Three Rivers District Council

THREE RIVERS DISTRICT COUNCIL LOCAL PLAN

Transport Assessment

UK0028052.7665-TA-171025
OCTOBER 2025

PUBLIC

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TRANSPORT ASSESSMENT (VERSION P01) PUBLIC

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1 INTRODUCTION

1.1 OVERVIEW

1.1.1. WSP has been commissioned by Three Rivers District Council (TRDC) via the Hertfordshire County Council's (HCCs) Transport, Infrastructure and Planning Services Framework (TIPS) to prepare a Transport Assessment (TA) to inform and support the development of its new Local Plan. It will form part of the evidence base for the Regulation 19 submission planned for early 2026.

1.2 BACKGROUND

1.2.1. TRDC is currently in the process of preparing its new Local Plan which will set out how it will plan for future growth and development in the district, including managing the needs for housing, employment and associated transport infrastructure, and will cover the period up to 2041. It will replace the existing Local Plan that was adopted in 2011 which is made up of a number of Development Plan (DPDs) including the Core Strategy DPD, the Site Allocations DPD and the Development Management Policies DPD for the district.

1.2.2. In 2017 the Council commenced work on a review of these DPDs to create a single Local Plan for the district. There have been several iterations of Regulation 18 consultations over the past few years, mainly in response to the Council's changing priorities and regulatory context at the national level. The Council is planning on publishing Regulation 19 documents at the beginning of 2026, with a view to submit its new Local Plan to the Secretary of State later on in 2026.

1.2.3. To support the preparation of the new Local Plan it is important that a TA is prepared which provides an evidence base which demonstrates the transport implications of proposed new Local Plan development and identifies an associated package of transport improvements. It contains a review of the relevant national, regional and local transport policy documents, presents an assessment of the existing and forecast future transport conditions, identifies the impacts of proposed new Local Plan development, and sets out the impact of a package of transport improvements.

1.3 STUDY AREA

1.3.1. The study area encompasses the geographical extent of the district, which is bordered by Chipperfield, Kings Langley and Hemel Hempstead to the north, by Bricket Wood, Bushey and Watford to the east, by Harefield, Northwood and Headstone to the south, and by Chalfont St Peter, Chalfont St Giles and Little Chalfont to the south. It includes several urban areas including Abbots Langley, Chorleywood, Croxley Green, Loudwater, Maple Cross, Moor Park, Rickmansworth, Sarratt and Carpeders Park.

1.3.2. The strategic highway network that runs through the district is the M25 motorway which provides access to the wider strategic highway network across the southeast and beyond. In addition, the local highway network that runs through the district includes the A41, the A404, the A412, the A4008, the A4125 and the A4145, which connect to the strategic highway network. There are also several London Underground and Overground Stations as well as National Rail Stations located in the district, which provide access to London and the wider rail network across the southeast and beyond.

1.4 ASSESSMENT METHODOLOGY

1.4.1. The methodology that has been used in putting this TA together is based on the Department for Levelling Up, Housing and Communities (DLUHC) guidance on 'Transport Evidence Bases in Plan Making and Decision Taking' (2014) provided within the National Planning Policy Guidance (NPPG). This guidance sets out how an evidence base can be developed to assess the transport impacts of development and develop sustainable approaches to transport at a plan-making level.

1.4.2. To inform this TA a process of data gathering has been undertaken to set out the existing transport conditions, which has been used as a basis for forecasting future transport conditions, and in turn provides the basis for assessing the impacts of the new Local Plan. As part of the forecasting process HCC's Transport Model COMET has been used to determine the performance of the strategic and local highway networks with proposed new Local Plan development taken into account. The need for mitigation is considered, and the outputs of the assessment demonstrate the level of development that could be taken forward as part of the new Local Plan.

1.5 REPORT STRUCTURE

1.5.1. The structure and content of the remainder of this TA is outlined below:

- **Chapter 2: Planning Policy Review**: summarises the relevant national, regional, and local transport policy documents relevant to the development of the new Local Plan;
- **Chapter 3**: **Existing Transport Conditions**: describes the existing transport conditions by all modes of transport across the study area;
- **Chapter 4: Proposed Local Plan Development Sites:** provides details of the proposed new Local Plan development sites including their location, type and quantum of development and accessibility;
- **Chapter 5: Traffic Modelling Assessment:** describes the traffic modelling assessment that was undertaken and sets of the predicted impacts of the proposed new Local Plan development sites;
- **Chapter 6: Transport Mitigation Measures:** provides details of the proposed mitigation measures to support the delivery of the test proposed new Local Plan development sites; and
- **Chapter 7: Summary and Conclusions:** summarises the findings and concludes of the assessment undertaken as part of this TA.

2 PLANNING POLICY REVIEW

2.1 INTRODUCTION

2.1.1. This section of the TA sets out the relevant national, regional and local transport policy documents that are relevant to the development of the new Local Plan.

2.2 NATIONAL POLICY

NATIONAL PLANNING POLICY FRAMEWORK (2024)

2.2.1. The National Planning Policy Framework (NPPF), most recently updated in December 2024, sets out the Government's planning policies for England and how these are expected to be applied. It provides a framework within which locally prepared plans can provide for housing and other development in a sustainable manner, and as such preparing and maintaining up-to-date plans should be a priority in meeting this objective. The key sections of the NPPF that are relevant to the development of the new Local Plan are summarised as follows:

Section 2: Achieving Sustainable Development

2.2.2. This section states under Paragraph 7 that the purpose of the planning system is to contribute to the achievement of sustainable development, including the provision of homes, commercial development supporting infrastructure. In addition, in Paragraph 8 it states that achieving sustainable development means that the planning system has three overarching objectives i.e. economic, social and environmental, which are interdependent and need to be pursued in mutually supportive ways.

2.2.3. Under the subsection 'Presumption in Favour of Sustainable Development' it is stated in Paragraph 11 states that plans and decisions should apply a presumption in favour of sustainable development. For plan-making this means that:

- All plans should promote a sustainable pattern of development that seeks to meet the development needs of their area, align growth and infrastructure, improve the environment, mitigate climate change and adapt to its effects; and
- Strategic policies should, as a minimum, provide for objectively assessed needs for housing and other uses, as well as any needs that cannot be met within neighbouring areas, unless the application of policies that protect areas or assets of particular importance provides a strong reason for restricting development in the plan area, or any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies taken as a whole.

Section 3: Plan-Making

2.2.4. This section states under Paragraph 15 that up-to-date plans should provide a positive vision for the future of an area, and a provide a framework for housing, economic, social and environmental priorities, and be platform for local people to shape their surroundings. In Paragraph 16 it sets out that Plans should:

- Be prepared with the objective of contributing to the achievement of sustainable development;
- Be prepared positively, in a way that is aspirational but deliverable;

- Be shaped by early, proportionate and effective engagement between plan-makers and communities, local organisations, businesses, infrastructure providers and operators and statutory consultees;
- Contain policies that are clearly written and unambiguous, so it is evident how a decision maker should react to development proposals;
- Be accessible through the use of digital tools to assist public involvement and policy presentation; and
- Serve a clear purpose, avoiding unnecessary duplication of policies that apply to a particular area

2.2.5. It should be noted that under Section 3 there are a number of subsections that are relevant to the development of the new Local Plan are summarised as follows:

- **The Plan Making Framework**: It is stated in Paragraph 17 that the development plan must include strategic policies to address local planning authorities' priorities in the development of land. In addition, Paragraph 18 states that policies to address non-strategic matters should be included in local plans that contain both strategic and non-strategic policies;
- **Strategic Policies:** Paragraph 20 states that strategic policies should set out an overall strategy for the pattern, scale and design quality of places and make sufficient provision for housing, infrastructure, community facilities and conservation and enhancement of the natural built and historic environment. In addition, Paragraph 22 states that strategic policies should look ahead over a minimum 15-year period from adoption, to anticipate and respond to long-term; requirements and opportunities, such as those arising from major improvements in infrastructure;
- **Non-Strategic Policies:** It is stated in Paragraph 29 that non-strategic policies should be used by local planning authorities to set out more detailed policies for specific areas. In addition, Paragraph 30 states that neighbourhood planning gives communities the power to develop a shared vision for an area, while the neighbourhood plan should not seek to promote less development than set in strategic policies, once adopted takes precedence over non-strategic local plan policies; and
- **Preparing and Reviewing Plans**: Paragraph 31 states that the preparation and review of all policies should be underpinned by relevant and up-to-date evidence. This should be adequate and proportionate, focused tightly on supporting and justifying the policies concerned, and take into account relevant market signals. In addition, Paragraph 34 states that policies to see if they need updating at least once every five years, and should take into account changing circumstances affecting the area, or any policy changes, and then updated as necessary.

Section 9: Promoting Sustainable Transport

2.2.6. This section states under Paragraph 109 that transport issues should be considered from the earliest stages of plan-making and development proposals, using a vision-led approach to identify transport solutions that deliver well-designed, sustainable and popular places. This should include:

- Understanding and addressing the potential impacts of development on transport networks;
- Realising opportunities from existing or proposed transport infrastructure;
- Identifying and pursuing opportunities to promote walking, cycling and public transport use; and
- Identifying, assessing and taking into account the environmental impacts of traffic and transport infrastructure.

2.2.7. In addition, in Paragraph 110 states that the planning system should actively manage patterns of growth in support of the objectives outlined above. Significant development should be focused on

locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes, which can help to reduce congestion and emissions, and improve air quality and public health.

2.2.8. The NPPF provides clear guidance on the requirements for integrating transport and highways in development of the new Local Plan. By adhering to these principles and policies, local planning authorities can promote sustainable transportation solutions, create accessible and well-connected communities, and contribute to the overall objectives of sustainable development.

NATIONAL PLANNING POLICY GUIDANCE (2014)

2.2.9. To support local planning authorities to assess the transport needs in Local Plan making guidance on 'Transport Evidence Bases in Plan Making and Decision Taking' is provided within the NPPG, published by the DLUHC. The guidance states that it is important for local planning authorities to undertake an assessment of the transport implications in developing or reviewing their Local Plans so that a robust transport evidence base may be developed to support the preparation these Local Plans.

2.2.10. A robust evidence base will enable an assessment of the transport impacts of both existing and proposed development and can inform sustainable approaches to transport at a plan-making level, and facilitate the approval of Local Plans and reduce costs and delays to the delivery of new development. A robust assessment will establish evidence that will support the following:

- Improving the suitability of transport provision;
- Enhancing accessibility;
- Creating choice amongst different modes of transport;
- Improving health and well-being;
- Supporting economic vitality;
- Improving public understanding of the transport implications of development; and
- Enabling other highway and transport authorities/service providers to support and deliver the transport infrastructure that conforms to the Local Plan.

2.2.11. The guidance states that the key issues that should be considered in developing a transport evidence base, include the need to:

- Assess the existing situation and likely generation of trips over time by all modes and the impact;
- Assess the opportunities to support a pattern of development that where reasonable facilitates the use of sustainable modes of transport;
- Highlight and promote opportunities to reduce the need for travel where appropriate;
- Identify opportunities to prioritise the use of alternative modes in both existing and proposed development locations;
- Consider the cumulative impacts of existing and proposed development on transport networks;
- Assess the quality and capacity of transport infrastructure and its ability to meet forecast demands; and
- Identify the short, medium and long-term transport proposals across all modes.

2.2.12. The outcome could include assessing where alternative allocations or mitigation measures would improve the sustainability, viability and deliverability of proposed land allocations (including individual sites) provided these are compliant with national policy as a whole.

THE STRATEGIC ROAD NETWORK AND THE DELIVERY OF SUSTAINABLE DEVELOPMENT (2022)

2.2.13. The Department for Transport (DfT) Circular 01/20223 guidance sets out that the effective and efficient operation of the Strategic Road Network (SRN) will contribute to sustainable development and encourage economic growth while protecting the environment and improving safety and quality of life for current and future generations. The guidance sets out that new development should be facilitating a reduction in the need to travel by private car and focused on locations that are or can be made sustainable.

2.2.14. Local planning authorities are encouraged to identify any potential impacts on the SRN that may result from development proposals and discuss them at the earliest opportunity. To do this, new developments should give priority to walking, wheeling and cycle movements and facilitate access to high-quality public transport where possible. It is also expected that development promoters should enable a reduction in the need to travel by private car and prioritise sustainable transport opportunities ahead of capacity enhancements and new connections on the SRN.

2.2.15. The guidance emphasises the role of sustainable transport solutions in Local Plans and the importance of travel planning and demand management measures, and that transport solutions would be aligned to existing and proposed patterns of development in a manner that will support sustainable transport choice and retain capacity with the transport network so as to provide for further development in future plan periods.

2.3 REGIONAL POLICY

ENGLAND'S ECONOMIC HEARTLAND TRANSPORT STRATEGY – CONNECTING PEOPLE, TRANSFORMING PLACES (2021)

2.3.1. England's Economic Heartland (EEH) developed a Regional Transport Strategy 'Connecting People, Transforming Journeys' which was submitted to the Secretary of State for Transport in February 2021, and sets out a policy framework designed to harness the region's inherent strengths in order to deliver the following vision for the transport system:

'To support sustainable growth and improve quality of life and wellbeing through a world-class decarbonised transport system which harnesses the region's global expertise in technology and innovation to unlock new opportunities for residents and businesses, in a way that benefits the UK as a whole'.

2.3.2. In setting the long-term policy framework for the transport system the Regional Transport Strategy both supports the development of new Local Plans and provides the context with which to plan for the sustainable development of communities in the long term.

2.3.3. At its heart, the Regional Transport Strategy is the catalyst for the step-change in approach required to address the challenges the transport system already faces and enable economic growth that is sustainable. It sets out how the region will:

- Focus on decarbonising our transport system by harnessing innovation and supporting solutions which in themselves create green economic opportunities;
- Promote investment in digital infrastructure as a means of improving connectivity;
- Use the delivery of strategic public transport schemes as the catalyst for a shift towards lower carbon modes of travel;

- Champion increased investment in active travel and shared transport to improve local connectivity to ensure that everyone can realise their potential; and
- Continue to ensure the needs of the freight and logistics sector are met whilst lowering its environmental impact.

2.3.4. To achieve the above objectives the Regional Transport Strategy sets out a number of key polices under specific subheadings that are relevant to the development of the new Local Plan and include the following:

Mobility of the Future

- **Policy 4:** We will work with infrastructure owners and operators to ensure that proposals brought forward for the development of the transport system reduce reliance on the private car by considering the needs of users on the basis of a Travel Hierarchy i.e. with the highest priority being given to active travel modes and the lowest priority being given to private vehicles.

Improving Local Connectivity

- **Policy 28:** We will support the establishment of 'mobility hubs' as locations where interchange between travel modes will be prioritised, and work with public transport operators and the Government to enable frictionless, affordable travel using a combination of travel modes.

Rural Connectivity

- **Policy 29:** We will work with partners to develop tailored solutions for smaller market towns and rural areas that improve access to services and opportunities, including options for centres of mobility.

2.3.5. The Regional Transport Strategy emphasises that there is much the public sector can do to create the conditions that enable healthy place making and more sustainable patterns of activity, from the framework that is out in Local Plans to the ways it plans and delivers services for residents and businesses. Likewise, the policy frameworks used by Government to plan for and deliver its services have a significant effect on the need to travel.

HERTFORDESHIRE COUNTY COUNCIL LOCAL TRANSPORT PLAN (2018)

2.3.6. The Local Transport Plan 4 (LTP4) for Hertfordshire was development by Hertfordshire County Council (HCC) and was published in May 2018. It sets out how transport can help deliver a positive future vision of Hertfordshire, that is focused around the themes of people, place and prosperity. The vision of Hertfordshire set out in LTP4 is:

'We want Hertfordshire to continue to be a county where people have the opportunity to live healthy, fulfilling lives in thriving and prosperous communities'.

2.3.7. To achieve this vision, the LTP aims to develop a number of key transport objectives which contribute strongly to the people, place and prosperity elements of the vision, and these objectives are summarised as follows:

- Enhance connectivity between urban centres in Hertfordshire;
- Enhance accessibility between employers and their labour markets;
- Enhance journey reliability and network resilience across Hertfordshire;
- Enhance the quality and vitality of town centres;
- Enhance the character and quality of the Hertfordshire environment;

- Reduce carbon emissions;
- Make journeys and their impact safer and healthier; and
- Improve access and enable participation in everyday life through transport.

2.3.8. The plan sets out policies that will guide all future transport planning activity and how transport can support the housing development proposed in Local Plans to 2031 and beyond. The key policies that are relevant to the development of the new Local Plan include the following:

- **Policy 1: Transport User Hierarchy** This policy states that in order to support the growth set out in district and borough Local Plans there should be a focus on encouraging the use of sustainable modes of transport first and motor vehicles last, which in turn will support the delivery of local plan objectives and visions for their areas;
- **Policy 2: Influencing Land Use Planning** This policy encourages that location of new development, including the growth set out in district and borough Local Plans, in areas that are served by, or with the potential to be served, by high quality passenger transport facilities so that they can form a real alternative to the car, and where key services can be accessed by walking and cycling; and
- **Policy 5: Development Management** This policy considers greater traffic demand management in urban areas to achieve modal shift and improve sustainable modes of transport, which in co-ordination with district and borough councils and other key stakeholders will result in the development of locally appropriate strategies to support the growth set out in district and borough Local Plans.

2.4 LOCAL POLICY

THREE RIVERS DISTRICT COUNCIL CORE STRATEGY (2011)

2.4.1. The existing Local Plan was adopted in 2011 and is made up of a number of DPDs including the Core Strategy DPD, the Site Allocations DPD and the Development Management Policies DPD for the district. There are also a number of Supplementary Planning Documents (SPDs) that have been prepared which provide additional guidance on polices contained in the DPDs.

2.4.2. The Core Strategy DPD sets out the range of measures to improve housing and infrastructure in the district for a period of 15 years, and provides an overarching strategy and policies and the vision for the district. It states that the vision for the district is that it will remain a prosperous, safe and health place where people want and are able to live and work. The vision sets out a number of priorities for the future including the following:

- To provide growth required to support local communities and provide for their needs in the most sustainable way possible;
- To locate growth in the most sustainable locations in terms of access to services and transport networks and impact on the environment;
- To improve access to housing and affordable housing for communities across the district;
- To provide opportunities for local employment and maintain the vitality and viability of existing centres across the district, reducing the need to travel;
- To promote sustainable transport options to improve access for all communities and reduce dependence on the car; and
- To support growth with appropriate investment in infrastructure to ensure that new and existing communities can access services that they require.

2.4.3. To implement the delivery of the vision for the district a number of strategic objectives are set out including the following:

- To balance the community's need for future homes and jobs;
- To increase levels of affordable housing in the district;
- To facilitate the provision of services and infrastructure to meet the needs of existing and new development;
- To make efficient use of previously developed land;
- To deliver improved and integrated transport systems and reduce the need to travel; and
- To promote safety and security in the design of new developments.

2.4.4. The relevant policy in relation transport and travel and new development is CP10 that states that development proposal will be expected to contribute to the delivery of transport and travel measures identified as necessary for the development, either on-site as part of the development or through contributions to off-site provision as appropriate. The provision for interchange and access by public transport, walking and cycling is regarded as particularly important.

2.4.5. It states that all development should be designed and located to minimise the impacts of travel by motor vehicle on the district. In particular, major development will be expected to be located in areas highly accessible by the most sustainable modes of transport. In addition, it states that development will need to demonstrate that:

- It provides a safe and adequate means of access;
- It is appropriate in scale to the existing transport infrastructure, including public transport and, where necessary, infrastructure can be improved;
- It is integrated with the wider network of transport routes, including public rights of way and cycle paths where appropriate;
- It makes adequate provision for all users, including car and other vehicle parking, giving priority to pedestrians, cyclists and equestrians;
- It includes, where appropriate, provision for public transport either within the scheme or through contributions;
- The impact of the proposal on transport has been fully assessed which for major development this should be done through a comprehensive Transport Assessment detailing the measures that will be used to reduce impacts; and
- The proposal is accompanied by a Travel Plan for prospective users and employees of the development for all major development.

2.5 SUMMARY

2.5.1. The transport policy context set out above describes a set of objectives for the delivery of a sustainable transport system and how this could be achieved. There is a consistent focus on transport systems that improve accessibility and choice and are suitable for the people and places within an area. The need for transport systems that improve safety, health and wellbeing and support the economic vitality of the district is clear. There is also an importance placed on ensuring that transport helps to conserve the natural environment and achieve wider climate and decarbonisation objectives.

3 EXISTING TRANSPORT CONDITIONS

3.1 INTRODUCTION

3.1.1. This section of the TA describes the existing transport conditions by all modes of transport at a local and strategic level across the study area of the district.

3.2 STUDY AREA

3.2.1. The study area encompasses the geographical extent of the district, which is bordered by Chipperfield, Kings Langley and Hemel Hempstead to the north, by Bricket Wood, Bushey and Watford to the east, by Harefield, Northwood and Headstone to the south, and by Chalfont St Peter, Chalfont St Giles and Little Chalfont to the south. It includes a number of urban areas including Abbots Langley, Chorleywood, Croxley Green, Loudwater, Maple Cross, Moor Park, Rickmansworth, Sarratt and Carpenders Park. A plan showing the extent of the study area is shown in **Figure 3-1**.

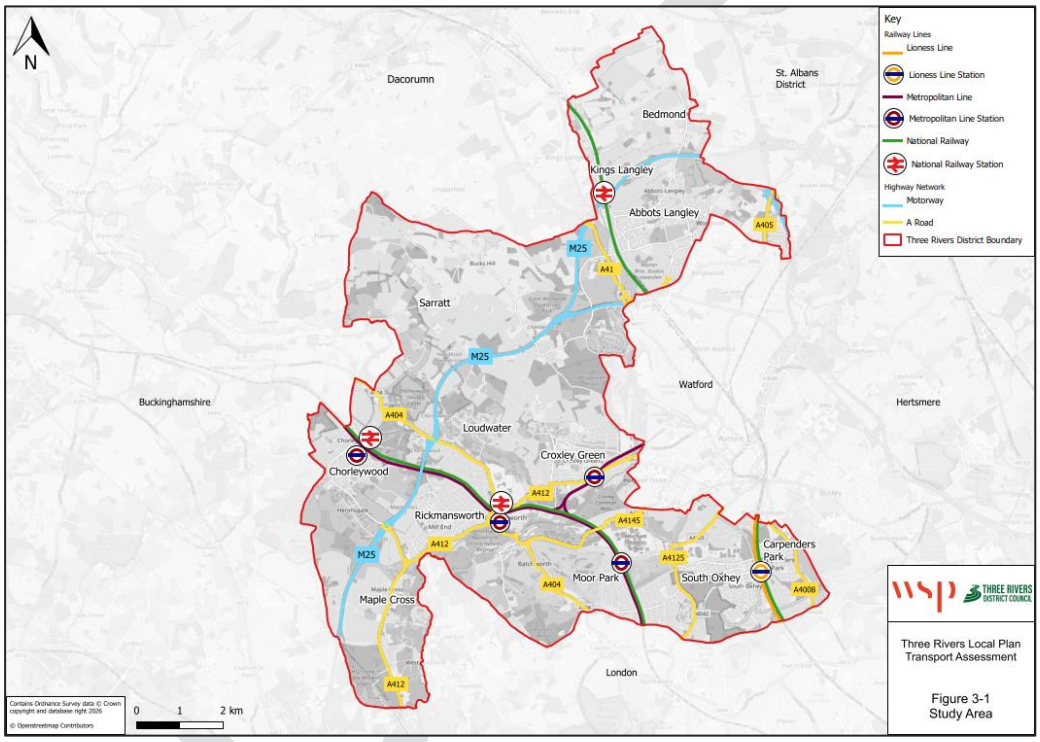

Figure 3-1: Study Area

3.2.2. The strategic highway network that runs through the district is the M25 motorway, which bisects the district and runs between Abbots Langley in the north to Maple Cross in the south, and provides access to the wider strategic highway network across the southeast and beyond. In addition, the local highway network that runs through the district includes the A41, the A404, the A412, the A4008, the A4125 and the A4145, which connect to the strategic highway network. There are also a number of London Underground and Overground Stations as well as National Rail Stations located in the district, which provide access to London and the wider rail network across the southeast and beyond.

3.3 EXISTING TRAVEL PATTERNS

3.3.1. To determine the existing travel patterns of the study area the 2011 Census Journey to Work data for the district has been analysed to determine the existing travel to work characteristics of the resident and workplace populations. It should be noted that this is the most up to date data available for residents and workplace populations method of travel to work at a local authority level.

RESIDENT POPULATION

Journey to Work – Mode Splits

3.3.2. **Table 3-1** summarises the journey to work model splits of the resident population of the district. It should be noted that the resident population not in employment and those working from home have been excluded from the analysis as they do not make a journey to work on the highway network in the district.

Table 3-1: Journey to Work Mode Split – Resident Population

	Mode Split	
Mode	**Number**	**Percentage**
Train	2337	6.8%
Underground	4110	12.0%
Bus	904	2.6%
Taxi	90	0.3%
Motorcycle	287	0.8%
Car or Van Driver	22468	65.4%
Car or Van Passenger	1364	4.0%
Foot	2286	6.7%
Bicycle	505	1.5%
Total	**34351**	**100.0%**

Source: 2011 Census Data (November 2025)

3.3.3. **Table 3-1** shows that car or van is the main mode of travel to work of residents of the district with a mode split of 65.4%. It also shows that 4.0% of residents of the district travel to work as a passenger in a car or van. In addition, sustainable modes have a combined mode split of 29.6% with 21.4% of residents of the district using public transport (which includes train, bus and underground), 6.7% of residents of the district walking, and 1.5% of residents of the district cycling.

Journey to Work – Walking and Cycling Mode Splits

3.3.4. To see how the journey to work mode split by walking and cycling of the resident population varies across Hertfordshire as a whole as well as across its districts and boroughs a comparison has been undertaken and the results are shown in **Table 3-2**.

Table 3-2: Journey to Work by Walking and Cycling – Resident Population

	Mode Split			
	Foot		Bicycle	
Location	Number	Percentage	Number	Percentage
Hertfordshire	**37105**	**10.4%**	**7076**	**2.0%**
Three Rivers	**2286**	**6.7%**	**505**	**1.5%**
Broxbourne	2601	7.6%	502	1.5%
Dacorum	3019	10.5%	348	1.2%
East Hertfordshire	3652	9.6%	455	1.2%
Hertsmere	3099	8.9%	415	1.2%
North Hertfordshire	4846	11.5%	1007	2.4%
St Albans	3309	9.7%	706	2.1%
Stevenage	3681	10.2%	999	2.8%
Watford	6122	15.7%	1026	2.6%
Welwyn and Hatfield	4490	13.0%	1114	3.2%

Source: 2011 Census Data (November 2025)

3.3.5. **Table 3-2** shows that 6.7% of residents of the district travel to work by walking compared to 10.4% of all residents of Hertfordshire. This is comparable to Broxbourne with 7.6% of residents, Hertsmere with 8.9% of residents, East Hertfordshire 9.6% of residents and St Albans with 9.7% of residents that travel to work by walking.

3.3.6. It also shows that 1.5% of the residents of the district to travel work by cycling compared to 2.0% of all residents of Hertfordshire. This is comparable to Broxbourne, Dacorum, East Hertfordshire and Hertsmere all with 1.2% of residents, St Albans with 2.1% of residents and North Hertfordshire with 2.4% of residents that travel to work by cycling.

