

Thurrock Council

Local Plan Evidence Base

West Horndon Site Specific Assessment

Reference: 00B2

Issue | 07 July 2026

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Job number 312159-07

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Document Verification

Project title Local Plan Evidence Base
Document title West Horndon Site Specific Assessment
Job number 312159-07
Document ref 00B2
File reference

Revision	Date	Filename	West Horndon Site Specific Assessment DRAFT		
Draft 001	24 Dec 2025	Description	Draft for client comment		
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Draft 002	30 Jan 2026	Filename	West Horndon Site Specific Assessment DRAFT		
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00B2	12 August 2026	Filename	West Horndon Site Specific Assessment		
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Issue Document Verification with Document



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1. Introduction

1.1 Overview

Thurrock Council (TC) is preparing a new Local Plan that will set out the vision and framework for the future development in Thurrock. Through the development of this new Local Plan, West Horndon has been identified as an area with the potential to deliver approximately 10,000 homes.

Evidence is required to better understand the feasibility of growth at these two major sites and to ensure they meet the development needs of the area, align growth and infrastructure, improve the environment and mitigate and adapt to the effects of climate change in accordance with the National Planning Policy Framework (NPPF paragraph 11).

Furthermore, it is important that if new development is allocated to the sites at West Horndon and South Ockendon, it should be comprehensively planned so that the infrastructure needed to support growth of this scale is provided when and where it is needed.

Ove Arup & Partners Limited (Arup) has been commissioned by Thurrock Council to prepare transport evidence for the emerging Thurrock Local Plan which is delivered in two Phases:

Phase 1: Transport Evidence:

- a) **Baseline Transport Report** - Provides a summary of existing conditions relating to transport in Thurrock.
- b) **Transport Assessment** – Provides a summary of the vision for Local Plan development and details how transport impacts will be mitigated.

Phase 2:

- a) **Infrastructure Delivery Plan** – Provides a summary of transport infrastructure necessary to accommodate Local Plan growth as developed through the Transport Assessment and engagement with infrastructure providers and key stakeholders.

Arup has also been commissioned by TC to prepare the following supplementary transport evidence to illustrate how development could come forward at major site allocations identified within the emerging Local Plan preferred spatial option including:

- **South Ockendon site specific assessment (SSA)** – Provides a concept layout and access strategy to identify associated transport infrastructure requirements.
- **West Horndon site specific assessment**– Provides a concept layout and access strategy to identify associated transport infrastructure requirements (this report)
- **Lower Langdon SSA** – Provides a concept layout and access strategy to identify associated transport infrastructure requirements for the Lower Langdon / Corringham Park Farm allocation sites.

This report provides the site-specific assessment for site allocations at West Horndon with the potential to deliver approximately 10,000 new homes which will feed into the emerging Local Plan Transport Assessment and Infrastructure Delivery Plan for Regulation 19 consultation. The location of West Horndon within Thurrock is to the south of the boundary with Brentwood as highlighted in Figure 1-1.

1.2 Policy context

A review of transport policy relevant to Local Plan development is included in the Baseline Transport Report; however, two additional documents have subsequently been identified which have informed the Transport Assessment and this site-specific assessment as summarised below:

- **Draft Thurrock Transport Strategy 2026 – 2040** (November 2025) – Aims to guide future transport investment, improve travel choices, and support sustainable growth. This represents a shift from road capacity

expansion (predict and provide) to vision-led planning, emphasizing the needs of communities, environmental stewardship and inclusive mobility.

- **Thurrock Design Code** (Emerging) – This will build on the draft Thurrock Design Charter (2023) to provide prescriptive design requirements for creating healthy, beautiful, and distinctive places with a high consistent standard of design.

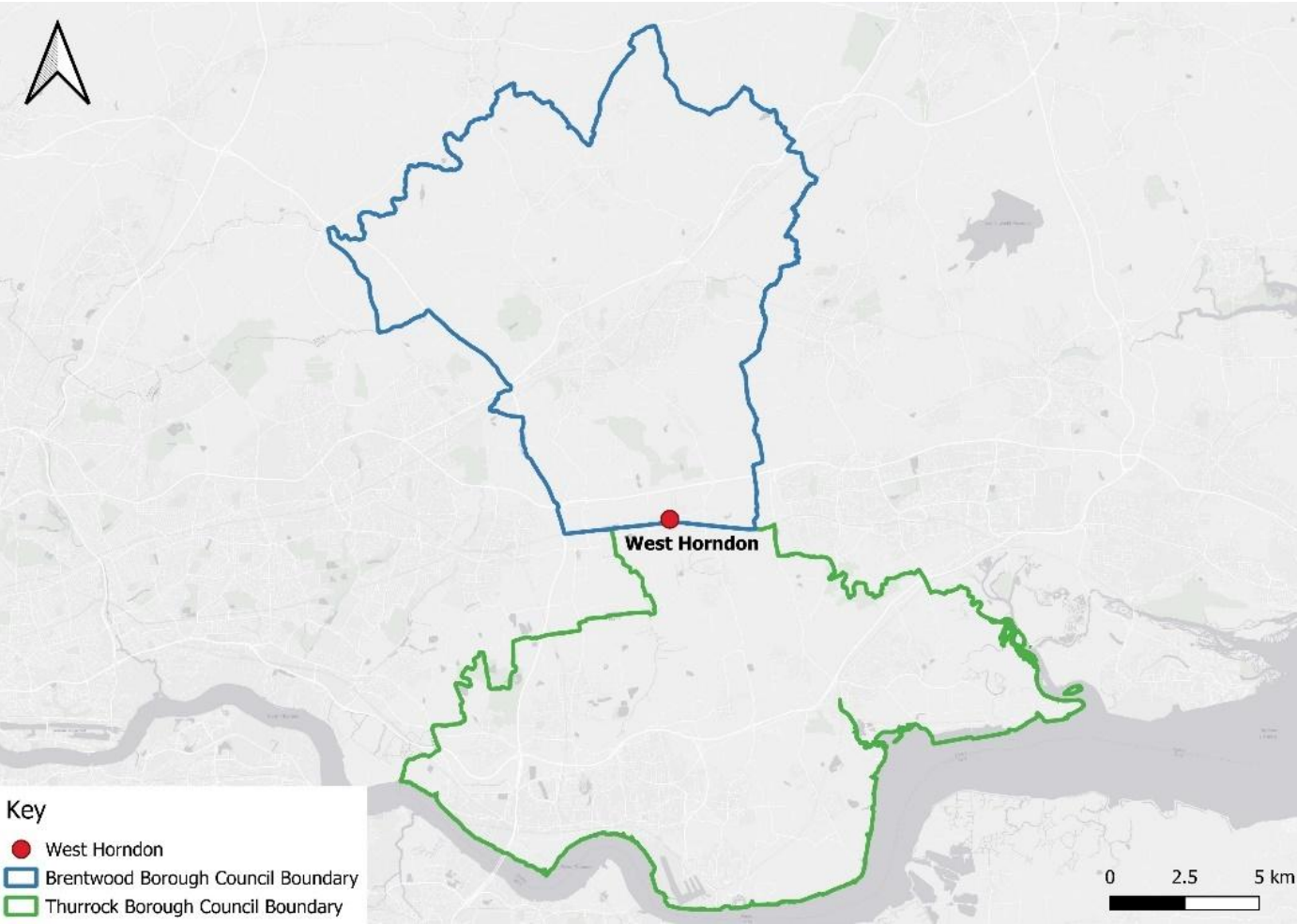


Figure 1-1: Location of West Horndon within Thurrock

1.3 Structure of the Report

This report relates to West Horndon and is structured as follows:

- Chapter 2: Site context
- Chapter 3: Constraints mapping
- Chapter 4: Vision and objectives
- Chapter 5: Combined contextual analysis
- Chapter 6: Transport infrastructure proposals
- Chapter 7: Next steps

2. Site context

2.1 West Horndon allocations and existing land use

West Horndon is an existing village and civil parish located in the south of Brentwood, on the border between Brentwood and Thurrock with a recorded population of 1,650 in 2021 and is a predominantly rural area with large sections of land within the Metropolitan Green Belt, with some residential and light industrial development, as shown in Figure 2-1.

Emerging Local Plan residential and employment site allocations at West Horndon have been identified by TC to provide 10,000 homes across the study area. Two employment sites have also been identified in West Horndon, as shown in Figure 2-2. The smaller site outlined is Red House Farm, a brownfield site with a total site area of 3.7Ha, and an estimated net developable area of 2.2 Ha. The larger site is Blue House Farm, a mixed greenfield and brownfield site with a total site area of 154.1 Ha, and an estimated net developable area of 115.5 Ha.

The housing site allocation shown in Figure 2-2 includes the site of the potential ‘Horndon St Mary’s’ development, which has an Outline planning application to deliver around 2,000 new homes submitted to Thurrock Council in September 2024, with a decision expected later this year. An outline of the Horndon St Mary’s site in relation to the wider West Horndon housing emerging Local Plan allocation shown in Figure 2-3.

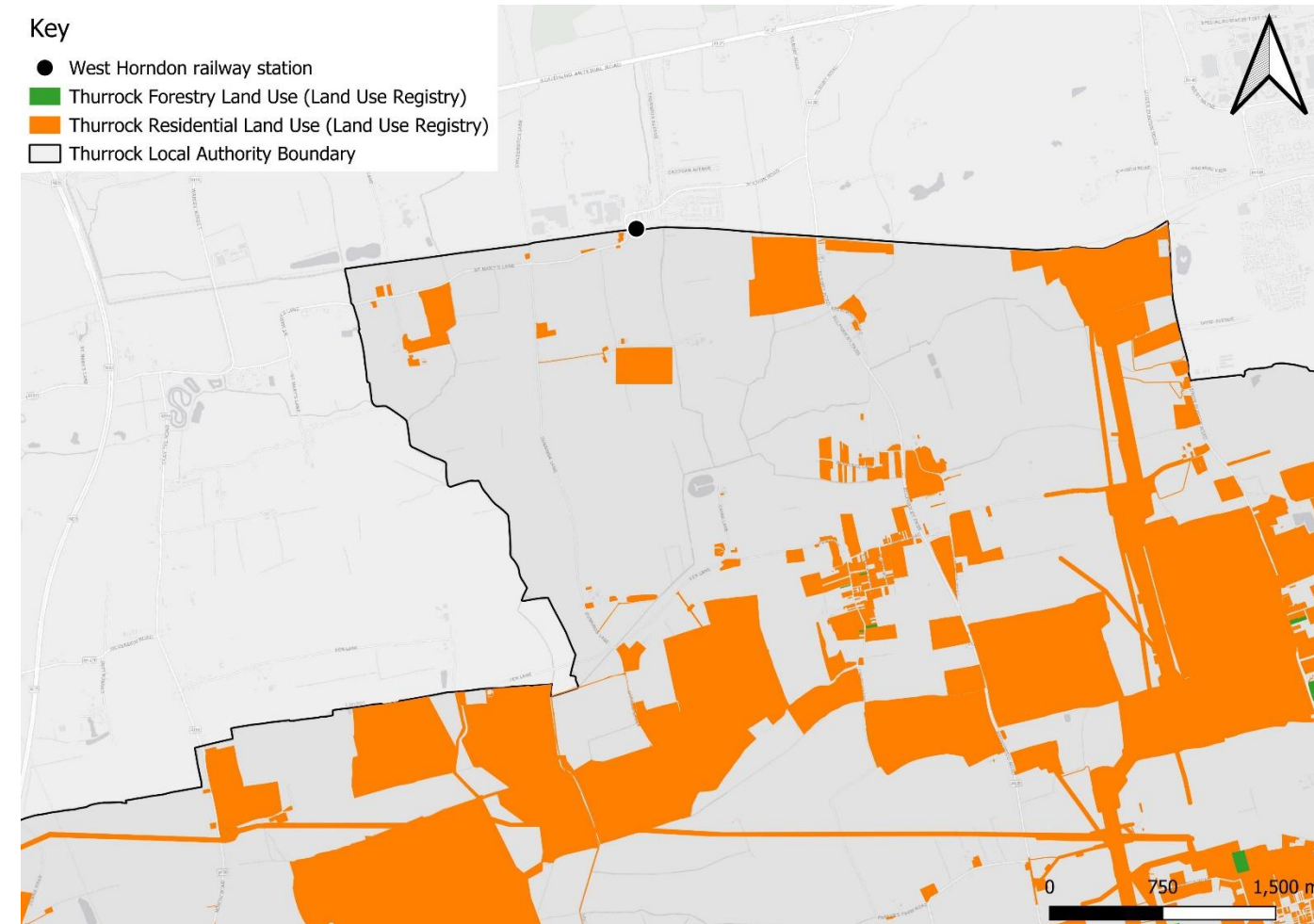


Figure 2-1: Land use characteristics of West Horndon and Thurrock borough

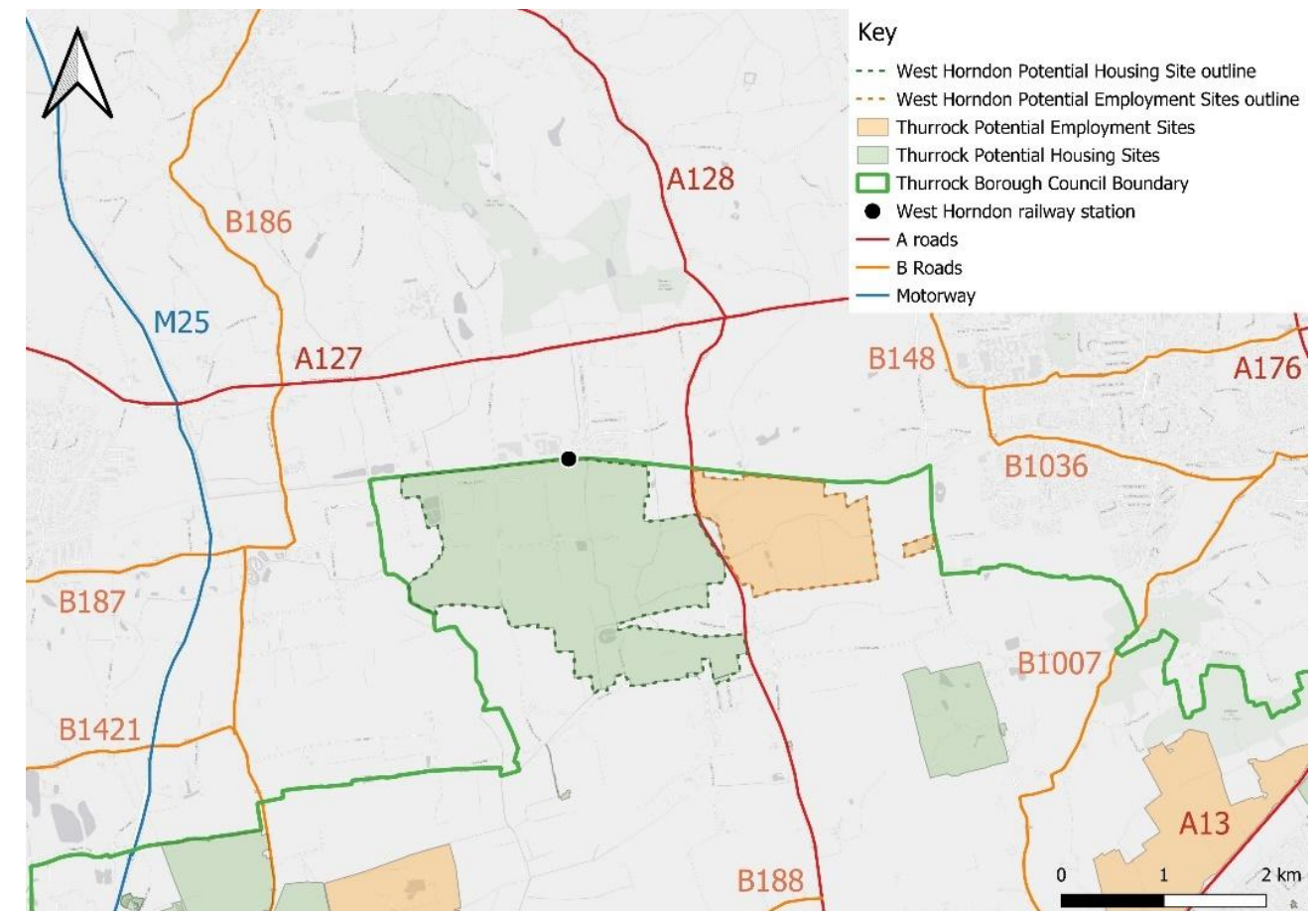


Figure 2-2: Location of potential Housing and Employment Sites and the surrounding road network

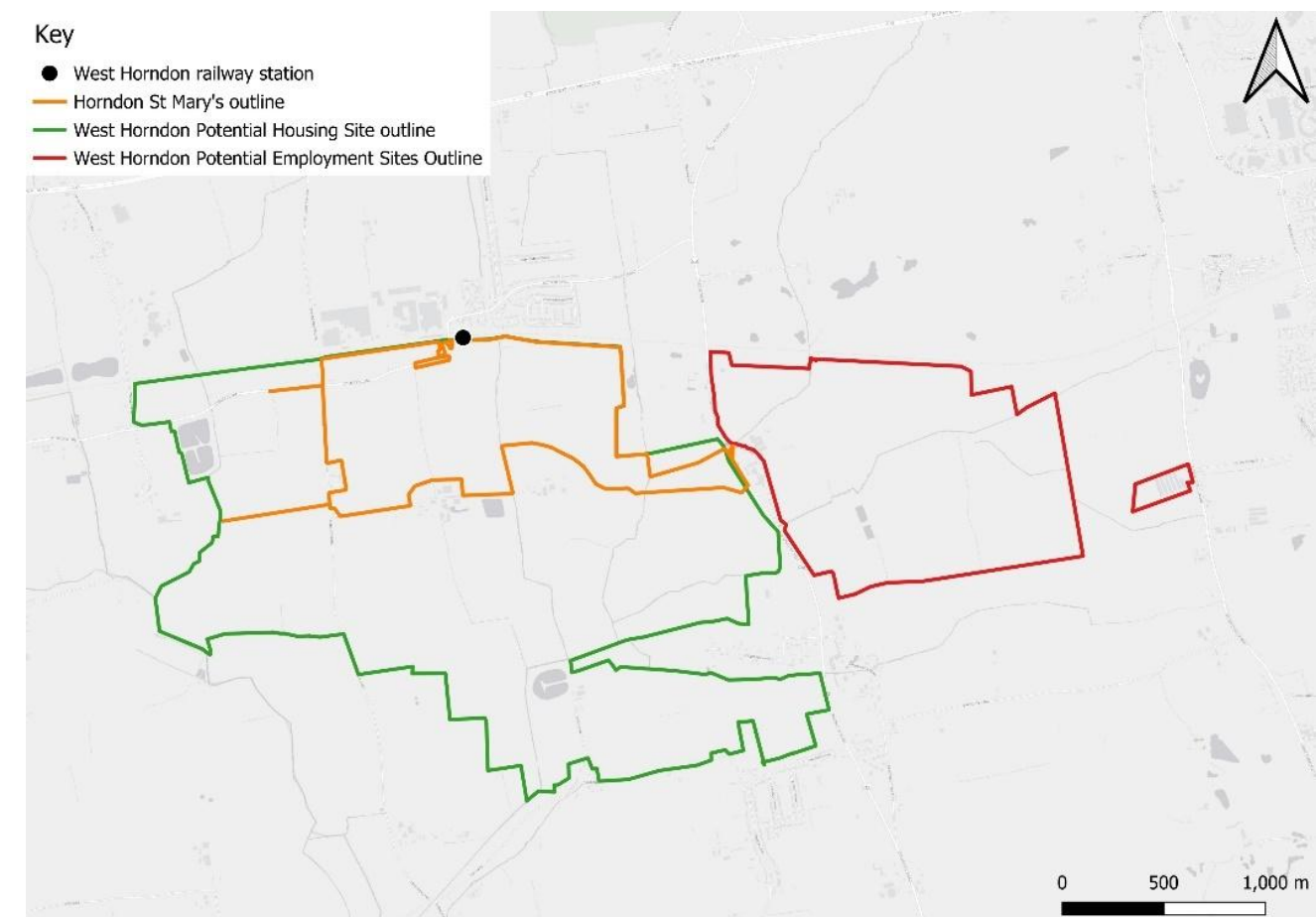


Figure 2-3: Horndon St Mary's site outline

Another proposed development near the housing site is the Dunton Hills Garden Village development, which has planning permission to provide 3,700 new homes. The first phase of the development received planning permission in 2018, and the fourth phase of the development was granted planning permission in 2024. An outline of the Dunton Hills Garden Village site in relation to the wider West Horndon housing site is shown in Figure 2-4.

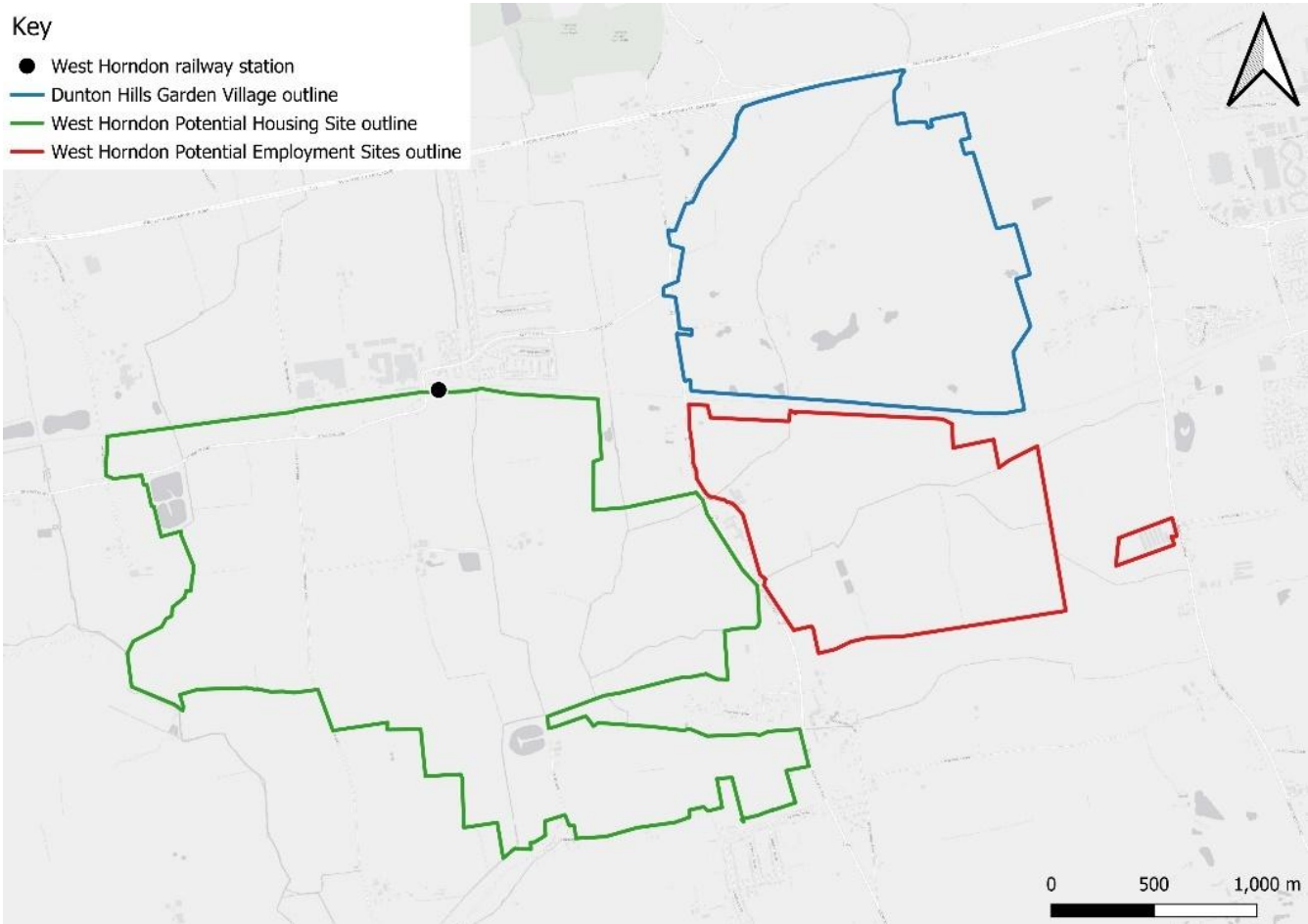


Figure 2-4: Dunton Hills Garden Village site outline in relation to West Horndon sites

2.2 Walking and cycling

2.2.1 Walking Network

Most roads within West Horndon have footways running along both sides of the road and in good condition, with dropped kerbs at crossings and a zebra crossing outside the Village Hall.

Roads running to and from West Horndon have footways closer to residential areas, but no footways further out of the village. This includes Station Road, beyond the Station (onto St Mary’s Lane), and Childerditch Lane, which have no footpath.

The A127 Southend Arterial Road North of West Horndon has raised footways on both sides running from West Horndon to the J29 of the M25 to the west of the village, and Laindon to the east. However, due to the lack of designated pedestrian crossings and the speed and volume of traffic, this is not an attractive pedestrian route and presents severance.

The railway line running through West Horndon also creates a degree of severance from the potential housing and employment sites to the railway station and the rest of the village, as shown in Figure 2-5. Childerditch Lane Bridge and St Mary’s Lane Bridge both lack footways and so are for vehicles only. The safest pedestrian route from the site to the rest of West Horndon is the Freshwell Gardens underpass, however this is currently unpaved and unlit, and would require investment to become an attractive route.

Figure 2-5 also shows Public Rights of Way (PRoWs) around West Horndon, which connect to the settlements of Herongate and Ingrave to the North of the village, though the A127 presents further severance.

The quality of footways means walking is a viable option within West Horndon, but less attractive from West Horndon to surrounding settlements, particularly due to the severance posed by the A127 and would benefit from improvements to crossings over and under the railway line.

