

MID SUSSEX LOCAL PLAN TRANSPORT STUDY

IDENTIFICATION TABLE

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1. LAND USE ASSUMPTIONS

1.1 Introduction

- 1.1.1 The Mid Sussex Local Plan modelling study is to undertake analysis of the impacts of the Local Plan scenario on the local and strategic road network. A Mid Sussex highway model has been developed and has been applied to test five previous iterations of the Local Plan scenarios (Scenarios 1, 2, 3, 4 and 5).
- 1.1.2 In the first half of 2024, Mid Sussex District Council (MSDC) has commissioned the 6th round of Local Plan modelling, Scenario 6.
- 1.1.3 This Technical Note details updates to the Local Plan modelling from the previous round, Scenario 4 & 5 and documents the key assumptions applied for the Scenario 6 modelling.

1.2 TEMPro 8 Core Scenario

- 1.2.1 The Department for Transport's National Trip End Model (NTEM) forecasts the growth in trip origin-destinations up to 2051 for use in transport modelling. The forecasts take into account national projections of population, employment, housing, car ownership and trip rates. For the Mid Sussex Transport Study we are analysing growth rates between 2019 and 2039.
- 1.2.2 The TEMPro Software (Trip End Model Presentation Program) has been used to extract the relevant forecasts of trip ends based on the geographical area, transport mode, the travel time of day, the purpose of journey, the years of interest and the type of trips. The latest version of TEMPro is 8.0. The Scenario 6 modelling is based on the TEMPro 8 Core Scenario.
- 1.2.3 The previous Scenario 5 model used TempPro 8 High, however it is felt that the use of the high growth scenario could result in an overestimation of the impacts and any mitigation required to support Local Plan growth by applying the targeted growth to a high growth future year Reference case model. The use of TempPro 8 core is considered to better align with the expected growth in vehicular trips in light of socio-economic factors such as the make-up of the workforce at MSDC as set out in section 2.2 as well as align with the principles set out in DfT Circular 01/2022 by not just designing mitigation considering worst case background growth in traffic. Additionally, several adjacent authorities have Local Plans which are at the early stages of the Local Plan process following historic adoption of plans almost 10 years ago. In light of this, given the uncertainty regarding potential build out it is considered that TEMPro is the most suitable method to assess background growth in traffic. It is noted that the TEMPro and NTEM Data Release Notes Additional Guidance, September 2023 advises for models with a base year of 2019 or earlier to use the TEMPro Core Scenario.
- 1.2.4 Further detail on the status of adjacent authority Local Plans is provided below for each borough to provide further justification on the appropriateness of the use of TEMPro 8 Core Scenario.

Crawley

- 1.2.5 Crawley adopted their Local Plan in 2015. This shows an estimated delivery of 340 dwellings per annum between 2015 and 2030 – a total of 5,100 dwellings. Monitoring has shown that the housing supply position has been more favourable than expected, with over 6,500 anticipated for delivery over this period (433 dwellings per annum).
- 1.2.6 However, Crawley have been affected by Water Neutrality. In September 2021, Natural England published a position statement which required all future development within the Sussex North Water Resource Zone to be water neutral, due to impacts on designated sites in the Arun Valley where water is abstracted from. Almost all of Crawley borough is within this Water Resource Zone.
- 1.2.7 As a result, the Council were unable to issue planning permissions unless developments could demonstrate water neutrality. This has had an impact on delivery rates, as well as having longer-term impacts for planned development within the review of the Local Plan.

- 1.2.8 Crawley Borough Council submitted their Local Plan for examination in July 2023. This plan covers the period to 2040. Whilst the examination is still ongoing, the Council's submitted position targets delivery of 5,330 dwellings between 2023-2040. This has been set out in a stepped trajectory of 386 dwellings per annum for years 2023 – 2033, falling to 210 dwellings per annum from 2024 – 2040.

Horsham

- 1.2.9 Horsham adopted their Local Plan in 2015. This shows an estimated delivery of 800 dwellings per annum between 2011 and 2031 – a total of 16,000 dwellings.
- 1.2.10 Monitoring shows that Horsham were on target to deliver 800 dwellings per annum, however they too have been affected by Water Neutrality which has significantly impacted delivery since September 2021. At that time, Horsham's cumulative delivery was around 600 dwellings ahead of target, however as a result of reduced delivery in years 2021/22 and 2022/23 this is now estimated to be a shortfall for year 2023/24. Delivery therefore has not been to the level set out in the adopted Plan.
- 1.2.11 Horsham District Council are at the same plan-making stage as Mid Sussex, having reviewed their plan for the period 2023 - 2040. As a result of Water Neutrality, the submission draft Plan shows a delivery rate of 480 dwellings per annum from 2023 – 2037. This increases to 901 dwellings per annum for the remainder of the Plan Period however is dependent on water neutrality mitigation being implemented. Overall, the plan aims to provide 13,121 dwellings to 2040 – this is around 2,400 dwellings fewer than their housing need as established by the Standard Method.

Tandridge

- 1.2.12 Tandridge submitted their Local Plan for examination in 2019 and was at examination stage until early 2024. Following receipt of the Inspector's Report in February 2024, the Council resolved to withdraw the Plan and commence work on a new Local Plan.
- 1.2.13 Therefore, the authority is without an up-to-date Local Plan and is at the very early stages of preparing one. Given proposed changes to the Planning System which take effect in 2025, it is not likely that a new plan will be in place for some time.
- 1.2.14 The most recent Authority Monitoring Report has shown an average of approximately 230 dwellings per annum over the last 5 years. It is not likely that this will increase for the foreseeable whilst there is no Local Plan in place.

Wealden

- 1.2.15 Wealden are at the early stages of Plan Making, consulting on a Regulation 18 draft Plan in early 2024. The draft Local Plan estimates delivery of 15,729 dwellings between 2023 and 2040 (925 dwellings per annum) however this is not likely to be adopted for at least another year.
- 1.2.16 The most recent Authority Monitoring Report has shown an average of approximately 880 dwellings completed per annum over the last 5 years.

Lewes

- 1.2.17 Lewes are at the early stages of Plan Making, consulting on a Regulation 18 draft Plan in early 2024. The draft Local Plan estimates delivery of 4,053 dwellings between 2023 and 2040 (413 dwellings per annum) however this is not likely to be adopted for at least another year.
- 1.2.18 The most recent Authority Monitoring Report has shown an average of approximately 330 dwellings completed per annum over the last 5 years.

