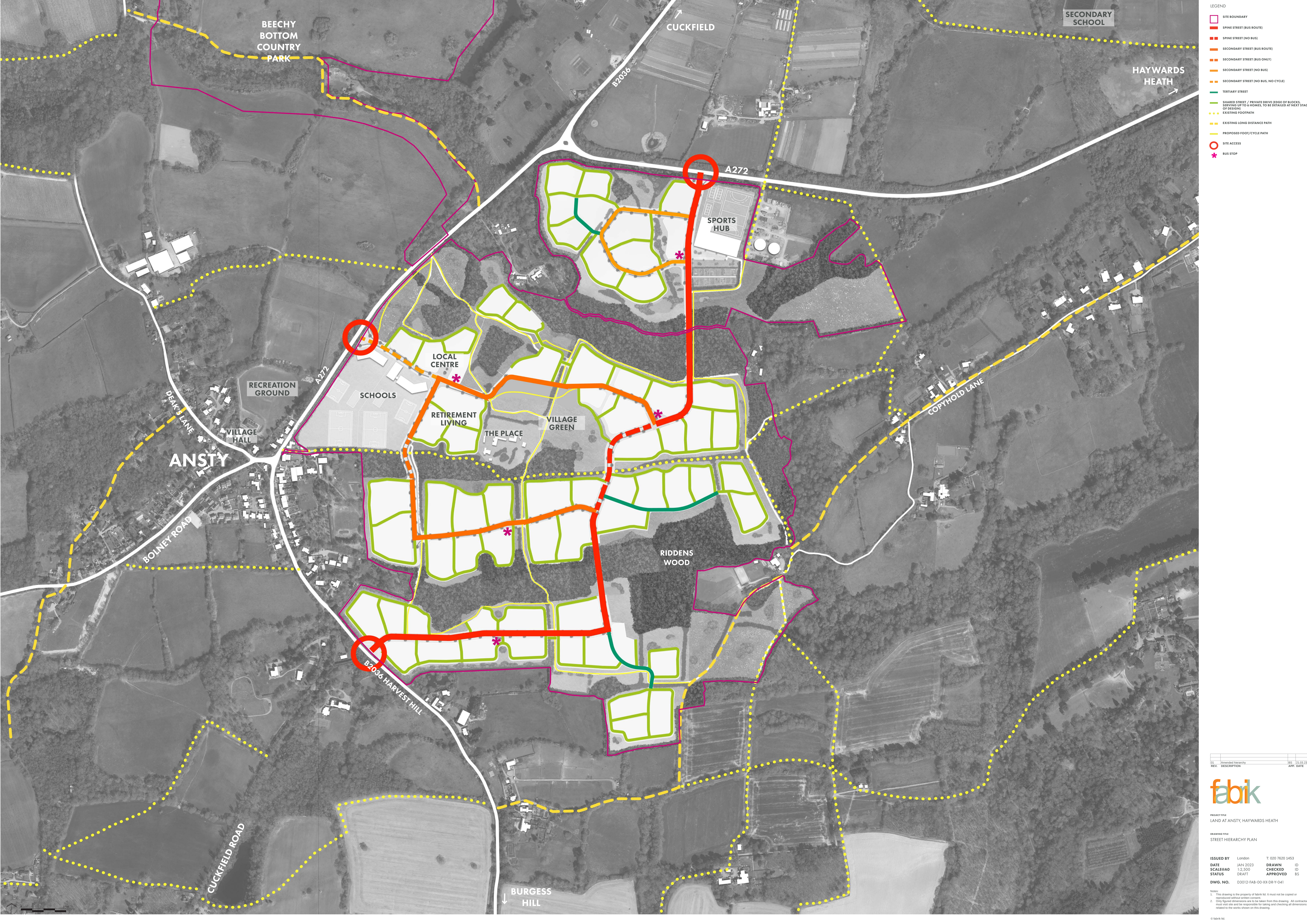




- LEGEND
- SITE BOUNDARY
 - SPINE STREET (BUS ROUTE)
 - SPINE STREET (NO BUS)
 - SECONDARY STREET (BUS ROUTE)
 - SECONDARY STREET (BUS ONLY)
 - SECONDARY STREET (NO BUS)
 - SECONDARY STREET (NO BUS, NO CYCLE)
 - TERTIARY STREET
 - SHARED STREET / PRIVATE DRIVE (EDGE OF BLOCKS, SERVING UP TO 6 HOMES, TO BE DETAILED AT NEXT STAGE OF DESIGN)
 - EXISTING FOOTPATH
 - EXISTING LONG DISTANCE PATH
 - PROPOSED FOOT/CYCLE PATH
 - SITE ACCESS
 - BUS STOP

REV.	DESCRIPTION	REV.	DATE
1	Approved Hierarchy	1	11.02.23



PROJECT TITLE
LAND AT ANSTY, HAYWARDS HEATH

DRAWING TITLE
STREET HIERARCHY PLAN

ISSUED BY	London	T: 020 7620 1453
DATE	JAN 2023	DRAWN
SCALE	1:2,500	CHECKED
STATUS	DRAFT	APPROVED
DWG. NO.	D3012-FAB-00-XX-DR-Y-Q41	ID
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Appendix 2

Transport Technical Note #3 Parking Strategy & Trip Rates

FAIRFAX ACQUISITIONS LTD

LAND ADJOINING ANSTY

TECHNICAL TRANSPORT NOTE #3 (PARKING STRATEGY & TRIP RATES)

REPORT REF.
2207280-R03

May 2023

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4. Summary and Way Forward	12

Document Control Sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	Draft	SR / JE / JS	DH / KM	DRAFT	12/05/2023
-	Final	SR / JE / JS	JS JS	DH DH	19/05/2023

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1. Introduction

- 1.1. This Technical Transport Note (TTN) has been produced by Ardent Consulting Engineers (ACE) on behalf of Fairfax Acquisitions Limited, to provide input into the parking strategy and trip generation methodology for the proposed development at the Land Adjoining Ansty in Mid Sussex.
- 1.2. The Local Planning Authority (LPA) is Mid Sussex District Council (MDSC) and the Local Highways Authority is West Sussex County Council (WSCC).
- 1.3. The location of the proposed development is shown on **Figure 1.1** below.



Figure 1.1: Site Location

- 1.4. A summary of the development is as follows:
- New Settlement comprising up to 1600 high quality new homes, including up to 480 new affordable homes;
 - New 2 Form Entry Primary School;
 - New village centre with local facilities;
 - 99 hectare Country Park for wider public use, offering significant opportunities for Biodiversity Net Gain;
 - Enhanced bus services;
 - A low carbon sustainable settlement;

TECHNICAL TRANSPORT NOTE #3**(PARKING STRATEGY & TRIP RATES)****May 2023**

- New sports and recreation facilities as well as amenity greenspace embedded within the garden community.

1.5. This Transport Technical Note (TTN) has been produced to set out high-level information in relation to the parking strategy and trip generation methodology for the proposed development, including details of parking standards, estimated provision and predicted trip rates.

1.6. This note is to be issued to WSCC as well as to Active Travel England (ATE), who will be a statutory consultee for the upcoming planning application for the development.

2. Parking Strategy

- 2.1. The parking strategy for the site will be reviewed to ensure that the approach is in accordance with the prevailing planning policy guidance at the time of submission of an application.

Current Parking Standards

Parking Principles

- 2.2. It is understood that the parking standards for residential developments within West Sussex are stipulated within the WSCC document 'Guidance in Parking at New Developments', dated September 2020.
- 2.3. The guidance outlines a series of principles that form the recommendations for parking at new development. Principle A considers accommodating parking demand and notes that:

"Expected levels of parking demand in residential developments should be determined, where appropriate taking account of; location (parking behaviour zone), dwelling size (rooms), parking provision (allocated or unallocated), and arrangements for control/enforcement (charges, etc). Calculation of expected levels of parking demand should normally be based on local or comparable data taking account of forecast changes in demand for the local plan period."

- 2.4. Principle B considers the need for electric vehicle charging infrastructure and outlines that a minimum of 20% of all parking spaces should incorporate active charging points with passive provision incorporating ducting accommodated for all other parking provision for the spaces to be upgraded in the future. Suitable electric vehicle charging infrastructure will therefore need to be accommodated within the scheme.
- 2.5. Principle C considers the impact of sustainable transport and its impact upon parking demand/car ownership, outlining that *"in some locations, limiting parking provision should form part of a strategy to exploit the potential for sustainable transport"*. It goes on to outline that to promote lower car ownership levels that this needs to be supported by travel plan measures, accessibility to non-car modes of travel and amenities/facilities and comprehensive parking controls.

- 2.6. Noting that the site incorporates a range of uses, in association with these measures, it is likely that rationalisation of parking provision between uses could be explored in order to avoid an over provision of parking spaces and promote non-car travel. This would be limited to uses that would not “compete” for parking and so would be complimentary to each other. We therefore propose to adopt a rationalisation of parking provision across appropriate land uses when determining suitable parking provision for the development as a whole.
- 2.7. Although an Outline planning application is to be submitted, the design parameters set out within Principle E will be given due regard when the layout is considered in detail as part of a future Reserved Matters application.

Residential Car Parking Standards

- 2.8. The guidance splits the county into Parking Behaviour Zones (PBZs) based on proximity to alternative transport modes and local amenities. The site is currently located within PBZ 1, as shown by the red star in **Figure 2.1** below.

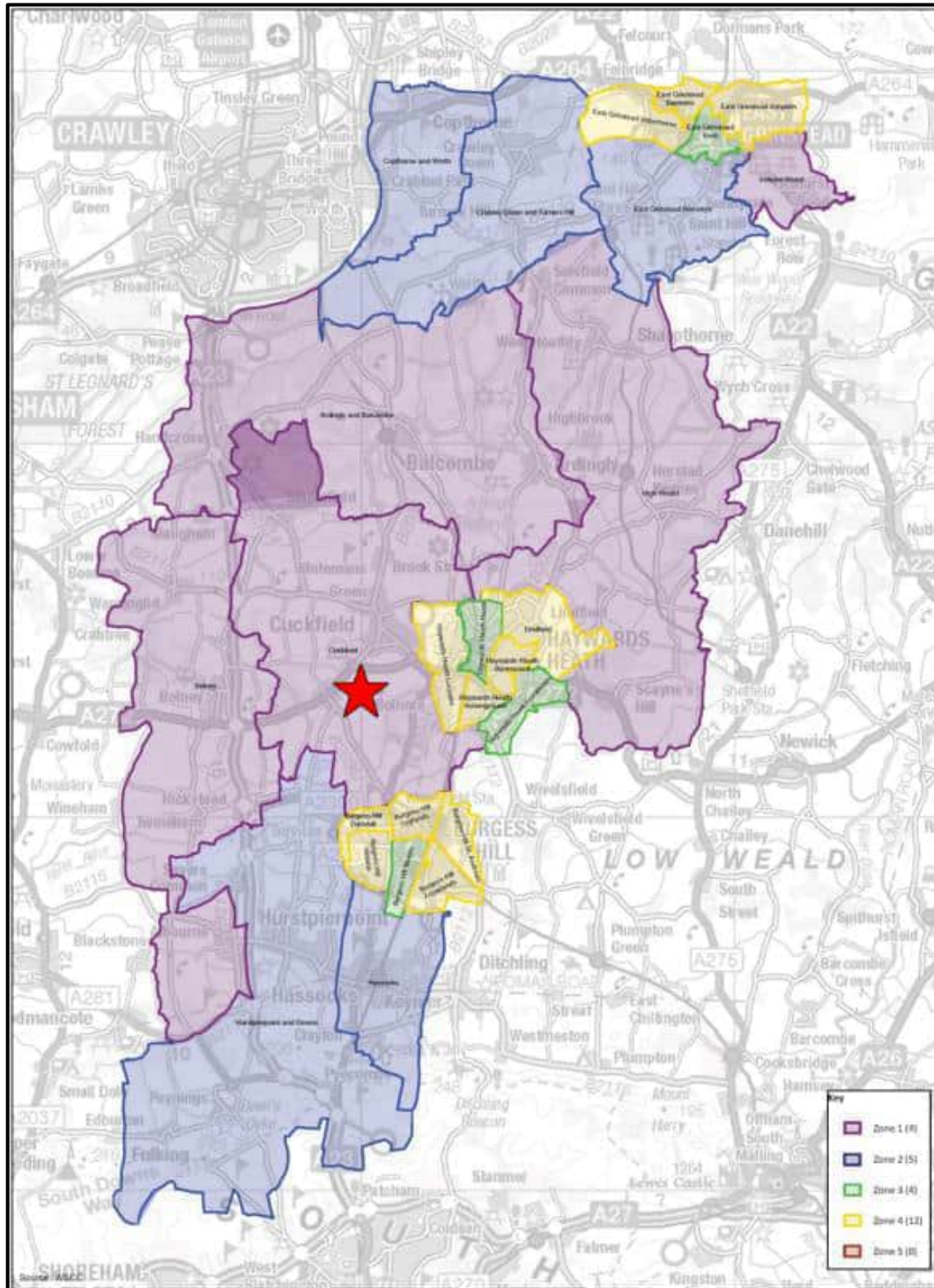


Figure 2.1: Mid Sussex Parking Behaviour Zones

2.9. As can be seen above, PBZ1 covers predominantly rural areas with minimal public or active transport infrastructure. Considering the scale, land uses and betterments to public transport, walking and cycling infrastructure included within the proposed development, it is considered more appropriate to apply the parking standards for

PBZ 4. This would mirror the standards applied to the outer sections of Haywards Heath which will be more closely analogous to the fully delivered development.

2.10. Considering that the PBZs are based on data from the 2011 census, a review of this data may also be conducted when considering parking provision.

2.11. Notwithstanding the above, the standards for all PBZs are outlined below in **Table 2.1**.

Number of Bedrooms	Number of Habitable Rooms	Car Parking Spaces per Unit				
		PBZ1	PBZ2	PBZ3	PBZ4	PBZ5
1	1 to 3	1.5	1.4	0.9	0.9	0.6
2	4	1.7	1.7	1.3	1.1	1.1
3	5 to 6	2.2	2.1	1.8	1.7	1.6
4+	7 or more	2.7	2.7	2.5	2.2	2.2

Table 2.1: WSCC Residential Car Parking Standards

2.12. Furthermore, we note that the guidance goes on to state: *"to meet with current and emerging guidance on the promotion of sustainable travel modes and choices, consideration could also be given to reducing the expected level of parking demand by 10%. This is based on the Department for Transport's 'Smarter Choices' research that shows reductions in traffic movements can be achieved by up to 10 to 30% where a range of travel choices are available through provision of travel plans, public transport contributions, and other sustainable travel initiatives."*

2.13. Based on the above, it is proposed that a mixed approach will be taken with up to a 10% reduction in parking provision provided where appropriate considering provision of active/sustainable modes of travel, and subject to feedback from WSCC and ATE.

Residential Cycle Parking Standards

2.14. The residential cycle parking standards are also provided within the WSCC standards and are replicated in **Table 2.2** below.

Type	Dwelling Size	Cycle Parking Spaces per Unit
Houses	1 and 2 Bedroom	1
Houses	3+ Bedroom	2
Houses	Multiple Occupation	1
Flats	1 and 2 Bedroom	0.5 (if communal, otherwise 1)
Flats	3 Bedroom	1

Table 2.2: WSCC Residential Cycle Parking StandardsNon-Residential Parking

2.16. The WSCC document 'Guidance in Parking at New Developments' also provides guidance on car and cycle parking for non-residential land uses. It is, however, stated within the guidance that the standards should be used as an initial guide and that developers "*should undertake a site-specific assessment and seek to balance operational needs, space requirements, efficient use of land and cost attributed to providing parking and where relevant, attracting/retaining staff*". A selection of the standards considered relevant to the proposals are provided in **Table 2.3**.

General Industrial	Vehicular Parking	Cycle Parking
General Industrial	1 space per 40 sqm	1 space per 200sqm for staff and 1 space per 500sqm for visitors
Storage	1 space per 100 sqm	1 space per 500sqm for staff and 1 space per 1000sqm for visitors
Shops and Retail	1 space per 14 sqm	1 space per 8 parking spaces provided

General Industrial	Vehicular Parking	Cycle Parking
Food and Drink	1 space per 5 sqm of public space	1 space per 4 staff and 1 space per 25 sqm for customers
Office and Light Industrial	1 space per 30 sqm	1 space per 150sqm for staff and 1 space per 500sqm for visitors
Assembly and Leisure	1 space per 22 sqm	1 space per 4 staff plus visitor/customer cycle parking
Community Hall and Outdoor Sport	1 space per 14 sqm	1 space per 100sqm for staff and 1 space per 100sqm for customers
Medical Centre and Nurseries	Site-specific assessment based on travel plan and needs	Site-specific assessment based on travel plan and needs

Table 2.3: WSCC Non-Residential Vehicular and Cycle Parking Standards

2.17. As previously mentioned, the sharing of parking between complementary land uses is to be explored as the masterplan progresses to avoid overprovision of parking and to reduce the reliance on the private car.