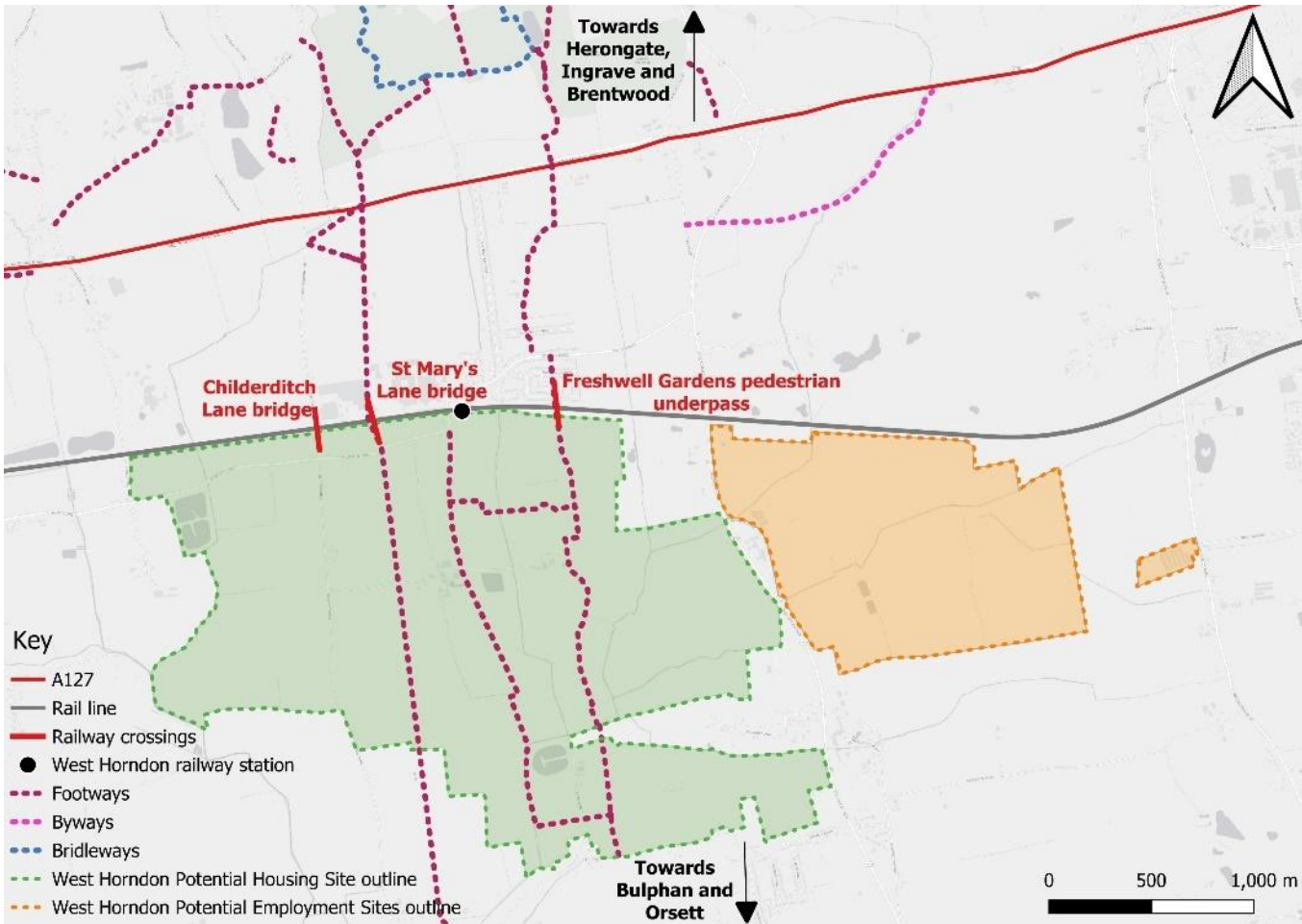


Figure 2-5: Public Rights of Way, railway line and rail crossings around West Horndon

2.2.2 Cycle Network

As shown in Figure 2-6, at present, there are currently no dedicated cycling routes within the vicinity of West Horndon. The closest route is Cycle Route 13 in Laindon and along the southern side of the A127, but these routes do not directly connect to West Horndon. However, local roads within West Horndon could accommodate cycle routes such as Station Road, with potential for network enhancements on surrounding roads.

As identified in the Brentwood Borough Cycle Action Plan (2018), the southernmost part of Brentwood sees a drop in elevation relatively steeply into West Horndon and further within Thurrock to the south, which may mean that electric cycles may be more attractive for longer journeys from West Horndon.

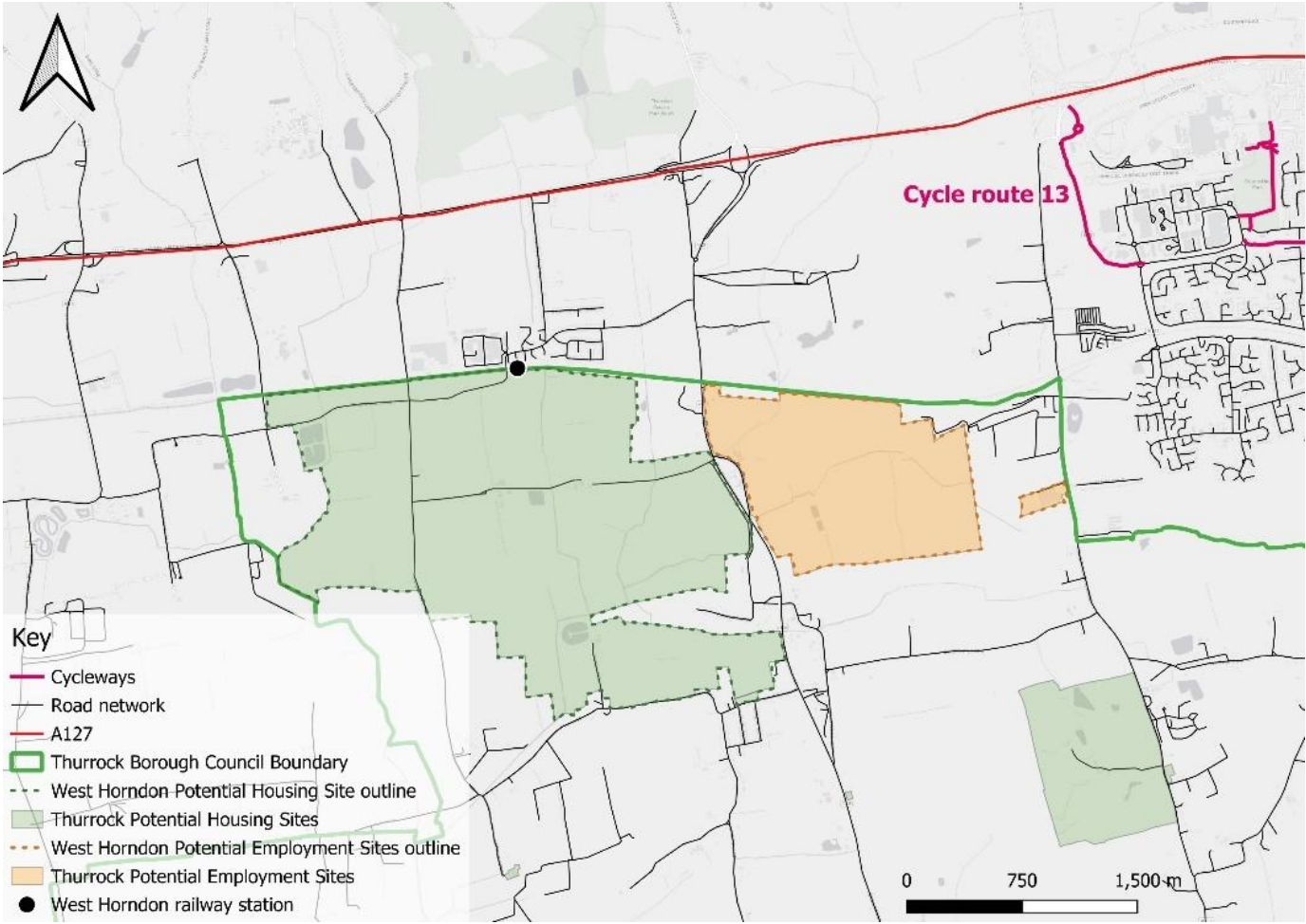


Figure 2-6: Cycleways around West Horndon

2.3 Public transport accessibility

2.3.1 Bus services

West Horndon is serviced by one bus route, the 565 operated by NIBSBuses, linking West Horndon with Brentwood. Table 2-1 shows the route’s frequency.

Table 2-1: Bus routes and frequency in West Horndon

Route No.	Origin - destination	Frequency (buses per hour per direction)
565	Brentwood – Brentwood Via Ingrave, Herongate and Bulphan	Runs Monday to Saturday only, no Sunday services. Approximately 8 services a day in each direction, running from approximately 07:30 to 18:20

There are two sheltered bus stops located opposite the train station on Station Road served by the 565 route and the 49 and 481 school buses with a further two bus stops on Station Road, near Clavering Gardens. Two sheltered bus stops are located on Tilbury Road opposite Dunton Hills Farm, serving the 49, 481 and 565 routes, and the 475 school bus service. There are further bus stops to the southeast of the site; two on the A128 Bulphan By-Pass, serving the 475 and 565 routes, and four on Church Road serving the 565 route.

Bus stops and routes in West Horndon are shown in Figure 2-7.

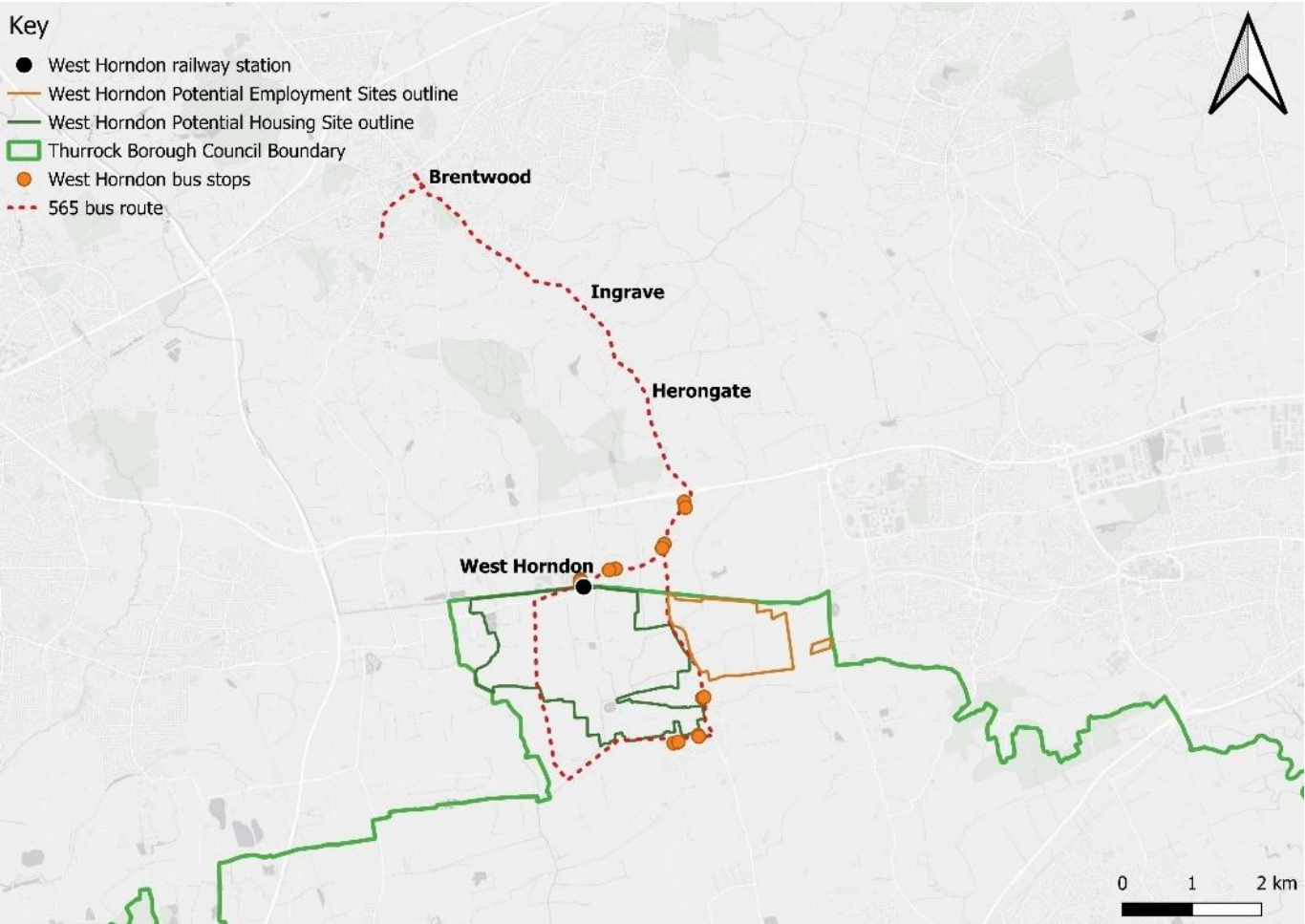


Figure 2-7: Bus routes and bus stops serving West Horndon

2.3.2 Rail services

West Horndon rail station is served by the London, Tilbury and Southend (LTS) rail line, which provides direct connections between Shoeburyness and London Fenchurch Street stations, via Pitsea, Tilbury, Grays, Southend and Shoeburyness. It is operated by C2C (under public ownership and managed by DfT Operator Ltd since 2025).

There are on average 2 services per hour to London Fenchurch Street, increasing to approximately 4 services per hour in peak times (07:00-10:00 and 16:00-19:00), and 2 services per hour to Shoeburyness.

From West Horndon to London Fenchurch Street, the journey takes approximately 30 minutes. From West Horndon to Shoeburyness, the journey takes approximately 40 minutes. The line and its strategic connections are shown in Figure 2-8.

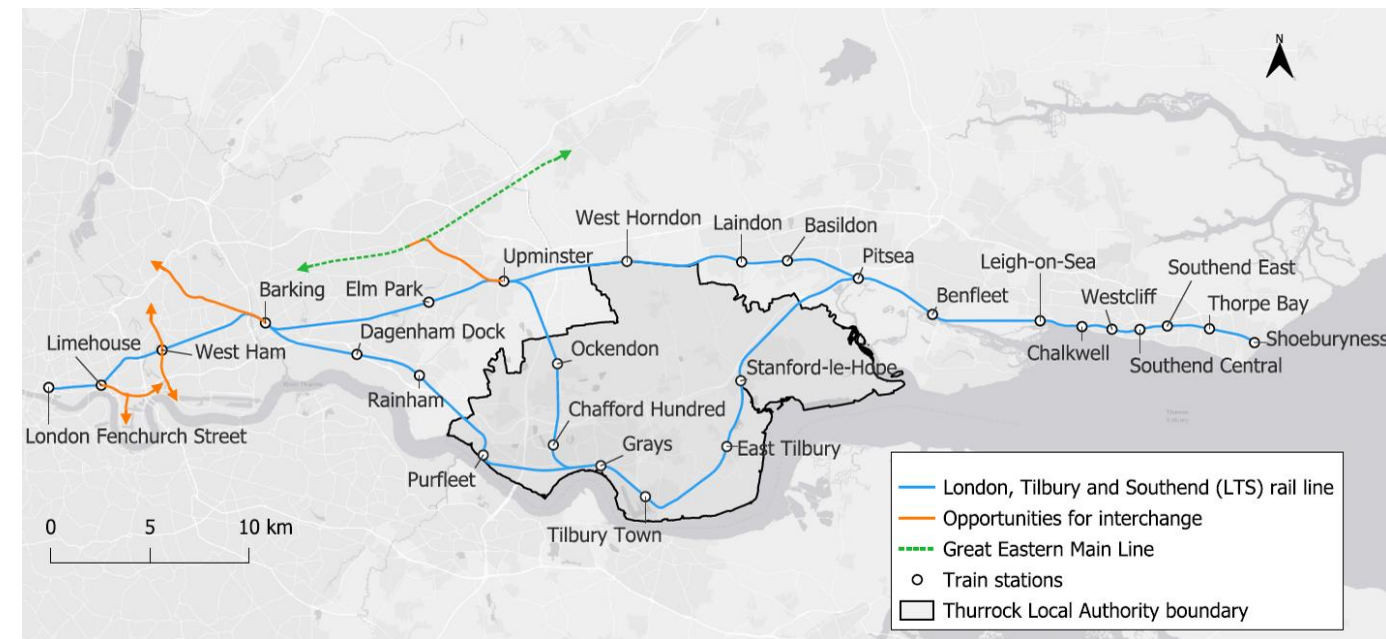


Figure 2-8: West Horndon location in relation to wider rail network

The LTS line plays a strategic role in supporting access to major employment hubs, particularly within the Thames Freeport area, including DP World London Gateway, the Port of Tilbury, and the Ford site at Dagenham. These connections are essential for facilitating sustainable access to jobs in logistics, port operations, and industrial sectors with the rail network within Thurrock.

West Horndon station is located on Station Road, in the southwest of the village. As outlined in Section 2.2.1, there are no footways on St Mary's Lane, which is the main route to the station from the west. However, there is good pedestrian access from the east of the station, with good footway quality across the rest of West Horndon.

Within the station, step-free access is only available from street level if travelling towards Southend from platform 2. There is no lift or step free entrance to platform 1.

Ramps are kept at this station to provide assistance for train access, and there are tactile paving warnings on all platforms. Passenger Assistance meeting points are available. There is limited space in front of the ticket machine to manoeuvre a wheelchair; the controls are at a suitable height for wheelchair users. There is a sheltered waiting area in the platform two booking hall, and four gates.

There are 20 Sheffield stands available for cycle parking in the station car park.

As described in Section 2.3.1, there are two bus stops opposite the railway station which serve the 565 bus route, connecting the station with Brentwood, Ingrave, Herongate and Bulphan.

There are 146 parking spaces in the station car park, of which nine are accessible spaces. The Brentwood Local Plan (2016) identified that parking capacity at the station is fully utilised most weekdays for commuters into London.

Areas within a 5-, 10-, 20- and 30-minute walking and cycling distance to West Horndon station based on the current cyclist and road network are shown in Figure 2-9 and Figure 2-10.

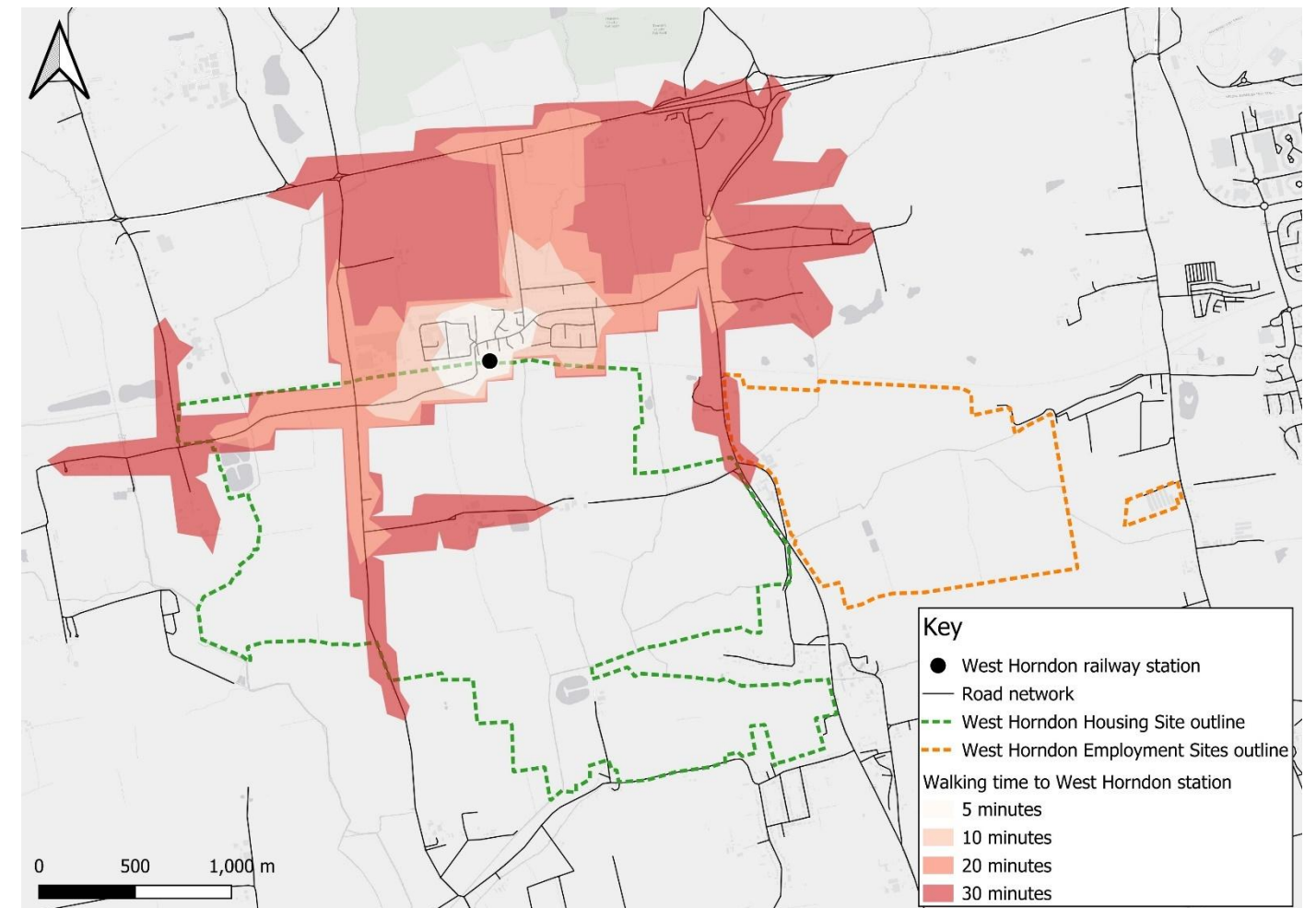


Figure 2-9: Walking catchment of 5-, 10-, 20- and 30-minute walking distance to West Horndon station

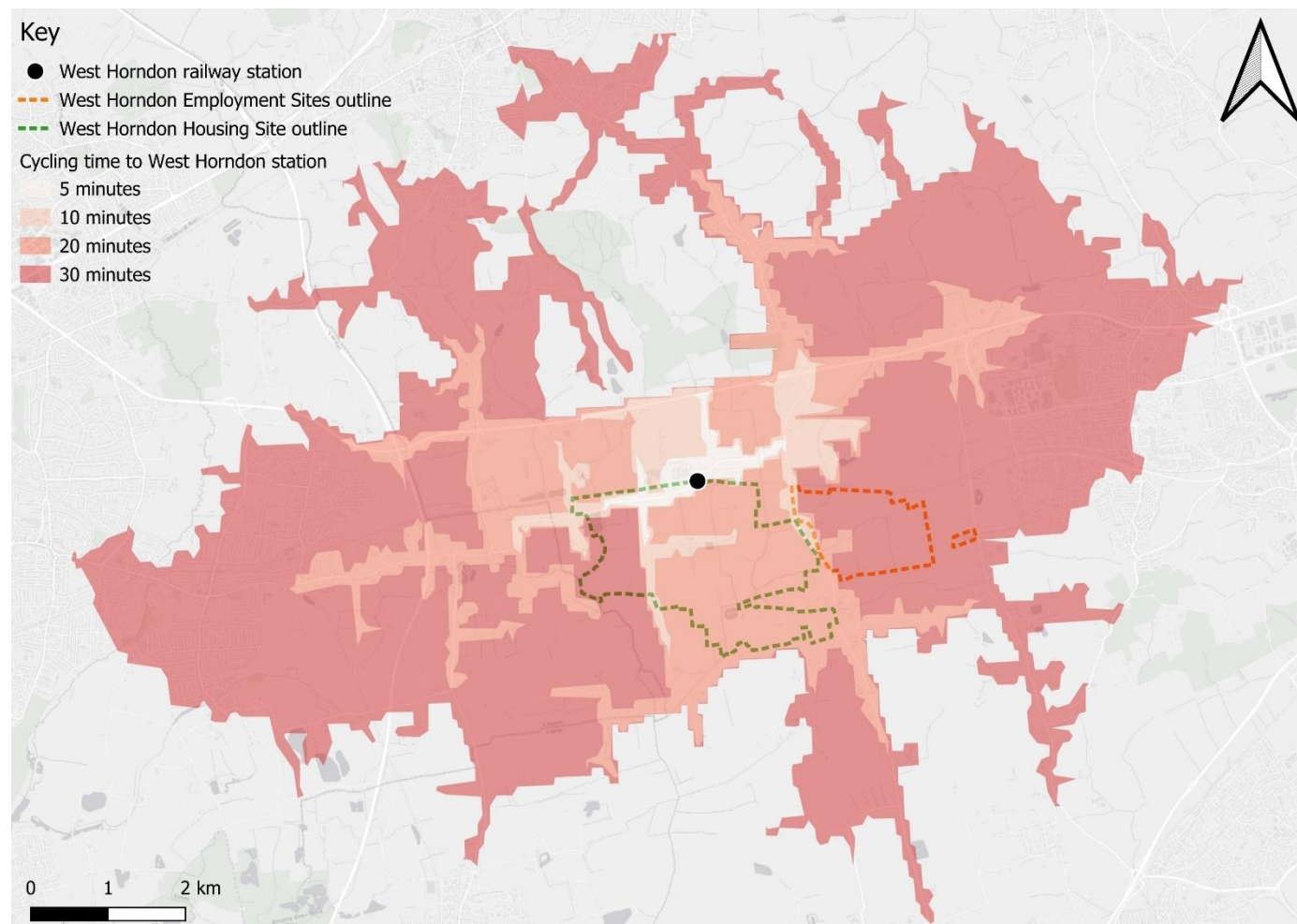


Figure 2-10: Cycling catchment of 5-, 10-, 20- and 30-minute cycling distance to West Horndon station

2.4 Highway network

West Horndon is located to the east of Junction 29 of the M25 motorway and south of the A127 Southend arterial road. The A127 runs east-west and connects Romford in the west to Southend-on-Sea in the east. There is a footway running in both directions along the southern side of the A127 with streetlighting throughout.

The main road running through West Horndon is Station Road, a two-way single carriageway subject to a 60mph speed limit 550m from the junction with the A128. The speed limit then reduces to 30mph upon reaching West Horndon. The road provides access to West Horndon residential properties, Horndon Industrial Park and the rail station. The road network around West Horndon is shown in Figure 2-11.