Brighton and Hove

- 1.2.19 Brighton and Hove City Council are at the early stages of Plan Making. Work has commenced on their new City Plan however the first stage of public consultation is not expected until summer 2024. As yet, future delivery rates are unknown, however given the constraints in the City and delivery from the previously adopted Plan, it is not likely to be significant.
- 1.2.20 The most recent Authority Monitoring Report has shown an average of approximately 667 dwellings completed per annum over the last 5 years.
- 1.2.21 The above detail on the status of Local Plans within adjacent authorities, demonstrates that the majority, with the exception of Crawley, are at the early stages of Local Plan development. This provides reasoned justification for the use of TEMPro to assess adjacent authority growth, aside from some large development sites in adjacent authorities which are included as site specific developments, as detailed on section 3.4. The use of TEMPro Core dataset within Scenario 6 is considered to most closely align to the development rates expected in neighbouring areas, some of which are constrained by the requirements for water neutrality, providing a robust justification for this approach.

1.3 TRICS Trip Rates for RefCase and LP Development within Mid Sussex

- 1.3.1 Trip rates for Scenario 5 and 6 have been updated from the previous scenarios (1-4) for residential development sites for the Reference Case and Local Plan sites. As per the previous Scenario 5 Modelling Methodology Note, the prior changes to the trip rates are detailed below for completeness. As no comments were raised on the Scenario 5 Note in relation to the trip rates it is understood that the rates are accepted and therefore are reflected in the Scenario 6 model run.
- 1.3.2 The data extracted is for Mixed Use Housing sites for the following location types:
- Town Centre;
 - Edge of Town Centre;
 - Suburban Area; and
 - Edge of Town.
- 1.3.3 Previously the only housing type used was “Privately Owned Houses and Flats (03/K)” Updated trip rates have also been extracted as a mean average, where previously the 85%ile was used. Note that the TRICS trips rates presented exclude any sites within London as these are not considered representative of Mid Sussex and the immediate surrounding area.
- 1.3.4 For the Reference Case Committed Development, all sites combined for all locations have been included. For the Local Plan development, “urban” and “rural” have been separated. As no rural sites were available for extraction in TRICS, “Edge of Town” has been considered as “Rural”, and “Town Centre”, “Edge of Town Centre”, “Suburban Area” as “Urban”.

	Employment Density Guide Use Class	New Class	TRICS Database Use Class	Value	Parameter	AM		PM		
						O	D	O	D	
Housing85%ileunit	Private Houses and Flats			85%ile unit		0.397	0.191	0.143	0.486	Previously used in Sc1-Sc4 (residential)
	Houses Privately Owned		C3	mean unit		0.385	0.133	0.190	0.352	not used
			C3	85%ile unit		0.559	0.265	0.225	0.520	not used
	Private Houses and Flats		C3	mean unit		0.297	0.126	0.154	0.257	not used
			C3	85%ile unit		0.397	0.191	0.143	0.486	Previously used in Sc1-Sc4 (residential)
	Flats Privately Owned		C3	mean unit		0.149	0.040	0.058	0.138	not used
			C3	85%ile unit		0.341	0.047	0.098	0.305	not used
B1a85%ilesqm	General Office		B1a	E(g)(i) sqm		0.269	3.077	2.587	0.425	maintained
B1a85%ileemp			B1a	E(g)(i) emp		0.043	0.511	0.394	0.021	maintained
B1b85%ilesqm	R&D Space		B1b	E(g)(ii) sqm		0.450	1.606	1.933	0.212	maintained
B1b85%ileemp			B1b	E(g)(ii) emp		0.183	0.367	0.465	0.045	maintained
B1c85%ilesqm	Light Industrial		B1c	E(g)(iii) sqm		0.558	0.990	0.671	0.499	maintained
B1c85%ileemp			B1c	E(g)(iii) emp		0.300	0.700	0.844	0.067	maintained
C185%ileemp	Hotel		C1	85%ile emp		0.284	0.104	0.151	0.252	maintained
C185%ilerooms	Hotel		C1	85%ile rooms		0.284	0.104	0.151	0.252	maintained
B185%ilesqm	Office / R&D / Light Industrial		B1	85%ile sqm		0.450	1.606	1.933	0.212	maintained
B185%ileemp			B1	85%ile emp		0.183	0.367	0.465	0.045	maintained
B285%ilesqm	Industrial / Manufacturing		B2	85%ile sqm		0.468	1.000	0.737	0.263	maintained
B285%ileemp			B2	85%ile emp		0.300	0.700	0.844	0.067	maintained
B885%ilesqm	Storage & Distribution		B8	85%ile sqm		0.136	0.634	0.607	0.102	maintained
B885%ileemp			B8	85%ile emp		0.171	0.667	0.440	0.100	maintained
E85%ilesqm	Retail		E	85%ile sqm		3.428	3.532	6.281	5.140	maintained
Fp85%ilesqm	Primary School		Fp	85%ile sqm		4.717	5.818	0.903	0.323	maintained
Fp85%ilepupils	Primary School		Fp	85%ile pupils		0.388	0.482	0.060	0.034	maintained
Fs85%ilepupils	Secondary School		Fs	85%ile pupils		0.179	0.237	0.041	0.039	maintained
HousingMeanunit	M - MIXED PRIVATE/AFFORDABLE HOUSING	Housing	03/M	Mean unit		0.367	0.134	0.162	0.315	Used for Sc5 RefCase Resi Dev
						Updated Sc5 new triprates & mean avg				
UrbanMeanunit	M - MIXED PRIVATE/AFFORDABLE HOUSING	Urban	03/M	Mean unit		0.340	0.111	0.149	0.307	Local Plan Urban Resi Sites
RuralMeanunit	M - MIXED PRIVATE/AFFORDABLE HOUSING	Rural	03/M	Mean unit		0.373	0.139	0.164	0.316	Local Plan Rural Resi Sites

1.3.5 Trip rates for other development types remain unchanged from previous scenarios.

1.3.6 The trip generation from the Local Plan sites is applied on top of the Reference Case origin-destination matrix, with the sites distribution defined from Census 2011 journey to work data with no furnessing applied.

