Technical Note

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## Client signoff

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1.   Background and Demographic Profile

Slough is a large town in Berkshire which is situated between London and Reading. The town is well connected with regular rail and bus services to London, alongside being in close proximity to the international hub airport, Heathrow. The town also has strong highways connectivity, with the M4 running to the south, providing links to London and the west of England. As at mid-2020 the town's population stood at 149,577[1]. With an area of 33 square kilometres, this gives a population density of 4,533 residents per km².

Figure 1-1 outlines the population breakdown of Slough and selected neighbouring authorities as per the Office for National Statistics (ONS) 2020 mid-year population estimates. Slough in general has a youthful population with a higher proportion of those under the age of 40 than the comparator authorities of Royal Borough of Windsor and Maidenhead and Bracknell Forest Borough Council. The largest population group is the under-16s followed by 30-39 year olds and 40-49 year olds. When comparing to the neighbouring authorities, it is evident that Slough generally has a smaller proportion of individuals in all groups encompassing those over the age of 50. This trend is also reflected within the life expectancy at birth for Slough, which is 79.1 for males and 82.7 for females - slightly less than the average seen for both comparator authorities[2].

Figure 1-1 - Population breakdown by age[1]

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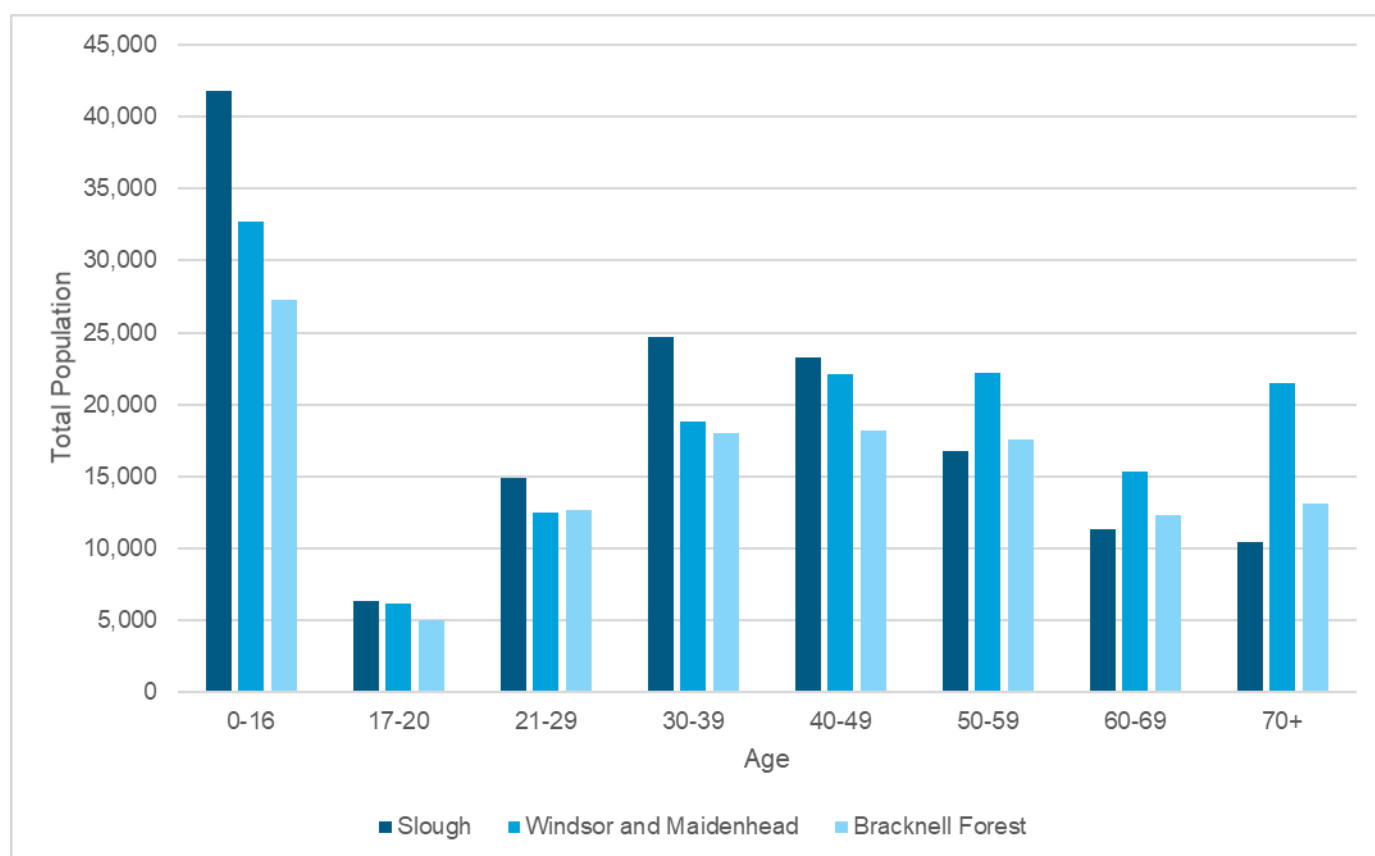
[1] ONS (2021), Estimates of the population for the UK, England and Wales, Scotland and Northern Ireland
[2] ONS (2020), Life expectancy for local areas of the UK: between 2001 to 2003 and 2017 to 2019

2.   Spatial demographics

2.1.   Economically inactive

Economically inactive people are defined as those who are retired, students, those who are unable to work and those unemployed. 2011 Census data has been collected to understand the profile of economic inactivity within Slough[3]. Within Slough the average economic inactivity is 27%, lower than the average level of 30% for England and Wales. Economic inactivity is however not equally distributed across space, with higher levels of economic inactivity seen in the north of the local authority in the Manor Park area. Conversely, the south west of the local authority area, Cippenham shows a lower than average level of economic inactivity.

**Figure 2-1 - Percentage economically inactive at the LSOA level[3]**

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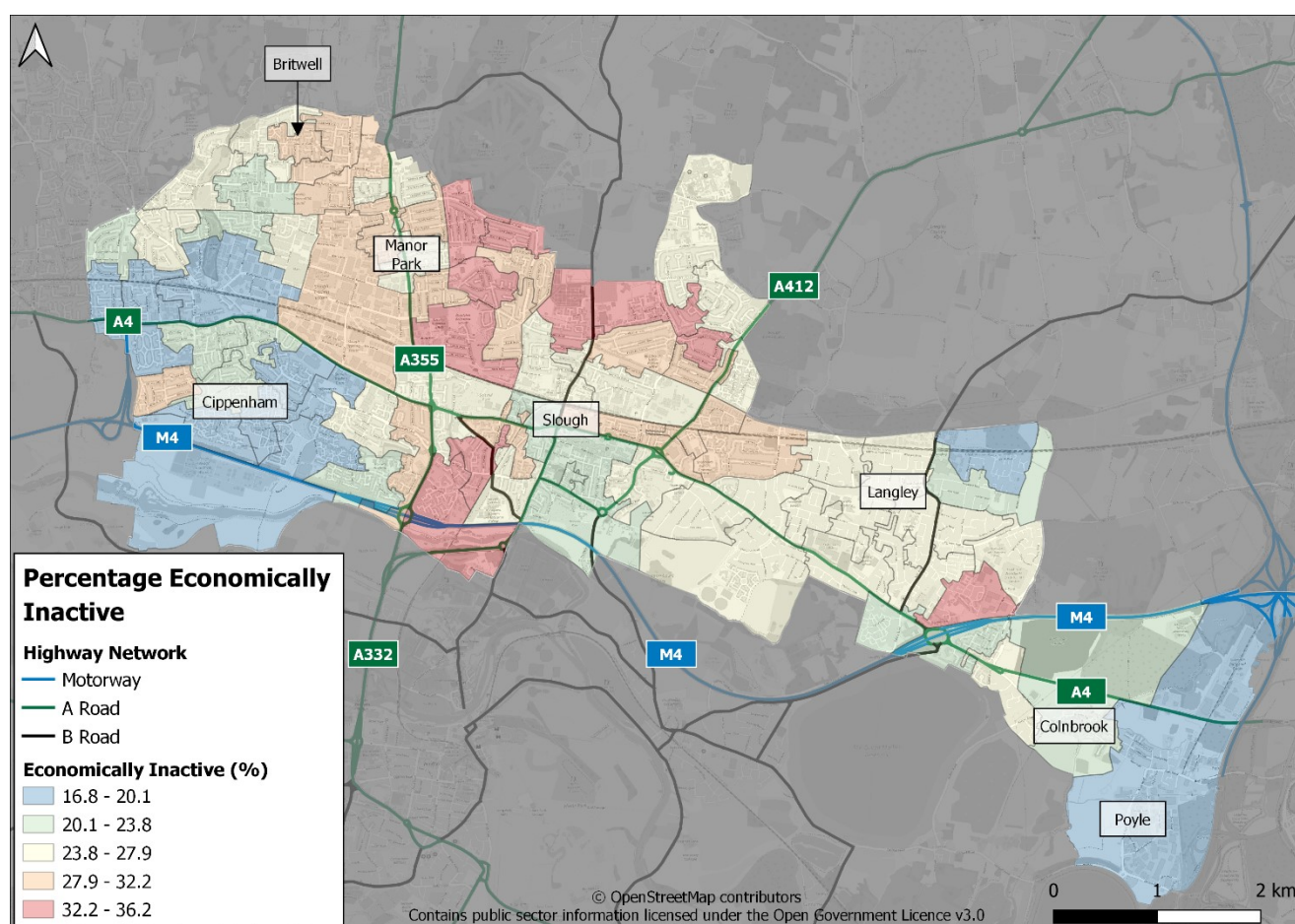
[3] ONS (2013), Economic Activity (QS601EW)

2.2.   No access to a car or van

According to 2011 Census data[4] the percentage of households without access to a car within Slough is 23%, which is lower than the England and Wales average of 26%. High levels of car ownership are seen in the east and south west of the local authority area including in Cippenham, Langley, Colnbrook and Poyle. Conversely, there is low car ownership within central Slough, south of Slough town centre and in Britwell. There is also an anomaly within the Langley area, where one LSOA abeam the M4 falls within the lowest category of car ownership within the local authority area.

Figure 2-2 - Percentage of households without access to a car at the LSOA level[4]


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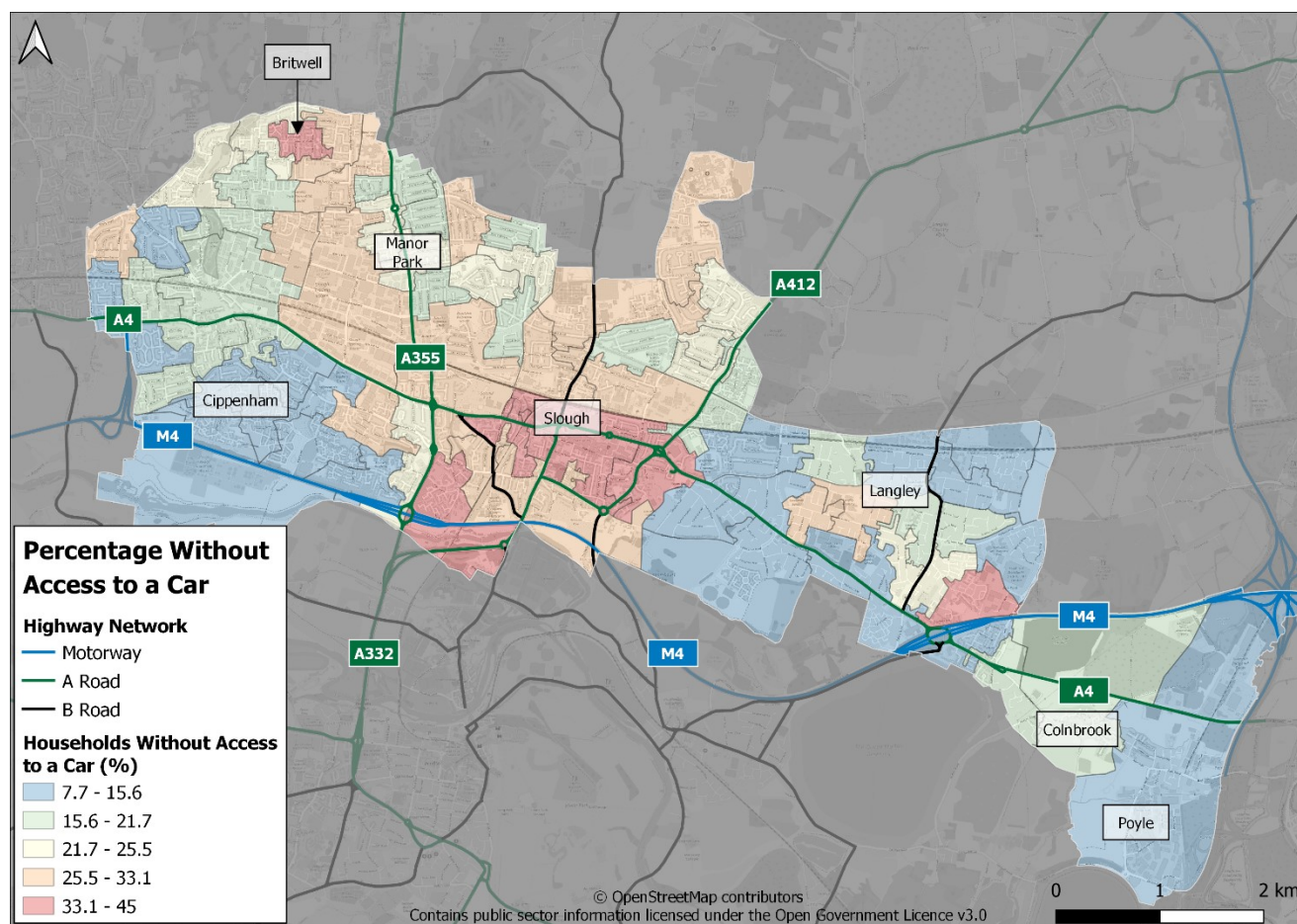
[4] ONS (2013), Car or van availability (QS416EW)

2.3. Population density

Figure 2-3 outlines the population density of Lower Layer Super Output Areas (LSOAs) within the Slough local authority area based on 2011 Census data[5]. Overall, the town is relatively densely populated with on average 58 people per hectare. This is expected for this form of urban area and is higher than the England and Wales average of 43 people per hectare. There are pockets of the highest density of population within areas such as Manor Park, Britwell and Chalvey. Contrastingly, the lowest density of population is seen to the east in areas of Colnbrook and Poyle which are more rural settings and in the area north of the A4 and west of the A355, which is explained by the high industrial and employment density in this area.

Figure 2-3 - Population density at the LSOA level[5]
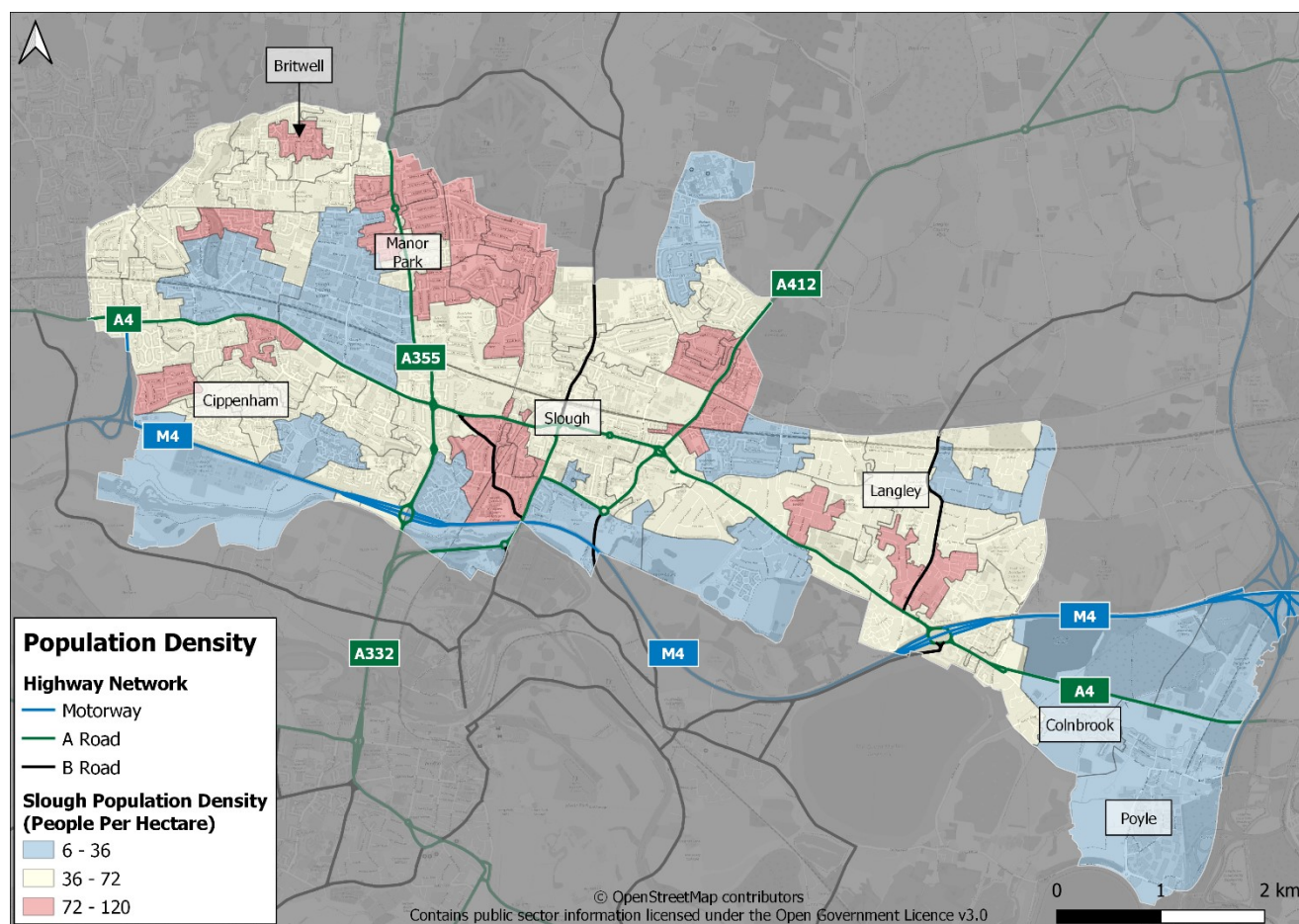
[5] ONS (2013), Population density (QS102EW)

2.4.   Index of Multiple Deprivation (IMD)

The IMD income deprivation domain[6] has been used to investigate deprivation within Slough. Table 2-1 outlines the breakdown of quintiles within Slough – it is clear that most of the local authority falls within income quintile 2 and 3, indicating most people within Slough are deemed to be in the 60% most deprived LSOAs within England. When considering the spatial distribution of income deprivation in Slough (Figure 2-4) it is evident that central Slough and northern parts of the local authority such as Britwell and Manor Park are the most concentrated areas of those in income quintile 1 and 2; there is also an area of high income deprivation to the west of Colnbrook.

Table 2-1 - IMD income quintile distribution in Slough

IMD Income Quintile	Number of LSOAs	Percentage of LSOAs in Slough (%)
1 (most deprived)	4	5
2	36	45
3	28	35
4	10	12.5
5 (least deprived)	2	2.5

Figure 2-4 - IMD income domain classification in Slough at the LSOA level[6]

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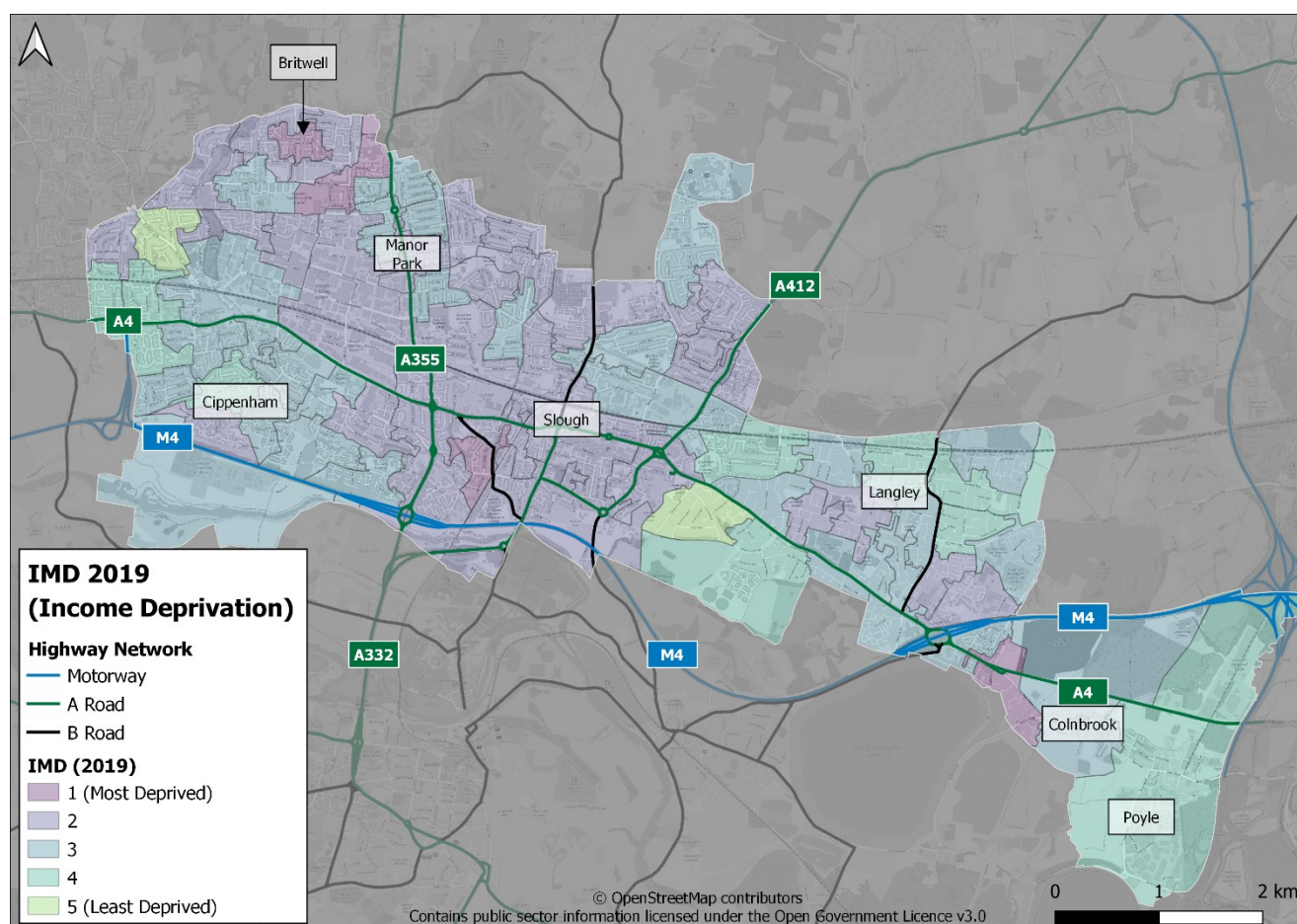
[6] [Ministry of Housing, Communities and Local Government (2021), Indices of Multiple Deprivation (IMD) 2019](#)

2.5. Summary of Socio-Demographic Indicators

The previous sections have highlighted the diversity of the socio-demographics of Slough, with the area having higher than average proportions of deprivation when considering the distribution of IMD quintiles against the national average. This is consistent with car ownership which is also lower than the national average by 3%; however average economic inactivity is lower than the national average, again by 3%.

When considering the finer scale, it is clear that central and northern Slough, in areas such as Britwell and Manor Park, have the highest level of income deprivation with the majority of LSOAs being within income quintile one and two. Within these areas, IMD generally correlates well with high levels of economic inactivity, lower levels of car ownership and to a lesser extent higher population density.

When considering the IMD against economic activity, there is however not a linear relationship between these variables, as illustrated by high levels of economic activity in central Slough, compared to an IMD quintile of two and low levels of car ownership.

Car ownership is a complicated metric to utilise when reviewing socio-demographics[7] [8], as there are many variables which influence an individual's need to own a motor vehicle, including but not limited to, proximity to employment and leisure, journey times and direct public transport services. Within Slough, this may explain higher levels of car ownership seen in the east of Slough near Langley and Colnbrook despite the high level of income deprivation inferred by the IMD quintile of both areas.

Overall, Slough has a diverse range of socio-demographics which vary across space, with this initial insight highlighting that differing part of the local authority have differing needs and drivers of the metrics outlined in the previous section.

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[7] Mattioli, G. (2014), Where Sustainable Transport and Social Exclusion Meet: Households Without Cars and Car Dependence in Great. Journal of Environmental Policy & Planning, 16(3), pp. 379-400

[8] Mattioli, G. & Colleoni, M. (2016),Transport Disadvantage, Car Dependence. In: P. Pucci & M. Colleoni. (eds.) Understanding mobilities for designing contemporary cities. New York: Springer, pp. 171-190.

2.6. Retail locations

Retail locations in Slough have been derived from open-source data collected by Open Street Maps[9] in July 2021 (Figure 2-5). It should firstly be noted that this data is not exhaustive but offers an insight into the distribution of retail locations within Slough. From the data, it is evident that retail locations are most frequent within central Slough within the town centre. Further to this, there are also smaller retail centres in areas such as Manor Park, where there is an array of small businesses and supermarkets along the A355, and to the west of Slough along the A4, where there are two large retail parks, including Slough Bath Road Retail Park and Slough Retail Park. Beyond the aforementioned sites, the smaller polygons across Slough represent small supermarkets or local convenience stores.