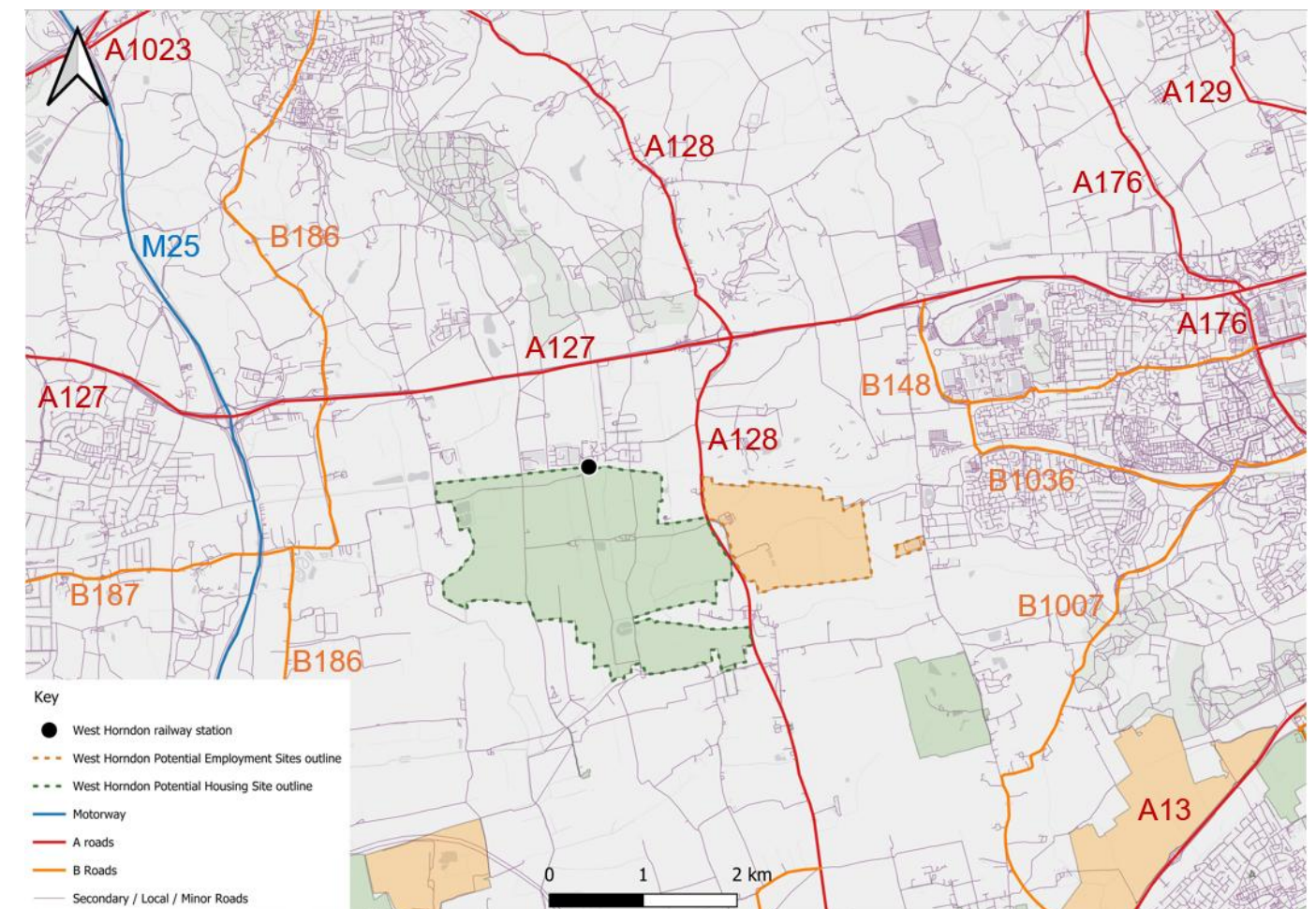


Figure 2-11: Road network around West Horndon

The parties responsible for highway maintenance around West Horndon are shown in Figure 2-12.



Figure 2-12: Roads maintainable at public expense in relation to potential housing and employment sites

The only designated parking spaces in West Horndon are the 146 parking spaces in the station car park, of which 9 are accessible spaces. However, on-street parking is also currently available.

2.5 Access to existing amenities

West Horndon village comprises a primary school, village hall, GP surgery, Church and two convenience stores, as shown in Figure 2-13. Additional local primary schools are situated close by in the Ingrave, Brentwood and Basildon with six secondary schools are located a short bus ride from the site in Brentwood and Shenfield.

The closest hospitals to West Horndon are located in Brentwood (Nuffield Health, Brentwood Community Hospital and Spire Hartwood Hospital) and Basildon (Basildon University Hospital).



Figure 2-13: Amenities within 1km radius of West Horndon railway station

2.6 Census travel to work data

Census 2011 has been interrogated to review travel to work pattern and method of travel. 2011 Census data was used due to the impacts of the COVID-19 pandemic on the 2021 Census. This is a widely used in transport planning because the 2021 Census happened during the COVID-19 pandemic (March 2021), which meant abnormal travel patterns (more widespread working from home and furlough) which do not reflect typical commuting data. This makes 2021 data less reliable for long-term planning, compared to more stable pre-pandemic 2011 data.

Census Middle Super Output Areas (MSOA) of Thurrock 004 and Brentwood 009 have been used to reflect the existing conditions at West Horndon. Whilst the West Horndon development sites are situated within Thurrock MSOA 004, this area is currently occupied by rural villages. The majority of existing West Horndon settlement is situated to the north of the railway station and fall under Brentwood MSOA 009. Therefore, both MSOAs inform the baseline.

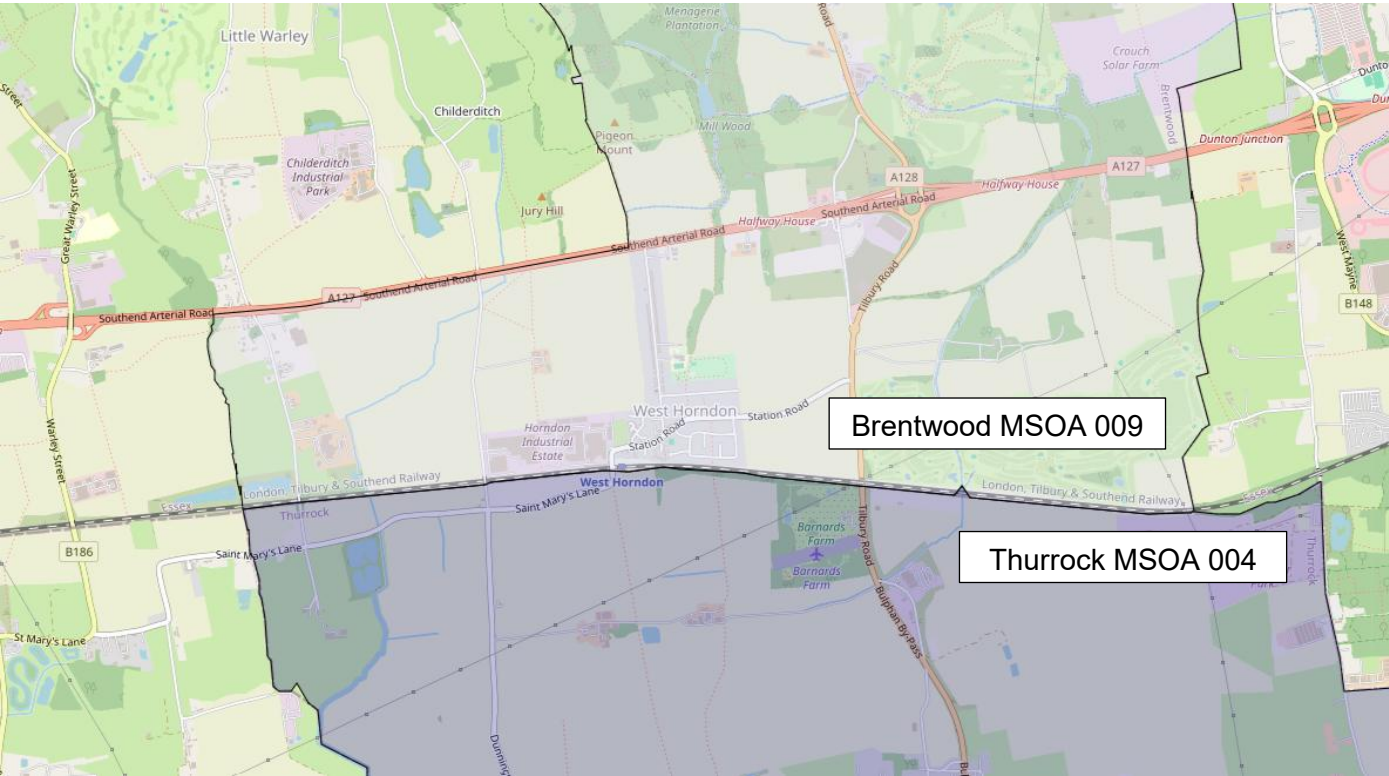


Figure 2-14: Extent of Thurrock 004 and Brentwood 009 MSOA

Driving a car or van was the main way for residents of West Horndon to travel to work, making up approximately 62-74% of total commutes in 2011, as shown in Figure 2-15. This was followed by train at 15%-26% (majority to reach destinations in London), 3%-5% as a passenger in a car/van, 3%-4% travelling on foot, and 1% by bus.

The travel to work mode share from Thurrock MSOA 004 and Brentwood 009 is illustrated in Figure 2-15.

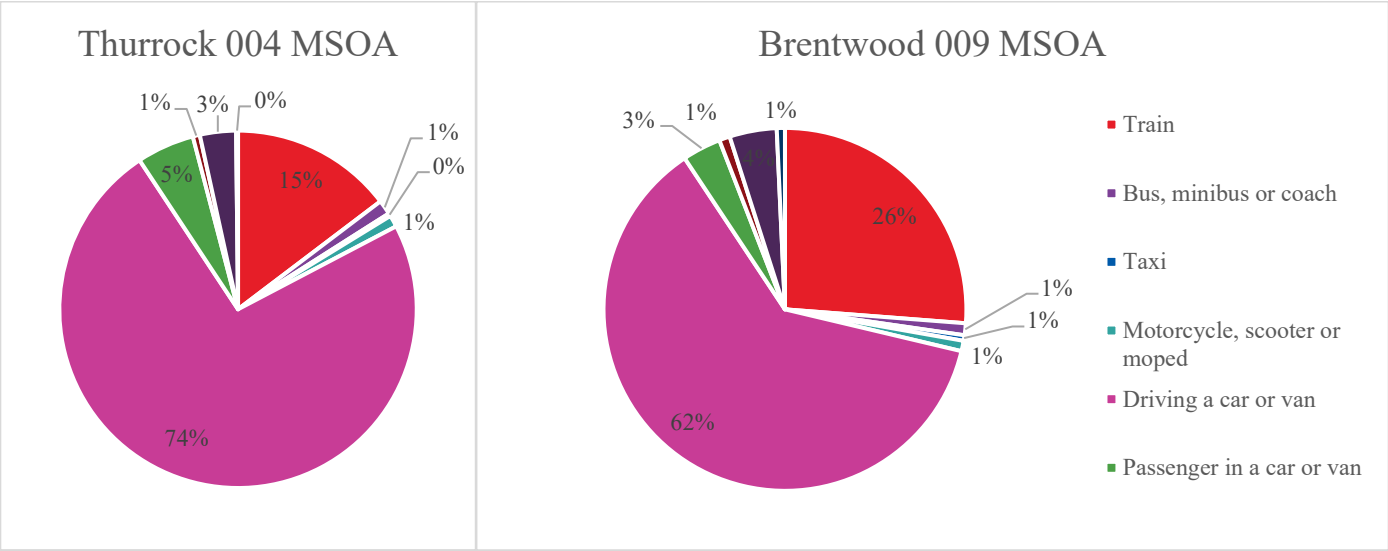


Figure 2-15: Method of travel to work (Thurrock 004 and Brentwood 009 MSOAs)

As shown in Table 2-2, Thurrock was the most popular place of work for West Horndon in 2011, making up 21% of total commutes (note 2011 Census data was used due to the impacts of the COVID-19 pandemic on the 2021 Census). This was followed by Brentwood at 17%, Westminster at 12%, and Basildon at 12%. This reflects Thurrock’s status as a key employment hub, and the importance of the port region as a regional pull, as well as employment opportunities in London and the wider Essex region.

Table 2-2: Place of work and mode share (2011) for Thurrock 004 MSOA and Brentwood 009 MSOA

Location of work		Methods of travel to work			
Destination	Percent of total commutes	Car driving / passengers	Train	Bus	Active travel
Thurrock	21%	79%	3%	2%	8%
1. Thurrock 015		82%	5%	3%	2%
2. Thurrock 004		54%	3%	0%	32%
3. Thurrock 016		84%	1%	2%	1%
Brentwood	17%	73%	3%	2%	12%
Westminster	12%	7%	92%	0%	1%
Basildon	10%	88%	3%	1%	2%
Havering	8%	90%	5%	2%	0%
Tower Hamlets	5%	32%	64%	0%	0%
Barking and Dagenham	3%	81%	11%	0%	1%

*Thurrock 015 includes West Thurrock, Lakeside Shopping Centre and Purfleet-on-Thames

2.7 Planned infrastructure

2.7.1 Local Cycling and Walking Infrastructure Plan

In January 2025, TC published its first Local Cycling and Walking Infrastructure Plan (LCWIP), outlining proposals for changes to local infrastructure designed to improve the walking and cycling environment. The location of these proposals is shown in Figure 2-16. The main proposal affecting West Horndon and the surrounding area is the new/improved shared use path/footway connecting West Horndon with the neighbouring settlements of Bulphan, Orsett and Horndon on the Hill.

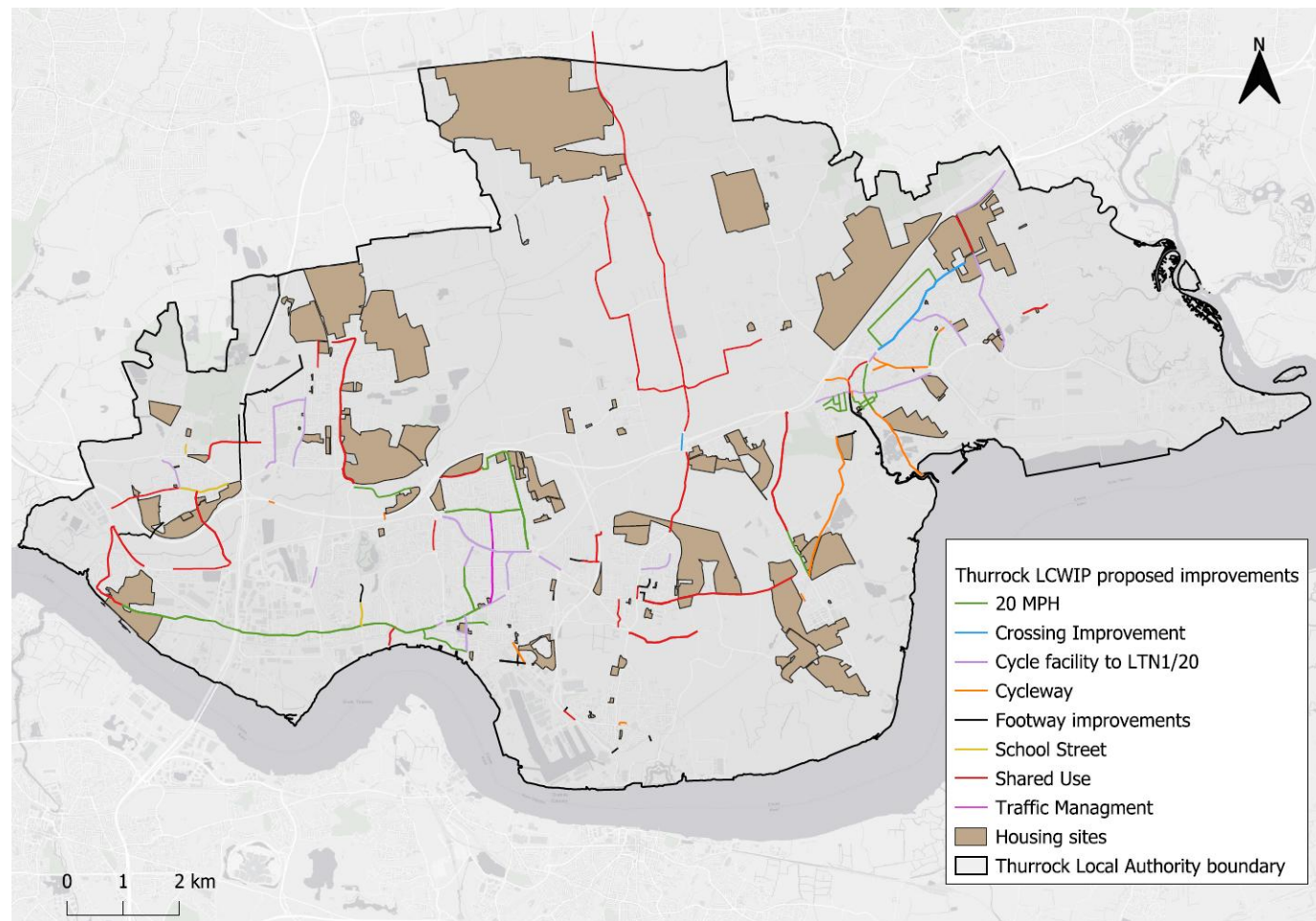


Figure 2-16: LCWIP Thurrock-wide proposals

Both Brentwood and Basildon Borough Councils also updated their LCWIPs in 2025, with several areas for investment identified in and around West Horndon. These have been split into primary routes, which offer the most direct connections between key connections, and secondary routes, which are less direct but still provide good connectivity to employment areas, educational facilities, rail stations and future developments.

As shown in Figure 2-17, primary cycling route 6 identified in Brentwood's LCWIP will directly link West Horndon (including West Horndon station) to Crown Street in Brentwood via Childerditch Industrial Park, Hartswood Road, Brentwood County High School and Ingrave Road.

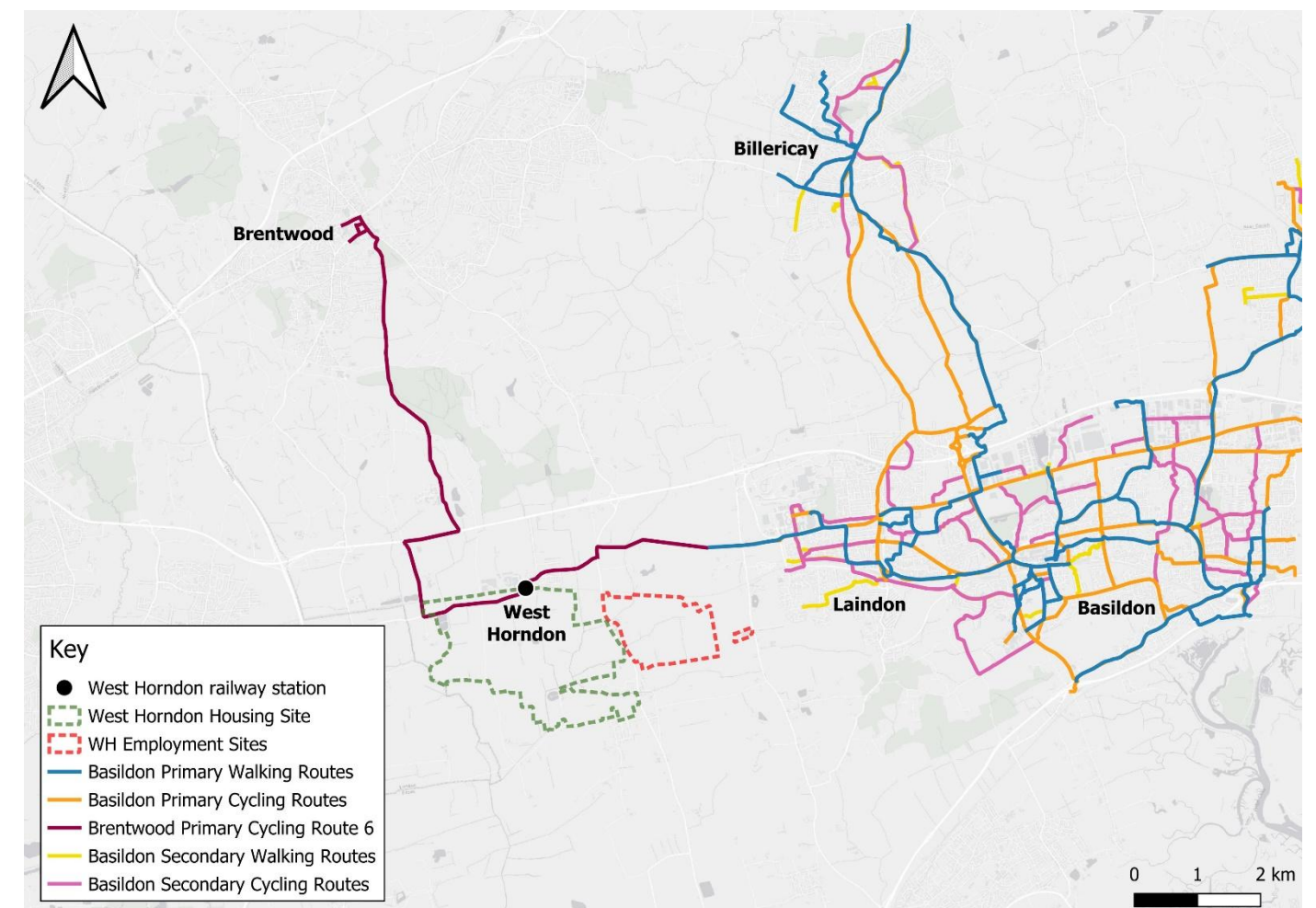


Figure 2-17: LCWIP routes in and around West Horndon

2.7.2 Bus Service Improvement Plan

The Bus Service Improvement Plan1 (BSIP) outlines a comprehensive strategy to transform local bus services and enhance connectivity across Thurrock and provide a viable alternative to car use. The plan identifies improvements for the 2024/2025 period, as well as proposals for 2025-2030. The BSIP outlines relevant interventions to improve bus services, accessibility, connectivity, cost and experience for all users. The BSIP acknowledges that interventions cannot be delivered alone and will require central government funding to ensure successful implementation.

While many interventions outlined in the BSIP are not yet fully committed and will require external funding and partnership support, the plan provides a strategic foundation for service enhancement across Thurrock. It establishes baseline infrastructure and operational improvements necessary to diversify travel choices, increase bus mode shares, and underpin the delivery of Thurrock’s Local Transport Plan Vision 2050.

Figure 2-18 highlights Thurrock’s existing bus network, alongside the routes identified within the BSIP for improvement during the 2025-2030 period. These planned improvements encompass upgrades to the following routes:

- **Route 66:** To enhance service so to provide an evening service and a Saturday link between Tilbury and Chadwell St Mary
- **Route 88:** To extend service to link Stifford Clays with Lakeside and Ockendon Station; thereby significantly improving bus access to Ockendon station. Service will operate between 6am and 10pm Mon-Saturday
- **Route 100:** To provide a Monday to Saturday at 15-minute frequency service and Sunday evening service
- **Route 200:** To provide a minimum half-hourly Monday to Saturday and hourly Sunday service

It is noted that the route 565 serving West Horndon is not within the BSIP identified routes for improvement. However, improvements this route and wider public transport network around the area will help deliver significant enhancements in service reliability, increase operational frequency, and strengthen overall network connectivity, thereby improving public transport accessibility and promoting sustainable travel choices.

The BSIP also identifies improvements to additional services across the 2025-2030 period, that are not represented in Figure 2-18. These include:

- Superbus services providing links between Grays, Lakeside, Brentwood, Chelmsford and Stansted Airport on an hourly, daily basis
- Grays – North Stifford Service on an hourly basis on Monday to Saturday
- Extension of Pilot Bus Service to maintain the link between East Tilbury and Horndon on the Hill with other communities
- Local bus services to support West Tilbury and Bulphan

These measures will strengthen public transport accessibility to key destinations and housing developments, supporting sustainable travel choices and reducing reliance on private vehicles.

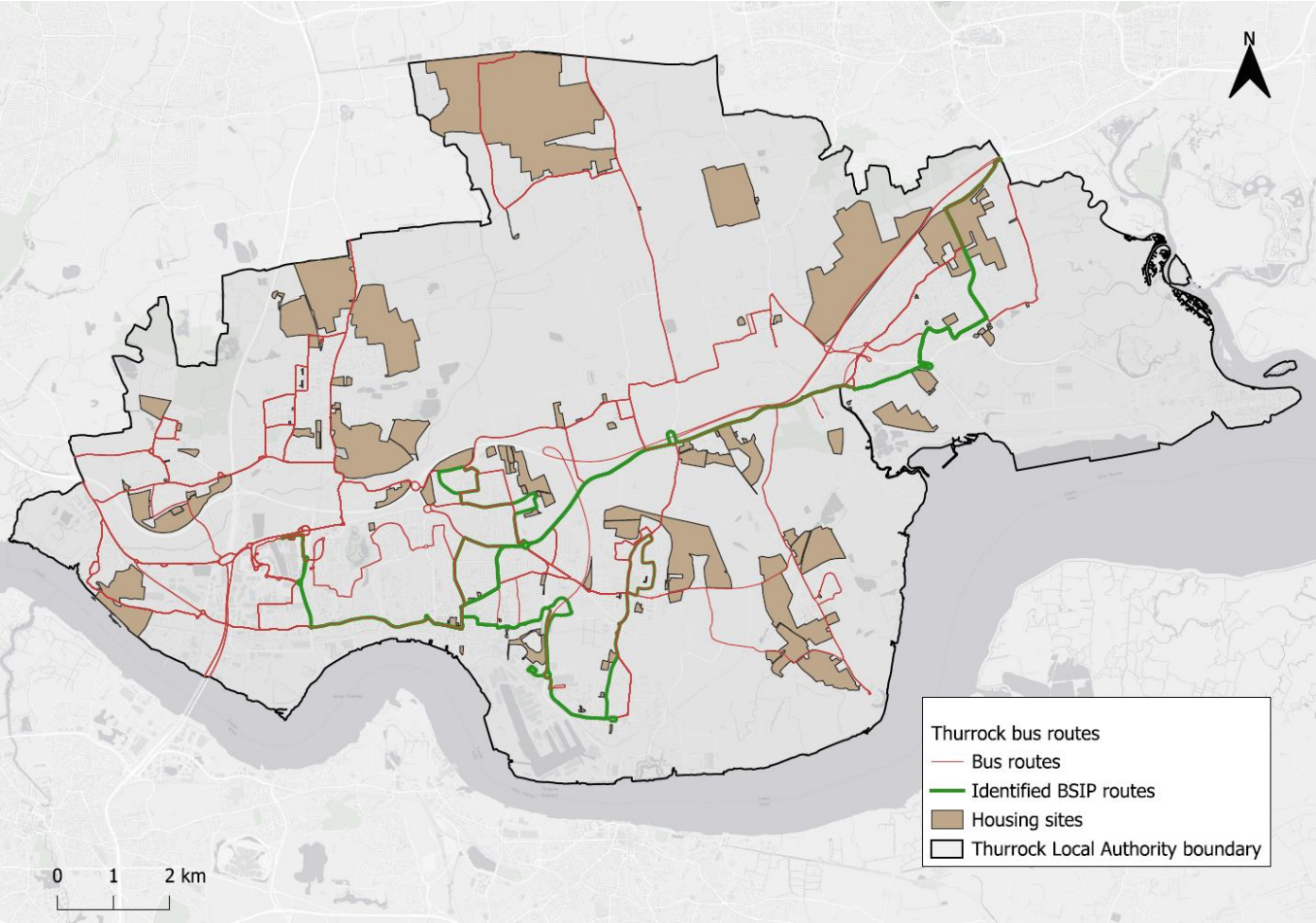


Figure 2-18: Bus routes and identified BSIP routes across Thurrock

2.7.3 Thurrock Transport Strategy

Thurrock Council’s Draft Transport Strategy (2026-2040)² was published for consultation in November 2025. The Strategy reiterates Thurrock’s Local Transport Plan Vision 2050, and supporting policies, priorities and goals to deliver sustainable growth and improve the transport network for current and future needs across Thurrock. The Draft Transport Strategy is intended to contribute to the development of Thurrock’s emerging Local Plan and represents the first phase in developing Thurrock’s Local Transport Plan. The Draft Transport Strategy identifies sustainable transport infrastructure to unlock growth and support existing and new communities with high-quality transport connections. Whilst the transport projects identified within the Strategy will benefit wider Thurrock, transport interventions are not identified around West Horndon which should be considered further.