Visitor Parking

2.18. The guidance in the WSCC standards outlining the provision of visitor parking states that: *"Developers should take an approach that is consistent with national research which suggests, "that no special provision should be made for visitors where at least half of the parking provision associated with the development is unallocated. In all other circumstances it may be appropriate to allow for additional demand for visitor parking of 0.2 spaces per dwelling" (DCLG, 2007, Residential Car Parking Research)."*

2.19. The visitor provision outlined within the DCLG report is based on a case study of one site in Lower Early, Reading, in 1995 and so is not considered representative. As the

intention is for parking provision within the development be majority unallocated, the above standard is not expected to apply.

Disabled Parking Provision

2.20. In terms of disabled parking provision, the WSCC standards expect a minimum of 5% of the total number of parking spaces to be disabled parking spaces.

2.21. Paragraph 6.8 of the standards also states that: *"In designing provision for disabled persons parking at non-residential development developments with over 200 spaces, consideration may be given to reducing the percentage of spaces for disabled persons below the minimum level..."*. This principle will be considered when designing the detailed layout as the masterplan progresses.

Electric Vehicle Charging Provision

2.22. Appendix B of the WSCC standards provides a year-by-year proportion of spaces that should be active electric vehicle charging points, from 20% in 2018 to 70% 2030.

2.23. As the development is unlikely to be fully delivered by 2030, clarification on the provision of electric parking spaces for the development is sought from WSCC.

Proposed Parking Provision

2.24. At this stage, a detailed breakdown of the proposed land uses on site is not available and therefore a full review of the anticipated parking provision will be undertaken at a later date. However, it is anticipated that due to a mix of complementary land uses and accessibility by active / sustainable modes, the quantum of parking could be significantly reduced from the standards above.

2.25. It should be noted that any application will be prepared with regard to the most up to date policy regarding parking standards at the time of submission.

3. Proposed Trip Rates

- 3.1. The basis for the traffic assessment of the proposed development is the Mid Sussex Strategic Highway Model (MSSHM), which is coded within the SATURN strategic traffic modelling software. The model is maintained by Systra, on behalf of MSDC / WSCC.
- 3.2. General vehicular trip rates for the various uses included within the model are based on the TRICS database and provided in Table 1 of the Systra document 'Mid Sussex Transport Study – District Plan Review – Scenario 4 Report', dated October 2022. Table 1 of the above report is replicated in **Figure 3.1** below.

USE (TRICS CATEGORY)	PARAMETER	AM ORIG	AM DEST	PM ORIG	PM DEST
Private Houses and Flats	dwelling	0.397	0.191	0.143	0.486
Office	employees	0.043	0.511	0.394	0.021
Business Park	employees	0.183	0.367	0.465	0.045
Industrial Estate	employees	0.300	0.700	0.844	0.067
Hotel	rooms	0.284	0.104	0.151	0.252
Retail (Food Superstore)	per 100sqm	3.428	3.532	6.281	5.140
Primary School	per pupil	0.388	0.482	0.060	0.034
Secondary School	per pupil	0.179	0.237	0.041	0.039

Figure 3.1: MSSHM Trip Rates By Land Use (Source: Systra Report)

- 3.3. The assessment of the proposed development is to be based on Scenario 4Bm1, which includes trip rate reductions to the significant sites of Crabbet Park, West of Burgess Hill, Sayers Common and the proposed development as follows:
- 15% reduction on residential unit car trip rates to account for home working, internalisation and mode share assumptions; and
 - 80% reduction on primary school car trip rates to account for internalisation of trips.
- 3.4. Taking the trip rates for the land uses from **Figure 3.1** and applying the above trip rates reductions results in the trip rate assumptions shown in **Table 3.1** below.

TECHNICAL TRANSPORT NOTE #3

(PARKING STRATEGY & TRIP RATES)

May 2023

Use Class	Parameter	AM Origin	AM Destination	PM Origin	PM Destination
Private Houses & Flats	Dwellings	0.337	0.162	0.122	0.413
Office	Employees	0.043	0.511	0.394	0.021
Business Park	Employees	0.183	0.367	0.465	0.045
Industrial Estate	Employees	0.300	0.700	0.844	0.067
Hotel	Rooms	0.284	0.104	0.151	0.252
Retail (Food Superstore)	Per 100sq.m	3.428	3.532	6.281	5.140
Primary School	Per Pupil	0.078	0.096	0.120	0.007
Secondary School	Per Pupil	0.179	0.237	0.041	0.039

Table 3.1: MSSHM Trip Rates By Land Use (Including Scenario 4Bm1 Reductions)

- 3.5. As detailed in a separate Technical Transport Note (**ACE Report Reference: 2207280-R05**), a further scenario set will be considered by ACE beyond Scenario 4Bm1, which will include an appropriate reduction in the trip rates for the proposed development to reflect the promotion of sustainable travel both within the site and within the West Sussex Transport Plan.

4. Summary and Way Forward

Summary

4.1. This note is summarised as follows:

- The residential car and cycle parking standards applicable to the development are located within the WSCC document 'Guidance in parking at New Developments'.
- The proposed development currently lies within Parking Behaviour Zone 1, however given the scale, land uses and public and active travel betterments included within the proposals, the standards applicable to PBZ4 are considered more appropriate.
- The non-residential parking, visitor parking, disabled parking and electric vehicle charging standards are also located within the above WSCC document.
- Rationalisation of parking provision through the sharing of spaces between complimentary uses will be explored, along with a 10% reduction to promote active and sustainable travel.
- Trip rates for the proposed development will be based on the trip rates and reductions assumed within Scenario 4Bm1 of the MSSHM.
- A further scenario set with trip rate reductions will be considered by ACE, to reflect the site specific promotion of sustainable transport, as well as the promotion of sustainable transport within the West Sussex Transport Plan.

Way Forward

4.2. The proposed way forward is for ACE to progress the design and traffic assessment on the basis of the strategy outlined in this technical note, with specific comment from WSCC requested on the following areas:

- Confirmation on the above proposed approach to applying WSCC parking standards is appropriate and acceptable.
- Confirmation on the trip rates being accurate and appropriate for use in our analysis (the detail of which is covered in a separate TTN).
- The principle of an additional scenario set using trip rate reductions to reflect the promotion of sustainable transport (the detail of which is covered in a separate TTN).

Appendix 3

Transport Technical Note #4 Public Transport & Active Travel Strategy

FAIRFAX ACQUISITIONS LTD

LAND ADJOINING ANSTY

TECHNICAL TRANSPORT NOTE #4 (PUBLIC TRANSPORT AND ACTIVE TRAVEL STRATEGY)

**REPORT REF.
2207280-R04**

May 2023

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Drawings
2207280-SK03 Cycle Route Improvement Strategy

Document Control Sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	Draft	JE	DH	DRAFT	12/05/2023
-	Final	JE	JS JS	DH DH	19/05/2023

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1. Introduction

- 1.1. This Technical Transport Note (TTN) has been produced by Ardent Consulting Engineers (ACE) on behalf of Fairfax Acquisitions Limited, to provide highways input into the public transport and active travel strategy for the proposed development at the Land Adjoining Ansty in Mid Sussex.
- 1.2. The Local Planning Authority (LPA) is Mid Sussex District Council (MSDC) and the Local Highways Authority is West Sussex County Council (WSCC).
- 1.3. The location of the proposed development is shown on **Figure 1.1** below.

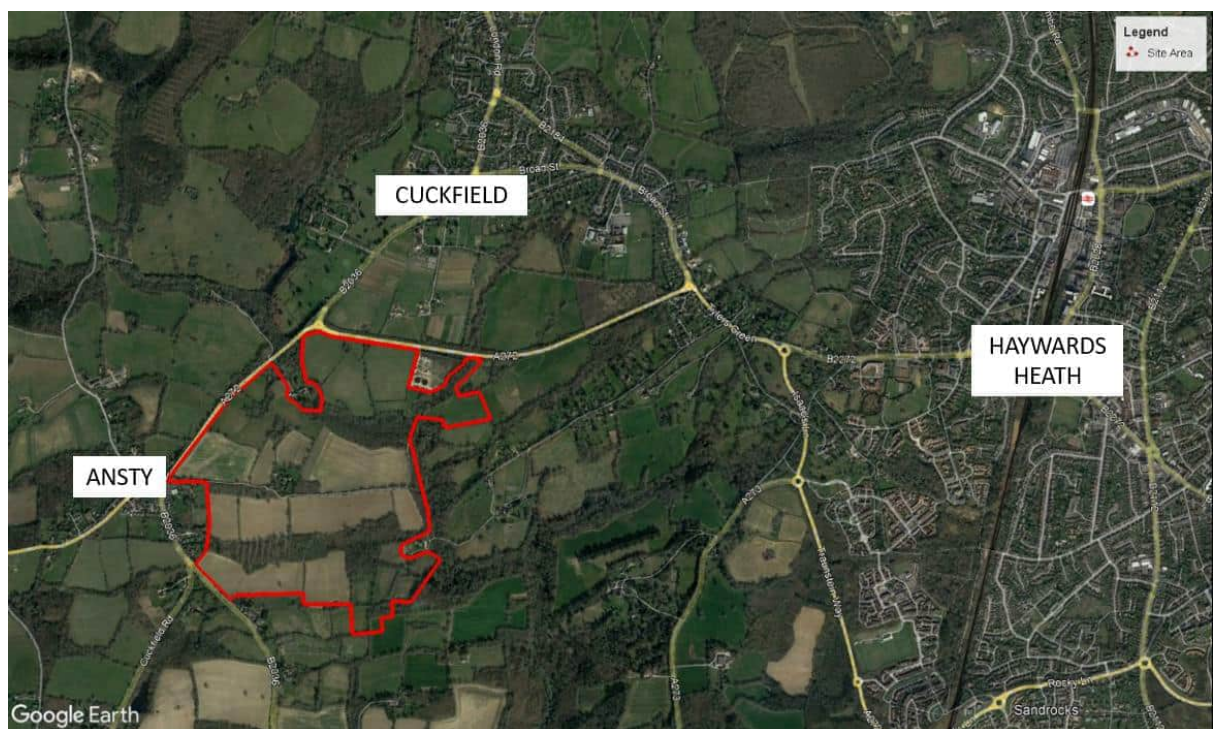


Figure 1.1: Site Location

- 1.4. A summary of the development is as follows:
- New Settlement comprising up to 1600 high quality new homes, including up to 480 new affordable homes;
 - New 2 Form Entry Primary School;
 - New village centre with local facilities;
 - 99 hectare Country Park for wider public use, offering significant opportunities for Biodiversity Net Gain;
 - Enhanced bus services;
 - A low carbon sustainable settlement; and

- New sports and recreation facilities as well as amenity greenspace embedded within the garden community.

1.5. This Transport Technical Note (TTN) has been produced to set out the public transport and active travel strategy for the proposed development, including details of existing bus services, possible improvements to these services and wider works which could be provided within the local area to aid active travel for future residents and users of the site.

1.6. The public transport and active transport strategy for the site has been prepared with due regard to the following local / national policy documents and guidance based on promoting non-car access:

- National Planning Policy Framework [NPPF] (MHCLG, July 2021);
- Planning for Walking (CIHT, April 2015);
- Local Transport Note 1/20 [LTN 1/20] – Cycle Infrastructure Design (DfT, July 2020); and
- Mid Sussex District Plan 2014-2031 (MSDC, March 2018).

2. Public Transport

Existing Conditions

- 2.1. Given the current nature of the site and much of its surroundings, which are predominantly occupied by farming land, existing bus routes are infrequent and have a natural draw towards local centres such as Cuckfield and Haywards Heath to the east, with a through service operating within the smaller settlement of Ansty.
- 2.2. The closest bus stops to the site are located on Cuckfield Road close to the north-western corner of the site and on Bolney Road within central Ansty to the west. These stops serve route 89, which runs between Horsham and Haywards Heath. Further stops are available on Tylers Green to the east and within Cuckfield to the north, offering access to routes 31/31A and 271. A summary of the local routes is provided in **Table 2.1**.

Service	Route	Frequency			
		Weekday AM Peak	Weekday PM Peak	Saturday	Sunday
31	Cuckfield to Uckfield (via Haywards Heath)	Every 2 hours	One service	Every 2 hours	No service
31A	Cuckfield to Uckfield (via Haywards Heath)	One service	One service	Every 2 hours	No service
89	Horsham to Haywards Heath	One service	One service	No service	No service
271	Crawley to Brighton (via Haywards Heath)	Hourly	One service	Every 2 hours	Every 2 to 2.5 hours

Table 2.1: Local Bus Services

2.3. **Table 2.1** shows that there are routes operating within the vicinity of the site that provide a connection to Haywards Heath. There are no services towards Burgess Hill to the south within the vicinity of the site and would require interchange at Haywards Heath to connect.

2.4. The closest railway stations to the site are located in Haywards Heath and Burgess Hill. Haywards Heath station benefits from 312 cycle parking spaces and offers regular services to key destinations such as London and Brighton, whilst Burgess Hill station is located south on the same rail route. A summary of services from Haywards Heath station is provided in **Table 2.2**, with routes which also pass through Burgess Hill indicated.

Service	Frequency		
	Weekday	Saturday	Sunday
Bedford via London Bridge	2 per hour (all via Burgess Hill)	2 per hour (all via Burgess Hill)	2 per hour (all via Burgess Hill)
Cambridge via London Bridge	2 per hour (all via Burgess Hill)	2 per hour (all via Burgess Hill)	1 per hour (via Burgess Hill)
London Victoria	6 per hour (2 via Burgess Hill)	6 per hour (2 via Burgess Hill)	6 per hour (2 via Burgess Hill)
Brighton	6 per hour (4 via Burgess Hill)	6 per hour (4 via Burgess Hill)	5 per hour (3 via Burgess Hill)
Eastbourne	1 per hour	1 per hour	1 per hour
Ore via Hastings	1 per hour	1 per hour	1 per hour
Littlehampton via Worthing	2 per hour (all via Burgess Hill)	2 per hour (all via Burgess Hill)	2 per hour (all via Burgess Hill)

Table 2.2: Local Rail Services

- 2.5. **Table 2.2** indicates that there are frequent services to a number of key destinations. Typical travel time from Haywards Heath to London Bridge is 46 minutes, whilst to London Victoria it is 47 or 49 minutes and to Brighton it is 14 to 21 minutes.

Proposed Bus Strategy

- 2.6. As part of the wider active travel strategy for the site it is proposed that buses will pass through the development to reduce reliance on the private car. It is considered that improved access to local centres Haywards Heath and Burgess Hill would be of particular benefit to future residents due to the amenities and employment opportunities, whilst it would also provide access to regular rail services that connect through to London and Brighton with good travel times.
- 2.7. A key connection for public transport services will be to help integrate the site with existing facilities to the east within Haywards Heath, including shops and leisure/education/employment facilities/opportunities, but also to rail services from Haywards Heath station, which is operated by Southern Railway with numerous services per hour to key destination such as London and Brighton.
- 2.8. Given there are currently services operating locally that connect to Haywards Heath, there are opportunities to improve these existing services. Details are to be discussed with WSCC and operators as appropriate, but there are options available to improve bus services: diversion of an existing service to run through the site; increase the frequency of an existing service at key periods; or consideration of additional service. The most appropriate approach and funding contributions is to be discussed to best serve the site, and provide access to the site for the surrounding areas too.
- 2.9. The existing bus routes close to the site do not offer any access towards Burgess Hill to the south and therefore a connection towards Burgess Hill from the site would provide a benefit to new residents. It is noted that there is a consented science park under construction to the south of the site on the northern fringes of Burgess Hill and a bus service that connects the site to the northern fringes of the town would therefore offer sustainable access to a developing major employment area. Consideration of a new shuttle service may be beneficial to both the Ansty site and the business park and so details of the public transport offering associated with the science park is requested from WSCC in order that due consideration can be given to a contribution towards that service in order that it can call at the Ansty site.

2.10. Details of the masterplan design is incorporated into Technical Transport Note 2 (**ACE Report Reference: 2207280-R02**) but it is proposed that the design of the site will cater for a bus to pass through the new local centre. Bus stops will be located to maximise the number of future residents are within 300m of a bus stop. Mobility hubs within the site will allow residents to cycle to catch a bus if required.

2.11. It will be necessary for the implementation of bus service improvements to be tied to the phased build out of the site. It is therefore anticipated that there will be triggers for implementation of bus service improvements that will be tied to the build out of the site. It is possible for the Travel Plan to be utilised as a tool to help manage the phased roll out of bus service improvements to ensure that services are available to promote bus use from the outset, and to also increase bus patronage in order to make services viable going forward too. Phasing details are to be discussed further in liaison with Highways.

