

SK TRANSPORT PLANNING

TRAFFIC TRANSPORT HIGHWAYS



PROPOSED 260 UNIT RESIDENTIAL
DEVELOPMENT AND 1,700SQM OF
EMPLOYMENT FLOORSACE AT LAND
NORTH OF BORERS ARMS ROAD,
COPTHORNE

TRANSPORT ASSESSMENT

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1.0 INTRODUCTION & DEVELOPMENT SUMMARY

1.1 SK Transport Planning Ltd (SKTP) has been commissioned by Fairfax Acquisitions Limited to prepare a Transport Assessment (TA) in support of a planning application for the development of up to 260 residential units and up to 1,700sqm of employment floorspace on land to the north of Borers Arms Road, Copthorne. The location of the development site is shown on plan 1 in appendix a.

1.2 The proposed development description is as follows:

"Outline planning application with all matters reserved except for access for the demolition of an existing commercial building and the erection of up to 260 dwellings, up to 1,700sqm of employment floorspace E(c)(iii), E(g)(i)(ii)(iii), car parking, associated landscaping, open space, and associated development works, with access from Copthorne Bank and Borers Arms Road

1.3 The outline planning application will be submitted to Tandridge District Council (TDC) as the Local Planning Authority (LPA). The site is unusual in that with the development proposing two access points onto the surrounding highway network, and with each corridor falling under two different Highway Authorities (Surrey County Council (SCC) and West Sussex County Council (WSCC)), both will be consulted for their comments on the proposals.

1.4 The TA and the development proposals have been prepared in line with national and local guidance, outlined in the following documents:

National Planning Policy

- National Planning Policy Framework (NPPF), Ministry of Housing, Communities and Local Government (December 2024)
- National Planning Practice Guidance (PPG): Travel Plans, Transport Assessments and Statements (March 2014)
- Decarbonising Transport, a Better Greener Britain (2021); and
- Active Travel England: framework document for working with Department for Transport

Local Planning Policy

- SCC Local Transport Plan 4 (LTP4)
- The Development Plan for Tandridge, which includes:
- Tandridge District Core Strategy 2008
- Tandridge Local Plan Part 2: Detailed Policies 2014 – 2029

Surrey County Council Local Design Guidance

- Transport Development Planning Good Practice Guide
- Healthy Streets for Surrey design guidance
- Travel Plan Good Practice Guide

Best Practice Guidance

- Guidelines for the Environmental Assessment of Road Traffic, Institute of Environmental Assessment (IEA) (1993);
- Design Manual for Roads and Bridges (DMRB), Volume 11, Highways Agency (2009-2011)
- Manual for Streets, Department for Transport, Department for Communities & Local Government and Welsh Assembly Government (2007);

- Manual for Streets 2 – Wider Application of the Principles, Chartered Institution of Highways and Transportation (September 2010);
- LTN 1/20 Cycle Infrastructure Design; and
- Inclusive Mobility – A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure (DfT)

Background Information

- 1.5 The site has an extensive planning history, going back to 2017 when a larger residential development was first considered on the site. Formal engagement with SCC and WSCC Transport Development Control teams then took place in 2019, with comments received back on the proposed technical scope of work at that time.
- 1.6 These discussions considered the proposed access strategy for the development, the method of assessment, the sustainable credentials of the site, and considered an emerging package of sustainable travel and access measures. These measures were prepared to give end occupiers of the residential development the greatest opportunity to walk, cycle and use public transport to travel to and from the site, and in turn enhance access for those working at the adjacent Borers Industrial Estate.
- 1.7 Whilst a planning application was not formally submitted to TDC at this time, the technical matters discussed with representatives from SCC and WSCC have been helpful in preparing all the supporting traffic, transport and sustainable travel information incorporated into this report.
- 1.8 Contact has been made again with SCC and WSCC representatives, to discuss the development proposals and the assessment methodology. A site meeting has taken place with SCC Transport Development Control Officers, and a written response to the submitted scope of work for the TA received from WSCC. A copy of this response is attached as appendix b.
- 1.9 Further detail on previously discussed technical matters, which have been carried over to the development proposals appraised in this document, are considered in greater detail later in this report.

Summary of Site Characteristics & Development Proposals

- 1.10 A summary of the development location, existing use and updated development proposals are outlined below.

Location:	Land to the North of Borers Arms Road, Copthorne (plan 1 in appendix a)
Existing Use:	Agricultural site, with existing vehicular and pedestrian access onto Copthorne Bank to the west, with the southern site boundary running immediately adjacent to residential development and the Borers Industrial Estate.
Development Schedule:	Up to 260 residential units (50% affordable dwellings), with up to 1,700sqm of employment floorspace Proposed pedestrian and vehicular access from Copthorne Bank Enhancements to existing pedestrian and vehicular access from Borers Arms Road
Mitigation measures:	Framework Travel Plan

Traffic calming scheme/gateway enhancements on Copthorne Bank

Cycle and car parking to be in line with Tandridge District Council (TDC) adopted guidance

Detailed development layout to follow Manual for Streets (1 & 2) and Healthy Streets for Surrey principles

2.0 EXISTING SITUATION, ACCESSIBILITY & SITE CHARACTERISTICS

Site Location & Characteristics

- 2.1 The development site is located immediately to the east of Copthorne Bank, an 'C' classification road (the C67) which links with the B2037 Effingham Road to the north with the C68 Shipley Bridge Lane to the west. Copthorne Bank is subject to a 30mph speed limit and benefits from a continuous footway south of the site towards the village centre.
- 2.2 Copthorne Bank has ribbon residential development along both sides of the carriageway, to the north and south of the proposed development site. This includes recently consented and constructed residential development immediately to the north of Clay Hall Lane.
- 2.3 Along the northern boundary of the application site is Clay Hall Lane. This linear corridor forms part of the adopted highway network. This route connects into the Public Right of Way (PROW) network that runs north-west/south-east along the wider development site boundary. To the east the application site abuts undeveloped land that forms part of large residential development gardens and paddocks.
- 2.4 To the south, the application site boundary abuts the rear gardens of established residential development which fronts Borers Arms Road, as well as the Borers Yard Industrial Estate. Further east from the industrial estate part of the application site boundary abuts the residential street known as Lashmere.

Copthorne Bank Development Frontage

- 2.5 Returning to Copthorne Bank the development site boundary benefits from direct frontage onto this corridor. The existing footway on the eastern side of Copthorne Bank starts circa 35m south of the existing pedestrian and vehicular access to the site. This footway provides existing properties along the eastern side of Copthorne Bank safe and direct pedestrian access to other facilities in the local area and within the village.
- 2.6 The section of Copthorne Bank fronting the application site is not subject to any parking or waiting restrictions, and with a carriageway width of between 5m and 6m this route is wide enough for two private cars to pass without conflict. Manual for Streets also confirms that a carriageway width of 5.5m is wide enough to accommodate two passing service vehicles without conflict¹.
- 2.7 Travelling south Copthorne Bank maintains a carriageway width of between 5m and 6m. Residential properties have direct pedestrian and vehicular access onto this route. Due to the width of this section of the adopted highway motorists can park on both sides of the carriageway, should they wish to do so.
- 2.8 To the north of the site Copthorne Bank meets the B2037 Effingham Road at a signalised junction. Effingham Road is circa 18m wide at the junction and benefits from continuous footways on the north, east and south sides of the carriageway. Effingham

¹ Manual for Streets (2007) Page 79, paragraph 7.2

Road provides direct access to residential properties along this route, and to the west the route joins the B2036 Balcombe Road at a three-arm roundabout junction. To the east Effingham Road meets the A264 Copthorne Road at a ghosted right turn priority junction.

- 2.9 To the south of the proposed development site Copthorne Bank routes southwards and then westwards towards the village centre. Along this section of adopted highway residential properties have direct access onto this route, and a continuous pedestrian footway is provided along the eastern and then south side of the carriageway. A footway on the northern side of the carriageway is provided from the doctor's surgery westwards towards the village centre.

Borers Arms Road Development Frontage

- 2.10 Turning to Borers Arms Road this corridor runs to the south of the development site, linking with Copthorne Bank to the west with the A264 Copthorne Common Road to the east. Borers Arms Road varies in width, but at the existing industrial estate access the street is 5.5m wide.
- 2.11 The route benefits from a continuous footway on the northern site-side of the carriageway and street lighting is present along this route. Borers Arms Road also benefits from a 30mph speed limit between Copthorne Bank and Copthorne Common Road. In the vicinity of the Borers Arms Road industrial estate access, double yellow "no waiting at any time" restrictions are in place on the southern side of the carriageway.
- 2.12 The development site location and local highway network is shown on plan 1.
- 2.13 To consider the appropriateness of Copthorne Bank and Borers Arms Road as routes that would provide pedestrian, cycle and vehicular access to the site a review of existing traffic volumes, speeds and personal injury collision data has been collated on these two corridors. Commentary on each data set for each corridor is provided below.

Accessibility By Sustainable Travel Modes

Pedestrian Accessibility

- 2.14 Plan 2 provided in appendix c shows the established pedestrian routes in the vicinity of the site. From the existing site access on Copthorne Bank site visits have confirmed that the footway on the eastern side of the carriageway terminates circa 35m south of the existing site access. Residents of those residential properties to the north of this point (including the recently constructed and occupied residential properties at Oaklands Drive) have to walk on the carriageway past the development site.
- 2.15 Recent site visits have confirmed that the Oaklands Drive development has extended the footway south along this development frontage to the vehicle garage to the north of the development site.
- 2.16 Travelling south along the Copthorne Bank corridor, from the site frontage the existing highway network benefits from continuous footways connecting to the village centre. Along this corridor there are gaps in the network relating to pram crossings and tactile paving at junctions and crossing points. Further commentary on these matters is provided in the Non-Motorised User Audit (NMUA) section later in this report.
- 2.17 Turning to the Borers Arms Road corridor, pedestrian access from the industrial estate is provided by a footway on the western side of the vehicular access which connects into the continuous footway on the northern side of this corridor.
- 2.18 This footway routes westwards for circa 130m before terminating at an existing verge. Pedestrians then have to cross to the footway on the southern side of the carriageway

to continue westwards to the simple priority junction at Knowle Drive. Pedestrians then need to cross back to the footway on the northern side of the carriageway to reach the junction at Copthorne Bank.

- 2.19 As with the Copthorne Bank corridor there are gaps in this pedestrian corridor relating to pram crossings and tactile paving. As part of the NMUA these gaps have been identified to allow an assessment of opportunities to enhance walking to and from the proposed development to a range of local destinations.

Assessment of Sustainable Access

- 2.20 Over many years a raft of technical guidance has been prepared to assist transport planning practitioners when assessing the sustainable credentials of development proposals and sites. As a starting point documents such as ‘PPG13 – Best Practice Guidance’ and ‘Creating Growth, Cutting Carbon’ all stated that walking offered the greatest potential for replacing short car trips, particularly for journeys under 2km.
- 2.21 The Chartered Institute of Highways and Transportation (CIHT) document, ‘Guidelines for Providing for Journeys on Foot’ published in 2001, provided further details on recommended walking distances. These are presented in table 2.1.

	Commuting/School (m)	Elsewhere (m)
Desirable	500	400
Acceptable	1000	800
Preferred Maximum	2000	1200

Table 2.1: CIHT Acceptable Walking Distances

- 2.22 As shown in table 2.1 the CIHT document suggested acceptable walking distances of between 500m (or 6 minutes, based on an 80m/minute walk time) as a desirable distance, up to 2km (a 25-minute walk time) as a “preferred maximum”, for commuting and school journeys.
- 2.23 More recently Manual for Streets (MfS) provided commentary on walkable neighbourhoods. The guidance states that these neighbourhoods are typically characterised by places where a range of facilities can be accessed within an 800m, or 10-minute walk.
- 2.24 It is important to note that these 800m/10-minute walk parameters are not seen as an upper limit and, as set out earlier, there is a raft of guidance that confirms that walking as a mode of travel offers the greatest potential to replace short car trips, particularly those under 2km.
- 2.25 Whilst now superseded the Design Manual for Roads and Bridges (TD91/05 “Provision for Non-Motorised Users”) report stated:

“Walking is used to access a wide variety of destinations including educational facilities, shops, and places of work, normally within a range of up to 2 miles. Walking and rambling can also be undertaken as a leisure activity, often over longer distances”.

- 2.26 The relationship between locating development in locations where people can travel by sustainable modes is also shown in the National Travel Survey dataset, which considers people’s mode share journeys by length. Figure 2.1 presents travel modes by journey distance.

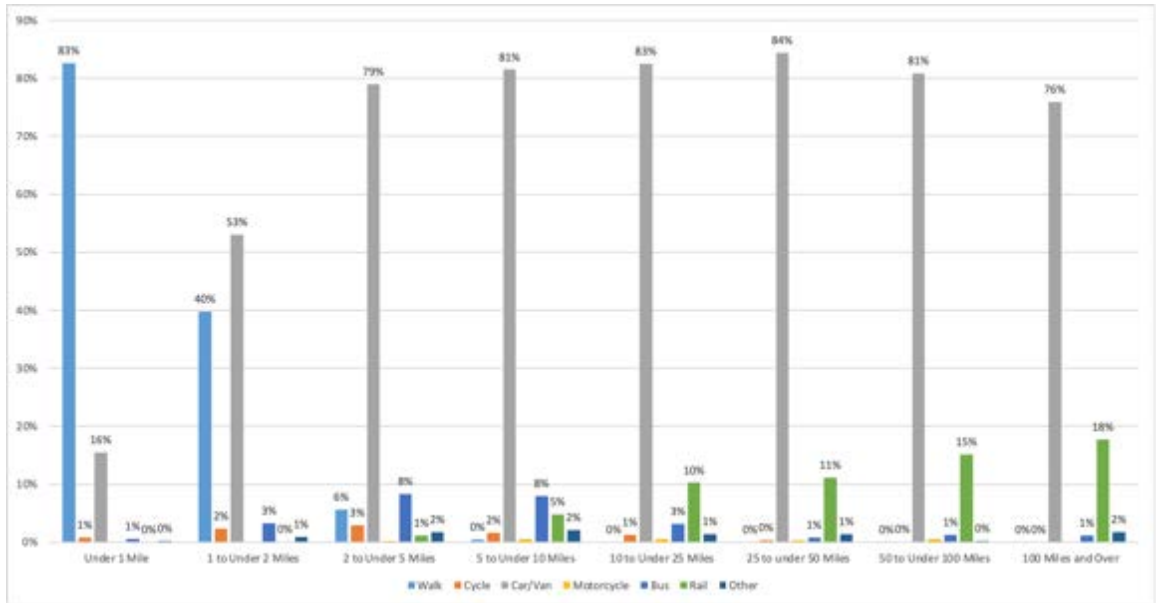


Figure 2.1: Graph NTS0308 –Travel Mode by Journey Distance (2022 Data)

2.27 The NTS data presented in figure 2.1 confirms that:

- for those journeys under 1 mile (1.6km), 83% are made on foot
- interestingly for journeys up to 2 miles (3.2km), 40% of journeys are walking trips
- predictably, over 2 miles this mode of travel reduces, with just 6% of journeys being made on foot between two and five miles
- in comparison, for journeys under 1 mile (1.6km), just 16% were undertaken by car/van, but as the journey distance increases the reliance on this travel mode increases
- for journeys between 1 and under 2 miles 53% of journeys are made by car/van, and between 2 and under 5 miles this percentage increases again to 79%
- figure 2.1 confirms that for journeys of 5 miles and longer circa 80% of journeys are made by car/van

2.28 This NTS travel survey data confirms the logical position regarding travel behaviour and distance travelled. Shorter journeys, particularly under 2 miles (3.2km) can be walked and the NTS data confirms significant proportions of the population already choose to do this. Journeys of 2 miles and over sees a demonstrable shift towards a reliance on the private car for all journeys.

