



Transport Assessment

Land at Hilland Farm, Billingshurst

Dunmoore Group

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Table of Contents

1.0	Introduction	1
2.0	Policy Context	3
3.0	Baseline Conditions	7
4.0	Development Proposals.....	14
5.0	Highway Impact Assessment	15
6.0	Mitigation	21
7.0	Summary and Conclusions	22

Tables in Text

Table 2.1: WSCC Parking Standards	5
Table 3.1: Local Amenities	12
Table 5.1: Residential Trip Generation	15
Table 5.2: Commercial Trip Generation.....	15
Table 5.3: Residential Trip Generation	16
Table 5.4: Distribution	16
Table 5.5: Impact Assessment	17
Table 5.6: Modelling Summary - Stane Street / New Road / Site Access Roundabout. 18	
Table 5.7: Modelling Summary – Hilland Roundabout	19

Figures in Text

Figure 3.1: Site Location Plan	7
Figure 3.2: MAVRIC Extract.....	8
Figure 3.3: Active Travel Network.....	10
Figure 3.4: Local Amenities.....	11

Appendices

Appendix A	Site Layout
Appendix B	Traffic Survey Data
Appendix C	Flow Diagrams
Appendix D	Junction Modelling Outputs
Appendix E	Framework Travel Plan



1.0 Introduction

- 1.1 SLR has been appointed to provide highways and transportation advice in relation to development proposals on land to the east of Stane Street in Billingshurst, West Sussex.

Site Location

- 1.2 The site is located approximately 750 metres to the north of Billingshurst Village centre, within the administrative boundaries of Horsham District Council (HDC) and West Sussex County Council (WSCC). The site forms an extension to the Billingshurst Trade and Business Park with access provided via the A29 (Stane Street) / New Road roundabout.

Planning History

- 1.3 A hybrid planning application (Planning Ref. DC/18/2122) was approved in June 2019 in detail for up to 4,998sqm of B1c, B2 and B8 use, and in outline planning for up to 14,075sqm of B1c, B2 and B8 use floorspace alongside a petrol filling station. An updated application with minor variations was approved in March 2022 (Planning Ref. DC/21/1107). The 4,998sqm of floor space is known as Phase 1 and the 14,075sqm of floor space is known as Phase 2.
- 1.4 To date, it is understood that plots 3 to 13 of Phase 1 have been built and occupied whilst plots 1 and 2 are yet to be constructed. Within Phase 2, the petrol filling station has been built and occupied (Planning Ref. DC/21/0080) whilst units 17 to 20 have been combined under a reserved matters application (Planning Ref. DC/21/0321) to provide a food store which is operational.
- 1.5 In addition to the above, there have been a range of further reserved matters applications associated with Phase 2 have been submitted with several approved, albeit yet to be constructed.
- 1.6 Alongside the above, an application has been submitted on land to the south of Phase 2 for a commercial development of circa 1,400sqm known as Phase 3 (Planning Ref. DC/25/0458). This is awaiting determination.

Development Proposals

- 1.7 The development proposals comprise a comprehensive replan of the undeveloped land within Phase 2 and the commercial development to the south (Phase 3). The proposals comprise a hybrid application as follows:

“Mixed use development, including detailed permission for means of access and 1,338 sqm business floorspace with the remainder of the development in outline, comprising up to 102no. homes and up to 5,605 sqm of business floorspace (Classes E g (iii)/B2/B8).”

Report Structure

- 1.8 Following this introduction, the remainder of this report comprises:

- Section 2 – Policy Context



- Section 3 – Baseline Conditions
- Section 4 – Development Proposals
- Section 5 – Highway Impact Assessment
- Section 6 – Mitigation
- Section 7 – Summary and Conclusions



2.0 Policy Context

National Planning Policy Framework

- 2.1 The National Planning Policy Framework (NPPF) sets out national planning policies for England and how they should be applied. The NPPF identifies that *“plans and decisions should apply a presumption in favour of sustainable development.”*
- 2.2 Notably, paragraph 85 states:
- “Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development.”*
- 2.3 Paragraph 109 which outlines that transport should be a consideration from the early stages of development proposals, using a *“vision-led approach to identify transport solutions that deliver well-designed, sustainable and popular places.”* It is further identified that this should involve:
- a) *“understanding and addressing the potential impacts of development on transport networks;*
 - b) *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;*
 - c) *identifying and pursuing opportunities to promote walking, cycling and public transport use; and,*
 - d) *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.”*
- 2.4 The above suggests that development should consider the potential impacts on the transport network as a basis against which to determine appropriate opportunities to promote sustainable modes of transport. With this in mind, paragraph 110 states:
- “The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.”*
- 2.5 It is clear that in order for a development to be considered sustainable, it should evidence access to a genuine choice of transport modes.



- 2.6 Combining the overarching elements of both the vision-led approach and sustainable transport opportunities, paragraph 115 states:

“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 Code⁴⁸; 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.”*

- 2.7 Whilst paragraph 116 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.”

- 2.8 As such development should provide opportunities for sustainable travel, safe and suitable access, align with national design guidance and mitigate any significant traffic impacts in terms of capacity, congestion or highway safety, noting that the extent to which these measures can be implemented will differ by land use and location.

Horsham District Planning Framework

- 2.9 Planning applications within Billingshurst are assessed against the policies contained within the ‘Horsham District Planning Framework’ (HDPF), which was adopted in November 2015.
- 2.10 The Framework promotes access to new development via sustainable means and incorporates requirements to provide safe and suitable access for all, maintain and improve the transport system and provide a Travel Plan. Additionally, the Framework outlines that suitable parking facilities must be provided to meet the anticipated needs of the users incorporating cycle parking, electric vehicle charging spaces and accessible spaces.

Parking Standards

- 2.11 West Sussex, as highway authority, adopted the current parking standards in September 2020 which are provided within the Guidance on Parking at New Developments document.
- 2.12 For residential uses, a zonal approach has been undertaken reflecting the varying accessibility and anticipated growth in parking demand across the county with Billingshurst located within zone 2. For non-residential uses the standards apply equally across the county.



Table 2.1: WSCC Parking Standards

Land Use		Vehicle	Cycle
Residential	1 bed 1-3 habitable rooms	1.4 spaces per dwelling	1 space per dwelling
	2 bed 4 habitable rooms	1.7 spaces per dwelling	
	3 bed 5-6 habitable rooms	2.1 spaces per dwelling	2 spaces per dwelling
	4+ bed 7+ habitable rooms	2.7 spaces per dwelling	
B2 (general industrial)		1 space per 40sqm	Staff: 1 space per 200sqm Visitor: 1 space per 500sqm
B8 (storage)		1 space per 100sqm	Staff: 1 space per 500sqm Visitor: 1 space per 1000sqm
E (commercial, offices, R&D)		1 space per 30sqm	Staff: 1 space per 150sqm Visitor: 1 space per 500sqm

2.13 In addition to the above, disabled parking should be provided as a minimum of 5% of total parking and 20% of all spaces should provide active charging facilities for electric and plug-in hybrid vehicles.

2.14 With regard to residential parking, it is suggested that these standards could be reduced by circa 10% where a range of sustainable transport opportunities are available.

2.15 With regard to non-residential uses, paragraph 6.3 of the document states that:

[The standards] “should only be used as an initial guide for developers, who should undertake a site-specific assessment and seek to balance operational needs, space requirements, efficient use of land and cost attributed to providing parking and where relevant, attracting/retaining staff.”

2.16 In addition to the above, paragraph 6.9 of the guidance states (also in relation to non-residential uses) that:

“It is the responsibility of the developer to prove that adequate facilities are provided on site for the proposed use, including cycle parking, changing and storage facilities. This may include providing details of the proposed operation of the site once in use such as whether the site will need to store vehicles not in use or on layover periods, the frequency of vehicles visiting the site for deliveries, or the type and size of vehicles using the site.”

2.17 Further details on the proposed parking levels across the site, with reference to the standards above, are included in Section 4.

Summary

2.18 On the basis of the above review, it is evident that the location of new development in relation to sustainable modes of transport is taken into consideration when assessing the acceptability of a proposed development. Furthermore, developers are required to provide car parking at a



level that will provide a balance between encouraging staff/visitors to travel by modes other than the private car, whilst accommodating the likely demands associated with the site.

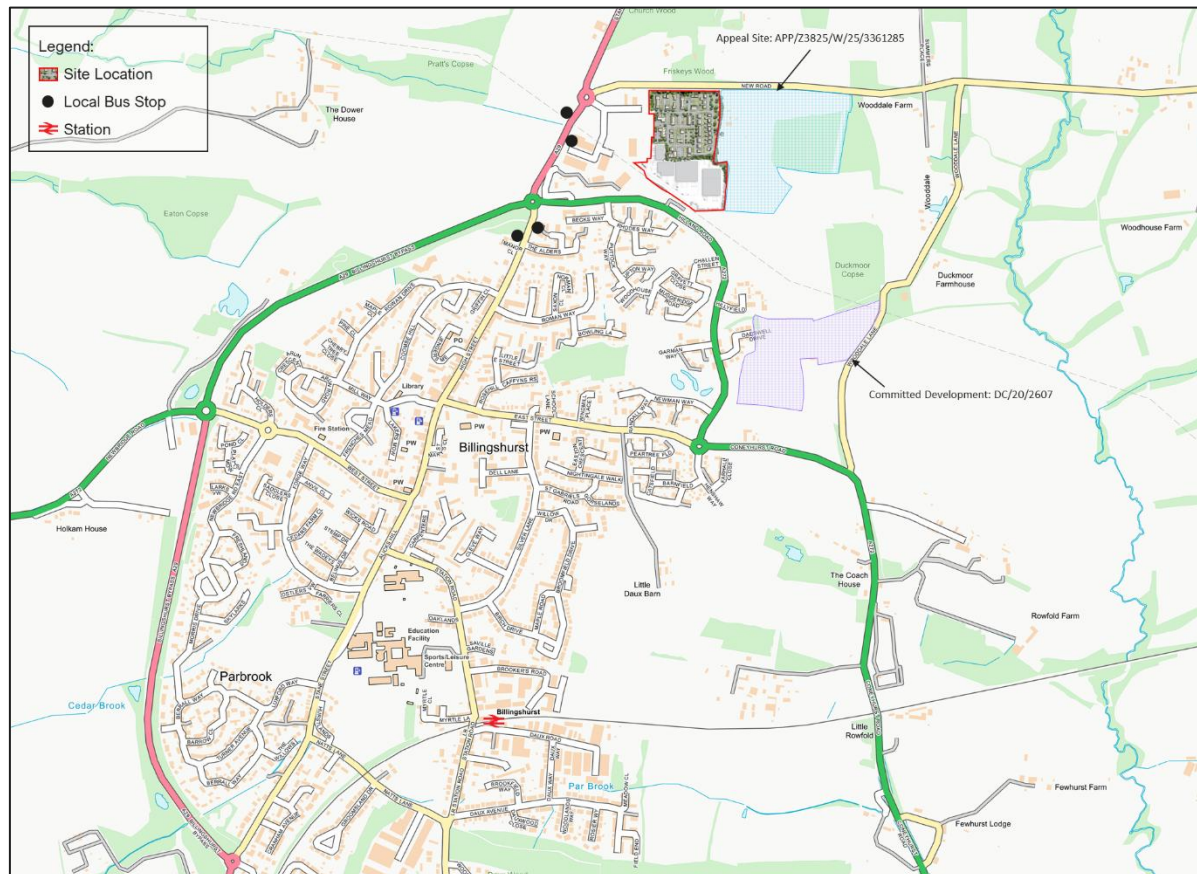
- 2.19 The following sections of the report therefore review the accessibility of the site and evaluate whether the development proposals will encourage the use of sustainable modes of transport. In addition to this, a further assessment has been carried out to establish the likely impact of the proposals upon the highway network.



3.0 Baseline Conditions

- 3.1 The site is located approximately 750 metres to the north of Billingshurst Village centre within the administrative boundaries of Horsham District Council (HDC) and West Sussex County Council (WSCC).
- 3.2 The site is located immediately to the east of the various consented developments at Hilland. Given the various consents, it is evident that the overarching location has been demonstrated to be suitable for employment development with regards to access via a range of sustainable transport opportunities.
- 3.3 Residential properties abut Hilland Road to the south whilst a development of 83 dwellings has been consented at Appeal to the south east of the site (Planning Ref. DC/20/2607, Appeal Ref. APP/Z3825/W/21/3283823). Notably, this consented scheme also fronts Hilland Road with existing residential properties on the opposing side and therefore it has been demonstrated that the route is not considered to be a barrier to residential development and that the location is suitable for residential development.
- 3.4 To the west, the site fronts a proposed residential development of 125 dwellings (Planning Ref. DC/24/0749). Whilst this was refused due to a substandard pedestrian/cycle access along New Road, this has since been approved at appeal (APP/Z3825/W/25/3361285).
- 3.5 The site location in relation to the surrounding area is shown in **Figure 3.1**.

Figure 3.1: Site Location Plan



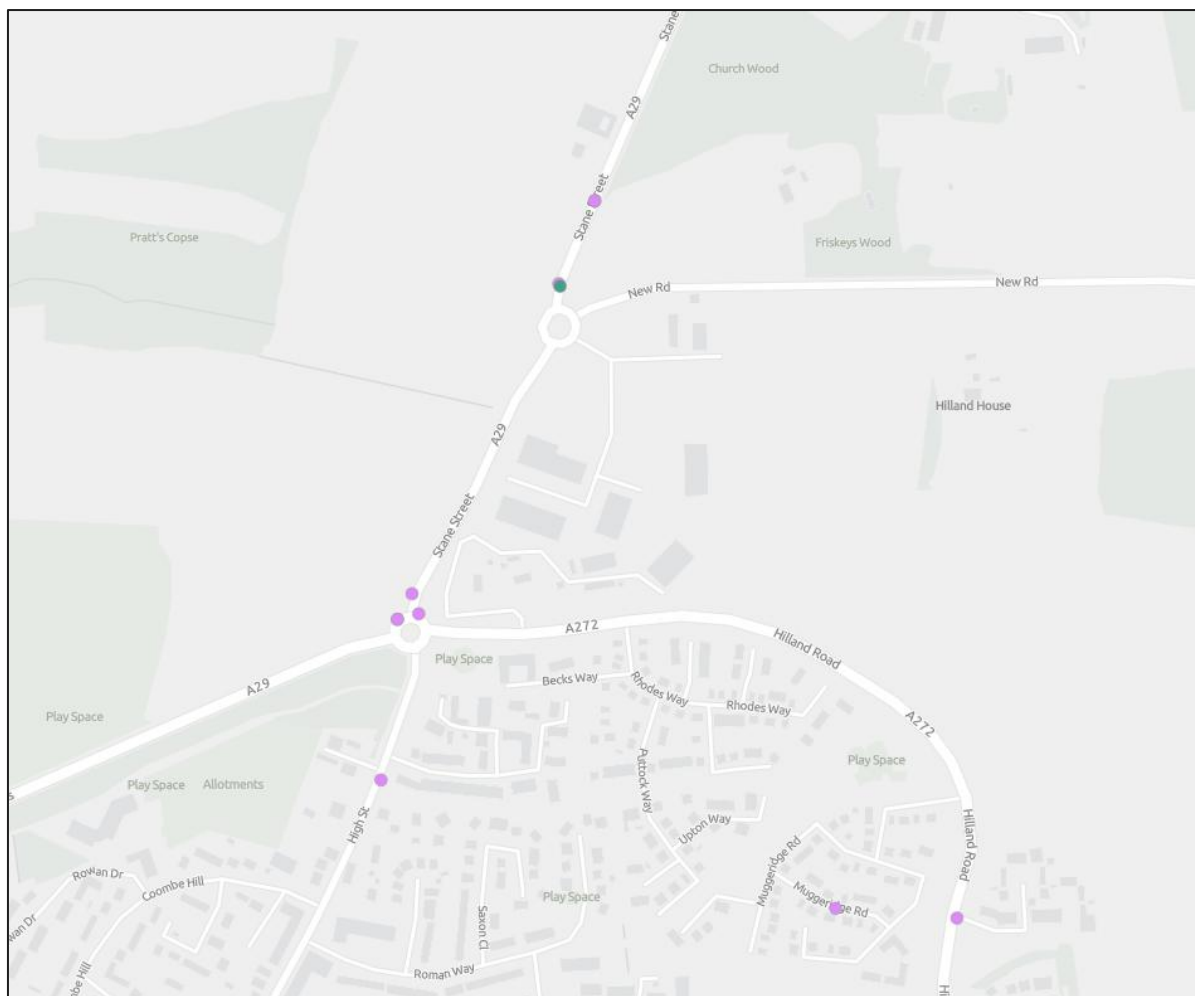
Local Highway Network

- 3.6 Access to the site and wider Billingshurst Trade and Business Park is taken via the A29 (Stane Street) / New Road roundabout.
- 3.7 The A29 (Stane Street) provides a connection to Billingshurst village centre to the south, as well as the A272. The A272 is one of the principal east-west routes in West Sussex, which provides onward connections to Haywards Heath and Petersfield. Stane Street also provides links to Guildford and Horsham to the north (via the A281).
- 3.8 In addition to the above, the East Billingshurst Relief Road, as part of the major residential development located to the south of the site, is now open and provides an alternative east-west route around Billingshurst.

Personal Injury Collision Data

- 3.9 Whilst there is no suggestion that the local highway network is subject to an abnormally high accident rate, Personal Injury Collision (PIC) data has been obtained from the Department for Transport (DfT) MAVRIC (Mapping Application for Visualising Road Injury Casualties) database for the most recently available 5-year period of 01/01/2020 – 31/12/2024. **Figure 3.2** provides an overview of the recorded collisions.

Figure 3.2: MAVRIC Extract



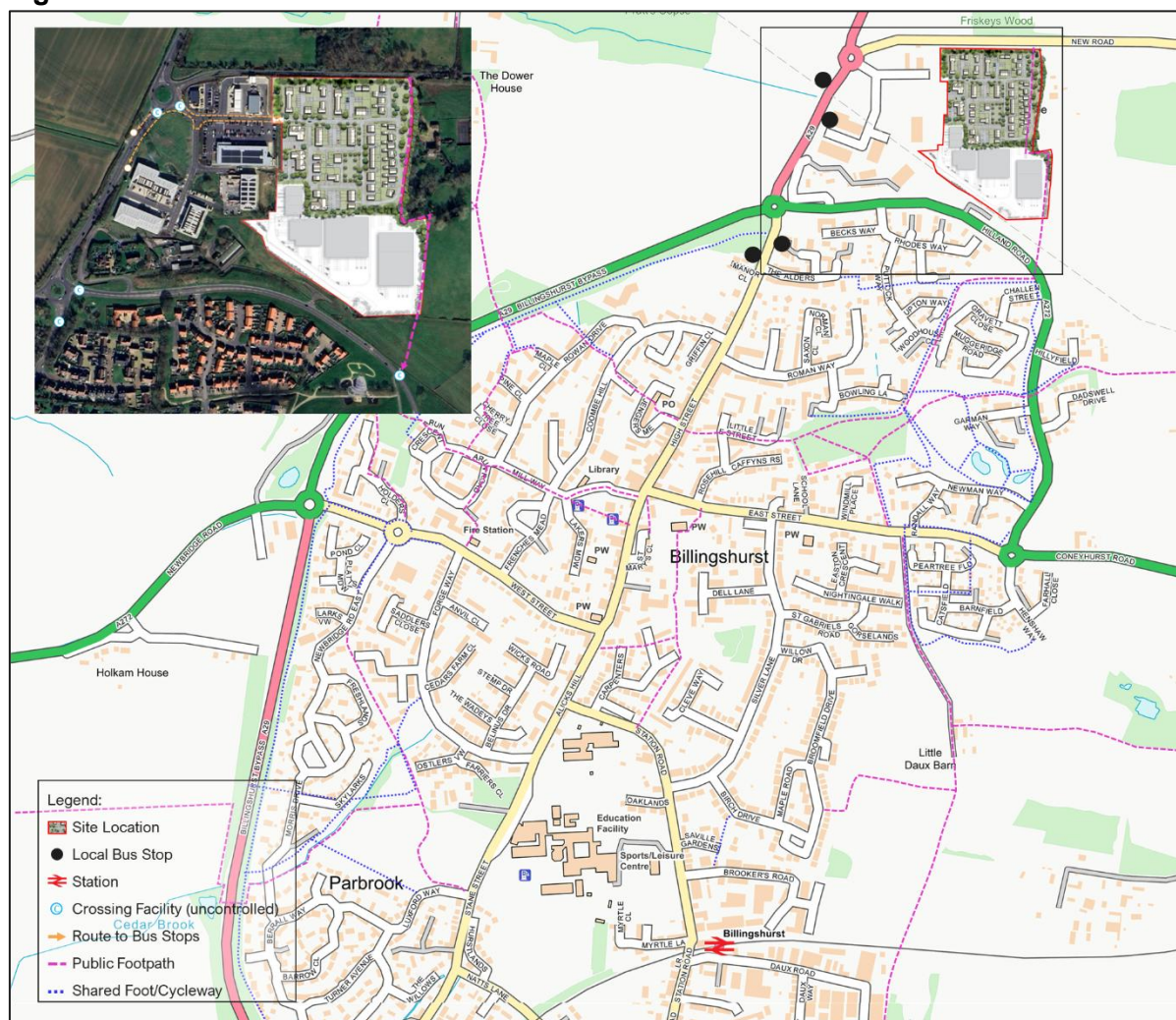
- 3.10 It is illustrated in the above that 9 collisions were recorded in the 5-year period comprising 1 serious and 8 slight incidents. Given that the incidents are largely located in the vicinity of junctions where vehicles are required to change speed and direction, it can be reasonably assumed that the primary cause of these incidents is driver error rather than defects associated with the highway. To this end, it is considered that the local highway network does not suffer from any significant defect that is likely to result in an abnormally high accident rate.