3.3.7. A number of plans have been put together to show the journey to work mode split by walking of the residents of the district as shown in **Figure 3-2** below and by cycling of the residents of the district as shown in **Figure 3-3** broken down by the Output Areas of the district.

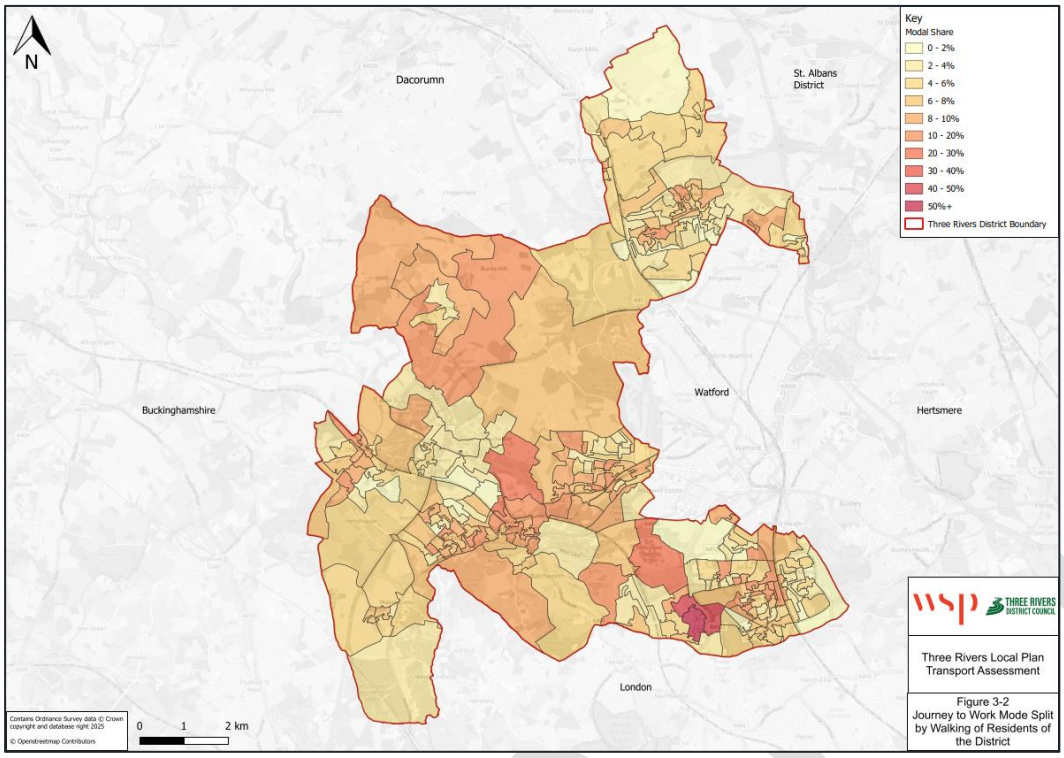

Figure 3-2: Journey to Work Mode Split by Walking of Residents of the District

3.3.8. **Figure 3-2** shows that travel to work by walking of the residents of the district is highest within the main urban areas of the district, particularity in Rickmansworth, Croxley Green, Carpenders Park, Chorleywood and Abbots Langley. The travel to work by walking of the residents of the district is lowest in the more rural areas of the district, particularly to the north and east of Abbots Langley, and to the northwest of Rickmansworth. Overall, the main urban areas of the district have the highest number of residents that travel to work by walking, and the more rural areas of the district have the lowest number residents that travel to work by walking due to the lack of walking infrastructure in these areas.

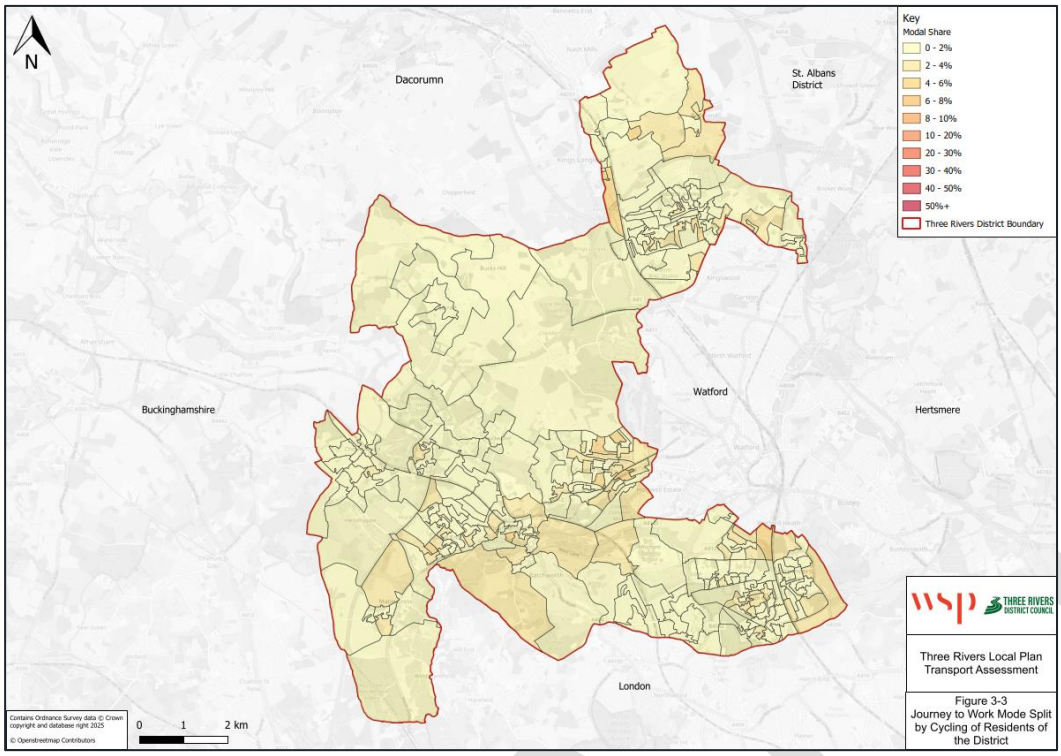

Figure 3-3: Journey to Work Mode Split by Cycling of Residents of the District

3.3.9. **Figure 3-3** shows that travel to work by cycling of the residents of the district is highest within the main urban areas of the district, particularity in Rickmansworth, Croxley Green, Carpenders Park and Abbots Langley. The travel to work by walking of the residents of the district is lowest in the more rural areas of the district. Overall, the main urban areas of the district have the highest number of residents that travel to work by cycling, and the more rural areas of the district have the lowest number residents that travel to work by cycling. It should be noted that the number of residents that travel to work by cycling across the district as whole is generally low due to the lack of cycling infrastructure (particularly off-road cycleways) across the district.

Public Transport Mode Split

3.3.10. To see how the journey to work mode split by public transport (train, bus and underground) of the resident population varies across Hertfordshire as a whole as well as across its districts and boroughs a comparison has been undertaken and the results are shown in **Table 3-3**.

Table 3-3: Journey to Work by Train, Bus and Underground – Resident Population

	Mode Split					
	Train		Underground		Bus	
Location	Number	Percentage	Number	Percentage	Number	Percentage
Hertfordshire	**45850**	**12.9%**	**9899**	**2.8%**	**13479**	**3.8%**
Three Rivers	**2337**	**6.8%**	**4110**	**12.0%**	**904**	**2.6%**
Broxbourne	4641	13.6%	853	2.5%	929	2.7%
Dacorum	2898	10.1%	151	0.5%	1094	3.8%
East Hertfordshire	5520	14.4%	346	0.9%	856	2.2%
Hertsmere	5156	14.7%	1609	4.6%	1958	5.6%
North Hertfordshire	5556	13.2%	125	0.3%	883	2.1%
St Albans	8762	25.6%	268	0.8%	808	2.4%
Stevenage	2700	7.5%	88	0.2%	2393	6.7%
Watford	4499	11.5%	1993	5.1%	2807	5.3%
Welwyn and Hatfield	3781	11.0%	356	1.0%	1567	4.5%

Source: 2011 Census Data (November 2025)

3.3.11. **Table 3-3** shows that 6.8% of residents of the district travel to work by train compared to 12.9% of all residents of Hertfordshire. This is comparable to Stevenage with 7.5% of residents that travel to work by train, but significantly lower than the other districts and boroughs including Broxbourne with 13.6% of residents, East Hertfordshire with 14.4% of residents, Hertsmere with 14.7% of residents and St Albans with 25.6% or residents that travel to work by train.

3.3.12. The reason for this can be attributed to the high number of residents of the district that travel to work by underground when compared to Hertfordshire and the other districts and boroughs as shown in **Table 3-3**, which shows that 12.0% of residents of the district travel to work by underground compared to 2.8% of all residents of Hertfordshire, 2.5% of residents of Broxbourne, 4.6% of residents of Hertsmere and 5.1% of residents of Watford. This is because the district has a number of London Underground Stations as outlined in **Section 3.10**.

3.3.13. It also shows that 2.6% of the residents of the district to travel work by bus compared to 3.8% of all residents of Hertfordshire. This is comparable to North Hertfordshire with 2.1% of residents, East Hertfordshire with 2.2% of residents, St Albans with 2.4% and Broxbourne with 2.7% of residents that travel to work by bus.

3.3.14. A number of plans have been put together to show the journey to work mode split by train of the residents of the district as shown in **Figure 3-4**, by underground of residents of the district as shown in **Figure 3-5**, and by bus of residents of the district as shown in **Figure 3-6** broken down by the Output Areas of the district.

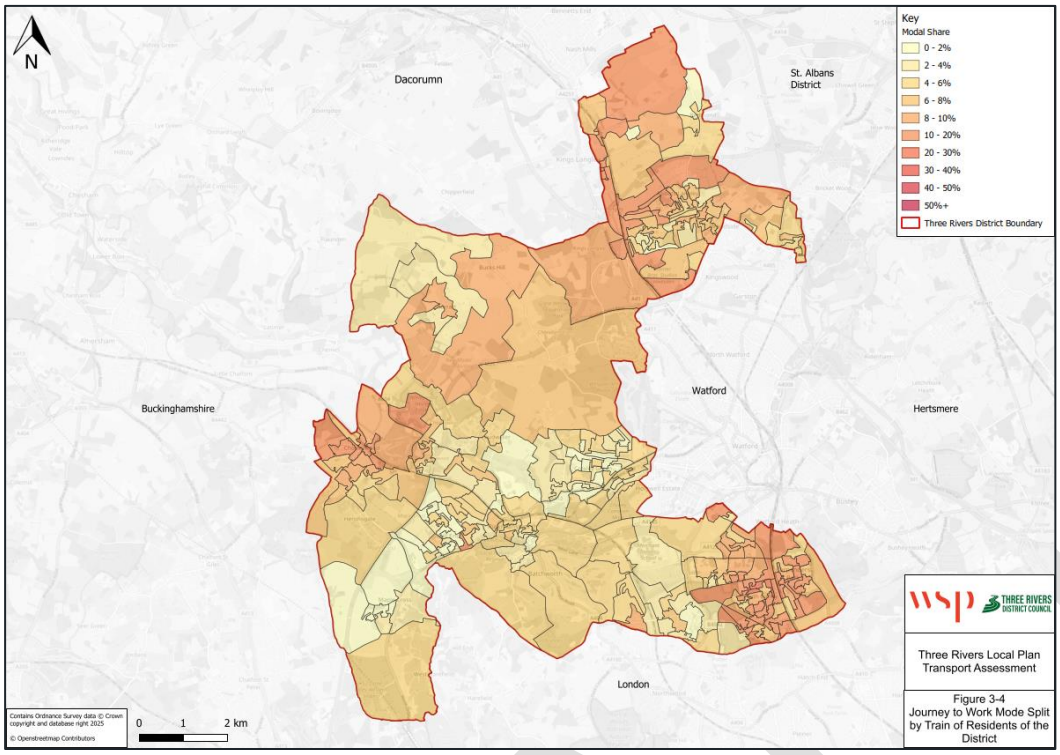

Figure 3-4: Journey to Work Mode Split by Train of Residents of the District

3.3.15. **Figure 3-4** shows that travel to work by train of the residents of the district is highest within the vicinity of the railway stations that are located within the main urban areas of the district including Rickmansworth, Carpenders Park, Chorleywood and Kings Langley. The travel to work by train of the residents of the district is lowest in the more rural areas of the district away from the railway stations, particularly to the north of Rickmansworth and to the south of Maple Cross. Overall, the main urban areas of the district within the vicinity of the railways stations have the highest number of residents that travel to work by train, and the more rural areas of the district away from the railway stations have the lowest number residents that travel to work by train.

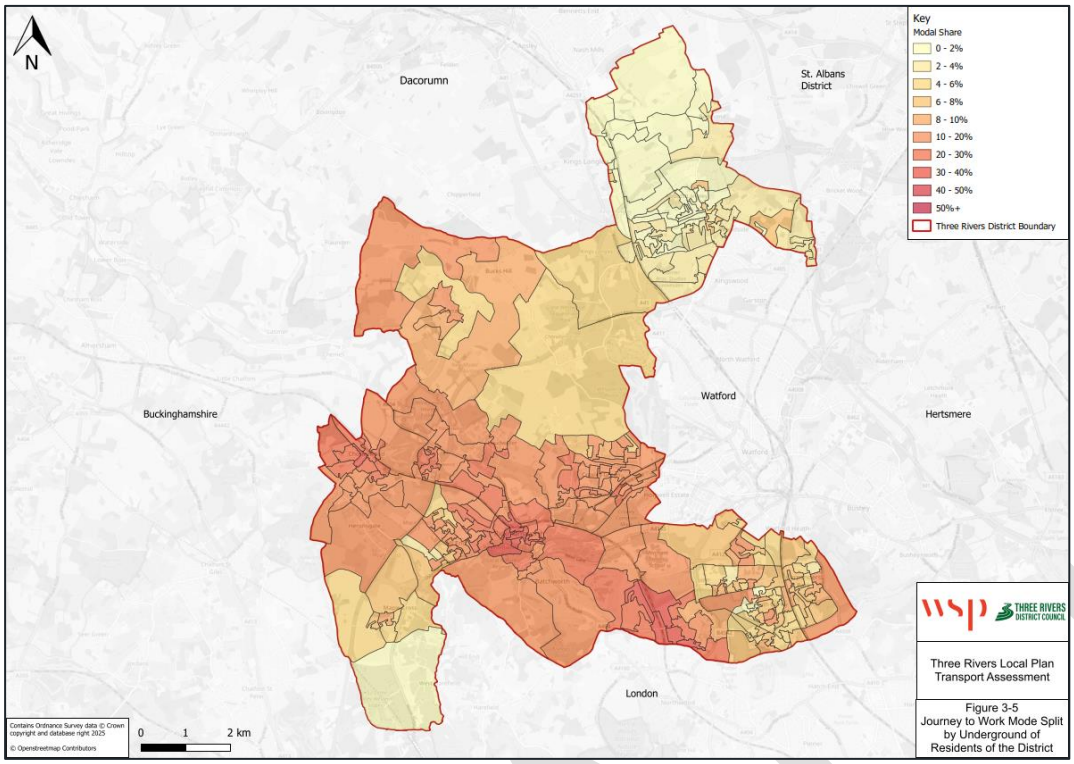

Figure 3-5: Journey to Work Mode Split by Underground of Residents of the District

3.3.16. **Figure 3-5** shows that travel to work by underground of the residents of the district is highest within the vicinity of the underground stations that are located within the main urban areas of the district, including Rickmansworth, Chorleywood, Croxley Green and Moor Park. The travel to work by underground of the residents of the district is lowest in the more rural areas of the district away from the underground stations, particularly to the north of Abbots Langley and to the south of Maple Cross. Overall, the main urban areas of the district within the vicinity of the underground stations have the highest number of residents that travel to work by underground, and the more rural areas of the district away from the underground stations have the lowest number residents that travel to work by underground.

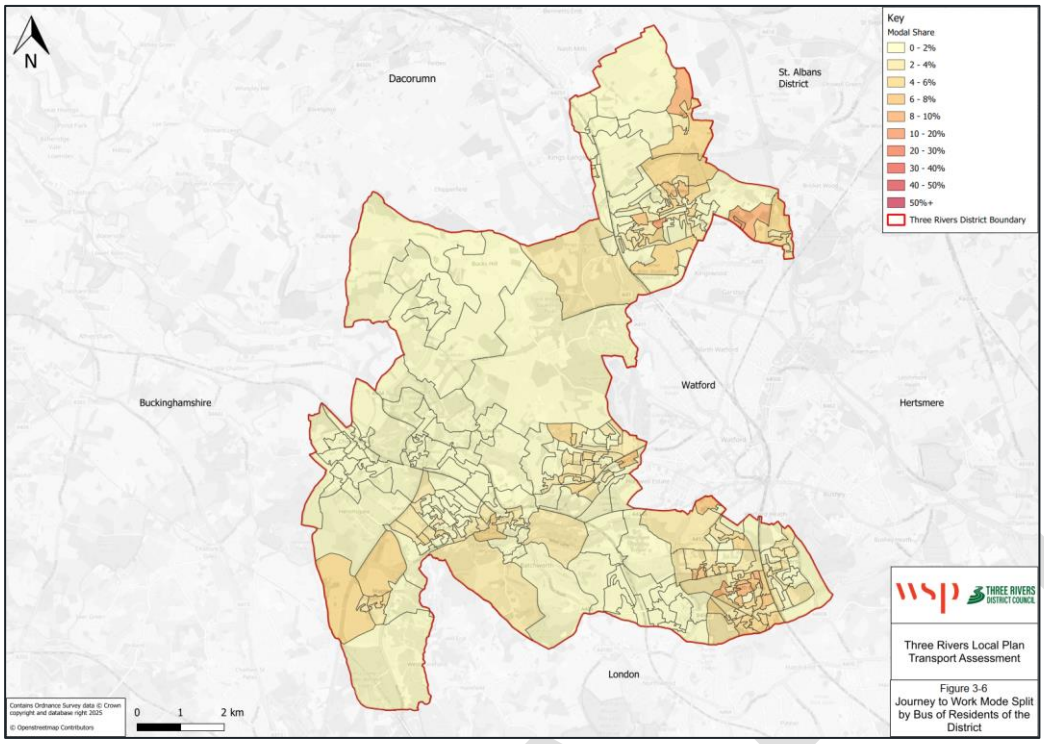

Figure 3-6: Journey to Work Mode Split by Bus of Residents of the District

3.3.17. **Figure 3-6** shows that travel to work by bus of the residents of the district is highest within the vicinity of where bus services operate which are located within the main urban areas of the district, particularity in Rickmansworth, Croxley Green, Maple Cross, Carpenders Park and Abbots Langley. The travel to work by bus of the residents of the district is lowest in the more rural areas of the district away from where bus services operate, particularly to the north of Abbots Langley and to the north of Rickmansworth. Overall, the main urban areas of the district within the vicinity of where bus services operate have the highest number of residents that travel to work by bus, and the more rural areas of the district away from where bus services operate have the lowest number residents that travel to work by bus.

Journey to Work – Work Destinations

3.3.18. **Table 3-4** summaries the work destinations of the resident population of the district. It should be noted that the resident population not in employment and those working from home have been excluded from the analysis as they do not make a journey to work on the highway network in the district.

Table 3-4: Journey to Work Destinations – Resident Population

	Mode Split	
Destinations	**Number**	**Percentage**
Three Rivers	7297	21.2%
Watford	5747	16.7%
Hillingdon	2352	6.8%
Westminster	2020	5.9%
Harrow	1801	5.2%
Dacorum	1497	4.4%
Hertsmere	1325	3.9%
Brent	1024	3.0%
Other	11349	33.0%
Total	**34429**	**100.0%**

Source: 2011 Census Data (November 2025)

3.3.19. **Table 3-4** shows that 21.2% of residents of the district travel to work destinations that are within the district, and 78.8% of residents of the district travel to work destinations outside of the district. Of these 78.8% of residents of the district a significant number travel to work destinations that are within close proximity to the district with 16.7% travelling to Watford, 6.8% travelling to Hillingdon, 5.9% travelling to Westminster, 5.2% travelling to Harrow, 4.4% travelling to Dacorum, 3.9% travelling to Hertsmere, and 3.0% travelling to Brent. A plan of the location of the work destinations of residents of the district is shown **Figure 3-7**.

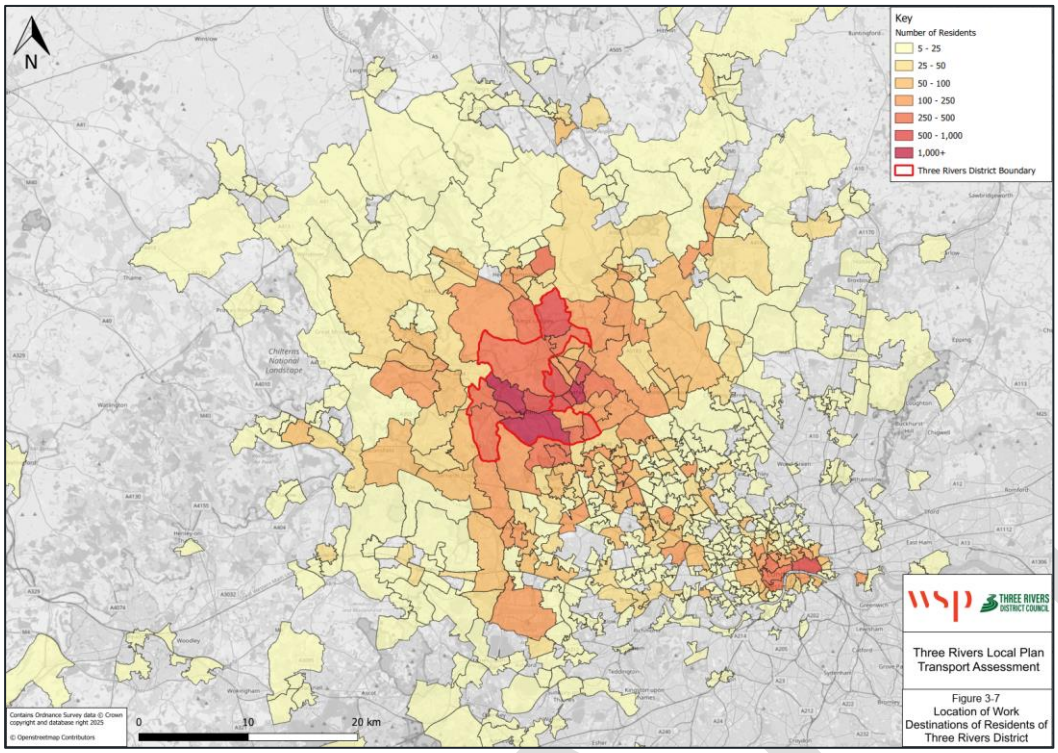

Figure 3-7: Location of Work Destinations of Residents of the District

3.3.20. As can been seen in **Figure 3-7** the majority of the travel to work destinations of residents of the district are either within the district or to destinations that are within close proximity to the district. Overall, of the travel to work destinations of residents of the district that are within close proximity to the district these are to adjacent districts and boroughs of Hertfordshire to the north and east and to London to the south and east.

WORKPLACE POPULATION

Journey to Work – Mode Splits

3.3.21. **Table 3-5** summarises the journey to work mode splits of the workplace population of the district. It should be noted that the workplace population not in employment and those working from home have been excluded from the analysis as they do not make a journey to work on the highway network in the district.

Table 3-5: Journey to Work Mode Split – Workplace Population

	Mode Split	
Mode	**Number**	**Percentage**
Train	1060	4.1%
Underground	931	3.6%
Bus	875	3.4%
Taxi	60	0.2%
Motorcycle	191	0.7%
Car or Van Driver	18739	72.5%
Car or Van Passenger	1067	4.1%
Foot	2447	9.5%
Bicycle	472	1.8%
Total	**25832**	**100.0%**

Source: 2011 Census Data (November 2025)

3.3.22. **Table 3-5** shows that the car or van is the main mode of travel to work of workers of the district with a mode split of 72.5%. It also shows that 4.1% of workers of the district travel to work as a passenger in a car or van. In addition, sustainable modes have a combined mode split of 22.4% with 11.1% of workers of the district using public transport (which includes train, bus and underground), 9.5% of workers of the district walking, and 1.5% of workers of the district cycling.

Journey to Work – Walking and Cycling Mode Splits

3.3.23. To see how the journey to work mode split by walking and cycling of the workplace population varies across Hertfordshire as a whole as well as across its districts and boroughs a comparison has been undertaken and the results are shown in **Table 3-6**.

Table 3-6: Journey to Work by Walking and Cycling – Workplace Population

	Mode Split			
	Foot		Bicycle	
Location	Number	Percentage	Number	Percentage
Hertfordshire	**37629**	**11.8%**	**6936**	**2.2%**
Three Rivers	**2447**	**9.5%**	**472**	**1.8%**
Broxbourne	2477	10.1%	407	1.7%
Dacorum	2236	15.9%	189	1.3%
East Hertfordshire	3588	15.1%	379	1.6%
Hertsmere	3036	9.1%	422	1.3%
North Hertfordshire	5147	14.5%	1015	2.9%
St Albans	3809	13.4%	655	2.3%
Stevenage	3702	9.7%	1079	2.8%
Watford	6212	14.4%	472	1.8%
Welwyn and Hatfield	4975	9.4%	1299	2.5%

Source: 2011 Census Data (November 2025)

3.3.24. **Table 3-6** shows that 9.5% of workers of the district travel to work by walking compared to 11.8% of all residents of Hertfordshire. This is comparable to Hertsmere with 9.1% of workers, Welwyn and Hatfield with 9.4% of workers, Stevenage with 9.7% of workers and Broxbourne with 10.1% that travel to work by walking.

3.3.25. It also shows that 1.8% of the workers of the district to travel work by cycling compared to 2.2% of all workers of Hertfordshire. This is comparable to Dacorum and Hertsmere with 1.3% of workers, East Hertfordshire with 1.6% of workers and Broxbourne with 1.7% of workers that travel to work by cycling.

3.3.26. A number of plans have been put together to show the journey to work mode split by walking of the workers of the district as shown in **Figure 3-8** and by cycling of the workers of the district as shown in **Figure 3-9** broken down by Workplace Zones of the district.