2.29 Based on the above assessment, a walking isodistance plan has been prepared over a 2km distance. This equates to a 25 minute walk, based on an average walk speed of 1.33 m/s.

2.30 The walking distances have been measured from the site’s existing access onto Copthorne Bank. The isodistance plan is shown in figure 2.2.

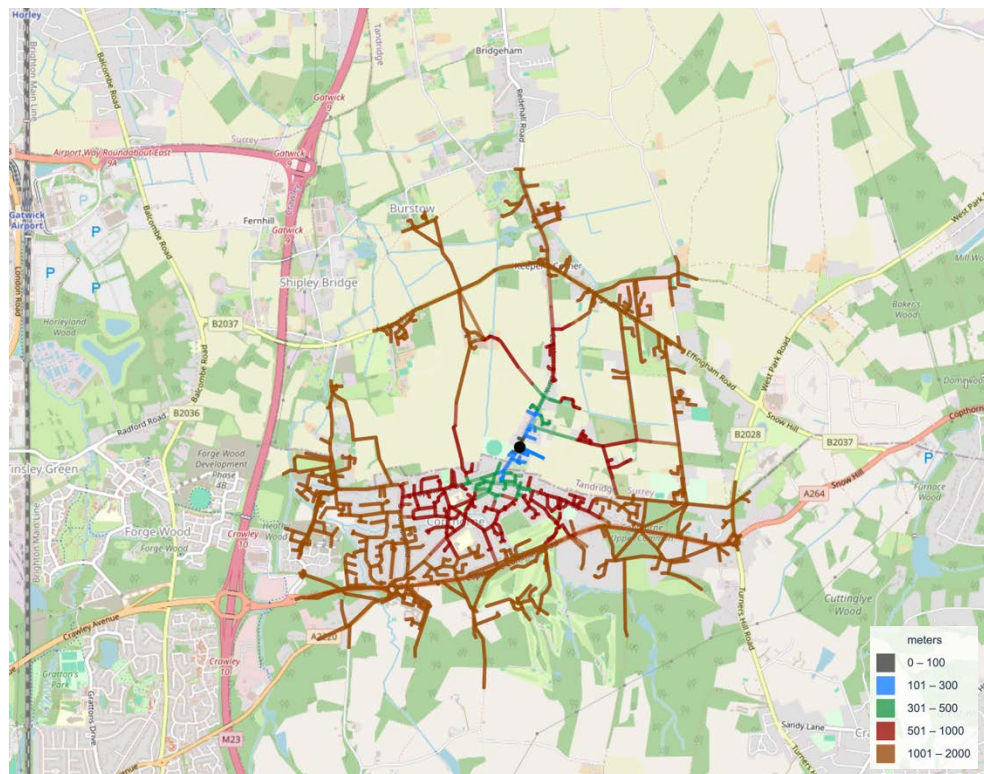


Figure 2.2: 2km Isodistance Walking Plan (Measured from Existing Roundabouts Farm Access on Copthorne Bank)

- 2.31 The isodistance plan presented in figure 2.2 confirms that from the existing site access on Copthorne Bank it is possible to walk south to a range of local facilities in the village, including accessing the nearby industrial estate via Copthorne Bank and Borers Arms Road.
- 2.32 Notwithstanding the isodistance plan confirming the development site is accessible on foot, the walking audit has highlighted the opportunity for pedestrian improvements, particularly providing a short link on the eastern side of Copthorne Bank to connect with the existing footway further south, as well as providing new pedestrian/cycle connections through the site to connect Copthorne Bank with Borers Arms Road.
- 2.33 Commentary on the delivery of these sustainable access enhancements is discussed later in this report, as part of the “vision-led” sustainable access strategy for the site, prepared in line with the NPPF.
- 2.34 When considering the accessibility of the site in more detail an appraisal of the walk distances from the existing western access has been undertaken. Table 2.2 provides a summary of a range of local amenities and services, and their respective walk distances. These have been measured from both the existing development site access points on Copthorne Bank and Borers Arms Road.

Type	Amenity	Location/Address	Walk Distance from closest access point (km)	Walk Time from closest access point (min)
Recreation & Leisure	The Cherry Tree Public House	Copthorne Bank, RH10 3JD	0.20	2.5
	King George's Field	Off Copthorne Bank, RH10 3	0.06	0.8
	The Prince Albert Public House	Copthorne Bank, RH10 3QX	0.88	11.0
	Copthorne Cricket Club	Copthorne Bank, RH10 3JQ	0.06	0.8
	Copthorne Golf Club	Borers Arms Road, RH10 3LL	0.97	12.1
	Children's Play Park	Off Copthorne Bank, RH10 3	0.61	7.6
	Copthorne Social Club	Copthorne Bank, RH10 3RE	0.57	7.1
	Inspire Academy of Dance	14E Borers Yard, Borers Arms Road, RH10 3LH	0.87	10.9
Education	Copthorne C of E Junior School	Church Road, RH10 3RD	0.7	8.8
	Copthorne Preparatory School 2-13yrs (independent)	Effingham Lane, RH10 3HR	2.65	33.1
	Fairway Infant School	Fairway, RH10 3QD	1.15	14.4
Retail	Kwik Mart	6 Copthorne Bank, RH10 3QX	0.84	10.5
	Londis	Copthorne Road, RH10 3PD	2.24	28.0
	Premier Store	Copthorne Bank, RH10 3QZ	0.63	7.9
Local Services	Copthorne Branch Surgery	Copthorne Bank, RH10 3RE	0.06	0.8
	ATM @ Kwik Mart	4 Copthorne Bank, RH10 3QX	0.84	10.5
	ATM @ Premier Store	Copthorne Bank, RH10 3QZ	0.63	7.9
	Copthorne Bank Post Office	4 Copthorne Bank, RH10 3QX	0.84	10.5
	St John the Evangelist Church	Copthorne Road, RH10 3RD	0.61	7.6
	Texaco Petrol Station	Copthorne Road, RH10 3PD	2.24	28.0
	Copthorne Village Hall	Copthorne Bank, RH10 3RE	0.54	6.8
	Delmar Morgan Community Centre	Copthorne Road, RH10 3QX	0.80	10.0

Table 2.2: Walk Distances from Copthorne Bank and Borers Arms Road Accesses to Local Services and Amenities

- 2.35 Table 2.2 confirms that the majority of local services and amenities are located within a 2km walk of the site access points on Copthorne Bank and Borers Arms Road. Of those destinations that fall outside of a 2km catchment all are located within a 5km cycle ride of the site.
- 2.36 Commentary is provided later in this report on the enhanced pedestrian connectivity to/from the site, following the delivery of the proposed physical measures on Copthorne Bank and within the site to link Copthorne Bank with Borers Arms Road.

Cycle Accessibility

- 2.37 DfT guidance states that cycling has the potential to substitute for car trips under 5km, as well as having the potential to form part of a wider public transport trip.
- 2.38 In addition, Local Transport Note 1/20 “Cycle Infrastructure Design” states that:

“...two out of every three personal trips are less than five miles in length.”²

- 2.39 A full review of the accessibility of the site by cycle has been undertaken, with cycle times and distances presented in table 2.3. All local services and destinations presented in this table are accessible by cycle, and fall within a 5km cycle distance.

Type	Amenity	Location/Address	Distance from Site (km)	Cycle Time from most appropriate Access (min)
Recreation & Leisure	The Cherry Tree Public House	Copthorne Bank, RH10 3JD	0.20	0.60
	King George's Field	Off Copthorne Bank, RH10 3	0.06	0.18
	The Prince Albert Public House	Copthorne Bank, RH10 3QX	0.88	2.64
	Copthorne Cricket Club	Copthorne Bank, RH10 3JQ	0.06	0.18
	Copthorne Golf Club	Borers Arms Road, RH10 3LL	0.97	2.91
	Children's Play Park	Off Copthorne Bank, RH10 3	0.61	1.83
	Copthorne Social Club	Copthorne Bank, RH10 3RE	0.57	1.71
	Inspire Academy of Dance	14E Borers Yard, Borers Arms Road, RH10 3LH	0.87	2.61
Education	Copthorne C of E Junior School	Church Road, RH10 3RD	0.7	2.10
	Copthorne Preparatory School 2-13yrs (independent)	Effingham Lane, RH10 3HR	2.65	7.96
	Fairway Infant School	Fairway, RH10 3QD	1.15	3.45
Retail	Kwik Mart	6 Copthorne Bank, RH10 3QX	0.84	2.52
	Londis	Copthorne Road, RH10 3PD	2.24	6.73
	Premier Store	Copthorne Bank, RH10 3QZ	0.63	1.89
Local Services	Copthorne Branch Surgery	Copthorne Bank, RH10 3RE	0.06	0.18
	ATM @ Kwik Mart	4 Copthorne Bank, RH10 3QX	0.84	2.52
	ATM @ Premier Store	Copthorne Bank, RH10 3QZ	0.63	1.89
	Copthorne Bank Post Office	4 Copthorne Bank, RH10 3QX	0.84	2.52
	St John the Evangelist Church	Copthorne Road, RH10 3RD	0.61	1.83

² Paragraph 2.2.2, page 16

Texaco Petrol Station	Copthorne Road, RH10 3PD	2.24	6.73
Copthorne Village Hall	Copthorne Bank, RH10 3RE	0.54	1.62
Delmar Morgan Community Centre	Copthorne Road, RH10 3QX	0.80	2.40

Table 2.3: Cycle Distances from Copthorne Bank and Borers Arms Road Accesses to Local Services and Amenities

- 2.40 In terms of route choice, the location of existing cycle routes and residential streets suitable for cycle trips are shown on plan 2 in appendix c. Whilst there are no signed cycle routes in the immediate vicinity of the site, the site does benefit from being located adjacent to an existing residential area to the south.
- 2.41 Later in this report measures to improve the environment for pedestrians and cyclists have been considered on the Copthorne Bank corridor, adjacent to the site frontage. The principle of these works were discussed with SCC Officers in early 2025, with the opportunity to extend the existing footway further north and create a gateway feature into the village on this corridor.
- 2.42 The site promotion team has embraced this identified opportunity as part of the sustainable access strategy for the site. Further commentary on the opportunity to fund or deliver traffic calming measures on the Copthorne Bank corridor is presented later in this document.
- 2.43 Plan 2 in appendix c demonstrates that the site benefits from being located adjacent to Copthorne, an established residential area, and within appropriate walking and cycling distances from the site's existing access points onto Copthorne Bank and Borers Arms Road, allowing access to local amenities and nearby employment areas.
- 2.44 The opportunity to slow vehicle speeds on Copthorne Bank as traffic enters the village is seen as a key component to enhance sustainable access along this corridor, and will provide pedestrians and cyclists with a more attractive route southwards into the village.
- 2.45 As presented later in this report the enhanced route along this corridor will be bolstered by the development providing enhanced pedestrian/cycle connections through the development, linking Copthorne Bank with Borers Arms Road, as well as the opportunity to improve the environment for pedestrians passing through the village.

Accessibility by Public Transport

Bus Accessibility

- 2.46 The nearest bus stops to the site are located on Copthorne Bank and Borers Arms Road. Considering the Copthorne Bank corridor first table 2.4 provides a summary of the two services currently operating along this corridor.

Service	Operator	First Weekday Bus	Average Weekday Daytime Frequency	Last Weekday Bus	Route
424	Metrobus	0601	Every 60-80 minutes	1944	Crawley - Copthorne - Smallfield - Horley - Salfords - Woodhatch - Reigate - Redhill
422	Metrobus	0534	Every 70 minutes	1943	Crawley - Copthorne - Smallfield - Horley - Woodhatch - Mead Vale - Earlswood - Redhill
624	Metrobus	0749	2 buses per day (school days only)	Return Journey 1554	Horley - Burstow - Copthorne - Crawley Down - Felbridge - Imberhorne Schools
324	Metrobus	0708	2 buses per day (school days only)	Return Journey 1615	Copthorne - Smallfield - Horley - Redhill Bus Station - Reigate Sixth Form College

Table 2.4: Copthorne Bank Bus Services (September 2025)

2.47 With regard to bus stops on Borers Arms Road these directional stops are located circa 160m and 370m from the site access point on this corridor. A summary of the bus services on this corridor is provided in table 2.5.