Figure 2-5 - Retail locations in Slough[9]

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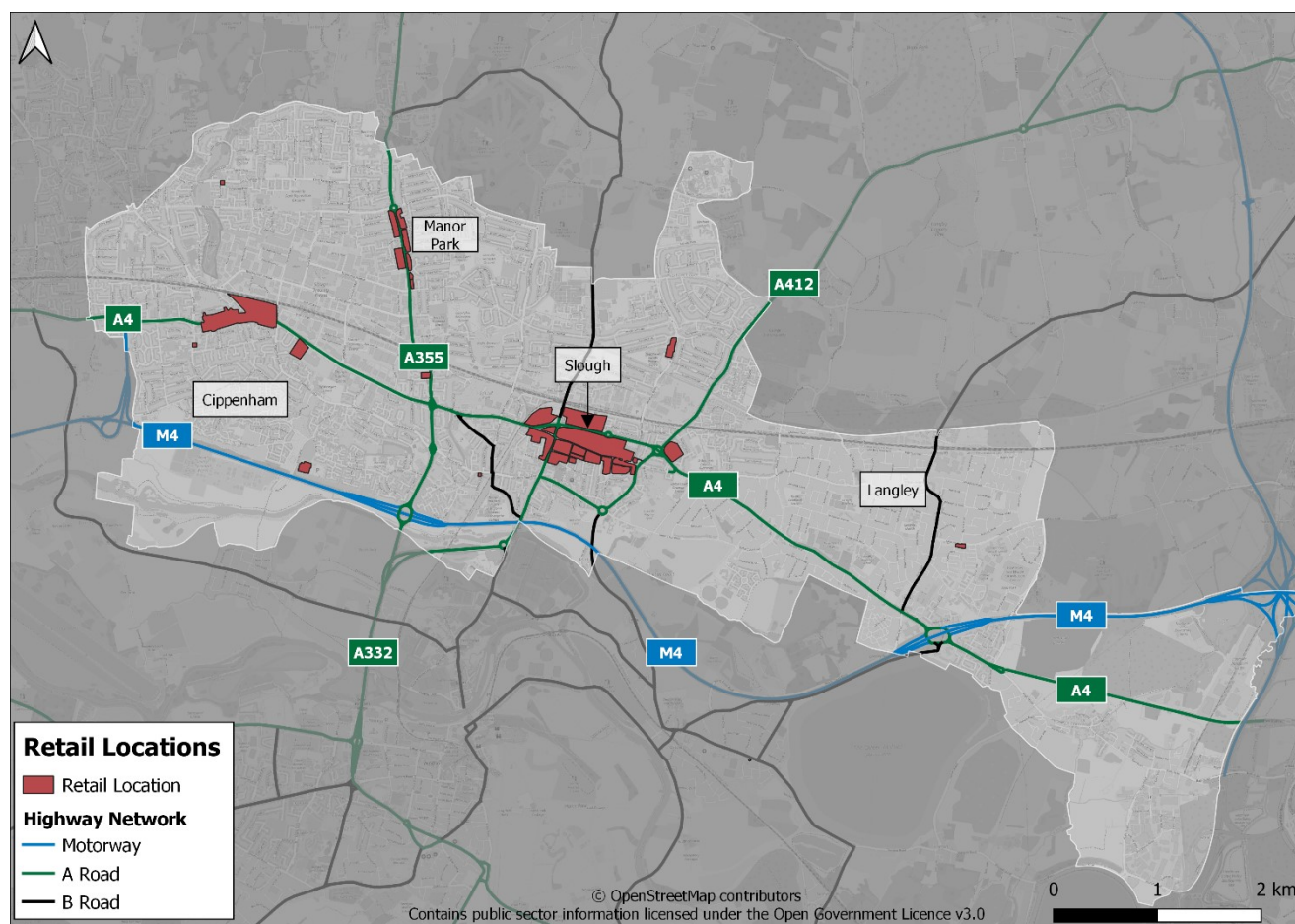
[9] Open Street Maps (2021), Retail and Supermarket Locations [July 2021]

2.7. Railway stations and annual demand

Within Slough there are currently three railway stations, all of which are located on the Great Western Mainline and are served by TfL rail as part of Crossrail's Elizabeth Line. According to data from the Office for Road and Rail (ORR)[10] Slough Railway Station is the largest of the three in terms of passenger numbers and offers direct services to Reading, Oxford and London Paddington.

Table 2-2 displays the change in patronage at stations in Slough since 2014-15. Passenger numbers at Slough station have remained relatively static over this period, whereas numbers at both Burnham and Langley have increased, with increases of 9% and 19% seen at Burnham and Langley respectively between 2014 and 2019.

Table 2-2 - Railway stations within Slough[10]

Railway Station	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20*	Growth between 2014-15 and 2018-19 (%)
Burnham	1,285,000	1,297,344	1,317,976	1,260,118	1,396,596	1,408,170	8.7
Langley	726,202	796,614	817,586	815,110	865,536	907,692	19.2
Slough	5,561,672	5,529,074	5,670,498	5,544,312	5,640,278	5,546,280	1.4

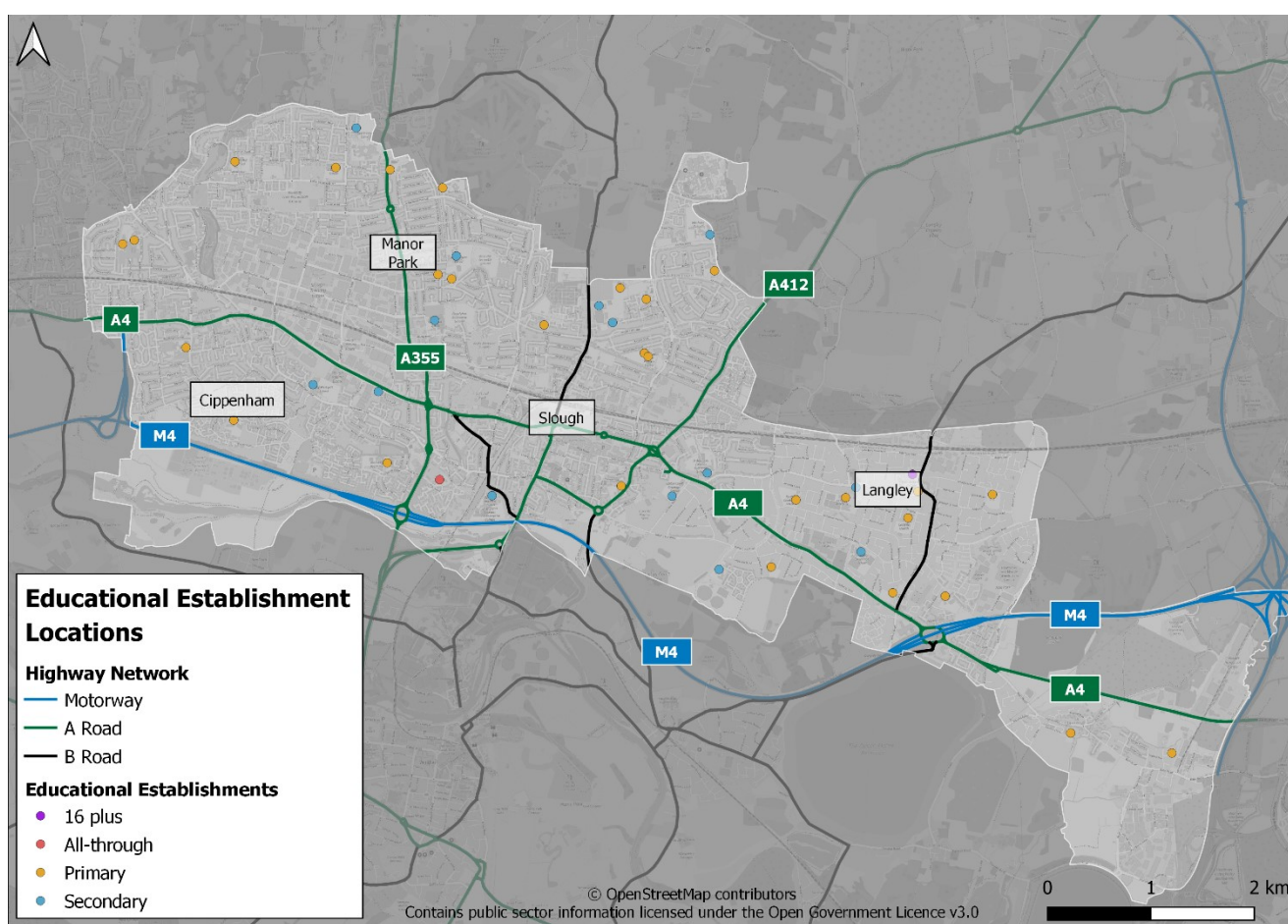*Data impacted by the beginning of the COVID-19 Pandemic*

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[10] ORR (2020), Estimates of Station Usage (Table 1415)

3.   Sources of demand

3.1.   Education establishments

Data for educational establishments has been collected from the Department of Education (DoE) for active establishments in June 2021[11]. From this data, there are currently 28 primary schools, 14 secondary schools, 1 post-16 school and 1 school offering all-through education within Slough. The distribution of these establishments is outlined in Figure 3-1. Within Slough, there appears to be an even distribution of primary and secondary schools across the local authority, with all 14 of the secondary schools within Slough also providing post-16 education. DoE data also highlights that there is also one specific provider of post-16 education, East Berkshire College in Langley. Churchmead School in Datchet in the Royal Borough of Windsor and Maidenhead attracts many students from Langley and Colnbrook, while many post-16 students in Slough attend the Berkshire College of Agriculture to the north of Maidenhead and to a lesser extent Chalfont Community College in Buckinghamshire.

**Figure 3-1 - Location of educational establishments in Slough[11]**

3.1.1.   Trip generation by student location

To highlight areas where it would be expected a large number of trips for educational purposes would be generated, 2019 mid-year population estimates have been used to display LSOAs with the highest proportion of young people (under 16s)[12]. Figure 3-2 displays that the highest proportions of young people are found within the north of Slough within the Britwell and Manor Park areas, as well as to the east of central Slough and in Langley. There is also a small pocket of high prevalence of children within Cippenham. Contrastingly, lower proportions of children are seen in Colnbrook, Poyle and within the town centre.

**Figure 3-2 - Proportion of children within LSOAs in Slough[12]**

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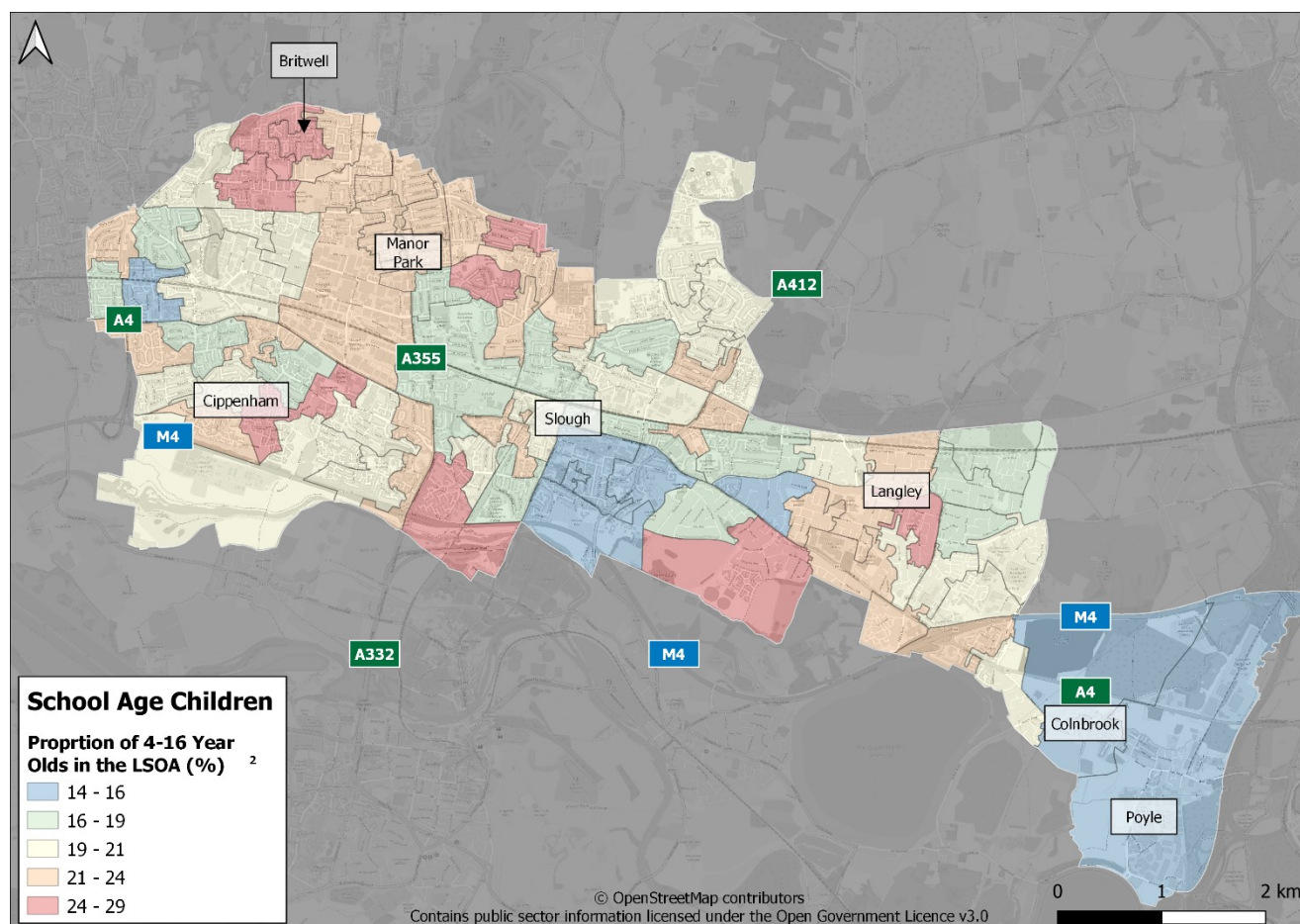
[12] ONS (2020), Lower layer Super Output Area population estimates

3.2.   Health facilities

According to NHS Choices data[13] Slough currently has two hospitals, Wexham Park Hospital and Upton Hospital. Wexham Park is the main hospital serving Slough and is located to the north of the local authority area. Within the local authority, there are 19 GP surgeries[14].

The distribution of these hospitals and GP surgeries is outlined in Figure 3-3.

Figure 3-3 - Location of health facilities in Slough[13]

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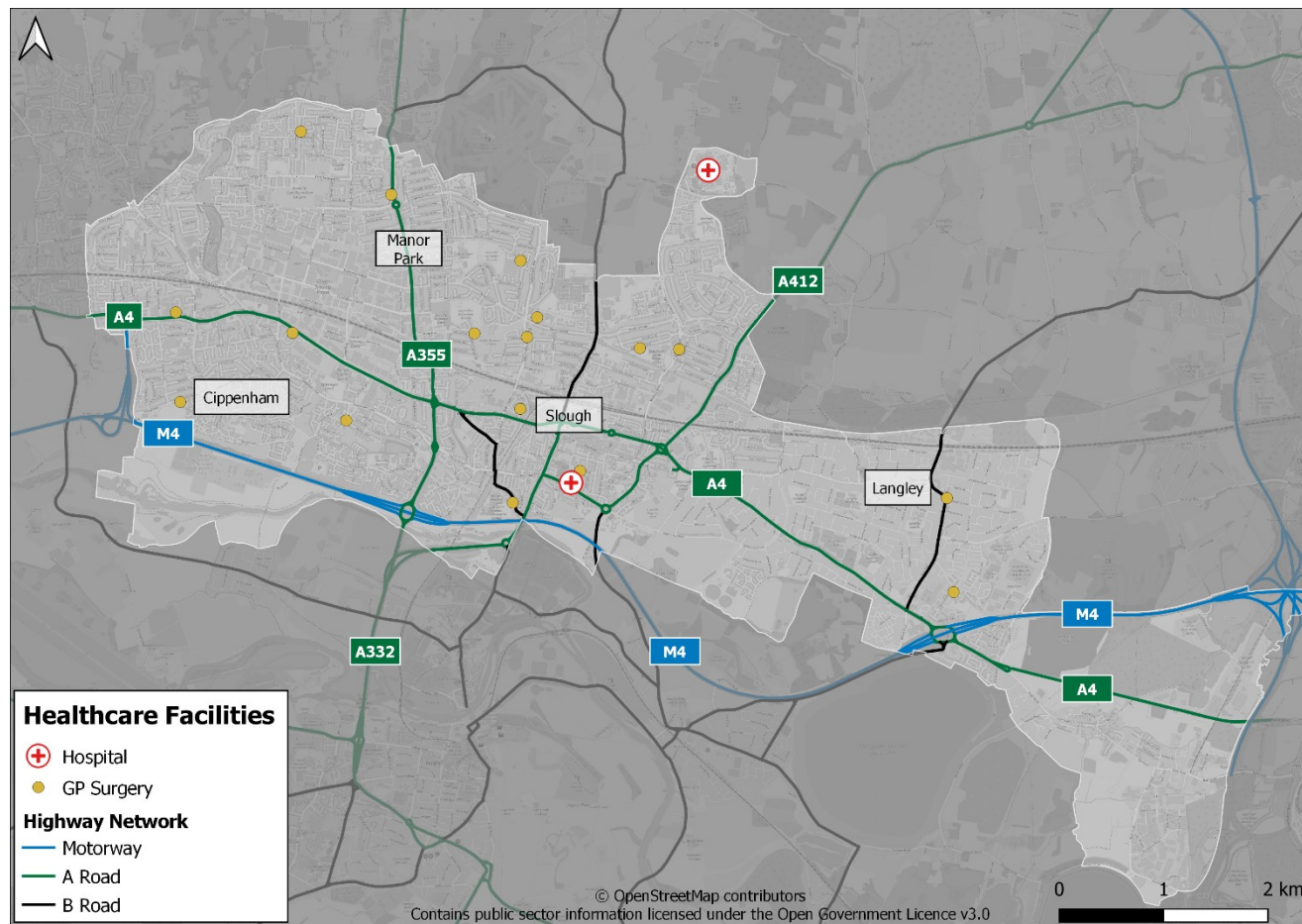
[13] NHS Choices (2015), Hospital Locations
[14] NHS Digital (2021), GP Surgeries (epraccur)[Sourced June 2021]

3.3. Major employment centres

As a proxy for major employment centres, job density within LSOAs has been utilised to highlight areas of high concentrations of employment. This has been derived from the Business Register and Employment Survey 2019[15] divided by the area of the respective LSOA. Within Slough it is evident that there are high levels of employment along the A4 corridor from central Slough routeing westbound. This is expected in central Slough where there are high levels of retail and hospitality job opportunities. To the west of Slough, the higher density of jobs is likely to be a result of Slough trading estate and the retail park. There are also smaller areas of higher employment density such as a small cluster of higher employment near M4 Junction 5 which is likely a result of jobs based at Axis Park, or to the north of Slough which is probably a result of the main hospital (Wexham Park).

Figure 3-4 - Employment density within Slough at the LSOA scale[15]
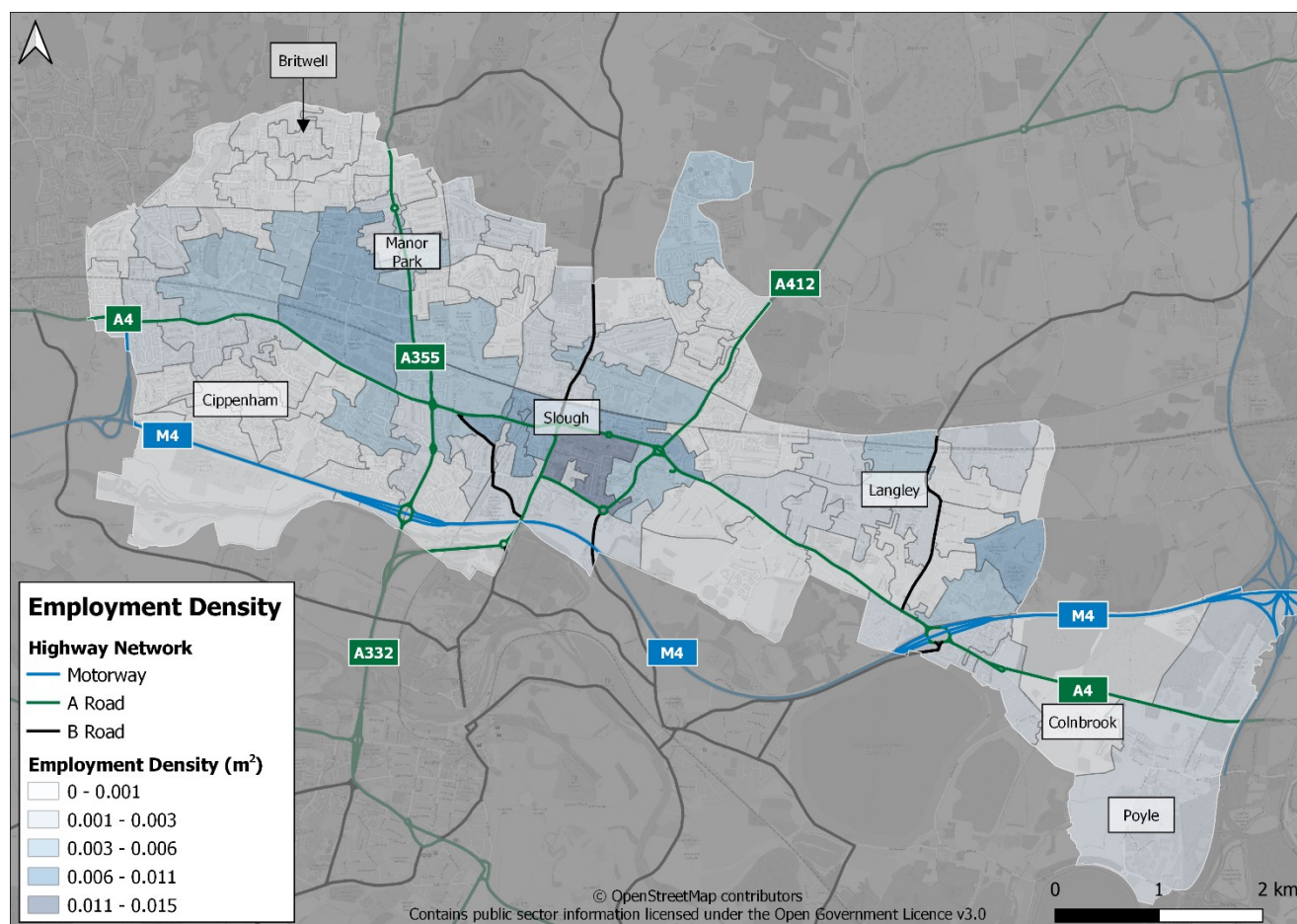
[15] ONS (2020), Employees in the UK: 2019

3.4.   Origin destination for journeys to work

Census data has been used to gain an insight into the origins and destinations of workers both working in Slough and those leaving or entering the town for work at the MSOA level[16]. For those journeys within Slough section 3.4.1 outlines the absolute numbers of workers travelling within Slough to a given MSOA alongside the percentage of commuters who travel outside of Slough for work. Journeys across the local authority boundary are discussed in section 3.4.2.

3.4.1.   Journeys within Slough

Within Slough the majority of workers commute to central or western Slough (Figure 3-5). The MSOA with the greatest number of workers from Slough travelling to it is that which contains Cippenham to the south west of the local authority. The high levels of commuting correlate with large employment areas such as Slough Trading Estate to the west of the town. Additionally, the large numbers of workers travelling internally to the north of the town is likely to be a result of the main hospital, Wexham Park. The relatively low number travelling to Colnbrook seems surprising given the location of the Poyle Industrial Estate in the area. This may reflect the nature of the employment purposes with an emphasis on manufacturing and distribution, and the proximity to parts of Hounslow.

Figure 3-5 - Workers from within Slough arriving in MSOA (All Modes)

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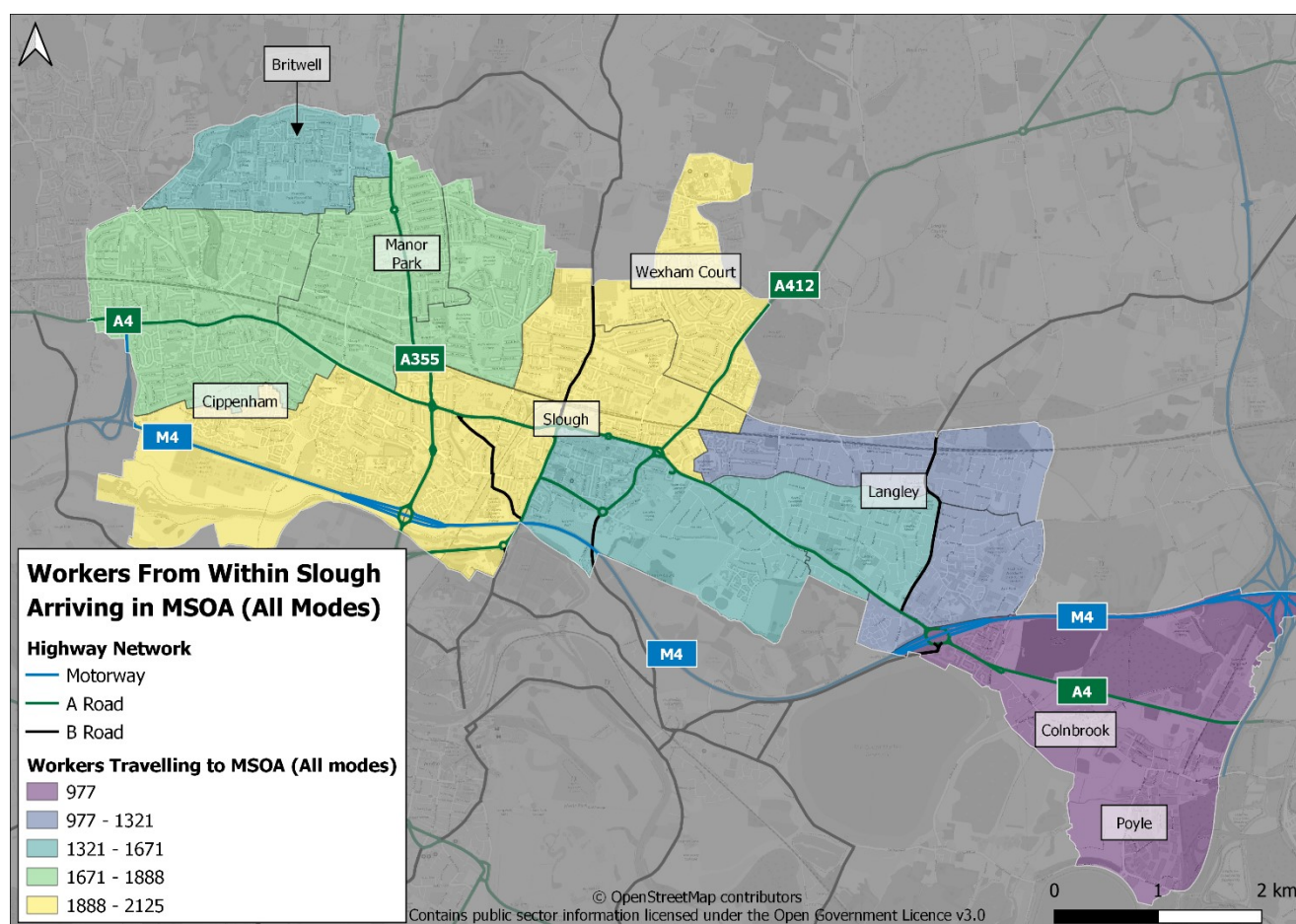
[16] ONS (2014), Location of usual residence and place of work by method of travel to work (MSOA level) (Table WU03EW)

Figure 3-6 outlines those who travel internally to the given MSOAs within Slough by using bus or coaches. There is a slightly different picture to the trend seen for all modes of transport, with the greatest number of workers travelling by this mode being found travelling to central Slough, followed by areas such as Colnbrook, Manor Park and Wexham Park to the north. These areas are all well served by the present bus network within Slough. There are no workers recorded as travelling to the Britwell area for work within the data.

