South Oxfordshire and Vale of White Horse
Joint Local Plan 2041

EVIDENCE BASE

EXISTING TRANSPORT CONDITIONS REPORT

Joint Local Plan

Pre-submission Publication Version

(Regulation 19)

South Oxfordshire District Council
Listening Learning Leading

Vale of White Horse District Council

December 2023

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1. Introduction

1.1 Study background

1.1.1 This document sets out the current transport situation for the emerging South Oxfordshire and the Vale of White Horse Joint Local Plan (JLP) which covers the administrative areas of South Oxfordshire District Council and the Vale of White Horse District Council as shown in Figure 1.

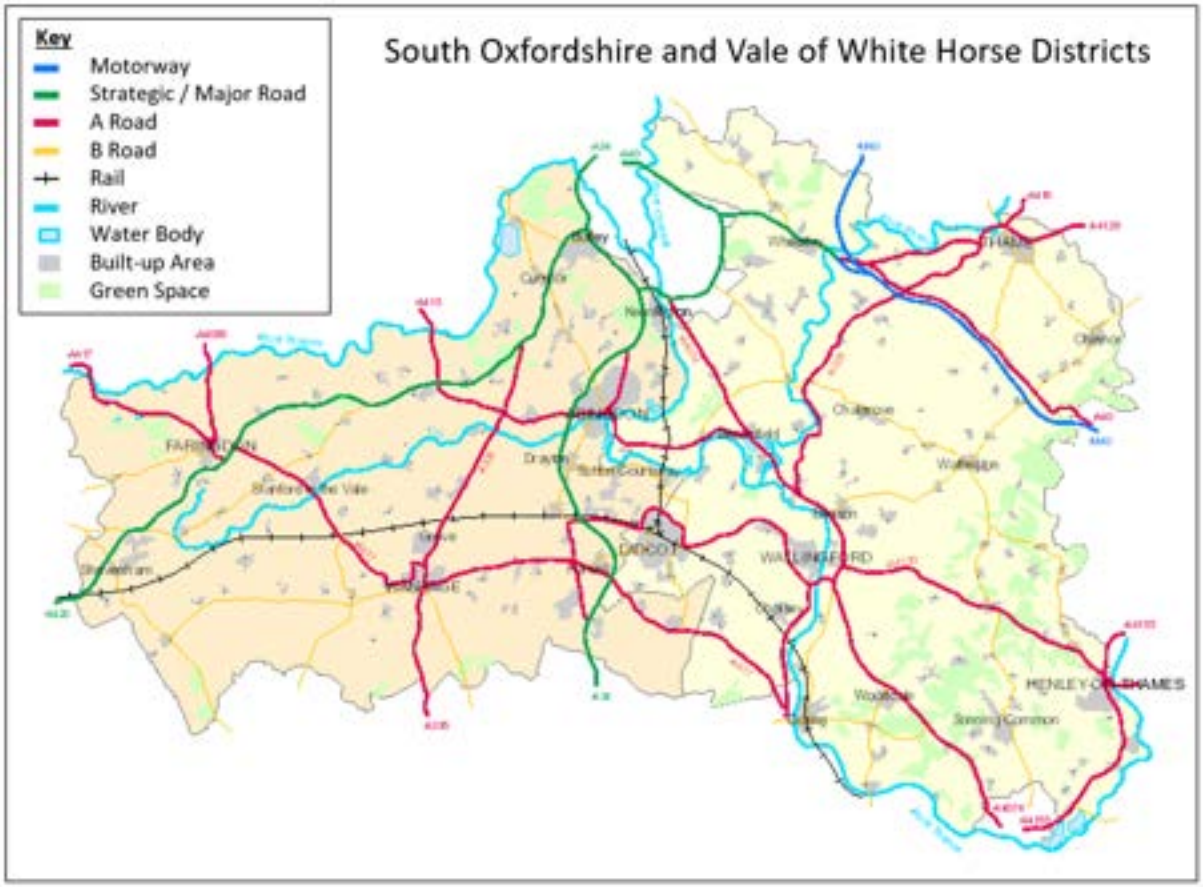


Figure 1: SODC and VOWH district area map

1.1.2 The JLP will determine the amount and locations of new development in the districts up to 2041. The JLP builds upon existing allocations identified in formally adopted Local Plans for South Oxfordshire District[1] and the Vale of White Horse District[2].

[1] https://www.southoxon.gov.uk/south-oxfordshire-district-council/planning-and-development/local-plan-and-planning-policies/local-plan-2035/adopted-local-plan-2035/

[2] https://www.whitehorsedc.gov.uk/vale-of-white-horse-district-council/planning-and-development/local-plan-and-planning-policies/local-plan-2031/

1.1.3 The emerging JLP includes an expanded allocation at Dalton Barracks in Shippon, a new development site on Benson Lane in Crowmarsh Gifford, and deallocation of Chalgrove Airfield, Land South of Nettlebed Service Station, and West of Priests Close in Nettlebed, along with boundary reductions at Land at Bayswater Brook and Rich's Sidings in Didcot.

1.1.4 This report informs the draft Transport Policies in the emerging JLP and provides a 'baseline' understanding to facilitate further robust transport studies. These further studies will assess the suitability of existing transport infrastructure plans for pending allocations and consider the transport infrastructure needed to support sustainable travel patterns for the new planned growth.

1.1.5 Collectively covering an area of approximately 480 square miles, South Oxfordshire and the Vale of White Horse Districts are largely rural, with significant areas of greenbelt and Areas of Outstanding Natural Beauty (AONB).

1.1.6 The districts have good transport connections to London and the Southwest, via the Great Western Railway from Didcot Parkway and the M4 motorway. Further road connections provide access to the Solent and the Midlands via the A34 and M40.

1.1.7 The districts are home to Didcot Garden Town and Berinsfield Garden Village, as well as a number of historic market towns:

- Abingdon-on-Thames is situated centrally between Oxford City and Didcot;
- Faringdon is located in the west of the Vale of White Horse;
- Henley-on-Thames is located in the south-east of South Oxfordshire by Reading;
- Thame is situated in the north-east of South Oxfordshire
- Wallingford is centrally located within South Oxfordshire; and
- Wantage is located central-south in the Vale of White Horse.

1.1.8 Planned growth at Didcot Garden Town spans both districts and is a significant growth location for the existing Local Plans. The Science Vale area, comprising employment sites such as Harwell Campus, Culham Science Centre, and Milton Park, also spans both districts and is home to a significant proportion of the region's scientific, research and development sites, as well as high technology business and enterprises.

1.2 Purpose and approach

1.2.1 The purpose of this report is to set out the 'baseline' transport conditions in South Oxfordshire and the Vale of White Horse Districts to support the development of the JLP to 2041. The JLP will set out the planning policy basis for the districts.

1.2.2 The key aim of the report is to identify the main strengths and weaknesses of the transport networks in the plan area. We have used the following approach to develop this understanding across all aspects of the transport networks:

- Transport Planning Changes – Recent changes to the Transport Planning approach by the Department for Transport and the Local Highway Authority (Oxfordshire County Council) and Oxfordshire County Council's adopted Local Transport and Connectivity Plan
- Transport Policies – Emerging transport policies for the JLP
- Travel Demand – What are the key journeys that people take within the districts?
- The Transport Network – What transport infrastructure is currently provided to facilitate these journeys?
- Planned Transport Infrastructure – What are the known transport infrastructure plans and aspirations?

1.2.3 The report sections are structured as above, followed by a concluding section which summarises the main strengths and weaknesses of the transport network emerging from the report.

2. Transport planning change

2.1.1 There has been a significant shift to the recommended approach to transport planning, this was driven by The Chartered Institution of Highways and Transportation's guidance document "Better Planning, Better Transport, Better Places[3]" (August 2019) and the Department for Transport (DfT) guidance document "Decarbonising transport: a better, greener Britain[4]" (July 2021). The guidance documents recognise the need to better plan for sustainable transport and reduce car dependency. The DfT report states that "*We need to move away from transport planning based on predicting future demand to provide capacity ('predict and provide') to planning that sets an outcome communities want to achieve and provides the transport solutions to deliver those outcomes (sometimes referred to as 'vision and validate').*"

2.1.2 The 'vision and validate', or otherwise known as 'decide and provide', approach provides the opportunity to influence travel through transport planning by promoting walking, cycling and public transport ahead of car-based infrastructure.

2.1.3 Oxfordshire County Council adopted its latest Local Transport and Connectivity Plan (LTCP) in July 2022. Its approach is summarised as follows: *"The LTCP outlines a clear vision to deliver a net-zero Oxfordshire transport and travel system that enables the county to thrive whilst protecting the environment and making Oxfordshire a better place to live for all residents. We plan to achieve this by reducing the need to travel, discouraging individual private vehicle journeys and making walking, cycling, public and shared transport the natural first choice. The policies included in the LTCP are the tools that we believe are necessary to achieve this."* (LTCP[5], page 5).

[3] https://www.ciht.org.uk/media/10218/ciht-better-planning-a4_updated_linked_.pdf

[4] https://www.gov.uk/government/publications/transport-decarbonisation-plan

[5] https://www.oxfordshire.gov.uk/sites/default/files/file/roads-and-transport-connecting-oxfordshire/LocalTransportandConnectivityPlan.pdf

2.1.4 As a means of achieving the LTCP vision, Oxfordshire County Council has developed a document[6] to support developers and transport planners in applying the new approach. The Councils, in collaboration with Oxfordshire County Council, are already using this document to help inform the scope of transport assessments accompanying planning applications in South Oxfordshire and the Vale of White Horse.

2.1.5 This report provides data to help understand the infrastructure characteristics of South Oxfordshire and the Vale of White Horse today, as a starting point, to help guide future infrastructure provision under this new approach.

[6] https://www.oxfordshire.gov.uk/sites/default/files/file/roads-and-transport/ImplementingDecideandProvideTARequirements.pdf

3. Transport policies

3.1.1 The following considerations were taken into account when drafting the policies for the emerging JLP:

- The need for policies to ensure that development takes full account of its impact on the transport network and opportunities are taken to promote the use of sustainable modes.
- The need to decide what future travel should look like and provide the transport infrastructure to support those future travel characteristics.
- The need to safeguard land for the potential future delivery of strategic transport schemes necessary to accommodate planned and future growth.
- The need to work with Oxfordshire County Council and other partners to identify and secure opportunities to gain funding, while noting development viability requirements.
- The need to ensure that strategic transport improvements take account of impacts on communities and the environment and that these impacts are appropriately mitigated.

3.1.2 The Preferred Options consultation version of the emerging JLP 2041 contains 5 transport policies, the content of these policies is summarised below.

Policy IN2 Sustainable Transport and Accessibility

3.1.3 This policy supports the improvement of transport infrastructure, prioritising active, sustainable travel, aiming to improve access for all, with health benefits and place making prioritised, as well as contributing to decarbonising the transport network. The policy ensures that developers suitably assess the travel impacts of proposed developments and provide reasonable mitigation measures to reduce negative impacts on the transport network and ensures that suitable options exist for active and sustainable travel to other locations.

Policy IN3 Transport Infrastructure and Safeguarding

3.1.4 This policy identifies the councils' approach to existing transport infrastructure, sets out our approach to safeguarding land for future transport projects, and addresses the requirements for potential future infrastructure schemes. The transport infrastructure set out in this policy seeks to improve the existing transport network and provide for future travel demands.

Policy IN4 Wilts and Berks Canal Safeguarding

3.1.5 This policy retains the Council's support for the restoration of the Wilts and Berks canal.

Policy IN5 Parking Standards

3.1.6 This policy identifies the need to apply Oxfordshire County Council parking standards for cycles and cars and provides design requirements for cycle parking, car parking, and electric vehicle charging for all types of development. This policy also promotes the provision of welfare facilities to support the uptake of active travel.

Policy IN6 Deliveries and Freight

3.1.7 The policy sets out requirements for large vehicle management and strategies to reduce large vehicle road miles through supporting the consolidation of goods and transfer to rail freight. It ensures development is designed to support deliveries transported by cargo bikes. The policy also supports provision of service facilities to ensure long distance freight drivers are suitably catered for.

4. Travel demand

4.1 Introduction

4.1.1 This section reviews the characteristics of the population in the South Oxfordshire and the Vale of White Horse areas and identifies the main trip generators and travel characteristics.

4.2 Population data

Age distribution

4.2.1 Travel characteristics change over someone's lifetime, with economically active people typically generating trips when the network peaks arise, such as between 08:00-09:00 and 17:00-18:00 during weekdays. Someone that is retired may choose to travel outside of these times to reduce journey time, whereas a parent may need to travel at peak times to ensure their child is at school on time. Therefore a person's age can influence their typical weekly demands for travel, as well as the travel mode they choose and time in which they travel.

4.2.2 Population data available from Nomis for 2021 suggests that there are 149,087 people living in South Oxfordshire and 138,913 people living in the Vale of White Horse. Population density is relatively low at 220 people per kilometre in South Oxfordshire and 241 people per square kilometre in the Vale of White Horse, compared with 3,553 people per square kilometre in Oxford City. **Figure 2** shows the age structure by sex in South Oxfordshire and the Vale of White Horse combined.

4.2.3 The data shows that the largest age category for both males and females is 50-54 years. There are fewer people categorised in the 20-24 age category than you would expect from the number of people in the preceding and subsequent age categories. This indicates migration away from the districts in this age category, which may be explained by people moving away for university or work in their early 20's.

4.2.4 The elevated number of residents in the 50-59 age category is a national trend following WWII which saw an increase in birth rates. Older age categories in the 75 years plus category are expected to decline through mortality, however, increases in life expectancy may reduce the rate of population decline in these categories in the future.

4.2.5 As shown in Office for National Statistics data by Local Authority[7], life expectancy for residents born in South Oxfordshire between 2017-2019 is 86 years for females and 82 years for males. Similarly residents born in the Vale of White Horse between 2017-2019 are expected to live to 85 years for females and 83 years for males.

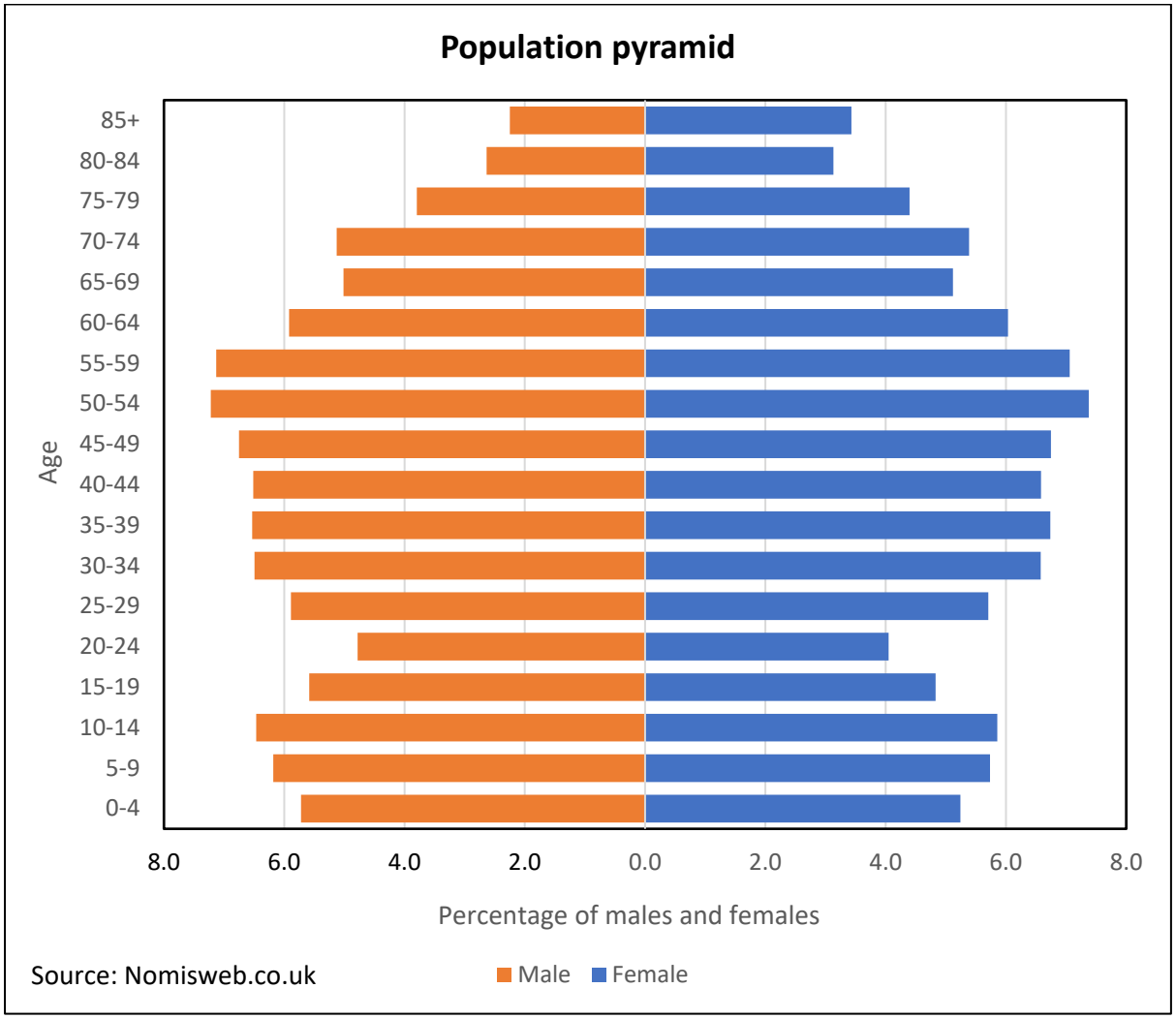


Figure 2: Population pyramid

[7] https://www.ons.gov.uk/datasets/life-expectancy-by-local-authority

4.2.6 Overall, the population pyramid demonstrates that there is a large proportion of economically active people (15 to 64 years old) in South Oxfordshire and the Vale of White Horse. Many of these people will be working and travelling during peak travel times (as shown in NTS data[8]).

Gross value added

4.2.7 Gross Value Added (GVA) is the value of goods and services produced by an area in an economy. GVA is used as a metric to measure economic growth, which is associated with quality of life and living standards.

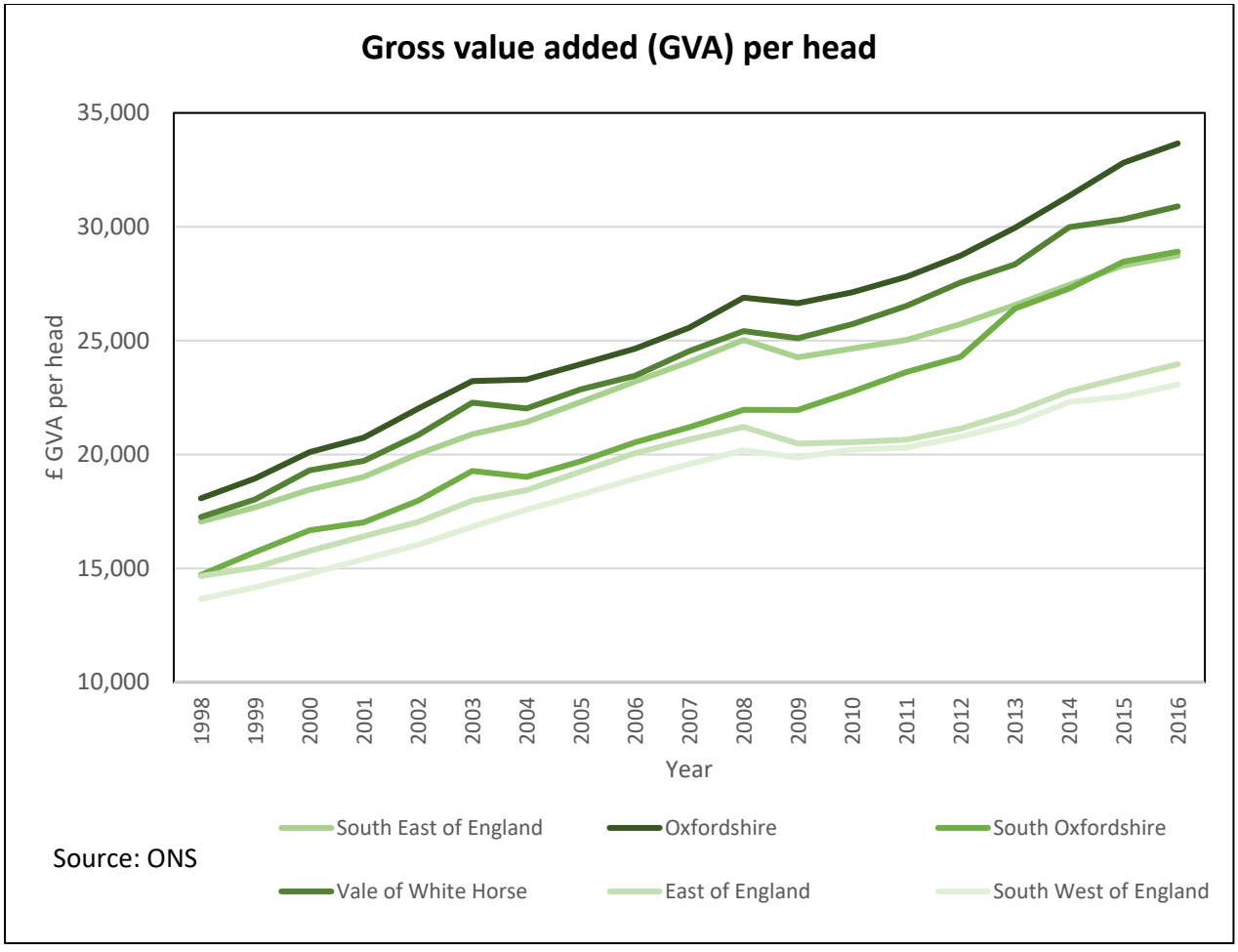


Figure 3: GVA per head

[8] https://www.gov.uk/government/statistical-data-sets/nts05-trips

4.2.8 Office for National Statistics (ONS) data[9] shown in **Figure 3** is the Gross Value Added (GVA) per head of population for South Oxfordshire district, the Vale of White Horse district, Oxfordshire County, and the South East Region. East of England and South West regions have also been added for comparison.

4.2.9 The data shows that Oxfordshire County consistently sits higher than all other areas shown, indicating that there are areas of greater economic growth in Oxfordshire than in South Oxfordshire and the Vale of White Horse. The Vale of White Horse district has a higher GVA than the South East regional average for the available date range between 1998 to 2016. While South Oxfordshire district is shown to fall below the South East regional average until 2015, after which it exceeds South East average.

4.2.10 Comparison with the East of England and South East Region the data demonstrates that the South East region consistently achieves a greater GVA over the time period shown. The results therefore indicate that both South Oxfordshire and the Vale of White Horse perform well when compared with other areas in England.

Deprivation

4.2.11 Notwithstanding the GVA results there are areas (Census defined 'Lower Layer Super Output Areas') within South Oxfordshire and the Vale of White Horse that are categorised in the lower levels of the Index of Multiple Deprivation (IMD) scale[10], as shown in **Figure 4**.

4.2.12 There are a number of factors that can influence a person's travel choices, for example age influences their capacity to travel independently and the location in which they live influences what access they have to regular public transport services. Deprivation can also influence a person's travel choices, as car licencing, insurance, purchasing, and running costs can be restrictive.