Service	Operator	First Weekday Bus	Average Weekday Daytime Frequency	Last Weekday Bus	Route
281	Metrobus	0631	1 bus every hour	1829	Crawley - Three Bridges - Copthorne - Crawley Down - East Grinstead - Queen Victoria Hospital - Stone Quarry - Dormansland - Lingfield
291	Metrobus	0603	1 bus every hour	2334	Crawley - Three Bridges - Copthorne - Crawley Down - East Grinstead - Forest Row - Hartfield - Groombridge - Langton Green - Tunbridge Wells
400	Metrobus	n/a	1 bus per day	1537	East Grinstead - Copthorne - Crawley Bus Station - Gatwick Airport - Horley - Redhill Bus Station - Caterham
324	Metrobus	0708	2 buses per day (school days only)	Return Journey 1614	Copthorne - Smallfield - Horley - Redhill Bus Station - Reigate Sixth Form College
624	Metrobus	0749	2 bus per day (school days only)	Return Journey 1553	Horley - Burstow - Copthorne - Crawley Down - Felbridge - Imberhorne Schools
638	Metrobus	0758	2 buses per day (school days only)	Return journey 1544	Copthorne - Snow Hill - Felbridge - Imberhorne Schools
642	Metrobus	0747	2 buses per day (school days only)	Return journey 1517	Copthorne - Crawley Down - Felbridge - Imberhorne Schools

Table 2.5: Borers Arms Road Bank Bus Services (September 2025)

- 2.48 All bus stops are simple “post and flag” arrangements. No Real Time Passenger Information or shelters/seating are provided at these existing bus stop locations.
- 2.49 The IHT document, ‘Planning for Public Transport in Developments’, states that 400m (a five-minute walk time) is considered to be an acceptable walking distance to local bus services. All the directional stops on Copthorne Bank and Borers Arms Road fall within this walk distance, ensuring that end occupiers of the proposed development can access these stops. Plan 2 in appendix c shows the location of the stops.
- 2.50 It is noted that existing non-school bus services run on a circa 60-minute headway. This is a service frequency previously considered and accepted by SCC on other recent residential development proposals in Tandridge, including the nearby Oaklands Drive development on Copthorne Bank.
- 2.51 Recent discussions with SCC Officers on other residential development proposals have also identified opportunities to provide Digital Demand Responsive Transport (DDRT) for the end occupiers of the development. This will allow end occupiers of the development opportunities to travel by accessible minibus, at times outside of those operated by the existing bus services which route past the site.
- 2.52 Further commentary on this established scheme is provided later in this report, as part of the sustainable access strategy for the site.
- 2.53 Based on the review of bus service provision past the development site, it is confirmed that the level of bus service provision will give end occupiers of the proposed development opportunities other than reliance on the private car for travel. In addition, the opportunity to promote the established DDRT scheme is considered to be a welcome addition to enhancing bus/minibus accessibility in this location.

Rail Accessibility

- 2.54 The development site is located just less than a 5km travel distance from Three Bridges rail station. A summary of the rail services passing through this mainline station is provided in table 2.6.

Rail Station	Service Destination	First Weekday Service	Average Weekday Daytime Frequency	Last Weekday Service	Route
Three Bridges	Brighton	0037	4 trains per hour	2355	Three Bridges - Haywards Heath - Wivelsfield - Burgess Hill - Hassocks - Preston Park - Brighton
Three Bridges	Bedford	0037	5 trains per hour	2356	Three Bridges - Gatwick Airport - East Croydon - Elephant & Castle - London Blackfriars - City Thameslink - Farringdon - London St Pancras - St Albans City - Harpenden - Luton Airport Parkway - Luton - Leagrave - Hillington - Flitwick - Horsham
Three Bridges	Horsham	0601	4 trains per hour	0038	Three Bridges - Crawley - Ifield - Faygate - Littlehaven - Horsham
Three Bridges	London Victoria (via Gatwick Airport)	0037	8 trains per hour	2356	Three Bridges - Gatwick Airport - Horley - Redhill - Merstham - Coulsdon South - Purley - East Croydon - Clapham Junction - London Victoria

Three Bridges	Southampton Central (via Horsham)	0549	3 trains per hour	2314	Three Bridges - Crawley - Ifield - Littlehaven - Horsham - Christs Hospital - Billingshurst - Pulborough - Amberley - Arundel - Ford - Barnham - Chichester - Havant - Cosham - Portchester - Fareham - Swanick - Netley - Woolston - Southampton Central
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Table 2.6: Existing Rail Services via Three Bridges Mainline Station

- 2.55 Whilst it is accepted that the Three Bridges rail station falls outside of the recommended 2km walk catchment, it does fall within a 5km cycle distance and could be accessed by end occupiers of the development by cycle.
- 2.56 In addition, the rail station is on the 281 and 291 bus routes that pass via the development site on Borers Arms Road, allowing end occupiers of the development the opportunity to rail head to this station for longer distance trips to Brighton, Bedford, London and Southampton (and stops in between).
- 2.57 For those residents who may consider riding to Three Bridges rail station, 276 cycle parking spaces³ are provided at the station.
- 2.58 For those unable to walk or cycle to the station to make a longer distance trip, Three Bridges station has 391 standard parking spaces. With easy access to this well-served rail halt, this is a very attractive mode of transport for longer distance trips along the London to Brighton rail line, as well as longer distance trips across the country.
- 2.59 This section of the TA confirms that the site benefits from continuous pedestrian links on Borers Arms Road, as well as a continuous pedestrian link on the eastern side of Copthorne Bank, which starts immediately to the south of the development site frontage. This report also confirms that the existing bus services past the site offer regular service provision to and from nearby settlements, as well as to other local destinations, such as Crawley, Caterham and East Grinstead.
- 2.60 To conclude, cyclists can already use Copthorne Bank and Borers Arms Road to access a range of facilities in the local area. The opportunity to reduce vehicle speeds on Copthorne Bank through the delivery of a new gateway facility on this corridor has already been discussed with SCC Transport Development Control Officers on site.
- 2.61 Not only will this gateway proposal slow traffic as it enters the village, but it also has the potential to make this corridor more attractive for pedestrians and cyclists using this route to access facilities in the village, particularly through the ability to extend the existing footway on the eastern side of Copthorne Bank to the proposed residential development site access point.
- 2.62 Further commentary on off-site improvements on the local highway network, as part of a comprehensive sustainable access strategy is provided later in this TA.

Local Highway Network

- 2.63 The highway network in the study area is shown on plan 1 in appendix a.
- 2.64 As confirmed earlier in this report Copthorne Bank is a classified road (C67), linking the B2037 Effingham Road to the north with the C68 Shipley Bridge Lane to the west.

³ Data sourced from National Rail Information

The section of Copthorne Bank routing past the development site is subject to a 30mph speed limit.

- 2.65 Borers Arms Road routes to the south of the development site, linking with Copthorne Bank to the west with the A264 Copthorne Common Road to the east. It too benefits from a 30mph speed limit being in place on this route, past the existing Borers Industrial Estate access.
- 2.66 To ascertain the existing average and 85th percentile vehicle speeds on Copthorne Bank and Borers Arms Road, Automatic Traffic Counters (ATCs) have been placed on these corridors, close to the existing and proposed access points. These surveys have recorded both two-way vehicle movements and speeds. The most recent ATC's were placed between the 24th and the 30th April 2025.
- 2.67 The counts demonstrate that in both locations the recorded 2025 85th percentile vehicle speeds are currently slightly higher than the 30mph speed limit along the site frontage. Further details on these speed surveys are given in section 3.0.

Committed Infrastructure & Development Proposals

- 2.68 As highlighted earlier in this TA, the site promotion team has already engaged with SCC and WSCC Transport Development Control Officers on technical matters relating to the proposed development. This has included a site visit with SCC Officers and engagement on technical traffic modelling matters with WSCC, as the development is expected to have the greatest level of impact on WSCC routes.
- 2.69 Recent discussions with WSCC Officers resulted in a technical scope of work being submitted, which reviewed the sustainable access strategy and vehicular access proposals, as well as the proposed approach to modelling the impact of the development, and whether any committed infrastructure measures needed to be incorporated into the assessment.
- 2.70 Through these discussions agreement was reached on a single committed highway improvement (the Dukes Head roundabout), as well as how to reflect committed development flows across the local highway network within the TA study area. As shown in WSCC's response provided in appendix b it was agreed that TEMPRO growth factors could be applied to traffic survey data to replicate appropriate opening and future year assessment periods.

3.0 EXISTING STUDY AREA TRAVEL & TRAFFIC CHARACTERISTICS

Existing Traffic Conditions

- 3.1 As set out earlier in this assessment, the existing volume and speed of traffic on Copthorne Bank has been recorded through a seven-day Automatic Traffic Counter (ATC), placed on this corridor between Thursday 24th to Wednesday 30th April 2025. The counter was located close to the existing access to the site, on the 30mph section of this route. The full survey data is attached as appendix d.

Copthorne Bank - Average and 85th Percentile Speed Surveys

- 3.2 Considering the speed survey data first, we provide a summary of the April 2025 ATC survey data that has been recorded on Copthorne Bank. The seven day mean and 85th percentile speeds recorded in 2025 are summarised in table 3.1.

	Mean Speed (mph)	85% ile Speed (mph)
2025		
Copthorne Bank (northbound)	36.5	43.3
Copthorne Bank (southbound)	35.1	42.1

Table 3.1: Surveyed Copthorne Bank Vehicle Speeds (Existing Site Access)

- 3.5 The 2025 speed survey data presented in table 3.1 confirms that the recorded mean traffic speeds are higher than the existing 30mph speed limit on this section of Copthorne Bank.
- 3.6 The directional 85th percentile speeds of vehicles past the existing site access to the development site are also higher than the 30mph speed limit on this corridor: circa 13mph higher in the northbound direction, and circa 12mph higher in the southbound direction.
- 3.7 The speed survey data confirms that there is an existing vehicle speeding issue on this link, and an opportunity to slow vehicle traffic on this section of Copthorne Bank, as motorists enter the village on this northern access route.

Borers Arms Road - Average and 85th Percentile Speed Surveys

- 3.8 The existing volume and speed of traffic on Borers Arms Road has also been captured using an ATC for the same survey period as the Copthorne Bank survey. The counter was located close to the existing access to the Borers Industrial Estate. The full survey data is attached as appendix e.
- 3.3 A summary of the April 2025 ATC survey data that has been recorded on Borers Arms Road. The seven day mean and 85th percentile speeds recorded in 2025 are summarised in table 3.2.

	Mean Speed (mph)	85% ile Speed (mph)
2025		
Borers Arms Road (eastbound)	28.5	34.6
Borers Arms Road (westbound)	27.7	33.8

Table 3.2: Surveyed Borers Arms Road Vehicle Speeds (Existing Site Access)

- 3.9 The 2025 speed survey data presented in table 3.1 confirms that the recorded mean traffic speeds are lower than the existing 30mph speed limit on this section of Copthorne Bank.
- 3.10 The directional 85th percentile speeds of vehicles past the existing site access to the development site are fractionally higher than the 30mph speed limit on this corridor: circa 5mph higher in the eastbound direction, and circa 4mph higher in the westbound direction.
- 3.11 The speed survey data confirms that there is an opportunity to remind motorists that they are travelling on a 30mph corridor through the village.

Historic Collision Patterns

- 3.12 The Sussex Police Road Safety Team has provided the last five years of Personal Injury Collision (PIC) data for the TA study area, running from the Effingham signalised junction to the north, south to include Copthorne Bank, Borers Arms Road, Copthorne Common Road and then the local highway network through the village.

- 3.13 The data is attached as appendix f and is summarised in table 3.3.
- 3.14 Across the study area a total of 40 collisions have occurred during the five-year period (01/07/2020 through to 30/06/2025). Of these 40 collisions, 25 were classified as "slight", and 15 as "serious". No fatal collisions were recorded within the study area.
- 3.15 For ease of reference the collision data has been summarised across the following routes/corridors:

- the Copthorne Bank Corridor (Effingham Signalised Junction to Borers Arms Road junction)
- the Copthorne Common Road Corridor
- other locations within the village

3.16 Each PIC study area is summarised in tabular format below.

Report Ref	Police Reference	Location	Date & Time	Vehicles involved	Carriageway and Weather Conditions	Collision Severity	Description
1	241529218	Copthorne Bank – 21m from Junction with Meadow Approach	10/12/24 @ 1151	V1 – Private Car	Dry carriageway Fine without High Winds	Slight	Pedestrian has exited bus on Copthorne Bank and went to the front to cross the road and as V1 was reversing at the same time they collided with the pedestrian
2	241488724	Junction of Copthorne Bank, Redehall Road and B2037	08/09/24 @ 1330	V1 - Private Car V2 – Private Car	Wet/damp carriageway Raining without high winds	Serious	V2 was travelling northbound across Keepers Corner junction from Copthorne Bank – V1 was travelling southbound from Radehall Road making a right turn. Lights were green on both approaches. V1 and V2 collided in junction
3	241464595	Anns Villa, Copthorne Bank	06/07/24 @ 2013	V1 – Private Car	Dry carriageway Fine without High Winds	Serious	V1 travelling southbound attempts to negotiate bend but mounts kerb and collides with fence and tree stump with V1 rolling onto side
4	241444578	Copthorne Cottage, Copthorne Bank	18/05/24 @ 0955	V1 – Goods Vehicle <3.5t	Dry carriageway Fine without High Winds	Serious	V1 attempted to negotiate right hand bend and left the carriageway colliding with 2 x Pedestrians
5	221133691	Copthorne Bank – 155m from Borers Arms Road	18/01/22 @1948	V1 – Private Car	Wet/damp carriageway Fog or mist	Serious	V1 travelling southbound on Copthorne Road misjudged R/H bend causing vehicle to

							crash into gates to adjacent property
6	20983406	Copthorne Bank, Near junction with Copthorne Bank	22/09/20 @ 1055	V1 – Private Car V2 – Goods <3.5t	Dry carriageway Fine without High Winds	Slight	V1 travelling east on Copthorne Bank hits kerb and collides with V2 causing injuries to driver of V2
7	20962770	Church Road near junction with Copthorne Bank	06/07/20 @ 1715	V1 – Private Car V2 – Private Car	Dry carriageway Fine without high winds	Slight	V2 travelling on Church Road, slowed as they approached V1 that was stationary. V2 attempts to pass V1 which then reversed into the front of V2 – V1 drove off and failed to exchange details
8	221256128	Junction of Copthorne Bank, Redehall Road and B2037	20/12/22 @ 1215	V1 – Pedal Cycle V2 – Private Car	Dry carriageway Fine without high winds	Slight	V1 has been travelling across crossroads. V1 pulled away when lights went green and V2 has attempted to turn right, colliding with V1

Table 3.3: Recorded PICs on Copthorne Bank Corridor

3.17 A review of the eight collisions on the Copthorne Bank corridor suggests that there is no particular pattern or number of collisions that would preclude the development being served from this section of adopted highway. However, there is an indication that in respect to three collisions excess speed or a failure to judge the route may have contributed to a collision taking place.

