

# THREE RIVERS SETTLEMENT APPRAISAL

October 2025



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## 1: Policy & Context

This study has been produced as evidence to support the preparation of the emerging Three Rivers Local Plan. This study will consider facilities/services, provision of sustainable transport methods and population sizes across the district's settlements. It will also assist in the formulation of the settlement hierarchy, defining and categorising the settlements for policy application.

The standard method stipulates that Three Rivers District Council need to provide 832 new homes per annum between 2026 and 2041, a figure that risen dramatically since the current plan requirement of 180 dwellings per annum.

The Local Plan will set out the spatial strategy and planning framework for Three Rivers, and will provide the broad framework for locating future growth and development before identifying specific sites for development.

### National Planning Policy Framework (NPPF)

The 'golden thread' running through the NPPF is one of sustainable development and this document provides a key element to guide the process of plan-making.

Paragraph 8 of the NPPF sets out the economic, social and environmental objectives of sustainable development and in paragraph 9 highlights that they should be delivered *'through the preparation and implementation of plans and the application of the policies in this Framework'*.

The presumption in favour of sustainable development (Paragraph 11) applies in plan-making, just as it does with decision- taking. National policy requires 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 (including by making effective use of land in urban areas) and adapt to its effects'*

Further to this, b) states that strategic policies should provide for objectively assessed need unless application of policy protecting areas or assets of particular importance provides a strong reason for restricting development, or adverse impacts of doing so would significantly and demonstrably outweigh the benefits, assessed against the policies in the framework as a whole.

Paragraph 16 sets out that plans should be prepared with the objective of contributing to the achievement of sustainable development.

Spatially, Paragraph 23 states that broad locations should be indicated on key diagrams and land use on a policies map and that the policies in relation to this should have a clear strategy for bringing land forward at a sufficient rate to address the objectively assessed need over the plan period.

For Rural Housing, Paragraph 82 suggests that policies should be responsive to local circumstances, including community-led housing and opportunities to bring forward rural exception sites, while considering whether allowing some market homes would help facilitate this. Paragraph 83 states that housing should be located where it shall enhance or maintain community facilities and identify opportunities for villages to grow

and thrive, particularly when supporting local services. Further to this, it is suggested that in groups of smaller settlements, development in one village may support services in a village nearby.

In relation to the role of town centres, Paragraph 90 states that policies should support their role at the heart of local communities and; *‘define a network and hierarchy of town centres and promote their long-term vitality and viability – by allowing them to grow and diversify in a way that can respond to rapid changes in the retail and leisure industries, allows a suitable mix of uses (including housing) and reflects their distinctive characters;’* It also recognises residential development plays an important role in ensuring the vitality of town centres.

In relation to ‘Promoting healthy and safe communities’, Paragraph 98 *ensure an integrated approach to considering the location of housing, economic uses and community facilities and services.’*

On the matter of sustainable transport, Paragraph 110 states that *‘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’*

#### Planning Practice Guidance (PPG)

There is very little guidance in the Planning Practice Guidance relating to settlement hierarchy, however, paragraph 67-009-020190722 identifies the importance of understanding the settlement hierarchy, and in particular that a wide range of settlements can play a role in delivering sustainable development in rural areas.

#### Three Rivers Settlement Appraisal

As part of the process to identify sustainable locations for potential future development in Three Rivers, an appraisal has been carried out for settlements in the district of over 100 people. Settlement appraisal and hierarchical definitions may provide a basis for future strategy through identifying the intended role, function and aims of different settlements and is supported by Paragraph 32 of the NPPF, which states that the preparation and review of all policies should be underpinned by relevant and up to date evidence.

This evidence paper examines the extent to which settlements in Three Rivers presently display the characteristics of sustainable communities and will assess the suitability of settlements for the accommodation of plan led growth in terms of existing levels of sustainability and any benefits of planned growth on the sustainability of settlements. This, coupled with an assessment of settlement population and transport infrastructure, will result in the formulation of a hierarchy of settlements.

## 2: Methodology

Settlements located wholly within the boundaries of Three Rivers, and settlements located partially within Three Rivers and partially within one of the adjoining local authorities have been assessed. The settlement of Grove Mill has not been included further in the appraisal as the area of settlement within Three Rivers is extremely limited. Watford is classed as one settlement and effectively extends into Three Rivers in both the north and south. For the purposes of this appraisal, these areas have been assessed as 'Leavesden and Garston', 'Oxhey Hall' and 'South Oxhey'. The settlements are mapped in Appendix 2.