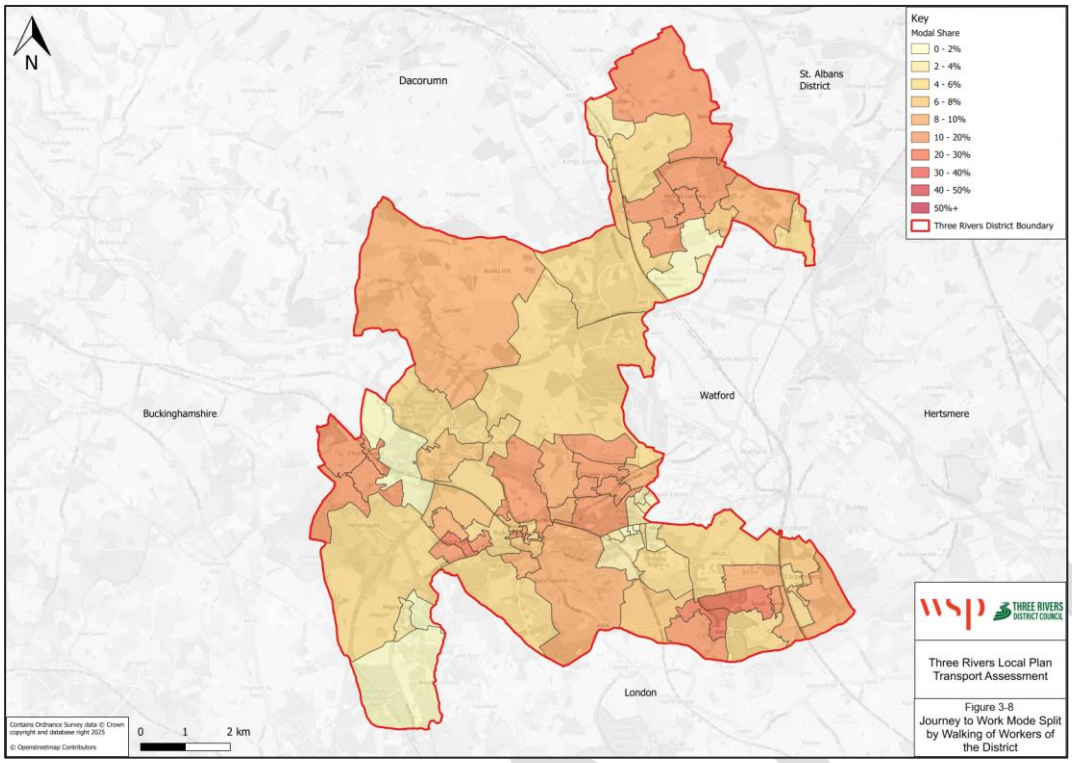

Figure 3-8: Journey to Work Mode Split by Walking of Workers of the District

3.3.27. As can be seen in **Figure 3-8** travel to work by walking of the workers of the district is highest within the main urban areas of the district, particularity in Rickmansworth, Croxley Green, Carpenders Park, Chorleywood and Abbots Langley. The travel to work by walking of the workers of the district is lowest in the more rural areas of the district, particularly to the south of Abbots Langley, and to the south of Maple Cross.. Overall, the main urban areas of the district have the highest number of workers that travel to work by walking, and the more rural areas of the district have the lowest number workers that travel to work by walking due to the lack of walking infrastructure in these areas.

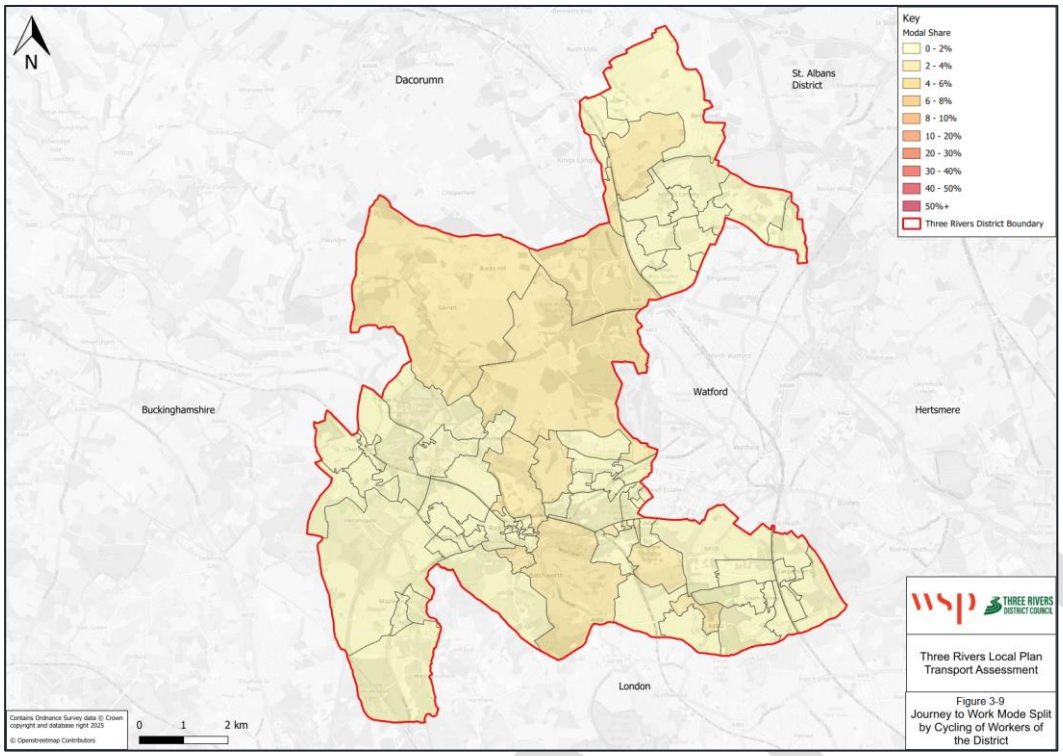

Figure 3-9: Journey to Work Mode Split by Cycling of Workers of the District

3.3.28. As can be seen in **Figure 3-9** travel to work by cycling of the workers of the district is highest within the main urban areas of the district, particularity in Rickmansworth and Abbots Langley. The travel to work by cycling of the workers of the district is lowest in the more rural areas of the district. Overall, the main urban areas of the district have the highest number of workers that travel to work by cycling, and the more rural areas of the district have the lowest number workers that travel to work by cycling. It should be noted that the number of workers that travel by cycling across the district as a whole is generally low due to lack to cycling infrastructure (particularly off-road cycleways) across the district.

Public Transport Mode Split

3.3.29. To see how the journey to work mode split by public transport (train, bus and underground) of the workplace population varies across Hertfordshire as a whole as well as across its districts and boroughs a comparison has been undertaken and the results are shown in **Table 3-7**.

Table 3-7: Journey to Work by Train, Bus and Underground – Workplace Population

	Mode Split					
	Train		Underground		Bus	
Location	Number	Percentage	Number	Percentage	Number	Percentage
Hertfordshire	**13166**	**4.1%**	**3733**	**1.2%**	**15098**	**4.7%**
Three Rivers	**1050**	**4.2%**	**931**	**3.6%**	**875**	**3.4%**
Broxbourne	938	3.8%	288	1.1%	807	3.3%
Dacorum	254	1.8%	33	0.2%	374	2.7%
East Hertfordshire	672	2.8%	114	0.5%	612	2.6%
Hertsmere	1379	4.1%	628	1.9%	2168	6.5%
North Hertfordshire	1056	3.0%	52	0.1%	990	2.8%
St Albans	1372	4.8%	203	0.7%	1436	5.1%
Stevenage	1529	4.0%	119	0.3%	2547	6.7%
Watford	2560	5.9%	991	2.3%	3059	7.1%
Welwyn and Hatfield	2356	4.5%	394	0.7%	2230	4.2%

Source: 2011 Census Data (November 2025)

3.3.30. **Table 3-7** shows that 4.2% of workers of the district travel to work by train compared to 4.1% of all workers of Hertfordshire. This is comparable to North Hertfordshire with 3.0% of workers, Broxbourne with 3.8% of workers, Hertsmere with 4.1% of workers, and Welwyn and Hatfield with 4.5% of workers that travel to work by train.

3.3.31. In addition, it shows that 3.8% of workers of the district travel to work by underground compared to 1.2% of all workers of Hertfordshire, as the district has a number of London Underground Stations as outlined in **Section 3.10**. This is comparable to Watford with 2.3% of workers that travel to work by underground which also has London Underground Stations.

3.3.32. It also shows that 3.4% of the workers of the district travel work by bus compared to 4.7% of all workers of Hertfordshire. This is comparable to Dacorum with 2.7% of workers, North Hertfordshire with 2.8% of workers, Broxbourne with 3.3% workers and Welwyn and Hatfield with 4.2% workers that travel to work by bus.

3.3.33. A number of plans have been put together to show the journey to work mode split by train of the workers of the district as shown in **Figure 3-10**, by underground of workers of the district as shown in **Figure 3-11**, and by bus of workers of the district as shown in **Figure 3-12** broken down by Workplace Zones of the district.

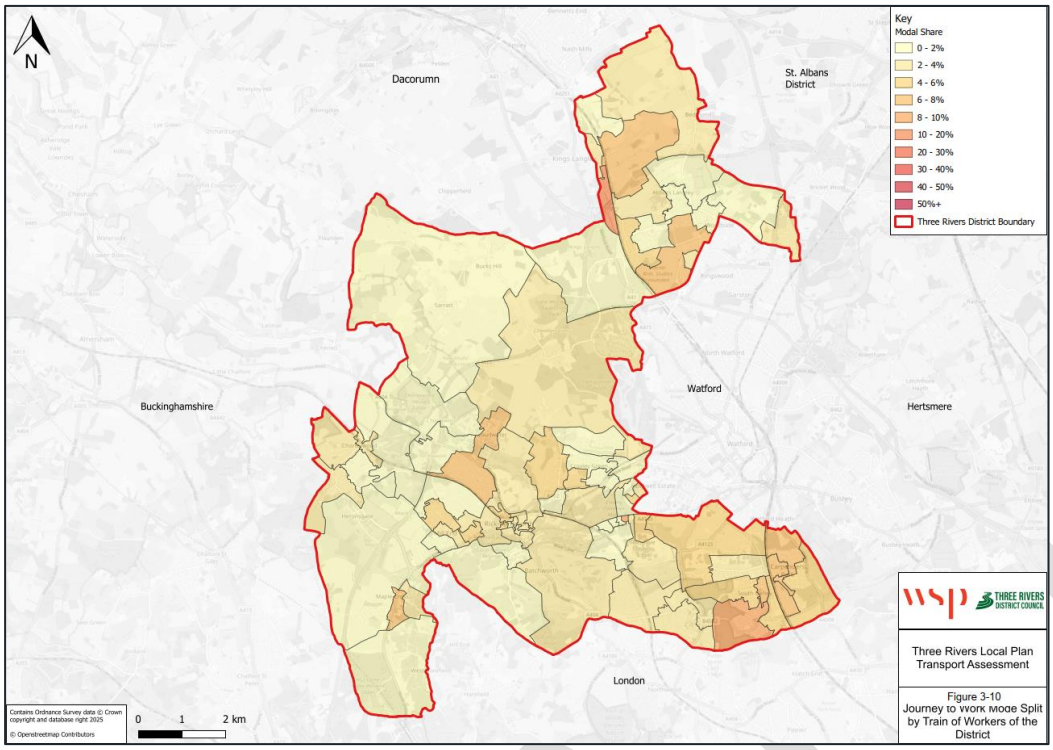

Figure 3-10: Journey to Work Mode Split by Train of Workers of the District

3.3.34. As can be seen in **Figure 3-10** travel to work by train of the workers of the district is highest within the main urban areas of the district, particularity in Rickmansworth, Carpenders Park, Chorleywood and Kings Langley. The travel to work by train of the workers of the district is lowest in the more rural areas of the district away from the railway stations, particularly to the north of Rickmansworth and to the south of Maple Cross. Overall, the main urban areas of the district within the vicinity of the railway stations have the highest number of workers that travel to work by train, and the more rural areas of the district away from the railway stations have the lowest number workers that travel to work by train.

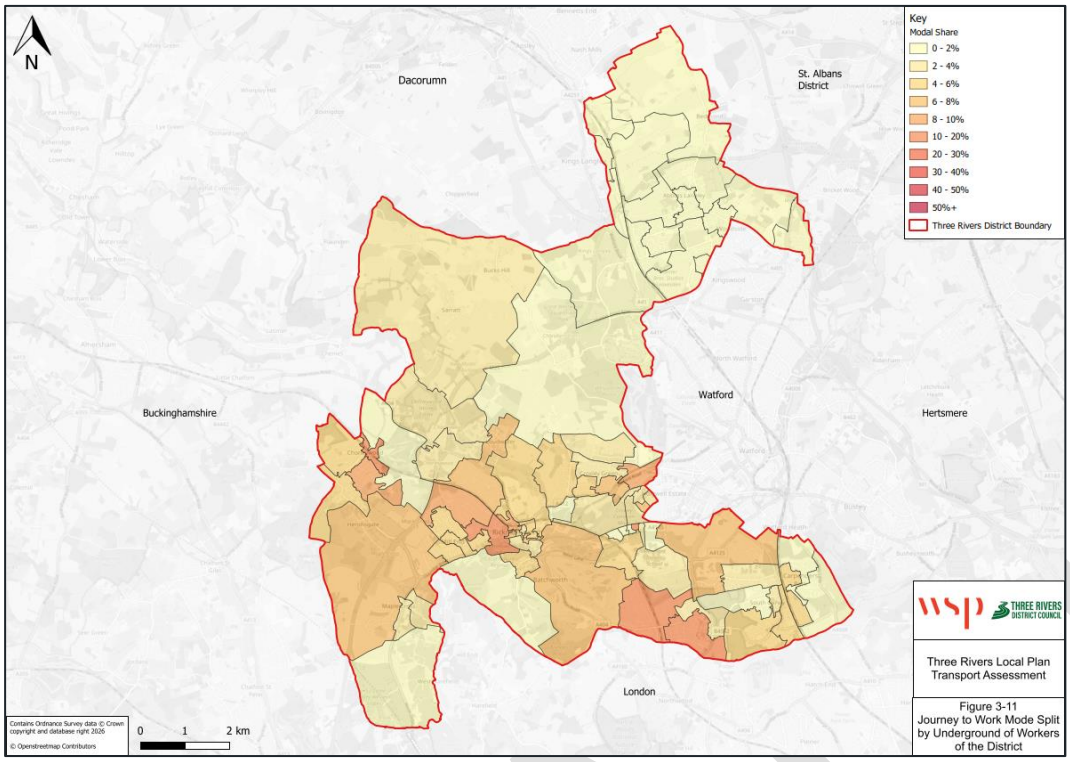

Figure 3-11: Journey to Work Mode Split by Underground of Workers of the District

3.3.35. As can be seen in **Figure 3-11** travel to work by underground of the workers of the district is highest within the vicinity of the underground stations that are located within the main urban areas of the district, including Rickmansworth, Chorleywood, Croxley Green and Moor Park. The travel to work by underground of the workers of the district is lowest in the more rural areas of the district away from the underground stations, particularly to the north of Rickmansworth, surrounding Abbots Langley, and the south of Maple Cross. Overall, the main urban areas of the district within the vicinity if the underground stations have the highest number of workers that travel to work by underground, and the more rural areas of the district away from the underground stations have the lowest number workers that travel to work by underground.

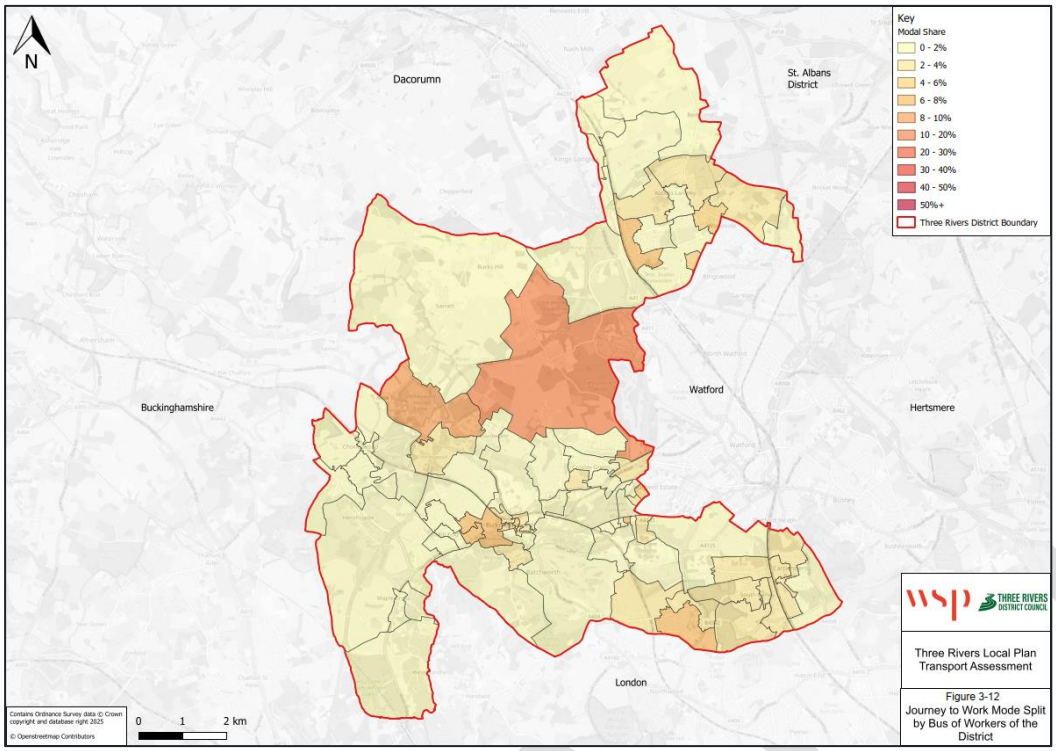

Figure 3-12: Journey to Work Mode Split by Underground of Workers of the District

3.3.36. As can be seen in **Figure 3-12** travel to work by bus of the workers of the district is highest within the vicinity of where bus services operate which are located within the main urban areas of the district, particularly in Rickmansworth, Croxley Green, Maple Cross, Carpenders Park and Abbots Langley, as well surrounding Loudwater, Bucks Hill and Chandlers Cross. The travel to work by bus of the workers of the district is lowest in the more rural areas of the district away from where bus services operate, particularly to the north of Abbots Langley, to the north and south of Rickmansworth. Overall, the main urban areas of the district within the vicinity of where bus services operate have the highest number of workers that travel to work by bus, and the more rural areas of the district away from where bus services operate have the lowest number workers that travel to work by bus.

Journey to Work – Home Origins

3.3.37. **Table 3-8** summaries the home origins of the workplace population of the district. It should be noted that the workplace population not in employment and those working from home have been excluded from the analysis as they do not make a journey to work on the highway network in the district.

Table 3-8: Journey to Work Origins – Workplace Population

	Mode Split	
Origins	**Number**	**Percentage**
Three Rivers	7297	28.2%
Watford	3483	13.5%
Dacorum	2101	8.1%
Hillingdon	1462	5.6%
Harrow	1362	5.3%
Hertsmere	849	3.3%
St Albans	828	3.2%
Chiltern	791	3.1%
Other	7707	29.8%
	25881	**100.0%**

Source: 2011 Census Data (November 2025)

3.3.38. **Table 3-8** shows that 28.2% of workers of the district travel from home origins that are within the district, and 71.8% of workers of the district travel from home origins outside of the district. Of these 71.8% workers a significant number travel from home origins that are within close proximity to the district with 13.5% travelling from Watford, 8.1% travelling from Dacorum, 5.6% travelling from Hillingdon, 5.3% travelling from Harrow, 3.3% travelling from Hertsmere, 3.2% travelling from St Albans, and 3.1% travelling from Chiltern. A plan of the location of the home origin of workers of the district is shown **Figure 3-13**.

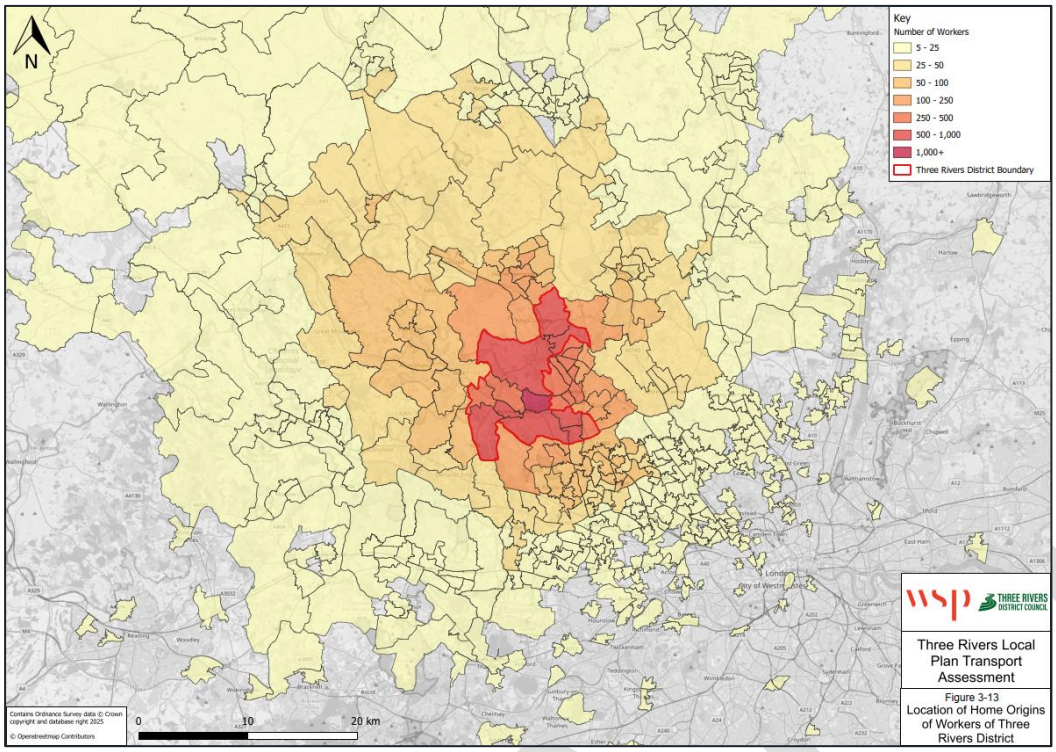

Figure 3-13: Location of Home Origins of Workers of the District

3.3.39. As can been seen in **Figure 3-13** the majority of the travel from home origins of workers of the district are either within the district or from origins that are within close proximity to the district. Overall, of the travel to work origins of workers of the district that are within close proximity to the district these are to adjacent districts and boroughs of Hertfordshire to the north and east and to London to the south and east.

3.4 WALKING AND CYCLING ACCESSIBILITY

WALKING ACCESSIBILITY

3.4.1. A 25-minute walking accessibility plan has been produced for the district covering the main urban areas including Abbots Langley, Chorleywood, Croxley Green, Loudwater, Maple Cross, Moor Park, Rickmansworth, Sarratt and Carpenders Park, and is shown in **Figure 3-14**. The walking catchment is based on a typical walking speed of 4.8km per hour, resulting in a catchment of 2km, which is considered a reasonable walking distance on a day-to-day basis.

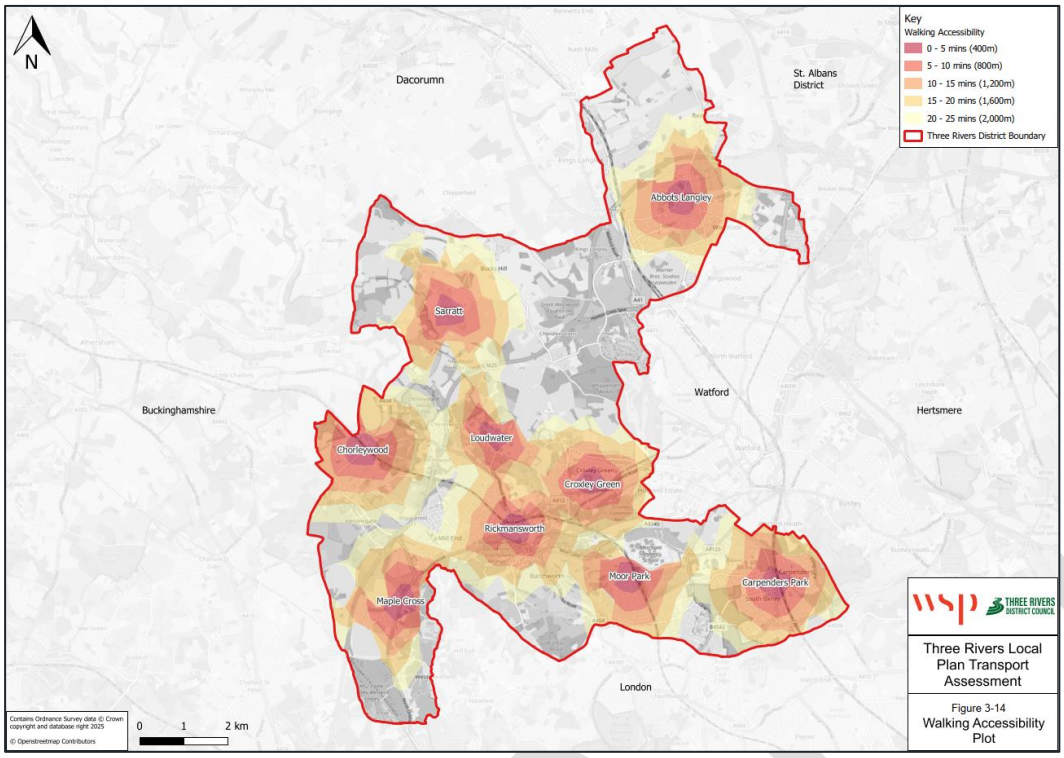

Figure 3-14: Walking Accessibility Plan

3.4.2. As can been seen in **Figure 3-14** the main urban areas of the district can be accessed within an acceptable walking distance of up 25 minutes via the footways along the main roads of the district, which connect to the footway network along adjoining roads as well as a number of PRoW where available. A Public Right of Way (PRoW) plan covering the main urban areas of the district is also shown in **Figure 3-15**.

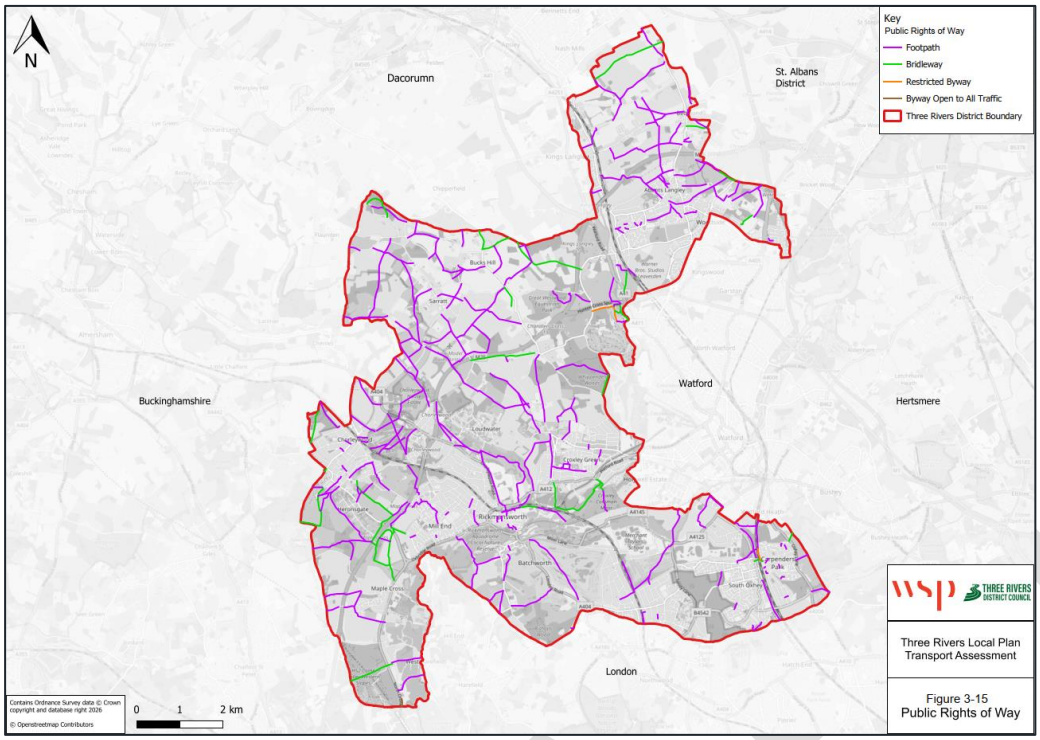

Figure 3-15: Public Rights of Way Plan

3.4.3. As can been seen in **Figure 3-15** there is comprehensive network of PRoW across the district, and along with the footway network within the main urban areas of the district provides sustainable access to local services and facilities within the main urban areas of the district including shops, health care facilities and employment. It should be noted that as outlined in **Section 3.3** above in the more rural areas of the district there is a lack of walking infrastructure along the roads in these areas. The walking infrastructure along the main roads of the district and the PRoW that intersect with the footways along these roads are outlined below.