3.18 Earlier in this report it has been confirmed that the recorded average and 85th percentile speeds are higher than the existing 30mph speed limit on this route. Later in this report the development access proposals are reviewed, which incorporate a traffic calming/village gateway scheme on the Copthorne Bank corridor.

Report Ref	Police Reference	Location	Date & Time	Vehicles involved	Carriageway and Weather Conditions	Collision Severity	Description
1	20968770	Copthorne Hotel R/A – Copthorne Way	29/07/20 @ 0825	V1 – Private Car V2 – Pedal Cycle	Dry carriageway Fine without High Winds	Serious	V1 entered R/A from west to east having initially seen V2 on R/A. V1 then strikes V2 on the R/A knocking cyclist off and running over their bicycle
2	20975926	Copthorne Hotel R/A – Copthorne Way	26/08/20 @ 2021	V1 – Private Car V2 – Pedal Cycle	Dry carriageway Fine without High Winds	Slight	V1 travelling east entered R/A and failed to see cyclist on and clipped the rear of the bicycle

3	20998248	Copthorne Way (A264) at Junction with A264	12/11/20 @0646	V1 – Private Car V2 – Pedal Cycle	Wet/damp carriageway Fine without High Winds	Serious	Suspected that V1 travelling west to east has failed to give way at R/A and struck cyclist travelling from east to west who was travelling to Copthorne village
4	201008439	Copthorne Way (A264)	18/12/20 @ 1846	V1 – Private Car V2 – Private Car V3 – Private Car	Wet/damp carriageway Raining without high winds	Serious	V1 travelling westbound on the A264, leaves R/A and loses control and ends up on the wrong side of the road, and then collides with V2 and then V3
5	211012976	Copthorne Way (A264) near junction with unclassified road	08/01/21 @1625	V1 – Private Car V2 – Pedal Cycle	Dry carriageway Fine without High Winds	Slight	V1 travelling east on road enters R/A and collides with V2
6	221196541	Copthorne Road (A2220) near Junction with A264, Copthorne	08/07/22 @ 1540	V1 – Private Car V2 – Private Car	Dry carriageway Fine without High Winds	Slight	V1 on roundabout and V2 also on roundabout and tried exiting onto Copthorne Way and hits drivers side of V1.
7	221256916	Copthorne Common – 365m from junction with Copthorne Way R/A	23/12/22 @ 1245	V1 – Private Car V2 – Private Car	Wet/damp carriageway Fine without High Winds	Slight	V1 driver has potentially had a medical episode and lost consciousness, driven into oncoming lane and collided with V2
8	231338556	Copthorne Road (A2220), Copthorne	05/08/23 @ 2152	V1 – Private Car	Wet/damp carriageway Raining without High Winds	Slight	V1 heading east to west and loses control on the A2220 on bend and collides with hedgerow
9	251597413	Copthorne Roundabout J/W Copthorne Common Road	01/06/25 @ 1505	V1 – Private Car V2 M/C >500cc	Dry carriageway Fine without High Winds	Serious	V1 already on roundabout when V2 riding from Crawley entered R/A. V2 collides with V1.

Table 3.4: Recorded PICs on Copthorne Way (A264)

- 3.19 The PIC review in table 3.4 confirms that a total of nine collisions have been recorded on, or in the vicinity of the Copthorne roundabout.
- 3.20 Across a five year period the collision rate is not considered to be excessive, but there is an occurrence of vehicle/cycle collisions, predominantly where the driver of the private car fails to see the cyclist. The PIC review does suggest that these collisions

took place in the early morning or evening, and with the causation factors not listed it is not possible to confirm the reason(s) why these collisions may have taken place.

- 3.21 There are also a number of collisions where the driver of a vehicle has lost control of their vehicle or misjudged their speed/conditions. WSCC, as highway authority may want to review signage or approach speeds in this location, to assess whether drivers are fully informed when approaching/negotiating the roundabout junction.

Report Ref	Police Reference	Location	Date & Time	Vehicles involved	Carriageway and Weather Conditions	Collision Severity	Description
1	211027226	Copthorne Common (A264) at Junction with Borers Arms Road	10/03/21 @ 1514	V1 – Private Car V2 – Goods <3.5t	Wet/damp carriageway Raining without high winds	Slight	V2 travelling from east to west on Copthorne Common and slows/indicates to turn right into Borers Arms Road. V1 has driven into rear offside of V2
2	211045577	Copthorne Common (A264) 81m from Junction with A264	15/05/21 @ 1125	V1 – Private Car V2 – Private Car V3 – Private Car	Wet/damp carriageway Raining without high winds	Slight	Whilst in queue of stationary traffic V2 is hit from the rear by V1 failing to see vehicle stopping, causing V2 to shunt forward hitting V3
3	211108744	Snow Hill (A264) near junction with Turners Hill Road (A264)	05/11/21 @ 2226	V1 – Private Car V2 – Private Car	Dry carriageway Fine without High Winds	Slight	V2 exits Dukes Head R/A onto the A264 in the direction of East Grinstead. When exiting V1 has been on the other side of the road approaching the R/A and V1 has struck V2 head on
4	221207114	Copthorne Common near Junction	27/04/22 @ 0958	V1 – Private Car V2 – Private Car V3 – M/C >500cc	Dry carriageway Fine without High Winds	Slight	V1 travelling eastbound on A264. Driver has two dogs on rear seats which start fighting and whilst dealing with them fails to see V2 and V3 braking for hazard, causing several vehicle collision
5	221171775	Copthorne Common (A264) 51m from Junction with Private Entrance, Copthorne	29/04/22 @ 0720	V1 – Private Car V2 – Goods <3.5t	Dry carriageway Fine without High Winds	Slight	V2 collides with rear of V1
6	221176023	Copthorne Common (A264) 62m from Junction with	11/05/22 @ 1530	V1 – Private Car	Wet/damp carriageway	Slight	V1 and V2 travelling along A264. V1 slows due to queuing traffic and V2 collides with V1

Report Ref	Police Reference	Location	Date & Time	Vehicles involved	Carriageway and Weather Conditions	Collision Severity	Description
		Cottage Place, Copthorne		V2 – M/C <125cc	Raining without high winds		
7	221230995	Copthorne Common (A264)	16/10/22 @ 2106	V1 – Private Car V2 – Private Car	Wet/damp carriageway Raining without high winds	Slight	V1 and V2 collide on Dukes Head R/A – description of collision unclear as to which driver of V1/V2 was at fault
8	221258315	Snow Hill (A264) near Junction with Turners Hill Road	26/12/22 @ 1659	V1 – Private Car V2 – Private Car	Dry carriageway Fine without High Winds	Slight	V2 approaching R/A and noticed V1 behaving erratically behind them. V2 slowed for R/A and V1 drove into the rear of V2 pushing it into oncoming traffic. V1 reversed and left scene without exchanging details
9	231276134	Copthorne Common – 79m from Junction with Dukes Head R/A	14/02/23 @ 1150	V1 – Private Car V2 – Private Car	Wet/damp carriageway “Other” weather conditions	Slight	V1 and V2 travelling on A264 towards ESSO. V2 brakes to let car into PFS. V1 collides with rear of V2 as did not see V1 braking
10	231298627	Copthorne Common (A264), Copthorne	19/04/23 @ 2005	V1 – Private Car V2 – M/C >125cc	Dry carriageway Fine without High Winds	Slight	V1 travelling eastbound from Copthorne to Felbridge. V1 went to carry out U Turn across path of V2, and V2 unable to stop in time
11	231352282	Copthorne Common	13/09/23 @ 1956	V1 – Private Car V2 – Private Car	Dry carriageway Fine without High Winds	Slight	V1 pulled out of Borers Arm Road onto Copthorne Common Road turning right. V2 was travelling from M23 towards East Grinstead. V1 pulled into path of V2.
12	251543287	Copthorne Common near Junction with Carrsfarm Cottage	17/01/25 @ 1637	V1 – Private Car V2 – Private Car	Wet/damp carriageway Fine without High Winds	Slight	V1 exits from petrol station and gone to overtake a parked vehicle. As V1 accelerates the vehicle loses control into the path of V2 and collides
13	251538727	Copthorne Common at Junction with Newtown	07/01/25 @1751	V1 – Private Car V2 – Private Car	Wet/damp carriageway Raining without High Winds	Serious	V2 travelling towards Copthorne on the Copthorne Common Road when V1 pulled out from Newtown and collides with V2

Report Ref	Police Reference	Location	Date & Time	Vehicles involved	Carriageway and Weather Conditions	Collision Severity	Description
14	241492429	Newlands Park, Turners Hill Road (B2028)	17/09/24 @ 0830	V1 – Private Car	Dry carriageway Fine without High Winds	Serious	Pedestrian attempts to cross road through stationary traffic behind 7t HGV and then is struck by V1
15	231363154	Copthorne Common near Junction with Borers Arms Road	15/10/23 @ 2110	V1 – Private Car V2 – Private Car	Dry carriageway Fine without High Winds	Slight	V1 pulling out of Borers Arms Road and did not see V2 approaching along Copthorne Common Road. V2 collides with V1

Table 3.5: Recorded PICs on Copthorne Common Road (A264)

- 3.22 Table 3.5 provides a review of the PIC's on the Copthorne Common Road corridor, which includes the Dukes Head roundabout to the east, and the Borers Arms Road priority junction.
- 3.23 The review of collisions along this stretch of adopted highway indicates no particular pattern or causation of collisions that would preclude the development coming forward in this location.
- 3.24 No collision "hot spots" have been identified, and in particular no pattern of collisions recorded at the Borers Arms Road/Copthorne Common Road, a junction which later in this assessment is predicted to see a 30 or more increase in vehicles generated by the proposed development.

Report Ref	Police Reference	Location	Date & Time	Vehicles involved	Carriageway and Weather Conditions	Collision Severity	Description
1	221188924	Church Lane – 82m from Junction with Fairway	15/06/22 @ 1030	V1 – Private Car	Dry carriageway Fine without High Winds	Slight	Pedestrian got off the bus and crossed the road and was struck by V1 – Driver of V1 did not stop
2	211017317	Knowle Drive	25/01/21 @1820	V1 – Private Car	Wet/damp carriageway Fine without High Winds	Slight	Person standing behind V1 which reversed off the drive and crushed person between two vehicles
3	241487307	Brookhill Road near Junction with Whitegate Close	04/09/24 @ 1530	V1 – Private Car	Dry carriageway Fine without High Winds	Slight	V1 stopped for School Crossing Patrol. Driver misjudged distance and clipped lollipop sign and Crossing Patrol
4	241486753	New Town Junction, Copthorne Common Road	03/09/24 @ 1107	V1 – Goods <3.5t	Dry carriageway Fine without High Winds	Slight	V1 travelling eastbound on A264, as was V2. V1 manoeuvres round a bend and then met slow moving vehicles.

Report Ref	Police Reference	Location	Date & Time	Vehicles involved	Carriageway and Weather Conditions	Collision Severity	Description
				V2 – Private Car			V1 brakes and collides with V2 which had slowed to allow vehicles to turn out of Newtown Road junction
5	241458196	Little Greggs, Brookhill Road	20/06/24 @ 2259	V1 – Private Car	Dry carriageway Fine without High Winds	Slight	V1 sighted as travelling at excess speed on Copthorne Common Road. V1 continued to drive at speed up Brookhill Road before colliding with a garden wall.
6	241436247	Junction to Elger Way, Shipley Bridge Lane	26/04/24 @ 2350	V1 – M/C <125cc V2 – Goods (unknown weight)	Wet/damp carriageway Raining without High Winds	Slight	V1 proceeding along Shipley Bridge Lane travelling around blind bend when V2 travelling in opposite direction encroaches into V1 path causing rider of V1 to swerve and fall off
7	241394949	West Park Road at Junction with B2028	04/01/24 @ 2210	V1 – Private Car V2 – Private Car	Wet/damp carriageway Raining without High Winds	Slight	V1 travelling towards the R/A and travels straight across. V1 appeared to have right of way but V2 enters R/A and driven into the offside of V1
8	231355994	Brookhill Road at Junction with Church Lane	21/09/23 @1603	V1 – Private Car V2 – Goods <3.5t V3 – Private Car	Wet/damp carriageway Fine without High Winds	Serious	V1 heading along Brookhill Road from south to north. V2 heading in opposite direction. V1 strikes V2 which causes vehicle to overturn and land on V3 at speed

Table 3.6: Other Recorded PICs within Study Area

3.25 Table 3.6 provides a summary of the remaining recorded PIC collisions within the study area. As expected these are a mix of collisions involving private cars, goods vehicles and a motorcycle. There is no pattern or causation of collisions that would indicate any adverse safety issues within the study area, or would preclude the development proposals coming forward.

PIC Summary

3.26 Whilst all accidents are regrettable, the review of collisions within a wide study area, which includes the Copthorne Bank and Borers Arms Road corridors, which the development will access on to, indicates that there is no particular pattern, causation or identified deficiencies with this section of the local highway network.

- 3.27 It is noted that there have been no recorded collisions in the vicinity of the proposed site access locations. In fact, no collisions have been recorded on the Borers Arms Road corridor in the last five years.
- 3.28 Whilst there are no collision hotspots, every collision and accident is regrettable and where appropriate mitigation measures should be considered to improve highway safety.
- 3.29 Further commentary on the development access strategy from Copthorne Bank and Borers Arms Road, as well as measures to deliver a new gateway traffic calming/pedestrian enhancement scheme on Copthorne Bank are considered later in this assessment.
- 3.30 Having prepared a detailed review of the site location, the existing accessibility of the site on foot, cycle, public transport and vehicles, and then traffic, speed data and PIC data it is clear that the site is appropriately located to provide much needed residential development.
- 3.31 The next section of this TA considers the relevant national and local policies that the development proposals need to accord with.

4.0 RELEVANT NATIONAL AND LOCAL POLICY SUMMARY

- 4.1 This section outlines the national and local policy guidelines that are relevant to the future development of land north of Borers Arms Road, Copthorne.

