watford High Street. Two additional stations would be created at Cassiobridge and Vicarage Road (Watford). See Figure 8.3 below. It is believed this extension will help to improve access to public transport and provide better access for Metropolitan line passengers to West Coast mainline National Rail links from Watford Junction station. The extension will also help to increase employment opportunities by creating new links to Watford General Hospital, Croxley Business Park and Cardiff Road Industrial Estate.

[50] AECOM for Hertfordshire County Council (May 2020) Hertfordshire COMET: Local Plan Forecasting Report - LP5

[51] Central Bedfordshire, Luton, Buckinghamshire (all districts), part of Essex (i.e. Epping Forest, Harlow, and Uttlesford), and part of Cambridgeshire (i.e. South Cambs and Cambridge)

[52] Hertfordshire County Council (July 2020) Watford Interpretation of COMET Model Results

**Figure 8.3: Metropolitan Line Extension[53]**




[53] Transport for London, Metropolitan line extension, https://tfl.gov.uk/travel-information/improvements-and-projects/metropolitan-line-extension Accessed on: 10/11/2017

# 9 Air, Noise & Light Pollution

Emissions of air, noise and light are all potential sources of pollution. Air pollution in Watford is predominantly a result of emissions from road vehicles. Carbon monoxide (CO), oxides of nitrogen (NOX), volatile organic compounds (VOCs) and small particulate matter ($PM^{10}$) are among the pollutants emitted from vehicle exhausts. These compounds can cause severe cardio-vascular and respiratory harm to people, especially in the long term, and have adverse effects on the natural and built environment.

Noise pollution is the result of high levels of noise or an unpleasant sound that causes temporary disruption; this can be applicable to sounds or noises that are unnatural in either their volume or their production. Poor urban planning can increase exposure to unwanted sounds; however, the EU Environmental Noise Directive (END)[54] aims to manage noise and preserve quiet areas by engaging the public, local authorities and operators.

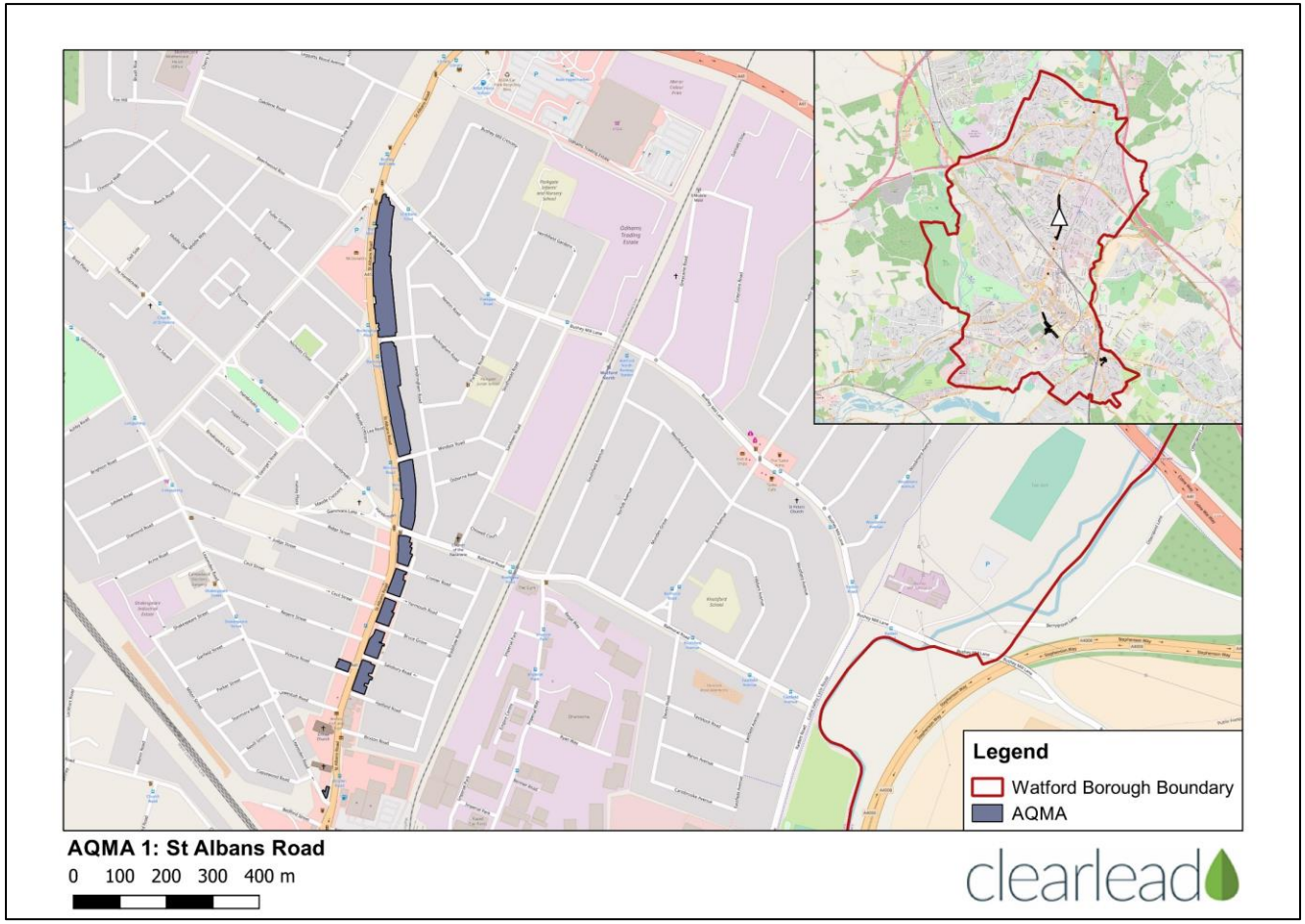
Light pollution is caused by excessive or intrusive artificial light arising from poor or insensitive design. Light pollution can have a detrimental effect on the character and amenity of an area after dark. Pollution control is concerned with limiting pollution to the lowest practical level through the use of measures to prohibit or limit the release of substances from a range of sources to the environment.

Air Pollution

Watford has four designated air quality management areas (AQMA) as a result of exceeding the annual mean objective for nitrogen dioxide. Road traffic was identified as the dominant source of nitrogen dioxide in all four AQMAs. The areas covered by the AQMAs are shown in Figure 9.1. Figure 9.2 shows the annual mean concentration of nitrogen dioxide ($NO_2$) and particulates ($PM^{10}$) within the borough, taken from the Watford Town Hall monitoring site (not within an AQMA). This shows that levels of $NO_2$ have more or less stayed the same since 2010, whilst there has been a slight downward trend in the levels of $PM^{10}$.

[54] EU Environmental Noise Directive, (Directive 2002/49/EC)