2. MODE SHIFT ASSUMPTIONS

- 2.1.1 Within Scenario 6 three Local Plan Scenarios will be run (which capture the targeted Local Plan growth) – Scenario 6m0, Scenario 6m2 and Scenario 6m5 as set out in more detail below.
- 2.1.2 Scenario 6m0 uses the trip rates detailed in section 1.3, with no further adjustments considered. Scenario 6m2 takes into account additional mode shift reductions that have been applied to the Local Plan development sites. These reductions have been applied on the trip rates, or on an O-D level where appropriate. Only trips to/from Local Plan sites have been adjusted. Scenario 6m5 will use the same modal shift assumptions but add in the highway package of mitigations to support the Local Plan. Mode shift assumptions have been agreed with the Local Highway Authority, WSCC and respond to comments received during Regulation 19 consultation.

2.2 Mode shift assumptions for Scenario 6m2 (and Scenario 6m5)

Home Working

- 2.2.1 DfT Circular 01/2022 is a material consideration which should be factored during strategic policy making to assist the delivery of sustainable development. The Circular 01/2022 notes that new development should be facilitating a reduction in the need to travel by private car and focused on locations that are or can be made sustainable. The Circular 01/2022 includes moving away from transport planning based on predicting future demand to provide capacity to planning that sets an outcome communities want to achieve and provide transport solutions to deliver those outcomes. The Local Plan sites included in the MSDC look to support target levels of sustainable growth within key connected locations and additionally the policies and mitigation measures, such as those identified in the LCWiP will also support mode shift of background traffic or even a reduction in the need to travel or the distanced travelled due to better connectivity to local services. The COVID-19 pandemic has encouraged an acceleration in trends in home working and therefore in line with the comments received from West Sussex County Council in response to the Regulation 19 consultation it is felt more appropriate to revise the home working assumptions as detailed in paragraph 2.2.4 below, with this change alongside the use of TEMPro 8 Core which is applied in Scenario 6 to become the 'core' model scenario used to subsequently test and develop a package of Local Plan mitigation measures.
- 2.2.2 MSDC has provided Economic Growth Assessment extracts from the *Northern West Sussex Economic Growth Assessment Focused Update for Mid Sussex (Lichfields March 2022)* to inform home working assumptions which provide evidence to support the level of reduction applied.
- 2.2.3 Paragraph 2.12 states:
- “The District supports a much lower level of out-of-work benefit claimants than other parts of the South East and the United Kingdom. Moreover, Mid Sussex resident occupations are also generally higher skilled, with a greater percentage of residents employed in SOC Major Group 1- 3. Mid Sussex has 64.3% of resident occupations falling within the 3 highest SOC groups, which consist of managers and director jobs, compared to both the South East (50.7%) and the UK (45.6%). Compared to the 2020 EGA (i.e. 2018 data), this portion has increased by 11.9%. The data presented in North West Sussex Economic Growth Assessment regarding the proportionate make-up of the workforce as well as 64% occupations falling within the 3 highest SOC groups, suggests that home working proportion is more likely to be a viable option for a greater proportion of the workforce than other areas of the UK”.*
- 2.2.4 Considering the above socio-economic statistics, it is considered that Mid Sussex could have a higher homeworking proportion than the south-east and UK as a whole. Therefore a 20% reduction on all Local Plan sites has been assumed for commuter trips. This is supported by the vision for the Local Plan sites to provide mixed use development encouraging internal trip making and high digital connectivity to support home working. Scenario 5m2 included 20% for significant sites and 5% for smaller sites, however it is felt that the 20% is more realistic for the smaller sites as well based on socio-economic statistics for the borough as well as aligning with the vision for the Local Plan. The commitment to excellent digital connectivity applies to both

significant and smaller sites and therefore applying a consistent percentage reduction for homeworking aligns with the wider vision for the Local Plan.

- 2.2.5 The absolute difference in trip generation due to the additional reduction applied to smaller sites for home working (5% to 20%) between Scenario 5m2 and 6m2 is shown in Error! Reference source not found. below. This demonstrates the difference in absolute trips, with negative values representing a reduction in trips. Larger sites do not show a difference, given the 20% home working reduction was already applied in Scenario 5m5 and therefore these sites have not been included in **Table 1**.

Table 1. Home Working Assumptions – Absolute Trip Generation Difference Scenario 6m2 vs Scenario 5m2

ALLOCATED SITE	ABSOLUTE TRIP GENERATION DIFFERENCE (HOME WORKING)			
	AM		PM	
	Origin	Destination	Origin	Destination
Land west of Kemps, Hurstpierpoint	-5	-2	-2	-4
Burgess Hill Station (additional yield)	-8	-2	-3	-7
Land off West Hoathly Road, East Grinstead	-2	-1	-1	-2
Land rear of 2 Hurst Road (Land opposite Stanford Avenue) Hassocks	-1	-1	-1	-1
Land at Junction of Hurstwood Lane and Colwell Lane, Haywards Heath	-2	0	-1	-1
Land east of Borde Hill Lane, Haywards Heath	-3	-1	-1	-3
Batchelors Farm, Keymer Road, Burgess Hill	-2	-1	-1	-2
Land at Coombe Farm, London Road, Sayers Common	-12	-4	-5	-10
Challoners, Cuckfield Road, Ansty	-2	-1	-1	-2
Land to west of Turners Hill Road, Crawley Down	-20	-7	-9	-17
Hurst Farm, Turners Hill Road, Crawley Down	-2	-1	-1	-2
Land to west of Marwick Close, Bolney Road, Ansty	-3	-1	-1	-2
Land to the west of Kings Business Centre, Reeds Lane, Sayers Common	-6	-2	-2	-5
Land at Hurstwood Lane, Haywards Heath	-2	-1	-1	-2
Land to South of LVS Hassocks, London Road, Sayers Common	-11	-4	-5	-9
Land at Hoathly Hill, West Hoathly	-1	0	0	-1
Ham Lane Farm House, Ham Lane, Scaynes Hill	-2	-1	-1	-1
Land at Chesapeake and Meadow View, Reeds Lane, Sayers Common	-2	-1	-1	-2
Land at Hillbrow, Janes Lane, Burgess Hill	-1	0	-1	-1
Land at Foxhole Farm, Bolney	-11	-4	-5	-9
Orchards Shopping Centre, Haywards Heath	-5	-2	-2	-5
TOTAL	-102	-37	-45	-88

Internalisation

2.2.6 For Large Local Plan sites, primary schools have been allocated an 80% reduction on overall trip rates. Retail and Employment trips have also been allocated a 5% reduction in trip rates. It is expected that a high proportion of these education trips would be either linked trips or internal trips serving large Local Plan development sites.

