



Land East of Knowle Lane, Cranleigh

**Highways & Transport Evidence on behalf of
Gleeson Land**

of

Philip Anthony Bell BEng(Hons) MCIT MILT MCIHT

TEXT & APPENDICES

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1.0 Introduction

Qualifications & Experience

- 1.1 I hold a First Class Bachelor of Engineering Degree in Civil Engineering and a Royal Society for the Prevention of Accidents (RoSPA) accreditation in advanced road safety engineering. I am a chartered member of the Chartered Institution of Highways and Transportation and a member of the Institute of Logistics and Transport. I have over 30 years' experience in the field of transportation planning, traffic engineering and highway safety.
- 1.2 I have extensive experience of highways and transport planning within the residential sector and currently act for many of the major land promoters and housebuilders operating in south-east England. In addition, I have extensive experience of major development proposals within the retail, leisure and commercial sectors.
- 1.3 My experience includes a period in the Development Studies Department of Wootton Jeffreys Consultants. Subsequently, I worked for Mayer Brown for over 14 years. I was jointly responsible for setting up Motion Consultants Limited in August 2004.
- 1.4 Motion specialises in advising developers and professionals in the development field on all matters concerning transportation, highways, traffic and road safety and our clients comprise a wide variety of private and public-sector organisations.

Scope of Evidence

- 1.5 This Proof of Evidence ("PoE") has been prepared in relation to a Planning Appeal that has been submitted against the decision of Waverley Borough Council, to refuse the following planning application:

"Outline Application with all matters reserved except access for erection of up to 162 dwellings (including 30% affordable dwellings) built in up to 3 phases including access road, pedestrian and cycle accesses, parking, public open space, biodiversity enhancement and landscaping and other associated infrastructure and works" (Planning Reference: WA/2023/00294).
- 1.6 The planning application was refused under delegated powers in June 2023. Eight reasons for refusal were cited on the Decision Notice dated 8th June 2023. None of the reasons for refusal relate to matters of highway safety or capacity. This PoE has been prepared in response to representations submitted by the Knowle Lane Residents Group (the Residents Group), a Rule 6 Party to the appeal, and to address matters related to transport and highways raised by other interested parties. The main points raised in the Residents Group Statement of Case relate to:
 - ▶ Concerns relating to highway safety at the proposed site access.
 - ▶ Impact of development traffic on the junction of Knowle Lane with High Street.
 - ▶ Whether the proposed traffic calming on Knowle Lane is necessary.
 - ▶ Whether the proposals are sustainable in transport terms.
 - ▶ Whether the financial contributions sought by the highway authority are appropriate.

- 1.7 The appeal proposals were subject to a formal pre-application consultation with Surrey County Council (SCC) as the local Highway Authority in late 2022, prior to the application being submitted. The Transport Assessment that accompanied the application (dated January 2023) was prepared having regard to advice received at that stage. A Travel Plan, also dated January 2023, was also submitted as part of the planning application. Notably, no objections were raised to the proposals by the local Highway Authority in its consultation responses dated 4th and 24th April 2023, having assessed the application on safety, capacity and policy grounds. The local Highway Authority response also recommended a number of conditions/off-site highway works to be included in any permission granted.
- 1.8 The next section of this note responds to the highway and transport matters identified in the Residents Group Statement of Case. Section 3 deals with matters raised by other interested parties, while section 4 provides a summary and conclusion of this PoE.

2.0 Response to Rule 6 Party (Residents Group) Statement of Case

Overview

2.1 The points related to highways identified in the Residents Group Statement of Case include:

- ▶ Concerns relating to highway safety at the proposed site access.
- ▶ Impact of development traffic on the junction of Knowle Lane with High Street.
- ▶ Whether the proposed traffic calming on Knowle Lane is necessary.
- ▶ Whether the proposals are sustainable in transport terms.
- ▶ Whether the financial contributions sought by the highway authority are appropriate.

2.2 Each of these points are considered in turn below within this section.

Highway Safety and Site Access

2.3 The proposed site access has been designed in accordance with the requirements of Manual for Streets (section 7.5), particularly in relation to visibility splays at the junction. As set out in the Transport Assessment visibility splays of 2.4 metres by 60 metres to the south and 2.4 metres by 69 metres to the north can be accommodated and are appropriate based on 85th percentile vehicle speeds of 37.9 miles per hour (mph) northbound and 41.4 mph southbound. The Resident Group's Statement of Case (second paragraph under 'Highways') states that the proposed site access, "...sits close to the apex of a hill on a blind 'S' bend to the south; already a hazardous part of Knowle Lane with a history of accidents". The visibility splays illustrated are not impacted by the gradient of Knowle Lane, which rises gently leading south away from the proposed site access.

2.4 Bellamy Roberts prepared a report dated March 2023 on behalf of the Residents Group¹ (CD2/4a), which raised concerns over the calculation of the stopping sight distance used in determining appropriate visibility splays at the junction. As set out in Motion's response dated 9th May 2023 (CD2/5d), the 85th percentile vehicle speeds upon which stopping sight distances (SSD) were based in the submitted Transport Assessment, relate to speed data collected in June 2021, commissioned both north and south of the proposed access location specifically for the purpose of identifying approach speeds to the proposed site access. Unfortunately, this data was not appended to the TA, but was included at Appendix A of the May 2023 Note (CD2/5d). A complete set of speed survey data upon which the illustrated visibility splays are based is provided in **Appendix PAB-A** for ease of reference. The data confirms the relevant approach speeds to the access are 41.4 mph southbound (from ATC1) and 37.9 mph northbound (from ATC3). As such, the visibility splays shown within the submitted documentation are considered to be appropriate.

