Ansty Garden Community

Environmental Statement

Volume 2

November 2023

CHAPTER 7: TRAFFIC AND TRANSPORT

temple

7 Traffic and Transport

7.1 Scope of Assessment

7.1.1 This chapter of the ES assesses the likely significant effects of the Proposed Development and Parkland Reserve Site in terms of traffic and transport and is supported by the Transport Assessment (TA) at **ES Volume 4, Appendix C**.

7.1.2 It looks at the forecasted transport movements resulting from the additional travel demand arising from the Proposed Development and the changes to the capacity of the local transport network and the mitigation measures required to accommodate these changes.

7.1.3 In doing so, the chapter describes the following:

- 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 cumulative effects associated with the Proposed Development in combination with other developments within 5 km of the Site.

7.1.4 '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 14: Effect Interactions.**

7.2 Key Legislation, Policy and Guidance Considerations

7.2.1 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

7.2.2 The following legislation is relevant to implementing the access proposals for the Proposed Development, through Section (S) 278 works:

- Highways Act 1980.

National Planning Policy

7.2.3 The relevant land use and transport planning policy pertinent to the consideration of the proposed development is provided in the Government's National Planning Policy

Framework ('NPPF'), Mid Sussex District Council (MSDC) existing and draft District Plan, and the West Sussex Transport Plan.

National Planning Policy Framework

7.2.4 Paragraph 104 of the NPPF[1] (2023) states that:

"Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- *the potential impacts of development on transport networks can be addressed;*
- *opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- *opportunities to promote walking, cycling and public transport use are identified and pursued;*
- *the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- *patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places."*

7.2.5 Paragraph 105 states that:

"opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making."

7.2.6 Paragraph 110 states that:

"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- *appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- *safe and suitable access to the site can be achieved for all users;*
- *the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and*

[1] National Planning Policy Framework, Department for Levelling Up, Housing and Communities, September 2023.

- *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."*

7.2.7 Paragraph 111 subsequently confirms that:

"Development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

Planning Policy Guidance

7.2.8 The national Planning Policy Guidance (PPG) states that Travel Plans should be based on evidence of the anticipated transport impacts of development. Opportunities should then be identified for the effective promotion and delivery of sustainable transport initiatives, reducing the demand for travel by less sustainable modes.

Mid Sussex District Council Policy Context

Adopted Mid Sussex District Plan 2014 – 2031

7.2.9 The Mid Sussex District Plan 2014 – 2031[2] is the adopted local plan position of Mid Sussex District Council (MSDC), being formally adopted in March of 2018. The Plan outlines the vision and policies for development in Mid Sussex. The vision for Mid Sussex centres around four key themes:

- *"Protecting and enhancing the environment;*
- *Promoting economic vitality;*
- *Ensuring cohesive and safe communities; and*
- *Supporting healthy lifestyles."*

7.2.10 Policy DP21 – Transport of the adopted Mid Sussex District Plan reads as follows:

"Development will be required to support the objectives of the West Sussex Transport Plan 2011 – 2026, which are;

- *A high quality transport network that promotes a competitive and prosperous economy;*
- *A resilient transport network that complements the built and natural environment whilst reducing carbon emissions over time;*
- *Access to services, employment and housing; and*

[2] Mid Sussex District Plan 2014 – 2031, Mid Sussex District Council, March 2018.

- *A transport network that feels, and is, safer and healthier to use."*

To meet these objectives, decisions on development proposals will take account of whether:

- *"The scheme is sustainably located to minimise the need for travel noting there might be circumstances where development needs to be located in the countryside, such as rural economic uses (see policy DP14: Sustainable Rural Development and the Rural Economy);*
- *Appropriate opportunities to facilitate and promote the increased use of alternative means of transport to the private car, such as the provision of, and access to, safe and convenient routes for walking, cycling and public transport, including suitable facilities for secure and safe cycle parking, have been fully explored and taken up;*
- *The scheme is designed to adoptable standards, or other standards agreed by the Local Planning Authority, including road widths and size of garages;*
- *The scheme provides adequate car parking for the proposed development taking into account the accessibility of the development, the type, mix and use of the development and the availability and opportunities for public transport; and with the relevant Neighbourhood Plan where applicable;*
- *Development which generates significant amounts of movement is supported by a Transport Assessment / Statement and a Travel Plan that is effective and demonstrably deliverable including setting out how schemes will be funded;*
- *The scheme provides appropriate mitigation to support new development on the local and strategic road network, including the transport network outside of the district, secured where necessary through appropriate legal agreements;*
- *The scheme avoids severe additional traffic congestion, individually or cumulatively, taking account of any proposed mitigation;*
- *The scheme protects the safety of road users and pedestrians; and*
- *The scheme does not harm the special qualities of the South Downs National Park or the High Weald Area of Outstanding Natural Beauty through its transport impacts.*

Where practical and viable, developments should be located and designed to incorporate facilities for charging plug-in and other ultra-low emission vehicles.

Neighbourhood Plans can set local standards for car parking provision that it is based upon evidence that provides clear and compelling justification for doing so."

7.2.11 Policy DP22 – Rights of Way and other Recreational Routes reads as follows:

"Rights of Way, Sustrans national cycle routes and recreational routes will be protected by ensuring development does not result in the loss of or does not adversely affect a right of way or other recreational routes unless a new route is provided which is of at least an equivalent value and which does not sever important routes.

Access to the countryside will be encouraged by:

- *Ensuring that (where appropriate) development provides safe and convenient links to rights of way and other recreational routes;*
- *Supporting the provision of additional routes within and between settlements that contribute to providing a joined up network of routes where possible;*
- *Where appropriate, encouraging making new or existing rights of way multi-functional to allow for benefits for a range of users. (Note 'multi-functional will generally mean able to be used by walkers, cyclists and horse-riders)."*

Draft Mid Sussex District Plan 2021 - 2039

7.2.12 Per national planning policy, MSDC have commenced a District Plan Review, due to be completed in 2023. The draft District Plan 2021 – 2039[3] was published for the Regulation 18 consultation process between 7th November and 19th December 2022.

7.2.13 As with the adopted local plan, the draft local plan sets out the vision and objectives for Mid Sussex. The draft local plan sets out three key themes for Mid Sussex:

- "*Environment: Protecting and enhancing the natural, built, and historic environment;*
- *Economy: Promoting economic vitality; and*
- *Social: Ensuring cohesive, safe and healthy communities."*

7.2.14 Chapter 12 of the draft local plan concerns transport policy in Mid Sussex. Policy DPT1: Placemaking and Connectivity reads as follows:

"Development shall provide appropriate infrastructure to support the vision and objectives of the West Sussex Transport Plan 2022 – 2036 and meet the requirements of the NPPF.

To meet these objectives:

- *Development that is likely to generate significant amounts of movement and/or have a significant impact on the transport network shall provide a Transport Assessment / Statement, Sustainable Transport Strategy and Travel Plan to identify appropriate mitigation and demonstrate how development will be accompanied by the necessary sustainable infrastructure to support it and to accord with the requirements of the NPPF.*
- *Demonstrate how all relevant sustainable travel interventions (for the relevant local network) will be maximised and taken into account in terms of their level of mitigation before considering physical highway infrastructure mitigation.*

[3] Draft Mid Sussex District Plan 2021 – 2039 (Regulation 18), Mid Sussex District Council, November 2022.

- *Development shall integrate relevant requirements of Chapter 4 of the Mid Sussex Design Guide SPD and be designed to prioritize sustainable and active modes of travel, providing safe and convenient routes for walking and cycling through the development and linking with existing and enhanced networks beyond; before the highway layout is planned.*
- *Create liveable communities which strive to embody the 20-minute neighbourhood concept and deliver attractive, healthy places that have a permeable street network within the site with clearly defined route hierarchies that are safe and designed for all users and supporting desirable opportunities for people to choose not to travel by car.*
- *New streets shall be designed to adoptable standard which can easily incorporate advanced digital infrastructure, including fibre."*

7.2.15 Policy DPT2: Rights of Way and Other Recreational Routes reads as follows:

"Rights of way, Sustrans national cycle routes and recreational routes will be protected by ensuring development does not result in the loss of or does not adversely affect a right of way or other recreational routes unless a new route is provided which is of at least an equivalent value and which does not sever important routes.