3. Active Travel Strategy

- 3.1. A key aspect of the masterplan development is to promote permeability through the site and encourage non-car access and movement. This is considered in more detail within Technical Transport Note 2 (**ACE Report Reference: 2207280-R02**) but involve connections with the existing surrounding network and improvements to encourage active travel. The proposed wider active travel strategy will reduce reliance on private car use by making sustainable modes of transport attractive to future residents, and will supplement the bus strategy summarised in **Section 2.0** of this Technical Transport Note.
- 3.2. The key desire lines associated with the site and surrounding area are to:
- Haywards Heath, including the rail station;
 - Cuckfield, including Warden Park Academy;
 - Ansty, including the community/leisure facilities at Ansty cricket club; and
 - Burgess Hill northern arc mixed-use development located on the northern fringes of Burgess Hill.
- 3.3. We have explored options to make improvements along each of the above desire lines where feasible within land constraints and commensurate with the scheme impact.
- 3.4. We have summarised within **ACE Drawing 2207280-SK03** the existing cycle routes in the area and identified locations where there are opportunities to make improvements. The focus of the improvements is to provide a continuous route towards existing key destinations along desire lines.
- 3.5. The final form of improvement is to be discussed but key to the works is to ensure continuity of route rather than offering shorter sections of wider/narrower route of different types. The improvements will follow the aims of LTN1/20 and can take the form of shared pedestrian/cycle routes to knit together gaps in existing shared pedestrian/cycle routes, whilst there is also the opportunity to explore traffic-free route provision and to enhance the cycle offering with on-road routes to incorporate cyclists. In the context of available land, cycle route choice will reflect the nature of

cyclist flows and whether segregation from vehicles can be delivered or is necessary, in order to offer a benefit that will help achieve a change in mode choice.

- 3.6. In addition to cyclist improvements, opportunities to promote pedestrian access in the wider area will be explored. There are a number of Public Rights of Way (PRoW) in the vicinity of the site and passing within the site that will be sensitively considered when development the masterplan layout but also when considering the wider active travel strategy.
- 3.7. It is proposed that there will be improvements to the nearby PRoW within the site to follow the most direct path through upgrades to existing PRoW, whilst there will also be connections made to the country park on the western side of the A272 and to Copyhold Lane too. Some of the routes will serve as recreational and integrate with the masterplan to offer a more comprehensive network of routes than are currently available.
- 3.8. It is also proposed that a crossing is to be considered over the A272 for pedestrians/cyclists to better connect the site with the existing Ansty population, and allow Ansty to access the site and new range of facilities available, as well as offering a new through route towards Haywards Heath. The final form/position of the crossing is to be discussed further but could act as a gateway feature to Ansty along the A272 and given the levels on the western frontage would offer a high quality connection through to the community facilities at the cricket ground.

4. Summary

Summary

4.1. This note is summarised as follows:

- The proposed public transport strategy will involve consideration of the diversion of current services, new services or improving the frequency of services.
- Buses are to access the site by the north and south roundabouts, and follows the primary and secondary streets to the mobility hubs throughout the site.
- The westernmost mobility hub / bus stop is to be a full mobility hub, with the other mobility hub / bus stops being 'mini-mobility hubs'.
- A total of 10 access points for active travel modes are provided across the site, with an internal network of cycle and pedestrian routes that generally follow the road network.
- Improvements to active travel modes will better connect the site with the surrounding areas, including facilities within Haywards Heath (including the station) and Burgess Hill.
- Improvements to PRow will be explored to offer recreational route options for prospective site users, including the existing population.
- A crossing over the A272 will be considered to connect the site with Ansty through a traffic-free route.
- There are opportunities for improvements to be made to "fill in gaps" within the existing cycle network to and within Haywards Heath. This will ensure connections to existing facilities and opportunities for travel by train using Haywards Heath station.
- The form of cycle infrastructure will be dictated by land ownership constraints and with continuity of route in mind so that a consistent quality of provision is offered.
- Geometries for pedestrian/cycle infrastructure will be based on a combination of WSCC guidance, Manual for the Streets, Manual for Streets 2 and LTN 1/20 where applicable.

Way Forward

4.2. The proposed way forward is for ACE to progress the public transport and active travel strategy based on the parameters/approach set out above. Specific comment from WSCC on the following matters is sought from WSCC:

- Public transport improvement strategy and form that would be recommended to allow discussions to progress;
- The principle of the cycle improvement strategy to reflect land constraints and prioritise consistency of route to ensure wayfinding is easy and that users are not confused by changes in provision;
- The principle of offering PRow improvements is acceptable to better the leisure route offering as part of the proposals;
- The principle of a new crossing and gateway feature on the western boundary to better connect the site with Ansty;
- The geometric design and WSCC application of LTN1/20 parameters in order that we can consider these in developing preliminary designs for further comment; and
- Any other matters that should be considered at this stage.

Drawings

Appendix 4

Transport Technical Note #5 Local & Strategic Modelling

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LAND ADJOINING ANSTY

TECHNICAL TRANSPORT NOTE #5 (STRATEGIC & LOCAL MODELLING)

**REPORT REF.
2207280-R05**

May 2023

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2207280-SK02A Proposed Traffic Study Area

Document Control Sheet

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**TECHNICAL TRANSPORT NOTE #5
(STRATEGIC & LOCAL MODELLING)****May 2023****1. Introduction**

- 1.1. This Technical Transport Note (TTN) has been produced by Ardent Consulting Engineers (ACE) on behalf of Fairfax Acquisitions Limited, to provide highways input into the masterplanning process for the proposed development at the Land Adjoining Ansty in Mid Sussex.
- 1.2. The Local Planning Authority (LPA) is Mid Sussex District Council (MDSC) and the Local Highways Authority is West Sussex County Council (WSCC), with National Highways (NH) retaining specific responsibility for the A23 corridor.
- 1.3. The location of the proposed development is shown on **Figure 1.1** below.

**Figure 1.1: Site Location**

1.4. A summary of the development is as follows:

- New Settlement comprising up to 1600 high quality new homes, including up to 480 new affordable homes;
- New 2 Form Entry Primary School;
- New village centre with local facilities;
- 99 hectare Country Park for wider public use, offering significant opportunities for Biodiversity Net Gain;
- Enhanced bus services;
- A low carbon sustainable settlement; and
- New sports and recreation facilities as well as amenity greenspace embedded within the garden community.

1.5. This Transport Technical Note (TTN) sets out the approach to the strategic and local junction modelling that will underpin the assessment of the residual traffic generated by the proposed development given regard to the promotion of sustainable modes of transport, in line with the requirement of the National Planning Policy Framework (NPPF).

1.6. The scope includes the suggested choice of scenarios to be modelled, the study area, the parameters involved in detailed capacity assessments and the approach to mitigation, where necessary. This approach will subsequently form part of the basis for the assessment Transport Assessment (TA) accompanying a planning application for these proposals.

1.7. To this end, ACE have undertaken preliminary discussions with WSCC Highways in respect to the development proposals and the scope / approach reflects the outcome of this stakeholder consultation, and seek to continue this engagement to agree the scope of assessment to accompany an upcoming planning submission.

1.8. A separate TTN (**ACE Report Reference: 2207280-R06**) is to be sent to National Highways, to set out the assessment methodology specifically in relation to the Strategic Road Network.

2. Strategic Modelling

Model Version

- 2.1. The basis for the derivation of traffic flows, taking into account the effects of the proposed development, is Scenario 4Bm1 of the Mid Sussex Strategic Highway Model (MSSHM), which is coded within the SATURN strategic traffic modelling software. The model is maintained by Systra, on behalf of MSDC / WSCC.
- 2.2. This is a strategic model covering Mid Sussex, as part of its core area, as well as other parts of Sussex and Surrey. The Fully Modelled Area (FMA) comprises Mid Sussex district, Ashdown Forest (Wealden) and parts of Horsham, down to the coast at Brighton. The FMA is shown in **Figure 2.1** below.
- 2.3. This is a large area, and by necessity, such a model comprises both 'simulation' and 'buffer' coding areas. As a strategic tool, the model is able to take account of delays at intersections coupled with an assignment of the routes taken by traffic, based on a matrix of travel demand and convergence criteria.
- 2.4. SATURN is a suitable program for deriving appropriate traffic forecasts from a calibrated baseline model, and can be used in appraisals to determine the effects arising from spatial strategies and/or infrastructure schemes.
- 2.5. It is not a substitute for detailed junction assessment models (such as local capacity modelling via ARCADY, PICADY, LINSIG etc.), which is able to assess the operational effectiveness of junctions. However, strategic modelling can provide useful inputs to that process, by providing traffic flow outputs which can be used to subsequently model junction performance at a 'finer grain' level.



Figure 2.1: Fully Modelled Area of MSSHM

- 2.6. The current MSSHM model is understood to be in the process of being updated, including amendments to the Reference Case, the Without Development Case and With Development Case. These updates are not yet complete and so, due to timescales available in advance of a planning submission, the latest version of the MSSHM available will be used to assess the strategic traffic effect of the proposed development and provide the necessary inputs for the subsequent tests.
- 2.7. Also relevant is the recently published National Road Traffic Projections 2022 from the Department of Transport (DfT). This guidance sets out uncertainty surrounding potential future changes in travel patterns and mode shift, with particular regard to the effects of the COVID-19 pandemic. The guidance sets out various modelling scenarios, for example the High Economy and Low Economy scenarios, which reflect two potential scenarios for the long term growth of the economy.
- 2.8. Of particular relevance is the Behaviour Change Scenario, which estimates the long term effect of the increased prevalence of flexible and remote working, online shopping and reduced driving licence uptake by young people through reductions in person trip rates.

- 2.9. The modelling scenarios create a range of potential traffic growth between 2025 and 2060 of between 8% and 39%, which could have significant effect on future planning measures for development. Previous versions of strategic models, including the MSSHM, are therefore likely to provide robust traffic figures, including compared to the Core Scenario assumptions posited by the DfT.
- 2.10. It is not clear whether the DfT guidance is being taken into account as part of the updating of the MSSHM and clarification is sought from WSCC on this matter.
- 2.11. As part of the pre-application discussions referenced above, ACE have obtained access to the MSSHM in order to obtain suitably robust traffic flows from which to undertake a more detailed analysis of the local road network, as is considered in the following chapters.
- 2.12. Specifically, the latest version of the MSSHM that was produced to assess Scenario 4m1 / 4Bm1 in late 2022, will be used.

Local Plan Evidence Base

2.13. The District Local Plan 2031-2039 evidence base included a Draft Mid-Sussex Transport Study District Plan Review Scenario 4 Report (6 October 2022), which confirms the suitability of the strategic modelling approach, with Para 1.3.1 stating that:

"The Mid Sussex Strategic Highway Model (MSSHM) was produced in accordance with standard good practice as set out in the Department for Transport's (DfT) transport analysis guidance (TAG), in particular TAG Unit M3-1 Highway Assignment Modelling. As such, the approaches to data processing, matrices and network production, along with model calibration are consistent with those of similar strategic highways models."

2.14. Using the MSSHM, this study looks at 2039 development scenarios forming part of the Council's decision making process, including sustainability appraisal, to help inform preparation of the District Plan Review and select a preferred option. The scenarios build on the establishment of a Reference Case and the study assesses proposed Local Plan development and supporting infrastructure under a 2039 assessment horizon.

2.15. As referenced above, as per the DfT guidance, there is significant uncertainty in traffic forecasting which may effect the long term decision making of MSDC / WSCC.

2.16. The MSSHM study considers the following modelled scenarios:

- *2039 Reference Case*
 - The Reference Case represents the road network in 2039, and includes any committed highway infrastructure, development in the district and background growth to this date. This acts as a baseline when assessing the impacts of the development scenarios.
- *2039 Scenario 4 and Scenario 4B*
 - *2039 Scenario 4* assess proposed Local Plan development and supporting infrastructure in 2039.
 - *2039 Scenario 4B* differs from Scenario 4 in that it additionally includes the development site at Ansty.

- 2039 Scenarios 4 and 4B with Car Trip Rate Reduction
 - 2039 Scenarios 4m1 applies the reductions to Scenario 4
 - 2039 Scenario 4Bm1 applies the reductions to Scenario 4B

Model Amendments

2.17. It has been identified that the 2022 version of the MSSHM assumed that the proposed development would have a total of two access points, however the latest version of the proposed development includes a total of three access points, all of which are proposed to be standard roundabouts.

2.18. As identified with a separate Transport Technical Note (**Ardent Report Reference: 2007280-01**), certain technical elements of the network could benefit from refinement to improve the quality of the model.

2.19. A future version of the model will therefore be undertaken by ACE, amended to include the additional access point, and re-run to account for any potential changes in traffic flows that the additional access point may create. The additional site access would have a very limited impact on the area-wide traffic assignment associated with the development itself and therefore any refinement would only have a relatively localised effect.

2.20. Other amendments will also be included, where appropriate, to provide a more accurate assessment of the traffic effect of the proposed development.

Scenario Selection

2.21. A total of 5 development-specific scenarios will be assessed within the 2022-MSSH, which are as follows:

- **2019 Baseline** – The calibrated model.
- **2039 Reference Case ('Do Nothing')** – Based on 2019 calibrated model with background and external growth, but with no allocated developments or highways mitigation schemes identified within the Draft Mid Sussex Local Plan brought forward.
- **2039 Reference Case With Development ('Do Something Isolated')** – Based on the Do Nothing scenario with the effect of the development added in isolation from the Draft Mid Sussex Local Plan.
- **2039 Without Development ('Do Minimum')** – Based on Mid-Sussex Study 2039 Scenario 4m1, i.e. 2019 Baseline + Background Growth + MSDC Draft Local Plan.
- **2039 With Development ('Do Something Cumulative')** – Based on Mid-Sussex Study 2039 Scenario 4Bm1, i.e. 2019 Baseline + Background Growth + MDSC Draft Local Plan + Proposed Development.

2.22. The primary comparison will be made between the 2039 Do Nothing and 2039 Do Something Isolated scenarios, which will identify the specific traffic effect of the proposed development, should the draft Mid Sussex Local Plan not come forward, either prior to the proposed development obtaining planning permission, or in the eventuality that the draft plan is not brought forward without significant changes.

2.23. A second comparison will be between the 2039 Do Minimum and 2039 Do Something Cumulative scenarios, which show the specific traffic effect of the proposed development on a baseline that already includes the other Local Plan allocated site. This is essentially a cumulative assessment of the proposed development.

2.24. This two-track comparison methodology will provide the LHA confidence that a comprehensive transport strategy for the proposed development can be delivered regardless of the status of the draft Mid Sussex Local Plan. The results of these comparisons will feed into the mitigation strategy, which is discussed in detail in the next section of this note.

Trip Rate Reductions

2.25. Both The 2039 Do Minimum and 2039 Do Something Cumulative scenarios make an allowance for the application of trip rate reductions “*as a result of home working, internalisation and mode share assumptions for to and from the scenario’s significant site developments*” that were included within Scenarios 4m1 and 4Bm1 (extract taken from the Systra Scenario 4 Report). The trip rate reductions assumed for the Crabbet Park, West of Burgess Hill, Sayers Common and the proposed development are as follows:

- 15% reduction on residential unit car trip rates to account for home working, internalisation and future mode share assumptions.
- 80% reduction on primary school car trip rates to account for internalisation of trips.

2.26. It is understood that the above reductions are applied at the matrix level, prior to the route assignment. It is also understood that the refinements being made by Systra to the MSSHM include the exploration of further trip rate reductions.

2.27. No allowance is made within the derivation of the vehicular trips rates to account for the effect of a development-specific Travel Plan nor development-specific public and/or active travel infrastructure. Given that WSCC requires promoters to implement this as a condition of planning, the traffic flows obtained from the above scenarios, and proposed to be utilised in the assessment (as is discussed further below), can therefore be considered robust.

2.28. To reflect the approach with regards to mitigation, specifically the mode shift expected, a further scenario set of all five of the aforementioned development-specific scenarios will be considered by ACE, which will include an appropriate reduction in the trip rates for the proposed development. The reduction will be considered adopting site specific data together with applicable policy/guidance and is anticipated to amount to a reduction of up to 50% in line with the aspirations of Active Travel England (ATE) set out below.

2.29. It is expected that, in its new statutory role, ATE will be expecting to audit development proposals, in helping the organisation to achieve its stated goal of increasing levels of walking and cycling up to 50% of journeys in towns and cities by 2030.

- 2.30. The input of ATE is welcomed and likely to be focused on spatial and land-use interventions which are capable of shortening and/or substituting car-based journey with active travel trips.
- 2.31. Information from the Office for National Statistics (ONS) also suggests that there have been further changes in travel choices in relation to home working. In February 2022, the most common hybrid working pattern that workers planned to use was working mostly from home, and sometimes from their usual place of work. 42% reported this, which is an increase from 30% in April 2021. Meanwhile, the proportion who planned to split their time equally between work and home, or work mostly from their place of work and occasionally from home, has fallen. The proportion who planned to return to their place of work permanently fell from 11% in April 2021 to 8% in February 2022.
- 2.32. The ONS data therefore suggests that there will be a higher proportion of home working than will have been assumed to date within the Model, and so it would be appropriate to consider further adjustments to account for this change.
- 2.33. Given that development promoters will be implementing a range of sustainable travel improvements, is expected to commit to implementing a Travel Plan (and to monitor compliance with it over the build-out period), and there have been changes in travel behaviour post-COVID19 (further to those previously considered), it is therefore appropriate that its effects should be taken into consideration within the assumptions that underpin the strategic modelling.