Active Travel Network

- 3.11 It is generally accepted that walking and cycling provide important alternatives to the private car and should also be encouraged to form part of longer journeys via public transport. For example, research undertaken by the Chartered Institution of Highways and Transportation (CIHT) outlines that most people would walk to a destination within one mile or cycle for a journey within five miles.
- 3.12 With consideration for the above, it is noted that paragraph 105 of the NPPF recognises different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural locations. Moreover, Manual for Streets (MfS) identifies 'walkable neighbourhoods' as being:
- "characterised by having a range of facilities within 10 minutes (up to about 800m) walking distance of residential areas which residents may access comfortably on foot."*
- 3.13 However, it is important to recognise that MfS does not consider 800 metres to be a maximum walking distance. Indeed, MfS contends that walking can be used to access a variety of destinations within a range of up to 2 kilometres.
- 3.14 More recently, there has been an emergence of 20-minute neighbourhoods, based on a design ethos of creating complete, compact and connected neighbourhood, where people can meet their everyday needs within a short walk or cycle. This concept builds upon the notion of walkable, and cyclable, neighbourhoods and places designed at pedestrian scale and is supported by a 20-minute neighbourhood guide published by the Town and Country Planning Association in March 2021. The idea of the 20-minute neighbourhood presents multiple benefits including boosting local economies, improving people's health and wellbeing, increasing social connections in communities, and tackling climate change.
- 3.15 The following sections consider the site location in relation to the active travel network with the principles of MfS and the 20-minute neighbourhood in mind. Whilst **Figure 3.3** provides an overview of the pedestrian and cycle connections in the local area.



Figure 3.3: Active Travel Network



Pedestrian Network

- 3.16 A footway is provided on the eastern side of Stane Street which was upgraded as part of the original commercial consent at the wider business park. A crossing with dropped kerbs and tactile paving is provided on the eastern arm of the Hilland Roundabout creating a safe and convenient link across Hilland Road following the pedestrian desire line.
- 3.17 To the south a footway extends on the eastern side of High Street to the nearest bus stop. On the western side of the carriageway, a continuous footway is provided to Billingshurst town centre. A crossing facility with dropped kerbs and tactile paving links the two footways.
- 3.18 Additional pedestrian facilities include traffic-free routes which serve the neighbouring residential areas and can be accessed from High Street. These offer routes to both east and west Billingshurst.
- 3.19 Alongside the above, a range of public rights of way operate throughout Billingshurst offering traffic-free connections to the surrounding area. Notably these include a route from New Road to Billingshurst town centre via footpaths 1942 and 1941, the former of which routes along the eastern boundary of the site. An existing crossing facility with dropped kerb and tactile paving is provided where this route crosses Hilland Road.



Cycle Network

- 3.20 There are a range of cycle links which can be joined to the south of the site and are largely in the form of shared traffic-free routes. These can be accessed via quieter routes through the site and commercial area to the south. To the south west these operate parallel to the A29 with various connections to local residential areas. To the south east cycle links predominantly operate parallel to Hilland Road (East Billingshurst Relief Road) with routes provided to residential areas and towards the town centre.

Access to Local Amenities

- 3.21 There are a range of amenities within the wider Billingshurst Trade and Business Park, these include a supermarket, petrol filling station (with convenience store) and a coffee shop. Further amenities are located in Billingshurst town centre, approximately 1 kilometre to the south of the site. A review of the amenities in the local area is provided at **Figure 3.4** whilst a summary of the walking and cycling distance to local amenities is provided in **Table 3.1**.

Figure 3.4: Local Amenities

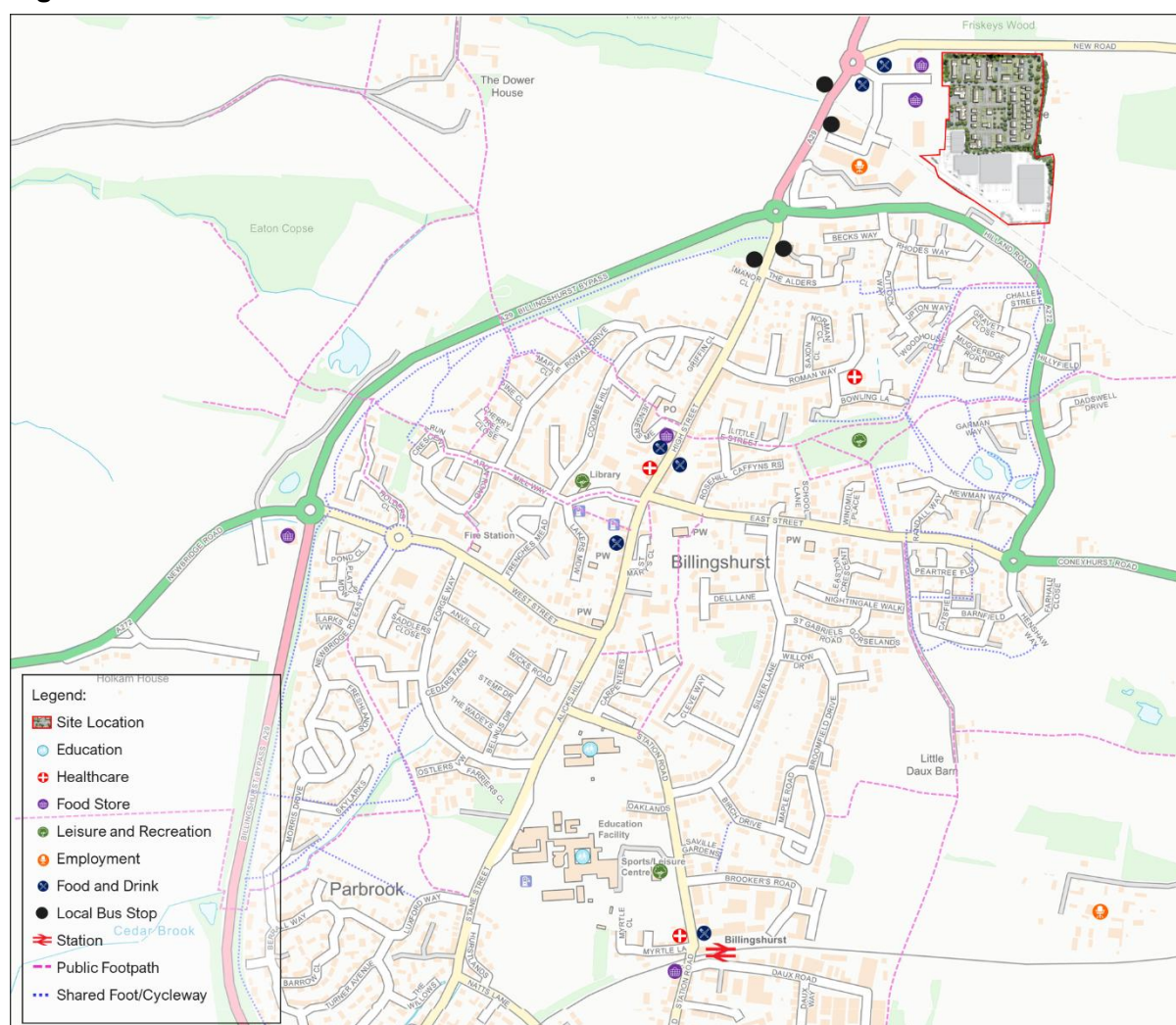


Table 3.1: Local Amenities

Education	Distance	Walk Time	Cycle Time
Billingshurst Primary Academy	1,700 metres	20 minutes	7 minutes
The Weald Community School	2,200 metres	26 minutes	9 minutes
Healthcare	Distance	Walk Time	Cycle Time
Billingshurst Surgery	1,200 metres	14 minutes	5 minutes
Billingshurst Pharmacy	1,200 metres	14 minutes	5 minutes
Arun Valley Pharmacy	2,200 metres	26 minutes	9 minutes
Food Store	Distance	Walk Time	Cycle Time
Lidl	150 metres	2 minutes	1 minutes
Morrisons Daily (Trade Park)	150 metres	2 minutes	1 minutes
Morrisons Daily (High Street)	1,100 metres	13 minutes	5 minutes
Coop Food	1,900 metres	23 minutes	8 minutes
Tesco Express	2,300 metres	27 minutes	10 minutes
Leisure and Recreation	Distance	Walk Time	Cycle Time
Park (north of Newman Way)	1,400 metres	17 minutes	6 minutes
Billingshurst Library	1,400 metres	17 minutes	6 minutes
Billingshurst Leisure Centre	2,200 metres	26 minutes	9 minutes
Employment	Distance	Walk Time	Cycle Time
Billingshurst Trade Park	200 metres	2 minutes	1 minutes
Rosier Business Park	3,300 metres	39 minutes	14 minutes
Food and Drink	Distance	Walk Time	Cycle Time
Costa	150 metres	2 minutes	1 minutes
Greggs	150 metres	2 minutes	1 minutes
The Kings Head Inn	1,100 metres	13 minutes	5 minutes
Little Bean Café	1,100 metres	13 minutes	5 minutes
The Kings Arms	1,300 metres	15 minutes	5 minutes
The Railway Inn	2,200 metres	26 minutes	9 minutes

Public Transport Network

- 3.22 Local bus stops are provided on Stane Street at the western boundary of the site. These stops are served by 100 bus route which operates hourly between Horsham and Pullborough, additionally the route serves Billingshurst station.
- 3.23 Billingshurst station is located circa 2.2 kilometres to the south of the site and can be accessed on foot, via cycle (noting that there are 18 cycle parking spaces), or via local buses. Rail services from Billingshurst operate every 30 minutes to London Victoria and Bognor Regis.



Summary

- 3.24 The above review demonstrates that there are a range of transport options available in the area surrounding the site with the potential to reduce reliance on the private car. It is therefore in accordance with the policy aims of national and local government, which is to be expected given the extant outline consent.



4.0 Development Proposals

- 4.1 The development proposals comprise a comprehensive replan of the undeveloped land within Phase 2 and the commercial development to the south (Phase 3). The scheme seeks to provide:

“Mixed use development, including detailed permission for means of access and 1,338 sqm business floorspace with the remainder of the development in outline, comprising up to 102no. homes and up to 5,605 sqm of business floorspace (Classes E g (iii)/B2/B8).”

Access Strategy

- 4.2 The site forms a natural extension to the wider Hilland Farm development. With this in mind, it is proposed that access for vehicles, cycles and pedestrians is taken via the approved four arm roundabout junction with Stane Street.
- 4.3 An internal spine road, also serving Phases 1 and 2, will connect the site to the roundabout junction. This proposed approach is consistent with the previous application at the site which was approved by WSCC on highways grounds.
- 4.4 The spine road will incorporate a continuous footway on both sides as per the existing route through the wider site. Within the site, a range of pedestrian links will be provided connecting the building with the footways on the spine road.

Parking Strategy

- 4.5 Parking for both residential and commercial uses will be provided in accordance with the standards outlined in Section 2. For both residential and commercial uses, 20% of all spaces will provide active charging facilities for electric and plug-in hybrid vehicles.
- 4.6 In addition to the above, for the commercial uses disabled parking will be provided as a minimum of 5% of total parking.
- 4.7 Similarly, cycle parking will be provided in accordance with the standards outlined in Section 2. For residents, cycle parking will be provided in the curtilage of the dwelling via garages or secure sheds. For the commercial uses cycle parking will be conveniently located for building entrances and will be covered.

Servicing and Deliveries

- 4.8 The site has been designed to allow for all servicing and deliveries to be undertaken within the boundary. Given that the vehicles requiring access will not materially differ from those serving the consented Phases 1 and 2 it is considered that the access arrangements are appropriate to serve the servicing and delivery needs of the development.



5.0 Highway Impact Assessment

Trip Generation

- 5.1 To be consistent with other consented applications at the site, weekday peak hours of 0800-0900 and 1700-1800 have been used as the basis for the trip generation assessment.

Residential Trip Generation

- 5.2 Trip rates for the residential use have been obtained from the Transport Assessment submitted as part of the consented Hilland House development (Planning Ref. DC/24/0749) reflecting the similar number of dwellings proposed. Whilst it is recognised that the proposals were initially refused, it is pertinent to note that WSCC raised no concern with the proposed trip rates in their consultee response (08/07/2024) and therefore this approach is considered appropriate (particularly as this scheme has now been subject to a successful Appeal).

Table 5.1: Residential Trip Generation

	Vehicle Trip Rate (per dwelling)			Vehicle Trips (100 dwellings)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
AM Peak	0.151	0.347	0.498	15	35	50
PM Peak	0.336	0.158	0.494	34	16	50

- 5.3 As demonstrated above, the proposed development could be expected to generate 50 two-way vehicle trips during both the morning and evening peak hours.

Commercial Trip Generation

- 5.4 In considering the commercial trip generation, reference has been made to the agreed trip rates submitted alongside the approved application for the wider site (Planning Ref. DC/18/2122), these comprised total person trip rates and HGV trip rates. As per the previous application, Census mode share has been applied to derive car drivers which comprise 75.5% of total person trips. A summary of the resulting person, vehicle and HGV trips is provided below.

Table 5.2: Commercial Trip Generation

	AM Peak			PM Peak		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Total Person Trips	29	11	40	7	28	35
Derived Vehicle Trips	22	8	30	5	21	26
HGV Trips	1	1	2	1	1	2

- 5.5 As demonstrated above, the proposed development could be expected to generate 32 two-way vehicle trips during the morning peak hour (including 2 HGV trips) and 28 two-way vehicle trips in the evening peak (including 2 HGV trips).



Trip Generation Summary

- 5.6 With the trips above in mind, **Table 5.3** provides a summary of the total vehicle trip generation (including HGVs) of the proposed development.

Table 5.3: Residential Trip Generation

	AM Peak			PM Peak		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Residential	15	35	50	34	16	50
Commercial	23	9	32	6	22	28
Total	38	44	82	40	38	78

- 5.7 As outlined above, the proposed development would be expected to generate some 82 two-way vehicle trips in the morning peak and 78 in the weekday evening peak.

Trip Distribution

- 5.8 The distribution of residential trips onto the highway network has been informed by journey to work data from the 2011 Census. The distribution of commercial trips has been informed by the consented schemes in the wider park. A summary of the expected distribution is provided in **Table 5.4**.

Table 5.4: Distribution

	Residential			Commercial		
	Prop.	AM Trips	PM Trips	Prop.	AM Trips	PM Trips
Stane Street (n)	55%	28	28	22%	7	6
New Road	0%	0	0	0%	0	0
Stane Street (s)	45%	23	23	78%	25	22
Hilland Road	20%	10	10	28%	9	8
High Street	9%	5	5	11%	4	3
A272	15%	8	8	38%	12	11

- 5.9 An impact assessment of the local links has been undertaken based on the above distribution and is included at **Table 5.5**.



Table 5.5: Impact Assessment

	0800-0900			1700-1800		
	Baseline	Baseline + Dev	%Impact	Baseline	Baseline + Dev	%Impact
Stane Street (n)	1834	1869	+1.9%	1635	1669	+2.1%
New Road	140	140	N/A	117	117	N/A
Stane Street (s)	1927	1975	+2.5%	1804	1849	+2.5%
Hilland Road	488	507	+3.9%	392	410	+4.6%
High Street	707	716	+1.3%	639	647	+1.3%
A272	1036	1056	+1.9%	1156	1175	+1.6%

- 5.10 It is shown in the above that the development proposals would result in up to a 4.6% increase in traffic flows in the busiest peak period which is likely to be within daily fluctuations experienced on the network which are commonly accepted to be +/-10%. Therefore, in reality, would likely be imperceptible.
- 5.11 On the basis of the above, it is evident that the proposals would not result in a 'severe impact' as outlined in the NPPF.

Junction Modelling

- 5.12 Notwithstanding the above, detailed junction modelling has been undertaken of the site access roundabout and the Hilland Roundabout to ascertain whether the conclusions that the site would not have a material impact on the highway network are reasonable.
- 5.13 For the purposes of this assessment, Junctions 11 software which includes ARCADY has been used. ARCADY, which is produced by the Transport Research Laboratory (TRL), expresses the relationship between traffic flow and capacity of roundabouts as a ratio, referred to as the Ratio of Flow to Capacity (RFC). Based upon these results it also predicts the anticipated queue lengths (Q) and delays that are likely to occur at the junction. Junctions 10 also provides a further performance measurement, which correlates the length of the delay experienced by arriving vehicles to a scale that is referred to as the 'Level of Service' (LoS).
- 5.14 The LoS is determined having regard to the banding system set out in the Highway Capacity Manual approach to traffic capacity. The following summarises the definitions that are provided within Highway Traffic Analysis and Design (Salter & Hounsell, 1996) for the various bandings that are predicted in Junctions 11:
- LoS A: Free Flow - Primarily free-flow operation with vehicles having almost complete freedom to manoeuvre;
 - LoS B: Reasonably Free Flow - Reasonable free-flow conditions with vehicles having slightly restricted freedom to manoeuvre;
 - LoS C: Stable Flow - Stable operation but freedom to manoeuvre is restricted;
 - LoS D: Approaching Unstable Flow - Borders on unstable flow with freedom to manoeuvre severely limited;



- LoS E: Unstable Flow - Traffic flow is very unstable and approaching capacity; and,
- LoS F: Forced or Breakdown Flow - The point at which demand exceeds capacity.

Assessment Scenarios

- 5.15 In undertaking detailed junction modelling, consideration has been made to a future year assessment of 5-years post-application at which point the proposals could feasibly become operational. To determine the future year baseline TEMPRO growth factors have been applied which account for planned development and background growth between 2025 and 2030, these factors are as follows:
- AM Peak – 1.06122
 - PM Peak – 1.06194
- 5.16 The following scenarios have been considered:
- 2025 base (based on surveys undertaken in February 2025. Copies of the results are provided at **Appendix B¹**)
 - 2030 base (including remaining commercial and Hilland House residential developments)
 - 2030 base with development
- 5.17 Traffic flow diagrams of the various scenarios detailed above are included at **Appendix C** for completeness.

Stane Street / New Road / Site Access Roundabout

- 5.18 The full modelling outputs for the Stane Street / New Road / Site Access Roundabout are attached at **Appendix D** whilst a summary of the modelling results is provided in **Table 5.5**.

Table 5.6: Modelling Summary - Stane Street / New Road / Site Access Roundabout

2025 Base	AM Peak				PM Peak			
	Queue	Delay	RFC	LoS	Queue	Delay	RFC	LoS
A29 (north)	1.0	4.52	0.50	A	1.8	5.97	0.64	A
New Road	0.1	7.48	0.11	A	0.1	9.04	0.13	A
Site Access	0.5	5.88	0.34	A	1.0	8.62	0.49	A
A29 (south)	2.2	6.12	0.69	A	0.7	3.07	0.40	A

¹ It should be noted that the surveys update those that were used to inform the original outline application and take into account the diversionary effects of the Eastern Relief Road, which were previously based on assumptions taken from analysis undertaken for this piece on infrastructure.



2030 Base	AM Peak				PM Peak			
	Queue	Delay	RFC	LoS	Queue	Delay	RFC	LoS
A29 (north)	1.3	5.32	0.57	A	2.4	7.52	0.71	A
New Road	0.3	9.55	0.23	A	0.3	11.00	0.21	B
Site Access	0.7	6.95	0.40	A	1.7	12.72	0.63	B
A29 (south)	3.4	8.48	0.77	A	0.8	3.37	0.45	A
2030 with Development	AM Peak				PM Peak			
	Queue	Delay	RFC	LoS	Queue	Delay	RFC	LoS
A29 (north)	1.3	5.45	0.58	A	2.7	8.18	0.73	A
New Road	0.3	9.82	0.23	A	0.3	11.83	0.22	B
Site Access	0.8	7.59	0.46	A	1.9	13.73	0.66	B
A29 (south)	3.6	9.06	0.79	A	0.9	3.47	0.46	A

- 5.19 When considering the results presented at **Table 5.6**, it should be noted that the CIHT indicates that RFC values of 0.85 to 0.90 have historically been considered to reflect uncongested design thresholds, whilst an RFC of 1 indicates that a junction is operating at capacity.
- 5.20 As demonstrated above, the Stane Street / New Road / Site Access Roundabout is expected to operate well below this threshold with a maximum RFC of 0.79 following the inclusion of development traffic. Accordingly, the junction is expected to operate with LoS values of A or B in all scenarios demonstrating free flow conditions such that no mitigation would be required to accommodate the proposals at this junction.

Hilland Roundabout

- 5.21 The full modelling outputs for the Hilland Roundabout are attached at **Appendix D** whilst a summary of the modelling results is provided in **Table 5.7**.

Table 5.7: Modelling Summary – Hilland Roundabout

2025 Base	AM Peak				PM Peak			
	Queue	Delay	RFC	LoS	Queue	Delay	RFC	LoS
A29 (north)	0.6	2.92	0.39	A	1.4	4.29	0.59	A
Hillgate Road	0.5	4.44	0.32	A	0.2	4.57	0.18	A
High Street	0.8	5.94	0.44	A	0.3	4.30	0.22	A
A29 (west)	0.9	5.26	0.47	A	0.6	3.44	0.36	A



2030 Base	AM Peak				PM Peak			
	Queue	Delay	RFC	LoS	Queue	Delay	RFC	LoS
A29 (north)	0.8	3.14	0.43	A	1.9	5.09	0.65	A
Hillgate Road	0.6	4.96	0.37	A	0.3	5.13	0.22	B
High Street	1.0	6.98	0.50	A	0.3	4.71	0.25	B
A29 (west)	1.2	6.30	0.54	A	0.6	3.70	0.39	A
2030 with Development	AM Peak				PM Peak			
	Queue	Delay	RFC	LoS	Queue	Delay	RFC	LoS
A29 (north)	0.8	3.19	0.44	A	1.9	5.17	0.65	A
Hillgate Road	0.6	5.04	0.37	A	0.3	5.23	0.23	B
High Street	1.0	7.08	0.50	A	0.4	4.79	0.26	B
A29 (west)	1.2	6.37	0.54	A	0.7	3.76	0.40	A

- 5.22 As demonstrated above, the Hilland Roundabout is expected to operate well below this threshold with a maximum RFC of 0.65 following the inclusion of development traffic. Accordingly, the junction is expected to operate with LoS values of A in all scenarios demonstrating free flow conditions such that no mitigation would be required to accommodate the proposals at this junction.

Summary

- 5.23 It has been demonstrated that the proposed development would not have a material impact on the highway network with up to a 4.6% increase in traffic flows in the busiest peak period which is likely to be within daily fluctuations experienced on the network which are commonly accepted to be +/-10%. This has further been demonstrated through detailed junction modelling which illustrates that key junctions would continue to operate in free-flow conditions in the future year scenario following the inclusion of development traffic.



6.0 Mitigation

Overview

- 6.1 Whilst it has been shown at Section 5 that the proposed development will not lead to a severe impact, the Applicant recognises that there is a need to ensure measures are in place to reduce car demands. Similarly, there is also a need to make sure that there are measures in place to minimise any disruption during the construction period is kept to a minimum. The following text sets out how this will be achieved.