[9] https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgvaibylocalauthorityintheuk

[10] https://insight.oxfordshire.gov.uk/cms/deprivation-dashboard

4.2.13 The IMD considers data relating to: level of income, employment status, level of education, health and disability, crime statistics, barriers to housing and services, as well as living environment. This data is gleaned from multiple sources based on the most recent data available (in this case for 2019).

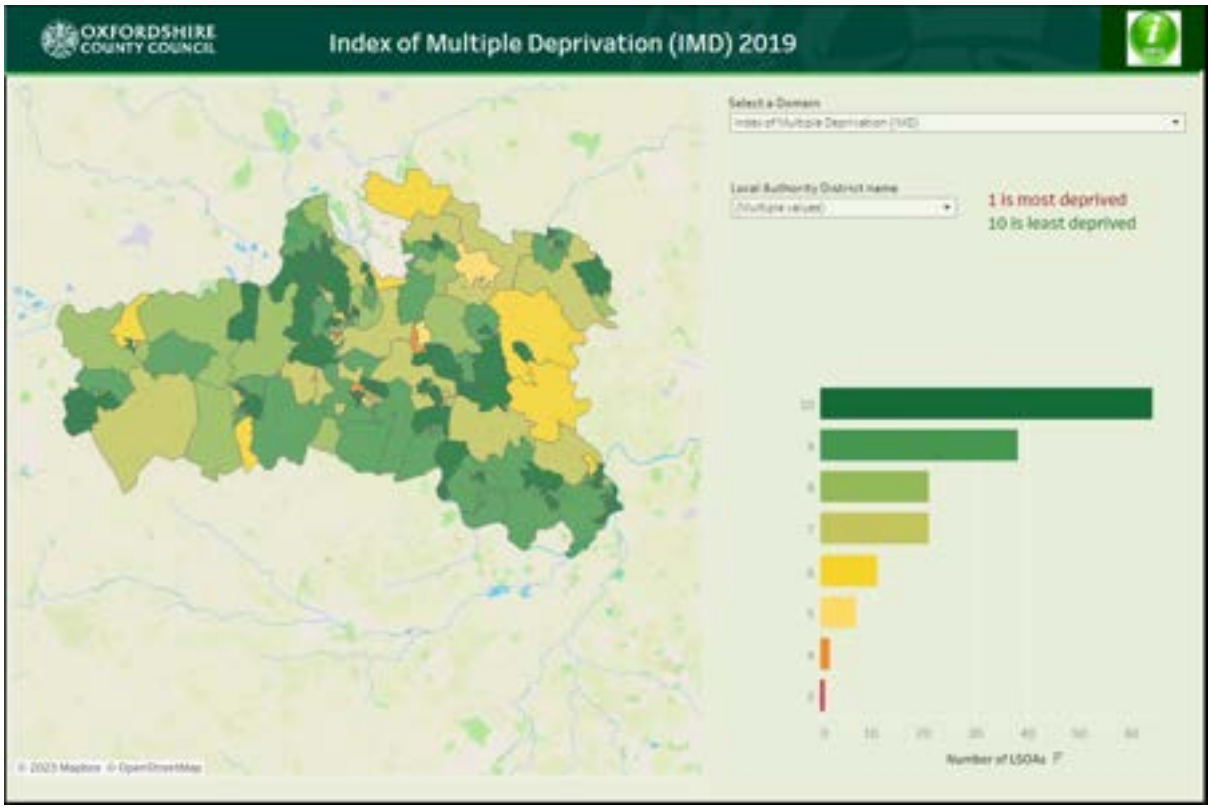


Figure 4: Index of multiple deprivation

4.2.14 The three Census areas identified with the lowest score in our districts, and thus recorded as having the highest level of deprivation are shown in red and orange. These are: part of north-western Didcot that includes Vauxhall Barracks (South Oxfordshire 010A), part of Berinsfield and northern Dorchester (South Oxfordshire 006B), and an area within southern Abingdon which encompasses Saxton Road and much of Gainsborough Green (Vale of White Horse 008C).

4.2.15 The three areas identified as the most deprived may be suitable locations for providing additional travel choices in order to support access to work, education, and services.

Occupancy rating by bedroom

4.2.16 Occupancy ratings per bedroom is data collected in the Census survey which provides insight into the proportion of households that have more bedrooms than required (under-occupied), optimum occupancy, and those that have fewer bedrooms than required (overcrowded).

4.2.17 Households recorded under the '+1 or more' category have more bedrooms than 'bedroom standard[11]' required by the number of residents living in that household. Households recorded under the '0' category have the same number of occupants as there are bedrooms (ideal occupation). Finally, households recorded as '-1 or less' have more occupants than bedrooms.

Table 1: South Oxfordshire occupation by bedroom

Occupancy Rating	2011 (% of total)	2021 (% of total)	Difference 2011-2021 (%)
+1 or more	41,908 (77)	48,209 (78)	15
0	10,893 (20)	12,189 (20)	12
-1 or less	1,303 (2)	1,097 (2)	-16
No. Households	54,104	61,495	+7,391

Table 2: Vale of White Horse occupation by bedroom

Occupancy Rating	2011 (% of total)	2021 (% of total)	Difference 2011-2021 (%)
+1 or more	38,812 (79)	44,832 (78)	16
0	9,621 (19)	11,752 (20)	22
-1 or less	974 (2)	914 (2)	-6
No. Households	49,407	57,498	+8,091

4.2.1 The Census data for bedroom occupancy for South Oxfordshire and the Vale of White Horse is shown in **Table** 1 and **Table** 2 respectively. The results show that both South Oxfordshire and the Vale of White Horse have just under 80% of households recorded under the '+1 or more' category for both 2011 and 2021 census periods. Around 20% of households have ideal occupation, while 2% of households are considered overcrowded. This indicates that there

11 https://www.ons.gov.uk/census/census2021dictionary/variablesbytopic/housingvariablescensus2021/occupancyratingforbedrooms

was, and continues to be, a large proportion of under-occupied households in South Oxfordshire and the Vale of White Horse.

4.2.2 The proportion of households in each category, relative to the total number of households remains similar for the 2011 and 2021 census results. While the proportional difference between 2011 and 2021 highlights a small numerical decline in overcrowded households and increase in both ideal occupation and under-occupied households over that time period.

4.2.3 When comparing the 2011 and 2021 results between South Oxfordshire and the Vale of White Horse, there is a greater increase in ideal occupancy households in the Vale of White Horse and a smaller decrease in overcrowded households than shown for South Oxfordshire. So the decline in overcrowded households is greater in South Oxfordshire than in the Vale of White Horse.

4.2.4 The minor increase in the number of ideal occupancy and underoccupied households in 2021 when compared with 2011 suggests a minor improvement to average standard of living associated with increased living space per person.

4.3 Journey purpose

4.3.1 The National Travel Survey (NTS)[12] is a household survey designed to monitor long-term trends in personal travel. Data is collected from face-to-face surveys and travel diaries for a range of households in England. One of the data comparisons that can be gleaned from the results is journey purpose.

4.3.2 Review of the NTS data shown in **Table 3** indicates that the most frequent journey purpose is for shopping, followed by commuting. Trips for education and escorting education (escorting someone else to school) combine to form another high frequency journey purpose.

[12] https://assets.publishing.service.gov.uk/media/64ef09d0da845100146323f7/nts-2022-factsheet.pdf

4.3.3 Traditionally, the primary focus of travel assessment and subsequent mitigations would target the commuter peak travel times. However the NTS data suggests that effort should also be made to review and address impacts that may arise from journeys to and from shopping areas, as well as educational establishments.

Table 3: National Travel Survey journey purpose data

Purpose	Proportion 2019	Proportion 2022 (difference)
Commuting (trips to usual place of work)	15%	14% (-1)
Business (work trips not to usual place of work)	3%	2% (-1)
Education (trips to school or college)	7%	7% (0)
Escort education (trips to escort another person for their education)	6%	6% (0)
Shopping (trips to shops)	19%	18% (-1)
Other escort (trips to escort another person)	9%	9% (0)
Personal Business (trips to hairdressers, libraries, medical treatment)	9%	8% (-1)
Visiting friends at private home	9%	8% (-1)
Visiting friends elsewhere	5%	5% (0)
Entertainment or public activity (trips to watch sport, volunteering, evening classes)	6%	6% (0)
Sport participation	1%	1% (0)
Holiday (trips for a night or more)	1%	1% (0)
Day trip (trips for a single)	3%	4% (+1)
Other inc. just walk (trips for pleasure or exercise)	6%	11% (+5)

4.3.1 Comparing 2019 to 2022 the ‘Other inc. just walk’ category shows the greatest change, with a 5% increase in trips for this purpose. Day trips also increased (+1%) while trips for the purpose of commuting, business, shopping, personal business, and visiting friends at private home all decreased (-1%).

4.4 Census data 2011 and 2021

4.4.1 The census is a survey undertaken by the Office for National Statistics (ONS) of all people and households in England and Wales every 10 years. Completing the survey is mandatory under the Census Act 1920 resulting in high quality data to support an array of assessments about people's lives.

4.4.2 There are 3 main census questions of interest from a travelling and transport perspective, these are: Method of Travel to Work (from both home and workplaces), Distance Travelled to Work, and Car and Van Ownership data.

4.4.3 Unfortunately, from a transport data perspective, the 2021 survey data was undertaken in March 2021 at which time the government was progressing its 'four-step roadmap[13]' back to 'normal life' following national lockdowns and the roll-out of Covid vaccines. The 'stay at home' rule was still in force until the end of March 2021. As such, only 'key workers' were able to travel for work, while many others were on furlough and working from home. Additionally, many people remained fearful of travelling even when permitted and travel abroad for pleasure was still prohibited.

4.4.4 The 2021 census data for Car and Van Ownership is anticipated to not be impacted by the pandemic. Although the lockdowns will have affected car usage, it is less likely that car ownership levels would have altered considerably. Whereas the Method of Travel to Work data will have been impacted, which has a knock-on effect to Distance Travelled to Work data.

4.4.5 An ONS website article[14] highlights the associated issues created by how users may have interpreted the Method of Travel to Work question and supporting materials. Furthermore, those who completed the survey online had different supporting text and resources available to help interpret the question than those completing the paper version.

[13] https://www.gov.uk/government/publications/covid-19-response-spring-2021/covid-19-response-spring-2021-summary

[14] https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/traveltoworkqualityinformationforcensus2021

4.4.6 The online version of the Method of Travel to Work question appeared only for those who recorded themselves as 'economically active' who were then shown "*How do you usually travel to work*". The supporting text stated "answer for the longest part, by distance, of your current journey to work. If the coronavirus pandemic has affected your journey to work, please select the answer that best describes your current circumstances". Whereas the paper version stated: *"How do you usually travel to work?"* with the following supporting text: "Tick one box only for the longest part, by distance, of your usual journey to work". Therefore some participants were either asked for their "current circumstances" and others for their "usual journey" for travel to work. Both of which could be interpreted differently. The ONS article states that "*some people may have provided travel information for the last time they worked, or they may have answered based on their behaviours on Census Day."*

4.4.7 Those who completed the form online and were unsure of how to respond were directed to a guidance document. For the Method of Travel to Work question instructions, which stated: *"if you are away from work on furlough, in isolation or in quarantine, answer about how you used to travel to work before your circumstances changed."* However ONS highlights that they "*cannot be sure how the questions for travel to work were interpreted by those on furlough. They may have read the guidance, or they may have felt that they should respond based on their travel behaviour on Census Day."*

4.4.8 Consequently, for the purpose of this report both 2011 and 2021 Method of Travel to Work and Distance Travelled to Work data will be used, alongside other data sources, to interpret how people travel across the districts.

Car and van availability

4.4.9 Census Car and Van Availability data provides a summary of how many cars or vans are owned per household. The data is then organised into pre-defined census areas such as wards and districts. The data provides the number of:

- Households in the defined Census area;
- Households with no cars or vans;

- Households with 1 car or van;
- Households with 2 cars or vans; and
- Households with 3 or more cars or vans.

4.4.10 For simplicity, references to 'car ownership' below relate to the full census data for both cars and vans.

4.4.11 Car ownership data for South Oxfordshire, the Vale of White Horse, Oxfordshire County and England for years 2001, 2011, and 2021 are illustrated in **Figure 5**.

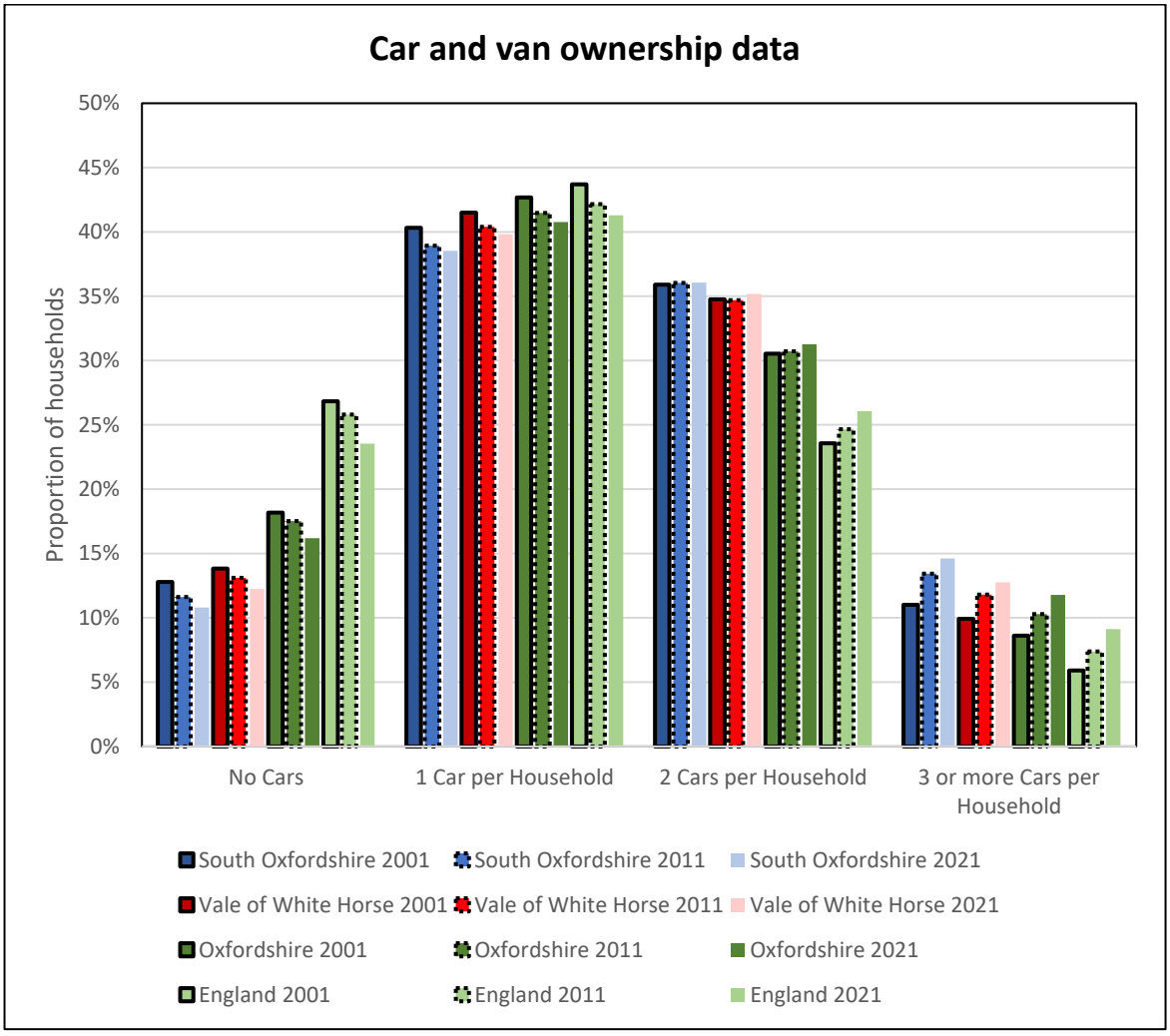


Figure 5: Car and van ownership data

4.4.12 In the twenty years between 2001 and 2021 census data for car ownership has shown an increase in the number of multi-car ownership households and a reduction in the number of households with no car or single car ownership.

During this time there was also an increase of approximately 3 million homes in England.

4.4.13 Nationally there has been a 3.3 percentage point increase in the number of households with 3 or more cars and 2.4 percentage point increase in the number of households with 2 cars, while there has also been a 2.5 percentage point decrease in the number of households with no cars and 3.2 percentage point decrease in the number of households with 1 car.

4.4.14 This trend is seen across Oxfordshire, with an increase of 3.2 percentage points for the number of households with 3 or more cars and a decrease of 2 percentage points in the number of households with no cars.

4.4.15 South Oxfordshire car ownership data shows a 3.6 percentage point increase in households with 3 or more cars and a 2-percentage point decrease in the number of households with no cars.

4.4.16 Vale of White Horse data shows 2.8 percentage point increase in the number of households with 3 or more cars and 1.6 percentage point decrease in the number of households with no cars.

4.4.17 The census 2011 data provides values for the total number of cars and vans and the total number of households. This allows an assessment of the average number of cars per household for each area, as shown below:

- South Oxfordshire – 1.6 cars per household
- Vale of White Horse – 1.5 cars per household
- Oxfordshire – 1.4 cars per household
- England – 1.2 cars per household

4.4.18 The Census data for 2021 does not include the total number of vehicles, thus the above exercise cannot be undertaken. However, it is anticipated that the average number of cars per household for 2021 would increase for each defined areas shown above, due to the rise in multi-car ownership seen in **Figure 5**.

4.4.19 The car ownership data across all areas reviewed indicate a clear but moderately increasing trend of multi-car ownership households, higher car ownership may result in more vehicle journeys on the road network.

Method of travel to work

4.4.20 **Table 5** provide summaries of Census method of travel to work data for 2011 and 2021 respectively[15]. Census categories for 'Underground', 'Taxi' and 'Other' modes have not been included as these entries were less than one percent for all Oxfordshire locations.

4.4.21 Census data for 'Total Residents' refers to usual residents living in the pre-defined areas who were aged 16 years and over and in employment the week of the survey. The 2011 Census data also had an upper threshold of 74 years.

Table 4: Census method of travel to work 2011

Method of travel 2011	South Oxfordshire	Vale of White Horse	Oxfordshire	England
Total residents	70,087	63,181	334,419	25,162,721
Mainly work from home	15%	12%	12%	10%
On foot	9%	8%	11%	10%
Bicycle	4%	6%	7%	3%
Bus, minibus, or coach	3%	6%	7%	7%
Train	5%	2%	3%	5%
Car or van passenger	4%	4%	4%	5%
Car or van	59%	60%	54%	54%

Table 5: Census method of travel to work 2021

Method of travel 2021	South Oxfordshire	Vale of White Horse	Oxfordshire	England
Total residents	76,474	70,862	364,563	26,405,214
Mainly work from home	43%	41%	38%	32%
On foot	7%	6%	9%	8%
Bicycle	2%	3%	4%	2%
Bus, minibus, or coach	2%	3%	3%	4%
Train	1%	NIL	1%	2%
Car or van passenger	3%	3%	3%	4%
Motorcycle, scooter, or moped	NIL	NIL	NIL	NIL
Car or van	41%	42%	40%	45%

[15] https://www.nomisweb.co.uk/

4.4.22 The 2011 and 2021 Census results show that 'Car or van' mode and 'Mainly work from home' hold the highest responses for both surveys.

4.4.23 **Table 6** shows that there is a distinct increase in the proportion of entries stating, 'Mainly work from home' and a clear reduction in 'Car or van' mode shown. For the reasons explained in paragraphs 4.3.1 - 4.3.8, the results from 2021 will have been heavily influenced by the Covid-related restrictions in place at the time of the census. All other mode categories show a reduction also, while the 'Motorcycle, scooter, or moped' category shows no proportional change.

Table 6: Census changes 2011 to 2021

Changes in method of travel - 2011 to 2021	South Oxfordshire	Vale of White Horse	Oxfordshire	England
Total residents	+6,387	+7,681	+30, 144	+1,242,493
Mainly work from home	+28%	+29%	+25%	+21%
On foot	-2%	-2%	-2%	-2%
Bicycle	-1%	-3%	-3%	-1%
Bus, minibus, or coach	-2%	-3%	-3%	-3%
Train	-4%	-2%	-2%	-3%
Car or van passenger	-1%	-1%	-1%	-1%
Motorcycle, scooter, or moped	NIL	NIL	NIL	NIL
Car or van	-18%	-18%	-14%	-9%

4.4.24 An extract of the National Travel Survey (NTS)[16] is shown in **Table 7** which shows the average number of trips by mode as a proportion of 2002 figures. For example, average trips undertaken by surface rail in 2010 were 145% that of the average trips taken in 2002.

4.4.25 The NTS includes a data entry for 'London Buses' which has not be included in the data shown below.

[16] https://www.gov.uk/government/collections/national-travel-survey-statistics

Table 7: National Travel Survey average number of trips by mode

Number of trips by mode	2010 (%)	2011 (%)	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)
Walk	89	92	88	84	83	83	92	96	99	95
Pedal cycle	85	91	94	80	100	95	81	92	95	90
Local buses	91	91	89	90	88	89	77	81	71	68
Surface rail	145	129	145	151	155	149	156	156	164	158
Car or van passenger	89	87	89	87	86	85	84	85	86	83
Car or van	92	90	90	87	88	87	89	89	90	87

4.4.26 The NTS data shows a moderate increase in walking and rail modes over the 10-year period. There is a clear decline in local bus service use and / or provision shown from 2017 to 2019. Car or van driver mode and passenger modes remain fairly consistent, while cycling usage fluctuates. The 2022 NTS results suggest that the most common trip purpose was for shopping, followed by commuting[17].

4.4.27 As indicated previously, Census Method of Travel to Work data for 2021 needs to be interpreted and compared with caution due to global pandemic changes to travel and the interpretation of the Census questions by participants.

4.4.28 The Census Method of Travel to Work data for 2011 data is now considerably out of date, while the only other publicly available data collection for travel is the NTS which does not collect a sufficient number of surveys for regional or local travel analysis.

4.4.29 The NTS identifies that journeys to supermarkets and retail outlets generate more trips than travel to work, which is not captured in the Census results.

4.4.30 In summary, this means that robust local understanding of travel by mode is a little unclear from publicly available data at present. Notwithstanding this, it is useful to consider the baseline data available from Census and NTS to understand approximate existing travel demands.

[17] https://www.gov.uk/government/statistics/national-travel-survey-2022/national-travel-survey-2022-introduction-and-main-findings

Method of travel to work, workplace population

4.4.31 Method of travel to work Census data arranged by 'Workplace population', as opposed to residential population, is not currently available for the 2021 data. As such the following provides a summary of the 2011 data findings for South Oxfordshire and the Vale of White Horse with a comparison also for Oxfordshire and England.

4.4.32 As per the standard method of travel to work data, the data considers all usual residents aged 16 to 74 in employment in the area the week before the census.