The settlement boundaries were originally determined by Hertfordshire County Council and amended to reflect the distinction between Rickmansworth and Mill End, and the parts of Watford that fall within Three Rivers. Further to this, the boundary between Chorleywood and Rickmansworth has been altered to reflect the historic parish boundary of Chorleywood's eastern extent, rather than the arbitrary line of the M25, which came later than most of the housing. The geographical centre of each settlement was then plotted.

The facilities within each settlement were identified and recorded. Where there is no facility within a settlement, the nearest facility by road is recorded together with the distance by road from the settlement centre. The facilities assessed were primary school; secondary school; GP surgery; convenience store or supermarket; post office; library; pharmacy; open space; and community leisure facility, while access to services was assessed through provision of road infrastructure, bus services and railway services.

Leisure Facilities include Leisure Centres, Golf Courses (both public and private) playing fields and open spaces with sports pitches and/or MUGA's.

Community Centres/Village Halls include a range of public use buildings that can be used for booking and hire by the community for a range of activities.

The boundary of each settlement is hand drawn around the individual settlements and uses Census data to calculate the populations within the polygon. This has then been rounded up to the nearest 100. Accurately recorded populations were not easily attainable, as they are wards or parishes that included whole or parts of other settlements and we wanted to record individual settlements. Environmental constraints to further development considerations have also been recorded.

In order to determine levels of access to services, it is necessary to measure the distance between homes and services, under which the service may be considered accessible. We have defined reasonable access distance to community facilities by using set distances with lower and upper thresholds consistent with the method used to assess the sustainability of sites for our Strategic Housing and Employment Land Availability Assessments (SHELAA's) and with our previous version of the Settlement Appraisal for consistency.

Newer guidance on this has been reviewed, such as the 'Active Travel England Standing Advice Note: Active Travel and Sustainable Development' from June 2024 and Sustrans

‘Walkable Neighbourhoods’ Report, published in May 2022, but these does not conflict with, or substantially deviate from, previous guidance and policy.

Our guidance sets out that important facilities/services to which people can usually be expected to walk to, should be a maximum of 400m away. Local facilities which are ideally accessible by foot should be a maximum of 800m away. Local facilities to which it is not reasonable to expect all people to walk to, but which could be walked to by those who choose should be a maximum of 1600m away. Facilities which are less local but should be within cycling distance should preferably be within cycling distance should be within 5000m, and no more than 8000m away. The table below sets out the lower distance and upper distance thresholds for the different types of facilities as mentioned above.

**Table 1: Threshold Distances**

FACILITY	LOWER DISTANCE THRESHOLD	UPPER DISTANCE THRESHOLD
Primary School	400m	800m
Secondary School	1600m	3200m
GP	800m	1600m
Convenience Store	800m	1600m
Post Office	800m	1600m
Library	800m	1600m
Pharmacy	800m	1600m
Open Space	400m	800m
Community Leisure Facility	1600m	3200m
Rail Station	800m	1600m
Community Centre/Village Hall	800m	1600m

Bus services have been recorded where they are present within the settlement, together with the route number, route extent, and service recurrence between the hours of 7-10am (one direction only). Road infrastructure has been approached in a similar way; recorded only when it is within the specific settlement. Rail services have also been recorded with service provider, route extent and recurrence.

The assessment of key facilities is based on the core assumption that greater availability of key facilities, services and infrastructure within a settlement increases the sustainability of a settlement.

The tables in section 3 have been presented according to the distance to facilities from the settlement centre according to the classification set out in table 2.

**Table 2: Recording of settlement accessibility according to the distance to facilities**

Facility within settlement	
Facility within lower distance threshold	
Facility within upper distance threshold	
Facility outside upper distance threshold	

### 3: Settlement Appraisal

#### Abbots Langley

POPULATION		C.9200		
	PRIMARY SCHOOL	Tanners Wood JMI School, Divine Saviour RC JMI, Abbots Langley JMI		
	SECONDARY SCHOOL	Francis Coombe School (2438m)		
	GP SURGERY	Vine House Health Centre		
	CONVENIENCE STORE	Six recorded locations within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	Five recorded locations within settlement		
	LIBRARY	Abbots Langley Library		
	COMMUNITY CENTRE/HALL	Abbots Langley Community Centre, Tanners Wood Hall		
	ROAD INFRASTRUCTURE	Served by C Classified roads		
	BUS SERVICE (within settlement)	R9	Garston / Chipperfield	Daily
		H19	Hemel / Kings Langley	Daily
		329	Mapel Cross / Hemel	1 hour
		20	Watford / Hemel	30 mins
	RAIL STATION	Kings Langley (1671m)	Milton Keynes / London Euston (West Coast Main Line)	30 mins
CONSTRAINTS		Green Belt surrounding settlement, public open space within settlement. West Coast Mainline railway and Grand Union Canal to west of settlement, M25 to north of settlement.		