2.5 The ATC data relied upon by Bellamy Roberts, appended to the Transport Assessment, was obtained to the north of the proposed site access. Therefore, that data would only be appropriate for calculating the northern visibility splay and not suitable for calculating the SSD for the southern visibility splay as has been carried out by Bellamy Roberts.

¹ It is understood the Residents Group is the same as the 'Knowle Lane Neighbourhood Group'

- 2.6 The Residents Group's Statement of Case refers specifically to Manual for Streets (**CD7/5a**) in the context of the junction design and it is agreed that this is the appropriate point of reference for determining SSDs. Indeed, Manual for Streets 2 (**CD7/5b**) (paragraph 1.3.2) identifies that, "... *most MfS advice can be applied to a highway regardless of speed limit. It is therefore recommended that as a starting point for any scheme affecting non-trunk roads, designers should start with MfS*". It is accepted that the recorded 85th percentile southbound speed (41.4 mph) marginally exceeds this 40 mph threshold. However, the approach adopted is consistent with guidance in MfS on the basis that this is *recommended*. It is also important to note that no account has been taken of the proposed traffic calming on Knowle Lane, to be implemented as part of the proposed development and detailed in the submitted Transport Assessment, which seeks to encourage lower vehicle speeds. Finally, a greater visibility splay can be achieved in any event as the splay has been measured to the carriageway edge rather than the wheeltrack as advocated in Manual for Streets 2 (**CD7/5b**). With regard to Bellamy Roberts' comment relating to the measurement of forward visibility to a vehicle waiting to turn right into the proposed access, any such vehicle would be positioned close to the centre-line as illustrated on drawing 2010010-09 (appended to the Transport Assessment). Furthermore, it is envisaged that only a very small proportion (7%) of the development traffic will arrive from the south and, as Knowle Lane is very lightly trafficked, it is highly unlikely that a right turning vehicle will be stationary for a material amount of time.
- 2.7 The junction design has been accepted by the Surrey County Council ("SCC") as local Highway Authority by virtue of the fact that it raised no objections in its formal consultation responses dated 4th April 2023 (**CD2/3f**). Surrey County Council was reconsulted on the application following receipt of the representations outlined in the Bellamy Roberts report and maintained its position of 'no objection' in the later consultation response dated 24th April 2023 (**CD2/3g**). For the avoidance of doubt, SCC visited the site with Motion on 20th October 2022 and so had the benefit of a site visit in considering the development proposals. My firm has commissioned an independent Stage 1 Road Safety Audit of the proposed site access arrangements, which is included at **Appendix PAB-B** to this PoE. The Safety Audit raises one matter relating to the proposed site access junction, which is that visibility to the south of the access could obscure the visibility. As set out in the Designer's Response, also included in **Appendix PAB-B**, the visibility splay is contained within the carriageway's extents; therefore the designer considers that it will remain clear of obstructions. Notwithstanding this, the recommendation is accepted and visibility splays will be reviewed at the detailed design stage and any vegetation clearance requirements will be specified as part of the site clearance plans. The Stage 1 Road Safety Audit has been considered by SCC as 'Overseeing Organisation' and the Designer's Response to the Audit Team recommendations have been accepted and agreed by SCC, as local Highway Authority.
- 2.8 Personal injury accident (PIA) data has also been obtained from Sussex Safer Road Partnership, who administer road safety data on behalf of SCC, for the 5-year period ending 31st July 2023. The study area included approximately a 1.5 kilometre section of Knowle Lane south from the junction with the High Street. Two incidents were recorded on this section of Knowle Lane during the defined period, both classified as 'slight' in severity. One of the incidents on Knowle Lane occurred approximately 430 metres to the north of the proposed site access, at the junction with Snoxhall Fields. It is noted this incident occurred in dry/daylight conditions. The incident involved a car and a pedal cycle whereby a vehicle attempted to overtake a cyclist turning right into Snoxhall Fields. The likely causation factors reference the car failing to judge the pedal cycle speed/path and being 'careless/reckless/in a hurry'. The second incident recorded on Knowle Lane took place a short distance to the north of the proposed site access. This incident took place in daylight and wet/damp conditions and involved a single car travelling northbound losing control, with a slippery road cited as the likely causation factor. On the basis of the PIA information received, it is not considered there are any existing issues with Knowle Lane that result in any road safety concerns. Notwithstanding this, the proposed development will deliver a scheme of traffic calming on the section of Knowle Lane to the north of the site access, which will contribute to reducing vehicle speeds on this section on the road.