Access to the countryside will be encouraged by:

Ensuring that (where appropriate) development provides safe and convenient links to rights of way and other recreational routes;

Supporting the provision of additional routes within and between settlements that contribute to providing a joined up network of routes where possible;

Where appropriate, encouraging making new or existing rights of way multi-functional to allow for benefits for a range of users. (Note: 'Multi-functional will generally mean able to be used by walkers, cyclists and horse-riders)."

7.2.16 Policy DTP3: Active Travel reads as follows:

"Development will be required to help remove barriers to active travel and create a healthy environment in which people chose to walk and wheel; facilitated by:

- *Where appropriate, providing high quality, fit for purpose active travel infrastructure, within the development which links to existing networks and builds on the schemes identified in the Mid Sussex Local Cycling and Walking Infrastructure Plan (LCWIP).*
- *Providing appropriate levels of cycle parking facilities (taking account of WSCC Guidance on Parking at New Developments 2020 and subsequent iterations), well designed and laid out to be under cover, secure, conveniently located and easily accessible, close to the main entrance of the premises and in accordance with the guidance in the Mid Sussex Design Guide SPD."*

7.2.17 Policy DPT4: Parking and Electric Vehicle Charging Infrastructure reads as follows:

"Development will be required to:

- *Provide adequate and well-integrated car parking, taking account of the guidance in the Mid Sussex Design Guide SPD and the WSCC Guidance on Parking at New Developments (2020 and subsequent iterations) along with the accessibility of the site to services and sustainable travel infrastructure, and the type, mix and use of development.*
- *Parking associated with all new residential development shall be laid out to ensure the relevant requirements of Schedule 1 Part S of the Building Regulations regarding Electric Vehicle Charging are met.*
- *All new non-residential buildings with more than 10 associated parking spaces within the site boundary, shall provide a minimum of 2 'Fast' (7kW) or faster, Electric Vehicle Charging points; cable routes shall be provided for 50% of the remaining total number of spaces."*

West Sussex County Council Planning Policy Context

West Sussex Transport Plan 2022 to 2036

7.2.18 The West Sussex Transport Plan 2022 to 2036[4] sets out the overall strategy for West Sussex County Council (WSCC) as highways authority, being formally adopted in April of 2022. The plan outlines the vision and policies for transport across West Sussex. The plan focuses on the following four themes:

- *"Prosperous West Sussex*
- *Healthy West Sussex*
- *Protected West Sussex*
- *Connected West Sussex"*

7.2.19 These themes are supported by a further 17 objectives which are as follows:

"Objective 1: Support sustainable economic prosperity across the County by enabling recovery from the COVID-19 pandemic and levelling-up underperforming areas.

Objective 2: Support development and regeneration plans across the County by enabling local living and through strategic investments, particularly in sustainable modes of transport, at the right time and place to ensure the transport network is fit for the future.

Objective 3: Accommodate the needs of an ageing population that is expected to grow most in existing settlements in the Gatwick Diamond and Costal West Sussex Areas.

[4] West Sussex Transport Plan 2022 to 2036, West Sussex County Council, April 2022.

Objective 4: Avoid where possible and minimise air, noise and light pollution from use of the transport network to minimise impacts on public health and well-being.

Objective 5: Ensure the transport network allows residents and visitors (including people with disabilities) to live healthy lifestyles with good access to green and blue spaces, particularly the West Sussex coast and the protected South Downs, High Weald and Chichester Harbour.

Objective 6: Ensure rural communities can live locally by accessing local services or nearby towns.

Objective 7: Enable the transport network to achieve net zero carbon emissions by 2050.

Objective 8: Avoid where possible and minimise the impacts of the transport network on natural resources and on the natural, built and historic environment.

Objective 9: Improve the transport network whilst conserving and enhancing biodiversity.

Objective 10: To monitor and adapt infrastructure to the effects of climate change.

Objective 11: Reduce the need to travel by car by enabling local living.

Objective 12: Improve the efficiency of the County Strategic Road Network, particularly east-west routes including the A27, through targeted improvements to address congestion, pollution, rat-running and road safety issues on strategic or local routes.

Objective 13: Minimise the impacts on the transport network of surface access to Gatwick Airport by passengers and employees and ensure transport network improvements take the needs of other users and communities that share these routes into account.

Objective 14: Ensure the rail network is an attractive option for travel between West Sussex towns and to surrounding cities by improving the speed and quality of West Coastway and Arun Valley Line services, capacity on the Brighton Main Line and integration with other modes of transport.

Objective 15: Improve bus network efficiency and integration by reducing the effects of congestion into and within West Sussex towns, particularly where there are gaps in the rail network.

Objective 16: Ensure the bus network is customer focussed and integrated with other modes of transport to provide an attractive option for journeys to nearby towns.

Objective 17: Extend and improve the network of active travel facilities so it is coherent and high quality enough to make active travel an attractive, safe option for short distance trips and to transport interchanges."

Technical Standards and Guidance

7.2.20 The scope of the EIA is prepared with reference to Environmental Assessment of Traffic and Movement, Institute of Environmental Management and Assessment

(IEMA) Guidelines (July 2023)[5], which sets out the areas and criteria for the assessment of the traffic and transport effects of proposed developments on sensitive receptors.

7.2.21 The following additional guidance has informed the assessment of effects within this Chapter:

- CD 116 Revision 2: Geometric Design of Roundabouts, Design Manual for Roads and Bridges (DMRB), DfT (May 2023)[6];
- Inclusive Mobility: A guide to best practice on access to pedestrian and transport infrastructure (December 2021)[7]; and
- LTN 1/20 Cycle Infrastructure Design (July 2020), DfT[8].

7.3 Assessment Methodology

7.3.1 This section explains the methodology used within this assessment.

7.3.2 The Proposed Development and Parkland Reserve Site have been considered holistically within this assessment and ES chapter; however, the Parkland Reserve Site is not anticipated to provide any additional notable vehicle movements during the construction and operation of the Parkland Reserve Site. Consequently, the effects of the Proposed Development (during both construction and operation) are considered to be representative of the Proposed Development and the Parkland Reserve Site.

Determination of Baseline

7.3.3 The baseline traffic flows of the surrounding highway network have been obtained from the Mid Sussex Strategic Highway Model (MSSHM), as agreed with WSCC, which was developed using the SATURN strategic traffic modelling software. For the future baseline with and without the Proposed Development detailed below, an amended version of the MSSHM has been utilised, as agreed with WSCC.

7.3.4 The future year utilised within this assessment is 2039, which is the end of local plan period for the draft Mid Sussex District Plan; this is to ensure that a worst-case scenario in terms of traffic growth has been considered and assessed. The 2039 Do Nothing Case represents forecast traffic on the highway network in 2039, which

[5]Environmental Assessment of Traffic and Movement, Institute of Environmental Management and Assessment, July 2023

[6] CD116 Revision 2: Geometric Design of Roundabouts, Design Manual for Roads and Bridges, Department of Transport, May 2023

[7]Inclusive Mobility: A guide to best practice on access to pedestrian and transport infrastructure, Department for Transport, December 2021

[8]Local Transport Note 1/20 Cycle Design Infrastructure, Department for Transport, July 2020

includes traffic growth derived using TEMPro, with committed developments discounted from the generalised TEMPro growth factors, and instead applied specifically onto the local highway network utilising the MSSHM. Considering that the Proposed Development is expected to be operational in 2032, a 2039 baseline represents a higher degree of background traffic growth and therefore the baseline used within this chapter should be considered worst case. 2039 is also the future year used within the Transport Assessment to provide a robust assessment, as agreed with WSCC.

