9 Traffic and Transport

9.1 Scope of Assessment

9.1.1 This chapter of the ES assesses the likely significant effects of the Proposed Development in terms of Traffic and Transport and is supported by **ES Volume 3, Appendix E** which includes the Transport Assessment (TA) report prepared for the Proposed Development and submitted as part of the Outline Planning Application.

9.1.2 The chapter describes: the assessment methodology; the baseline conditions currently existing at the Site and in the surrounding area; the likely significant environmental effects; the mitigation measures required to prevent, reduce or offset any significant adverse effects; the likely residual effects after these measures have been employed; and the 'Type 2' ('inter-project') cumulative effects associated with the Proposed Development in combination with other developments within 5 km of the Site.

9.1.3 'Type 1' cumulative ('intra-project') effects, which are combined effects of individual EIA topic effects on a particular receptor, are considered in **ES Volume 2, Chapter 13: Effect Interactions**.

9.1.4 Whilst this Chapter of the ES focuses on the impacts of traffic and movement on people and the environment, the supporting TA focuses on the overall transport related impacts and transport strategy for the Proposed Development. As such, this Chapter of the ES should be read in conjunction with the TA in **ES Volume 3, Appendix E**.

9.2 Key Legislation, Policy and Guidance Considerations

9.2.1 The Traffic and Transport assessment has been undertaken within the context of relevant planning policies, guidance documents and legislative instruments. These are summarised below.

Legislation and Regulation

9.2.2 There is no relevant legislation to consider in undertaking this assessment.

Planning Policy

9.2.3 The Traffic and Transport Chapter and supporting TA, have preen prepared in line with the prevailing planning policy and guidance. Section 2 of the TA (as included in **ES Volume 3, Appendix E**) includes a detailed description of the planning policy context within which the assessment is undertaken. A summary list of the planning policy which are relevant to the assessment of Traffic and Transport are as follows:

- National Policy
  - National Planning Policy Framework (NPPF) (December 2024)
  - National Planning Policy Guidance (2014)
- Regional Policy
  - Surrey Local Transport Plan 4 (2022-2032)
  - Surrey County Council – Vehicle, electric vehicle and cycle parking guidance for new developments (February 2023)
- Local Policy
  - Tandridge District Council Core Strategy (October 2008)
  - Tandridge Local Plan Part 2: Detailed Policies 2014 – 2029 (July 2014)

9.2.4 Full details of the abovementioned planning policy are included in Section 2 of the TA (as included in **ES Volume 3, Appendix E**).

Tandridge District Council Plan 2033

9.2.5 The replacement Local Plan was submitted for examination in January 2019 and hearings took place in Autumn 2019.

9.2.6 The Inspector's report, received by the council in early 2024, stated that the plan was not capable of being found sound. The council subsequently resolved on 18 April 2024 to withdraw the submission version of its draft Local Plan under s.22(1) of the Planning and Compulsory Purchase Act 2004.

9.2.7 Work on the new local plan is underway but is at a very early stage so will not have any bearing on the determination of this application. The most recent Local Development Scheme refers to submission of the new local plan in 2026 and adoption in 2027.

Technical Standards and Guidance

9.2.8 The key technical standards and guidance of relevance to the assessment included in the Chapter includes:

- IEMA Guidelines: Environmental Assessment of Traffic and Movement (July 2023); and
- Design Manual for Roads and Bridges (DMRB), LA 104 – Environmental assessment and monitoring.

9.3 Assessment Methodology

Study Area

9.3.1 The scale and extent of the assessment relevant to the ES chapter (the 'study area') has been defined based on the criteria as set out within the IEMA Guidelines: Environmental Assessment of Traffic and Movement, which are as follows:

- Rule 1: 'Highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)'; and
- Rule 2: 'Highway links of high sensitivity where traffic flows have increased by 10% or more'.

9.3.2 The highway links in close proximity to the Site along which the majority of the traffic generated by the Proposed Development is expected to route has been assessed against the criteria set out above.

Determination of Baseline

9.3.3 The baseline conditions have been characterised by utilising a combination of site observations, desktop study, traffic survey data. Existing traffic flow data was recorded during traffic surveys, undertaken by the independent traffic survey company Street Behaviour Surveys Ltd, conducted in 2023 and 2024. In particular:

- The transport network has been assessed based on a scope informed through the scoping discussions with Surrey County Council (SCC);
- The pedestrian and cycle network surrounding the Site were reviewed as part of numerous site visits in 2023 and 2024;
- Traffic flow data based on Automatic Traffic Count (ATC) surveys Classified Turning Count (CTC) surveys were obtained, as detailed in Section 6 of the TA (included in **ES Volume 3, Appendix E**).
- A detailed review of the public transport accessibility surrounding the Site has been undertaken within Section 3 of the TA and summarised under the 'Baseline Conditions' section of this ES chapter;
- Department for Transport (DfT) collision data has been obtained for 2017 – 2021 and is summarised within this chapter (and analysed further within Section 4 of the T); and
- The existing travel to work mode share data for the local area in which the Site is located in has been obtained based on 2011 Census "Method of Travel to Work" data.

9.3.4 ATC surveys were undertaken between 29th April 2023 and 5th May 2023 on the following highway links:

- Barrow Green Road (east of Chalkpit Lane)
- Wheeler Avenue

9.3.5 Additional ATC surveys were undertaken between 25th April 2024 and 1st May 2024 on the following highway links:

- Church Lane (to the east of Wheeler Avenue)
- A25 Godstone Road (to the west of Church Lane)
- A254 Oxted Road (to the west of Barrow Green Road)

Prediction Methodology

9.3.6 In line with IEMA Guidelines, the assessment will consider the following topics for both the demolition and construction phase and operational phase of the Proposed Development:

- Severance;
- Driver Delay;
- Pedestrian and Cyclist Delay;
- Non-Motorised User (NMU) Amenity;
- Fear and Intimidation; and
- Road Safety.

9.3.7 The magnitude of impact for each of the abovementioned topics have been set out in the following paragraphs.

Severance

9.3.8 The IEMA Guidelines state that "severance is the perceived division that can occur within a community when it becomes separated by transport infrastructure" and that "changes in traffic flow of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively".

9.3.9 The potential effects for severance have been based on an assessment which considers IEMA's traffic-based thresholds and groups impacts according to the four magnitude of impact (degree of change) bands, as set out in DMRB LA104 guidance. **Table 9.1** summarises these thresholds.

9.3.10 For links which are assigned a high receptor sensitivity value, additional factors which may influence the impact of severance have been considered in determining the overall magnitude of impact. This is based on the information available as part of the TA (**ES Vol 3, Appendix E**) and relates to the road and footway widths, availability of crossing facilities and the number of movements expected to cross the link.

Table 9.1: Severance – Magnitude of Impact

Magnitude	Definition
High	90% or greater change in Annual average daily traffic (AADT) flows as a result of the Proposed Development
Medium	Between 60 – 89% change in AADT flows as a result of the Proposed Development
Low	Between 30 – 59% change in AADT flows as a result of the Proposed Development
Negligible	Less than 30% change in AADT flows as a result of the Proposed Development
No Change	No changes in AADT flows as a result of the Proposed Development

Driver Delay

9.3.11 Driver delay considers the traffic delay to traffic not generated by the Development-generated, as a result of the Development.

9.3.12 The assessment of driver delay has been undertaken based on the technical work undertaken as part of the TA, determined through junction capacity assessments, based on an assessment scope agreed with SCC. The detailed modelling methodology and assessment scope have been outlined under Section 6 of the TA (refer to **ES Volume 3, Appendix E**).

9.3.13 In the absence of specific guidance in the IEMA Guidelines on thresholds for driver delay, the magnitude of impact for the highway links assessed has been based on the delay outputs from the junction capacity assessments. The magnitude of impact for each recorded percentage change has been based on professional judgement.