Traffic Generation and Impact on the Local Highway Network

- 2.9 Section 6 of the Transport Assessment (**CD2/1d**) includes a capacity assessment of the Knowle Lane/High Street junction using PICADY software. PICADY, produced by the Transport Research Laboratory (TRL), expresses the relationship between traffic flow and the capacity of priority controlled junction as a ratio, referred to as the Ratio of Flow to Capacity (RFC). Based upon these results predictions are made about anticipated queue lengths (Q) and delays that are likely to occur at a junction. When a RFC of 1 is recorded by PICADY it indicates that a junction is at capacity, whilst a RFC of less than 0.85 is generally accepted as being representative of a junction operating under free flow conditions. The analysis presented in the Transport Assessment concludes that the junction of Knowle Lane with the High Street will operate within capacity during both morning and evening peak periods, both with and without the proposed development in 2028, with a maximum ratio of flow to capacity (RFC) in the 'with proposed development' scenario of 0.75 on the Knowle Lane arm during the morning peak hour, with a queue of 2.6 vehicles.
- 2.10 The Bellamy Roberts March 2023 report (**CD2/4a**) contends that the capacity assessment of this junction presented in the submitted Transport Assessment is flawed on the basis that no model validation has been completed. This is incorrect as the model has been validated with reference to queue surveys. While it is acknowledged that there may well be incidences where queues greater than 2.6 vehicles are observed, this is not in itself a valid reason to calibrate a PICADY model. Indeed, model calibration is usually used only as a last resort where predicted queuing is significantly different to observed queuing, which is not the case here.
- 2.11 Further, it is inappropriate for Bellamy Roberts to calibrate a model based on what appear to be anecdotal observations (which are not corroborated within the submission), which purport to identify, "*...instances where between 5 and 6 vehicles were queuing on Knowle Lane*". It would not be unusual for queues of this scale to build up periodically at priority junctions such, particularly in the scenario where several vehicles arrive at the same time. Queues of this scale would not necessarily indicate a capacity issue at a junction.
- 2.12 In the Statement of Case, the Residents Group alleges that the traffic modelling fails to take account of future sources of increasing traffic volumes since the original traffic survey was carried out in November 2022 or traffic associated with other new developments in the area. This is not the case. As is standard practice, the traffic assessment considers a future year 5 years after the submission of the planning application, in this case 2028. As set out in Section 6 of the Transport Assessment (**CD2/1d**), traffic growth has been accounted for with reference to TEMPro (Trip End Model Presentation Program), the industry standard tool for estimating traffic growth, and adjusted with reference to the National Transport Model (NTM) dataset with the baseline traffic flows increased accordingly.
- 2.13 Both the methodology used and the results of the capacity assessment of the Knowle Lane junction with High Street has been considered by the local Highway Authority and accepted. The additional traffic generated by the proposed development can be accommodated with the junction demonstrated to continue to operate within capacity. As such, it is concluded that the impact on the local highway network will not be *severe*, as referenced in the NPPF (paragraph 111) as a basis for refusing planning permission.

- 2.14 The Residents Group Statement of Case states that, "... the Appellant's traffic generation modelling is flawed and consequently,... conclusions based upon it in respect of congestion-modelling, trip generation and sustainability are unreliable". For clarification, no conclusions are drawn from the modelling on trip generation or sustainability. The Statement of Case further states that, "... *the development would generate a significant volume of vehicle movements and that any claims in respect of 'sustainable transport' are greatly overstated.*" For clarification, no assumptions have been made about the sustainability of the site in terms of traffic impact modelling/vehicle movements. Two methods are presented in the Transport Assessment (**CD2/1d**) for establishing trip rates (section 5 of the document) based on a survey of a comparable site, and with reference to trip rates extracted from the TRICS database, the industry standard system for assessing trip rate generation across the UK and Ireland. Traffic generation associated with both the survey and TRICS (sensitivity) scenarios are then modelled (in section 6 of the Transport Assessment) to understand the impact on capacity.

Traffic Calming on Knowle Lane

- 2.15 In the Statement of Case (**CD1/2c**), the Residents Group questions the need for the proposed traffic calming on Knowle Lane, when the Appellant and Highways Authority consider there would be no significant increase in traffic volumes. For clarification, the traffic calming scheme is described in paragraph 4.7 of the Transport Assessment (**CD2/1d**) and was introduced at the specific request of SCC. In respect of additional vehicle movements, the Transport Assessment (**CD2/1d**) outlines the estimated increase in vehicle movements and the results of junction modelling to understand the impact on the local highway network. The scheme is illustrated on drawing 2010010-08, which is included at Appendix G of the Transport Assessment. The traffic calming scheme comprises three sets of build-outs, aimed at forcing drivers to slow down or stop if another vehicle is approaching. The works are proposed to the north of the proposed site access on the basis that this represents the approach to the village and that most of the development traffic is expected to travel to/from this direction. The proposals are based on a similar scheme that has been successfully introduced on Tuesley Lane in Milford and has been covered by the Stage 1 Road Safety Audit introduced earlier in this PoE and included at **Appendix PAB-B**. The Safety Audit raises one issue with the proposed traffic calming scheme, namely that drivers approaching the narrowings may not give way to oncoming vehicles, leading to collisions. As set out in the Designer's Response, also included in **Appendix PAB-B**, signage will be provided in advance of the traffic calming to warn motorists of the road narrowings ahead, and markings will be provided to increase the conspicuity of the narrowings consisting of 'SLOW' markings, hatched edge markings and/or coloured carriageway treatment. The final specification for signage and road markings will be determined at the detailed design stage, as is standard practice. The proposed works are located within the public highway and can be secured by appropriate condition/legal mechanism. As identified above, the Stage 1 Road Safety Audit has been considered by SCC as 'Overseeing Organisation' and the Designer's Response to the Audit Team recommendations have been accepted and agreed by SCC.