## Carpenders Park

POPULATION		C.3700		
	PRIMARY SCHOOL	St Meryl		
	SECONDARY SCHOOL	The Bushey Academy (3614m)		
	GP SURGERY	Attenborough Surgery		
	CONVENIENCE STORE	One recorded location within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	One recorded location within settlement		
	LIBRARY	Oxhey Library (1060m)		
	COMMUNITY CENTRE/HALL	Carpenders Park Community Hall		
	ROAD INFRASTRUCTURE	Served by A4008 and B4542		
	BUS SERVICE	346	Northwood / Watford	1 hour
		R16	Bushey / Watford	Daily
		R17	Hatch End / South Oxhey	Daily
	RAIL STATION	Carpenders Park	Euston/Watford Junction (Lioness Line, London Overground)	15 mins
CONSTRAINTS		Settlement surrounded by Green Belt. Flood zone running through settlement. Railway line to west and wildlife site to north of settlement.		

## Chorleywood

POPULATION		C.10,800		
	PRIMARY SCHOOL	Arnett Hill JMI, Christ Church C of E, The Russell (County) School, Chorleywood JMI		
	SECONDARY SCHOOL	St Clement Danes School		
	GP SURGERY	Chorleywood Medical Centre, Gade Surgery		
	CONVENIENCE STORE	Two recorded locations within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	Six recorded locations within settlement		
	LIBRARY	Chorleywood Library		
	COMMUNITY CENTRE/HALL	Bullsland Hall, Chorleywood Memorial Hall		
	ROAD INFRASTRUCTURE	Served by M25, A404 and C Classified roads		
	BUS SERVICE	336	Chorleywood / Bushey	1-2 hours
		R2	Chorleywood / Northwood	Daily
	RAIL STATION	Chorleywood Station	Aylesbury Vale Parkway / London Marylebone (Chiltern Railways London – Aylesbury Line)	30 mins



			Amersham and Chesham / Aldgate (Metropolitan Line, London Underground)	15 mins
CONSTRAINTS		Green Belt surrounding settlement, conservation areas and public open space within settlement. Chilterns AONB to north and M25 to east of settlement.		

### Croxley Green

POPULATION		c.8800		
	PRIMARY SCHOOL	Harvey Road JMI, Yorke Mead School, Malvern Way JMI, Little Green JMI		
	SECONDARY SCHOOL	Rickmansworth School		
	GP SURGERY	New Road Surgery, Baldwins Lane Surgery		
	CONVENIENCE STORE	Eight recorded locations within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	Nine recorded locations within settlement		
	LIBRARY	Croxley Green Library		
	COMMUNITY CENTRE/HALL	All Saints Church Hall, Croxley Youth Club		
	ROAD INFRASTRUCTURE	Served by A412 and C Classified roads		
	BUS SERVICE	322	Rickmansworth / Hemel	30 mins
		336	Bushey / Chorleywood	1-2 hours
		352	Hemel /Watford	2 hours
		724	Heathrow / Harlow	1 hour
		725	Heathrow / Stevenage	1 hour
		951	Thorpe Park / Borehamwood	Daily
		R2	Watford / Chorleywood	Daily
		W1	Maple Cross	Daily
	RAIL STATION	Croxley	Watford / Aldgate (Metropolitan Line, London Underground)	15 mins
CONSTRAINTS		Settlement surrounded by Green Belt, on boundary with Watford Borough Council, flood zone east of settlement. Conservation area, wildlife sites and public open space within settlement.		

## Eastbury

POPULATION		c.5400		
	PRIMARY SCHOOL	Eastbury Farm JMI		
	SECONDARY SCHOOL	Northwood School (3052m)		
	GP SURGERY	Eastbury Surgery (1245m)		
	CONVENIENCE STORE	Leverstock Green (1488m)		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	St Helens School Sports Centre (1755m)		
	LIBRARY	Northwood Green Lane Library (1793m)		
	COMMUNITY CENTRE/HALL	Oxhey Hall Community Association (2810m)		
	ROAD INFRASTRUCTURE	Served by A4125 and B4542		
	BUS SERVICE	328	Watford / Mount Vernon Hospital	1 hour
		346	Abbots Langley / Bushey	1 hour
	RAIL STATION	Northwood Underground Station	Watford, Amersham, Chesham / Aldgate (Metropolitan Line, London Underground)	10 mins
CONSTRAINTS		Settlement constrained by Green Belt to north and west. Boundary with London Borough of Hillingdon to south, and railway line to east of settlement.		