The draft Strategy identifies seven core goals which provide the foundation for developing policies which outline how Thurrock’s Local Transport Plan Vision 2050 will be delivered in practice. Policies identified include the steps Thurrock Council, and its partners will take, to tackle the Thurrock’s key transport challenges including congestion, accessibility and sustainability – while enabling planned growth and supporting future development in line with the Transport Vision.

Further details are provided in the Local Plan Transport Assessment.

¹ Bus Service Improvement Plan (BSIP) (2024). Available at: <https://www.thurrock.gov.uk/sites/default/files/assets/documents/bus-service-improvement-plan-2024-v01.pdf>

²Thurrock Transport Strategy (2026-2040), Consultation version November 2025. Available at: <https://democracy.thurrock.gov.uk/documents/s50210/Appendix%201%20for%20Thurrock%20Transport%20Strategy.pdf>

2.7.4 Essex Local Transport Plan

As part of Essex's draft Local Transport Plan 'A Better Connected Essex' (2025), 13 area implementation plans have been developed outlining potential projects across Essex. The following projects in and around West Horndon have been outlined:

- West Horndon Station: interchange improvements including a bus interchange and cycle parking, and an improved access and better walking and cycling links (including a foot/cycle bridge over the railway).
- A128 improvement across C2C railway at West Horndon: A128 is constricted by rail bridge for non-motorised users. Feasibility into how to accommodate safe passage.
- Dunton Hills Garden Village Bus Lanes: bus lanes to Basildon, Brentwood and Grays.
- Dunton Hill – Laindon sustainable corridor: route for future South Essex Rapid Transit (SERT) to encourage DHGV residents to travel sustainably due to improved journey times.
- Dunton Hills Garden Village-Basildon Connection: Multi-modal connection to Basildon Town Centre, Freeport and the Basildon A127 enterprise corridor/employment areas.

2.7.5 Highway investment

In February 2025, the Department for Transport (DfT) allocated £15 million to junction improvements at the A127/A130 Fairglen Interchange, a major strategic junction, to increase the capacity of the interchange, reduce journey times, address existing safety concerns and improve pedestrian and cycling connectivity.

In July 2025, the A127 Corridor for Growth project was given the green light by the DfT. This project includes the creation of an additional eastbound lane along the A127 between Halfway House and Dunton junctions, to the northeast of West Horndon. They have also proposed walking and cycling route improvements along the stretch of the A127 from the junction with the A128 by West Horndon, to the junction with Tavistock Road in Laindon. A funding bid for the project was submitted to the DfT in 2024.

2.7.6 Lower Thames Crossing

On Monday 25 March 2025, the Secretary of State for Transport granted development consent for Lower Thames Crossing (LTC), a new road crossing connecting Kent, Thurrock and Essex. Approximately 14.5 miles (23km) in length, it will connect to the existing road network from the A2/M2 to the M25 with two tunnels (one southbound and one northbound) running beneath the River Thames. Once open to the public in 2032, it is expected to ease congestion at the Dartford Crossing, improve regional connectivity, and unlock economic growth across the South East. However, it also presents new challenges for local permeability within Thurrock, which will need to be considered and mitigated where possible. Figure 2-19 shows the LTC route alongside the existing highway network.

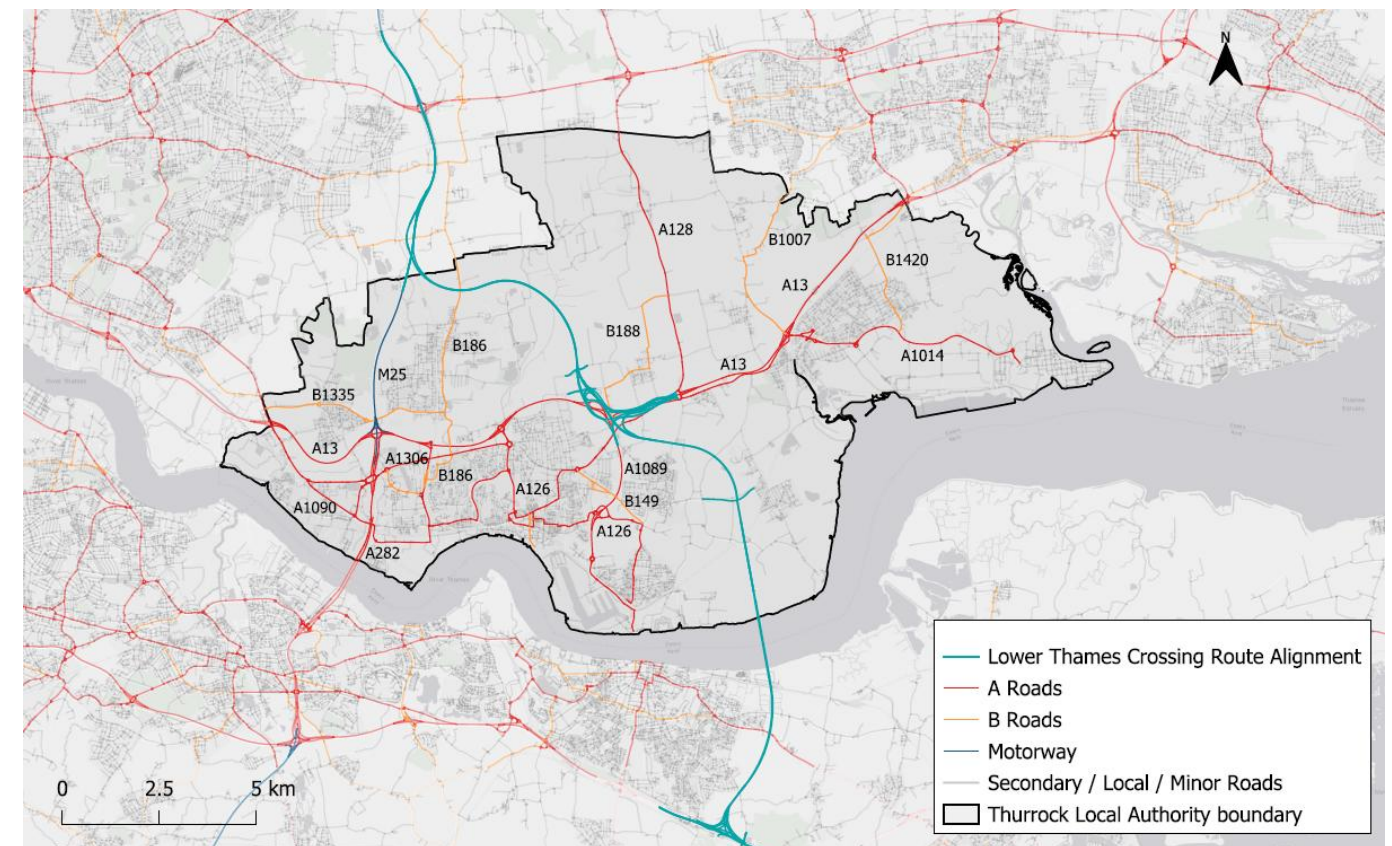


Figure 2-19: Lower Thames Crossing and existing highway network

2.7.7 Proposed developments

Proposed developments in and around the West Horndon housing sites and associated transport proposals are shown in Table 2-3.

Table 2-3: Proposed developments in West Horndon

Name	Planning application reference and status	Transport proposals
Horndon St Mary's	24/01051/OUT	Closure of the St Mary's Lane bridge to general traffic, creating a shared footway/cycleway over the bridge while continuing to accommodate the bus in both directions via signal control. Note that concerns have been raised by Active Travel England over the feasibility of this, as without it the station is inaccessible. Concerns were also raised about the accessibility and inclusivity of this improvement given that the bridge is fairly steep, though the development say they can achieve a gradient of less than 1:20 on each side, ensuring Equality Act compliance. Proposed improvements to the existing footway underneath the railway from Freshwell Gardens, including paving, lighting and public art. Active travel corridors through the development. Enhancement of the four Public Rights of Way running through the development. The addition of a shared footway/cycleway from the proposed access on the A128 to join with the Dunton Hills development. Proposed new bus route, being facilitated by Brentwood Enterprise Park, connecting their site to Horndon St Mary's, Dunton Hills Garden Village and Basildon. Proposed new express bus route linking to wider employment opportunities at Brentwood, Grays and the Thames Freeport. A new bus interchange will be created in the town centre, near West Horndon station, and a mobility hub created. Note that the scheme was deferred by Active Travel England in November 2024 on the grounds that further improvement of surrounding active travel infrastructure would be needed to encourage active travel.
Dunton Hills Garden Village (DHGV)	21/01525/OUT Brentwood Borough Council resolved to in principle grant planning permission for the development in March 2024	• Dunton Hill – Laindon sustainable corridor • Subject to the approval of Basildon Borough Council, a footway/cycleway link via Church Lane to Lower Dunton Road which can also serve as an access for emergency vehicles. • Financial support for the delivery of appropriate and necessary schemes suggested in the A127 Growth Corridor Strategy. • East Horndon Hall - a controlled crossing of A128 Tilbury Road between the Village and the employment area East Horndon Hall. • Reconfigure A128 junction with Station Road. • Pedestrian/cycle link provided to the A127. • Improved pedestrian/cycle link along Station Road to West Horndon, which will extend into the village centre. • Mobility hub within the village centre. • Bus service loop within the site connecting to WH Station and Basildon. • Station Road - widening of the existing footway to provide a safe and lit route for pedestrians and cyclists from the Garden Village to West Horndon, including a controlled junction at Station Road to enable ensure pedestrians, cyclists and buses to have direct access to the Village via the Mobility Corridor. • A128 Tilbury Road – through design reducing traffic speed. • Thorndon Country Park– a footpath/cycle route to Thorndon Country Park's southern entrance.

The proposed bus routes within Horndon St Mary's and Dunton Hills Garden Village (DHGV) sites are shown in Figure 2-20.

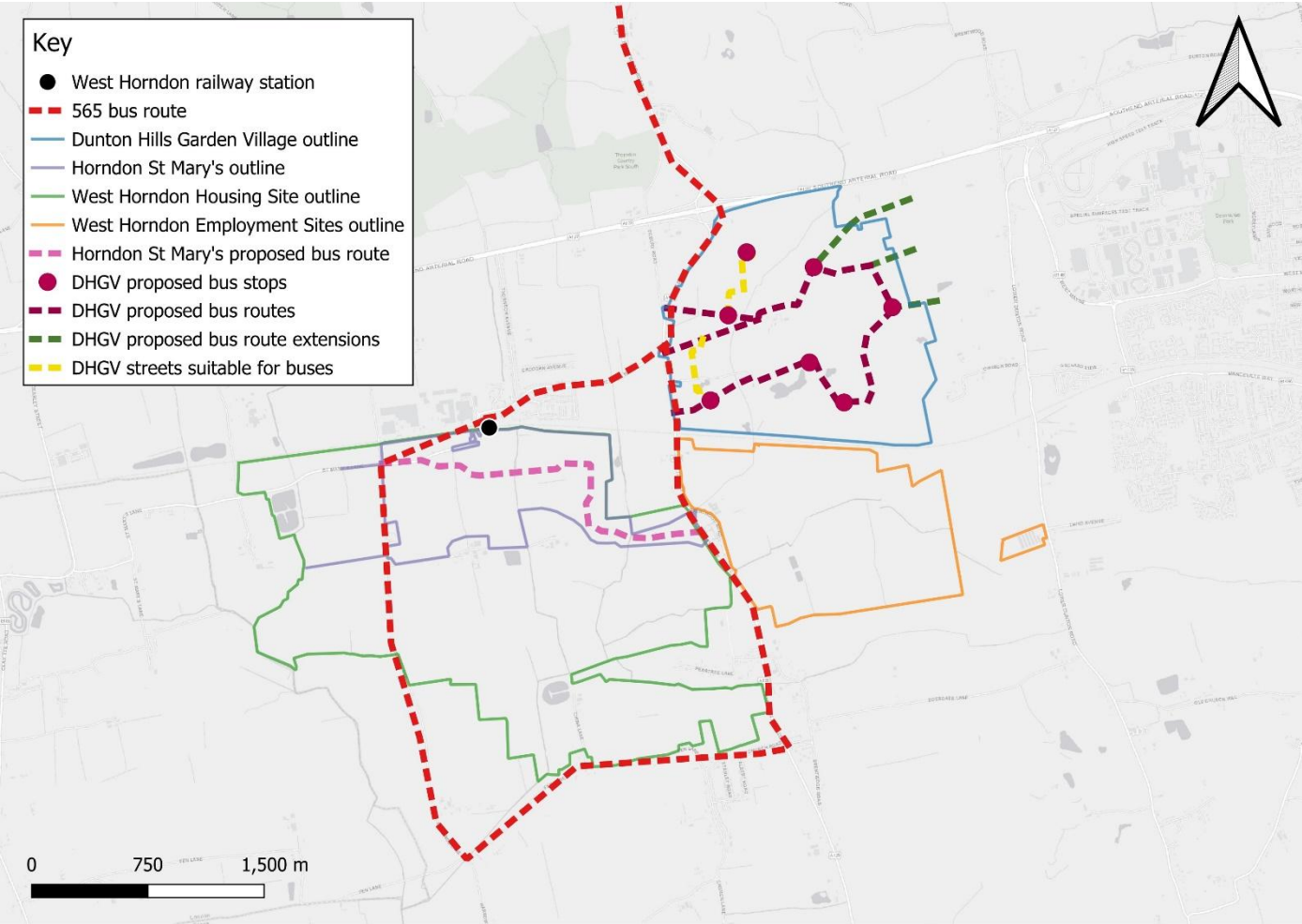


Figure 2-20: Proposed bus routes within Horndon St Mary's and Dunton Hills Garden Village

3. Constraints mapping

The site constraints have been identified and overlaid on the housing and employment sites in West Horndon to calculate the net developable area and inform spatial and access strategies outlined in Section 5. These constraints include:

- Environmental
- Flood risk
- Green Belt
- Heritage

3.1 Environmental constraints

Environmental constraints have been mapped from Natural England datasets, including ancient woodland, Sites of Special Scientific Interest, Special Protection areas and areas in the Priority Habitats Inventory. As shown in Figure 3-1, there are several small Priority Habitats areas within the housing site, but no other protected areas.



(Source: Natural England)

Figure 3-1: Environmental constraints in relation to potential housing and employment sites

Property rights are outlined in Figure 3-2, with nothing affecting the housing or employment sites.

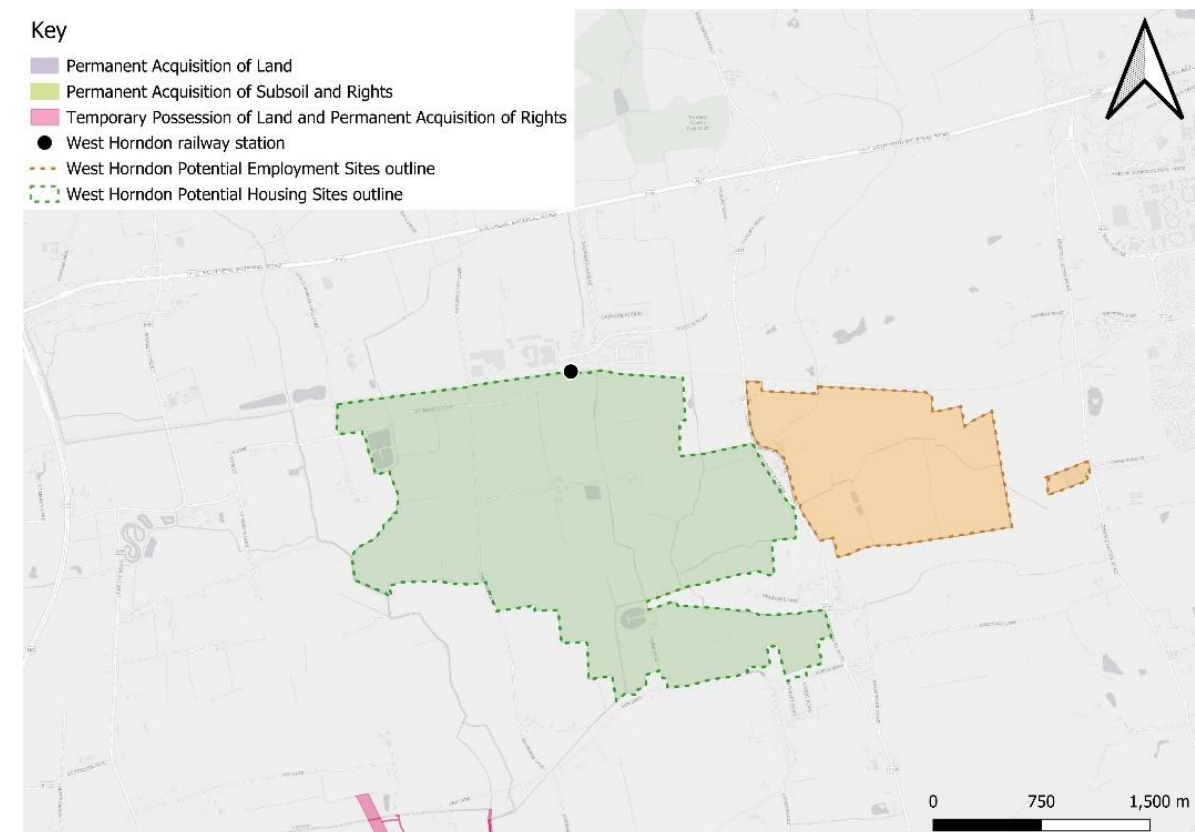
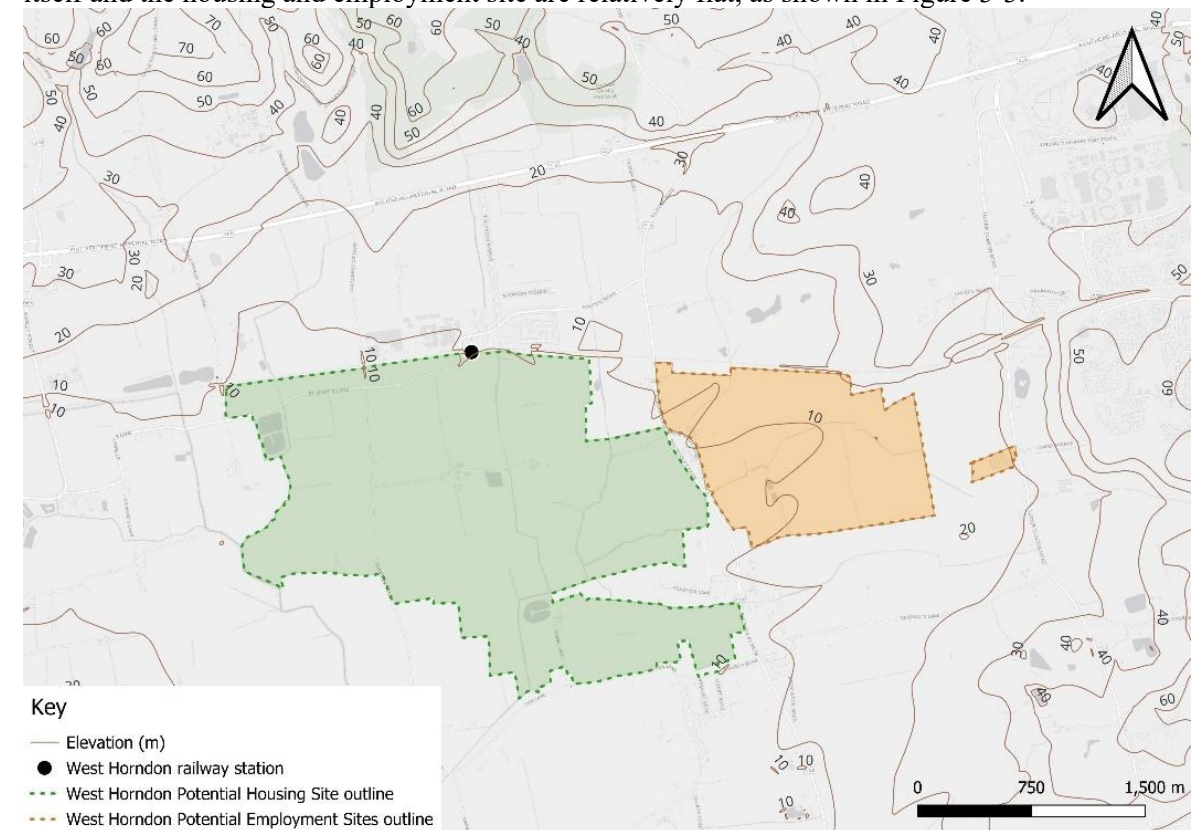


Figure 3-2: Land acquisition in relation to potential housing and employment sites

The areas to the north and east of West Horndon have some sections of high elevation (up to 70m), but West Horndon itself and the housing and employment site are relatively flat, as shown in Figure 3-3.



(Source: National LiDAR Programme)

Figure 3-3: Elevation (m) in relation to potential housing and employment sites

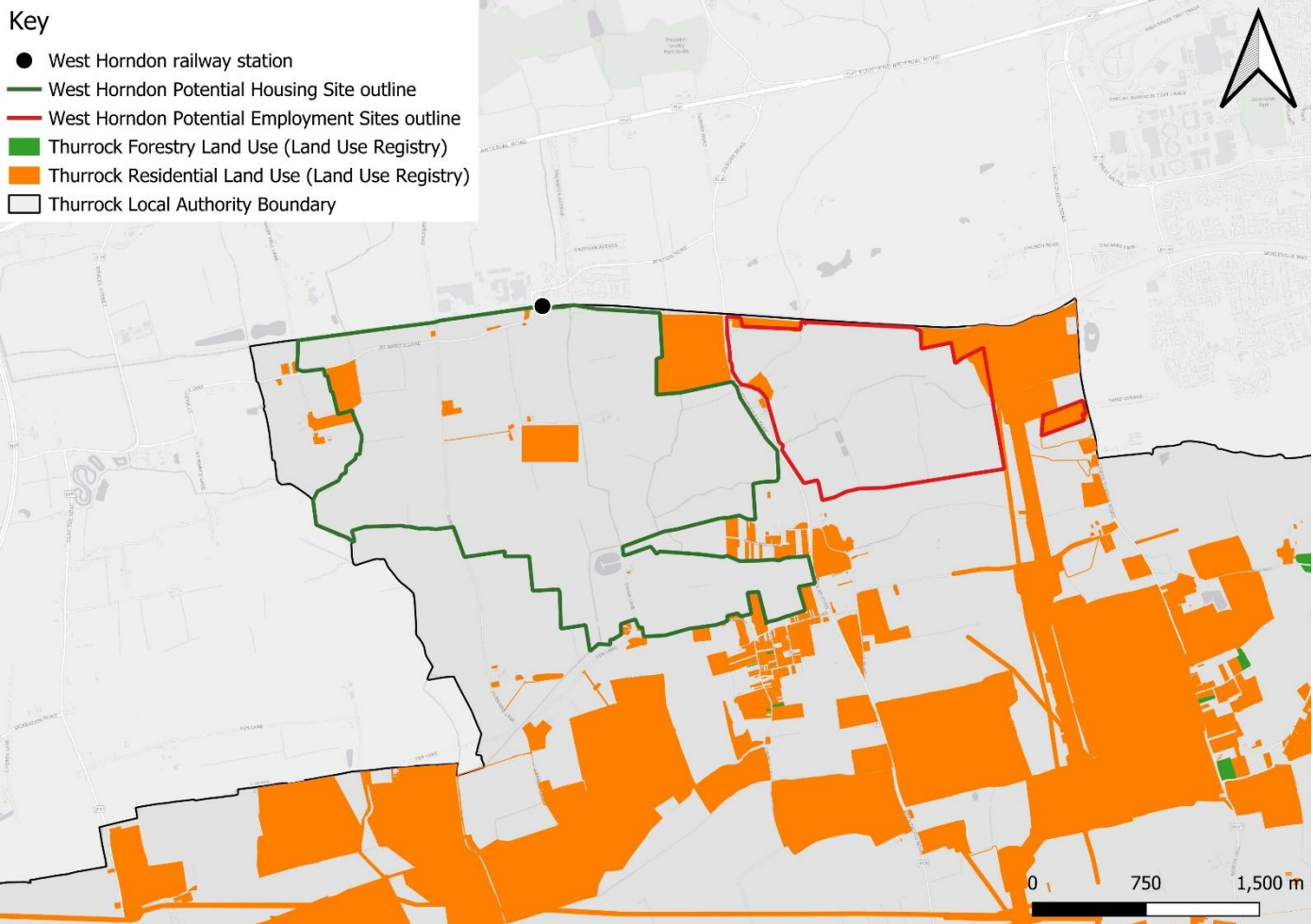
There is an electricity substation and related overhead lines and towers to the west of the housing site (but nothing overlapping its boundary), as shown in Figure 3-4.