Strategic Model Outputs

- 2.34. The outputs from the MSSHM will be in the form of turning counts for each junction within the traffic study area, as detailed in **Section 3.0**. Turning count data will be provided for the AM and PM peak hours (08:00 – 09:00 and 17:00 – 18:00, respectively). The turning counts will be displayed as traffic flow diagrams for reference within the TA.

3. Operational Modelling

Modelling Software

- 3.1. Individual junction capacity modelling will be conducted using the PICADY / ARCADY modules of the Junctions10 software package, for priority junctions and priority roundabouts, respectively.
- 3.2. The LINSIG3 software package will be used for signalised junctions.

Performance Indicators

- 3.3. Junction capacity is specified with reference to the Ratio of Flow over Capacity (RFC) for priority and roundabout junctions and Degree of Saturation (DoS) for signalised junctions. In doing so, values of 0.85 and 90%, respectively, would typically indicate the practical design capacity at which congestion is likely to begin to occur with values of 1.00 and 100% being the theoretical point at which this congestion is forecast to occur regularly during the assessment period.
- 3.4. At signalised junctions, an indication of the overall spare capacity at the junction is also given by the Practical Reserve Capacity (PRC) within LINSIG. PRC denotes the maximum desirable flow through a junction and typically a PRC of 0% is reached when one or more approaches to the junction are at 90% of their actual capacity. A DoS of 90% (i.e. a headroom of 10%) therefore indicates that there is still some spare capacity to deal with fluctuations in traffic volumes.
- 3.5. Queues in Junctions 10 are reported in terms of the average maximum forecast queue during the modelled period (in vehicles or Passenger Car Units (PCUs), as indicated), while queues in LinSig are reported in terms of the Mean Maximum Queue (MMQ), measured in PCUS during the modelled period.
- 3.6. While the above indicators are industry standard for the review of junctions, it is notable that the indicators provide a purely quantitative perspective of specifically the worst time period. As such, it is not uncommon for high congestion to be reported by capacity modelling but for this congestion to be short lived, in practice.
- 3.7. Values should also be taken in the context of the NPPF guidance that requires decision-makers to consider the severity of impacts, particularly where other benefits of development are judged to outweigh any transport implications. Assessing the residual impact of development is therefore a matter of judgement based on the

comparison between individual scenarios, recognising (where applicable) the overall benefits of changing network conditions.

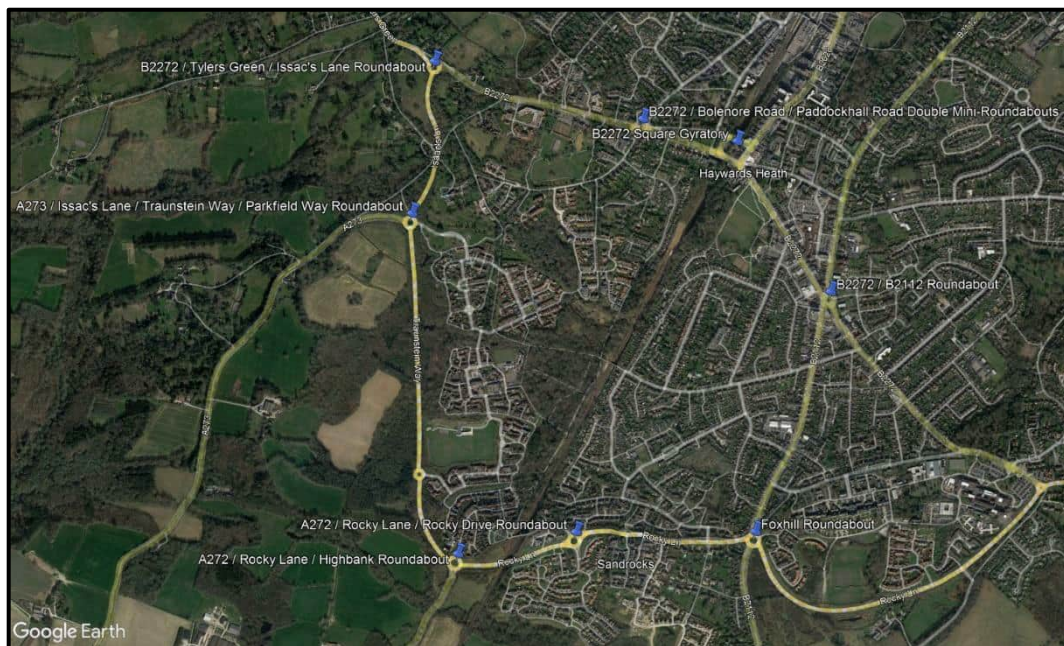
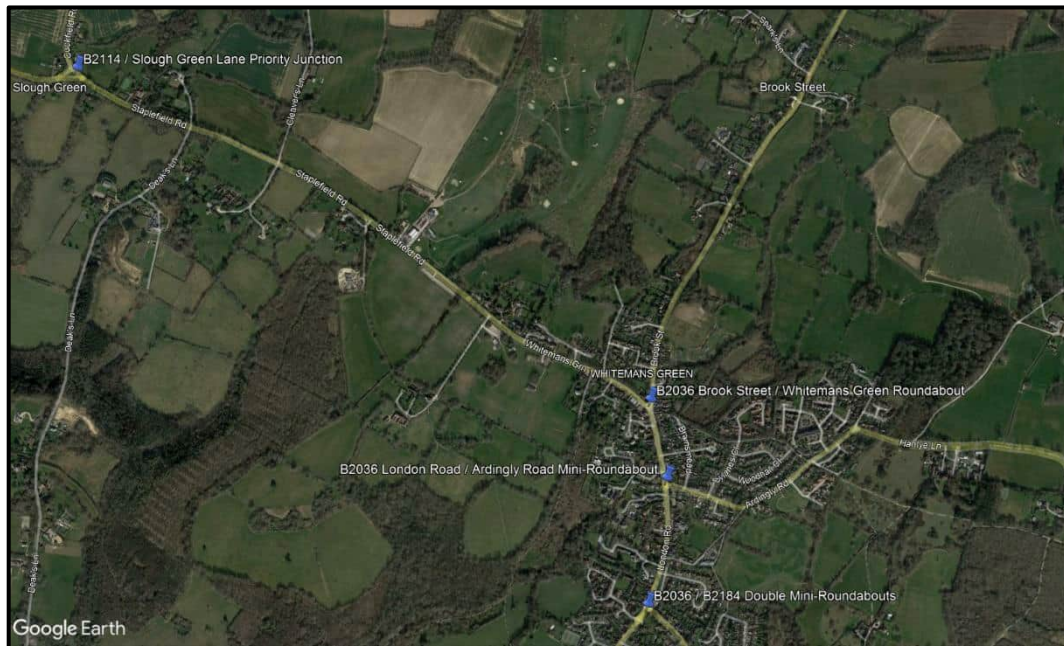
Model Geometries and Parameters

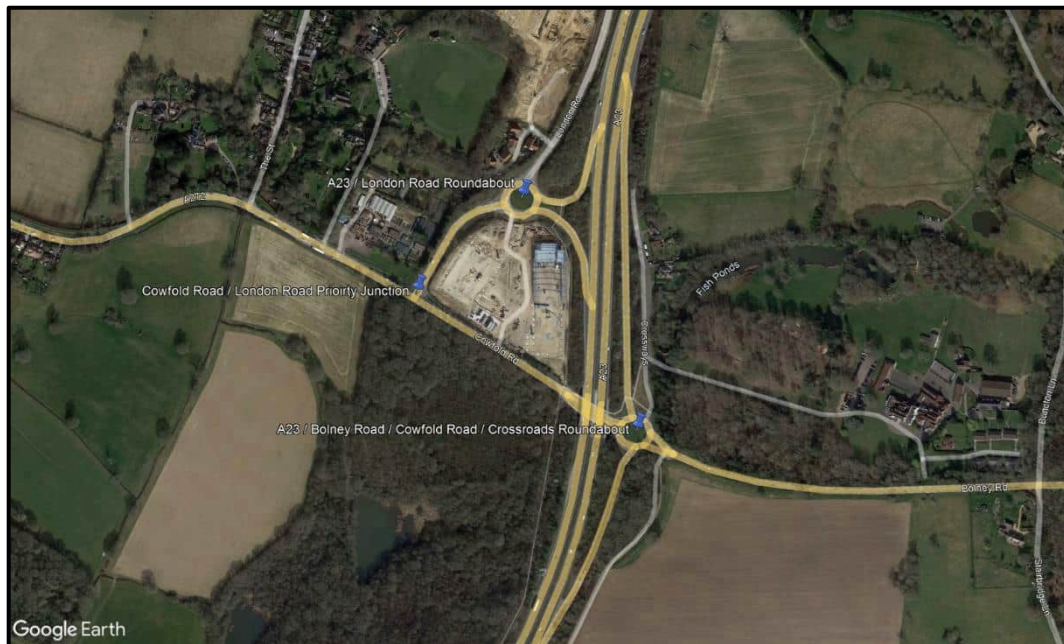
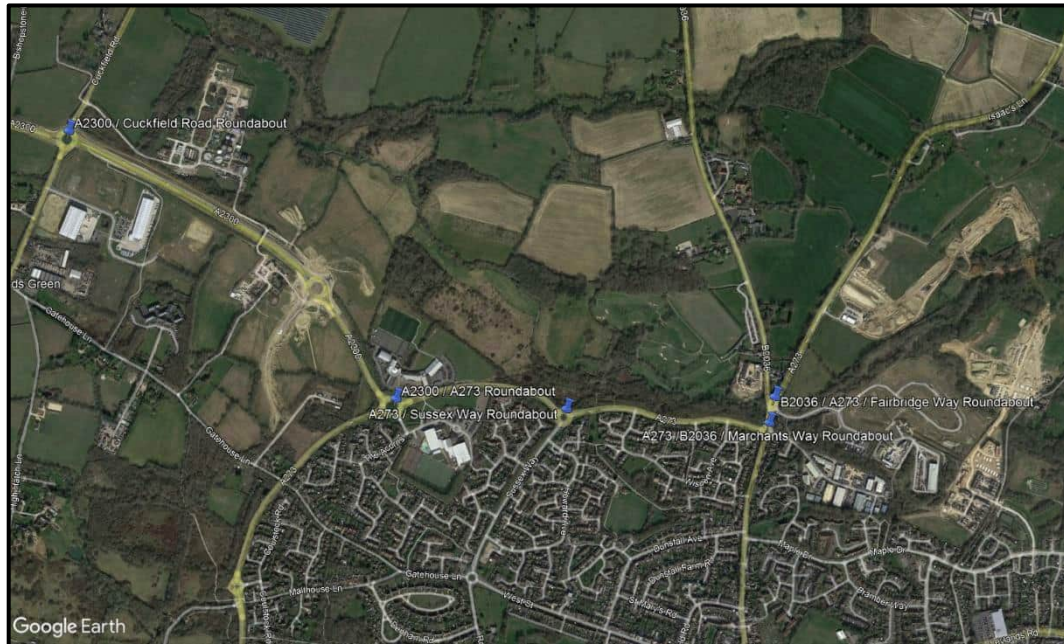
- 3.8. Geometries for the junction models will primarily be based on OS mapping, with topographical data taking preference over OS mapping where available. Geometries for priority junctions will be measured following best practice.
- 3.9. Where necessary for existing signalised junctions, the signal timing sheets will be requested from WSCC highways, with lane widths and turning radii measured using OS mapping or topographical data as above.
- 3.10. Full model outputs will be provided for the junctions modelled within the TA accompanying the planning application.
- 3.11. Capacity modelling will be conducted for the AM and PM peak hours, using the turning count data obtained from the strategic modelling outputs.

Traffic Study Area

- 3.12. A comprehensive traffic study area has been considered, with reference to the comparison that would be undertaken using the MSSHM outputs.
- 3.13. The following junctions will form our proposed study area, as shown on **ACE Drawing 2207280-SK02A**:

- x3 Site Access Roundabouts
- A272 / B2036 / Bolney Road Roundabout
- B2036 / Cuckfield Road Priority Junction
- A272 / B2036 Roundabout
- B2036 / B2184 Double Mini-Roundabouts
- B2272 / Bolnore Road / Paddockhall Road Double Mini-Roundabouts
- B2036 London Road / Ardingly Road Mini-Roundabout
- B2036 Brook Street / Whitemans Green Roundabout
- B2114 / Sloughgreen Lane Priority Junction
- A23 / Bolney Road / Cowfold / Crossroads Roundabout
- Cowfold Road / London Road Priority Junction





Sifting Criteria

3.14. WSCC's typical criterion, originally outlined in the Highway Impacts Assessment section of its Transport Assessment Methodology (21 June 2007) states the scope of a TA should:

"... include all junctions where there is a predicted increase in total entry flows of 30 or more vehicles in any hour - or if the junction already experiences peak period congestion an increase of 10 or more vehicles - as a result of the development proposals"

3.15. It has previously been agreed with WSCC where other strategic developments are concerned that some means of undertaking an initial 'sifting' of the junctions within the study area could be used to focus the assessment at locations where there is likely to be a material change in traffic which could affect the operation of the road network.

3.16. The sifting criteria to be applied would first of all exclude from further analysis any junctions where forecasted traffic volumes reported in 'with development' scenarios (Do Something Isolated and Do Something Cumulative) are lower than under the corresponding 2039 'Without Development' scenarios (Do Nothing and Do Minimum, respectively).

3.17. Of the remaining locations, a graduated approach will be adopted when determining the significance of any increase in forecasted traffic flow, based around the following nested criteria:

- The volume of development related trips at each junction; and
- The percentage impact of development generated traffic at each junction.

3.18. Considering the criteria above in further detail, the following sequenced methodology will be employed in determining the candidate junctions that will be subject to further detailed analysis and modelling.

- **Stage 1** - Number of Predicted New Trips
 - Stage 1 involves examining the absolute trip numbers to determine whether junctions are to be excluded or included within our detailed assessment.
 - Per the WSCC guidance from 2007, a threshold of 30 PCUs (in the peak hour) will be used as the initial screening criteria.
- **Stage 2** - Percentage Impact Analysis
 - Stage 2 then reviews the percentage change in traffic at the junction as a result of the traffic effect of the proposed development.
 - This further filtering allows the absolute traffic figures to be reviewed in context of the existing conditions, where an absolute traffic effect beyond the 30 trip threshold could have a negligible effect compared to existing background traffic.
 - As a 10% change in traffic is considered to be within expected daily fluctuations, per guidance from the Institute of Environmental Assessment,

therefore a robust threshold of a 5% increase in traffic at a junction will be used in this sifting stage.

3.19. Following the filtering process, a list of junctions where the absolute effect of the development and the percentage effect of the development are significant will be produced. These junctions will then be subject to individual junction capacity modelling and potential mitigation designs, per the approach described in the next section of this report.

4. Mitigation Approach

Previous Mitigation Designs

- 4.1. Initial mitigation design work was conducted by ACE on the four junctions which were identified in the cumulative assessment undertaken pursuant to the Regulation 18 process for the Draft Mid Sussex District Local Plan 2021-2039.
- 4.2. Initial mitigation schemes were prepared for the following:
- B2036 London Road / Ardingly Road Mini-Roundabout
 - The proposals include the minor relocation of the junction to allow for increased flares on the over-capacity arms.
 - B2272 / Bolnore Road / Paddockhall Road Double Mini-Roundabouts.
 - The proposal comprise the signalisation of the Bolnore Road junction and the conversion of the Paddockhall Road junction into a priority junction.
- 4.3. These mitigation schemes showed that the cumulative impact of background traffic, Draft Local Plan allocations as well as traffic from the proposed development could be accommodated.
- 4.4. Specific details of the mitigation schemes can be found within **Ardent Report Reference: 2007280-01**.

Evolving Mitigation Strategy

- 4.5. In their review of the above technical note, WSCC officers noted that:

"The West Sussex Transport Plan policies states that on non-strategic roads mitigation proposals must be directed towards improvements for active or sustainable modes..."

- 4.6. Paragraph 4.12 of the West Sussex Transport Plan 2022-2036 states that:

"Even if high levels of sustainable transport mode share are achieved at development sites, there is still expected to be an overall increase in the number of trips on the transport network."

- 4.7. This is consistent with the NPPF which requires an assessment of 'residual' car trips to be undertaken as part of a Transport Assessment.

4.8. However, paragraph 4.14 states that:

"While a number of major schemes and junction improvements are planned to mitigate development, developer-led highway mitigation schemes are not intended to resolve pre-existing issues. This can result in gaps between development-led mitigation and those required to address cumulative impacts and/or pre-existing issues. There is also a challenge to ensure that these schemes do not overprovide capacity which could lead to unmanaged traffic growth."