## King's Langley

POPULATION		c.5700 (700 within Three Rivers)		
	PRIMARY SCHOOL	Kings Langley Primary (1661m)		
	SECONDARY SCHOOL	Kings Langley School (1951m)		
	GP SURGERY	Kings Langley Surgery (1065m)		
	CONVENIENCE STORE	One recorded location within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	One location within settlement boundary		
	LIBRARY	Kings Langley Library (959m)		
	COMMUNITY CENTRE/HALL	Kings Langley Community Centre (928m)		
	ROAD INFRASTRUCTURE	Served by C Classified roads		
	BUS SERVICE	R9	Watford / Chipperfield	Daily
		H19	Hemel / Kings Langley	Daily
	RAIL STATION	Kings Langley Station	Milton Keynes / London Euston (West Coast Main Line)	30 mins

CONSTRAINTS	Settlement on boundary with Dacorum Borough Council. Green Belt surrounding settlement and covering north of settlement. Public open space and archaeological sites within settlement. West Coast Mainline railway to east of settlement and M25 to south.
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### Leavesden and Garston

POPULATION		c. 5100		
	PRIMARY SCHOOL	St Catherine of Siena RC JMI		
	SECONDARY SCHOOL	Parmiter's School, St Michael's Catholic High School		
	GP SURGERY	Abbotswood Medical Centre		
	CONVENIENCE STORE	One recorded location within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	Two recorded locations within settlement		
	LIBRARY	Abbots Langley Library (2361m)		
	COMMUNITY CENTRE/HALL	Abbots Langley Community Centre (2340m)		
	ROAD INFRASTRUCTURE	Served by A405 and C Classified roads		
	BUS SERVICE	R9	Garston / Chipperfield	Daily
		329	Abbots / Watford	1 hour
		20	Watford / Hemel	30 mins
		725	Harlow / Stevenage	1 hour
		724	Heathrow / Harlow	1 hour
		635	Hitchin / Watford	1 hour
		321	Watford / Luton	30 mins
		361	New Greens / Borehamwood	Daily
	RAIL STATION	Garston (2259m)	Watford / St Albans (Abbey Line)	30 mins
CONSTRAINTS		Settlement surrounded by Green Belt. Public open space at northwest of settlement and flood zone to east.		

## Maple Cross

POPULATION		c.2000		
	PRIMARY SCHOOL	Maple Cross JMI		
	SECONDARY SCHOOL	The Reach Free School (1534m)		
	GP SURGERY	Gade House, Gade Surgery (2833m)		
	CONVENIENCE STORE	One recorded location within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	One recorded location within settlement		
	LIBRARY	Rickmansworth Library (3843m)		
	COMMUNITY CENTRE/HALL	Maple Cross & West Hyde Community Centre		
	ROAD INFRASTRUCTURE	Served by A412 and C Classified road		
	BUS SERVICE	R1	Maple Cross / Watford	Daily
		R2	Chorleywood / Mount Vernon Hospital	2 Daily
		W1	Maple Cross / Garston	Daily
		725	Heathrow / Stevenage	1 hour
		951	Thorpe Park / Borehamwood	Daily
		724	Heathrow / Harlow	1 hour
	RAIL STATION	Rickmansworth (3691m)	Aylesbury Vale Parkway / London Marylebone (Chiltern Railways London – Aylesbury Line)	30 mins
			Amersham and Chesham / Aldgate (Metropolitan Line, London Underground)	15 mins
	CONSTRAINTS		Settlement surrounded by Green Belt. Public open space to east and west of settlement, wildlife site to north.	

## Mill End

POPULATION		c.5100		
	PRIMARY SCHOOL	Shepherd's JMI and Nursery, St Peter's C of E VA Primary, St Johns RC Primary		
	SECONDARY SCHOOL	The Reach Free School (1760m)		
	GP SURGERY	Gade House, Gade Surgery (1346m)		
	CONVENIENCE STORE	Five recorded locations within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	Two recorded locations within settlement		
	LIBRARY	Rickmansworth Library (2356m)		
	COMMUNITY CENTRE/HALL	Mill End Community Centre		
	ROAD INFRASTRUCTURE	Served by A412		
	BUS SERVICE	R1	Maple Cross / Watford	Daily
		R2	Chorleywood / Mount Vernon Hospital	2 Daily
		322	Rickmansworth / Hemel	30 mins
		724	Heathrow / Harlow	1 hour
		725	Heathrow / Stevenage	1 hour
		951	Thorpe Park / Borehamwood	Daily
		W1	Maple Cross / Garston	Daily
	RAIL STATION	Rickmans worth (3691m)	Aylesbury Vale Parkway / London Marylebone (Chiltern Railways London – Aylesbury Line)	30 mins
			Amersham and Chesham / Aldgate (Metropolitan Line, London Underground)	15 mins
CONSTRAINTS		Settlement surrounded by Green Belt, M25 to north, flood zones to south, public open space, and wildlife sites within settlement.		