Figure 3-6 - Workers from within Slough arriving in MSOA (Bus and Coach Only)
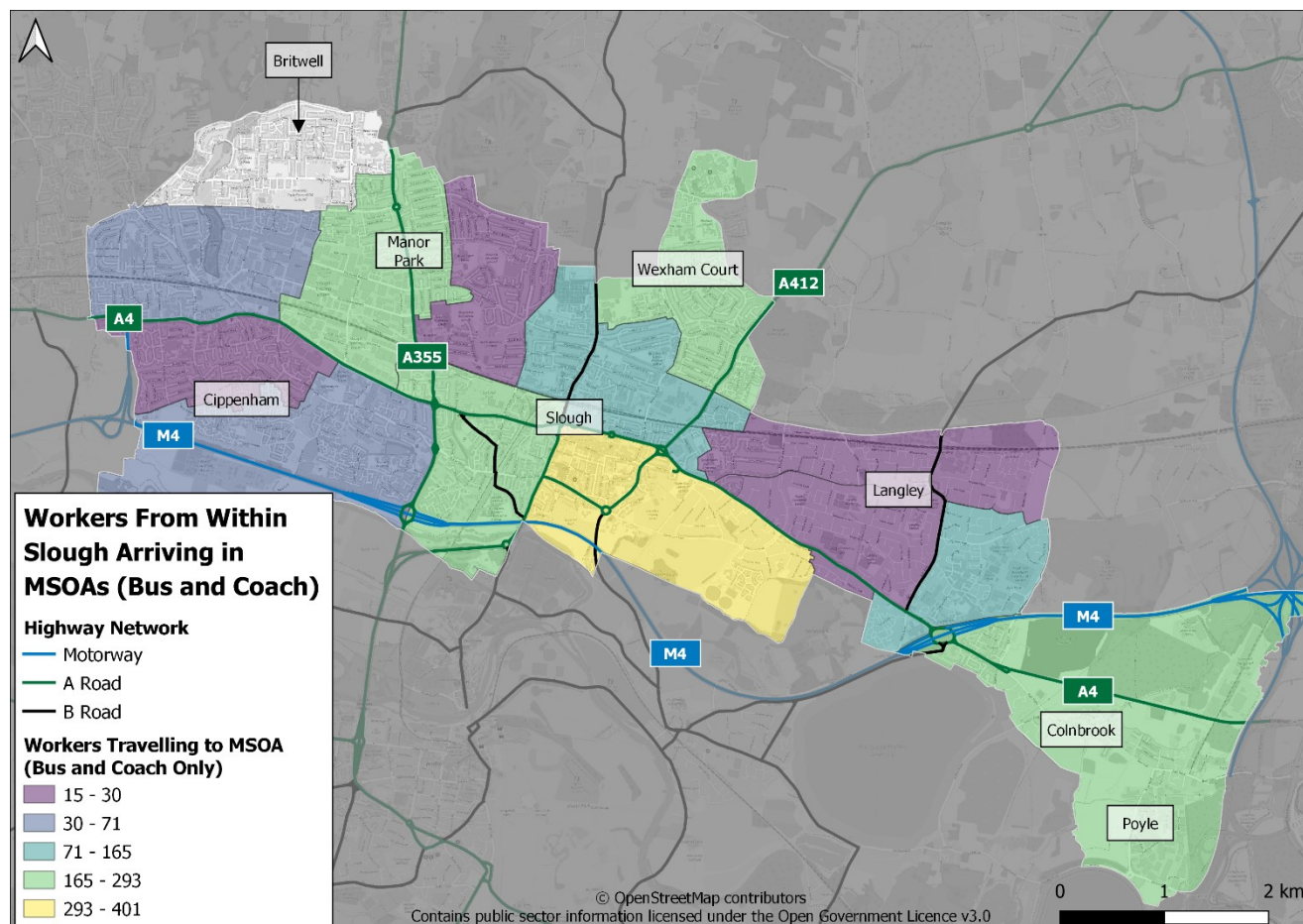
When considering the percentage of the MSOA population which out-commutes from Slough (Figure 3-7), the greatest proportion of out commuting appears to occur in the east of the local authority, where up to 58% of the population in Colnbrook and 57% of the population in Langley travel across the local authority boundary for work. The areas where the fewest people leave Slough for work are within the north of the local authority area, with Wexham Court yielding the smallest percentage of the population travelling beyond the local authority at 40% of the population.

Figure 3-7 - Percentage of MSOA population out commuting from Slough (All Modes)
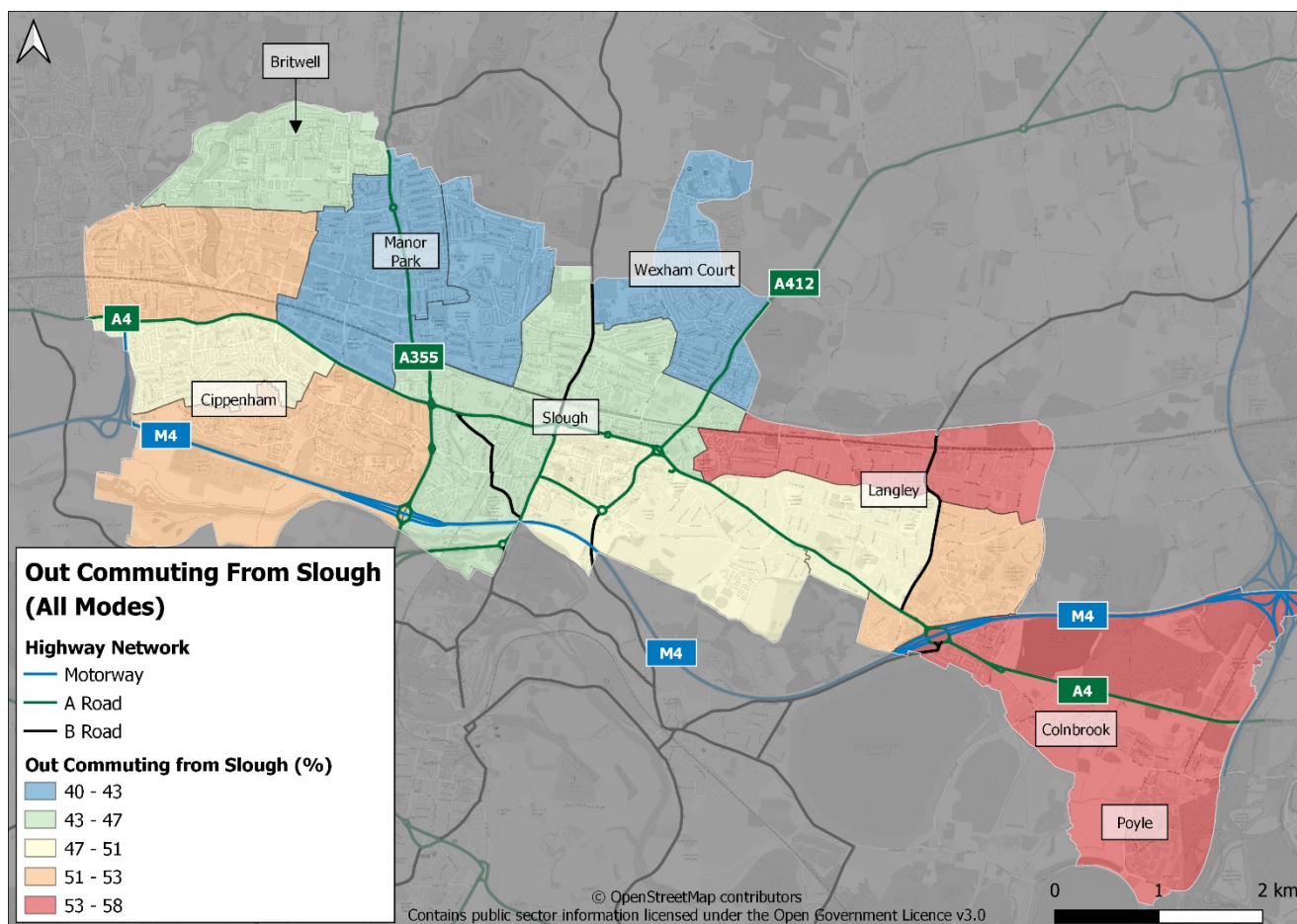
Figure 3-8 displays the percentage of bus and coach passengers who leave Slough for work. Like the overall picture, the highest proportion of residents who travel outside Slough for work is seen within the MSOA covering Colnbrook and Poyle, whereas the lowest proportions are seen in the Wexham Court, Britwell and Manor Park areas. Generally speaking, there are a greater number of commuters using bus and coach services leaving the local authority in those MSOAs situated along the A4 corridor to the east of Slough.

Figure 3-8 - Percentage of MSOA population out commuting from Slough (Bus and Coach)
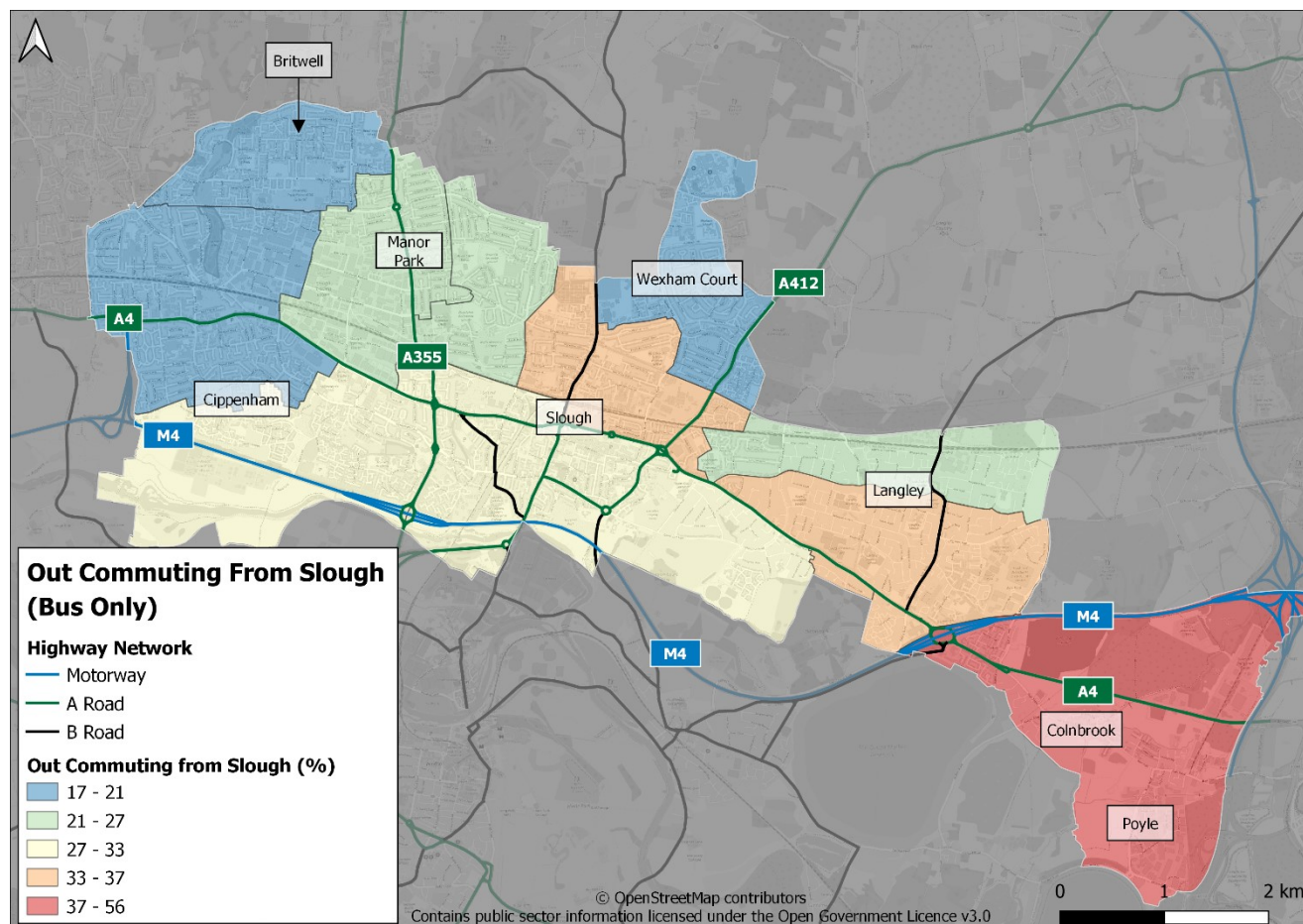
3.4.2.   Journeys in and out of Slough

For those workers leaving Slough, Figure 3-9 indicates that the MSOA containing London Heathrow Airport is the MSOA with the greatest number of Slough residents travelling here for work, followed by those MSOAs just beyond the local authority boundary in areas such as Windsor and South Buckinghamshire. There are also a relatively large number of people travelling to London and Reading, with 420 workers travelling to the City of London and 496 people travelling to the centre of Reading.

Figure 3-9 - Workers leaving Slough (all modes)
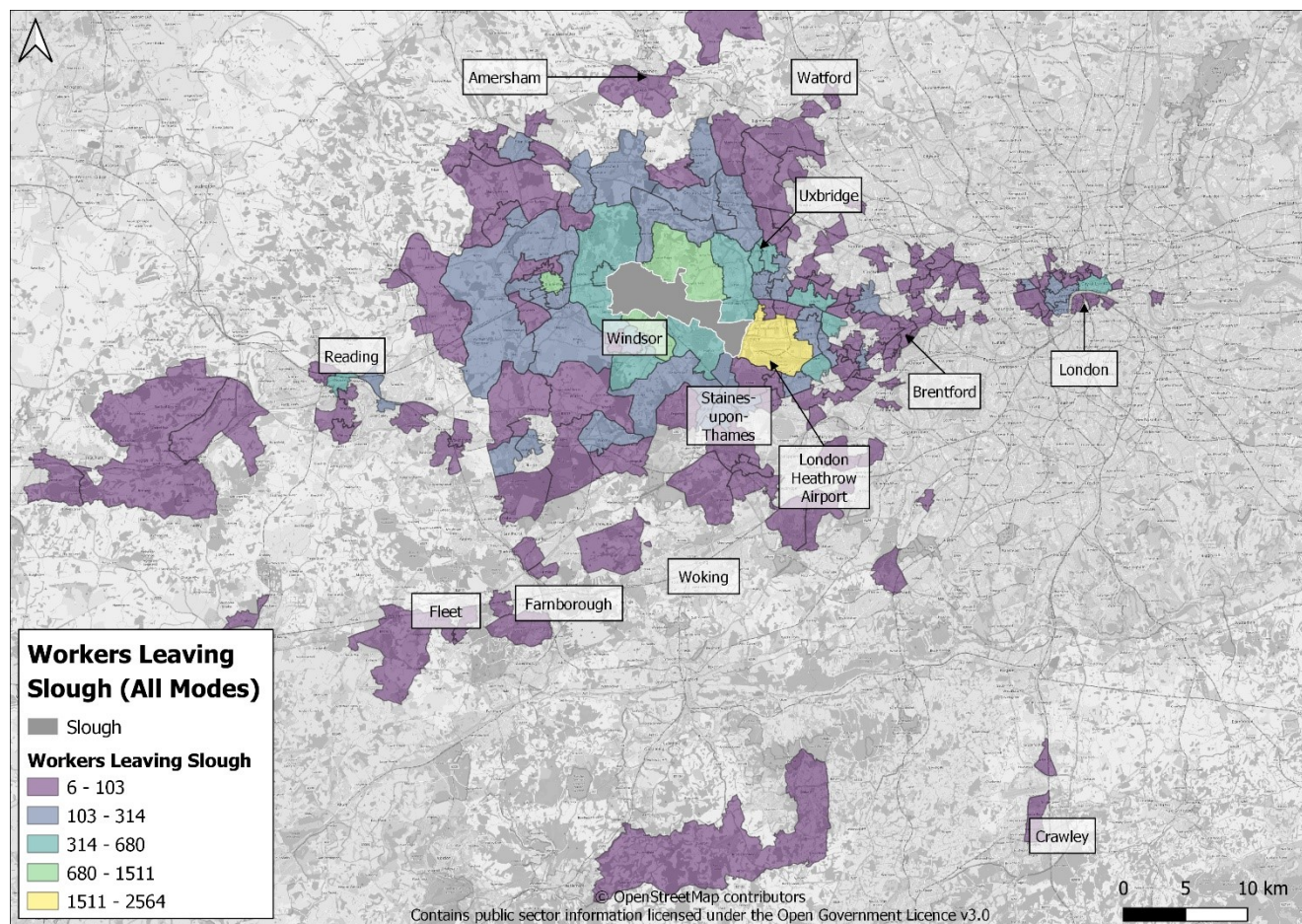
Figure 3-10 displays those people travelling to Slough for work. This shows a wider distribution of travel than seen for those leaving the local authority area. It shows that most of those commuting into Slough originate in South Buckinghamshire and Windsor and Maidenhead. The highest number of workers who enter the local authority originate in Burnham (adjacent to the Slough border) where 827 travel into Slough for work. Again, there are a large number of workers travelling from more distant destinations such as Reading and areas of Oxfordshire where for the former the data suggests 654 people commute into Slough.

Figure 3-10 - Workers arriving in Slough (all modes)
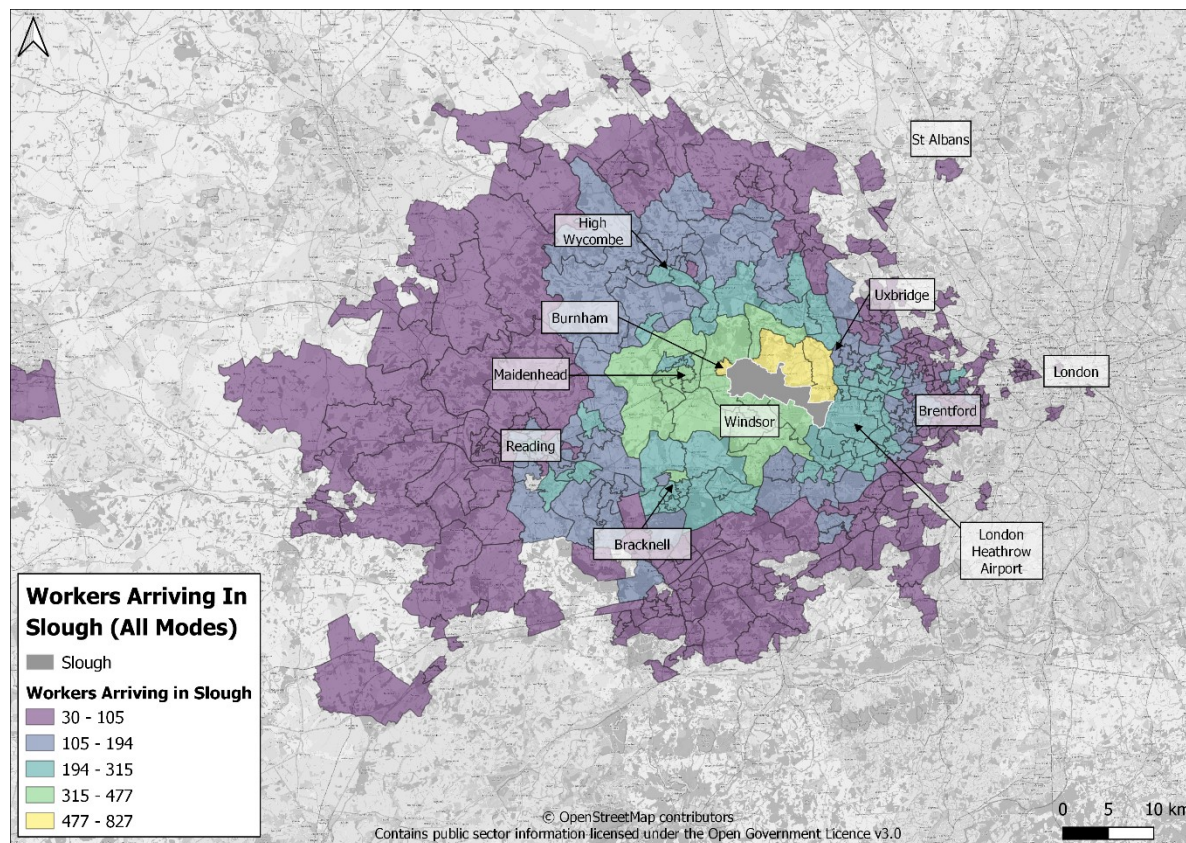
When reviewing the data for bus and coach services only (Figure 3-11 - Figure 3-12), it is immediately clear that the distance travelled both into and out of Slough using bus services is greatly limited when compared to the-all modes figures. This is to be expected as a result of faster road and rail services to areas such as Reading and London than comparable bus journeys.

By studying those workers leaving Slough using bus and coach services (Figure 3-11), it is apparent that the highest density of workers travel to the MSOA where London Heathrow Airport is located. This is likely to be a result of the number of jobs offered working at or near the airport, alongside the good connectivity by bus between the town and the airport. After this, the majority of passengers travel from Slough to Windsor, Maidenhead or into South Buckinghamshire. There are limited journeys made beyond the immediate local authorities bordering Slough.

Figure 3-11 - Workers leaving Slough (bus and coach)
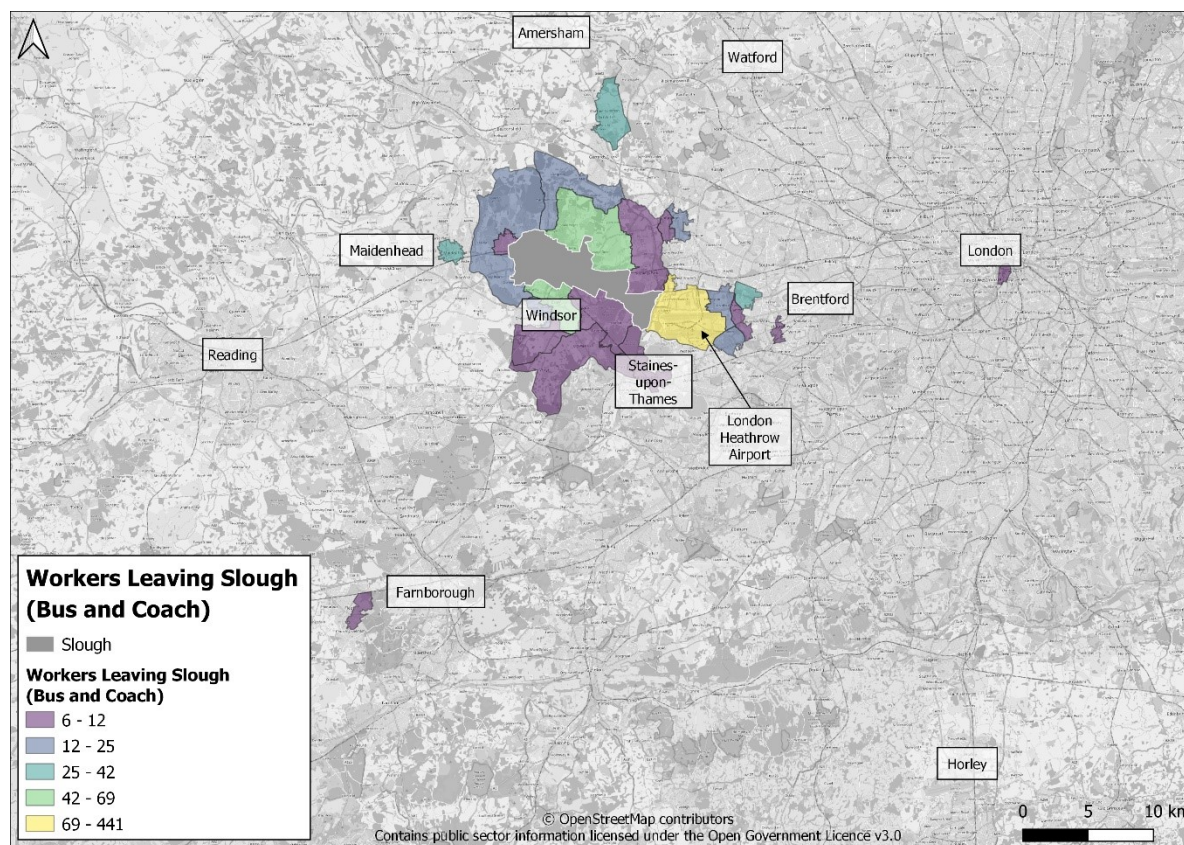
When considering those arriving into Slough using bus services (Figure 3-12), there are a limited number of workers travelling into the local authority area, with the total number being 433 people overall and the greatest individual figure being 30 people travelling from the MSOA containing London Heathrow Airport, with a relatively high number of people travelling from nearby Southall Green. Unlike those leaving Slough, the majority of bus passengers travelling into the area are from the east of the authority, arriving from areas such as Hayes, Cranford and Hounslow.