Residential Travel Plan

- 6.2 The NPPF indicates that developments generating significant traffic movements should provide a travel plan. Travel Plans are intended to be used to encourage a change in travel patterns. The main objective of a Travel Plan is to provide a reduction in private car mileage in favour of the more sustainable modes of travel, thus reflecting current Government policy in respect of transport and as such they contain details of a range of initiatives to encourage the use of sustainable travel modes.
- 6.3 In this regard, a Residential Travel Plan (RTP) has been prepared to inform the content of potential measures at the Site. This is provided at **Appendix E**.

Construction Traffic Management Plan

- 6.4 To ensure that the impacts associated with the construction phase, such as increases in traffic, noise and dust, are minimised, a Construction Traffic Management Plan (CTMP) will be operated. The expected commencement and conclusion dates will be confirmed in due course. It is anticipated that this will be secured by condition.
- 6.5 The construction programme and phasing will depend on a number of factors including safety, environmental considerations, economics, access and practicalities. In this regard, the type and number of vehicle movements generated during the construction period will be dependent on the type and intensity of work being undertaken at any one stage. Similarly, the phasing of the construction programme will be dependent upon how the contractor appointed to carry out the works decides to manage the construction period.



7.0 Summary and Conclusions

7.1 SLR has been appointed to provide highways and transportation advice in relation to development proposals on land to the east of Stane Street in Billingshurst, West Sussex.

7.2 The site is located approximately 750 metres to the north of Billingshurst Village centre, within the administrative boundaries of Horsham District Council (HDC) and West Sussex County Council (WSCC). The site forms an extension to the Billingshurst Trade and Business Park with access provided via the A29 (Stane Street) / New Road roundabout.

7.3 The development proposals comprise a comprehensive replan of the undeveloped land within Phase 2 and the commercial development to the south (Phase 3). The scheme seeks to provide:

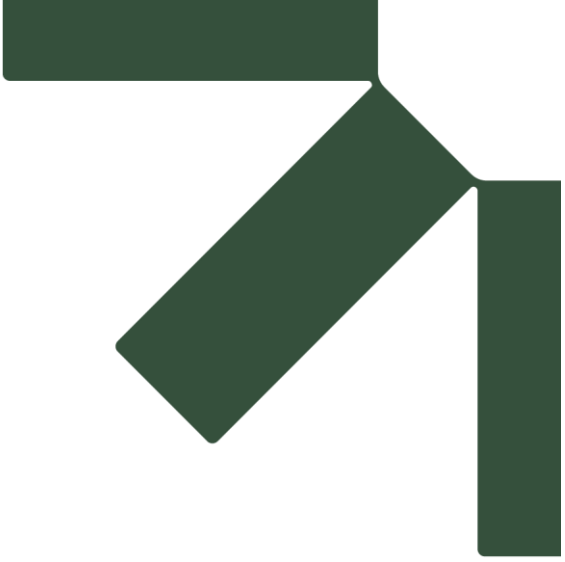
“Mixed use development, including detailed permission for means of access and 1,338 sqm business floorspace with the remainder of the development in outline, comprising up to 102no. homes and up to 5,605 sqm of business floorspace (Classes E g (iii)/B2/B8).”

7.4 This Transport Assessment has demonstrated the following:

- The site is situated in an accessible location with a range of sustainable transport opportunities including access to public transport and the active travel network within the immediate vicinity.
- An analysis of personal injury accident data records has identified that the local highway network is not subject to poor safety record.
- Safe and suitable access to the site can be achieved via the existing roundabout access serving the wider Billingshurst Trade and Business Park.
- A trip generation assessment demonstrates that the proposals could be expected to result in of 82 two-way vehicle trips in the morning peak and 78 in the weekday evening peak.
- Once distributed onto the local network, the proposals would result in up to a 4.6% increase in traffic flows during peak periods which is not considered to be material in the context of daily fluctuations on the transport network.
- Detailed junction modelling has confirmed that the proposals would not have a material impact on the operation of key location junctions which would continue to operate in free-flow conditions in the future year scenario following the inclusion of development traffic.

7.5 It has therefore been demonstrated that the development proposals accord with local and national transport planning policy and would not have a severe impact on the local highway or transport networks. It is therefore concluded that there the proposals will provide a sustainable development for the future in traffic and transportation terms.





Appendix A Site Layout

Transport Assessment

Land at Hilland Farm, Billingshurst

Dunmoore Group

SLR Project No.: 184379G

23 September 2025



S01 05.03.25 First Issue MD
Mark Date Details

REVISIONS

Client:
Dunmoore Properties Ltd

Project Title:
Land at Billingshurst Trade Park

Scale: 1:500 for the original size of: A1

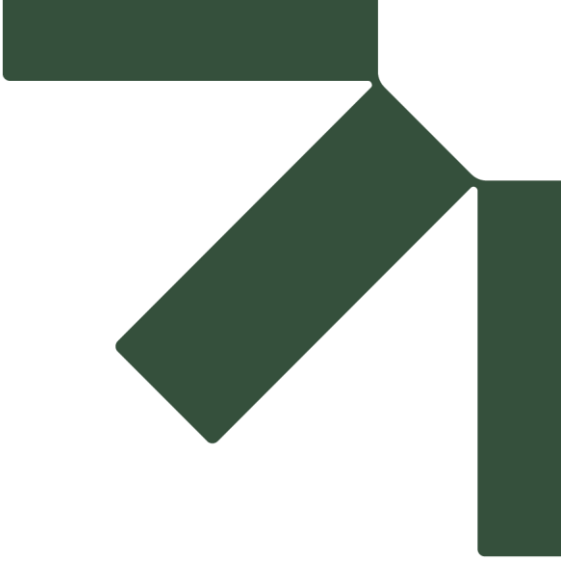
Drawn by MD Checked by MD Passed by MD Date: 05.03.2025

Drawing Status:
For Information

Drawing Originator:
DAVIESLANDSCAPE
ARCHITECTS
Office 1C, 1-2 King street, Stroud, Gloucestershire, GL5 3BS
w: www.d-ls.co.uk e: info@d-ls.co.uk t: 01453 760380

Drawing Title:
Residential Layout Option

Job No.	Drawing	Project	Origin	Volume	Level	Type	Discp	Number	Revision
2284	2273	DLA	100	-	DR	L	101	505	



Appendix B Traffic Survey Data

Transport Assessment

Land at Hilland Farm, Billingshurst

Dunmoore Group

SLR Project No.: 184379G

23 September 2025

Billingshurst, Wednesday 26th February 2025

Junction: 1
Approach: A29 Stane Street North



TIME	B					C					D					U-Turn				
	To New Road					To Billingshurst Business Park					To A29 Stane Street (South)									
	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	0	0	0.0	13	0	0	13	13.0	58	1	0	59	60.3	0	0	0	0	0.0
07:15 - 07:30	2	1	0	3	4.3	18	0	0	18	18.0	87	2	0	89	91.6	0	1	0	1	2.3
07:30 - 07:45	2	0	0	2	2.0	25	0	0	25	25.0	104	5	2	111	119.5	0	0	0	0	0.0
07:45 - 08:00	5	0	0	5	5.0	29	0	0	29	29.0	115	2	1	118	121.6	0	0	0	0	0.0
Hourly Total	9	1	0	10	11.3	85	0	0	85	85.0	364	10	3	377	393.0	0	1	0	1	2.3
08:00 - 08:15	6	0	0	6	6.0	34	0	0	34	34.0	129	1	0	130	131.3	0	0	0	0	0.0
08:15 - 08:30	9	0	0	9	9.0	39	1	0	40	41.3	132	6	2	140	149.8	0	0	0	0	0.0
08:30 - 08:45	12	0	0	12	12.0	49	0	0	49	49.0	141	2	1	144	147.6	0	0	0	0	0.0
08:45 - 09:00	10	0	0	10	10.0	33	0	0	33	33.0	123	5	1	129	136.5	0	0	0	0	0.0
Hourly Total	37	0	0	37	37.0	155	1	0	156	157.3	525	14	4	543	565.2	0	0	0	0	0.0
09:00 - 09:15	9	3	0	12	15.9	36	1	0	37	38.3	117	2	2	121	125.6	0	0	0	0	0.0
09:15 - 09:30	7	0	0	7	7.0	31	0	0	31	31.0	90	4	0	94	99.2	0	0	0	0	0.0
09:30 - 09:45	3	0	0	3	3.0	27	2	0	29	31.6	83	11	1	95	110.3	0	0	0	0	0.0
09:45 - 10:00	1	1	0	2	3.3	23	1	0	24	25.3	71	5	0	76	82.5	0	0	0	0	0.0
Hourly Total	20	4	0	24	29.2	117	4	0	121	126.2	361	22	3	386	417.6	0	0	0	0	0.0

PCU Factors:	
LIGHT	1.0
HEAVY	2.3
BUS	2.0

TOTAL	66	5	0	71	77.5	357	5	0	362	368.5	1250	46	10	1306	1375.8	0	1	0	1	2.3
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16:00 - 16:15	10	0	0	10	10.0	39	0	0	39	39.0	187	1	0	188	189.3	0	0	0	0	0.0
16:15 - 16:30	12	0	0	12	12.0	44	0	0	44	44.0	188	1	3	192	196.3	0	0	0	0	0.0
16:30 - 16:45	9	0	0	9	9.0	46	1	0	47	48.3	195	0	0	195	195.0	0	0	0	0	0.0
16:45 - 17:00	7	0	0	7	7.0	52	1	0	53	54.3	183	0	0	183	183.0	0	0	0	0	0.0
Hourly Total	38	0	0	38	38.0	181	2	0	183	185.6	753	2	3	758	763.6	0	0	0	0	0.0
17:00 - 17:15	8	0	0	8	8.0	58	0	0	58	58.0	204	0	0	204	204.0	0	0	0	0	0.0
17:15 - 17:30	7	0	0	7	7.0	49	0	0	49	49.0	193	1	0	194	195.3	0	0	0	0	0.0
17:30 - 17:45	9	0	0	9	9.0	44	0	0	44	44.0	185	2	2	189	193.6	0	0	0	0	0.0
17:45 - 18:00	6	0	0	6	6.0	40	0	0	40	40.0	177	0	0	177	177.0	0	0	0	0	0.0
Hourly Total	30	0	0	30	30.0	191	0	0	191	191.0	759	3	2	764	769.9	0	0	0	0	0.0
18:00 - 18:15	5	0	0	5	5.0	47	0	0	47	47.0	156	1	0	157	158.3	0	0	0	0	0.0
18:15 - 18:30	2	0	0	2	2.0	39	0	0	39	39.0	137	1	1	139	141.3	0	0	0	0	0.0
18:30 - 18:45	3	0	0	3	3.0	30	0	0	30	30.0	119	1	0	120	121.3	0	0	0	0	0.0
18:45 - 19:00	1	0	0	1	1.0	35	0	0	35	35.0	127	0	1	128	129.0	0	0	0	0	0.0
Hourly Total	11	0	0	11	11.0	151	0	0	151	151.0	539	3	2	544	549.9	0	0	0	0	0.0

TOTAL	79	0	0	79	79.0	523	2	0	525	527.6	2051	8	7	2066	2083.4	0	0	0	0	0.0
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Billingshurst, Wednesday 26th February 2025



Junction: 1

Approach: New Road

TIME	C To Billingshurst Business Park					D To A29 Stane Street (South)					A To A29 Stane Street (North)				
	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs
07:00 - 07:15	2	0	0	2	2.0	2	0	0	2	2.0	2	0	0	2	2.0
07:15 - 07:30	1	0	0	1	1.0	8	0	0	8	8.0	2	0	0	2	2.0
07:30 - 07:45	1	0	0	1	1.0	7	0	0	7	7.0	1	2	0	3	5.6
07:45 - 08:00	2	0	0	2	2.0	5	0	0	5	5.0	3	0	0	3	3.0
Hourly Total	6	0	0	6	6.0	22	0	0	22	22.0	8	2	0	10	12.6
08:00 - 08:15	1	0	0	1	1.0	9	0	0	9	9.0	3	0	0	3	3.0
08:15 - 08:30	3	0	0	3	3.0	11	0	0	11	11.0	0	0	0	0	0.0
08:30 - 08:45	1	1	0	2	3.3	8	0	0	8	8.0	2	0	0	2	2.0
08:45 - 09:00	4	0	0	4	4.0	10	0	0	10	10.0	1	0	0	1	1.0
Hourly Total	9	1	0	10	11.3	38	0	0	38	38.0	6	0	0	6	6.0
09:00 - 09:15	6	0	0	6	6.0	19	0	0	19	19.0	6	0	0	6	6.0
09:15 - 09:30	4	0	0	4	4.0	9	0	0	9	9.0	4	2	0	6	8.6
09:30 - 09:45	1	0	0	1	1.0	2	0	0	2	2.0	1	1	0	2	3.3
09:45 - 10:00	4	0	0	4	4.0	9	0	0	9	9.0	6	0	0	6	6.0
Hourly Total	15	0	0	15	15.0	39	0	0	39	39.0	17	3	0	20	23.9

TOTAL	30	1	0	31	32.3	99	0	0	99	99.0	31	5	0	36	42.5
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16:00 - 16:15	6	0	0	6	6.0	7	0	0	7	7.0	3	1	0	4	5.3
16:15 - 16:30	4	0	0	4	4.0	13	0	0	13	13.0	4	0	0	4	4.0
16:30 - 16:45	6	0	0	6	6.0	7	0	0	7	7.0	6	0	0	6	6.0
16:45 - 17:00	3	0	0	3	3.0	13	0	0	13	13.0	1	0	0	1	1.0
Hourly Total	19	0	0	19	19.0	40	0	0	40	40.0	14	1	0	15	16.3
17:00 - 17:15	4	0	0	4	4.0	5	0	0	5	5.0	2	0	0	2	2.0
17:15 - 17:30	1	0	0	1	1.0	10	0	0	10	10.0	2	0	0	2	2.0
17:30 - 17:45	3	0	0	3	3.0	9	0	0	9	9.0	0	0	0	0	0.0
17:45 - 18:00	5	0	0	5	5.0	12	0	0	12	12.0	1	0	0	1	1.0
Hourly Total	13	0	0	13	13.0	36	0	0	36	36.0	5	0	0	5	5.0
18:00 - 18:15	2	0	0	2	2.0	6	0	0	6	6.0	3	0	0	3	3.0
18:15 - 18:30	1	0	0	1	1.0	4	0	0	4	4.0	1	0	0	1	1.0
18:30 - 18:45	0	0	0	0	0.0	3	0	0	3	3.0	1	0	0	1	1.0
18:45 - 19:00	1	0	0	1	1.0	7	0	0	7	7.0	5	0	0	5	5.0
Hourly Total	4	0	0	4	4.0	20	0	0	20	20.0	10	0	0	10	10.0

TOTAL	36	0	0	36	36.0	96	0	0	96	96.0	29	1	0	30	31.3
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PCU Factors:	
LIGHT	1.0
HEAVY	2.3
BUS	2.0

Billingshurst, Wednesday 26th February 2025

Junction: 1

Approach: Billingshurst Business Park



TIME	D To A29 Stane Street (South)					A To A29 Stane Street (North)					B To New Road				
	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs
07:00 - 07:15	17	1	0	18	19.3	16	0	0	16	16.0	3	0	0	3	3.0
07:15 - 07:30	27	1	0	28	29.3	20	1	0	21	22.3	2	0	0	2	2.0
07:30 - 07:45	39	0	0	39	39.0	26	0	0	26	26.0	1	1	0	2	3.3
07:45 - 08:00	35	0	0	35	35.0	24	0	0	24	24.0	1	0	0	1	1.0
Hourly Total	118	2	0	120	122.6	86	1	0	87	88.3	7	1	0	8	9.3
08:00 - 08:15	32	0	0	32	32.0	25	3	0	28	31.9	1	0	0	1	1.0
08:15 - 08:30	36	0	0	36	36.0	29	1	0	30	31.3	2	0	0	2	2.0
08:30 - 08:45	35	3	0	38	41.9	33	1	0	34	35.3	1	0	0	1	1.0
08:45 - 09:00	42	0	0	42	42.0	37	1	0	38	39.3	1	0	0	1	1.0
Hourly Total	145	3	0	148	151.9	124	6	0	130	137.8	5	0	0	5	5.0
09:00 - 09:15	51	2	0	53	55.6	35	1	1	37	39.3	2	0	0	2	2.0
09:15 - 09:30	40	2	0	42	44.6	25	0	0	25	25.0	1	0	0	1	1.0
09:30 - 09:45	39	2	0	41	43.6	14	1	0	15	16.3	2	0	0	2	2.0
09:45 - 10:00	31	0	0	31	31.0	23	0	0	23	23.0	3	0	0	3	3.0
Hourly Total	161	6	0	167	174.8	97	2	1	100	103.6	8	0	0	8	8.0

PCU Factors:	
LIGHT	1.0
HEAVY	2.3
BUS	2.0

TOTAL	424	11	0	435	449.3	307	9	1	317	329.7	20	1	0	21	22.3
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16:00 - 16:15	52	0	0	52	52.0	21	0	0	21	21.0	1	0	0	1	1.0
16:15 - 16:30	57	0	1	58	59.0	20	0	0	20	20.0	3	0	0	3	3.0
16:30 - 16:45	55	0	0	55	55.0	18	0	0	18	18.0	5	0	0	5	5.0
16:45 - 17:00	60	0	0	60	60.0	22	0	0	22	22.0	3	0	0	3	3.0
Hourly Total	224	0	1	225	226.0	81	0	0	81	81.0	12	0	0	12	12.0
17:00 - 17:15	73	0	0	73	73.0	17	1	0	18	19.3	5	0	0	5	5.0
17:15 - 17:30	71	0	0	71	71.0	19	0	0	19	19.0	4	0	0	4	4.0
17:30 - 17:45	67	0	0	67	67.0	16	0	0	16	16.0	3	0	0	3	3.0
17:45 - 18:00	66	0	1	67	68.0	21	0	0	21	21.0	2	0	0	2	2.0
Hourly Total	277	0	1	278	279.0	73	1	0	74	75.3	14	0	0	14	14.0
18:00 - 18:15	52	0	0	52	52.0	18	0	0	18	18.0	0	0	0	0	0.0
18:15 - 18:30	49	0	0	49	49.0	14	0	0	14	14.0	3	0	0	3	3.0
18:30 - 18:45	45	0	0	45	45.0	17	0	0	17	17.0	0	0	0	0	0.0
18:45 - 19:00	40	0	0	40	40.0	15	0	0	15	15.0	1	0	0	1	1.0
Hourly Total	186	0	0	186	186.0	64	0	0	64	64.0	4	0	0	4	4.0

TOTAL	687	0	2	689	691.0	218	1	0	219	220.3	30	0	0	30	30.0
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Billingshurst, Wednesday 26th February 2025



Junction: 1

Approach: A29 Stane Street South

TIME	A To A29 Stane Street (North)					B To New Road					C To Billingshurst Business Park				
	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs
07:00 - 07:15	183	3	1	187	191.9	1	0	0	1	1.0	24	1	0	25	26.3
07:15 - 07:30	257	4	1	262	268.2	2	0	0	2	2.0	30	0	0	30	30.0
07:30 - 07:45	290	2	0	292	294.6	3	0	0	3	3.0	39	2	0	41	43.6
07:45 - 08:00	285	0	1	286	287.0	4	0	0	4	4.0	35	3	0	38	41.9
Hourly Total	1015	9	3	1027	1041.7	10	0	0	10	10.0	128	6	0	134	141.8
08:00 - 08:15	282	6	0	288	295.8	3	0	0	3	3.0	36	2	0	38	40.6
08:15 - 08:30	243	4	0	247	252.2	10	0	0	10	10.0	43	3	0	46	49.9
08:30 - 08:45	195	5	3	203	212.5	19	0	0	19	19.0	52	0	0	52	52.0
08:45 - 09:00	221	3	0	224	227.9	12	0	0	12	12.0	55	0	1	56	57.0
Hourly Total	941	18	3	962	988.4	44	0	0	44	44.0	186	5	1	192	199.5
09:00 - 09:15	211	4	0	215	220.2	9	0	0	9	9.0	54	3	0	57	60.9
09:15 - 09:30	187	4	0	191	196.2	8	0	0	8	8.0	46	1	0	47	48.3
09:30 - 09:45	177	2	1	180	183.6	6	0	0	6	6.0	41	0	0	41	41.0
09:45 - 10:00	151	2	1	154	157.6	3	0	0	3	3.0	38	0	0	38	38.0
Hourly Total	726	12	2	740	757.6	26	0	0	26	26.0	179	4	0	183	188.2

PCU Factors:	
LIGHT	1.0
HEAVY	2.3
BUS	2.0

TOTAL	2682	39	8	2729	2787.7	80	0	0	80	80.0	493	15	1	509	529.5
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16:00 - 16:15	131	3	2	136	141.9	13	0	0	13	13.0	32	0	0	32	32.0
16:15 - 16:30	149	4	0	153	158.2	11	0	0	11	11.0	40	0	0	40	40.0
16:30 - 16:45	165	0	1	166	167.0	10	0	0	10	10.0	46	0	0	46	46.0
16:45 - 17:00	157	1	0	158	159.3	5	0	0	5	5.0	42	0	0	42	42.0
Hourly Total	602	8	3	613	626.4	39	0	0	39	39.0	160	0	0	160	160.0
17:00 - 17:15	145	2	0	147	149.6	4	0	0	4	4.0	33	1	0	34	35.3
17:15 - 17:30	147	0	1	148	149.0	6	0	0	6	6.0	34	1	0	35	36.3
17:30 - 17:45	142	1	0	143	144.3	4	0	0	4	4.0	29	0	0	29	29.0
17:45 - 18:00	131	1	1	133	135.3	5	0	0	5	5.0	32	0	1	33	34.0
Hourly Total	565	4	2	571	578.2	19	0	0	19	19.0	128	2	1	131	134.6
18:00 - 18:15	91	1	0	92	93.3	4	0	0	4	4.0	39	0	0	39	39.0
18:15 - 18:30	94	0	1	95	96.0	4	0	0	4	4.0	41	0	0	41	41.0
18:30 - 18:45	90	1	0	91	92.3	2	0	0	2	2.0	36	1	0	37	38.3
18:45 - 19:00	98	0	1	99	100.0	3	0	0	3	3.0	31	1	0	32	33.3
Hourly Total	373	2	2	377	381.6	13	0	0	13	13.0	147	2	0	149	151.6

TOTAL	1540	14	7	1561	1586.2	71	0	0	71	71.0	435	4	1	440	446.2
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Billingshurst, Wednesday 26th February 2025