National Planning Policy Framework (NPPF)

- 4.2 The 'National Planning Policy Framework' (NPPF), most recently published in December 2024 states at paragraph 109 that:

"transport issues should be considered from the earliest stages of plan-making and development proposals, using a vision-led approach to identify transport solutions that deliver well-designed, sustainable and popular places. This should involve:

- a) *Making transport considerations an important part of early engagement with local communities;*
- b) *Ensuring patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places;*
- c) *Understanding and addressing the potential impacts of development on transport networks;*
- d) *Realising opportunities from existing or proposed transport infrastructure, and changing transport technology and usage – for example in relation to the scale, location or density of development that can be accommodated;*
- e) *Identifying and pursuing opportunities to promote walking, cycling and public transport use; and*
- f) *Identifying, assessing and taking into account the environmental impacts of traffic and transport infrastructure – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains."*

4.3 Paragraph 115 states that:

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

- a) sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location;*
- b) safe and suitable access to the site can be achieved for all users;*
- c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and*
- d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree through a vision-led approach."*

4.4 Paragraph 116 confirms that:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios."

- 4.5 As presented in this TA, the approach to delivering a truly sustainable development has been to follow the requirements of paragraph 115 in the NPPF, prioritising sustainable transport modes to give end occupiers of the proposed development real travel choices over and above a reliance on the private car. This is the starting point for the "vision-led" sustainable access strategy for the site.
- 4.6 Care has also been taken to deliver safe and suitable access for all users by all modes, which means considering all walking, cycling, public transport and vehicular access arrangements, to ensure that they are appropriate for all to use. Where there are "gaps" in pedestrian accessibility in the village, these have been noted with the development potentially contributing to enhancements on these routes, to be agreed with SCC and WSCC Officers.
- 4.7 Whilst the internal development layout has been prepared in outline, and is illustrative in nature we can confirm that the final scheme development layout will be prepared to accord with the requirements of Manual for Streets and the "Healthy Streets for Surrey" guidance.
- 4.8 With regard to demonstrating that the development proposals will not have an unacceptable impact on highway safety, or that the residual cumulative impacts on the road network will not be "severe", later in this TA an assessment of the traffic impact of the proposals on the local highway network has been undertaken.
- 4.9 This includes the Copthorne Road and Borers Arms Road corridors, as well as the wider highway network through Copthorne agreed opening and future year assessment periods.

Tandridge Adopted Development Plan

- 4.10 With the site being located in Tandridge, it is appropriate to review the proposals against this authority's Core Strategy document. The Tandridge District Core Strategy was adopted by the Council in October 2008 and sets out the key planning policies for the District. The document places great weight on the need to deliver sustainable development, not only to cater for present needs but also for future generations.

- 4.11 The document confirms that:

"Sustainable travel, access and mobility are key objectives of the Community Strategy which recognises that congestion and road safety are major concerns of the community. Congestion has an impact on the economy and lifestyles. There needs to be a holistic approach to dealing with these issues and managing travel demand is an essential and key part of this strategy."

- 4.12 The Local Plan goes on to confirm that opportunities to reduce the need to travel by car will have the benefit of reducing greenhouse gas emissions, reducing pollution and reducing congestion. The proposed residential development accords with the aims listed above.
- 4.13 The document confirms that major applications should be supported by the preparation of a Transport Assessment (TA) and the local authority will also encourage Travel Plans to be submitted to encourage alternative modes of travel than the private car. We acknowledge this position, and have produced this TA and a Framework Travel Plan as planning submission documents.
- 4.14 In terms of sustainable travel, the Local Plan confirms that the Council will seek to ensure that suitable provision for cycling and walking is made. This will include ensuring that cycle storage facilities are provided in new housing schemes and, where feasible, provision of cycle lanes will be sought as part of suitable planning applications.
- 4.15 In this regard we will commit to appropriate levels of secure cycle parking across all elements of the residential development to be provided as part of the detailed scheme design.
- 4.16 Through our discussions with SCC Officers the opportunity to address recorded vehicle speeds on Copthorne Bank as traffic enters the village, through the delivery of a new gateway treatment on this corridor has been considered. As required, the development can assist in either funding or delivering traffic calming measures on this corridor to reinforce the existing 30mph speed limit along this route.
- 4.17 The Local Plan also highlights the importance of the retention of bus and rail services across the District. The site will assist the retention of existing bus services that route along the Copthorne Bank and Borers Arms Road corridors, with the potential for increased patronage from the proposed development.
- 4.18 Later in this report opportunities to support SCC's Demand Responsive Bus Measures are also highlighted. There is also the opportunity to enhance the existing bus stops on Copthorne Bank and Borers Arms Road, to a specification to be negotiated and agreeable to SCC and WSCC Officers. Providing information to encourage public transport use is also identified in the Framework Travel Plan.
- 4.19 In summary, the District Council's position on managing travel demand is presented in Policy CSP12. This policy states:

"The Council will require new development to:

- *Make improvements, where appropriate, to the existing infrastructure network, including road and rail, facilities for bus users, pedestrians and cyclists and those with reduced mobility*
- *Have regard to adopted highway design standards and vehicle and other parking standards*

The Council will support the enhancement and better management of the regional transport spokes; M23/A23 corridor, M25/A25/Redhill to Tonbridge line corridor and the A264, subject to suitable environmental safeguards."

- 4.20 In response to Policy CSP12, the proposed residential development has been shown to have good accessibility to local facilities on foot, is located close to public transport routes and through the delivery of the travel plan, will seek to minimise the number of private car trips generated by the development.
- 4.21 The internal layout, whilst illustrative has been prepared to demonstrate that this scale of development can be accommodated on the site, and the final development layout will be able to deliver safe and attractive pedestrian routes to link with established pedestrian routes on Borers Arms Road. The development proposes to extend the existing footway on Cophorne Bank, to link with the development site access on this corridor.
- 4.22 Later in this report other opportunities to enhance walking and cycling are presented, as part of the site-wide sustainable access strategy.
- 4.23 As part of the detailed scheme design, cycle and vehicular parking provision will accord with the District Council's adopted parking standards. Commentary on TDC's parking requirements is also provided later in this TA.

Surrey County Council Local Transport Plan (LTP4)

- 4.24 The fourth Local Transport Plan (LTP4) sets out the Council's plans for transforming the transport network from 2022 up to 2032 and beyond. A key component of the LTP4 is to significantly reduce transport carbon emissions, to meet a commitment to net zero by 2050. The Council's objectives are to:
- achieve net zero carbon emissions
 - plan sustainable growth
 - deliver well-connected communities
 - achieve clean air and excellent quality of life for all
- 4.25 To do this the Council has identified an "Avoid, Shift and Improve" approach, which:
- avoid unnecessary travel by reducing the number and length of trips needed. We aim to achieve this through improving planning for homes and employment sites, travel planning and levels of digital connectivity.
 - shift travel choices to more sustainable modes of transport, including public transport, walking and cycling, away from car use
 - improve the energy efficiency of vehicles and operational efficiency of roads through technology improvements

- 4.26 The development proposals align well with the Council's approach, as all homes will have high speed broadband to allow home working, and when residents do need to travel they will be able to do so by a range of travel modes, which includes opportunities to access local facilities, workplaces, leisure and retail destinations on foot, cycle and by public transport.
- 4.27 With regard to improving the energy efficiency of vehicles, each residential property and homeowner will have access to an electric vehicle charging point, either on the curtilage of their property or at identified charging point locations within the site.
- 4.28 The Council's proposals to achieve the objectives are set out below.
- safer and improved walking and cycling routes
 - redesigned neighbourhoods for easier and quicker access to shops, leisure facilities and essential local services
 - more buses, including new on-demand services and park and ride
 - reliable, safe and affordable public transport
 - more secure cycle parking and bike hire
 - more car clubs
 - lower 20 mile per hour road speeds to make our roads safer and our air cleaner
 - more charging points and parking for electric vehicles
 - better rural connections
 - closer working with schools on emission reduction (see Demand management for cars)
 - possible charges for heavy good vehicles to encourage greener delivery methods
 - solutions to reduce bottlenecks to ease congestion and improve air quality
 - greater awareness of greener travel options
 - support those with accessibility needs
 - improved health and wellbeing through cleaner air, closer communities, quality of life and safer routes to promote more active forms of travel
- 4.29 In the next section of this document, and as part of the "vision-led" approach to the development proposals, these measures have been considered as part of the sustainable access strategy for the site, to demonstrate compliance with both LTP4 and the NPPF.

5.0 DEVELOPMENT PROPOSALS – A VISION-LED APPROACH

Development Schedule

- 5.1 The development proposes 260 new residential units on the site, with a 50/50 percentage split of private and affordable units. In addition, 1,700sqm of commercial employment space is also proposed. The development layout is attached as appendix h.

Site Layout

- 5.2 As shown in the illustrative masterplan, the development proposals aim to deliver a high level of permeability within the internal layout, through the delivery of internal pedestrian routes and access routes that have been designed to maintain slow vehicle speeds through the site.
- 5.3 Pedestrian links are shown to connect back into Borers Arms Road and Copthorne Bank, and will allow both end occupiers of the proposed development and other pedestrians walking in the village connectivity through the development from the aforementioned corridors.
- 5.4 Perhaps the most significant enhancement in the local area will be the opportunity to address existing vehicle speeds on Copthorne Bank, extend the existing footway on this route to link with the development and provide enhancements to established pedestrian routes along the Copthorne Bank and Borers Arms Road corridors. These enhancements will benefit all residents living in the local area, not just the end occupiers of the proposed development. Further commentary on these works is provided later in this report.
- 5.5 Accepting that the final development layout will be “fixed” at Reserved Matters planning stage, the illustrative layout has been prepared as a pedestrian friendly environment, placing pedestrian needs first. The illustrative layout has been designed to reduce vehicle speeds, in line with the principles of ‘Manual for Streets’.
- 5.6 Care has been taken when planning the layout to ensure that access for emergency and service vehicles (such as refuse collection vehicles) accords with the advice contained in ‘Manual for Streets’. In any locations where appropriate reversing distances are exceeded, appropriately sized turning heads will be provided.
- 5.7 The final detailed development layout will be prepared in line with the “Healthy Streets for Surrey” design code. The scheme will look to deliver streets that are welcoming, safe and attractive for all to access and enjoy, which will be safe, green, beautiful, and resilient, in line with the ambitions of Community Vision for Surrey 2030.
- 5.8 Adopting this approach will assist SCC’s 2030 target, where the County is:
“...a uniquely special place where everyone has a great start to life, people live healthy and fulfilling lives, are enabled to achieve their full potential and contribute to their community, and no one is left behind.”

Proposed Access Arrangements

- 5.9 Vehicular access to the proposed development is via two vehicular access points. To the west a new simple priority junction, built into a gateway traffic calming scheme, is proposed on Copthorne Bank. This access has been designed to safely accommodate both pedestrian access and vehicular access for private cars, refuse vehicles and emergency/service vehicles, as well as slowing traffic on the Copthorne Bank corridor.
- 5.10 To the south the development will be served by an upgraded access from Borers Arms Road, which currently serves the industrial estate. The existing priority junction will be widened, and extended through the industrial estate to access the proposed development.
- 5.11 The proposed development access arrangements are shown on plan in appendix h, and these access arrangements have been subject to an independently prepared Stage 1 Road Safety Audit (RSA). A copy of this document and the Designer’s Response Report is provided in appendix i. No technical matters have been raised in this RSA that cannot be addressed at detailed design stage, or will affect the delivery of these access arrangements.
- 5.12 These new accesses will be delivered before occupation of any of the proposed residential units served from their respective access points. Swept path analysis for

both vehicular accesses, prepared for an 11.3m long refuse collection vehicle is provided in appendix j.

- 5.13 Turning to the proposed gateway traffic calming feature on Copthorne Bank, the opportunity to deliver a scheme that slows traffic as it enters the village has been discussed with SCC Transport Development Control Officers. At a site visit Officers were supportive of the principle, as well as the opportunity to extend the footway on the eastern side of Copthorne Bank.
- 5.14 The site promotion team are fully supportive of developing a strategy that reduces vehicle speeds along the Copthorne Bank corridor. This proposal will enhance access for all along this corridor, as well as making the environment more positive for pedestrians using the footway on the eastern side of Copthorne Bank, and cyclists also using this corridor.
- 5.15 Indeed, it would be challenging to understand why a third party may choose to object to these traffic calming/gateway works that deliver betterment for all, on a corridor that provides access to the village and is a key route in the local area. The physical measures will also benefit those residents living on this route, and with direct access onto it.
- 5.16 Returning to the proposed site access arrangements, in line with the existing 30mph speed limit on Copthorne Bank and Borers Arms Road, visibility splays of 2.4m x 43m have been shown in both the leading and trailing traffic directions at both access locations. These are shown on the access drawings presented in appendix h.

Development Parking Proposals

- 5.17 The illustrative layout submitted with this outline planning application demonstrates that this scale of development can be accommodated on the site. As confirmed earlier in this assessment, the detailed development layout, which will include the cycle and vehicular parking, will be confirmed at Reserved Matters Planning Application stage.
- 5.18 In line with TDC's 2012 Parking Supplementary Planning Document, the scheme will provide the following residential parking provision:
- 1 and 2 bedroom apartments – 1.5 spaces (unallocated) or 2 spaces allocated
 - 3 bedroom apartments – 2 spaces (unallocated) or 2 spaces (allocated) plus 0.25 unallocated
 - 1 bedroom house – 1.5 spaces unallocated or 1 space allocated plus 1 space unallocated per two dwellings as "legible" space
 - 2 bedroom house – 2 spaces allocated plus 1 space unallocated per 4 dwellings as a "legible" space or 1.5 spaces unallocated plus 1 space unallocated per 4 dwellings as a "legible" space
 - 3 bedroom house – 2 spaces allocated plus 1 space unallocated per 4 dwellings as a "legible" space
 - 4+ bedroom house – 3 spaces allocated plus 1 space unallocated per 4 dwellings as a "legible" space
- 5.19 With respect to residential cycle parking, in line with TDC's 2012 parking standards the scheme will provide:
- 1 or 2 bedroom units – 1 cycle space
 - 3 or more bedroom units – 2 spaces
- 5.20 Turning to the commercial element of the scheme, the final development scheme will provide the following cycle and vehicular parking provision:

B1 Business – Offices, R&D and Light Industrial appropriate in a Residential Area (threshold of 2,500sqm)

- a maximum of 1 car space per 25sqm to 100sqm and 1 lorry space per 1,000sqm
- cycle parking – offices – 1 space per 125sqm (min 2 spaces) and R&D/light industrial – 1 space per 250sqm (min 2 spaces)

5.21 As part of the sustainable access strategy for the development proposals, the site promotion team are content to deliver any revised cycle or vehicle parking provision that either the LPA or LHA may wish to deliver on the site.