Table 8: Census method of travel to work, workday population 2011

Method of travel 2011	South Oxfordshire	Vale of White Horse	Oxfordshire	England
Total workday population	61,683	62,253	343,384	25,087,843
Mainly work from home	17%	13%	12%	10%
On foot	4%	5%	4%	5%
Bicycle	4%	5%	7%	3%
Bus, minibus, or coach	2%	4%	7%	7%
Train	2%	1%	2%	5%
Car or van passenger	4%	5%	4%	5%
Motorcycle, scooter, or moped	1%	1%	1%	1%
Car or van	59%	63%	56%	54%

4.4.33 The data for 2011 set out in **Table 8** shows that both South Oxfordshire and the Vale of White Horse have a higher propensity to work from home and travel to work by car than County and National standards. The data shows a greater propensity for employees to travel by car in the Vale of White Horse than in South Oxfordshire, with approximately 3,000 more people (4%) stating that they travelled to work by car, while approximately 2,500 fewer people (4%) worked from home in the Vale of White Horse than in South Oxfordshire.

4.4.34 These results suggest a reliance on car travel in both districts and, acknowledging the climate change emergency, strategies to support modal shift to sustainable travel are required for both districts.

Distance travelled to work

4.4.35 Census Method of Travel to Work data is also provided relative to the distance travelled, and distance travelled by each mode. **Table 9** and **Table 10** provide a summary of the Method of Travel by Distance for 2011 and 2021 respectively.

4.4.36 The geographical areas summarised in these tables are for South Oxfordshire, the Vale of White Horse, Oxfordshire, and England. The distance categories provided for the 2011 Census data are more granular than the 2021 data, as reflected in the summary tables. The 'Work from home' category has been included for both datasets to reflect the impact of COVID-19.

Table 9: Method of travel by distance 2011

Distance	South Oxfordshire	Vale of White Horse	Oxfordshire	England
Less than 2km	17%	17%	21%	18%
2km to less than 5km	10%	13%	16%	20%
5km to less than 10km	16%	20%	15%	19%
10km to less than 20km	19%	18%	16%	17%
20km to less than 30km	9%	8%	8%	6%
30km and over	12%	10%	11%	9%
Works mainly from home	17%	14%	14%	11%

4.4.37 **Table 9** indicates that in 2011 residents of South Oxfordshire and the Vale of White Horse had a slightly higher propensity to travel further than the rest of Oxfordshire, and England. This highlights the rural nature of the districts, with some areas characterised by large expanses of agricultural land located between employment and residential locations. Additionally, residents of South Oxfordshire are shown to have had a higher propensity to work from home than both county and national levels.

Table 10: Method of travel by distance 2021

Distance	South Oxfordshire	Vale of White Horse	Oxfordshire	England
Less than 10km	27%	29%	35%	41%
10km to less than 30km	19%	19%	17%	17%
30km and over	5%	5%	5%	5%
Works mainly from home	49%	47%	43%	37%

4.4.38 The data shown in **Table 10** reflects the step-change in demand for working from home generated by COVID-19 lockdowns, with an increase of 32% and 33% for South Oxfordshire and the Vale of White Horse respectively. The shift to home working was less prevalent in Oxfordshire (increase of 29%), and even less so in England as a whole (increase of 25%).

4.4.39 Reductions are evident for all journey lengths between the two Census years for each of the three categories available in the 2021 dataset, which reflects the increase in rates of working from home shown in **Table 10**.

Distance travelled to work by mode

4.4.40 The Census data for Method of Travel by Distance also allows assessment of different modes and distances concurrently.

4.4.41 South Oxfordshire, the Vale of White Horse, and Oxfordshire have very similar results for distance travelled by mode. The mode and distance data for 2021 Census data for Oxfordshire is shown in **Figure 6**.

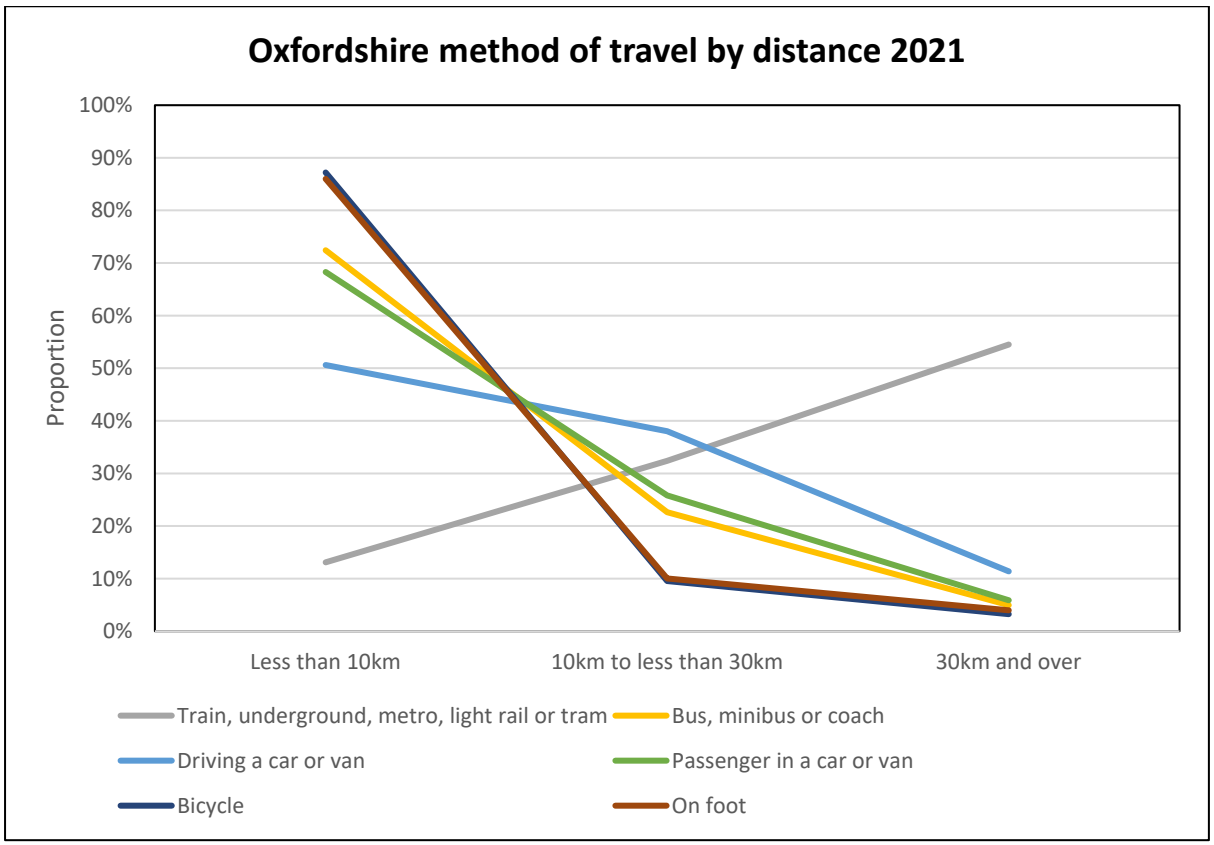


Figure 6: Oxfordshire method of travel by distance

4.4.42 The equivalent data for England (see **Figure 7**) shows broadly similar results for all modes other than rail. There appears to be a greater propensity to travel by 'train, underground, light rail and tram' for short to medium distance journeys in England, when compared to South Oxfordshire, the Vale of White Horse, and Oxfordshire. However, South Oxfordshire, the Vale of White Horse, and Oxfordshire appear to utilise rail more than the national average for longer journeys.

4.4.43 Another key finding from this data comparison is that the proportion of car or van usage for shorter journeys to work (less than 10km) in South Oxfordshire, the Vale of White Horse, and Oxfordshire is lower than shown nationally.

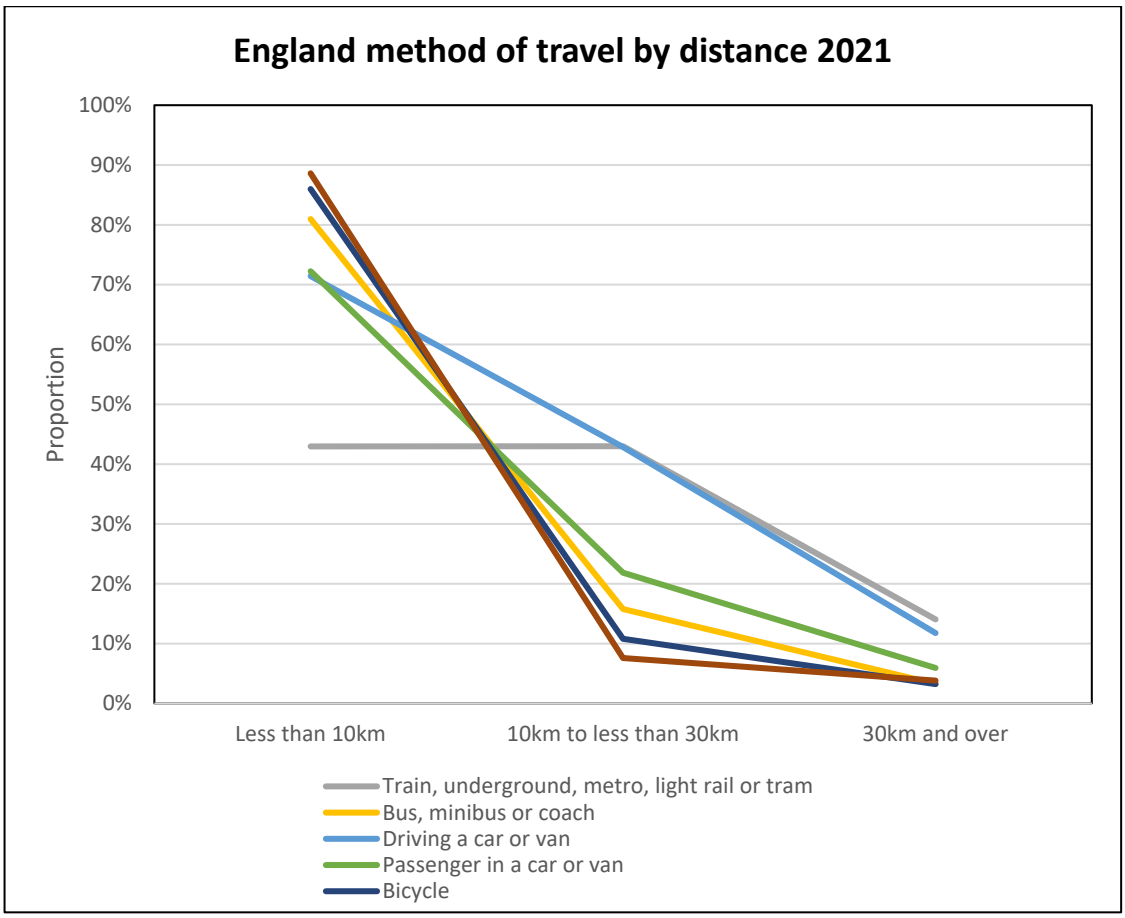


Figure 7: England method of travel to work by distance

4.5 Trip attractors

4.5.1 Origin-Destination data represents movement through geographical space, from one location (origin) to another (destination). The origins and, separately, destinations that are located within a specified area (Census Mid layer Super Output layer Area, or MSOA) are then grouped in order to simplify the data to show the number of journeys from one MSOA to another, or journeys within an MSOA.

4.5.2 Some built up areas such as Didcot have multiple MSOA's with a relatively small geographical area covered, for simplicity these have been grouped into single locations. This has been undertaken for Abingdon, Didcot, Thame, and Henley-on-Thames.

4.5.3 The top 10 daily (24h) Origin-Destination highway trip data (cars, LGV, HGV) for both South Oxfordshire and the Vale of White Horse was extracted from the emerging Oxfordshire Mobility Model (OMM). OMM data is sourced from

Mobile Network Data (MND) for September to November 2019, that is then verified using National Travel Survey and Census data.

4.5.4 The data is represented in 3 different formats. **Table 11** and **Figure 8** show the top 10 journeys which include internal journeys (within a collection of MSOA's such as in Didcot) such as journeys from one location in Didcot to another still within Didcot and locations outside of South Oxfordshire and the Vale of White Horse such as 'external south west'. **Table 12** and **Figure 9** show the top 10 journeys with internal journeys and external journeys excluded (does not consider journeys within the different Didcot MSOA's or locations outside of Oxfordshire). And lastly **Table 13** and **Figure 10** show the top ten journeys including internal journeys and excluding external journeys (includes journeys between Didcot MSOA's but not locations outside of Oxfordshire).

Table 11: OD internal and external included

Origin	Destination	Number of journeys
Abingdon	Abingdon	16398
Didcot	Didcot	10934
Thame	External East	8664
External East	Thame	6410
South Oxfordshire 002 (east of Oxford)	Oxford	6396
Oxford	Abingdon	6224
Abingdon	Oxford	5735
Oxford	South Oxfordshire 002 (east of Oxford)	5611
Henley-on-Thames	External South East	5561
External South East	Henley-on-Thames	5535
Vale of White Horse 015 (Harwell to Wantage)	Didcot	3940
Thame	Thame	3891
Vale of White Horse 002 (west of Oxford)	Oxford	3822
Didcot	Vale of White Horse 015 (Harwell to Wantage)	3763
Vale of White Horse 016 (Shrivenham to Wantage)	External South West	3585
Vale of White Horse 003 (north of Abingdon)	Oxford	3539
External South West	Vale of White Horse 016 (Shrivenham to Wantage)	3417
Abingdon	Vale of White Horse 010 (Steventon to Appleford)	3403

Table 12: OD internal and external excluded

Origin	Destination	Number of journeys
South Oxfordshire 002 (east of Oxford)	Oxford	6396
Oxford	Abingdon	6224
Abingdon	Oxford	5735
Oxford	South Oxfordshire 002 (east of Oxford)	5611
Vale of White Horse 015 (Harwell to Wantage)	Didcot	3940
Vale of White Horse 002 (west of Oxford)	Oxford	3822
Didcot	Vale of White Horse 015 (Harwell to Wantage)	3763
Oxford	Didcot	3728
South Oxfordshire 006 (Berinsfield to Culham)	Oxford	3701
Vale of White Horse 003 (north of Abingdon)	Oxford	3539
Didcot	Oxford	3439
Abingdon	Vale of White Horse 010 (Steventon to Appleford)	3403
Abingdon	Vale of White Horse 003 (north of Abingdon)	3399
Oxford	Vale of White Horse 002 (west of Oxford)	3228
Oxford	South Oxfordshire 006 (Berinsfield to Culham)	3182
Vale of White Horse 010 (Steventon to Appleford)	Abingdon	3126
Didcot	Abingdon	2845
Henley-on-Thames	South Oxfordshire 019 (west of Henley)	2745

Table 13: OD internal included and external excluded

Origin	Destination	Number of journeys
Abingdon	Abingdon	16398
Didcot	Didcot	10934
South Oxfordshire 002 (east of Oxford)	Oxford	6396
Oxford	Abingdon	6224
Abingdon	Oxford	5735
Oxford	South Oxfordshire 002 (east of Oxford)	5611
Vale of White Horse 015 (Harwell to Wantage)	Didcot	3940
Thame	Thame	3891
Vale of White Horse 002 (west of Oxford)	Oxford	3822
Didcot	Vale of White Horse 015 (Harwell to Wantage)	3763
Henley-on-Thames	Henley-on-Thames	3739
Oxford	Didcot	3728
South Oxfordshire 006 (Berinsfield to Culham)	Oxford	3701
Vale of White Horse 003 (north of Abingdon)	Oxford	3539
Didcot	Oxford	3439
Abingdon	Vale of White Horse 010 (Steventon to Appleford)	3403
Abingdon	Vale of White Horse 003 (north of Abingdon)	3399
Oxford	Vale of White Horse 002 (west of Oxford)	3228

4.5.5 A visual representation of the top 10 journeys for each district is shown in the figures below. Arrows illustrate the direction of journeys from one MSOA to another and or a change in location name colour represents journeys within an area such as journeys within Didcot. Larger versions of these figures are provided in **Appendix A**.

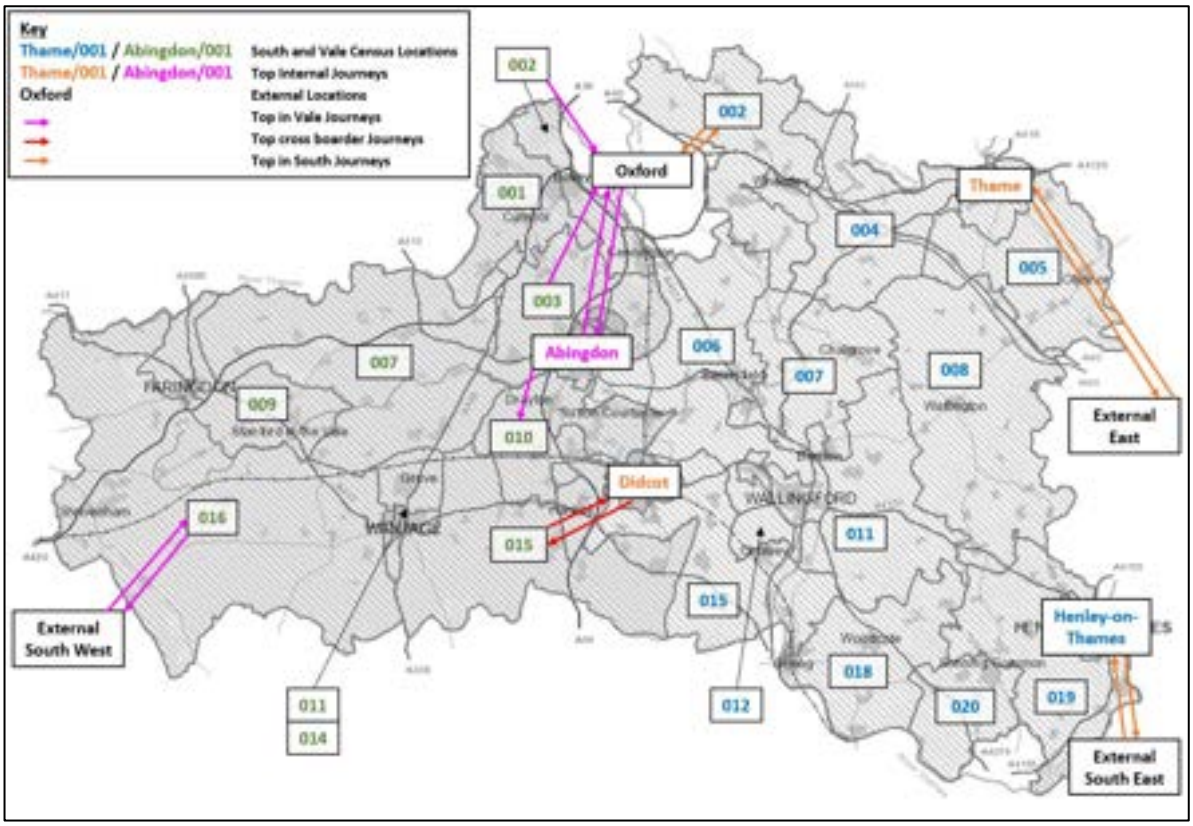


Figure 8: OD internal and external included

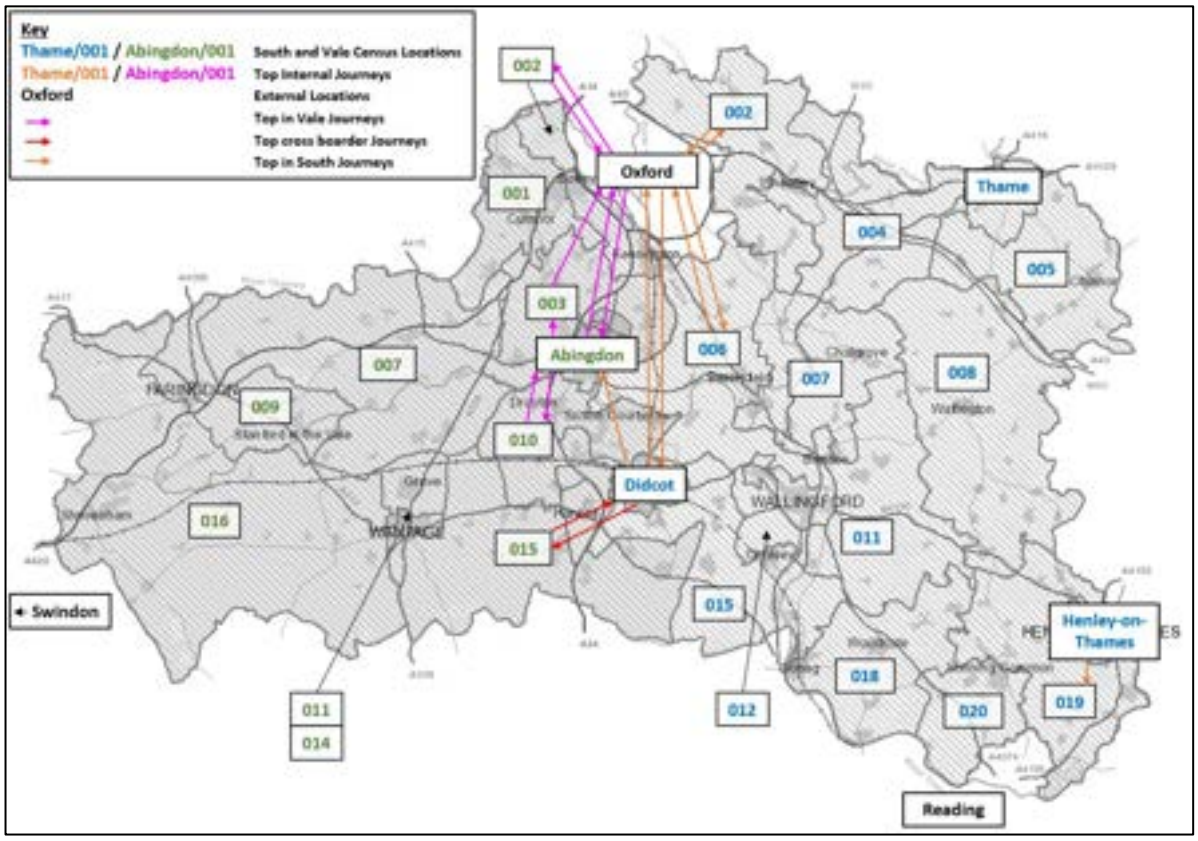


Figure 9: OD internal and external excluded

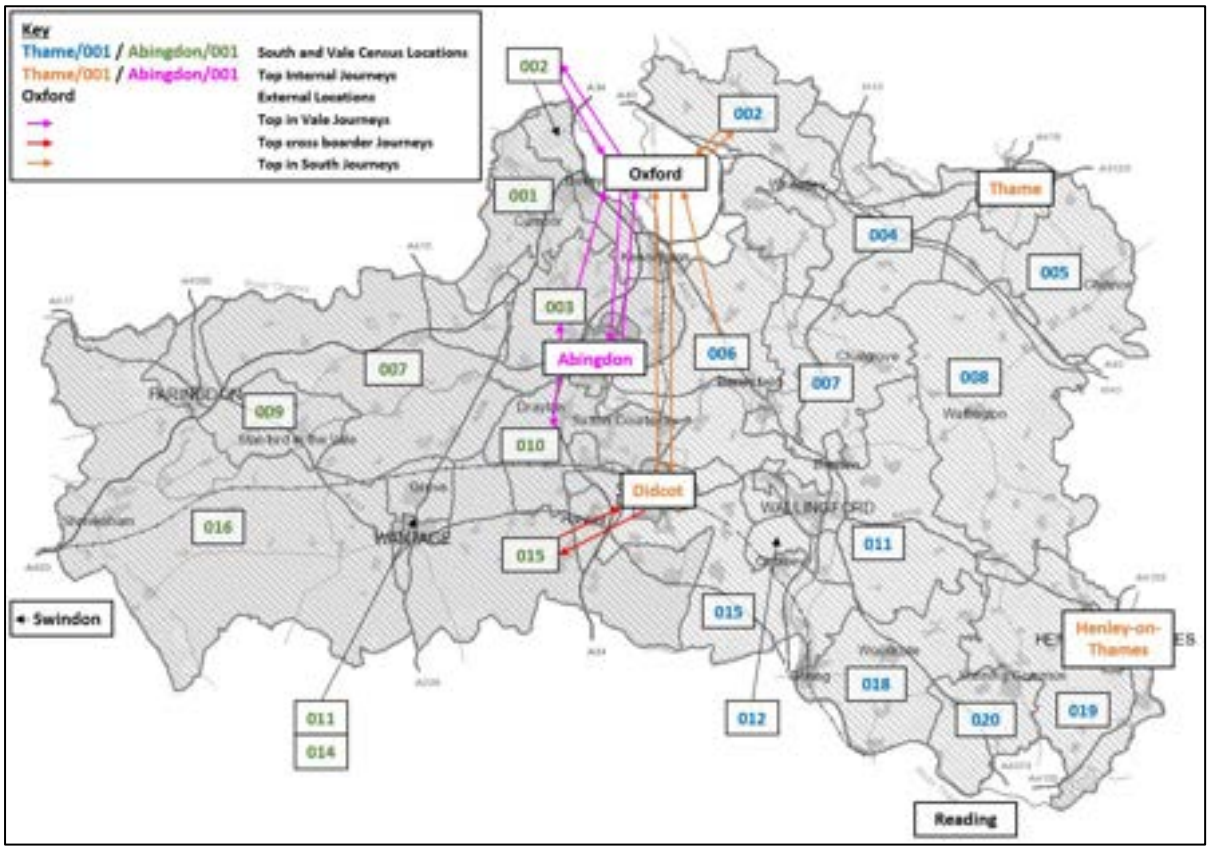


Figure 10: OD internal included and external excluded

4.5.6 The data tables and illustrations highlight that the largest proportions of journeys are undertaken within Abingdon and Didcot. Following this, the next major journeys are between Thame and outside of the districts to the east, followed by journeys between a range of Census areas in the districts and Oxford. Abingdon, Thame, and Henley-on-Thames then feature for internal journeys alongside journeys between Didcot and a large census area which includes Harwell Campus, eastern Wantage and other destinations. Further top journeys extend from Abingdon to nearby Census areas in the Vale of White Horse.