(Source: National Grid)

Figure 3-4: Utilities constraints in relation to potential housing and employment sites

As identified from Land Use Registry data, there are some small residential areas within the housing and employment sites, as shown in Figure 3-5.



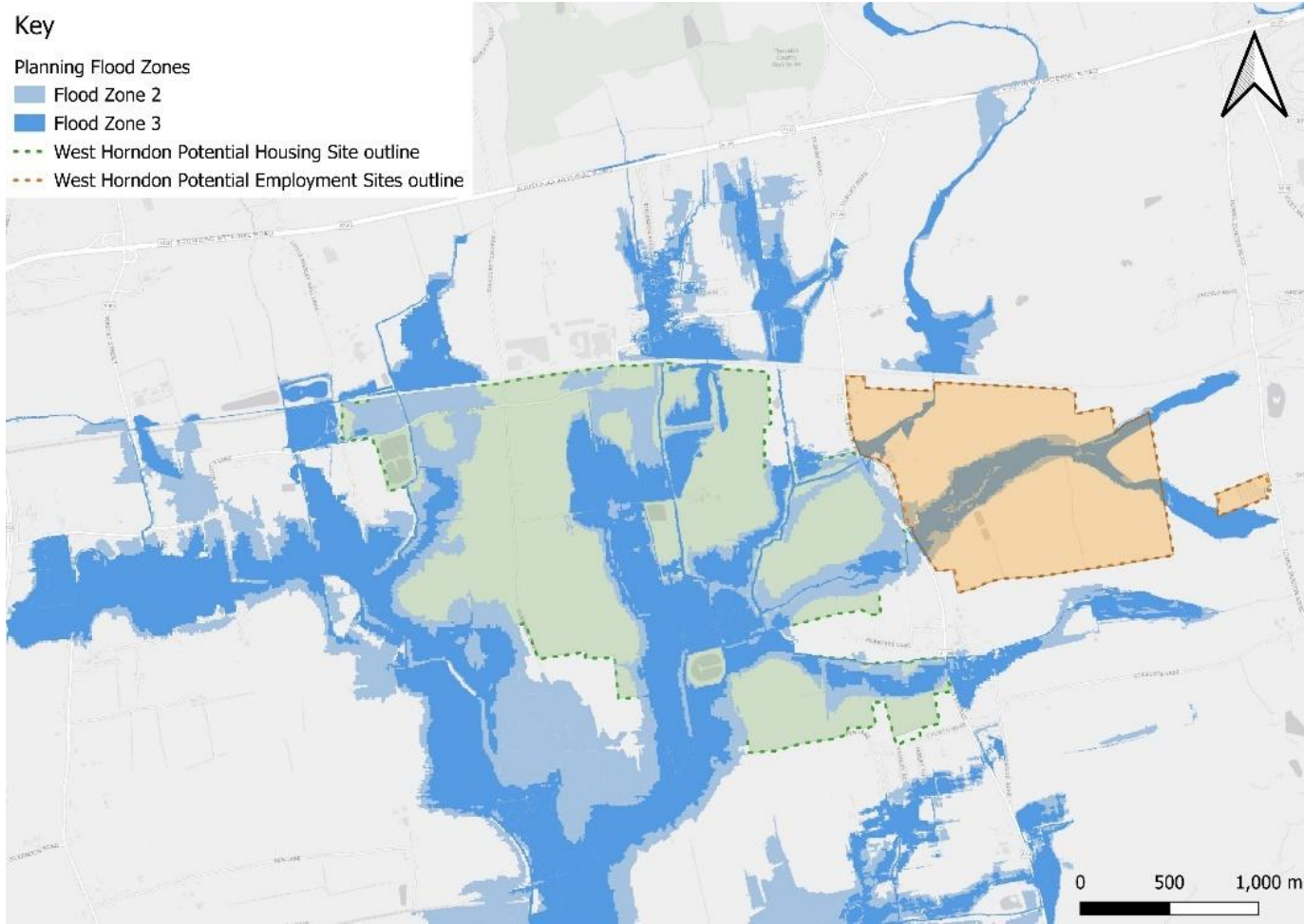
(Source: Land Use Registry)

Figure 3-5: Residential and forestry land use in relation to potential housing and employment sites

A significant proportion of the West Horndon housing site, and to a lesser extent the employment site, are in flood zone 2 or 3, as shown in Figure 3-6. This is because there are several streams running down from the hills north of West Horndon into the Mar Dyke, which drains the fens out to the Thames at Purfleet. This poses a flooding constraint that would need to be carefully mitigated and managed, which has been built into the spatial strategy later outlined in Section 55.

3.2 Flood risk

The latest National Flood Risk Assessment (NaFRA) data has been interrogated. Figure 3-6 shows the Flood Zone 2 and 3 extent in relation to the potential housing and employment sites.



(Source: NaFRA)

Figure 3-6: Flood zone 2 and 3 areas in relation to potential housing and employment sites

Most of the housing and employment sites are not under any specific land classifications, except for a small section of adopted landscape nature conservation (overlapping the aforementioned Priority Habitat area), as shown in Figure 3-7.

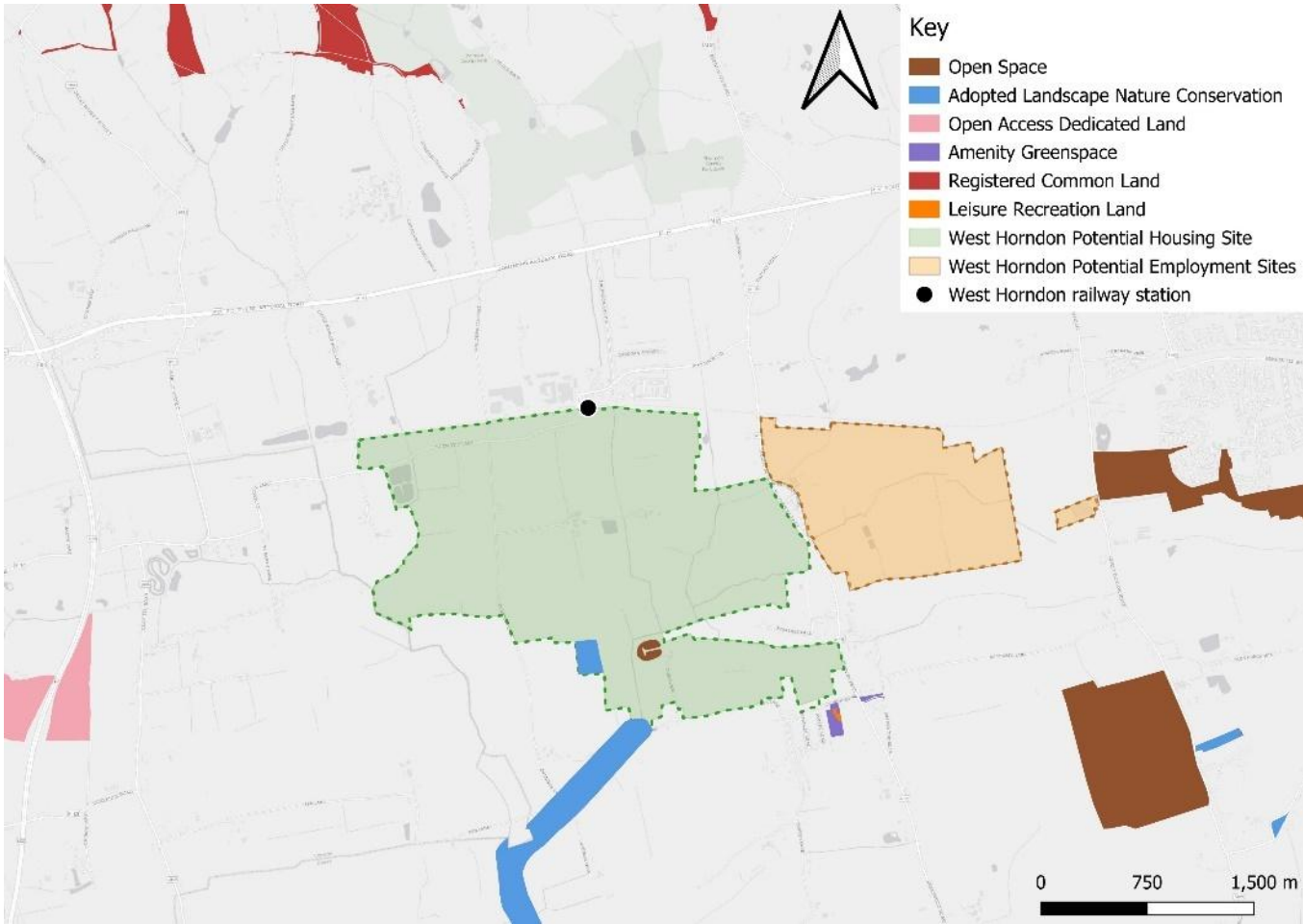


Figure 3-7: Land classifications around West Horndon

3.3 Green Belt stage 2 assessment

The extent of the Green Belt is shown in Figure 3-8, which covers the entirety of the housing and employment sites of West Horndon.



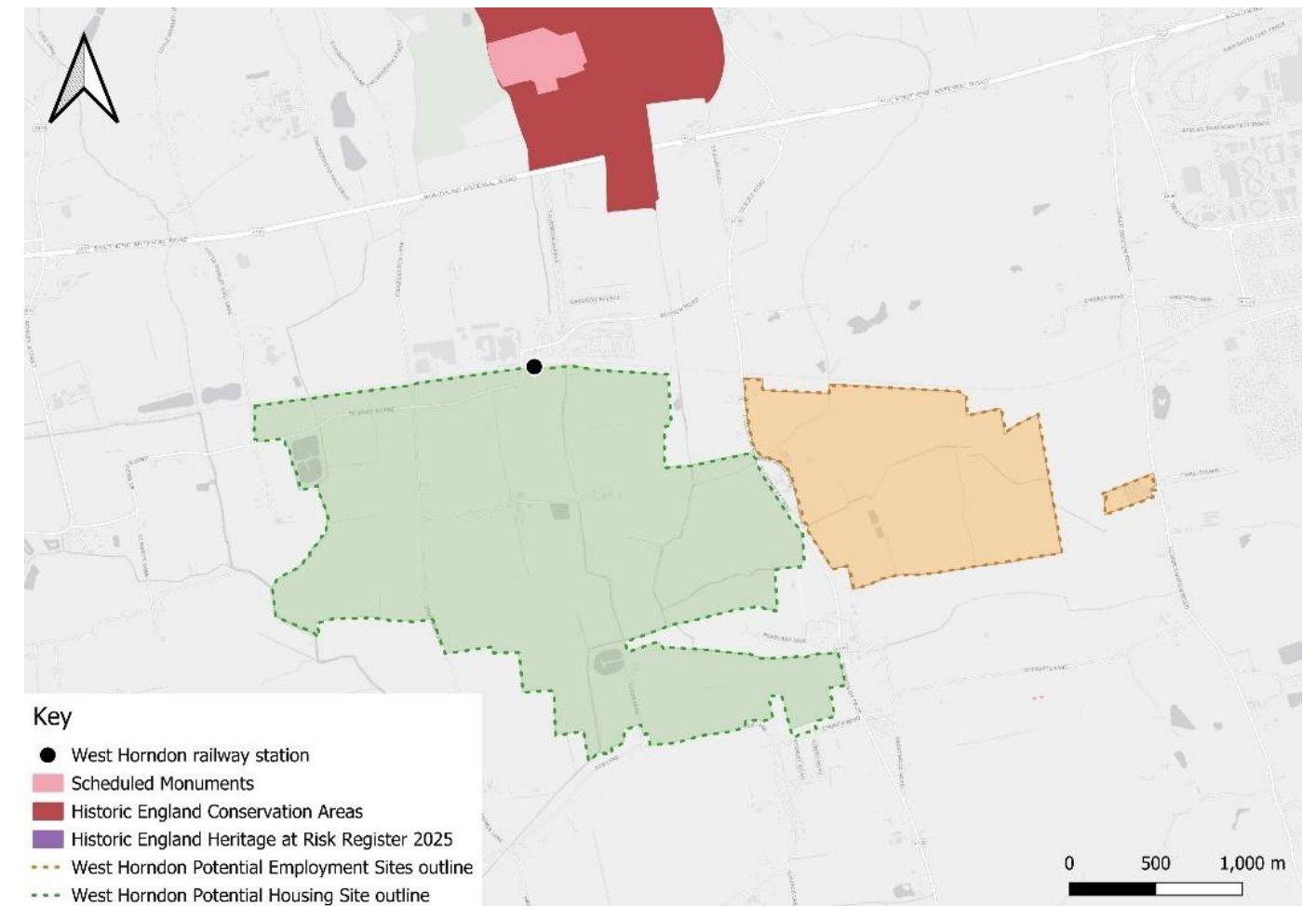
(Source: MHCLG)

Figure 3-8: Extent of Green Belt area in relation to potential housing and employment sites

There are no Historic England identified heritage areas in or immediately surrounding the housing or employment sites, as shown in Figure 3-9.

3.4 Heritage

Figure 3-9 shows the overlay of heritage constraints (including Conservation Areas, Heritage at Risk Register 2025 sites and Scheduled Monuments) on the potential housing and employment sites. As shown, there is small area of overlap across the employment site.



(Source: Historic England)

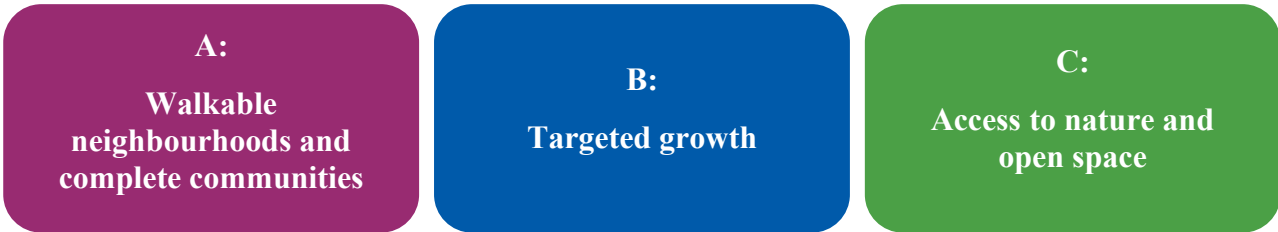
Figure 3-9: Heritage constraints in relation to potential housing and employment sites

4. Vision and objectives

4.1 The vision

Thurrock is committed to deliver sustainable community regeneration and growth through the creation of neighbourhoods in West Horndon that promote safe and inclusive active travel, provide housing choice and affordability, respect localities’ heritage and deliver zero carbon.

4.2 The objectives



A. Walkable neighbourhoods and complete communities

- Ensure neighbourhood centres provide a mix of uses, especially services for daily life: build off types and location of the commercial activity, facilities and amenities already present in West Horndon.
- Distribute uses and build at a density that capitalises on the location of West Horndon station, creating transport-oriented communities that encourage active travel. Enhance railway crossings to reduce severance across West Horndon.
- Design town expansions such that walking, cycling, wheeling and public transport are the most convenient, safe and attractive choices for getting around, with high quality transport links between all neighbourhoods, centres, amenities and surrounding villages.
- Provide homes that can cater to people at all stages of life and offer diverse tenure types.
- Provide a new bus route, improving connections to neighbouring communities, amenities and employment opportunities.

B. Targeted growth

- Provide a spatial framework that provides flexibility to allow for growth without sprawl.
- Capitalise on the Station locations as catalysts for balanced growth:
 - At West Horndon concentrate the greatest mix and density of development to the south of the station, along St Mary’s Lane and potentially introducing new north-south connections from the station and Station Road, shifting the centre of gravity as new development arrives.

C. Access to nature and open space

- West Horndon’s expansion will create and enhance a comprehensive network of green links, spaces and places easily accessible to the public.
- Ensure that every resident has access to usable green space of diverse characteristics within a 20-minute walking distance.
- Buildings, spaces and neighbourhoods will be designed and built to ensure low levels of climate and resource impact and embed high levels of climate resilience.
- The expansion of West Horndon will protect, enhance and create blue and green networks for nature and people, including the protection of ‘nature-only’ habitats and routes.

5. Combined contextual analysis

5.1 High level capacity testing

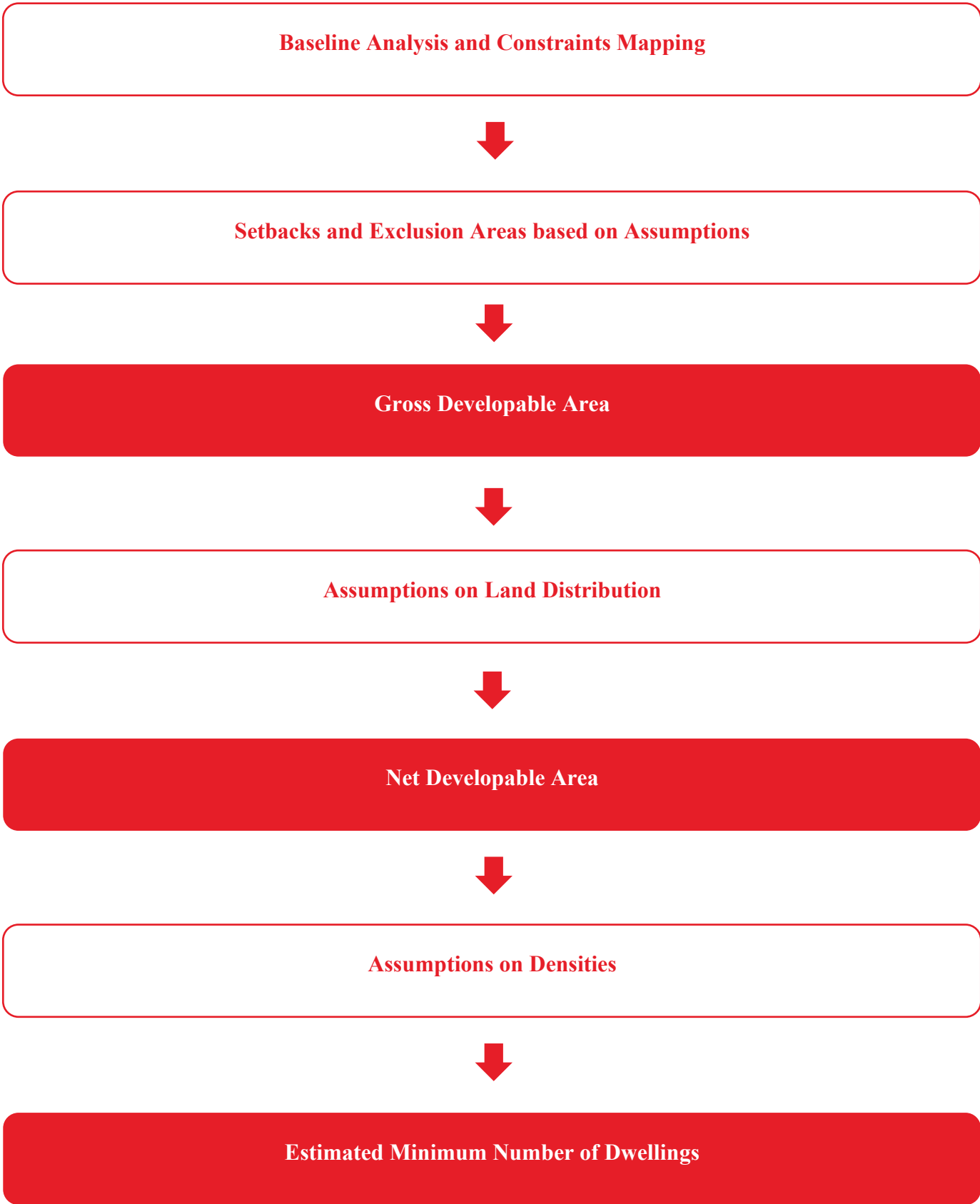
5.1.1 Methodology

To assess West Horndon’s capacity to accommodate **10,000 new homes**, the following methodology has been adopted, structured as three main tasks:

- 1. **Baseline Analysis and Constraints Mapping**
Development of constraint maps incorporating relevant planning information that may affect potential development opportunities.
- 2. **Assumptions**
Identification of key assumptions that underpin and influence building capacity across all residential sites.
- 3. **Capacity Study**
Assessment of development potential for the site, summarised in a table detailing gross and net developable areas, recommended densities, and the estimated minimum number of residential units per site, based on planning constraints.

This is a high-level study, with all Gross Developable Areas derived from Site Areas following the application of general assumptions, indicative setbacks, and broad planning considerations. **The resulting estimated number of residential units is indicative and provided for information purposes only.** The Council remains responsible for site-specific planning risks and considerations, which may significantly affect the outcomes presented in this study.

The steps of the assessment process are as per the diagram below:



5.2 Assumptions

5.2.1 Green Belt

West Horndon residential site is located within Thurrock’s Green Belt. It is assumed that this site, having been identified by the Borough, is considered developable. **In recognition of the Green Belt’s distinctive character, additional provision for Open Space and Biodiversity Areas has been incorporated into the assumptions** underpinning the capacity testing.

5.2.2 Flood Zones and Watercourses

Flood zones are one of the major constraints when assessing development potential. **For West Horndon’s capacity testing, two options have been assessed:**

- Option 1: Development will avoid Flood Zones 2 and 3.
- Option 2: Development will avoid Flood Zone 3.

This is because the extend of the flooding zones accounts for about half of the site, significantly reducing its potential developable area. Additionally, it was noted that St. Mary’s Development, located north of the site and currently undergoing a planning application, encroaches into Flood Zone 2. Development within Flood Zone 2 carries higher risks and therefore requires stricter mitigation measures.

Accordingly, these areas have been excluded from the Gross Developable Area, and appropriate setbacks have been applied.

According to Paragraph 23 of the updated Planning Practice Guidance (PPG), the aim of the sequential approach is to ‘direct new development to areas of lowest flood risk’, and it explicitly states that ‘existing flood defences are initially ignored when comparing sites, since their long-term performance (and climate change impacts) is uncertain’. The National Planning Policy Framework (NPPF) reinforces this by requiring that development proposals in Flood Zone 3 must demonstrate safety over their lifetime, including climate change allowances, and must not increase flood risk elsewhere. Furthermore, the PPG clarifies that if no reasonably available lower-risk sites exist, development in high-risk areas may only proceed if it can be made safe for its lifetime and without increasing flood risk to others—otherwise, ‘development is not appropriate and should not be considered’. These policies collectively underscore that development in Flood Zone 3, especially under future climate scenarios, poses unacceptable risks and should be avoided unless stringent safety and sustainability criteria are met.

While land currently defined as Flood Zone 2, could provide some development opportunities the requirement to provide mitigation over the lifetime of the development, will limit productive use as mitigation measures would be required to account for the next 100 years of climate change.

Setbacks have also been applied to existing watercourses.

5.2.3 Priority Habitats Inventory, Forestry, and Ancient Woodlands

These areas have also been excluded from the Gross Developable Area in the capacity testing. As will be illustrated later, they have been integrated into potential green infrastructure and corridors within the high-level Concept Plan, which demonstrates how these sites could be brought forward for development.

5.2.4 Setbacks Summary

Table 5-1 summarises the key setbacks applied to each site, which form the basis for calculating the Gross Developable Land Area. Other setbacks, such as offsets to neighbouring properties, roads, and railway corridors, have not been deducted from the Gross Developable Land Area. Instead, they are considered as part of green buffers and hedgerows within the biodiversity and ecological areas allocated in the land use distribution for capacity testing.

Table 5-1: Setbacks

Category	Setback	Source
Woodlands and Protected Habitats	15 m	Natural England (National Guidance)
Main Rivers	8 m	Environment Agency standard
Other watercourses	5 m	Good practice, recommendation for ecological buffer
Flood Zone 2	10 m	Good practice, recommendation for ecological buffer
Flood Zone 3	15 m	Good practice, recommendation for ecological buffer

5.2.5 Employment Densities

For the identified employment sites, high-level assumptions regarding a range of employment densities (jobs per gross hectare) have been applied, based on each site’s location and accessibility. These assumptions primarily serve to test and assess transport capacity and are reflected in the Concept Plan. Specific land uses have not been defined at this stage, as this would require a comprehensive business case and an employment and market study for the wider area to determine potential opportunities.

However, the Council’s Core Strategy policy (CSTP6, paragraphs 5.45 and 5.46) identifies logistics and distribution as the predominant employment sector in the area, alongside strategic provision for culture and leisure. Accordingly, the Concept Plan includes a high-level potential allocation for cultural and leisure facilities.

5.2.6 Residential Densities

In line with planning guidelines, density assumptions for West Horndon site have been established, and reviewed after sharing initial work with the client. These assumptions underpin the high-level dwelling capacity estimates.

A minimum density of 30 dwellings per hectare and a maximum of 100 dwellings per hectare was assumed, as recommended by Thurrock officers (although guidelines indicate a maximum of 75):

*CSTPI, 5.15: The South Essex Strategic Housing Market Assessment (2008) (SHMA) provided a residential density assessment of the sub-region and concluded that a density of at least **60 dwellings per hectare** would be appropriate in urban locations with high public transport accessibility and good access to services. The Council welcomes this approach and considers it entirely appropriate in Thurrock. In respect to **suburban locations, a density range of 30 to 40 dwellings per hectare** was suggested. It is considered that in the **urban context of Thurrock a density range of 30 to 75 dwellings per hectare** would be more appropriate in such locations. The Council will produce a Design and Sustainability SPD that will set out the design principles that will guide density levels in the Borough and provide a character assessment of each area to provide area specific density guidance.*

Although the Council specifies the density ranges noted above, the policy wording does not clarify whether these figures apply to gross or net site area. For this study, in line with established practice standards, these densities have been applied **to the net developable area**. Most local authorities and guidance, such as PPS3 and RICS standards, calculate housing density on a net developable basis, as this more accurately reflects the actual intensity of housing on land designated for residential use.

The following density categories have been applied (see Figure 5-1):

- **Higher Density (100–70 dwellings per hectare):** Transport-Oriented Developments, including residential areas within a 10-minute walking radius of the station, sites near the town centre and close to mobility hubs.
- **Medium Density (70–45 dwellings per hectare):** Developments that extend the existing town settlement, maintaining a neighbourhood character.
- **Lower Density (45–30 dwellings per hectare):** Developments along the edge of the Green Belt within the proposed site boundaries with a more rural character.