4.9. Furthermore, paragraph 8.12 of the West Sussex Transport Plan 2022-2036 states:

"The County Council would like to see LPAs and developers taking a 'vision-led' approach to development and improvement of the transport network. This approach should place emphasis on place-shaping and creating liveable neighbourhoods with infrastructure to support travel by a range of modes of transport rather than designing to cater for forecast traffic demand."

4.10. As can be seen above, there is a clear preference for mitigation that prioritises sustainable modes of transport over the provision of vehicular capacity within the West Sussex Transport Plan.

4.11. Proposed Approach

Cumulative Assessment

4.12. For its part, the MSSHM modelling presented in the Draft Mid-Sussex Transport Study District Plan Review Scenario 4 Report had identified a list of junctions which would be 'triggered' by the Local Plan under different scenarios. This has been summarised in **Table 4.1** below.

Table 4.1 List of Junction Where Cumulative Local Plan Impacts are Expected

Junctions List	Scenario 4	Scenario 4B	Scenario 4m1	Scenario 4Bm1
N1 Copthorne A264 / A2220 Copthorne	TRIGGERED	TRIGGERED	OK	OK
N7 Crawley Down B2028 Turners Hill Road / Wallage Lane	TRIGGERED	TRIGGERED	OK	OK
N8 Turners Hill B2110 / B2028 Turners Hill	TRIGGERED	TRIGGERED	TRIGGERED	TRIGGERED
N16 Crawley B2036 Balcombe Rd / B2037 Antlands Ln (CRAWLEY)	TRIGGERED	TRIGGERED	OK	OK
C6 Cuckfield B2036 / Ardingly Road, Whitemans Green	OK	TRIGGERED	OK	TRIGGERED
C7 Ansty A272 / B2036	TRIGGERED	OK	TRIGGERED	OK
C10 Bolney A23 / A272 Bolney Road	TRIGGERED	OK	TRIGGERED	TRIGGERED
C10a Bolney London Road / A272 Cowfold Road	TRIGGERED	OK	OK	OK
C12 Haywards Heath A273 / Isaac's Lane / Traustein Way	TRIGGERED	TRIGGERED	TRIGGERED	OK
C13 Haywards Heath A272 Rocky Lane / B2112	OK	TRIGGERED	OK	
C14 Haywards Heath A272 / Rocky Lane	OK	TRIGGERED	OK	OK
C15 Haywards Heath B2272 / Bolnore Road	OK	TRIGGERED	OK	TRIGGERED
C16 Haywards Heath A272 / B2272	OK	TRIGGERED	OK	TRIGGERED
S2 Burgess Hill A23 / A2300 Eastern Roundabout (planned scheme)	TRIGGERED	TRIGGERED	TRIGGERED	TRIGGERED
S3 Burgess Hill A2300 / Cuckfield Road (planned scheme)	TRIGGERED	TRIGGERED	TRIGGERED	TRIGGERED
S6 Burgess Hill Junction Road / B2113, Burgess Hill	TRIGGERED	TRIGGERED	TRIGGERED	TRIGGERED
S7 Hurstpierpoint B2117 / B2116 Hurstpierpoint	OK	TRIGGERED	OK	OK
S8 Hassocks A273 / B2116 Hassocks (Stonepound)	TRIGGERED	TRIGGERED	TRIGGERED	TRIGGERED
S21 Burgess Hill B2112 / Green Road (LEWES DISTRICT)	TRIGGERED	TRIGGERED	TRIGGERED	TRIGGERED
S22 Burgess Hill Valebridge Road / Junction Road / Leylands Road	TRIGGERED	TRIGGERED	TRIGGERED	TRIGGERED
S34 Burgess Hill B2036 Cuckfield Road / A273 Isaacs Lane	OK	TRIGGERED	OK	OK
S35 Sayers Common A23 / B2118 Sayers Common	OK	TRIGGERED	OK	OK
S45 Burgess Hill A2300 / A273 Jane Murray Way	OK	TRIGGERED	OK	OK

- 4.13. The above presents a record of where cumulative impacts will require mitigation at a Local Plan level, where Green indicates a 'triggered' junction and red indicates a junction that was not triggered.
- 4.14. In the event that junction(s) are identified as requiring mitigation as a result of the proposed development on top of the cumulative traffic effect of the Mid Sussex Local Plan (through the comparison of the Do Minimum and Do Something Cumulative scenarios outlined above), ACE proposes to provide indicative 'Full' mitigation schemes.
- 4.15. Depending on the status of the Local Plan, and the Site allocation within this, the proposed development at Ansty could have some responsibility towards the 'Full' mitigation schemes. However the proposed development would not have sole responsibility of delivering the improvements, particularly where the majority of the existing spare capacity (in the 2019 scenario) is depleted through either background growth (i.e. in the Do Nothing scenario) or through the cumulative effect of draft Mid Sussex Local Plan allocations (i.e. the Do Minimum Scenario).
- 4.16. Any such requirements for securing the necessary commitment towards the overall mitigation, will need to be pursued by MSDC through a mechanism for apportioning the works, so that they can be proportionate to the relative contribution which each development is making towards the identified need for mitigation; or proportionate mitigation associated with Ansty in isolation depending on the status of the Draft Local Plan.
- 4.17. What it is important to determine in respect of being able to submit a compliant Transport Assessment to support a planning application for the proposed development at Ansty is the following:
- The share of the proposed development's exposure to the need for delivering the mitigation identified in the cumulative assessment;
 - Whether the proposed development is capable of being delivered independently from the delivery of the above strategic mitigation scheme, so that it is not 'burdened' from coming forward or limited in terms of being able to contribute to housing need.
- 4.18. It is considered that in addressing the first point, Select Link Analysis (SLA) outputs will produced covering each of the strategic developments. These SLA outputs will

provide an understanding, for each of the above junctions listed, of the scale of traffic that emanates from each of the Draft MHDC Local Plan development sites. This includes the proposed development at Ansty.

Stand-Alone Assessment

- 4.19. However, there may also be a requirement to show the independent delivery of the development, assuming that the draft Mid Sussex Local Plan did not come forward. This 'stand-alone' assessment would be completed assuming the completion of the proposed development, in other words at an 'end-state'.
- 4.20. As the distribution of trips associated with the proposed development will be affected by the trips from the allocated developments within the Mid Sussex Local Plan, it will be necessary to produce a model run where the proposed development is brought forward in full, but with all elements of the Mid Sussex Local Plan removed from the MSSHM.
- 4.21. The 2039 Reference Case (the 'Do Nothing' scenario) provides the initial baseline without the draft Mid Sussex Local Plan, and a new model run will be commissioned by ACE to specifically assess the effect of the proposed development in isolation (the 'Do Something Isolated' scenario).
- 4.22. The traffic flows thereby obtained would allow a 'stand-alone' assessment to identify whether there would be any 'Isolated Development' mitigation required at the above junctions to allow the proposed development to proceed, as an alternative to 'Draft Local Plan' mitigation schemes to accommodate the cumulative effect of the Mid Sussex Local Plan (subject to the mechanism for apportionment discussed above).

Mitigation Design Strategy

4.23. Any further benefits that could be realised from the prioritisation of sustainable modes, through the careful allocation of road space, will also be considered.

4.24. As such, ACE intends to consider two options for each 'Isolated Development' and 'Draft Local Plan' mitigation design being proposed:

- One design that maximises the sustainable transport opportunities, while seeking to retain or minimise any loss in vehicular capacity; and,
- A second design that mitigates for the vehicular traffic effect of the proposed development, with a baseline level of sustainable transport intervention.

4.25. Comment on this approach is sought from WSCC.

Design Criteria

4.26. Relevant design standards will be adopted in the design of the proposed accesses, applied in the consideration of any off-site junction mitigation proposed within the constraints of the existing situation in such circumstances (e.g. topography, extent of highway boundary, etc.)

4.27. In this respect, the following highway standards are referred to:

- CD 123 Geometric design of at-grade priority and signal-controlled junctions;
- CD 122 Geometric design of grade separated junctions;
- Manual for Streets 1 & 2;
- LTN 1/20 Cycle Infrastructure Design;
- Inclusive Mobility – A Guide to Best Practice on Access to Pedestrian and Transport; and,
- West Sussex County Council, Local Design Guide, Supplementary Guidance for Residential Development Proposals.

5. Summary and Way Forward

Summary

5.1. This note is summarised as follows:

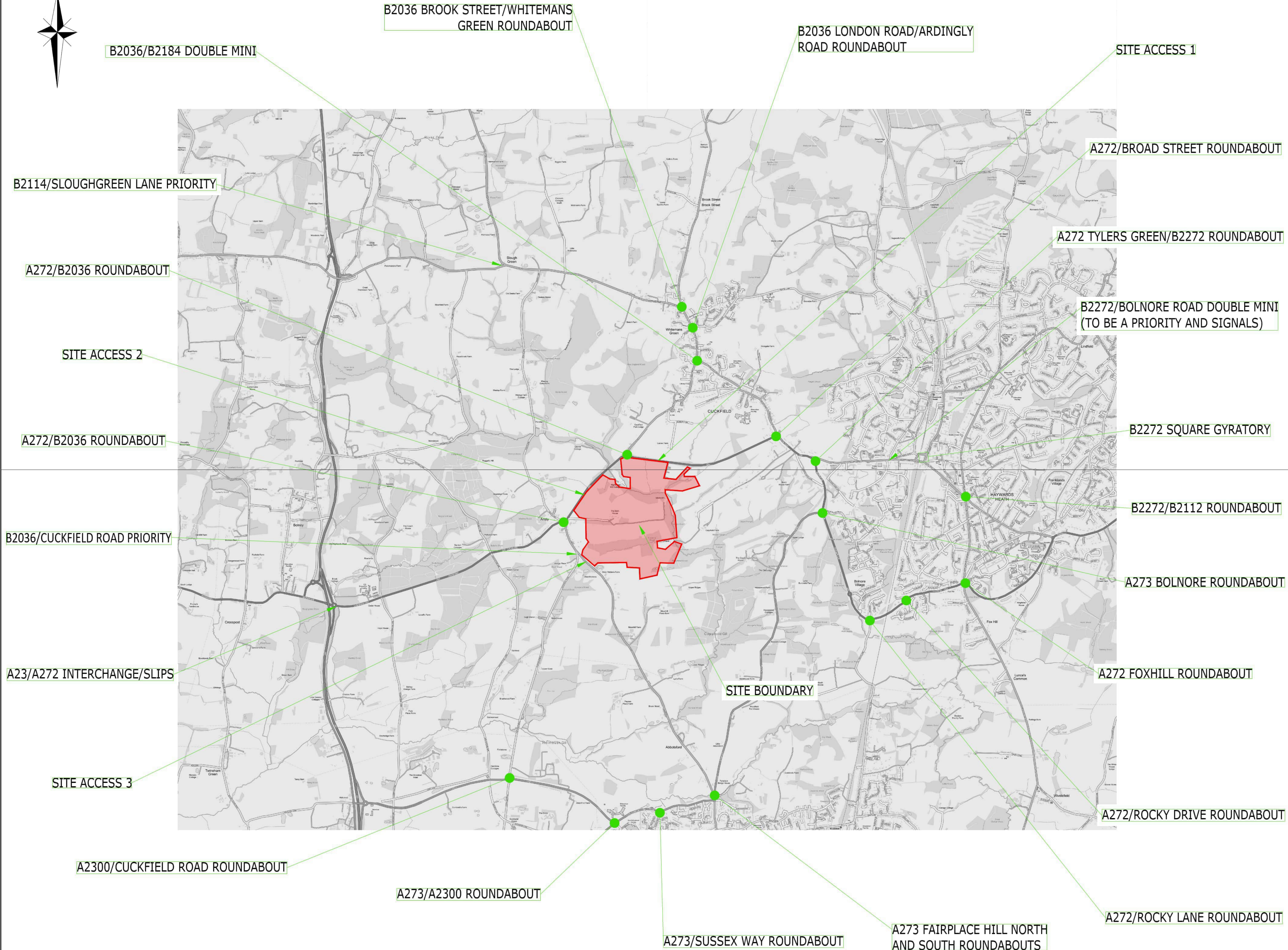
- The basis of the traffic assessment of the proposed development will be the latest version of the MSSHM, with amendments made to reflect recent changes and to improve the quality of the model.
- The model will provide turning count outputs for the AM and PM peak hours, which will be used within local junction capacity modelling.
- The comprehensive traffic study area for the proposed traffic assessment has been provided in full.
- A total of 5 scenarios will be run, including 2019 Baseline Year, 2039 Do Nothing, 2039 Do Something Isolated, 2039 Do Minimum and 2039 Do Something Cumulative scenarios.
- The scenarios selected allow for an assessment of the development separate from the draft Mid Sussex Local Plan and in the context of the draft Mid Sussex Local Plan coming forward.
- The two-track assessment methodology allows for the identification of junctions where 'Isolated Development' mitigation schemes are required, and where 'Draft Local Plan' mitigation are required.
- 'Isolated Development' mitigation schemes are required for the proposed development to come forward in isolation, whereas 'Draft Local Plan' mitigation schemes are required for the proposed development to come forward in the context of the draft Mid Sussex Local Plan.
- Responsibility for the delivery of the 'Isolated Development' schemes will be with the proposed development in isolation, whereas delivery of the 'Draft Local Plan' schemes will be shared with all allocated developments within the Mid Sussex Local Plan.
- The mitigation design strategy is to provide two options where mitigation is required; One design that mitigates for the vehicular traffic effect of the development, with sustainable transport improvements provided where possible, and a second design that maximises the sustainable transport opportunities, while seeking to retain or minimise any loss in vehicular capacity.

Way Forward

5.2. The proposed way forward is for ACE to progress the traffic assessment on the basis of the strategy outlined in this technical note, with specific comment from WSCC requested on the following areas:

- The principle of using the 2022 version of the MSSHM.
- The principle of amending the MSSHM to more accurately assess the proposed development.
- The proposed scenario set, including the assessment of the development with and without the draft Mid Sussex Local Plan.
- The proposed traffic study area.
- The proposed mitigation strategy, specifically the mitigation design approach.

Drawings



WORK IN
PROGRESS

A	DRAWING SHEET NUMBERS REMOVED			ADS	DH	KM	09.05.2023
Rev	Description			Drn	Chk	App	Date
ARDENT				CONSULTING ENGINEERS			
Third Floor The Hallmark Building 52-56 Leadenhall Street London EC3M 5JE Tel: 020 7680 4088 Web: www.ardent-ce.co.uk E-mail: enquiries@ardent-ce.co.uk				worksafe consultant www.ardentce.com SSIP SAFETY INTEGRITY PROFESSIONALISM UKAS BUILDING SERVICES CERTIFICATION			
Client							
FAIRFAX ACQUISITIONS LTD							
Project Title:							
LAND AT ANSTY FARM, MID SUSSEX							
Drawing Title:							
PRELIMINARY JUNCTION STUDY AREA							
A1 Scale		Date		Designed by			
NTS		25.04.23		BT			
Drawn by		Checked by		Approved by			
BT		DH		KM			
Drawing Number				2207280-SK02			Rev A

Appendix 5

Transport Technical Note #6 National Highways

FAIRFAX ACQUISITIONS LTD

LAND ADJOINING ANSTY

TECHNICAL TRANSPORT NOTE #6 (NATIONAL HIGHWAYS)

**REPORT REF.
2207280-R06**

May 2023

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3. Operational Modelling	9
4. Mitigation Approach	13
5. Summary and Way Forward	15

Document Control Sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	Draft	JS	DH	DRAFT	17/05/2023
-	Final	JS	JS JS	DH DH	19/05/2023

Distribution

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1. Introduction

- 1.1. This Technical Transport Note (TTN) has been produced by Ardent Consulting Engineers (ACE) on behalf of Fairfax Acquisitions Limited, to provide highways input into the masterplanning process for the proposed development at the Land Adjoining Ansty in Mid Sussex.
- 1.2. The Local Planning Authority (LPA) is Mid Sussex District Council (MDSC) and the Local Highways Authority is West Sussex County Council (WSCC), with National Highways (NH) retaining specific responsibility for the A23 corridor.
- 1.3. The location of the proposed development is shown on **Figure 1.1** below.



Figure 1.1: Site Location

1.4. A summary of the development is as follows:

- New Settlement comprising up to 1600 high quality new homes, including up to 480 new affordable homes;
- New 2 Form Entry Primary School;
- New village centre with local facilities;
- 99 hectare Country Park for wider public use, offering significant opportunities for Biodiversity Net Gain;
- Enhanced bus services;
- A low carbon sustainable settlement; and
- New sports and recreation facilities as well as amenity greenspace embedded within the garden community.

1.5. This Transport Technical Note (TTN) sets out the approach to the strategic and local junction modelling that will underpin the assessment of the residual traffic generated by the proposed development giving regard to the promotion of sustainable modes of transport, in line with the requirement of the National Planning Policy Framework (NPPF), specifically with regards to the network maintained by National Highways (NH).