4.5.7 The results of the Origin-Destination data analysis provide valuable insight as to where high demand journeys occur across the districts. Where high demand journeys occur there is a higher likelihood that non-car infrastructure will be used more frequently and as such, these journeys can be reviewed and targeted for provision for active and sustainable travel measures and infrastructure.

4.6 Employment sites

4.6.1 The employment areas in South Oxfordshire and the Vale of White Horse generate a proportion of the origin-destination rates shown previously.

4.6.2 Science Vale is a significant area of employment as an economic growth location and a hot spot for enterprise and innovation in research, science, and technology. The area extends west to Wantage, south to Harwell Campus and Chilton, east to South Moreton, north-east to Berinsfield and north to Culham Science Centre.

4.6.3 Employment sites in the Science Vale and other key employment locations in the districts are listed in **Table 14** and **Table 15**. The total estimated area of employment land in South Oxfordshire and the Vale of White Horse combined equites to 980ha, of which 40% (389ha) is located in South Oxfordshire and 60% (591ha) is in the Vale of White Horse.

Table 14: Employment sites in South Oxfordshire

South Oxfordshire Employment Sites	Location	Approximate Site Area from ELR* (ha)
Culham Science Centre & Culham No.1 Site	Culham	77.3
Southmead Industrial Estate & Didcot Station	Didcot	71.5
Didcot Town Centre	Didcot	42.8
Thame Industrial Cluster	Thame	38.0
Hithercroft Industrial Estate	Wallingford	25.3
Henley Town Centre	Henley-on-Thames	24.9
Crowmarsh Industrial Cluster – Howberry Park	Crowmarsh	21.9
Reading Road Industrial Estate	Henley-on-Thames	17.1
Monument Business Park	Chalgrove	17.0
Thame Town Centre	Thame	16.8
Wallingford Town Centre	Wallingford	14.9
Rich's Sidings	Didcot	6.4
Watlington Industrial Cluster	Watlington	5.3
London Road Industrial Estate	Wheatley	3.5
Neighbourhood Plan Site – Land West of Hithercroft Industrial Estate	Wallingford	3.1 (AMR**, floor area in ha)
Smith Centre	Henley-on-Thames	2.1
Boundary Business Park	Garsington	0.9
Total	-	388.8

*Employment Land Review (URS 2014) - South Oxfordshire

**Authority Monitoring Report 2021-2022 – South Oxfordshire

Table 15: Employment sites in the Vale of White Horse

Vale of White Horse Employment Sites	Location	Approximate Site Area from ELR* (ha)
Abingdon Business Park	Abingdon	37.53
Harwell Campus	Didcot	291.03
Milton Park	Milton	78.04
Former Power Station Didcot A	Didcot	58.0
Grove Technology Park	Grove	11.74
Milton Hill Business & Technology Park	Rowstock	11.16
Abingdon Science Park	Abingdon	11.01
Whitehorse Business Park	Stanford in the Vale	9.19
Wicklesham Quarry	Faringdon	8.0
Williams F1	Grove	7.1
Sutton Courtenay	Sutton Courtenay	6.19
Monks Farm	North Grove	6.0
Shrivenham Hundred Business Park	Shrivenham	5.41
Large cluster excluding development sites	Faringdon	5.4
Kingston Business Park	Abingdon	5.38
Downsview Road (Crown Technology)	Grove	4.59
Land Adjacent to A420 (4 & 20 site)	Faringdon	4.2
South of Park Road	Faringdon	4.0
W&G Estate	Challow	2.79
Oxford Instruments	Tubney Wood	2.5
Hinksey Business Centre and Industrial Estate	North Hinksey	2.47
Grove Road	Wantage	2.45
Radley Road Industrial Estate	Abingdon	2.26
Wootton Business Park	Wootton	2.24
North of West Way	Botley	1.66
Minns Business Park	North Hinksey	1.59
Sandford Lane Industrial Estate	Kennington	1.19
Uffington Station	Uffington	1.04
Drayton Road Industrial Estate	Abingdon	1.02
Former nursery	Faringdon	0.87
North of Pioneer Road	Faringdon	0.85
Works	Ardington	0.82
Strip of land alongside Park Road	Faringdon	0.71
Cumnor Hill	Chawley Park	0.51
Home Farm	Ardington	0.45
Fitzharris Trading Estate	Abingdon	0.42
The Bakers Yard	Ardington	0.32
Land to the south of the playground	Faringdon	0.28
Station Yard Industrial Estate	Steventon	0.21
HCA business centre	Faringdon	0.18
Total	-	590.8

*Employment Land Review (URS 2013) – Vale of White Horse

4.7 Traffic volumes on the road network

4.7.1 The Department for Transport (DfT) provides annual traffic data for Oxfordshire[18]. The DfT has approximately 90 individual traffic data collection points on the South Oxfordshire and the Vale of White Horse road network[19]. The data collection points are strategically located around the districts and are periodically manually monitored.

4.7.2 The DfT considers their annual traffic data to be robust for national and regional geographical areas only, as some data collections points include average or estimated traffic counts for some years. The data is open source and is used by DfT and other organisations to help monitor changes in traffic flows.

4.7.3 In 2019 a total of 5.12 billion vehicle miles were travelled in Oxfordshire, of which 4 billion miles were made by cars and taxis which equates to 78% of the total.

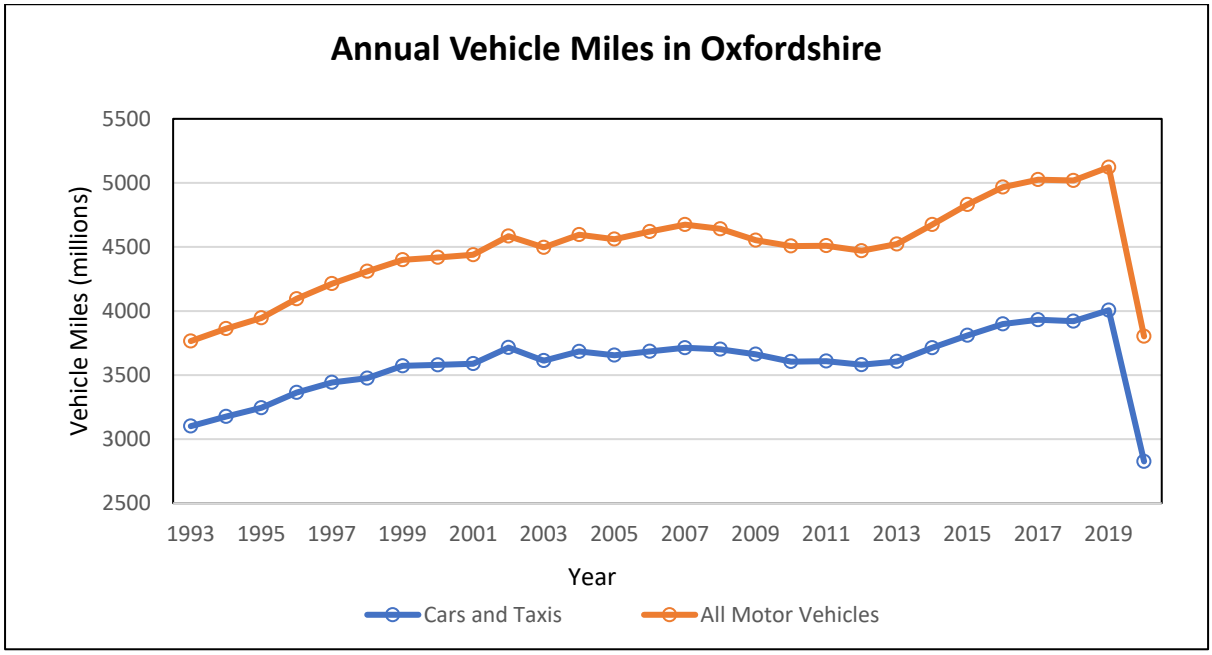


Figure 11: Annual vehicle miles in Oxfordshire

[18] https://roadtraffic.dft.gov.uk/local-authorities/142

[19] https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints

4.7.4 **Figure 11** shows the annual vehicle mileage 1993 to 2020. The data appears to show a broadly upward trend until around 2008. A steeper increase in vehicle miles is then shown from 2013 to 2016, after which point the upward trend slows. A considerable decline is shown for 2020 which illustrates the effect of national lockdowns and COVID-19.

4.7.5 Comparison of the 'cars and taxis' and 'all motor vehicles' data for 1993 to 2019 shows a small increase in non-car and taxi miles over that time, suggesting there has been an increase to the proportion of larger vehicle miles.

4.7.6 More refined traffic data for the South Oxfordshire and the Vale of White Horse area has been provided by Oxfordshire County Council which is reviewed in **Section 5.7**.

4.8 Propensity to cycle

4.8.1 The Propensity to Cycle Tool (PCT) was developed by DfT to assist transport planners and policy makers to prioritise investments and interventions to promote cycling.

4.8.2 The PCT provides a valuable insight into where cycling demand could arise if cycling became a first choice for travel for commuting (Census 2011 data) and travel to school (school cycling Census 2011). The propensity to cycle tool provides a visual representation of cycling journeys under Dutch levels of cycling and is a useful tool to help planners identify where cycling infrastructure would be best located. Well placed cycling infrastructure, as well as for walking, wheeling and public transport, is vital to facilitate modal shift away from the private car.

4.8.3 **Figure 12** and **Figure 13** provide a visual representation of the proportion of people cycling to work by Lower Layer Super Output Area (LSOA) under two scenarios, with 2011 Census data shown in **Figure 12** and the rate of cycling that could occur in the event that Dutch levels of cycling were achieved in **Figure 13**.

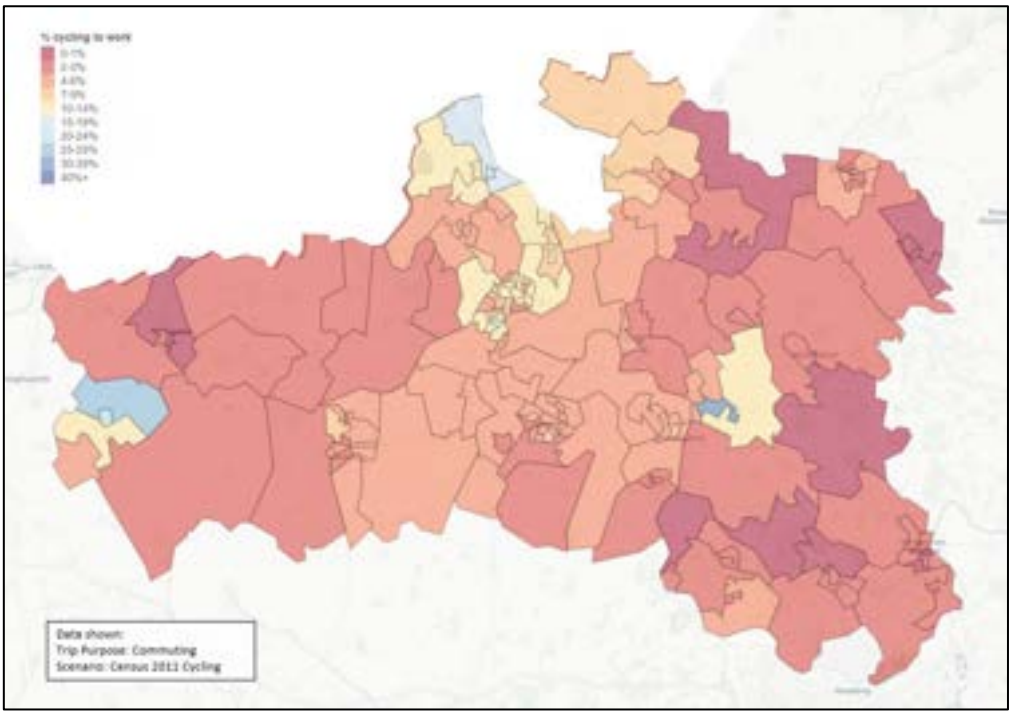


Figure 12: PCT commuting Census 2011

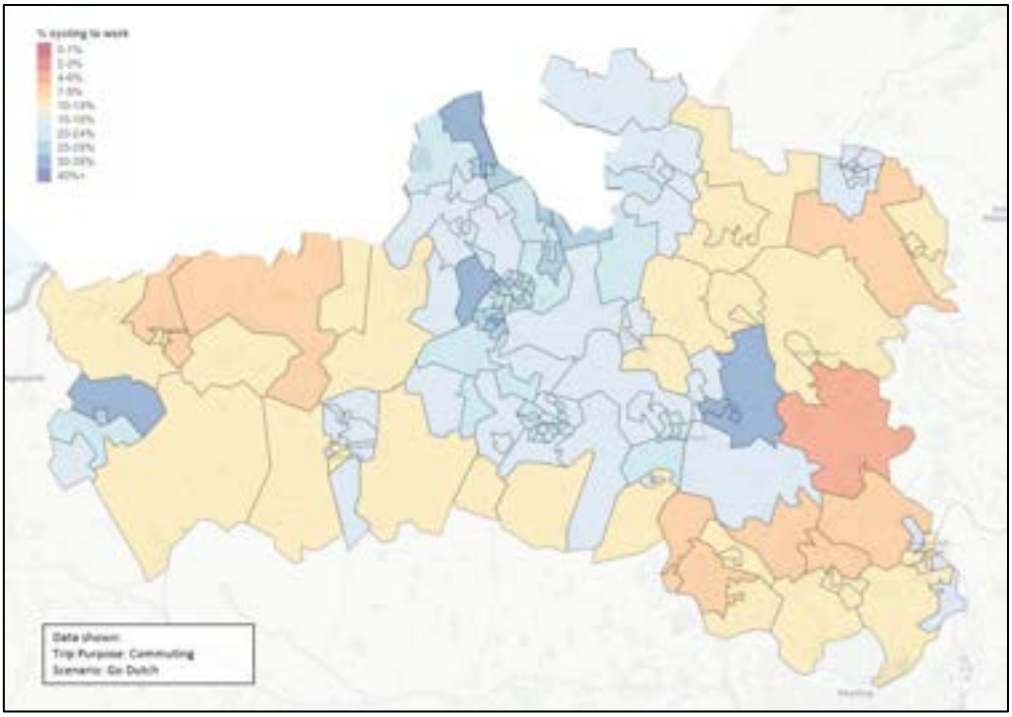


Figure 13: PCT commuting 'Go Dutch'

4.8.4 The Census 2011 data shows that the locations with the highest proportion of people stating they use cycling as their main mode of travel to work are: part of RAF Benson with 34%, Wytham, Botley, North Hinksey and southern Abingdon with 15-19%, Longcot and northern Shrivenham with 26%, and central Shrivenham with 20% cycle commuting. RAF Benson is a military base which appears to show atypical rates of cycling. Similarly, the Defence Academy of the United Kingdom is located in Watchfield, which is the likely explanation for the higher levels of cycle commuting in the Shrivenham area.

4.8.5 The Go Dutch scenario shows an increase in cycling mode across the two districts, with high propensity for cycling shown around RAF Benson and Ewelme, central and western Abingdon, Wytham and Botley, and also Longcot and north Watchfield. There is also an expanse of areas reaching 15-19% cycle commute mode in the centre of the districts from Wallingford up to Cumnor, as well as pockets in Thame, Henley, Shrivenham, Grove and Wantage.

4.8.6 The PCT tool also allows the review of school travel as represented in **Figure 14** and **Figure 15** which again respectively show Census 2011 data and Go Dutch scenarios.

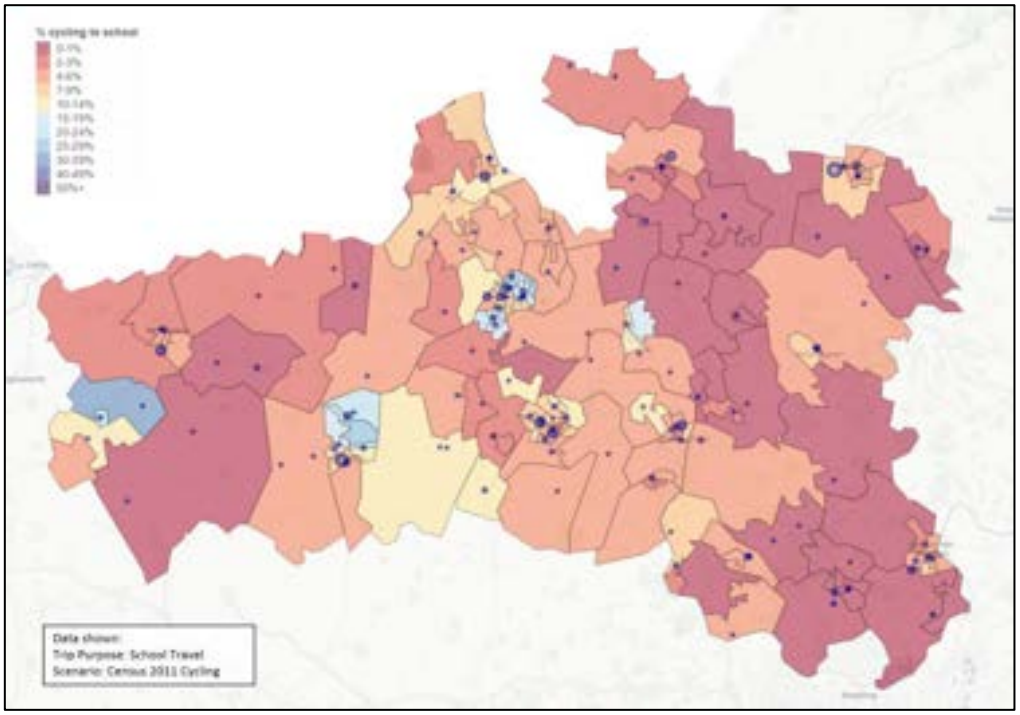


Figure 14: PCT school travel Census 2011

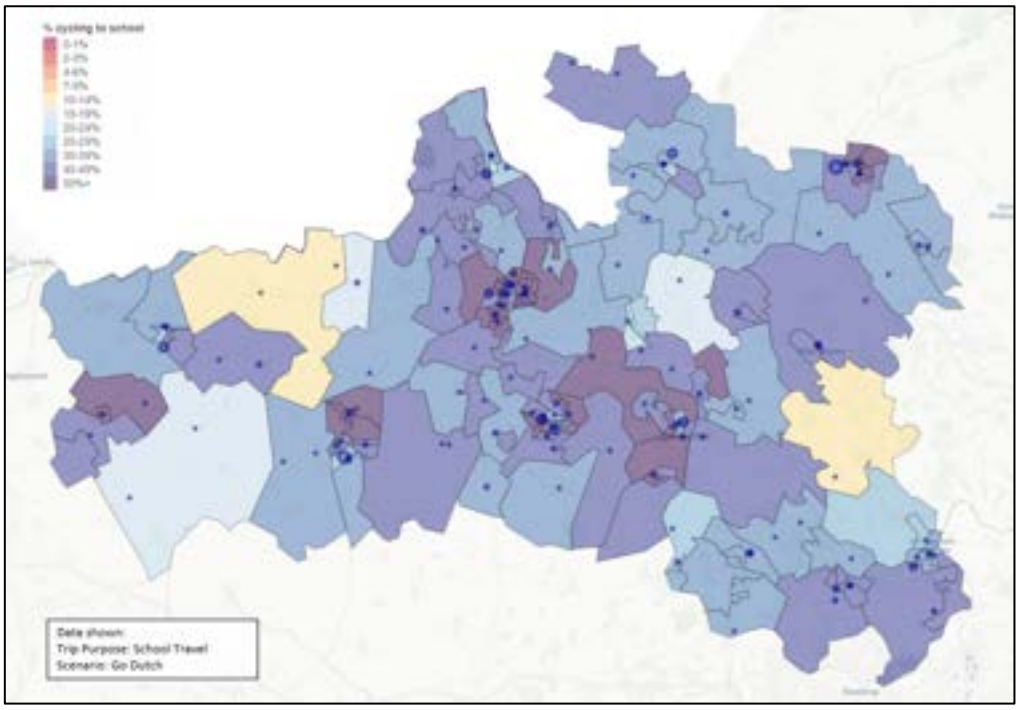


Figure 15: PCT school travel 'Go Dutch'

4.8.7 The school travel data categories include an additional category which identifies locations that could exceed 50% travel by cycling (as opposed to just exceeding 40% in the commuter travel category). The blue circles denote where the schools are located in the districts, while the size of the circle denotes the pupil capacity in 2011, with Thame's Lord William's School catering for over 2000 pupils and Stadhampton Primary School catering for 84 pupils.