7.3.5 The 2039 Do Something Case represents the 2039 Do Nothing Case plus the Proposed Development generated traffic distributed onto the local highway network using the MSSHM. Trip rates for the Proposed Development were agreed with WSCC during pre-application discussions, and therefore represent a robust worst-case scenario.

7.3.6 For the purposes of this assessment 2039 scenarios are reflective of the 2032 opening year of the Proposed Development.

Prediction Methodology

7.3.7 The environmental impact of the Proposed Development generated traffic has been assessed with reference to the IEMA guidelines. In accordance with guidance, criteria including severance, driver delay, pedestrian amenity and delay, accidents and safety associated with the Proposed Development have been investigated and reported below.

7.3.8 Any likely significant environmental effects relating to noise, vibration and air pollution generated by traffic from the Proposed Development are considered in the relevant technical chapters (i.e. **Chapter 8: Air Quality** and **Chapter 9: Noise and Vibration** of this ES).

Study Area

7.3.9 The IEMA Guidelines state that the following criteria should be used to assist in delimiting the scale and extent of the environmental assessment (except for road safety and driver delay which requires separate assessment criteria):

- Include highway links where traffic flows will increase by more than 30% (or the number of Heavy Goods Vehicles (HGVs) will increase by more than 30%); and
- Include highway links of high sensitivity where traffic flows have increased by 10% or more.

7.3.10 While the categorisation above can provide an initial sequential approach in considering which road links should be included within the study area, this chapter reports changes on all links within the traffic study area, the extent of which was

agreed with WSCC, before then extracting the information for the relevant road links relevant to each of the identified sensitive receptor.

Temporal Scope

7.3.11 The assessment covers the construction and occupation phases of the Proposed Development.

7.3.12 The forecast year for operational assessment is 2039 which is the end of local plan period for the draft Mid Sussex Local Plan. Considering that the Proposed Development is expected to be operational in 2032, a 2039 baseline represents a higher degree of background traffic growth and therefore the baseline used within this chapter should be considered worst case. 2039 is also the future year used within the Transport Assessment to provide a robust assessment, as agreed with WSCC.

7.3.13 For the purposes of this chapter, it has been assumed that there would be a constant rate of housing delivery across the period of construction.

7.3.14 While there may be some variation to this, especially associated with the timing for the non-residential land-uses, it is not possible at this stage to determine how long or how condensed the period of construction for those elements would be.

7.3.15 The likely variability across the mean is not expected to be in excess of 10-15% in any one year across the period, and at this level, none of the assessment parameters or criteria would be affected to an extent where the conclusion of the ES Transport Chapter would be different.

Traffic Forecasting

7.3.16 The MSSHM provides suitable forecast data covering the following scenarios;

- 2039 Do Nothing – Forecast Baseline Scenario Without the Proposed Development.
- 2039 Do Something Isolated – 2039 Do Nothing + the Proposed Development.

7.3.17 The forecast AADT traffic flows for each link within the traffic study area are shown in **Table 7.1** below. The table also shows the percentage change in AADT on the links.

Table 7.1: Forecast AADT Flows and % Change

Link No.	Link Description	2039 Do Nothing	2039 Do Something Isolated	Total Traffic Change	% Total Change	HGV Change	% HGV Change
1	Holmstead Hill (North of Sough Green)	1447	1505	57	+4%	2	+4%
2	Sloughgreen Lane (West of Slough Green)	5979	6000	21	+0%	0	+0%

Link No.	Link Description	2039 Do Nothing	2039 Do Something Isolated	Total Traffic Change	% Total Change	HGV Change	% HGV Change
3	Staplefield Road / Whitemans Green	6965	7255	291	+4%	4	+4%
4	B2036 Brook Street (North of Whitemans Green)	3820	3975	155	+4%	8	+4%
5	Whitemans Green (Between Co-op and Ardingly Road Roundabouts)	9939	10237	297	+3%	7	+3%
6	Ardingly Road (East of Roundabout)	5006	5433	427	+8%	2	+8%
7	London Road (Between Ardingly Road and Rose and Crown Roundabouts)	7977	8442	465	+6%	13	+6%
8	B2184 London Road (adjacent to Cuckfield Village Hall)	4809	4722	-87	-2%	-1	-2%
9	B2036 (South Street)	3167	3718	552	+15%	25	+15%
10	A272 (Between B2036 and B2184)	7837	7229	-608	-8%	-20	-8%
11	A272 (Between B2036 and Site Access Roundabout)	10576	10219	-357	-3%	-12	-3%
12	A272 (Tylers Green)	7955	8086	131	+2%	3	+2%
***13**	Northern Site Access	0	1311	1311	N/A	0	N/A
14	B2184 Broad Street	6539	6253	-286	-5%	-6	-5%
15	A272 Tylers Green	15263	15606	344	+2%	11	+2%
16	B2272 Butler's Green Road (Between A272 and Bolnore Road Roundabouts)	17539	17581	42	+0%	1	0%

Link No.	Link Description	2039 Do Nothing	2039 Do Something Isolated	Total Traffic Change	% Total Change	HGV Change	% HGV Change
17	A272 (Isaac's Lane)	12456	12835	380	+3%	7	+3%
18	B2272 Link (Between Bolnore Road and Paddockhall Road Roundabouts)	17788	18099	311	+2%	7	+2%
19	Bolnore Road (South of B2272 Roundabout)	1596	1603	7	+0%	0	0%
20	Paddockhall Road (North of B2272 Roundabout	8141	8097	-44	-1%	0	-1%
21	B2272 (Muster Green South)	10032	10158	127	+1%	4	+1%
22	B2028 (Perrymount Road)	5918	5848	-70	-1%	-1	-1%
24	B2272 (Northern side of Muster Green Roundabout)	10695	10829	134	+1%	5	+1%
25	B2272 (Western side of Muster Green Roundabout)	11460	11611	150	+1%	5	+1%
26	B2272 (Eastern side of Muster Green Roundabout)	11444	11519	75	+1%	2	+1%
27	B2272 (Southern side of Muster Green Roundabout)	11097	11092	-5	-0%	0	+0%
28	Church Road	2230	2225	-5	-0%	0	+0%
29	B2272 (South east of Muster Green Roundabout)	7238	7413	175	+2%	3	+2%
30	B2112 (Hazelgrove Road)	5277	5392	115	+2%	1	+2%
31	Caxton Way	1980	1999	18	+1%	0	+1%
32	B2272 (Franklynn Road)	7779	7901	121	+2%	1	+2%

Link No.	Link Description	2039 Do Nothing	2039 Do Something Isolated	Total Traffic Change	% Total Change	HGV Change	% HGV Change
33	B2112 (Wivelsfield Road)	7898	8037	139	+2%	1	+2%
34	Parkfield Way (West of A272/A273 Roundabout)	2347	2356	9	+0%	0	+0%
35	A272 (Traunstein Way)	9038	9451	413	+4%	5	+4%
36	A273 (Isaac's Lane)	8071	8160	88	+1%	2	+1%
38	A272 (Rocky Lane (East of Foxhill Roundabout))	3054	3172	117	+4%	3	+4%
39	B2112 Fox Hill	9059	9330	271	+3%	5	+3%
40	A272 Rocky Lane (West of Foxhill Roundabout))	8846	9091	245	+3%	5	+3%
43	A272 Rocky Lane (West of Sandrocks Roundabout)	8846	9091	245	+3%	5	+3%
46	Traunstein Way (West of Highbank Roundabout)	7588	7700	112	+1%	2	+1%
49	A23 Off-slip (Northbound)	3558	3483	-75	-2%	-1	-2%
50	Link Road (Between A23 Northbound Sliproad Roundabout and Cowfold Road)	3927	4755	828	+17%	41	+17%
***51**	Site Access (Onto A272)	0	0	0	N/A	0	N/A
52	A272 (Between Site Access Roundabout and Ansty)	10576	11047	471	+4%	16	+4%
57	A272 Bolney Road	11272	11719	447	+4%	11	+4%
59	B2036 Harvest Hill (Between Ansty and Cuckfield Road)	6691	6124	-568	-9%	-18	-9%
60	B2036 Harvest Hill (Between	4371	4723	352	+7%	11	+7%