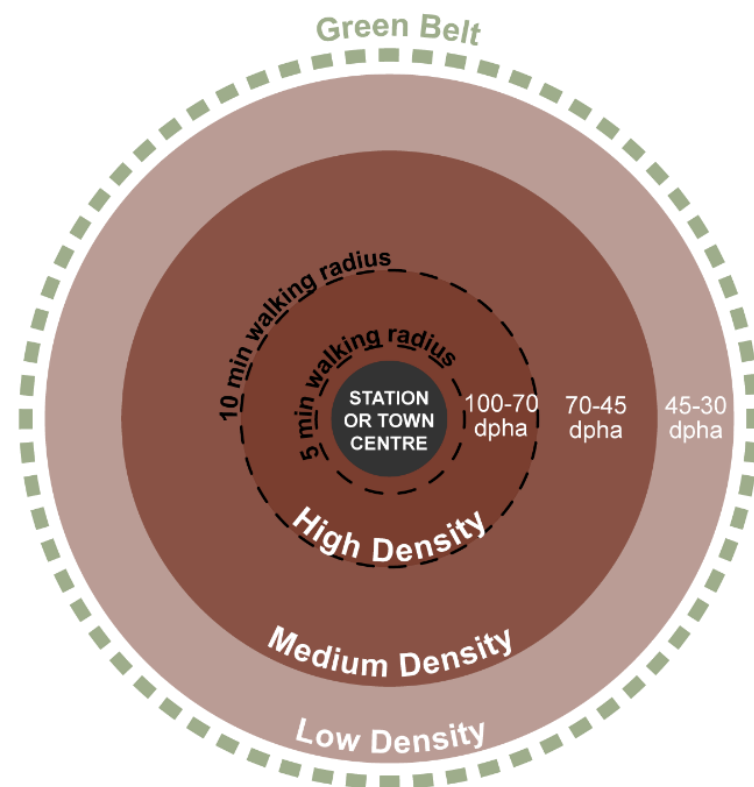


Figure 5-1: Residential Densities Diagram

5.3 Housing Typologies

Building on the assumed density ranges, a series of case studies have been included. These illustrate the variety of housing typologies that new developments could accommodate, ensuring alignment with the town's character and principles of sustainable growth.

The primary approach to density in the new developable areas is to create more compact and cohesive urban environments compared to the existing fabric, encouraging mixed-use spaces and adhering to the principles of the 15-minute neighbourhoods.

Higher Density (100-70 dwellings per hectare)



Figure 5-2: Bruyn's Court (South Ockendon)



Figure 5-3: The Echoes (Essex)

Medium Density (70-45 dwellings per hectare)



Figure 5-4: Kemp's Farm (South Ockendon)



Figure 5-5: New Lodge (York)

Lower Density (45-30 dwellings per hectare)



Figure 5-6: Lovedon Fields (Hampshire)



Figure 5-7: The Avenue (Saffron Walden)

5.4 Land Area Distribution and Net Developable Area

Taking into account the planning constraints and assumptions outlined above, and following the application of site-specific setbacks, a series of land use percentages and parameters have been established, which determine the Net Developable Area from the Gross Developable Land Area. These assumptions provide a structured basis for assessing development capacity and inform the spatial strategy for each site.

For West Horndon’s high level capacity testing, the **Net Developable Area is assumed to be 68% of the total Gross Developable Land Area**. The range of densities have been applied to the Net Developable Area to obtain a minimum estimated number of dwellings.

In this case, unlike the assumptions made for South Ockendon, biodiversity and SuDS areas have been excluded from the mix and the allocation for open space has been minimised. This approach avoids double counting and allows for a more accurate capacity assessment, as flooding zones, which account for about half of the available land, are expected to serve as open space, biodiversity corridors, and recreational areas within any potential development.

For simplicity of the study, the same percentages have been applied to the extent of the site, regardless of location. In a more detailed study, these land area allocations would need to be adjusted to reflect site-specific characteristics and density variations depending on typologies, ranging from more urban to more suburban contexts.

Table 5-2: Land Area distribution for capacity testing

Category	Percentage	Notes
Net Developable Area (Residential Plots)	68%	Private gardens and building footprints
Roads and Access	20%	Carriageways, footpaths, cycleways, shared access tracks
Public Open Space	3%	Shared amenity areas, play areas, informal green spaces
Biodiversity and Ecological Areas	0%	Habitat corridors, green buffers, hedgerows, woodland edges, ponds
SuDS and Drainage	0%	Swales, attenuation basins, permeable surfaces
Community Facilities	7%	Community facilities, health centres, allotments, cycle storage, recycling facilities, shared workspace, electric vehicle charging, etc.
Other Infrastructure	2%	Pumping stations, substations, easements, etc.

5.4.1 Ongoing Planning Applications

An existing scheme currently undergoing a planning application to the north of the site has been identified. For the assessment, for both scenarios considering and excluding Flood Zone 2, two sub-options have been tested:

- Option A: Incorporating St. Mary’s Development and including its proposed total number of dwellings.
- Option B: Excluding St. Mary’s Development and omitting its proposed total number of dwellings.

5.4.2 West Horndon Capacity Testing (Avoiding Flood Zones 2 and 3)

As outlined earlier, the following options set out in Table 5-3 have been evaluated:

Table 5-3: West Horndon options assessed

Option	Flood Zone 2	Flood Zone 3	St.Marys
Option 1A	Excluded	Excluded	Included
Option 1B	Excluded	Excluded	Excluded
Option 2A	Included	Excluded	Included
Option 2B	Included	Excluded	Excluded
Option 2C	Included	Excluded	Excluded

The objective of this study is to provide a high-level estimate demonstrating that the Council’s strategic provision of 10,000 dwellings can be accommodated across the site in West Horndon.

The following key information has been compiled and summarised in a table to help determine its development potential for each option:

- Site Area (ha): The total area of the site, as defined by the Council’s proposed site boundaries.
- Gross Developable Land Area (ha): The area remaining after excluding Flood Zones, protected habitats, and woodlands.
- Land Utilisation (%): The proportion of land that can potentially be developed, calculated as Gross Developable Land Area divided by Site Area.
- Net Developable Land Area (ha): The portion of land available for residential development, including private gardens and building footprints. This excludes open spaces, infrastructure, community facilities, and biodiversity areas.
- Estimated Number of Residential Units: Based on density distribution assumptions within the range of 30 to 100 dwellings per hectare. This figure must demonstrate capacity exceeding the 10,000-dwelling target.



Figure 5-8: Density Distribution Option 1 (Avoiding Flood Zones 2 and 3 for the potential Developable Area)

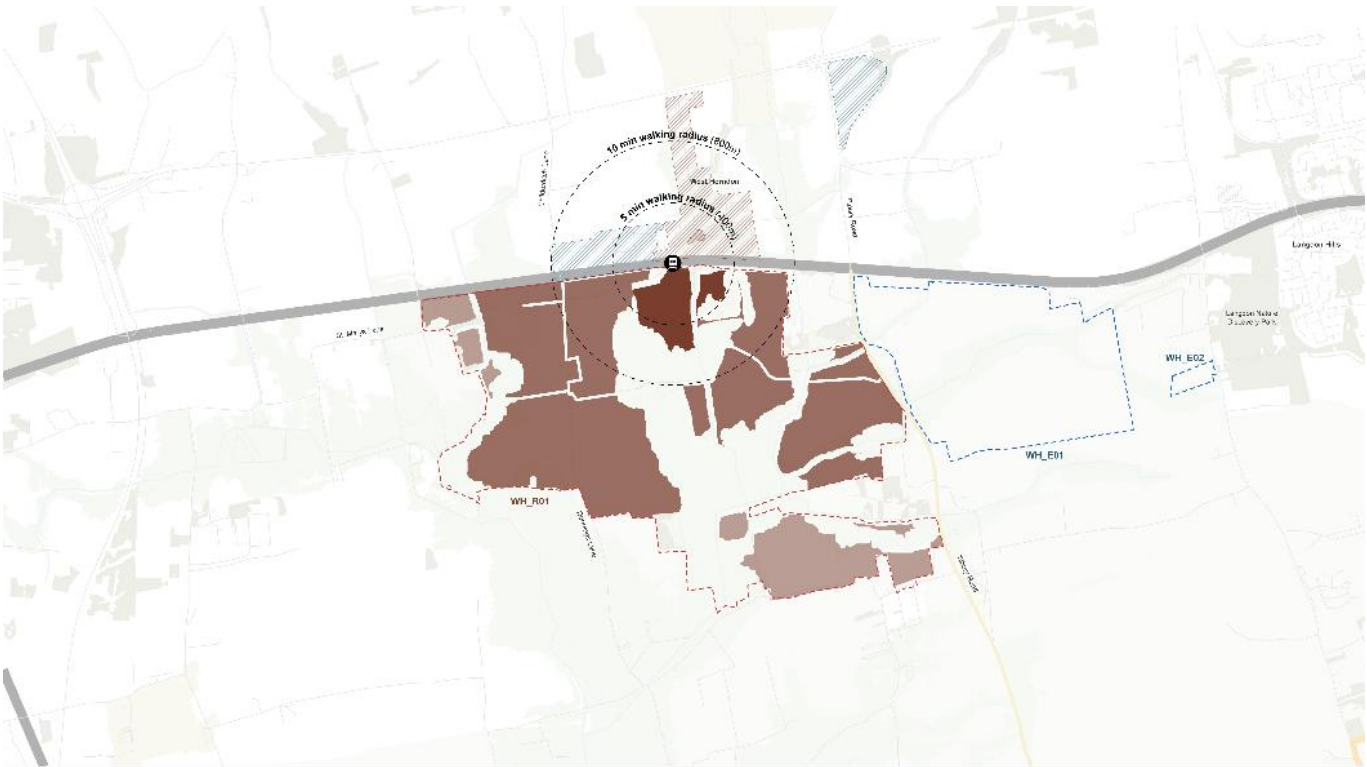


Figure 5-9: Density Distribution Option 2 (Avoiding Flood Zone 3 only, and including Flood Zone 2 for the potential Developable Area)

Option 1A

Figure 5-10 shows the potential Gross Developable Area with constraints removed, while Table 5-4 summarises the high-level capacity study for **West Horndon Option 1A**. Refer to Figure 5-8 for proposed density distribution map.

Table 5-4: Option 1A

Option	Flood Zone 2	Flood Zone 3	St. Marys Development
Option 1A	Excluded	Excluded	Included



Figure 5-10: Gross Developable Area Option 1A

Table 5-5: West Horndon Option 1A Capacity Study Summary

Site	Site Area (ha)	Gross Developable Land Area (ha)	Land Utilisation (Gross Developable Area / Site Area) (%)	Net Developable Land Area (ha)	Proposed Density (dwellings / ha of net area)	Estimated Number of Units (target density)
St. Marys Site	106.38 ha					2,100
WH-R01	358.18 ha	158.84 ha	44%	108.01 ha	60	6,481
Total	464.56 ha					8,581

The estimated number of dwellings is below the Council target of 10,000 units. It has been concluded that, based on the outlined assumptions, Option 1A for West Horndon (excluding Flood Zones 2 and 3 from the developable area, and considering St. Marys Site’s number of units) cannot accommodate 10,000 new dwellings within the totality of the residential site allocated by the Council.

Option 1B

Figure 5-11 shows the potential Gross Developable Area with constraints removed, while Table 5-6 summarises the high-level capacity study for **West Horndon Option 1B**. Refer to Figure 5-8 for proposed density distribution map.

Table 5-6: Option 1B

Option	Flood Zone 2	Flood Zone 3	St. Marys Development
Option 1B	Excluded	Excluded	Excluded



Figure 5-11: Gross Developable Area Option 1B

Table 5-7: West Horndon Option 1B Capacity Study Summary

Site	Site Area (ha)	Gross Developable Land Area (ha)	Land Utilisation (Gross Developable Area / Site Area) (%)	Net Developable Land Area (ha)	Proposed Density (dwellings / ha of net area)	Estimated Number of Units (target density)
WH-R01-High Density		6.64 ha		4.52 ha	100	452
WH-R01-Medium Density		161.66 ha		109.93 ha	60	6,596
WH-R01-Low Density		38.20 ha		25.97 ha	30	779
Total	464.56 ha	206.50 ha	44%	140.42 ha	63	8,893

The estimated number of dwellings is below the Council target of 10,000 units. It is concluded that, based on the outlined assumptions, Option 1B for West Horndon (excluding Flood Zones 2 and 3 from the developable area, and also not considering St. Marys Site’s number of units) cannot accommodate 10,000 new dwellings within the totality of the residential site allocated by the Council.

Option 2A

Figure 5-12 shows the potential Gross Developable Area after constraints removed, while Table 5-8 summarises the high-level capacity study for **West Horndon Option 2A**. Refer to Figure 5-9 for proposed density distribution map.

Table 5-8: Option 2A

Option	Flood Zone 2	Flood Zone 3	St. Marys Development
Option 2A	Included	Excluded	Included

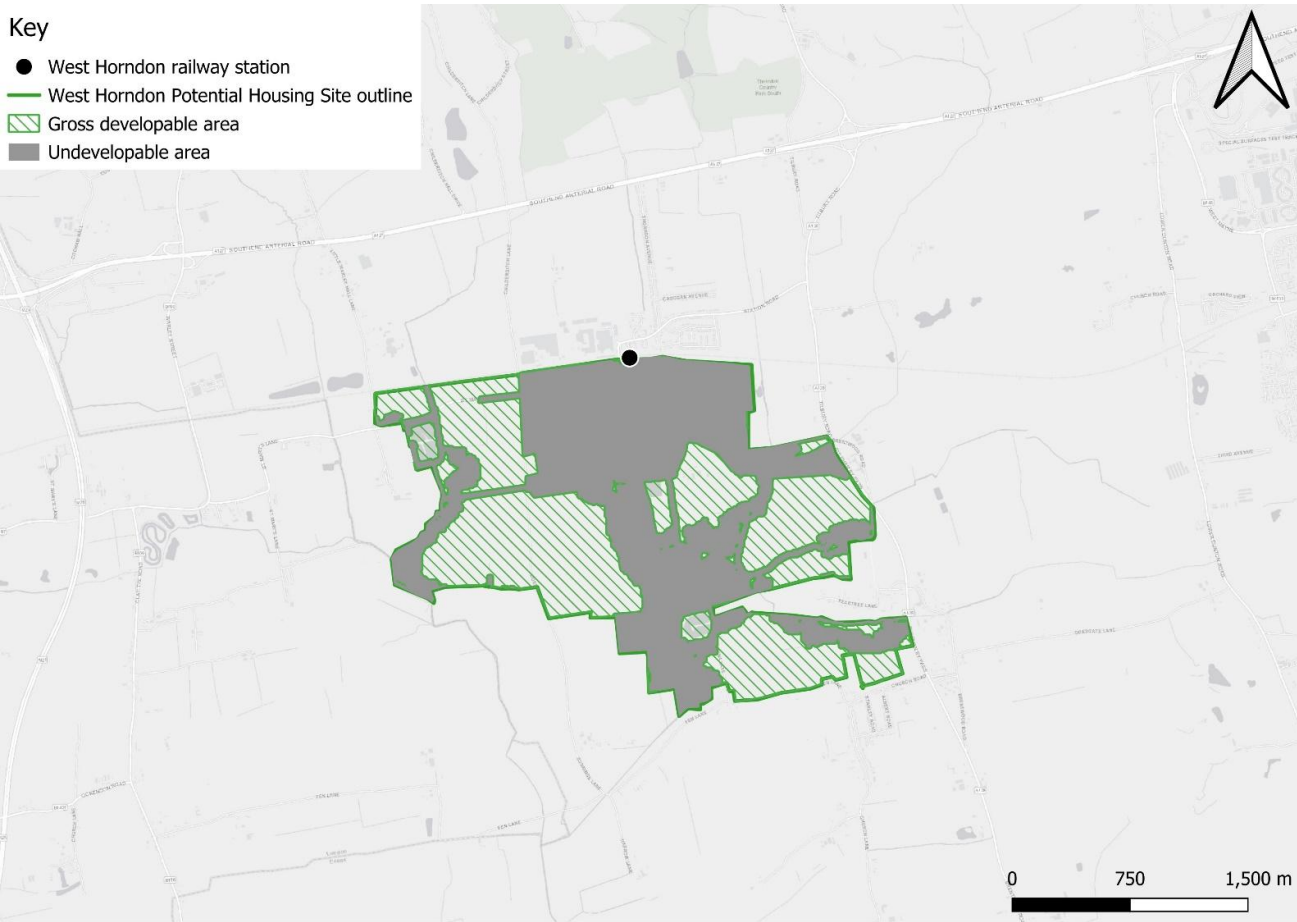


Figure 5-12: Gross Developable Area Option 2A

Table 5-9: West Horndon Option 2A Capacity Study Summary

Site	Site Area (ha)	Gross Developable Land Area (ha)	Land Utilisation (Gross Developable Area / Site Area) (%)	Net Developable Land Area (ha)	Proposed Density (dwellings / ha of net area)	Estimated Number of Units (target density)
St. Marys Site	106.38 ha					2,100
WH-R01	358.18 ha	213.94 ha	60%	145.48 ha	60	8,729
Total	464.56 ha					10,829

The estimated number of dwellings is above the Council target of 10,000 units. It is concluded that, based on the outlined assumptions, Option 2A for West Horndon (excluding Flood Zone 3 from the developable area, and

considering St. Marys Site’s number of units) could accommodate 10,000 new dwellings within the totality of the residential site allocated by the Council.

Option 2B

Figure 5-13 shows the potential Gross Developable Area after constraints removed, while Table 5-10 summarises the high-level capacity study for **West Horndon Option 2B**. Refer to Figure 5-9 for proposed density distribution map.

Table 5-10: Option 2B

Option	Flood Zone 2	Flood Zone 3	St. Marys Development
Option 2B	Included	Excluded	Excluded



Figure 5-13: Gross Developable Area Option 2B

Table 5-11: West Horndon Option 2A Capacity Study Summary

Site Number	Site Area (ha)	Gross Developable Land Area (ha)	Land Utilisation (Gross Developable Area / Site Area) (%)	Net Developable Land Area (ha)	Proposed Density (dwellings / ha of net area)	Estimated Number of Units (target density)
WH-R01-High Density		17.314 ha		11.77 ha	100	1,177
WH-R01-Medium Density		210.86 ha		143.39 ha	60	8,603
WH-R01-Low Density		49.74 ha		33.82 ha	30	1,015

Site Number	Site Area (ha)	Gross Developable Land Area (ha)	Land Utilisation (Gross Developable Area / Site Area) (%)	Net Developable Land Area (ha)	Proposed Density (dwellings / ha of net area)	Estimated Number of Units (target density)
Total	464.56 ha	277.91 ha	60%	188.98 ha	63	11,969

The estimated number of dwellings is above the Council target of 10,000 units. It is concluded that, based on the outlined assumptions, Option 2B for West Horndon (excluding Flood Zone 3 from the developable area, and not considering St. Marys Site’s number of units) could accommodate 10,000 new dwellings within the totality of the residential site allocated by the Council.

Option 2C

A third option has been tested, as requested by the client, where one of the zones located south of the site is excluded from the Gross Developable Area due to limited access but keeping the same density distribution (see Figure 5-9). The table below summarises the high-level capacity study for **West Horndon Option 2C**.

Table 5-12: Option 2C

Option	Flood Zone 2	Flood Zone 3	St. Marys Development
Option 2C	Included	Excluded	Excluded

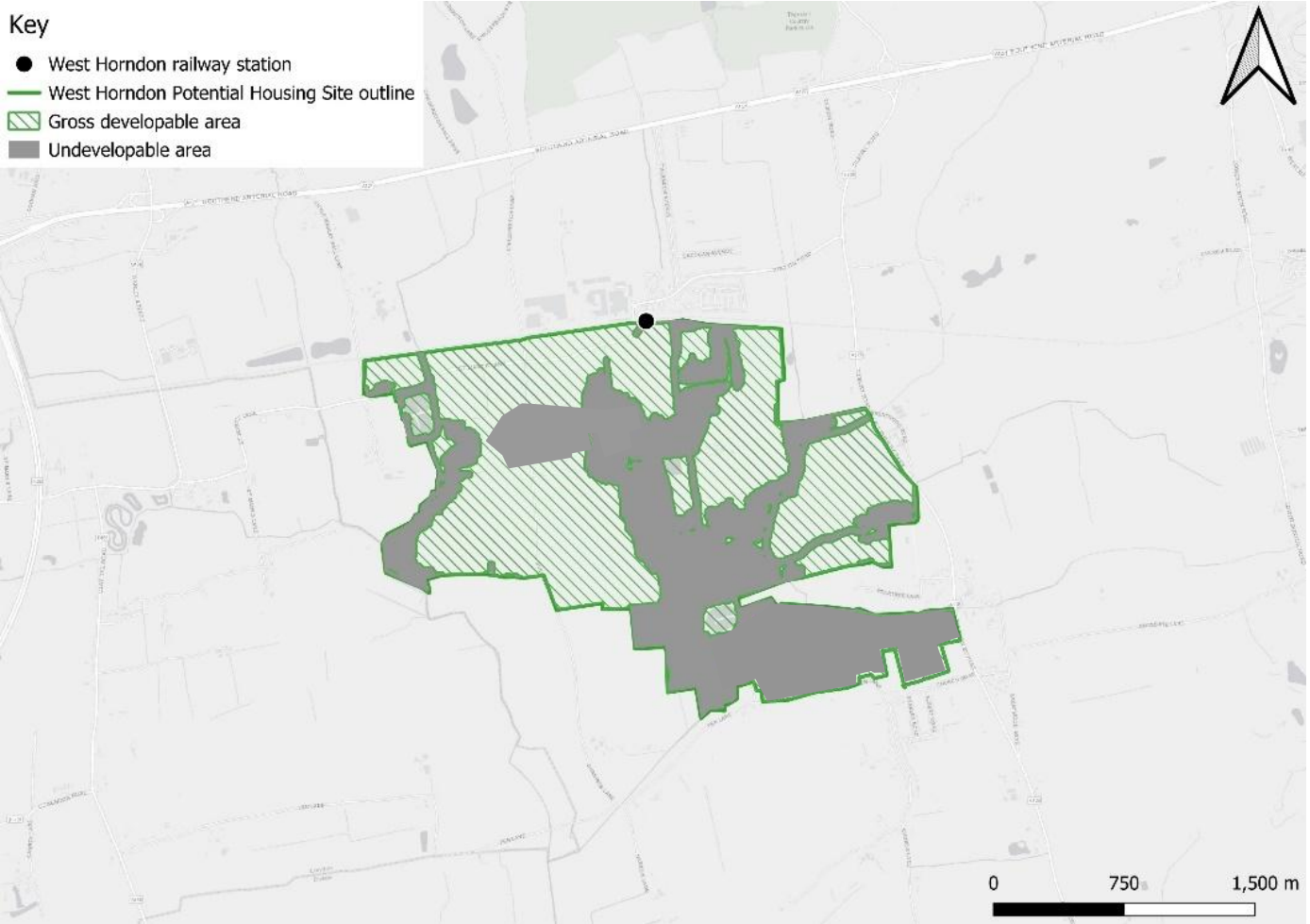


Figure 5-14: Gross Developable Area Option 2C

Table 5-13: West Horndon Option 1A Capacity Study Summary

Site Number	Site Area (ha)	Gross Developable Land Area (ha)	Land Utilisation (Gross Developable Area / Site Area) (%)	Net Developable Land Area (ha)	Proposed Density (dwellings / ha of net area)	Estimated Number of Units (target density)
WH-R01-High Density		17.31 ha		11.77 ha	100	1,177
WH-R01-Medium Density		210.86 ha		143.39 ha	60	8,603
WH-R01-Low Density		20.79 ha		14.14 ha	30	424
Total	464.56 ha	248.96 ha	54%	169.29 ha	63	10,722

The estimated number of dwellings is above the Council target of 10,000 units. It is concluded that, based on the outlined assumptions, Option 2C for West Horndon (excluding Flood Zone 3 from the developable area, not considering St. Marys Site’s number of units, and excluding the southern area of the site with limited access) could accommodate 10,000 new dwellings within the totality of the residential site allocated by the Council.

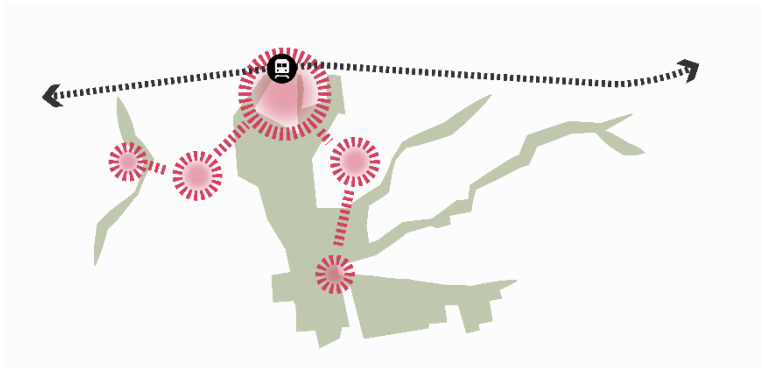
5.5 Design Principles

A set of design principles has been developed to guide West Horndon’s transport assessment for the potential development area and town expansion. These principles outline specific strategies that build on the previously established core objectives and align with the Design Principle categories set out in the Thurrock Design Charter Draft.

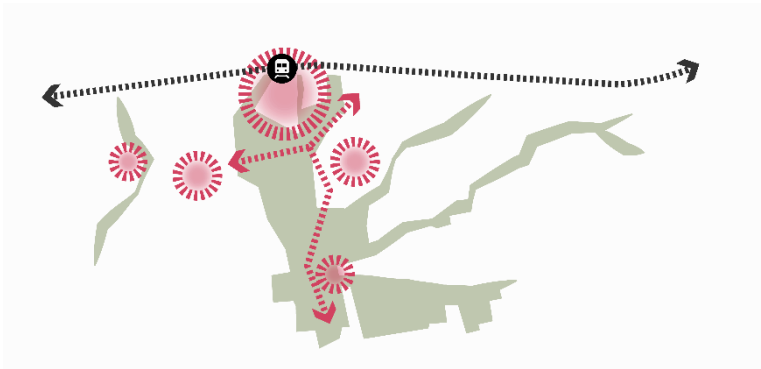
- 1 Pride in Thurrock
- 2 Healthy Places for All
- 3 Connecting to Opportunity
- 4 Resilient and Sustainable Futures

Pride In Thurrock

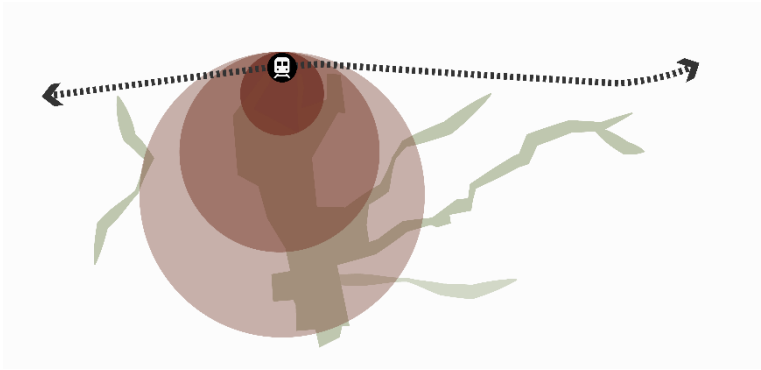
- 1. Structure a network of new town and local centres around a linear park tracing the flood zone, each with a distinct identity and character and shaping the new development.