Figure 3-12 - Workers arriving in Slough (bus and coach)
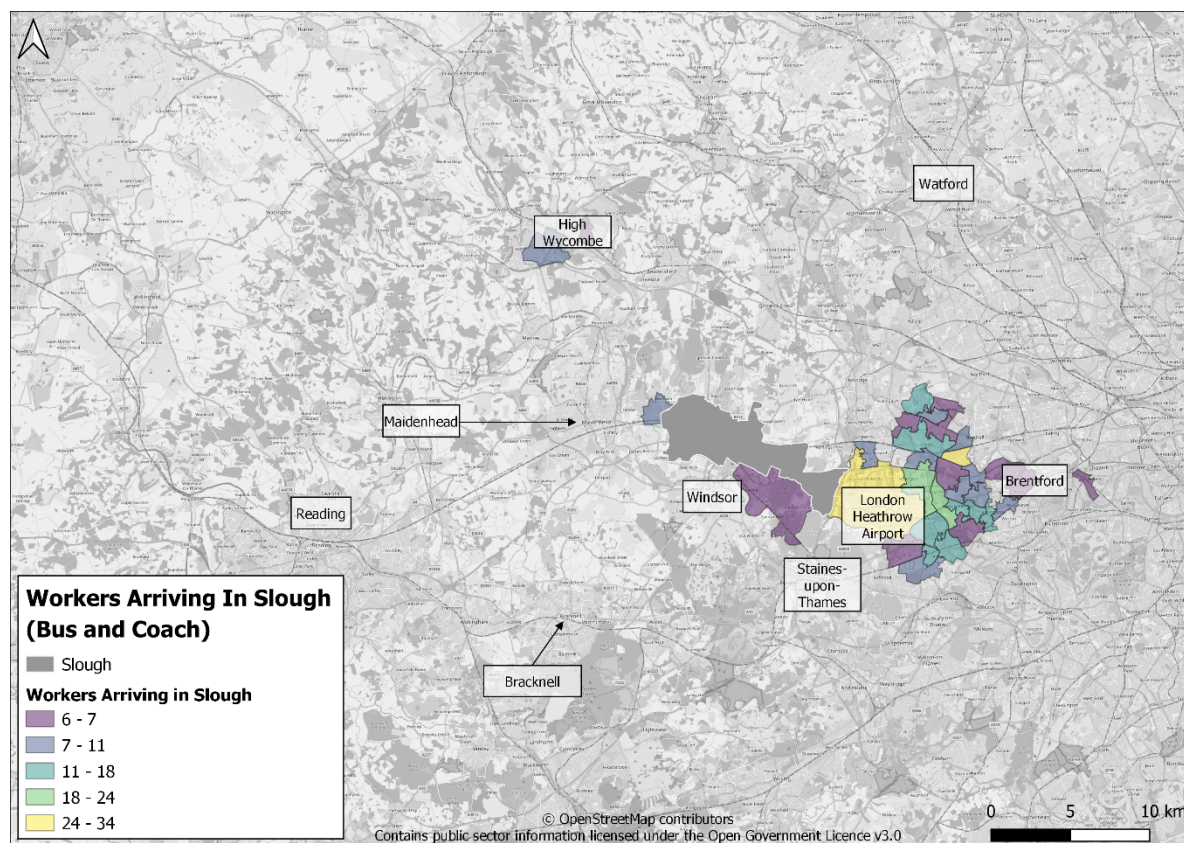
The total number of journeys into and out of Slough to the workplace is outlined in Table 3-1: this analysis excludes those who have no permanent place of work or who work from home. There is a net inflow of workers into Slough, of which bus and coaches only make up a small part of the travel to work demand. Bus travel has a much more limited geographical extent.

When compared to the overall origin destination MSOA pairings, 49% of all workers are from outside the local authority area, with 23% of those who travel by bus from outside Slough. For those living within Slough 49% of residents leave the area for work which is higher than 31% of bus users who travel outside Slough for to their place of work.

These figures suggest that there may be scope to influence the mode share for bus through the operation of more strategic bus and coach linkages, but the mapping also demonstrates the challenges, with demand for travel to Slough drawn from a wide geographical area and much of it drawn from affluent and rural or semi-rural areas which are difficult to serve effectively with mainstream public transport services.

Table 3-1 - Workers travelling into and out of Slough

Workplace	Modes	Number of Workers	Percentage of Total Workers (%)
In Slough (travelling from outside Slough)	All	22,922	49
""	Bus and coach	433	23
Outside Slough (travelling from inside Slough)	All	23,076	49
""	Bus and coach	872	31

3.5.   Work shift and end times requirements

Worker shift patterns can be influential in the demand for public transport, and it is important that the provision of public transport meets the needs of workers to ensure that it is an attractive and suitable alternative to private modes. Heathrow Airport employs significant numbers of Slough residents. Figure 3-13 displays the arrival and departure of staff working at London Heathrow Airport prior to the COVID-19 pandemic[17], highlighting the complex commuting behaviours of staff which fall beyond the typical definition of the AM and PM peak hours. Although the highest proportions of staff leaving or arriving at work are within these hours, it is evident that there is significant demand to use the transport network outside these hours, for example nearly 5,000 members of staff travel to or from the airport in the hour ending 05:00, or 10,000 staff members in the hour ending 15:00. Although this is one example, the case study highlights that there is significant demand for travel outside peak hours which the bus network could use to inform service provision to maximise buses gain of the mode share for commuters.

Figure 3-13 - Staff arriving and departing London Heathrow Airport

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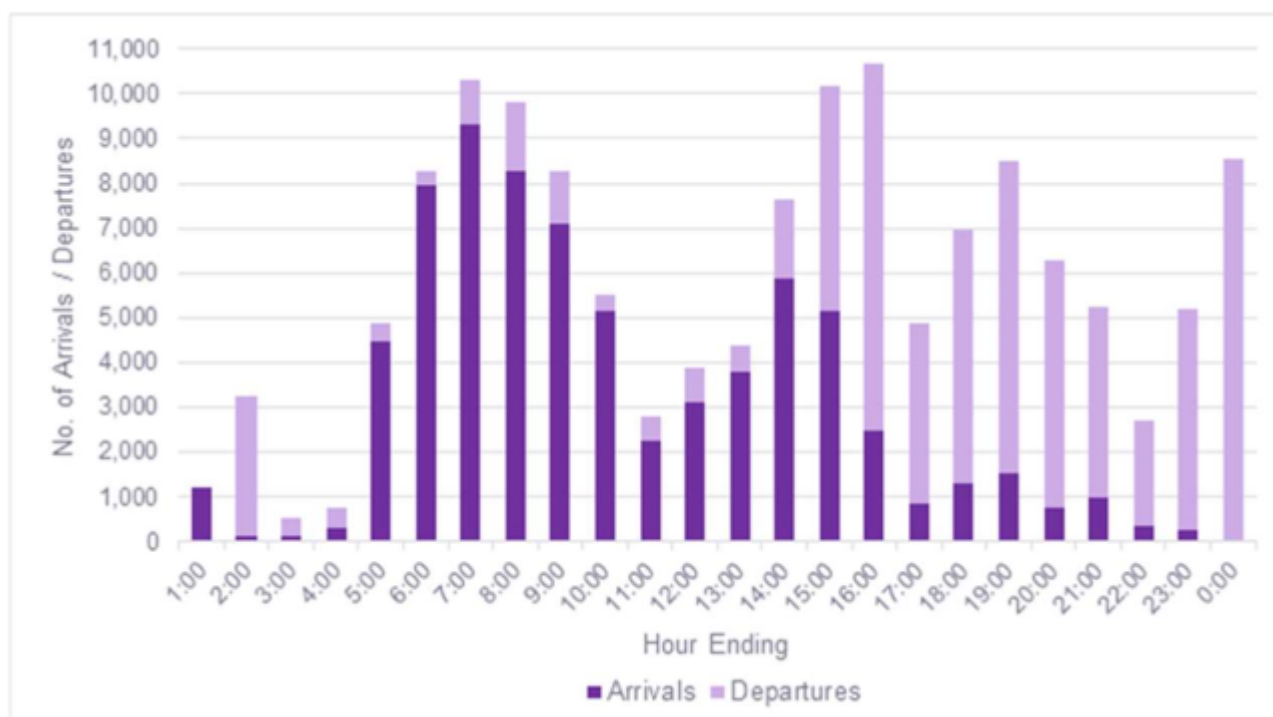
[17] Source: Heathrow Airport Limited, pre-Covid staff arrival and departure times

4.   Air quality

Slough currently has four air quality management areas (AQMAs) covering the local authority area (

Figure 4-1) These AQMAs cover the M4 at Junction 5 and the northern side of Junction 6 alongside along the A355 Tuns Lane to the junction with the A4 and an AQMA associated with the A4 in central Slough.

Figure 4-1 - Location of AQMAs[18]

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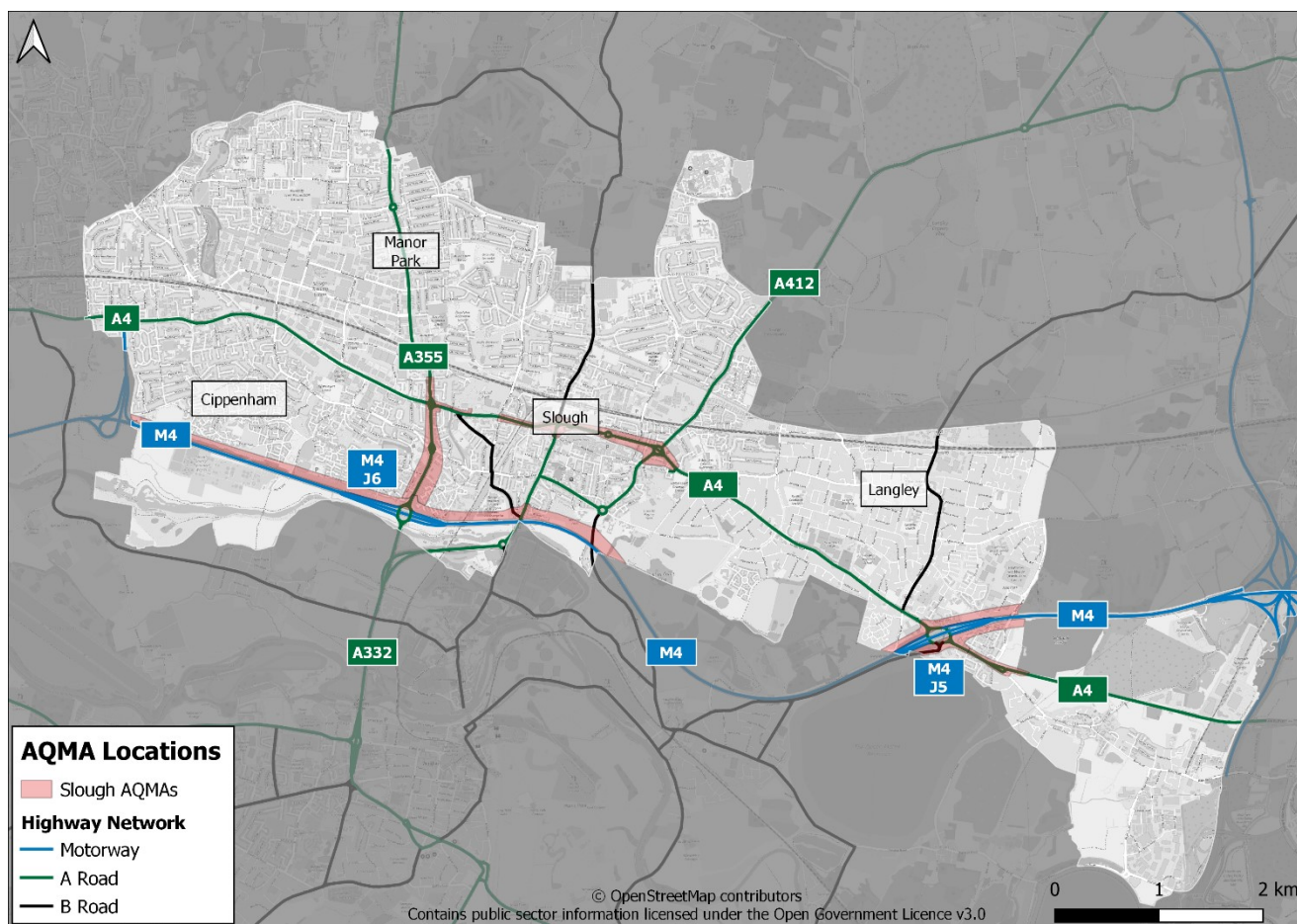
[18] DEFRA (2021), AQMA Boundaries

5. Current bus network

5.1. Bus routes and frequencies

5.1.1. Pre COVID

Figure 5-1 outlines the pre-COVID 19 bus network in Slough. When considering services with more than 1 bus per hour, Slough was served by 15 individual bus services of which one, route 53, did not pass through central Slough. Eleven of these services terminate in central Slough after originating within a suburb, whereas services 702, 703, 7 and 4 provided links across the local authority area.

It is clear from Figure 5-1 that Slough, like many other towns, lacks orbital connectivity within its bus network, which currently provides mainly for connectivity to the town centre. It does, however, provide a strong level of connectivity to Heathrow Airport, which as noted is a significant employer of Slough residents.

Figure 5-1 - January 2020 bus network (over 1bph)

Based on the Ordnance Survey map with the permission of the Controller of her Majesty's Stationary Office (C) Crown copyright 2008. Licence no. 100019446

Figure 5-2 displays the spatial distribution of bus operators within Slough[19]. The analysis only considers operators which have at least one service per hour during the Monday morning peak, finding that there are 5 operators within Slough. From Figure 5-2 it is clear that First Group currently have the greatest coverage within the area, providing most of the services across the local authority, with only Cippenham not served by First Group. Thames Valley Buses are the second largest operator, with their tickets also valid on parent company Reading Buses within Slough. Note that the service provided by Metroline is under contract to Transport for London.

Figure 5-2 - Bus operators within Slough (January 2020)[19]

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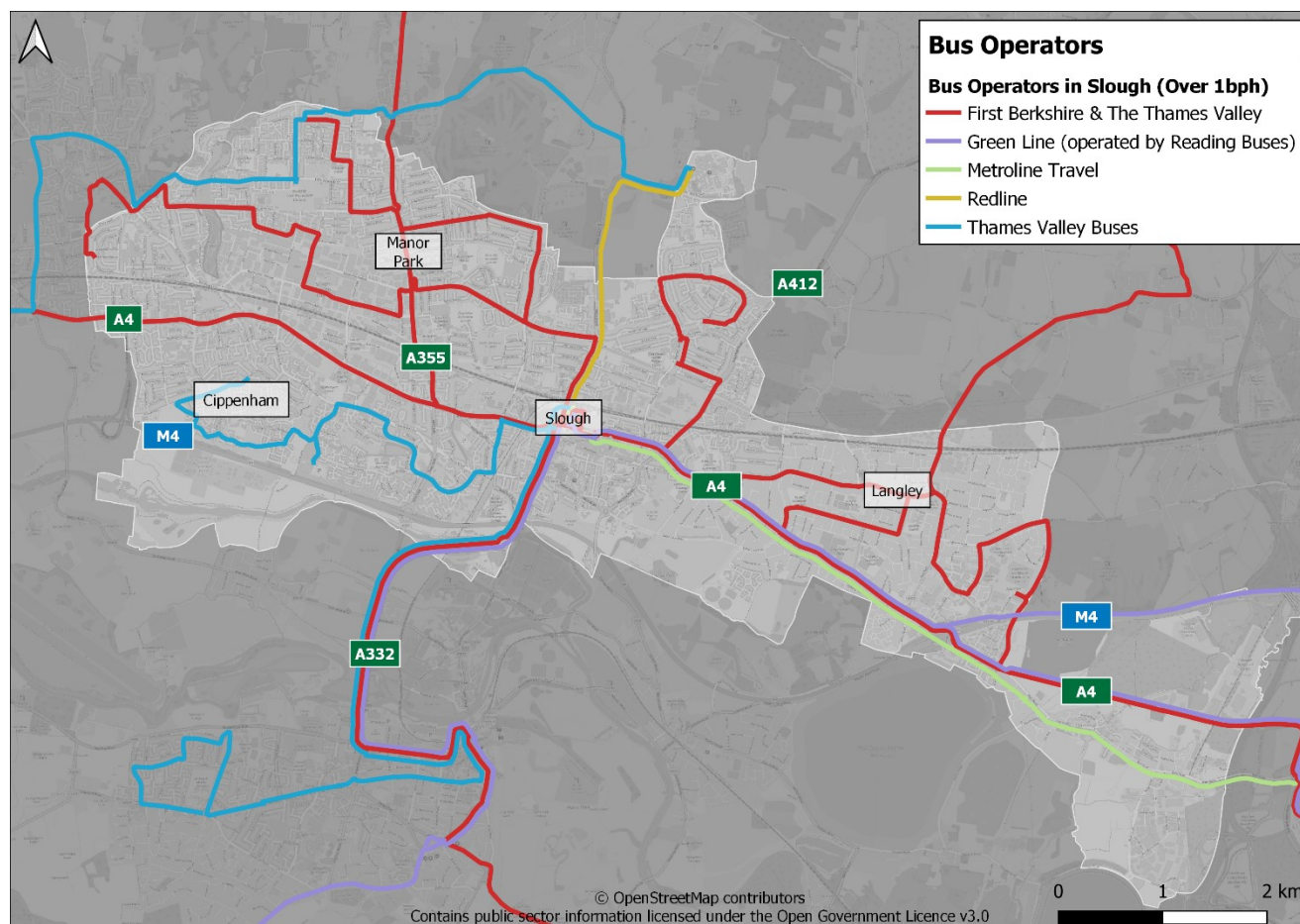
[19] Basemap (2021), Datacutter bus routes for January 2020

5.1.2. Present network

The present bus network has limited differences from the network displayed for January 2020, with two bus routes, the 10/10A and 104 removed from the network. During the COVID-19 pandemic, many bus services have however run with reduced frequencies, with different levels of services being provided at different times during the pandemic. One notable exception was the suspension of GreenLine route 702 to London. All pre-COVID services have now resumed but some at a lower frequency, notably route 7 to Heathrow Airport and route 6 to the Wexham Court Estate. The current network is outlined at Figure 5-3.

Figure 5-3 - Slough bus route map (April 2021)
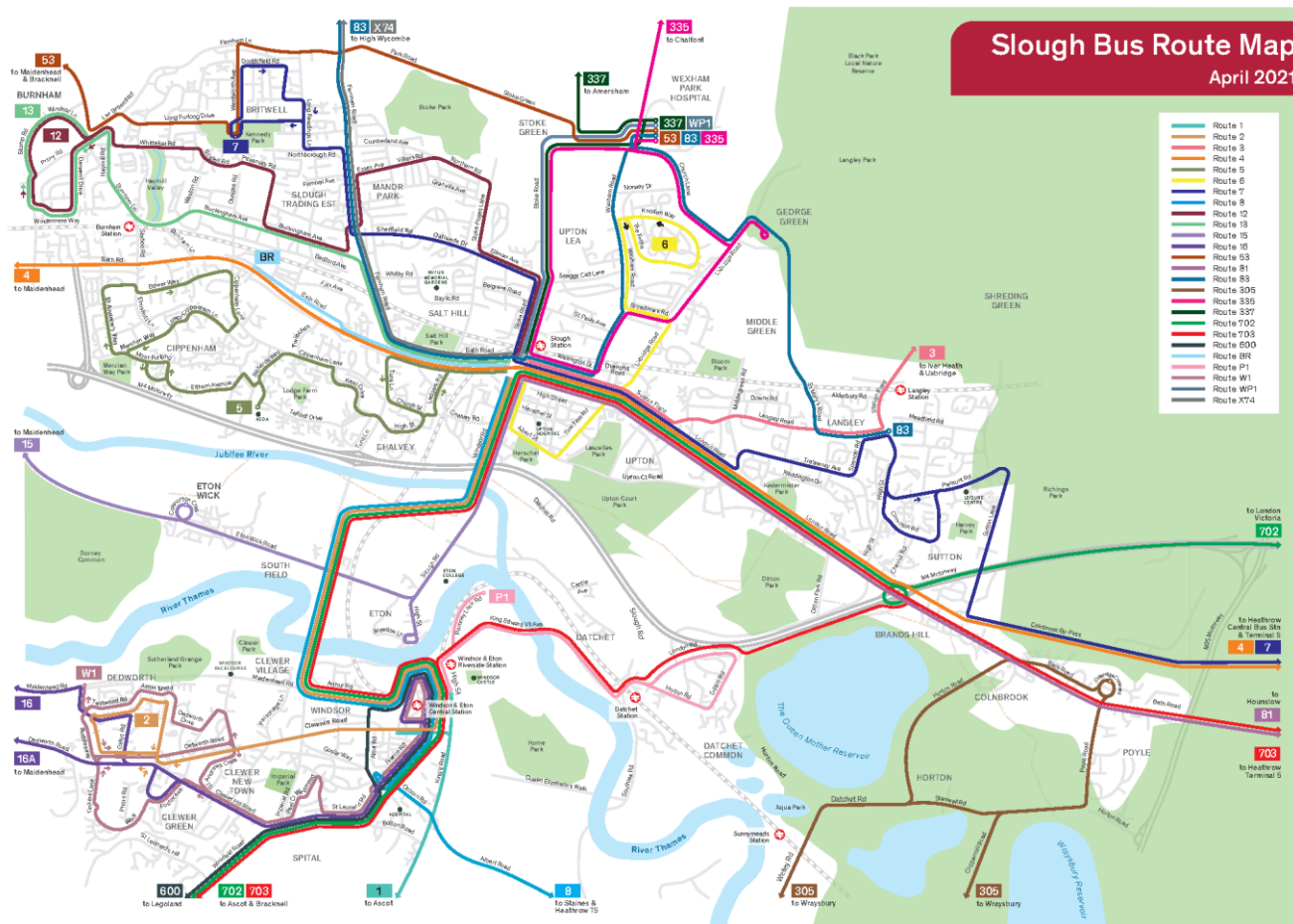
5.2. Location of bus stops

As of May 2021, there are currently 489 bus stops in Slough[20], which appear to be evenly distributed across the local authority area. Slough also features a central bus station within the town centre. Overall, accessibility to bus stops is high with few residents outside a 400-metre walking distance.

Figure 5-4 displays the distribution of bus stops within Slough.

Figure 5-4 - Bus stops in Slough[20]

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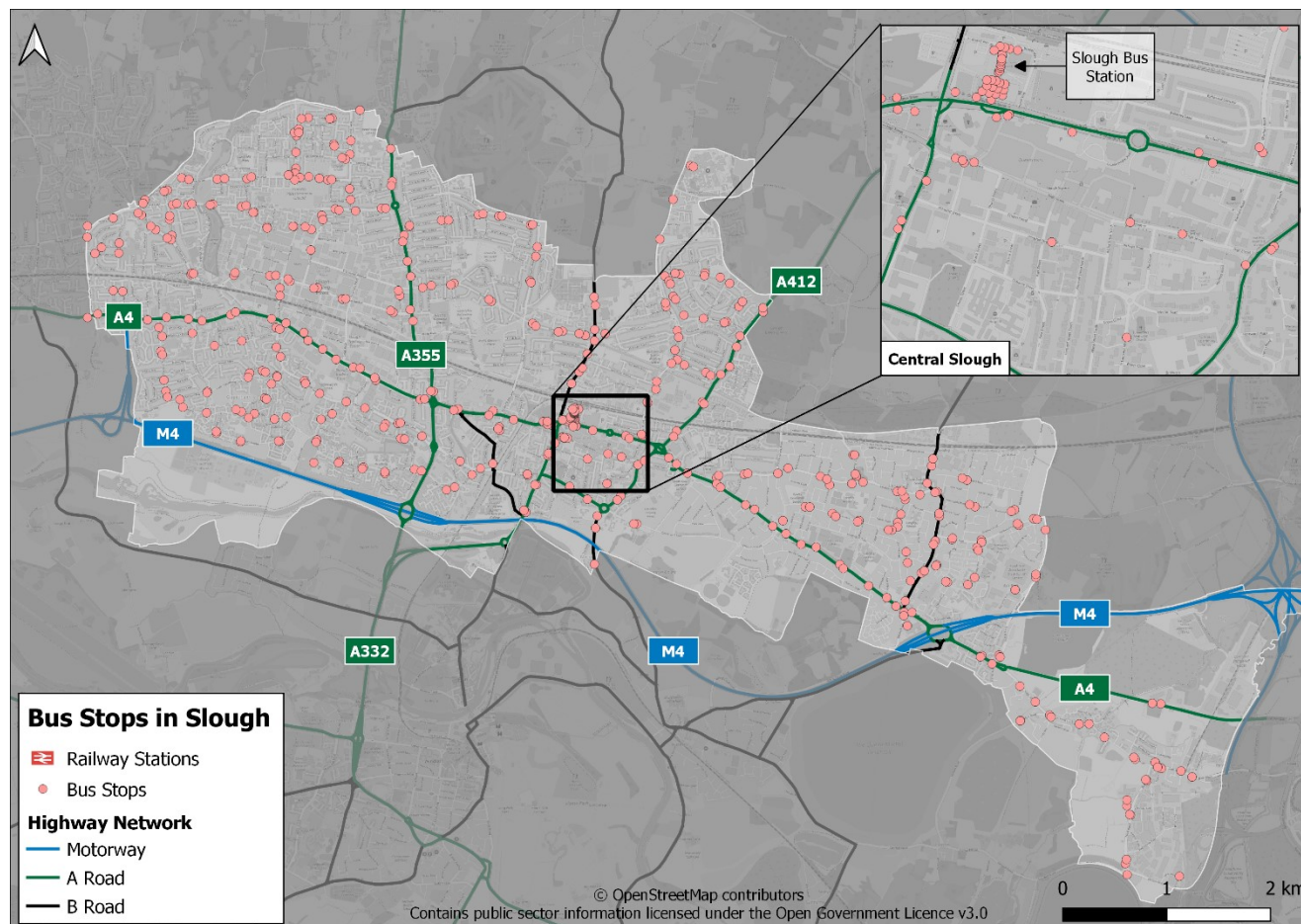
[20] DfT (2021), NaPTAN and NPTG download options [Sourced May 2021]

5.3.   Bus fares

This section outlines the fares charged by the principal operators in Slough as at 1 July 2021. The date outlined in Table 5-1 to Table 5-4 outlines the fares for the primary operators within Slough and has been collected from public sources, thus they are limited to the data published by each operator.