Junction: 2

Approach: A29 Stane Street



TIME	B Left to A272 Hilland Road					C Ahead to High Street					D Right to A272				
	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs
07:00 - 07:15	9	1	0	10	11.3	24	0	0	24	24.0	45	1	0	46	47.3
07:15 - 07:30	12	0	0	12	12.0	43	1	0	44	45.3	66	2	0	68	70.6
07:30 - 07:45	15	0	2	17	19.0	55	1	0	56	57.3	76	4	0	80	85.2
07:45 - 08:00	17	0	1	18	19.0	60	0	0	60	60.0	80	2	0	82	84.6
Hourly Total	53	1	3	57	61.3	182	2	0	184	186.6	267	9	0	276	287.7
08:00 - 08:15	23	0	0	23	23.0	58	0	0	58	58.0	88	1	0	89	90.3
08:15 - 08:30	21	0	1	22	23.0	59	0	0	59	59.0	98	5	0	103	109.5
08:30 - 08:45	27	1	2	30	33.3	62	1	0	63	64.3	98	4	0	102	107.2
08:45 - 09:00	25	0	1	26	27.0	65	1	0	66	67.3	84	4	0	88	93.2
Hourly Total	96	1	4	101	106.3	244	2	0	246	248.6	368	14	0	382	400.2
09:00 - 09:15	24	0	2	26	28.0	70	0	0	70	70.0	94	4	0	98	103.2
09:15 - 09:30	19	0	0	19	19.0	43	0	0	43	43.0	78	6	0	84	91.8
09:30 - 09:45	15	2	0	17	19.6	35	2	0	37	39.6	72	9	1	82	94.7
09:45 - 10:00	17	1	0	18	19.3	31	1	0	32	33.3	64	3	0	67	70.9
Hourly Total	75	3	2	80	85.9	179	3	0	182	185.9	308	22	1	331	360.6

TOTAL	224	5	9	238	253.5	605	7	0	612	621.1	943	45	1	989	1048.5
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16:00 - 16:15	20	0	0	20	20.0	83	0	0	83	83.0	142	2	0	144	146.6
16:15 - 16:30	46	0	2	48	50.0	76	0	1	77	78.0	137	1	1	139	141.3
16:30 - 16:45	29	0	0	29	29.0	67	0	0	67	67.0	156	0	0	156	156.0
16:45 - 17:00	30	0	0	30	30.0	85	0	0	85	85.0	141	0	0	141	141.0
Hourly Total	125	0	2	127	129.0	311	0	1	312	313.0	576	3	1	580	584.9
17:00 - 17:15	35	0	0	35	35.0	93	0	0	93	93.0	155	0	0	155	155.0
17:15 - 17:30	41	0	0	41	41.0	98	0	0	98	98.0	134	1	0	135	136.3
17:30 - 17:45	33	0	2	35	37.0	100	0	0	100	100.0	127	2	0	129	131.6
17:45 - 18:00	30	0	1	31	32.0	104	0	0	104	104.0	127	0	0	127	127.0
Hourly Total	139	0	3	142	145.0	395	0	0	395	395.0	543	3	0	546	549.9
18:00 - 18:15	25	0	0	25	25.0	89	0	0	89	89.0	99	0	0	99	99.0
18:15 - 18:30	27	0	0	27	27.0	77	1	0	78	79.3	92	1	0	93	94.3
18:30 - 18:45	21	0	1	22	23.0	64	1	0	65	66.3	81	0	0	81	81.0
18:45 - 19:00	23	0	1	24	25.0	71	0	0	71	71.0	78	0	0	78	78.0
Hourly Total	96	0	2	98	100.0	301	2	0	303	305.6	350	1	0	351	352.3

TOTAL	360	0	7	367	374.0	1007	2	1	1010	1013.6	1469	7	1	1477	1487.1
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PCU Factors:	
LIGHT	1.0
HEAVY	2.3
BUS	2.0

Billingshurst, Wednesday 26th February 2025



Junction: 2

Approach: A272 Hilland Road

TIME	C Left to High Street					D Ahead to A272					A Right to A29 Stane Street				
	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs
07:00 - 07:15	1	0	0	1	1.0	11	0	0	11	11.0	36	2	1	39	42.6
07:15 - 07:30	3	0	0	3	3.0	15	0	0	15	15.0	51	2	1	54	57.6
07:30 - 07:45	4	0	0	4	4.0	13	1	0	14	15.3	49	1	0	50	51.3
07:45 - 08:00	2	0	0	2	2.0	8	1	0	9	10.3	67	2	0	69	71.6
Hourly Total	10	0	0	10	10.0	47	2	0	49	51.6	203	7	2	212	223.1
08:00 - 08:15	9	0	0	9	9.0	14	1	0	15	16.3	59	0	0	59	59.0
08:15 - 08:30	6	0	0	6	6.0	15	2	0	17	19.6	68	0	0	68	68.0
08:30 - 08:45	4	0	0	4	4.0	18	0	0	18	18.0	62	0	0	62	62.0
08:45 - 09:00	8	0	0	8	8.0	11	0	0	11	11.0	66	0	0	66	66.0
Hourly Total	27	0	0	27	27.0	58	3	0	61	64.9	255	0	0	255	255.0
09:00 - 09:15	7	0	0	7	7.0	9	1	0	10	11.3	47	1	0	48	49.3
09:15 - 09:30	3	0	0	3	3.0	6	3	0	9	12.9	25	0	0	25	25.0
09:30 - 09:45	5	0	0	5	5.0	11	1	0	12	13.3	28	0	0	28	28.0
09:45 - 10:00	4	0	0	4	4.0	20	0	0	20	20.0	21	1	1	23	25.3
Hourly Total	19	0	0	19	19.0	46	5	0	51	57.5	121	2	1	124	127.6

PCU Factors:	
LIGHT	1.0
HEAVY	2.3
BUS	2.0

TOTAL	56	0	0	56	56.0	151	10	0	161	174.0	579	9	3	591	605.7
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16:00 - 16:15	2	0	0	2	2.0	14	1	0	15	16.3	33	0	0	33	33.0
16:15 - 16:30	5	0	0	5	5.0	11	0	0	11	11.0	24	0	0	24	24.0
16:30 - 16:45	1	0	0	1	1.0	18	0	0	18	18.0	36	0	0	36	36.0
16:45 - 17:00	5	0	0	5	5.0	7	0	0	7	7.0	22	1	0	23	24.3
Hourly Total	13	0	0	13	13.0	50	1	0	51	52.3	115	1	0	116	117.3
17:00 - 17:15	2	0	0	2	2.0	7	0	0	7	7.0	24	0	0	24	24.0
17:15 - 17:30	6	0	0	6	6.0	13	0	0	13	13.0	20	1	0	21	22.3
17:30 - 17:45	4	0	0	4	4.0	16	0	0	16	16.0	24	0	0	24	24.0
17:45 - 18:00	6	0	0	6	6.0	10	0	0	10	10.0	27	0	1	28	29.0
Hourly Total	18	0	0	18	18.0	46	0	0	46	46.0	95	1	1	97	99.3
18:00 - 18:15	5	0	0	5	5.0	8	1	0	9	10.3	13	0	0	13	13.0
18:15 - 18:30	9	0	0	9	9.0	12	0	0	12	12.0	16	0	0	16	16.0
18:30 - 18:45	9	0	0	9	9.0	11	0	0	11	11.0	16	1	0	17	18.3
18:45 - 19:00	2	0	0	2	2.0	11	0	0	11	11.0	13	0	0	13	13.0
Hourly Total	25	0	0	25	25.0	42	1	0	43	44.3	58	1	0	59	60.3

TOTAL	56	0	0	56	56.0	138	2	0	140	142.6	268	3	1	272	276.9
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Billingshurst, Wednesday 26th February 2025



Junction: 2
Approach: High Street

TIME	D Left to A272					A Ahead to A29 Stane Street					B Right to A272 Hilland Road				
	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs
07:00 - 07:15	3	0	0	3	3.0	58	1	0	59	60.3	0	0	0	0	0.0
07:15 - 07:30	4	0	0	4	4.0	92	1	0	93	94.3	1	0	0	1	1.0
07:30 - 07:45	2	0	0	2	2.0	105	0	0	105	105.0	1	0	0	1	1.0
07:45 - 08:00	3	0	0	3	3.0	97	0	0	97	97.0	1	0	0	1	1.0
Hourly Total	12	0	0	12	12.0	352	2	0	354	356.6	3	0	0	3	3.0
08:00 - 08:15	4	0	0	4	4.0	120	1	0	121	122.3	2	0	0	2	2.0
08:15 - 08:30	6	0	0	6	6.0	95	1	0	96	97.3	3	0	0	3	3.0
08:30 - 08:45	5	0	0	5	5.0	85	1	1	87	89.3	4	0	0	4	4.0
08:45 - 09:00	4	0	0	4	4.0	98	0	0	98	98.0	2	0	0	2	2.0
Hourly Total	19	0	0	19	19.0	398	3	1	402	406.9	11	0	0	11	11.0
09:00 - 09:15	3	0	0	3	3.0	86	1	0	87	88.3	6	0	0	6	6.0
09:15 - 09:30	5	0	0	5	5.0	89	0	0	89	89.0	5	0	0	5	5.0
09:30 - 09:45	7	0	0	7	7.0	73	0	0	73	73.0	3	0	0	3	3.0
09:45 - 10:00	6	0	0	6	6.0	49	0	0	49	49.0	4	0	0	4	4.0
Hourly Total	21	0	0	21	21.0	297	1	0	298	299.3	18	0	0	18	18.0

TOTAL	52	0	0	52	52.0	1047	6	1	1054	1062.8	32	0	0	32	32.0
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16:00 - 16:15	8	0	0	8	8.0	50	1	2	53	56.3	2	0	0	2	2.0
16:15 - 16:30	7	0	0	7	7.0	53	1	0	54	55.3	3	0	0	3	3.0
16:30 - 16:45	9	0	0	9	9.0	59	0	1	60	61.0	3	0	0	3	3.0
16:45 - 17:00	8	0	0	8	8.0	61	0	0	61	61.0	5	0	0	5	5.0
Hourly Total	32	0	0	32	32.0	223	2	3	228	233.6	13	0	0	13	13.0
17:00 - 17:15	10	0	0	10	10.0	44	1	0	45	46.3	6	0	0	6	6.0
17:15 - 17:30	11	0	0	11	11.0	49	1	1	51	53.3	7	0	0	7	7.0
17:30 - 17:45	7	0	0	7	7.0	33	0	0	33	33.0	5	0	0	5	5.0
17:45 - 18:00	5	0	0	5	5.0	36	0	1	37	38.0	4	0	0	4	4.0
Hourly Total	33	0	0	33	33.0	162	2	2	166	170.6	22	0	0	22	22.0
18:00 - 18:15	4	0	0	4	4.0	35	0	0	35	35.0	3	0	0	3	3.0
18:15 - 18:30	6	0	0	6	6.0	45	0	0	45	45.0	4	0	0	4	4.0
18:30 - 18:45	3	0	0	3	3.0	39	0	0	39	39.0	4	0	0	4	4.0
18:45 - 19:00	4	0	0	4	4.0	46	0	0	46	46.0	3	1	0	4	5.3
Hourly Total	17	0	0	17	17.0	165	0	0	165	165.0	14	1	0	15	16.3

TOTAL	82	0	0	82	82.0	550	4	5	559	569.2	49	1	0	50	51.3
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PCU Factors:	
LIGHT	1.0
HEAVY	2.3
BUS	2.0

Billingshurst, Wednesday 26th February 2025

Junction: 2
Approach: A272



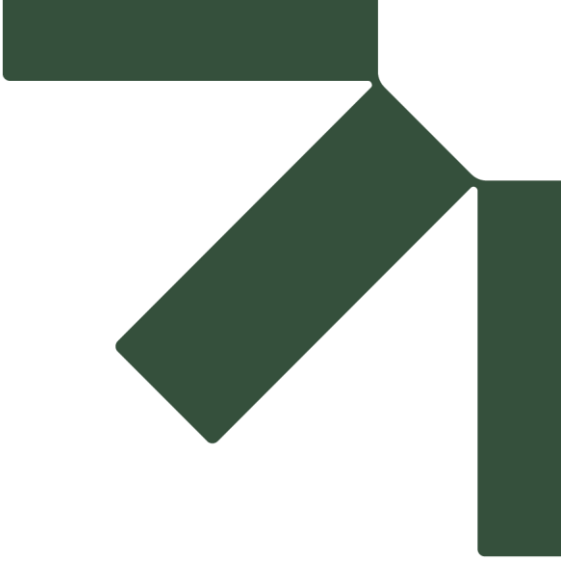
TIME	A Left to A29 Stane Street					B Ahead to A272 Hilland Road					C Right to High Street				
	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs	LIGHT	HEAVY	BUS	TOTAL	PCUs
07:00 - 07:15	114	1	0	115	116.3	4	0	0	4	4.0	0	0	0	0	0.0
07:15 - 07:30	146	1	0	147	148.3	3	0	0	3	3.0	0	0	0	0	0.0
07:30 - 07:45	179	2	0	181	183.6	2	1	0	3	4.3	0	0	0	0	0.0
07:45 - 08:00	162	2	1	165	168.6	2	1	0	3	4.3	0	0	0	0	0.0
Hourly Total	601	6	1	608	616.8	11	2	0	13	15.6	0	0	0	0	0.0
08:00 - 08:15	141	6	0	147	154.8	3	1	0	4	5.3	0	0	0	0	0.0
08:15 - 08:30	132	7	0	139	148.1	5	1	0	6	7.3	1	0	0	1	1.0
08:30 - 08:45	122	4	3	129	137.2	10	0	1	11	12.0	1	0	0	1	1.0
08:45 - 09:00	121	3	0	124	127.9	9	0	3	12	15.0	0	0	0	0	0.0
Hourly Total	516	20	3	539	568.0	27	2	4	33	39.6	2	0	0	2	2.0
09:00 - 09:15	143	6	0	149	156.8	8	0	0	8	8.0	1	0	0	1	1.0
09:15 - 09:30	129	5	0	134	140.5	11	0	0	11	11.0	1	0	0	1	1.0
09:30 - 09:45	122	2	1	125	128.6	10	1	0	11	12.3	2	0	0	2	2.0
09:45 - 10:00	122	0	0	122	122.0	9	0	0	9	9.0	5	0	0	5	5.0
Hourly Total	516	13	1	530	547.9	38	1	0	39	40.3	9	0	0	9	9.0

TOTAL	1633	39	5	1677	1732.7	76	5	4	85	95.5	11	0	0	11	11.0
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16:00 - 16:15	93	2	0	95	97.6	11	0	0	11	11.0	1	0	0	1	1.0
16:15 - 16:30	122	3	0	125	128.9	10	0	1	11	12.0	2	0	0	2	2.0
16:30 - 16:45	127	0	0	127	127.0	12	0	0	12	12.0	3	0	0	3	3.0
16:45 - 17:00	122	0	0	122	122.0	14	0	0	14	14.0	2	1	0	3	4.3
Hourly Total	464	5	0	469	475.5	47	0	1	48	49.0	8	1	0	9	10.3
17:00 - 17:15	114	1	0	115	116.3	16	0	0	16	16.0	2	0	0	2	2.0
17:15 - 17:30	117	0	0	117	117.0	19	0	0	19	19.0	0	0	0	0	0.0
17:30 - 17:45	119	1	0	120	121.3	17	0	0	17	17.0	1	0	0	1	1.0
17:45 - 18:00	106	1	0	107	108.3	15	0	0	15	15.0	2	0	0	2	2.0
Hourly Total	456	3	0	459	462.9	67	0	0	67	67.0	5	0	0	5	5.0
18:00 - 18:15	85	1	0	86	87.3	13	0	0	13	13.0	2	0	0	2	2.0
18:15 - 18:30	77	0	1	78	79.0	11	0	0	11	11.0	1	0	0	1	1.0
18:30 - 18:45	76	1	0	77	78.3	8	0	0	8	8.0	1	0	0	1	1.0
18:45 - 19:00	73	1	1	75	77.3	7	0	0	7	7.0	1	0	0	1	1.0
Hourly Total	311	3	2	316	321.9	39	0	0	39	39.0	5	0	0	5	5.0

TOTAL	1231	11	2	1244	1260.3	153	0	1	154	155.0	18	1	0	19	20.3
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PCU Factors:	
LIGHT	1.0
HEAVY	2.3
BUS	2.0



Appendix C Flow Diagrams

Transport Assessment

Land at Hilland Farm, Billingshurst

Dunmoore Group

SLR Project No.: 184379G

23 September 2025

		Junction 2			
		Stane Street (N)	Hilland Road	High Street	A272
		A	B	C	D
Stane Street (N)	A	0	101	246	382
Hilland Road	B	255	0	27	61
High Street	C	402	11	0	19
A272	D	539	33	2	0



Dunmoore Group

Figure No.:

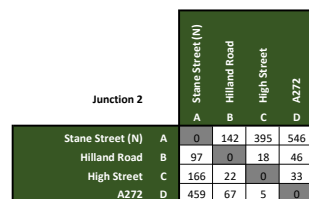


Figure No.:

Junction 1

		Stane Street (N)	New Road	Site Access	Stane Street (S)
	A	B	C	D	
Stane Street (N)	A	0	50	172	576
New Road	B	30	0	11	60
Site Access	C	140	5	0	165
Stane Street (S)	D	1021	55	227	0

Junction 2

		Stane Street (N)	Hilland Road	High Street	A272
	A	B	C	D	
Stane Street (N)	A	0	119	266	416
Hilland Road	B	283	0	29	65
High Street	C	432	12	0	20
A272	D	586	35	2	0

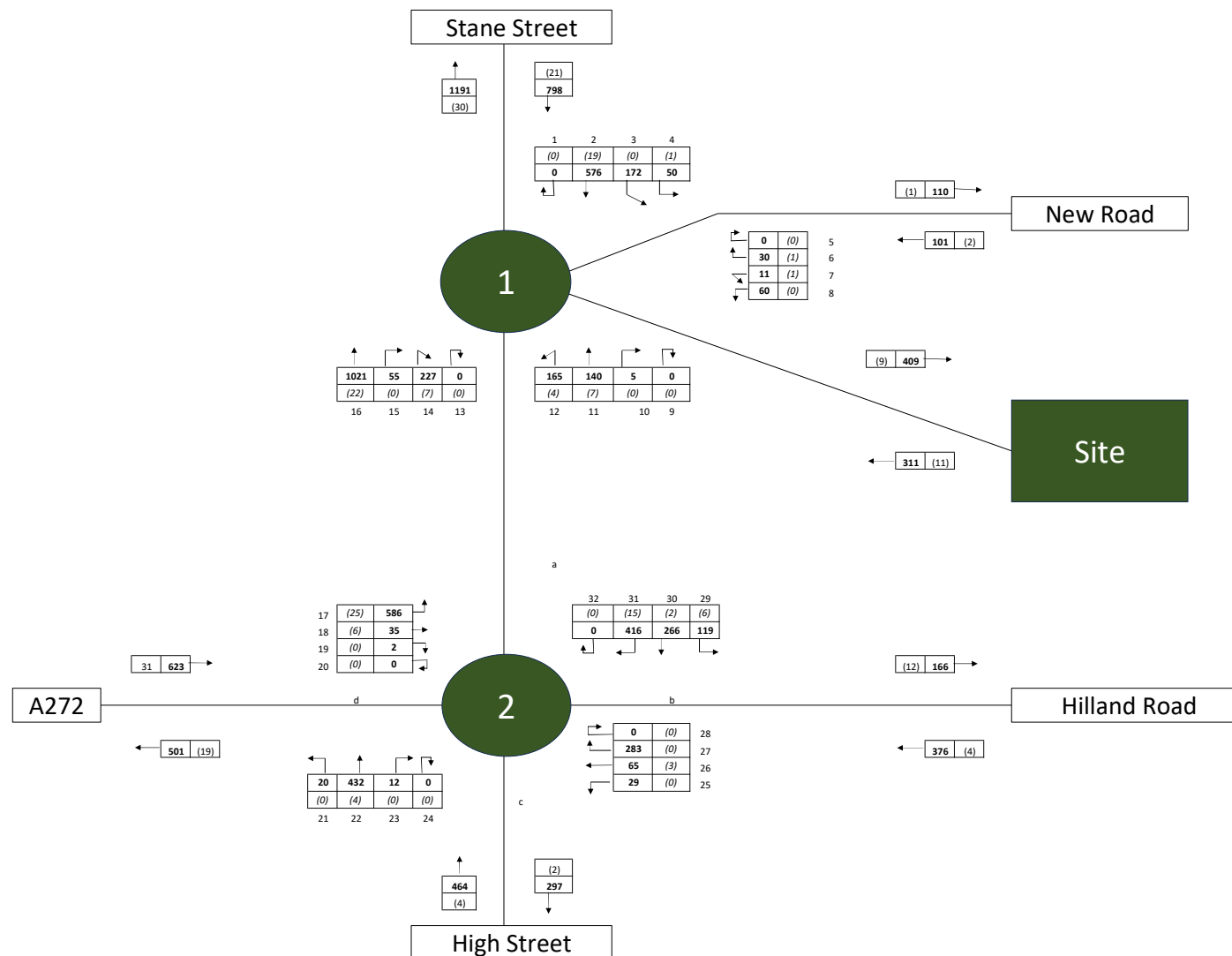


Figure Title:	2030 + Total Site + New Road Resi 08:00-09:00			Scale:	NTS	Date:	18/03/2025	Rev:	
Project Title:	Land North of Billingshurst	Client:	Dunmoore Group	Drawn:	DH	Checked:	JB	Figure No.:	

Junction 1

		Stane Street (N)	New Road	Site Access	Stane Street (S)
	A	B	C	D	
Stane Street (N)	A	0	55	204	811
New Road	B	16	0	14	47
Site Access	C	85	15	0	317
Stane Street (S)	D	606	39	145	0

Junction 2

		Stane Street (N)	Hilland Road	High Street	A272
	A	B	C	D	
Stane Street (N)	A	0	163	424	594
Hilland Road	B	113	0	19	49
High Street	C	181	23	0	35
A272	D	496	71	5	0