PEDESTRIAN INFRASTRUCTURE

M25 Motorway (between Bedmond Road and Chalfont Lane / Shire Lane)

3.4.4. There are no footways along the M25 between Bedmond Road in the north and Chalfont Lane / Shire Lane in the south for its entire length. Although there are no footways there are a number of PRoW that intersect with the road and either cross it via bridges or go under it via underpasses including PRoW Footpath Abbots Langley No. 21 and No. 22 and Bridleway Abbots Langley No. 45 to the north, and PRoW Rickmansworth Footpath No. 9 and Bridleway No. 10 to the south.

A41 (between the M25 motorway and the A41 North Western Avenue)

3.4.5. There are footways along both sides of the A41 between the M25 motorway in the north and the A41 North Western Avenue in the south for the majority of its length, with only small sections where there are no footways present along the road, which are mainly outside of the urban areas along the road.

3.4.6. The footways along the A41 connect to the footway network along adjoining roads as well as a number of PRoW that intersect with the road, including PRoW Footpath Abbots Langley No. 38 and Bridleway Abbots Langley No. 40 to the south.

3.4.7. There are no pedestrian crossing facilities provided along the A41 and site observations undertaken recently along the A41 indicated that the footways were used by pedestrians but with only a small number of pedestrians being observed.

A404 (between Green Street and Batchworth Lane)

3.4.8. There are footways along both sides of the A404 between Green Street in the north-west to Batchworth Lane in the south-east for the majority of its length, with only small sections where there are no footways present along the road.

3.4.9. The footways along the A404 connect to the footway network along adjoining roads as well as a number of PRoW that intersect with the road, including PRoW Footpaths Chorleywood No. 11 and No. 12 to the north and Footpaths Batchworth No. 54 and No. 55 to the south.

3.4.10. There are also a number of pedestrian crossing facilities provided along the A404 with pelican crossings on Rickmansworth Road and Riverside Drive and a zebra crossing on Church Street. Site observations undertaken recently along the A404 indicated that the footways were used by pedestrians with a significant number of pedestrians being observed within the vicinity of Chorleywood and Rickmansworth.

A412 (between Beggars Bush Lane and Troy Lake)

3.4.11. There are footways along both sides of the A412 between Beggars Bush Lane in the north-east to Troy Lake in the south-west for the majority of its length, with only small sections where there are no footways present along the road.

3.4.12. The footways along the A412 connect to the footway network along adjoining roads as well as a number PRoW that intersect with the road, including PRoW Footpath Croxley Green No. 9 and Bridleway Croxley Green No. 11 to the east and Bridleway Rickmansworth No. 10 and Footpath Rickmansworth No. 5 to the west. There are also a number of pedestrian crossing facilities provided along the A412 with pelican and zebra crossings on Uxbridge Road and with pelican crossings on Watford Road.

3.4.13. Site observations undertaken recently along the A412 indicated that the footways were used by pedestrians with a significant number of pedestrians being observed within the vicinity of Croxley Green, Rickmansworth and Maple Cross.

A4008 (between Sherwoods Road and Grims Dyke Golf Club)

3.4.14. There is a footway along the east side of the road between Sherwoods Road in the north and Grims Dyke Golf Club to the south for its entire length. There is currently no footway along the west side of road for its entire length.

3.4.15. The footways along the A4008 connect to the footway network along adjoining roads as well as a number of PRoW that intersect with the road, including PRoW Footpath Watford Rural No. 12 and Bridleway Watford Rural No. 31 to the north and Footpath Watford Rural No.13 and No. 14 to the south.

3.4.16. There are no pedestrian crossing facilities provided along the A4008 and site observations undertaken recently along the A4009 indicated that the footway was used by pedestrians but with only a small number of pedestrians being observed.

A4125 (between Bushey Cricket Club and Mount View)

3.4.17. There are footways along both sides of the A4125 between Bushey Cricket Club in the north and Mount View in the south for the majority of its length, with only small sections where there are no footways present along the road, which were mainly outside of the urban areas along the road.

3.4.18. The footways along the A4125 connect to the footway network along adjoining roads as well as a number of PRoW that intersect with the road, including PRoW Footpath Watford Rural No. 3 and No. 1 to the north.

3.4.19. There are no pedestrian crossing facilities provided along the A4125 and site observations undertaken recently along the A4125 indicated that the footways were used by pedestrians but with only a small number of pedestrians being observed.

A4145 (between Epsom Road and Moor Lane)

3.4.20. There are no footways along both sides of the A4145 between Epsom Road in the north-east to Moor Lane in the south-east along the majority of its length with a footway only being provided along the north side of the road in Rickmansworth. There were no PRoW or pedestrian crossing facilities provided along the A4145 and site observations undertaken recently along the A4125 indicated that there were no pedestrians observed along the road.

3.5 CYCLING ACCESSIBILITY

3.5.1. A 25-minute cycling accessibility plan has been produced for the district covering the main urban areas including Abbots Langley, Chorleywood, Croxley Green, Loudwater, Maple Cross, Moor Park, Rickmansworth, Sarratt and Carpenders Park, and is shown in **Figure 3-16**. The cycling catchment is based on a typical cycling speed of 19.3km per hour, resulting in a catchment of 8km, which is considered a reasonable cycling distance on a day-to-day basis.

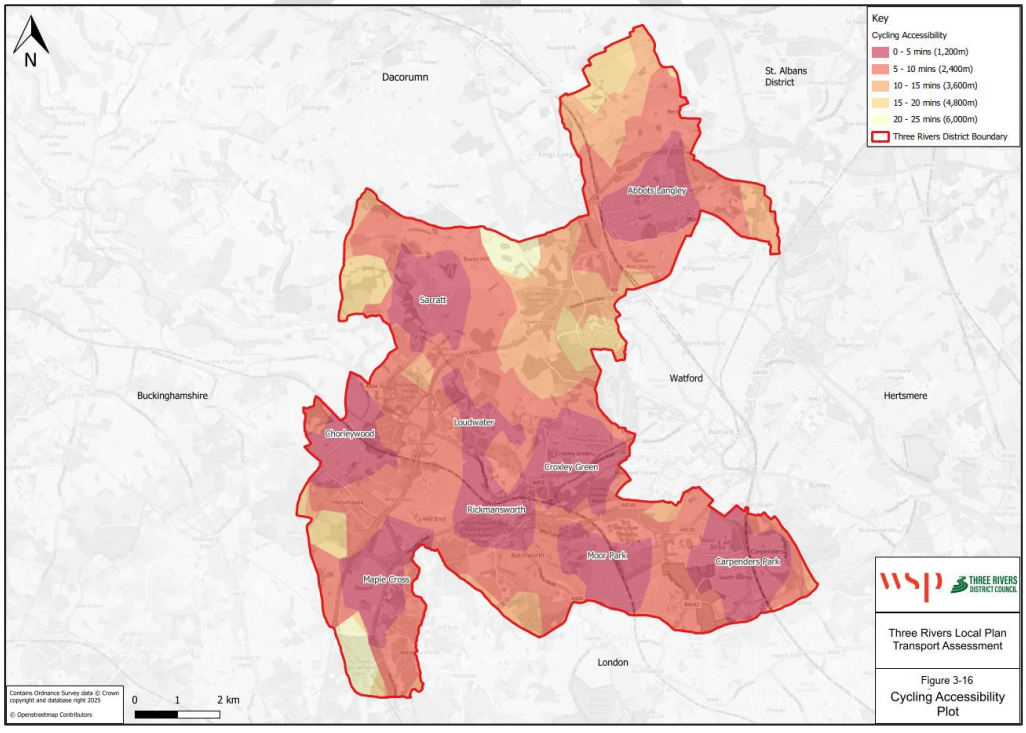

Figure 3-16: Cycling Accessibility Plan

3.5.2. **Figure 3-16** shows that all of the main urban areas of the district as well as many of the more rural areas can be accessed within an acceptable cycling distance of up to 25 minutes along the main roads of the district, which connect to the cycle network where available. It should be noted that as outlined in **Section 3.3** above there is a lack of cycling infrastructure (particularly off-road cycleways) across the district. However, cycling provides sustainable access to many local services and facilities within each urban area as well as more rural areas including shops, schools, health care facilities and employment via the cycling infrastructure along the main roads of the district are outlined below.

CYCLING INFRASTRUCTURE

M25 Motorway (between Bedmond Road and Chalfont Lane / Shire Lane)

3.5.3. There are no cycleways along the M25 between Bedmond Road in the north and Chalfont Lane / Shire Lane in the south for its entire length. Although there are no cycleways there are a number of PRoW Bridleway Abbots Langley No. 45 to the north and Rickmanswoth Bridleway No. 10 to the south which can be used by cyclists.

A41 (between the M25 motorway and the A41 North Western Avenue)

3.5.4. There are no cycleways along both sides of the A41 between the M25 motorway in the north and the A41 North Western Avenue in the south for its entire length. It should be noted that the footway on the east side the road to the south does connect to PRoW Bridleway Abbots Langley No. 40 to the south which can be used by cyclists. Site observations undertaken recently along the A41 indicated that there were a small number of cyclists observed along the road.

A404 (between Green Street and Batchworth Lane)

3.5.5. There are some off-road cycleways along both sides of the A404 between Green Street in the north-west to Batchworth Lane in the south-east for small sections of the road mainly within the vicinity of Rickmansworth. The cycleways along the road do not connect to any PRoW Bridleways. Site observations undertaken recently along the A404 indicated that there were a small number of cyclists observed along the road.

3.5.6. It should be noted that National Cycle Network (NCN) Route No. 6 routes in an east-west direction along the north side of the River Colne. It passes under the A404 to the north of Church Street and can be accessed via steps on the east and west sides of the road.

A412 (between Beggars Bush Lane and Troy Lake)

3.5.7. There are some on-road and off-road cycleways along both sides of the A412 between Beggars Bush Lane in the north-east to Troy Lake in the south-west for some sections of the road mainly within the vicinity of Croxley Green and Maple Cross.

3.5.8. The cycleway along the west side of the road to the west in Maple Cross does connect to PRoW Bridleway Rickmansworth No. 10 which can be used by cyclists. Site observations undertaken along the A412 indicated that there were a small number of cyclists observed along the road.

3.5.9. It should be noted that NCN Route No. 6 routes in an east-west direction to the south of the A412 along the north side of the River Colne. It can be accessed from the A412 via PRoW Footpath Batchworth No. 65 and provides an alternative off-road cycle route.

A4008 (between Sherwoods Road and Grims Dyke Golf Club)

3.5.10. There is an off-road cycleway along the east side of the road between Sherwoods Road in the north and Grims Dyke Golf Club in the south for a small section of mainly within the vicinity of Carpenders Park. The cycleway along the east side of the north in Carpenders Park does connect to PRoW Bridleway Watford Rural No. 31 which can be used by cyclists. Site observations undertaken along the A4008 indicated that there were a small number of cyclists observed along the road.

A4125 (between Bushey Cricket Club and Mount View)

3.5.11. There are no cycleways along both sides of the A4125 between Sherwoods Road in the north and Grims Dyke Golf Club to the south for its entire length. Site observations undertaken recently along the A404 indicated that there were no cyclists observed along the road.

A4145 (between Epsom Road and Moor Lane)

3.5.12. There are no cycleways along both sides of the A4145 between Epsom Road in the north-east to Moor Lane in the south-east for its entire length. Site observations undertaken recently along the A404 indicated that there were a small number of cyclists observed along the road.

3.5.13. It should be noted that NCN Route No. 6 routes in an east-west direction to the north of the A4145 along the north side of the River Colne. It can be access from the A4145 via Moor Lane Crossing and provides an alternative off-road cycle route.

3.6 PUBLIC TRANSPORT ACCESSIBILITY

BUS SERVICES

3.6.1. There is a comprehensive network of bus route services operating across the study area providing sustainable access to key destinations within and surrounding the district. A summary of the existing bus route services that operate along the main roads of the district including the bus operators of each service is shown in **Table 3-9**.

Table 3-9: Existing Bus Route Services

Road	Service	Operator
A41	322 – Hemel Hempstead to Rickmansworth via Croxley Green and Rickmansworth	Arriva
A404	336 – North Bushey to Chorleywood via Rickmansworth	Red Rose Travel
A412	320 – Hemel Hempstead to Maple Cross via Croxley Green and Rickmansworth	Arriva
	322 – Hemel Hempstead to Rickmansworth via Croxley Green and Rickmansworth	Arriva
	336 – North Bushey to Chorleywood via Rickmansworth	Red Rose Travel
	352 – Watford to Hemel Hempstead via Croxley Green	Red Eagle Buses
	724 – Harlow to Heathrow Airport via Croxley Green, Rickmansworth and Maple Cross	Arriva
	725 – Stevenage to Heathrow Airport via Croxley Green, Rickmansworth and Maple Cross	Arriva
	R1 and R2 – Maple Cross / Chorleywood to Mount Vernon Hospital / Watford	Red Eagle Buses
	W1 – Watford to Maple Cross via Croxley Green and Rickmansworth	Red Rose Travel
A4008	346 – Watford to Northwood via Carpenders Park	Red Rose Travel
A4125	328 – Watford to Northwood via Carpenders Park	Red Rose Travel
	346 – Watford to Northwood via Carpenders Park	Red Rose Travel
	832 and 833 – South Oxhey to Watford via Carpenders Park	Sullivan Buses
	W20 – North Bushey to Oxhey Hall via Watford	Red Eagle Buses
	W21 – Carpenders Park to Westfield Academy via South Oxhey	Red Eagle Buses

Source: Intalink (November 2025)

3.6.2. **Table 3-9** shows that there is a comprehensive network of bus route services provided along the main roads of the district. They provide sustainable access to key destinations within the district including Chorleywood, Croxley Green, Maple Cross, Rickmansworth and Carpenders Park. They also provide sustainable access to key destinations surrounding the district including Bushey, Hemel Hempstead, Harlow, Stevenage, Watford, Northwood and Heathrow Airport. It should be noted that the bus route services also provide access to all of the London Underground and Overground Stations as well as National Rail Stations located in the study area apart from Moor Park Station. The frequency of the bus route services that operate along the main roads of the district are shown in **Figure 3-17**.

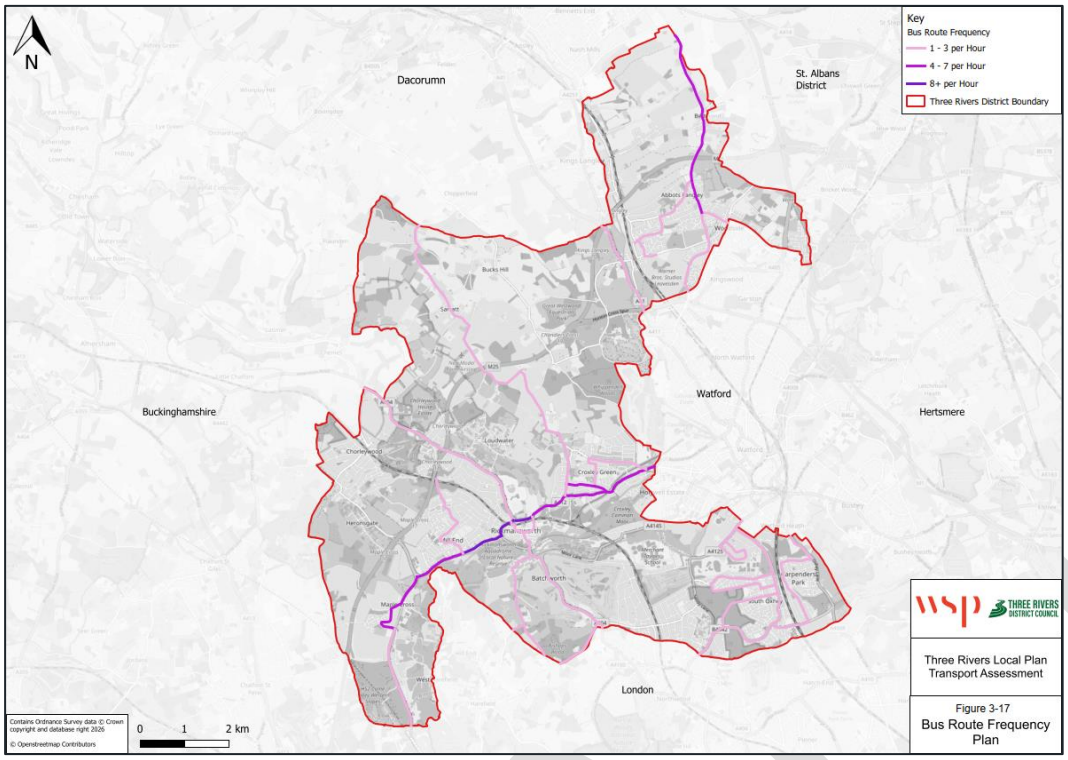

Figure 3-17: Bus Route Frequency Plan

3.6.3. As can be seen in **Figure 3-17** the frequency of the bus route services that route along the A412 operate at a frequency of between 4 to 7 buses per hour and more than 8 buses per hour providing a good frequency of bus services along the route servicing Chorleywood, Croxley Green, Maple Cross and Rickmansworth. In addition, the bus route services that route along the A41, the A404, the A4008 and the A4125 operate at a frequency of between 1 to 3 buses per hour providing a moderate frequency of bus services along these routes servicing Chorleywood, Croxley Green, Maple Cross, Rickmansworth and Carpenders Park.

RAIL SERVICES

3.6.4. There are a number of London Underground and Overground Stations as well as National Rail Stations located in the study area providing sustainable access to key destinations within the district including Chorleywood, Rickmansworth, Moor Park, Croxley, Carpenders Park and Kings Langley. They also provide sustainable access to key destinations surrounding the district including Aylesbury, Amersham, Milton Keynes Central, Bletchley, Harrow-on-the-Hill, London Kings Cross and London Liverpool Street Station. The location of the London Underground and Overground Stations and the National Rail Stations across the district are shown in **Figure 3-18**.

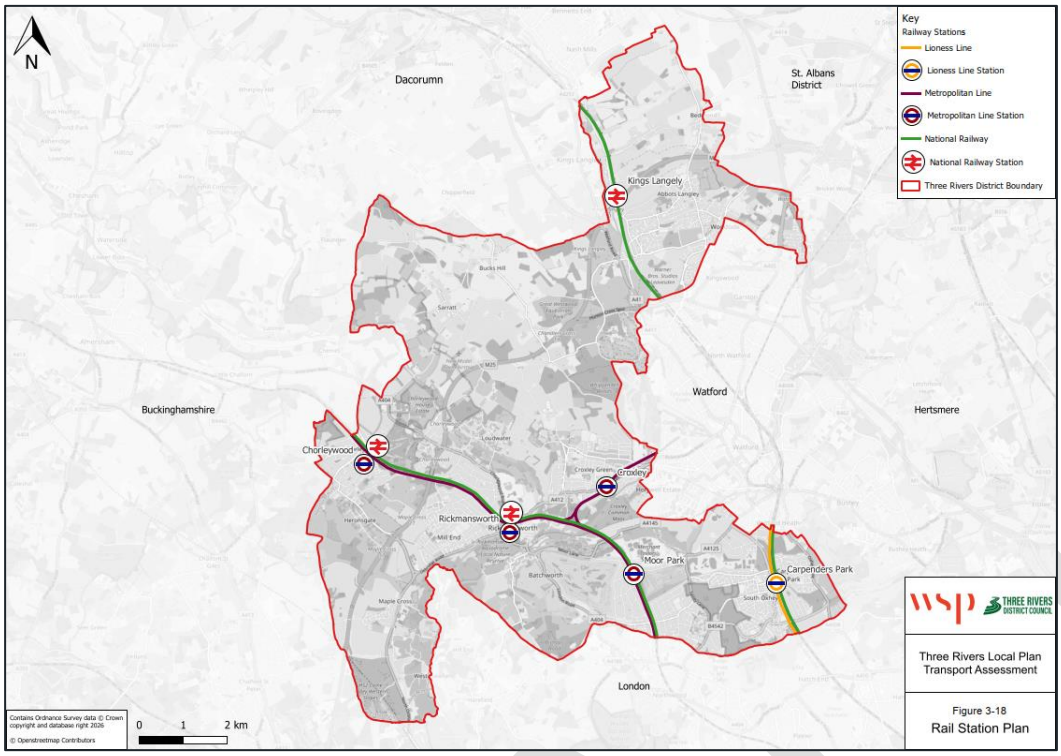

Figure 3-18: Rail Station Plan

3.6.5. As can been seen in **Figure 3-18** the majority of the London Underground and Overground Stations and National Rail Stations are located in the south-west of the district with only Kings Langley being located in the north-east of the district. They are all within an acceptable walking and cycling distance within the main urban areas of the district, and can all be accessed (apart from Moor Park Station) via bus routes services that operate within the district. The specific details in relation to these stations that are located in the district are outlined below.

Chorleywood Station

3.6.6. The station is located on Station Approach approximately 1.5km south of the A404 Rickmansworth Road. It is served by Chiltern Railways and the London Underground on the Metropolitan Line. There are a number of facilities provided at the station including step-free access, toilets, ticket machines, a sheltered waiting area, accessible car parking spaces and bicycle storage.

3.6.7. It provides access to Aylesbury and Amersham to north and Harrow-on-the Hill and London Marylebone to the south via Chiltern Railways. It also provides access to Amersham and Chalfont and Latimer to the north and Harrow-on-the-Hill and London Kings Cross to the south via the Metropolitan Line, with a good daily service provided from this station to these destinations.

Rickmansworth Station

3.6.8. The station is located on Homestead Road adjacent to the A412 Rectory Road. It is served by Chiltern Railways and the London Underground on the Metropolitan Line. There are a number of facilities provided at the station including toilets, ticket machines, a sheltered waiting area, accessible car parking spaces and bicycle storage.

3.6.9. It provides access to Aylesbury and Amersham to north and Harrow-on-the Hill and London Marylebone to the south via Chiltern Railways. It also provides access to Amersham and Chalfont

and Latimer to the north and Harrow-on-the-Hill and London Kings Cross to the south via the Metropolitan Line, with a good daily service provided from this station to these destinations.

Moor Park

3.6.10. The station is located on Sandy Lodge Lane approximately 1.5km west of the A4125 Sandy Lane. It is served by the London Underground on the Metropolitan Line. There are a number of facilities provided at the station including toilets, a sheltered waiting area, car parking spaces and bicycle storage. It provides access to Amersham and Watford to the north and Harrow-on-the-Hill and London Kings Cross to the south, with a good daily service provided from this station to these destinations.

Croxley Station

3.6.11. The station is located on Winton Drive adjacent to the A412 Watford Road. It is served by the London Underground on the Metropolitan Line. There are a number of facilities provided at the station including toilets, a sheltered waiting area, car parking spaces and bicycle storage. It provides access to Watford to the north and Harrow-on-the-Hill and London Kings Cross to the south, with a good daily service provided from this station to these destinations.

Carpenders Park Station

3.6.12. The station is located on Prestwick Road approximately 700m to the west of the A4008 Oxhey Lane. It is served by London Overground on the Lioness Line, and there are a number of facilities provided at the station including helps point and bicycle storage. It provides access to Watford Junction and Bushey to the north and Harrow and Wealdstone and London Euston, with a good daily service provided from this station to these destinations.

Kings Langley Station

3.6.13. The station is located on Station Road and is served by London Northwestern Railway. There are a number of facilities provided at the station including toilets, ticket machines, a sheltered waiting area, car parking spaces and bicycle storage. It provides access to Milton Keynes Central and Bletchley to the north and Watford Junction and London Euston to the south .

3.7 HIGHWAY NETWORK

3.7.1. This section of the TA describes the main roads that make up the strategic and local highway networks across the district, with the strategic highway network of the M25 motorway, and the local highway network comprising the A41, the A404, the A412, the A4008 the A4125 and the A4145, as shown in **Figure 3-19**.

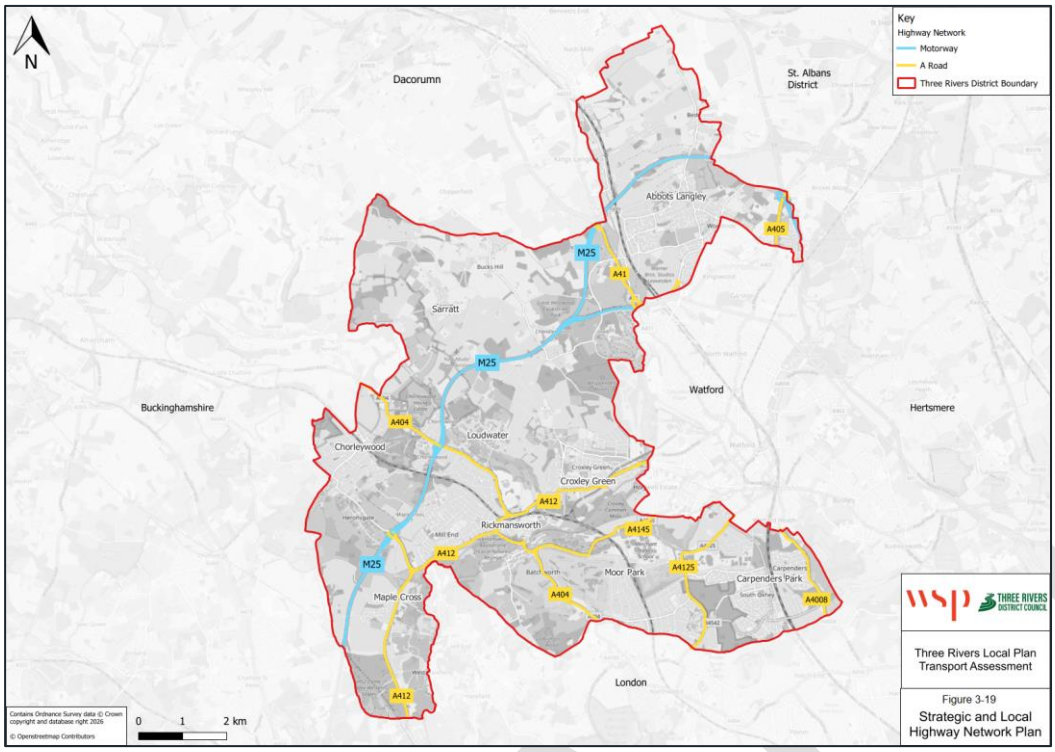

Figure 3-19: Strategic and Local Highway Network Plan

M25 Motorway (between Bedmond Road and Chalfont Lane / Shire Lane)

3.7.2. The M25 motorway routes in north-east to south-west direction between Bedmond Road in the north-east and Chalfont Lane / Shire Lane in the south-west. It comprises between 3 and 4 lanes and is subject to a 70mph speed limit, and provides access to the A41, the A404 and the A412. The main junctions along the M25 motorway between Bedmond Road and Chalfont Lane / Shire Lane are summarised as follows:

- Grade separated signalised roundabout junction of the M25 motorway Junction 20 and the A41 Watford Road and Watford Road;
- Grade separated junction of the M25 motorway Junction 19 connecting to the roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead Road;
- Grade separated signalised junction of the M25 motorway Junction 18 and the A404 Rickmansworth Road / Chorleywood Road; and
- Grade separated junction signalised junction of the M25 motorway Junction 17 and the A412 Denham Road and Long Lane.