**Figure 9.1: Watford AQMAs (AQMA 1)[55]**




[55] Defra, AQMA Dataset, 2017

**Figure 9.2: Watford AQMAs (AQMA 2 & 3)[55]**

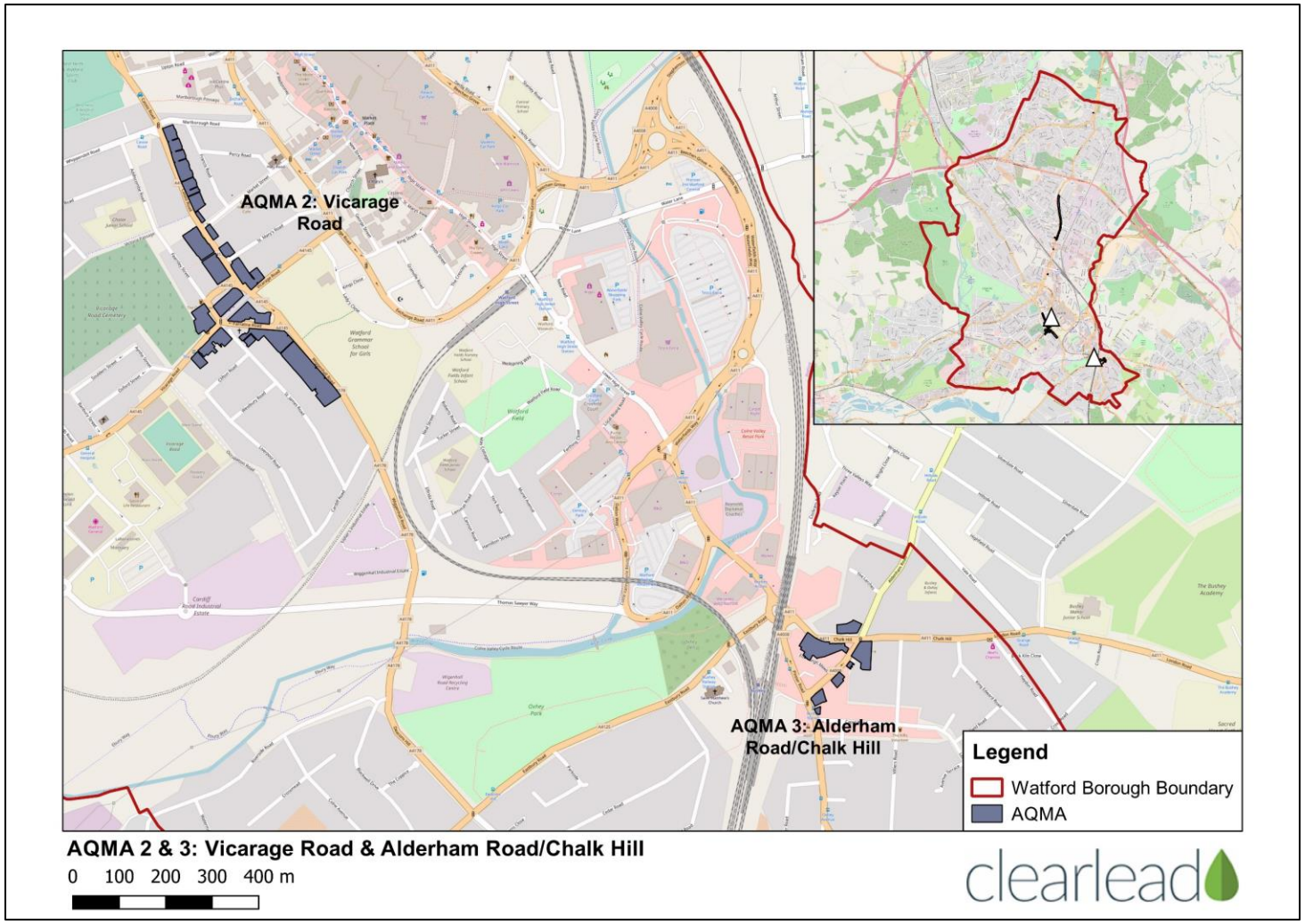


**Figure 9.3: Watford AQMAs (AQMA 5)**[55]

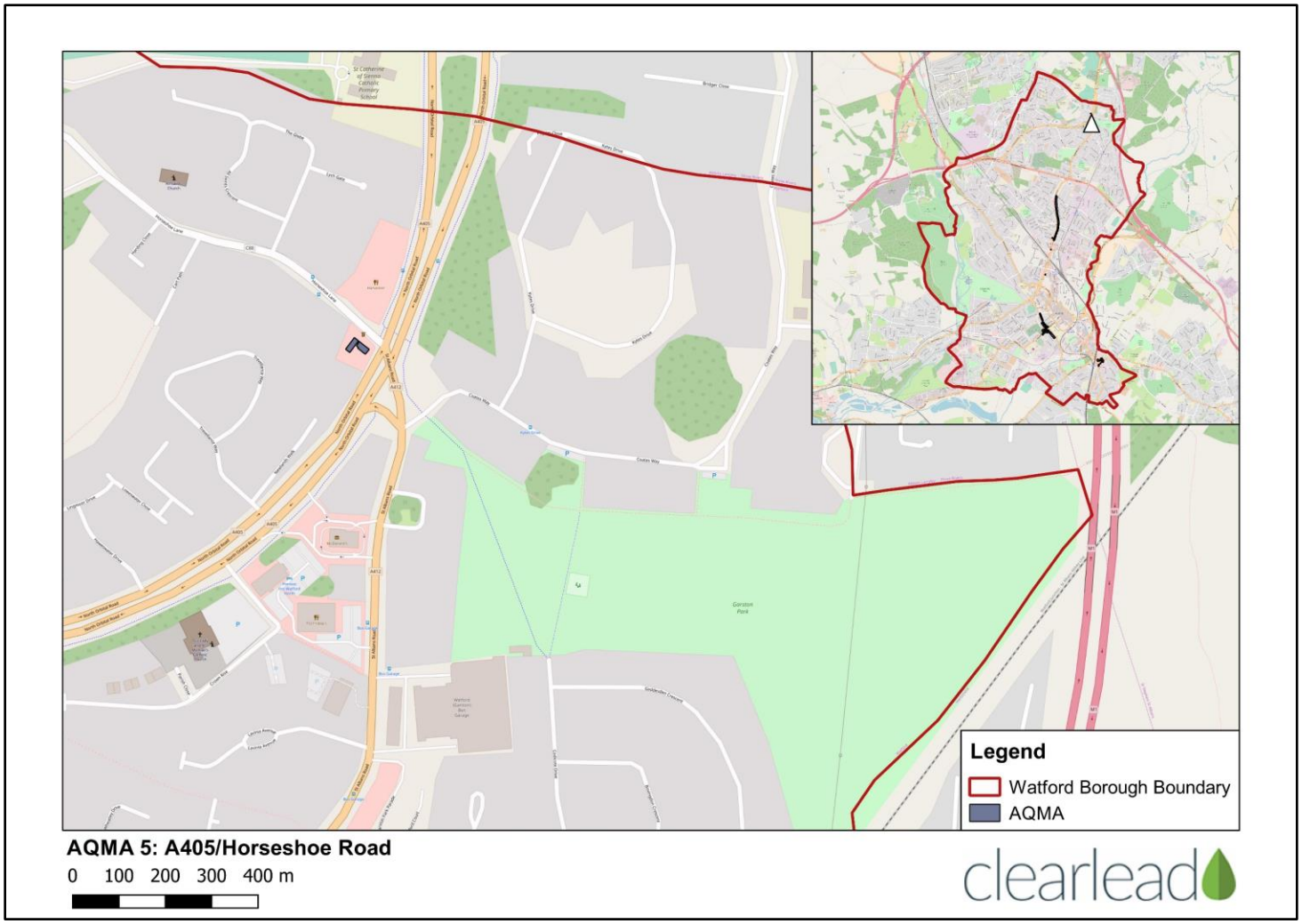
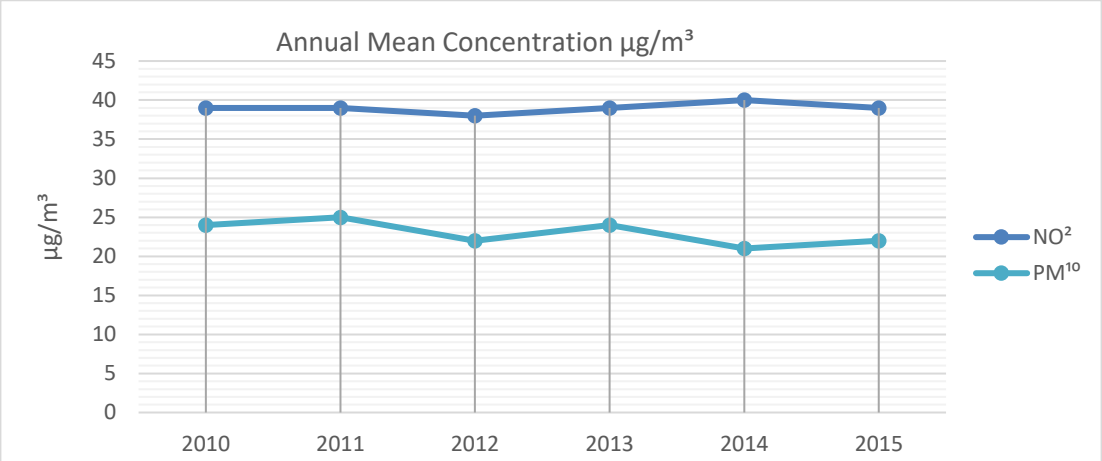


**Figure 9.4: Annual Mean Concentration of $NO^2$ and $PM^{10}$ [56]**




As part of the UK Air Quality Strategy (2000) and the EU First Daughter 50 Directive (99/30/EC) the annual limit values for both particulates and nitrogen dioxide is 40 µg/m³ [57]. Particulates have consistently been within this limit, but levels of nitrogen dioxide reached this level in 2014. Detailed assessments were carried out in 2016 to look at the levels of $NO_2$ within the four AQMAs, these have been detailed in Table 9.1 below. AQMA 2 and 3a were both in exceedance of the 40µg/m³ annual mean objective and it has been suggested that the boundary of these AQMAs should be revised.

**Table 9.1: AQMA Assessment Comments[56]**

| AQMA Name | Comments | Action |
|---|---|---|
| AQMA 1 (St Albans Road) | No predicted exceedances of the 40µg/m³ annual mean objective. | WBC may wish to consider revoking the boundary of AQMA 1. |
| AQMA 2 (Vicarage Road) | Exceedances of the $NO_2$ annual mean objective at up to 50 residential properties at ground level. | WBC should consider revising the boundary of AQMA 2 to include these locations. |
| AQMA 3a (Aldenham Road/Chalk Hill) | Exceedances of the $NO_2$ annual mean objective at up to 55 residential properties at both ground level and first floor height. | WBC should consider revising the boundary of AQMA 3a to include these locations. |

[56] Watford Air Quality Report, 2016

[57] Defra, National Air Quality Objectives and European Directive Limit and Target Values for the Protection of Human Health, 2010

| Table 9.1: AQMA Assessment Comments[56] | | |
|---|---|---|
| **AQMA Name** | **Comments** | **Action** |
| AQMA 5 (A405/Horseshoe Lane) | No predicted exceedances of the 40µg/m$^3$ annual mean objective | WBC may wish to consider revoking the boundary of AQMA 5 |

In addition to the AQMAs, Watford has deployed a network of 18 diffusion tubes across the Borough to monitor levels of nitrogen dioxide. Concentrations across all of the nitrogen dioxide diffusion tube monitoring sites continue to decline; however, there are three existing and one new site where results suggest that the 40 µg/m objective level could be exceeded.

The Council has adopted a number of measures to improve the air quality including the installation of rapid car charging points at 9 major car parks, the extension of the e-car scheme, introduction of more cycle routes and facilities and providing better infrastructure to make roads safer for pedestrians. In addition, major road improvements have been made in a bid to alleviate congestion on key roads with AQMAs. The Health Campus link road opened in November 2016 and is expected to help alleviate the localised congestion and improve access to the hospital for emergency vehicles within AQMA 3a.

Between 2014 and 2015 the number of registered plugged-in vehicles in Hertfordshire increased by 120% with most of this increase occurring in Watford. Based on new registrations by district, Watford has the experienced proportionally higher growth with 299 new plugged-in vehicles registered in 2015 representing 40% of the Hertfordshire total[58].

Noise Pollution

Noise pollution continues to be a problem in the borough and key sources include deliveries, air-handling units, people/ patron noise, music, kitchen extract, construction noise construction noise, generators and aircraft. Table 9.2 below shows the number and the source of noise complaints received by the Borough Council since June 2015.

| Table 9.2: Sources of Noise Pollution[59] | |
|---|---|
| **Source of noise pollution** | **Number of complaints (since June 2015)** |
| **Non-Domestic** | |

[58] Hertfordshire Traffic and Transport Data Report, 2016

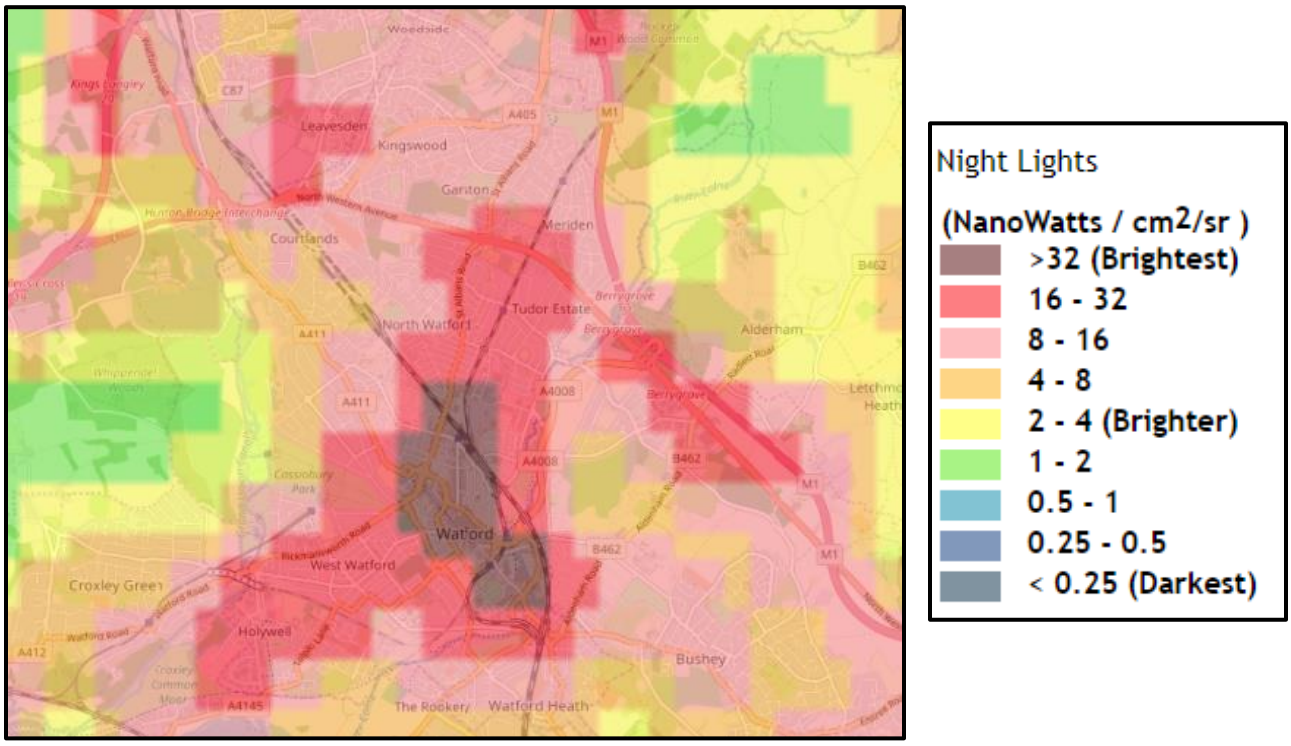
[59] Information provided by Watford Environmental Health Officer, received via email on: 17/11/2017

| Table 9.2: Sources of Noise Pollution[59] | |
|---|---|
| **Source of noise pollution** | **Number of complaints (since June 2015)** |
| Aircraft | 4 |
| Vehicle alarm | 39 |
| Noise-Commercial Construction, Demolition | 96 |
| Noise-Commercial Industrial | 51 |
| Noise-Commercial Music | 95 |
| Noise-Commercial Other | 153 |
| **Domestic** | |
| Alarm | 22 |
| Noise-Domestic Construction, Demolition | 127 |
| Noise-Domestic DIY | 45 |
| Noise-Domestic Dog Barking | 50 |
| Noise-Domestic Living | 48 |
| Noise-Domestic Music | 243 |
| Noise-Domestic Other | 100 |
| Noise-Equipment in Street | 30 |
| **Other** | |
| Noise-Railway | 9 |
| Noise-Traffic | 5 |
| Noise-Vehicle Alarm | 22 |
| Noise-Vehicle Music | 3 |
| Noise-Other | 30 |

Light Pollution

The borough has generated high levels of light pollution with the Watford town centre with the brightest levels of light pollution at >32 NanoWatts/cm²/sr. Figure 9.4 shows that areas in the west of the borough, particularly around Cassiobury Park, have the lowest levels of light pollution at 1-2 NanoWatts/cm²/sr. Since June 2015 there have been approximately 40 light nuisance complaints due to artificial lighting.

**Figure 9.4: Light Pollution[60]**




[60] Campaign to Protect Rural England (CPRE), England's Light Pollution and Dark Skies Satellite Map, 2016 (Prepared by Land Use Consultants)

# 10 Climate

The UK has a strong policy commitment to responding to climate change, most recently evidenced through the ratification of the landmark “Paris Agreement”. This is based on a scientific consensus that human activity has resulted in the accumulation of so-called “greenhouse gasses” in the atmosphere and is causing climatic change.

The Climate Change Act (UK Government, 2008) is the basis for the UK’s approach to responding and tackling climate change. It requires that emissions of carbon dioxide and other greenhouse gases are reduced and that climate change risks are prepared for. The Act commits the UK government by law to reduce greenhouse gas emissions by at least 80% of 1990 levels by 205067.

The increase in global temperature is likely to continue unless greenhouse gas emissions are reduced. The impacts of climate change are expected to be warmer, wetter winters and hotter, drier summers. Sea levels are expected to rise and, together with an increase in rainfall, lead to more frequent flooding of rivers and the coastline. Extreme weather events such as storms or heat waves are likely to be more frequent.