## Moor Park

POPULATION		c.2700		
	PRIMARY SCHOOL	Holy Trinity C of E (1706m)		
	SECONDARY SCHOOL	Northwood School (3912m)		
	GP SURGERY	The Mountwood Surgery (1683m)		
	CONVENIENCE STORE	One recorded location within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Accessible Public Parks/Gardens within settlement		
	SPROTS FACILITY	One recorded location within settlement		
	LIBRARY	Northwood Green Lane Library (2017m)		
	COMMUNITY CENTRE/HALL	Oxhey Hall Community Association (3638m)		
	ROAD INFRASTRUCTURE	Served by A4145		
	BUS SERVICE	N/a	No recorded locations	N/a
	RAIL STATION	Moor Park	Amersham, Chesham and Watford/ Aldgate (Metropolitan Line, London Underground)	15 mins
CONSTRAINTS		Settlement surrounded by Green Belt, neighbouring settlement of Eastbury and Boundary with London Borough of Hillingdon. Conservation area, flood zone along north and east, railway line to east and archaeological sites to east and north.		

## Oxhey Hall

POPULATION		c.2700		
	PRIMARY SCHOOL	Bromet Primary (1448m)		
	SECONDARY SCHOOL	Watford Grammar School for Girls (2596m)		
	GP SURGERY	South Oxhey Surgery (1843m)		
	CONVENIENCE STORE	Eastbury Road Shopping Parade (562m)		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	One recorded location within settlement		
	LIBRARY	Oxhey Library (1650m)		
	COMMUNITY CENTRE/HALL	Oxhey Hall Community Association		
	ROAD INFRASTRUCTURE	Served by A4125 and B4542		
	BUS SERVICE	328	Watford / Mount Vernon Hospital	1 hour
		R16	Bushey / Watford	Daily
		R17	Hatch End / South Oxhey	Daily
	RAIL STATION	Bushey (1785m)	London Euston / Milton Keynes (West Coast Main Line)	20 mins

			London Euston/ Watford Junction (Lioness Line, London Overground)	15 mins
	CONSTRAINTS	Settlement surrounded by Green Belt. Flood zone to east, and running through part of settlement. Wildlife sites and public open space to south.		

### Rickmansworth

POPULATION		c.5700		
	PRIMARY SCHOOL	Rickmansworth Park JMI, St Mary's C of E		
	SECONDARY SCHOOL	St Joan of Arc RC School		
	GP SURGERY	Gade House, The Colne Practice		
	CONVENIENCE STORE	Six recorded locations within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	Five recorded locations within settlement		
	LIBRARY	Rickmansworth Library		
	COMMUNITY CENTRE/HALL	The Cloisters Town Hall		
	ROAD INFRASTRUCTURE	Served by A412, A404, A4145 and C Classified roads		
	BUS SERVICE	322	Rickmansworth / Hemel	30 mins
		336	Bushey / Chorleywood	1-2 hours
		724	Heathrow / Harlow	1 hour
		725	Heathrow / Stevenage	1 hour
		951	Thorpe Park / Borehamwood	Daily
		R1	Maple Cross / Watford	Daily
		R2	Chorleywood / Mount Vernon Hospital	2 Daily
		W1	Maple Cross / Garston	Daily
	RAIL STATION	Rickmansworth	Aylesbury Vale Parkway / London Marylebone (Chiltern Railways London – Aylesbury Line)	30 mins
			Amersham and Chesham / Aldgate (Metropolitan Line, London Underground)	15 mins
	CONSTRAINTS	Settlement surrounded by Green Belt, flood zones to east and south, conservation areas, wildlife sites and public open space within settlement.		

## South Oxhey

POPULATION		c.13600		
	PRIMARY SCHOOL	St Joseph RC JMI, Warren Dell JMI, Oxhey Wood JMI, Woodhall JMI, Greenfield JMI		
	SECONDARY SCHOOL	Northwood School (4198m)		
	GP SURGERY	Pathfinder Practice, The Consulting Rooms, South Oxhey Surgery		
	CONVENIENCE STORE	Five recorded locations within settlement		
	PUBLICLY ACCESSIBLE OPEN SPACE	Multiple accessible Public Parks/Gardens within settlement		
	SPORTS FACILITY	Four recorded locations within settlement		
	LIBRARY	Oxhey Library		
	COMMUNITY CENTRE/HALL	Carpenders Park Community Hall (1100m)		
	ROAD INFRASTRUCTURE	Served by B4542 and a C Classified road		
	BUS SERVICE	R16	Bushey / Watford	Daily
		R17	Hatch End / South Oxhey	Daily
		328	Watford / Mount Vernon Hospital	1 hour
		346	Northwood / Watford	1 hour
		W19	Watford / Carpenders Park	1 hour
	RAIL STATION	Carpenders Park	Euston/Watford Junction (Lioness Line, London Overground)	15 mins
CONSTRAINTS		Green Belt surrounding settlement, local nature reserve, public open space and wildlife sites to west of settlement, railway line to east.		