Table 5-1 - First Bus Slough and Windsor Ticket Prices[21]

Ticket Type	Online (£)	mTicket (£)	Shop (£)	On Bus (£)
Adult - FirstUnlimited Monthly Ticket	57.00	N/A	N/A	N/A
Adult - FirstDay	6.00	6.00	N/A	6.50
Adult - FirstWeek	20.00	20.00	22.00	22.00
Adult - FirstWeek – Route X74	20.00	20.00	N/A	22.00
Adult - First4Week – X74	63.00	63.00	N/A	68.00
Adult - First4Week – Slough only	63.00	63.00	N/A	N/A
Adult - FirstAnnual	700.00	700.00	700.00	N/A
Adult - First 10-trip	24.00	24.00	N/A	N/A
Child* - FirstDay	N/A	N/A	N/A	3.50
Child* - FirstWeek	14.00	14.00	15.00	15.00
Child* - First4Week – X74	45.00	45.00	N/A	£48
Child* - First4Week – Slough only	45.00	45.00	N/A	N/A
Child* - First 10-trip	16.00	16.00	N/A	N/A

*Child fares are valid for those aged 15 and under.

Table 5-2 - Thames Valley Slough and Windsor Ticket Prices (including Greenline 702 and 703 Services)[22] [23]

Ticket Type	mTicket (£)	On Bus (£)
Adult - Day (Slough and Windsor)	N/A	5.50
Adult - Weekly (Slough and Windsor)	N/A	17.00
Adult - 4-weekly (Slough and Windsor)	N/A	62.00
Adult - Slough and Windsor 5 Daysaver tickets	17.00	N/A
Adult - Cippenham 5 daysaver tickets	15.00	N/A
Adult - Reading Buses Network 5 daysaver tickets	22.00	N/A
Adult - Thames Valley Network 5 daysaver tickets	22.50	N/A
Adult - Service 2 - Return Dedworth – Slough Bus Station	N/A	5.50
Adult - Service 2 - Return Windsor Town Centre – Slough Bus Station	N/A	4.50
Adult - Service 2 - Single Dedworth – Slough Bus Station	N/A	4.00
Adult - Service 2 - Single Windsor Town Centre – Slough Bus Station	N/A	3.00

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[21] First Bus (2021), Berkshire and The Thames Valley Ticket Prices [Sourced July 2021]
[22] Thames Valley Buses (2021), Slough & Windsor [Sourced July 2021]
[23] Thames Valley Buses (2021), Route and Times [Sourced July 2021]

Adult - Service 5 - Return Slough Bus Station – Chalvey Shopping Centre / Paxton Avenue	N/A	3.50
Adult - Service 5 - Single Slough Bus Station – Chalvey Shopping Centre / Paxton Avenue	N/A	2.50
Adult - Service 15 - Return Maidenhead Town Centre – Slough Bus Station	N/A	6.50
Adult - Service 15 - Single Maidenhead Town Centre – Slough Bus Station	N/A	5.00
Adult - Service 53 - Return Bracknell Bus Station – Wexham Park Hospital	N/A	6.70
Adult - Service 53 - Return Maidenhead Town Centre – Wexham Park Hospital	N/A	6.20
Adult - Service 53 - Return Bath Road (Sainbury's) – Wexham Park Hospital	N/A	5.50
Adult - Service 53 - Return Burnham – Wexham Park Hospital	N/A	5.50
Adult - Service 53 - Single Bracknell Bus Station – Wexham Park Hospital	N/A	5.80
Adult - Service 53 - Single Maidenhead Town Centre – Wexham Park Hospital	N/A	4.70
Adult - Service 53 - Single Bath Road (Sainbury's) – Wexham Park Hospital	N/A	4.10
Adult - Service 53 - Single Burnham – Wexham Park Hospital	N/A	4.10
Adult - Service 702/703 - Green Line Day	20.00	20.00
Adult - Service 702/703 - Green Line 7 Day	60.00	60.00
Adult - Service 702/703 - Green Line 30 Day	180.00	180.00
Adult - Service 702/703 - Return Bracknell Bus Station – Slough Bus Station	N/A	6.50
Adult - Service 702/703 - Return Legoland – Slough Bus Station	N/A	6.50
Adult - Service 702/703 - Single Bracknell Bus Station – Slough Bus Station	N/A	5.50
Adult - Service 702/703 - Single Legoland – Slough Bus Station	N/A	4.80
Adult - Service 703 - Return Heathrow Airport – Slough Bus Station	N/A	5.00
Adult - Service 703 - Heathrow Airport – Slough Bus Station	N/A	3.50

Child* - Day (Slough and Windsor)	N/A	3.50
Child* - Weekly (Slough and Windsor)	N/A	12.00
Child* - 4-weekly (Slough and Windsor)	N/A	44.00
Child* - Service 2 - Return Dedworth – Slough Bus Station	N/A	3.00
Child* - Service 2 - Return Windsor Town Centre – Slough Bus Station	N/A	2.90
Child* - Service 2 - Single Dedworth – Slough Bus Station	N/A	2.10
Child* - Service 2 - Single Windsor Town Centre – Slough Bus Station	N/A	2.10
Child* - Service 5 - Single Slough Bus Station – Chalvey Shopping Centre / Paxton Avenue	N/A	1.90
Child* - Service 15 - Return Maidenhead Town Centre – Slough Bus Station	N/A	3.50
Child* - Service 15 - Single Maidenhead Town Centre – Slough Bus Station	N/A	2.50
Child* - Service 53 - Return Bracknell Bus Station – Wexham Park Hospital	N/A	3.60
Child* - Service 53 - Return Maidenhead Town Centre – Wexham Park Hospital	N/A	3.60
Child* - Service 53 - Return Bath Road (Sainbury's) – Wexham Park Hospital	N/A	3.10
Child* - Service 53 - Return Burnham – Wexham Park Hospital	N/A	3.10
Child* - Service 53 - Single Bracknell Bus Station – Wexham Park Hospital	N/A	2.90
Child* - Service 53 - Single Maidenhead Town Centre – Wexham Park Hospital	N/A	2.60
Child* - Service 53 - Single Bath Road (Sainbury's) – Wexham Park Hospital	N/A	2.10
Child* - Service 53 - Single Burnham – Wexham Park Hospital	N/A	2.10
Child* - Service 702/703 - Green Line Day	13.00	13.00
Child* - Service 702/703 - Green Line 7 Day	39.00	39.00
Child* - Service 702/703 - Return Bracknell Bus Station – Slough Bus Station	N/A	4.00
Child* - Service 702/703 - Return Legoland – Slough Bus Station	N/A	4.00
Child* - Service 702/703 - Single Bracknell Bus Station – Slough Bus Station	N/A	3.90

	N/A	3.40
Child* - Service 702/703 - Single Legoland – Slough Bus Station		
Child* - Service 703 - Return Heathrow Airport – Slough Bus Station	N/A	3.30
Child* - Service 703 - Single Heathrow Airport – Slough Bus Station	N/A	2.60

*Thames Valley Buses – child fares are marketed as 'Boost and available anyone under the age of 19 or 19-21 year olds who attend a local college or university with valid student ID.

Table 5-3 - Redline Ticket Prices[24]

Ticket Type	Online Purchase (£)	On Bus (£)
Adult - Annual	260	N/A
Child - Annual	235	N/A

* Child fares are valid for those aged 15 and under.

Table 5-4 - Transport for London Ticket Prices[25]

Ticket Type	Pre-Purchased Oyster Card^ (£)	On Bus (£)
Adult - Single fare (bus only)	N/A	1.55
Adult - Daily cap (bus only)	N/A	4.65
Adult - Weekly cap (bus only)	N/A	21.90
Adult - 1-day bus and tram pass	5.20	N/A
Adult - 7-day bus and tram pass	21.90	N/A
Adult - Monthly bus and tram pass	84.10	N/A
Adult - Annual bus and tram pass	876.00	N/A
Adult (Jobcentre Plus) - Single fare (bus only)	N/A	0.75
Adult (Jobcentre Plus) - Daily cap (bus only)	N/A	2.25
Adult (Jobcentre Plus) - 7-day bus and tram pass	10.90	N/A
Adult(Jobcentre Plus) - Monthly bus and tram pass	41.90	N/A
Adult (Bus and tram discount) - Single fare (bus only)	N/A	0.75
Adult (Bus and tram discount) - Daily cap (bus only)	N/A	2.25
Adult (Bus and tram discount) - 7-day bus and tram pass	10.90	N/A
Adult (Bus and tram discount) - Monthly bus and tram pass	41.90	N/A
Apprentice - Not available to Slough residents: adult fares apply	N/A	N/A
Student (18+) - Not available to Slough residents: adult fares apply	N/A	N/A

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[24] Redline (2021), Tickets [Sourced July 2021]
[25] TfL (2021), Bus and tram fares [Sourced July 2021]

Child (16 - 17) - 16+ Zip Oyster (London residents)	Free (£15 admin fee)	N/A
Child (16 - 17) - Single fare (bus only)	N/A	0.75
Child (16 - 17) - Daily cap (bus only)	N/A	2.25
Child (16 - 17) - 7 day bus and tram pass	10.90	N/A
Child (16 - 17) - Monthly bus and tram pass	41.90	N/A
Child (16 - 17) - Annual bus and tram pass	436.00	N/A
Child (11 - 15) - Zip Oyster*	Free (£15 admin fee)	N/A
Child (11 - 15) - 1-15 Zip Oyster*	Free (£15 admin fee)	N/A

Visitors from outside of London who have not applied for a Zip Oyster pay 50% of the relevant adult fare

^This includes newsagents and most TfL owned stations

The above tables highlight the range of fares available within Slough, displaying a complex fare structure which is dependent both on the operator and the individual route. When considering adult day fares, there is some variation between the operators in Slough, with a First Bus monthly ticket being £5 cheaper than Thames Valley Buses; however the reverse is the case with day tickets where First Bus tickets are 50p more expensive than Thames Valley Buses. Although TfL's daily cap is cheaper than the comparative fare with other operators in Slough, the monthly ticket price is not as heavily discounted, thus this equates to a ticket which is over £20 more expensive. Both First Group and Thames Valley Buses have also introduced flexible ticket products, offering a number of day tickets at a reduced price which can be used over a given time period. At present TfL is the only operator to apply capping to fares.

When considering ticketing for children, the immediate complexity is the differing age eligibility categories offered by each operator. First Group consider those under the age of 16 to be eligible for children's tickets, whereas Thames Valley Buses offer these tickets to those under and including the age of 18, whilst extending this offer to those aged under 21 attending college or university with a valid ID card. There is a similar complexity with the TfL fare structure, where all under 16s can travel for free on their services providing they have purchased a Zip Oyster; however as Slough lies outside the Greater London Authority Slough residents aged 16-17 pay 50% of the adult fare. Within Slough, the cost of a daily ticket for children is the same on both First Group and Thames Valley Buses services, at £3.50 each. However, when considering the weekly and monthly fare, First Group services are slightly more expensive than those offered by Thames Valley Buses. Regarding single and return fares, there is great variability seen across the Thames Valley Buses network which appears dependent on distance and the geographical area which the service serves: this is in contrast to the flat fare rate offered on TfL services.

Within Slough, the Slough Borough Council also provides concessionary travel for the following groups:

- English National Concessionary Travel Scheme for elderly and disabled passengers (statutory minimum scheme); and
- Free scholars' passes for children entitled to free travel to school (currently around 240 passes issued each year).

Overall, the current fare structure for all ages within Slough could been seen as complicated. Each operator currently offers a range of differing fares, covering differing geographical extents and with differing eligibility criteria, with the latter most pronounced for children. These complexities may be a barrier to accessing bus services within Slough as people may not feel confident in understanding the cost of travelling by bus or may find it too expensive when having to complete a journey across multiple operators.

5.3.1. Multi-operator ticketing

There is currently no 'multi-operator' ticket. The only instance of cross-acceptance of ticketing is on Redline's route WP1 to Wexham Park Hospital, where First period ticket products are accepted.

5.4. Bus service reliability

Reliability of bus services in Slough has been reviewed using DfT bus statistics[26] for the percentage of non-frequent bus services running on time between 2010-2019. Between 2009/10 and 2013/14 bus punctuality within Slough improved by 14% to a peak punctuality of 91% before a gradual decline began until a low of 76% in 2016/17, which improved by 3% in 2017/18; this is the most recent year data is available for Slough.

When considering comparable local authority areas, bus punctuality in Bracknell Forest started from a higher baseline of 95% in 2010/11, broadly maintaining this level of performance until dips in both 2016/17 and 2018/19 where punctuality fell just short of 90%, with a recovery in the intermediate year. Windsor and Maidenhead had a similar baseline to Slough of 84% in 2010/11, with data unavailable in 2011-13. However, data suggests there was limited change of punctuality until 2018/19 when punctuality increased to 95%. When comparing this to Slough, it appears that Slough's bus network is, unlike its neighbours, suffering from a recent trend of reducing punctuality below the average of the comparative authorities.

Reviewing the regional and national picture, the South East's bus networks performance has been relatively consistent between 2010/11 and 2018/19, with a slight decrease in punctuality by 2%. There is a similar trend within England where punctuality over this period is also consistent with around about a 2% increase in punctuality within this period. As such, the recent trend of reduced punctuality in Slough does not match the regional or national profile, however the 2017/18 figure of 79% punctuality is only slightly below the regional and national average, which for the most part Slough previously outperformed prior to 2017/18.

A concern with punctuality is that local transport authorities may use different sampling and measurement methodologies leading to inconsistencies with the results.

Figure 5-5 - Bus service reliability[26]

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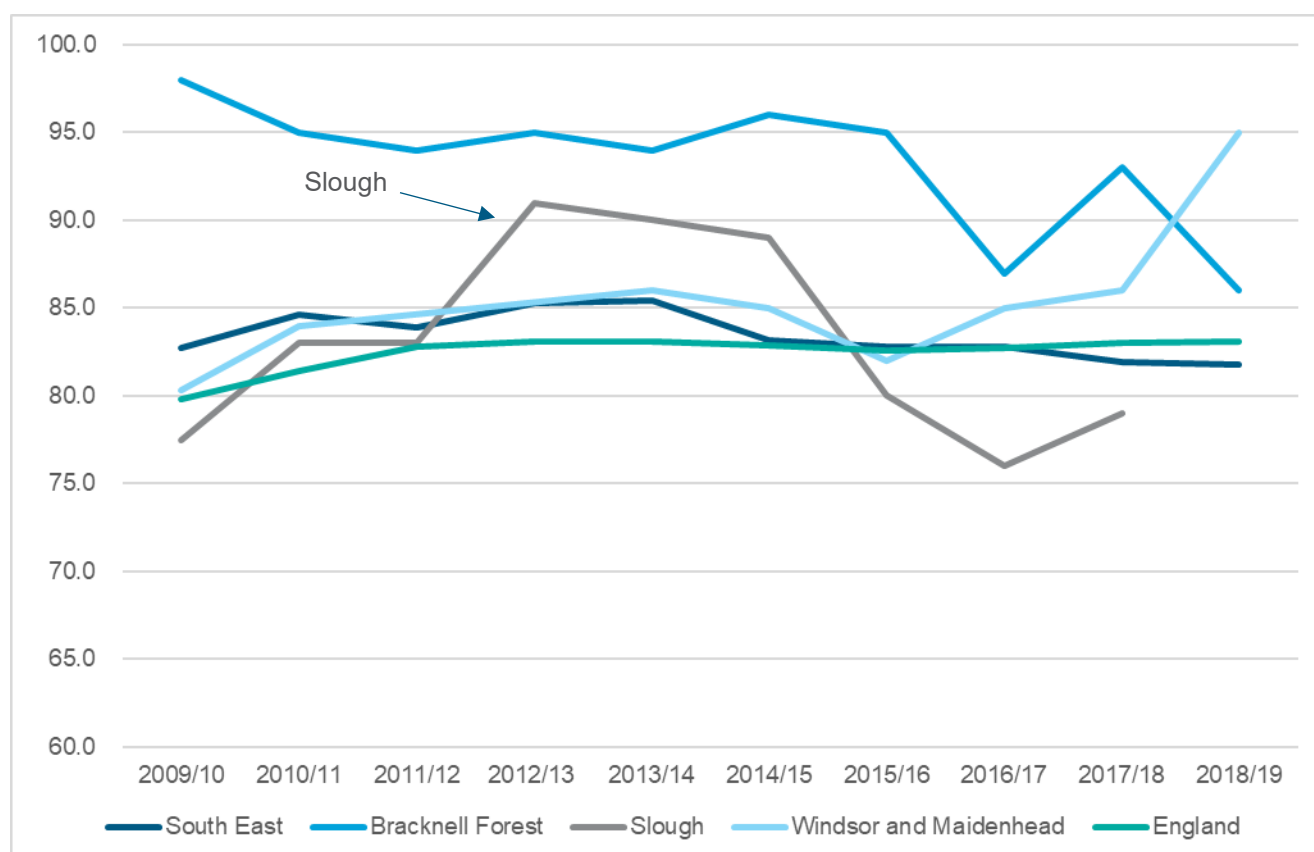
[26] DfT (2019), Bus Statistics (Bus0902)

6. Bus network performance

6.1. Bus passenger journeys

Figure 6-1 outlines the number of bus passenger journeys indexed to 2009/10 values in Slough alongside comparable local authorities and the South East region (excluding London)[27]. This is intended to show the trend in patronage. It is evident that since 2010 the number of bus passengers within Slough remained fairly buoyant, with passenger numbers increasing by up to 10% by 2011/12, followed by a small reduction in passengers between 2012 and 2014, before a slight increase in passenger numbers up to 2014/15. Beyond this point however, the number of bus passenger journeys within the local authority has decreased by around 4% year-on-year to 88% of the value seen in 2010.

When comparing the trend in bus passengers in Slough with other local authorities, it is difficult to highlight any similar trend in passenger numbers prior to 2013/14, with both Bracknell Forest and Windsor and Maidenhead experiencing significant reductions in passenger numbers in the period from 2009/10 to 2013/14. This said, all local authorities demonstrate growth in passenger numbers between 2012-14 to 2014/15, before a general decline leading up to 2019/20.

Comparing the number of bus passengers in Slough against both the regional and national average indicates that Slough has performed better than the national average to increase the number of and retain bus passengers since 2009/10. However, the indexed passenger numbers began to lag behind the South East region as a whole as of 2015/16. Over the time period outlined in Figure 6-1, Slough displays a similar overall trend of decreased patronage as seen in England, with a significant reduction compared to South East England.

Figure 6-1 - Passenger journeys on local bus services by local authority indexed to 2009/10 values[27]
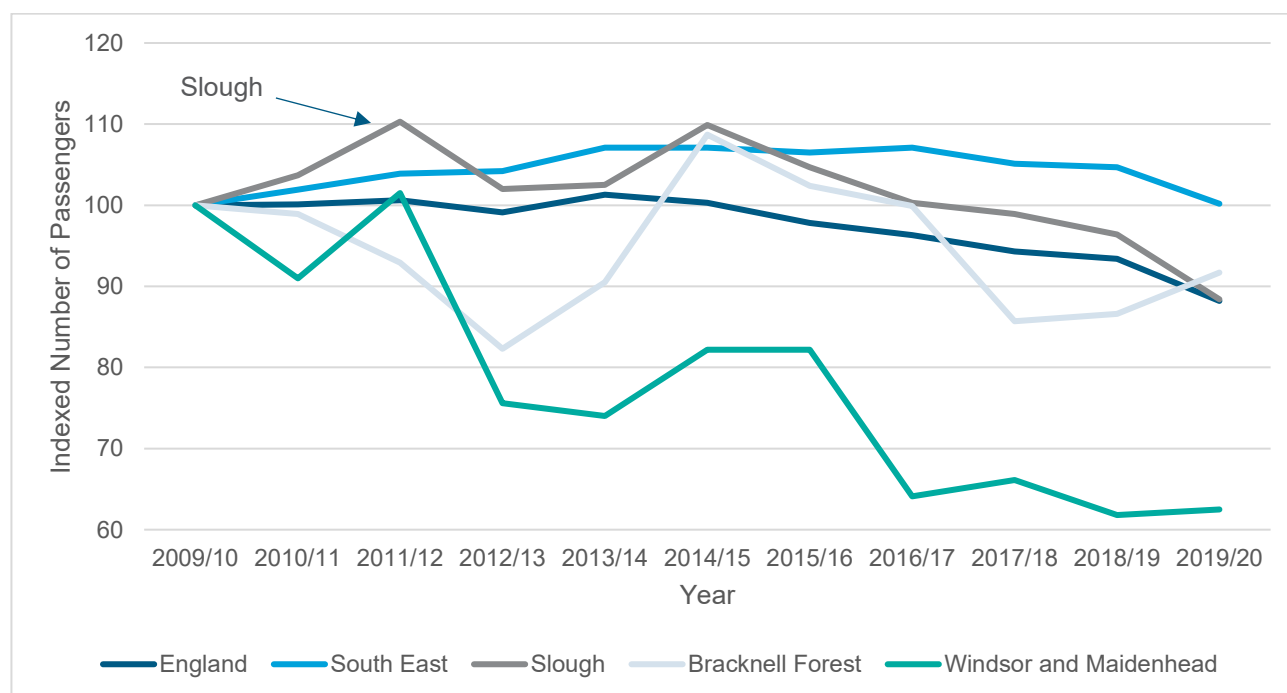

When considering the trend in passenger journeys per head by local authorities (Figure 6-2), Slough performs worse than the equivalent authorities of Bracknell Forest and Windsor and Maidenhead. Within Slough, the growth of the population has masked a decreased propensity for the population to use the bus: in 2018/19 bus patronage is 96% of the 2010 value, but the bus passenger rate per head is 87%, highlighting a greater decrease in bus usage.

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[27] DfT (2020), Local bus passenger journeys (Bus0109)

Comparing passenger journeys per head in Slough to the regional and national level (Figure 6-2), the South East and England as a whole demonstrate a similar overall trend to Slough in that population growth over the reporting period has masked the extent to which the propensity to travel by bus has reduced. However, as with the number of passengers, the South East as a region has performed better at retaining bus passengers than Slough, which follows a similar reduced propensity to travel by bus as the English national average.