Pedestrian Delay

9.3.14 According to the IEMA Guidelines, the assessment of pedestrian delay 'serves as a proxy for the delay that other modes of non-motorised users may experience when crossing roads' and is influenced by changes in the volume, composition or speed of traffic.

9.3.15 The IEMA Guidelines do not set definitive thresholds for the assessment of pedestrian delay but make reference to various resources and guidance which may be used to inform the professional judgement of a competent traffic and movement expert.

9.3.16 Furthermore, the IEMA Guidelines state that pedestrian delay and severance are closely related effects and can be grouped together.

9.3.17 In light of the above, the assessment of pedestrian delay has been undertaken based on professional judgement by firstly considering the magnitude of impact of the 'severance' assessment for each highway link. Subsequently, for links where the magnitude of impact is 'Low' or higher (as defined based on the thresholds in **Table 9.1**), further consideration is given to if and how the overall pedestrian environment

is expected to change as a result of the changed traffic composition due to the Development.

NMU Amenity

9.3.18 NMU amenity is broadly defined as the relative pleasantness of a journey, which is affected by traffic flow, traffic composition and footway width/separation from traffic. The IEMA Guidelines suggest a "tentative threshold for judging the significance of changes in pedestrian amenity of where traffic flow (or its lorry component) is halved or doubled". The magnitude of impact is therefore a matter of professional judgement and will depend on whether the above thresholds are met.

Fear and Intimidation

9.3.19 As stated in the IEMA Guidelines, another potential impact experienced by people is the element of fear and intimidation individual travellers would experience with respect to all moving objects (i.e., traffic flows). The impact of this factor is dependent on the volume and composition of traffic, speed, and the proximity of traffic to people.

9.3.20 The IEMA Guidelines include thresholds for different levels of fear and intimidation based on the 'degree of hazard' scores set out in **Table 9.2**, which depend on average traffic flow, 18-hour heavy vehicle flow and average speed over an 18-hour day. The level of fear and intimidation score is subsequently determined by the sum of the three different hazards as shown in **Table 9.3**.

9.3.21 The IEMA Guidelines also include thresholds for the magnitude of impacts for fear and intimidation based on the changes in the level of fear and intimidation from between the 'Do Nothing' and 'Do Something' scenarios and based on 18-hour total vehicle and heavy goods vehicle ('HGV') flows. The magnitude of impact thresholds for fear and intimidation are shown in **Table 9.4**.

Table 9.2: Fear and Intimidation Degree of Hazard

Average traffic flow/18-hour day – all vehicles/hour 2-way (a)	Total 18-hour heavy vehicle flow (b)	Average vehicle speed (c)	Degree of Hazard Score
+1,800	+3,000	->40	30
1,200–1,800	2,000–3,000	30–40	20
600–1,200	1,000–2,000	20–30	10
<600	<1,000	<20	0

Table 9.3: Levels of Fear and Intimidation

Level of fear and intimidation	Total hazard score (a) + (b) + (c)
Extreme	71+
Great	41-70
Moderate	21-40
Small	0-20

Table 9.4: Fear and Intimidation Magnitude of Impact

Magnitude of Impact	Change in step/traffic flows (AADT) from baseline conditions
High	Two step changes in level
Medium	One step change in level, but with • >400 vehicle increase in average 18hr AV two-way all vehicle flow; and/or • >500 HV increase in total 18hr HV flow
Low	One step change in level, with • <400 vehicle increase in average 18hr AV two-way all vehicle flow; and/or • <500 HV increase in total 18hr HV flow
Negligible	No change in step changes

Road Safety

9.3.22 The assessment of road safety is based upon a detailed review of collision data in conjunction with a review of baseline conditions to determine potential patterns or factors which highlight a road safety concern, and which can be exacerbated by additional traffic or movement generation.

9.3.23 The detailed road safety assessment is included as part of the supporting TA (refer to **ES Volume 3, Appendix E**) and a summary of the key road safety findings and associated magnitudes of impact has been provided in this chapter. As such, the assessment of road safety effects in this chapter has been based on professional judgement based on the detailed technical work undertaken as part of the TA.

Defining the Effect

9.3.24 The scale and significance of the effects assessed across each highway link/ junction have been determined in line with the principles outlined in both the IEMA Guidelines and DMRB LA104. This is based on the following process:

- Receptors within the study area are identified and each highway link is assigned a sensitivity value based on the relationship of the sensitive receptor with the highway environment;

- For each highway link, the magnitude of impact is determined for each effect, based on the relevant effect's assessment methodology (as set out above);
- To determine the scale and significance of each effect, the magnitude of impact is considered along with the sensitivity assigned to the highway link/ junction under question, based on the effect matrix shown in **Table 9.5**; and
- Any effect identified as 'Major' or 'Moderate' is considered to be 'significant' in the context of EIA and is considered for further mitigation to ensure that there are no significant residual risks.

Table 9.5: Significance Matrix

Magnitude of Impact	Sensitivity of Receptors		
	High	Medium	Low
High	Major	Major	Moderate
Medium	Major	Moderate	Minor
Low	Moderate	Minor	Minor
Negligible	Negligible	Negligible	Negligible

9.3.25 The methodology set out above primarily considers adverse impacts. For instances where impacts are considered to be beneficial (advantageous or positive effect on an environmental receptor), professional judgement has been used to determine the magnitude of beneficial impact.

9.3.26 The geographic extent of each effect will be limited to the highway link or junction under question which is considered to be a local effect.

9.3.27 Effects that are generated as a result of the demolition and construction phase are classed as 'temporary'. Effects that result from the completed and operational phase of the Proposed Development are classed as 'permanent' effects.

9.3.28 All effects assessed within this ES chapter are considered to be direct effects resulting without any intervening factors.

Limitations and Assumptions

9.3.29 A number of assumptions have been made, based on best practice guidance and professional judgement. These primarily relate to the trip generation forecast, mode splits, trip distribution and assignment/ routeing of vehicles on the highway network. Full details on all assumptions made as part of the overall assessment are detailed in within the TA (refer to **ES Volume 3, Appendix E**).

9.4 Scoping and Consultation

9.4.1 An EIA Scoping Report (presented in **ES Volume 3, Appendix A1**) was submitted to Tandridge District Council (TDC) on 22nd August 2024 with a formal request for a

Scoping Opinion on the proposed scope of the EIA and assessment methodologies. TDC subsequently issued their Scoping Opinion on the proposed scope and methodology of the topics for assessment within the EIA. A copy of TDC's Scoping Opinion is provided in **ES Volume 3, Appendix A2**.

9.4.2 In addition to the above, the TA (**ES Volume 3, Appendix E**) has been subject to extensive pre-application discussions with SCC in order to agree the overall scope and methodology of the assessment included as part of the TA. Further details of the methodology relevant to the TA are included within **ES Volume 3, Appendix E.**

9.5 Baseline Assessment and Identification of Key Receptors

Baseline Conditions

9.5.1 Section 3 of the TA (**ES Volume 3, Appendix E**) includes a detailed review of the existing conditions in the context of the Site and surrounding area. A summary of the key baseline conditions in relation to walking and cycling, public transport, highway network and access to amenities has been included in the subsequent paragraphs.

Pedestrian and Cycle Access and Local Amenities

9.5.2 The Site is located approximately 1km northwest of the centre of Oxted Town Centre. The Site is currently comprised of unoccupied/arable land and lies to the north of Wheeler Avenue, Barrow Green Road abuts the northern site boundary.

9.5.3 Existing footways of appropriate width and condition are present along both sides of the carriageway on Wheeler Avenue, separated by a grass verge. These footways connect with the wider footway network via Church Lane, providing onward access to multiple amenities and facilities, including bus stops and Oxted Town Centre. Footways of appropriate widths and condition are available on both Church Lane and Station Road.