4.8.8 The results show poor uptake of cycling to school in a large proportion of South Oxfordshire, with a band of red (0-1% cycle mode) extending from is southern borders with Reading to its northern borders at Waterstock, located west of Thame. The best performing location in South Oxfordshire is eastern Berinsfield, while pockets in northern and southern Abingdon, Grove, Wantage, Longcot and northern Watchfield perform relatively well in the Vale of White Horse.

4.8.9 The Go Dutch scenario shows considerable potential for greater travel to school by cycling, with areas around Wallingford, Didcot, Abingdon, Grove, Wantage and Watchfield showing potential to achieve over 50% cycling mode. All other areas are shown to have the potential to achieve over 10%, with many much greater than that.

4.9 Summary

4.9.1 Population statistics indicate that South Oxfordshire and the Vale of White Horse have a low density but proportionately large working population, with good economic growth shown by GVA statistics and few areas of deprivation.

4.9.2 National Travel Survey data indicates that greater emphasis should be made to assess the impact of trips for shopping and education.

4.9.3 Although the Census 2021 data was recorded during the pandemic recovery, it is possible to glean that the level of household overcrowding is low, with many under-occupied properties, multi-car ownership has been on the rise over the past 20 years, many people work from home but those who do travel to work typically travel by car and are slightly more likely to travel further than the national average. Additionally, the data appears to suggest that proportionately more people worked from home during the pandemic in South Oxfordshire and the Vale of White Horse than the national average.

4.9.4 The Science Vale area generates a proportion of the employment trips in the centre of the districts. The greatest journey demands are within Abingdon and Didcot, followed by Thame to eastern locations outside of the districts. Between 1993 to 2019 total miles driven have increased across the county.

4.9.5 There are hotspots for cycling to work in parts of: Benson, Wytham, Botley, North Hinksey, Abingdon, Longcot and Shrivenham. And hotspots for cycling to school in parts of: Berinsfield, Abingdon, Grove, Wantage, Longcot, and Watchfield.

4.9.6 This section provides an overview of the population and where travel demands are at present, the next section provides details about the infrastructure currently available for these travel demands.

5. The transport network

5.1 Introduction

5.1.1 This section seeks to explore the details and data relating to the existing transport networks currently available for travel within South Oxfordshire and the Vale of White Horse.

5.2 Walking, cycling and horse-riding network

5.2.1 Walking forms part of almost all journeys, with walking to the cycle store, bus stop or car park. The public highway provides networks of footways (next to a road) and footpaths (not next to a road) across the districts supporting walking, particularly in urban settings. Some of these footways and footpaths are designated as dual use, with signage indicating the space is to be shared with cyclists and horse riders. Dedicated cycle lanes are also provided in some urban settings in the districts.

5.2.2 An inventory of publicly maintained walking and cycling infrastructure is not available at this time. The most well documented infrastructure for walking, cycling and horse riding is the Public Right of Way (PROW) network, which is a network of paths that permit passage through private land. There are 4 types of PROW which relate to the type of passage permitted, as set out below:

- Public footpath – Right of way on foot only
- Bridleway – Right of way on foot, horseback, and pedal cycle
- Restricted byway – Right of way on foot, horseback and with non-mechanically propelled vehicles (such as pedal cycles and horse-drawn vehicles)
- Byway open to all traffic – Right of way on foot, horseback, or pedal cycle and by wheeled vehicles of all kinds, including mechanically propelled vehicles

5.2.3 A map of the PROW network in South Oxfordshire and the Vale of White Horse is shown in **Figure 16**.

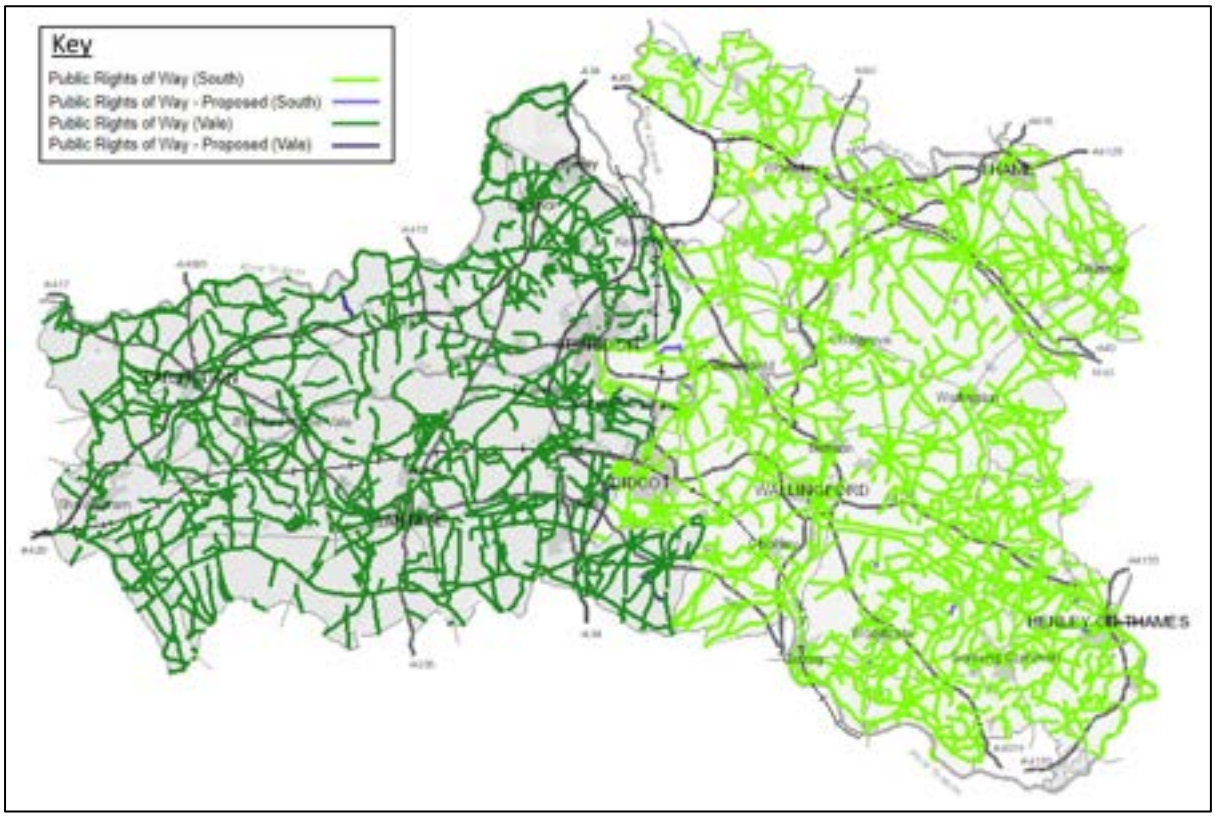


Figure 16: PROW network map

5.2.4 The network of PROW routes across South Oxfordshire and the Vale of White Horse appears to be abundant. However, it is pertinent to highlight that it is the combined responsibility of the land owner[20] and highway authority[21] to maintain the route. As such the condition of the unsurfaced paths can vary seasonally with over grown vegetation in the summer and mud in winter and can thus sometimes be unattractive for all but the most hardened hikers, cyclists, horse riders and motor vehicle users.

Table 16: PROW network in South Oxfordshire

Public right of way classification	Combined length (km)*
Footpath	856
Bridleway	343
Restricted Byway	91
Byway Open to All Traffic	19

*Length data provided by OCC, June 2023

[20] https://www.gov.uk/guidance/public-rights-of-way-landowner-responsibilities

[21] https://www.gov.uk/guidance/public-rights-of-way-local-authority-responsibilities

Table 17: PROW network in the Vale of White Horse

Public Right of Way Classification	Combined Length (km)*
Footpath	539
Bridleway	211
Restricted Byway	86
Byway Open to All Traffic	55

*Length data provided by OCC, June 2023

5.2.1 **Table 16** and **Table 17** detail the combined lengths of all the PROW routes across South Oxfordshire and the Vale of White Horse respectively. All of the PROW network, comprising 1,308km in South Oxfordshire is available for walking, while 453km (35%) is available for cyclists and horse riders. In the Vale of White Horse all of the 891km of PROW network is available for walking, while 352km (39%) is available for cyclists and horse riders.

5.3 Public cycle parking

5.3.1 The councils undertook an audit (September/October 2023) of the existing publicly available cycle parking stock in South Oxfordshire and the Vale of White Horse. The survey was designed to capture all types of parking, from covered Sheffield stands to Butterfly wall mounted racks and other variants in between.

Figure 17: Covered Sheffield stands at Abingdon and Witney College, Abingdon

Figure 18: Covered 2 tier stands at Didcot Parkway Rail Station, Didcot

Figure 19: Toast racks on Market Place, Wantage

Figure 20: Cycle racks in Bushell Business Estate, Wallingford

Figure 21: Butterfly stands by Kennington Health Centre, Kennington

5.3.2 The audit initially comprised a desktop study of crowdsourced and publicly accessible mapping resources[22] and review of likely places where cycle parking may be present, such as by shops, libraries, GPs, and other community facilities. This followed with on the ground data capture. The audit may not be fully comprehensive but provides a snapshot of existing publicly available cycle parking. A summary of the data collected is provided in **Table 18**.

[22] https://www.google.com/maps, https://www.opencyclemap.org/, https://cycle.travel/map, https://explore.osmaps.com/, https://www.cyclestreets.net/, https://www.bing.com/maps

Table 18: Publicly accessible cycle parking

Larger settlements or council	Sheffield spaces and 2 tier	Toast rack spaces	Unsuitable spaces
Didcot	843	488	48
Henley-on-Thames	87	95	16
Thame	110	152	20
Wallingford	82	87	59
Abingdon-on-Thames	757	104	157
Faringdon	36	56	6
Wantage	135	122	23
South Oxfordshire (all of Didcot)	1,479	1,017	345
Vale of White Horse (not Didcot)	1,736	1,061	386

5.3.3 In accordance with OCC Parking Standards for New Developments[23] and Local Transport Note 1/20[24] (LTN1/20) only Sheffield stand style cycle parking spaces are now considered suitable cycle parking provision for new development. However much of the cycle parking stock reviewed was installed prior to adoption of this guidance. As such, and for the purpose of this review of existing provision, bolted to the floor (not concreted in) Sheffield stands, toast racks and double stacked spaces have been included as acceptable provision, as they allow for both wheels and frame of a bicycle to be secured. While all mechanisms that do not allow this were placed in the 'Unsuitable spaces' category.

5.3.4 Per population, as referred to in **Section 4.2** of this report, there are 1.7 suitable public cycle parking spaces per 100 residents in South Oxfordshire and 2.0 suitable public cycle parking spaces per 100 residents in the Vale of White Horse.

[23] https://www.oxfordshire.gov.uk/sites/default/files/file/roads-and-transport-policies-and-plans/PARKINGS.PDF

[24] https://assets.publishing.service.gov.uk/media/5ffa1f96d3bf7f65d9e35825/cycle-infrastructure-design-ltn-1-20.pdf

5.3.5 The results show that the greatest number of suitable cycle parking spaces are found in Didcot and Abingdon-on-Thames. Thame and Wantage form the second-best locations for public cycle parking in each district. The proportion of inappropriate public cycle parking is 10% or greater in Wallingford and Abingdon-on-Thames, these locations could benefit from converting existing cycle parking stock to a suitable standard, ideally Sheffield stands.

5.3.6 Use of toast rack style cycle parking provision, as a proportion of all suitable public cycle parking is shown to be greater than 50% in Thame, and Faringdon. This indicates that some improvements to public cycle parking security could be made in these locations to accommodate the new standards.

5.3.7 If the space currently allocated for unsuitable cycle parking were converted to suitable parking (assuming 2 unsuitable spaces could be converted to 1 suitable space) the cycle parking provision per 100 population values would increase to 1.8 for South Oxfordshire (172 additional spaces) and 2.1 for the Vale of White Horse (193 additional spaces).

5.3.8 It is pertinent to highlight however that although the unsuitable cycle parking spaces have been identified as being publicly accessible, the ownership of the land and locking system (butterfly stand, cycle rack, toast rack etc) itself may result in complications for replacement with current standard cycle locking systems. Notwithstanding this, efforts should be made to improve publicly accessible cycle parking to improve access for cyclists around the districts.

5.4 Bus network

5.4.1 There are a number of bus companies which operate within South Oxfordshire and the Vale of White Horse, most of these are operated by Stagecoach and 2 subsidiaries of Go-Ahead which are Oxford Bus Company and Thames Travel.

5.4.2 According to bus timetables for November 2023, there are a total of 38 regular bus services that operate 4 or more services per weekday in each direction within South Oxfordshire and the Vale of White Horse. 20 of these services operate 7 days a week, 7 operate 6 days a week, and 10 operate 5 days a week (as shown in **Appendix B**). A summary of the 7-day bus services and the number of services operating in one direction is shown (i.e. the 3A operates 30 services per weekday from Cowley to Oxford) in **Table 19**.

Table 19: Monday-Sunday bus services

Service no.	Route	Weekday	Saturday	Sunday
3A	Cowley-Oxford via Sandford-on-Thames	30	29	16
4A	Botley-Oxford	35	32	30
11	Watlington-Oxford	10	10	5
33	Wallingford-Oxford	17	11	10
35	Abingdon-Oxford	50	45	28
46	Great Milton-Oxford	19	19	19
280 (X8)	Aylesbury-Oxford	35	30	15
400	Wheatley-North Hinksey	79	56	38
Airline LHR	Oxford-LHR	19	19	19
Airline LGW	Oxford-LGW	31	31	30
Oxford Tube	London-Oxford	76	83	71
E1	Eynsham-Oxford	33	30	12
S1	Carterton-Oxford via Farmoor	50	51	39
S6	Swindon-Oxford	49	46	26
S9	Wantage-Oxford	41	38	24
X1 (NX1)	Wantage-Oxford	31	33	17
X2 (NX2)	Didcot-Oxford	50	49	33
X3	Abingdon-Barton Park	52	49	34
X32	Didcot-Oxford (JR)	29	28	10
X40	Reading-Oxford	29	28	15

5.4.3 A further 6 bus services are timetabled for school journeys only (prefix ‘BB’), while a range of irregular services are provided including Kassam Stadium services from Didcot and Botley for football days (prefix ‘Football Special’). In addition, there are a number of un-tabled school bus services and community transport services which operate in the districts.

Community transport

5.4.4 There are approximately 38 community transport services operating in South Oxfordshire and the Vale of White Horse. These offer a range of services including: medication pick-up, door to door doctor and hospital appointment transport, or regular shopping trips to nearby towns, or all of the above. Many services also provide mobility assistance and wheelchair access.

5.5 Park & Ride network

5.5.1 Park and Ride (P&R) sites operate to reduce the number of cars entering urban settings where bus travel is more frequent. Currently Oxfordshire P&R sites provide combined parking and bus tickets which support a convenient car and bus multi-modal journey. There are a total of three P&R sites that are within or close to the boundary of South Oxfordshire and the Vale of White Horse catering for Oxford City. There is a further site located near the South Oxfordshire border which serves Reading.

5.5.2 Thornhill P&R[25] is located in South Oxfordshire, next to its border with Oxford City near Headington. There are approximately 1,335 car parking spaces and 5 bus services (400, 700, Airline LGW, Airline LHR, and Oxford Tube) operating from this P&R.

5.5.3 Redbridge P&R[26] is located in Oxford City, close to the border of the Vale of White Horse near the A34 Hinksey Hill Interchange. There are approximately 1,412 car parking spaces and 7 bus services (43, X1, X2, X3, 300, ST1, and X32) operating from this P&R.

5.5.4 Seacourt P&R[27] is located in Oxford City, close to the border of the Vale of White Horse near the A34 Botley Interchange. There are approximately 1,389 car parking spaces and 1 bus service (400) operating from this P&R and further bus services running along the adjacent Botley Road (S6, S9, and 4A).

[25] https://www.oxford.gov.uk/directory_record/354/thornhill_park_and_ride

[26] https://www.oxford.gov.uk/directory_record/355/redbridge_park_and_ride/category/56/park_and_ride_sites

[27] https://www.oxford.gov.uk/seacourtparkandride

5.5.5 The Reading P&R is called Thames Valley, near Caversham Lakes. There are approximately 258 car parking spaces and 2 bus services (300 and RA1) operating from this P&R.

5.5.6 The future for P&Rs will be to facilitate move diversity in transport interchange options. Oxfordshire County Council have developed four different Mobility Hub typologies; Major interchange, Linked, Suburban and Rural, and Mini. The intention is to allow more people travelling through the County to have the option to choose more sustainable methods of travel.

5.5.7 Each Mobility Hub will cater for transport interchange, whether it be from car to bus (as per P&R sites), bicycle to bus, on foot to car club, or any combination appropriate for the location.

5.5.8 Some locations in the districts already operate as mobility hubs, such as the majority of rail stations in South Oxfordshire and the Vale of White Horse which provide car, bus, and train interchange, as well as bicycle and train interchange. Additionally, some bus stops provide bicycle and bus interchange, including a number of north Abingdon bus shelters with Sheffield stand cycle parking as shown in **Figure 22**.

Figure 22: Bicycle-bus Mobility Hub

5.6 Rail network

5.6.1 There are a total of 8 railway stations in South Oxfordshire and the Vale of White Horse, with Radley and Appleford in the Vale of White Horse and Culham, Didcot Parkway, Cholsey, Henley-on-Thames, Goring & Streatley, and Shiplake in South Oxfordshire.

5.6.2 The Office of Rail and Road[28] provides annual rail user data for each railway station in Great Britain. A review of the latest available data shows that rail passenger volumes have not fully returned to pre-pandemic levels, with 26-50% lower entry and exit values from 2019-2021 as show in **Table 20**.

[28] https://dataportal.orr.gov.uk/statistics/usage/estimates-of-station-usage

Station Name	April 2018 - March 2019	April 2019 - March 2020	April 2020 - March 2021	April 2021 - March 2022	Change 2019-2021	Prop. Change (2019-2021)
Appleford	7,504	7,232	1,768	5,336	-1,896	-26%
Culham	92,784	107,072	21,586	60,142	-46,930	-44%
Cholsey	290,196	284,448	54,628	155,450	-128,998	-45%
Didcot Parkway	3,258,388	3,339,804	583,570	2,023,958	-1,315,846	-39%
Goring & Streatley	432,860	437,286	82,368	229,414	-207,872	-48%
Henley-on-Thames	770,904	742,292	156,610	422,480	-319,812	-43%
Radley	129,982	135,780	20,830	69,982	-65,798	-48%
Shiplake	90,468	94,084	15,028	47,360	-46,724	-50%

Table 20: Railway Station data

5.6.3 The data shows that Didcot Parkway is by far the most active railway station in the districts. Didcot Parkway station also has additional patronage from interchanges i.e. passengers changing trains between Great Western Main Line services and Cherwell Valley Line services, which are not captured in this data.

5.6.4 Conversely Appleford station has the fewest entry/exit values. However its usage has proportionately regained considerably more passengers since the pandemic than any other station in the districts.

5.6.5 Save for Appleford and Didcot Parkway, where service demand levels have regained many of their pre-pandemic patrons, as of March 2022, all other railways stations in the districts remain at 44-50% of pre-pandemic entry/exit levels.

5.6.6 Proportional increases in working from home (28% for South Oxfordshire and 29% for the Vale of White Horse) and reductions in rail travel (4% and 2% respectively) shown in Census results from 2011-2021 reflect the reduction in demand for rail services. When looking at the actual values, South Oxfordshire residents recording rail as their method of travel to work fell from 3,293 people to 897 people, while the Vale of White Horse residents using rail for work fell from 1,369 people to 344 people. Though it is important to note the issues concerning the timing of 2021 Census data collection, as set out in **Section 4.3**, work is needed to ensure this sustainable mode of travel continues to be viable for both residents and rail operators.

5.7 Highway network

5.7.1 Roads are classified based on their intended use. Motorways are special roads where certain types of traffic is prohibited. A roads are major roads intended to provide large-scale transport links within or between areas. B roads are intended to connect different areas and feed traffic between A roads and smaller roads on the network. Classified unnumbered roads are intended to connect Unclassified roads with A roads and B roads and often link housing estates or villages to the network. Unclassified roads are intended for local traffic and form the majority of roads in the UK[29].

5.7.2 Alongside the classifications above, Strategic Roads are A roads and Motorways managed and maintained by National Highways (national highway authority). Major roads (A roads), other A roads, B roads, Classified unnumbered roads and Unclassified roads are all managed and maintained by Oxfordshire County Council (local highway authority). Additionally there are Private Roads with public access that are managed and maintained by individual land owners.

5.7.3 In South Oxfordshire there is one Strategic Road, the M40, which connects the M25 London ring road to the east to the M42 Birmingham ring road. In the Vale of White Horse there is the A34 which is part of the Strategic Road network connecting the Solent to the Midlands. Also in the Vale of White Horse is the A420 which is a Major A road. Other A roads in the districts are: A40, A329, A338, A415, A417, A418, A423, A4074, A4129, A4130, A4155, A4183, and A4185.

[29] https://www.gov.uk/government/publications/guidance-on-road-classification-and-the-primary-route-network/guidance-on-road-classification-and-the-primary-route-network

5.7.4 Flow data is available for these roads from DfT online resources[30] and Oxfordshire County Council traffic count sources. Each of the strategic, major and A roads in the districts have multiple data capture locations along their extents (aside from the A4129 and A423 that have one data capture location each and the A4185 which has none). The traffic summary data shown in **Table 21** presents data from the capture locations with the highest average flows for each of the roads in 2022.

Table 21: Traffic data 2022

Road	AADT	HGV %
M40	95027	9.0%
A34	69770	10.9%
A420	27715	6.5%
A40	36664	5.7%
A329	6622	0.0%
A338	13182	2.8%
A415	26130	2.7%
A417	11090	0.0%
A418	17775	4.6%
A423	46009	3.8%
A4074	18620	0.0%
A4129	8589	0.0%
A4130	22877	9.3%
A4155	9430	0.0%
A4183	15015	3.5%

5.7.5 The data in **Table 21** is presented in Annual Average Daily Traffic (AADT), which is the total volume of traffic of a road for a year divided by 365 days. The AADT value provides an indication of the amount of traffic that a road receives over an average day (24h). The Heavy Good Vehicle (HGV) percentage is calculated by dividing the total number of vehicles by the number of HGVs identified.

5.7.6 The AADT data indicates that the greatest traffic flows are on the M40, followed by the A34. However, it also highlights that both the A423 (which forms the Oxford Southern Bypass and part of the Eastern Bypass) and A40 (categorised as A roads) receive more traffic flow than the A420 (a Major A road). In terms of HGVs, the greatest proportion is shown on the A34 which is

[30] https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints

anticipated to relate to its function as a strategic corridor between the Solent and Midlands. The A4130 (between the A34 and Didcot) however experiences a greater HGV proportion than the M40 and A420.

5.7.7 **Figure 23** illustrates the HGV routing strategy for Oxfordshire. The road classifications resemble the HGV proportions set out in **Table 21**.