3.7.3. Site observations undertaken recently along the M25 motorway indicated that there was moderate to significant queuing observed at all the main junctions along the M25 motorway between Bedmond Road and Chalfont Lane / Shire Lane in the AM and PM peak hours, which reflects speed of traffic and associated queue length data that was obtained from Google Maps as outlined in **Section 3.8**.

A41 (between the M25 motorway and the A41 North Western Avenue)

3.7.4. The A41 routes in a north to south direction between the M25 motorway in the north and the A41 North Western Avenue in the south, and comprises a mixture of single and dual carriageway roads. The speed limit varies between 40mph and 70mph along the road, and provides access to the M25

Junctions 19 and 20, and the A411. The main junctions along the A41 between the M25 motorway and the A41 North Western Avenue are summarised as follows:

- Grade separated signalised roundabout junction of the A41 Watford Road and Watford Road and the M25 Junction 20; and
- Roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead road connecting to the grade separated junction of the M25 motorway Junction 19.

3.7.5. Site observations undertaken recently along the A41 indicated that there was moderate to significant queuing observed at all of the main junctions along the A41 between the M25 motorway and the A41 North Western Avenue in the AM and PM peak hours, which reflects speed of traffic and associated queue length data that was obtained from Google Maps as outlined in **Section 3.8**.

A404 (between Green Street and Batchworth Lane)

3.7.6. The A404 routes in a north-west to south-east direction between Green Street in the north-west to Batchworth Lane in the south-east. It comprises a mixture of single and dual carriageway roads, with the dual carriageway roads being located within the vicinity of Rickmansworth. The speed limit varies between 30mph and 40mph along the A404, and provides access to the M25 Junction 17, the A412, and the A4145. The main junctions along the A404 between Green Street and Batchworth Lane are summarised as follows:

- Grade separated signalised junction of the A404 Rickmansworth Road / Chorleywood Road and the M25 motorway Junction 18;
- Roundabout junction of the A404 Chorleywood Road, the A412 Rectory Road / Park Road and Homestead Road;
- Roundabout junction of the A404 Riverside Drive, the A412 Rectory Road / Uxbridge Road and Wensum Way;
- Roundabout junction of the A404 Riverside Drive / Church Street, Church Wharf and Church Street; and
- Roundabout junction of A404 Church Street / London Road and the A4145 Moor Lane.

3.7.7. Site observations undertaken recently along the A404 indicated that there was moderate to significant queuing observed along the A404 between Green Street and Batchworth Lane in the AM and PM peak hours, which reflects speed of traffic and associated queue length data that was obtained from Google Maps as outlined in **Section 3.8**.

A412 (between Beggars Bush Lane and Troy Lake)

3.7.8. The A412 routes in a north-east to south-west direction between Beggars Bush Lane in the north-east to Troy Lake in the south-west. It comprises a mixture of single and dual carriageway roads, with the dual carriageways roads being located within the vicinity of Rickmansworth and Croxley Green. The speed limit varies between 30mph and 70mph along the road, and it provides access to the M25 Junction 17 and the A404. The main junctions along the A4124 between Beggars Bush Lane and Troy Lake are summarised as follows:

- Roundabout junction of the A412 Watford Road and Baldwins Lane;
- Roundabout junction of the A412 Scots Hill / Watford Road and The Green;
- Roundabout junction of the A412 Park Road, the High Street and The Quadrant;
- Roundabout junction of the A412 Rectory Road / Park Road, the A404 Chorleywood Road and Homestead Road;

- Roundabout junction of the A412 Uxbridge Road / Rectory Road, the A404 Riverside Drive and Wensum Way;
- Grade separated roundabout junction of the A412 Denham Way and Long Lane and the M25 motorway Junction 17; and
- Roundabout junction of the A412 Denham Way / Uxbridge Road.

3.7.9. Site observations undertaken recently along the A412 indicated that there was moderate to significant queuing observed at all of the main junctions along the A4124 between Beggars Bush Lane and Troy Lake in the AM and PM peak hours. There were also a number of junctions where no queues were observed, which reflects speed of traffic and associated queue length data that was obtained from Google Maps as outlined in **Section 3.8** below.

A4008 (between Sherwoods Road and Grims Dyke Golf Club)

3.7.10. The A4008 runs in a north to south direction between Sherwoods Road in the north to Grims Dyke Golf Club in the south and comprises single carriageway roads. The speed limit is 40mph along the road, and the main junction along the A4008 between Sherwoods Road and Grims Dyke Golf Club is summarised as follows:

- Signalised junction of the A4008 Oxhey Lane and the B4542 Little Oxhey Lane.

3.7.11. Site observations undertaken recently along the A4008 indicated that there was moderate queuing observed at the main junction along the A4008 between Sherwoods Road and Grims Dyke Golf Club in the AM and PM peak hours, which reflects speed of traffic and associated queue length data that was obtained from Google Maps as outlined in **Section 3.8**.

A4125 (between Bushey Cricket Club and Mount View)

3.7.12. The A4145 routes in a north to south direction between Bushey Cricket Club in the north and Mount View in the south and comprises single carriageway roads. The speed limit varies between 30mph and 40mph along the road, and the main junctions along the A4145 between Bushey Cricket Club and Mount View are summarised as follows:

- Signalised junction of the A4125 Hampermill Lane and Brookdene Avenue;
- Priority junction of the A4125 Sandy Lane and Batchworth Lane; and
- Priority junction of the A4125 Sandy Lane and The Woods.

3.7.13. Site observations undertaken recently along the A4125 indicated that there was moderate to significant queuing observed at all of the main junctions along the A4145 between Bushey Cricket Club and Mount View in the AM and PM peak hours, which reflects speed of traffic and associated queue length data that was obtained from Google Maps as outlined in **Section 3.8**.

A4145 (between Epsom Road and Moor Lane)

3.7.14. The A4145 routes in a north-east to south-west direction between Epsom Road in north-east to Moor Lane in the south-west and comprises singe carriageway roads. The speed limit varies between 30mph and 40mph along the road, and it provides access to the A404. The main junctions along the A4145 between Epsom Road and Moor Lane are summarised as follows:

- Roundabout junction of the A4145 Tolpits Lane and Dwight Road; and
- Roundabout junction of the A4145 Moor Lane and the A404 Church Street / London Road.

3.7.15. Site observations undertaken recently along the A4145 indicated that there was moderate queuing observed at one on the junctions along the A4145 between Epsom Road and Moor Lane in the AM and PM peak hours. There is also a junction where no queues were observed, which reflects speed of traffic and associated queue length data that was obtained from Google Maps as outlined in **Section 3.8**.

3.8 HIGHWAY OPERATION

3.8.1. This section of the TA sets out the existing highway operation on the main roads that make up the strategic and local highway networks across the district. To achieve this the traffic survey count data that was collected to build HCC's Transport Model COMET was obtained and analysed. A summary of the traffic survey count data analysed is provided below.

EXISTING TRAFFIC FLOWS

Automatic Traffic Counts

3.8.2. Automatic Traffic Counts (ATC's) in March/ April 2023 were undertaken at a number of locations covering the main roads that make up the strategic and local highway networks across the district, providing information on traffic volumes on these roads. The raw traffic data that was obtained is enclosed in **Appendix A**. A plan showing the locations of where the ATC's were undertaken across the study area is shown in **Figure 3-20** and are described as follows:

- **Site 1**: A41 Watford Road (between Langleybury Lane / Bridge Road and Old Mill Lane);
- **Site 2**: A404 Chenies Road (between North Hil and Marlins Close);
- **Site 3**: A404 Rickmansworth Road (between Common Road and Chorleywood House Drive);
- **Site 4**: A404 London Road (between Home Farm Road and Park Close);
- **Site 5**: A412 Watford Road (between A412 Rickmansworth Road / Ascot Road and the A412 Watford Road and Baldwins Lane);
- **Site 6**: A412 Scots Hill (between Lavrock Lane and Rickmansworth Skate Park);
- **Site 7**: A412 Rectory Road (between the A404 Chorleywood Road and Homestead Road and the A412 Uxbridge Road, the A404 Riverside Drive and Wensum Way);
  Site 8: A412 Uxbridge Road (between Long Lane and the A412 Denham Way);
- **Site 9**: A412 Denham Way (between M25 Junction 17 and the A412 Denham Way / Uxbridge Road);
- **Site 10**: A412 Denham Way (between the A412 Denham Way / Uxbridge Road and Chalfont Road / Maple Cross Road);
- **Site 11**: A412 Denham Way (between Woodland Road / Old Uxbridge Road and Chalfont Lane)
- **Site 12**: A4008 Oxhey Lane (between Greenfield Avenue and Penrose Avenue);
- **Site 13**: A4008 Oxhey Lane (between Little Oxhey Lane and Oxhey Lane);
- **Site 14**: A4125 Sandy Lane (between Batchworth Lane and The Woods);
- **Site 15**: A4125 Watford Road (between The Woods and Eastbury Avenue);
- **Site 16**: A4145 Tolpits Lane (between Epsom Road and Tolpits Lane);
- **Site 17**: A4145 Moor Lane (between Sandy Lodge Road and Moor Lane)
- **Site 18**: M25 motorway (between M25 motorway Junctions 20 and 21);
- **Site 19**: M25 motorway (between M25 motorway Junction 17 and 20);

- **Site 20:** M25 motorway (between A41 Watford Road / A411 Hempstead Road and M25 Motorway Junction 17);
- **Site 21**: M25 motorway (between M25 motorway Junctions 18 and 19);
- **Site 22**: M25 motorway (between M25 motorway Junctions 17 and 18); and
- **Site 23**: M25 motorway (between M25 motorway Junctions 16 and 17).

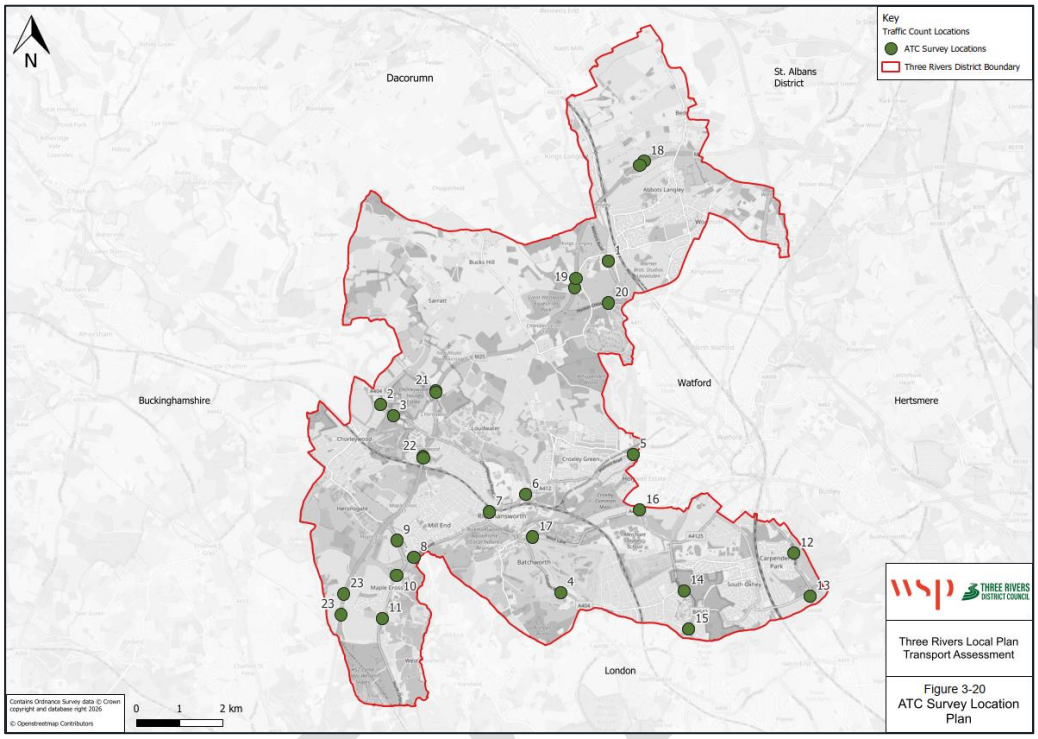

Figure 3-20: ATC Survey Location Plan

3.8.3. A summary of the ATC data that was collected at each of the surveyed locations in the AM and PM peak hours is shown in **Table 3-10**.

Table 3-10: ATC AM and PM Peak Hours (Two-Way Link Flows)

Site	Direction	AM Peak Hour	PM Peak Hour
1	Northbound	688	831
	Southbound	738	889
2	Northbound	363	581
	Southbound	611	666
3	Eastbound	846	891
	Westbound	829	866
4	Eastbound	912	995
	Westbound	907	870
5	Eastbound	1261	791
	Westbound	844	1249
6	Eastbound	914	966

Site	Direction	AM Peak Hour	PM Peak Hour
	Westbound	1013	1015
7	Northbound	865	913
	Southbound	566	815
8	Eastbound	734	844
	Westbound	862	744
9	Northbound	696	900
	Southbound	828	739
10	Northbound	693	1019
	Southbound	1005	657
11	Northbound	434	730
	Southbound	531	358
12	Northbound	684	646
	Southbound	792	756
13	Northbound	844	963
	Southbound	1073	867
14	Northbound	646	671
	Southbound	647	644
15	Northbound	641	613
	Southbound	669	661
16	Northbound	452	538
	Southbound	543	448
17	Eastbound	746	541
	Westbound	614	701
18	Eastbound	5968	5706
	Westbound	4541	5571
19	Northbound	4768	4958
	Southbound	4381	5037
20	Eastbound	927	875
	Westbound	790	1123
21	Northbound	6484	7038
	Southbound	5367	6114
22	Northbound	6067	6369
	Southbound	4809	5587
23	Northbound	5290	5748
	Southbound	4426	5339

Source: HCC Transport Model COMET (November 2025)

3.8.4. **Table 3-10** shows that the M25 motorway is heavily trafficked with 6484 and 7038 two-way movements recorded northbound in the AM and PM peak hours respectively, and with 5367 and 6114 two-way movements recorded southbound in the AM and PM peak hours respectively at Site

21. There were also similar two-way movements recorded on the M25 motorway at Site 22 with 6067 and 6369 two-way movements recorded northbound in the AM and PM peak hours respectively, and with 4809 and 5587 two-way movements recorded southbound in the AM and PM peak hours respectively.

3.8.5. In addition, it shows that the A412 is moderately trafficked with 1261 and 791 two-way movements recorded eastbound in the AM and PM peak hours respectively, and with 844 and 1249 two-way movements recorded eastbound in the AM and PM peak hours respectively at Site 5. It also shows that the A41 Watford Road is moderately trafficked with 688 and 831 two-way movements recorded northbound in the AM and PM peak hours respectively, and with 738 and 869 two-way movements recorded southbound in the AM and PM peak hours respectively at Site 1.

3.8.6. **Table 3-10** also shows that that the A404 is moderately trafficked with 912 and 995 two-way movements recorded eastbound in the AM and PM peak hours respectively, and with 907 and 870 two-way movements recorded westbound in the AM and PM peak hours respectively at Site 4. It also shows that the A4008 is moderately trafficked with 844 and 963 two-way movements recorded northbound in the AM and PM peak hours respectively, and with 1073 and 867 two-way movements recorded southbound in the AM and PM peak hours respectively at Site 13.

3.8.7. In addition, it shows that the A4125 is moderately trafficked with 641 and 613 two-way movements recorded northbound in the AM and PM peak hours respectively, and with 669 and 661 at Site 15. It also shows that the A4145 is moderately trafficked with 452 and 538 two-way movements recorded northbound in the AM and PM peak hours respectively, and with 543 and 448 at Site 16.

3.8.8. Overall, the main roads that make up the strategic and local highway networks across the district are either heavily trafficked as is the case with the M25 motorway, ranging from 6484 and 7038 two-way movements in the AM and PM peak hours respectively to 4809 and 5587 two-way movements in AM and PM peak hour respectively, or moderately trafficked as is the case with the A41, the A41, the A404, the A412, the A4008, the A4125 and the A4145 ranging from 1261 and 448 two-way movements in the AM and PM peak hours respectively to 452 and 448 two-way movements in the AM and PM peak hours respectively.

Queue Lengths

3.8.9. An analysis was also undertaken of the speed of traffic on the main roads that make up the strategic and local highway networks across the district focusing on the main junctions on these roads as outlined in **Section 3.7** above. To achieve this the 'Typical Traffic' function in Google Maps was used to provide a snapshot of the speed of traffic on each arm of these main junctions in the AM and PM peak hours, which provides an indication of the queue lengths experienced. A summary of the information obtained for each junction is provided below.

M25 Motorway (between Bedmond Road and Chalfont Lane / Shire Lane)

3.8.10. A number of screenshots were obtained showing the speed of traffic and associated queue lengths for the main junctions along the M25 motorway between Bedmond Road and Chalfont Lane / Shire Lane and these are summarised below**.**

Junction 1: Grade separated signalised roundabout junction of the M25 motorway Junction 20 and the A41 Watford Road and Watford Road

3.8.11. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the grade separated signalised roundabout junction of the M25 motorway Junction 20 and the A41 Watford Road and Watford Road is shown in **Figure 3-21**.

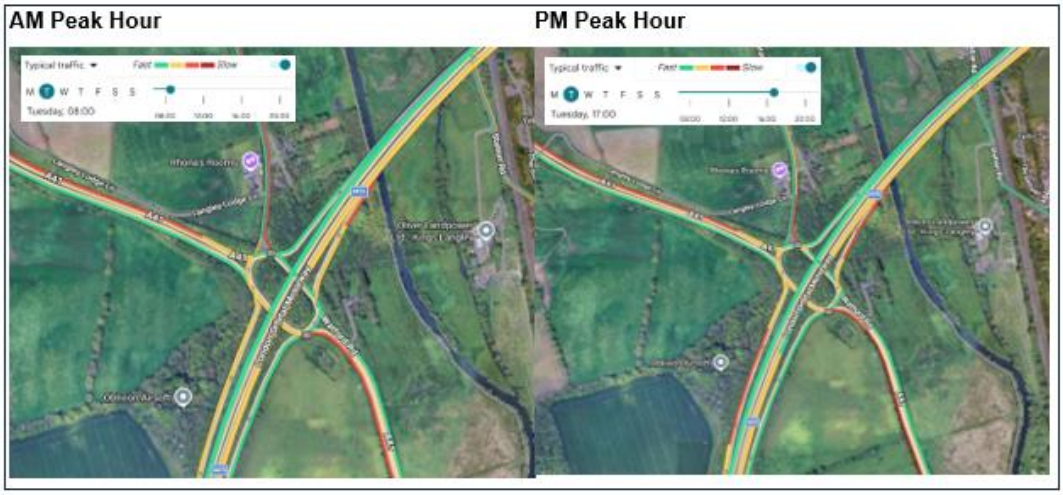

Figure 3-21: M25 Motorway Junction 20 and the A41 Watford Road and Watford Road

3.8.12. **Figure 3-21** shows that on a typical day the grade separated signalised roundabout junction of the M25 motorway Junction 20 and the A41 Watford Road and Watford Road experiences significant queues on the A41 Watford Road and Watford Road and moderate queues on the M25 motorway in both the AM and PM peak hours, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 2: Grade separated junction of the M25 motorway Junction 19 connecting to the roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead Road

3.8.13. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the grade separated junction of the M25 motorway Junction 19 connecting to the roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead Road are shown in **Figure 3-22**.

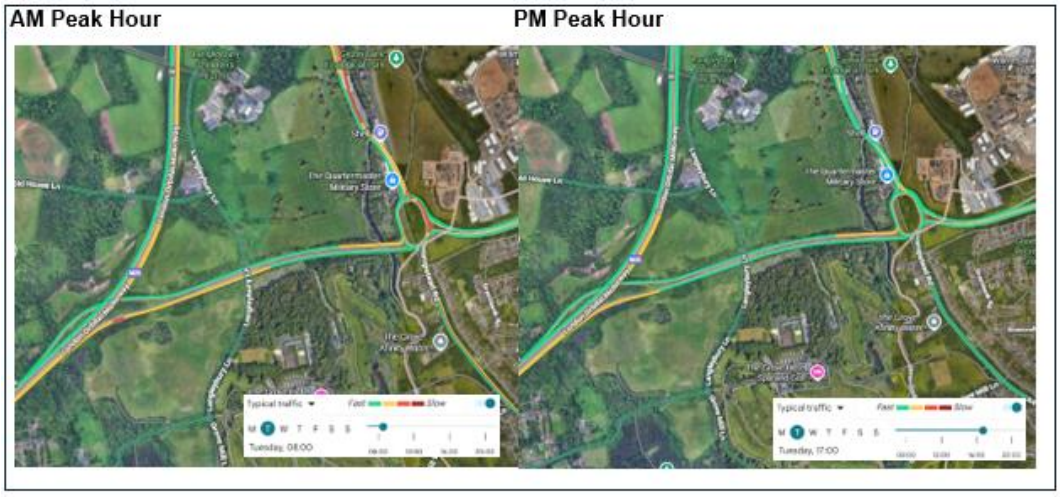

Figure 3-22: M25 Motorway Junction 19 and A41 Watford Road / North Western Avenue and the A411 Hempstead Road

3.8.14. **Figure 3-22** shows that on a typical day the grade separated junction of the M25 motorway Junction 19 experiences moderate queues on the M25 motorway in both the AM and PM peak hours. In addition, the roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead Road experiences significant queues on the A41 Watford Road in the AM peak hours and moderate queues in the PM peak hour. There are also moderate queues experienced on the A411 Hempstead Road in the AM peak hour, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 3: Grade separated signalised junction of the M25 motorway Junction 18 and the A404 Rickmansworth Road / Chorleywood Road

3.8.15. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the grade separated signalised junction of the M25 motorway Junction 18 and the A404 Rickmansworth Road / Chorleywood Road are shown in **Figure 3-23**.

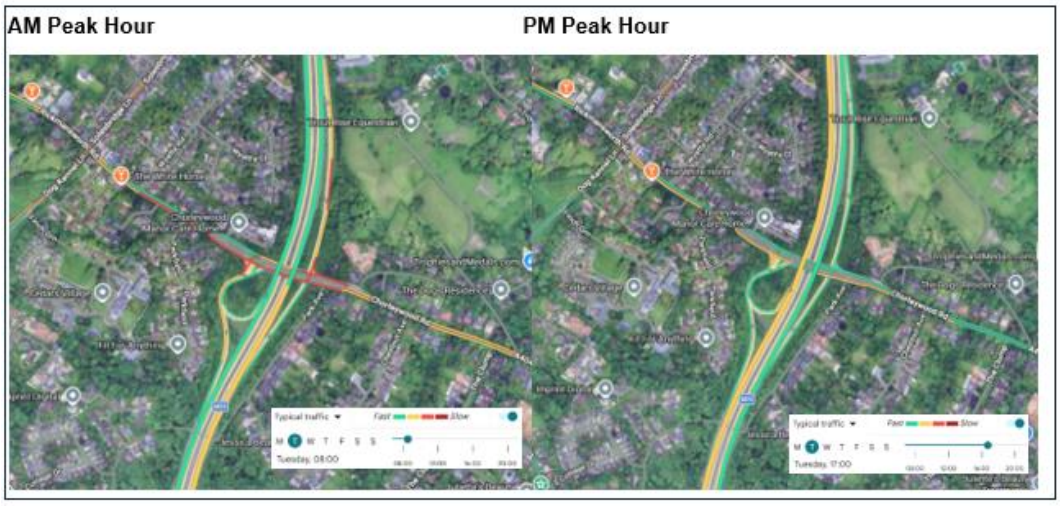

Figure 3-23: M25 Motorway Junction 18 and the A404 Rickmansworth Road / Chorleywood Road

3.8.16. **Figure 3-23** shows that on a typical day the grade separated signalised junction of the M25 motorway Junction 18 and the A404 Rickmansworth Road / Chorleywood Road experiences significant queues on the A404 Rickmansworth Road / Chorleywood Road and moderate queues on the M25 motorway in the AM peak hour. In addition, it experiences moderate queues on all arms in the PM peak hour. This reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 4: Grade separated junction signalised junction of the M25 motorway Junction 17 and the A412 Denham Road and Long Lane

3.8.17. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the grade separated junction signalised junction of the M25 motorway Junction 17 and the A412 Denham Road and Long Lane are shown in **Figure 3-24**.

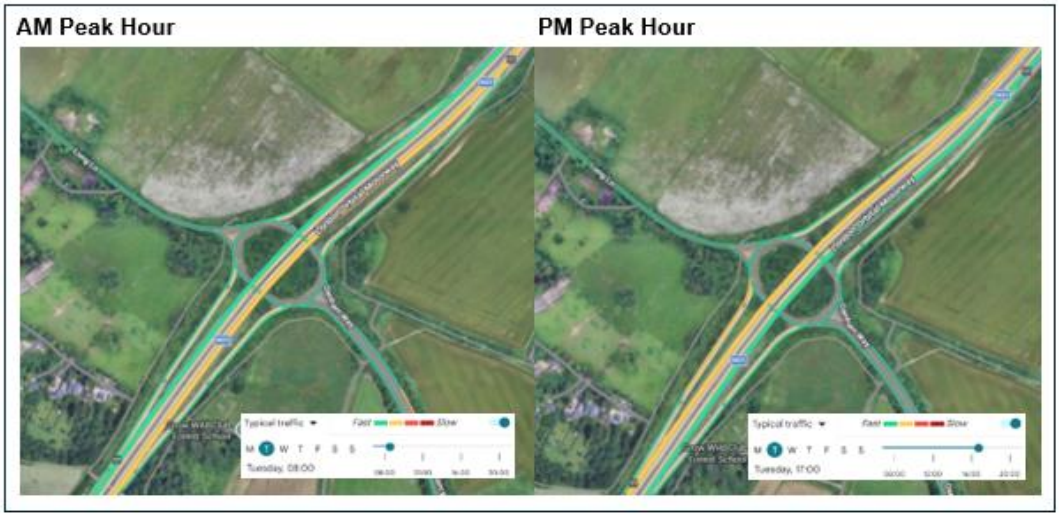

Figure 3-24: M25 Motorway Junction 17 and the A412 Denham Road and Long Lane

3.8.18. **Figure 3-24** shows that on a typical day the grade separated junction signalised junction of the M25 motorway Junction 17 and the A412 Denham Road and Long Lane experiences moderate queues on the M25 motorway in both the AM and PM peak hours, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

A41 (between the M25 motorway and the A41 North Western Avenue)

Junction 1: Grade separated signalised roundabout junction of the A41 Watford Road and Watford Road and the M25 Junction 20

3.8.19. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the grade separated signalised roundabout junction of the A41 Watford Road and Watford Road and the M25 Junction 20 are shown in **Figure 3-25**.