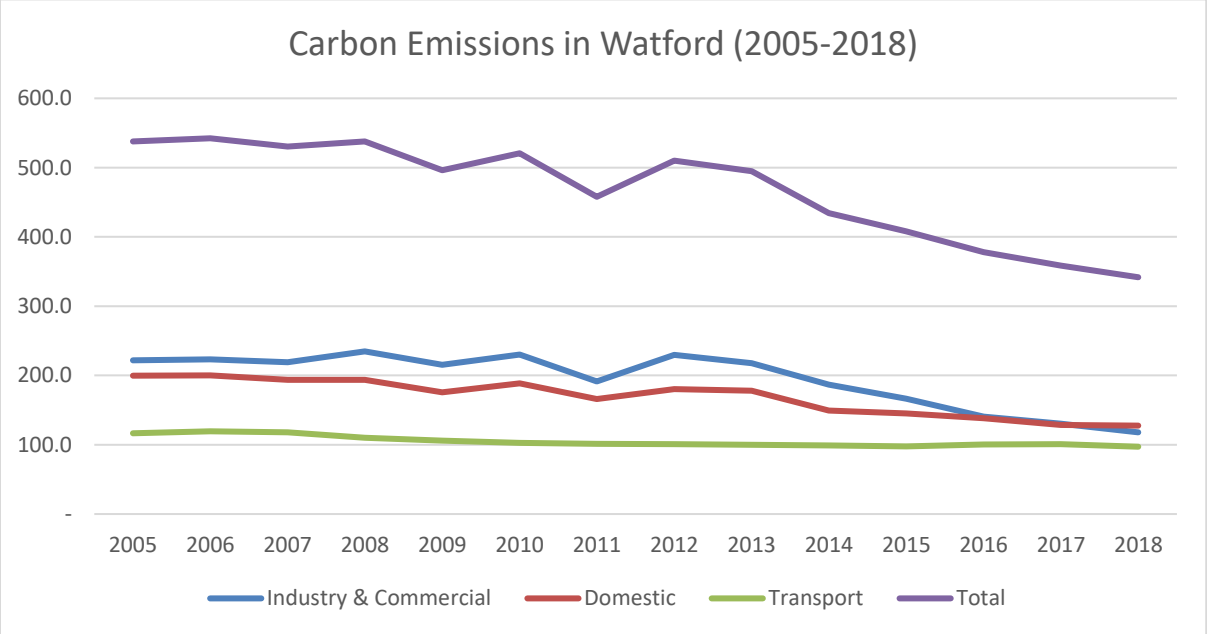
These impacts are likely to have a number of indirect effects. Flooding may become more frequent and severe in some areas. These would include changes in the availability and quality of water resources, damage to native habitats and migration or extinction of native plants and animals. Infrastructure and buildings could be damaged more frequently by storms.

Emissions of carbon expressed as ‘per capita’ (per residents) allow a comparison across different areas. Per capita $CO_2$ emissions for Watford are significantly below those for the UK as a whole and are less than those for Hertfordshire. Table 10.1 shows that the largest proportion of $CO_2$ emissions in the borough comes from the domestic sector. This trend is different to both the regional and national trends. Industry and commercial $CO_2$ emissions make up the second highest contribution at ~35%; this is above both the Hertfordshire average, although below the UK average. Unlike the national and county trends transport makes up the smallest proportion of $CO_2$ emissions.

| Table 10.1 Local and regional emissions estimates for 2018 (kt CO2)[61] | | | | | | |
|---|---|---|---|---|---|---|
| | **Watford** | **% of Total** | **Hertfordshire** | **% of Total** | **UK** | **% of Total** |
| Industry and Commercial | 117.9 | 34.49 | 1,416.9 | 24.10 | 133,293.3 | 38.65 |
| Domestic | 127.6 | 37.33 | 1,740.4 | 29.61 | 96,429.8 | 27.96 |
| Transport | 97.2 | 28.43 | 2,815.3 | 48.41 | 126,801.1 | 36.77 |
| Total | 341.8 | | 5,876.9 | | 344,824.3 | |
| Per Capita Emissions (t) | 3.5 | | 5.0 | | 1.4 | |

Since 2005, emissions from industry/commercial and domestic sectors have seen steady decreases; however, the transport sector has shown little change. The large decreases in the industrial/commercial and the domestic sectors has resulted in an overall downward trend in carbon emissions from 536kt to 341kt. Figure 10.1 below demonstrates these sector changes.

**Figure 10.1: Carbon Emission in Watford 2005-2018 (kt $CO_2$)[61]**




[61] UK local authority and regional carbon dioxide emissions national statistics: 2005-2018, BEIS, 2020

The charity Green Alliance Trust has estimated the capacity for renewable energy generation in Boroughs and Districts across England and Wales. Currently Watford generates 6,424 MWh of renewable energy per annum of which 22% is generated from solar (for electricity) and 78% from biomass[62]. This ranks Watford 309th out of 348 local authorities. Watford has little capacity for renewable energy generation with a maximum potential output of 3.1MW, ranking the borough 327th out of 348 local authorities in England. Watford has; however, when compared locally, outperformed Hertsmere and Three Rivers on renewable energy generation but is ranked lowest for energy capacity.

**Table 10.2: Renewable Energy Generation & Capacity[62]**

| | Capacity (MW) | Rank | Generation (MWh) | Rank |
|---|---|---|---|---|
| Watford | 3.1 | 327 | 6,424 | 309 |
| Hertsmere | 3.1 | 329 | 4,585 | 321 |
| St Albans | 7.1 | 286 | 10,370 | 290 |
| Three Rivers | 3.2 | 325 | 5,044 | 316 |
| Dacorum | 21.8 | 184 | 23,789 | 244 |

[62] The Green Alliance, Renewable Energy Locator, https://renewablelocator.green-alliance.org.uk/area/374 Accessed on: 09/11/2017

# 11 Biodiversity

Biodiversity includes not only the variety of individual species but also the genetic diversity within species and the range of ecosystems that support them. The UK Biodiversity Action Plan (BAP), published in 1994, sets out a programme for the conservation of the UK's biodiversity and led to the production of 436 action plans to achieve the recovery of many of the UK's most threatened species and habitats.

The second national State of Nature[63] report was produced in 2016 by a consortium of biodiversity organisations. This reported that of 8,000 species of highest conservation concern; 15% are extinct or threatened with extinction in Great Britain. The UK is ranked 189 out of 218 countries assessed. 56% of UK species are in decline – in England this includes what used to be common species such as hedgehogs and turtle doves. 109 English species are considered critically endangered in GB, from beetles to arable weeds. However, some species are doing well – little egrets, red kites, bitterns and some butterflies. Climate change, which can benefit some mobile species moving further north, appears to be an important factor. There are climate change winners – such as the comma butterfly, and losers – such as the common dormouse. Nationally there are complex patterns, largely driven by land use and climate change. Together with the State of Nature Report, it remains clear that biodiversity generally remains under pressure nationally.

Watford is a largely urban Borough and contains no international, European or national designations (Ramsar sites, SPAs, SACs, SSSIs). However, two SSSI sites are situated adjacent to Watford Borough's boundaries in Three Rivers District. These are Whippendell Wood (managed by Watford BC) and Croxley Common Moor (see table below). The former is designated for its ancient woodland habitat and the latter for its rare grassland types which have been significantly reduced in Britain through drainage and agricultural change.

[63] http://www.rspb.org.uk/Images/State%20of%20Nature%20UK%20report_%2020%20Sept_tcm9-424984.pdf

| Table 11.1 Condition of SSSIs near Watford | | | |
|---|---|---|---|
| **SSSI name** | **Condition** | **Last assessment date** | **Trend** |
| Croxley Common Moor | Unfavourable recovering.<br>Issues relate to grazing regime and invasive scrub. | 13 June 2011 | No change since condition assessment in 2005 |
| Whippendell Wood | Favourable | 9 November 2010 | No change since condition assessment in 2005 |

Green spaces and designated areas within Watford are shown in Figure 11.1.

There are no National Nature Reserves (NNR) in Watford itself; however, NNR Ruislip Woods is situated just outside Hertfordshire. It is designated for its woodland, open water and lowland grassland habitats.

There are three Local Nature Reserves (LNR) in Watford:

- Lairage Land (4.7 ha), West Watford;
- Harebreaks Wood (5.4 ha), North Watford; and,
- Land within Cassiobury Park (14 ha) with a further 12 ha of Cassiobury Park, outside of the LNR, which is under conservation management to increase biodiversity.

The Council is also in the process of designating the following areas:

- Alban Wood;
- Garston Park; and,
- Paddock Road.

These are supplemented by a number of Local Wildlife Sites as identified in Figure 11.1.

There is no specific Biodiversity Action Plan for Watford. However, at a county level "A 50 Year Vision for the Wildlife and Natural Habitats of Hertfordshire"[64] was drawn up as a response to the UK Biodiversity Action Plan. It evaluates the status of habitats and species in the County and

[64] Hertfordshire Environmental Forum and Herts and Middlesex Wildlife Trust (1998) "A 50 Year Vision for the Wildlife and Natural Habitats of Hertfordshire", available at http://www.ukbap.org.uk/lbap.aspx?id=374

thereby identifies key habitats, species of national and local significance and high biodiversity areas.

Species for which action plans have been prepared include, amongst others, great crested newt, bittern, stone curlew, song thrush, freshwater white-clawed crayfish, water vole, otter, dormouse, cornflower and several local species. Priority habitats for which action plans have been prepared include, amongst others, ancient and/or species-rich hedgerows, chalk rivers, fens, reed beds and a variety of lowland habitats.

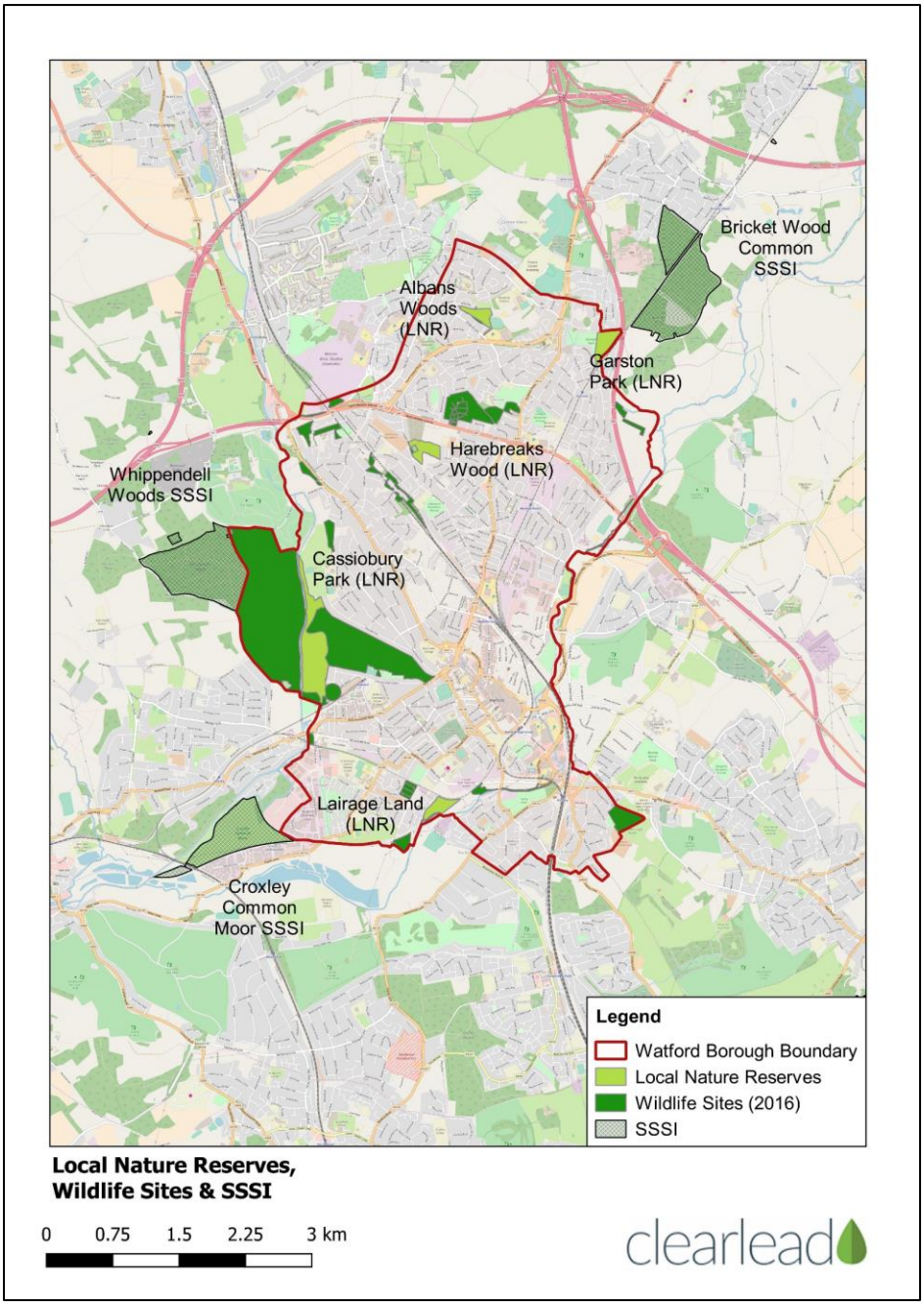
These Biodiversity Action Plans should be considered by Watford Borough Council when deciding on issues which could impact on biodiversity directly or indirectly.

There is increasing pressure presented by invasive non-native species, which is expected to be exacerbated by climate change. Species such as Japanese knotweed, Giant hogweed and Himalayan Balsam are known to occur within Watford and are often left unmanaged[65].

Parts of the borough are covered by Watling Chase Community Forest which is located on the Eastern fringe of the borough. Its management aims to combine the sustainable production of timber with wildlife conservation and environmental enhancements.