Transport Sustainability

- 2.16 The Residents Group's Statement of Case (**CD1/2c**) claims that the site is a considerable distance from the village, that options for pedestrians are restricted and that bus services are limited and not guaranteed in the future.
- 2.17 Dealing first with the distance, as set out in Section 3 and on the plans in Appendix C of the Transport Assessment (**CD2/1d**), the site is approximately 800 metres from the village centre. This represents a walk of approximately 10 minutes and could not fairly be considered as a "*considerable distance*". Indeed, as set out in Section 3 of the Transport Assessment, the walk distance to the village centre is consistent with guidance prepared by the Chartered Institution of Highways and Transportation. Manual for Streets (paragraph 4.4.1) states, "*Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (up to about 800 m) walking distance of residential areas which residents may access comfortably on foot. However, this is not an upper limit...*"

2.18 There are a number of routes that could be used by pedestrians walking between the site and the village centre, the most direct of which is the Downs Link, a direct, attractive and traffic-free route that runs along the eastern boundary of the site. The appeal proposals include provision of a new connection between the site and the Downs Link to facilitate access to Cranleigh via this route for pedestrians and cyclists. Surveys have been undertaken of pedestrian use, which show that the route is very well used by pedestrians and, as such, it is difficult to see why this would not be attractive to future residents of the site. Indeed, the local Highway Authority takes no issue with the sustainability of the site in transport terms, subject to a planning condition covering improvements (including surfacing and lighting) to public right of way routes 566 (the Downs Link) and 378 (the adjacent public footpath). The table below provides a summary of the Downs Link pedestrian user survey results from January 2023, included in Appendix A of the Transport Assessment (CD2/1d), as well as a summary of a further survey completed in August 2023. The results of the August 2023 survey are included in Appendix PAB-C of my evidence. It should be noted that the more recent surveys completed in August were during school summer holidays and so do not include school-related pedestrian movements.

Survey	Friday		Saturday	
January 2023	07:00-17:00	326	10:00-16:00	203
August 2023	07:00-17:00	264	10:00-16:00	276
	07:00-19:00	329	07:00-19:00	405

Table 3.1 – Summary of Downs Link Pedestrian Surveys

2.19 Turning to buses, Section 3 of the Transport Assessment identifies that there is an existing hourly bus service operating between Horsham and Guildford. The Residents Group raises concerns about the future of the bus service, but this is counter-intuitive given the significant amount of development in and around Cranleigh in recent years and the inevitable increase in demand that will arise from the proposed development. Notwithstanding this, the Appellant has agreed to pay a financial contribution towards improvements to public transport, which is reflected in the local Highway Authority’s consultation response to the application and further detailed below.

Financial Contributions

2.20 The local Highway Authority’s consultation responses dated 4th April 2023 (CD2/3f) and 24th April 2023 (CD2/3g) both include the following recommended condition:

"The development hereby approved shall not be first occupied unless and until Section 106 contributions have been provided to the County Highways Authority towards the planned improvement schemes on Cranleigh High Street to improve pedestrian and public transport infrastructure. In the context of contributions secured from other local schemes and the scale of development proposed, the appropriate contributions for these proposals are £40,404.71 towards the High Street infrastructure improvement scheme and \$24,452.83 [sic] for the Public Transport Measures."

2.21 In its Statement of Case (CD1/2c), the Residents Group questions whether the contributions sought will be effective in mitigating the localised impact of the development. It is understood that the Local Planning Authority, Waverley Borough Council supports the inclusion of the recommended condition and, as such, it is WBC’s responsibility to justify the financial contributions having regard to paragraphs 55 and 57 or the NPPF. Should the financial contribution be justified, this should be secured through a Section 106 Agreement.

3.0 Response to Representations of Interested Parties

Overview

- 3.1 A number of representations have been made by interested parties to the appeal. The main issues raised by Interested Parties can be summarised as follows:
- ▶ Highway safety and site access – some residents raised concerns with regards to the location of the proposed site access, suggesting that the proposed access on Knowle Lane is unsuitable due to the close proximity to a tight bend south of the site access and that adequate visibility cannot be achieved for drivers approaching from the south. Concerns were also raised with regard to accessing Knowle Lane from its junction with the High Street, with suggestions that vehicles park at amenities situated on the junction and effectively reduce the junction to a single lane.
 - ▶ Increase in traffic and congestion – many residents raised concerns with regard to an increase in traffic congestion on Knowle Lane and suggested these roads were near capacity, and that the proposed development would cause further congestion. Concerns were also raised in relation to increased traffic congestion during the peak hours for nearby amenities, such as GPs and schools.
 - ▶ Sustainable transport – some residents suggested that the development contravenes policies SP1 (Sustainable Development) and SP2 (Spatial Strategy) of the Waverley Borough Local Plan (February 2018). Concerns were raised with regard to limited bus services in the area and that the only viable mode of transport to and from the site is the private car. Concerns were also raised in respect of the distance between the nearest railway station and the site.
- 3.2 Each of these points are considered in turn below.

Highway Safety and Site Access

- 3.3 The previous section responds to comments raised in the Rule 6 Party Statement of Case in respect of highway safety and site access. SCC has raised no objections to the proposals, even after being reconsulted following receipt of additional information prepared by Bellamy Roberts on behalf of the Residents Group. Despite this, an independent Stage 1 Road Safety Audit has been commissioned and is included at **Appendix PAB-B**. The Safety Audit raises no issues with the site access than cannot be readily addressed at the detailed design stage.
- 3.4 In relation to vehicle parking at the junction of Knowle Lane/Highway Street, there are double yellow lines in operation at the junction on both Knowle Lane and the High Street. There are also bollards on both roads in the vicinity of the junction. Rule 238 of the Highway Code states:
- "You MUST NOT wait or park on yellow lines during the times of operation shown on nearby time plates... Double yellow lines indicate a prohibition of waiting at any time even if there are no upright signs."*
- 3.5 Vehicles parking at the junction on double yellow lines are therefore in contravention of the Highway Code and this is an enforcement issue.