9.5.4 To the southeast of the site on Court Farm Lane, although there are no dedicated footways, the road is very lightly trafficked and with very low traffic speeds, in effect operating as a shared surface road, based on PF observations during various site visits across 2023 and 2024. It should be noted that the site can be accessed via Court Farm Lane via the southern section of Bridgeway 97 which runs through the Site.

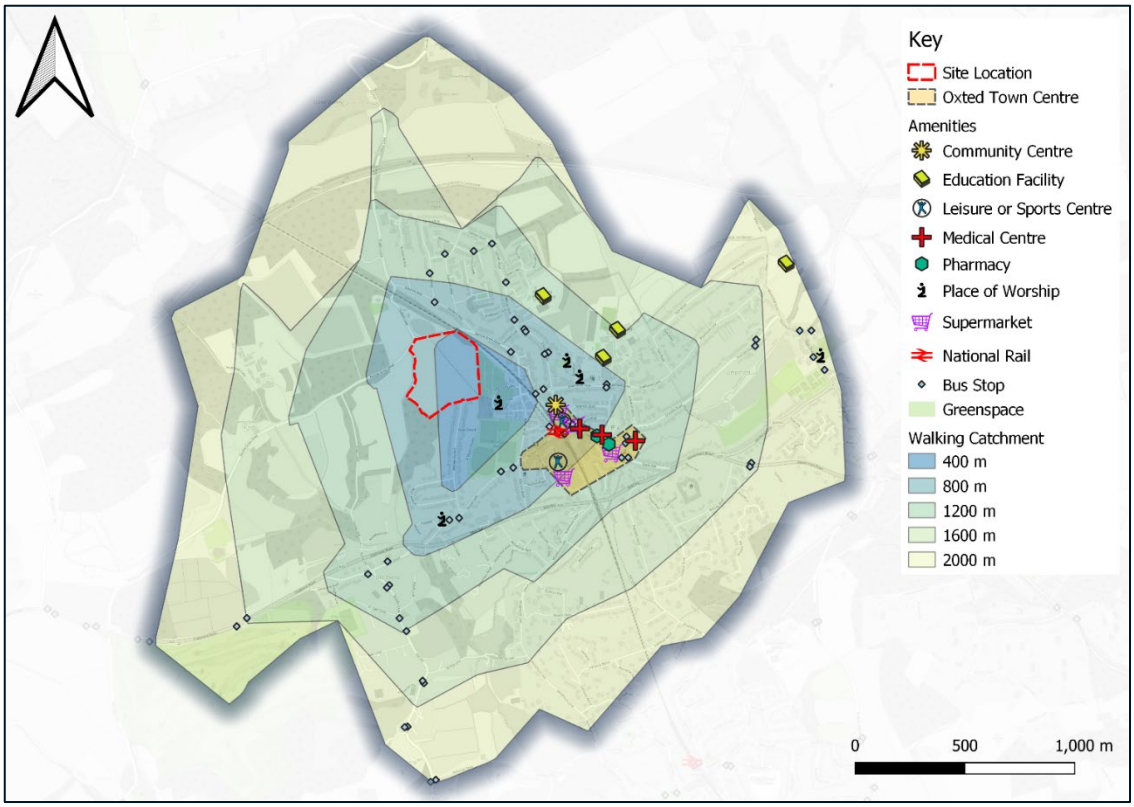
9.5.5 Barrow Green Road abutting the northern end of the site does not have any footways except for a narrow footway along its northern section to the west of Chalkpit Lane. Given the absence of any logical pedestrian desire lines to the north of the Site as well as the semi-rural nature, the absence of footway provision to the north is congruent to the area setting and function.

9.5.6 **Figure 9.1** illustrates a walking catchment up to 2 km walk distance (25-minute walk time). It is demonstrated that multiple transport services (i.e., bus and national rail) are reachable within the 25-minute walking catchment along with multiple amenities

such as, schools, Oxted community centre, greenspaces, supermarket, Oxted town centre, leisure centre, places of worship, medical care, and dentists. Several supermarkets including Waitrose, Morrisons, Co-op, and Sainsbury's are located within a 15-minute walk time (1.2 km walk distance) surrounding the Site.

9.5.7 Oxted Town Centre provides several local amenities and facilities that will benefit future site users including, retail and employment opportunities, access to cash, leisure and sport centres (i.e. gym), an abundance of restaurants and cafes, medical care, and pharmacies.

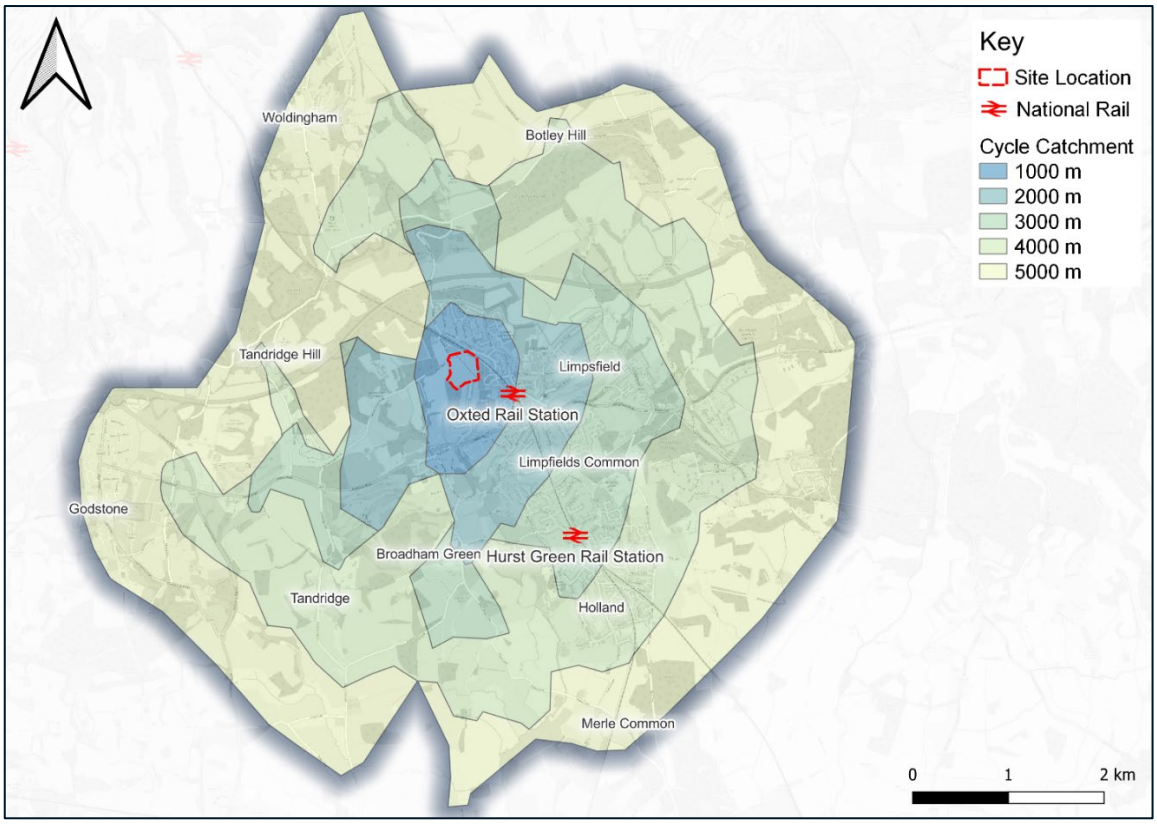
Figure 9.1: Walking Catchment and Local Amenities (2000m)



Source: OpenStreetMap contributors with Pell Frischmann annotations

9.5.8 The character of the local highway network on key routes surrounding the Site (such as Court Farm Lane, Wheeler Avenue, Church Lane and Station Road), which includes a low traffic speed limit of 30 mph, and a relatively flat topography, increases the likelihood of journeys by cycle. **Table 9.2** demonstrates the cycle catchment up to 5 km cycle distance (25-minute cycle time) from the Site. Multiple key locations are reachable from the Site, including Oxted Town Centre and railway station.