- 2. Integrate cultural and leisure facilities within the centres and along the linear park to foster vibrant community life and generate employment opportunities.



- 3. Concentrate higher densities near the station, transitioning to lower densities toward the edges to provide housing choice and respect the rural context.

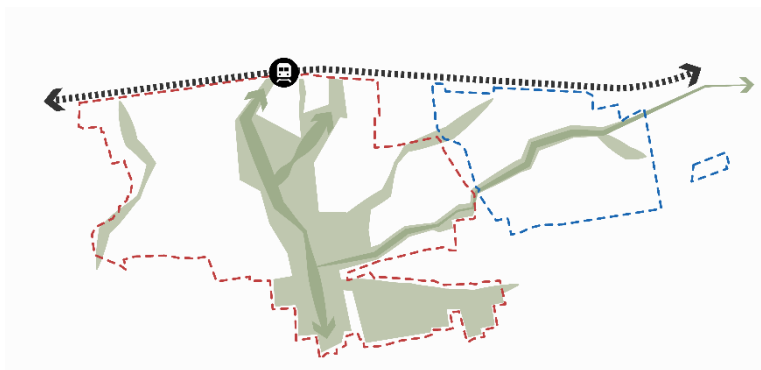


Healthy Places for All

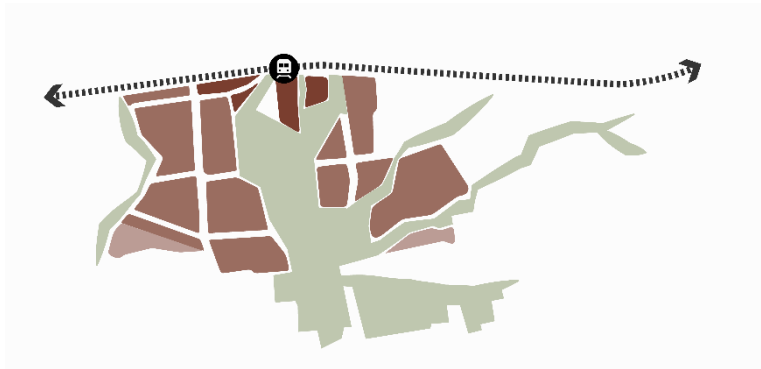
- 1. **Extend and enhance the road network**, optimizing existing routes to ensure employment areas are well connected to major roads for efficient logistics, while residential neighbourhoods and community facilities benefit from a well-structured, accessible network.



- 2. **Create biodiversity corridors and linear park** along watercourses and flood-prone areas, linking employment and residential zones with open spaces and an east–west active travel network. Strengthen north–south connectivity by integrating the station with the entire development site.

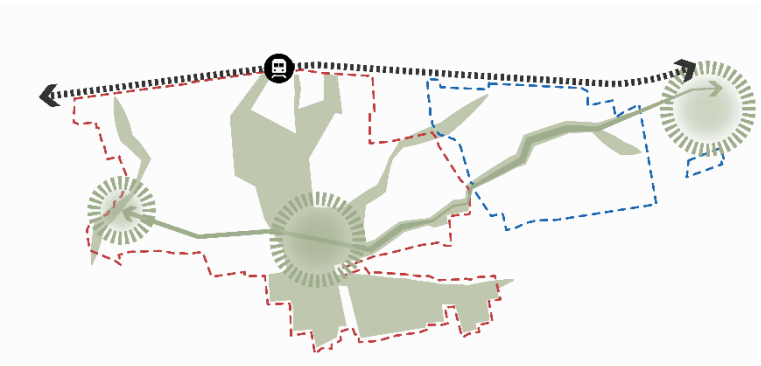


- 3. **Deliver mixed-tenure homes and diverse housing typologies** that are affordable and reflect the character of their location within the town and respond to existing and projected demographics.

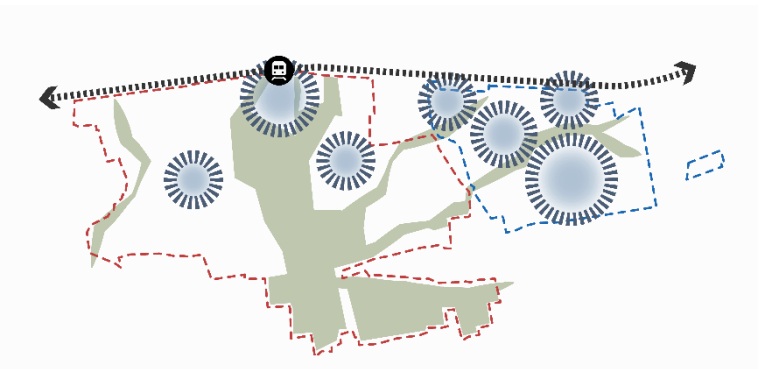


Connecting to Opportunity

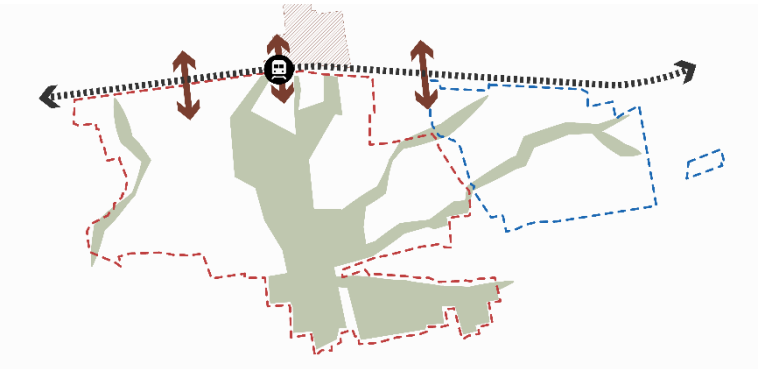
- 1. **Strengthen East–West connectivity** by creating a route parallel to the railway that links Langdon Hills Nature Discovery Park with the residential and employment areas. Integrate a biodiversity corridor to foster walkable communities supported by a continuous green and active travel network.



- 2. **Attract complementary and innovative employment sectors** that align with the town’s character, generate opportunities, and coexist harmoniously with residential development.

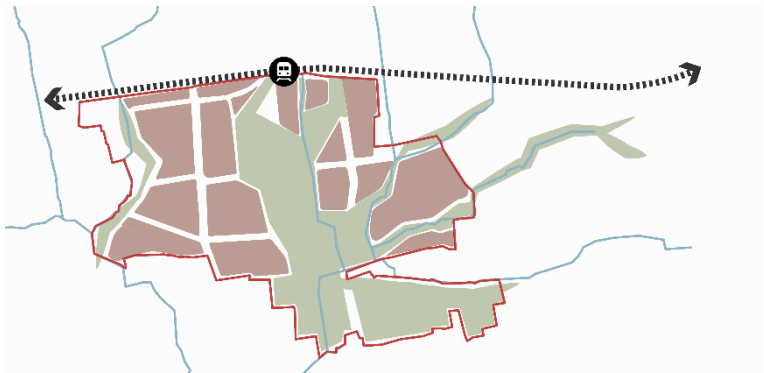


- 3. **Overcome rail severance** by upgrading key junctions to ensure strong north–south connectivity across the railway corridor, with particular focus on improving the St Mary’s Lane crossing near the station.

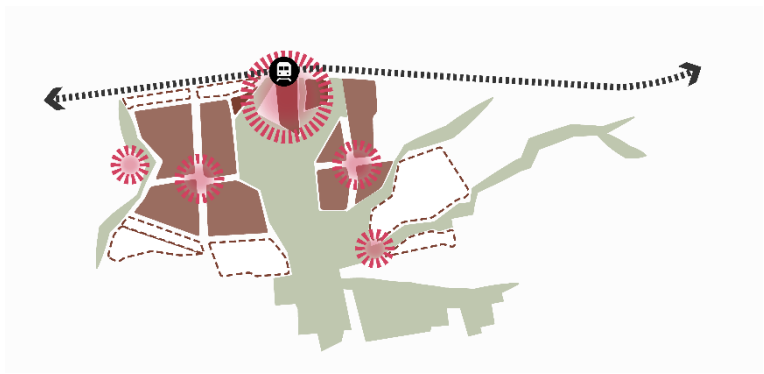


Resilient and Sustainable Futures

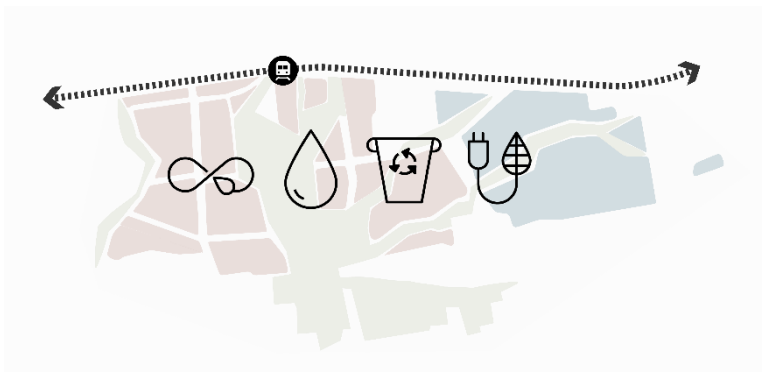
- 1. **Avoid development within flood zones**, incorporating these areas into the green-blue biodiversity corridors to enhance ecological resilience.



- 2. **Phase development strategically** to support sustainable growth, ensuring key community facilities are delivered early and distributed effectively.



- 3. **Adopt a holistic systems approach to managing waste, energy, and water** by integrating self-sufficient and resilient solutions such as biomass, sustainable drainage systems (SuDS), rainwater harvesting, photovoltaic panels, and similar technologies.



5.6 Concept plan

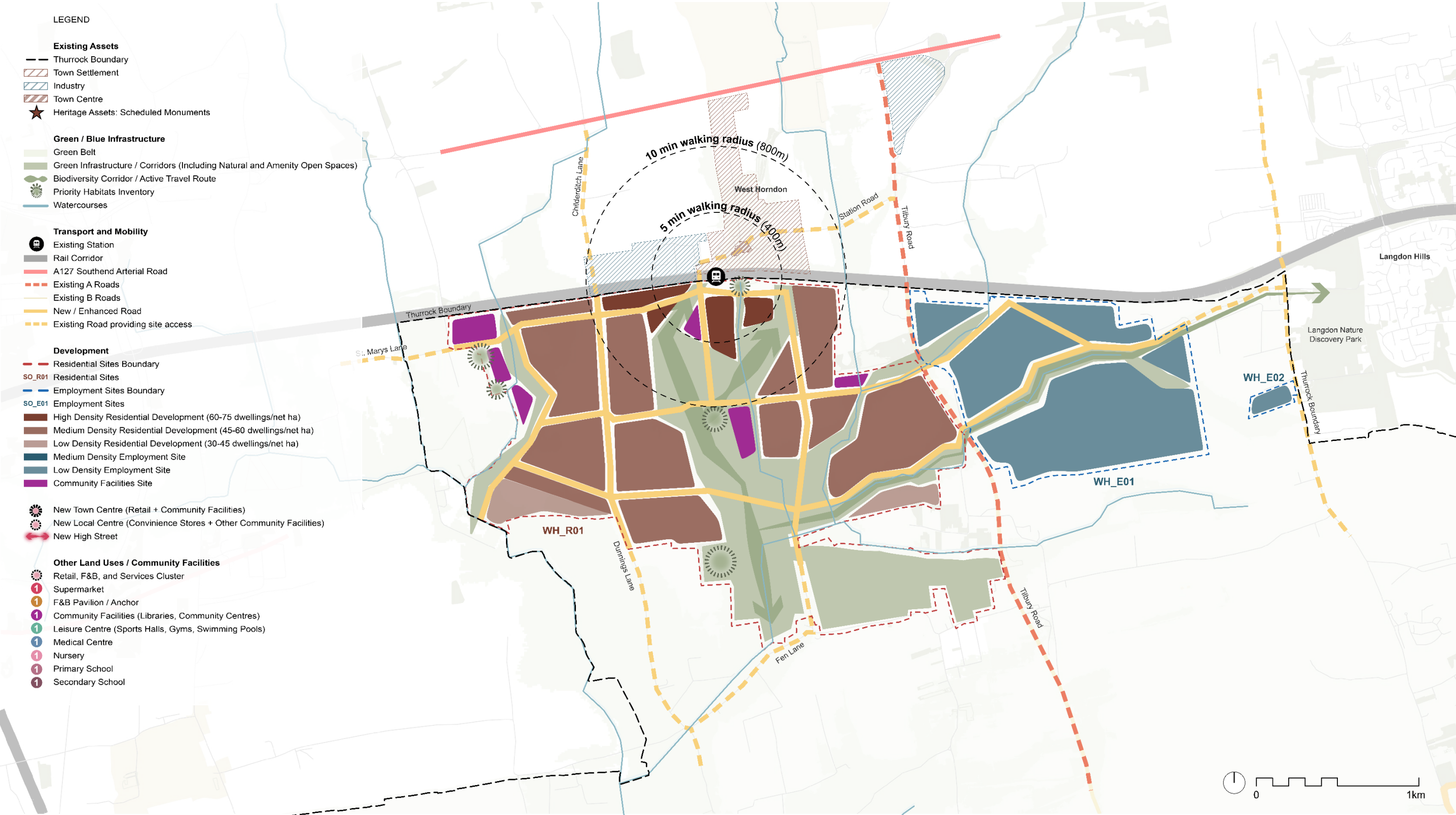


Figure 5-15: High-Level Spatial Plan

This Concept Plan illustrates a high-level framework developed solely to inform the transport assessment regarding the expanded capacity for 10,000 new dwellings in West Horndon. It is not intended for planning purposes (see Figure 5-15). While the St. Marys development is not shown on this plan, the key structural principles have been designed to allow its integration.

5.7 Land uses and community facilities



Figure 5-16: Potential community facilities

A high-level assessment of the potential community facilities and land uses required to support the delivery of 10,000 new homes has been assessed and mapped (See Figure 5-16). Community facilities have been strategically positioned at key activity nodes and adjacent to green infrastructure to ensure strong accessibility. Their high-level placement has also informed development of the potential Access and Movement Strategy.

5.8 Access and movement strategy

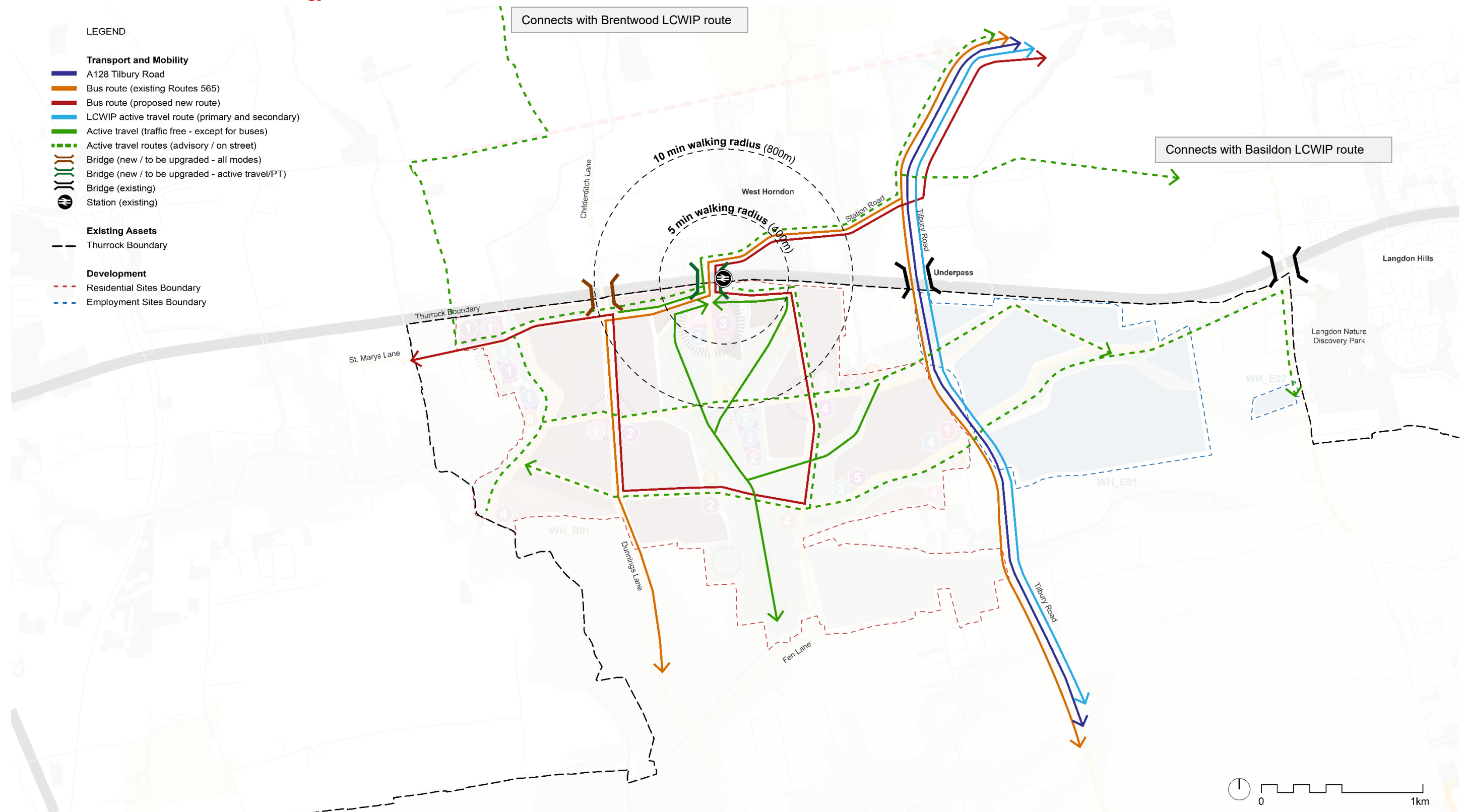


Figure 5-17: Access and movement strategy

As above, the Access and Movement Strategy shows high level conceptual design. Any detailed routings and road design will be designed in line with LTN1/20 standards with bus routes within c.400m of each development site to be detailed as appropriate through design development.

5.9 Road hierarchy plan

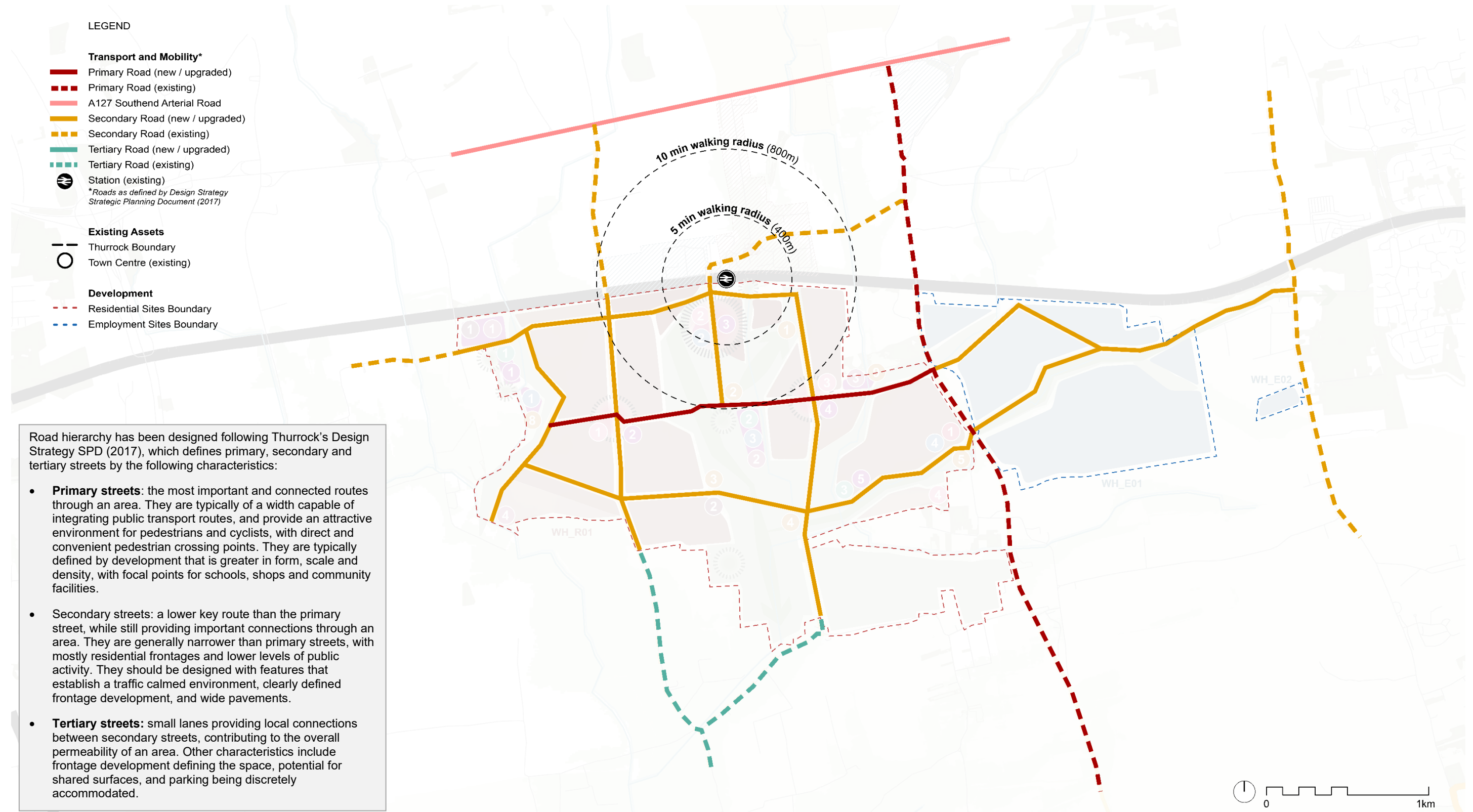


Figure 5-18: Road hierarchy proposals

5.10 High-level consideration of phasing and resilience

5.10.1 Phasing

Phasing development in a sustainable and integrated manner is critical to the success of a long-term growth strategy.

The timeline outlined below provides a high-level summary of key considerations for phasing a development of this scale and location. This is not intended as a detailed phasing strategy, and many elements may occur simultaneously, but rather as a set of recommendations informed by previous experience and best practice.

1. Establish a Robust, Connected Network of Roads and Green Infrastructure

- Deliver key structural elements to enable growth, including a new road network, bridges, and transport upgrades at critical junctions, as well as improvements to rail, bus services, and existing rights of way.
- Create a comprehensive green-blue infrastructure network and active travel corridors that connect future developments and can be integrated early on as a valuable town asset.

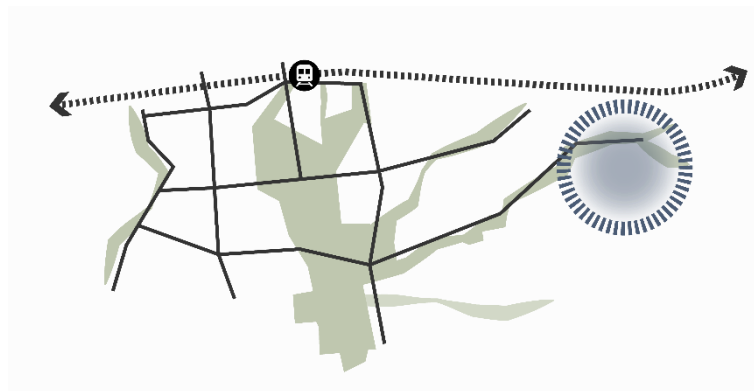


Figure 5-19: Indicative Phase 1

2. Attract Industry and Activity by Developing Employment Hubs and New Town Centres Near the Rail Station

- Advance key employment sites to attract industry and investment, stimulate economic activity, and support residential demand.
- Establish new town and local centres, complemented by essential community facilities and residential neighbourhoods
- Simultaneously develop higher density housing close to the rail station and/or to employment, and lower density housing strategically connected to primary green infrastructure to ensure ease of active travel.

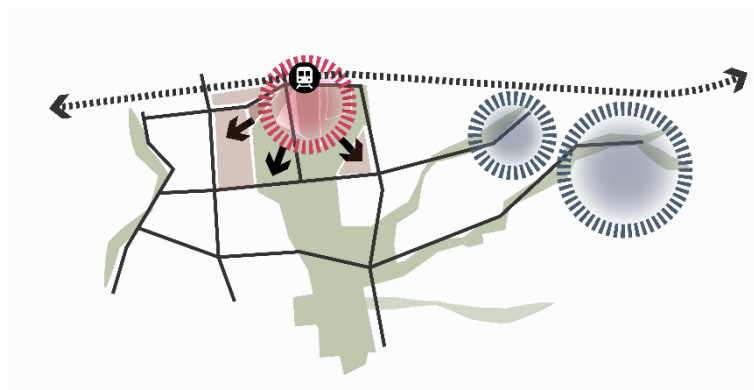


Figure 5-20: Indicative Phase 2

3. Expand Development and Services

- Progressively develop residential sites between local centres and the town's edges as housing demand grows towards the targets in parallel with employment opportunities.
- Deliver new community facilities, parks, and open spaces in ahead of residential expansion.