Framework Travel Plan Summary

5.22 A travel plan is a tool for managing access to a site that aims to promote access by sustainable modes. A travel plan contains a package of measures designed to meet the objective to reduce car use generated from the site by supporting sustainable modes of transport.

5.23 The first step in the travel plan process is the production of a Framework Travel Plan. This document details the transport strategy to be adopted upon occupation of the development. It outlines the accessibility of the site, *hard* infrastructure measures proposed as part of the development and objectives of the travel plan.

5.24 The Framework should also recommend possible policy measures, monitoring methods and management methods that could be adopted on occupation of the site. It is proposed that the Framework document be updated to a full travel plan upon occupation of the site.

5.25 The Framework objectives are to:

- Define the principals of the final transport strategy and travel plan
- Outline measures to reduce the reliance on the private car
- Detail measures to encourage sustainable access to the site
- Define the future management and monitoring methods to be adopted on site

5.26 The Framework Travel Plan for the site is attached as appendix k. This Plan outlines recommended measures, initial targets, monitoring and management mechanisms, to assist in reducing peak hour traffic and encouraging active travel. The Plan has been produced in line with SCC's Travel Plan Good Practice guidance, and has been prepared in line with the "vision-led" approach to the assessment of the scheme.

6.0 BASE TRAFFIC SITUATION

Study Area & Assessment Periods

6.1 Through discussions with Local Authority Officers through recent pre-apps on other schemes it has been agreed that the focus on Transport Assessments should now be very much a "vision-led" approach. In line with paragraph 115 from the NPPF access arrangements are very much prioritised towards sustainable transport modes.

6.2 This is particularly relevant to these development proposals, located on the edge of an established urban area.

- 6.3 It is of course also important that safe and suitable access to the site can be achieved for all users, and that any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree, through a “vision-led” approach.
- 6.4 Based on the requirements of paragraph 115 in the NPPF, an assessment of the development impact, in traffic and transport terms, has been undertaken across the following study area:
 - a) Copthorne Bank, along the development frontage
 - b) Borers Arms Road, via the upgraded vehicular access point
 - c) Effingham Road/Copthorne Bank signalised junction
 - d) Copthorne Bank/Borers Arms Road priority junction
 - e) Borers Arms Road/Copthorne Common Road priority junction
 - f) Copthorne Bank/Brookhill Road priority junction
 - g) Dukes Head roundabout junction
 - h) Copthorne Common Road roundabout junction
- 6.5 The opening year for the proposed development has been set at 2027. The future year assessment is 2030, e.g. five years post planning submission. This has been discussed and agreed through discussions with WSCC Officers.

2025 Base Traffic Flows

- 6.6 The 2025 surveyed traffic flows for junctions and highway links across the above study area are presented in appendix I.
- 6.7 To replicate future traffic growth across the local highway network TEMPRO has been interrogated, and appropriate growth factors for both the Tandridge 011 and Mid Sussex 002 local areas calculated for the AM and PM peak periods. These are presented in table 6.1.

TEMPRO	Tandridge 011		Mid Sussex 002	
	AM Peak	PM Peak	AM Peak	PM Peak
2025 Surveyed to 2027 Opening Year	1.0211	1.021	1.0234	1.0235
2025 Surveyed to 2030 Future Year	1.0553	1.0552	1.0593	1.0598

Table 6.1: TEMPRO Growth Factors (Opening and Future Year Assessment)

- 6.8 Whilst the development site sits within the Tandridge 011 Middle Super Output Area (MSOA), this is a predominantly rural area. When compared to the adjacent Mid Sussex 002 MSOA, the growth factors for Tandridge 010 are materially lower.
- 6.9 As such, to ensure a robust assessment the Mid Sussex 002 growth factors have been applied, which estimate a circa 2.3% and 6% increase in traffic growth for the 2027 and 2030 opening and future year assessments.
- 6.10 The 2025 surveyed AM and PM peak surveyed flows have been growthed using the Mid Sussex 002 TEMPRO values presented in table 6.1 to provide the 2027 and 2030 opening and future year base assessment flows.

6.11 These base assessment flows for each time period are presented in appendix m. These are the anticipated traffic conditions that would occur on the local highway network should the proposed residential development not go ahead.

7.0 TRIP GENERATION, DISTRIBUTION & ASSIGNMENT

Vehicle Trips

7.1 As part of the TA scoping discussions with WSCC it was agreed that that the previously prepared development trip rates previously discussed and agreed should be revisited. The latest TRICS database has been interrogated to source both residential and commercial development located in comparable locations to the development site.

7.2 The full TRICS outputs for the residential and commercial elements of the scheme are provided in appendices n and o. A summary of the peak period trip rates for both uses are provided in table 7.1.

	Trip Rate per Residential Unit			Trip Rate per 100sqm Commercial Development		
	IN	OUT	TOTAL	IN	OUT	TOTAL
AM Peak	0.129	0.302	0.431	1.074	0.111	1.185
PM Peak	0.256	0.131	0.387	0.01	0.527	0.537

Table 7.1: Development Trip Rates (Private Housing and Commercial)

7.3 It is important to note that the use of TRICS privately owned housing trip rates on a residential development that has a 50/50 split of private and affordable housing is an robust approach, as historically affordable housing developments are often a lower trip generator than privately owned developments.

Vehicle Trips

7.4 The vehicle trip rates presented in table 7.1 have been used to forecast future development traffic from the 260 residential unit scheme. These residential and commercial development trip rates are presented in tables 7.2, 7.3 and 7.4.

	Vehicle Trips			Trip rates per unit		
	IN	OUT	TOTAL	IN	OUT	TOTAL
AM Peak	34	79	112	0.129	0.302	0.431
PM Peak	67	34	101	0.256	0.131	0.387

Table 7.2: 260 Unit Residential Development – Total Peak Period Vehicle Trips

	Vehicle Trips			Trip rates per 100sqm		
	IN	OUT	TOTAL	IN	OUT	TOTAL
AM Peak	18	2	20	1.074	0.111	1.185
PM Peak	0	9	9	0.01	0.527	0.537

Table 7.3: 1,700sqm Commercial Development – Total Peak Period Vehicle Trips

	Vehicle Trips		
	IN	OUT	TOTAL
AM Peak	52	81	133
PM Peak	67	43	110

Table 7.4: Combined Development Peak Period Vehicle Trips

- 7.5 The vehicle trips presented in table 7.4 also do not acknowledge the impact on car use of the Framework Travel Plan, which will be in place for first development occupations. DfT research has historically shown that developments that adopt a travel plan or smart travel measures can reduce car use by as much as 30%.
- 7.6 As an example, the effects and benefits of a travel plan have been acknowledged and accepted by both Planning Inspectors and Highway Officers on other residential schemes. In Mid-Sussex, as part of the Bolnore development (on the south-western side of Haywards Heath) the Planning Inspector dealing with that appeal at the time stated it would be reasonable to reduce trips due to the Travel Plan measures by between 15 and 20%.
- 7.7 The framework travel plan for the proposed development is attached as appendix k. This document outlines measures, such as personalised journey planning for all end occupiers of the development, that have been proven to have a significant impact on car use across the UK.
- 7.8 To ensure a robust assessment the trip rates presented in table 7.4 have not been adjusted to reflect a 15% to 20% reduction in single occupancy car trips resulting from the introduction of the Travel Plan measures. The lack of adjustment to the trip rates, as well as the use of robust development trip rates ensures an exceptionally robust assessment has been made.

Trip Distribution & Assignment

- 7.9 The development trip distribution is based on use of the 2011 Census Journey to Work data. A gravity model has been prepared for both the AM and PM peak periods, to assess the origin/destination trips for the MSOA area known as Mid Sussex 002.
- 7.10 The development traffic flows for the residential element of the scheme as well as the commercial development trips have been assigned to the highway network using proprietary online route choice software. The development flows and distribution for both the AM and PM peak periods are attached as appendix I.
- 7.11 Using this data it has been possible to predict the volume of development traffic that will pass through the junctions listed in paragraph 6.4. This summary is provided in table 7.5.

		Additional Development Traffic		
		AM Peak	PM Peak	Detailed TA Junction Assessment
A	Site Access - Copthorne Bank	56	48	Yes
B	Site Access - Borers Arms Road	77	73	Yes
C	Effingham Road/Copthorne Bank Signalised Junction	19	17	No
D	Copthorne Common Road/Borers Arms Road	69	38	Yes
E	Copthorne Bank/Borers Arms Road	45	65	Yes
F	Copthorne Bank/Brookhill Road	44	37	Yes
G	Dukes Head Roundabout	22	18	No
H	A2220/Copthorne Common Road Roundabout	87	69	Yes

Table 7.5: Estimated Development Vehicle Trips on Local Highway Network

- 7.12 The junctions in table 7.5 that are predicted to attract 30 or more vehicles generated by the proposed development in either (or both) peak periods are highlighted in bold. These junctions have been assessed for both the AM and PM peak period 2027 opening and 2030 future year assessment periods.
- 7.13 For those junctions that that are predicted to see less than 30 vehicle movements in either (or both) peak periods these have not been the subject of detailed assessment. A change of circa 20 vehicles movements (as estimated at the Effingham Road/Copthorne Bank signalised junction and at the Dukes Head roundabout) is considered to be well within the day-to-day variation of flow on the local highway network.
- 7.14 As a consequence the impacts (in traffic terms) at these two junctions will not be material, and certainly not “severe”, the text taken from the NPPF.
- 7.15 The next section of this TA considers the impact (in traffic and transport terms) at the six junctions which are predicted to see an increase of 30 vehicles or more in each (or both) peak periods.

8.0 IMPACT ASSESSMENT

- 8.1 Having confirmed the development trip rates and assessment area, this section of the TA outlines the likely traffic and sustainable accessibility impact of the residential and commercial development proposals.
- 8.2 In line with good practice guidance, the traffic impact of the development proposals has been assessed in terms of changes in average delay per vehicle and Ratio to Flow to Capacity (RFC) for the junctions in the study area.

Modelling Scenarios

- 8.2 In line with pre-application discussions with WSCC Officers, the following opening and future year assessment scenarios have been modelled in both the AM and PM peak hours:
- 2027 base
 - 2027 base and development
 - 2030 base
 - 2030 base and development

8.3 Each assessment period has been considered in turn.

2027 Modelled Scenarios

2027 Site Access/Copthorne Bank

8.4 The proposed new simple priority junction onto Copthorne Bank has been assessed using the industry standard software package PICADY. The full modelling output is attached as appendix q.

8.5 Tables 8.1 and 8.2 show a summary of the ratio of flow to capacity at the main site access junction in 2027.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Main Site Access onto Copthorne Bank	-	-	-	0.1	8.82	0.09
Copthorne Bank (south)	-	-	-	0.0	5.22	0.02

Table 8.1: Copthorne Bank Site Access Capacity Assessment Results – 2027 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Main Site Access onto Copthorne Bank	-	-	-	0.0	8.97	0.04
Copthorne Bank (south)	-	-	-	0.1	5.97	0.04

Table 8.2: Copthorne Bank Site Access Capacity Assessment Results – 2027 PM Peak Hour

8.6 The PICADY junction modelling demonstrates that the addition of a proportion of the residential and commercial development traffic associated with the scheme through this new simple priority junction will not have a material impact in terms of capacity, queuing or delay.

8.7 The modelling confirms that the main site access junction will operate within accepted capacity thresholds in the 2027 “with development” scenario.

2027 Southern Site Access/Borers Arms Road

8.8 The southern simple priority junction onto Borers Arms Road has also been assessed. The full modelling output is attached as appendix r. Tables 8.3 and 8.4 show a summary of the RFC, queues and delay at the southern development site access junction in 2027.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Southern Site Access onto Borers Arms Road West	0.0	6.04	0.02	0.1	5.89	0.07
Southern Site Access onto Borers Arms Road East	0.0	8.51	0.02	0.0	9.79	0.04
Borers Arms Road (east)	0.0	5.84	0.03	0.2	6.13	0.10

Table 8.3: Southern Site Access Capacity Assessment Results – 2027 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Southern Site Access onto Borers Arms Road West	0.0	6.09	0.02	0.1	5.96	0.06
Southern Site Access onto Borers Arms Road East	0.0	8.67	0.03	0.0	9.74	0.04
Borers Arms Road (east)	0.0	6.06	0.01	0.1	6.61	0.10

Table 8.4: Southern Site Access Capacity Assessment Results – 2027 PM Peak Hour

8.9 The PICADY junction modelling demonstrates that the addition of development traffic associated with the residential and commercial development will not have a material impact upon the operation of Borers Arms Road in terms of capacity, queuing or delay. The southern site access junction will operate well within accepted capacity thresholds in the 2027 “with development” scenario.

2027 Copthorne Common Road/Borers Arms Road Priority Junction

8.10 The Copthorne Common Road/Borers Arms Road priority junction has been assessed using PICADY modelling software. Tables 8.5 and 8.6 show a summary of the modelling outputs at the junction for the 2027 opening year.

8.11 The full modelling outputs are provided in appendix s.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Borers Arms Road to Copthorne Common Road (east)	0.3	9.59	0.25	0.3	11.25	0.30
Borers Arms Road to Copthorne Common Road (west)	0.1	35.08	0.06	0.1	50.18	0.32
Copthorne Common Road (east)	0.2	9.94	0.18	0.2	10.37	0.20

Table 8.5: Copthorne Common Road/Borers Arms Road Priority Junction Capacity Assessment Results – 2027 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Borers Arms Road to Copthorne Common Road (east)	0.21	9.43	0.21	0.3	10.30	0.24
Borers Arms Road to Copthorne Common Road (west)	0.04	34.99	0.04	0.03	44.61	0.21
Copthorne Common Road (east)	0.21	10.67	0.21	0.3	11.29	0.24

Table 8.6: Copthorne Common Road/Borers Arms Road Priority Junction Capacity Assessment Results – 2027 PM Peak Hour

- 8.12 Tables 8.5 and 8.6 confirm that this priority junction is predicted to operate within accepted capacity thresholds, and with the increase in traffic generated by the proposed development, the material change in junction performance is shown to have a limited impact on the overall operation of the junction.
- 8.13 Based on the PICADY model outputs presented above it is considered that the change in queues and average delay per vehicle on each junction arm are not significant and cannot be considered to be material or “severe”, the test taken from the NPPF.