[65] Information provided by the Environment Agency in a letter responding to consultation on this report, dated 29/01/18

**Figure 11.1: Local Nature Reserves, Wildlife Sites and SSSI[66]**

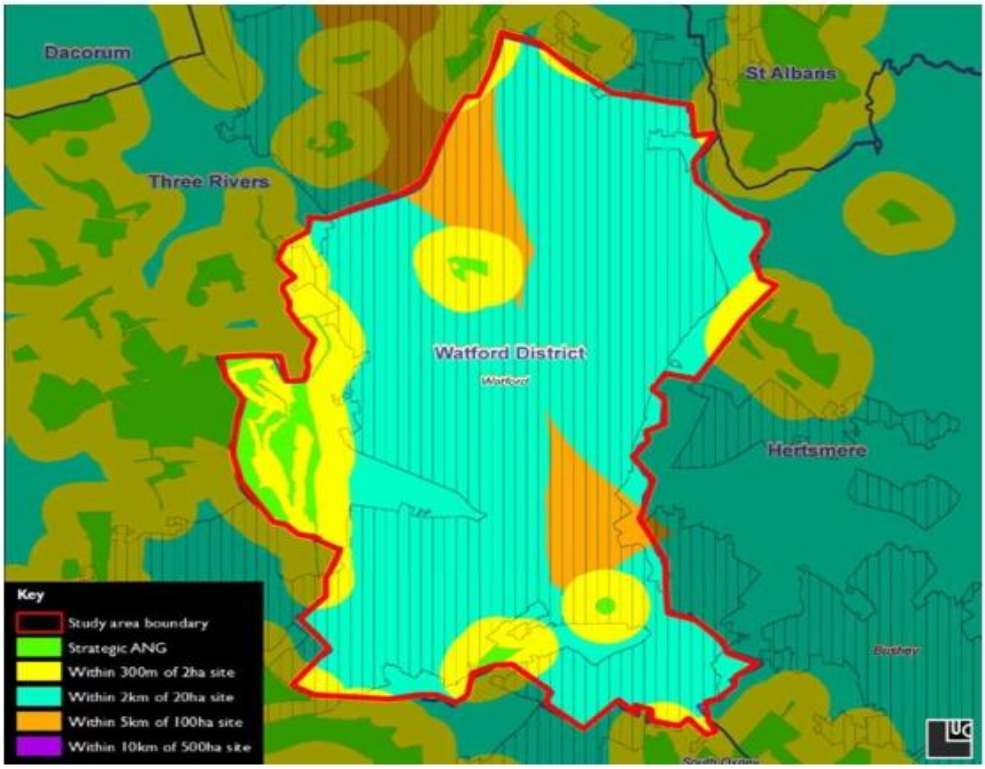





[66] Shapefiles provided by Watford Borough Council

The borough has the highest provision of Accessible Natural Greenspace (ANG) within the County due to the presence of Cassiobury Park. There is, however, a lack of provision of open space in and around urban parts of Watford due to the general density of urban development. Natural England Accessible Natural Greenspace (ANG) standards mapping was undertaken in 2010 (reproduced in Figure 11.2 below). This analysis identified a significant deficiency to accessible natural greenspace across the central band of the town. The analysis found a lack of access to semi-natural sites of two hectares in size and a lack of access to a strategic site of 500 hectares in size. However, the consultants who prepared the Watford Green Infrastructure Plan (2011) suggest that, in reality, Watford performs better in terms of accessible natural greenspace than the mapping in Figure 11.3 indicates (see 'Data Gaps' below).

**Figure 11.2: Accessible Natural Greenspace (ANG) provision in Watford, applying the Natural England ANGSt standards[67]**




[67] Natural England/The Landscape Partnership Analysis of Accessible Natural Greenspace Provision in Hertfordshire. Reproduced from Watford Borough Green Infrastructure Plan - Final Report for Watford Borough Council, Land Use Consultants (March 2011)

## 12 Cultural Heritage

Heritage is defined as those features which belong to the culture of a particular society, such as traditions, languages, or buildings, that were created in the past and still maintain their historical importance. UNESCO defines cultural heritage as the 'legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations'[68]. Historic England defines a heritage asset as "A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset include designated heritage assets and assets identified by the local planning authority (including local listing)[69]. Heritage assets include archaeology and non-designated assets.

Preserving cultural and built heritage can benefit communities by providing an essential educational resource giving residents a sense of identity as well as contributing to the national and local economy.

Watford has 92 statutory listed buildings, of which two are Grade I listed and 86 are Grade II listed. In addition, 4 buildings are Grade II* listed which indicates that they are buildings which are particularly 'important and are of more than special interest'[70]. These include:

- Watford Peace Memorial;
- Little Cassiobury And Former Stable Block;
- Frogmore House; and
- The Mrs Elizabeth Fuller Free School

Cassiobury Park in the west of the borough is also designated as a Grade II registered park, which reserves the same protection as statutory listed buildings. Figure 12.1 shows the borough's listed buildings and sites.

Historic England annually undertakes a survey of buildings, sites and areas whose value is under threat, to bring together a Heritage at Risk Register. This register is a 'means of highlighting the general plight of England's heritage and of prioritising local action to conserve the place for future

[68] UNESCO, Tangible Cultural Heritage http://www.unesco.org/new/en/cairo/culture/tangible-cultural-heritage Accessed on: 15/11/2017

[69] Historic England website: https://historicengland.org.uk/advice/hpg/hpr-definitions/h/536274/ Accessed on: 15/11/2017

[70] Department of Culture, Media & Sport, Principles of Selection for Listing Buildings, 2010

generations. The threats can be neglect, environmental damage, crime and inappropriate development' [71].

Of the four buildings are Grade II* statutory listed buildings, two appear on Historic England Heritage at Risk Register:

- Little Cassiobury and former stable block: Poor condition; and
- Frogmore House: Fair condition.

Both have very different issues, with Little Cassiobury slowly decaying with no current solution, whilst Frogmore House is undergoing restoration but is under threat of vacancy with no obvious new user. Table 12.1 further details on the heritage at risk in the borough.

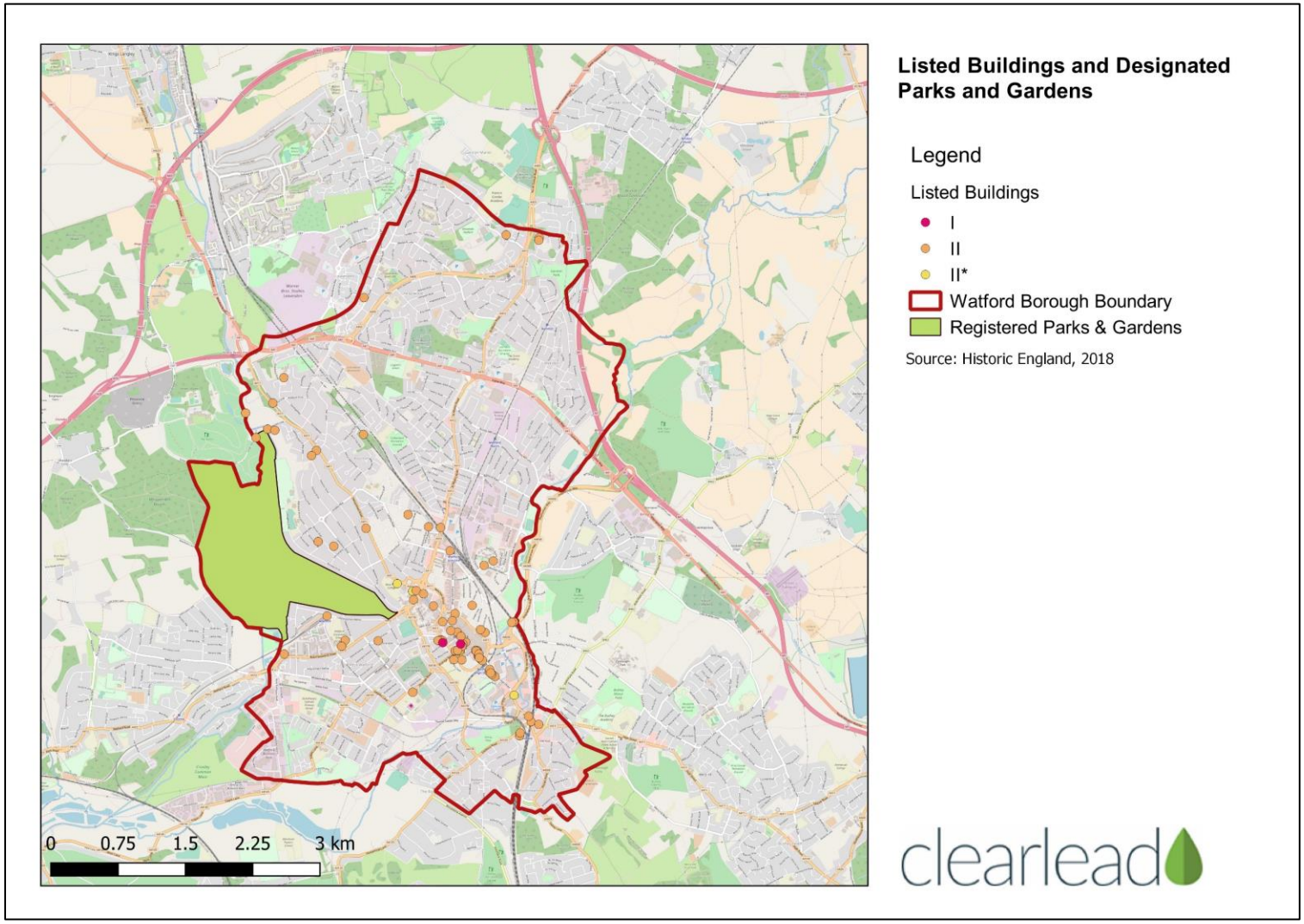
**Table 12.1: Heritage at Risk[72]**

| Entry Name | Heritage Category | Condition | Occupancy / Use | Priority Category |
|---|---|---|---|---|
| Little Cassiobury and former stable block, Hempstead Road, Watford | Listed Building grade II* | Poor | Vacant/not in use | Slow decay; no solution agreed |
| Frogmore House, High Street (north east side), Watford | Listed Building grade II* | Fair | Vacant/not in use | Under repair or in fair to good repair, but no user identified; or under threat of vacancy with no obvious new user (applicable only to buildings capable of beneficial use). |

[71] Historic England, Heritage Protection Guide, https://historicengland.org.uk/advice/hpg/HAR/, Accessed on: 6/4/2018

[72] Historic England, Heritage at Risk Register, Watford, https://historicengland.org.uk/advice/heritage-at-risk/search-register/ Accessed on: 16/11/17

**Figure 12.1: Listed Buildings and Designated Parks and Gardens**



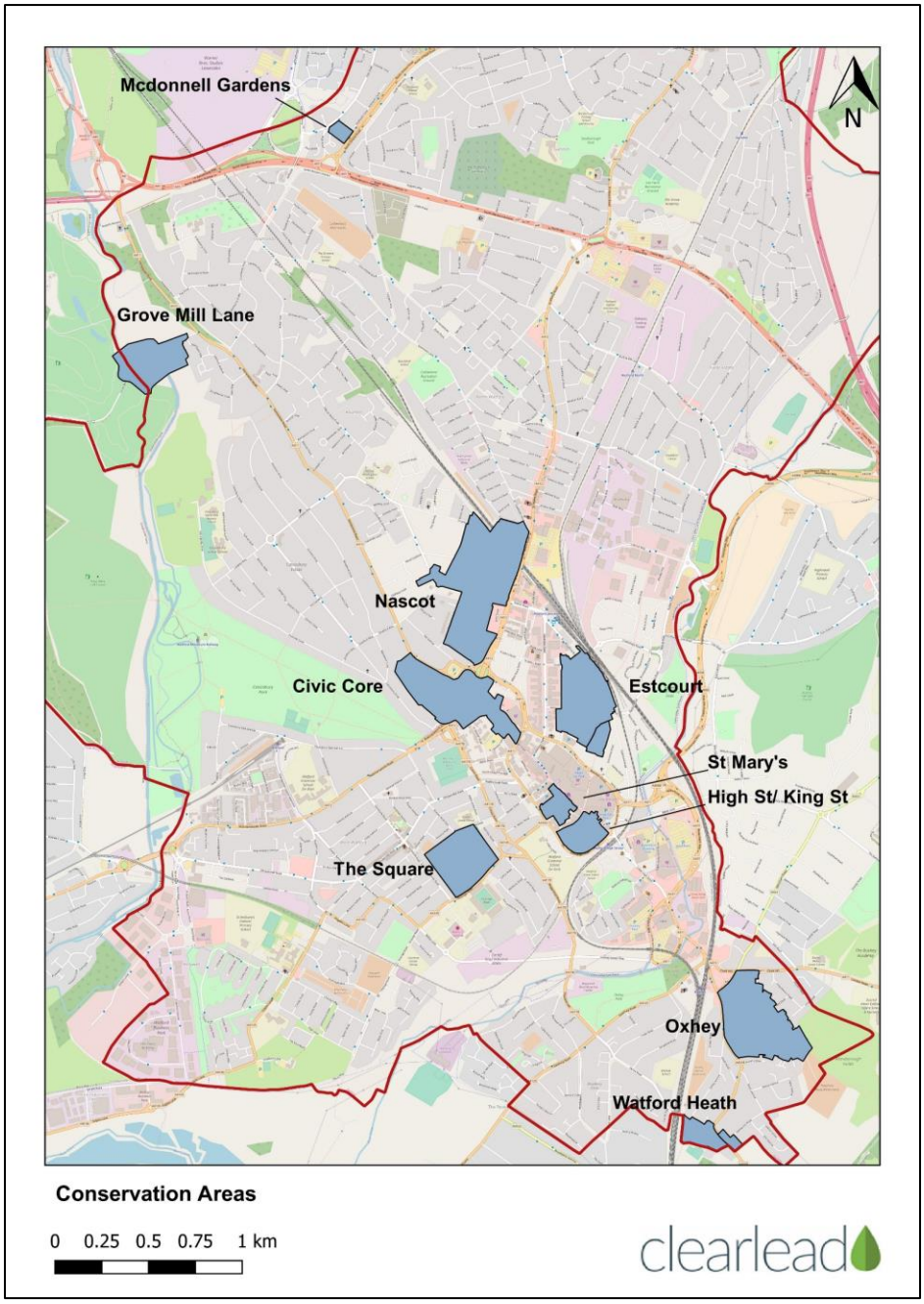
Although much of the borough has been previously developed, it is possible that unknown sites of historic and archaeological interest exist. Development could represent an opportunity to obtain information about, record and protect such sites and features.