Distance Based Trip Reductions

2.2.7 It is proposed to apply distance-based car trip reductions based on a similar approach to that used in the Crawley Strategic Development Options Transport Study and the Horsham Local Plan Transport Assessment. These reductions are due to site developers being subject to delivery of travel planning measures and will be applied to non-committed development sites only. The measures to support this shift for lower distance trips in particular will form a key component of the measures set out in the Travel Plans for upcoming development sites which will be secured through the planning application process. Short distance trips are the most likely to switch from car to active modes and therefore this is reflected in this approach. Longer distance trips are more likely to switch to public transport (PT). The proposed trip length reductions are shown in the table below as used in the Crawley/Horsham studies.

2.2.8 Adjustments have been made at an O-D level to trips to/from the Local Plan sites.

2.2.9 The profile banding of O-D trips adjusted are detailed in the table below.

	Up to 1km	1-3 km	3-5 km	5-10 km	10-50km	Over 50km
Car Trip Reduction	-22%	-14%	-10%	-6%	-3%	0%

2.2.10 Only short trips are expected to be impacted by this mode shift. These short distance trips are made by road users that are considered unlikely to be using the strategic road network, which are typically longer distance trips. These adjustments are consistent with those applied at Scenario 5, which National Highways did not have any comment on however it is included for completeness.

2.2.11 **Table 2** below shows the quantum of absolute trips from the development sites impacted by reductions associated with distance-based trip reductions. As aforementioned, the vast majority of these trip reductions will not be associated with trips to the SRN given the reductions are predominately focused on shorter distance, local based trips.

Table 2. Distance Based Trip Reductions – Absolute Vehicle Trip Generation Changes

SITE ALLOCATION	ABSOLUTE DIFFERENCE IN VEHICLE TRIPS			
	AM		PM	
	Origin	Destination	Origin	Destination
Land west of Kemps, Hurstpierpoint	-1	0	-1	-1
Land at Hillbrow, Janes Lane, Burgess Hill	0	0	0	0
Burgess Hill Station (additional yield)	-3	-1	-1	-3
Orchards Shopping Centre, Haywards Heath	-2	-1	-1	-2
Land rear of 2 Hurst Road (Land opposite Stanford Avenue) Hassocks	0	0	0	0

SITE ALLOCATION	ABSOLUTE DIFFERENCE IN VEHICLE TRIPS			
Challoners, Cuckfield Road, Ansty	0	0	0	0
Ham Lane Farm House, Ham Lane, Scaynes Hill	-1	0	0	0
Land at Hoathly Hill, West Hoathly	0	0	0	0
Land off West Hoathly Road, East Grinstead	-1	0	0	-1
The Paddocks, Lewes Road, Ashurst Wood	0	0	0	0
Land to west of Marwick Close, Bolney Road, Ansty	-1	0	0	-1
Land at Junction of Hurstwood Lane and Colwell Lane, Haywards Heath	-1	0	-1	-1
Land east of Borde Hill Lane, Haywards Heath	-1	0	0	-1
Batchelors Farm, Keymer Road, Burgess Hill	-1	0	0	0
Land to west of Turners Hill Road, Crawley Down	-5	-2	-2	-5
West of Burgess Hill	-17	-7	-7	-15
Crabbet Park, Copthorne	-30	-19	-14	-23
Land at Coombe Farm, London Road, Sayers Common	-35	-20	-26	-32
Land at Foxhole Farm, Bolney	-3	-2	-1	-2
TOTAL	-104	-55	-56	-87

Sustainable Travel Measures Proposed at Significant Sites

2.2.12 A range of sustainable travel measures are proposed by significant site promoters to support the above-mentioned distance-based reductions and overall levels of mode shift. Whilst discussions with significant site promoters are ongoing, each have made firm commitments in terms of submissions to support sustainable travel with further detail provided below for each of the sites. It is also noted that the larger sites also provide school facilities as part of the proposed development, resulting in internalization of most education trips.

2.2.13 The measures considered within the three sites emerging mobility strategies include:

Crabbet Park

- A mobility hub, with access to cycle parking and cycle repair stations, parcel drop and storage, access to public transport services as well as car clubs and electric vehicle charging allowing for connected journeys and services;
- A car club offering for the site;
- Folding Brompton cycle hire to facilitate connections with onward rail journeys;
- Improvements to key pedestrian and cycle corridors e.g. to Worth Way, Three Bridges and Copthorne;

- Improved frequency of bus services to be considered targeting increased frequency of connections to Crawley Station and Three Bridges Station from the site;
- Travel Planning measures to encourage behavior change.

Sayers Common

- A mobility hub, including measures such as bus stops, cycle hubs with repair facilities, car/bike share including cargo micromobility, parcel delivery lockers, electric vehicle charging and co-working space to encourage home working;
- Permeable pedestrian network with low-speed environments on site;
- Low parking ratios;
- Improved bus link with bus priority where possible to Burgess Hill Station, linking employment centres enroute;
- Travel Plan to encourage behaviour change and uptake of sustainable and active travel.

Land West of Burgess Hill

- Improvements to public transport services including service diversion and increased frequency to support sustainable trip making;
- Provision of high-quality pedestrian and cycling infrastructure;
- Burgess Bikes cycle hire scheme
- A shared mobility app or Mobility as a Service (MaaS) platform;
- Travel Plan with several measures to encourage sustainable and active behavior change, as well as monitoring and managing the plan to reflect the needs of the end user.

2.2.14 The Significant Site Promoters have mobility strategies which are continuously evolving as the schemes develop however it is evident from the list of measures identified above that there is clear commitment to support the reduction in overall travel demand and mode shift away from the private vehicles. The emerging strategies put forward by the site promoters are comprehensive and support the proposed level of modal shift applied to represent home working in Scenario 6.

Future Employment Distribution and Location and Proximity to Existing Services

2.2.15 An additional 1-2% reduction to trip rates has been applied to large and medium size Local Plan sites to account for the changes in the future of employment distribution.

2.2.16 Sites considered an urban extension (non-rural) have been allocated an additional 1% trip rate reduction as it is expected that existing services will benefit these new Local Plan development trips.

2.2.17 These reduction factors have not altered since the Scenario 5 model run and will continue to be applied in Scenario 6.