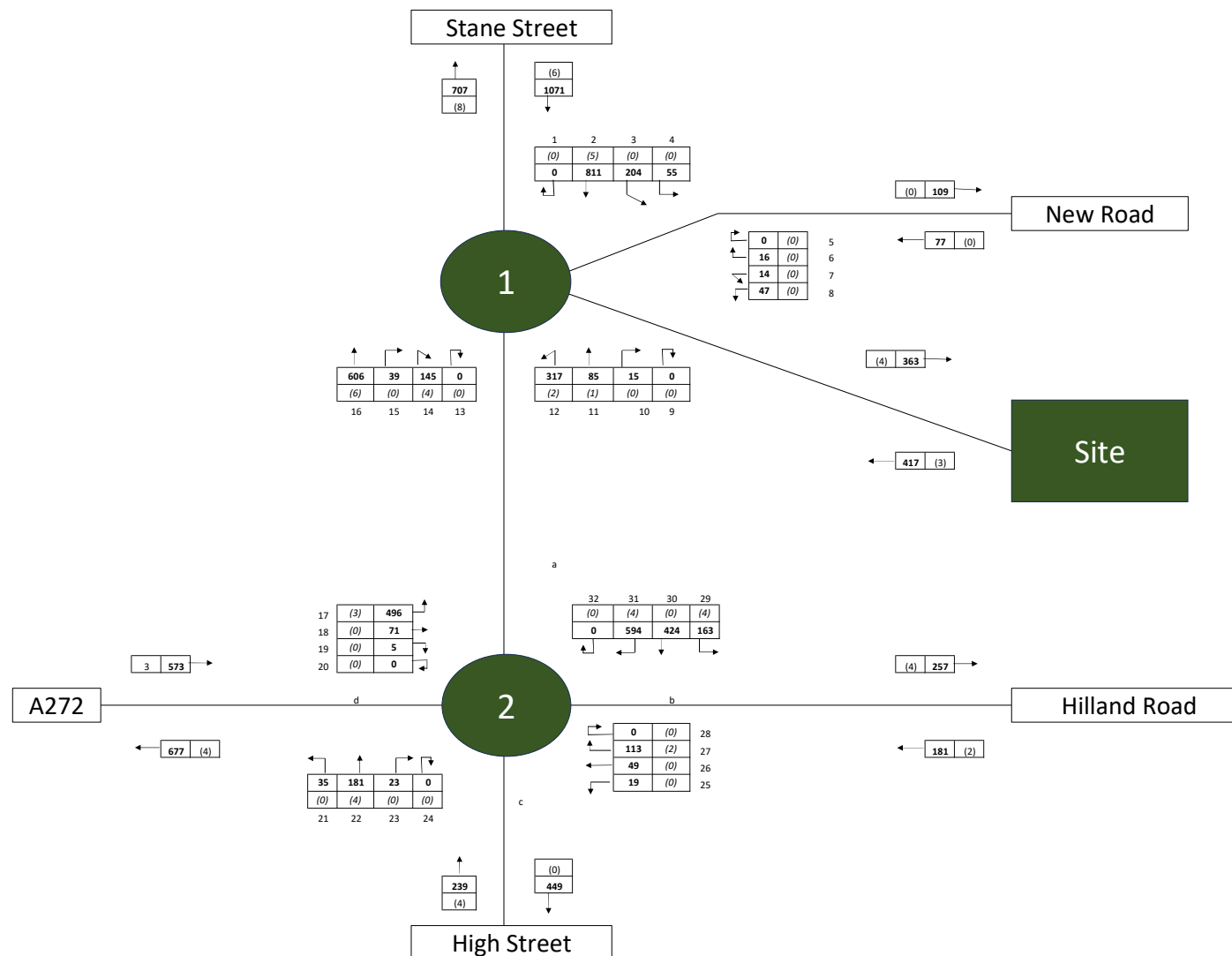


Figure Title:	2030 + Total Site + New Road Resi 17:00-18:00			Scale:	NTS	Date:	18/03/2025	Rev:	
Project Title:	Land North of Billingshurst			Client:	Dunmoore Group			Drawn:	DH
						Checked:	JB	Figure No.:	

Junction 1

		Stane Street (N)	New Road	Site Access	Stane Street (S)
	A	0	50	182	576
Stane Street (N)	B	30	0	11	60
New Road	C	164	5	0	185
Site Access	D	1021	55	235	0
Stane Street (S)					

Junction 2

		Stane Street (N)	Hilland Road	High Street	A272
	A	0	128	270	423
Stane Street (N)	B	287	0	29	65
Hilland Road	C	433	12	0	20
High Street	D	589	35	2	0
A272					

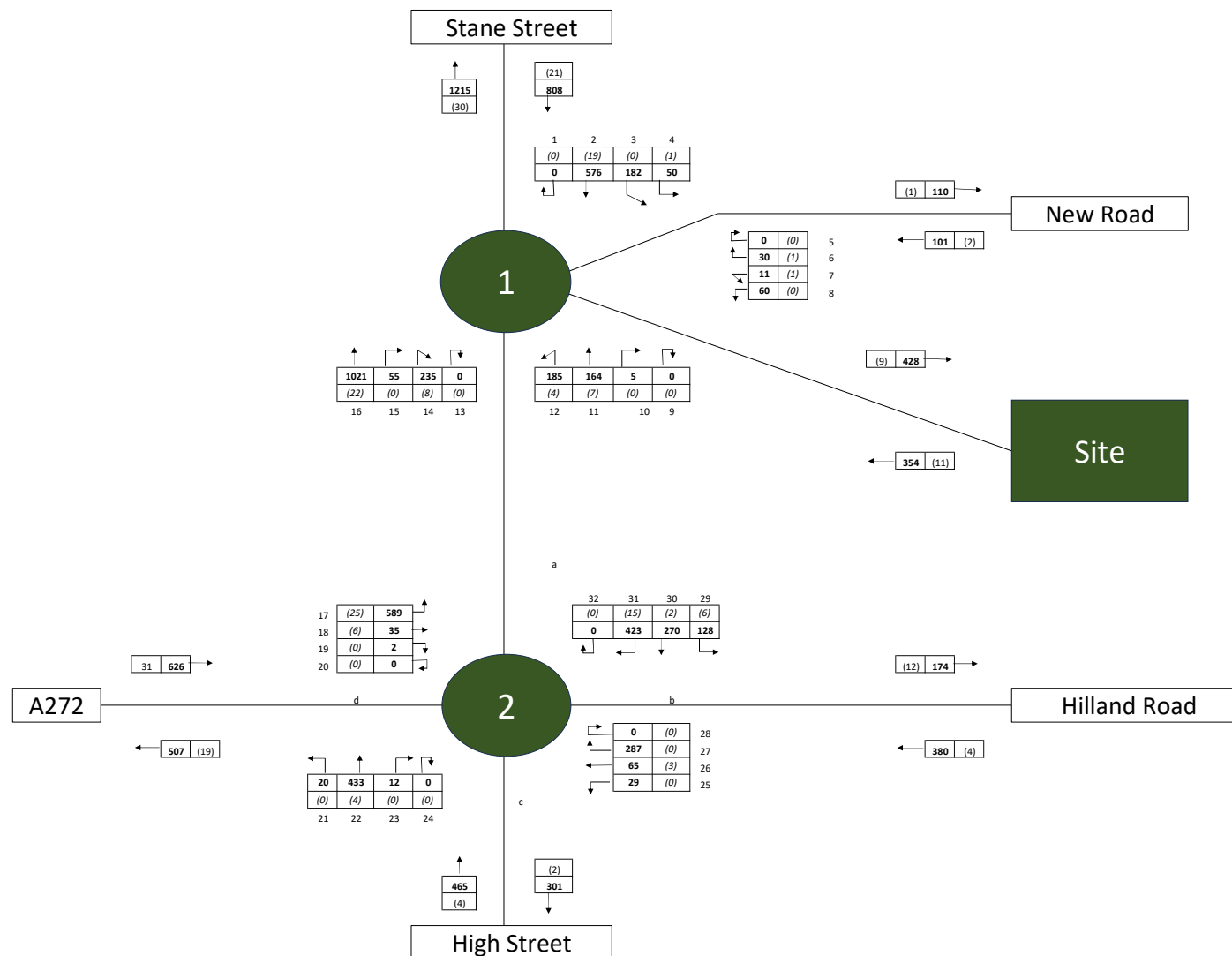


Figure Title:	2030 + Total Site + New Road Resi + Proposed Resi 08:00-09:00			Scale:	NTS	Date:	18/03/2025	Rev:	
Project Title:	Land North of Billingshurst			Drawn:	DH	Checked:	JB	Figure No.:	
Client:	Dunmoore Group								

Junction 1

		Stane Street (N)	New Road	Site Access	Stane Street (S)
	A	B	C	D	
Stane Street (N)	A	0	55	227	811
New Road	B	16	0	14	47
Site Access	C	96	15	0	326
Stane Street (S)	D	606	39	163	0

Junction 2

		Stane Street (N)	Hilland Road	High Street	A272
	A	B	C	D	
Stane Street (N)	A	0	167	426	597
Hilland Road	B	122	0	19	49
High Street	C	185	23	0	35
A272	D	503	71	5	0

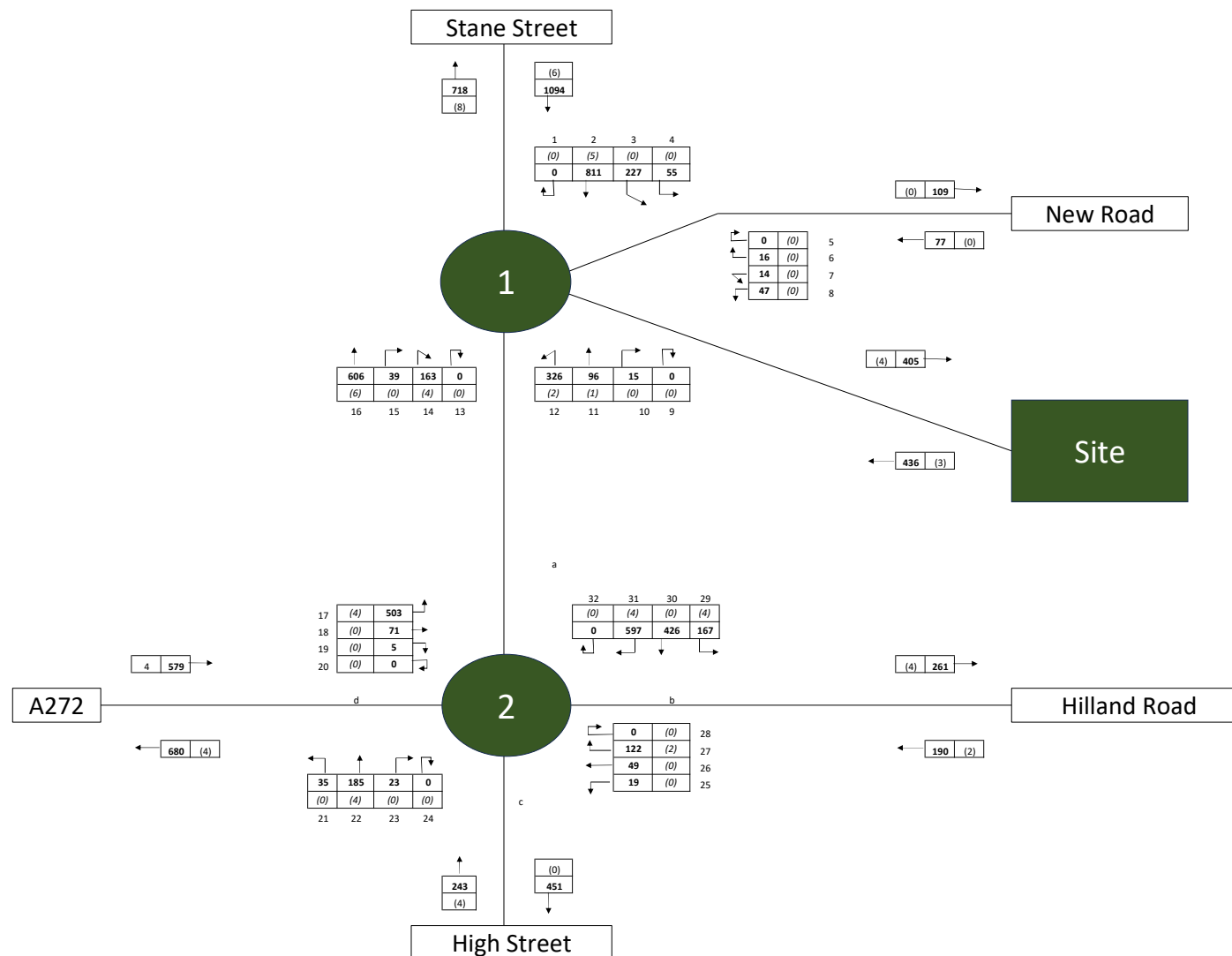
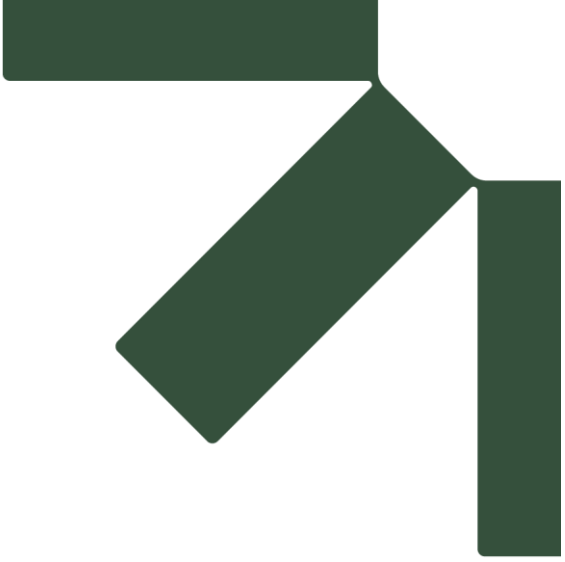


Figure Title:	2030 + Total Site + New Road Resi + Proposed Resi 17:00-18:00			Scale:	NTS	Date:	18/03/2025	Rev:	
Project Title:	Land North of Billingshurst			Client:	Dunmoore Group			Drawn:	DH
						Checked:	JB	Figure No.:	



Appendix D Junction Modelling Outputs

Transport Assessment

Land at Hilland Farm, Billingshurst

Dunmoore Group

SLR Project No.: 184379G

23 September 2025

Junctions 11										
ARCADY 11 - Roundabout Module										
Version: 11.0.0.2177										
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+44 (0)1344 379777 software@trl.co.uk trlsoftware.com										
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution										

Filename: Junction 1 - A29 New Road Site Access - Full Approved Site + 2030.j11

Path: \\?\UNC\slr.local\eu\Offices\UK\Exeter\Vectos\Exeter\Projects\180000\184379 - Land North of Billingham\184379G - Residential Site\Modelling\Arcady\Junction 1 - Stane Street, New Road, Site Access Roundabout

Report generation date: 11/09/2025 11:08:38

»2025 | Base | AM

»2025 | Base | PM

»2030 | Base + Remaining Commercial + New Road Residential | AM

»2030 | Base + Remaining Commercial + New Road Residential | PM

»2030 | Base + Remaining Commercial + New Road Residential + Proposed Residential | AM

»2030 | Base + Remaining Commercial + New Road Residential + Proposed Residential | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2025 - Base									
1 - A29 (North)	D1	1.0	4.52	0.50	A	D2	1.8	5.97	0.64	A
2 - New Road		0.1	7.48	0.11	A		0.1	9.04	0.13	A
3 - Site Access		0.5	5.88	0.34	A		1.0	8.62	0.49	A
4 - A29 (South)		2.2	6.12	0.69	A		0.7	3.07	0.40	A
	2030 - Base + Remaining Commercial + New Road Residential									
1 - A29 (North)	D3	1.3	5.32	0.57	A	D4	2.4	7.52	0.71	A
2 - New Road		0.3	9.55	0.23	A		0.3	11.00	0.21	B
3 - Site Access		0.7	6.95	0.40	A		1.7	12.72	0.63	B
4 - A29 (South)		3.4	8.48	0.77	A		0.8	3.37	0.45	A
	2030 - Base + Remaining Commercial + New Road Residential + Proposed Residential									
1 - A29 (North)	D5	1.3	5.45	0.58	A	D6	2.7	8.18	0.73	A
2 - New Road		0.3	9.82	0.23	A		0.3	11.83	0.22	B
3 - Site Access		0.8	7.59	0.46	A		1.9	13.73	0.66	B
4 - A29 (South)		3.6	9.06	0.79	A		0.9	3.47	0.46	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	13/03/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SLR\daniel.holland
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025	Base	AM	ONE HOUR	07:45	09:15	15
D2	2025	Base	PM	ONE HOUR	16:45	18:15	15
D3	2030	Base + Remaining Commercial + New Road Residential	AM	ONE HOUR	07:45	09:15	15
D4	2030	Base + Remaining Commercial + New Road Residential	PM	ONE HOUR	16:45	18:15	15
D5	2030	Base + Remaining Commercial + New Road Residential + Proposed Residential	AM	ONE HOUR	07:45	09:15	15
D6	2030	Base + Remaining Commercial + New Road Residential + Proposed Residential	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2025 | Base | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A29 (South) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Stane Street / New Road / Site Access	Standard Roundabout		1, 2, 3, 4	5.60	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.60	A

Arms

Arms

Arm	Name	Description	No give-way line
1	A29 (North)		
2	New Road		
3	Site Access		
4	A29 (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - A29 (North)	3.10	8.00	30.0	10.0	40.0	30.5		
2 - New Road	2.70	5.30	4.8	11.8	40.0	31.5		
3 - Site Access	3.50	4.40	29.0	20.0	40.0	23.5		
4 - A29 (South)	3.50	8.00	55.0	20.0	40.0	42.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A29 (North)	0.650	1817
2 - New Road	0.503	1063
3 - Site Access	0.576	1338
4 - A29 (South)	0.700	2052

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025	Base	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A29 (North)		✓	736	100.000
2 - New Road		✓	54	100.000
3 - Site Access		✓	283	100.000
4 - A29 (South)		✓	1198	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	37	156	543
	2 - New Road	6	0	10	38
	3 - Site Access	130	5	0	148
	4 - A29 (South)	962	44	192	0

Vehicle Mix

Heavy Vehicle %

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	3	0	3
	2 - New Road	17	0	10	0
	3 - Site Access	5	0	0	2
	4 - A29 (South)	2	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - A29 (North)	554	567
	2 - New Road	41	42
	3 - Site Access	213	220
	4 - A29 (South)	902	916
08:00-08:15	1 - A29 (North)	662	677
	2 - New Road	49	50
	3 - Site Access	254	263
	4 - A29 (South)	1077	1094
08:15-08:30	1 - A29 (North)	810	830
	2 - New Road	59	62
	3 - Site Access	312	322
	4 - A29 (South)	1319	1340
08:30-08:45	1 - A29 (North)	810	830
	2 - New Road	59	62
	3 - Site Access	312	322
	4 - A29 (South)	1319	1340
08:45-09:00	1 - A29 (North)	662	677
	2 - New Road	49	50
	3 - Site Access	254	263
	4 - A29 (South)	1077	1094
09:00-09:15	1 - A29 (North)	554	567
	2 - New Road	41	42
	3 - Site Access	213	220
	4 - A29 (South)	902	916

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - A29 (North)	0.50	4.52	1.0	A
2 - New Road	0.11	7.48	0.1	A
3 - Site Access	0.34	5.88	0.5	A
4 - A29 (South)	0.69	6.12	2.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	554	181	1661	0.334	552	0.5	3.242	A
2 - New Road	41	668	695	0.059	40	0.1	5.501	A
3 - Site Access	213	440	1042	0.204	212	0.3	4.332	A
4 - A29 (South)	902	106	1943	0.464	898	0.9	3.435	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	662	216	1638	0.404	661	0.7	3.683	A
2 - New Road	49	800	630	0.077	48	0.1	6.193	A
3 - Site Access	254	527	992	0.256	254	0.3	4.875	A
4 - A29 (South)	1077	127	1928	0.559	1075	1.3	4.216	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	810	265	1607	0.504	809	1.0	4.501	A
2 - New Road	59	979	541	0.110	59	0.1	7.466	A
3 - Site Access	312	645	924	0.337	311	0.5	5.863	A
4 - A29 (South)	1319	155	1907	0.692	1315	2.2	6.043	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	810	265	1607	0.504	810	1.0	4.518	A
2 - New Road	59	981	540	0.110	59	0.1	7.483	A
3 - Site Access	312	646	924	0.337	312	0.5	5.881	A
4 - A29 (South)	1319	155	1907	0.692	1319	2.2	6.120	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	662	217	1637	0.404	663	0.7	3.698	A
2 - New Road	49	803	628	0.077	49	0.1	6.213	A
3 - Site Access	254	529	991	0.257	255	0.3	4.894	A
4 - A29 (South)	1077	127	1927	0.559	1081	1.3	4.270	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	554	182	1660	0.334	555	0.5	3.258	A
2 - New Road	41	672	693	0.059	41	0.1	5.518	A
3 - Site Access	213	443	1041	0.205	213	0.3	4.353	A
4 - A29 (South)	902	106	1942	0.464	904	0.9	3.472	A

2025 | Base | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A29 (South) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Stane Street / New Road / Site Access	Standard Roundabout		1, 2, 3, 4	5.52	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.52	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2025	Base	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A29 (North)		✓	985	100.000
2 - New Road		✓	54	100.000
3 - Site Access		✓	366	100.000
4 - A29 (South)		✓	721	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	30	191	764
	2 - New Road	5	0	13	36
	3 - Site Access	74	14	0	278
	4 - A29 (South)	571	19	131	0

Vehicle Mix

Heavy Vehicle %

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	0	0	1
	2 - New Road	0	0	0	0
	3 - Site Access	1	0	0	0
	4 - A29 (South)	1	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - A29 (North)	742	747
	2 - New Road	41	41
	3 - Site Access	276	276
	4 - A29 (South)	543	547
17:00-17:15	1 - A29 (North)	885	892
	2 - New Road	49	49
	3 - Site Access	329	330
	4 - A29 (South)	648	653
17:15-17:30	1 - A29 (North)	1085	1093
	2 - New Road	59	59
	3 - Site Access	403	404
	4 - A29 (South)	794	800
17:30-17:45	1 - A29 (North)	1085	1093
	2 - New Road	59	59
	3 - Site Access	403	404
	4 - A29 (South)	794	800
17:45-18:00	1 - A29 (North)	885	892
	2 - New Road	49	49
	3 - Site Access	329	330
	4 - A29 (South)	648	653
18:00-18:15	1 - A29 (North)	742	747
	2 - New Road	41	41
	3 - Site Access	276	276
	4 - A29 (South)	543	547