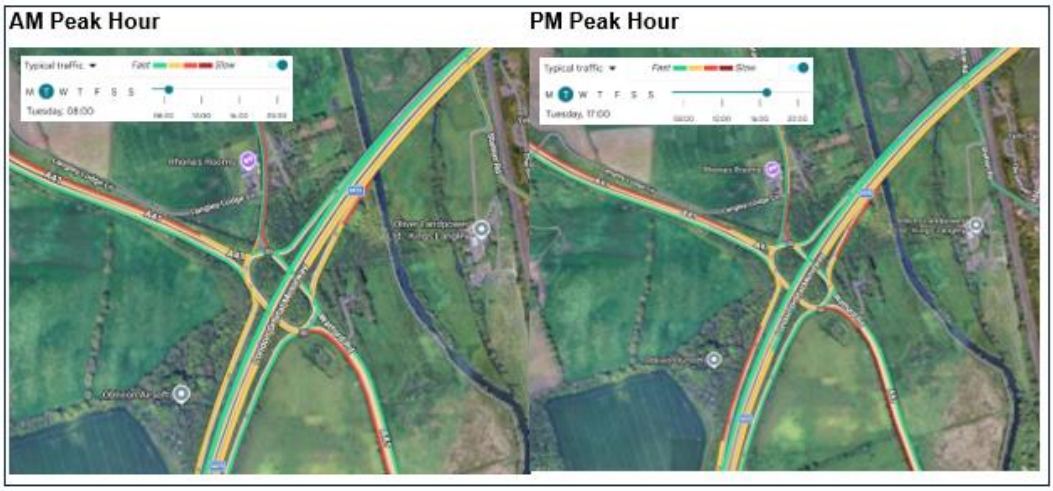

Figure 3-25: A41 Watford Road and Watford Road and the M25 Junction 20

3.8.20. **Figure 3-25** shows that on a typical day the grade separated signalised roundabout junction of the A41 Watford Road and Watford Road and the M25 Junction 20 experiences significant queues on A41 Watford Road and Watford Road and moderate queues on the M25 motorway in both the AM and PM peak hours, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 2: Roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead Road connecting to the grade separated junction of the M25 motorway Junction 19

3.8.21. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead Road connecting to the grade separated junction of the M25 motorway Junction 19 are shown in **Figure 3-26**.

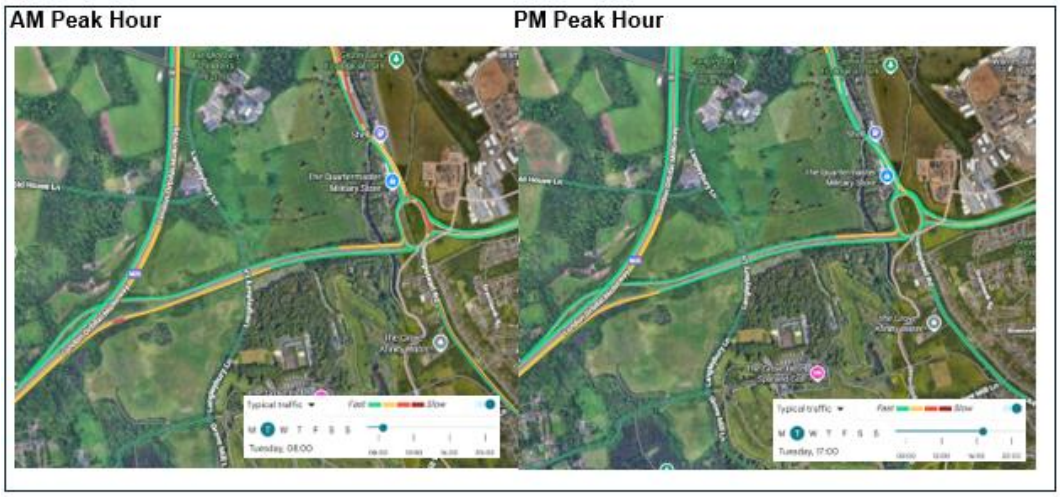

Figure 3-26: A41 Watford Road / North Western Avenue and the A411 Hempstead Road and the M25 Motorway Junction 19

3.8.22. **Figure 3-26** shows that on a typical day the grade separated junction of the M25 motorway Junction 19 experiences moderate queues on the M25 motorway in both the AM and PM peak hours. In addition, the roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead Road experiences significant queues on the A41 Watford Road in the AM peak hours and moderate queues in the PM peak hour. There are also moderate queues experienced on the A411 Hempstead Road in the AM peak hour, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

A404 (between Green Street and Batchworth Lane)

Junction 1: Grade separated signalised junction of the A404 Rickmansworth Road / Chorleywood Road and the M25 motorway Junction 18

3.8.23. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the grade separated signalised junction of the A404 Rickmansworth Road / Chorleywood Road and the M25 motorway Junction 18 are shown in **Figure 3-27**.

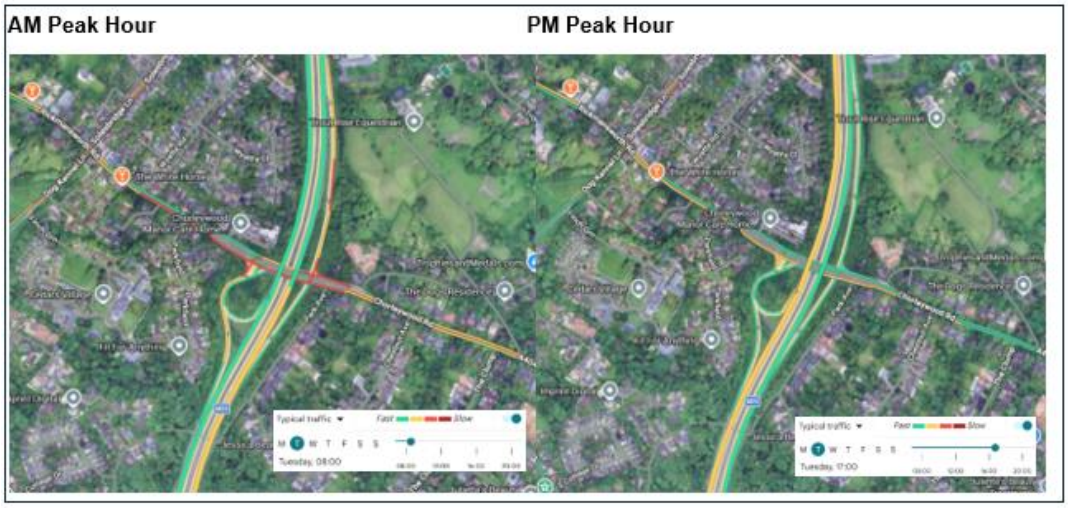

Figure 3-27: A404 Rickmansworth Road / Chorleywood Road and the M25 motorway Junction 18

3.8.24. **Figure 3-27** shows that on a typical day the grade separated signalised junction of the A404 Rickmansworth Road / Chorleywood Road and the M25 motorway Junction 18 experiences significant queues on the A404 Rickmansworth Road / Chorleywood Road and moderate queues on the M25 motorway in the AM peak hour. In addition, it experiences moderate queues on all arms in the PM peak hour. This reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 2: Roundabout junction of the A404 Chorleywood Road, the A412 Rectory Road / Park Road and Homestead Road

3.8.25. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A404 Chorleywood Road, the A412 Rectory Road / Park Road and Homestead Road are shown in **Figure 3-28**.

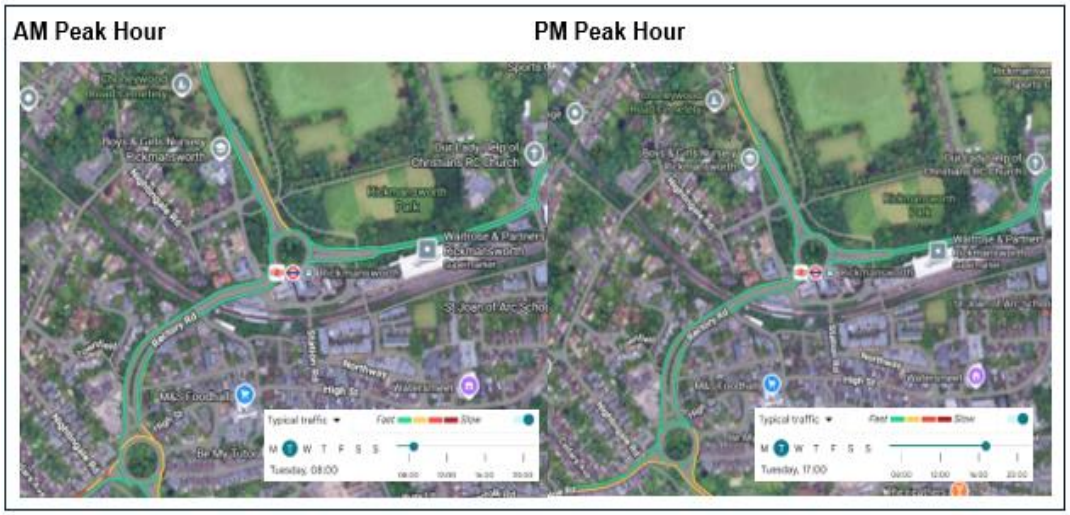

Figure 3-28: A404 Chorleywood Road, the A412 Rectory Road / Park Road and Homestead Road

3.8.26. **Figure 3-28** shows that on a typical day the roundabout junction of the A404 Chorleywood Road, the A412 Rectory Road / Park Road and Homestead Road experiences moderate queues on A404 Chorleywood Road in the AM peak hour, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 3: Roundabout junction of the A404 Riverside Drive, the A412 Rectory Road / Uxbridge Road and Wensum Way

3.8.27. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A404 Riverside Drive, the A412 Rectory Road / Uxbridge Road and Wensum Way are shown in **Figure 3-29**.

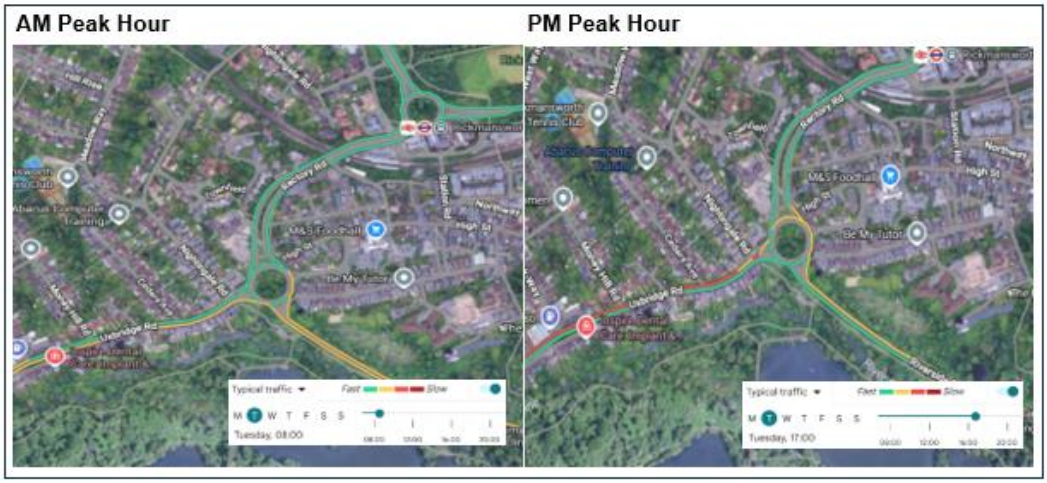

Figure 3-29: A404 Riverside Drive, the A412 Rectory Road / Uxbridge Road and Wensum Way

3.8.28. **Figure 3-29** shows that on a typical day the roundabout junction of the A404 Riverside Drive, the A412 Rectory Road / Uxbridge Road and Wensum Way experiences moderate queues on the A412 Uxbridge Road in the AM peak hour and significant queues in the PM peak hour. In addition, the A404 Riverside Drive experiences moderate queues in both the AM and PM peak hours, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 4: Roundabout junction of the A404 Riverside Drive / Church Street, Church Wharf and Church Street

3.8.29. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A404 Riverside Drive / Church Street, Church Wharf and Church Street are shown in **Figure 3-30**.

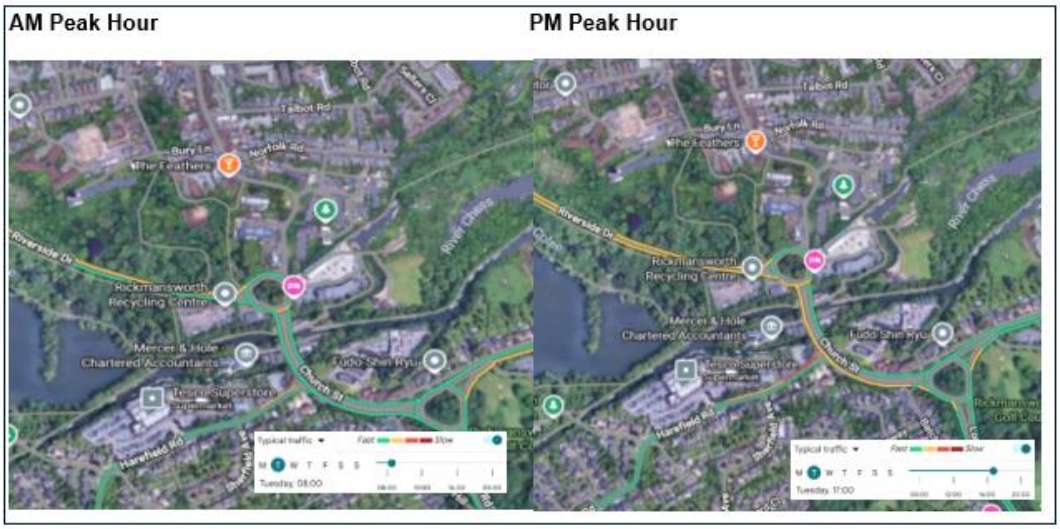

Figure 3-30: A404 Riverside Drive / Church Street, Church Wharf and Church Street

3.8.30. **Figure 3-30** shows that on a typical day the roundabout junction of the A404 Riverside Drive / Church Street, Church Wharf and Church Street experiences moderate queues on the A404 Riverside Drive in the AM and PM peak hours. In addition, the A303 Church Street experiences moderate queues on the A404 Church Street in the PM peak hour, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 5: Roundabout junction of A404 Church Street / London Road and the A4145 Moor Lane

3.8.31. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A404 Church Street / London Road and the A4145 Moor Lane are shown in **Figure 3-31**.

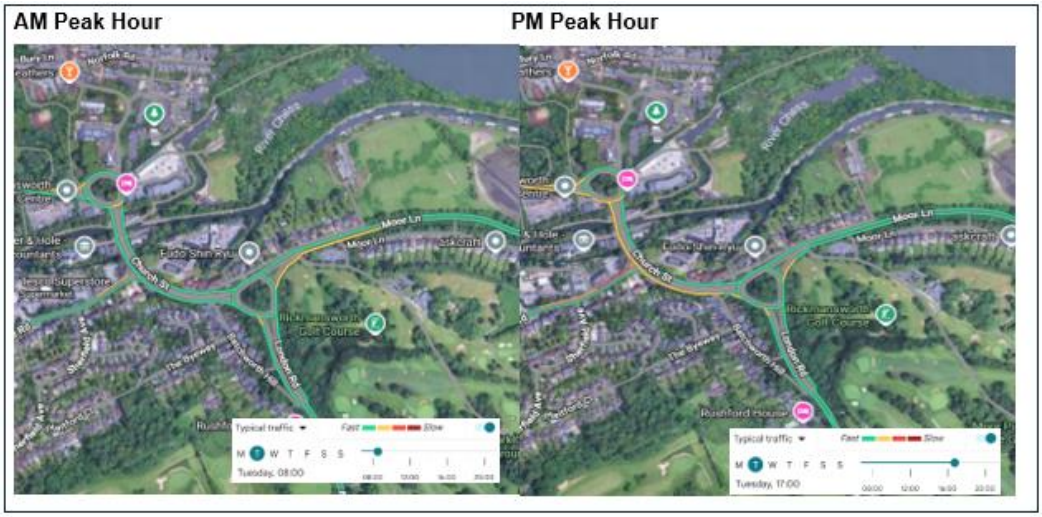

Figure 3-31: A404 Church Street / London Road and the A4145 Moor Lane

3.8.32. **Figure 3-31** shows that on a typical day the roundabout junction of the A404 Church Street / London Road and the A4145 Moor Lane experiences moderate queues on the A4145 Moor Lane in the AM peak hour and on the A404 Church Street in the PM peak hour, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

A412 (between Beggars Bush Lane and Troy Lake)

Junction 1: Roundabout junction of the A412 Watford Road and Baldwins Lane

3.8.33. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A412 Watford Road and Baldwins Lane are shown in **Figure 3-32**.

Figure 3-32: A412 Watford Road and Baldwins Lane

3.8.34. **Figure 3-32** shows that on a typical day the roundabout junction of the A412 Watford Road and Baldwins Lane does not experience any queues, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 2: Roundabout junction of the A412 Scots Hill / Watford Road and The Green

3.8.35. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A412 Scots Hill / Watford Road and The Green are shown in **Figure 3-33**.

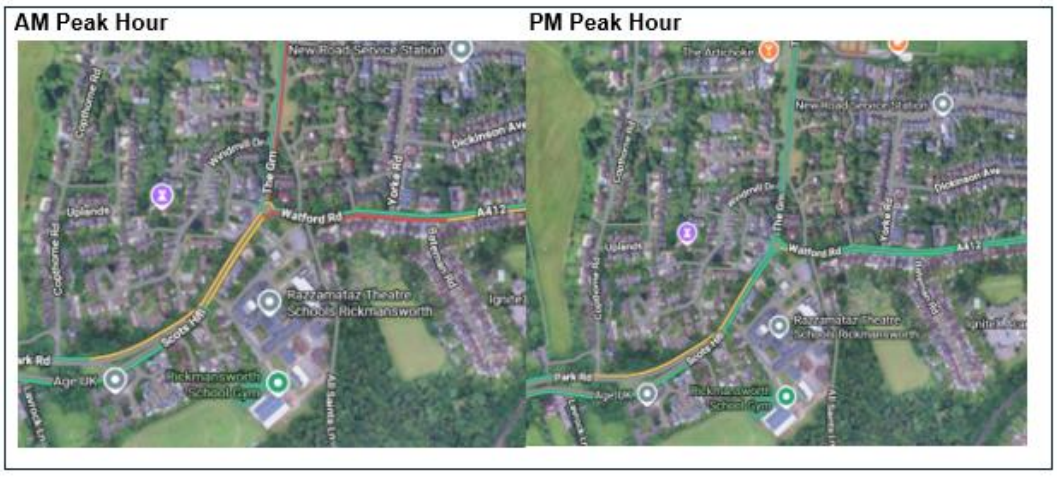

Figure 3-33: A412 Scots Hill/ Watford Road and The Green

3.8.36. **Figure 3-33** shows that on a typical day the roundabout junction of the A412 Scots Hill / Watford Road and The Green experiences moderate queues on the A412 Scots Hill in the AM and PM peak hours. In addition, the A412 Watford Road experiences significant queues in the AM peak hour and moderate queues in the PM peeak hour, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 3: Roundabout junction of the A412 Park Road, the High Street and The Quadrant

3.8.37. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A412 Park Road, the High Street and The Quadrant are shown in **Figure 3-34**.

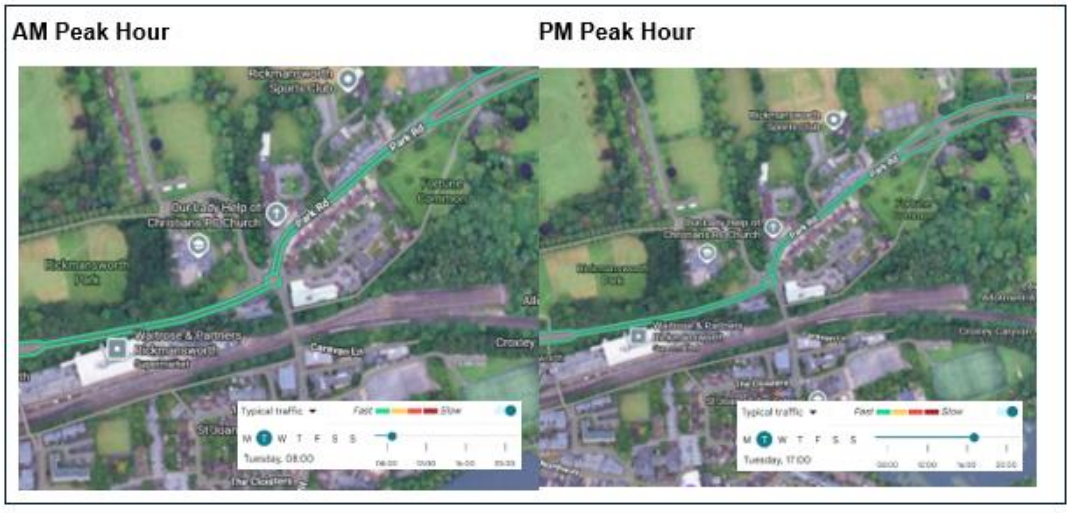

Figure 3-34: A412 Park Road, the High Street and The Quadrant

3.8.38. **Figure 3-34** shows that on a typical day the roundabout junction of the A412 Park Road, the High Street and The Quadrant does not experience any queues, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 4: Roundabout junction of the A412 Rectory Road / Park Road, the A404 Chorleywood Road and Homestead Road

3.8.39. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A412 Rectory Road / Park Road, the A404 Chorleywood Road and Homestead Road are shown in **Figure 3-35**.

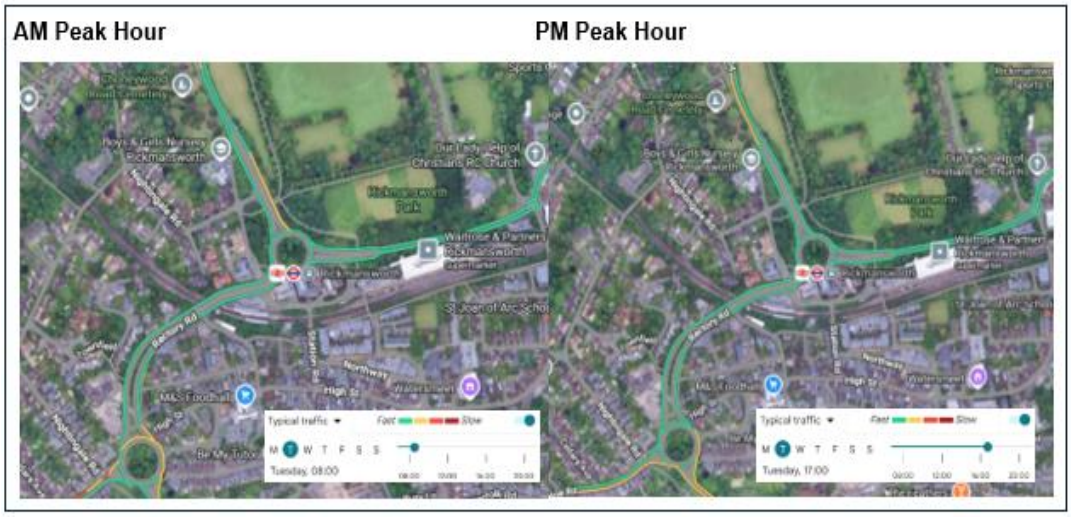

Figure 3-35: A412 Rectory Road / Park Road, the A404 Chorleywood Road and Homestead Road

3.8.40. **Figure 3-35** shows that on a typical day the roundabout junction of the A412 Rectory Road / Park Road, the A404 Chorleywood Road and Homestead Road experiences moderate queues on A404 Chorleywood Road in the AM peak hour, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 5: Roundabout junction of the A412 Uxbridge Road / Rectory Road, the A404 Riverside Drive and Wensum Way

3.8.41. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A412 Uxbridge Road / Rectory Road, the A404 Riverside Drive and Wensum Way are shown in **Figure 3-36**.

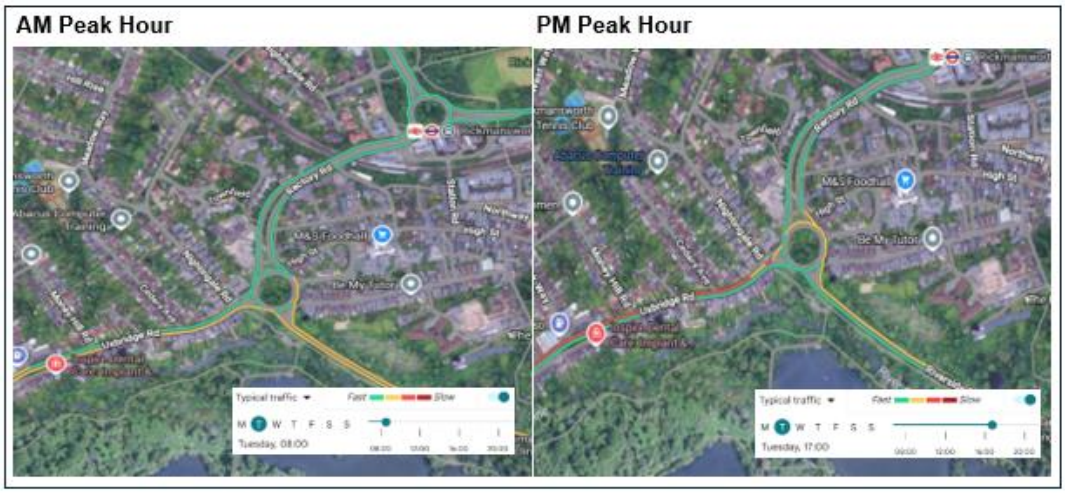

Figure 3-36: A412 Uxbridge Road / Rectory Road, the A404 Riverside Drive and Wensum Way

3.8.42. **Figure 3-36** shows that on a typical day the roundabout junction of the A404 Riverside Drive, the A412 Rectory Road / Uxbridge Road and Wensum Way experiences moderate queues on the A412 Uxbridge Road in the AM peak hour and significant queues in the PM peak hour. In addition, the A404 Riverside Drive experiences moderate queues in both the AM and PM peak hours, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 6: Grade separated roundabout junction of the A412 Denham Way and Long Lane and the M25 motorway Junction 17

3.8.43. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the grade separated roundabout junction of the A412 Denham Way and Long Lane and the M25 motorway Junction 17 are shown in **Figure 3-37**.

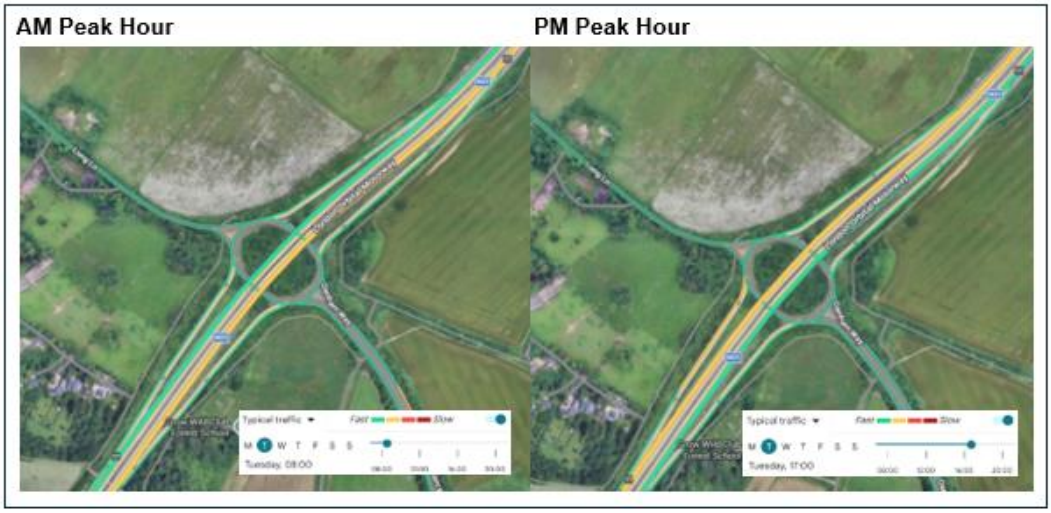

Figure 3-37: A412 Denham Way and Long Lane and the M25 Motorway Junction 17

3.8.44. **Figure 3-37** shows that on a typical day the grade separated junction signalised junction of the M25 motorway Junction 17 and the A412 Denham Road and Long Lane experiences moderate queues on the M25 motorway in both the AM and PM peak hours, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 7: Roundabout junction of the A412 Denham Way / Uxbridge Road

3.8.45. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A412 Denham Way / Uxbridge Road are shown in **Figure 3-38**.