1.6. The scope includes the choice of scenarios to be modelled, the study area, the parameters involved in detailed capacity assessments and the approach to mitigation, where necessary. This approach will subsequently form part of the basis for the assessment Transport Assessment (TA) accompanying a planning application for these proposals.

1.7. To this end, ACE have undertaken preliminary discussions with WSCC Highways in respect to the development proposals and the scope / approach reflects the outcome of stakeholder consultation to date.

2. Strategic Modelling

Model Version

- 2.1. The basis for the derivation of traffic flows, taking into account the effects of the proposed development, is Scenario 4Bm1 of the Mid Sussex Strategic Highway Model (MSSHM), which is coded within the SATURN strategic traffic modelling software. The model is maintained by Systra, on behalf of MSDC / WSCC.
- 2.2. This is a strategic model covering Mid Sussex, as part of its core area, as well as other parts of Sussex and Surrey. The Fully Modelled Area (FMA) comprises Mid Sussex district, Ashdown Forest (Wealden) and parts of Horsham, down to the coast at Brighton. The FMA is shown in **Figure 2.1** below.
- 2.3. This is a large area, and by necessity, such a model comprises both 'simulation' and 'buffer' coding areas. As a strategic tool, the model is able to take account of delays at intersections coupled with an assignment of the routes taken by traffic, based on a matrix of travel demand and convergence criteria.
- 2.4. SATURN is a suitable program for deriving appropriate traffic forecasts from a calibrated baseline model, and can be used in appraisals to determine the effects arising from spatial strategies and/or infrastructure schemes.
- 2.5. It is not a substitute for detailed junction assessment models (such as local capacity modelling via ARCADY, PICADY, LINSIG etc.), which is able to assess the operational effectiveness of junctions. However, strategic modelling can provide useful inputs to that process, by providing traffic flow outputs which can be used to subsequently model junction performance at a 'finer grain' level.



Figure 2.1: Fully Modelled Area of MSSHM

- 2.6. The current MSSHM model is understood to be in the process of being updated, including amendments to the Reference Case, the Without Development Case and With Development Case. These updates are not yet complete and so, due to timescales, the latest version of the MSSHM available will be used to assess the strategic traffic effect of the proposed development and provide the necessary inputs for the subsequent tests.
- 2.7. As part of the pre-application discussions referenced above, ACE have obtained access to the MSSHM in order obtain suitably robust traffic flows from which to undertake a more detailed analysis of the local road network, as is considered in the following chapters.
- 2.8. Specifically, the version of the MSSHM that was produced to assess Scenario 4m1 / 4Bm1 in late 2022, will be used. As described later within this report, refinements to the MSSHM are to be made, which will likely result in a reduction in trips compared to the above scenario run, and so the initial version of the model can be considered robust.

Local Plan Evidence Base

2.9. The District Local Plan 2031-2039 evidence base included a Draft Mid-Sussex Transport Study District Plan Review Scenario 4 Report (6 October 2022), which confirms the suitability of the strategic modelling approach, with Para 1.3.1 stating that:

"The Mid Sussex Strategic Highway Model (MSSHM) was produced in accordance with standard good practice as set out in the Department for Transport's (DfT) transport analysis guidance (TAG), in particular TAG Unit M3-1 Highway Assignment Modelling. As such, the approaches to data processing, matrices and network production, along with model calibration are consistent with those of similar strategic highways models."

2.10. Using the MSSHM, this study looks at 2039 development scenarios forming part of the Council's decision-making process, including sustainability appraisal, to help inform preparation of the District Plan Review and select a preferred option. The scenarios build on the establishment of a Reference Case and the study assesses proposed Local Plan development and supporting infrastructure under a 2039 assessment horizon.

2.11. The MSSHM study considers the following modelled scenarios:

- *2039 Reference Case*
 - The Reference Case represents the road network in 2039, and includes any committed highway infrastructure, development in the district and background growth to this date. This acts as a baseline when assessing the impacts of the development scenarios.
- *2039 Scenario 4 and Scenario 4B*
 - *2039 Scenario 4* assess proposed Local Plan development and supporting infrastructure in 2039.
 - *2039 Scenario 4B* differs from Scenario 4 in that it additionally includes the development site at Ansty.
- *2039 Scenarios 4 and 4B with Car Trip Rate Reduction*
 - *2039 Scenarios 4m1* applies the reductions to Scenario 4
 - *2039 Scenario 4Bm1* applies the reductions to Scenario 4B

Model Amendments

- 2.12. It has been identified that the 2022 version of the MSSHM assumed that the proposed development would have a total of two access points, however the latest version of the proposed development includes a total of three access points, all of which are proposed to be standard roundabouts.
- 2.13. As identified with a separate Transport Technical Note (**Ardent Report Reference: 2007280-01**), certain technical elements of the network could benefit from refinement to improve the quality of the model.
- 2.14. A future version of the model will therefore be commissioned by ACE, amended to include the additional access point, and re-run to account for any potential changes in traffic flows that the additional access point may create. The additional site access would have a very limited impact on the area-wide traffic assignment associated with the development itself and therefore any refinement would only have a relatively localised effect.
- 2.15. Other amendments will also be included, where appropriate, to provide a more accurate assessment of the traffic effect of the proposed development.

Scenario Selection

2.16. A total of 5 development-specific scenarios will be assessed within the 2022-MSSHM, which are as follows:

- 2019 Baseline – The calibrated model.
- 2039 Reference Case ('Do Nothing') – Based on 2019 calibrated model with all background and external growth, but with no allocated developments or highways mitigation schemes within the Draft Mid Sussex Local Plan brought forward.
- 2039 Reference Case With Development ('Do Something Isolated') – Based on the Do Nothing scenario with the effect of the development added in isolation from the Draft Mid Sussex Local Plan.
- 2039 Without Development ('Do Minimum') – Based on Mid-Sussex Study 2039 Scenario 4m1, i.e a + MSDC Draft Local Plan.
- 2039 With Development ('Do Something Cumulative') – Based on Mid-Sussex Study 2039 Scenario 4Bm1, i.e. 2019 Baseline + Background Growth + MDSC Draft Local Plan + Proposed Development.

2.17. The primary comparison will be made between the 2039 Do Nothing and 2039 Do Something Isolated scenarios, which will identify the specific traffic effect of the proposed development, should the draft Mid Sussex Local Plan not come forward, either prior to the proposed development obtaining planning permission, or in the eventuality that the draft plan is not brought forward without significant changes.

2.18. A second comparison will be between the 2039 Do Minimum and 2039 Do Something Cumulative scenarios, which show the specific traffic effect of the proposed development on a baseline that already includes the other Local Plan allocated site. This is essentially a cumulative assessment of the proposed development.

2.19. This two-track comparison methodology will provide the LHA / NH confidence that a comprehensive transport strategy for the proposed development can be delivered regardless of the status of the draft Mid Sussex Local Plan. The results of these comparisons will feed into the mitigation strategy, which is discussed in detail in the next section of this note.

Trip Rate Reductions

2.20. Both The 2039 Do Minimum and 2039 Do Something Cumulative scenarios make an allowance for the application of trip rate reductions “*as a result of home working, internalisation and mode share assumptions for to and from the scenario’s significant site developments*” that were included within Scenarios 4m1 and 4Bm1 (extract taken from the Systra Scenario 4 Report). The trip rate reductions assumed for the Crabbet Park, West of Burgess Hill, Sayers Common and the proposed development are as follows:

- 15% reduction on residential unit car trip rates to account for home working, internalisation and future mode share assumptions.
- 80% reduction on primary school car trip rates to account for internalisation of trips.

2.21. It is understood that the above reductions are applied at the matrix level, prior to the route assignment. It is also understood that the refinements being made by Systra to the MSSHM include the exploration of further trip rate reductions.

2.22. No allowance is made within the derivation of the vehicular trips rates to account for the effect of a development-specific Travel Plan nor development-specific public and/or active travel infrastructure. Given that WSCC requires promoters to implement this as a condition of planning, the traffic flows obtained from the above scenarios, and proposed to be utilised in the assessment (as is discussed further below), can therefore be considered robust.

2.23. To reflect the approach with regards to mitigation, specifically the mode shift expected, a further scenario set of all five of the aforementioned development-specific scenarios will be considered by ACE, which will include an appropriate reduction in the trip rates for the proposed development. The reduction will be considered adopting site specific data together with applicable policy/guidance and is anticipated to amount to a reduction of up to 50% in line with the aspirations of Active Travel England (ATE) set out below.

2.24. Furthermore, it should be borne in mind that it is expected that, in its new statutory role, Active Travel England (ATE) will be expecting to audit development proposals, in helping the organisation to achieve its stated goal of increasing levels of walking and cycling up to 50% of journeys in towns and cities by 2030.

- 2.25. The input of ATE is therefore likely to be focused on spatial and land-use interventions which are capable of shortening and/or substituting car-based journey with active travel trips.
- 2.26. Information from the Office for National Statistics (ONS) also suggests that there have been further changes in travel choices in relation to home working. In February 2022, the most common hybrid working pattern that workers planned to use was working mostly from home, and sometimes from their usual place of work. 42% reported this, which is an increase from 30% in April 2021. Meanwhile, the proportion who planned to split their time equally between work and home, or work mostly from their place of work and occasionally from home, has fallen. The proportion who planned to return to their place of work permanently fell from 11% in April 2021 to 8% in February 2022.
- 2.27. The ONS data therefore suggests that there will be a higher proportion of home working than will have been assumed to date within the Model, and so it would be appropriate to consider further adjustments to account for this change.
- 2.28. Given that development promoters will be expected to commit to implementing a Travel Plan, and to monitor compliance with it over the build-out period, it therefore appropriate that its effects should be taken into consideration within the assumptions that underpin the strategic modelling.

Strategic Model Outputs

- 2.29. The outputs from the MSSHM will be in the form of turning counts for each junction within the traffic study area, as detailed in **Section 3.0**. Turning count data will be provided for the AM and PM peak hours (08:00 – 09:00 and 17:00 – 18:00, respectively). The turning counts will be displayed as traffic flow diagrams for reference within the TA.

3. Operational Modelling

Modelling Software

- 3.1. Individual junction capacity modelling will be conducted using the PICADY / ARCADY modules of the Junctions10 software package, for priority junctions and priority roundabouts, respectively.
- 3.2. The LINSIG3 software package will be used for an signalised junctions.

Performance Indicators

- 3.3. Junction capacity is specified with reference to the Ratio of Flow over Capacity (RFC) for priority and roundabout junctions and Degree of Saturation (DoS) for signalised junctions. In doing so, values of 0.85 and 90%, respectively, would typically indicate the practical design capacity at which congestion is likely to begin to occur with values of 1.00 and 100% being the theoretical point at which this congestion is forecast to occur regularly during the assessment period.
- 3.4. At signalised junctions, an indication of the overall spare capacity at the junction is also given by the Practical Reserve Capacity (PRC) within LINSIG. PRC denotes the maximum desirable flow through a junction and typically a PRC of 0% is reached when one or more approaches to the junction are at 90% of their actual capacity. A DoS of 90% (i.e. a headroom of 10%) therefore indicates that there is still some spare capacity to deal with fluctuations in traffic volumes.
- 3.5. Queues in Junctions are reported in terms of the average maximum forecast queue during the modelled period (in vehicles or Passenger Car Units (PCUs), as indicated), while queues in LINSIG are reported in terms of the Mean Maximum Queue (MMQ), measured in PCUS during the modelled period.
- 3.6. Values should also be taken in the context of the NPPF guidance that requires decision-makers to consider the severity of impacts, particularly where other benefits of development are judged to outweigh any transport implications. Assessing the residual impact of development is therefore a matter of judgement based on the comparison between individual scenarios, recognising (where applicable) the overall benefits of changing network conditions.

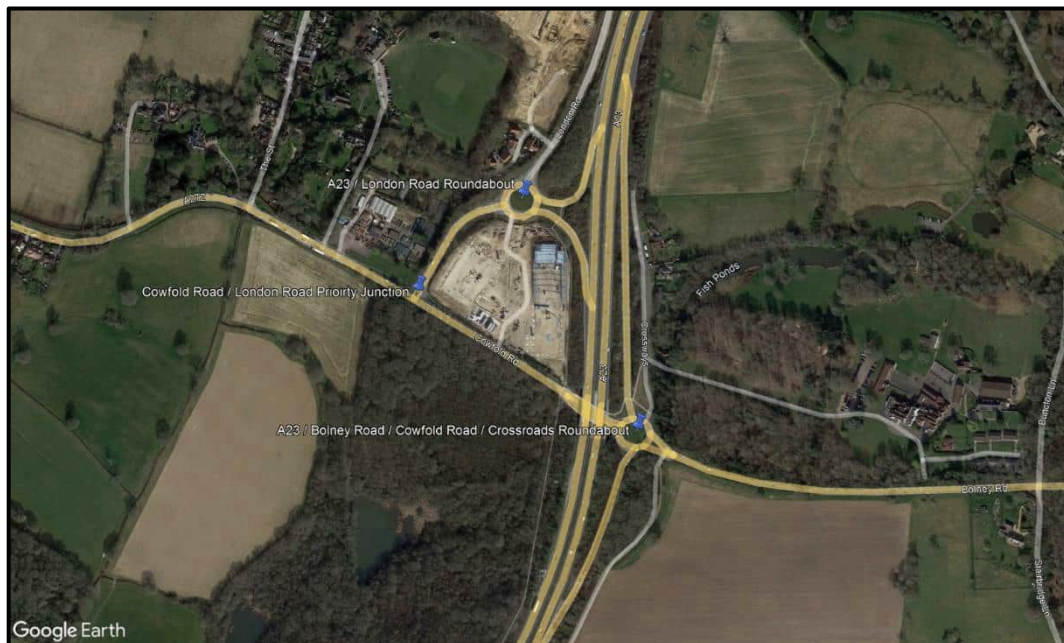
Model Geometries and Parameters

- 3.7. Geometries for the junction models will primarily be based on OS mapping, with topographical data taking preference over OS mapping where available. Geometries for priority junctions will be measured following best practice.
- 3.8. Full model outputs will be provided for the junctions modelled within the TA accompanying the planning application.
- 3.9. Capacity modelling will be conducted for the AM and PM peak hours, using the turning count data obtained from the strategic modelling outputs.

Traffic Study Area

- 3.10. A comprehensive traffic study area has been considered, with reference to the comparison that would be undertaken using the MSSHM outputs. However, for the purposes of NH specific interest, the relevant junctions that will be included in the proposal study area are as follows:

- A23 / Bolney Road / Cowfold / Crossroads Roundabout
- Cowfold Road / London Road Priority Junction
- A23 / London Road Roundabout



Sifting Criteria

3.11. WSCC's typical criterion, originally outlined in the Highway Impacts Assessment section of its Transport Assessment Methodology (21 June 2007) suggests that the scope of a TA should:

"... include all junctions where there is a predicted increase in total entry flows of 30 or more vehicles in any hour - or if the junction already experiences peak period congestion an increase of 10 or more vehicles - as a result of the development proposals"

3.12. A graduated approach will be adopted when determining the significance of any increase in forecasted traffic flow, based around the following nested criteria:

- The volume of development related trips at each junction; and
- The percentage impact of development generated traffic at each junction.

3.13. Looking at the criteria above in further detail, the following sequenced methodology will be employed in determining the candidate junctions that will be subject to further detailed analysis and modelling.

- Stage 1 - Number of Predicted New Trips
 - Stage 1 involves examining the absolute trip numbers to determine whether junctions are to be excluded or included within our detailed assessment.
 - Per the WSCC guidance from 2007, a threshold of 30 trips will be used as the initial screening criteria, with the threshold of 10 trips used for junctions with known peak hour congestion concerns.
- Stage 2 - Percentage Impact Analysis
 - Stage 2 then reviews the percentage change in traffic at the junction as a result of the traffic effect of the proposed development.
 - This further filtering allows the absolute traffic figures to be reviewed in context of the existing conditions, where an absolute traffic effect beyond the 30 trip threshold could have a negligible effect compared to existing background traffic.
 - As a 10% change in traffic is considered to be within expected daily fluctuations, per guidance from the Institute of Environmental Assessment,

therefore a robust threshold of a 5% increase in traffic at a junction will be used in this sifting stage.

3.14. Following the filtering process, a list of junctions where the absolute effect of the development and the percentage effect of the development are significant will be produced. These junctions will then be subject to individual junction capacity modelling and potential mitigation designs, per the approach described in the next section of this report.