Link No.	Link Description	2039 Do Nothing	2039 Do Something Isolated	Total Traffic Change	% Total Change	HGV Change	% HGV Change
	Cuckfield Road and Southern site Access Roundabout)						
61	Cuckfield Road (Between B2036 and A2300)	2320	2774	454	+16%	15	+16%
***62**	Southern Site Access	0	1104	1104	N/A	0	N/A
63	B2036 Harvest Hill / Plains Flat	4371	4723	352	+7%	11	+7%
64	Fairbridge Way	187	189	2	+1%	0	+0%
65	A273 Link (Between Fairplace Hill North Roundabout and Fairplace Hill South Roundabout)	10423	10438	15	+0%	0	+0%
69	A273 (Jane Murray Way (East of Link Road Roundabout))	9881	10055	174	+2%	3	+2%
70	Triangle Way / The Acorns	3256	3271	15	+0%	0	+0%
71	A273 (Jane Murray Way (West of Link Road Roundabout))	3209	2839	-370	-13%	-5	-13%
72	A273 Sussex Way (Between Sussex Way Roundabout and Fairplace Hill South Roundabout)	6529	6628	98	+1%	1	+1%
73	Sussex Way (South of Sussex Way Roundabout)	8249	8412	164	+2%	4	+2%
74	Marchants Way (East of Fairplace Hill South Roundabout)	242	244	2	+1%	0	+0%
75	B2036 London Road (South of Fairplace Hill	7329	7697	368	+5%	3	+5%

Link No.	Link Description	2039 Do Nothing	2039 Do Something Isolated	Total Traffic Change	% Total Change	HGV Change	% HGV Change
	South Roundabout)						

**The Proposed Development access does not exist in the 2039 Do Nothing scenario.*

7.3.18 The IEMA Guidance states that the assessment should include highway links where traffic flows increase by more than 30% (or where the number of HGVs increase by the same proportion). The alternative is where there are identifiable sensitive receptors(e.g. pedestrians), i.e. links for which there are increases in traffic flows of 10% or more, these should be flagged for assessment.

7.3.19 On the basis of **Table 7.1**, there are no off-site links which increase traffic flows by 30% or more.

7.3.20 The following links are subject to increases in traffic above 10%, and would be triggered for assessment if they involve sensitive receptors.

- Link 9 – B2036 (South Street);
- Link 50 – Between A23 Northbound Slip Road Roundabout and Cowfold Road; and
- Link 61 – Cuckfield Road (Between B2036 and A2300)

7.3.21 The only increase in HGV percentage regarding the operation of the Proposed Development occurs on these three links, with an increase of 15%, 17% and 16% respectively.

Construction Programme

7.3.22 According to the construction programme, it has been assumed that a consistent 200 unit per annum build-out would be delivered on-site. With no overlapping phases, it is anticipated that the peak daily construction traffic will equate to 75 (two way) vehicles per day, 25 of which will be HGVs.

7.3.23 There are no major links adjacent to the Site whereby the additional 75 vehicles or 25 HGVs per day will create an increase of over 10%.

7.3.24 The construction phase of the Proposed Development can therefore be scoped out within this chapter.

Receptors

7.3.25 Location, groups and interests sensitive to changes in traffic flows (defined as receptors) are identified below, based on the list included within the IEMA guidance:

- People at home;
- People in work places;

- Sensitive groups including children, elderly and disabled;
- Sensitive locations (e.g. hospitals, churches, schools, historical buildings);
- People walking;
- People cycling; and
- Open spaces, recreational sites, shopping areas.

7.3.26 Whilst the IEMA guidance lists the types of sensitive receptors, as replicated below, it does not provide a scale to define them. The IEMA guidance is considered the most relevant standard from the perspective of transport, requiring the identification of groups and special interests which should be considered separately to other guidance that could be used.

7.3.27 The categories of sensitivity and associated descriptions are presented in **Table 7.2**.

Table 7.2: Sensitivity of Receptors

Sensitivity	Receptors
High	Schools, colleges, playgrounds and retirement homes
Medium	Congested junctions, shops/businesses, pedestrians/cyclists, areas of ecological/nature conservation value, residential properties close to the carriageway
Low	Site of tourist/visitor attraction, places of worship, residential areas set back from the highway with screening
Very Low	Those people and places located away from the affected highway link

7.3.28 Additional information is also included in Design Manual for Roads and Bridges (DMRB) LA112: Population and human health[9] on defining receptor value sensitivities for pedestrians, cyclists and horse-riders associated with public rights of way. **Table 7.3** summarises this information.

Table 7.3: Sensitivity of Receptors

Receptor Sensitivity	Description
Very High	1. National trails and routes likely to be used for both commuting and recreation that record frequent (daily) use. Such routes connect communities with employment land uses and other services with a direct and convenient Walking, Cycling and Horse-riding (WCH) route. Little/no potential for substitution. 2. Routes regularly used by vulnerable travellers such as the elderly, school children and people with disabilities, who could be

[9] Design Manual for Roads and Bridges LA 112: Population and human health, National Highways (Formerly Highways England), January 2022.

Receptor Sensitivity	Description
	disproportionately affected by small changes in the baseline due to potentially difference needs. 3. Rights of way for WCH crossing roads at grade with >16,000 vehicles per day.
High	1. Regional trails and routes (eg promoted circular walks) likely to be used for recreation and to a lesser extent commuting, that record frequent (daily) use. Limited potential for substitution; and/or 2. Rights of way for WCH crossing roads at grade with >8,000 – 16,000 vehicles per day
Medium	1. Public rights of way and other routes close to communities which are used for recreational purposes (eg dog walking), but for which alternative routes can be taken. These routes are likely to link to a wider network of routes to provide options for longer, recreational journeys, and/or 2. Rights of way for WCH crossing roads at grade with >4,000 – 8,000 vehicles per day
Low	1. Routes which have fallen into disuse through past severance, or which are scarcely used because they do not currently offer a meaningful route for either utility or recreational purposes, and/or 2. Rights of way for WCH crossing roads at grade with <4,000 vehicles per day
Very Low	1. N/A

7.3.29 **Table 7.4** summarises the receptors for all links to be assessed and assigns a sensitivity value to the link.

Table 7.4: Receptor Sensitivity Values

Link No.	Link Description	Receptors	Sensitivity Value
9	B2036 (South Street)	Pedestrians, cyclists, residential properties close to carriageway	Medium
50	Between A23 Northbound Slip Road Roundabout and Cowfield Road	No receptors	Very Low
61	Cuckfield Road (Between B2036 and A2300)	PRoW and Bridleway crossings	Low

7.3.30 Based on **Table 7.4**, links 9 and 61 will be assessed further in this chapter. There are no receptors on link 50 therefore this link is not considered sensitive and therefore it will not warrant any further assessment.

Assessment of Magnitude

7.3.31 The magnitude of change in traffic has been considered as the scale of difference experienced from future baseline conditions, compared with that taking place with the completion of the Proposed Development.

7.3.32 The IEMA Guidance: Environmental Assessment of Traffic and Movement (2023) identifies a number of potential environmental effects that may arise from changes in traffic conditions. The Guidelines set out the broad principles of how to assess the magnitude of impact for each category. These are summarised below for each likely environmental effect.

Severance

7.3.33 Severance can typically occur due to difficulty crossing a heavily trafficked road or relate to minor traffic flows if they impede pedestrian access to essential facilities. Factors considered in the assessment include road width, traffic flow and composition, traffic speeds, availability of crossing facilities and the number of movements likely to cross the affected route.

7.3.34 It is noted that different groups in a community may be more affected by severance than others. Vulnerable groups (such as older age, younger age and health status) may be more sensitive to traffic conditions than others. The guidance highlights that more detailed investigation is recommended where severance is thought likely.