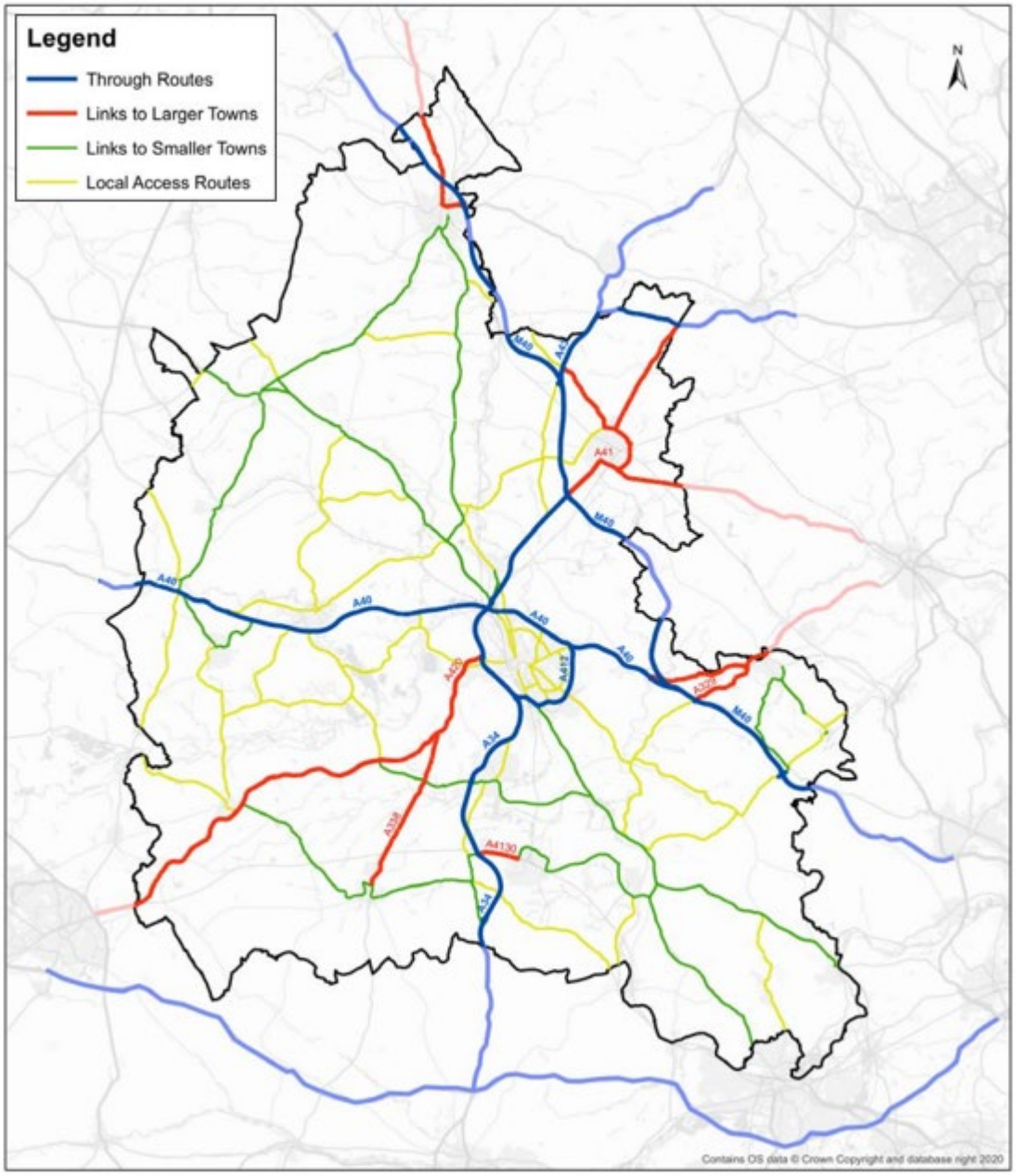


Figure 23: Oxfordshire HGV route map

5.7.8 Our Joint Local Plan will undertake further review of traffic and highways, in terms of capacity for the next stage of evidence base gathering and assessment.

5.8 Electric vehicle uptake

5.8.1 Electric vehicles are part of the solution to transitioning to a low carbon future. Data available from the DfT and DVLA regarding licenced plug-in vehicles allows the review of electric vehicle and hybrid electric vehicle (henceforth EV) uptake over time. The data considers all road vehicles (cars, HGVs, LGVs, and motorcycles) that use a plug-in technology to connect to a source of electricity to power the vehicle.

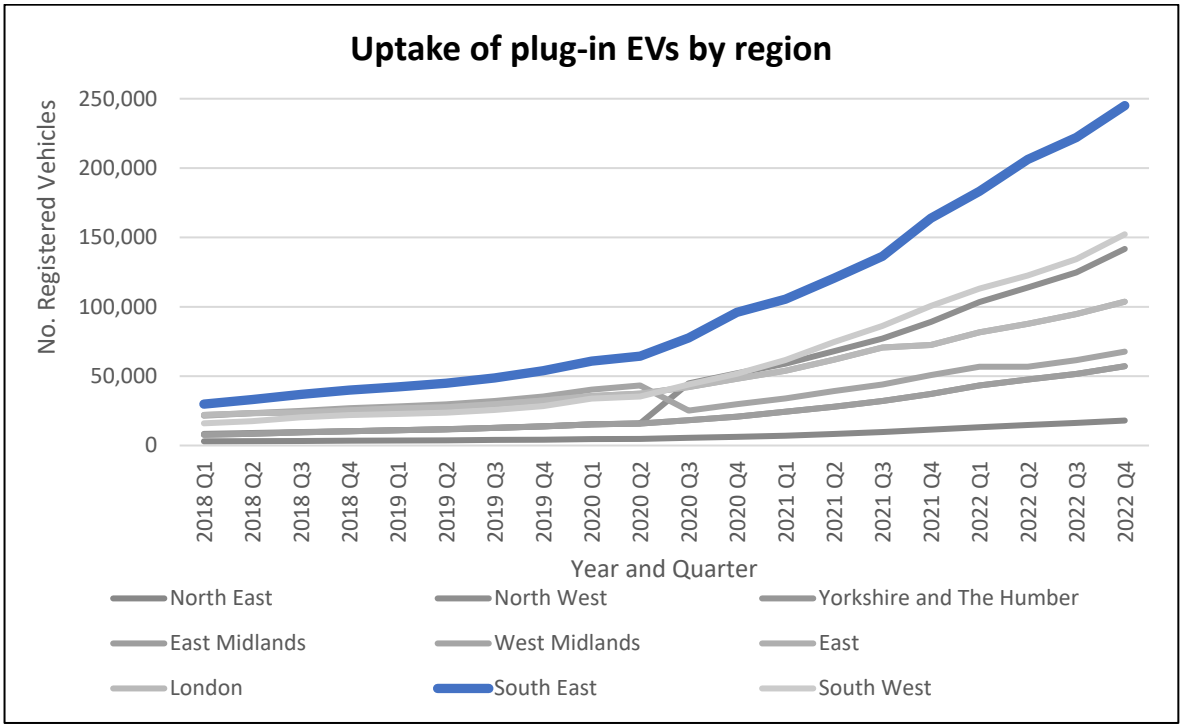


Figure 24: Uptake of plug-in EVs by region

5.8.1 The regional results shown in **Figure 24** illustrate an increasing trend in the uptake of EVs for all regions. The data for 2022 quarter 4, from lowest to highest, show: North East (17,997), East Midlands (57,144), West Midlands (67,662), London (126,363), North West (141,711), South West (152,271), and finally South East (245,030). The South East region, which includes Oxfordshire, is shown to have a significantly higher uptake of EVs when compared with other regions across England.

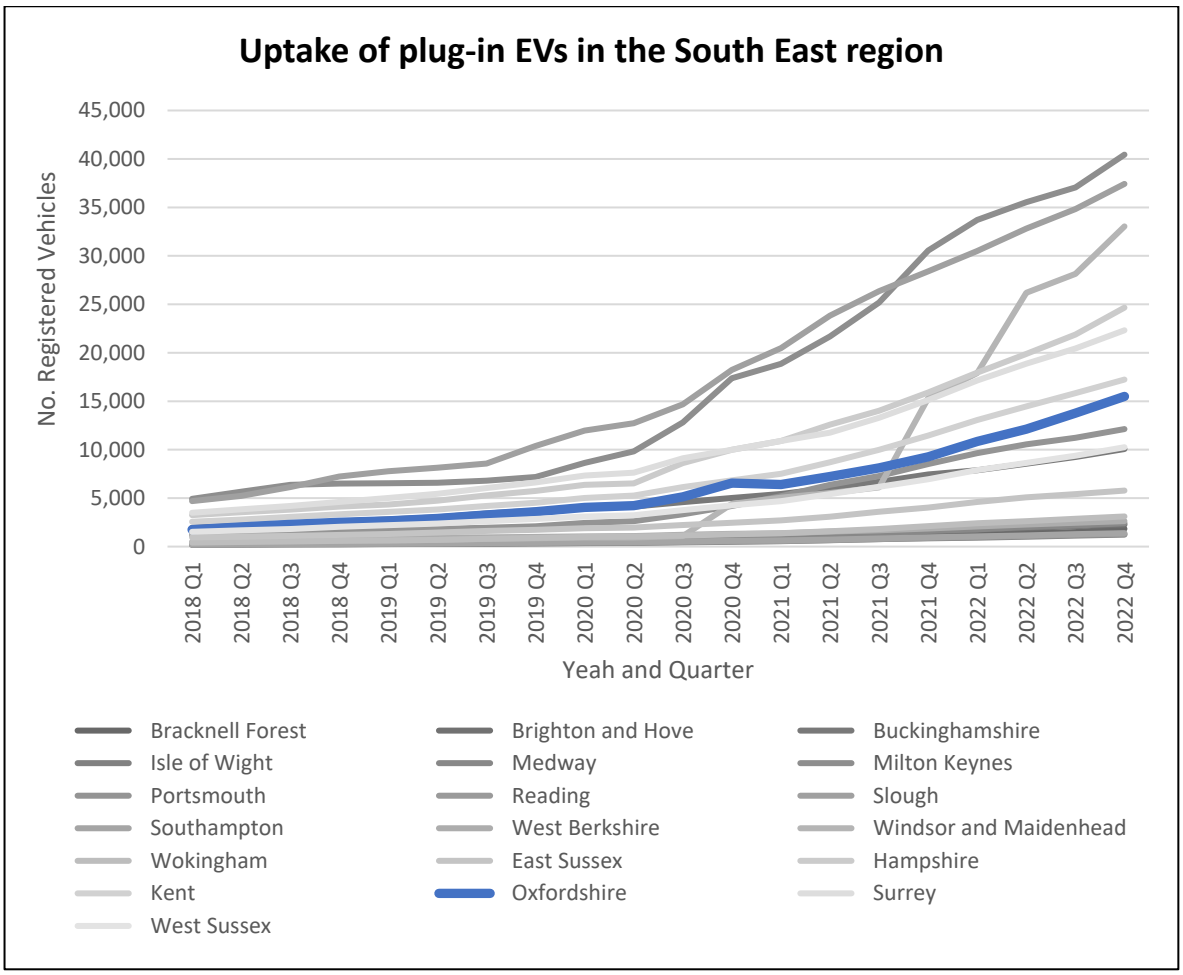


Figure 25: Uptake of EVs by local authority

5.8.2 The South East regional results by local authority are shown in **Figure 25**. Milton Keynes has the highest uptake of EVs, with Slough following closely behind. While the Isle of Wight, Reading, and Southampton are the local authority areas with the lowest EV uptake in the South East region. Oxfordshire County falls broadly in the middle of the highest and lowest performing local authorities within the South East region for EV uptake.

5.8.3 The anticipated Government ban of the sale of new petrol and diesel vehicles is projected to further accelerate the uptake of EVs each year.

5.9 Electric vehicle charging infrastructure

5.9.1 After cost of the vehicle, the lack of access to infrastructure has been identified as the second most important reason for not switching to EVs[31]. Therefore EV infrastructure is an important component to support the transition to EVs.

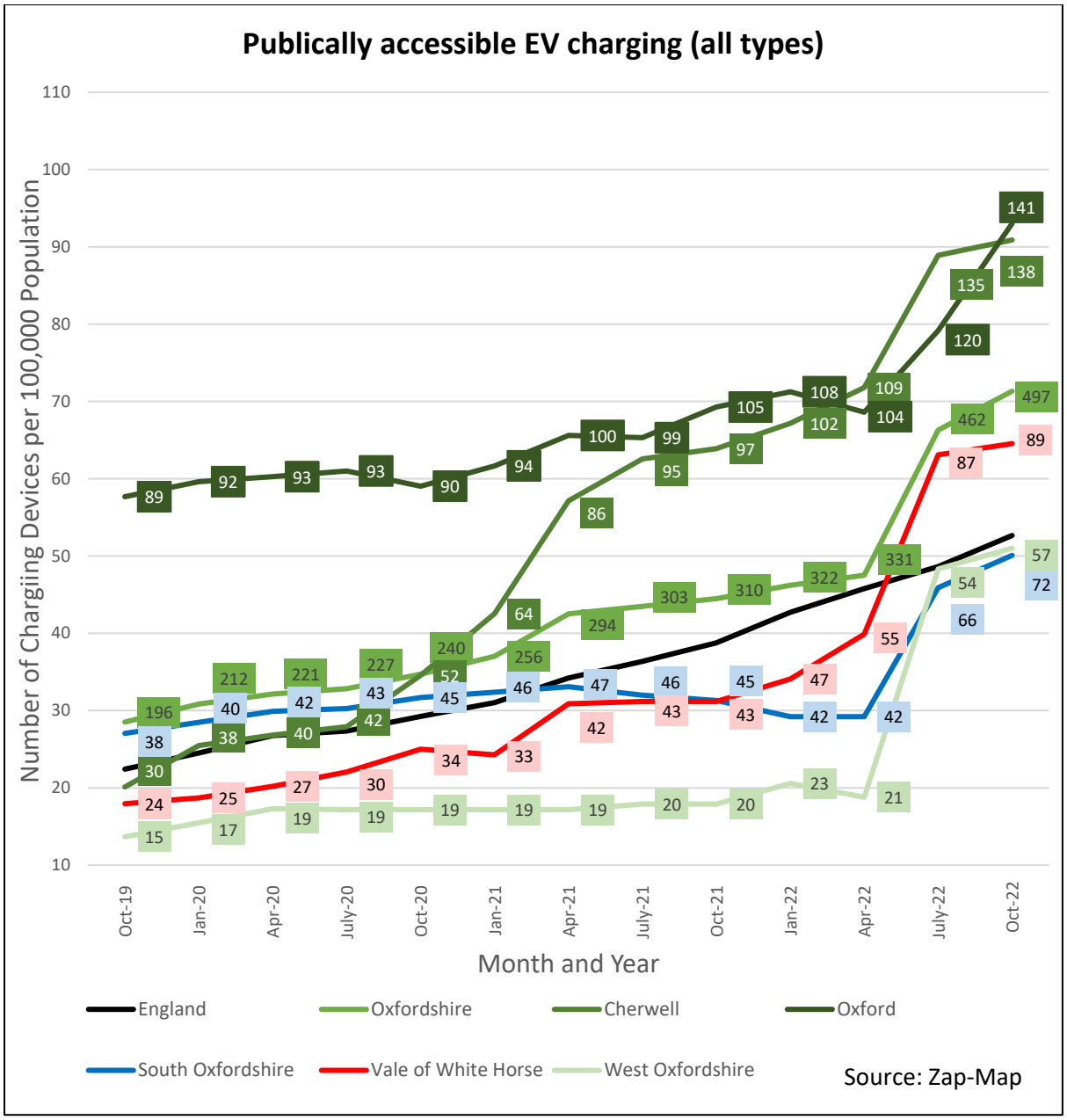


Figure 26: Publicly accessible EV charging (all types)

31 https://www.ons.gov.uk/economy/environmentalaccounts/articles/overhalfofyoungerdriverslikelytoswitchtoelectricinnextdecade/2021-10-25

5.9.2 **Figure 26** shows the number of publicly available charging units in the city and districts of Oxfordshire, Oxfordshire, and England between October 2019 to October 2022. The data is taken from the DfT Experimental Official Statistics[32] that is derived from the charging platform Zap-Map[33].

5.9.3 There is a visible spike in the number of charging units by population across all Oxfordshire areas between April and July 2022, illustrating significant investment in this area of infrastructure at this time.

5.9.4 There were just under 500 public charging units per 100,000 people in Oxfordshire in October 2022, most of which are located in Oxford city and Cherwell district. Both West Oxfordshire and South Oxfordshire fall below the national average number of charging units by population.

5.9.5 Overall, Oxfordshire is performing better than the national average in providing charging units by population, however South Oxfordshire appears to need further investment.

Charging devices

5.9.6 An element of the infrastructure hurdle to EV uptake is the myriad of different charging devices on the market and their associated jargon and varying capabilities, as shown in **Figure 27**. Although the need for standardisation of EV charging devices is known[34] there are a range of charging unit designs that limit where and how fast you can charge your EV. The designs are often also linked to the capabilities with some providing slow charging (3-6kW), some allowing fast charging (7-22kW) and others providing rapid (43-50kW) and ultra-rapid (100+kW) charging. Additionally, wireless technologies are also available[35].

[32] https://www.gov.uk/government/statistics/electric-vehicle-charging-device-statistics-january-2023

[33] https://www.zap-map.com/

[34] https://www.mdpi.com/2032-6653/12/2/63

[35] https://www.autoexpress.co.uk/bmw/5-series/101091/bmw-previews-wireless-charging-for-2018-on-530e-iperformance

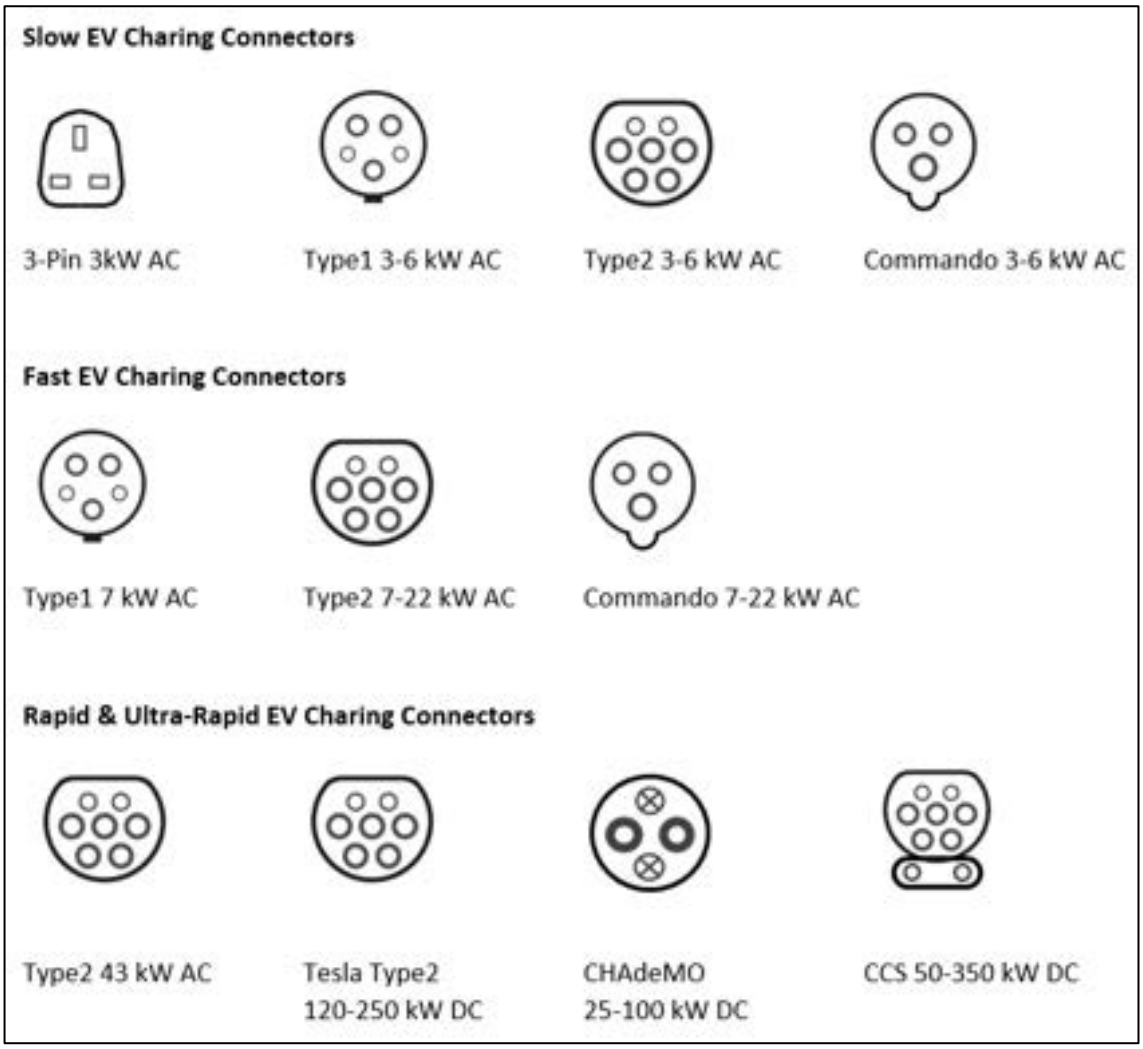


Figure 27: Electric charging devices

OCC Parking Standards on EV Charing

5.9.7 Oxfordshire County Council's parking standards requires the provision of electrical charging points at homes, workplaces, and key destinations. Paragraphs 4.18 – 4.19 of the parking standards state the following:

5.9.8 "*For all residential developments, active (live) on-plot charging points for electric vehicles and e-bicycles are to be provided. Off-plot residential car parking provisions i.e. a privately maintained parking area is to be provided with at least 25% (with a minimum of two) active charging points for all parking spaces. Such infrastructure is to be provided in accordance with the Autonomous and Electric Vehicles Act (2018), Building Regulations Document S, and the governments ambitions on 'Smart EV Charging'.*

5.9.9 *‘Active’ charging points for electric vehicles for new non-residential development proposals are to be provided at a minimum level of 25% for all parking spaces with ducting provided at all remaining spaces to ‘future proof’ such spaces to be upgraded in the future. Further advice on Oxfordshire’s Electrical Vehicle Strategy is available via Electric vehicles | Oxfordshire County Council”.*

Installation

5.9.10 The government has introduced Building Regulations (Part S) to help promote the installation of electric vehicle charging in buildings across the country. In summary these standards require that; new buildings, buildings undergoing a material change of use to dwellings, buildings undergoing major renovation, and mixed-use buildings that are either new, or undergoing major renovation provide facilities for charging of electric vehicles. However, this standard only applies to development that gained planning permission after 15 June 2022 and where construction work began after 15 June 2023.

Future charging considerations

5.9.11 A relatively new consideration for infrastructure to support travel is the provision of public electric bicycle charging facilities and, if the government trials lead to their legalisation, electric scooter charging.

5.9.12 The characteristics and locations of charging for these modes are likely to be similar to electric car charging, with rapid charging infrastructure placed in locations where people may park for a few hours such as shopping centres or cinemas, and slow charging facilities where people stay for longer periods such as at work (where the vehicle isn’t used for work) or at home.