Impact on the Local Highway Network

- 3.6 The previous section responds to comments raised in the Rule 6 Party Statement of Case in respect of impact of development traffic on Knowle Lane. Furthermore, Section 6 of the Transport Assessment (**CD2/1d**) demonstrates that the proposed development will not have a significant impact on other junctions on the local highway network. The methodology used in the Transport Assessment was agreed during pre-application discussions and the local Highway Authority raised no objections to the proposals on the grounds of traffic impact.

Sustainable Transport

- 3.7 Whilst it is acknowledged that there are no railway stations within the immediate vicinity of the site, rail services can be accessed in both Guildford and Horsham via the 63 bus, with regular trains to destinations including, London, Portsmouth, Woking, Gatwick Airport, Peterborough and Southampton. It is also acknowledged that the main access for pedestrians and cyclists will be located to the north of the site, from where pedestrians and cyclists can access the village centre via the Downs Link, which is an attractive and well used route.
- 3.8 Paragraph 105 of the National Planning Policy Framework states:
- "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."*
- 3.9 Further information on opportunities to travel to the site by more sustainable modes, including walking, cycling and by public transport are set out in the Transport Assessment (**CD2/1d**).

4.0 Summary & Conclusion

- 4.1 This PoE has been prepared in response to Waverley Borough Council's refusal of planning permission for a development of up to 162 dwellings on land east of Knowle Lane, Cranleigh, Surrey. No objections were raised to the proposals by the local Highway Authority and none of the reasons for refusal cited on the Decision Notice issued in June 2023 relate to matters of highway safety or capacity. The PoE seeks to respond to highway and transport matters raised by the Knowle Lane Residents Group, as a Rule 6 party to the appeal, and representations made by interested parties. In respect of these matters, this PoE demonstrates the following:
- ▶ Highway safety and site access: In terms of points raised regarding highway safety and provision of suitable visibility splays, the correct speed survey data has been provided and the SSD calculations set out in the submitted Transport Assessment are correct. The local Highway Authority has raised no objections to the application. Despite this, an independent Stage 1 Road Safety Audit has been commissioned to consider the safety of the proposals. This raises no material issues in relation to the safety of the junction.
 - ▶ Traffic generation and impact on the local highway network: With regard to the impact of the residential development on the local highway network the modelling presented within the submitted Transport Assessment has been validated against queue length surveys. In contrast, the analysis of the Knowle Lane/High Street junction presented by Bellamy Roberts in March 2023 does not appear to be based on queue length surveys carried out by an independent traffic surveillance company. The analysis presented in the Transport Assessment includes an allowance for traffic growth. Both the methodology used and the results of the capacity assessment of this junction has been considered by the local Highway Authority and no concerns have been raised.
 - ▶ Traffic Calming on Knowle Lane: The proposed traffic calming scheme on Knowle Lane has been introduced at the specific request of SCC. It has been subject to an independent Road Safety Audit, which identifies no issues that cannot be addressed at the detailed design stage.
 - ▶ Transport sustainability: The site is around 800 metres (a circa 10 minute walk) from the village centre. The most direct route to the village centre by foot and cycle is via the Downs Link, which is an attractive, traffic-free route. Subject to the Applicant undertaking local improvements to public rights of way (including surfacing and lighting), the local Highway Authority takes no issue with the proposals in terms of transport sustainability.
 - ▶ Financial contributions: It is understood that the Local Planning Authority, Waverley Borough Council supports the level of financial contribution suggested by Surrey County Council. The financial contributions can be secured through the Section 106 Agreement.
- 4.2 On the basis of the above, it is considered the appeal proposals comply with adopted policy related to highways and transport and that the appeal should not be refused on transport/highways grounds.

Appendix PAB-A

Knowle Lane Speeds Survey Data (June 2021)

Site No.	Location.	Direction.	Speed Limit (mph)	Start Date.	End Date.	Total Vehicles.	5 Day Ave.	7 Day Ave.	No. > Speed Limit.	% > Speed Limit.	No. > ACPO Limit.	% > ACPO Limit.	No. > DfT Limit.	% > DfT Limit.	Mean Speed	85%ile Speed
01	Knowle Lane (51.135418, -0.491081)	North	40	14 June 2021	20 June 2021	8790	1369	1256	942	10.7	155	1.8	16	0.2	34.1	39.0
		South	40	14 June 2021	20 June 2021	8726	1378	1247	1807	20.7	352	4.0	26	0.3	35.7	41.4
		Two way	40	14 June 2021	20 June 2021	17516	2747	2502	2749	15.7	507	2.9	42	0.2	34.9	40.2