Figure 9.2: Cycle Catchment – 5 km, 25-minute cycle time

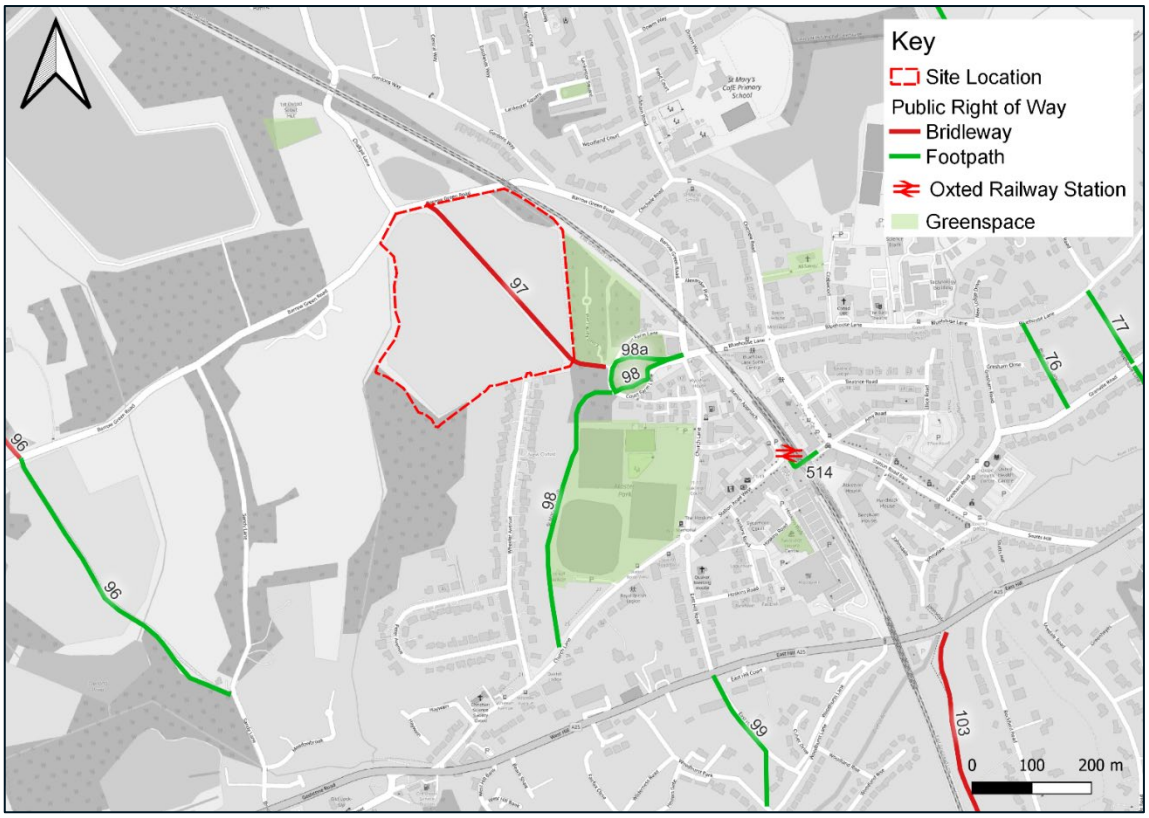


Source: OpenStreetMap contributors with Pell Frischmann annotations

Public Right of Way

9.5.9 **Figure 9.3** illustrates the Public Right of Way (PRoW) network within proximity to the Site. Route 97 is a bridleway route that runs through the site boundary in a north and south direction, connecting Barrow Green Road (site's northern boundary) with Court Farm Lane (east of the site). Route 97 also connects with route 98 and 98A, which provide two east and west direction footpaths through St Mary Church, connecting with Barrow Green Road / Church Lane junction. Route 98 extends south from Court Farm Lane connecting with Church Lane via a footpath.

Figure 9.3: Pubic Rights of Way

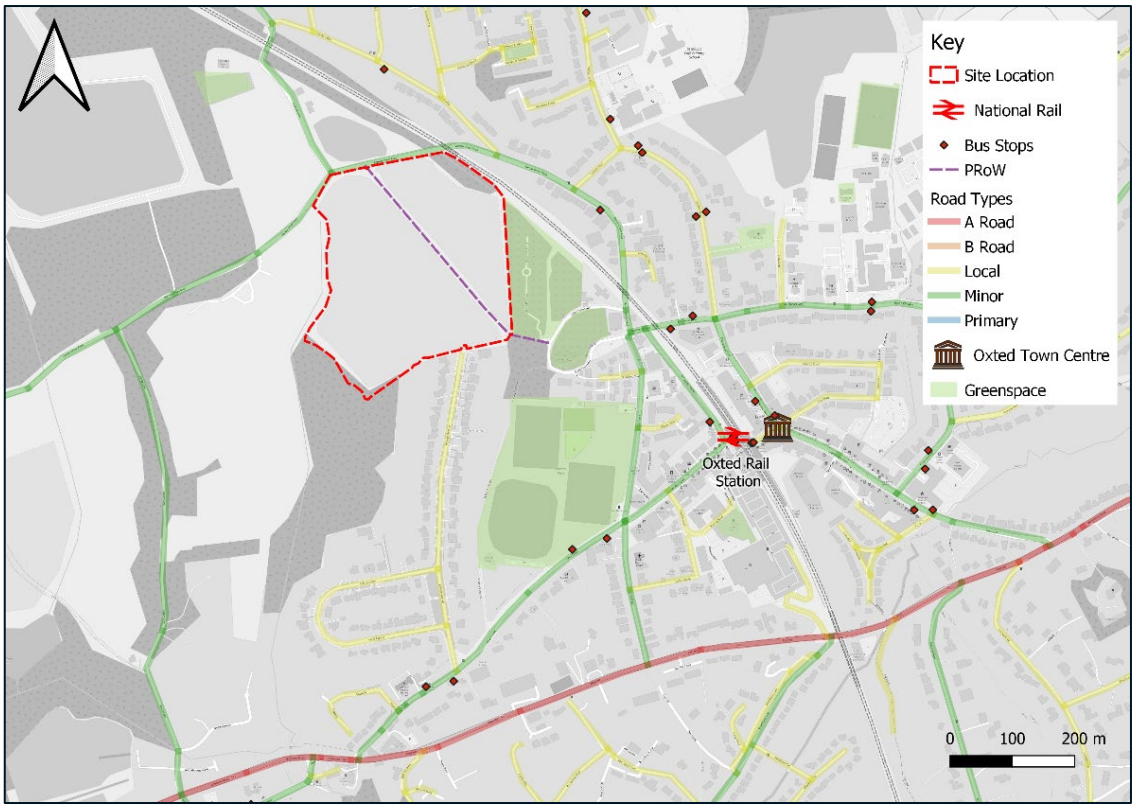


Source: OpenStreetMap contributors with Pell Frischmann annotations

Local Highway Network

9.5.10 The Site is benefits from good connectivity to local and minor roads to the north, east and south and is accessible from Barrow Green Road based on the existing access arrangements. The nearest A-road is the A25, situated south of the Site that provides connections to the west and east direction. The M25, situated to the north of the Site and accessible via the A25 and A22 provides connections to the strategic highway network. **Figure 9.4** illustrates the local highway network. Details of Barrow Green Road, Church Lane, A25, M25 and other key roads follow in this section.