7.3.35 As a starting point, the IEMA guidance includes a range of indicators relating to changes in traffic flows of 30%, 60% and 90%. The IEMA Guidance definitions are shown in **Table 7.5**.

Table 7.5: Magnitude of Impact for Severance

Magnitude	Threshold
Very Low	Change in total traffic flow of <30%
Low	Change in total traffic flow of 30-60%
Medium	Change in total traffic flow of 60-90%
High	Change in total traffic flow of 90%

7.3.36 Furthermore, the guidance sets out that consideration should be given to the local conditions such as whether crossing facilities are available, traffic signal settings and prevalence of vulnerable people.

7.3.37 Useful resources are included to augment the historic thresholds set out above as follows:

- Department for Transport (DfT) TAG Unit A4-1 Social Impact Appraisal (2021)[10] which includes guidance on assessing the hindrance of pedestrian movements; and
- DMRB LA112 Population and Human Health[11] containing magnitude thresholds where increases in public rights of way occur.

7.3.38 DfT TAG Unit A4-1 includes a chapter on severance impacts which suggests that it may be classified according to the following four broad levels:

- **None** – Little or no hindrance to pedestrian movement;
- **Slight** – All people wishing to make pedestrian movements will be able to do so, but there will probably be some hindrance to movement;
- **Moderate** – Pedestrian journeys will be longer or less attractive; some people are likely to be dissuaded from making some journeys on foot; and
- **Large** – People are likely to be deterred from making pedestrian journeys to an extent sufficient to induce a reorganisation of their activities. In some cases, this could lead to a change in the location of centres of activity or to a permanent loss of access to certain facilities for a particular community. Those who do make journeys on foot will experience considerable hindrance.

7.3.39 **Table 7.6** includes a qualitative assessment of change in severance.

Table 7.6: Change in Severance

Without-scheme Severance Scoring	With-scheme Severance Scoring			
	None	Slight	Moderate	Large
None	None	Slight negative	Moderate negative	Large negative
Slight	Slight positive	None	Slight negative	Moderate negative
Moderate	Moderate positive	Slight positive	None	Slight negative
Large	Large positive	Moderate positive	Slight positive	None

7.3.40 For each level of change in severance, the numbers of people affected should be estimated and the following overall assessment considered where multiple locations are assessed across a network:

[10] TAG Unit A4-1 Social Impact Appraisal, Department for Transport, November 2022.

[11] Design Manual for Roads and Bridges LA 112: Population and human health, National Highways (Formerly Highways England), January 2022.

- The overall assessment is likely to be Neutral if increases in severance are broadly balanced by relief of severance;
- The overall assessment is likely to be Slight where change in severance is slight or the total numbers of people affected across all levels of severance is low (for example, less than 200 per day);
- The overall assessment is likely to be Large where change in severance is large, and affects a moderate or high number of people or the total numbers of people affected across all levels of severance is high (for example, greater than 1,000); and
- The overall assessment is likely to be Moderate in all other cases.

7.3.41 DMRB LA 112 includes the following on magnitude of impact relating to changes in walking, cycling and horse-riding journey length for public rights of way. This could also be applied to general routes on the adopted highway, as shown in **Table 7.7**.

Table 7.7: Magnitude of Impact

Magnitude of Impact	Typical Description
Major	>500m increase (adverse) / decrease (beneficial) in
Moderate	>250m – 500m increase (adverse) or decrease (beneficial) in WCH journey length
Minor	>50m – 250m increase (adverse) or decrease (beneficial) in WCH journey length
Negligible	<50m increase (adverse) or decrease (beneficial) in WCH journey length
No change	No loss or alteration of characteristics, features, elements or accessibility; no observable impact in either direction

Road Vehicle Driver & Passenger Delay

7.3.42 The guidance sets out that the assessment of driver/passenger delay will normally be based on the technical work reported within the Transport Assessment, which generally focuses on conditions in the network peak periods.

7.3.43 Within the Transport Assessment (presented in **ES Volume 4, Appendix C**), traffic delays have been determined using junction software packages to analyse the local highway network. This was done by testing the performance of junctions during the AM and PM Peak Hour, under 2039 Do-Minimum and 2039 Do Something traffic conditions to give an estimate of increased vehicle delays.

Pedestrian Delay (incorporating delay to all non-motorised users)

7.3.44 The assessment of pedestrian delay provides a proxy for the delay that other non-motorised users may experience at crossing points.

7.3.45 Increases in traffic levels can lead to a greater degree of delay to non-motorised users wishing to cross roads. The degree of delay is therefore correlated with severance with changes in traffic volume, composition or speed of traffic affecting the ability of people to cross roads. Delays are also dependent on the general level of pedestrian activity, visibility and physical conditions of the development site.

7.3.46 The guidance mentions a predictive method for determining mean delay experienced by pedestrians for different types of crossing for different traffic flow can be found in TRL Supplementary Report 356 (J Goldschmidt, 1977)[12]. It suggests that this method can provide a useful approximation for determining the likely levels of pedestrian delay for different traffic levels.

7.3.47 The guidance also highlights that due to the range of local factors and conditions that can influence pedestrian delay it is recommended that professional judgement is used to determine whether there is a significant effect.

7.3.48 Useful reference resources are noted for pedestrian delay which relate to the same as those set out in the severance section above.

Non-Motorised User Amenity

7.3.49 In relation to non-motorised amenity, the importance of walking and cycling in contributing towards sustainable travel patterns is recognised in the NPPF. It places emphasis on the roles that walking and cycling can play as both main modes of transport or as part of a longer journey by public transport.

7.3.50 The IEMA guidance itself broadly defines amenity as "the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition and pavement width/separation from traffic." This definition also encompasses consideration of exposure to noise and air pollution and the overall relationship between pedestrians and traffic. The guidance points to the use of Transport for London's "Guide to the Healthy Streets Indicators: Delivering the healthy streets approach" in considering the factors that influence non-motorised users travel choice.

7.3.51 The guidance continues include the thresholds for judging if changes in pedestrian amenity are significant, depending on whether traffic flow (or HGV component) is halved or doubled. However, it suggests the thresholds should be used cautiously and that any assessment takes account of specific local conditions. The IEMA Guidance included the following thresholds for magnitude of impact to be used in the assessment, shown in **Table 7.8**.

[12]Supplementary Research Report 356 – Pedestrian delay and traffic management, J. Goldschmidt, 1977

Table 7.8: Magnitude of Impact for Pedestrian Amenity

Magnitude of Impact	Thresholds
Very Low	Change in traffic flow (or HGV component) <50%
Low	Change in traffic flow (or HGV component) of 51% - 100%
Medium	Change in traffic flow (or HGV component) of 101% - 150%
High	Change in traffic flow (or HGV component) of >151%

7.3.52 The IEMA Guidelines provide details of other guidance that may assist – the guidance specifically suggests "Pedestrian and Cycle Movement Design Guide" by Essex County Council and the "Pedestrian Comfort Guidance Document" for London Document by Transport for London which has an accompanying spreadsheet to undertake evaluating a new design for assessing Non-Motorised User Amenity.

7.3.53 On the basis of the guidance, it appears the assessment should be based on judgement referring to the various resources rather than solely on specific thresholds.

Fear & Intimidation on and by Road Users

7.3.54 The environmental impact that affects people is the fear & Intimidation created by all moving objects. These include all motorised traffic as well as other modes (where appropriate) such as horses, cycles, mobility scooters, e-scooters and e-cycles.

7.3.55 The IEMA guidance highlights that the extent of fear and intimidation is dependent on:

- Total volume of traffic;
- Heavy vehicle composition;
- Speeds of vehicles passing; and
- Proximity of traffic to people – and/or the feeling of the inherent lack of protection created by factors such as narrow pavement median, a narrow path or a constraint (such as a wall or fence).

7.3.56 The guidance provides thresholds that can be useful in considering the impact. However, the IEMA guidance does go on to suggest that there will be a need for judgement to be exercised – particularly areas where there are likely to be specific problems such as high speed sections of road, links subject to multiple turning points and accesses, and the lack of protection for pedestrians.