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - A29 (North)	0.64	5.97	1.8	A
2 - New Road	0.13	9.04	0.1	A
3 - Site Access	0.49	8.62	1.0	A
4 - A29 (South)	0.40	3.07	0.7	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	742	123	1724	0.430	739	0.7	3.643	A
2 - New Road	41	814	651	0.062	40	0.1	5.897	A
3 - Site Access	276	604	985	0.280	274	0.4	5.054	A
4 - A29 (South)	543	70	1987	0.273	541	0.4	2.488	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	885	147	1708	0.518	884	1.1	4.362	A
2 - New Road	49	975	569	0.085	48	0.1	6.910	A
3 - Site Access	329	723	916	0.359	328	0.6	6.124	A
4 - A29 (South)	648	83	1977	0.328	648	0.5	2.707	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	1085	180	1687	0.643	1082	1.8	5.919	A
2 - New Road	59	1193	459	0.130	59	0.1	9.003	A
3 - Site Access	403	884	822	0.490	401	0.9	8.526	A
4 - A29 (South)	794	102	1964	0.404	793	0.7	3.072	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	1085	181	1687	0.643	1084	1.8	5.972	A
2 - New Road	59	1196	457	0.130	59	0.1	9.043	A
3 - Site Access	403	886	821	0.491	403	1.0	8.616	A
4 - A29 (South)	794	102	1964	0.404	794	0.7	3.075	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	885	148	1708	0.518	888	1.1	4.405	A
2 - New Road	49	979	567	0.086	49	0.1	6.949	A
3 - Site Access	329	726	914	0.360	331	0.6	6.188	A
4 - A29 (South)	648	84	1977	0.328	649	0.5	2.713	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	742	124	1724	0.430	743	0.8	3.677	A
2 - New Road	41	819	648	0.063	41	0.1	5.926	A
3 - Site Access	276	607	983	0.280	276	0.4	5.101	A
4 - A29 (South)	543	70	1987	0.273	543	0.4	2.494	A

2030 | Base + Remaining Commercial + New Road Residential | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A29 (South) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Stane Street / New Road / Site Access	Standard Roundabout		1, 2, 3, 4	7.33	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.33	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2030	Base + Remaining Commercial + New Road Residential	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A29 (North)		✓	804	100.000
2 - New Road		✓	101	100.000
3 - Site Access		✓	320	100.000
4 - A29 (South)		✓	1323	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	50	178	576
	2 - New Road	30	0	11	60
	3 - Site Access	142	5	0	173
	4 - A29 (South)	1021	55	247	0

Vehicle Mix

Heavy Vehicle %

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	2	0	3
	2 - New Road	4	0	10	0
	3 - Site Access	5	0	0	3
	4 - A29 (South)	2	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - A29 (North)	605	619
	2 - New Road	76	78
	3 - Site Access	241	250
	4 - A29 (South)	996	1011
08:00-08:15	1 - A29 (North)	723	739
	2 - New Road	91	93
	3 - Site Access	288	299
	4 - A29 (South)	1189	1208
08:15-08:30	1 - A29 (North)	885	905
	2 - New Road	111	114
	3 - Site Access	352	366
	4 - A29 (South)	1457	1479
08:30-08:45	1 - A29 (North)	885	905
	2 - New Road	111	114
	3 - Site Access	352	366
	4 - A29 (South)	1457	1479
08:45-09:00	1 - A29 (North)	723	739
	2 - New Road	91	93
	3 - Site Access	288	299
	4 - A29 (South)	1189	1208
09:00-09:15	1 - A29 (North)	605	619
	2 - New Road	76	78
	3 - Site Access	241	250
	4 - A29 (South)	996	1011

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - A29 (North)	0.57	5.32	1.3	A
2 - New Road	0.23	9.55	0.3	A
3 - Site Access	0.40	6.95	0.7	A
4 - A29 (South)	0.77	8.48	3.4	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	605	230	1631	0.371	603	0.6	3.496	A
2 - New Road	76	751	664	0.115	76	0.1	6.113	A
3 - Site Access	241	499	1004	0.240	240	0.3	4.704	A
4 - A29 (South)	996	133	1925	0.517	992	1.1	3.839	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	723	275	1602	0.451	722	0.8	4.086	A
2 - New Road	91	899	590	0.154	91	0.2	7.206	A
3 - Site Access	288	598	947	0.304	287	0.4	5.449	A
4 - A29 (South)	1189	159	1906	0.624	1187	1.6	4.990	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	885	336	1563	0.566	883	1.3	5.280	A
2 - New Road	111	1099	490	0.227	111	0.3	9.496	A
3 - Site Access	352	732	871	0.404	351	0.7	6.912	A
4 - A29 (South)	1457	194	1881	0.775	1450	3.3	8.236	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	885	338	1562	0.567	885	1.3	5.316	A
2 - New Road	111	1102	488	0.228	111	0.3	9.550	A
3 - Site Access	352	733	870	0.405	352	0.7	6.950	A
4 - A29 (South)	1457	195	1880	0.775	1456	3.4	8.481	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	723	278	1601	0.452	725	0.8	4.119	A
2 - New Road	91	903	588	0.154	91	0.2	7.259	A
3 - Site Access	288	600	946	0.304	289	0.4	5.485	A
4 - A29 (South)	1189	160	1906	0.624	1196	1.7	5.122	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	605	232	1630	0.371	606	0.6	3.522	A
2 - New Road	76	755	662	0.115	76	0.1	6.152	A
3 - Site Access	241	502	1002	0.240	241	0.3	4.737	A
4 - A29 (South)	996	134	1924	0.518	998	1.1	3.897	A

2030 | Base + Remaining Commercial + New Road Residential | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A29 (South) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Stane Street / New Road / Site Access	Standard Roundabout		1, 2, 3, 4	7.22	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.22	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2030	Base + Remaining Commercial + New Road Residential	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A29 (North)		✓	1072	100.000
2 - New Road		✓	77	100.000
3 - Site Access		✓	442	100.000
4 - A29 (South)		✓	794	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	55	206	811
	2 - New Road	16	0	14	47
	3 - Site Access	90	15	0	337
	4 - A29 (South)	606	39	149	0

Vehicle Mix

Heavy Vehicle %

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	1	0	1
	2 - New Road	1	0	0	0
	3 - Site Access	2	0	0	1
	4 - A29 (South)	1	1	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - A29 (North)	807	814
	2 - New Road	58	58
	3 - Site Access	333	337
	4 - A29 (South)	598	603
17:00-17:15	1 - A29 (North)	964	971
	2 - New Road	69	69
	3 - Site Access	397	402
	4 - A29 (South)	714	720
17:15-17:30	1 - A29 (North)	1180	1190
	2 - New Road	85	85
	3 - Site Access	487	492
	4 - A29 (South)	874	881
17:30-17:45	1 - A29 (North)	1180	1190
	2 - New Road	85	85
	3 - Site Access	487	492
	4 - A29 (South)	874	881
17:45-18:00	1 - A29 (North)	964	971
	2 - New Road	69	69
	3 - Site Access	397	402
	4 - A29 (South)	714	720
18:00-18:15	1 - A29 (North)	807	814
	2 - New Road	58	58
	3 - Site Access	333	337
	4 - A29 (South)	598	603

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - A29 (North)	0.71	7.52	2.4	A
2 - New Road	0.21	11.00	0.3	B
3 - Site Access	0.63	12.72	1.7	B
4 - A29 (South)	0.45	3.37	0.8	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	807	152	1704	0.474	803	0.9	3.977	A
2 - New Road	58	874	619	0.094	58	0.1	6.407	A
3 - Site Access	333	655	946	0.352	331	0.5	5.831	A
4 - A29 (South)	598	90	1972	0.303	596	0.4	2.613	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	964	182	1685	0.572	962	1.3	4.966	A
2 - New Road	69	1046	532	0.130	69	0.1	7.771	A
3 - Site Access	397	784	871	0.456	396	0.8	7.555	A
4 - A29 (South)	714	108	1959	0.364	713	0.6	2.888	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	1180	223	1659	0.712	1176	2.4	7.391	A
2 - New Road	85	1280	414	0.205	84	0.3	10.899	B
3 - Site Access	487	959	771	0.631	483	1.7	12.367	B
4 - A29 (South)	874	132	1942	0.450	873	0.8	3.365	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	1180	223	1658	0.712	1180	2.4	7.521	A
2 - New Road	85	1284	412	0.206	85	0.3	10.997	B
3 - Site Access	487	962	769	0.633	486	1.7	12.719	B
4 - A29 (South)	874	133	1941	0.450	874	0.8	3.372	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	964	183	1685	0.572	968	1.4	5.054	A
2 - New Road	69	1052	529	0.131	70	0.2	7.844	A
3 - Site Access	397	789	869	0.457	401	0.9	7.746	A
4 - A29 (South)	714	110	1958	0.365	715	0.6	2.897	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	807	153	1704	0.474	809	0.9	4.030	A
2 - New Road	58	880	616	0.094	58	0.1	6.451	A
3 - Site Access	333	659	943	0.353	334	0.6	5.919	A
4 - A29 (South)	598	91	1971	0.303	598	0.4	2.623	A

2030 | Base + Remaining Commercial + New Road Residential + Proposed Residential | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A29 (South) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Stane Street / New Road / Site Access	Standard Roundabout		1, 2, 3, 4	7.76	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.76	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2030	Base + Remaining Commercial + New Road Residential + Proposed Residential	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A29 (North)		✓	814	100.000
2 - New Road		✓	101	100.000
3 - Site Access		✓	363	100.000
4 - A29 (South)		✓	1332	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	50	188	576
	2 - New Road	30	0	11	60
	3 - Site Access	166	5	0	192
	4 - A29 (South)	1021	55	256	0

Vehicle Mix

Heavy Vehicle %

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	2	0	3
	2 - New Road	4	0	10	0
	3 - Site Access	4	0	0	3
	4 - A29 (South)	2	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - A29 (North)	613	627
	2 - New Road	76	78
	3 - Site Access	273	283
	4 - A29 (South)	1003	1018
08:00-08:15	1 - A29 (North)	732	748
	2 - New Road	91	93
	3 - Site Access	326	337
	4 - A29 (South)	1197	1216
08:15-08:30	1 - A29 (North)	896	916
	2 - New Road	111	114
	3 - Site Access	400	413
	4 - A29 (South)	1467	1489
08:30-08:45	1 - A29 (North)	896	916
	2 - New Road	111	114
	3 - Site Access	400	413
	4 - A29 (South)	1467	1489
08:45-09:00	1 - A29 (North)	732	748
	2 - New Road	91	93
	3 - Site Access	326	337
	4 - A29 (South)	1197	1216
09:00-09:15	1 - A29 (North)	613	627
	2 - New Road	76	78
	3 - Site Access	273	283
	4 - A29 (South)	1003	1018

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - A29 (North)	0.58	5.45	1.3	A
2 - New Road	0.23	9.82	0.3	A
3 - Site Access	0.46	7.59	0.8	A
4 - A29 (South)	0.79	9.06	3.6	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	613	237	1627	0.377	610	0.6	3.536	A
2 - New Road	76	765	657	0.116	76	0.1	6.187	A
3 - Site Access	273	499	1008	0.271	272	0.4	4.881	A
4 - A29 (South)	1003	150	1913	0.524	998	1.1	3.916	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	732	284	1597	0.458	731	0.8	4.150	A
2 - New Road	91	916	582	0.156	91	0.2	7.329	A
3 - Site Access	326	598	951	0.343	326	0.5	5.750	A
4 - A29 (South)	1197	180	1892	0.633	1195	1.7	5.149	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	896	346	1557	0.575	894	1.3	5.412	A
2 - New Road	111	1120	479	0.232	111	0.3	9.753	A
3 - Site Access	400	731	875	0.457	398	0.8	7.536	A
4 - A29 (South)	1467	221	1863	0.787	1459	3.5	8.756	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	896	348	1556	0.576	896	1.3	5.452	A
2 - New Road	111	1123	478	0.233	111	0.3	9.818	A
3 - Site Access	400	733	874	0.457	400	0.8	7.591	A
4 - A29 (South)	1467	221	1863	0.787	1466	3.6	9.064	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	732	286	1596	0.459	734	0.9	4.186	A
2 - New Road	91	920	579	0.157	91	0.2	7.383	A
3 - Site Access	326	601	950	0.344	328	0.5	5.795	A
4 - A29 (South)	1197	181	1891	0.633	1205	1.8	5.303	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	613	239	1626	0.377	614	0.6	3.562	A
2 - New Road	76	769	655	0.116	76	0.1	6.228	A
3 - Site Access	273	502	1006	0.272	274	0.4	4.922	A
4 - A29 (South)	1003	152	1912	0.524	1005	1.1	3.980	A

2030 | Base + Remaining Commercial + New Road Residential + Proposed Residential | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A29 (South) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Stane Street / New Road / Site Access	Standard Roundabout		1, 2, 3, 4	7.78	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.78	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2030	Base + Remaining Commercial + New Road Residential + Proposed Residential	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A29 (North)		✓	1095	100.000
2 - New Road		✓	77	100.000
3 - Site Access		✓	461	100.000
4 - A29 (South)		✓	813	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	55	229	811
	2 - New Road	16	0	14	47
	3 - Site Access	101	15	0	345
	4 - A29 (South)	606	39	168	0

Vehicle Mix

Heavy Vehicle %

	To				
		1 - A29 (North)	2 - New Road	3 - Site Access	4 - A29 (South)
From	1 - A29 (North)	0	1	0	1
	2 - New Road	1	0	0	0
	3 - Site Access	2	0	0	1
	4 - A29 (South)	1	1	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - A29 (North)	824	831
	2 - New Road	58	58
	3 - Site Access	347	351
	4 - A29 (South)	612	617
17:00-17:15	1 - A29 (North)	984	992
	2 - New Road	69	69
	3 - Site Access	414	419
	4 - A29 (South)	731	737
17:15-17:30	1 - A29 (North)	1206	1215
	2 - New Road	85	85
	3 - Site Access	508	514
	4 - A29 (South)	895	902
17:30-17:45	1 - A29 (North)	1206	1215
	2 - New Road	85	85
	3 - Site Access	508	514
	4 - A29 (South)	895	902
17:45-18:00	1 - A29 (North)	984	992
	2 - New Road	69	69
	3 - Site Access	414	419
	4 - A29 (South)	731	737
18:00-18:15	1 - A29 (North)	824	831
	2 - New Road	58	58
	3 - Site Access	347	351
	4 - A29 (South)	612	617

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - A29 (North)	0.73	8.18	2.7	A
2 - New Road	0.22	11.83	0.3	B
3 - Site Access	0.66	13.73	1.9	B
4 - A29 (South)	0.46	3.47	0.9	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	824	167	1696	0.486	821	0.9	4.098	A
2 - New Road	58	906	603	0.096	58	0.1	6.592	A
3 - Site Access	347	655	946	0.367	345	0.6	5.967	A
4 - A29 (South)	612	99	1966	0.311	610	0.5	2.651	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	984	199	1674	0.588	983	1.4	5.188	A
2 - New Road	69	1084	513	0.135	69	0.2	8.103	A
3 - Site Access	414	784	871	0.476	413	0.9	7.834	A
4 - A29 (South)	731	118	1952	0.374	730	0.6	2.944	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	1206	244	1646	0.733	1201	2.7	8.002	A
2 - New Road	85	1325	391	0.217	84	0.3	11.707	B
3 - Site Access	508	958	771	0.658	504	1.8	13.267	B
4 - A29 (South)	895	144	1934	0.463	894	0.9	3.459	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	1206	244	1645	0.733	1205	2.7	8.176	A
2 - New Road	85	1330	389	0.218	85	0.3	11.835	B
3 - Site Access	508	962	769	0.660	507	1.9	13.731	B
4 - A29 (South)	895	145	1933	0.463	895	0.9	3.466	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	984	200	1674	0.588	989	1.4	5.295	A
2 - New Road	69	1091	510	0.136	70	0.2	8.191	A
3 - Site Access	414	790	868	0.477	418	0.9	8.068	A
4 - A29 (South)	731	120	1951	0.375	732	0.6	2.956	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A29 (North)	824	167	1695	0.486	826	1.0	4.153	A
2 - New Road	58	911	600	0.097	58	0.1	6.644	A
3 - Site Access	347	660	943	0.368	348	0.6	6.069	A
4 - A29 (South)	612	100	1965	0.311	613	0.5	2.661	A

Junctions 11										
ARCADY 11 - Roundabout Module										
Version: 11.0.0.2177										
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Filename: Junction 2 - A29, Hilland Road, High Street - Full Approved Site + 2030.j11

Path: \\slr.local\eu\Offices\UK\Exeter\Vectos\Exeter\Projects\180000\184379 - Land North of Billinghamurst\184379G - Residential Site\Modelling\Arcady\Junction 2 - Hilland Roundabout

Report generation date: 11/09/2025 11:15:26

»2025 | Base | AM

»2025 | Base | PM

»2030 | Base + Remaining Commercial + New Road Residential | AM

»2030 | Base + Remaining Commercial + New Road Residential | PM

»2030 | Base + Remaining Commercial + New Road Residential + Proposed Residential | AM

»2030 | Base + Remaining Commercial + New Road Residential + Proposed Residential | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2025 - Base									
A - A29 North	D1	0.6	2.92	0.39	A	D2	1.4	4.29	0.59	A
B - Hillgate Road		0.5	4.44	0.32	A		0.2	4.57	0.18	A
C - High Street		0.8	5.94	0.44	A		0.3	4.30	0.22	A
D - A29 West		0.9	5.26	0.47	A		0.6	3.44	0.36	A
	2030 - Base + Remaining Commercial + New Road Residential									
A - A29 North	D3	0.8	3.14	0.43	A	D4	1.9	5.09	0.65	A
B - Hillgate Road		0.6	4.96	0.37	A		0.3	5.13	0.22	A
C - High Street		1.0	6.98	0.50	A		0.3	4.71	0.25	A
D - A29 West		1.2	6.30	0.54	A		0.6	3.70	0.39	A
	2030 - Base + Remaining Commercial + New Road Residential + Proposed Residential									
A - A29 North	D5	0.8	3.19	0.44	A	D6	1.9	5.17	0.65	A
B - Hillgate Road		0.6	5.04	0.37	A		0.3	5.23	0.23	A
C - High Street		1.0	7.08	0.50	A		0.4	4.79	0.26	A
D - A29 West		1.2	6.37	0.54	A		0.7	3.76	0.40	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	17/03/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SLR\daniel.holland
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025	Base	AM	ONE HOUR	07:45	09:15	15
D2	2025	Base	PM	ONE HOUR	16:45	18:15	15
D3	2030	Base + Remaining Commercial + New Road Residential	AM	ONE HOUR	07:45	09:15	15
D4	2030	Base + Remaining Commercial + New Road Residential	PM	ONE HOUR	16:45	18:15	15
D5	2030	Base + Remaining Commercial + New Road Residential + Proposed Residential	AM	ONE HOUR	07:45	09:15	15
D6	2030	Base + Remaining Commercial + New Road Residential + Proposed Residential	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2025 | Base | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - A29 North - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	4.44	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.44	A

Arms

Arms

Arm	Name	Description	No give-way line
A	A29 North		
B	Hillgate Road		
C	High Street		
D	A29 West		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A - A29 North	3.70	8.20	45.0	15.0	40.0	31.0		
B - Hillgate Road	3.65	7.60	9.0	18.5	40.0	23.0		
C - High Street	3.60	7.10	8.5	20.5	40.0	28.0		
D - A29 West	3.80	8.00	11.5	35.0	40.0	16.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - A29 North	0.718	2111
B - Hillgate Road	0.635	1636
C - High Street	0.617	1561
D - A29 West	0.695	1859

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025	Base	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A29 North		✓	729	100.000
B - Hillgate Road		✓	343	100.000
C - High Street		✓	432	100.000
D - A29 West		✓	574	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
From	A - A29 North	0	101	246	382
	B - Hillgate Road	255	0	27	61
	C - High Street	402	11	0	19
	D - A29 West	539	33	2	0

Vehicle Mix

Heavy Vehicle %

	To				
		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
From	A - A29 North	0	5	1	4
	B - Hillgate Road	0	0	0	5
	C - High Street	1	0	0	0
	D - A29 West	4	18	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - A29 North	0.39	2.92	0.6	A
B - Hillgate Road	0.32	4.44	0.5	A
C - High Street	0.44	5.94	0.8	A
D - A29 West	0.47	5.26	0.9	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	549	34	2087	0.263	547	0.4	2.409	A
B - Hillgate Road	258	473	1336	0.193	257	0.2	3.363	A
C - High Street	325	524	1238	0.263	324	0.4	3.969	A
D - A29 West	432	501	1511	0.286	430	0.4	3.484	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	655	41	2082	0.315	655	0.5	2.601	A
B - Hillgate Road	308	566	1277	0.242	308	0.3	3.748	A
C - High Street	388	627	1174	0.331	388	0.5	4.616	A
D - A29 West	516	600	1442	0.358	515	0.6	4.063	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	803	51	2075	0.387	802	0.6	2.913	A
B - Hillgate Road	378	693	1196	0.316	377	0.5	4.431	A
C - High Street	476	768	1088	0.437	475	0.8	5.915	A
D - A29 West	632	734	1349	0.468	631	0.9	5.236	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	803	51	2075	0.387	803	0.6	2.916	A
B - Hillgate Road	378	694	1196	0.316	378	0.5	4.438	A
C - High Street	476	769	1087	0.438	476	0.8	5.941	A
D - A29 West	632	735	1348	0.469	632	0.9	5.262	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	655	41	2082	0.315	656	0.5	2.606	A
B - Hillgate Road	308	567	1276	0.242	309	0.3	3.758	A
C - High Street	388	628	1174	0.331	389	0.5	4.642	A
D - A29 West	516	602	1441	0.358	517	0.6	4.086	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	549	35	2087	0.263	549	0.4	2.416	A
B - Hillgate Road	258	475	1335	0.193	259	0.2	3.376	A
C - High Street	325	526	1237	0.263	326	0.4	3.991	A
D - A29 West	432	504	1509	0.286	433	0.4	3.505	A

2025 | Base | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - A29 North - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	4.09	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.09	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2025	Base	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A29 North		✓	1083	100.000
B - Hillgate Road		✓	161	100.000
C - High Street		✓	221	100.000
D - A29 West		✓	531	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
From	A - A29 North	0	142	395	546
	B - Hillgate Road	97	0	18	46
	C - High Street	166	22	0	33
	D - A29 West	459	67	5	0