3. DEVELOPMENT AND INFRASTRUCTURE

3.1.1 This chapter presents the level of development and committed infrastructure included in Scenario 6. It should be noted that no amendments have been made to the model inputs on development and infrastructure between Scenario 5 and 6. As no comments were raised previously on these matters, this is considered agreed however is copied below for completeness.

3.2 Committed Infrastructure in 2039 Reference Case

3.2.1 The reference case schemes from the previous Sites DPD modelling were carried forward to the 2039 Reference Case. These are shown in **Table 3**. The dualling of the A2300 includes the closure of the Bishopstone Lane/A2300 junction for vehicular use.

Table 3. Reference Case Infrastructure

Location		Description	Status	
Burgess Hill	A2300		Dualling and junction improvements	Completed
	The Hub	A2300/Cuckfield Rd	Roundabout improvements	Comitted
		Gatehouse Lane	Signal controlled crossing	Comitted
	East Kings Way	B2113 Keymer Rd/Station Rd/Junction Rd/ Silverdale Rd	Traffic signals	Comitted
		Valebridge Rd / Janes Lane / Junction Rd	Traffic signals	Comitted
		Kings Way/B2113 Folders Lane	Traffic signals	Comitted
		B2113 Station Rd/Church Rd/Mill Rd	Traffic signals	Comitted
		B2113 Folders Lane/Keymer Road	Roundabout	Comitted
		Junction Rd / Cants Lane	Traffic signals	Comitted
Ditchling Common	Speed restrictions	Comitted		
Cophtharne	A264	A264/ Brookhill Rd /A2220	Roundabout improvements	Completed
		Dukes Head A264/B2028 Roundabout	Roundabout improvements	Comitted
Hassocks	Hassocks Stonepound	A273/B2116 Stonepound Crossroads	Traffic signals improvements	Completed
Haywards Heath	Penland Farm	Hanlye Lane, Borderhill Lane	Roundabout	Comitted
	Fox Hill	B2112 Fox Hill south of Hurstwood lane	Extension of 30mph speed limit	Completed
	Relief Road (east)	A272 Rocky Lane/Hurstwood Lane	Traffic Signals	Comitted
	Fox Hill	B2112, Colwell Rd	Roundabout improvements	Completed
Crawley	Copthorne	M23 J10	Junction improvements	Comitted
	Tinsley	Gatwick road	Roundabout improvements	Comitted
	Pound Hill	A2011 to B2036 Link Road and junctions	Link road and junction improvements	Comitted
	Tinsley	Radford Road/B2036 Balcombe Road	Traffic signals	Comitted
	Tinsley Green	Steers Lane / Radford Rd	Traffic signals	Completed
		Steers Lane / B2036	Traffic signals	Completed
	Hazelwick	A2011/A2004/Gatwick Rd/Hazelwick Ave	Signalised roundabout	Comitted
	Fernhill	B2036 Balcombe Road / B2037 Antlands Lane	Roundabout improvements	Comitted
	Manor Royal	Gatwick Road	Roundabout improvements	Comitted
	Cheals Junction	A23 Crawley Ave/A2220 Horsham Rd	Roundabout slip lane	Completed
	Pease Pottage	M23 J11	Signalised gyrator	Completed
	Smart Motorways	M23	Motorway improvements	Completed

3.2.2 The following mitigation associated with the Sites DPD Scenario was also included.

- Sustainable transport trip reductions for the Sites DPD developments
- Ansty A272/B2036 - minor widening on A272 western and eastern arms

3.2.3 In addition, the following mitigation associated with the Sites DPD Scenario as proposed by the Science and Technology Park was included:

- A2300/A23 Hickstead, Eastern Roundabout
- A23 Southbound upgraded merge and diverge between A2300 and Mill Lane
- A2300/Cuckfield Road roundabout upgrade and new S&T Park access/Cuckfield Road roundabout
- A2300/Northern Arc Roundabout
- Additional Northern Arc Infrastructure including new roads and junctions
- A272 Cowford Road/A23 Slips - Signalisation

3.2.4 One additional scheme was also included:

- New access road from A272/A23 northbound roundabout for Marylands Nursery

3.3 2019-2039 Mid Sussex Development Growth (Site Specific)

3.3.1 Reference Case growth in the District was applied on a site specific basis directly to model zones, in preference to using TEMPro, which was used for growth outside the District only.

Reference Case Housing in Mid Sussex District:

3.3.2 The housing developments listed in **Appendix A1 - Commitments** are included.

3.3.3 In addition, all completions that occurred between the model base year of 2019 and 2023 are included.

Reference Case Employment in Mid Sussex District:

3.3.4 The employment developments included are:

- Northern Arc, Business Park: 1,500 employees
- The Hub, Business Industrial and Storage/Distribution: 50,000 sqm
- Science and Technology Park (including 154 room hotel): 2,500 employees

3.3.5 In addition, the employment sites included in the previous Sites DPD Scenario and listed in **Appendix A2 - Employment Allocations** are included.

3.4 2019-2039 External Development Growth (Site Specific)

3.4.1 Some large development sites in neighbouring authorities are included as site specific developments. These are:

Reference Case Housing in Neighbouring Authorities:

- West of Bewbush "Kilnwood Vale" (Horsham District) 2,500 units
- Land North of Horsham "Mowbray" (Horsham District) 2,500 units
- North East Crawley "Forge Wood" (Crawley Borough) 2,000 units

Reference Case Employment in Neighbouring Authorities:

- West of Bewbush "Kilnwood Vale", Industrial Estate (Horsham District and Crawley Borough) 721 employees
- Land North of Horsham "Mowbray", Industrial Estate (Horsham District) 714 employees
- Horley Business Park (Reigate & Banstead Borough) 8,000 sqm

3.5 Freight

3.5.1 Growth in freight traffic was derived from national road traffic forecasts taken from the National Transport Model (NTM) in accordance with DfT guidance in paragraphs 7.3.18 to 7.3.19 of TAG Unit M4: Forecasting and Uncertainty.

3.6 Gatwick Airport

3.6.1 Gatwick Airport lies to the north west of the District within Crawley Borough Council's administrative boundary. The airport currently operates as a single runway, two terminal airport, which accommodated 46.6 million passengers during 2019. Gatwick Airport Limited (GAL) has aspirations to increase the number

of flights and passenger numbers. Through existing consents and improved operational efficiencies GAL estimate that passenger numbers could increase to 62.7 million per year by 2047.