## 4: Settlement Sustainability

Further analysis of settlement sustainability has been carried out through a comparison of each settlement within Three Rivers. A settlement hierarchy may then be generated based on sustainability, determined by access to key services and facilities.

This section will score the sustainability of the settlement on a sliding scale that results in categorisation from very good to poor. Population information and the interrelationships between settlements is then factored into the hierarchical ordering of settlements.

In order to assess sustainability, scores have been allocated for each key facility/service (primary school, secondary school, GP surgery, convenience store, library, publicly accessible open space, community leisure facility), based on the distance to the facility/service from the settlement centre, according to the accessibility thresholds set out in Table 1. The allocation of scores is based on the underlying assumption that closer proximity to a facility increases accessibility and therefore sustainability.



**Table 3: Scoring of Facilities in relation to settlement**

FACILITY LOCATION	SCORE
Within settlement	3
Within lower threshold distance	2
Within upper threshold distance	1
Outside upper threshold distance	0

The above scores are averaged to provide an overall score for all facilities within a settlement (maximum 3).

**Table 4: Scoring of infrastructure provision**

Bus services and rail stations have been considered separately to allow recognition of the levels of service provision. Scores for infrastructure have been allocated according to the criteria in Table 3.

	INFRASTRUCTURE PROVISION	SCORE
BUS SERVICES	Peak time interval 0-30 minutes	1 per service
	Peak time interval 30-60 minutes	0.5 per service
	Peak time interval 60+ minutes	0.25 per service
	No service	0
RAIL STATION	Within settlement	3
	Within lower threshold distance	2
	Within upper threshold distance	1
ROAD CLASSIFICATION (Highest serving settlement)	Motorway (junction)	2
	A Road	1.5
	B Road	1
	C Road	0.5
	Unclassified only	0

Since the data considered in determining sustainability provide only an indication, production of a 'sustainability score' would be misleading, so settlements have instead been placed into broad categories. Settlements may be described as having very good, good, fair, or poor sustainability, according to their performance in relation of proximity to facilities/services and infrastructure provision. To avoid the introduction of subjectivity to the process, all factors have been considered equally, and there has been no weighting. To place settlements in sustainability category, the average score for all facilities in a settlement is added to the score for bus service provision to give a settlement total score which is then used to place settlements into a hierarchy.

**Table 5: Categories of Accessibility**

Settlement Total Score	Sustainability Category
8+	Very Good
6-7	Good
5-6	Fair
0-4	Poor

**Table 6: Settlement Sustainability Scores/Categories**

Settlement	Population (approx)	Sustainability Category
Rickmansworth	5700	11 (Very good)
South Oxhey	13600	8.375 (Very good)
Croxley Green	8800	12 (Very good)
Chorleywood	10800	8.75 (Very good)
Leavesden and Garston		11.25 (Very good)
Carpenders Park	3700	7.9 (Good)
Eastbury	5100	6.75 (Good)
Mill End	5100	6.125 (Good)
Moor Park	5100	5.125 (Fair)
Maple Cross	2000	5.125 (Fair)
Abbots Langley	9200	5.25 (Fair)
Kings Langley	700(5700)	5.625 (Fair)
Oxhey Hall	2700	4.375 (Fair)

## 5: Settlement Hierarchy

In terms of the classification of the settlements, this is determined by the settlement sustainability, particularly in terms of range of facilities/services and an indication of population size. Because we have several settlements that are connected, the exact population is often difficult to determine and therefore should not be used as a sole indicator of where a settlement sits in the hierarchy. Subsequently, the settlements with the largest populations are the most sustainable, or the most sustainable settlements have the highest population, but this is not a universal statement.

We also have several settlements that are connected to either Watford or London Boroughs. These do not comfortably fit into a town or village description, so alternative names have been given for these settlements to recognise their particular characteristics.

## **Principal Town**

### **Rickmansworth**

Rickmansworth has the largest town centre with the widest range of services and best transport links in the district.

However, the decision to undertake a granular assessment, reflecting historic and established boundaries, while continuing to recognise the identity of neighbouring settlements, has resulted in the recorded population of Rickmansworth being much lower than is often considered as the established population. Reflective of the dense spatial distribution of the settlement(s), Rickmansworth is often considered to include Mill End and parts of Chorleywood that are contiguous to the core of the town, as well as Croxley Green, Batchworth and Loudwater on occasions, where there are barely distinguishable gaps, swelling the population to 26,291.