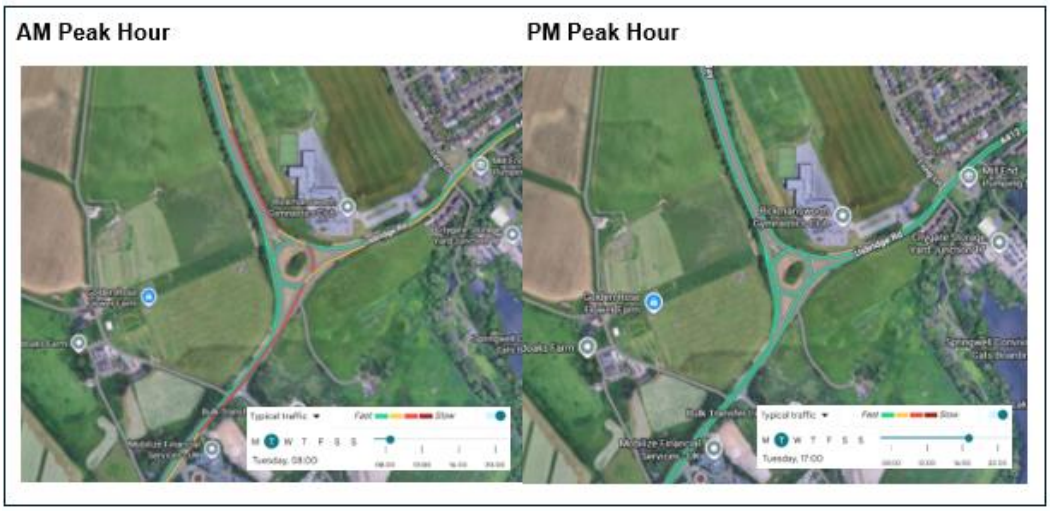

Figure 3-38: A412 Denham Way / Uxbridge Road

3.8.46. **Figure 3-38** shows that on a typical day the roundabout junction of the A412 Denham Way / Uxbridge Road experiences significant queue on the A412 Denham Way in the AM peak hour and moderate queues in the PM peak hour, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

A4008 (between Sherwoods Road and Grims Dyke Golf Club)

Junction 1: Signalised junction of the A4008 Oxhey Lane and the B4542 Little Oxhey Lane

3.8.47. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the signalised junction of the A4008 Oxhey Lane and the B4542 Little Oxhey Lane are shown in **Figure 3-39**.

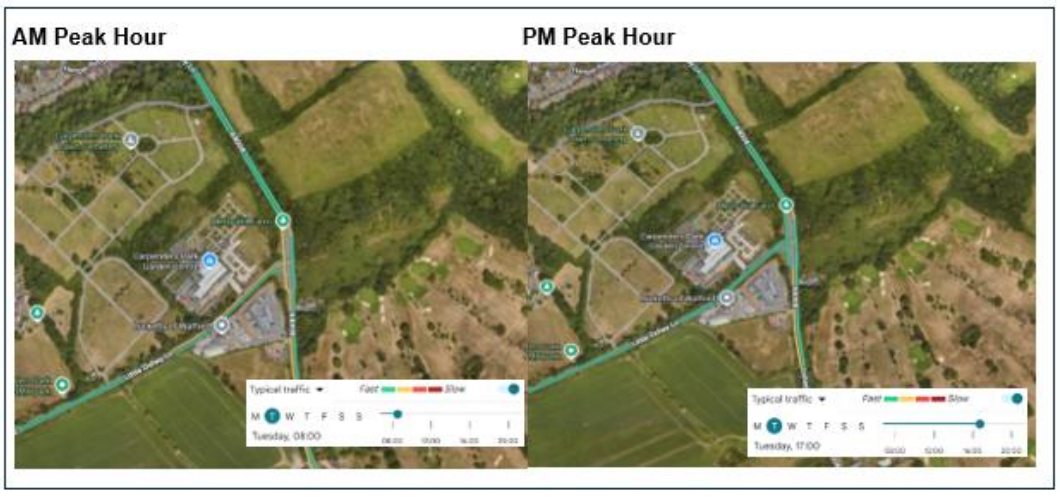

Figure 3-39: A4008 Oxhey Lane and the B4542 Little Oxhey Lane

3.8.48. **Figure 3-39** shows on a typical day the signalised junction of the A4008 Oxhey Lane and the B4542 Little Oxhey Lane experiences moderate queues on the A4008 Oxhey Lane and on the B4542 Little Oxhey Lane in the AM peak hour. In addition, the A4008 Oxhey Lane experiences moderate queues in the PM peak hour, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

A4125 (between Bushey Cricket Club and Mount View)

Junction 1: Signalised junction of the A4125 Hampermill Lane and Brookdene Avenue

3.8.49. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the signalised junction of the A4125 Hampermill Lane and Brookdene Avenue are shown in **Figure 3-40**.

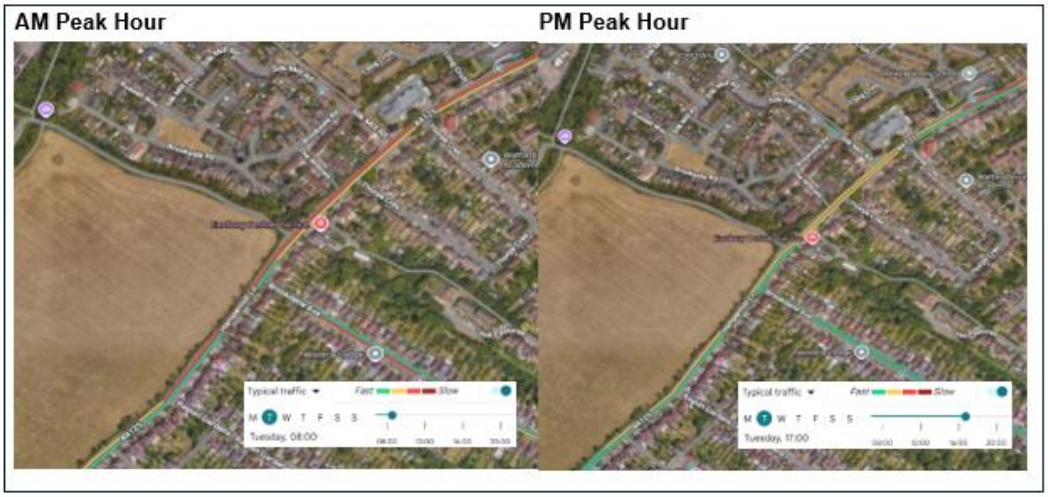

Figure 3-40: A4125 Hampermill Lane and Brookdene Avenue

3.8.50. **Figure 3-40** shows that on a typical day the signalised junction of the A4125 Hampermill Lane and Brookdene Avenue experiences significant queues on the A4125 Hampermill Lane and on Brookdene Avenue in the AM peak hour. In addition, the A4125 Hampermill Lane experiences moderate queues in the PM peak hour, reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 2: Priority junction of the A4125 Sandy Lane and Batchworth Lane

3.8.51. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the priority junction of the A4125 Sandy Lane and Batchworth Lane are shown in **Figure 3-41**.

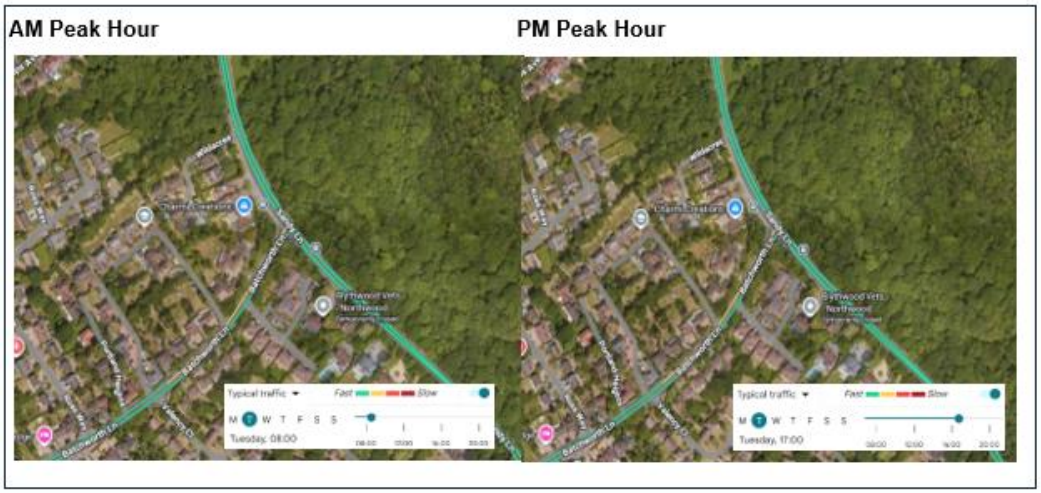

Figure 3-41: A4125 Sandy Lane and Batchworth Lane

3.8.52. **Figure 3-41** shows that on a typical day priority junction of the A4125 Sandy Lane and Batchworth Lane in both the AM and PM peak hours, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 3: Priority junction of the A4125 Sandy Lane and The Woods

3.8.53. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the priority junction of the A4125 Sandy Lane and The Woods are shown in **Figure 3-42**.

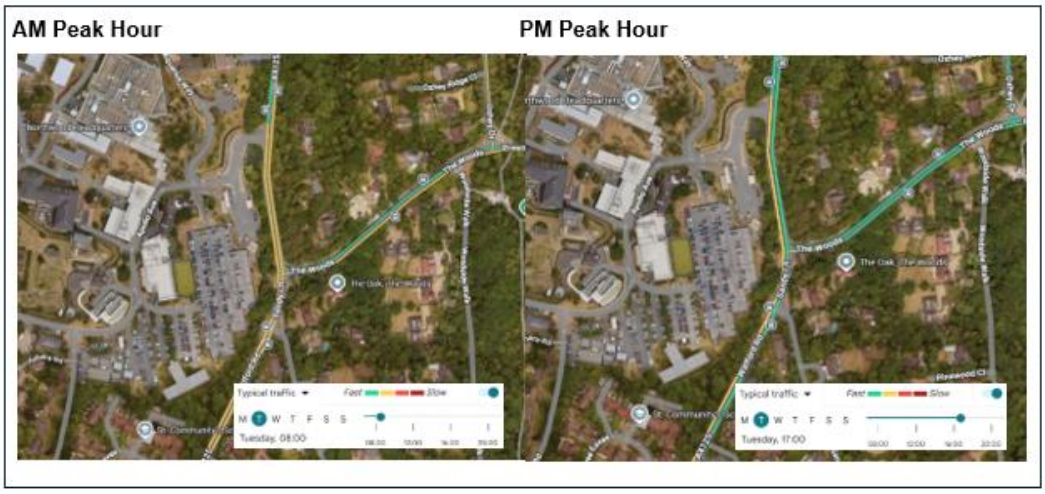

Figure 3-42: A4125 Sandy Lane and The Woods

3.8.54. **Figure 3-42** shows that on a typical day the priority junction of the A4125 Sandy Lane and The Woods experiences moderate queues on the A4125 Sandy Lane and The Woods in both the AM

and PM peak hours, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

A4145 (between Epsom Road and Moor Lane)

Junction 1: Roundabout junction of the A4145 Tolpits Lane and Dwight Road

3.8.55. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each arm of the roundabout junction of the A4145 Tolpits Lane and Dwight Road are shown in **Figure 3-43**.

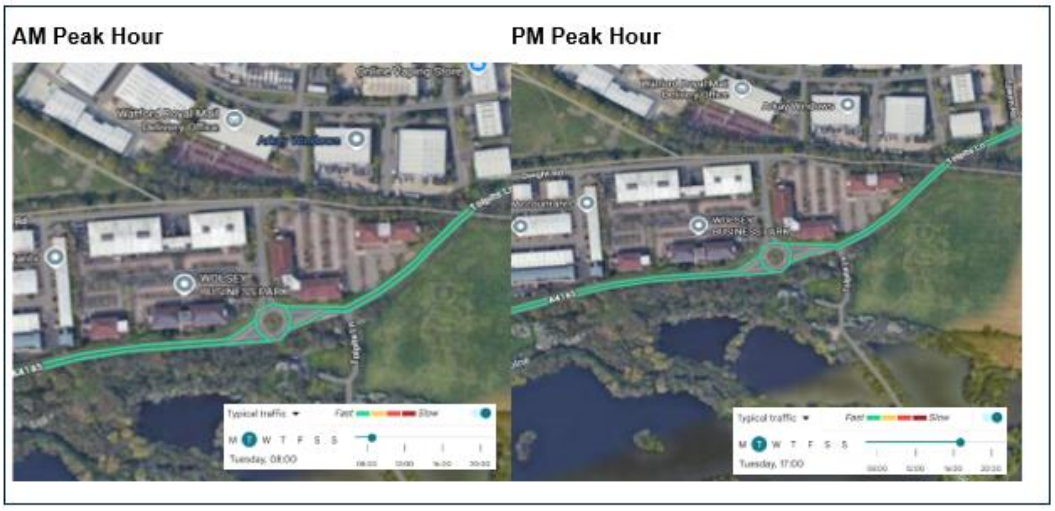

Figure 3-43: A4145 Tolpits Lane and Dwight Road

3.8.56. **Figure 3-43** shows that on a typical day the roundabout junction of the A4145 Tolpits Lane and Dwight Road does not experience any queues, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

Junction 2: Roundabout junction of the A4145 Moor Lane and the A404 Church Street / London Road

3.8.57. Screenshots showing the speed of traffic and associated queue lengths in the AM and PM peak hours on each are of the roundabout junction of the A4145 Moor Lane and the A404 Church Street / London Road are shown in **Figure 3-44**.

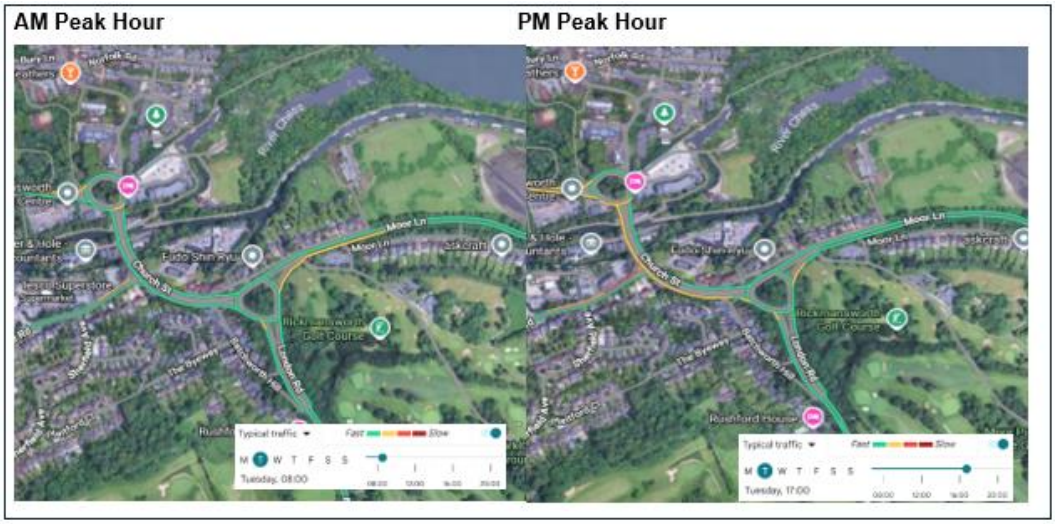

Figure 3-44: A4145 Moor Lane and the A404 Church Street / London Road

3.8.58. **Figure 3-44** shows that on a typical day the roundabout junction of the A404 Church Street / London Road and the A4145 Moor Lane experiences moderate queues on the A4145 Moor Lane in the AM peak hour and on the A404 Church Street in the PM peak hour, which reflects the queues that were observed at the junction during site observations that were recently undertaken as outlined in **Section 3.7** above.

3.8.59. Overall, the main junctions along the main roads that make up the strategic and local highway networks across the district experience moderate to significant queuing in the AM and PM peak hours. It should be noted that the majority of the main junctions that experience significant queuing in the AM and PM peak hours are those along the M25 motorway as would be expected. There are also a number of junctions where no queues were experienced in the AM and PM peak hours.

3.9 HIGHWAY CAPACITY

3.9.1. This section of the TA sets out the existing highway capacity on the main roads that make up the strategic and local highway networks across the district. To achieve this a number of key modelling outputs were extracted from HCC's Transport Model COMET 2023 Model to determine the existing operation of links and junctions that make up the main roads of the district. It should be noted that HCC's Transport Model COMET is a strategic model that provides an overview of the operation of road network across the district, and while it may not always reflect the queues and delays that were observed as set out in **Section 3.7,** and those that were obtained from Google Maps as set out in **Section 3.8,** their effects are captured in overall journey times at a strategic level. A summary of the key modelling outputs that were extracted is provided below.

VOLUME TO CAPACITY RATIO

3.9.2. The volume to capacity ratio (V/C) output was extracted from the model for the links and junctions that make up the main roads of the district. It is widely used to measure the level of congestion of a link or junction across a road network and provides an indication of the performance of a link or junction.

Links

3.9.3. A number of plans have been put together to show the V/C of links of the road network across the district in the AM peak hour as shown in **Figure 3-45** and in the PM peak hour as shown in **Figure 3-46**.

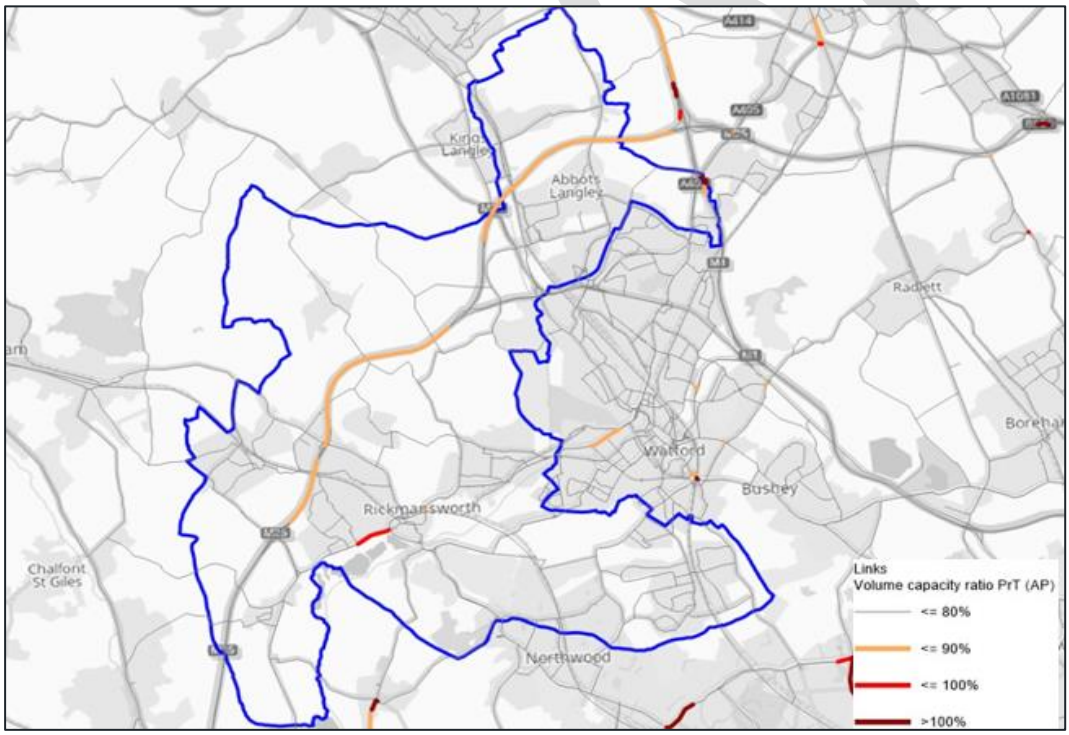

Figure 3-45: Volume to Capacity Ratio of Links across the District – AM Peak Hour (0800-0900)

3.9.4. **Figure 3-45** shows that the majority of the links on the road network across the district in the AM peak hour operate with a V/C of <=80%. In relation to those links in the AM peak hour that operate with a V/C of <=90% these are located on the M25 motorway between Junctions 21 and 20 to the north of Abbots Langley and between Junctions 19 and 17 to the north of Rickmansworth. In addition, in relation to those links in the AM peak hour that operate with a V/C of <=100% these are located on the A412 Uxbridge Road between the A412 Rectory Road, the A404 Riverside Drive and Wensum Way. It should be noted that there are no links on the road network across the district in the AM peak hour that operate with a V/C of >100%.

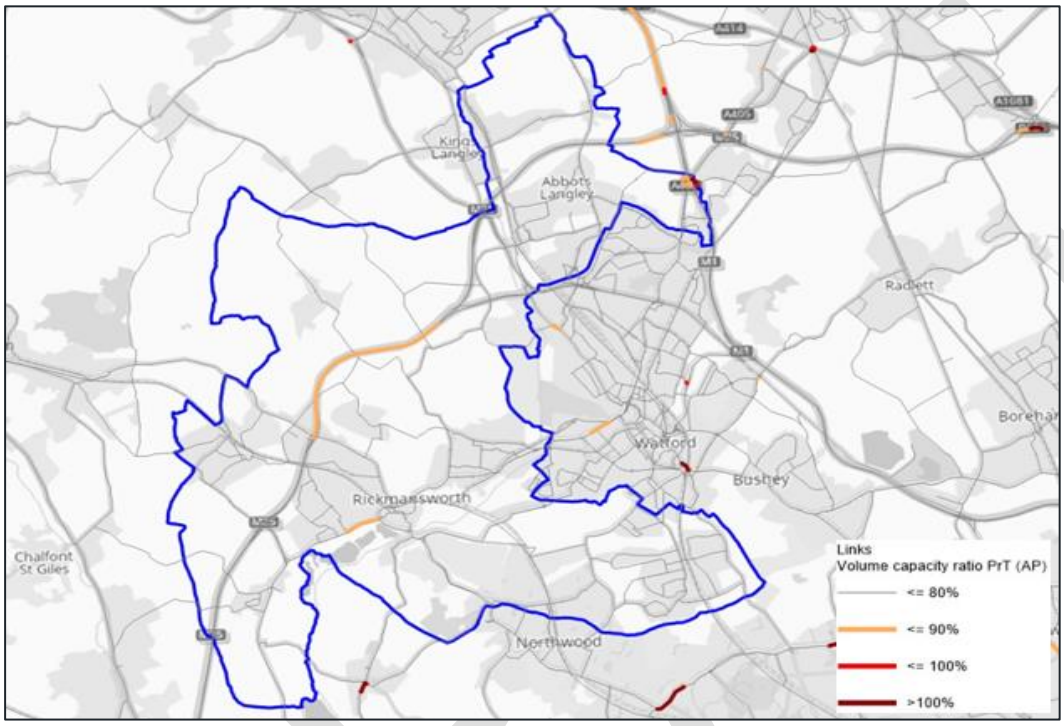

Figure 3-46: Volume to Capacity Ratio of Links across the District – PM Peak Hour (1700-1800)

3.9.5. **Figure 3-46** shows that the majority of the links on the road network across the district in the PM peak hour operate with a V/C of <=80%. In relation to those links in the PM peak hour that operate with a V/C of <=90% these are located on the M25 motorway between Junctions 19 and 18 to the north of Rickmansworth, and on the A412 Uxbridge Road between the A412 Rectory Road, the A404 Riverside Drive and Wensum Way. It should be noted that there are no links on the road network across the district in the PM peak hour that operate with a V/C of over 90%.

3.9.6. Overall, the majority of links on the road network across the district in both the AM and PM peak hours operates with a V/C of <=80%. There are some links across the district in both the AM and PM peak hours that operate with a V/C between 90% and 100% which are located on the M25 motorway between Junctions 21 and 20 and between Junctions 19 and 17, and on the A412 Uxbridge Road. However, there are no links on the road network across the district in both the AM and PM peak hours that operate with a V/C of >100%.

Junctions

3.9.7. A number of plans have been put together to show the V/C of junctions of the road network across the district in the AM peak hour as shown in **Figure 3-47** and in the PM peak hour as shown in **Figure 3-48**.

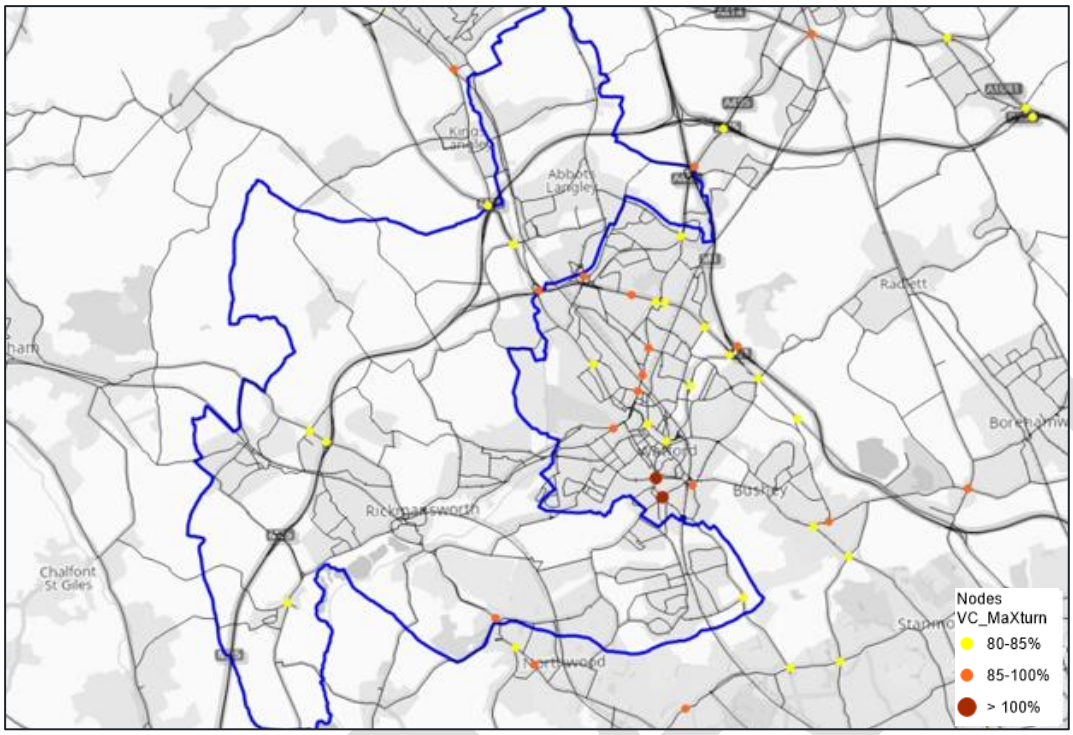

Figure 3-47: Volume to Capacity Ratio of Junctions across the District – AM Peak Hour (0800-0900)

3.9.8. **Figure 3-47** shows that the majority of the junctions on the road network across the district in the AM peak hour operate with a V/C of <80%. It should be noted that these junctions are not shown in **Figure 3-47**. In relation to those junctions in the AM peak hour that operate with a V/C within 80-85% are located on the M25 motorway, on the A41 Watford Road to the west of Abbots Langley, on the A404 Rickmansworth Road in Chorleywood, and on the A412 Denham Way in Maple Cross. They include the following junctions:

- Grade separated signalised roundabout junction of the M25 motorway Junction 20 and the A41 Watford Road and Watford Road;
- Grade separated signalised junction of the M25 motorway Junction 18 and the A404 Rickmansworth Road / Chorleywood Road;
- Signalised junction of the A41 Watford Road and Langleybury Lane / Hunton Bridge Hill;
- Signalised junction of the A404 Rickmansworth Road and the Dog Kennel Lane / Solesbridge Lane; and
- Signalised junction of the A412 Denham Way and Chalfont Road / Maple Cross Close.