Time	Total	Classification														>PSL 40	>PSL% 40	>SL1 46 ACPO	>SL1% 46 ACPO	>SL2 55 DfT	>SL2% 55 DfT	
		1 PC	2 MC	3 SV	4 SVT	5 TB2	6 TB3	7 T4	8 ART3	9 ART4	10 ART5	11 ART6	12 BD	13 DRT	14 TRT							
0000	5	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	2	38.2	1	14.7	0	2.9
0100	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	60.0	0	40.0	0	0.0
0200	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	20.0	0	0.0	0	0.0
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33.3	0	33.3	0	33.3
0400	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	50.0	0	18.8	0	0.0
0500	6	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	1	22.5	0	5.0	0	0.0
0600	15	0	0	14	0	1	0	0	0	0	0	0	0	0	0	0	6	39.8	2	10.2	0	1.9
0700	56	1	0	49	0	5	0	0	0	0	0	0	0	0	0	0	13	23.3	2	4.3	0	0.0
0800	84	1	0	75	0	6	0	0	0	0	0	0	0	0	0	0	16	19.5	3	3.4	0	0.2
0900	77	1	0	70	1	4	0	0	0	0	0	0	0	0	0	0	13	16.6	1	1.9	0	0.4
1000	86	3	0	75	0	6	0	1	0	0	0	0	0	0	0	0	14	16.5	2	2.2	0	0.2
1100	98	1	2	89	0	5	0	1	0	0	0	0	0	0	0	0	13	13.4	2	2.2	0	0.3
1200	96	2	0	86	0	7	0	0	0	0	0	0	0	0	0	0	16	17.2	3	3.4	0	0.0
1300	84	1	0	76	1	6	0	0	0	0	0	0	0	0	0	0	17	20.0	3	3.6	0	0.2
1400	83	1	1	76	1	5	0	0	0	0	0	0	0	0	0	0	18	21.5	3	3.8	0	0.0
1500	101	1	1	95	0	4	0	0	0	0	0	0	0	0	0	0	21	21.1	4	4.2	0	0.4
1600	113	1	1	104	1	6	0	0	0	0	0	0	0	0	0	0	26	22.8	4	3.9	0	0.1
1700	123	1	2	115	0	5	0	0	0	0	0	0	0	0	0	0	25	20.5	6	4.8	0	0.2
1800	79	1	0	74	0	2	0	0	0	0	0	0	0	0	0	0	22	27.3	4	5.2	0	0.5
1900	51	0	1	48	0	2	0	0	0	0	0	0	0	0	0	0	15	28.3	3	6.7	0	0.8
2000	35	0	1	33	0	1	0	0	0	0	0	0	0	0	0	0	8	21.9	2	6.1	0	0.8
2100	28	0	1	25	0	1	0	0	0	0	0	0	0	0	0	0	4	16.0	1	3.6	0	0.0
2200	18	0	0	17	0	1	0	0	0	0	0	0	0	0	0	0	5	25.6	1	6.2	0	0.0
2300	6	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	2	26.2	0	4.8	0	2.4
07-19	1078	15	8	982	5	61	1	4	1	0	0	1	0	0	0	0	214	19.9	39	3.6	2	0.2
06-22	1207	16	11	1103	5	67	1	4	1	0	0	1	0	0	0	0	247	20.4	47	3.9	3	0.3
04-00	1232	16	11	1125	5	68	1	4	1	0	0	1	0	0	0	0	253	20.6	48	3.9	3	0.3
00-00	1247	16	12	1138	5	69	1	4	1	0	0	1	0	0	0	0	258	20.7	50	4.0	4	0.3

Time	Total	Classification														>PSL 40	>PSL% 40	>SL1 46 ACPO	>SL1% 46 ACPO	>SL2 55 DfT	>SL2% 55 DfT	
		1 PC	2 MC	3 SV	4 SVT	5 TB2	6 TB3	7 T4	8 ART3	9 ART4	10 ART5	11 ART6	12 BD	13 DRT	14 TRT							
Mon	1352	16	7	1247	5	74	1	1	1	0	0	0	0	0	0	0	291	21.5	59	4.4	3	0.2
Tue	1385	18	22	1249	5	88	0	2	0	1	0	0	0	0	0	0	306	22.1	63	4.5	4	0.3
Wed	1420	15	19	1267	8	99	2	8	1	0	0	1	0	0	0	0	290	20.4	56	3.9	4	0.3
Thu	1393	12	7	1275	5	92	0	1	1	0	0	0	0	0	0	0	266	19.1	48	3.4	3	0.2
Fri	1341	6	5	1234	5	82	2	6	1	0	0	0	0	0	0	0	219	16.3	35	2.6	2	0.1
Sat	1091	25	15	1006	6	34	0	4	1	0	0	0	0	0	0	0	237	21.7	43	3.9	6	0.6
Sun	744	22	11	688	1	16	0	3	0	0	0	3	0	0	0	0	198	26.6	48	6.5	4	0.5
5 Day Ave.	1378	13	12	1254	6	87	1	4	1	0	0	0	0	0	0	0	274	19.9	52	3.8	3	0.2
7 Day Ave.	1247	16	12	1138	5	69	1	4	1	0	0	1	0	0	0	0	258	20.7	50	4.0	4	0.3
Grand Total	8724	114	84	7966	35	485	5	25	5	1	0	4	0	0	0	0	1807	20.7	352	4.0	26	0.3