As referred to above, the much smaller population than is normally referred to, is a result of parts of Chorleywood east of the M25 being considered part of Rickmansworth, which has been updated to take account of the parish boundary rather than the M25, built long after the dwellings that are on the eastern side of it.

Subsequently, Rickmansworth supports the settlements in close proximity to the town and vice versa. The Very Good accessibility score is a result of the settlement benefitting from all eight of the facilities/services measured, a train station and reasonably good bus service.

## **Small Towns/Large Suburban Settlements**

### **Chorleywood**

The settlement of Chorleywood has been updated to reflect the parish boundary map, excluding individual settlements such as Loudwater and Heronsgate, that will be assessed separately. It is the largest settlement by area, characterised predominantly by low density detached housing, with Chorleywood Golf Course and the M25 effectively dividing it into three. Services are concentrated towards the west, while the eastern part of the settlement mainly relies on Rickmansworth for services and sustainable transport options.

Chorleywood is served very well by facilities and has a railway station and good road links, including a M25 junction. However, in terms of bus services, there are less than you would expect of a settlement of this size, something that is often a symptomatic of large areas of low-density development.

### South Oxhey

South Oxhey has the largest individual population by settlement definition in the district (although it is contiguous with Watford to the east). While not the largest in area, South Oxhey is the most densely populated part of the district. It sits between Pinner (London Borough of Harrow) and Watford, with a small amount of open space between both.

Originally developed predominantly as a post-war council estate, significant areas had become run-down by the 2000's and it has been subject to large-scale regeneration, with a high proportion of flatted development increasing the density further.

South Oxhey's Very Good score is reflective of having all services (aside from a secondary school), its train station and bus links.

### Abbots Langley

Abbots Langley is the third largest distinct settlement in the district in terms of population. It is situated on the north-western edge of Watford, but has its own High Street and retains a level of separation in terms of character and form. The settlements of Abbots Langley and Watford connect on the eastern and western edges, mainly with parkland between the remainder of the settlement boundary.

Abbots Langley is a relatively sustainable settlement and well served by major facilities and services, with only the secondary school and train station being located outside of the settlement. The secondary school is within the upper threshold distance and Kings Langley train station is just outside of threshold distance.

### Croxley Green

Croxley Green is situated between Rickmansworth and Watford and very close to both, with only the River Chess separating it from Rickmansworth and the Grand Union Canal and River Gade separating it from Watford, subsequently maintaining good transport links to both settlements. Within the district it is the second most densely populated area and the fourth largest settlement in terms of population.

Croxley Green is excellently served from a facilities and sustainable transport perspective, with all identified facilities/services being available within the settlement boundary and benefitting from its position between Watford and Rickmansworth, with 5 (at least) hourly services and a railway station with services into London every 15 minutes.

## **Large Villages/Suburban Settlements**

### **Eastbury**

Eastbury sits on the southern boundary of Three Rivers and is predominantly a residential area contiguous with Northwood in the London Borough of Hillingdon. The area is largely characterised by low density detached housing.

The residential nature of the settlement with no defined neighbourhood centre means that access to services is low for the size of settlement. There is only a primary school and open spaces within the settlement out of the eight facilities/services measured. There are two hourly bus services that serve the settlement. Northwood underground station sits in the south-west corner of Eastbury, forming the boundary between Eastbury and Moor Park, which boosts its sustainability score significantly.

### **Moor Park**

Moor Park is also contiguous with Northwood (London Borough of Hillingdon) and sits on the opposite side of the railway, forming its western boundary. It is similar in character to Eastbury, but much of it is also a private estate built at even lower density. It was built almost entirely as an expansion of London in the 1930's. Moor Park is served by its own tube station, the only TFL station inside a gated private estate.

The low sustainability rating in comparison to its population is symptomatic of its character and reflects the residential nature of it. Aside from the tube station on site which is highly positive in terms of sustainability, it only has 3 of the 8 measured facilities/services within its boundary.

### **Carpenders Park**

Carpenders Park was largely developed on the 1930's as a private housing estate, with council housing added post-war and accommodates a range of housing types.

It is well served by facilities and transport for a settlement of its size. Only a Secondary school and library are situated outside of the settlement, with Oxhey Library within the upper threshold distance. There is an overground train station that runs into London Euston and Watford Junction frequently.

### Kings Langley

Kings Langley is the only standalone settlement in the large villages. The vast majority of the village is in Dacorum, with just over 10% of the population in Three Rivers, on the eastern side of the River Gade and Grand Union Canal.

The village itself is well served by services, but the measurements to them have been taken from the edge of the Three Rivers settlement boundary, so any facilities in the village are measured from there, up to the upper threshold. This is because we can only influence and account for development and policies within our boundary, so the sustainability score is lower than if the entirety of the village was in our district. The railway station is within Three Rivers boundary.