Overall, when considering passenger numbers, the general picture from 2009/10 indicates a decline in bus patronage across all local authorities, suggesting that the attractiveness of bus services is decreasing. When considering the present, indexed bus passenger numbers within Slough remain higher than those seen in Windsor and Maidenhead but lag slightly behind the average for Bracknell Forest and the South East. The local authority is in 2019/20, broadly comparable with the national average for England; however it should be noted that the values for 2019/20 will have been affected by the beginning of the COVID-19 pandemic in early 2020. When considering passenger journeys per head of population, it is evident that the decreases seen across the time period are to some extent masked by population growth within the respective areas. Again, Slough demonstrates a similar trend to the English average, but a steeper decline in trip-rate than observed in South East England. Its performance is similar to, but rather less volatile than, Bracknell Forest's, but somewhat better than Windsor and Maidenhead's.
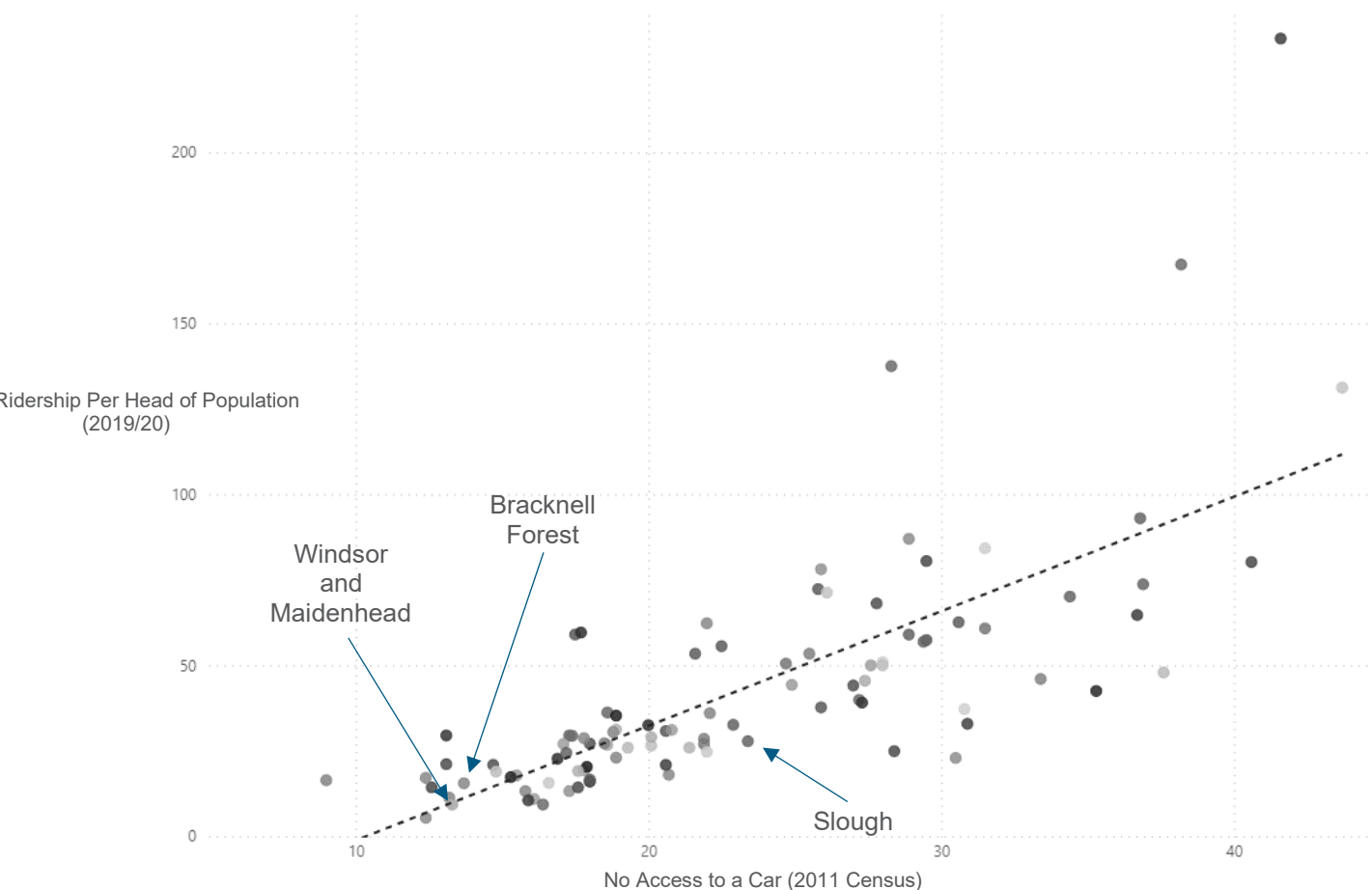
Figure 6-2 - Passenger journeys on local bus services per head by local authority indexed to 2009/10 values[28]

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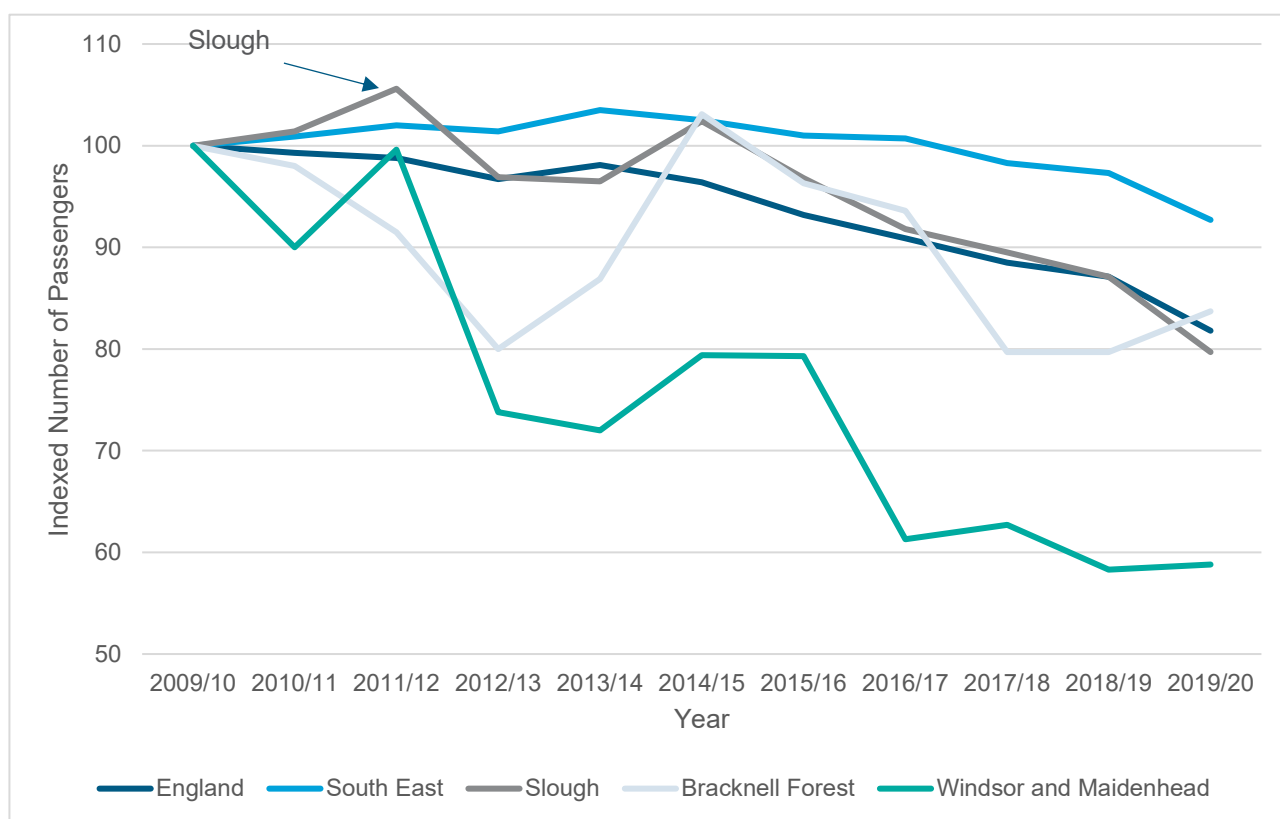
[28] DfT (2020), Local bus passenger journeys (Bus0109)

The correlation between bus ridership[29] and a household's lack of access to a car[30] is displayed in Figure 6-3. It is evident that out of the comparitive local authorities, Slough has lower levels of car ownership than both Bracnkell Forest and Windsor and Maidenhead, and has higher bus ridership per head of the population. Whereas Bracknell Forest and Windsor and Maidenhead have the levels of demand that would be predicted by lack of car ownership, Slough's is significantly lower. A bus passenger trip rate of around 45 would be consistent with the proportion of zero-car households rather than the observed trip rate of around 30.

Figure 6-3 - Correlation between bus ridership and no household access to a car[29] [30]

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29 DfT (2020), Local bus passenger journeys (Bus0110)
30 ONS (2013), Car or van availability (QS416EW)

6.2. Bus KM operated

6.2.1. Overall bus KM

Figure 6-4 displays the bus service KM[31] per year indexed to 2013/14 for Slough, adjacent local authorities of Bracknell Forest and Windsor and Maidenhead, alongside the South East of England and England as a whole. Slough saw a significant decrease in bus KM operated between 2013/14 to 2014/15 against the baseline, where the number of bus KM reduced by 12%. After this, bus KM operated within Slough continually increased, reaching 15% above baseline by 2017/18, since when the KM operated has plateaued.

When considering the comparable authorities alongside the regional and national scale, unlike Slough, Windsor and Maidenhead experienced a small reduction in bus KM between 2013/14 and 2014/15, whereas KM in Bracknell Forest increased by 7%. After 2014/15, both Bracknell Forest and Windsor and Maidenhead displayed a decrease in bus KM operated until 2016/17 during a period when bus KM was increasing in Slough before following a similar trend to Slough by increasing in 2017/18 before plateauing. When considering the regional scale, there has been little change in the bus KM operated per year, with a small decrease in 2015/16 to 97.3% of baseline before recovering to slightly above the 2014/15 value in 2017/18. This is opposed to the national KM operated where there was a continual decline in bus KM operated per year before stabilising in 2017/18.

Figure 6-4 - Bus service KM per year indexed to 2013/14[31]
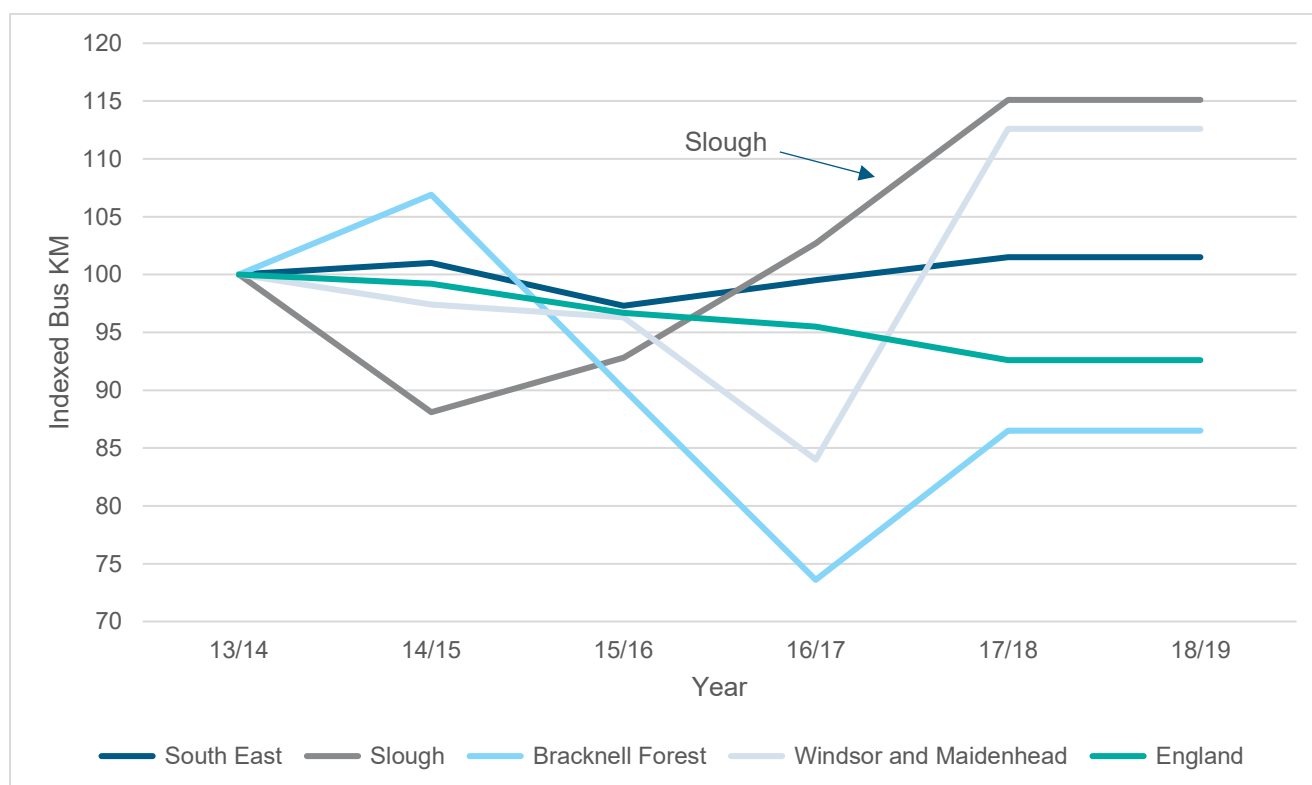
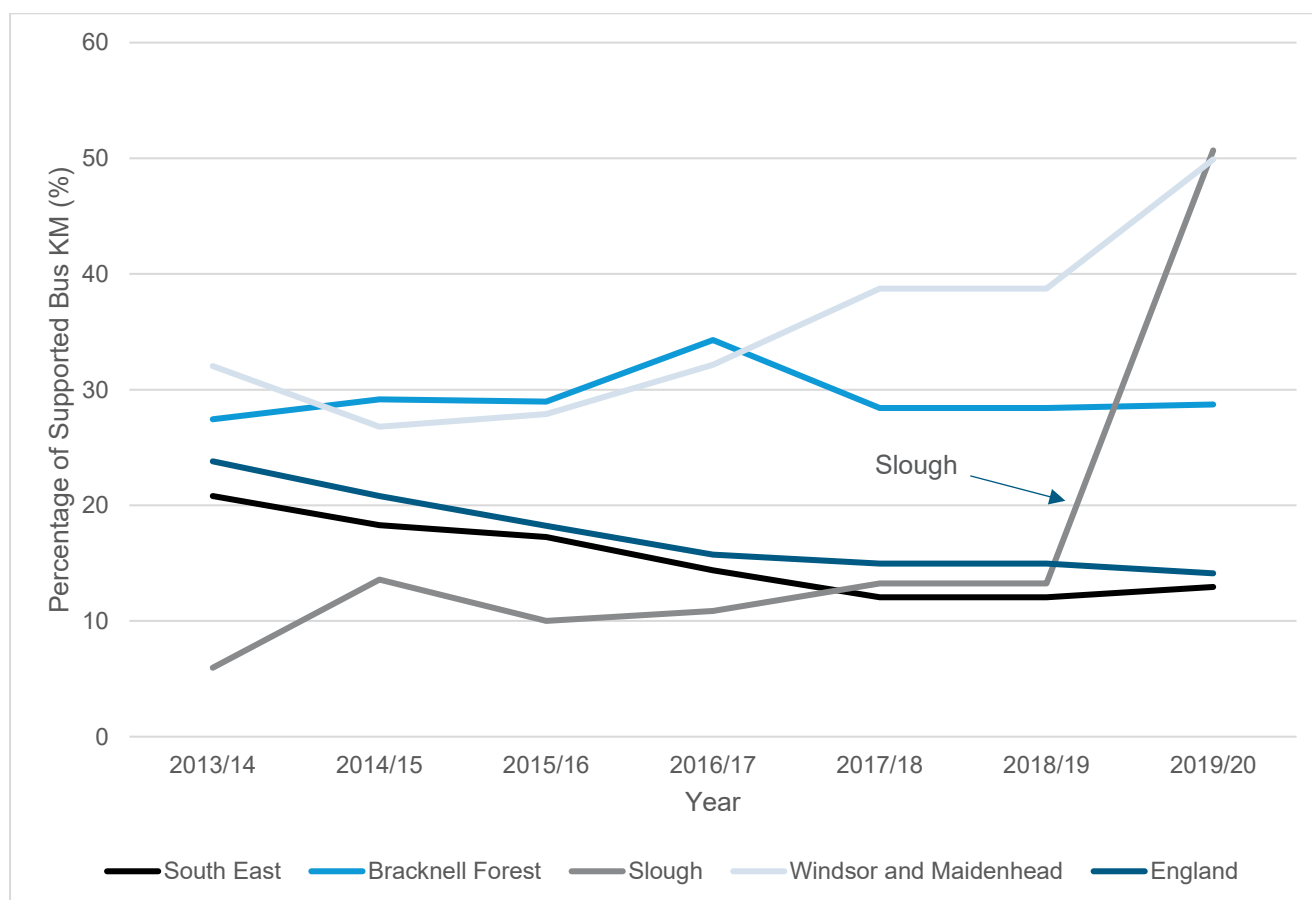[31] DfT (2020), Local bus vehicle distance travelled (Bus0208)

6.2.2. Supported Bus Service Kilometres

When considering supported kilometres (KM) operated in the local authority areas[32] (Figure 6-5), the proportion of supported bus services within Slough appears to have increased. This was due to a reduction in the number of commercial services provided in 2014/15; however there was an absolute decrease in supported vehicle KM of 200,000. When a slight recovery of commercial services occurred post 2014/15, but with little change in the number of supported KM, the proportion fell in 2015/16 before an increase in proportion seen until 2017/18 as a result of slight fluctuations in the number of supported and commercial KM before stabilising after 2017/18. It is not, however, clear why the percentage of supported services increased to 50% in 2019/20: this may reflect inclusion of funding provided by Heathrow Airport rather than local authority support.

Contrasted with the adjacent local authorities, the proportion of supported bus KM remained broadly stable in Bracknell Forest until 2015/16 when a decrease in commercially operated services led to an increase in the proportion of supported services by 20%; this reduced the following year following an increase in commercial services and stabilised. Within Windsor and Maidenhead the proportion of supported KM fell from 2013/14 to 2014/15 before a gradual increase seen until levelling off in 2017/18 – again this was a reflection of the changing levels of commercial services. Both Bracknell Forest and Windsor and Maidenhead display a similar trend to Slough, where the number of supported services has remained broadly similar and the proportion of supported KM is therefore dependent on the volatility of the commercially operated services which have fluctuated over the time period.

Slough and the adjacent local authorities do not match the national or regional trend. When considering the national trend, it is clear that the number of commercially operated vehicle KM has remained fairly constant, but the decrease in bus KM has been a result of the reduction in supported services. The South East region shows a similar trend; however, the number of commercial KM operated has contributed to the steep decline seen in Figure 6-5.

**Figure 6-5 - Supported bus service KM as a proportion of total bus service KM[32]**

6.3.   Concessionary passenger journeys

Figure 6-6 displays the percentage of passenger journeys within each area which were concessionary journeys[33]. It is evident that the proportion of concessionary journeys within Slough is ahead of the national and South East regional average by 6.7% and 12% respectively, but is lower than the comparator authorities.

The percentage of concessionary passengers gives an indication of the extent to which the bus network is used by fare-paying passengers. In the case of Slough, one out of four passengers uses an ENCTS bus pass, which implies that around three out of four passengers are paying a fare. This is a significantly higher proportion of fare payers than in Bracknell Forest or Windsor and Maidenhead.

Figure 6-6 - Concessionary passenger journeys as a percentage of all passenger journeys (2017/18)[33]
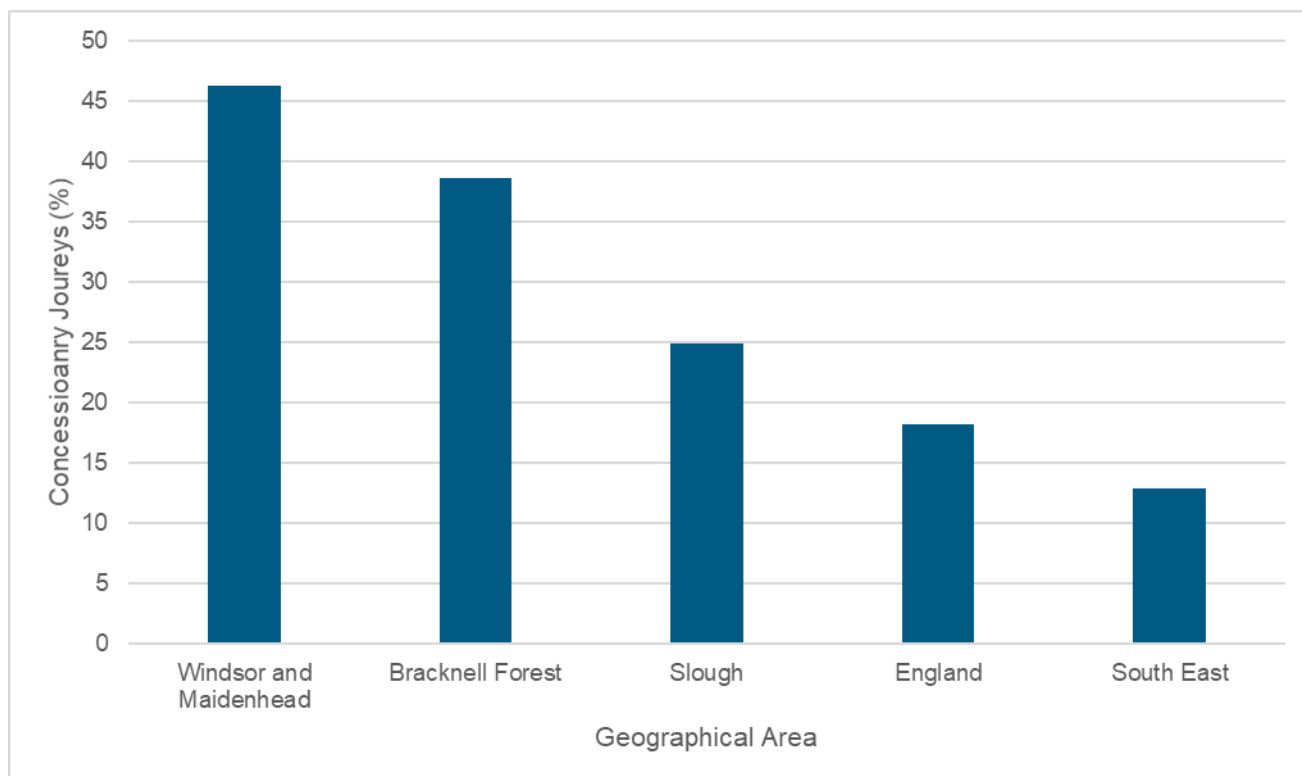
[33] DfT (2020), Bus Statistics (Bus0823)

6.4. Bus service density

TRACC accessibility software has been used to calculate the average number of buses per hour calling at bus stops during AM peak for the January 2020 and April 2021 bus timetables as per the data recorded in the National Public Transport Data Repository[34].

6.4.1. Pre-COVID (January 2020)

Figure 6-7 displays the average number of buses calling at bus stops wSlough during the January 2020 timetable. From the figure it is evident that the highest frequency of bus services calls are seen along the A4 corridor between Slough Bus Station and Blandford Rood South, with the number of buses varying between 10-19 services per hour depending on the bus stop. It is clear that the A4 is the main bus corridor within Slough, followed by a high density of services using the B416 Stoke Road and High Street/Bath Road within Colnbrook. The east of Slough appears to have more regular services at each bus stop, but with a lower number of bus stops, contrasted with the west of the town which offers a broader density of bus stops but with lower frequency buses.

Figure 6-7 - Average bus stop frequency (AM Peak - January 2020)

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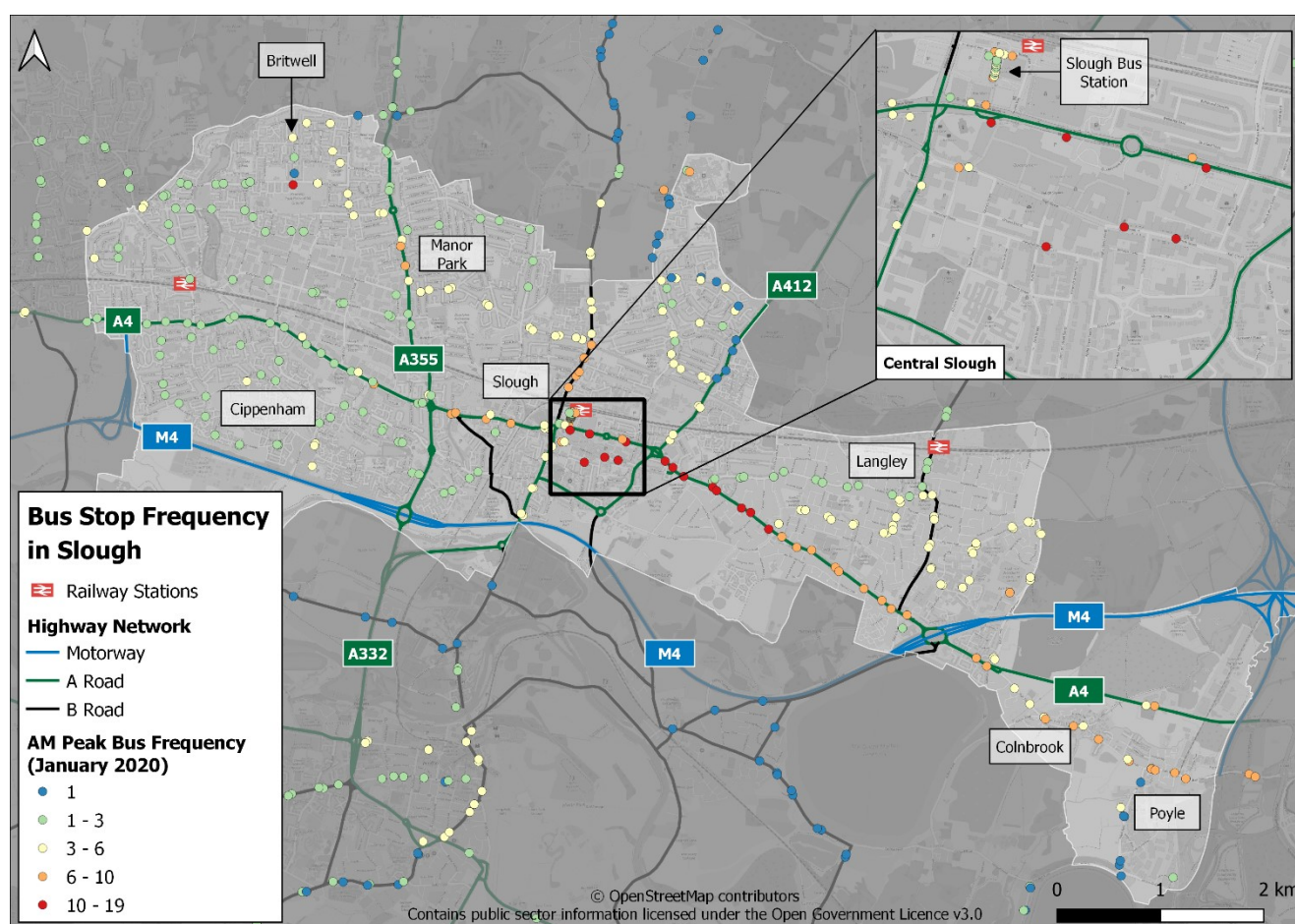
[34] Basemap (2021), National Public Transport Data Repository

6.4.2. Current bus service density (April 2021)

April 2021 represents a period where the provision of bus services continued to be operated at a reduced scale due to the reduction of bus patronage induced by the COVID-19 pandemic. Figure 6-8 outlines the bus network within Slough at this point. The figure outlines that the number of services seen along the A4 corridor had reduced by up to 35%. Within the suburbs of Slough, the bus frequency reduced within the Langley area, where many stops received only one service per hour compared to four during the January 2020 timetable. There were also reductions in service provisions seen within Britwell and Manor Park, however services in the Cippenham area did not reduce when compared to the January 2020 timetable.