3.15. For consistency, the same thresholds and methodologies will be applied to the junctions maintained by NH.

4. Mitigation Approach

4.1. Proposed Approach

Cumulative Assessment

- 4.2. For its part, the MSSHM modelling presented in the Draft Mid-Sussex Transport Study District Plan Review Scenario 4 Report had identified a list of junctions which would be 'triggered' by the Local Plan under different scenarios.
- 4.3. In the event that junction(s) are identified as requiring mitigation as a result of the proposed development on top of the cumulative traffic effect of the Mid Sussex Local Plan (through the comparison of the Do Minimum and Do Something Cumulative scenarios outlined above), ACE proposes to provide indicative 'Draft Local Plan' mitigation schemes.
- 4.4. Depending on the status of the Local Plan, and the Site allocation within this, the proposed development at Ansty would have some responsibility towards the 'Full' mitigation schemes. However the proposed development would not have sole responsibility of delivering the improvements, particularly where the majority of the existing spare capacity (in the 2019 scenario) is depleted through either background growth (i.e. in the Do Nothing scenario) or through the cumulative effect of draft Mid Sussex Local Plan allocations (i.e. the Do Minimum Scenario).
- 4.5. What it is important to determine in respect of being able to submit a compliant Transport Assessment to support a planning application for the proposed development at Ansty is the following:
- The share of the proposed development's exposure to the need for delivering the mitigation identified in the cumulative assessment;
 - Whether the proposed development is capable of being delivered independently from the delivery of the above strategic mitigation scheme, so that it is not 'burdened' from coming forward or limited in terms of being able to contribute to housing need.
- 4.6. It is considered that in addressing the first point, Select Link Analysis (SLA) outputs will be obtained, covering each of the strategic developments. These SLA outputs will provide an understanding, for each of the above junctions listed, of the scale of

traffic that emanates from each of the Draft MSDC Local Plan development sites. This includes the proposed development at Ansty.

Stand-Alone Assessment

- 4.7. However, there may also be a requirement to show the independent delivery of the development, assuming that the draft Mid Sussex Local Plan did not come forward. This 'stand-alone' assessment would be completed assuming the completion of the proposed development, in other words at an 'end-state'.
- 4.8. As the distribution of trips associated with the proposed development will be affected by the trips from the allocated developments within the Mid Sussex Local Plan, it will be necessary to produce a model run where the proposed development is brought forward in full, but with all elements of the Mid Sussex Local Plan removed from the MSSHM.
- 4.9. The 2039 Reference Case (the 'Do Nothing' scenario) provides the initial baseline without the draft Mid Sussex Local Plan, and a new model run will be commissioned by ACE to specifically assess the effect of the proposed development in isolation (the 'Do Something Isolated' scenario).
- 4.10. The traffic flows thereby obtained would allow a 'stand-alone' assessment to identify the whether there would be any 'Isolated Development' mitigation required at the above junctions to allow the proposed development to proceed, as an alternative to 'Draft Local Plan' mitigation schemes to accommodate the cumulative effect of the Mid Sussex Local Plan (subject to the mechanism for apportionment discussed above).

Mitigation Strategy

- 4.11. Should any of the junctions maintained by NH require mitigation as a result of the cumulative or stand-alone assessments, discussions will be held with NH to determine an appropriate way forward.

5. Summary and Way Forward

Summary

5.1. This note is summarised as follows:

- The basis of the traffic assessment of the proposed development will be the latest version of the MSSHM, with amendments made to reflect recent changes and to improve the quality of the model.
- The model will provide turning count outputs for the AM and PM peak hours, which will be used within local junction capacity modelling.
- The comprehensive traffic study area for the proposed traffic assessment has been proposed, with the junctions relevant to NH highlighted.
- A total of 5 scenarios will be run, including 2019 Baseline Year, 2039 Do Nothing, 2039 Do Something Isolated, 2039 Do Minimum and 2039 Do Something Cumulative scenarios.
- The scenarios selected allow for an assessment of the development separate from the draft Mid Sussex Local Plan and in the context of the draft Mid Sussex Local Plan coming forward.
- The two-track assessment methodology allows for the identification of junctions where 'Isolated Development' mitigation schemes are required, and where 'Draft Local Plan' mitigation are required.
- Should mitigation be required at junctions maintained by NH, discussions will be held with NH to determine a way forward.

Way Forward

5.2. The proposed way forward is for ACE to progress the traffic assessment on the basis of the strategy outlined in this technical note, with specific comment from NH requested on the following areas:

- The principle of using the 2022 version of the MSSHM.
- The proposed scenario set, including the assessment of the development with and without the draft Mid Sussex Local Plan.
- The proposed traffic study area.
- The proposed mitigation strategy.

Transport Assessment Appendix B
Pre-application Responses

Tech Note

Spatial Planning Framework Commission

Job number:	SB612		
Job title:	Land at Ansty Farm Nr Haywards Heath		
To:	Elizabeth Cleaver	cc:	Matt Lewis
Topic:	Pre-Application Review: Land at Ansty Farm Nr Haywards Heath, mixed-use development		
	Prepared:	Checked/Approved	
Name:	Alan Philp	Derek Jones	
Date:	31/05/2023	31/05/2023	

Throughout this response any **ACTION POINTS** for the applicant are shown as **bold underlined**.

Introduction

- 1 National Highways has been consulted on a pre-application Technical Transport Note #6 (TTN6) dated May 2023, prepared by Ardent Consulting Engineers (ACE) in relation to a proposed mixed-use development including up to 1,600 residential dwellings as well as educational, commercial and employment uses, on land to west of Haywards Heath and the east of Ansty, West Sussex.
- 2 The site location is approximately 2 miles to the east of the strategic road network (SRN) at the A23 junction with A272 Bolney Road and Cowfold Road as shown below.

Figure 1: Site Location Plan



Source: Technical Transport Note #6 (Ardent, May 2023)

- 3 The site falls within the boundary of Mid Sussex District Council (MDSC) who are the local planning authority (LPA), with West Sussex County Council (WSCC) as the local highway authority (LHA).
- 4 It is our belief that the site is not allocated within the adopted Mid Sussex District Plan 2014-2031 or the emerging Mid Sussex District Plan 2021-2039. Our response has been prepared on this basis. However, **should the applicant contend that the site is included in the current or emerging local plan, appropriate evidence will need to be provided.**
- 5 There is understood to have been no previous consultation with National Highways in association with this proposed development.
- 6 The TTN6 sets out the approach to the strategic and local junction modelling that will be undertaken in association with the development and form the basis of the Transport Assessment (TA) accompanying the planning application. Our comments on TTN6 are provided below.

| Development Proposals

- 7 The applicant proposes to submit a planning application for the following:
 - New Settlement comprising up to 1,600 high quality new homes, including up to 480 new affordable homes
 - New 2 Form Entry Primary School
 - New village centre with local facilities
 - 99-hectare Country Park for wider public use, offering significant opportunities for Biodiversity Net Gain
 - Enhanced bus services
 - A low carbon sustainable settlement
 - New sports and recreation facilities as well as amenity greenspace embedded within the garden community

Technical Transport Note #6

| Policy Context

- 8 **There is a need for reference and adherence to be made to the following key document:**
 - **Department for Transport Circular 01/2022 (DfT 01/2022)**

| DfT Circular 01/2022

- 9 The Department for Transport released a new document setting out the policy of the Secretary of State in relation to the SRN on 23 December 2022. The document, entitled 'Strategic Road network and the delivery of sustainable development', replaces the policies in the Department for Transport circular 02/2013 of the same title.
- 10 The document can be accessed online:
<https://www.gov.uk/government/publications/strategic-road-network-and-the-delivery-of-sustainable-development/strategic-road-network-and-the-delivery-of-sustainable-development>.
- 11 The below diagram illustrates the iterative process and evidence base that is now required in line with the circular.



- 12 With reference the circular, we require the vision for the development. This should describe the aims of the development in terms of transport and explain how the aims are in line with the circular. We expect development promoters to enable a reduction in the need to travel by private car and prioritise sustainable transport opportunities, ahead of capacity enhancements and new connections on the Strategic Road Network.
- 13 For residential-led developments, due consideration should be given to home and street layouts, broadband infrastructure, safe and secure cycle parking, and access to local amenities and open space in support of these aims, while mobility or micro mobility hubs should be provided in larger schemes. In addition, high-powered and open-access EV charge points should be installed where developments include on-street or communal parking to support the government's objective to end the sale of new conventional petrol and diesel cars/vans by 2030 and HGVs by 2040, and its commitment to decarbonise transport by 2050.
- 14 **Once the vision and supporting approach are agreed upon, it would be appropriate to move onto an assessment of residual transport impacts. This should be undertaken in line with the circular, particularly paragraphs 47-54. The analysis must relate to the development quantum as per the submitted scoping information.**
- 15 **Where an assessment indicates that a development would have an unacceptable safety impact or the residual cumulative impacts on the SRN would be severe, the developer must identify when, in relation to the occupation of the development, transport improvements become necessary.**
- 16 **Whilst two approaches to trip generation are put forward, to align with DfT 01/2022 a single scenario should be put forward as a vision that can be realistically achieved, along with sufficient evidence to demonstrate how that vision can be realised. This could include a package of measures, such as key active travel links to support connections to existing services, provision of mixed-use schemes to assist with internalisation of trips, consideration of connections to public transport, provision of high-quality broadband, ensuring homes have space for a home office, etc.**
- 17 **We will then review and confirm whether suitable evidence has been supplied to support the vision.**

Strategic Modelling

- 18 The Mid Sussex Strategic Highway Model (MSSHM) is proposed to be utilised as the basis of the traffic forecasting required in association with the TA. It is noted that the current MSSHM model is in the process of being updated, including adjustments to the Reference Case, Without Development Case and With Development Case. However, as these updates are not available, assessment is proposed to be undertaken using the latest available version of the model which is Scenario 4m1/4Bm1 which is reported to have been produced in late 2022.
- 19 Scenario 4m1/4Bm1 was produced in support of the Draft Mid Sussex Transport Study District Plan Review Scenario 4. The study assessed 'proposed Local Plan development and supporting infrastructure under a 2039 assessment horizon'.
- 20 2039 Scenario 4 (model Scenario 4m1) does not include the development at Ansty, while 2039 Scenario 4B (model Scenario 4Bm1) is consistent with Scenario 4 other than the addition of the proposed development at Ansty.

- 21 It is noted that Scenario 4B model currently has two access points for the development, whereas the current proposal is for three access points. TTN6 notes that ACE will commission additional modelling which considers the additional access point. **ACE highlight that 'other' amendments will also be included where appropriate, however no details are provided; this information is required for review.**
- 22 **Whilst the use of MSSHM is accepted in principle, subject to satisfactory resolution of the above point, we require a single scenario for the trip generation to apply to the modelling demand matrices.**

Trip Rates and Trip Generation

- 23 TTN6 notes that Scenarios 4m1/4Bm1 of the MSSHM include trip rate reductions 'as a result of home working, internalisation, and mode share assumptions for to and from the scenario's significant site developments' that were included within Scenarios 4 and 4B.
- 24 The trip rate reductions assumed for the Crabbet Park, West of Burgess Hill, Sayers Common and the proposed development are as follows:
- 15% reduction on residential unit car trip rates to account for home working, internalisation and future mode share assumptions
 - 80% reduction on primary school car trip rates to account for internalisation of trips
- 25 TTN6 notes that in addition to the above trip rate reduction scenario, a further trip rate scenario is proposed to be considered by ACE which comprises 'a reduction of up to 50% in line with the aspirations of Active Travel England (ATE)'.
- 26 In *principle* we support the applicant's aspiration to set out a preferred future scenario, which aligns with current policy and prioritises sustainable travel modes and to provide the infrastructure to realise that vision. **However, as noted above, there is a need for one trip generation scenario to be developed which must be supported by appropriate evidence.**

Assessment Scenarios

- 27 TTN6 proposes that the following assessment scenarios are undertaken:
- 2019 Baseline
 - 2039 Reference Case (Do Nothing)
 - 2039 Reference Case with Development (with the proposed development but not considering the Draft Mid Sussex Local Plan)
 - 2039 Without Development (based on the Draft Mid Sussex Local Plan)
 - 2039 With Development (based on Draft Mid Sussex Local Plan plus the proposed development)
- 28 The year 2039 assessment scenarios are accepted *in principle*, however attention is also drawn to paragraph 37 below.

Committed Developments

- 29 There is a need to ensure that the modelling reflects any committed developments which are not currently included within the model.
- 30 **There is need to review the committed developments considering the requirements of DfT Circular 01/2022. There is also a need to agree the committed developments and committed highway schemes with the LPA and to then provide this information to us for review, with**

evidence of the LPA's acceptance. Paragraph 49 of the Circular states 'Assumptions underpinning projected levels of traffic should be clearly stated to avoid the default factoring up of baseline traffic'.

Junction Assessment

- 31 Junctions 10 software package and LinSig are proposed to be used for the purpose of detailed junction assessment during the AM and PM peak hours and this is accepted.
- 32 The assessment locations of relevance to National Highways are noted by the applicant to be:
- A23 / Bolney Road / Cowfold / Crossroads Roundabout
 - Cowfold Road / London Road Priority Junction
 - A23 / London Road Roundabout
- 33 In addition to the above identified junctions, we require to understand the forecast traffic impact at the following locations:
- A23 / B2115 Sloughgreen Lane / B2115 Cuckfield Lane junction
 - A23 / Broxmead Lane junction
 - A23 / A2300 junction
- 34 An absolute threshold of 30 trips to establish the need for junction assessment is not accepted. In addition, percentage impact analysis is not accepted. It should be noted that junction modelling may be required at SRN locations even if the development trip threshold of 30 vehicles is not met, and any percentage impact argument put forward will be disregarded. The junctions requiring assessment can be determined following agreement of the trip generation, distribution, assignment, and STATS 19 collision analysis.
- 35 The base year model for each junction model must be suitably validated, for example with queue data.

Collision Analysis

- 36 At those locations on the SRN where capacity analysis is required, STATS 19 analysis of the relevant SRN location(s) will need to be undertaken for the five years pre-pandemic, as well as the pandemic period.

Mitigation

- 37 As previously set out, the development proposals should provide a single scenario for trip generation that is in line with the development vision. Following the agreement of residual impacts, any required mitigation will need to be formulated in relation to development impacts for the with and without Emerging Local Plan scenarios. The developer must identify when, in relation to the occupation of the development, transport improvements become necessary. Accordingly, interim assessment year(s) are likely to be required. In due course, it will be possible to consider any mechanism required to secure such mitigation works at the appropriate stage of development build out.

Travel Plan

- 38 Travel plans are an effective means of incentivising the use of sustainable modes of transport. To support the overarching vision for the development a Travel Plan will be required.

- 39 In line with DfT 01/2022 the Travel Plan must put forward clear targets and commitments to manage down the traffic impact of development and maximise the accessibility of and within sites by walking, wheeling, cycling, public transport and shared travel. Targets for achieving a modal shift to sustainable transport will need to be subject to sustained monitoring and management by an appointed travel plan coordinator.

Next Steps

- 40 As detailed above, a number of actions have been identified which will require further consideration and additional information to be submitted for review. Please note that the above represents our *current* requirements. As the analysis progresses, it is possible that we will have further requirements.
- 41 As previously noted, it is important for an agreement on a single trip generation scenario to be reached, which will inform subsequent assessments. The provision of an updated TTN6 to reach this stage of agreement would be welcomed.
- 42 We look forward to further engagement with the project and being consulted as the proposals develop.

Conclusion

Further information required – ideally at the pre-application stage
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WEST SUSSEX COUNTY COUNCIL

DATE: 07th July 2023

PLANNING SERVICES CONSULTATION

FROM: County Highways Team and Strategic Transport Team (WSSC)

TO: Ardent Consulting Engineers

FAO: Fairfax Developers

[Land Adjoining Ansty _ PRE-98-22]

Highways Comments on the Scoping Report and additional Drawings

TN2 is pretty much a high-level design strategy for the access works and on-site roads. The principle of roundabouts as access points are fine but the form of roundabout is not what would be expected for well trafficked roads such as the A272. The proposed speed limit changes may also be non-starters but that shouldn't preclude the accesses coming forward, it just might mean a more onerous design. The on-site arrangements are just conceptual.

Unless stated otherwise, comments are made against the specific numbered points within the TN.

**Technical Transport Note #2 – Masterplanning Highway Design
(reference 2207280-R02, dated May 2023)**

2.4 – Where are the two proposed bridges? It would be beneficial to understand where these are and how these fit in with the wider movement strategy.

2.5 – The proposed bus routing is noted. Is it intended that an existing bus service is to be re-routed into the development or will this be an entirely new service? The point of asking is that this may then determine how and where the bus arrives and departs into the wider network.

2.9 – There are a quite a number of active travel connections. The ability to improve the surfacing of those connections using public rights of way will need to be assessed along with the potential requirement to include new or improved crossings where these meet the highway.

3.3. – Whilst reference is made to the roundabouts being designed to CD 116 standards, no Design Audit is provided to demonstrate how the design complies with the necessary requirements. Design Audits would be required for all the roundabouts.

As a point of principle, compact roundabouts are shown for the three accesses. CD 116 (2.3.3, note 2) makes reference to compact roundabouts being used where the speed limit is 40mph or less and where traffic levels of 8,000 or less two way AADT are expected on all approaches. No flow information has been provided to determine the suitability of compact roundabouts. Traffic flow information would be required for all of the roundabouts to support the proposed design.