Figure 9.4: Local Highway Network



Baseline Traffic Flows

The baseline and HGV traffic flows for the highway links in proximity to the site have been set out under **Table 9.6**, in terms of annual average daily traffic (AADT) 24-hour traffic, annual average weekday traffic (AAWT) 18-hour traffic and average daily speeds over 18 hours.

Table 9.6: Local Highway Network Traffic Flows – 2024 Baseline

Link No	Link	85th %ile Speeds	2024 Baseline			
			AADT 24	AADT HGVs	AAWT 18	AAWT HGVs
1	Barrow Green Lane (to the east of proposed site access)	35.8	1778	12	1938	13
2	Barrow Green Lane (to the west of proposed site access)	35.8	1778	12	1938	13
3	Wheeler Avenue	23.15	601	3	607	3
4	Church Lane (East of Wheeler Avenue)	33.45	4107	18	4250	21
5	Church Lane (N/S Alignment, north of Station Rd W)	30 (speed limit)	5108	27	5034	26
6	Church Lane (West of Wheeler Avenue)	33.45	3967	18	4106	20

Link No	Link	85th %ile Speeds	2024 Baseline			
			AADT 24	AADT HGVs	AAWT 18	AAWT HGVs
7	A25 Godstone Road (West of Church Ln)	31.8	16189	694	15250	621
8	A25 West Hill (East of Church Ln)	31.8	12361	530	11644	474
9	East Hill Road (N/S Alignment)	30 (speed limit)	3438	31	3389	31
10	A25 East Hill Road (E/W Alignment)	40 (speed limit)	13694	587	12900	526

Road Safety Review

9.5.11 A collision review of the surrounding highway network in proximity to the Site has been undertaken for the most recently recorded five-year period (2017 – 2021) using the Department for Transport (DfT) collision database (stats19). 25 collisions occurred during the recorded period, consisting of seven serious and 18 slight in severity collisions. No fatal collisions were recorded. One slight and one serious collision was recorded at the Barrow Green Road junction with Chalkpit Lane (existing site access), otherwise, all other collisions dispersed throughout the study area, with an increase of incidents along Station Road East (Oxted town centre).

9.5.12 A comprehensive review of all collisions is included in Section 3 of the TA **(ES Volume 3, Appendix E**). Based on this review, it is evident that collisions are generally dispersed throughout the study area with no significant clustering and that the majority of incidents generally occur at junctions, as is typical within most highway networks. Each serious collision was at a separate location within the study area with no clusters identified within the same year.

Existing Bus Services

9.5.13 The closest bus stop to the Site is situated on Bluehouse Lane, approximately 300 m to the southeast of the Site, via Court Farm Lane. This stop is served by the 410, 594, 595 and 612 bus routes which provide connections to destinations such as Westerham, Redhill and Smallfield (School Service).

9.5.14 Bus stops are also located along Church Lane to the south in proximity to the Wheeler Avenue / Church Lane junction some 550 m from the Site. These stops are served by the 410, 603, 609 and 610 bus routes which operate towards Redhill, Domewood, Reigate, East Grinstead (school service) and Smallfield (school service). Further stops are located in the centre of Oxted with the addition of the no.236 service operating towards East Grinstead to the south.

9.5.15 Section 3 of the TA (**ES Volume 3, Appendix E**) includes details of the typical frequencies of the abovementioned bus services. This demonstrates that the Site benefits from being in proximity to frequent and good quality public transport links for commuting to work and for general travel over a wide area.

Existing Rail Services

9.5.16 Oxted railway station within the town centre is the closest railway station to the Site and is accessible within a 6-minute walking distance. The station is operated by Southern and Thameslink and provides approximately six-seven trains per hour throughout the day Monday – Saturday to destinations such as London Victoria, London Bridge, East Grinstead and Uckfield.

Receptors and Receptor Sensitivity

9.5.17 The IEMA Guidelines identify special interests which may be sensitive to changes in traffic conditions and should, therefore, be considered as part of the assessment. These include:

- People at home or work;
- Sensitive/ vulnerable groups (young, old, ill, etc.);
- Location with high concentration of vulnerable users (schools, hospitals, etc.);
- Retail areas;
- Recreational areas;
- Tourist attractions;
- Areas with known safety concerns;
- Junctions/ highway links at or over capacity; and
- Non-motorised users.

9.5.18 The sensitive receptors within the study area (as defined above), have been assigned to the nearest highway links and each highway link has been subsequently assigned a sensitivity value based on the relationship of the sensitive receptor with the highway environment. The definitions of the different sensitivity values are shown in **Table 9.7**.

Table 9.7: Receptor Sensitivity Value Definitions

Highway Link / Junction Sensitivity Value	Description
High Sensitivity	When assigned to the link/ junction, the identified receptors are highly sensitivity to changes in traffic conditions

Highway Link / Junction Sensitivity Value	Description
Medium Sensitivity	When assigned to the link/ junction, the identified receptors have a medium level of sensitivity to changes in traffic conditions
Low Sensitivity	When assigned to the link/ junction, the identified receptors have a low level of sensitivity to changes in traffic conditions
Negligible Sensitivity	No sensitive receptors are identified on the highway link/ junction OR

9.5.19 Based on the criteria set out above, sensitivity values have been assigned to the highway links in proximity to the site as set out in **Table 9.8**.

Table 9.8: Sensitivity of Highway Links

Link No	Link	Sensitivity Assigned to Link
1	Barrow Green Lane (to the east of proposed site access)	Low
2	Barrow Green Lane (to the west of proposed site access)	Low
3	Wheeler Avenue	Low
4	Church Lane (East of Wheeler Avenue)	Medium (retirement home, bus stops, more pedestrian activity)
5	Church Lane (N/S Alignment, north of Station Rd W)	Medium (Community Hall, Child activity)
6	Church Lane (West of Wheeler Avenue)	Low
7	A25 Godstone Road (West of Church Ln)	Low
8	A25 West Hill (East of Church Ln)	Low
9	East Hill Road (N/S Alignment)	Low
10	A25 East Hill Road (E/W Alignment)	Low

9.5.20 The sensitivity values assigned to each junction included as part of the assessment of traffic and movement has been set out under **Table 9.9**.

9.5.21 The sensitivity values for junctions take into account the existing operational performance of the junction in line with IEMA Guidelines. Detailed results for the junction capacity assessments are included in Section 6 of the TA (**ES Volume 3, Appendix E**).

Table 9.9: Sensitivity of Highway Junctions

No	Junction	Sensitivity Assigned to Junction
1	Wheeler Avenue/ Church Lane	Low
2	Church Lane/ Station Road/ East Hill Road	Low
3	A25 West Hill/ Church Lane/ A25 Godstone Road	Low
4	A25 Oxted Road/ Barrow Green Lane/ Tandridge Lane	Medium (existing operation at near approximately 85% capacity)
5	A25 Oxted Rd/ A22	Low

Future Baseline (the 'do nothing' scenario)

9.5.22 The 'do nothing' scenario define the conditions in 2030 (year of development opening and first occupation), in the absence of traffic associated with the Proposed Development. It is against this scenario that the effects of the Proposed Development have been assessed.