Summary Graphs

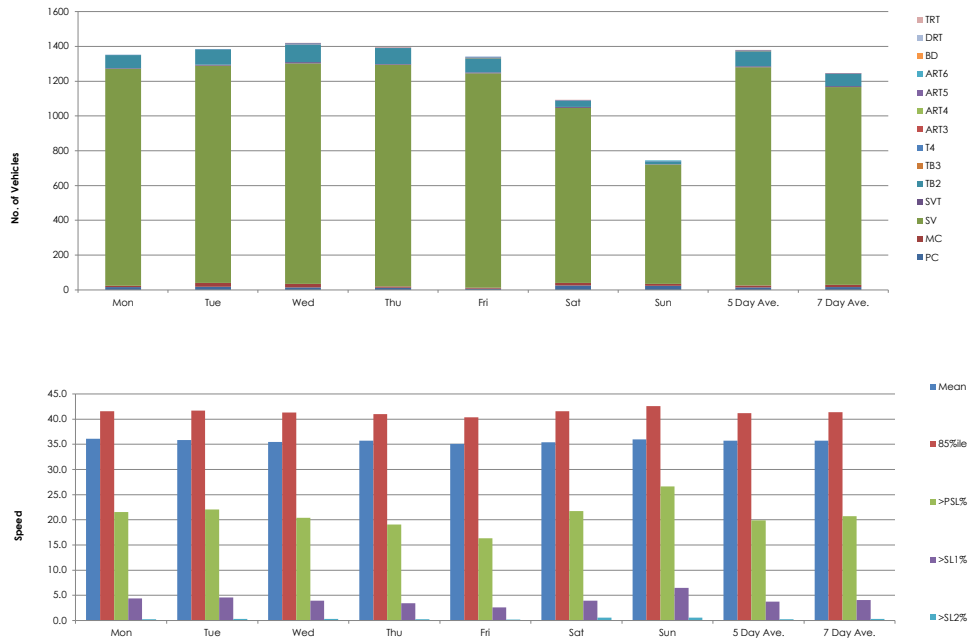
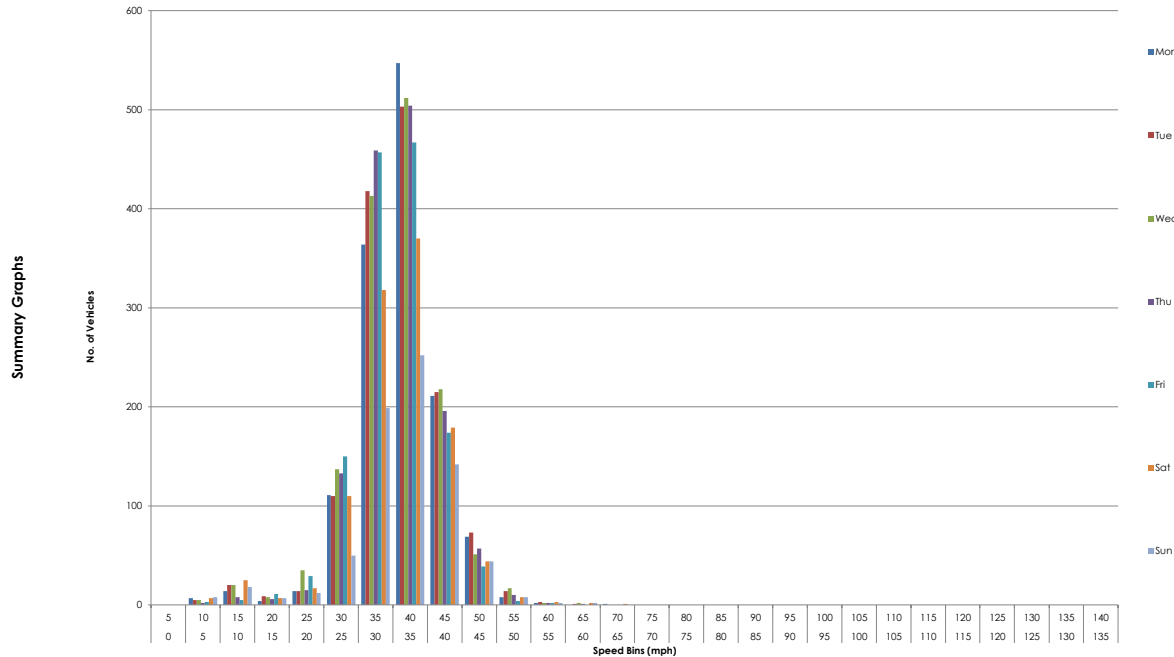


Table with columns for Time, Total, Mean, Vpp 85, and Speed Bins (mph) from 5 to 140. It contains traffic count data for various times of day, including a summary row at the bottom.