In addition to the statutory listed buildings, WBC has produced a list of local buildings which it considers have historical, architectural or cultural importance. There are currently 240 buildings on the list. The Council will seek to retain these buildings and encourage their sympathetic maintenance and enhancement. Alterations or extensions to locally listed buildings will be expected to achieve a high standard of design.

The Council considers that 'historic areas make a significant contribution towards the urban fabric of the borough'. In light of this, the borough has 10 designated Conservation Areas for which they are considered to have a special architectural or historic interest. The areas vary in character, form and size but their designation means that they are worthy of protection as areas of special merit. The main purpose of their designation is to preserve or enhance areas of special historic or architectural interest and their settings and place added control on new developments. Traffic management and the impacts of traffic on amenity have been raised as issues within the Conservation Area Action Plans.

Figure 12.2 shows the Conservation Areas in the borough.

**Figure 12.2: Conservation Areas[73]**






[73] Shapefiles provided by Watford Borough Council

Watford is not often associated with being a cultural hotspot or creative hub and its proximity and connectivity to London, through the northern outer London suburbs, make it more difficult to develop a distinctive cultural offer and compete with the broader cultural dynamism of London[87]. The Watford Cultural Action Plan and Needs Assessment[87] identified a perceived lack of distinctiveness was a weakness for the borough. However, several investments have been made in recent years to improve the local cultural offer and identity. Examples of the recent and ongoing growth and development of the cultural offer in Watford include:

- The new West Herts College campus in Watford and its creative and media facilities enable it to offer a rich mix of creative and media courses;
- The refurbishment and development of Watford Palace Theatre has been delivered to enable the theatre to become one of the leading producing theatres in the region. Rifco Arts, a renowned British Asian Theatre company, have since relocated to the Theatre.
- The refurbishment of the Colosseum which provides 150 music, theatre and entertainment performances each year[74]. The BBC Concert Orchestra has relocated its base to the newly refurbished Colosseum; and
- Watford Live!; Watford Market and pop-up shops have given the borough the opportunity to showcase local talent.

[74] Watford Cultural Plan: Action Plan and Needs Assessment, July 2011

# 13 Landscape & Townscape

Landscape character is defined as 'a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse'[75]. Landscape gives a locality its sense of place, making it different from neighbouring localities.

Landscapes can be areas designated for their natural beauty or ambience but can also be 'ordinary' places that are not given statutory protection. Urban landscapes also have an important role to play in affecting the quality of people's lives, therefore enhancing 'townscapes' is also important.

Landscape Character

Watford falls into two landscape character areas, as defined by Natural England: "Northern Thames Basin" and "Thames Valley". The Northern Thames Basin landscape character area covers Watford Borough almost entirely (see Figure 13.1). The character areas are characterised by Natural England as follows[76]:

> *"The **Northern Thames Basin** is a diverse area which extends from Hertfordshire in the west to the Essex coast in the east. It is separated from the North Sea and Thames Estuary by a narrow band of land that makes up the Greater Thames Estuary National Character Area (NCA). Included within this NCA are the suburbs of North London and also historic towns and cities including St. Albans and Colchester, as well as new and planned towns such as Welwyn Garden City, Hatfield and Basildon. Although arable agriculture is a large industry in the area the soil quality ranges from good to poor quality. The London Clay provides a poor-quality soil that becomes waterlogged in winter and cracks and shrinks in summer. Better quality soil is found in areas that contain alluvial deposits from the Thames and other rivers in the area as they formed and changed position over time.*
>
> *The Northern Thames Basin is an area rich in geodiversity, archaeology and history and diverse landscapes ranging from the wooded Hertfordshire plateaux and river valleys, to the open landscape and predominantly arable area of the Essex heathlands, with areas of urbanisation mixed in throughout. Urban expansion has been a feature of this area*

[75] Landscape Character Assessment (2008) http://www.landscapecharacter.org.uk/ Landscape Character Network

[76] Countryside Agency (2000) "Character Northern Thames Basin", available at http://www.countryside.gov.uk/Images/JCA111_tcm2-21204.pdf

*since the 16th century when wealthy merchants who were conducting business in London built homes on its outskirts, mainly in the Hertfordshire area. This trend increased dramatically from the mid-19th century as infrastructure improved and people could travel to work in London from the surrounding areas in an hour or less. This has put increased pressure on the area in terms of extra housing developments, schools and other necessities for expanding populations, with a consequential reduction in tranquillity."*[77]

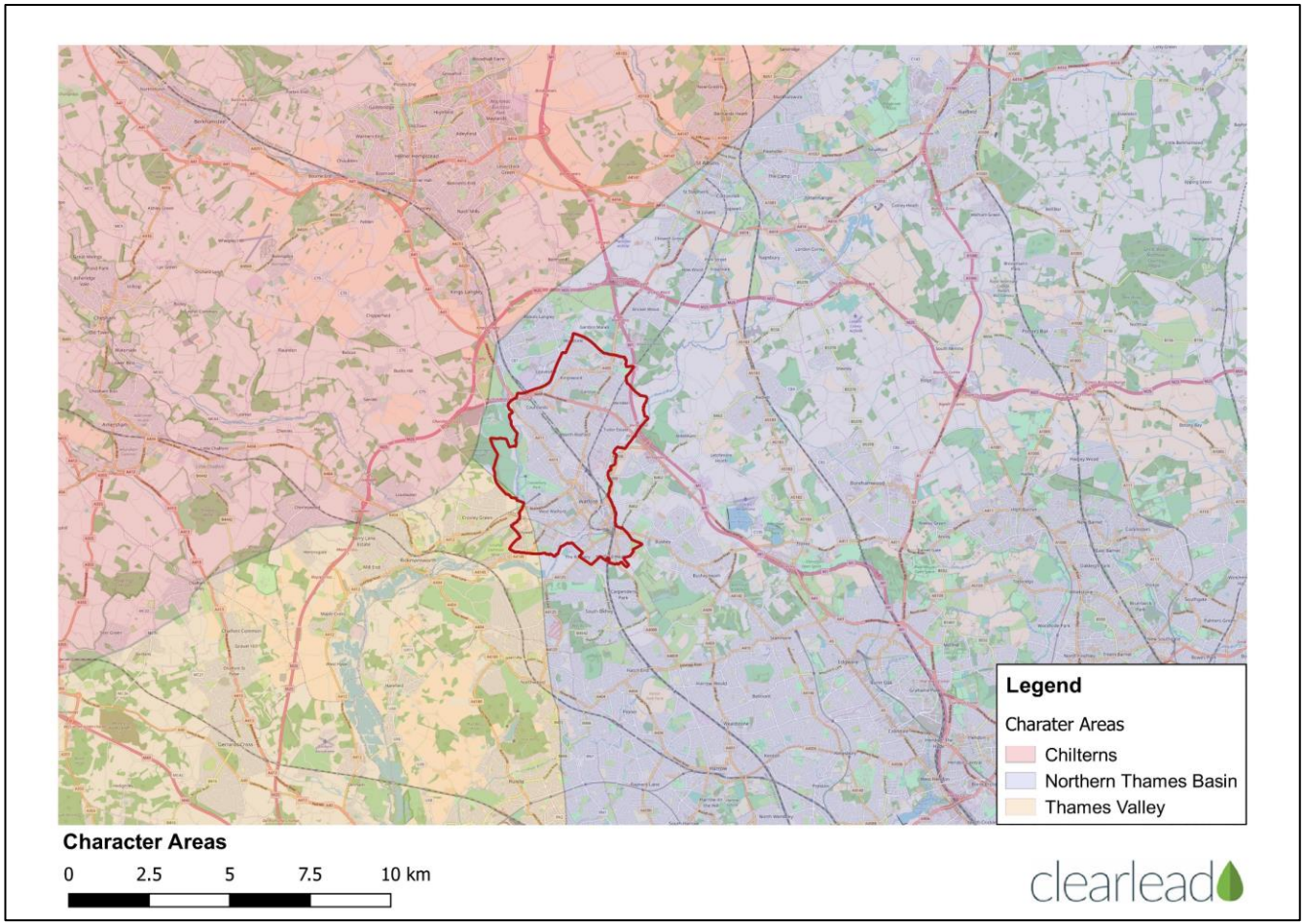
*"The **Thames Valley** is a mainly low-lying, wedge-shaped area, widening from Reading, which includes Slough, Windsor, the Colne Valley and the southwest London fringes. The River Thames provides a unifying feature through a very diverse landscape of urban and suburban settlements, infrastructure networks, fragmented agricultural land, historic parks, commons, woodland, reservoirs and extensive minerals workings.*

*Hydrological features dominate the Thames Valley, and include the Thames and its tributaries, part of the Grand Union Canal and the reservoirs which form the South- West London Waterbodies Special Protection Area (SPA) and Ramsar site. These features provide essential water supply services for London and the surrounds, as well as being important areas for wildlife and recreation in an essentially urban landscape. Flows and water levels in the River Thames are managed by a series of locks and structures upstream of Teddington. Flood defence and water quality improvement measures, such as the restoration of wetlands for flood management, provide opportunities for biodiversity and recreation."*[78]

[77] http://publications.naturalengland.org.uk/publication/4721112340496384?category=587130 accessed on 27/11/17

[78] http://publications.naturalengland.org.uk/publication/3865943?category=587130 access on 27/11/17

**Figure 13.1: Landscape Character Areas**[79]



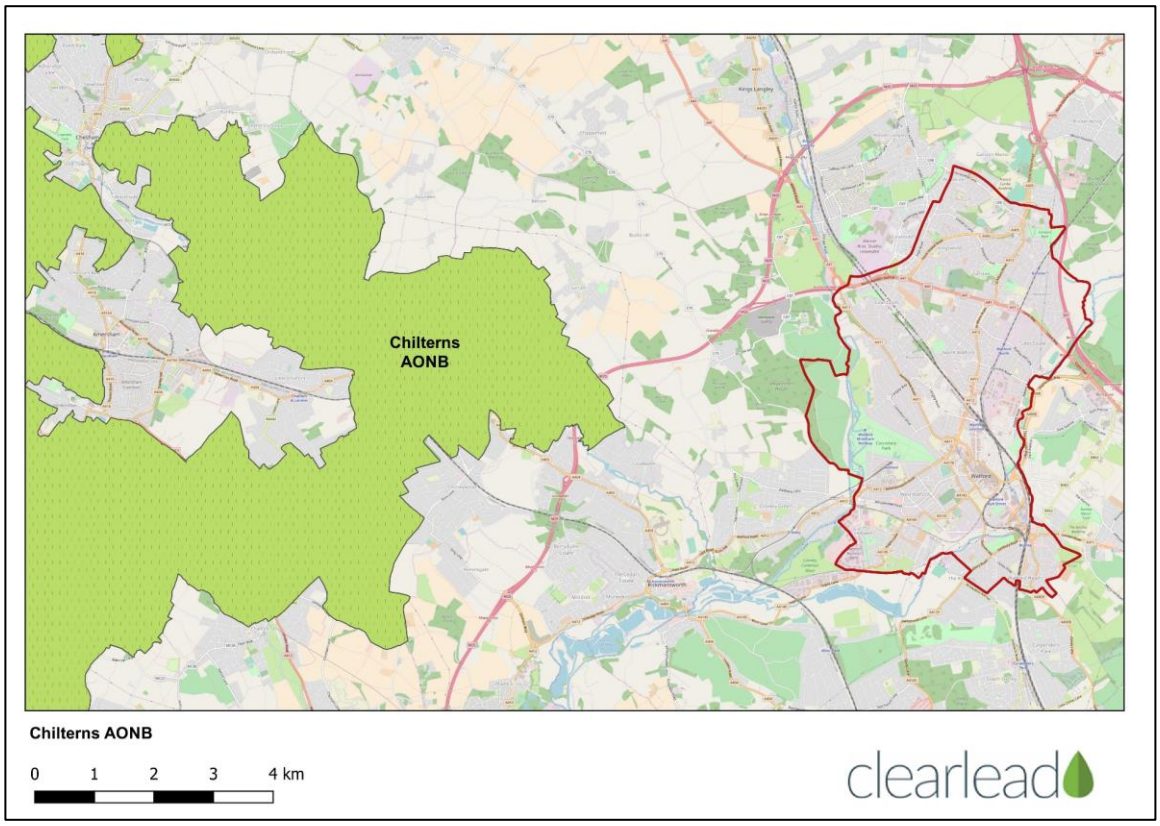

[79] Natural England, National Character Areas (England), 2017

The borough of Watford centres itself around the urban settlement of Watford town which grew from the confluence of the Colne and Gade. Outside of the high-density built-up area, the valley meadowlands including the Rivers Gade and Colne and associated dry chalk valleys woodland, and plateau farmland are distinctive. In the neighbouring district of St Albans, the presence of wooded hills and ridges and lowland settled farmland creates the landscape context of the Colne. Other aspects of Watford's green infrastructure include the Grand Union Canal corridor, existing transport lines and the historic estate parklands of Cassiobury Park and Whippendell Woods SSSI to the West.