9.5.23 The 2030 baseline vehicle and HGV traffic flows for the highway links included as part of the assessment have been set out under **Table 9.10**. Traffic growth between the 2024 baseline and 2030 baseline flows is based on the application of TEMPro growth factors and traffic associated with the cumulative schemes identified. The 2030 Baseline traffic flows are shown in **Table 9.10** below:

Table 9.10: Local Highway Network Traffic Flows – 2030 Baseline

Link No	Link	85th %ile Speeds	2030 Baseline			
			AADT 24	AADT HGVs	AAWT 18	AAWT HGVs
1	Barrow Green Lane (to the east of proposed site access)	35.8	2152	15	2321	16
2	Barrow Green Lane (to the west of proposed site access)	35.8	2152	15	2321	16
3	Wheeler Avenue	23.15	633	3	639	3
4	Church Lane (East of Wheeler Avenue)	33.45	4324	19	4474	22
5	Church Lane (N/S Alignment, north of Station Rd W)	30 (speed limit)	5454	28	5377	28
6	Church Lane (West of Wheeler Avenue)	33.45	4177	18	4322	22

Link No	Link	85th %ile Speeds	2030 Baseline			
			AADT 24	AADT HGVs	AAWT 18	AAWT HGVs
7	A25 Godstone Road (West of Church Ln)	31.8	17260	733	16273	657
8	A25 West Hill (East of Church Ln)	31.8	13230	561	12476	503
9	East Hill Road (N/S Alignment)	30 (speed limit)	3697	33	3645	33
10	A25 East Hill Road (E/W Alignment)	40 (speed limit)	14614	620	13779	555

9.6 Identification and Description of Changes Likely to Generate Effect

9.6.1 The changes in traffic flows as part of the operational and construction phases of the development are outlined in **Table 9.11** and **Table 9.12**, respectively.

9.6.2 The operational traffic forecasts are based on the Trip Generation assessment included as part of Section 5 of the TA (**ES Volume 3, Appendix E**). The construction phase traffic forecasts are based on the information included within Chapter 5 of this ES.

9.6.3 As set out in Section 1.10, all traffic and transport effects are inherently cumulative and include background traffic growth and cumulative schemes, as detailed in Section 1.10.

9.6.4 It should be noted that the construction phase effects are assessed against the 2024 baseline year which results in a worst-case assessment and does not change the conclusions of this report. In reality, the peak period of construction would be in 2028.

Table 9.11: Construction Phase Changes

Ref	Link	2024 Baseline		Peak Construction		% Impact	
		AADT 24	AADT HGVs	AADT 24	AADT HGVs	AADT 24	AADT HGVs
1	Barrow Green Lane (to the east of proposed site access)	1778	12	0	0	0.0%	0.0%
2	Barrow Green Lane (to the west of proposed site access)	1778	12	76	16	4.3%	134.5%
3	Wheeler Avenue	601	3	0	0	0.0%	0.0%
4	Church Lane (East of Wheeler Avenue)	4107	18	0	0	0.0%	0.0%

5	Church Lane (N/S Alignment, north of Station Rd W)	5108	27	0	0	0.0%	0.0%
6	Church Lane (West of Wheeler Avenue)	3967	18	0	0	0.0%	0.0%
7	A25 Godstone Road (West of Church Ln)	16189	694	76	16	0.5%	2.3%
8	A25 West Hill (East of Church Ln)	12361	530	0	0	0.0%	0.0%
9	East Hill Road (N/S Alignment)	3438	31	0	0	0.0%	0.0%
10	A25 East Hill Road (E/W Alignment)	13694	587	0	0	0.0%	0.0%

Table 9.12: Operational Phase Changes

Ref	Link	2030 Baseline		Operational Traffic		% Impact	
		AADT 24	AADT HGVs	AADT 24	AADT HGVs	AADT 24	AADT HGVs
1	Barrow Green Lane (to the east of proposed site access)	2152	15	310	2	14.4%	13.8%
2	Barrow Green Lane (to the west of proposed site access)	2152	15	560	4	26.0%	27.5%
3	Wheeler Avenue	633	3	475	4	75.1%	133.3%
4	Church Lane (East of Wheeler Avenue)	4324	19	223	2	5.2%	10.5%
5	Church Lane (N/S Alignment, north of Station Rd W)	5454	28	280	2	5.1%	7.1%
6	Church Lane (West of Wheeler Avenue)	4177	18	252	2	6.0%	10.8%
7	A25 Godstone Road (West of Church Ln)	17260	733	252	2	1.5%	0.3%
8	A25 West Hill (East of Church Ln)	13230	561	0	0	0.0%	0.0%
9	East Hill Road (N/S Alignment)	3697	33	182	2	4.9%	6.0%
10	A25 East Hill Road (E/W Alignment)	14614	620	182	2	1.2%	0.3%

9.7 Assessment of Likely Significant Effect

Construction Phase

Embedded Mitigation Measures

9.7.1 The embedded mitigation as part of the construction phase includes:

- Access limited to Barrow Green Lane during the construction phase.
- A Construction Traffic Management Plan ('CTMP'), which will be prepared and secured by planning condition attached to the planning consent.
- CTMP will include measures to address adverse traffic impacts in accordance with best practice. Measures will include avoiding construction material delivery trips in the peak traffic hours and defined routes for contractors so as to avoid the most sensitive receptors / roads and ensure that vehicles use appropriate routes. Preparation of the CTMP would be secured by planning condition led by the main delivery contractor. The CTMP will be submitted to SCC for approval.
- A Construction Environment Management Plan ('CEMP'), which will also be prepared and secured by planning condition attached to the planning consent.
- The CEMP will include a series of measures to address how adverse impacts associated with the construction of the development will be managed. This will include management of working hours, control of dust and air quality, management of debris on the highway, control of noise and vibrations and communication with the public. It will be secured by condition and led by the contractor.

Anticipated Effects

9.7.2 Based on the forecast traffic flows presented in **Table 9.12**, the only highway link which meets the assessment thresholds set out under Paragraph 1.3.1 is Link 2: Barrow Green Lane (to the west of proposed site access). At this link, the HGV component increases beyond the 30% threshold to be included in the assessment.

9.7.3 It should be noted that the construction phase effects are assessed against the 2024 baseline year which results in a worst-case assessment and does not change the conclusions of this chapter. In reality, the peak period of construction would be in 2028.

Severance

9.7.4 **Table 9.13** shows the percentage change in AADT flows, in terms of total vehicle flows, on the highway links assessed.

Table 9.13: Potential Effects - Severance (Construction Phase)

Ref	Link	2024 Baseline	Dev Traffic	% Impact
		AADT 24	AADT 24	AADT 24
2	Barrow Green Lane (to the west of proposed site access)	1778	76	4.3%

9.7.5 As shown in **Table 9.13**, the percentage increase in total AADT flows falls below the IEMA Guidelines' threshold of 30% for 'negligible' changes in severance. As such, the construction phase of the Development will result in a local, short-term, direct, and negligible effect related to severance (which is not significant).

Driver Delay

9.7.6 Based on the scope of the TA, as agreed with SCC, detailed junction capacity assessments have not been undertaken for the construction phase of the Development. This is because the expected level of vehicle trip generation and any potential disruption associated with the construction phase is considered to be low and temporary. During the construction phase, it is expected that a total of circa 76 two-way vehicle trips could be generated during the day comprising a combination of LDVs and HGVs. As such, the additional number of vehicles during the highway network peak hours and routed on each highway link would be in line with typical daily variations in traffic flow and not expected to cause any additional delay.

9.7.7 Based on the above, it is considered that there would be a local, short-term, direct, and negligible effect related to driver delay, across all links (which is not significant).

Pedestrian Delay

9.7.8 Based on the criteria set out in paragraph 1.3.17 the assessment of pedestrian delay has not been considered further since the magnitude of impact for severance for the links assessed is negligible. As such, the construction phase of the Development will result in a local, short-term, direct, and negligible effect related to pedestrian delay (which is not significant).

9.7.9 It should be noted that there would be some negligible impacts on pedestrians at the existing bridleway through the Site (97) as a result of construction activity. However, this would be managed through effective traffic management measures and the impacts on pedestrian delay would be negligible.

NMU Amenity

9.7.10 NMU amenity is affected by factors including traffic flow, traffic composition and footway or footpath width / separation from traffic. A tentative threshold for judging

the significance of changes in pedestrian amenity is described by the IEMA Guidelines as instances 'where traffic flow (or its lorry component) is halved or doubled'.