It's also recognised that a lower speed limit is being proposed in association with two of the roundabouts. The highway designs for these roundabouts are then based on the potential 40mph speed limit. It's generally not advised that the design is based on a potential speed limit given the proposed design speed cannot be secured by condition or legal obligation. At this time, no consideration appears to have been given as to whether the proposed speed limit complies with the current WSCC Speed Limit Policy and therefore has any potential to succeed.

For all of the roundabouts, it's recommended that the designs are based upon recorded 85th percentile speeds rather than a future potential speed limit.

It's also advised that Arcady modelling is provided for the roundabouts to ensure that these will operate with sufficient capacity; in all instances where roundabouts are proposed, the context of the road network is one of vehicle movement. The design of the roundabouts should not introduce significant or unnecessary delays.

At present, the use of compact roundabouts has not been appropriately demonstrated. Design Audits demonstrating how the layouts accord with all relevant standards, along with details of traffic flows and 85th percentile speeds will also be required to ensure the form of roundabout is appropriate. Modelling would also be required to demonstrate the suitability of the roundabout design.

3.4 and 3.6 – The comments made within 3.3 above relevant to these points.

3.5 – A Tiger/parallel crossing is not considered appropriate on the A272 in this location. Even if speeds are reduced, due to the expected traffic flows and composition it's highly unlikely that any pedestrian or cyclist would step out and exert their priority over traffic especially in the dark or wet weather. If a crossing is considered necessary here, it would have to be a Toucan. Traffic signals could otherwise be considered for the development vehicle access that then include a suitable crossing phase.

3.8 and 3.10 – The comments made within 3.3 above relevant to these points.

3.12 and 3.14 – The comments made within 3.3 above relevant to these points.

3.13 – It's noted that the internal cycle way ends at the southern roundabout. What consideration has been given to the ability to provide onwards connectivity for cyclists? The consented Northern Arc/Brookleigh development is not a significant distance southwards for cyclists.

4.8 – The widths appear suitable for both primary spine roads. Confirmation would be sought as to what is meant by 'light segregation'; it would typically be expected for a cycle way and footway to be segregated by a low height kerb.

The only other point is whether the primary spine road should include measures to prevent this becoming a through route between the B2036 and A272. This is perhaps a matter to be considered as the design progresses but also relies on the proposed accesses not introducing any significant delays that could make this an attractive alternative.

4.13 – For the secondary street with/without bus, there's very little difference compared with the primary road. It may be difficult to clearly identify the hierarchy between primary and secondary streets. In practice, it may be prudent to identify a potential bus routing arrangement and from that determine matters of layout rather than designing significant sections of the development to accommodate a two way bus service.

4.17 – Although a more detailed matter, WSCC are unlikely to adopt carriageways of 4.1 metre width.

4.20 – Again, this is more of a detailed matter but WSCC will require adoptable margins along both sides of a shared surface; the shared surface couldn't simply abut right up to a private garden.

Regarding the drawings,

2207280-005 Revision A (Proposed Roundabout Southern Access) – There are a number of references on this drawing to a potential 30mph speed limit. A reduction to 30mph is unlikely to be acceptable when viewed against the WSCC Speed Limit Policy. The references are also inconsistent with the details in the TN.

2207280-SK01 (Mobility Hub Examples) - the cycle way details shown don't align with other cross sections or the text in the TN.

2207280-003 revision B (Proposed Roundabout Northern Access) – where does the footway proposed on the A272 lead to and what existing infrastructure will this eventually tie into?

Again references are made on this drawing to a 30mph speed limit. This is unlikely to comply with the current WSCC Speed Limit Policy and is inconsistent with other aspects of the TN.

Technical Transport Note #3 – Parking Strategy and Trip Rates (reference 2207280-R03, dated May 2023)

2.4 – This requirement has now been superseded by those within Part S of the Building Regulations.

2.6 – In principle, the shared use of car parking would be supported. The actual ability to achieve this would be a matter to be determined as the design progresses.

2.9 – In principle the use of parking behaviour zone 4 for this development wouldn't be supported. Even though details of the bus service and cycle route improvements aren't presented or agreed, the location of the development is such that this is unlikely to allow for significant mode share to justify zone 4 parking levels. It should be noted that certain areas of Haywards Heath are parking behaviour zone 3. Whilst the further reduction of the parking provision by 10% is permissible within the WSCC Parking Guidance, it would still need to be quite clearly demonstrated at the appropriate time how demands will be accommodated to ensure obstructive parking does not become an issue across the site.

2.22 and 2.23.- As noted in 2.4, the requirement in the WSCC Parking Guidance has been superseded by Part s of the Building Regulations.

3.2 – Using those trip rates agreed for the MSDC Local Plan traffic model would be accepted.

3.3 – The suggested scenario will need to be checked with Guy; I don't know what's available or whether this is suitable. If this site is coming forward ahead of the Local Plan, it would be appropriate to test a scenario with only committed growth and identify mitigation without other LP growth. Testing with potential LP development scenarios may be fairly meaningless if the developments included within these come to nothing.

Regarding the assumption for the primary school, how many primary school age pupils are forecast for the development? Will the 2FE school provide a sufficient number of spaces to meet demand from the development?

Additional Comments

A revised drawing has been submitted for the proposed northern roundabout access (drawing number 2207280-003 Revision C). The development roundabout access arrangement appears to remain unchanged. As such, those comments relating to the roundabout design remain applicable.

The revised drawing shows an alternate arrangement for the pedestrian/cyclist parallel crossing. The arrangement now shows a push button parallel crossing rather than a zebra style arrangement. The crossing has also been moved some distance eastwards to coincide with the existing public right of way that crosses the A272.

It remains WSCC Highways view that a push button type crossing is more appropriate for the A272. A key point is that whilst a revised speed limit is indicated in the vicinity of the roundabout, this aspect will be subject to a separate legal process. It would be inappropriate to base the signals design on a future speed limit that may not be realised. However, it is accepted that a standalone crossing can be installed on roads with a speed limit/vehicle speeds of up to 50mph. It may be more appropriate to revise the crossing location and place this nearer to the proposed roundabout where traffic speeds will be reduced.

It is recognised that the crossing as shown would accommodate the existing public right of way. The right of way is only a footpath (cyclists would not be able to continue northwards once they have crossed). It's questionable therefore whether the crossing should or needs to accommodate cyclists too. This is more a matter to be determined as part of the assessment of offsite walking and cycling improvements.

Strategic Transport team Comments on the Active Travel Strategy

Technical Transport Note #4 – public transport and active travel strategy, reference 2207280-r04, dated May 2023)

TN4 depicts the site sustainability in terms of Active Travel mode in a more or less accurate light: few elements will need clarifying. The site promoters will need to present and defend their strategy on how the site will achieve a certain level of modal share for cycles and buses to reduce the traffic levels on the road network between two major towns of the district, i.e Haywards Heath to the North East of the site and Burgess Hill to the South East of the site.

Unless stated otherwise, comments are made against the specific numbered points within the TN.

1.6 - The WS TP, the Mid Sussex LCWIP 2023, the WS Bus Services Improvement Plans were not mentioned in the list; this may raise some concerns as to that some arguments in the follow up of the TN might not align to these guidance documents.

2.1 – Has Ardent investigated the existing of private bus services in Ansty?

2.4 – It would have been useful to have some indications on the bus services available from Ansty to Haywards Heath Rail Station, indications about the car parking spaces available in both Burgess Hill and Haywards Heath Rail stations, indications about the bike spaces available in Burgess Hill?

The table 2.2 seems to show only direct services between Haywards Heath (& Burgess Hill) and the various destinations; the text preceding the table just need to clarify this. Also, Table 2.2 shows only 1 direct service between Haywards Heath and Eastbourne when in fact there are 2 direct services between the two towns. The table will need to be updated accordingly.

2.8 – The following measures :

- Diversion of existing bus services
- Increased frequency
- Additional Services

These measures may have their merits but has Ardent thought about the cost implications, the specific of the deviations, the number of additional services they would like to have. This information are needed before a discussion with WSCC and the bus operators can be initiated.

2.9 – same as in 2.8, the shuttle bus to the science centre / business centre is a sound proposal, however the cost implications and the developer contributions are yet to be defined.

2.11 – The production of a transport plan for the development is something that would be highly supported by the county

3.8 – Can you provide more details on the through route to Haywards Heath? Are there such through route to Burgess Hill?

4.1 – It would be ideal to provide Ardent’s understanding of “mobility hub” and “mini mobility hub”

ACE Drawing 2207280-SK03 – in section 3.3, it is mentioned that the desired line has been adopted in the cycle route proposal; could the B2036 Pains flat not be considered as a viable cycle route between Ansty and Burgess Hill? As indicated at the beginning, some attention needs to be given to the Mid Sussex LCWIP; the entirety of the B2036 is considered in the Burgess Hill 20 min cycle neighbourhood; the route is the relatively flat and is the shortest path to the town centre and its rail station. Cuckfield road which is considered in the drawing as a potential cycle route has along it slopes and hills (see Burgess Hill topographic map in Mid Sussex LCWIP). Also, that route has had incident events (see Burgess Hill analysis plan in Mid Sussex LCWIP) according to the cycle route core design principle (i.e. comfort, directness, gradient, safety, connectivity), the B2036 Pains Flat should have been the first choice.

What arrangement will be made to convert the PROW within the development into cycle routes to Haywards Heath?

Strategic Transport team Comments on the Strategic and Local Modelling

Technical Transport Note #5 – STRATEGIC & LOCAL MODELLING, reference 2207280-r05, dated May 2023)

Trip Generation

In principle the choice of using trip generation rates which reflect the strategic Local Plan transport study work is supported. However the current Scenario 5 tests will be using adjusted trip generations in comparison to those used for the Scenario 4/4B tests. The base rates have until now been derived from 85%ile rates and will now move to average trip rates. I do not yet have the revised trip rates but will naturally expect them to be a little lower than used before. The Mid Sussex Scenario 5 work is starting later than I had previously been expected, so I have asked Systra if they can expedite circulation of the updated trip generation rates to allow for harmonisation with individual strategic site transport assessments.

Assumptions on internalisation

Using internalisation assumptions in line with the Local Plan transport study is supported. Further reductions need to be justified against specific provisions on site.

Strategic Modelling

Ref paragraph 2.6 – yes the Mid Sussex Transport study model forecasting is in the process of being updated, with a refresh of reference case assumptions and further analysis of mitigation strategy to develop an evidence base for the District Council’s final preferred spatial strategy. This work has started later than was previously envisaged due to the need for the new Council to confirm how

they intended to take the Local plan process forward, following a change of political control in the recent Local elections.

Reference paragraphs 2.7 to 2.9 the recent updates to NTEM version 8.0 provide a range of scenarios for background traffic growth. However for a Local Development plan study which the District Council are undertaking the use of NTEM is confirmed to trip productions external to the District. This would have lesser impact on traffic flows within the study area than for a site or scheme specific model assessment. However the point is correct that previous assessment using NTEM 7.2 would lead to lower external background growth than on most analytical scenarios within NTEM 8.0. Reference paragraph 2.10 I am currently discussing use of NTEM for new scenarios external growth with Systra. NTEM 8.0 household and jobs growth assumptions generally fall short of planned new housing and employment provision in adopted Local Plans across the Southeast, so if we update to NTEM 8.0 from NTEM 7.2 then use of high rather than core growth as a starting point is likely to mitigate against this issue, although currently still under discussion.

Reference paragraphs 2.17 to 2.20 which refer to model amendments. The information provided in the scoping report relating to model amendments was insufficiently clear in relation to amendments off-site. However, following discussion at our MS Team meeting on 28th June, you have provided additional information in an email received on 3 July. I will respond to these points in turn:

- 1) Access routes across the site. I am happy for these to be modelled in accordance with the masterplan road layouts provided in your report as Appendix A: Indicative Access & Movement Strategy. If the model is coded such that through movement is not possible this will be a maximal stress test of the capacity of the A272/B2036 Ansty mini roundabout and we will be able to see if delay times at this junction exceed the likely time penalty for diverting through the site or if flows increase on other alternative routes.
- 2) The existing A272/B2036 Ansty mini roundabout has no more than one lane marked at any entry and although there is flaring immediately approaching the entry line this is highly restricted in length. The A272 approaches have islands which do not look to permit two vehicles to queue alongside each other on entry, whilst for the B2036 approach it is likely that no more than one PCUs could do so within the existing lane markings. Coding of lanes and saturation flow for the unimproved junction should reflect this. An improvement is planned at this junction from mitigation for the Goddards Green Science and Technology Park, which is allocated in the adopted Mid Sussex Site Allocations DPD, but is not yet consented nor a live application. The improvement would increase the A272 flares to 2 lanes for a short distance, but is not yet guaranteed to be funded, so the modelling should reflect that development at Ansty may have to provide this mitigation instead should it come forward prior to the Science and Technology Park. To supply updated .dat coding for checking by WSCC
- 3) Agreed in principle; updated .dat file should be supplied for WSCC to check coding.

4) This is agreed.

5) This is agreed

WSCC will expect to see the revised coding to ensure that this is agreed prior to receiving and commenting on reporting of model runs using this revised coding.

Reference paragraph 2.21 Note that existing Mid Sussex Strategic Highway Modelling forecasts do not include NTEM background growth within Mid Sussex, only committed development growth and external growth. This is suitable for the purpose of modelling a Local Development Plan where strategic allocations, non-strategic allocations, neighbourhood plan allocations and forecasted windfall are included alongside each other to develop a transport strategy suitable for the combined impact, however it is less suitable for assessment of impact of a single strategic site on its own. A single site transport assessment would use a reference case which included NTEM background growth within the District with appropriate adjustments to the NTEM planning assumptions for growth of households and jobs to avoid double-counting of the committed developments modelled. This methodology with a separate reference case would be needed for a fully robust single site assessment of the proposed Ansty development; a single site assessment using the existing reference case assumptions would have to be acknowledged as optimistic in network conditions and would not be considered to have weight as a robust assessment, as it would effectively assume that no other planned development beyond existing commitments took place within the District other than the proposed Ansty site.

Reference paragraph 2.26 yes trip reductions are made prior to trip assignment but following trip distribution to ensure that they are applied appropriately to trips of different lengths with short distance trips having the greatest reductions and strategic long distance trips not being reduced.

Reference paragraph 2.27 existing TRICS rates do include a high proportion of sites with existing travel plans, although it is acknowledged that older travel plans may be less effectively monitored and enforced than the most recent ones and the extent of this will be variable from location to location.

Reference paragraphs 2.28 and 2.29 a 50% reduction target at Ansty should not be justified against an Active Travel England target for proportion of walking and cycling trips within towns and cities. Ansty will remain a village after this development and separated from the town of Haywards Heath by distance, even when/if linked by new or upgraded walking and cycling infrastructure. A realistic appraisal should be made of what services will be provided within walking distance and cycling distance of homes within the development and existing village and what services would require journeys into Haywards Heath town. Then consider the proportion of these trips which could be made and encouraged to be chosen by cycling and public transport into Haywards Heath. I would not expect a significant proportion of trips between the development and the town centre on foot for utility purposes, although there could be some. Please further consider mode share targets in this light.

Reference paragraphs 2.31 and 2.32, this data is interesting but home working patterns may be continuing to evolve and this may not necessarily be a continuous trend to increase as people and employers have longer experience of both the upsides and downsides of continuous home working and continue to evolve their preferred hybrid working patterns. On this basis further adjustments for this trend should be on a sensitivity scenario basis rather than a part of core forecasting assumptions, to reflect the high level of uncertainty over future trends.

Local/Operational Modelling

The proposed software at paragraphs 3.1 and 3.2 is agreed.

Reference paragraph 3.6 overestimation of peak time period congestion is acknowledged as an issue where synthetic peak profiles are used on congested networks which more typically have a flatter profile within the peak hour. This can be mitigated against where an observed count is available which could be used to generate a site-specific peak profile to be applied against modelled forecast hourly flows. This method is not perfect because the forecasted growth can itself cause further amendment to the traffic profile with further peak spreading but it can be accepted as more realistic than standard synthetic peak profiles which do not necessarily reflect up to date or local traffic network conditions.

Reference paragraph 3.13 bullet list of junctions for operational modelling. I do not wish to add any further locations for consideration.

Reference paragraphs 4.1 to 4.3 the Ardingly Road highway mitigation scheme previously provided showed traffic capacity impacts mitigated by increased carriageway widths at footway crossings which did not accord with WSTP objectives. The proposed scheme was not accepted on this basis.

Reference paragraph 4.24 the first bulleted approach is more appropriate for non-strategic roads, the second could be considered at strategic roads, although it is preferable to improve both sustainable and strategic highway capacity in those locations where site constraints permit. The only likely purpose for the second bullet highway designs on non-strategic roads would be to use as a proxy for costing to provide a sum for contribution to wider sustainable transport measures, although this may be redundant where the first bulleted design principle is successful in identifying a site-specific sustainable improvement.

Transport Assessment Appendix C
Indicative Concept Masterplan