Landscape Designations

The Chilterns Area of Outstanding Natural Beauty (AONB), which consists of gently rolling hills covered with beech woodland and chalk downland, can be found in close proximity (approximately 3km from the boundary) to the Borough as shown on Figure 13.2. Development within Watford Borough could influence the setting of the Chilterns AONB.

**Figure 13.2: Watford Borough in relation to Chilterns AONB[80]**




[80] Natural England, Areas of Outstanding Natural Beauty (Shapefile), 2017

Green Infrastructure

Watford's primary green infrastructure (GI) asset, Cassiobury Park was laid out from the 16th Century and has had a major influence on the town and landscape character of the surrounding area. Whilst the estate was broken up in the early 20th century, elements such as the Lime avenues planted as part of the 17th Century formal gardens created by Moses Cook and the water landscape near the Grand Union Canal are important features.

Developed as a medieval market town, Watford is now a thriving urban settlement which shares many characteristics with London suburbs. Due to significant growth in recent times, pressures relating to available open space and provision of GI assets have ensued.

Development now extends towards the borough boundary which has exacerbated pressures on the availability of GI assets and has resulted in issues relating to access to open space, public rights of way and cycle routes as well as to the wider countryside.

In some cases, existing GI assets are delivering the necessary functionality but in others it is not. The Green Infrastructure Plan[81] seeks to address links and connections, alternative greenspace provision and interventions such as improved landscape management to deliver a wider array of functions within a GI network. The Green Infrastructure Plan proposes spatial projects and non-spatial proposals. Several 'action zones' have been defined. These are shown on Figure 13.3, and are described as:

- **Wetland Habitat Zone**: Restoring and enhancing the quality of the canal and river valley network and associated wetland habitats to create landscape links to adjacent authorities and to sites such as Bricket Wood Common. The zone also includes connections to the strategic Grand Union Corridor identified in the Three Rivers and Dacorum Green Infrastructure Plans and in the Buckinghamshire Green Infrastructure Strategy. The zone and component projects can also contribute to delivery of Natural England's Thames and Tributaries Integrated Biodiversity Delivery Area (IBDA) and at a local level are complementary to the aims and objectives of the Management Plan for the Colne River Park.
- **Woodland Enhancement Zone:** Linking woodland habitats and restoring landscapes/defining the network of valleys including regionally rare Wooded Chalk Valleys. This includes enhancement to the setting of historic GI assets such as Whippendell Woods – buffering and protecting such sites.

[81] Watford Borough Green Infrastructure Plan, Land Use Consultants (March 2011)

- **Chalk Valleys Conservation Zone:** Conserving key GI assets as part of the movement, habitat and physical landscape network and securing links to the river valley network and associated Wetland Habitat Zone.

A series of GI types have been defined under which to organise proposed GI projects[82] within the borough. These are:

- Urban greenways;
- Urban blue links;
- Urban wildspace;
- Peri-urban wildspace;
- Rural blue links; and
- Rural wildspace.

[82] To be taken forward by Watford Borough Council with key professional and community stakeholders. The GI projects have been identified in the Watford Borough Green Infrastructure Plan - Final Report (March 2011) by consultants who prepared the GI plan, in consultation with delivery partners.

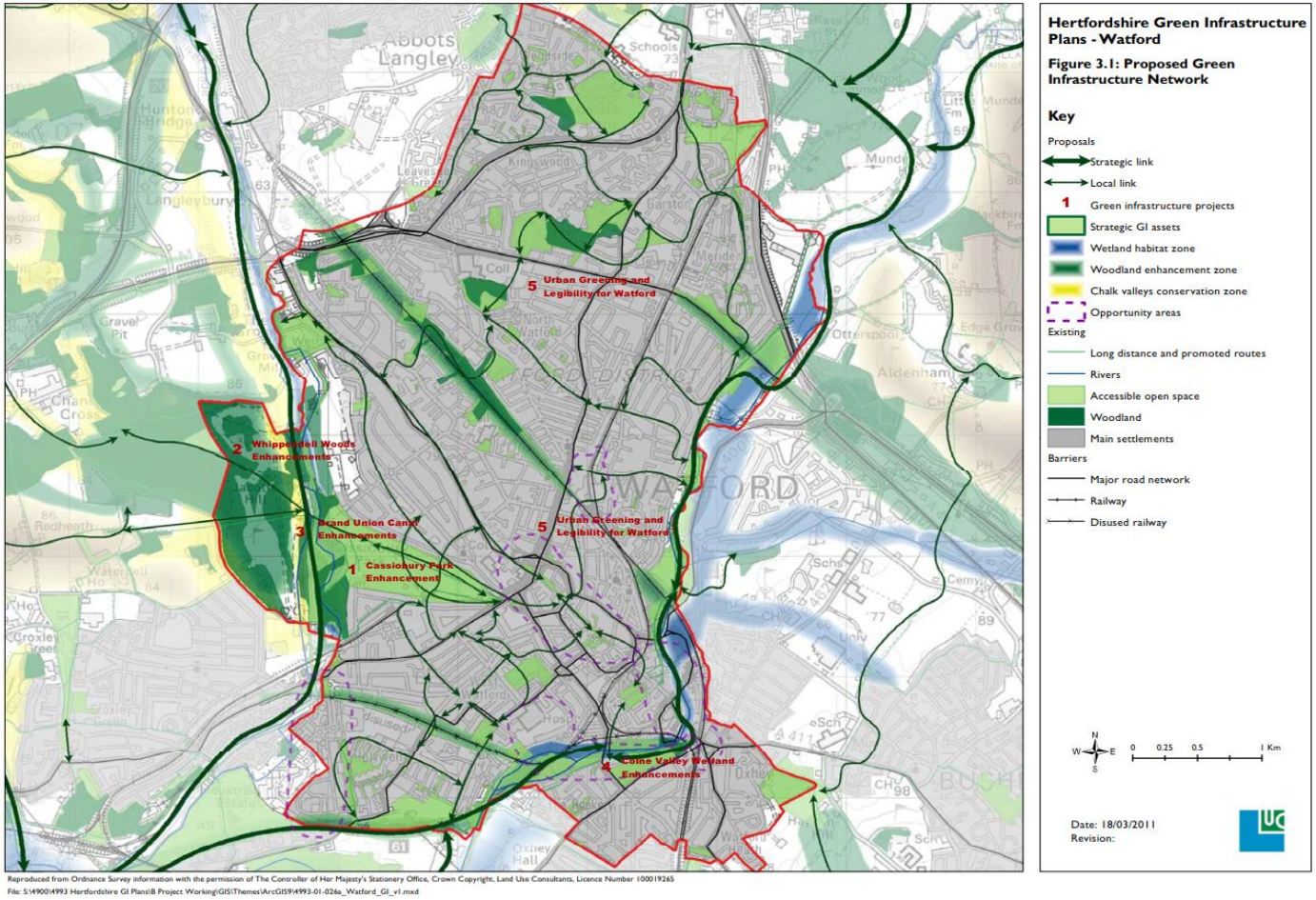



**Figure 13.3: Proposed Green Infrastructure Network in Watford[83]**

[83] Watford Borough Green Infrastructure Plan - Final Report for Watford Borough Council, Land Use Consultants (March 2011)

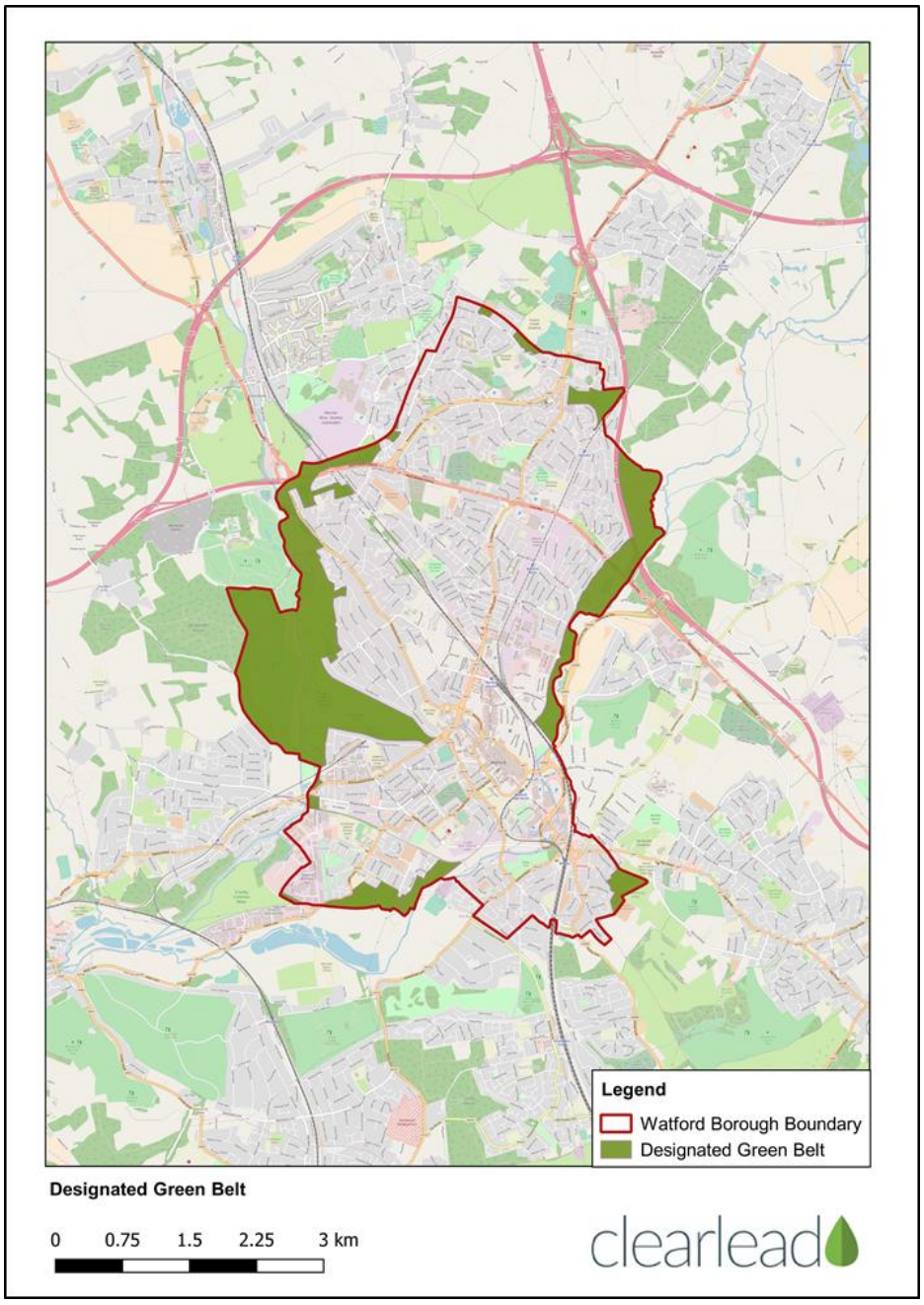
Green Belt

There are areas of designated Green Belt around the boundary of Watford Borough, mainly to the east and west which contain development within the borough to the existing urban areas. Areas designated as Green Belt are shown on Figure 13.3.

The Green Belt in Watford Borough is part of the wider Metropolitan Green Belt to the north of London and exhibits a range of characteristics of strategic and more local significance. Strategically, the Green Belt maintains a degree of separation between the principal towns of the wider area including Rickmansworth and Watford, as well as the surrounding towns and large urban areas of Hemel Hempstead, St Albans, Radlett, Bushey, Pinner and Northwood. Equally, sprawl into open countryside has also been largely contained. The Green Belt within the wider area can be broadly divided into five areas:

- Remoter open countryside to the west and north west of Rickmansworth and the M25; This is part of the wider Green Belt in Chiltern District and part is designated as AONB,
- Land to the north between Watford and Hemel Hempstead;
- Land to the east of Watford which is part of the wider Green Belt within Hertsmere District;
- Open countryside between Watford and Rickmansworth, south of the M25; and
- Land to the south of Watford and Rickmansworth, part of the wider Green Belt within the London Boroughs of Hillingdon and Harrow.

**Figure 13.4: Green Belt in Watford Borough[84]**






[84] Shapefiles provided by Watford Borough Council

Local Character within Watford

A Character of Area Study was published in 2011. This study assessed character areas in the borough. The study identified the existing character areas in the borough which provide the spatial framework for local neighbourhoods. The character areas reflect the multifunctional nature of the town as a location for employment, leisure, study and residential provision. Although these areas provide a network of urban form, rich in “place identity”, they remain at risk of degradation from the pressures of new development.

The Character of Area Study reports that Watford contains several distinctive urban character areas which largely reflects the period in which most buildings were constructed. This has created various dominant architectural typologies. The major exception to this is the High Street and its environs where pressure for redevelopment has left the oldest part of the town with a very mixed urban character.