Vehicle Mix

Heavy Vehicle %

	To				
		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
From	A - A29 North	0	2	0	1
	B - Hillgate Road	2	0	0	0
	C - High Street	2	0	0	0
	D - A29 West	1	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - A29 North	0.59	4.29	1.4	A
B - Hillgate Road	0.18	4.57	0.2	A
C - High Street	0.22	4.30	0.3	A
D - A29 West	0.36	3.44	0.6	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	815	71	2061	0.396	813	0.7	2.900	A
B - Hillgate Road	121	710	1185	0.102	121	0.1	3.420	A
C - High Street	166	517	1242	0.134	166	0.2	3.392	A
D - A29 West	400	214	1711	0.234	399	0.3	2.765	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	974	84	2051	0.475	973	0.9	3.361	A
B - Hillgate Road	145	850	1097	0.132	145	0.2	3.826	A
C - High Street	199	619	1179	0.168	198	0.2	3.724	A
D - A29 West	477	256	1681	0.284	477	0.4	3.015	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	1192	103	2037	0.585	1190	1.4	4.273	A
B - Hillgate Road	177	1040	976	0.182	177	0.2	4.560	A
C - High Street	243	757	1094	0.222	243	0.3	4.290	A
D - A29 West	585	313	1641	0.356	584	0.6	3.432	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	1192	103	2037	0.585	1192	1.4	4.293	A
B - Hillgate Road	177	1042	975	0.182	177	0.2	4.568	A
C - High Street	243	759	1093	0.223	243	0.3	4.298	A
D - A29 West	585	314	1641	0.356	585	0.6	3.436	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	974	85	2051	0.475	976	0.9	3.379	A
B - Hillgate Road	145	852	1095	0.132	145	0.2	3.838	A
C - High Street	199	621	1178	0.169	199	0.2	3.734	A
D - A29 West	477	257	1681	0.284	478	0.4	3.019	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	815	71	2061	0.396	816	0.7	2.919	A
B - Hillgate Road	121	713	1183	0.102	121	0.1	3.433	A
C - High Street	166	519	1241	0.134	167	0.2	3.401	A
D - A29 West	400	215	1710	0.234	400	0.3	2.772	A

2030 | Base + Remaining Commercial + New Road Residential | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - A29 North - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	5.10	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.10	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2030	Base + Remaining Commercial + New Road Residential	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A29 North		✓	809	100.000
B - Hillgate Road		✓	384	100.000
C - High Street		✓	467	100.000
D - A29 West		✓	633	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
From	A - A29 North	0	122	267	420
	B - Hillgate Road	290	0	29	65
	C - High Street	435	12	0	20
	D - A29 West	596	35	2	0

Vehicle Mix

Heavy Vehicle %

	To				
From		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
	A - A29 North	0	5	1	4
	B - Hillgate Road	0	0	0	5
	C - High Street	1	0	0	0
	D - A29 West	4	18	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - A29 North	0.43	3.14	0.8	A
B - Hillgate Road	0.37	4.96	0.6	A
C - High Street	0.50	6.98	1.0	A
D - A29 West	0.54	6.30	1.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	609	37	2085	0.292	607	0.4	2.511	A
B - Hillgate Road	289	517	1308	0.221	288	0.3	3.556	A
C - High Street	352	582	1202	0.292	350	0.4	4.255	A
D - A29 West	477	552	1475	0.323	475	0.5	3.757	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	727	44	2080	0.350	727	0.6	2.744	A
B - Hillgate Road	345	619	1243	0.278	345	0.4	4.038	A
C - High Street	420	696	1132	0.371	419	0.6	5.093	A
D - A29 West	569	662	1399	0.407	568	0.7	4.528	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	891	54	2073	0.430	890	0.8	3.137	A
B - Hillgate Road	423	758	1155	0.366	422	0.6	4.947	A
C - High Street	514	852	1036	0.497	513	1.0	6.927	A
D - A29 West	697	809	1297	0.537	695	1.2	6.241	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	891	54	2073	0.430	891	0.8	3.140	A
B - Hillgate Road	423	759	1154	0.366	423	0.6	4.960	A
C - High Street	514	853	1035	0.497	514	1.0	6.977	A
D - A29 West	697	811	1295	0.538	697	1.2	6.296	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	727	44	2080	0.350	728	0.6	2.750	A
B - Hillgate Road	345	620	1242	0.278	346	0.4	4.052	A
C - High Street	420	698	1131	0.371	421	0.6	5.133	A
D - A29 West	569	665	1397	0.407	571	0.7	4.571	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	609	37	2085	0.292	610	0.4	2.517	A
B - Hillgate Road	289	519	1306	0.221	290	0.3	3.569	A
C - High Street	352	584	1201	0.293	352	0.4	4.287	A
D - A29 West	477	556	1473	0.324	477	0.5	3.790	A

2030 | Base + Remaining Commercial + New Road Residential | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - A29 North - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	4.69	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.69	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2030	Base + Remaining Commercial + New Road Residential	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A29 North		✓	1200	100.000
B - Hillgate Road		✓	183	100.000
C - High Street		✓	240	100.000
D - A29 West		✓	575	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
From	A - A29 North	0	170	427	603
	B - Hillgate Road	115	0	19	49
	C - High Street	182	23	0	35
	D - A29 West	499	71	5	0

Vehicle Mix

Heavy Vehicle %

	To				
From		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
	A - A29 North	0	2	0	1
	B - Hillgate Road	2	0	0	0
	C - High Street	2	0	0	0
	D - A29 West	1	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - A29 North	0.65	5.09	1.9	A
B - Hillgate Road	0.22	5.13	0.3	A
C - High Street	0.25	4.71	0.3	A
D - A29 West	0.39	3.70	0.6	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	903	74	2058	0.439	900	0.8	3.126	A
B - Hillgate Road	138	776	1143	0.121	137	0.1	3.622	A
C - High Street	181	575	1206	0.150	180	0.2	3.559	A
D - A29 West	433	240	1692	0.256	432	0.3	2.877	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	1079	89	2048	0.527	1077	1.1	3.735	A
B - Hillgate Road	165	929	1046	0.157	164	0.2	4.133	A
C - High Street	216	689	1136	0.190	216	0.2	3.967	A
D - A29 West	517	287	1659	0.312	516	0.5	3.177	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	1321	109	2033	0.650	1318	1.8	5.054	A
B - Hillgate Road	201	1137	914	0.220	201	0.3	5.111	A
C - High Street	264	843	1041	0.254	264	0.3	4.698	A
D - A29 West	633	352	1615	0.392	632	0.6	3.692	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	1321	109	2033	0.650	1321	1.9	5.095	A
B - Hillgate Road	201	1140	912	0.221	201	0.3	5.127	A
C - High Street	264	844	1040	0.254	264	0.3	4.708	A
D - A29 West	633	352	1614	0.392	633	0.6	3.699	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	1079	89	2047	0.527	1082	1.1	3.769	A
B - Hillgate Road	165	933	1044	0.158	165	0.2	4.149	A
C - High Street	216	691	1135	0.190	216	0.2	3.981	A
D - A29 West	517	288	1659	0.312	518	0.5	3.185	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	903	75	2058	0.439	905	0.8	3.151	A
B - Hillgate Road	138	780	1141	0.121	138	0.1	3.635	A
C - High Street	181	578	1204	0.150	181	0.2	3.573	A
D - A29 West	433	241	1691	0.256	433	0.3	2.888	A

2030 | Base + Remaining Commercial + New Road Residential + Proposed Residential | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - A29 North - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	5.16	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.16	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2030	Base + Remaining Commercial + New Road Residential + Proposed Residential	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A29 North		✓	827	100.000
B - Hillgate Road		✓	388	100.000
C - High Street		✓	468	100.000
D - A29 West		✓	636	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
From	A - A29 North	0	130	271	426
	B - Hillgate Road	294	0	29	65
	C - High Street	436	12	0	20
	D - A29 West	599	35	2	0

Vehicle Mix

Heavy Vehicle %

	To				
		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
	A - A29 North	0	5	1	4
	B - Hillgate Road	0	0	0	5
	C - High Street	1	0	0	0
From	D - A29 West	4	18	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - A29 North	0.44	3.19	0.8	A
B - Hillgate Road	0.37	5.04	0.6	A
C - High Street	0.50	7.08	1.0	A
D - A29 West	0.54	6.37	1.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	623	37	2085	0.299	621	0.4	2.532	A
B - Hillgate Road	292	525	1303	0.224	291	0.3	3.583	A
C - High Street	352	589	1198	0.294	351	0.4	4.279	A
D - A29 West	479	556	1473	0.325	477	0.5	3.775	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	743	44	2080	0.357	743	0.6	2.775	A
B - Hillgate Road	349	628	1237	0.282	348	0.4	4.080	A
C - High Street	421	705	1126	0.374	420	0.6	5.139	A
D - A29 West	572	666	1396	0.409	571	0.7	4.560	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	911	54	2073	0.439	910	0.8	3.189	A
B - Hillgate Road	427	769	1148	0.372	426	0.6	5.025	A
C - High Street	515	863	1029	0.501	514	1.0	7.054	A
D - A29 West	700	815	1293	0.542	698	1.2	6.313	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	911	54	2073	0.439	911	0.8	3.194	A
B - Hillgate Road	427	770	1147	0.372	427	0.6	5.038	A
C - High Street	515	864	1028	0.501	515	1.0	7.085	A
D - A29 West	700	817	1292	0.542	700	1.2	6.371	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	743	44	2080	0.357	744	0.6	2.784	A
B - Hillgate Road	349	629	1237	0.282	350	0.4	4.096	A
C - High Street	421	707	1125	0.374	422	0.6	5.181	A
D - A29 West	572	669	1394	0.410	574	0.7	4.605	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	623	37	2085	0.299	623	0.4	2.542	A
B - Hillgate Road	292	527	1302	0.224	293	0.3	3.599	A
C - High Street	352	592	1196	0.295	353	0.4	4.314	A
D - A29 West	479	560	1470	0.326	480	0.5	3.806	A

2030 | Base + Remaining Commercial + New Road Residential + Proposed Residential | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - A29 North - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	4.76	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.76	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2030	Base + Remaining Commercial + New Road Residential + Proposed Residential	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A29 North		✓	1209	100.000
B - Hillgate Road		✓	192	100.000
C - High Street		✓	244	100.000
D - A29 West		✓	581	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A - A29 North	B - Hillgate Road	C - High Street	D - A29 West
From	A - A29 North	0	174	429	606
	B - Hillgate Road	124	0	19	49
	C - High Street	186	23	0	35
	D - A29 West	505	71	5	0

Vehicle Mix

Heavy Vehicle %

	To			
		A - A29 North	B - Hillgate Road	C - High Street
		D - A29 West		
	From	A - A29 North	B - Hillgate Road	C - High Street
		D - A29 West		
		0	2	0
		2	0	0
		2	0	0
		1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - A29 North	0.65	5.17	1.9	A
B - Hillgate Road	0.23	5.23	0.3	A
C - High Street	0.26	4.79	0.4	A
D - A29 West	0.40	3.76	0.7	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	910	74	2058	0.442	907	0.8	3.142	A
B - Hillgate Road	145	780	1141	0.127	144	0.1	3.656	A
C - High Street	184	584	1201	0.153	183	0.2	3.589	A
D - A29 West	437	250	1686	0.259	436	0.4	2.904	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	1087	89	2048	0.531	1086	1.1	3.766	A
B - Hillgate Road	173	934	1043	0.165	172	0.2	4.186	A
C - High Street	219	699	1130	0.194	219	0.2	4.012	A
D - A29 West	522	299	1651	0.316	522	0.5	3.212	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	1331	109	2033	0.655	1328	1.9	5.124	A
B - Hillgate Road	211	1142	910	0.232	211	0.3	5.209	A
C - High Street	269	856	1033	0.260	268	0.4	4.775	A
D - A29 West	640	366	1605	0.399	639	0.7	3.755	A

17:30 - 17:45

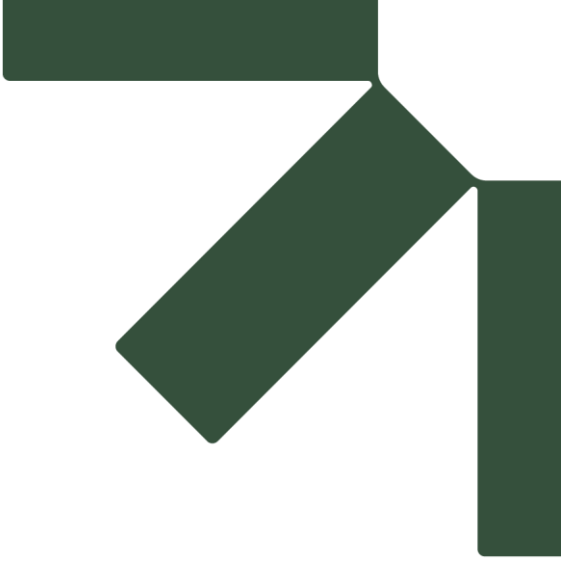
Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	1331	109	2033	0.655	1331	1.9	5.167	A
B - Hillgate Road	211	1145	909	0.233	211	0.3	5.227	A
C - High Street	269	858	1032	0.260	269	0.4	4.786	A
D - A29 West	640	367	1604	0.399	640	0.7	3.763	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	1087	89	2047	0.531	1090	1.2	3.802	A
B - Hillgate Road	173	937	1041	0.166	173	0.2	4.205	A
C - High Street	219	702	1128	0.194	220	0.2	4.027	A
D - A29 West	522	300	1651	0.316	523	0.5	3.224	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A29 North	910	75	2058	0.442	912	0.8	3.170	A
B - Hillgate Road	145	784	1138	0.127	145	0.1	3.670	A
C - High Street	184	587	1199	0.153	184	0.2	3.601	A
D - A29 West	437	251	1685	0.260	438	0.4	2.915	A



Appendix E Framework Travel Plan

Transport Assessment

Land at Hilland Farm, Billingshurst

Dunmoore Group

SLR Project No.: 184379G

23 September 2025



Residential Travel Plan

Land at Hilland Farm, Billingshurst

Dunmoore Group

Prepared by:

SLR Consulting Limited

6 Victory House, Exeter, EX2 4AA

SLR Project No.: 184379G

23 September 2025

Revision: Issue

Table of Contents

1.0	Introduction	1
2.0	Policy Context	2
3.0	Baseline Conditions	3
4.0	Objectives	9
5.0	Management and Marketing Strategy	10
6.0	Travel Plan Measures.....	11
7.0	Monitoring and Review	13
8.0	Action Plan	14

Tables in Text

Table 3.1: Local Amenities	7
Table 4.1: Mode Share Data.....	9

Figures in Text

Figure 3.1: Site Location Plan	3
Figure 3.2: Active Travel Network.....	5
Figure 3.3: Local Amenities.....	6



1.0 Introduction

- 1.1 SLR has been appointed to provide highways and transportation advice in relation to development proposals on land to the east of Stane Street in Billingshurst, West Sussex.

Site Location

- 1.2 The site is located approximately 750 metres to the north of Billingshurst Village centre, within the administrative boundaries of Horsham District Council (HDC) and West Sussex County Council (WSCC). The site forms an extension to the Billingshurst Trade and Business Park with access provided via the A29 (Stane Street) / New Road roundabout.

Development Proposals

- 1.3 The development proposals comprise a comprehensive replan of the undeveloped land within Phase 2 and the commercial development to the south (Phase 3). The proposals comprise a hybrid application as follows:

“Mixed use development, including detailed permission for means of access and 1,338 sqm business floorspace with the remainder of the development in outline, comprising up to 102no. homes and up to 5,605 sqm of business floorspace (Classes E g (iii)/B2/B8).”

Report Structure

- 1.4 A Travel Plan is a management tool that allows a coordinated strategy to bring together daily travel issues and achieve a more sustainable travel choice. A successfully implemented Travel Plan can offer substantial gains towards the sustainable transport objectives of central and local government.
- 1.5 This Residential Travel Plan provides an outline of the strategy that could be implemented at the site. It should be read in conjunction with the Transport Assessment that supports the application.
- 1.6 It is expected that a full Travel Plan would be secured by Section 106 agreement. In addition, it is anticipated that the proposed commercial space may require a separate Travel Plan which would also be secured via planning condition. However, it is expected that the overarching aims and strategies within this Travel Plan will broadly apply to both land uses.
- 1.7 Following this introduction, the remainder of this report comprises the following sections:
- Section 2 provides an overview of the planning policy which informs the Plan;
 - Section 3 summarises the existing transport opportunities in the vicinity of the site;
 - Section 4 outlines the objectives of the Travel Plan;
 - Section 5 details the management and marketing strategy of the Plan;
 - Section 6 provides an overview of the Travel Plan measures;
 - Section 7 outlines the programme of monitoring and review; and,
 - Section 8 provides a Travel Plan Action Plan.



2.0 Policy Context

National Planning Policy Framework

- 2.1 The National Planning Policy Framework (NPPF) was adopted in its current form in December 2024 and continues to promote sustainable development throughout. Possibly the most important change to consider in the updated NPPF is the move towards a 'vision-led' approach to transport planning. This is defined within the glossary as follows:

"Vision-led approach: an approach to transport planning based on setting outcomes for a development based on achieving well-designed, sustainable and popular places, and providing the transport solutions to deliver those outcomes as opposed to predicting future demand to provide capacity (often referred to as 'predict and provide')."

- 2.2 It is evident from the above that the expectation is for development to set outcomes based on realistic sustainable transport opportunities rather than increasing highway capacity which has been demonstrated to result in increased vehicle demand. This is a key consideration of the Travel Plan which aims to reduce vehicle use and promote the use of sustainable transport modes.

- 2.3 In promoting sustainable transport, the NPPF identifies at paragraph 110 that:

"Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making."

- 2.4 Furthermore, paragraph 118 states that:

"All developments that will generate significant amounts of movement should be required to provide a travel plan..."

Horsham District Planning Framework

- 2.5 Planning applications within Billingshurst are assessed against the policies contained within the 'Horsham District Planning Framework' (HDPF), which was adopted in November 2015. The Framework promotes access to new development via sustainable means and incorporates requirements to provide safe and suitable access for all, maintain and improve the transport system and provide a Travel Plan. Additionally, the Framework outlines that suitable parking facilities must be provided to meet the anticipated needs of the users incorporating cycle parking, electric vehicle charging spaces and accessible spaces.

Summary

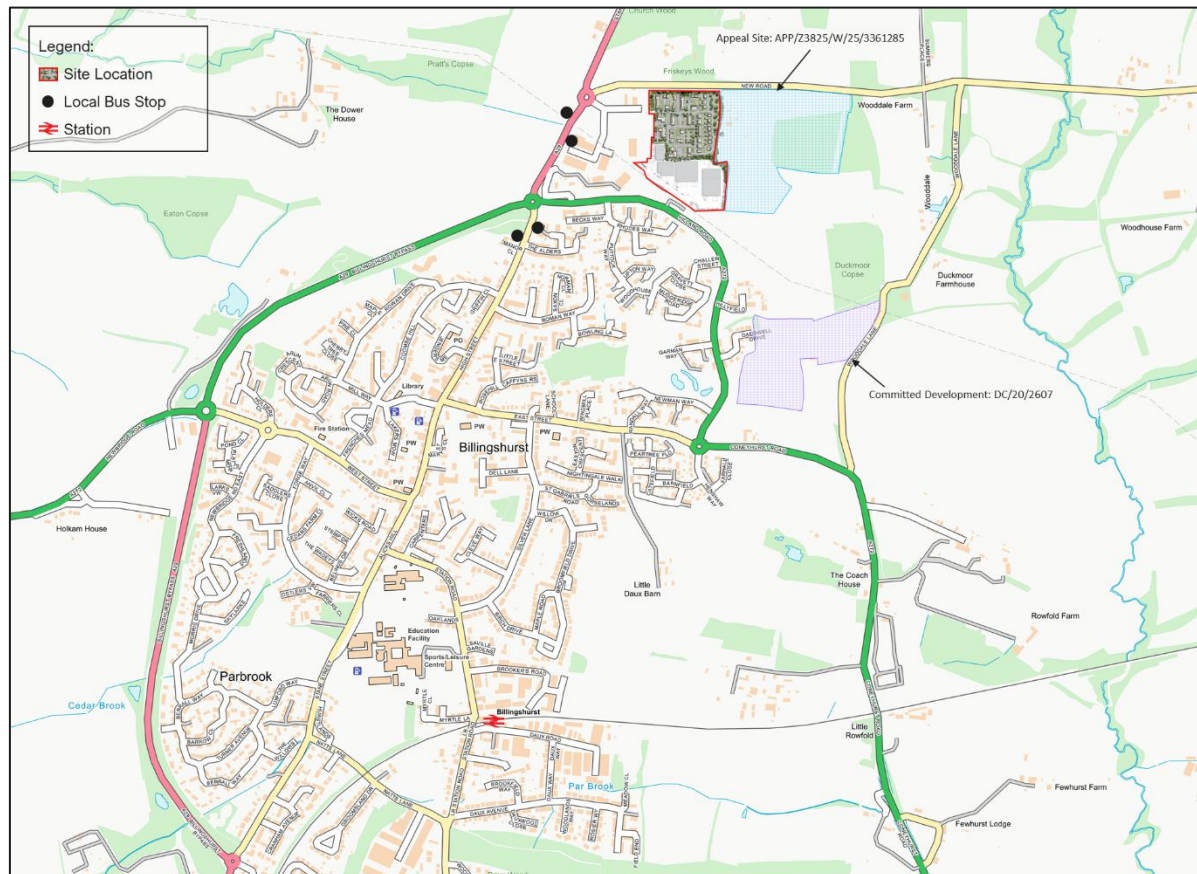
- 2.6 The above review demonstrates that national and local planning policy all require new development to be sustainably located with ready access on foot, cycle and by public transport. Section 3 of this report will outline the existing transport opportunities within the vicinity of the site with consideration for the above.



3.0 Baseline Conditions

- 3.1 The site is located approximately 750 metres to the north of Billingshurst Village centre within the administrative boundaries of Horsham District Council (HDC) and West Sussex County Council (WSCC).
- 3.2 The site is located immediately to the east of the various consented developments at Hilland. Given the various consents, it is evident that the overarching location has been demonstrated to be suitable for employment development with regards to access via a range of sustainable transport opportunities.
- 3.3 Residential properties abut Hilland Road to the south whilst a development of 83 dwellings has been consented at Appeal to the south east of the site (Planning Ref. DC/20/2607, Appeal Ref. APP/Z3825/W/21/3283823). Notably, this consented scheme also fronts Hilland Road with existing residential properties on the opposing side and therefore it has been demonstrated that the route is not considered to be a barrier to residential development and that the location is suitable for residential development.
- 3.4 To the west, the site fronts a proposed residential development of 125 dwellings (Planning Ref. DC/24/0749). Whilst this was refused due to a substandard pedestrian/cycle access along New Road, this has since been approved at appeal (APP/Z3825/W/25/3361285).
- 3.5 The site location in relation to the surrounding area is shown in **Figure 3.1**.