3.6.2 In addition, GAL are seeking consent to bring the existing Stand-by/Northern runway into routine use. This is a Nationally Significant Infrastructure project. In July 2023, GAL submitted a Development Consent Order (DCO) to the Planning Inspectorate seeking consent to bring the northern runway into routine use along with associated infrastructure including upgrades to the M23 junction 9 spur, new junction layouts at north and south terminals, alterations to Longbridge roundabout at A23/A217 and alterations to Airport Way. The DCO Examination commenced in March 2024, with the Secretary of State for Transport decision expected in Spring 2025.

3.6.3 Forecasting for Gatwick Airport takes account of the advice provided in paragraphs 7.3.9 to 7.3.11 of TAG Unit M4: Forecasting and Uncertainty. Paragraph 7.3.10 states:

*The NTEM dataset includes all trip end productions for surface access trips to airports. However, the NTEM trip end attractions **exclude** surface travel for airline passengers and those escorting them. This may mean that the spatial distribution of the trip end attractions may need to be modified from NTEM levels if there is a major airport within the vicinity of the scheme.*

3.6.4 The airport is in Crawley Borough and so, by default, model growth was applied using TEMPro. Therefore, based on paragraph 7.3.10 of TAG Unit M4 an adjustment was applied to ensure that passenger growth is accounted for. This was based on the trajectories stated above in paragraph 3.6.1 assuming current configuration as a single runway, two terminal airport.

3.7 Local Plan Development

3.7.1 Scenario trip matrices were prepared for the AM peak and PM peak hours. The trip rates that were derived from TRICS for the committed Reference Case developments were used again to calculate trip generation for the development sites.

3.7.2 Scenario 5 (model run completed in 2023) and Scenario 6 model run (due to be completed in Spring 2024) assesses the impact of an additional 25 housing development sites some of which also include employment, retail and community uses compared to earlier versions of the model run (Scenarios 1-4). The additional sites included are listed in **Appendix A3 - DPR Transport Scenario 5/6**.

3.7.3 In addition, **windfall sites** are assumed to be 1488 units by 2039, distributed pro-rata across the Reference Case housing developments¹. **Table 4** summarises the total housing units growth considered.

Table 4. Total Housing units growth Considered in Mid-Sussex in Scenario 6

SCENARIO	TOTAL UNITS CONSIDERED	DIFFERENCE FROM REF
2039 Reference Case	13,884	
2039 Scenario 6	20,505	6,621
2039 Scenario 6 including windfall	21,993	8,109

3.7.4 **Figure 1** shows the location of the SHLAAID (Strategic Housing Land Availability Assessment ID) site in Scenario 6 as referenced in Appendix A3. **Figure 2** shows the number of units for each site².

¹ It is noted that the council's position on windfall allowance of 1,488 dwellings has since increased to 1,768 over the plan period. An increase of 280 dwellings across the district over the whole plan period up to 2039 is not however considered likely to materially alter the model outcomes.

² It is noted that the proposed yield has altered for some of the sites since the modelling commenced, however the changes are not however considered likely to materially alter the model outcomes.

Development Zones – Representation of Sites

3.7.5 The larger developments sites were allocated to their own zone with appropriate access roads included. Smaller development sites were contained within existing zones in the model.

Trip Distribution

3.7.6 Trip distributions were taken from the main model zones that the development is located in or near to and based on Census Journey Work 2011 for commuting trips and existing local model matrices for other purposes.