Although Watford is highly urbanised, the density of development in most of the borough is relatively low – e.g. estates of semi-detached/detached housing. Higher density development is largely focused around the town centre and other key transport nodes. There are 105 separate character areas identified in the Study. These are grouped into 38 generic types. The study shows that much of the borough has a strong localised urban character. However, there are several areas where the urban grain is much weaker and the character more poorly defined. The study both supports the spatial strategy and Special Policy Areas (SPAs) approach set out in the Watford Core Strategy document (which the Local Plan will replace). The SPAs identified in the town centre and at the Dome Roundabout and Health Campus are marked by poorly defined urban character where good quality redevelopment would help to integrate the areas into the wider urban fabric of the town.

The Watford Town Centre Situation Report (September 2017) assesses public realm, cycle parking and other town centre infrastructure and there are some improvements which could be made to improve the townscape in Watford. Recommendations in the report relating to townscape are:

- Consider options for improving public realm and pedestrianisation of the High Street particularly between Market Street and Kings Street;
- Consider options in the Parade area for expanding a creative industry hub; and
- Provide improved pedestrian connections between the High Street Station and the High Street.

# 14 Soils & Geology

Government policy promotes development on previously developed land rather than on greenfield land to make the most efficient use of a finite resource. Development within Watford is constrained by the designation of Green Belt and therefore most new development occurs on previously developed land.

There are no sites within Watford Borough which are designated as important for geology.

Land contamination is principally a legacy of historical industrial activities and past waste disposal practices. Examples of such industries include gas works, chemical works, landfill sites, sewage works, petrol stations and scrap yards. In some instances, substances and waste materials from these activities may have caused pollution to the ground. This contamination has the potential to cause harm to human health, ground and surface waters, ecological systems and the built environment. Land contamination can also include areas of land with elevated levels of naturally occurring substances or where substances are present as a result of accidents, spillages, aerial deposition or migration.

In April 2000 the Government introduced new legislation (Part 2A of the Environmental Protection Act 1990) requiring all local authorities to inspect their areas for potentially contaminated land and, if necessary, to ensure that any contamination is 'cleaned up' (remediated).

Land uses that are considered sensitive to contamination include:

- All residential development;
- Allotments;
- Schools;
- Nurseries
- Playgrounds; and
- Hospitals.

There are no sites included on the Council's contaminated land register. The Council has not designated any sites as contaminated land under Part IIA of Environmental Protection Act 1990. A total of 251 sites that have had a previous potentially contaminative use have been included in the Council's contaminated land prioritisation on list. WBC has not prioritised any of these sites as being of any 'immediate' concern based on their current or historical use. Within Watford Borough, land which requires consideration under the Part IIA Contaminated Land Strategy is likely to be done on an informal basis or, alternatively, triggered through the planning system by redevelopment of a site. A number of sites are currently subject of remediation schemes through

the planning process. There are no specific concerns within the Council's geographic area in relation to contaminated land, human health and groundwater[85].

'Soilscape' data held by National Soil Resources Institute (NSRI) shows that the majority of soils in Watford Borough are 'Freely draining slightly acid loamy soils' with some 'Loamy and clayey floodplain soils with naturally high groundwater' where there are watercourses.

The Agricultural Land Classification (ALC) provides a method for assessing the quality of land in order to make to informed choices about its future use within the planning system. The ALC system classifies land into five grades, with Grade 3 subdivided into Subgrades 3a and 3b. The best and most versatile land is defined as Grades 1, 2 and 3a. This land is seen as the most productive, efficient and flexible that can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals. Figure 14.1 shows the agricultural land classifications within the borough and demonstrates Watford's small capacity for good versatile agricultural land. Small areas around the periphery of the borough have a grade 3 rating, with the largest area towards the west.

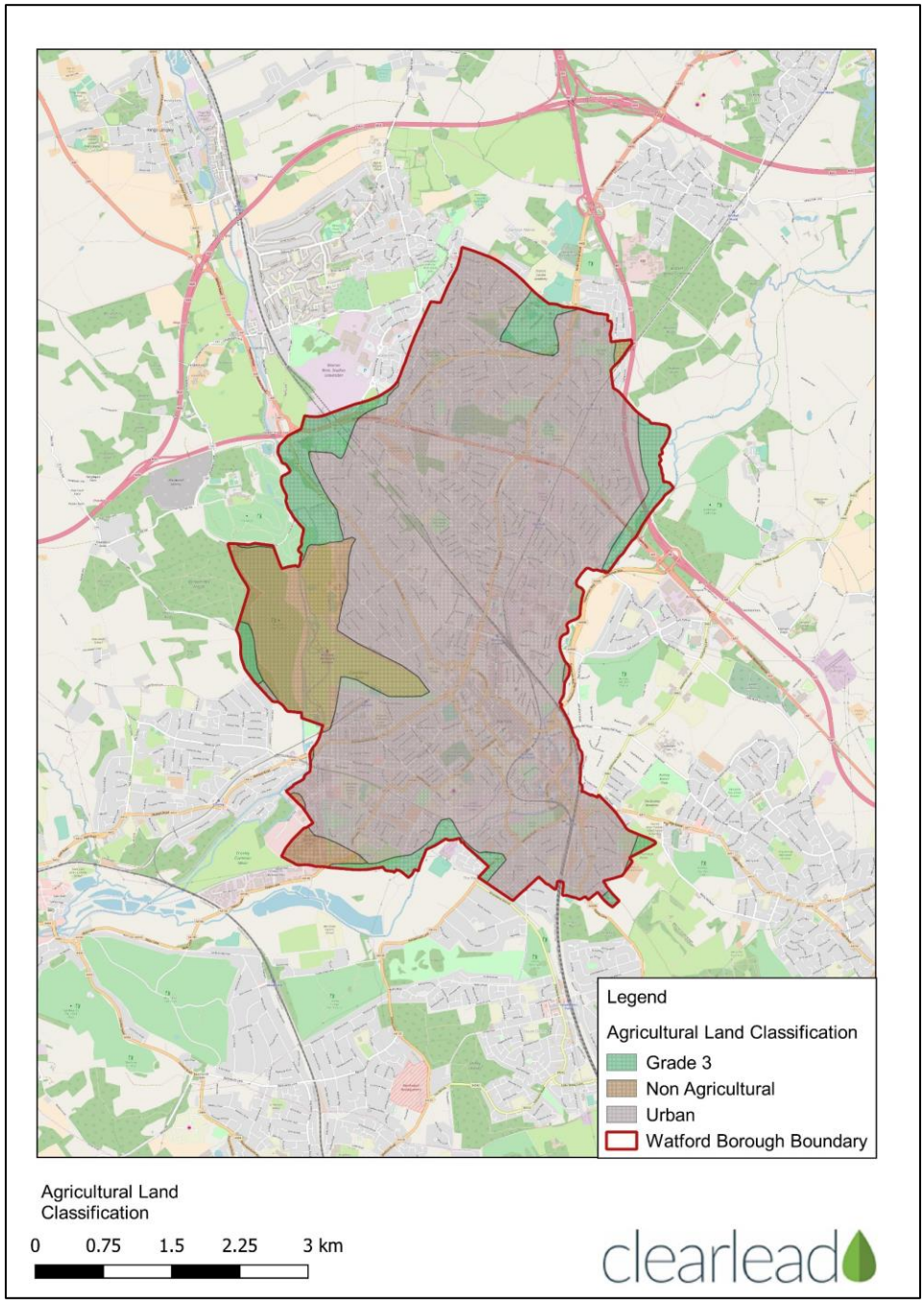
Most of the borough is underlain by a Principal Aquifer, apart from the south-eastern tip of the borough which is underlain by a Secondary Aquifer. A Principal Aquifer usually provides a high level of water storage. It may support water supply and/or river base flow on a strategic scale. It has high vulnerability to pollution. See Chapter 15 Water for further details on groundwater.

Aggregates and construction materials such as, cement raw materials, brick clay and gypsum play a vital role in the construction industry, and helps to maintain and enhance the built environment. Often these resources are finite and there is a need to safeguard them, in order to provide sufficient supplies for the future. Orphanage Road Goods Yard, in the centre of the borough, produces concrete batching, asphalt and coated stone and is currently safeguarded by Herefordshire County Council. This means that the site has permanent planning permission that safeguards it from development[86].

[85] Information provided by Watford Environmental Health Officer in email dated 14/11/17

[86] Hertfordshire Minerals Local Plan Consultation (Draft) 2017

**Figure 14.1: Agricultural Land Classification[87]**




[87] Natural England, Agricultural Land Classification (Post 1988 Survey Polygons)

# 15 Water

Water resources and the provision of water infrastructure are also becoming of increasing concern in many areas, in response to increases in population. 5.2 million people in England and Wales are deemed to be at risk of flooding[88]. As the population rises the number of those at risk of flooding may also rise. Waterways offer a beneficial asset within an urban environment offering recreational activities, areas of open space as well as providing attractive places to live. Despite this, waterways in England are becoming increasingly polluted.

Flooding

The river Colne catchment covers an area of 1,014km² [89] and flows in a south-westerly direction towards Watford. The Grand Union Canal in the west of the borough forms and important part of the River Colne catchment, flowing alongside the River Gade through Hemel Hempstead, Kings Langley, Abbott's Langley and Watford.

The main source of flood risk in the borough is from fluvial flooding, but the borough also suffers from surface water flooding as a result of poor drainage. Much of the eastern and western side of the borough lies within flood zone 3 with some being designated as Flood Zone 2. Figure 15.1 shows the flood zones in the borough.

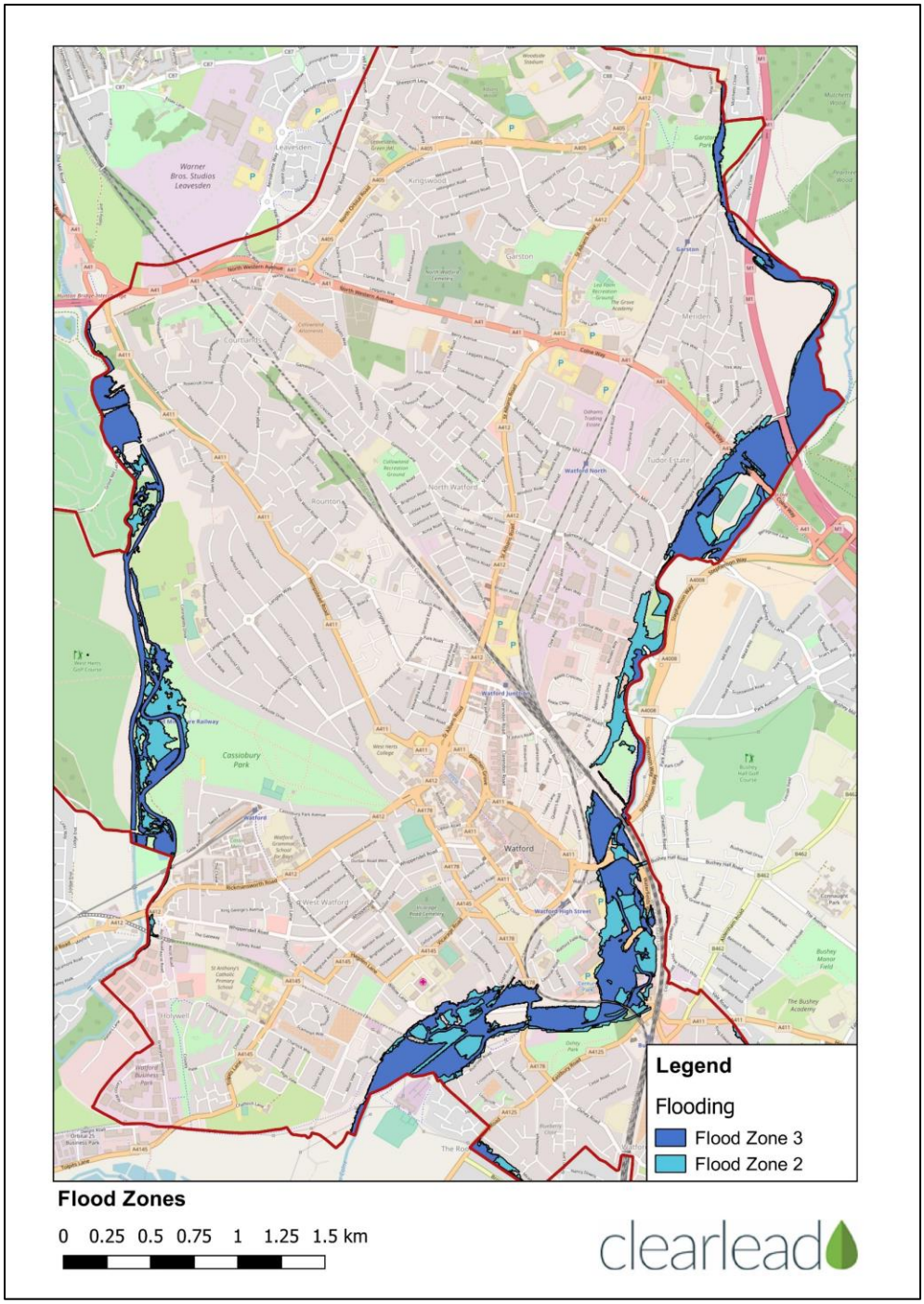
Watford Borough Council Level 2 Strategic Flood Risk Assessment (2014)[90] identified the Lower High Street, Water Lane and Bushey Mill areas as fluvial and surface water flooding hotspots in the borough, whereas Kingsfield Road and Cedar Road, Oxhey and Molteno Road are the most prone to groundwater flooding.