5.10 Car hire and car sharing

5.10.1 Car hire is a valuable means to provide infrequent independent travel without the need to own a car, while car sharing can help to reduce the cost of travel by sharing journeys.

5.10.2 Car hire company Co-Wheels provide 7 vehicles in car parks and on-street in South Oxfordshire and the Vale of White Horse, as per below:

- Portway Car Park, Wantage
- West St Helens Car Park, Abingdon
- Cattle Market Car Park, Abingdon
- Cattlemarket Car Park, Wallingford
- Greys Road Car Park, Henley-on-Thames
- Market Place (Bay 10), Henley-on-Thames (part of Henley Car Club)
- Reading Road, Henley-on-Thames (part of Henley Car Club)

5.10.3 All but two vehicles are fully electric MG MG4 vehicles, while Market Place and Reading Road in Henley-on-Thames are Toyota Yaris Hybrid vehicles which form part of Henley Car Club. The costs of using the service are a monthly subscription (£5.50 as of September 2023), hourly or daily car hire cost and a cost per mile usage (which is rated by the class of vehicle used – MG4 is 13p/m and Yaris is 23p/m).

5.10.4 Hiyacar is a peer-to-peer car sharing service where car owners can rent out their cars at an hourly or daily rate. In October 2023 there were 3 Hiyacar vehicles available across the districts, with a Renault Zoe automatic car near Lewknor for £33 per day, a Honda Civic manual car in Didcot for £39 per day, and a Mercedes C-class automatic car near Grove for £82.50 per day.

5.10.5 Getaround is similar to Hiyacar, as a peer-to-peer car lending platform, with hourly and daily rates charged. In October 2023 there were 3 Getaround vehicles available across the districts, with a Skoda Octavia car in North Stoke for £85 per day, a Skoda Fabia car in Didcot for £59 per day, and a BMW 4 Series car in Henley-on-Thames for £101 per day.

5.10.6 Liftshare is an organisation designed to allow peer to peer car sharing where individuals are drivers or passengers sharing a similar journey. Users will add their regular journey patterns to the platform and offer to be a driver and or passenger. Other users can then either offer to be a driver of passenger for the journey. The platform provides a chat function for the users to discuss the

arrangement and also provides a recommended fare for passengers to cover the cost of fuel for the driver.

5.10.7 The number of car hire cars available across South Oxfordshire and the Vale of White Horse reflects the low density, high car ownership characteristics of the districts, when compared to nearby urban areas of Oxford City and Reading where more vehicles are available. However, hire vehicles and lift sharing opportunities are available to improve travel choice and travel sustainability across the districts.

5.11 Taxi and private hire

5.11.1 Taxis (or Hackney carriages) are vehicles that can be hailed at a taxi rank or flagged down on the street. These vehicles must have a 'taxi' roof sign, charge fares using a meter and display a fare chart. Private hire vehicles must be booked in advance, where the fare should be agreed at the time of booking. Private hire vehicles cannot use taxi ranks or be flagged down on the street.

5.11.2 There are a range of taxi and private hire vehicles licenced in South Oxfordshire and the Vale of White Horse. On 1 April 2023 there were a total of 583 licenced vehicles in South Oxfordshire and 315 licenced vehicles in the Vale of White Horse.

5.11.3 South Oxfordshire's taxi and private hire stock comprises of 387 taxis, 7 of which are wheelchair accessible, and 196 private hire vehicles, 15 of which are wheelchair accessible. Vale of White Horse's taxi and private hire stock comprises of 239 taxis, 4 of which are wheelchair accessible, and 76 private hire vehicles, 11 of which are wheelchair accessible.

5.11.4 These vehicles also provide transport choice for infrequent journeys and for when other modes are not available.

5.12 Public car parking

5.12.1 There are 30 district council owned and operated car parks in the districts, comprising 13 in the Vale of White Horse[36] and 17 in South Oxfordshire[37]. A summary of the parking provision in each car park is provided in **Table 22** and **Table 23**.

Table 22: Car parks in South Oxfordshire

Car parks in South Oxfordshire	Total car spaces	Disabled spaces	Electric charging spaces	Powered two-wheeler spaces
Mill Street, Benson (free)	28	2		
High Street, Chinnor (free)	10			
Culham Lock, Culham (free)	c.60 unallocated			
Edinburgh Drive, Didcot	115	6		1
Wheel Orchard, Goring	56	3		
Kings Road, Henley-on-Thames	348	17	14	2
Greys Road, Henley-on-Thames	157	9	12	7
Southfields, Henley-on-Thames	57	3		
Cattlemarket, Thame	145	7		
Southern Road, Thame	66	2	12	
Castle Street, Wallingford	21	1		
Cattlemarket, Wallingford	147	9	12	11
Goldsmiths Lane, Wallingford	124	5	12	
St Georges, Wallingford	19	1		
Thames Street, Wallingford	29	2		
Riverside, Wallingford	38 + c.150 unallocated	2		
Church Road, Wheatley (free)	24	1		

[36] https://www.whitehorsedc.gov.uk/vale-of-white-horse-district-council/parking-roads-and-streets/parking/car-parks/

[37] https://www.southoxon.gov.uk/south-oxfordshire-district-council/parking-roads-and-streets/parking/car-parks/

Table 23: Car parks in the Vale of White Horse

Car parks in the Vale of White Horse	Total car spaces	Disabled spaces	Electric charging spaces	Powered two-wheeler spaces
Abbey Close, Abingdon	75	4		1
Audlett Drive, Abingdon	91	3	16	
Cattle Market, Abingdon	64	3	10	2
Civic, Abingdon	65	6		
Hales Meadow, Abingdon	25	2		
Rye Farm, Abingdon	121	6		
West St Helens, Abingdon	107	6	12	4
The Charter, Abingdon	80 (normally 441)	13		
Gloucester Street, Faringdon	49	2		
Southampton Street, Faringdon	62	4	12	7
Limborough Road, Wantage	34			
Mill Street, Wantage	34	2		
Portway, Wantage	114	7	12	1

5.12.2 The councils' existing parking stock comprises a range of free and paid for parking provision around the districts. The proportion of electric vehicle charging bays is under review with a target of providing 7.5% of spaces capable of charging electric vehicles.

5.12.3 A number of town centre car parks are not included in this list, including the Orchard Centre car parking provision on Didcot and all car parking associated with train stations. These are not included as they are owned and operated by other organisations and any recommendations or changes sought in the future are not in the councils' power to action.

5.12.4 The majority of council-run and operated car parks do not provide parking explicitly for powered two wheelers, noting that Oxfordshire County Council in its LTCP places powered two wheelers over cars in their transport user hierarchy, additional space could be allocated for this mode of travel.

5.13 Collision data

5.13.1 Collision data severity is presented in three categories: slight, serious, and fatal. Further details are also provided for the type of vehicle and casualty. Typically this data is presented for each highway authority area i.e. for the whole of the county. Summary data[38] for collisions that resulted in death or serious injury (KSI) in Oxfordshire for 2018-2022 is shown in **Table 24**.

Table 24: KSIs in Oxfordshire 2018-2022

Severity	2018	2019	2020	2021	2022
Killed	31	23	34	18	24
Serious	241	209	190	223	283

5.13.2 The Oxfordshire KSI results show a fluctuation in deaths and serious injuries recorded over the past 5 years. Since 2016 road casualty recording has changed, preventing the identification of probable cause such as driver error, inclement weather, or road characteristics. As such, fewer conclusions can be made from interrogation of the collision data.

5.13.3 It is possible to extrapolate district level casualty figures from data provided at Lower layer Super Output Areas (LSOA) available from DfT road safety data[39]. A summary of the results for 2022 is provided in **Table 25**.

Table 25: District road casualty data for 2022

Authority	Driver/rider	Passenger	Pedestrian	Killed	Serious	Slight
South Oxfordshire	140	36	16	2	38	152
Vale of White Horse	144	20	18	4	45	133

5.13.4 The district level collision data for 2022 illustrates that the majority of road collisions result in slight injury and injury is typically caused to the driver or rider. As per Oxfordshire County Council's Vision Zero[40] policy aspirations the district and county seek to eliminate all fatal and serious injury incidents on our roads.

[38] https://roadtraffic.dft.gov.uk/custom-downloads/road-accidents

[39] https://www.data.gov.uk/dataset/cb7ae6f0-4be6-4935-9277-47e5ce24a11f/road-safety-data

[40] https://news.oxfordshire.gov.uk/ambition-to-eliminate-all-road-deaths-and-serious-injuries-by-2050/

5.13.5 Further interrogation of the KSI data will be undertaken when identifying infrastructure provision to support the emerging JLP.

5.14 Air quality

5.14.1 Air Quality Management Areas (AQMAs) are areas where local air quality is unlikely to meet the national air quality objectives[41]. This is ascertained through monitoring of the following pollutants: particulate matter (10 and 2.5), nitrogen dioxide, ozone, sulphur dioxide, polycyclic aromatic hydrocarbons, benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen oxides, and sulphur dioxide.

5.14.2 In locations where the pollutants are recorded in exceedance of the national objectives, an Air Quality Action Plan (AQAP) is developed to outline the measures that the local authority intends to take to improve air quality in that location.

5.14.3 There is an AQAP for South Oxfordshire[42] and the Vale of White Horse[43] with AQMAs in Henley, Wallingford, and Watlington in South Oxfordshire[44] and Abingdon, Botley and Marcham in the Vale of White Horse[45] all of which relate to exceedances in nitrogen dioxide.

[41] https://uk-air.defra.gov.uk/assets/documents/Air_Quality_Objectives_Update.pdf

[42] https://www.southoxon.gov.uk/wp-content/uploads/sites/2/2019/01/air_quality_action_plan.pdf

[43] https://www.whitehorsedc.gov.uk/wp-content/uploads/sites/3/2019/01/Vales-District-AQAP.pdf

[44] https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=246

[45] https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=290

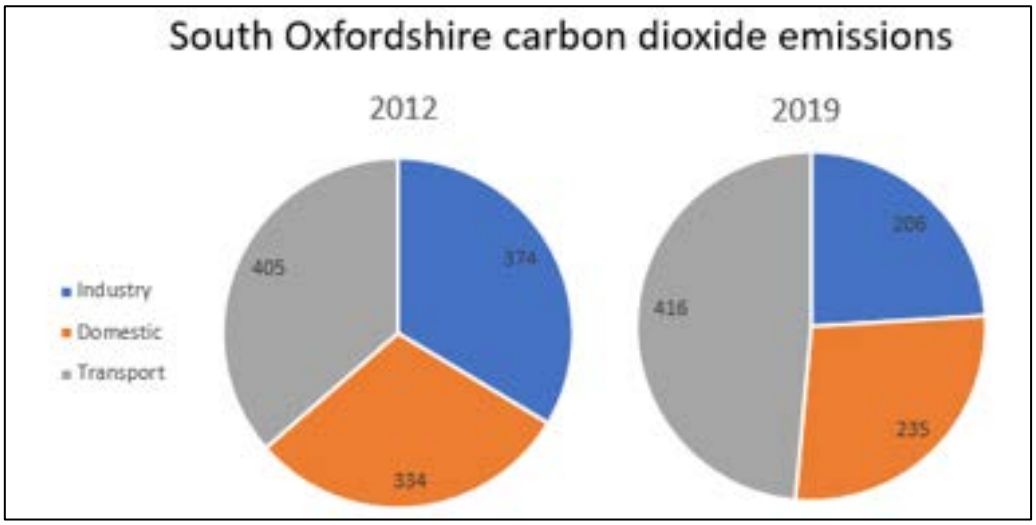


Figure 28: South Oxfordshire carbon dioxide emissions

5.14.4 Table 27**Table 26, Figure 28, Table 27** and **Figure 29** show the carbon dioxide (CO2) emissions for South Oxfordshire and the Vale of White Horse from 2012 to 2019. The data has been extracted from data available on the government's website[46]. The 'Industry' and 'Domestic' categories include emissions from electricity, gas, and other fuels for business and residential uses respectively, while the 'Industry' category also includes emissions from agriculture. The 'Transport' category includes emissions from all roads (motorways to minor roads) as well as diesel railways and other transport.

Table 26: South Oxfordshire carbon dioxide emissions

Year	Industry (Kt $C0_2$)	Domestic (Kt $C0_2$)	Transport (Kt $C0_2$)	Per capita (Kt $C0_2$)
2012	374	334	405	7.8
2013	355	325	406	7.6
2014	311	278	406	6.9
2015	292	268	430	6.8
2016	258	255	436	6.4
2017	234	239	436	6.1
2018	224	241	419	5.9
2019	206	235	416	5.6

[46] https://www.gov.uk/government/collections/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics

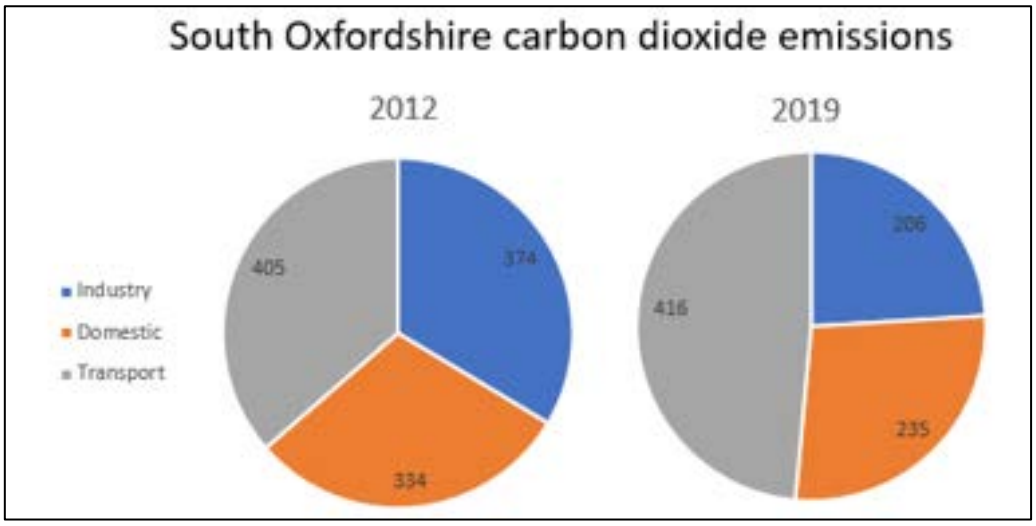


Figure 28: South Oxfordshire carbon dioxide emissions

Table 27: Vale of White Horse carbon dioxide emissions

Year	Industry (Kt $C0_2$)	Domestic (Kt $C0_2$)	Transport (Kt $C0_2$)	Per capita (Kt $C0_2$)
2012	377	282	382	8.4
2013	343	274	382	8.0
2014	310	234	380	7.3
2015	285	227	402	7.1
2016	254	219	413	6.8
2017	228	205	417	6.4
2018	221	209	407	6.1
2019	210	205	398	5.9

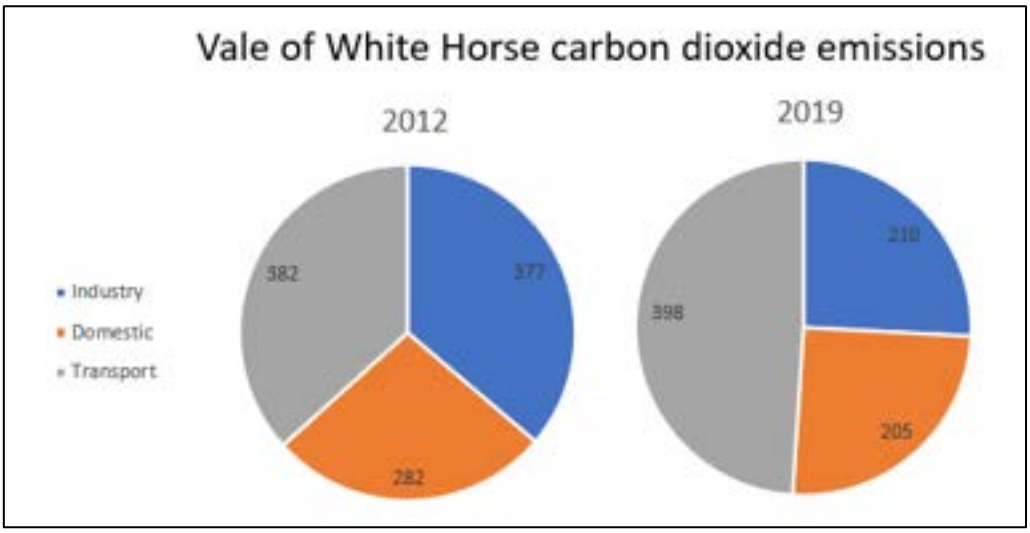


Figure 29: Vale of White Horse carbon dioxide emissions

5.14.5 This emissions data shows reductions in the total CO_2 emissions for industry and domestic sources, as well as the overall per capita emissions. The data illustrates that transport emissions have not followed this trend, with a rise in emissions within the time period shown and a peak in emissions shown in 2017 for both authorities. The pie charts illustrate the proportional change from 2012 to 2019 with approximately a third of total emissions from transport in 2012 to approximately half total emissions from transport in 2019 for both districts.

5.14.6 The data highlights the need to change the way we travel around the districts to keep up with emissions savings in the other categories. This can be addressed through reducing the need to travel, providing and promoting the sure of local facilities for local people, and increasing the use of more sustainable travel modes, such as travelling on foot, by bicycle or using public transport, as well as removing tailpipe emissions through switching to EVs and other fuelled vehicles.

5.15 Summary

5.15.1 Cataloguing of walking and cycling infrastructure in South Oxfordshire and the Vale of White Horse is limited to the Public Right of Way (PROW) network, that itself could be improved to form more coherent routes. Much of the PROW network is not accessible for cyclists.

5.15.2 The majority of existing cycle parking stock in the districts is not suitable for current standards, with some considered unsuitable.

5.15.3 There are a range of rail services and regular bus routes that service rail stations and bus stops across the districts, while school buses, taxi services and community transport provide more bespoke travel opportunities.

5.15.4 The councils own and operate a range of car parks around the districts. Improvements could be made to the proportion of EV charging bays and powered two-wheeler parking provision.

5.15.5 KSI collision data is shown to fluctuate through Oxfordshire, while district data suggests that the majority of incidents are slight and typically occur to the driver or rider of a vehicle.

5.15.6 Carbon dioxide emissions data shows that both industry and domestic emissions have improved over time, however transport carbon dioxide emissions have increased. Transport emissions need to be addressed through measures such as reducing the need to travel and enabling use of more sustainable travel modes.

5.15.7 This section provides an overview of infrastructure currently available for people to travel within and through the districts. The following section will consider the planned or emerging transport infrastructure sought for the districts.

6. Planned transport infrastructure

6.1 Introduction

6.1.1 The section considers the planned and emerging transport infrastructure sought for South Oxfordshire and the Vale of White Horse.

6.2 Local Cycle and Walking Infrastructure Plans

6.2.1 Local Cycle and Walking Infrastructure Plans (LCWIPs) are a tool to enable planned investment in cycling and walking infrastructure for a predefined area. The plans help to prioritise interventions that are expected to be most effective in increasing the number of trips made on foot or by bike and ensure schemes offer the most value.

6.2.2 LCWIP routes for walking and cycling are designed for comfort, directness, and safety to help shift travel demand from private cars to walking and cycling.

6.2.3 There is an adopted LCWIP for Abingdon-on-Thames[47] and Didcot[48, 49]. Further LCWIP projects are planned for Wantage and Grove, and Thame, with work due to commence early in 2024. Further pipeline LCWIP projects are planned for Henley-on-Thames, Wallingford, and Faringdon, subject to funding.

6.3 Local Transport and Connectivity Plan

6.3.1 The County's Local Transport and Connectivity Plan (LTCP) includes a number of policies which seek to develop and promote sustainable transport infrastructure provision around the districts. Notably, these include the Strategic Active Travel Network (SATN) and, as identified previously, Mobility Hubs.

[47] https://www.oxfordshire.gov.uk/residents/roads-and-transport/connecting-oxfordshire/active-travel-0

[48] https://democratic.southoxon.gov.uk/ieDecisionDetails.aspx?ID=857

[49] https://mycouncil.oxfordshire.gov.uk/ieListDocuments.aspx?MId=7429

6.3.2 The SATN workstream has developed a network of strategic routes for active travel across the districts and County as a whole. These routes are currently being reviewed for their suitability for transport safeguarding for the emerging JLP. We anticipate new comprehensive walking and cycling routes to be developed as part of this work.

6.3.3 Mobility Hubs suited for different locations with varying scales and components have been developed and Oxfordshire County Council is now progressing with the task of identifying where these hubs will be developed across the districts. We anticipate planned improvements to transport interchanges for a number of locations around the districts as part of this work.

6.3.4 Further LTCP projects anticipated to identify transport improvements in the districts are the Area Transport Strategies and Corridor Transport Strategies. When details from the emerging LTCP studies come forward, relevant infrastructure commitments and safeguarding will be included in our emerging JLP, where timescales allow.

6.4 Oxfordshire County Council schemes

6.4.1 Oxfordshire County Council's website[50] identifies a range of transport projects that are currently progressing in terms of optioneering studies, consultations or detailed design and delivery. Those presented in November 2023 are set out overleaf.

A34 Lodge Hill interchange

6.4.2 The A34 junction at Lodge Hill, between Abingdon and Oxford, currently has north-facing slip roads only. These interchange improvements will add new south-facing slip roads to the A34, as well as traffic calming on the local network. The scheme will also re-provide a private road and upgrade the Harwell Southbound layby on the A34.

[50] https://www.oxfordshire.gov.uk/residents/roads-and-transport/roadworks/future-transport-projects

Benson relief road

6.4.3 The scheme will provide an alternative route from the A4074 and B4009 to the north of Benson village. The relief road will provide the new housing developments to the north of Benson village direct access to the A4074 (Elms Bridge Roundabout) and B4009 (west of Braze Lane).

Didcot central corridor

6.4.4 The project aims to improve travel and public space provision along three important routes in Didcot, the Gateway Spine (route which runs parallel to the south of the Great Western railway line), Cultural Spine (route which connects Harwell Link Road to Jubilee Way Roundabout), and Foxhall Road, and in the town centre.

6.4.5 The scheme will include the following benefits: make routes to and from Didcot attractive, make it easier and more enjoyable to walk, wheel and cycle around the town, encourage people to use public transport, improve the safety of roads for all users, and support housing and employment growth.

Didcot and surrounding area infrastructure improvements

6.4.6 The scheme (also known as HIF1) includes four elements to support Didcot as a vibrant garden town. The elements include improvements to existing roads and the construction of new roads, new walking and cycle routes, and will help to facilitate new and enhanced bus services.

6.4.7 These elements will: improve pedestrian and cycle connectivity for work and leisure trips with 19km of walking and cycling routes, provide more public transport infrastructure, reduce congestion, and improve air quality in surrounding villages and parishes, enable more jobs in the local area, and support planned housing growth.

Frilford and Marcham improvements

6.4.8 The scheme seeks to address existing and forecast traffic issues, resulting from planned housing and employment growth in the area, at the A415 / A338 junction at Frilford and the A415 through Marcham village.