7.3.57 The thresholds include a scoring system, shown in **Table 7.9.**

Table 7.9: Fear and Intimidation: Degree of Hazard

Average traffic flow over 18 hour day – all vehicles/hour 2 way (a)	Total 18-hour heavy vehicle flow (b)	Average vehicle speed (c)	Degree of hazard score (d)
+1800	+3000	->40	30
1200-1800	2000-3000	30-40	20
600-1200	1000-2000	20-30	10
<600	<1000	<20	0

7.3.58 The total score from all three elements is combined to give a "level" of fear and intimidation, shown in **Table 7.10**.

Table 7.10: Levels of Fear and Intimidation

Level of Fear & Intimidation	Total Hazard Score (a) + (b) + (c)
Extreme	71+
Great	41-70
Moderate	21-40
Small	0-20

7.3.59 The magnitude of impact is approximated with reference to the changes in the level of fear and intimidation from baseline conditions, shown in **Table 7.11.**

Table 7.11: Magnitude of Impact for Level of Fear and Intimidation

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 flows; and/or >500HV increase in total 18hr HV flow
Low	One step change in level, but with <400 vehicle increase in average 18hr AV two-way all vehicle flows; and/or <500HV increase in total 18hr HV flow
Negligible	No change in step changes

Road User Safety

7.3.60 The IEMA guidance sets out the traditional approach to road safety through retrospective assessment of collision rates or clusters as a way of assessing road safety.

7.3.61 For the purposes of this chapter, the traditional approach is followed based on the information contained in the Transport Assessment (**ES Volume 4, Appendix C**) and applying professional judgement.

7.3.62 The guidance highlights the need for undertaking Road Safety Audits in relation to the proposed changes to the adopted highway. A Stage 1 Road Safety Audit has been undertaken on the proposed mitigation scheme. The design, incorporating the results of the Road Safety Audit have been included within the submission.

Hazardous/Large Loads

7.3.63 There are no anticipated hazardous or abnormal loads associated with the Proposed Development. This does not require a further review as any such movement would be covered by provision made within the Construction Environment Management Plan (CEMP).

Assessment of Significance

7.3.64 In assessing impact using the criteria set out above, consideration has also been given to the composition of the traffic on the road network under both existing and predicted conditions. For example, cars and light goods vehicles (LGV) have less impact on traffic and the road system than HGVs. The effect of a change in traffic levels of any given road segment or junction is generally assessed by considering the residual capacity of the network under existing conditions and the sensitivity of that road to change.

7.3.65 Where there is a high degree of residual capacity, the network may readily accept and accommodate an increase in traffic movements, and therefore (depending on the sensitivity of the network in relation to its users as set out above), the significance of effect may be said to be low. Conversely, where the existing traffic levels are high compared to the road capacity, there is little spare capacity and therefore the significance of effect of any change in traffic levels may be high.

7.3.66 The significance of potential effects has been assessed based on the categories of sensitivity and magnitude (identified in accordance with the IEMA guidelines approach outlined previously) as shown in **Table 7.12**.

Table 7.12: Potential Effect Significance

Magnitude of Impact	Sensitivity to Change in Traffic Levels			
	High	**Medium**	**Low**	**Very Low**
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

7.3.67 For the purposes of this assessment, any resultant effect significance considered "Moderate" or "Major" will be considered "Significant" in EIA terms.

Limitations and Assumptions

7.3.68 A number of assumptions are made when establishing the traffic generation of the Proposed Development, both during construction and operation.

7.3.69 For the construction phase, the assumptions include:

- A consistent buildout rate for the entirety of the construction period.
- Estimated construction traffic numbers, due to a principal contractor not yet being appointed.
- Assumed HGV and LGV routing, due to a Construction Traffic Management Plan not yet being produced.

7.3.70 For the operational phase, the assumptions include:

- Assumed final trip generation rates, based on existing developments and as agreed with WSCC.
- Assumed traffic distribution, based on the outputs from strategic traffic modelling.
- Assumed background traffic growth, using the TEMPro database with alternative assumptions, as agreed with WSCC.

7.3.71 Many of these instances, for example operational trip generation and background traffic growth, are assumptions based on industry best practice and should be considered robust.

7.4 Scoping and Consultation

7.4.1 A formal EIA Scoping Request was not submitted to MSDC, though pre application discussions were held with West Sussex County Council (WSCC).

7.4.2 During pre-application discussions, a series of five Transport Technical Notes (TTNs) were produced, covering different aspects of the Proposed Development. These notes are listed below, along with which bodies were consulted:

- TTN #2 (Masterplanning Design Input)[13] – WSCC & Active Travel England (ATE).
- TTN #3 (Parking Strategy and Trip Rates)[14] – WSCC & ATE.

[13] Transport Technical Note #2 (Masterplanning Design Input), Ardent Consulting Engineers, May 2023

[14] Transport Technical Note #3 (Parking Strategy and Trip Rates), Ardent Consulting Engineers, May 2023

- TTN #4 (Public Transport and Active Travel Strategy)[15] – WSCC & ATE.
- TTN #5 (Local and Strategic Modelling)[16] – WSCC & ATE.
- TTN #6 (National Highways Scoping)[17] – WSCC, ATE & National Highways (NH).

7.4.3 These TTNs, along with the overarching Transport Scoping Report, are provided in full within the Transport Assessment (presented in **ES Volume 4, Appendix C**). Pre-application responses, received from WSCC and NH, are provided in full within the Transport Assessment.

7.4.4 This chapter incorporates comments received during pre-application discussions, and where relevant states where various aspects of the TA were agreed between ACE and the above consultees.

7.4.5 In terms of receptors and potential effects, the assessment focuses on the effect of the Proposed Development on travel by all relevant modes of transport, including walking, cycling, horse riding, public transport and private car.

7.4.6 The environmental impact of the Proposed Development generated traffic has been assessed with reference to the IEMA guidelines. This sets out the criteria for the assessment presented in this chapter. Its focus on car traffic is a result of the effects which vehicles have directly on the road network.

7.4.7 This is not to diminish the focus that should be placed on the promotion of sustainable transport but is only a factor of the consequent methodology for assessing the residual traffic-related effects that are subject to the environmental assessment process, considered in this chapter.

7.4.8 The focus of the assessment has been to determine the potential adverse or beneficial effects on Severance, Pedestrian Delay, Pedestrian Amenity, Driver Delay, Accidents and Safety, and Fear and Intimidation, as defined in the next section of this chapter.

7.5 Baseline Assessment and Identification of Key Receptors

7.5.1 This section outlines the baseline assessment of the surrounding highway network, including traffic conditions, collision data and sustainable travel. The baseline assessment has been undertaken with particular focus on both specific links identified in **Table 7.4**. Further baseline assessment has been undertaken within the supporting Transport Assessment, which is presented in **ES volume 4, Appendix C**.

[15] Transport Technical Note #4 (Public Transport and Active Travel Strategy), Ardent Consulting Engineers, May 2023

[16] Transport Technical Note #5 (Local and Strategic Modelling), Ardent Consulting Engineers, May 2023

[17] Transport Technical Note #6 (National Highways Scoping), Ardent Consulting Engineers, May 2023

Link 9 – B2036 South Street

7.5.2 Link 9, B2036 South Street can be characterised by two distinct sections: the southern rural section, and the northern urban section.

7.5.3 The southern rural section does not have any sensitive receptors and is not further assessed within this chapter.

7.5.4 The northern urban section begins adjacent with the junction with Church Platt in the south west, and terminates at the roundabout junction with Broad Street. Within this section, South Street is subject to a 30mph speed limit, and operates as a single carriageway in both directions. Towards the south west, the carriageway has double yellow line waiting restrictions, and relatively narrow pavements, with safety bollards and fencing. At the northern side of the carriageway, there are wider pavements and restricted parking spaces.

7.5.5 The Sussex Diamond Way and High Weald Landscape Trails join South Street at the south western edge of the urban area, following the pavement along South Street, through Cuckfield.