Figure 3.1: Site Location Plan



Local Highway Network

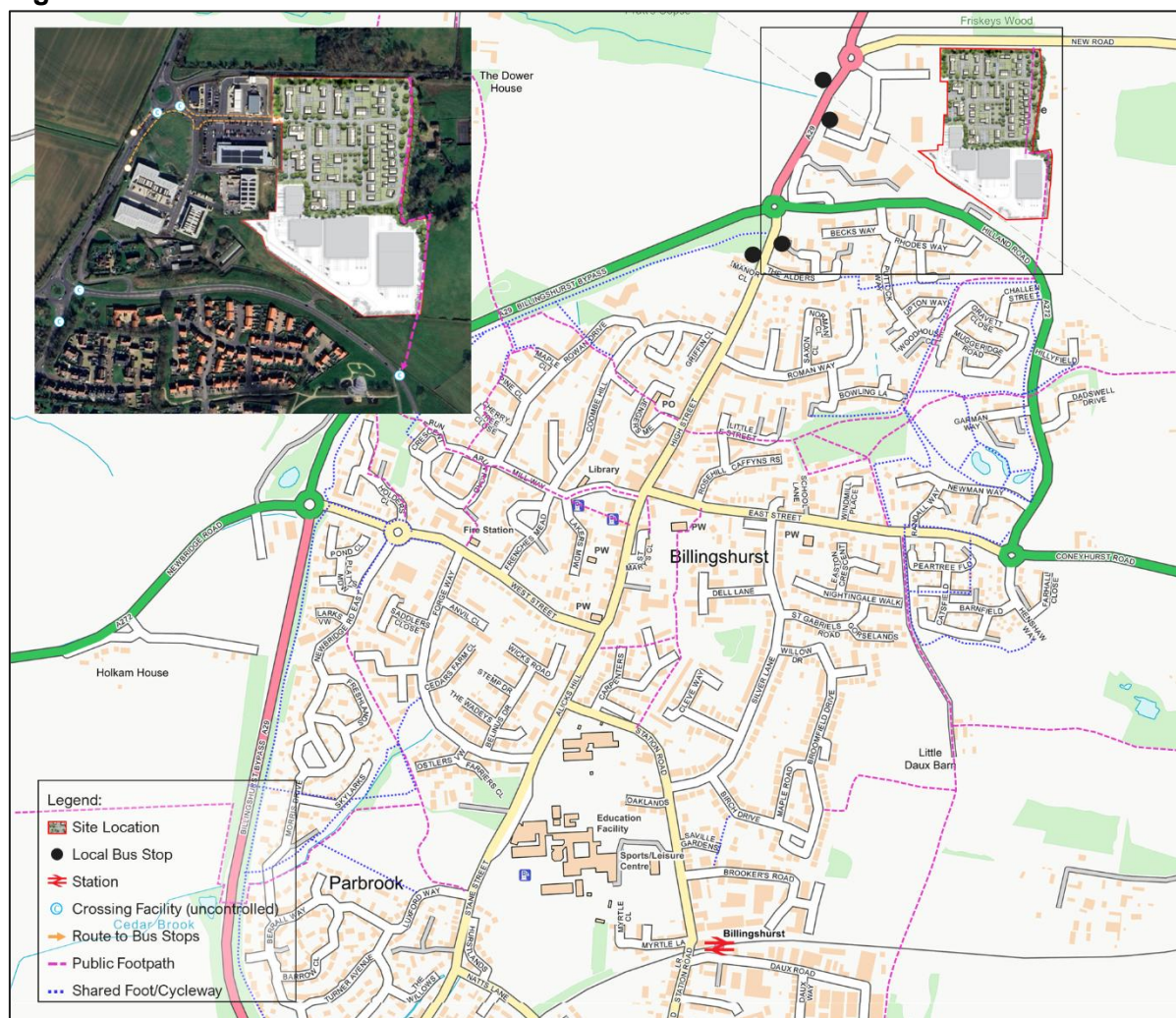
- 3.6 Access to the site and wider Billingshurst Trade and Business Park is taken via the A29 (Stane Street) / New Road roundabout.
- 3.7 The A29 (Stane Street) provides a connection to Billingshurst village centre to the south, as well as the A272. The A272 is one of the principal east-west routes in West Sussex, which provides onward connections to Haywards Heath and Petersfield. Stane Street also provides links to Guildford and Horsham to the north (via the A281).
- 3.8 In addition to the above, the East Billingshurst Relief Road, as part of the major residential development located to the south of the site, is now open and provides an alternative east-west route around Billingshurst.

Active Travel Network

- 3.9 It is generally accepted that walking and cycling provide important alternatives to the private car and should also be encouraged to form part of longer journeys via public transport. For example, research undertaken by the Chartered Institution of Highways and Transportation (CIHT) outlines that most people would walk to a destination within one mile or cycle for a journey within five miles.
- 3.10 With consideration for the above, it is noted that paragraph 105 of the NPPF recognises different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural locations. Moreover, Manual for Streets (MfS) identifies 'walkable neighbourhoods' as being:
- "characterised by having a range of facilities within 10 minutes (up to about 800m) walking distance of residential areas which residents may access comfortably on foot."*
- 3.11 However, it is important to recognise that MfS does not consider 800 metres to be a maximum walking distance. Indeed, MfS contends that walking can be used to access a variety of destinations within a range of up to 2 kilometres.
- 3.12 More recently, there has been an emergence of 20-minute neighbourhoods, based on a design ethos of creating complete, compact and connected neighbourhood, where people can meet their everyday needs within a short walk or cycle. This concept builds upon the notion of walkable, and cyclable, neighbourhoods and places designed at pedestrian scale and is supported by a 20-minute neighbourhood guide published by the Town and Country Planning Association in March 2021. The idea of the 20-minute neighbourhood presents multiple benefits including boosting local economies, improving people's health and wellbeing, increasing social connections in communities, and tackling climate change.
- 3.13 The following sections consider the site location in relation to the active travel network with the principles of MfS and the 20-minute neighbourhood in mind. Whilst **Figure 3.2** provides an overview of the pedestrian and cycle connections in the local area.



Figure 3.2: Active Travel Network



Pedestrian Network

- 3.14 A footway is provided on the eastern side of Stane Street which was upgraded as part of the original commercial consent at the wider business park. A crossing with dropped kerbs and tactile paving is provided on the eastern arm of the Hilland Roundabout creating a safe and convenient link across Hilland Road following the pedestrian desire line.
- 3.15 To the south a footway extends on the eastern side of High Street to the nearest bus stop. On the western side of the carriageway, a continuous footway is provided to Billingshurst town centre. A crossing facility with dropped kerbs and tactile paving links the two footways.
- 3.16 Additional pedestrian facilities include traffic-free routes which serve the neighbouring residential areas and can be accessed from High Street. These offer routes to both east and west Billingshurst.
- 3.17 Alongside the above, a range of public rights of way operate throughout Billingshurst offering traffic-free connections to the surrounding area. Notably these include a route from New Road to Billingshurst town centre via footpaths 1942 and 1941, the former of which routes along the eastern boundary of the site. An existing crossing facility with dropped kerb and tactile paving is provided where this route crosses Hilland Road.



Cycle Network

- 3.18 There are a range of cycle links which can be joined to the south of the site and are largely in the form of shared traffic-free routes. These can be accessed via quieter routes through the site and commercial area to the south. To the south west these operate parallel to the A29 with various connections to local residential areas. To the south east cycle links predominantly operate parallel to Hilland Road (East Billingshurst Relief Road) with routes provided to residential areas and towards the town centre.

Access to Local Amenities

- 3.19 There are a range of amenities within the wider Billingshurst Trade and Business Park, these include a supermarket, petrol filling station (with convenience store) and a coffee shop. Further amenities are located in Billingshurst town centre, approximately 1 kilometre to the south of the site. A review of the amenities in the local area is provided at **Figure 3.3** whilst a summary of the walking and cycling distance to local amenities is provided in **Table 3.1**.

Figure 3.3: Local Amenities

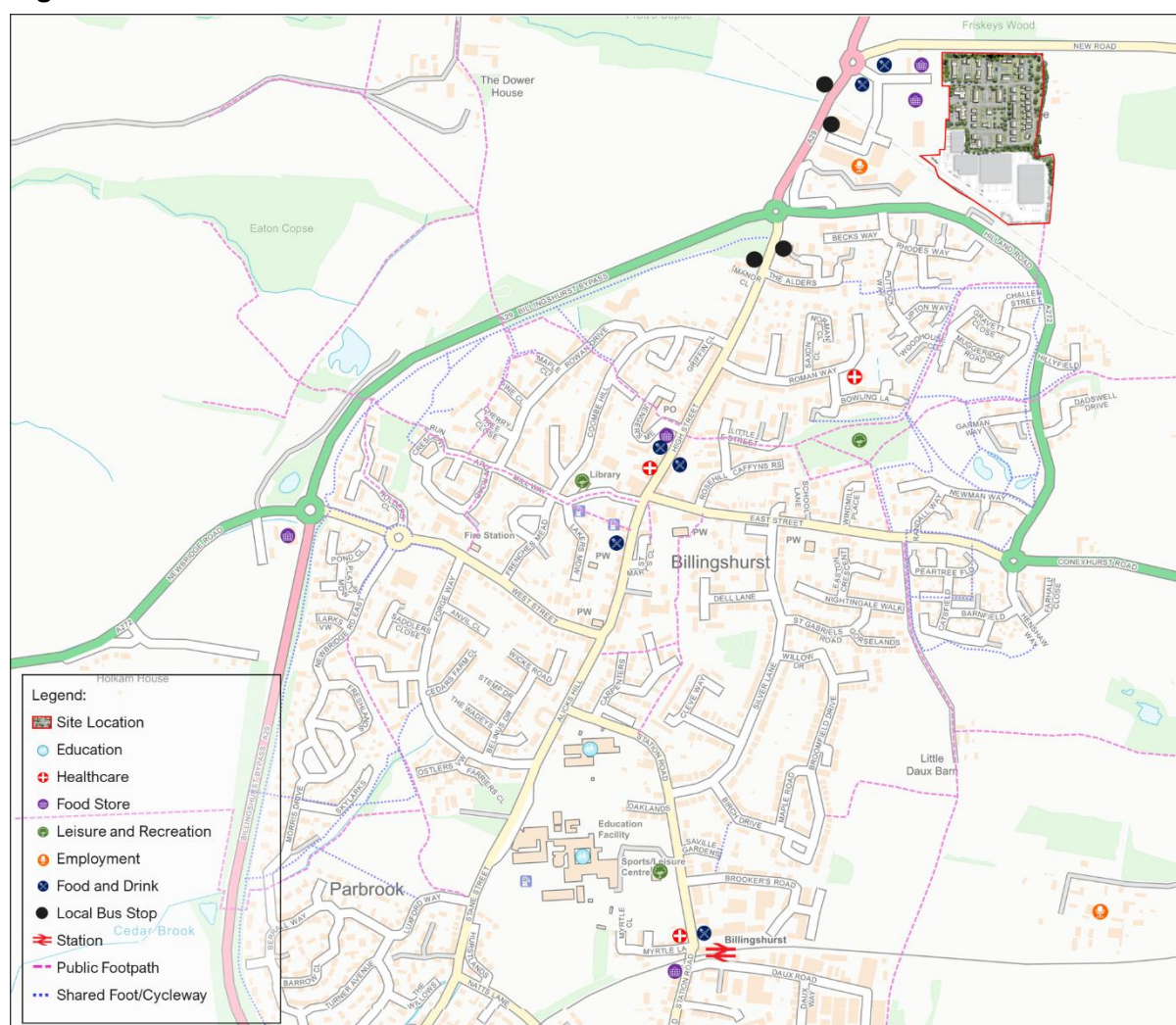


Table 3.1: Local Amenities

Education	Distance	Walk Time	Cycle Time
Billingshurst Primary Academy	1,700 metres	20 minutes	7 minutes
The Weald Community School	2,200 metres	26 minutes	9 minutes
Healthcare	Distance	Walk Time	Cycle Time
Billingshurst Surgery	1,200 metres	14 minutes	5 minutes
Billingshurst Pharmacy	1,200 metres	14 minutes	5 minutes
Arun Valley Pharmacy	2,200 metres	26 minutes	9 minutes
Food Store	Distance	Walk Time	Cycle Time
Lidl	150 metres	2 minutes	1 minutes
Morrisons Daily (Trade Park)	150 metres	2 minutes	1 minutes
Morrisons Daily (High Street)	1,100 metres	13 minutes	5 minutes
Coop Food	1,900 metres	23 minutes	8 minutes
Tesco Express	2,300 metres	27 minutes	10 minutes
Leisure and Recreation	Distance	Walk Time	Cycle Time
Park (north of Newman Way)	1,400 metres	17 minutes	6 minutes
Billingshurst Library	1,400 metres	17 minutes	6 minutes
Billingshurst Leisure Centre	2,200 metres	26 minutes	9 minutes
Employment	Distance	Walk Time	Cycle Time
Billingshurst Trade Park	200 metres	2 minutes	1 minutes
Rosier Business Park	3,300 metres	39 minutes	14 minutes
Food and Drink	Distance	Walk Time	Cycle Time
Costa	150 metres	2 minutes	1 minutes
Greggs	150 metres	2 minutes	1 minutes
The Kings Head Inn	1,100 metres	13 minutes	5 minutes
Little Bean Café	1,100 metres	13 minutes	5 minutes
The Kings Arms	1,300 metres	15 minutes	5 minutes
The Railway Inn	2,200 metres	26 minutes	9 minutes

Public Transport Network

- 3.20 Local bus stops are provided on Stane Street at the western boundary of the site. These stops are served by 100 bus route which operates hourly between Horsham and Pullborough, additionally the route serves Billingshurst station.
- 3.21 Billingshurst station is located circa 2.2 kilometres to the south of the site and can be accessed on foot, via cycle (noting that there are 18 cycle parking spaces), or via local buses. Rail services from Billingshurst operate every 30 minutes to London Victoria and Bognor Regis.



Summary

- 3.22 The above review demonstrates that there are a range of transport options available in the area surrounding the site with the potential to reduce reliance on the private car. It is therefore in accordance with the policy aims of national and local government, which is to be expected given the extant outline consent.



4.0 Objectives

4.1 The principle objectives of this Framework Travel Plan are as follows:

- To increase awareness of sustainable modes of travel and to encourage their use;
- To increase awareness of the environmental impacts of travel by the private car;
- To promote walking and cycling as a health benefit to residents; and,
- To reduce the perceived safety risks associated with active travel.

4.2 To achieve the objectives of the Travel Plan, Specific, Measurable, Appropriate, Realistic and Time-bound (SMART) targets must be introduced. Targets will include action-type targets; and aim-type targets. Aim-type targets mainly relate to those which are quantifiable, for instance a particular level of car trips and/or modal split. Action-type targets consist of those relating to the implementation of services, facilities, etc. during certain periods of development progression.

Mode Share

4.3 In considering a baseline mode share reference has been made to the 2011 Census. Whilst 2021 Census data has been released, it is noted that the Office for National Statistics (ONS) have reviewed the data and concluded that 2011 data should continue to be used while further research is undertaken into how the Covid-19 pandemic influenced the 2021 data. Given this ONS position, the use of 2011 journey to work data provides a suitable assessment. For context, data has been obtained for both the output area (Horsham 010) within which the site is located and the wider Horsham Borough. This is shown in **Table 4.1**.

Table 4.1: Mode Share Data

	Horsham 010	Horsham (Borough)
Rail	10.2%	8.4%
Bus	0.9%	2.1%
Taxi	0.1%	0.1%
Motorcycle	0.8%	0.7%
Car Driver	72.6%	70.9%
Car Passenger	4.6%	4.8%
Cycle	1.1%	2.1%
Foot	9.7%	10.9%
Total	100%	100%

4.4 The baseline mode share will be reviewed and updated following initial travel surveys which will be undertaken at 75% occupancy. At this stage, target mode share for the end of years 1, 3 and 5 will be derived.



5.0 Management and Marketing Strategy

Management Strategy

- 5.1 A Travel Plan Coordinator (TPC) will be appointed who will be responsible for implementing the measures and strategies within the Travel Plan. The primary responsibilities of the TPC will include the following:
- Establishing and maintaining a filing system for recording all correspondence relating to the Travel Plan;
 - Coordinating travel surveys and survey questionnaires;
 - Implementing the measures and initiatives outlined in this Travel Plan;
 - Exploring additional Travel Plan measures when appropriate;
 - Promoting the objectives and benefits of the Travel Plan; and,
 - Acting as a point of contact for resident queries relating to the Travel Plan.
- 5.2 A Travel Plan Coordinator has not yet been appointed however it is expected that this document will be updated following appointment to satisfy a pre-occupation condition. At this stage, there is a commitment to provide the contact details of the to the Travel Plan team at HDC within one month of appointment.

Marketing Strategy

- 5.3 Residents will be made aware of the existence of the Travel Plan prior to the receipt of keys. The details of the Travel Plan, its objectives in enhancing the environment and the role of individuals in achieving the objectives of the Travel Plan will be issued to all residents prior to receipt of keys.
- 5.4 A Travel Welcome Pack will be provided to residents before occupation and will include information relating to access on foot, by cycle and by public transport. The Pack will identify:
- The location of local amenities;
 - The location of cycle parking and nearby cycle routes;
 - The location of bus stops and bus timetabling information;
 - The location of rail stations and timetabling information; and,
 - Information about car sharing opportunities.



6.0 Travel Plan Measures

Introduction

- 6.1 This section of the Travel Plan outlines a list of specific physical and management measures to be undertaken as part of the Travel Plan. The implementation of measures, which include awareness initiatives and infrastructure provision, are the core elements of the Travel Plan.

Measures to Promote and Facilitate Walking

- 6.2 The site will be designed to encourage walking among future residents through the provision of high quality facilities including safe crossing facilities. The internal arrangement will consider the expected key desire lines that pedestrians will follow to determine priority routes which will include links to Stane Street and Hilland Road where crossing facilities are provided.
- 6.3 In order to encourage future residents to travel to and from the site on foot, the following measures will be considered:
- Footways will be provided throughout the site with frequent crossings to create a safe pedestrian environment; and,
 - The TPC will promote the health benefits of walking to residents and will provide a Travel Welcome Pack which will include information relating to the walk time to local amenities and also how to access the Public Right of Way network for local leisure-based trips.

Measures to Promote and Facilitate Cycling

- 6.4 The internal layout will be designed to prioritise cyclists ahead of vehicle movements. This will include creating a low speed environment where the perceived safety concerns relating to cycling are minimised.
- 6.5 In order to encourage future residents to travel to and from the site by cycle, the following measures will be considered:
- On plot cycle parking will be provided for future residents in accordance with the relevant standards and guidance;
 - The TPC will promote the cycling information available on the Travel Choices webpage. This includes cycling maps and cycle club information;
 - The TPC will promote the health benefits of cycling to residents; and,
 - The Travel Welcome Pack which will include information relating to the cycle time and routes to local amenities.

Measures to Promote Public Transport Use

- 6.6 In order to encourage future residents to travel to and from the site via public transport, the following measures will be considered:
- The Travel Welcome Pack will include timetabling and routeing information for local bus and rail services; and,



- The TPC will research opportunities to provide travel vouchers to incentivise travel via sustainable modes which could include season tickets for public transport use.

Measures to Reduce Car Use

6.7 In order to encourage reduced car use, the following measures will be considered:

- The TPC will promote car share schemes such as West Sussex Car Share Scheme, LiftShare, 2Carshare and GoCarShare, the details of which will be included in the Travel Welcome Pack;
- Working from home will be promoted as a way to reduce reliance on the private vehicle supported through suitable internet provision at the site; and,
- The Travel Welcome Pack will include information relating to deliveries, including from food stores and online retailers, to reduce the need to leave the development by car for these trip types.

Further Measures

6.8 To encourage and facilitate the uptake of electric and ultra-low emission vehicles, charging facilities will be made available to future residents. It is intended that EV charging is provided at every plot in accordance with Part S of Building Regulations which provides technical guidance regarding the installation and charge point requirements and also in accordance with any highways development advice from Essex County Council (ECC).



7.0 Monitoring and Review

- 7.1 A programme of monitoring and review has been designed to generate information by which the success of the Travel Plan can be evaluated. The Travel Plan Coordinator will be responsible for the monitoring and review of the Travel Plan.
- 7.2 The programme of monitoring and review centres around travel surveys with an initial travel survey to be undertaken within three months of initial occupation to provide an updated baseline mode share to that shown at Section 5. Travel surveys will be repeated at three-year intervals to show any changes in travel patterns.
- 7.3 The travel surveys will inform monitoring reports which will provide a summary of the results, review of targets and will be used to make any recommendations regarding changes to the Travel Plan. The monitoring reports will be submitted to HDC.



8.0 Action Plan

8.1 An Action Plan for implementing the measures and strategies within the Travel Plan is provided below, including timescales and responsibility for implementation.

Action	Timescale	Responsibility
Install agreed level of cycle parking	Prior to occupation	Developer
Install agreed level of EV charging facilities	Prior to occupation	Developer
Off-site links to cycle and pedestrian infrastructure	Prior to occupation	Developer
Off-site pedestrian and cycle improvement works, including crossings	Prior to occupation	Developer
Appoint Travel Plan Coordinator and update HDC with contact details	Prior to occupation	Developer
Produce travel information packs	Prior to occupation	TPC
Provide updates to travel information packs, as needed	On-going	TPC
Liaise with LHA to ensure that pedestrian and cycle routes are appropriately maintained	On-going	TPC
Promote car sharing among residents	On-going	TPC
Promote the use of electric and ultra-low emission vehicles	On-going	TPC
Promote working from home	On-going	TPC
Promote delivery initiatives that allow trip consolidation with other residents	On-going	TPC
Initial Travel Surveys	Upon occupation of 75% of dwellings	TPC
Annual Travel Surveys	On anniversary of initial surveys	TPC
Monitoring Report	Annually following surveys	TPC





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