Figure 1. Scenario Map with SHLAAID

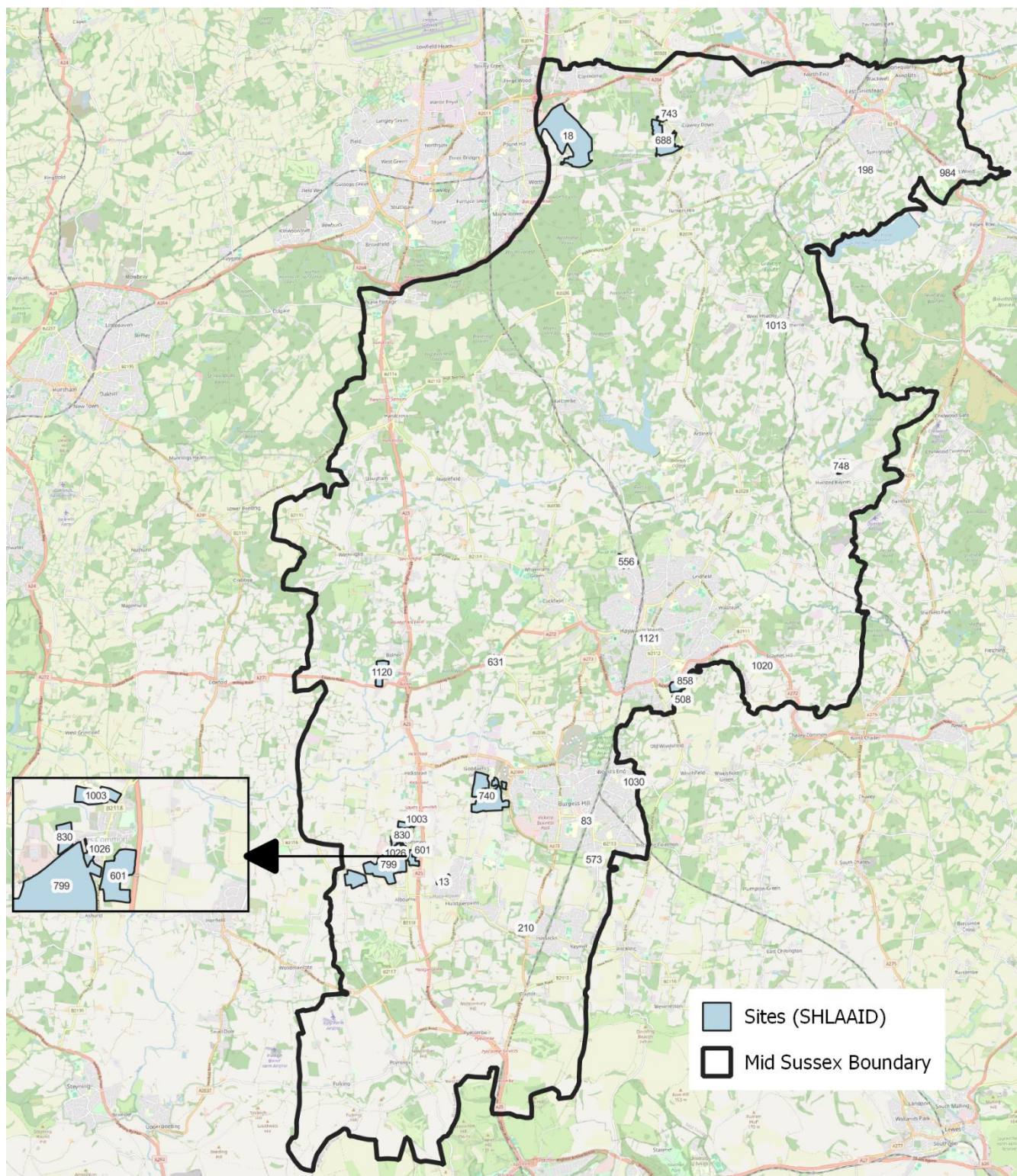
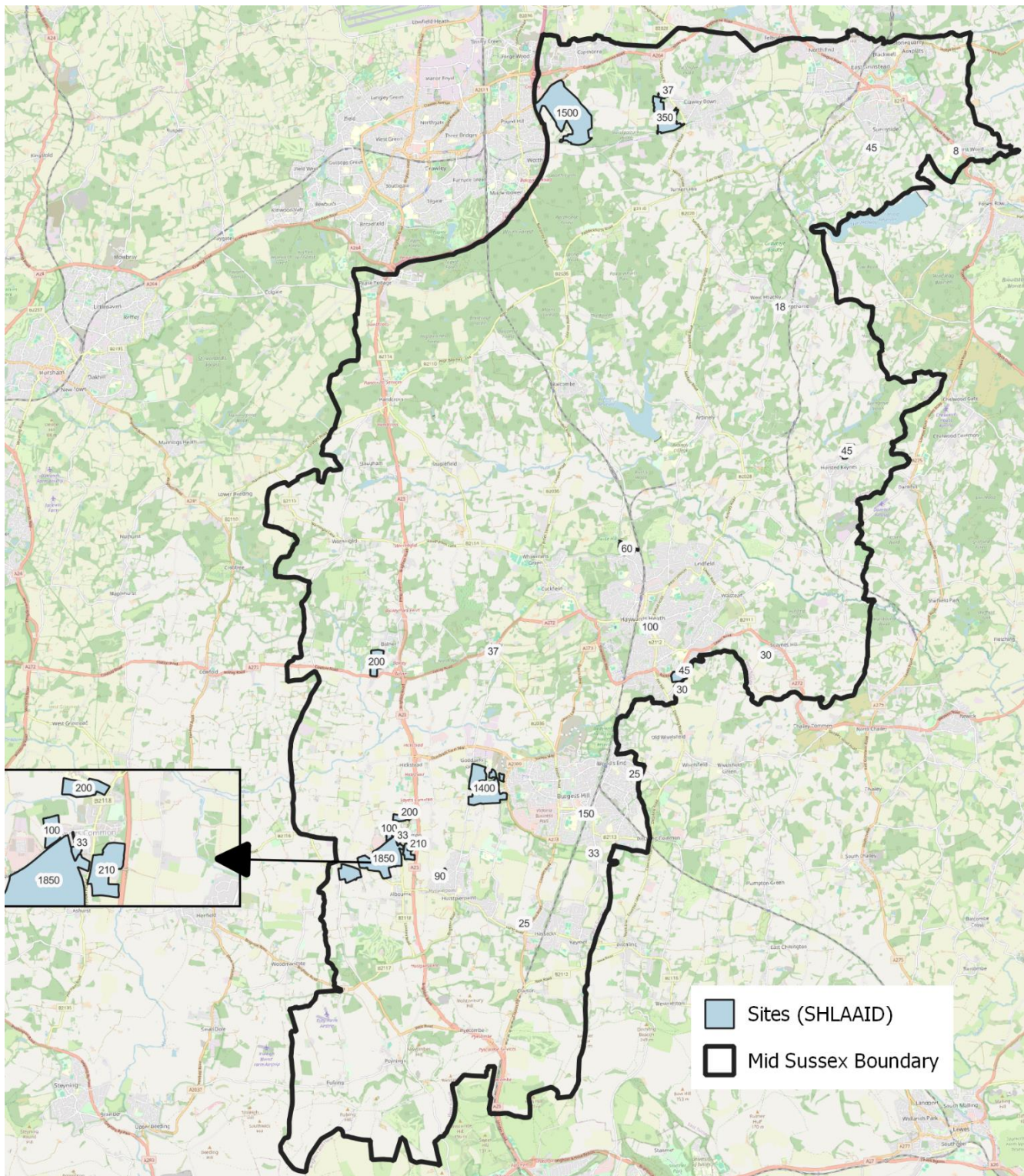


Figure 2. Scenario Map with Number of Units



4. HIGHWAY MITIGATION

- 4.1.1 The Scenario 6m2 model runs are proposed to be used to finalise the package of Local Plan mitigation measures to support the target levels of growth set out in the Local Plan. Three highway schemes were identified within the Regulation 19 Strategic Transport Assessment which are being reviewed, as well as active travel measures identified through the LCWiP.
- 4.1.2 As a result of consultation feedback from Regulation 19 the following assessments could result in additional mitigation schemes being developed to form the Local Plan package:
- Merge/Diverge Assessments – 19 junctions requested by National Highways.
 - Sayers Common access review (A23/B2118) and B2118/ Mill Lane Roundabout inputs.
 - Safety Study – considering accident clusters, expected to large focus on the local road network – requested by WSCC.
- 4.1.3 Scenario 6m5 builds on the modelling undertaken in Scenario 6m2, using consistent demand assumptions including the level of development targeted as well as reference case infrastructure. The agreed package of highway schemes will be coded and included in the Scenario 6m5 model run to allow a comparison to be made between the with and without mitigation scenario options.

5. MERGE/ DIVERGE ASSESSMENTS

5.1.1 In response to the Regulation 19 consultation, National Highways requested for merge diverge assessments to be undertaken on the 19 junctions between M23 Junction 9 and A23/A273 Pyecombe junction in the south. The assessments will be undertaken based upon national guidance contained in The Design Manual for Roads and Bridges (DMRB). The relevant sections of the DMRB to be considered are:

- CD109 Highway Link Design;
- CD122 Layout of Grade Separated Junctions;
- CD 127 Cross Sections and Headrooms;

5.1.2 During a meeting with National Highways on the 16th May 2024, it was agreed that the following three junctions would be descoped. This is because they only serve local accesses and are therefore not included in the strategic model given that the Local Plan traffic is not anticipated to materially impact the operation of these junctions.