9.7.11 As shown on **Table 9.12**, the HGV component of traffic has increased by 134% from the 2024 baseline as a result of construction phase traffic. This increase results in more than doubling of the HGV traffic on Barrow Green Road. It should be noted that this increase is due to low levels of background HGV traffic at this location and not due to high levels of HGV traffic generation as a result of construction.

9.7.12 Additionally, there will be a minor level of disruption to NMUs at the site access and the existing bridleway through the Site (97) as a result of construction activity. This impact would be effectively managed through appropriate traffic management measures.

9.7.13 The overall magnitude of impact on NMU amenity is considered to be medium, within and at the immediate vicinity of the Site, and the sensitivity of links and locations that are most impacted are considered to be low. As such, the construction phase of the Development will result in a local, short-term, direct, and minor adverse effect related to NMU amenity (which is not significant).

Pedestrian Fear and Intimidation

9.7.14 The assessment of pedestrian fear and intimidation has been undertaken and the results for the construction phase presented in **Table 9.14.**

9.7.15 Based on the comparison of the results between the 'with' and 'without' construction phase traffic, there is a negligible magnitude of impact for all links assessed. As such, the construction phase of the Development will result in a local, short-term, direct, and negligible effect related to pedestrian fear and intimidation (which is not significant).

Table 9.14: Potential Effects – Fear and Intimidation (Construction Phase)

Link Location	2-way flows AAWT 18 (Totals/Hr)	2-way flows AAWT 18 (HGV)	2-way Speeds AAWT (MPH)	Sum of hazard Score per link	Level of Fear and Intimidation
2024 Base Year					
Barrow Green Lane (to the west of proposed site access)	108	13	36	20	Small
2024 + Construction Phase Traffic					
Barrow Green Lane (to the west of proposed site access)	129	16	36	20	Small

Road Safety

9.7.16 There are no substantive changes expected to the general rates and patterns of road traffic collisions in the surrounding highway network once the construction phase traffic is introduced as a result of the Development. As such, the construction phase of the Development will result in a local, short-term, direct, and negligible effect related to road safety (which is not significant).

Operational Phase

Embedded Mitigation Measures

9.7.17 The embedded mitigation as part of the construction phase includes:

- An access strategy with vehicle access from both Barrow Green Road and Wheeler Avenue which comprises:
  - No pedestrian access at Barrow Green Road.
  - No possibility of traffic routing from Barrow Green Road through to Wheeler Avenue to prevent rat-running of background traffic and manage the traffic at each access point.
- Internal site layout designed to best practice and provision for pedestrians prioritised.
- Improvements to the southern section of Bridleway 97 in the form of low level lighting and surface improvements. This will improve access to the Site from Court Farm Lane by pedestrians and cyclists and will benefit the wider community using the bridleway.
- Adoption of a Framework Travel Plan to monitor travel to/from the Proposed Development, and to implement measures and targets to seek continual improvement in sustainable travel mode shares, following occupation of the Proposed Development.

Anticipated Effects

9.7.18 Based on the forecast traffic flows presented in **Table 9.11** the only highway link which meets the assessment thresholds set out under Paragraph 1.3.1 is Link 3: Wheeler Avenue. At this link, the AADT component increases beyond the 30% threshold to be included in the assessment.

Severance

9.7.19 **Table 9.15** shows the percentage change in AADT flows, in terms of total vehicle flows, on the highway links assessed.

Table 9.15: Potential Effects - Severance (Operational Phase)

Ref	Link	2030 Baseline	Dev Traffic	% Impact
		AADT 24	AADT 24	AADT 24
3	Wheeler Avenue	633	475	75.1%

9.7.20 As shown in **Table 9.15** the percentage increase in total AADT flows result in a magnitude of impact of Medium on Link 3 which has a low sensitivity. As such, the operational phase of the Development will result in a local, long-term, direct, and minor adverse effect related to severance (which is not significant).

Driver Delay

9.7.21 Based on the junction capacity assessment undertaken as part of the TA (**ES Volume 3, Appendix E**), the vehicle delays at the junctions included as part of the assessment have been determined. The detailed junction capacity assessment results are included in Section 6 of the TA. A summary of the maximum difference in vehicle delays for each junction, considering all junction arms and both the AM and PM peak hours, is presented in **Table 9.16**.

9.7.22 The results show that the changes in driver delay are mostly negligible. The maximum delay as a result of the Proposed Development occurs at the A25 Oxted Road/ Barrow Green Lane/ Tandridge Lane, on the A25 Godstone Road junction arm, during the AM peak hour. This change is delay is considered to be minor, especially when considered against the delays in the 2030 baseline scenario where the junction arm has delays of 42s forecast.

Table 9.16: Potential Effects – Driver Delay (Operational Phase)

No	Junction	Change in Delay Between 2030 Baseline and 2030 Do Something Scenarios
1	Wheeler Avenue/ Church Lane	<1s
2	Church Lane/ Station Road/ East Hill Road	2s
3	A25 West Hill/ Church Lane/ A25 Godstone Road	4s
4	A25 Oxted Road/ Barrow Green Lane/ Tandridge Lane	11s
5	A25 Oxted Rd/ A22	2s

9.7.23 Based on the above, it is considered that there would be a local, short-term, direct, and minor effect related to driver delay, across all links (which is not significant).

Pedestrian Delay

9.7.24 Based on the criteria set out in Paragraph 1.3.17, the assessment of pedestrian delay is linked to the severance effects for this Link, which has a low magnitude of impact. Wheeler Avenue is a residential and low trafficked road and it is expected that the level of demand for pedestrians to cross between the west and eastern side of Wheeler Avenue is extremely limited given the lack of logical desire lines and therefore it would have no material impact on pedestrian delay.

9.7.25 As such, it is considered that the magnitude of impact in relation to pedestrian delay would be low for Wheeler Avenue. This, in combination with a link sensitivity of low, results in a local, long-term, direct, negligible effect on pedestrian delay.

NMU Amenity

9.7.26 NMU amenity is affected by factors including traffic flow, traffic composition and footway or footpath width / separation from traffic. A tentative threshold for judging the significance of changes in pedestrian amenity is described by the IEMA Guidelines as instances 'where traffic flow (or its lorry component) is halved or doubled'.

9.7.27 As shown on **Table 9.11**, the AADT traffic has increased by less than 100% from the 2030 baseline scenario as a result of operational phase traffic.

9.7.28 Overall, the level of AADT traffic as a result of the development is not considered to cause disruption to NMUs through Wheeler Avenue and therefore the overall magnitude of impact is considered to be a low. This coupled with the low sensitivity for Wheeler Avenue results in a local, short-term, direct, and minor adverse effect related to NMU amenity (which is not significant).

Pedestrian Fear and Intimidation

9.7.29 The assessment of pedestrian fear and intimidation has been undertaken and the results for the construction phase presented in **Table 9.17**.

9.7.30 Based on the comparison of the results between the 'with' and 'without' operational phase traffic, there is a negligible magnitude of impact for Wheeler Avenue. As such, the operational phase of the Development will result in a local, short-term, direct, and negligible effect related to pedestrian fear and intimidation (which is not significant).

Table 9.17: Potential Effects – Fear and Intimidation (Operational Phase)

Link Location	2-way flows AAWT 18 (Totals/Hr)	2-way flows AAWT 18 (HGV)	2-way Speeds AAWT (MPH)	Sum of hazard Score per link	Level of Fear and Intimidation
2030 Baseline					
Wheeler Avenue	35	3	23.15	10	Small

Link Location	2-way flows AAWT 18 (Totals/Hr)	2-way flows AAWT 18 (HGV)	2-way Speeds AAWT (MPH)	Sum of hazard Score per link	Level of Fear and Intimidation
2030 + Operational Phase Traffic					
Wheeler Avenue	129	16	36	20	Small

Road Safety

9.7.31 There are no substantive changes expected to the general rates and patterns of road traffic collisions in the surrounding highway network once the Development is operational. A detailed review of collisions surrounding the proposed development is included within Section 3 of the TA (**ES Volume 3, Appendix E**) which concluded that that the Proposed Development is not considered to have a detrimental effect on road safety.