Figure 6-8 - Average bus stop frequency (AM Peak - April 2021)
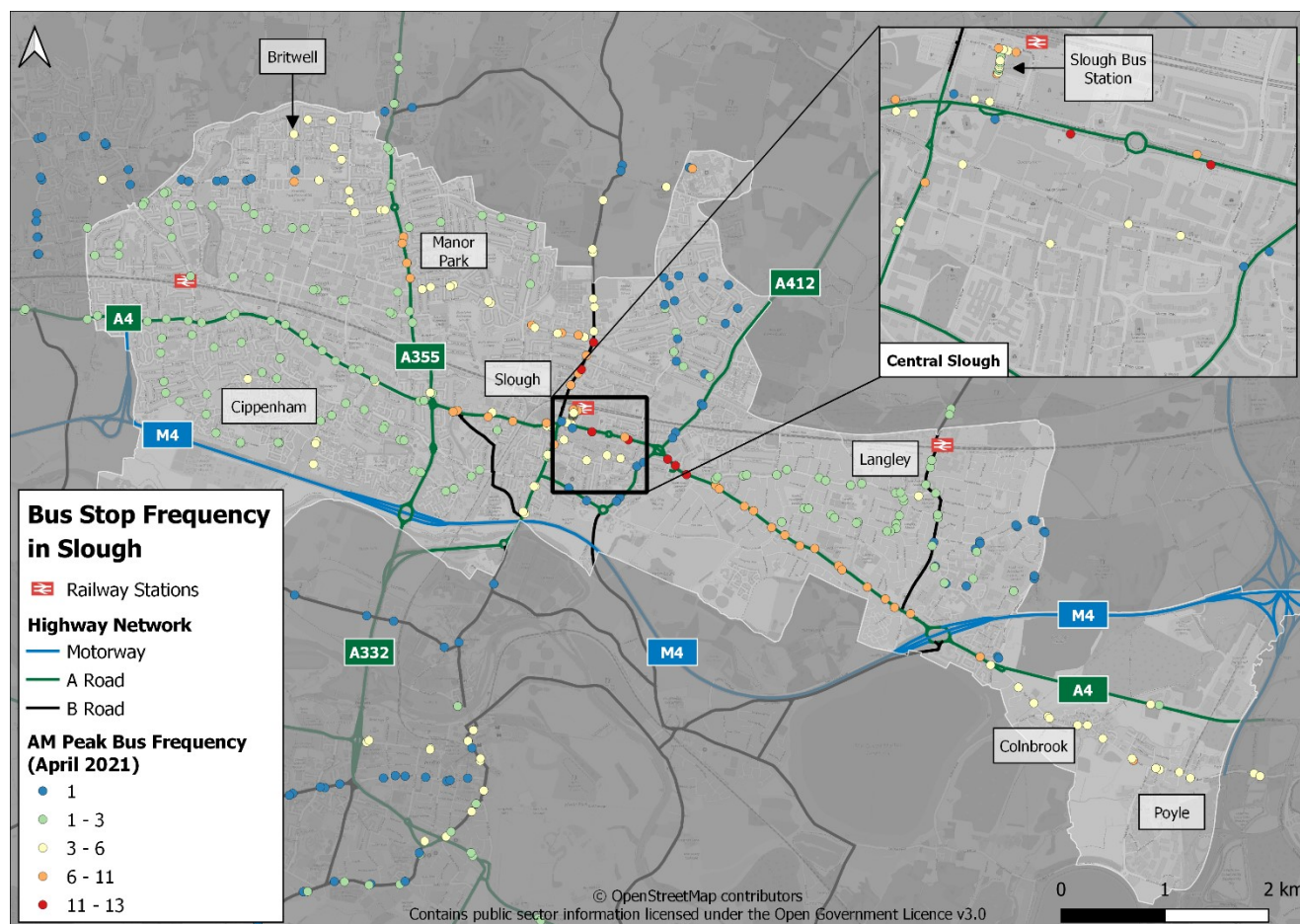
6.5.   Bus service support

Slough Borough Council currently provides funding support for the current services:

- Route 4 (Heathrow – Slough – Maidenhead): Monday – Sunday evening journeys between Slough and Maidenhead;
- Route 5 (Slough – Cippenham): the Cippenham 'loop', early morning and evening journeys, and Sunday operation;
- Route 5S (Slough – Chalvey): one AM and one PM journey between the Bus Station and The Grove Academy;
- Route 6 (Wexham Court – Slough): Sunday operation;
- Route 10A (Slough – Datchet): one AM and one PM journey between the Bus Station and Churchmead School;
- Route 12 (Burnham – Manor Park – Slough): Sunday operation and one Monday to Saturday evening journey, funded by DfT's Better Deal for Bus Users; and
- Route 63 / 68 (Maidenhead – Slough, 2 days / week): minor diversion via Goldsworthy Way.

6.6.   Bus priority measures

Slough currently features a number of bus priority measures across the local authority area. These are mainly centred along the main A4 corridor which passes east to west through the local authority, but two sections of bus lane are provided on A355 Farnham Road. Figure 6-9 shows measures for which permanent Traffic Regulation Orders are in place. In addition, further bus lanes are currently located on the A4 between the Cippenham Lane and A412 junctions under Temporary Traffic Regulation Orders. Despite this, there are gaps in bus lane provision on the A4 and no bus route currently benefits from a 'whole route' approach to bus priority.

Most bus lanes operate between 07:00 - 10:00 and 15:00 -19:00 but a small number operate all-day.

Figure 6-9 - Bus priority measures within Slough
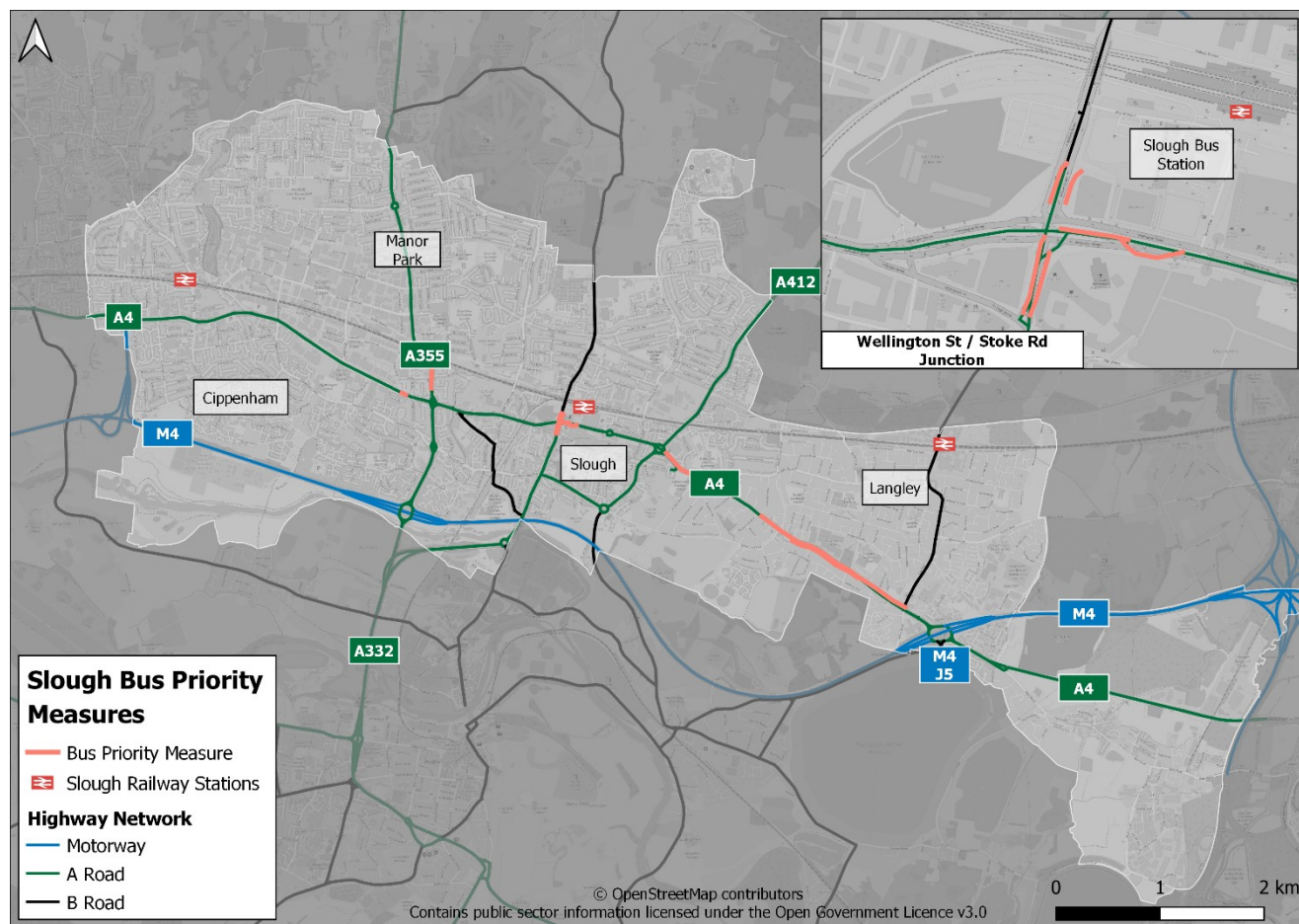
6.7. Car journey times and speeds

Within Slough the average km travelled on locally managed roads has been declining slightly since 2015, reducing from 896 million km to 865 million km by 2019[35]. There was a further significant reduction in 2020 as a result of changing travel behaviours during the COVID-19 pandemic. When reviewing the relationship between average vehicle speed[36] and delay[37] on locally-managed A roads (Figure 6-10) the average delay within Slough has decreased year-on-year since 2016 from 113 seconds per vehicle per mile (spvpm) to 95 spvpm in 2019. As delay has decreased, average speed on locally managed 'A' roads has increased from 15 km/h in 2016 to 16.4 km/h in 2019. Again, both average speed and delay datasets show a significant improvement in the metric in 2020 as a result of the COVID-19 pandemic.

The reduction in delay seen in 2017 and 2018 may be associated with the completion of some significant investments in the Slough strategic highway network including re-modelling at the Copthorne Roundabout on A355 Tuns Lane and dualling of the A332 Windsor Road.

Figure 6-10 - Speed and delay on locally managed 'A' roads
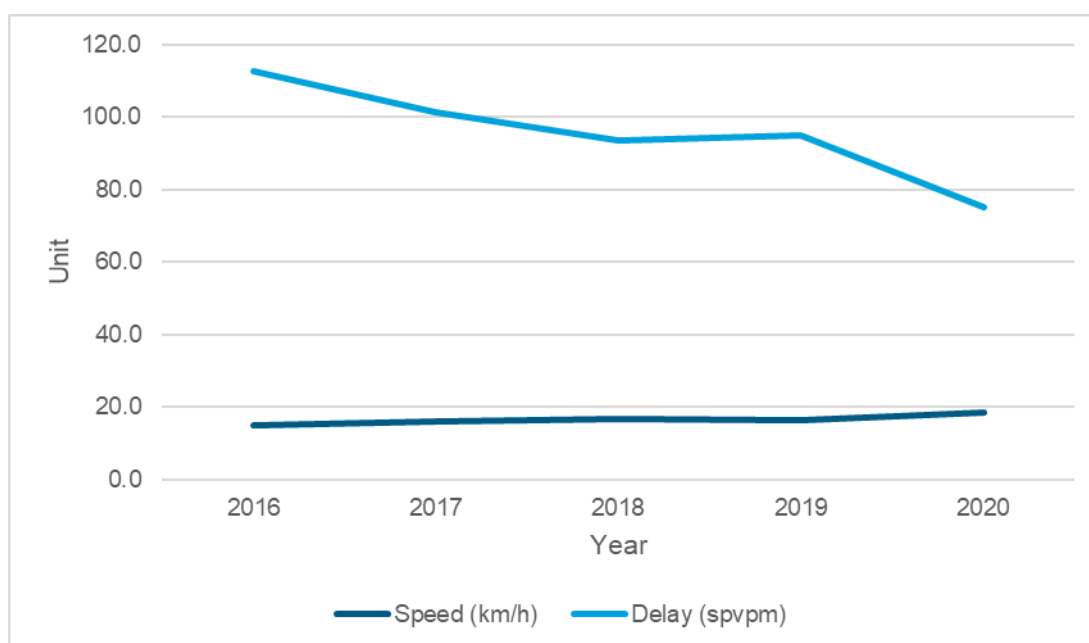
6.8.   Highway congestion

Delay on local 'A' Road links (spvpm) has been collected from the DfT[38] for 2019 and is illustrated in Figure 6-11. This figure outlines that the longest delays are seen through central Slough along the A4 from the junction with the A412 to that with the A335. This high level of delay also radiates out from the junctions where the A4 meets the A332 and the A355, where on the latter this level of delay continues to the local authority boundary with Buckinghamshire. This data suggests that the aforementioned roads regularly suffer from congestion which impacts journey times and reliability. It will be noted that there are currently two sections of bus lane on the A355 Farnham Road; Figure 6-11 suggests scope to implement more.

The lowest levels of delay are seen along the A332 entering Slough from the south, as well as on the A412 as it enters Slough.

Figure 6-11 - Delay on local 'A' roads in Slough[38]
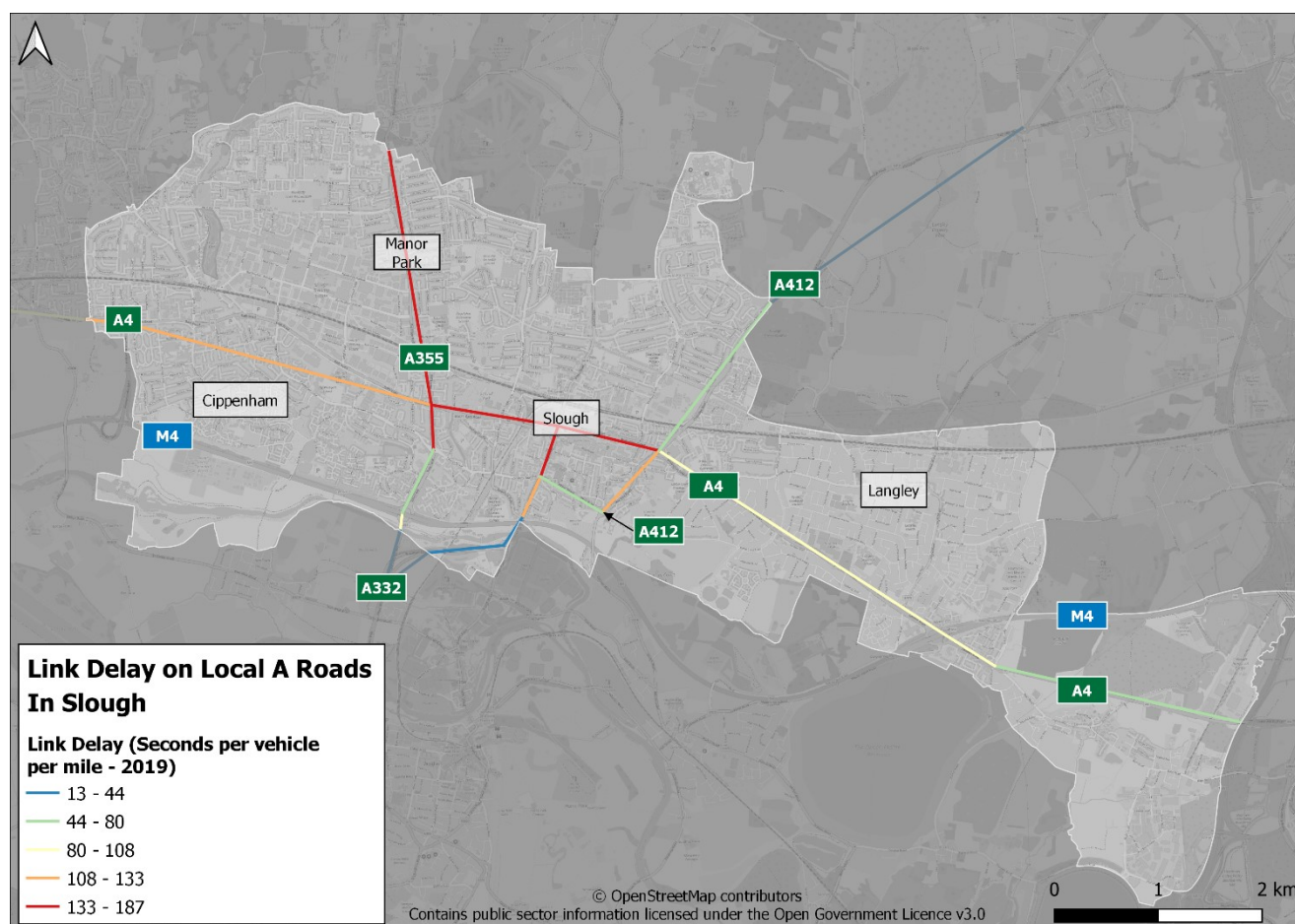
[38] DfT 2021, Delay Local A Roads England 2019

6.9.   Car journeys

Data collected from the DfT highlights the trend in vehicle miles within Slough since 2015[39]. Overall, the number of vehicle miles within the local authority area decreased slightly between 2015 and 2019 (Figure 6-12), with the total number of miles for all motor vehicles alongside cars and taxis following a similar trajectory. In 2018 there was a slight uptick in vehicle trips within Slough before another year of decline in 2019; this was followed markedly by the COVID-19 pandemic, which caused a significant reduction in vehicle trips, especially for cars and taxis.

Figure 6-12 - Annual traffic by vehicle type in Slough
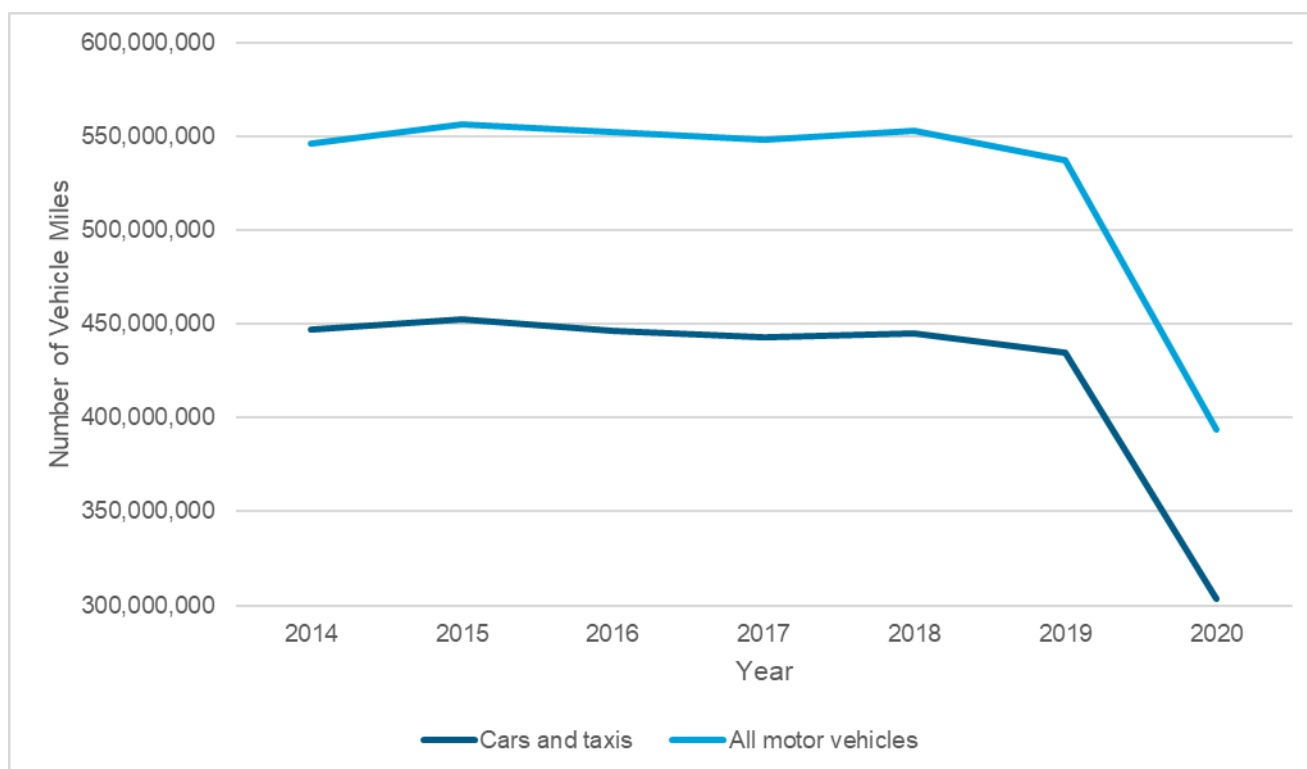
6.10. Mode share

Census data for the method of travel to work data has been utilised to understand mode share within Slough (Figure 6-13)[40]. From this data it is evident that the majority of trips to work are taken by driving a private car, followed by travelling by foot which account for 61% and 10% of mode share respectively. In the 2011 Census, only 2.4% of commutes were accounted for by cycling in Slough. When considering public transport, 7.5% of commuters utilised the bus as their main way of travelling to work, with 7% commuters travelling by train.

Figure 6-13 - Method of travel to work[40]

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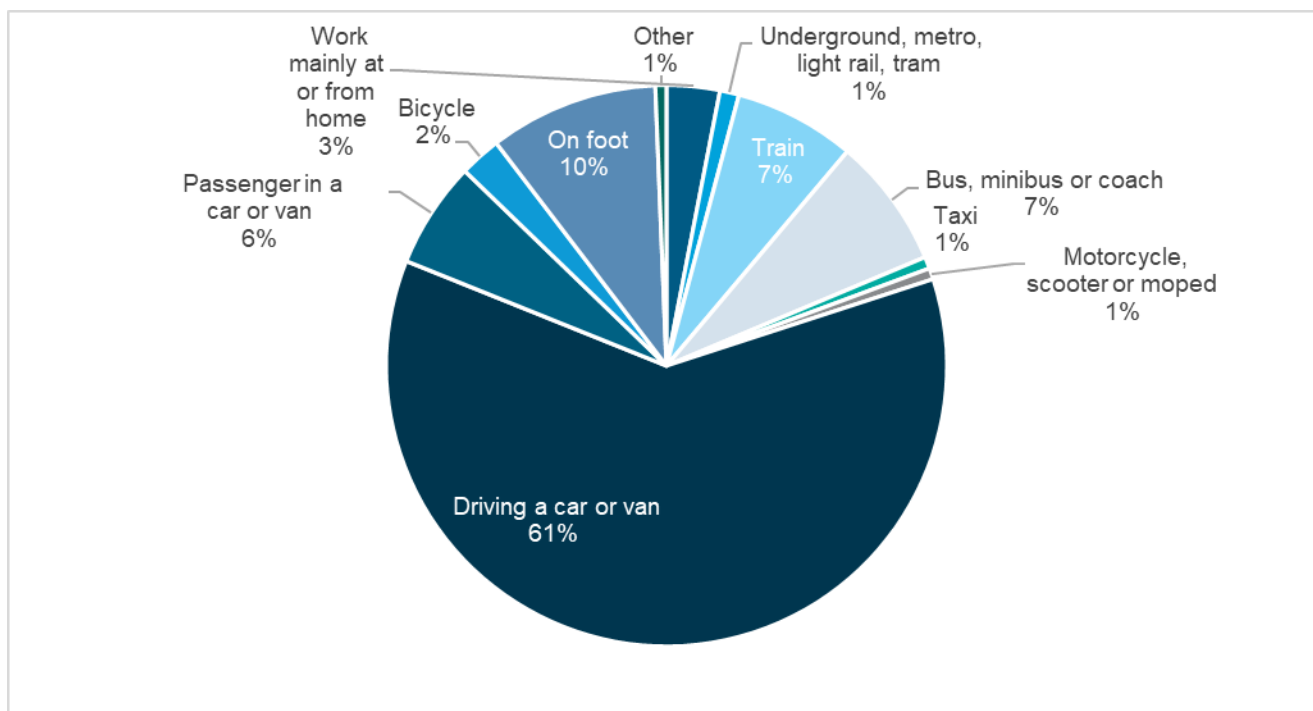
[40] ONS (2013), Method of travel to work (QS701EW)

'What Scope for Increasing Bus Use? (Urban Transport Group, October 2019) considers the relationship between the percentage of work trips by bus and overall bus usage. Figure 1 of the report, reproduced as Figure 6-14 below, shows this correlation.

Figure 6-14 – Mode Share for Journeys by Bus and Bus Trip Rate

Figure 1: Relationship between overall bus use and bus commuting
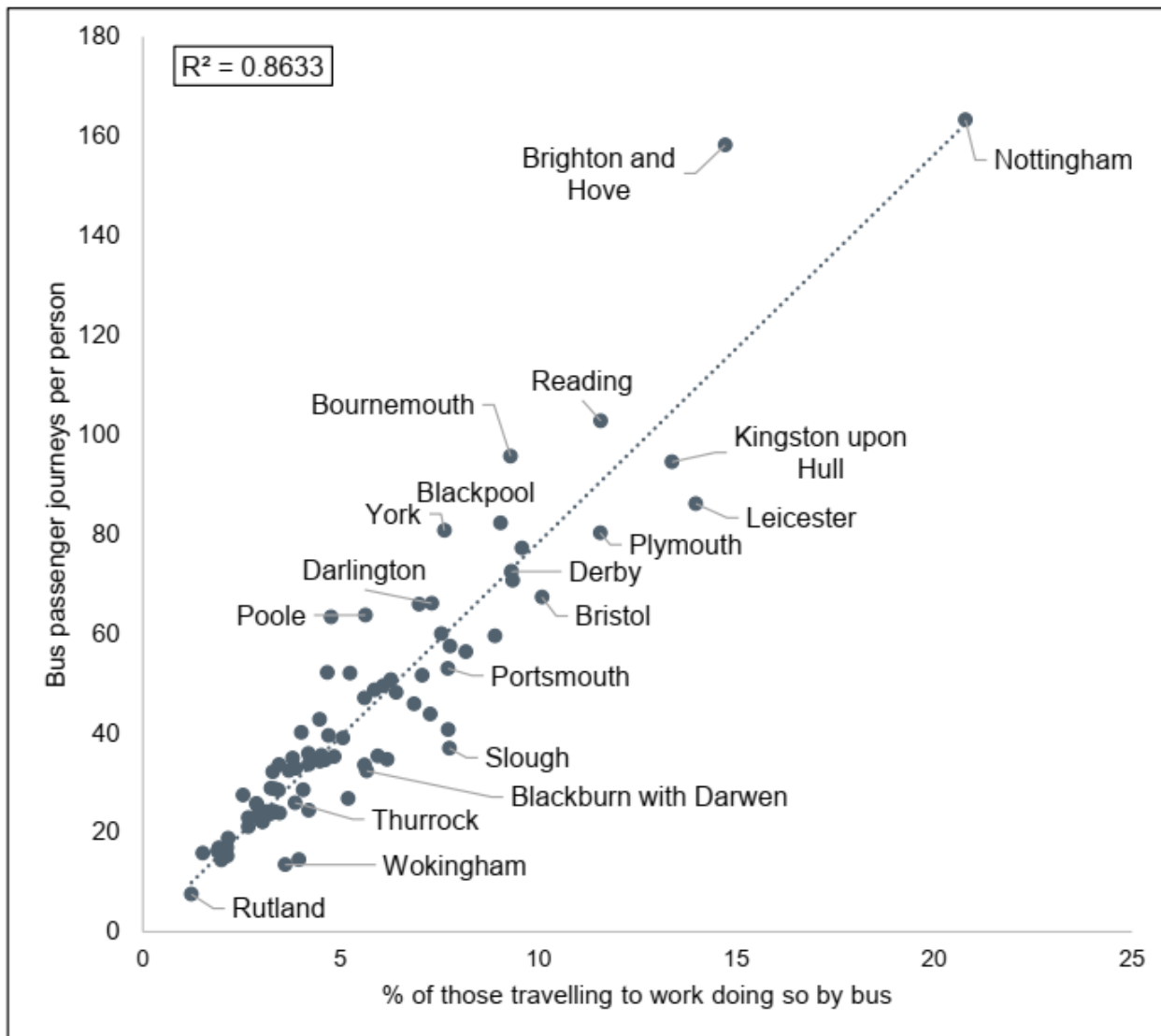
Data sources: Bus passenger journeys per person from DfT Annual Bus Statistics BUS0110a (bus operator data); percentage of those travelling to work doing so by bus from 2011 Census (table QS701). Sample: 82 transport authorities. The DfT statistics contain information for 89 areas, of which six are the Integrated Transport Authorities of Greater Manchester, West Midlands, South Yorkshire, West Yorkshire, Merseyside and Tyne & Wear, and the seventh is London. Census data could not be readily matched to these seven areas and has been excluded from this plot.