- A23 Handcross BP Fuel Service Station
- A23/ Littleworth Farms access
- Robins of Herstmonceux access

5.1.3 As part of the next stage of works, the merge/diverge assessments will be undertaken on Scenario 6m2. The merge/ diverge assessments for the remaining junctions will look at the existing junction layout and form, will ascertain whether the current junction is designed to DMRB standards and what the future year reference case and 6m2 model scenarios suggest is required in terms of junction layout and form. As agreed with National Highways, any consideration for mitigation will only be required to mitigate the impact of the Local Plan development itself rather than any background growth or existing issues.

5.1.4 National Highways confirmed during the meeting on the 16th May 2024, that a threshold of 80-100 vehicle trips through the junction will be a trigger to consider an assessment of impact.

Appendix A1 – Reference Case Commitments

Hurstpierpoint	Care Accommodation	Land To West Of Goldcrest Drive Sayers Meadow Sayers Common	66	0	0	66	2	33	DM/22/2012	1126		24/01/2026
Care Accommodation Total			344					172				
Hurstpierpoint	Education	Hurstpierpoint College, College Lane & boardinf rooms and 2 flats					2.5	1	DM/22/3789	1132		
Hurstpierpoint	Education	St Johns House Hurstpierpoint College	2						DM/21/4020	1132		12/06/2025
Education Accommodation Total			2					1				

	Overall Total (Gross)	Overall Losses (Gross)	Overall Cmpltns (Net)	Total Remaining (Net)
Total (from large sites)	11419	132	1555	9594
Total (from small sites)				173
Total from Communal Accommodation (ratio applied)				173
Total Commitments (all sites)				9945

Appendix A2 – Employment Allocations

Employment Allocations - December 2019

SHLAAID	Address	Settlement	Area	Location	Revised Usage Split			Revised Area			
					B1 %	B2 %	B8 %	B1	B2	B8	
24	Land at Stairbridge Lane (South of Bolney Grange), Bolney	Bolney	5.5	BolneyGrange	33.33	33.33	33.33	1.83	1.83	1.83	
906	Undeveloped land (south) at Bolney Grange Business Park Stairbridge Lane Bolney	Bolney	0.6	BolneyGrange	33.33	33.33	33.33	0.20	0.20	0.20	
907	Undeveloped land (east) at Bolney Grange Business Park Stairbridge Lane Bolney	Bolney	0.2	BolneyGrange	33.33	33.33	33.33	0.07	0.07	0.07	
931	Extension (east) to Bolney Grange Business Park Stairbridge Lane Bolney	Bolney	0.7	BolneyGrange	33.33	33.33	33.33	0.23	0.23	0.23	
192	Pease Pottage Nurseries, Brighton Road, Pease Pottage	Pease Pottage	1	Other	33.33	33.33	33.33	0.33	0.33	0.33	
826	Burnside Centre, Victoria Road, Burgess Hill	Burgess Hill	0.96	Other	50	50	0	0.48	0.48	0.00	
864	Marylands Nursery, Cowfold Road, Bolney	Bolney	2.4	Other	0	0	100	0.00	0.00	2.40	
888	Cedars (Former Crawley Forest School) Brighton Road Pease Pottage	Slaugham	2.3	Other	33.33	33.33	33.33	0.77	0.77	0.77	
912	Site of Former KDG Victoria Road Burgess Hill	Burgess Hill	1.1	Other	50	50	0	0.55	0.55	0.00	
940	Land north of the A264 at Junction 10 of M23 (Employment Area)	Copthorne	2.7	Other	50	0	50	1.35	0.00	1.35	
USE (ha)								5.81	4.46	7.18	17.46

SHLAAID	Site	Settlement	Yield	Additional Uses
13	Land west of Kemps	Hurstpierpoint	90	C3 Residential
18	Crabbet Park	Cophorne	1500	1000 sqm commercial (Class E(g), 2FE Primary School, 4FE Secondary School
83	Burgess Hill Station (additional yield)	Burgess Hill	150	C3 Residential
198	Land off West Hoathly Road	East Grinstead	45	C3 Residential
210	Land rear of 2 Hurst Road (Land opposite Stanford Avenue) Hassocks	Hassocks	25	C3 Residential
508	Land at Junction of Hurstwood Lane and Colwell Lane	Haywards Heath	30	C3 Residential
556	Land east of Borde Hill Lane	Haywards Heath	60	C3 Residential
573	Batchelors Farm, Keymer Road	Burgess Hill	33	C3 Residential
601	Land at Coombe Farm, London Road	Sayers Common	210	C3 Residential
631	Challoners, Cuckfield Road	Ansty	37	C3 Residential
688	Land to west of Turners Hill Road	Crawley Down	350	Community centre
740	West of Burgess Hill	Burgess Hill	1400	2FE Primary school, up to 500m2 community hub - inc shops(s)/café/workspace (WeWork type), up to 3 x 100m2 (300m2) commercial (uses TBC) up to 200m2 pavilion/ community space
743	Hurst Farm, Turners Hill Road	Crawley Down	37	C3 Residential
748	Land to west of Marwick Close, Bolney Road	Ansty	45	C3 Residential
799	South of Reeds Lane	Sayers Common	1850	2000-4000 retail sqm retail/ community, 5000-9000sqm commercial (Class E(g)) - 2FE Primary and 4 FE Secondary school
830	Land to the west of Kings Business Centre, Reeds Lane	Sayers Common	100	C3 Residential
858	Land at Hurstwood Lane	Haywards Heath	45	C3 Residential
984	The Paddocks, Lewes Road	Ashurst Wood	8	C3 Residential
1003	Land to South of LVS Hassocks, London Road	Sayers Common	200	C3 Residential
1013	Land at Hoathly Hill	West Hoathly	18	C3 Residential
1020	Ham Lane Farm House, Ham Lane	Scaynes Hill	30	C3 Residential
1026	Land at Chesapeake and Meadow View, Reeds Lane	Sayers Common	33	C3 Residential
1030	Land at Hillbrow, Janes Lane, Burgess Hill	Burgess Hill	25	C3 Residential
1120	Land at Foxhole Farm	Bolney	200	C3 residential - community centre
1121	Orchards Shopping Centre	Haywards Heath	100	C3 Residential

Windfall and Brownfield Allowance

1488