9.7.32 As such, the operational phase of the Development will result in a local, long-term, direct, and negligible effect related to Road Safety (which is not significant).

9.8 Scope for Additional Mitigation Measures

Potential Additional Mitigation Measures

9.8.1 None of the effects under the construction phase and operational phase require mitigation and, therefore, their scale and nature will remain as discussed above under 'Anticipated Effects'.

9.9 Residual Effects

9.9.1 Following the effective implementation of the embedded mitigation measures proposed above, there are no significant residual effects arising from the Proposed Development during construction or operational phases.

9.10 Cumulative Effects

9.10.1 Cumulative effects are the combined effects of several development schemes (in conjunction with the Proposed Development) which may, on an individual basis be insignificant but, cumulatively, have a significant effect.

9.10.2 The cumulative effects of the Proposed Development and identified cumulative schemes (as listed in **ES Volume 2, Chapter 3: EIA Methodology Table 3.7**) have been considered during operational phase of the Proposed Development. Separate assessments with and without cumulative schemes have not been undertaken since the assessment of traffic and transport effects would inherently be cumulative.

9.10.3 The cumulative schemes included are as follows:

- Proposed residential development 116 Dwellings - APP/M3645/W/24/3345915
- Erection of crematorium facility - APP/M3645/W/21/3272384
- Proposed residential development 75 dwellings – TA/2023/1135

9.10.4 It should be noted that in addition to the abovementioned schemes, the traffic and transport includes general background traffic growth between the baseline year and future years. This is derived using the TEMPro software with the detailed methodology included in Section 6 of the TA (**ES Volume 3, Appendix E**).

9.11 Summary and Conclusions

9.11.1 This chapter of the ES assesses the likely significant effects of the Proposed Development in terms of Traffic and Transport.

9.11.2 In terms of the transport baseline conditions, there are large number of local services and amenities which are accessible within appropriate walking and cycling distances to the proposed development. Provision for pedestrians on the network surrounding the site (accessible via Wheeler Avenue and Court Farm Lane) is considered to be of a good quality. The low traffic speeds and topography of key routes to the south of the site are also conductive to cycling. Additionally, bus stops are available within appropriate walking distances along Bluehouse Lane and Church Lane which provide access to key destinations nearby.

9.11.3 The Traffic and Transport Chapter has been prepared in line with the prevailing planning policy and guidance and in consultation with Tandridge District Council and Surrey County Council. Of specific relevance to this Chapter is the IEMA Guidelines: Environmental Assessment of Traffic and Movement (July 2023).

9.11.4 The following measures are proposed as part of the Proposed Development as part of the construction phase:

- Access limited to Barrow Green Lane during the construction phase.
- A Construction Traffic Management Plan ('CTMP'), which will be prepared and secured by planning condition attached to the planning consent.
- CTMP will include measures to address adverse traffic impacts in accordance with best practice. Measures will include avoiding construction material delivery trips in the peak traffic hours and defined routes for contractors so as to avoid the most sensitive receptors / roads and ensure that vehicles use appropriate routes. Preparation of the CTMP would be secured by planning condition led by the main delivery contractor. The CTMP will be submitted to SCC for approval.
- A Construction Environment Management Plan ('CEMP'), which will also be prepared and secured by planning condition attached to the planning consent.

- The CEMP will include a series of measures to address how adverse impacts associated with the construction of the development will be managed. This will include management of working hours, control of dust and air quality, management of debris on the highway, control of noise and vibrations and communication with the public. It will be secured by condition and led by the contractor.

9.11.5 The following measures are proposed as part of the Proposed Development as part of the operational phase:

- An access strategy with vehicle access from both Barrow Green Road and Wheeler Avenue which comprises:
  - No pedestrian access at Barrow Green Road.
  - No possibility of traffic routing from Barrow Green Road through to Wheeler Avenue to prevent rat-running of background traffic and manage the traffic at each access point.
- Internal site layout designed to best practice and provision for pedestrians prioritised.
- Improvements to the southern section of Bridleway 97 in the form of low level lighting and surface improvements. This will improve access to the site from Court Farm Lane by pedestrians and cyclists and will benefit the wider community using the bridleway.
- Adoption of a Framework Travel Plan to monitor travel to/from the Proposed Development, and to implement measures and targets to seek continual improvement in sustainable travel mode shares, following occupation of the Proposed Development.

9.11.6 In line with IEMA Guidelines, the assessment considers the following topics for both the construction phase and operational phase of the Proposed Development:

- Severance;
- Driver Delay;
- Pedestrian and Cyclist Delay;
- Non-Motorised User (NMU) Amenity;
- Fear and Intimidation; and
- Road Safety.

9.11.7 The assessment results for both the construction and operational phases of the development concluded that none of the abovementioned impacts result in significant effects. As such none of the effects under the construction phase and operational phase require mitigation.

9.11.8 **Table 9.18** summarises the (Traffic and Transport) effects resulting from the Proposed Development.

Table 9.18: Summary of Residual Effects

Receptor/ Affected Group	Value or Sensitivity (Significance) of Receptor	Activity or Impact	Embedded Design Mitigation	Magnitude/ Spatial Extent/ Duration/ Likelihood of Occurrence	Significance of effect	Additional Mitigation	Residual Magnitude of Impact	Significance of Residual effect
Construction								
Barrow Green Road (Primarily drivers)	Low	Severance	Access Strategy from Barrow Green Lane CTMP to address adverse traffic impacts of construction in accordance with best practice	Negligible Local Temporary Likely	Negligible	Negligible	Negligible	Negligible
		Driver Delay		Negligible Local Temporary Likely	Negligible	Negligible	Negligible	Negligible
		Pedestrian Delay		Negligible Local Temporary Likely	Negligible	Negligible	Negligible	Negligible
		NMU Amenity		Medium Local Temporary Likely	Minor	None	Medium	Minor
		Pedestrian Fear and Intimidation		Negligible Local Temporary	Negligible	Negligible	Negligible	Negligible

Receptor/ Affected Group	Value or Sensitivity (Significance) of Receptor	Activity or Impact	Embedded Design Mitigation	Magnitude/ Spatial Extent/ Duration/ Likelihood of Occurrence	Significance of effect	Additional Mitigation	Residual Magnitude of Impact	Significance of Residual effect
				Likely				
		Road Safety		Negligible Local Temporary Likely	Negligible	Negligible	Negligible	Negligible
Operation								
Wheeler Avenue (Primarily residents and pedestrians)	Low	Severance	An access strategy with vehicle access from both Barrow Green Road and Wheeler Avenue Improvements to the southern section of Bridleway 97 Adoption of a Framework Travel Plan	Medium Local Permanent Likely	Minor	None	Medium	Minor
		Driver Delay		Negligible Local Permanent Likely	Negligible	None	Negligible	Negligible
		Pedestrian Delay		Low Local Permanent Likely	Minor	None	Negligible	Negligible
		NMU Amenity		Low Local Permanent Likely	Minor	None	Low	Minor
				Negligible Local	Negligible	None	Negligible	Negligible

Receptor/ Affected Group	Value or Sensitivity (Significance) of Receptor	Activity or Impact	Embedded Design Mitigation	Magnitude/ Spatial Extent/ Duration/ Likelihood of Occurrence	Significance of effect	Additional Mitigation	Residual Magnitude of Impact	Significance of Residual effect
		Pedestrian Fear and Intimidation		Permanent Likely				
		Road Safety		Negligible Local Permanent Likely	Negligible	None	Negligible	Negligible