2027 Copthorne Bank/Borers Arms Road Priority Junction

- 8.14 The Copthorne Bank/Borers Arms Road priority junction has been assessed using PICADY modelling software. Tables 8.7 and 8.8 show a summary of the junction model outputs for the 2027 opening year.
- 8.15 The full modelling outputs are provided in appendix t.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Borers Arms Road to Copthorne Bank	0.4	10.34	0.25	0.4	10.71	0.26
Copthorne Bank (south)	0.3	5.95	0.16	0.3	6.04	0.17

Table 8.7: Copthorne Bank/Borers Arms Road Priority Junction Capacity Assessment Results – 2027 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Borers Arms Road to Copthorne Bank	0.4	10.67	0.27	0.4	10.95	0.28
Copthorne Bank (south)	0.3	6.95	0.17	0.3	6.93	0.19

Table 8.8: Copthorne Bank/ Borers Arms Road Priority Junction Capacity Assessment Results – 2027 PM Peak Hour

- 8.16 Tables 8.7 and 8.8 confirm that this priority junction is predicted to operate well within accepted capacity thresholds, and even with the increase in traffic generated by the proposed development, the material change in junction performance is predicted to be minimal in all 2027 modelled scenarios.
- 8.17 Based on the PICADY model outputs presented above it is considered that the change in queues and average delay per vehicle on each junction arm are not significant and cannot be considered to be material or "severe", the test taken from the NPPF.

2027 Copthorne Bank/Shipleigh Bridge Lane Priority Junction

- 8.18 The Copthorne Bank/Shipleigh Bridge Lane priority junction has been assessed using PICADY modelling software. Tables 8.9 and 8.10 show a summary of the anticipated RFC, queues and delays at the junction for the 2027 opening year.
- 8.19 The full modelling outputs are provided in appendix u.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Copthorne Bank to Shipleigh Bridge Lane	1.5	17.49	0.59	2.0	20.48	0.65
Copthorne Bank (south)	1.6	14.36	0.58	1.8	15.28	0.60

Table 8.9: Copthorne Bank/Shipleigh Bridge Lane Priority Junction Capacity Assessment Results – 2027 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Copthorne Bank to Shipleigh Bridge Lane	0.74	27.16	0.74	3.5	30.62	0.77
Copthorne Bank (south)	0.48	12.25	0.48	1.3	13.33	0.52

Table 8.10: Copthorne Bank/Shipleigh Bridge Lane Priority Junction Capacity Assessment Results – 2027 PM Peak Hour

- 8.20 Tables 8.9 and 8.10 confirm that this priority junction is predicted to operate within accepted capacity thresholds, and even with the increase in traffic generated by the proposed development, the material change in junction performance is predicted to be very limited in all 2027 modelled scenarios.
- 8.21 Based on the PICADY model outputs presented above it is considered that the change in queues and average delay per vehicle on each junction arm are not significant and cannot be considered to be material or "severe", the test taken from the NPPF.

2027 A2220/Copthorne Common Road Roundabout Junction

- 8.22 The A2220/ Copthorne Common Road roundabout junction has been assessed using ARCADY modelling software. Tables 8.11 and 8.12 show a summary of the modelling outputs for the 2027 opening year.
- 8.23 The full modelling outputs are provided in appendix v.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Brookhill Road	1.4	8.55	0.58	1.6	9.55	0.62
A264 (east)	19.7	55.93	0.98	30.5	79.97	1.01
Hotel Access	0.0	6.65	0.03	0.0	6.88	0.03
A2220	1.2	6.22	0.56	1.3	6.51	0.57
A264 (west)	4.0	11.15	0.80	4.6	12.62	0.83

Table 8.11: A2220/Copthorne Common Roundabout Junction Capacity Assessment Results – 2027 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Brookhill Road	1.7	10.32	0.63	1.9	11.59	0.66
A264 (east)	7.5	24.34	0.89	9.2	29.52	0.92
Hotel Access	0.0	6.15	0.01	0.0	6.37	0.01
A2220	1.3	6.30	0.57	1.3	6.33	0.57
A264 (west)	8.7	22.52	0.91	12.4	31.47	0.94

Table 8.12: A2220/Copthorne Common Roundabout Junction Capacity Assessment Results – 2027 PM Peak Hour

- 8.24 Tables 8.11 and 8.12 confirms that this roundabout junction is predicted to operate with RFC values <1.0 in the 2027 AM and PM peak base opening years. However, with the inclusion of the development traffic the RFC value on the A264 (east) junction arm is predicted to exceed 1.0 in the AM peak period.
- 8.25 On this arm the average maximum queue is predicted to increase from 19.7 PCUs to 30.5 PCUs, with the maximum delay on this arm increasing from 55.93 seconds to 79.97 seconds.
- 8.26 Note that all other junction arms for the same time periods maintain RFC values less than 1.0, with limited changes to queuing and delay.
- 8.27 It is also important to remember that the development trip rates are exceptionally robust, based on private housing data presented in the TRICS database. In addition, no adjustments have been made to the development trip rates to reflect a successfully implemented travel plan.
- 8.28 Based on the above, with the opportunity to deliver a robust travel plan, and with the modelling assessment using robust trip rates, it is expected that the actual impact at the A2220/Copthorne Common roundabout junction will not be a material change when compared to baseline conditions, and certainly not “severe”, the test taken from the NPPF.

2030 Modelled Scenarios

2030 Site Access/Copthorne Bank

- 8.29 In line with the 2027 opening year modelling, the proposed new simple priority junction onto Copthorne Bank has been assessed using the industry standard software package PICADY. The full modelling output is attached as appendix q.
- 8.30 Tables 8.13 and 8.14 show a summary of the ratio of flow to capacity at the main site access junction in 2030.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Main Site Access onto Copthorne Bank	-	-	-	0.1	8.88	0.09
Copthorne Bank (south)	-	-	-	0.0	5.19	0.02

Table 8.13: Copthorne Bank Site Access Capacity Assessment Results – 2030 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Main Site Access onto Copthorne Bank	-	-	-	0.1	9.63	0.07
Copthorne Bank (south)	-	-	-	0.1	6.39	0.07

Table 8.14: Copthorne Bank Site Access Capacity Assessment Results – 2030 PM Peak Hour

- 8.31 The PICADY junction modelling demonstrates that the addition of a proportion of the residential and commercial development traffic associated with the scheme through this new simple priority junction will not have a material impact in terms of capacity, queuing or delay.
- 8.32 The modelling confirms that the main site access junction will operate within accepted capacity thresholds in the 2030 “with development” scenario.

2030 Southern Site Access/Borers Arms Road

- 8.33 The southern simple priority junction onto Borers Arms Road has also been assessed. The full modelling output is attached as appendix r. Tables 8.15 and 8.16 show a summary of the RFC, queues and delay at the southern development site access junction in 2030.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Southern Site Access onto Borers Arms Road West	0.0	6.13	0.02	0.1	5.91	0.07
Southern Site Access onto Borers Arms Road East	0.0	8.47	0.03	0.0	9.85	0.04
Borers Arms Road (east)	0.1	5.83	0.03	0.2	6.13	0.10

Table 8.15: Southern Site Access Capacity Assessment Results – 2030 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Southern Site Access onto Borers Arms Road West	0.0	6.13	0.02	0.1	6.00	0.06
Southern Site Access onto Borers Arms Road East	0.0	8.71	0.03	0.0	9.79	0.04
Borers Arms Road (east)	0.01	6.05	0.01	0.1	6.60	0.10

Table 8.16: Southern Site Access Capacity Assessment Results – 2030 PM Peak Hour

8.34 The PICADY junction modelling demonstrates that the addition of development traffic associated with the residential and commercial development will not have a material impact upon the operation of Borers Arms Road in terms of capacity, queuing or delay. The southern site access junction will operate well within accepted capacity thresholds in the 2030 “with development” scenario.

2030 Copthorne Common Road/Borers Arms Road Priority Junction

8.35 The Copthorne Common Road/Borers Arms Road priority junction has been assessed using PICADY modelling software. Tables 8.17 and 8.18 show a summary of the modelling outputs at the junction for the 2030 future year assessment.

8.36 The full modelling outputs are provided in appendix s.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Borers Arms Road to Copthorne Common Road (east)	0.4	10.03	0.26	0.5	12.12	0.32
Borers Arms Road to Copthorne Common Road (west)	0.1	41.01	0.07	0.6	63.55	0.38
Copthorne Common Road (east)	0.2	10.31	0.19	0.3	10.78	0.21

Table 8.17: Copthorne Common Road/Borers Arms Road Priority Junction Capacity Assessment Results – 2030 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Borers Arms Road to Copthorne Common Road (east)	0.3	9.83	0.23	0.3	10.90	0.26
Borers Arms Road to Copthorne Common Road (west)	0.0	40.86	0.05	0.03	54.84	0.24
Copthorne Common Road (east)	0.3	11.08	0.22	0.3	11.80	0.25

Table 8.18: Copthorne Common Road/Borers Arms Road Priority Junction Capacity Assessment Results – 2030 PM Peak Hour

- 8.37 Tables 8.17 and 8.18 confirm that this priority junction is predicted to operate within accepted capacity thresholds, and with the increase in traffic generated by the proposed development, the material change in junction performance is shown to have a limited impact on the overall operation of the junction.
- 8.38 Based on the PICADY model outputs presented above it is considered that the change in queues and average delay per vehicle on each junction arm are not significant and cannot be considered to be material or “severe”, the test taken from the NPPF.

2030 Copthorne Bank/Borers Arms Road Priority Junction

- 8.39 The Copthorne Bank/Borers Arms Road priority junction has been assessed using PICADY modelling software. Tables 8.19 and 8.20 show a summary of the junction model outputs for the 2030 future year.
- 8.40 The full modelling outputs are provided in appendix t.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Borers Arms Road to Copthorne Bank	0.4	10.53	0.26	0.4	10.96	0.27
Copthorne Bank (south)	0.3	5.97	0.16	0.4	6.05	0.18

Table 8.19: Copthorne Bank/Borers Arms Road Priority Junction Capacity Assessment Results – 2030 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Borers Arms Road to Copthorne Bank	0.4	10.90	0.28	0.5	11.21	0.29
Copthorne Bank (south)	0.3	6.98	0.18	0.4	6.99	0.19

Table 8.20: Copthorne Bank/ Borers Arms Road Priority Junction Capacity Assessment Results – 2030 PM Peak Hour

- 8.41 Tables 8.19 and 8.20 confirm that this priority junction is predicted to operate well within accepted capacity thresholds, and even with the increase in traffic generated by

the proposed development, the material change in junction performance is predicted to be minimal in all 2030 modelled scenarios.

- 8.42 Based on the PICADY model outputs presented above it is considered that the change in queues and average delay per vehicle on each junction arm are not significant and cannot be considered to be material or “severe”, the test taken from the NPPF.

2030 Copthorne Bank/Shipleigh Bridge Lane Priority Junction

- 8.43 The Copthorne Bank/Shipleigh Bridge Lane priority junction has been assessed using PICADY modelling software. Tables 8.21 and 8.22 show a summary of the anticipated RFC, queues and delays at the junction for the 2030 future year.
- 8.44 The full modelling outputs are provided in appendix u.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Copthorne Bank to Shipleigh Bridge Lane	1.7	18.53	0.61	2.2	21.91	0.67
Copthorne Bank (south)	1.8	15.14	0.60	2.0	16.16	0.63

Table 8.21: Copthorne Bank/Shipleigh Bridge Lane Priority Junction Capacity Assessment Results – 2030 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Copthorne Bank to Shipleigh Bridge Lane	3.5	30.41	0.77	4.0	34.71	0.80
Copthorne Bank (south)	1.2	12.74	0.50	1.4	13.86	0.54

Table 8.22: Copthorne Bank/Shipleigh Bridge Lane Priority Junction Capacity Assessment Results – 2030 PM Peak Hour

- 8.45 Tables 8.21 and 8.22 confirm that this priority junction is predicted to operate within accepted capacity thresholds, and even with the increase in traffic generated by the proposed development, the material change in junction performance is predicted to be limited in all 2030 modelled scenarios.
- 8.46 Based on the PICADY model outputs presented above it is considered that the change in queues and average delay per vehicle on each junction arm are not significant and cannot be considered to be material or “severe”, the test taken from the NPPF.

2030 A2220/Copthorne Common Road Roundabout Junction

- 8.47 The A2220/ Copthorne Common Road roundabout junction has been assessed using ARCADY modelling software. Tables 8.23 and 8.24 show a summary of the modelling outputs for the 2030 future year.
- 8.48 The full modelling outputs are provided in appendix v.

	AM Base			AM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Brookhill Road	1.6	9.76	0.62	1.9	11.04	0.66
A264 (east)	37.3	93.88	1.03	53.5	126.91	1.06
Hotel Access	0.0	6.93	0.03	0.0	7.08	0.03
A2220	1.4	6.69	0.58	1.4	6.93	0.59
A264 (west)	5.1	13.95	0.84	6.1	16.18	0.87

Table 8.23: A2220/Copthorne Common Roundabout Junction Capacity Assessment Results – 2030 AM Peak Hour

	PM Base			PM Base & Dev		
	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity	Queue (PCU)	Delay (S)	Ratio of Flow to Capacity
Brookhill Road	2.0	11.96	0.67	2.2	12.93	0.69
A264 (east)	11.2	35.14	0.94	13.5	41.81	0.95
Hotel Access	0.0	6.50	0.01	0.0	6.65	0.01
A2220	1.5	6.91	0.60	1.6	7.14	0.61
A264 (west)	13.3	33.53	0.95	19.5	46.59	0.98

Table 8.24: A2220/Copthorne Common Roundabout Junction Capacity Assessment Results – 2030 PM Peak Hour

- 8.49 Tables 8.23 and 8.24 confirm that this roundabout junction is predicted to operate with RFC values <1.0 in the 2030 AM peak base and base with development assessments. This is shown on the A264 (east) junction arm.
- 8.50 On this arm the average maximum queue is predicted to increase from 37.3 PCUs to 53.5 PCUs, with the maximum delay on this arm increasing from 93.88 seconds to 126.91 seconds; a 30 second increase in maximum delay time.
- 8.51 Note that on all other junction arms for the same time periods maintain RFC values less than 1.0, with limited changes to queuing and delay.
- 8.52 As set out in the 2027 junction modelling assessment the development trip rates are considered to be exceptionally robust, as they are based on private housing data presented in the TRICS database. In addition, no adjustments have been made to the development trip rates to reflect a successfully implemented travel plan.
- 8.53 With the opportunity to deliver a robust travel plan, and with the modelling assessment using robust trip rates it is expected that the actual impact at the A2220/Copthorne Common roundabout junction will not be a material change when compared to baseline conditions, and certainly not “severe”, the test taken from the NPPF.