### Leavesden and Garston

Leavesden and Garston sit on the northern edge of Watford. The area is characterised by a mix of suburban residential development and a large commercial area, including the expanding Warner Brothers studios. There is also new housing on the old aerodrome site and the settlement boundary has been expanded to encompass these features.

Contained within the area are 6 of 8 measured facilities/services, the exceptions being a library and community centre. Given some of Leavesden and Garston is outside of the district boundary, there may be closer services within the part of the settlement that falls within Watford Borough, but there are difficulties with establishing exact boundaries for these areas outside the district boundary, so they have not been recorded. Typifying a well-connected suburb of a large town, there are many bus routes, with 6 running at least hourly. There is also a train station in Garston.

### Mill End

Mill End is situated to the west of Rickmansworth town. It was historically a separate village but now adjoins the settlement. However, Mill End retains its own distinct character, with its own neighbourhood centre and mix of dwelling types, including terraced houses, not often encountered in Rickmansworth.

The settlement benefits from a wide range of bus services, given its location adjacent to Rickmansworth. Within the settlement there are 5 of the 8 assessed facilities/services, with two within the upper threshold distance. However, services that are unavailable in Mill End itself, can be accessed in Rickmansworth by sustainable transport methods such as by bus, cycling or walking.

## Maple Cross

Maple Cross is a large village in the south-west part of the district. Until after the Second World War it was no more than a hamlet, before 800 council houses were built.

For its size, it has a good range of services, with 5 of the 8 measured facilities/services within the settlement and one within the upper threshold distance. It also has a wide range of bus services, benefitting from its location on the A412/Denham Way.

## **6: Conclusion**

As facilities and service provision change over time, this study and the resulting settlement hierarchy provides a broad indication of the current situation in terms of settlement sustainability. The settlement hierarchy puts Rickmansworth, Croxley Green, South Oxhey, Chorleywood and Leavesden and Garston, as the most sustainable settlements in Three Rivers according to the level of access to key services and facilities and the provision of public transport services.

Higher sustainability scores are largely driven by size of settlement, although there are examples where this is not quite the case. For example, Abbots Langley, considered to be a town, has scored lower than Carpenders Park (which has less than half the population of Abbots Langley). This is largely down to sustainable transport and road infrastructure. While Abbots Langley scores well on range of facilities/services, it does not have a railway station, whereas Carpenders Park does. Additionally, the highest level of road classification in Abbots Langley are 'C' roads, whereas there is an 'A' road running through Carpenders Park.

There are other settlements, particularly in the south of the district, that are characterised by better train links, but poorer access to services within the settlement. Moor Park and Eastbury have access to train stations within the settlement but have otherwise relatively poor access to a range of facilities/services, but the proximity to stations pushes them up to 'good' and 'fair' respectively, in terms of their overall sustainability score.

Carpenders Park and South Oxhey share a train stations on their borders (the railway line divides the settlements) but their higher all-round scores elevate them to 'Very Good' in terms of sustainability.

Rickmansworth, Chorleywood and Croxley Green are the only settlements that had all 8 of the measured services within their boundaries. They are considered to be principal or small towns.

Settlements have been placed into sustainability categories, and settlement boundaries have been fixed for this purpose, however, the boundaries given may not relate to everyday life, particularly where settlements coalesce. This may affect how sustainable settlements are in practice, as people utilise services in a variety of settlements.

The access to key facilities/services and bus services are averaged over whole settlements which may mask smaller scale areas within settlements with issues in

accessing facilities, particularly areas on the periphery of larger settlement where dwellings may be distanced from facilities generally located in settlement centres. These factors mean that there may be variations in sustainability within settlements, however, these variations are beyond the scope of this study and can be studied on a smaller scale (i.e on a site-by-site basis), using this study as an initial guide.

The different facilities/services have not been weighted (in terms of importance) in order to avoid subjectivity, as the relative importance of facilities will depend on individual circumstances. If a weighting system were to be applied, it is likely the relationships between settlements would alter, and the categories of sustainability could also change.

Despite the limitations, the category of sustainability to which a settlement has been placed provides an indication of the potential for growth. Where settlement sustainability has been described as 'poor', there is limited potential for growth, though minor development through small sites and infill may be appropriate.

Settlements with sustainability described as 'fair' or 'good' sustainability may accommodate additional development, which may benefit the settlement through reinforcing and maintaining the existing settlement role and maintaining or enhancing the viability of facilities and services. Settlements within the 'very good' sustainability category generally have the greatest potential for growth and significant development, which can continue to improve existing levels of sustainability.