7.5.6 Whilst there are no formal cycle markings in the vicinity, on road cycling along this section of carriageway is possible, due to the village streetscape and low vehicle speed limits.

7.5.7 Bus service 89 operates along South Street, with four services in each direction per day.

Link 61 – Cuckfield Road (Between B2036 and A2300)

7.5.8 Cuckfield Road is a single carriageway road, subject to the national speed limit. There are no pavements alongside the carriageway.

7.5.9 Footpath 76CR crosses Cuckfield Road, to join Footpath 77CR, adjacent to Brewhouse Pond.

7.5.10 Bridleway 82CR crosses Cuckfield Road, to join Bridleway 83CR, adjacent to Leigh Manor Farm House.

7.5.11 Footpath 14Hu crosses Cuckfield Road adjacent to the Flintstones.

7.5.12 There is no formal cycle infrastructure, nor do any busses operate along Cuckfield Road.

Future Baseline (the 'do nothing' scenario)

7.5.13 **Table 7.13** shows the 2039 Do Nothing Baseline Scenario traffic conditions of the two links identified for assessment.

Table 7.13: 2039 Do Nothing Baseline

Link No.	Link Description	Total Vehicles	HGV	HGV %
9	B2036 (South Street)	3,167	146	5%
61	Cuckfield Road (Between B2036 and A2300	2,320	76	3%

7.6 Identification and Description of Changes Likely to Generate Effect

Construction Phase

7.6.1 The primary potential effect of construction on traffic and transport is due to the additional traffic on the road network, which is often at a significantly higher ratio of heavy vehicles to light vehicles than during the operational phase of a development.

7.6.2 The effects of HGVs are localised to the specific HGV route, which is typically dictated as part of a Construction Traffic Management Plan (CTMP). CTMPs as well as Construction Environment Management Plans (CEMPs) include measures to manage the effects of construction traffic specifically on the local road network.

7.6.3 However, the effects of the construction phase are inherently temporary, and likely to change depending on the phase of development under construction. As such, this chapter considers a high-level overview of the construction phase, based on the assumptions set out in **Section 7.3.**

Operational Phase

7.6.4 When the Proposed Development is operational the potential significant effects will arise from trip generation of the completed development. This includes residents, visitors and staff at the Proposed Development as well as delivery and servicing trips associated with all uses.

7.7 Assessment of Likely Significant Effect

Construction Phase

Embedded Mitigation Measures

7.7.1 While the specific detail of the construction phase of the Proposed Development is not yet confirmed due to the early stage of the project (planning application), the following mitigation measures are considered as embedded within the construction phase, as they will be present regardless of the construction strategy.

7.7.2 The embedded mitigation measures for the construction phase of the Proposed Development therefore include:

- Construction traffic routing to the Site during the construction phase is to be via Bolney Road, which has direct access onto the A23 to the west of the Site. The A23 enables an appropriate route for construction vehicles that avoids any potential receptors such as dwellings, schools or other urban facilities.
- The Proposed Development is separated from the existing urban development within Cuckfield by the A272 and through topographical constraints, which effectively screens the site-based construction effects from receptors within Cuckfield, including the manoeuvring of construction vehicles within the site.
- Due to the size of the Proposed Development, there are opportunities for on-site areas designated for unloading of plant and materials.

7.7.3 Mitigation measures for the environmental effects of the Proposed Development broadly focus on the mitigation measures within the Construction Traffic Management Plan (CTMP) which is anticipated to be conditioned as part of the planning consent for the Proposed Development.

7.7.4 Generally, the mitigation measures for the construction phase of the development are likely to include the following:

- Vehicle Delivery Slot System – Construction deliveries will occur within 30-minute pre-booked slots, to mitigate the risk of overspill of delivery vehicles onto the local highway network.
- Vehicle Routing System – Construction HGVs will be required to travel via principal routes and avoid residential or urban routes where possible. For this development, this would be via the A23 at minimum, with vehicles traveling via the A272 if feasible.
- Site Construction Compound – Details of the site construction compound will include sufficient space to allow construction vehicles to manoeuvre within the site, exiting and entering in forward gear. In addition, the storage of plant and materials for the purposes of construction shall be controlled and managed in an orderly fashion.

Anticipated Residual Effects

7.7.5 Per **Section 7.3** of this chapter, the construction impact of the Proposed Development will not have any anticipated effect on the surrounding highway network, as set out against the criteria set out in this report.

7.7.6 Therefore, an assessment of the construction effect of the Proposed Development has been scoped out of this chapter.

Operational Phase

Embedded Mitigation Measures

7.7.7 Embedded mitigation for the operational phase of the Proposed Development is based on a fully constructed scheme, where the environmental effects of the Proposed Development are both permanent and at their highest potential impact.

7.7.8 The embedded mitigation measures for the operational phase of the Proposed Development therefore include:

- Internalised and Sustainable Trips – The Proposed Development is mixed-use, containing both residential development as well as non-residential development, including local centre uses and a primary school. The mixed-use nature of the Proposed Development enables future residents to meet to their basic needs within the Site, resulting in a high likelihood of regular internalised trips and subsequently no impact on the wider highways network.
- Existing connections to Ansty – The Proposed Development benefits from a number of connections through the Site, and to the surrounding area. These sustainable connections will be open for the public throughout the operational phase of the Proposed Development.
- Existing Public Rights of Way – The Proposed Development benefits from a series of Public Rights of Way (PRoWs) which are present within the Site itself and in the surrounding area, including bridleways, footpaths and formal cycle routes.

7.7.9 In terms of mitigation measures covering the operational phase of the Proposed Development, the following will also be delivered:

- Highways works associated with the scheme have been designed to provide adequate capacity to accommodate the movements associated with the development.
- Public Transport – Bus stop infrastructure to serve diverted or expanded bus services, increasing the accessibility to public transport across the local area.
- Cycling / Walking –
    - On- and off-site improvements to PRoWs
    - Internal active transport routes – The scheme includes an active travel network for pedestrian and cyclists throughout the site in addition to the above improvements to PRoWs, as well as providing connections into the surrounding pedestrian and cycle network, enabling existing and future residents to travel by sustainable modes of transport around the site and to/from Ansty.

- Off-Site improvements to the highway network – As part of the access and movement strategy for the scheme, improvements to the pedestrian and cycle facilities on the A272 to Haywards Heath are proposed to create a cohesive movement network within and outside of the Proposed Development.

- Public Transport – Bus stop infrastructure to serve diverted or expanded bus services, increasing the accessibility to public transport across the local area.

Anticipated Residual Effects

7.7.10 This section outlines the effects of the Proposed Development on both identified links with regards to severance, pedestrian delay, driver delay, non-motorised user amenity, fear and intimidation on and by road users and road user safety.

Severance

7.7.11 Based on the methodology outlined in **Section 7.3, Table 7.14** shows the outcome of the IEMA severance assessment on the links identified as requiring assessment.

Table 7.14: Severance Assessment

Link	Link Description	Magnitude of Change	Sensitivity of Receptor(s)	Significance of Effects
9	B2036 (South Street)	Very Low	Medium	Negligible
61	Cuckfield Road (Between B2036 and A2300	Negligible	Low	Negligible

7.7.12 **Table 7.14** shows there is anticipated to be a negligible effect on severance on both links.

Driver and Passenger Delay

7.7.13 From a highway network capacity perspective, it is typical to seek to quantify the impact of development on the operational performance of junctions where these are subject to an increase of 5% or more in traffic. This magnitude of change signals changes in traffic which would be greater that typical daily variations.

7.7.14 As detailed within the TA (presented in **ES Volume 4, Appendix C**), the effect of the development during the peak hours was greater than 30 vehicles absolute and greater 5% relative at two junctions (B2036 / Ardingly Road Mini-Roundabout and A23 / London Road Roundabout). All other junctions within the study area saw either a less than 30 vehicle absolute increase or less than 5% relative increase.