6.4.9 An optioneering study is underway to identify how to address these issues and facilitate this growth in line with the policies in Oxfordshire County Council's LTCP.

A423 Kennington improvements

6.4.10 The scheme will improve the Kennington stretch of the A423, by replacing the existing bridge structure and will prioritise space for cycling, walking and public transport.

6.4.11 The A423 Kennington improvement programme includes: the replacement of Kennington rail bridge, provision of a shared path for walking and cycling, and a new eastbound bus lane (also for use by vehicles travelling to Redbridge Park and Ride).

A4130 Steventon Lights

6.4.12 The A4130 Steventon Lights scheme aims to provide improved bus journey time savings and reliability and enhance walking and cycling facilities, as well as support growth in both housing and employment in the Science Vale area.

6.4.13 The project will provide: widening of the A4130 Abingdon Road between the Steventon lights junction and the Milton Interchange with the provision of an eastbound bus lane, and upgrading the Trenchard Avenue junction and support journeys on foot and by cycle.

Wantage eastern link road

6.4.14 The new road will run between the A417, east of Wantage (West Lockinge junction), and the A338, north of Wantage (Mably Way/A338 Roundabout). The road will support the delivery of 1,500 planned homes in the area.

6.4.15 The scheme will also improve air quality in central Wantage by reducing traffic congestion, provide essential relief to Wantage town centre and surrounding road junctions by creating an alternative route, especially for LGVs and HGVs. The scheme will also deliver high-quality pedestrian and cycle facilities.

Wantage and Grove Station

6.4.16 The scheme seeks to develop plans for a new station to the north of Grove. A 'Statement of Opinion Report' will consider both the financial viability of a new station and where the station should be best located.

Watlington relief road

6.4.17 The Watlington relief road will run from the western side of Watlington on the B4009, looping northwards and connecting back to the B4009 on the eastern side of the town.

6.4.18 The relief road will connect a series of existing and proposed developments around the northern and western sides of Watlington, with some sections being delivered by developers and some directly by Oxfordshire County Council.

6.5 Supporting and influential bodies

Future Oxfordshire Partnership

6.5.1 The Future Oxfordshire Partnership is a joint committee of the five city and district councils of Oxfordshire and Oxfordshire County Council, together with key strategic partners. They work together to secure funding to manage economic, housing and infrastructure development in a way that is inclusive and maximises local social and environmental benefits and helps to achieve net zero carbon by 2050 and biodiversity net gain.

England's Economic Heartland

6.5.2 England's Economic Heartland (EEH) is the sub-national transport body for an area that includes South Oxfordshire and the Vale of White Horse. The region extends from Swindon to Cambridgeshire and Peterborough to Hertfordshire.

6.5.3 The body advises the government on the transport infrastructure, services and policy framework to develop economic potential while supporting the journey to net zero.

6.6 Currently safeguarded schemes

6.6.1 Safeguarding of land for transport schemes is a statutory mechanism used in planning to prevent development from hindering the provision of future infrastructure projects. There are a total of 32 transport safeguarding schemes included in South Oxfordshire and Vale of White Horse's adopted Local Plans.

6.6.2 Following review of these schemes the emerging JLP is seeking to retain 9 schemes as currently safeguarded, revise 18 schemes, combine four schemes to two schemes, and remove one. Full details of the existing adopted and proposed revised transport safeguarding schemes is set out in the Transport Safeguarding Topic Paper issued alongside this document.

6.7 Neighbouring authority schemes

6.7.1 Cross Thames Travel (Third Reading Crossing) is a transport infrastructure scheme promoted by neighbouring authorities of Wokingham and Reading. The scheme has been included in their sub-regional transport body's plans and remains safeguarded in Reading's Local Plan and emerging Local Plan.

6.7.2 South Oxfordshire District Council and Oxfordshire County Council do not support the scheme due to the anticipated impact on road traffic through South Oxfordshire and construction requirements to deliver the scheme within the Chiltern Natural Landscape (formerly Area of Outstanding Natural Beauty). However, South Oxfordshire District Council will continue to work in partnership with these authorities and Oxfordshire County Council to understand any impacts and benefits of a proposed scheme, informed by further detailed work.

6.8 National infrastructure schemes

6.8.1 Water companies, Thames Water, Affinity Water and Southern Water are working collaboratively to develop the Strategic Resource Options for future of water security in the south east. One option being considered is the South East Strategic Reservoir, a 150Mm^3 bunded reservoir which is proposed to be located west of the A34 road and north of the Great Western Main Line railway tracks.

6.8.2 If the scheme progresses, in its current intended format, it is expected to generate significant demand on the existing road network, via new access(es), during both construction and future operation.

6.8.3 Vale of White Horse District Council opposes the scheme, however it is anticipated that the scheme, if considered required, would be delivered through the Town and Country Planning Act 1990 or the Planning Act 2008 Development Consent Order process. In such case the district council would not determine the planning application as it would be decided by central government via public inquiry.

6.8.4 Similarly, Photovolt Development Partners are progressing an application through the Development Consent order to deliver an 840-megawatt solar farm called Botley West Solar Farm.

6.9 Funding

6.9.1 The districts recognise that significant transport infrastructure has been identified to support the retained development site allocations in the JLP. Funding for this will be secured from developers, with priorities outlined in the emerging Infrastructure Delivery Plan that will support the JLP.

6.9.2 We recognise that there is likely to be a need for additional funding for certain strategic transport schemes due to viability and other considerations. As such the districts will continue to work with relevant partners, including the County Council, to identify and prioritise funds for transport improvements to support delivery of housing and employment identified in the plan for the retained and revised allocations. Further funding for transport infrastructure will be sought through government bids, where appropriate.

6.10 Technology and innovation

6.10.1 The districts, in collaboration with the County Council, will identify opportunities to deliver infrastructure for the expected growing market in low and zero emission transport, such as electric vehicles and autonomous vehicles (driverless cars), in accordance with the latest best practice.

6.11 Summary

6.11.1 Adopted, emerging and future LCWIPs plan for improved walking and cycling within settlements, while Oxfordshire's SATN project will improve walking and cycling opportunities between settlements.

6.11.2 The County Council is developing and in the process of delivering a range of transport and highway projects, this includes projects developing as part of the LTCP such as Mobility Hubs, and highway schemes such as the A423 Kennington improvements and Wantage eastern link road.

6.11.3 Supporting and influential bodies such as the Future Oxfordshire Partnership and England's Economic Heartland aid scheme funding and support in more strategic level transport planning.

6.11.4 There are a range of transport safeguarding schemes in the districts which are designed to ensure land is available for transport between and through places in the future. As the districts duty to cooperate, we are also working with external bodies to ensure suitable planning and, where appropriate, protection of land is made for schemes being developed externally.

6.11.5 The districts seek to promote and support advancements in technology and innovation.

7. Conclusions

7.1 Strengths and Weaknesses

7.1.1 Reviewed data suggests that South Oxfordshire and the Vale of White Horse have good economic characteristics with few areas of deprivation and limited overcrowded homes. The largely rural population typically travel to work by car, with multi-car ownership levels increasing largely in line with regional and national trends.

7.1.2 Cycle routeing and network coherence, as well as cycle parking opportunities could be improved across the districts. Although frequent bus and rail services do operate through the districts, further promotion and provision is required to shift journeys away from the private car to public transport.

7.1.3 Revisions to existing car parks could improve EV charging provision and improve compatibility with OCC's transport user hierarchy. Promotion of active and sustainable travel, as well as EV (or other fuelled) vehicle use is required to ensure that the transport industry makes required emission improvements.

7.1.4 A range of transport infrastructure projects are in development and in the pipeline to help improve active travel opportunities, as well as redirect traffic from sensitive areas and reduce congestion.

7.2 Next Steps

7.2.1 Work in the next stage of transport evidence development will include reviewing highway capacity, now and in the future, to identify a range of suitable mitigation measures to ensure that people can travel safely while also encouraging those journeys to be undertaken in sustainable ways.

Oxfordshire Strategic Model

7.2.2 It is anticipated that the Oxfordshire Strategic Model (OSM) will be used to review the highway capacity for the districts for the next stage of transport evidence gathering.

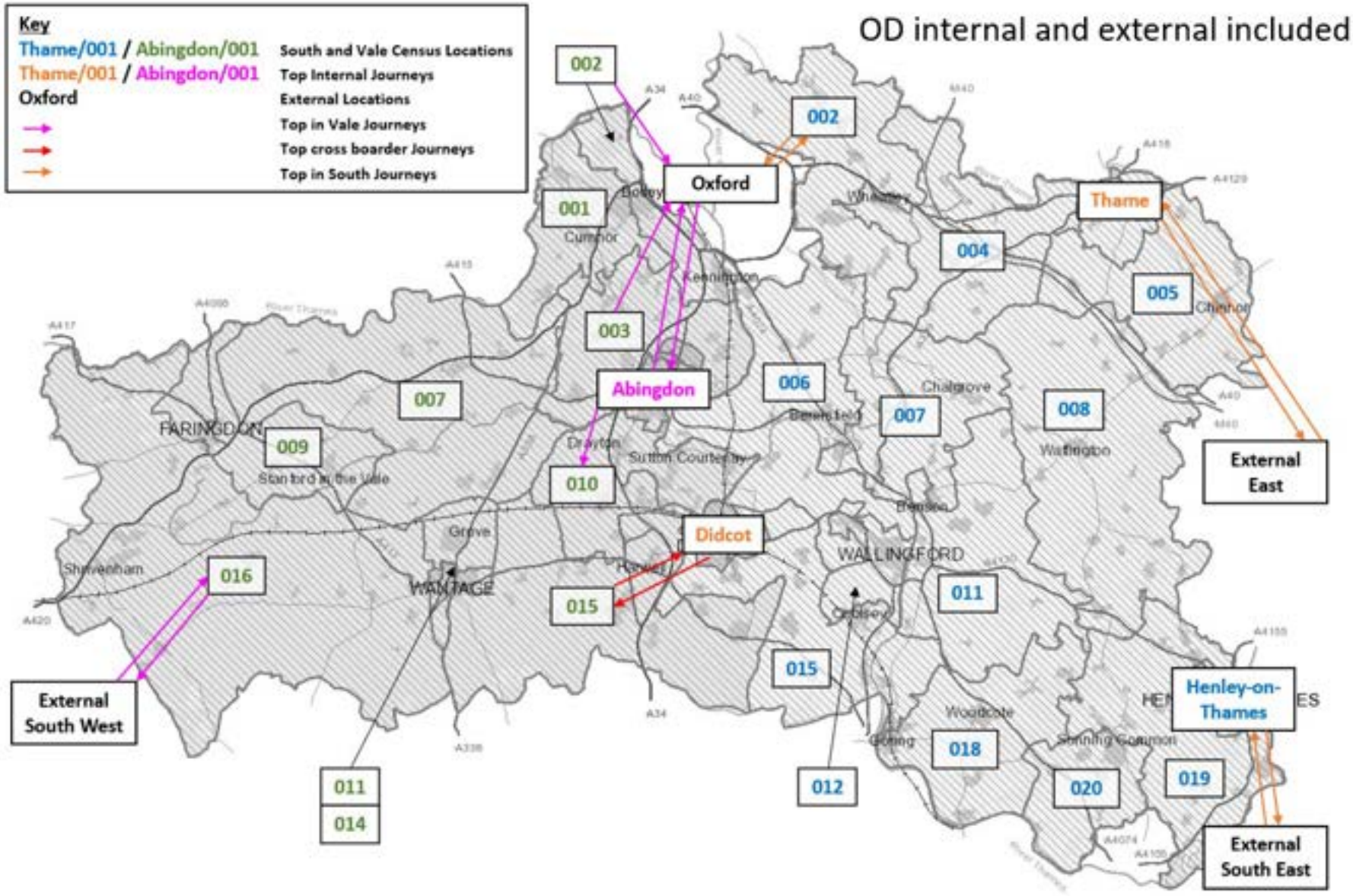
7.2.3 OSM utilises traffic and Census data from existing travel characteristics, which has in the past been used to inform a ‘Predict and Provide’ assessment of car-based travel demands for future development. This approach enables identification of constrained sections of the highway network from current and future traffic flows only. It thus does not allow for review of modal change, capacity, or connectivity by non-car modes of travel such as walking and cycling.

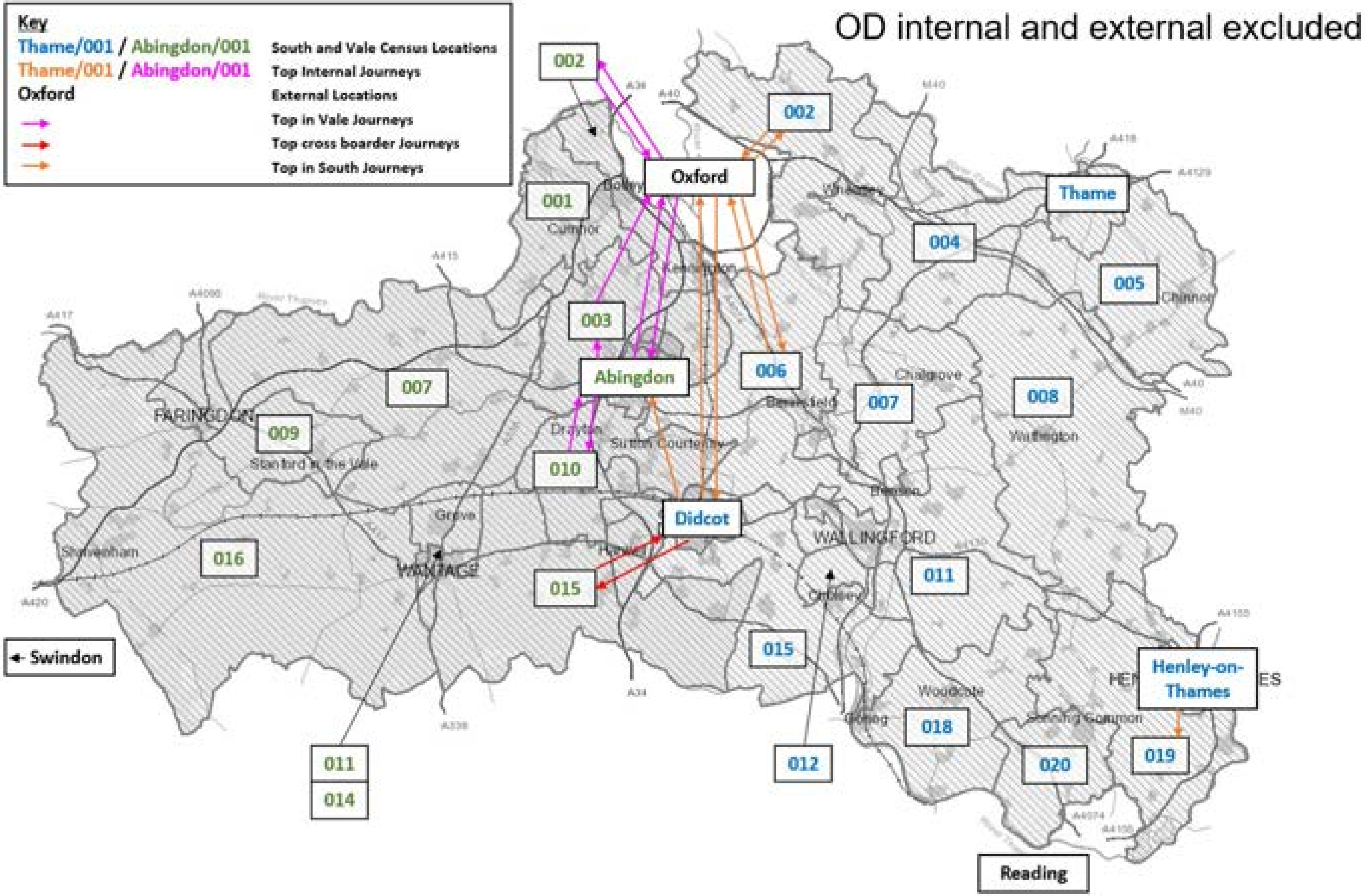
7.2.4 Alongside the transport modelling assessment, further work will be undertaken to ensure the ‘Decide and Provide’ element of transport planning is also undertaken through a more qualitative approach. As purely reviewing the transport network operation through OSM could potentially lead to identification of more roads and road capacity improvements only.

7.2.5 The qualitative approach will be used to identify transport infrastructure requirements that will facilitate and promote the use of walking and cycling as a default mode of travel and ensure local facilities are provided for local people so that people do not need to travel far to fulfil their day-to-day needs.

8. Appendices

8.1 Appendix A





Key
Thame/001 / Abingdon/001
South and Vale Census Locations
Thame/001 / Abingdon/001
Top Internal Journeys
Oxford
External Locations
Top in Vale Journeys
Top cross boarder Journeys
Top in South Journeys
OD internal and external excluded
Oxford
Thame
Abingdon
Didcot
Henley-on-Thames
Swindon
Reading
002
001
003
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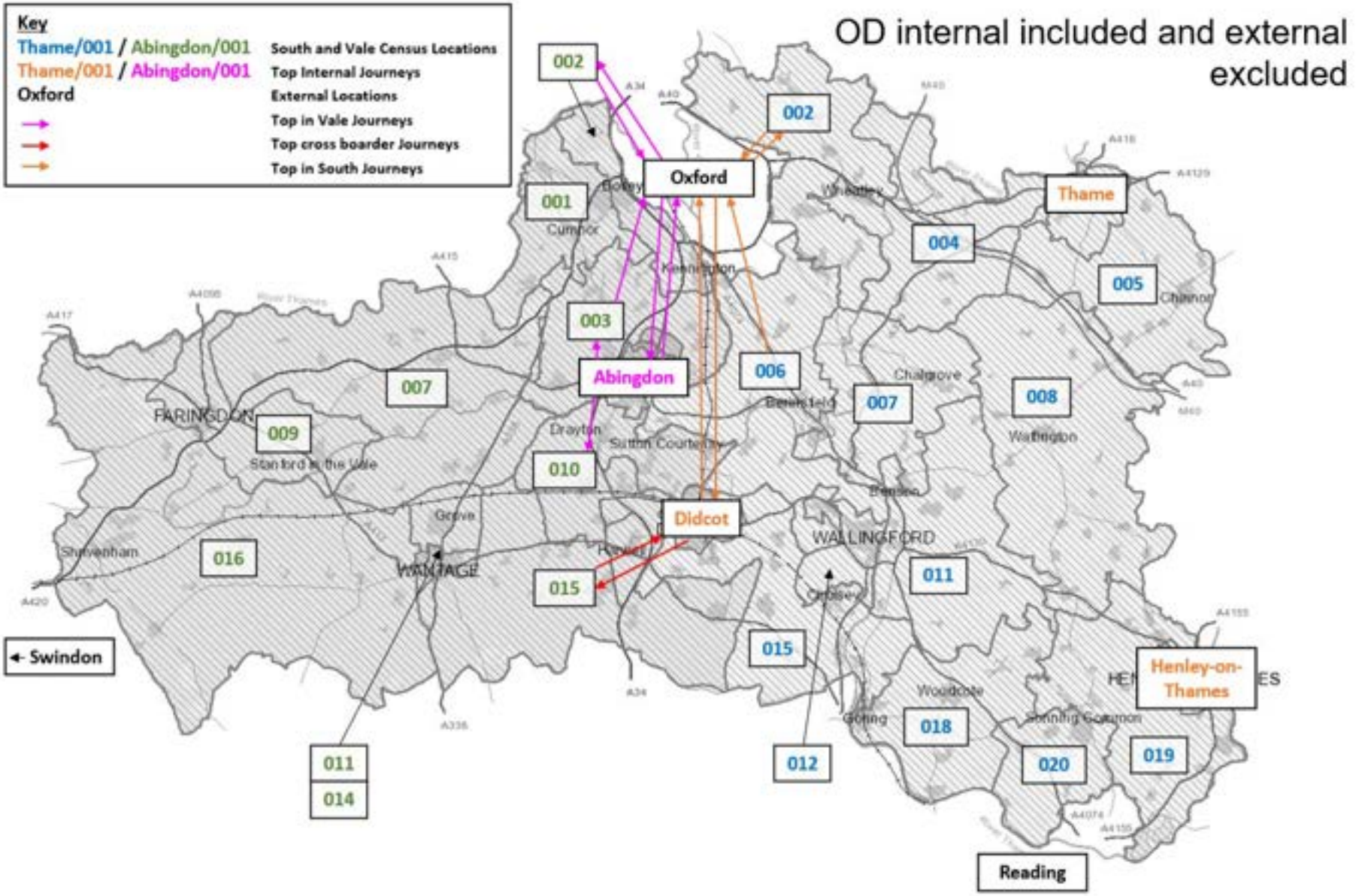
FARINGDON
WANTAGE
WALLINGFORD
Cumnor
Drayton
Sutton Courtenay
Stanford in the Vale
Grove
Chalgrove
Watlington
Woodcote
Chinnor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Thame/001 / Abingdon/001
Oxford
South and Vale Census Locations
Top Internal Journeys
External Locations
Top in Vale Journeys
Top cross boarder Journeys
Top in South Journeys
OD internal included and external excluded
Oxford
Abingdon
Didcot
Thame
Henley-on-Thames
Reading
Swindon
WANTAGE
FARINGDON
WALLINGFORD
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8.2 Appendix B

Service no.	Route	Weekday	Saturday	Sunday
400	Wheatley-North Hinksey	79	56	38
Oxford Tube	London-Oxford	76	83	71
X3	Abingdon-Barton Park	52	49	34
S1	Carterton-Oxford via Farmoor	50	51	39
X2 (NX2)	Didcot-Oxford City	50	49	33
35	Abingdon-Oxford	50	45	28
S6	Swindon-Oxford	49	46	26
S9	Wantage-Oxford	41	38	24
4A	Botley-Oxford	35	32	30
280 (X8)	Aylesbury-Oxford	35	30	15
E1	Eynsham-Oxford	33	30	12
X1 (NX1)	Wantage-Oxford	31	33	17
Airline LHR	Oxford-LHR	31	31	30
3A	Cowley-Oxford via Sandford-on-Thames	30	29	16
X40	Reading-Oxford	29	28	15
X32	Didcot-Oxford (JR)	29	28	10
46	Great Milton-Oxford	19	19	19
Airline LGW	Oxford-LGW	19	19	19
33	Wallingford-Oxford	17	11	10
11	Watlington-Oxford	10	10	5
X36	Wantage-Didcot	26	26	0
X34	Didcot-Newbury	14	14	0
X35	Didcot-Faringdon	14	13	0
23 (23A)	Henley-Didcot	13	12	0
136	Cholsey-Benson	16	9	0
94	Didcot-Harwell	6	5	0
15 (15A)	Abingdon-Witney via Kingston Bagpuize	5	5	0
68	Faringdon-Wantage	4	4	0
700	Thornhill P&R -Kidlington	27	0	0
ST1	Harwell-Oxford	25	0	0
ST2	Wytham-Oxford (JR)	13	0	0
45	Abingdon-Oxford	10	0	0
92	Didcot-Didcot	6	0	0
91	Didcot-Didcot	6	0	0
41	Abingdon-Abingdon	5	0	0
63 (63S)	Longworth-Oxford	5	0	0
95	Didcot-Culham	5	0	0
275	High Wycombe-Oxford	4	0	0

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Joint Local Plan 2041