The graph suggests that the trip-rate for bus passenger journeys in Slough predicted by the percentage of work trips is around 60, whereas the out-turn is less than 40. This suggests a need to stimulate demand for bus travel for other journey purposes such as education and leisure.

6.11. Transport network investments

Slough Borough Council has been successful in levering in investment to the highway network in recent years, particularly from the Thames Valley Berkshire Local Enterprise Partnership, notably:

- Highway capacity improvements at Copthorne Roundabout on A355 Tuns Lane and dualling of A332 Windsor Road;
- Implementation of permanent bus lanes on the A4 London Road between the Upton Court Road and Langley Road junctions;
- Implementation of bus lanes on the A355 Farnham Road and selected junction improvements funded by the DfT's Better Buses For All programme;
- Implementation of experimental bus lanes on the A4 between the A412 Uxbridge Road junction and the Cippenham Lane junction under the DfT's Access Fund; and
- Re-modelling the Brands Hill junction and delivery of further bus lanes (as at August 2021 under construction).

6.12. Customer satisfaction

Transport Focus Bus Passenger Surveys have not been undertaken in Slough or in neighbouring authorities.

7. Transport strategy and policy

7.1. Government strategies

Table 7-1 to Table 7-3 summarise relevant government strategies.

Table 7-1 - Key National Government Strategies

Key policy documents	Key themes
Transport De-carbonisation Strategy (2021)	Future local transport funding will transition to a state where it is conditional on local areas being able to demonstrate how they will reduce emissions over a portfolio of transport investments through LTPs
	Government will provide a toolkit to help authorities deliver measures to reduce greenhouse gas emissions from transport
	Re-iterates National Planning Policy Framework presumption on planning for sustainable transport modes in new developments
	Commitment to reform Bus Service Operators Grant and re-states aspirations and commitments set out in National Bus Strategy
	Recognises the need to contain traffic volumes in towns and cities but the focus appears to be on achieving mode shift through increasing cycling, walking and ride-sharing. Recognises the need to re-allocated roadspace but offers no insight into how mode shift will be achieved from car, particularly to rail or bus
National Bus Strategy (2021)	Investment of £3 billion over the course of the next UK parliament in England
	Reverse the cycle of decline in the usage and provision of bus services
	Roadspace re-allocation in favour of bus priority
	Five Bus Rapid Transit towns
	Improved uptake of Zero Emission Buses with 4,000 vehicles delivered
	Simpler, multi-operator ticketing with flat and capped fares
Williams-Shapps Rail Review (2021)	Great British Railways to plan, specify and oversee the delivery of rail services
	Existing franchising system of passenger rail operations to move a system of managed contracts with the revenue risk borne by Great British Railways
	More opportunities for local authorities to work in partnership with Great British Railways to deliver improved rail services
Future of Mobility: Urban Strategy (2019)	Mass transit must remain fundamental to an efficient transport system
	Mobility innovation must help to reduce congestion through more efficient use of limited road space, for example through sharing rides, increasing occupancy or consolidating freight
	The marketplace for mobility must be open to stimulate innovation and give the best deal to consumers
	New mobility services must be designed to operate as part of an integrated transport system combining public, private and multiple modes for transport users
	Data from new mobility services must be shared where appropriate to improve choice and the operation of the transport system.
Clean Growth Strategy: Leading the way to a low carbon future (2017)	Increase uptake of zero-emission buses
	Reduce the number of shorter journeys made by car
The Ten Point Plan for a Green	Green public transport, cycling and walking – including the National Bus Strategy (see above) and 4,000 Zero Emission Buses

Industrial Revolution (2020)	£500m to re-open Beeching era rail line closures
Walking and Cycling Investment Strategy (2017)	Increase walking to 300 stages per person per year (a single public transport trip typically includes at least two walk stages)
DfT Single Department Plan (2019)	Deliver the Future of Mobility Urban Strategy, to consider new types of vehicle, sharing data to improve services, and making journey planning and payment simpler.
	Support cities to develop transport and promote local growth through the £2.5 billion Transforming Cities Fund. Delivering schemes to tackle congestion and drive up productivity, such as measures to speed up bus journeys.
	Continue joint working with the Ministry of Housing, Communities and Local Government to integrate decision-making on housing and transport investments and policies and promote better integration of sustainable transport with new housing.
	Commence a large-scale regulatory review, looking in to how our regulatory framework will need to adapt due to technological changes in buses and taxis, data, mobility as a service and micromobility.
Decarbonising transport: setting the challenge (2020)	Help make public transport and active travel the natural first choice for daily activities
	Support fewer car trips through a coherent, convenient and cost-effective public network; and explore how we might use cars differently in future
	Encourage cycling and walking for short journeys
	Explore how to best support the behaviour change required
	Address emissions at a local level through local management of transport solutions
	Target support for local areas, considering regional diversity and different solutions
Connecting people: a strategic vision for rail (2017)	Improving the standard and consistency of train service delivery
	Expanding commuter capacity in line with expected demand
	New routes which can provide strategic transport links or unlock significant housing or economic development regionally
	Schemes to meet the biggest capacity challenges
	Deliver Smart ticketing and fares reform to introduce single-leg pricing and tailor ticketing products to needs of part-time commuters
National AQ Plan: UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (2017)	Good local bus services encourage people to leave the car at home and use public transport to get to work, school, and to access local services.
	The latest Euro VI diesel buses can emit less NOx per vehicle than the latest diesel cars.
Clean Air Strategy (2019)	Funding to improve bus services
National Planning Policy Framework (NPPF) (2018)	Applications for development should facilitate access to high quality public transport services…layouts that maximise the catchments for bus…appropriate facilities to that encourage public transport use
	Local parking standards should take account of the availability and opportunities for public transport
A connected society - A strategy for tackling loneliness (2018)	The Department for Transport will build partnerships with transport providers and community groups to develop how transport can be used as a means to help tackle loneliness, and use industry-wide forums to promote these

	Requirement to reflect in departmental Single Department Plans from 2019/20
Inclusive Transport Strategy (2018)	Support the establishment of a Rail Ombudsman to investigate unresolved customer complaints.
	Identify a framework to ensure bus operators are implementing mandatory bus driver training.
	Ensure that disabled travellers are fully aware of their rights and the obligations of transport operators.
	Promote the assistance and financial savings available to disabled travellers.
	Require a minimum target for the successful completion of booked assistance through the Passenger Assist scheme.
	Support regulators to promote information about the rights of disabled travellers.
	Release an online tool to assist disabled people in reporting issues they encounter when travelling by bus.
	Ensuring that all public transport bodies understand their obligations under the Public Sector Equality Duty in relation to planning and delivering transport.
	Legislation to ensure the provision of on-board audible and visible upcoming stop and route information is installed on local bus services across Great Britain.
	Increase the availability of data on accessibility.
	Ensure transport providers improve the availability of information particularly in relation to accessibility services such as toilets.
	Work with Train Operating Companies to help ensure that all disabled passengers are aware of the Passenger Assist service.
	Provide improved information about the accessibility of stations, including the development of an accessibility map by the RDG.
	Make up to £300 million available for rail accessibility improvements during the period 2019-2024.
	Update the Department's Inclusive Mobility and Tactile Paving guidance.
	Announce how to prioritise access to the on-board wheelchair space for wheelchair users and other passengers for whom there is no other suitable accommodation on buses.

Table 7-2 - Key Sub-National Government Strategies

Key policy documents	Key themes
Transport Strategy for the South East (TfSE, 2020)	Strategic goals of improved productivity, improved health and wellbeing and protection of the environment
	A network that promotes active travel and active lifestyles to improve our health and well-being. A reduction in the need to travel by car
	South East is less dependent on London and develops its own economic hubs
	Mode shift from car to bus and rail through increasing price of travel by car and lowering the price of bus and rail travel
	Support initiatives that maintain the viability of inter-urban bus services
	Develop high quality Rapid Transit services in urban corridors
	Scenario forecasting summary report (2019) contains a number of scenarios. 'Sustainable Route to Growth' sees an increase in bus and coach trips of 120% and rail trips of 108% against an increase in journeys by all modes of 4%. This is compared to 'business as usual' and is against a 13% increase in employment and 15% increase in Gross Value Added by 2050.

Table 7-3 - Key Local Government Strategies

Key policy documents	Key themes
Slough LTP3+	
Slough Strategic Transport Investment Plan, 2021	This was presented to cabinet in draft form in February 2021. Objectives include:
	making public transport the dominant mode of travel to and from the centre of Slough, the rest of the Borough and beyond, including to and from Slough's neighbourhoods;
	providing the capacity for movement to and from the centre of Slough, in the form of a high quality, reliable, high-capacity public transport network, which enables a higher scale of development;
	maximising the benefits of enhanced strategic public transport connectivity to London, Heathrow Airport and the wider Thames Valley;
	making walking and cycling to and from the centre of Slough and the district centres the most attractive option for shorter journeys;
	creating attractive environments in which people are put first in terms of movement and use of space for interaction, creating safe, healthy and vibrant urban spaces which encourage people to live, work and relax locally;
	using high quality design of transport infrastructure to enhance the quality of the public realm;
	significantly reducing the dominance of the car as a mode of travel to, from and through the centre of Slough and on key arterial roads; and
	minimising the impacts of roads, parking and motorised vehicles on the urban realm and on people, including improved air quality and road safety.
	Key proposals include the Mass Rapid Transit network, infrastructure improvements for traditional bus services, consolidation of town centre car parks and in the longer term development of Park and Ride.

8. Local authority capabilities

Public transport resource currently consists of:

- Misha Byrne, Senior Transport Planner, Major Infrastructure Projects;
- Eddie Hewitt, Principal Transport Strategy Officer; and
- Stephen Hosking, Transport Planner.

All three individuals have wider responsibilities for sustainable travel and management of the highway network. To date, there has been a long-standing term commission with Atkins Ltd to provide specialist support with regard to operations and service delivery. Since 2007 this has been provided by Matt Gamble, with the involvement of others, notably Miles Robinson and Tony Brown on Intelligent Transport Systems.

9. Business planning

This section considers the impact of population change and a change in car ownership as two key drivers of the demand for bus travel in future years.

9.1. Population projections

Population projections[41] produced by the ONS have been used to develop an insight into the future age structure of the population within Slough. The data suggests that the total population living within Slough will not change significantly between 2018 and 2039, with the population increasing by around 3,000 people; however, the age structure will change, with the area following the national trend whereby the average age of the population will increase. Within Slough, the proportion of over 65s is projected to increase by 16% and 36% by 2025 and 2032 respectively, whilst the number of people under the age of 15 will decrease by 14% by 2025 and 40% by 2032. These changing demographics will impact the demand for differing types of bus services within Slough, with the network needing to adjust to meet the demands of the changing demographics of the population.

Figure 9-1 - Population projection[41]

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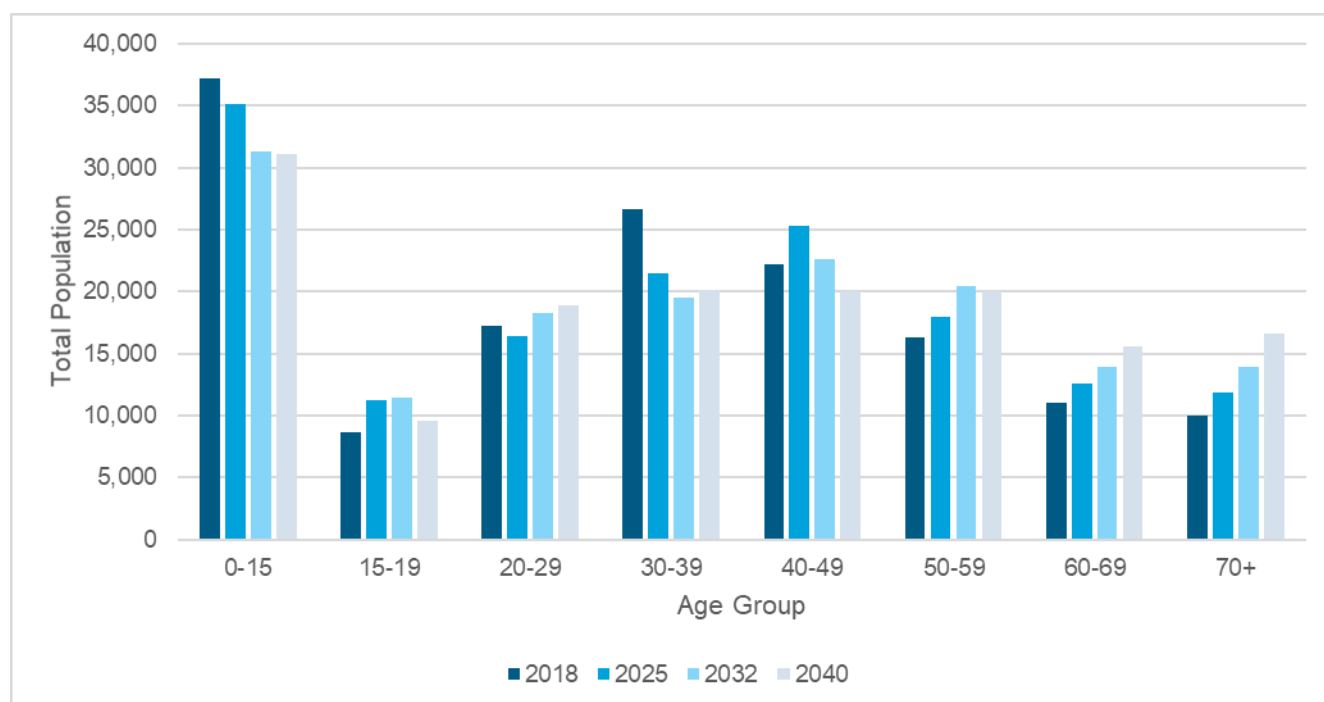
[41] ONS (2020), Population projections for local authorities: Table 2

9.1.1. Projected Bus Patronage (Population)

Table 9-1 sets out the trip-rates by age group for local bus outside London in the National Travel Survey, and uses these to estimate how (all things being equal) the changing population and age profile can be expected to impact on the demand for bus travel. Interestingly, forecast bus patronage derived simply by applying the NTS trip rate factors is very similar to out-turn (4.7m compared to 4.5m).

It suggests that the greatest demand increase is likely to come from those over the age of 60, who are already some of the most likely people to use bus services. There is also some growth expected from these between 50 and 59 and those between 16 and 29. With the exception of 50-59 year-olds, these age groups have higher tendencies to use bus services.

The data indicates opportunities to develop bus services to meet the needs for younger and older age groups. It also indicates a threat arising from a further weakening of demand from people aged 30 – 49, and highlights the significant challenge in designing bus services for this group.

Overall, Table 9-1 suggests a 7% increase in the number of bus journeys by 2040 as a result of population change and the change in age profile.

Table 9-1 - Forecast population impacts on bus patronage

Age Group	NTS Annual Bus Passenger Trip Rate	2018 (NTS Forecast)	2018 (Forecast)	2025 (Forecast)	2032 (Forecast)	2040 (Forecast)	2040 / 2018 Forecast Change in Trips (%)
0-15	32	1,189,216	1,151,128	1,088,391	968,728	962,923	-16
16-19	73	628,822	608,682	793,704	808,140	677,959	11
20-29	34	584,834	566,103	539,876	601,986	622,249	10
30-39	21	558,747	540,852	437,174	397,505	408,752	-24
40-49	22	487,718	472,097	537,732	481,140	427,019	-10
50-59	19	310,137	300,204	329,651	375,589	368,069	23
60-69	36	396,900	384,188	437,919	485,983	543,369	41
70+	53	530,530	513,538	605,277	714,906	849,672	65
Total	-	4,686,904	4,536,793[42]	4,769,723	4,833,976	4,860,013	-

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[42] DfT (2020), Local bus passenger journeys (Bus0109)

9.2. Car ownership projections

Future car ownership within Slough has been estimated using the National Car Ownership Model contained within TEMPro 7.2[43] with the result displayed in Table 9-2.

Figure 9-2 outlines that car ownership is predicted to increase by 14% by 2040, with 84% of households expected to have access to a car by this point compared to an estimated 79% in 2018.

Table 9-2 - Car ownership projections in Slough

Year	No car	1 car	2 cars	3+ cars	Households with Car Access (%)	Change over 2018 (%)
2018	11,419	24,153	14,011	5,112	79	-
2025	11,033	25,129	15,354	5,692	81	5
2032	10,545	25,804	16,694	6,452	82	9
2040	9,765	26,410	18,720	7,198	84	14

Figure 9-2 - Projected change in car ownership in Slough
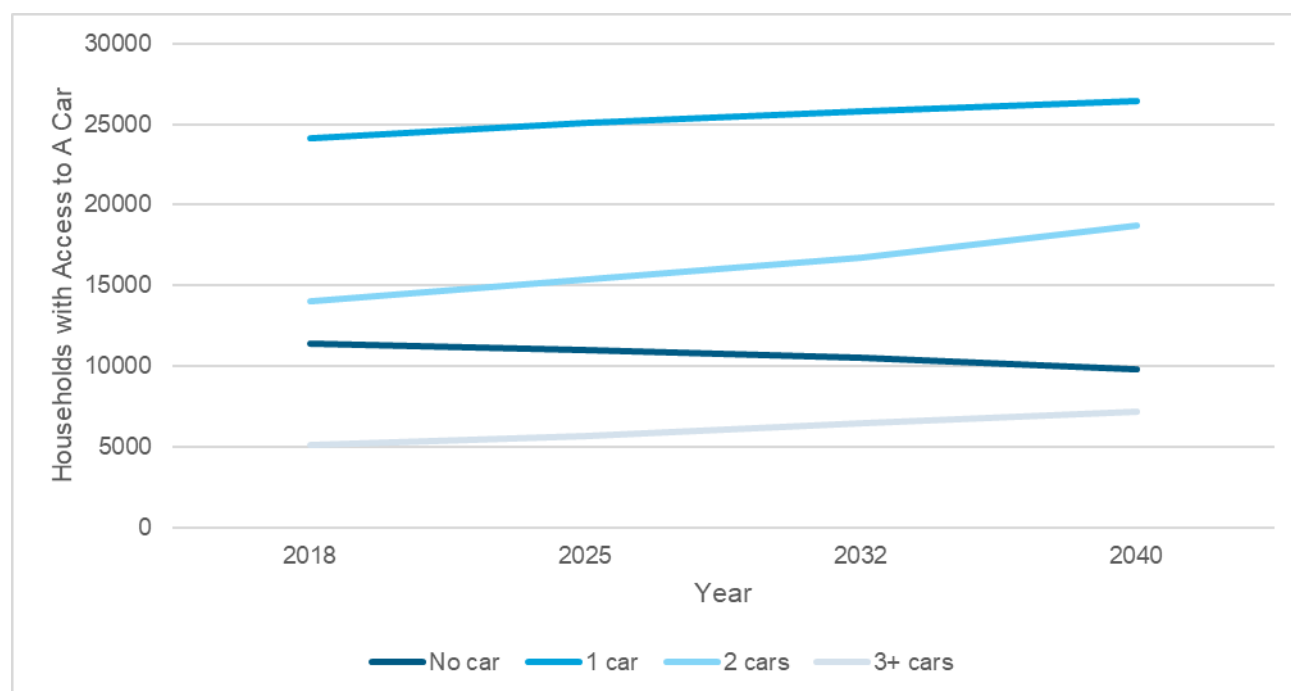
It should be noted that the forecast increase in the number of households is greater than the increase in population – 14% against 2% by 2040. Overall, there is forecast:

- Growth of 9% of people living in car-owning households;
- A 22% increase in the number of people living in households with access to more than one car; and
- A 23% decrease in the number of people living in zero-car households.

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[43] TEMPro (2021), Car ownership projections for Slough

9.2.1. Projected Bus Patronage (Household Car Ownership)

With the increase in car ownership that is predicted within Slough, Table 9-3 forecasts that demand for bus travel will increase in all car owning groups, with the greatest percentage increase in demand for bus travel in households with 3 or more cars, whilst demand will fall from no-car households.

Unlike the age group assessment, the number of trips forecast using NTS in 2018 is much higher than out-turn – around 6.6m trips compared to 4.5m trips – or 46% higher. This is consistent with the assessment shown at Figure 6-3.

Curiously, despite the increase in car-owning households, bus patronage is forecast to increase by 6%. This is likely to be an over-estimate, since the NTS data gives a bus passenger trip rate for all car-owning households, whereas in reality it is likely to be lower in multiple car-owning households. However, Table 9-3 does illustrate the need to develop bus services that are attractive for people living in car-owning households as well as a need to develop complementary measures designed to reduce the attractiveness of the car.

Table 9-3 - Forecast car ownership impacts on bus patronage[44]

Age Group	NTS Annual Bus Passenger Trip Rate	2018 (NTS Forecast)	2018 (Forecast)	2025 (Forecast)	2032 (Forecast)	2040 (Forecast)	2040 / 2018 Forecast Change in Trips (%)
No car	88	2,739,528	1,873,791	1,810,451	1,730,373	1,602,379	-14%
1 car	33	2,172,951	1,486,262	1,546,321	1,587,857	1,625,147	9%
2 cars	33	1,260,515	862,171	944,813	1,027,270	1,151,941	34%
3+ cars	33	459,907	314,568	350,259	397,026	442,931	41%
Total	-	6,632,901	4,536,793[45]	4,651,844	4,742,526	4,822,399	-

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[44] DfT (2020), Mode of Travel (NTS0702)
[45] DfT (2020), Local bus passenger journeys (Bus0109)

10. Concluding remarks

This technical note has been compiled to develop an understanding of the baseline conditions within Slough to inform the Bus Service Improvement Plan. The note has aimed to outline the current social demographic composition of Slough and how differing demand points may influence the need for public transport services, alongside outlining the current bus provision within the local authority.

Analysis of the Census data shows a town with a high population density, some high levels of deprivation and low levels of car ownership, suggesting that there is a high need to deliver high-quality mobility services in Slough to achieve social inclusion. Despite this, bus patronage is lower than would be predicted by the key metric of household car availability, and the bus passenger trip-rate has been falling in line with national trends – and faster than the average for South East England. The analysis of bus patronage against household car availability suggests scope to increase patronage by around 50%.

The bus mode share for commuting is 7.5%. Applying a trend-line predicts a bus passenger trip-rate around 50% greater than that achieved in Slough. This implies a lower proportion of non-work trips by bus than the average. The relatively limited retail offer in Slough town centre may influence this, as may the lack of any university. There may also be cultural influences in a highly diverse community like Slough.

Examination of areas with significant deprivation suggests an opportunity to re-balance bus service provision, particularly to Manor Park and Britwell, where frequencies are not generally high. SBC has attempted to address this issue by applying Better Deal for Bus Users funding to re-instating Sunday services to Manor Park and parts of Britwell, but the data suggests an opportunity to further improve service provision.

The Census data shows high levels of both in-commuting to Slough and out-commuting from Slough. Despite the fact that the bus network provides connectivity to a number of neighbouring towns such as Windsor, Bracknell, Maidenhead, High Wycombe and Staines, bus commuters are drawn from a much smaller geographical area than commuters as a whole. A particular issue in Slough is that employment in the town is spread over a number of centres which restricts accessibility by bus, but Heathrow Airport represents a significant opportunity which, over the years, SBC has sought to exploit in conjunction with Heathrow Airport Ltd, bus operators and neighbouring authorities to deliver bus patronage and mode shift to the airport.

Data suggests broadly consistent traffic flows in Slough but reducing levels of congestion in the town, which may reflect investment in the strategic road network. Figure 10-1 summarises the exogenous and endogenous strengths and weaknesses discussed in this report. The exogenous factors are for context; the endogenous factors are ones which SBC and the bus operators have the ability to influence and which therefore provide a focus for the development of proposals in Slough Borough Council's Bus Service Improvement Plan.

Figure 10-1 – Summary of factors affecting the demand for bus travel in Slough

Endogenous Weakness

High fares

Fragmented information provision

Fragmented fare offers with limited multi-operator provision

London boundary friction - TfL / non-TfL fares and service design

Lack of comprehensive bus service offer to many areas

Improved bus priority but no 'whole route' provision reflected in poor punctuality

Poor connectivity to rail at Burnham Station

Exogenous Weakness

Limited current retail offer in Slough town centre

Limited leisure facilities

No university

Major hospital is on the fringe of the urban area

Some neighbouring authorities have historically had limited interest in bus services - affecting cross-boundary services

Uncertainty on demand recovery from Covid-19 as a result of changes to public attitudes and work patterns

demand for bus travel in Slough

Endogenous Strength

Good connectivity to rail (Elizabeth Line) at Slough Station

High proportion of non-concessionary passengers

High level of service on TfL service 81 to Hounslow

Slough town centre regeneration proposals

Exogenous Strength

Major employer at Heathrow Airport easiliy accessible by bus from Slough with (pre-Covid) plans for expansion

Significant areas of low car ownership and high population densities

Proximity to London means many work-trips to Slough are by London residents less likely to use car