7.7.15 The above two junctions were tested for junction capacity, with a mitigation scheme developed for the B2036 Ardingly Road Mini-Roundabout that improves both

sustainable travel options as providing a better-than-nil-detriment improvement to vehicular capacity. While not directly on an affected link, the downstream effects of this mitigation scheme on delay are likely to reduce overall delays within the vicinity of Link 9.

7.7.16 In terms of driver delay, the outcome of the environmental assessment for all the links is that there would be a low magnitude of change between the 2039 Do Minimum and 2039 Do Something traffic conditions.

7.7.17 In terms of impact on the identified sensitive receptors, this is predicted to be of long-term and of a Minor adverse level of significance for Links 9 and 61, notwithstanding the potential downstream effects of the mitigation scheme referenced above.

Pedestrian Delay

7.7.18 The Proposed Development does not include changes to existing crossing points which would increase the length of pedestrian routes and therefore a direct reference to **Table 7.8** is not required.

7.7.19 The likely pedestrian delay in terms of traffic flow uses the same thresholds as for severance, as outlined in **Table 7.5**. Therefore, on this basis a summary of the links is shown below. **Table 7.15** shows the Pedestrian Delay Assessment.

Table 7.15: Pedestrian Delay Assessment

Link	Link Description	Magnitude of Change	Sensitivity	Significance of Effects
9	B2036 (South Street)	Negligible	Medium	Negligible
61	Cuckfield Road (Between B2036 and A2300	Negligible	Low	Negligible

7.7.20 **Table 7.15** shows there is anticipated to be a negligible effect on pedestrian delay on both links.

Non-Motorised User Amenity

7.7.21 With reference to the thresholds set out in the ES Scoping Note and as included as consideration within the IEMA guidance set out in **Section 7.3**, the outcome of the assessment of pedestrian amenity is presented in **Table 7.16**.

Table 7.16: Pedestrian Amenity Assessment

Link	Link Description	Magnitude of Change	Sensitivity	Significance of Effects
9	B2036 (South Street)	Negligible	Medium	Negligible

Link	Link Description	Magnitude of Change	Sensitivity	Significance of Effects
61	Cuckfield Road (Between B2036 and A2300	Negligible	Low	Negligible

7.7.22 **Table 7.16** shows there is a negligible impact on pedestrian amenity on both links.

Fear and Intimidation on and by Road Users

7.7.23 With reference to the thresholds included as consideration within the IEMA guidance as set out within **Section 7.3** of this chapter, the outcome of the assessment of fear and intimidation is presented in **Table 7.17**.

Table 7.17: Fear and Intimidation Assessment

Link	Link Description	Degree of Hazard Score (2039 DN)	Leve of F&I (2039 DN)	Degree of Hazard Score (2039 DSI)	Level of F&I (2039 DS)	Magnitude of Impact	Sensitivity of Receptor(s)	Significance of Effect
9	B2036 (South Street)	0+0+10 = 10	Medium	0+0+10 = 10	Medium	Medium	Medium	Moderate
61	Cuckfield Road (Between B2036 and A2300	0+0+30 = 30	Medium	10+0+30 = 40	Medium	Medium	Low	Minor

7.7.24 The unmitigated level of significance for these criteria for Link 9 is considerate to be of Moderate Significance, and of Minor Significance for Link 61. Following the implementation of mitigation measures, such as the framework travel plan, the residual level of significance is expected to be negligible for both links.

Road User Safety

7.7.25 A Stage 1 Road Safety Audit has been undertaken on the proposed mitigation scheme as well as the proposed sustainable transport improvements. The design, incorporating the results of the Road Safety Audit has been included within the submission. Based on the above, the magnitude of impact is considered to be negligible for all links.

7.7.26 The level of significance for both links is a long term minor adverse effect by virtue of an increase in risk, commensurate with the forecasted changes in traffic.

7.8 Scope for Additional Mitigation Measures

Potential Additional Mitigation Measures

7.8.1 A Framework Travel Plan (FTP) has been produced which includes measures to encourage sustainable travel modes such as discounts on cycle equipment, discounted bus tickets or sustainable travel information packs. Subject to implementation of a Full Travel Plan, which additionally will monitor the multi-modal travel demand associated with the Proposed Development, these measures are expected to minimise traffic on the local network. A notional target of 5% has been assumed in the FTP covering the first 5-year period of the Proposed Development.

Likely Effectiveness of Additional Mitigation Measures

7.8.2 There is no requirement for additional mitigation measures as a result of the assessment undertaken in this chapter, as the anticipated increase in the use of sustainable modes of transport will not affect the reported magnitude of change.

7.9 Residual Effects

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

7.10 Cumulative Effects

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

7.10.2 The ES has given consideration to 'Cumulative 'Effects' for schemes located within a 5 km radius from the boundary of the Site and Parkland Reserve Site, as listed in **ES Volume 2, Chapter 3: EIA Methodology**, through the use of a strategic traffic model that includes committed developments and generalised traffic growth, covering up the period up to the end of draft Mid Sussex District Plan period.

7.10.3 On this basis, the assessment of the cumulative effect of the Site and Parkland Reserve Site and other developments within Mid Sussex is inherent to the assessment of the Proposed Development.

7.11 Summary and Conclusions

7.11.1 This chapter of the ES has assessed the likely significant effects of the Proposed Development in terms of traffic and transport. The impacts on the local area have been defined based on the IEMA guidance. The links assessed have been chosen based on the thresholds contained in the IEMA guidance.

7.11.2 The baseline and forecast vehicle flows of the surrounding highway network have been obtained from the Mid Sussex Strategic Highway Model (MSSHM). The flows have been assessed based on a number of criteria, such as severance, driver delay, and pedestrian amenity.

7.11.3 The Proposed Development has been designed to incorporate a range of embedded and standard mitigation measures to minimise the impact of vehicles associated with the site on the surrounding highway network.

7.11.4 All assessments of the Proposed Development conclude that, prior to mitigation, there will be an overall negligible impact on the surrounding highway network, with the exception of fear and intimidation where the residual effects are Moderate for Link 9 and Minor for Link 61. Following the implementation of mitigation measures, all effects will be negligible. On this basis, no significant effects of the Proposed Development on Traffic and Transport have been identified and therefore the overall effect of the development is a permanent, negligible effect.

7.11.5 **Table 7.18** summarises the traffic and transport effects resulting from the Proposed Development.

Table 7.18: 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								
There are no links anticipated impacted by the construction phase of the Proposed Development.								
Operation								
People	Medium	Severance	Mixed-use proposals and existing PRoWs through the Proposed Development. Internal active transport network and off-site improvements to the highway network.	Negligible Links 9, and 61 Permanent High	Negligible	N/A	N/A	Negligible
People	Medium	Pedestrian Delay	Mixed-use proposals and existing PRoWs through the Proposed Development. Internal active transport network	Negligible Links 9, and 61	Negligible	N/A	N/A	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
			and off-site improvements to the highway network.	Permanent				
				High				
People	Medium	Pedestrian Amenity	Mixed-use proposals and existing PRoWs through the Proposed Development. Internal active transport network and off-site improvements to the highway network.	Negligible	Negligible	N/A	N/A	Negligible
				Links 9, and 61				
				Permanent				
				High				

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
People	Medium	Driver Delay	Mixed-use proposals and existing PRoWs through the Proposed Development. Internal active transport network and off-site improvements to the highway network.	Negligible Links 9, and 61 Permanent High	Negligible	N/A	N/A	Negligible
People	Medium	Accidents and Safety	Mixed-use proposals and existing PRoWs through the Proposed Development. Internal active transport network and off-site improvements to the highway network.	Negligible Links 9, and 61 Permanent High	Negligible	N/A	N/A	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
People	Medium	Fear and Intimidation	Mixed-use proposals and existing PRoWs through the Proposed Development. Internal active transport network and off-site improvements to the highway network.	Negligible Links 9, and 61 Permanent High	Moderate for Link 9 and Minor for Link 61	Framework Travel Plan	Negligible	Negligible