Modelling Summary

- 8.54 The traffic modelling presented above confirms that the proposed 260 residential unit scheme and 1,700sqm of commercial development will have a limited impact in terms of capacity, queuing and delay on the local highway network. The two site access points have been shown to accommodate the vehicle movements from the aforementioned scheme with significant levels of spare capacity in all modelled periods.

- 8.55 Across the wider highway network all junctions which are predicted to see a 30 or more increase in development traffic have been modelled, and all bar the A2220/Copthorne Common Road roundabout junction will maintain RFC values less than 1.0 in all modelled periods.
- 8.56 With regard to the A2220/Copthorne Road junction, the 2027 and 2030 opening and future year modelling confirms that the A264 (east) junction arm is expected to see some level of delay and queuing in the baseline assessments. With the inclusion of traffic from the proposed development, the queuing on this arm does not materially worsen, and certainly could not be considered to have a “severe” impact, the test taken from the NPPF.
- 8.57 As set out earlier in this assessment it is important to acknowledge that the development trips modelled in the assessment do not make any reductions for the 50% affordable housing provision on the site, or the benefits that the Travel Plan will deliver.

Road Safety Impact

- 8.58 The collision analysis outlined in section 3.0 shows that providing a new gateway feature on Copthorne Bank will assist in slowing traffic on this route into Copthorne village. These works will also allow the existing footway to be extended to the development site access point on this corridor.
- 8.59 These works, which will be fully funded by the development, will not only benefit the end occupiers of the development, but also residents living on Copthorne Bank. Slowing vehicles on this route into the village will further enhance safety for all users on this corridor.
- 8.60 These works will make the corridor more attractive for pedestrians and cyclists to use, and the development will also provide a new pedestrian/cycle link between Copthorne Bank to Borers Arms Road via the development internal road layout, improving sustainable access for all.
- 8.61 With there being no pattern, prevalent “hot spot” or causation factor of collisions along the Copthorne Bank and Borers Arms Road corridors, there are no highway safety reasons why the development would affect road safety in the local area. In fact, the mitigation measures set out in this report will improve highway safety by slowing traffic and enhancing pedestrian connectivity on the Copthorne Bank corridor.
- 8.62 To conclude, the development proposals are not considered to materially change the operation of the local highway network, and there are no patterns of road safety issues on the adjacent highway network that would be exacerbated by the proposed development coming forward.

9.0 THE FINAL “VISION-LED” STRATEGY AND CONCLUSIONS

- 9.1 SK Transport Planning Ltd (SKTP) has been commissioned by Fairfax Acquisitions Limited to prepare a Transport Assessment (TA) in support of a planning application for the development of up to 260 residential units and up to 1,700sqm of employment floorspace on land north of Borers Arms Road, Copthorne.
- 9.2 As set out in this report our approach has been to undertake a thorough and extensive assessment of the development proposals, to ensure that sustainable travel modes are prioritised and safe and suitable access to the site can be achieved for all users.
- 9.3 This technical report has also been prepared to carefully assess whether there are any significant impacts from the development on the transport network. This has been undertaken carrying out a robust assessment of existing traffic conditions, applying robust development trip rates and then modelling the impact of the development traffic at identified locations.

- 9.4 Adopting this approach has allowed a assessment as to whether the development proposals would also have any adverse impacts on highway safety, and whether any impacts can be cost-effectively mitigated through our “vision-led” approach to access and movement to and from the site.
- 9.5 The above approach to the assessment is considered to be entirely consistent with paragraph 115 in the NPPF.

Our Vision-Led Strategy

- 9.6 This TA has set out a raft of measures to encourage sustainable travel for all, reduce the reliance on the private car and ensure safe and appropriate access can be achieved in perpetuity for all occupiers of the site.
- 9.7 The report highlights all these measures, but for completeness these are summarised in table 9.1 below.

Technical Matter	Vision-Led Approach	SKTP Technical Response
Demonstrating the site is sustainably located	To ensure that end occupiers of the development have the opportunity to travel by sustainable modes, and not be reliant on the private car	The TA includes a comprehensive assessment of accessibility to a range of local destinations (retail, employment, leisure and public transport nodes), and confirms all can be safely accessed on foot, cycle and public transport by safe and attractive routes
Demonstrating safe and attractive access on foot	Consideration has been given to the appropriateness of existing pedestrian routes to/from the site, and where needed identify opportunities to enhance pedestrian connections	<p>A comprehensive review of existing pedestrian routes to, from and around the development site has been undertaken. This has confirmed that there are opportunities to enhance connections to Copthorne Bank, by extending an existing pedestrian link to connect into the development.</p> <p>New links from the development site to these surrounding corridors will enhance connectivity for all, not just the end occupiers of the development.</p> <p>The walking audit has also identified the opportunity to extend the existing footway on the eastern side of Copthorne Bank.</p> <p>Reducing existing vehicle speeds on Copthorne Bank will also enhance the walking experience for pedestrians using this corridor.</p> <p>The development walking strategy ultimately gives end occupiers a choice of routes from either Copthorne Bank or Borers Arms Road, allowing safe access to a range of local destinations in the village</p> <p>An opportunity to enhance both the Copthorne Bank and Borers Arms Road corridors for pedestrians has been identified. These enhancements could include:</p> <ul style="list-style-type: none"> • new tactiles and dropped kerbs at the Discovery Mews priority junction

Technical Matter	Vision-Led Approach	SKTP Technical Response
		<ul style="list-style-type: none"> • clearance/resurfacing of the segregated tree-lined path between Copthorne Bank and Borers Arms Road • new tactiles and dropped kerbs across Borers Arms Road to Church Road • new tactiles and dropped kerbs across Borers Arms Road to Knowle Drive • new tactiles and dropped kerbs across Borers Arms Road at Borers Close access/bus stop, to link northern and southern pedestrian routes • new tactiles and dropped kerbs across Spring Copse junction bellmouth • new tactiles and dropped kerbs across Borers Arms Road adjacent to golf club access, to link northern and southern pedestrian routes • new tactiles and dropped kerbs across existing eastern Borers Industrial Estate access <p>All the above measures can be incorporated into a pedestrian enhancement scheme, to be reviewed and finalised with SCC and WSCC Highway Officers</p>
<p>Demonstrating safe and attractive access by cycle</p>	<p>Consideration has been given to the appropriateness of existing cycle routes to/from the site, and where needed identify opportunities to enhance pedestrian connections</p>	<p>A cycle audit has been undertaken, which has confirmed that whilst there are no defined cycle routes/corridors in the local area, the site is well located adjacent to an existing residential area, where the residential streets are quiet and conducive to encourage people to cycle.</p> <p>By providing a new link through the development, linking Copthorne Bank with Borers Arms Road, both end occupiers of the proposed development and existing residents in the village will have a new, attractive route through the village to use.</p> <p>The proposed gateway/traffic calming scheme to reinforce the 30mph speed limit on Copthorne Bank will also reinforce the existing speed limit and reduce vehicle speeds on this corridor, making it more attractive for cyclists to use</p>
<p>Considering access to local bus services</p>	<p>Giving consideration to access to existing bus services, the quality of the service and bus stop facilities for users</p>	<p>A comprehensive review of existing services along the Copthorne Bank and Borers Arms Road corridors has been undertaken. This review confirms that there is an existing range of local services that route past the development site.</p> <p>Opportunities to enhance the directional “post and flag” bus stops have been identified. Whilst space is limited at all these stops if Highway Officers consider it deliverable there is the potential to provide RTPI at each stop.</p>

Technical Matter	Vision-Led Approach	SKTP Technical Response
		<p>The walking audit has confirmed that appropriate and continuous pedestrian links are already in place to access the directional stops on Borers Arms Road.</p> <p>By slowing traffic on the Copthorne Bank corridor through the new gateway feature pedestrians should experience an improved experience walking north to the directional stops on this corridor, or alternatively walk south via the extended footway to stops further south on this corridor.</p>
<p>Access to local rail services</p>	<p>Undertake an assessment of accessibility to local rail stations, and identify enhancements to routes, if needed</p>	<p>The nearest rail station to the site is Three Bridges, which falls outside of a 2km walk from the site.</p> <p>This rail station is within a 5km cycle distance of the site, and as such will be attractive for some end occupiers to access, particularly with the increased popularity of ebikes, particularly for commuting purposes.</p>
<p>Deliver safe and design-compliant vehicular access arrangements to site</p>	<p>Ensure vehicular access arrangements are appropriately located, and are designed to accommodate all vehicles that will access the site</p>	<p>The two new simple priority junctions have been designed to accommodate all vehicular traffic associated with the proposed residential development, including emergency vehicles and refuse collection vehicles.</p> <p>The Copthorne Bank access has been designed to also slow traffic on this corridor, to reinforce the existing 30mph speed limit on this route. The access arrangement also incorporates extending the footway to the south to the development access point, enhancing pedestrian connectivity in this location.</p>
<p>Assess the operation of the proposed development access arrangements onto Copthorne Bank and Borers Arms Road</p>	<p>Confirm that the proposed vehicular points can operate without significant impact on the local highway network</p>	<p>Using robust trip rates and distributing development traffic using a gravity model based on 2011 Census data both simple priority junctions have been modelled in PICADY.</p> <p>The modelling outputs confirm that both junctions will operate with significant levels of spare capacity and minimal delay in the 2027 opening year and 2030 future year peak period assessments.</p>
<p>Assess the operation of off-site junctions within the study area</p>	<p>Confirm that those junctions that are predicted to experience a 30 (or more) vehicle increase can appropriate accommodate these additional traffic movements without adverse impact</p>	<p>Using robust trip rates and distributing development traffic using a Census-based gravity model those junctions within the study area have been modelled using proprietary industry-standard junction modelling software.</p> <p>The modelling outputs confirm that the majority of junctions will operate with significant levels of spare capacity and minimal delay in the 2027 opening year and 2030 future year peak period assessments.</p>

Technical Matter	Vision-Led Approach	SKTP Technical Response
		<p>The only junction that is predicted to experience an RFC >1.0 (on a single arm in the modelled AM peak periods) is at the A2220/Copthorne Common Road roundabout junction.</p> <p>Whilst the inclusion of a proportion of the development traffic at this location is predicted to lead to some increased queuing and delay, it is of a level that cannot be considered to be adverse, or “severe”, the test taken from the NPPF.</p>
Commitment to a site-wide Travel Plan	Confirm that all elements of the sustainable access strategy will be incorporated into a final Travel Plan	This TA confirms that a site-wide Travel Plan will be prepared and implemented prior to first occupations at the site. The final document will also include a detailed monitoring strategy, confirmation of the Travel Plan Co-ordinator and SMART targets.

Table 9.1: The Final Vision-Led Strategy for the Site

- 5.27 As set out in table 9.1 all elements regarding sustainable access on foot, cycle and public transport have been considered, and where needed enhancements to existing routes, or the provision of a new route through the development identified. The site has been shown to be located in an inherently sustainable location, and an access strategy developed that is suitable for all to use.
- 5.28 The impacts of the development have also been carefully considered. The site accesses have been designed to accommodate the range of vehicles that will need to access the site, and the junction modelling for each access confirms that they will operate without any material queuing, delay or impact on the surrounding highway network.
- 5.29 A detailed assessment of all off-site junctions has also been prepared. This has confirmed that the majority of junctions will operate with significant levels of spare capacity and minimal delay in the 2027 opening year and 2030 future year peak period assessments.
- 5.30 The only junction that is predicted to experience an RFC >1.0 (on a single arm in the modelled AM peak periods) is at the A2220/Copthorne Common Road roundabout junction. Whilst the inclusion of a proportion of the development traffic at this location is predicted to lead to some increased queuing and delay, it is of a level that cannot be considered to be adverse, or “severe”, the test taken from the NPPF.
- 5.31 It is therefore possible to confirm that the development proposals are fully compliant with paragraph 116 taken from the NPPF, which states:
- “Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.”*
- 9.8 This TA confirms that the proposals will not have an unacceptable impact on highway safety, and the residual cumulative impacts on the road network will certainly not be “severe”, the test set out in the NPPF.
- 9.9 Having demonstrated that the site is sustainably located, and that the proposals will not result in any adverse or unacceptable traffic, transport or sustainable access

impacts, it is expected that both SCC and WSCC Officers will support the proposals from a sustainable development, transport and traffic perspective.

- 9.10 We do expect to open up discussions with Officers on an appropriate mitigation strategy for the site, and we hope the raft of proposals set out in this document are an appropriate starting point.
- 9.11 The raft of sustainable access enhancements are summarised below, and will make a step change in promoting sustainable travel for all living in the area, not just the end occupiers of the proposed development. These measures include:
- the delivery of a new pedestrian/cycle connection between Copthorne Bank and Borers Arms Road, to connect these established corridors within the village
 - reinforce the existing 30mph speed limit on Copthorne Bank, through the delivery of a new gateway/traffic calming feature on this corridor
 - extension of the existing footway on the eastern side of Copthorne Bank, to allow pedestrians easy access to the development via this proposed access point
 - opportunity to enhance bus stop facilities on Copthorne Bank and Borers Arms Road, to potentially include real time passenger information (final measures to be discussed with SCC and WSCC Officers)
 - a commitment to contributing towards the support for SCC's Digital Demand Responsive Transport (DDRT) for end occupiers
 - a site-wide travel plan, which sets out and delivers all "hard" and "soft" travel plan measures, to encourage occupiers to travel by sustainable modes, and have less reliance on the private car
- 9.12 This finalised sustainable access strategy accords with the the NPPF, particularly in paragraph 115, which focuses on the need to prioritise sustainable travel modes over traditional development impact assessments.
- 9.13 In addition, this TA confirms that the proposals will not have an unacceptable impact on the local highway network or generate unacceptable highway safety impacts.
- 9.14 To conclude, the impact of the proposed development, in traffic and transport terms will not be "severe", the test laid out in the NPPF.
- 9.15 Based on the above, it has been demonstrated that there are no traffic or transportation reasons why the proposed 260 residential unit and 1,700sqm of commercial development at the development site should not be granted outline planning approval, subject to appropriate planning conditions.