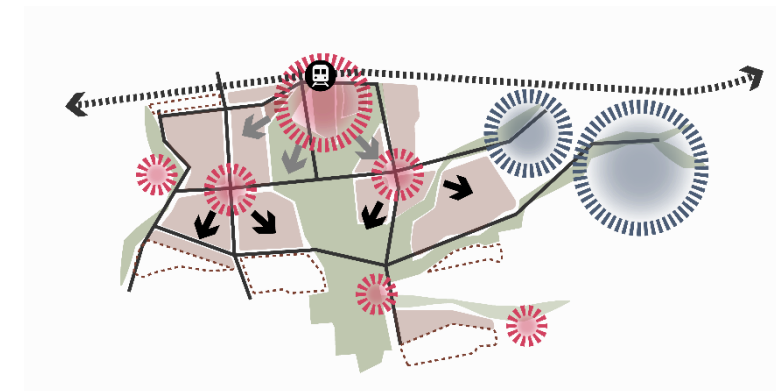


Figure 5-21: Indicative Phase 3

5.10.2 Resilience

To ensure the resilience of the development and enable South Ockendon's growth to adapt to future changes and challenges, the following recommendations should be considered:

1. **Invest in high-quality infrastructure** by creating a comprehensive, integrated transport network that supports multiple modes of travel.
2. **Attract appropriate employment and industries** to support sustainable growth in the area.
3. **Deliver high-quality housing** offering densities and typologies, meeting the highest standards of design and sustainable construction.
4. **Implement nature-based solutions and a robust landscape framework**, ensuring green-blue infrastructure mitigates heat island effects and reduces flood risk.
5. **Commit to good design and placemaking**, following Thurrock's Design Charter guidelines to achieve a holistic approach that enhances neighbourhood quality and promotes the well-being and prosperity of local communities.

6. Transport infrastructure proposals

6.1 Overview

This report has been developed in conjunction with a site-specific assessment for Local Plan growth at South Ockendon and overarching Transport Assessment for emerging Local Plan growth across Thurrock. This report therefore informs and is informed by these wider reports.

It is important that significant new development allocated to the sites at West Horndon is comprehensively planned so that infrastructure needed to support growth of this scale is provided when and where it is needed. Anticipated travel demand, impacts and transport infrastructure proposals to accommodate emerging Local Plan growth at West Horndon is identified in this section.

6.2 Travel demand and emerging infrastructure proposals

Baseline and future travel demand at West Horndon has been interrogated using Arup WalkFar and MoDES tools.

- Arup's WalkFar tool is a product of their Delivering Sustainably Walkable Neighbourhoods publication. It takes an evidence-led approach to forecasting the internalisation potential of new and existing settlements and translates that into a forecast ‘walkability’, the extent to which trips could reasonably be expected to be made by walk and cycle based on forecast number of homes, spatial layout, development density, number of jobs, scale and location of town centre facilities, school provision, and car availability.
- Arup's MoDES model builds on the success of their WalkFar tool, developed through our Delivering Sustainably Walkable Neighbourhoods publication. It uses published and other desktop data sources including the National Trip End Model and Census to formulate a demand, journey purpose and mode choice demand model specific to the local area, community and behaviours.

MoDES has therefore been utilized to present baseline and potential future trip rate and mode share information for West Horndon based on emerging land uses and facilities set out in Section 5.6-5.10.

6.2.1 Transport infrastructure required to deliver Access and Movement Strategy

The spatial strategy and access strategy have identified the following infrastructure to be required to deliver the housing targets and facilitate access to the allocated housing and employment sites. Table 6-1 sets out proposed infrastructure required across West Horndon.

Table 6-1: Proposed infrastructure required at West Horndon

Modes	Infrastructure	Location / Description
Walking / cycling	Active travel routes	Creation of or upgrade of existing roads to provide high quality internal paths, links to existing network and new links to improve connectivity between towns. Roads to provide sufficient width for inclusion of cycle lane / footways. Proposed cycle lanes can be provided as traffic-free links.
Bus	New bus route	New bus service to route to connect between Purfleet-on-Thames and Dunton Hills, via Lakeside, South Ockendon, North Ockendon and West Horndon. In West Horndon, the new bus is proposed to route from Dunton Hills along Station Road and St Mary's Lane; through the West Horndon housing site along new roads (see below), then northbound back on St Mary's Lane to route westward towards North Ockendon. The connection between St Mary's Lane and Clay Tye Road requires road upgrade; while no upgrade is required on Clay Tye Road as it is a current bus route. Associated new roads that can accommodate buses to be created to the south of West Horndon Station. Typical width to accommodate two-way bus movement is 6m.
All modes	New roads	New roads to be built to facilitate access and connectivity to the new housing / employment sites. Carriageway width depends on function of the roads, typically range between 4.1m (secondary) to 5.5m (primary road), or 6m for bus routes; with c.2m footway or either or both sides of the road.
All modes	Upgraded roads	Existing roads to be upgraded to meet function of the road. Carriageway width typically ranges between 4.1m (secondary) to 5.5m (primary road), or 6m for bus routes; with c.2m footway or either or both sides of the road.
Walking / cycling	Upgraded bridge	The bridge over the West Horndon Station to be upgraded to shares bus and pedestrian/cyclist bridge. Section on St Mary's Lane between Dunnings Lane and Station Road to be closed for general traffic. This proposal is consistent with the Horndon St Mary's proposal (pending planning application decision). The proposal includes a 3m carriageway, ~4m shared pedestrian and cyclist route.
All modes	Upgraded bridge	As the St Mary's Lane crossing is to be closed for general traffic, the existing bridge on Childerditch Lane across the railway track is to be provided for use by all modes. This bridge would provide essential connection from The West Horndon housing site to the facilities located to the north of the station. The bridge is proposed to comprise 5.5m carriageway, a 3m shared pedestrian/cyclist lane and a 2m footway.

6.2.2 West Horndon trip generation

Baseline trip rates and mode shares for West Horndon are reflected by Census Mid-layer Super Output Areas ‘Thurrock 004’ (MSOA 004) and ‘Brentwood 009’ (MSOA 009), and presented in Table 6-2. The average baseline car driver mode share of c.70% and low walk and cycle mode share (c.5% combined) is typical of much of Thurrock and reflects a lack of local facilities, employment opportunities, and services accessible by attractive walking and cycling routes which results in car trips being the only reasonable travel option in many cases.

Baseline and potential future trip rates and mode shares, presented in Table 6-2, are based on emerging proposals set out in in Section 5.6-5.10 and reflecting delivery of the Thurrock LCWIP and BSIP and development delivered in line with the emerging Thurrock Design Code that support sustainably walkable neighbourhoods.

Potential future mode shares in Table 6-2 and trip rates in Table 6-3 reflect a significant increase in walking and cycling to access new, local facilities as part of mixed-use development designed to support sustainably walkable neighbourhoods. Potential future rail mode share is broadly similar to the baseline with a moderate increase in bus mode share reflecting the proposed new bus route between West Horndon/ Dunton Hills and Purfleet via Lakeside and emerging Local Plan growth areas at West Horndon. This results in a reduced future car driver mode share of approximately 50% which is considered an ambitious yet realistic vision-led forecast. It should be noted that whilst the future share of peak hour rail trips reduces due to increased local employment rail patronage will increase in absolute terms.

Table 6-2: Baseline and potential future mode shares

Modes	Baseline – Thurrock MSOA 004	Baseline – Brentwood MSOA 009	Potential future – AM peak hour	Potential future– PM peak hour
Rail/ LUL	15%	28%	15%	20%
Bus/ Coach	1%	1%	6%	8%
Car Passenger	6%	4%	14%	12%
Car Driver	74%	60%	21%	25%
Cycle	1%	1%	4%	6%
Walk	3%	4%	40%	28%
All modes	100%	100%	100%	100%

Table 6-3: Baseline and Potential future year (internal / external) two-way peak hour trip rates

Modes	Baseline – Thurrock MSOA 004 and Brentwood MSOA 009		Potential future (internal + external)		Potential future (external only)	
	AM peak hour	PM peak hour	AM peak hour	PM peak hour	AM peak hour	PM peak hour
Rail/ LUL	0.114	0.118	0.106	0.107	0.106	0.107
Bus/ Coach	0.025	0.028	0.039	0.044	0.023	0.025
Car Passenger	0.106	0.062	0.098	0.065	0.052	0.028
Car Driver	0.292	0.262	0.148	0.132	0.128	0.106
Cycle	0.006	0.009	0.031	0.034	0.014	0.015
Walk	0.164	0.053	0.286	0.150	0	0

The potential future two-way trip generation for 10,000 homes, based on the trip rates identified in Table 6-3 is shown in Table 6-4.

Table 6-4: Two-way trip generation (external trips) – West Horndon

Modes	Internal and external		External only	
	AM peak hour	PM peak hour	AM peak hour	PM peak hour
Rail/ LUL	1,056	1,066	1,056	1,066
Bus/ Coach	394	445	228	254
Car Passenger	976	650	519	278
Car Driver	1,485	1,319	1,278	1,063
Cycle	307	341	142	150
Walk	2,856	1,497	0	0
All modes	7,074	5,317	3,224	2,812

A comparison of mode share between the baseline and those assessed in MoDES are shown in Figure 6-1. The mode shares for AM and PM peak hours residential trips are shown in Figure 6-2 which demonstrate that over 60% of residential trips for associated Local Plan growth can credibly be undertaken by sustainable modes with over 34% undertaken by active travel modes.

The percentage split of the internal and external car driver trips are also shown in Figure 6-2. The diagrams show that, under a walkable neighbourhood assumption, 54% of the car trips in the AM peak hour, and 47% in the PM peak hour would be internalised.

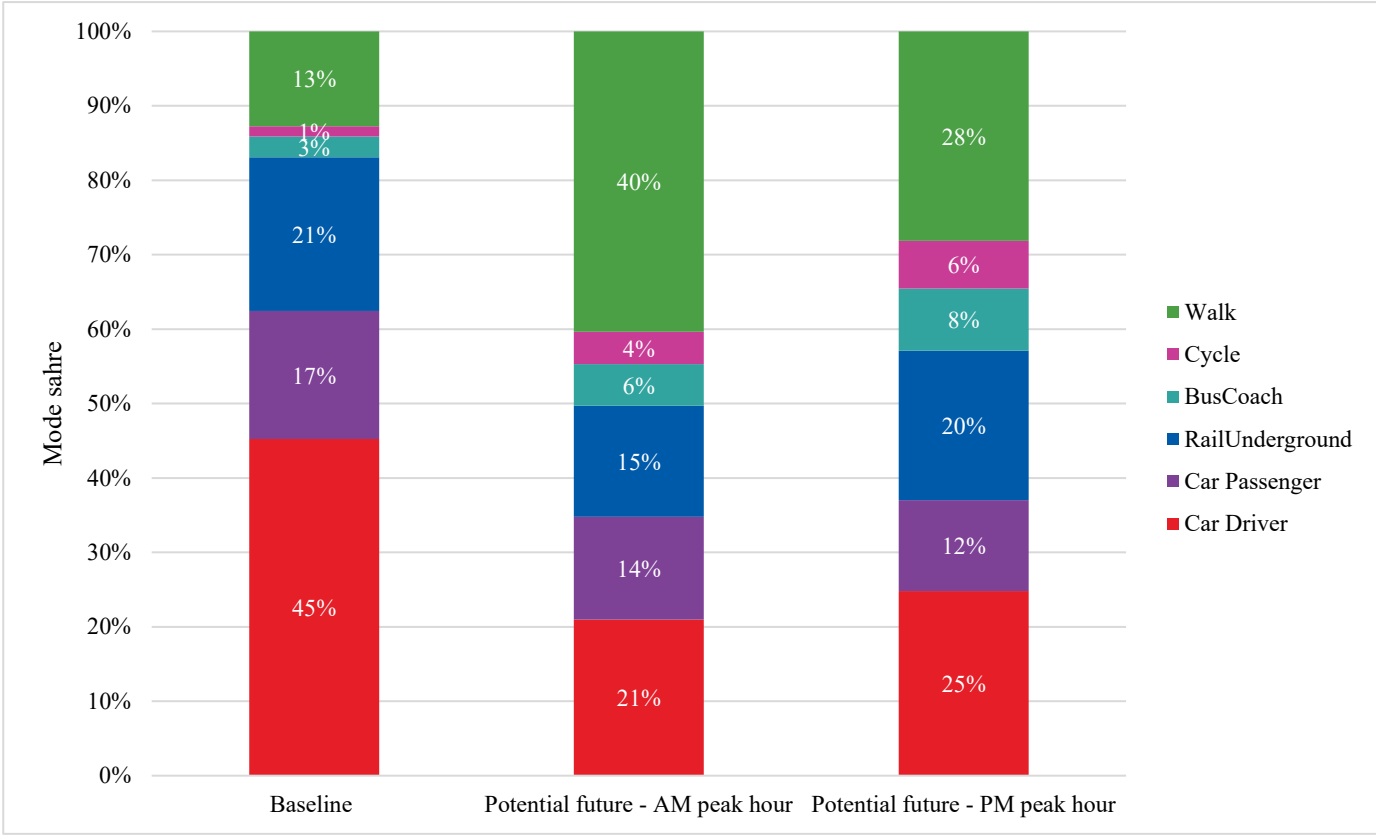


Figure 6-1: Comparison of mode share changes

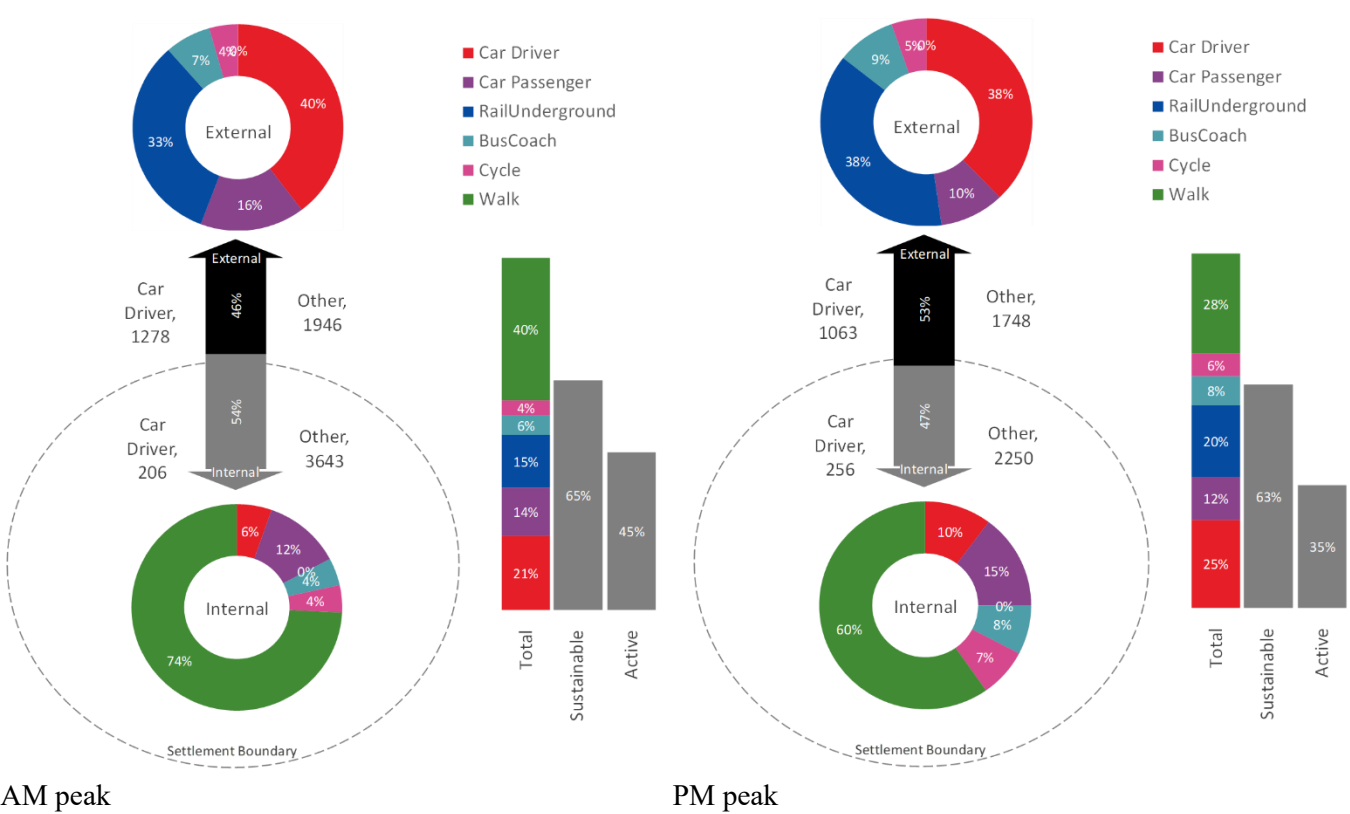


Figure 6-2: Mode share (internal and external) summary – AM and PM peak hours

6.3 Transport impacts and mitigation

6.3.1 Active travel impacts

Development at West Horndon delivered through sustainably walkable neighbourhoods will result in increased walking and cycling. Proposals outlined in the concept and land use plans seek to deliver walking and cycling routes that complement the proposed Thurrock and Brentwood LCWIP networks and include:

- Widening the existing footpath at Station Road to provide a safe and lit route for pedestrians and cyclists from West Horndon station
- Controlled crossing of A128 Tilbury Road between West Horndon & London Brentwood Commercial Park
- Good pedestrian access must be provided to all bus stops within and adjacent to the site, including those on the A128, to optimise accessibility to public transport

The proposed walking and cycle infrastructure in combination with Thurrock and Brentwood LCWIP proposals will enhance the attractiveness of walking and cycling for both new and existing communities.

6.3.2 Buses

Development at West Horndon will increase demand for travel by bus. This will increase the viability of existing bus routes and may further encourage existing bus operators to increase bus service frequencies, particularly at peak times.

The proposed access strategy includes a new bus service to connect Dunton Hills to Purfleet-on-Thames via new development at West Horndon, South Ockendon (north and south) and Lakeside shopping centre as shown in Figure 6-3 to complement existing bus routes and to serve existing employment and potential growth in Purfleet/ West Thurrock. The bus route has been designed to accommodate the development sites, with the route accessible within c.400m walk of the sites. The exact placement of bus stops will need to be defined through design development for each site, at a later stage, to ensure the bus stops are situated appropriately in relation to the site accesses. This new bus route is anticipated to include:

- Single decker bus (electric bus)
- Services running between 7:00am and 10:00pm; across six days a week (Monday to Saturday)
- Frequency of four buses per hour
- Fare: £3 per trips

Development at West Horndon is therefore anticipated to generate additional bus service demand at West Horndon, as shown in Table 6-5. This is based on the robust assessment that all peak hour trips are in a single direction.

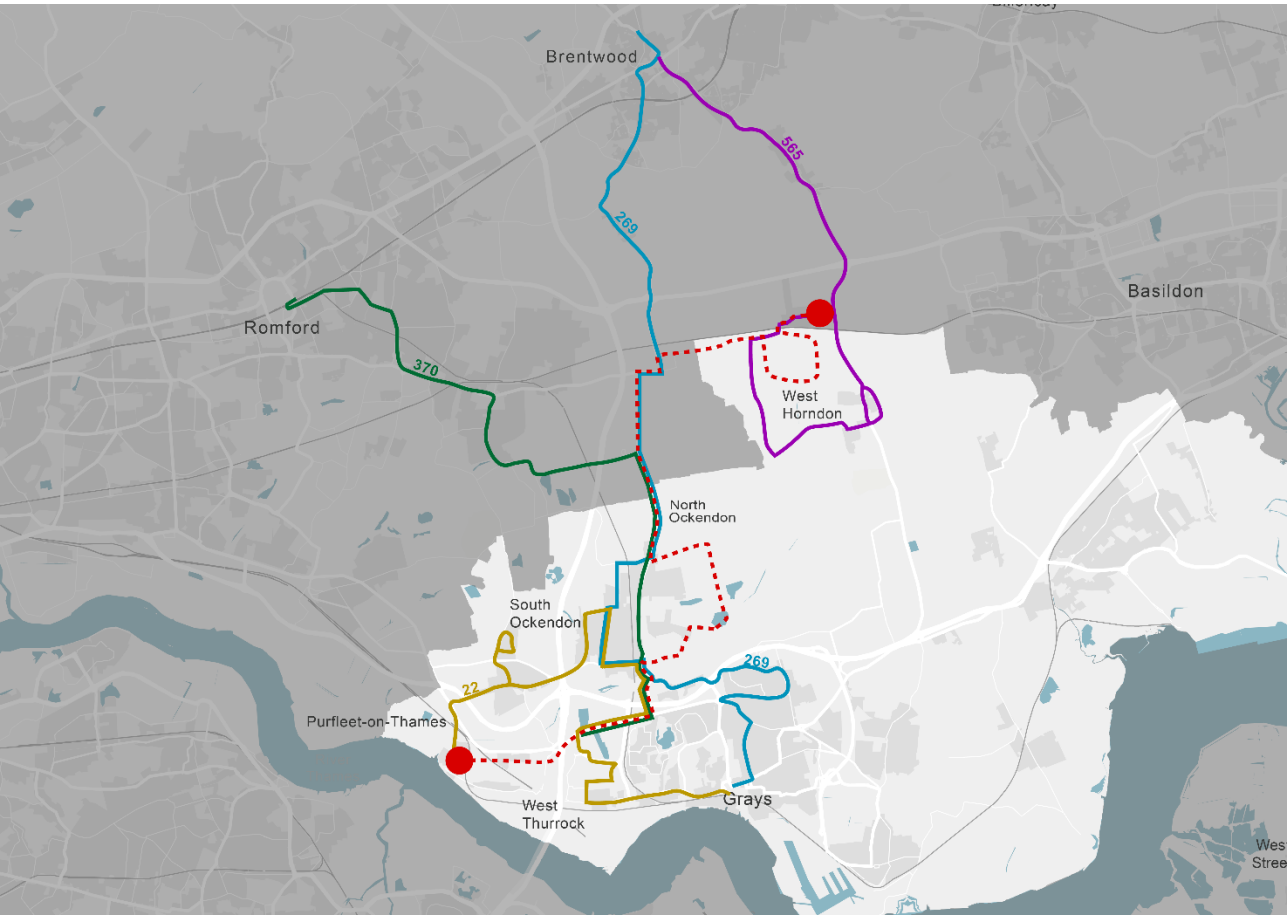


Figure 6-3: Existing bus routes and proposed new route (red dashed)

Table 6-5: Travel demand and impacts on West Horndon – Buses (current and future provision)

	Future (AM peak) travel demand and impacts	Future (PM peak) travel demand and impacts
Bus demand (internal + external trips)	540	617
Current provision (~one service per hour per direction)	+540 passengers per service (average)	+617 passengers per services (average)
Proposed future provision (five services per hour per direction)	+108 passengers per service (average)	+124 passengers per services (average)

6.3.3 Rail services

Development at West Horndon will increase demand for travel by rail. The increase in demand on existing railway services at West Horndon station is shown in Table 6-6. Based on the Census Travel to Work data, approximately 99% of the rail trips were made towards central London, and 1% towards Shoeburyness.

Table 6-6: Travel demand and impacts – Railway (current and future provision)

	Future (AM peak) travel demand and impacts	Future (PM peak) travel demand and impacts
Rail demand (internal + external trips)	721 total (713 towards central London; 8 towards Shoeburyness)	730 total (722 towards central London; 8 towards Shoeburyness)
Towards central London (three services per peak hour)	+ 238 passengers per service (average)	+ 241 passengers per services (average)
Towards Shoeburyness (four services per peak hour)	+ 2 passengers per service (average)	+ 2 passengers per services (average)

The number of rail carriages provided on C2C trains through the West Horndon – Shoeburyness line varies between 8 and 10 car trains. The increase in peak demand would equate to an additional 30 passengers per carriage based on a ‘typical’ 8-car train and additional 24 passengers per 10-car train. The train operating company should therefore review the number of carriages and ticket gates provided to ensure that an appropriate level of service is maintained and consider the need for additional services.

Future growth across Thurrock presents an opportunity to enhance rail accessibility and usage through integration, particularly through improved interchange facilities, better first and last-mile connections, and potential service enhancements that support population growth and freight movement.

6.3.4 Highway impacts

As part of the Transport Assessment prepared to support the Thurrock Local Plan, junctions across Thurrock have been assessed where a high magnitude of impact has been flagged. No junctions within the West Horndon study area have been flagged in the assessment.

As identified in Section 6.2, the external car driver travel demand is below that assessed through strategic highway modelling as part of the LPTA, therefore no further highway mitigation has been identified in this report.

The following will need to be delivered to support development at West Horndon:

- New roads – New roads to be built to facilitate access and connectivity to the new housing / employment sites. Carriageway width depends on function of the roads, typically range between 4.1m (secondary) to 5.5m (primary road), or 6m for bus routes; with c.2m footway on either or both sides of the road.
- Upgraded roads – Existing roads to be upgraded to meet function of the road. Carriageway width typically ranges between 4.1m (secondary) to 5.5m (primary road), or 6m for bus routes; with c.2m footway on either or both sides of the road.
- Upgraded bridge - The bridge over the West Horndon Station to be upgraded to share bus and pedestrian/cyclist bridge. Section on St Mary's Lane between Dunnings Lane and Station Road to be closed for general traffic. This proposal is consistent with the Horndon St Mary's proposal (pending planning application decision). The proposal includes a 3m carriageway, ~4m shared pedestrian and cyclist route.
- Upgraded bridge - As the St Mary's Lane crossing is to be closed for general traffic, the existing bridge on Childerditch Lane across the railway track is to be provided for use by all modes. This bridge would provide essential connection from The West Horndon housing site to the facilities located to the north of the station. The bridge is proposed to comprise 5.5m carriageway, a 3m shared pedestrian/cyclist lane and a 2m footway.

6.4 Monitoring and Management approach

As identified in the emerging Local Plan Transport Assessment, a ‘Monitor and Manage’ approach will be required to maximise the impact of policies and proposals, and adjust the approach where issues are identified. Many of the proposals and mitigation measures identified within the Transport Assessment will require further refinement and investigation with National Highways and developers when development proposals at site allocations within the Local Plan come forward.

More strategically a strategy and modelling review at intervals throughout the plan period will be needed to be undertaken, to understand progress against meeting Thurrock’s Local Transport Plan Vision 2050 objectives and identify if developments are being delivered aligned to the strategy. Where outcomes diverge from those identified within this Assessment further investigation will be required to identify appropriate management and mitigation measures, which prioritise uptake of sustainable travel and highways intervention as a last resort.

7. Next steps

This site-specific assessment is being submitted as part of the evidence base work with the Local Plan at Regulation 19.

This is a non-statutory planning document that will guide and shape the future development at West Horndon, setting out how the new town will be comprehensively delivered.

This document establishes the vision, strategic objectives and spatial strategy for growth at West Horndon and includes detailed analysis of the existing site context, including the development constraints and opportunities which culminates in a Concept Plan.

This site-specific assessment could later inform a Supplementary Planning Document forming part of the Thurrock Local Plan.

In the longer term, site-specific design codes could be developed. These codes would provide a clear set of design requirements to deliver the vision for growth at each new neighbourhood at West Horndon to serve as a quality benchmark to ensure a high-quality sustainable place is delivered.