[88] National Flood Forum, 2017

[89] Hertfordshire Water Cycle Study, 2010

[90] Watford Borough Council Level 2 Strategic Flood Risk Assessment, 2014 (Produced by AECOM)

**Figure 15.1: Flood Zones**[91]




[91] Environment Agency, National Flood Zones, 2015

Water Supply

Watford is situated within the Colne Abstraction Management Strategy Area (CAMS), which covers an area of approximately 1,018 km² to the north-west of Greater London. The catchment covers Hertfordshire in the north, and Buckinghamshire and Middlesex in the south[92]. The Colne catchment contains six main rivers and their tributaries: the Bulbourne, Chess Colne, Gade, Misbourne and Ver which are all typical chalk streams and their sources are subject to seasonal and annual climatic variation.

Much of the borough is underlain by two large aquifers which are considered by the Environment Agency to be of high and intermediate vulnerability. These areas are defined as being sensitive locations for groundwater because they are located within source protection zones 1, 2 or 3 and/or are located over principle or secondary aquifers[93]. High vulnerability indicates that there is a high likelihood that pollutants discharged at ground level (i.e. above the soil zone) could reach groundwater aquifers. The Environment Agency may not grant permits or licences for certain activities located within a sensitive location[94].

Affinity Water manages the water supply in the area. In their Strategic Direction Statement (2007-2032)[95], Affinity Water states that it will face considerable challenges, particularly regarding ongoing population growth, and ensuring that their assets are durable, strong and resilient to both social and environmental pressures.

Watford is located in the driest region in the country as the East of England only receives two thirds of the average UK annual rainfall[96]. The Environment Agency's 2013 Water Stressed Areas Classification[97] defines water stress as '*Water bodies at high risk of environmental impacts as a result of overexploitation from abstraction'.* Water resources in the area are over abstracted, which has put increasing pressure on the region's surface and ground water supplies. In 2011, groundwater resources were at or approaching full utilisation, and many rivers and streams

[92] The Environment Agency, Colne Abstraction Licencing Strategy, 2013

[93]The Environment Agency response to Scoping Report consultation dated 18th August 2017

[94] The Environment Agency Guidance, Protect groundwater and prevent groundwater pollution, published 14 March 2017

[95] Three Valleys Water, Strategic Direction Statement, 2007

[96] TRL, Watford Local Plan Part 2, Environmental Report, 2016

[97] The Environment Agency, Water Stressed Areas – Final Classification, 2013

suffered from low flows which had detrimental impacts upon the area's water quality[98]. As a result, Affinity Water was classed as being under serious water stress[99].

In recognition of changing pressures on water resources all new licences and variations (other than downward variations or minor variations having no environmental impact) have an imposed time limit[100]. This allows for the periodic review and changes to abstraction licences where circumstances have changed since the licence was granted. The next Common End Date review (CED) is due in March 2026, by this time it is assumed that licences may be renewed with more restrictive terms and conditions, to reflect the ongoing water stress issues.

Wastewater

Wastewater in the borough is managed by Thames Water via Maple Lodge Sewage Treatment Works. This treatment works serves Watford, St. Albans and Hemel Hempstead[101]. The population within the Thames wastewater area is forecast to rise from 15 million to 18 million by 2040[102], which overtime will put additional pressure on the sewage network. Large scale growth within the Maple Lodge catchment will severely impact on the existing trunk sewers as they approach Maple Lodge.

The occurrence of sewer flooding may increase in Watford Borough Council, particularly in areas close to the trunk and main sewers near Maple Lodge. Maple Lodge is likely to require a substantial upgrade, however, limited space at Maple Lodge Treatment Works may make this problematic.

[98] TRL, Watford Local Plan Part 2, Environmental Report, 2016

[99] The Environment Agency, Water Stressed Areas – Final Classification, 2013

[100] The Environment Agency, Colne Abstraction Licencing Strategy, 2013

[101] Watford Borough Council, Infrastructure Delivery Plan, 2013

[102] Thames Water, Our long-term strategy 2015 – 2040

Water Quality

Table 15.1 shows the water quality status of the Grand Union Canal, the River Gade and the River Colne. The classification status of all waterbodies has been used to derive a relative understanding of quality to assess the combined potential impact of growth in the region. None of the three water bodies are currently achieving good overall status, however all currently have a good chemical status. The Gade (from confluence with Bulbourne to Chess) has the worse ecological status, which in part could be down to the discharge of treated water from sewage treatment works as well as residential properties discharging directly into the Gade.

| **Table 15.1 Water Quality (2016)[103]** | | | |
|---|---|---|---|
| Waterbody Name | Ecological Status | Chemical Status | Overall Status |
| Colne (from Confluence with Ver to Gade) | Moderate | Good | Moderate |
| Gade (from confluence with Bulbourne to Chess) | Poor | Good | Poor |
| Grand Union Canal, Berkhamstead to Maple Lodge (Rivers Bulbourne, Gade and Colne) | Moderate | Good | Moderate |

Key contributors to water quality in Hertfordshire are considered to be[104]:

- Physical modifications such as flood defences and weirs that may alter the natural flow of the river.
- Changes to the natural flow and depth of water which may be caused by human activity (such as abstraction) or during drought conditions. This can adversely affect the health of aquatic ecosystems.
- Pollution from wastewater such as sewer discharges which contain large quantities of potential contaminants. An increase in population and changes in rainfall patterns may place increasing the pressure on the sewer networks.

[103] Environment Agency, Catchment Data Explorer, http://environment.data.gov.uk/catchment-planning/OperationalCatchment/3096 Accessed on: 10/04/2018

[104] Hertfordshire County Council Hertfordshire Water Study 2017, Infrastructure & Resources, Sub-catchment Solutions (2021 – 2051)

- Pollution from towns, cities and transport caused by rainwater draining from roofs, roads and pavements into nearby watercourses

The River Colne Catchment Action Network (RCCAN)[105] works in partnership with local residents and businesses to help to protect and enhance the water environment within the catchment area. They have invested in a number of projects in the area:

- Habitat Improvement River Colne Oxhey Park (Ongoing): A series of brushwood berms along the south bank have been planted along with light maintenance works along the existing berms on the north bank. By introducing a greater abundance of this habitat will help to benefit the local wildlife as well as increase channel sinuosity and promote scouring flows that will help clean the river bed.
- Litter Boom at Oxhey Park (Completed): A litter boom on the Colne has been installed at the entrance to Oxhey Park, in order to trap rubbish and allow easy clearance.
- Watford in the Water (Ongoing): Involves regular spring cleaning of the River Colne by local volunteers.
- Japanese Knotweed Management Plan (Planned): Controlled removal of Japanese knotweed from Riverside.
- Exploration into the removal of three river structures at Riverside Watford (Potential): Investigation into the possible removal of three river Colne structures. The removal of the sluice gates and weir will help to prevent the build-up of litter.

[105] The River Colne Catchment Action Network (RCCAN) http://www.colnecan.org.uk/ Accessed on: 16/11/17

# 16 Waste

The way in which waste is dealt with has important environmental, social and economic consequences; it has an important role in achieving sustainable development. In 2015 the UK generated 26.7 million tonnes of household waste with an average of 407kg per person[106].

Waste production per household in the borough is on the rise with the average household now producing 514kg of municipal waste each year.[107] There is a real need to reduce waste generation and for it to be managed in a more sustainable way with an emphasis on reuse, recycling and recovery.

Hertfordshire County Council is the waste disposal authority and the minerals and waste planning authority for the County, which includes Watford Borough. However, the Borough Council is the waste collection authority with responsibility for the collection of household waste.

In 2014/15, the Borough Council collected 32,720 tonnes of waste in Watford, of which 32,668 tonnes was household waste. Of all the waste collected, 41.7% of waste was recycled which has decreased from 44.6% in previous years[108]. This fell below the Council's target of 46%. This has been put down to changes in legislation in 2015/16 whereby any contamination found in processed recycling material is deducted from the overall recycling rate. A slow growing season at the beginning of the 2016 resulted in low overall composting rates which failed to recover has also had an impact. Figure 16.1 shows the proportion of total household waste.

[106] Defra, Digest of Waste and Resource Statistics, 2017

[107] Hertfordshire Waste Partnership Annual Report – 2015/16

[108] Watford Borough Council, Monitoring Report, 2016

**Figure 16.1: Total Household waste (2014/15)**[109]

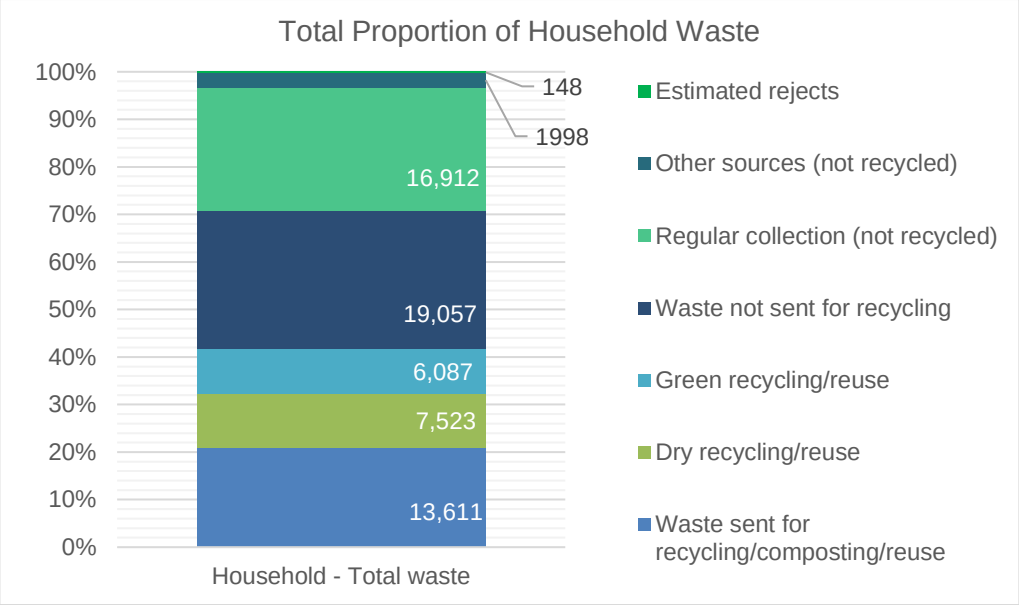



Table 16.1 shows the recycling, reuse and composting rates in 2015/16 across the whole of Hertfordshire. When comparing recycling, reuse and recycling rates with the rest of Hertfordshire, Watford falls well below the county average of 62.8%. Recycling rates have dropped again from 2014/15 by 1.6% and it is now the 2nd worst performing local authority in the county. The Council are targeting of 50% of waste to be reused, recycled or composted by 2020.

**Table 16.1: Recycling, Reuse and Composting Rates (2015/16)**[110]

| Authority | 2014/15 | 2015/16 | Change |
|---|---|---|---|
| Broxbourne | 35.0% | 40.3% | 5.3% |
| Dacorum | 46.3% | 48.60% | -1.00% |
| East Herts | 43.30% | 48.60% | -1.00% |
| Hertsmere | 43.30% | 42.10% | -1.20% |
| North Herts | 58.50% | 57.60% | -0.90% |
| St Albans | 50.40% | 52.20% | 1.70% |
| Stevenage | 38.20% | 39.40% | 1.20% |

[109] Defra, LA Collected & Household Waste Datasheets, 2015

[110] Hertfordshire Waste Partnership Annual Report – 2015/16

| Table 16.1: Recycling, Reuse and Composting Rates (2015/16)[110] | | | |
|---|---|---|---|
| **Authority** | **2014/15** | **2015/16** | **Change** |
| Three Rivers | 63.20% | 59.40% | -3.80% |
| Welwyn Hatfield | 48.00% | 48.50% | 0.50% |
| Watford | 41.70% | 40.10% | -1.60% |
| Hertfordshire | 57.60% | 62.80% | 5.20% |

Watford forms part of the Hertfordshire Waste Partnership (HWP) which was formed in 1992 bringing together the ten borough and district councils and the county council. The partnership runs a 'Waste Aware' programme which concentrates on changing 'waste behaviour' by focusing on the 4Rs, reduction, re-use, recycling and recovery. The programme places particular emphasis on actions before waste is generated in the hope to reduce the amount of waste that needs to be recycled or disposed of.

In addition, the Borough Council run the 'Waste Warriors' Education Programme within local schools which offers an interactive, curriculum-linked activities for pupils to learn about the importance of recycling, food waste, composting and the natural environment. The Council are also working with the county council to actively encourage mothers to make the switch to cloth nappies through the 'Real Nappies' campaign. The Council are offering a free starter kit and a £50 reward to go towards the initial up-front cost, which, over time can help save £500 per child. Single use nappies produce around 7kg of waste per child per week[111].

[111] Real Nappies for London http://www.realnappiesforlondon.org.uk/ Accessed 14/11/17