3.9.9. In addition, in relation to those junctions in the AM peak hour that operate with a V/C within 85-100% are located on the A41 Watford Road to the west of Abbots Langley, and on the A404 London Road to the south of Rickmansworth. They include the following junctions:

- Roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead road connecting to the grade separated junction of the M25 motorway Junction 19; and
- Priority junction of the A404 London Road and Batchworth Lane.

3.9.10. It should be noted that there are no junctions on the road network across the district in the AM peak hour operate with a V/C of >100%.

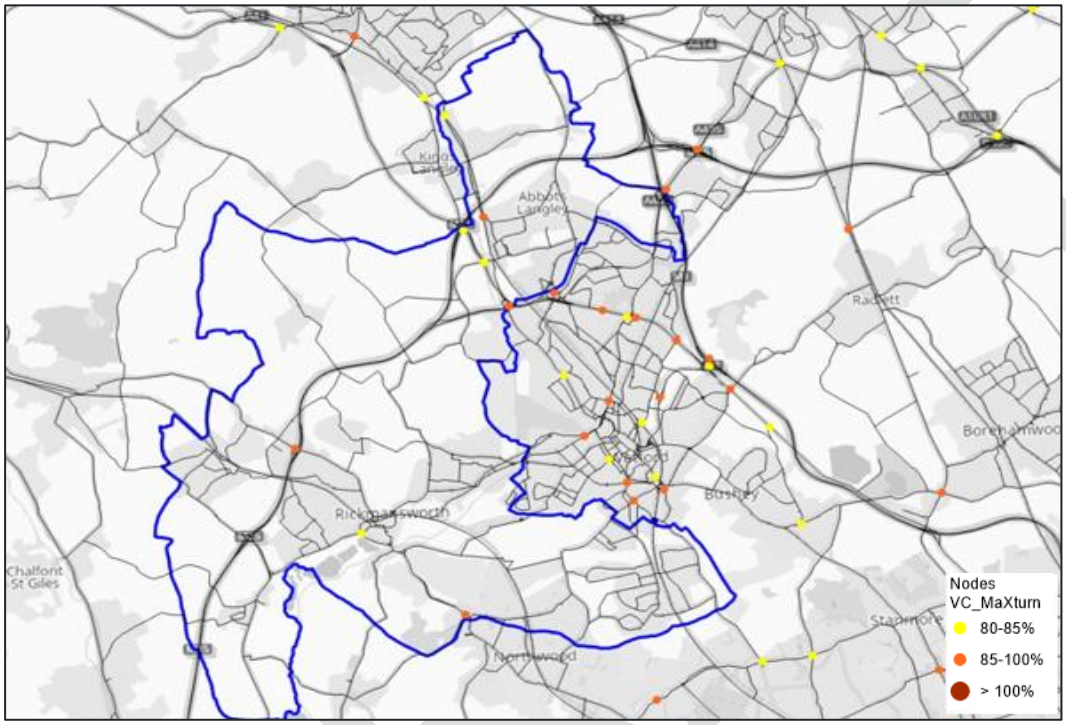

Figure 3-48: Volume to Capacity Ratio of Junctions across the District – PM Peak Hour (1700-1800)

3.9.11. **Figure 3-48** shows that the majority of the junctions on the road network across the district in the PM peak hour operate with a V/C of <80%. It should be noted that these junctions are not shown in **Figure 3-48**. In relation to those junctions in the PM peak hour that operate with a V/C between 80-85% are located on the M25 motorway, on the A41 Watford Road to the west of Abbots Langley and on the A404 Riverside Drive in Rickmansworth. They include the following junctions:

- Grade separated signalised roundabout junction of the M25 motorway Junction 20 and the A41 Watford Road and Watford Road;
- Signalised junction of the A41 Watford Road and Langleybury Lane / Hunton Bridge Hill; and
- Roundabout junction of the A404 Riverside Drive, the A412 Rectory Road / Uxbridge Road and Wensum Way.

3.9.12. In addition, in relation to those junctions in the AM peak hour that operate with a V/C between 85-100% are located on the M25 motorway, the A41 Watford Road to the west of Abbots Langley, on Gallows Hill in Abbots Langley, and on the A404 London Road to the south of Rickmansworth. They include the following junctions:

- Grade separated signalised junction of the M25 motorway Junction 18 and the A404 Rickmansworth Road / Chorleywood Road;
- Roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead road connecting to the grade separated junction of the M25 motorway Junction 19;
- Priority junction of Gallows Hill and Abbots Road; and
- Priority junction of the A404 London Road and Batchworth Lane.

3.9.13. It should be noted that there are no junctions on the road network across the district in the PM peak hour that operate with a V/C of >100%.

3.9.14. Overall, the majority of junctions on the road network across the district in both the AM and PM peak hours operate with a V/C of <80%. There are some junctions across the district in both the AM and PM peak hours that operate with a V/C between 80-85% which are located on the M25 motorway on the A41 Watford Road, on the A404 Rickmansworth Road, on the A404 Riverside Drive and on the A412 Denham Way.

3.9.15. There are also some junctions across the district in both the AM and PM peak hours that operate with a V/C between 85-100% which are located on the M25 motorway, the A41 Watford Road, on Gallows Hill and on the A404 London Road to the south of Rickmansworth. However, there are no junctions on the road network across the district in the AM and PM peak hour that operate with a V/C of >100%.

DELAYS

3.9.16. The modelling output showing delays was extracted from the model for the links and junctions that make up the main roads of the district. This is widely used to measure the level of congestion of a link or junction across a road network and provides an indication of the performance of a link or junction.

Links

3.9.17. A number of plans have been put together to show the delays on links of the road network across the district in the AM peak hour as shown in **Figure 3-49** and in the PM peak hour as shown in **Figure 3-50**.

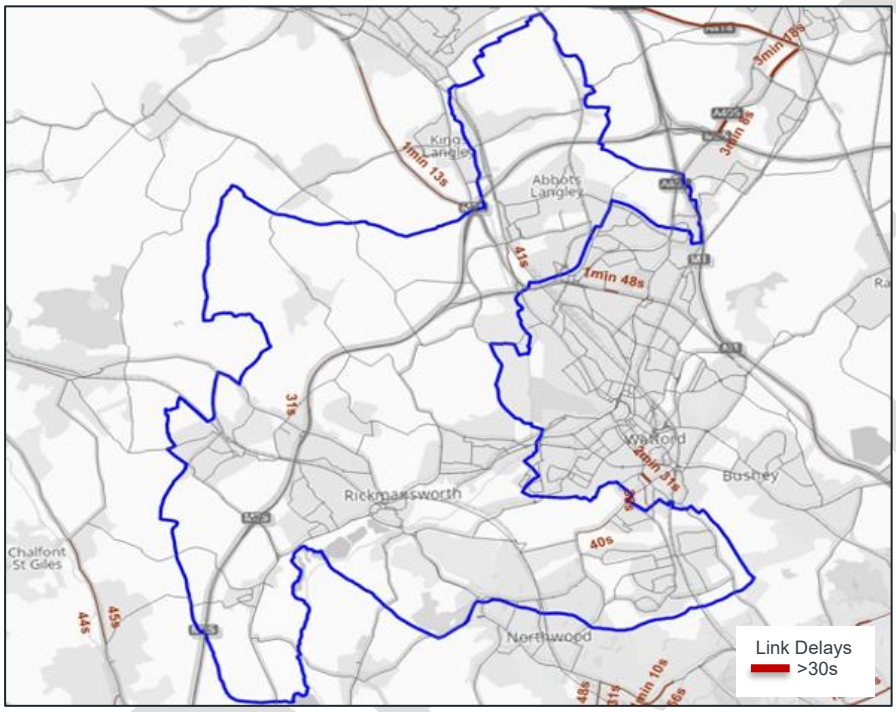

Figure 3-49: Delays on Links across the District – AM Peak Hour (0800-0900)

3.9.18. **Figure 3-49** shows that the majority of the links on the road network across the district in the AM peak hour operate with delays of <30 seconds. It should be noted that these links are not shown in **Figure 3-49**. In relation to those links in the AM peak hour that operate with delays of >30 seconds these are located on the M25 motorway between Junctions 19 and 18 and on Old Mill Lane to the west of Abbots Langley.

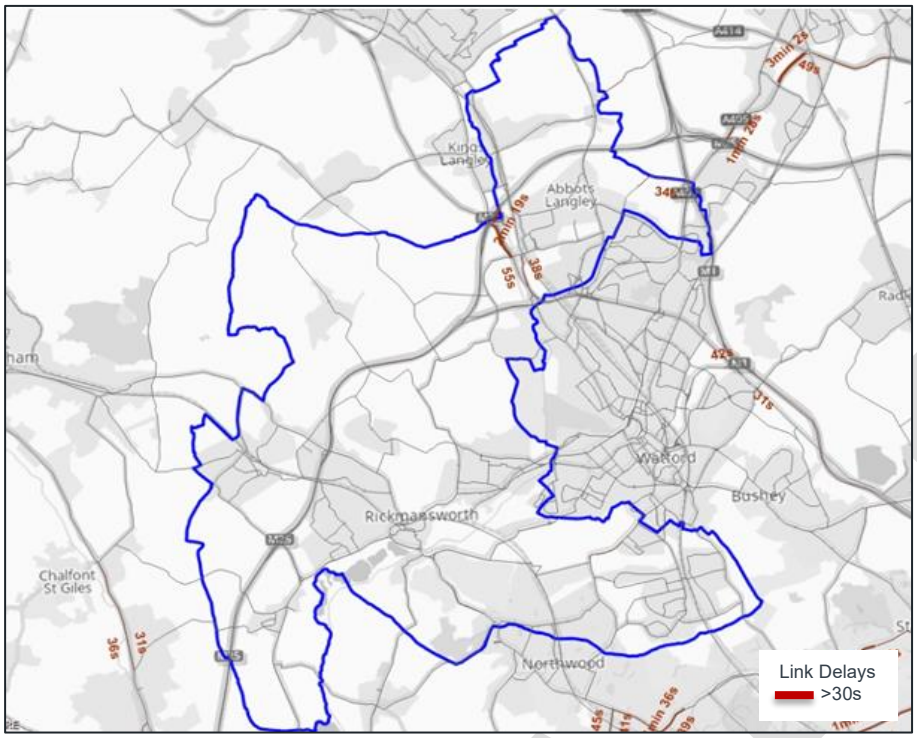

Figure 3-50: Delays on Links across the District – PM Peak Hour (1700-1800)

3.9.19. As can been seen in **Figure 3-50** the majority of the links on the road network across the district in the PM peak hour operate with delays of <30 seconds. It should be noted that these links are not shown in **Figure 3-50.** In relation to those links in the PM peak hour that operate with delays of >30 seconds these are located on the M25 motorway between Junctions 21 and 20, on the A41 Watford Road and Old Mill Lane to the west of Abbots Langley.

3.9.20. Overall, the majority of links on the road network across the district in both the AM and PM peak hours operate with delays of <30 seconds. There are some links that operate with delays of >30 seconds in both the AM and PM peak hours which are located on the M25 motorway, on the A41 Watford Road and on Old Mill Lane. It should be noted that there are only a very small number of links on the roads network across the district in both the AM and PM peak hours that operate with delays of >30 seconds.

Junctions

3.9.21. A number of plans have been put together to show the delays at junctions of the road network across the district in the AM peak hour as shown in **Figure 3-51** and in the PM peak hour as shown in **Figure 3-52**.

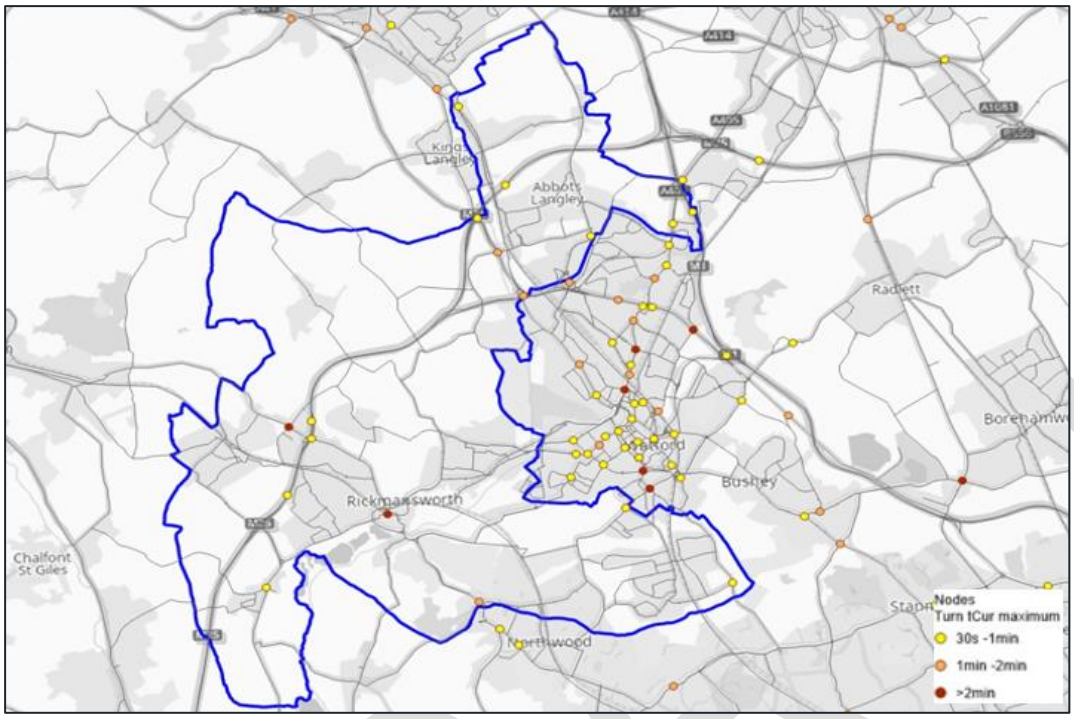

Figure 3-51: Delays at Junctions across the District – AM Peak Hour (0800-0900)

3.9.22. **Figure 3-51** shows the majority of the junctions on the road network across the district in the AM peak hour operate with delays of <30 seconds. It should be noted that these junctions are not shown in **Figure 3-51**. In relation to those junctions in the AM peak hour that operate with a delays of between 30 seconds and 1 minute these are located on the M25 motorway, on Lower Road to the north of Abbots Langley and on the A412 Denham Way in Maple Cross. They include the following junctions:

- Grade separated signalised roundabout junction of the M25 motorway Junction 20 and the A41 Watford Road and Watford Road;
- Grade separated roundabout junction of the A412 Denham Way and Long Lane and the M25 motorway Junction 17;
- Priority junction of Lower Road and Hyde Lane; and
- Signalised junction of the A412 Denham Way and Chalfont Road / Maple Cross Close.

3.9.23. In addition, in relation to those junctions in the AM peak hour that operate with a delays of between 1 minute and 2 minutes these are located on the A41 Watford Road to the west of Abbots Langley and on the A404 London Road to the south of Rickmansworth. They include the following junctions:

- Signalised junction of the A41 Watford Road and Langleybury Lane / Hunton Bridge Hill; and
- Roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead road connecting to the grade separated junction of the M25 motorway Junction 19; and
- Priority junction of the A404 London Road and Batchworth Lane.

3.9.24. In relation to those junctions in the AM peak hour that operate with a delay of >2 minutes that are located on the A404 Rickmansworth Road in Chorleywood and on the A404 Riverside Drive in Rickmansworth. They include the following junctions:

- Signalised junction of the A404 Rickmansworth Road and the Dog Kennel Lane / Solesbridge Lane; and
- Roundabout junction of the A404 Riverside Drive, the A412 Rectory Road / Uxbridge Road and Wensum Way.

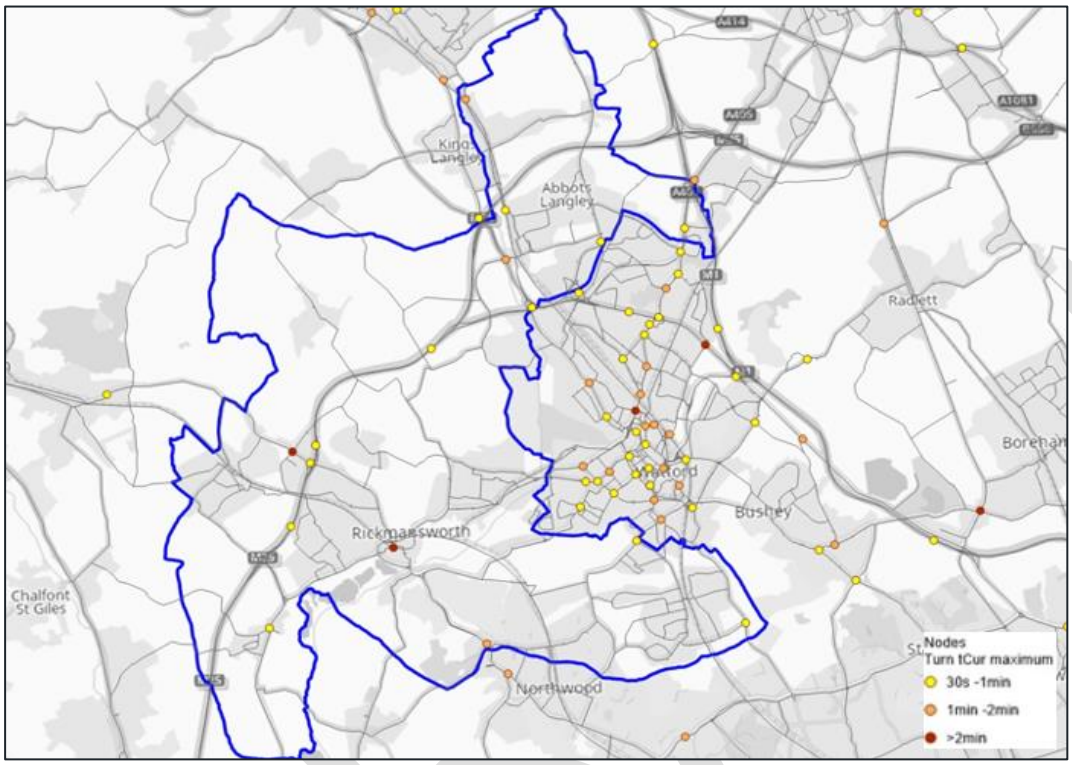

Figure 3-52: Delays at Junctions across the District – PM Peak Hour (1700-1800)

3.9.25. **Figure 3-52** shows the majority of the junctions on the road network across the district in the PM peak hour operate with delays of <30 seconds. It should be noted that these junctions are not shown in **Figure 3-52**. In relation to those junctions in the PM peak hour that operate with a delays of between 30 seconds and 1 minute these are located on the M25 motorway, on the A41 Watford Road to the west of Abbots Langley, on Gallows Hill in Abbots Langley, and on the A412 Denham Way in Maple Cross. They include the following junctions:

- Grade separated signalised roundabout junction of the M25 motorway Junction 20 and the A41 Watford Road and Watford Road;
- Roundabout junction of the A41 Watford Road / North Western Avenue and the A411 Hempstead road connecting to the grade separated junction of the M25 motorway Junction 19;
- Grade separated roundabout junction of the A412 Denham Way and Long Lane and the M25 motorway Junction 17;
- Priority junction of Gallows Hill and Abbots Road; and
- Signalised junction of the A412 Denham Way and Chalfont Road / Maple Cross Close.

3.9.26. In addition, in relation to those junctions in the PM peak hour that operate with delays of between 1 minute and 2 minutes these are located on the A41 Watford Road to the west of Abbots Langley and on the A404 London Road to the south of Rickmansworth. They include the following junctions:

- Signalised junction of the A41 Watford Road and Langleybury Lane / Hunton Bridge Hill; and
- Priority junction of the A404 London Road and Batchworth Lane.

3.9.27. In relation to those junctions in the PM peak hour that operate with a delay of >2 minutes that are located on the A404 Rickmansworth Road in Chorleywood and on the A404 Riverside Drive in Rickmansworth. They include the following junctions:

- Signalised junction of the A404 Rickmansworth Road and the Dog Kennel Lane / Solesbridge Lane; and
- Roundabout junction of the A404 Riverside Drive, the A412 Rectory Road / Uxbridge Road and Wensum Way.

3.9.28. Overall, the majority of junctions on the road network across the district in both the AM and PM peak hours operate with delays of <30 seconds. There are some junctions across the district in both the AM and PM peak hours that operate with delays of between 30 seconds and 1 minute which are located on the M25 motorway, on the A41 Watford Road, on Lower Road, on Gallows Hill and on the A412 Denham Way. In addition, there are some junctions across the district in both the AM and PM peak hours that operate with delays of between 1 minute and 2 minutes which are located on A41 Watford Road, on the A404 London Road to the south of Rickmansworth.

3.9.29. There are also some junctions across the district in both the AM and PM peak hours that operate with delays of >2 minutes which are located on the A404 Rickmansworth Road and on the A404 Riverside Drive. It should be noted that there are only a very small number of junctions on the road network across the district in both the AM and PM peak hours that operate with delays of >2 minutes.

3.10 HIGHWAY SAFETY

3.10.1. The most recently available 5-year accident data (STATS 19) between January 2020 and December 2024 has been obtained from the DfT covering the road network across the district. This section provides a summary of the number of accidents by location and severity recorded on the road network across the district. The locations of the accidents recorded across the district are shown in **Figure 3-53**. The results are enclosed in **Appendix B** and are summarised in **Table 3-11**.

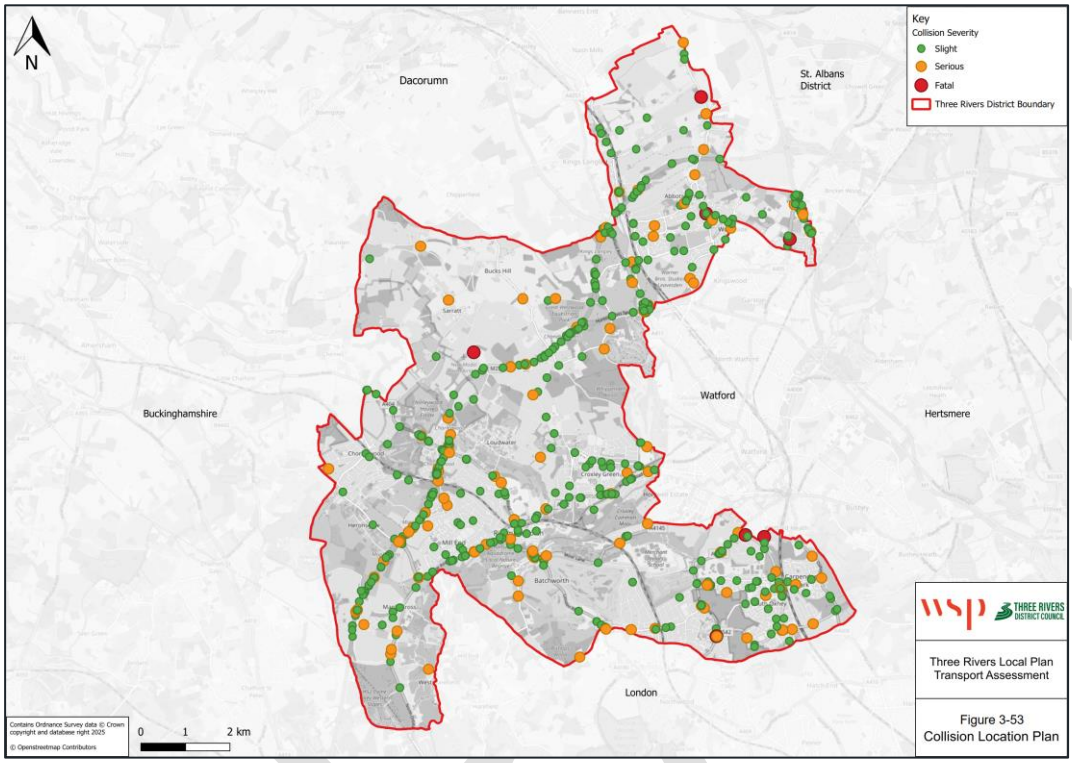

Figure 3-53: Accident Location Plan

3.10.2. As can be seen in **Figure 3-53** the majority of the accidents were recorded on the main roads that make up the strategic and local highway networks across the district, although there were a significant number of accidents recorded on the unclassified roads across the district.

Table 3-11: Accidents by Year and Severity

Year	Accident Severity			
	Slight	Serious	Fatal	Total
2020	77	16	2	95
2021	73	26	0	99
2022	110	29	1	140
2023	104	27	4	135
2024	90	13	0	103
Total	**455**	**111**	**7**	**572**

Source: Department for Transport (November 2025)

3.10.3. **Table 3-11** shows that there were 572 accidents on the road network across the district, with 455 slight, 111 serious and 7 fatal accidents recorded across the district. In relation to the roads where these accidents were recorded across the district the majority were recorded on the M25 motorway, the A404, the A412 and on the unclassified roads across the district. The results are enclosed in **Appendix B** and are summarised in **Table 3-12**.

Table 3-12: Accidents by Road and Severity

Roads	Accident Severity			
	Slight	Serious	Fatal	Total
M25	119	21	0	140
A41	15	4	0	19
A404	40	10	0	50
A412	39	10	0	49
A4008	3	2	0	5
A4125	17	4	1	22
A4145	4	1	0	5
Unclassified	218	59	6	283
Total	**455**	**111**	**7**	**572**

Source: Department for Transport (November 2025)

3.10.4. **Table 3-12** shows that there were 140 accidents (119 slight and 21 serious) recorded on the M25 motorway, 50 accidents (40 slight and 10 serious) recorded on the A404, and 49 accidents (39 slight and 10 serious) recorded on the A412 across the district. In addition, there were also 283 accidents (218 slight, 59 serious and 6 fatal) recorded on unclassified roads across the district. There were also 22 accidents (17 slight and 4 serious) recorded on the A4125, 19 accidents (15 slight and 4 serious) recorded on the A41, 5 accidents (4 slight and 1 serious) recorded on the A4145 and 5 (3 slight and 2 serious) recorded on the A4008 across the district.

3.10.5. In relation to where the fatal accidents were recorded on the main roads that make up the strategic and local highway networks across the district there was 1 fatal accident recorded on the A4125 at the junction with Sandy Lane. In addition, in relation to the fatal accidents recorded on the unclassified roads there was 1 fatal accident recorded Green Lane approximately 110m north of the junction with the B4542, and 1 fatal accident recorded on Sarratt Road at a farm access approximately 570m north of the junction with the Solesbridge Lane. In addition, there was 1 fatal accident recorded on Langley Lane at the junction with College Road, and 1 fatal accident recorded on Bedmond Road approximately 550m north of the junction of Sergehill Lane.

3.10.6. Overall, considering the extent of the road network across the district which includes the M25 motorway the number of accidents recorded is not considered to be significant with the majority of them being slight and serious accidents, and only a small number being fatal accidents.

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