Time	Virtual Dc			Virtual Day (7)																											
	Total	Mean	Vpp 85	0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80	80 85	85 90	90 95	95 100	100 105	105 110	110 115	115 120	120 125	125 130	130 135	135 140
0000	5	37.2	-	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100	1	42.3	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200	1	37.1	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300	0	44.2	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400	2	35.9	-	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500	6	36.7	-	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600	15	39.6	45.4	0	0	0	0	0	0	2	7	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700	56	35.6	41.5	0	0	1	1	1	4	14	21	10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800	84	35.7	41.3	0	0	2	1	2	6	21	36	13	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900	77	35.0	40.4	0	1	1	1	2	5	25	29	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000	86	34.1	40.5	0	1	3	1	0	10	30	27	12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100	98	34.3	39.8	0	1	1	0	2	13	37	30	10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200	96	35.0	40.5	0	0	1	0	2	11	32	31	12	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300	84	35.8	41.1	0	1	1	1	1	7	25	33	12	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400	83	35.5	41.6	0	1	0	1	1	9	27	27	14	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500	101	36.0	41.4	0	0	1	1	2	8	29	39	15	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600	113	36.1	41.6	0	0	1	1	1	11	31	43	19	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700	123	36.0	41.4	0	0	1	1	2	8	38	47	17	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800	79	36.6	42.4	0	0	1	0	1	6	19	30	16	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900	51	37.2	43.2	0	0	0	0	0	4	16	17	10	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	35	36.2	41.7	0	0	0	0	0	4	11	12	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100	28	34.7	41.3	0	0	0	0	1	4	8	11	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200	18	36.3	43.0	0	0	0	0	0	2	5	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300	6	37.2	-	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-19	1078	35.5	41.2	0	5	15	7	17	99	329	391	161	43	7	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-22	1207	35.6	41.4	0	5	16	7	18	110	366	438	183	51	9	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-00	1232	35.6	41.4	0	5	16	7	19	113	373	446	188	52	9	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00-00	1247	35.7	41.4	0	5	16	7	19	114	375	451	191	54	10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	Virtual Wk			Virtual Week (1)																											
	Total	Mean	Vpp 85	0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80	80 85	85 90	90 95	95 100	100 105	105 110	110 115	115 120	120 125	125 130	130 135	135 140
Mon	1352	36.1	41.6	0	7	14	4	14	111	364	547	211	69	8	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tue	1385	35.9	41.7	0	5	20	9	14	110	418	503	215	73	14	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wed	1420	35.5	41.3	0	5	20	8	35	137	413	512	218	51	17	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thu	1393	35.7	41.0	0	2	8	6	15	133	459	504	196	57	10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fri	1341	35.1	40.4	0	3	5	11	29	150	457	467	174	39	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sat	1091	35.4	41.6	0	7	25	7	17	110	318	370	179	44	8	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sun	744	36.0	42.6	0	8	18	7	12	50	199	252	142	44	8	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Day Ave.	1378	35.7	41.2	0	4	13	8	21	128	422	507	203	58	11	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Day Ave.	1247	35.7	41.4	0	5	16	7	19	114	375	451	191	54	10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	8724	35.7	41.4	0	37	110	52	136	801	2628	3155	1335	377	69	16	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0

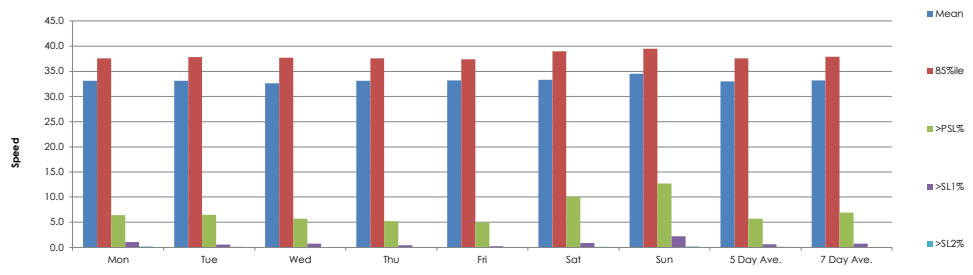
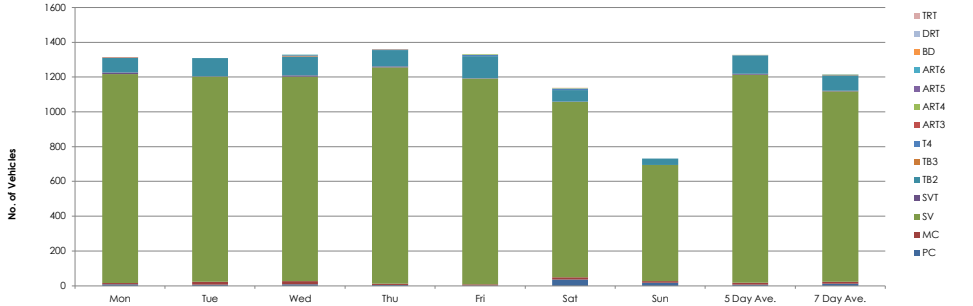


Site No.	Location.	Direction.	Speed Limit (mph)	Start Date.	End Date.	Total Vehicles.	5 Day Ave.	7 Day Ave.	No. > Speed Limit.	% > Speed Limit.	No. > ACPO Limit.	% > ACPO Limit.	No. > DfT Limit.	% > DfT Limit.	Mean Speed	85%ile Speed
03	Knowle Lane (51.133852, -0.491437)	North	40	14 June 2021	20 June 2021	8511	1328	1216	590	6.9	66	0.8	5	0.1	33.2	37.9
		South	40	14 June 2021	20 June 2021	8601	1360	1229	326	3.8	30	0.3	0	0.0	32.4	36.5
		Two way	40	14 June 2021	20 June 2021	17112	2688	2445	916	5.4	96	0.6	5	0.0	32.8	37.2

Time	Total	Classification														>PSL 40	>PSL% 40	>SL1 46 ACPO	>SL1% 46 ACPO	>SL2 55 DfT	>SL2% 55 DfT								
		1 PC	2 MC	3 SV	4 SVT	5 TB2	6 TB3	7 T4	8 ART3	9 ART4	10 ART5	11 ART6	12 BD	13 DRT	14 TRT														
0000	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600	20	0	1	16	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700	84	0	0	76	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800	138	1	1	124	1	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900	97	2	1	85	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000	88	1	0	79	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100	85	2	1	73	0	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200	85	1	1	76	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300	81	1	1	71	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400	76	0	1	67	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500	88	1	1	78	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600	94	0	0	86	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700	95	0	0	89	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800	62	0	0	59	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900	45	0	1	42	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	30	0	2	26	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100	21	0	0	19	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200	13	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-19	1071	11	7	964	4	79	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-22	1186	12	10	1047	5	86	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-00	1206	12	10	1086	5	87	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00-00	1216	12	11	1094	5	88	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

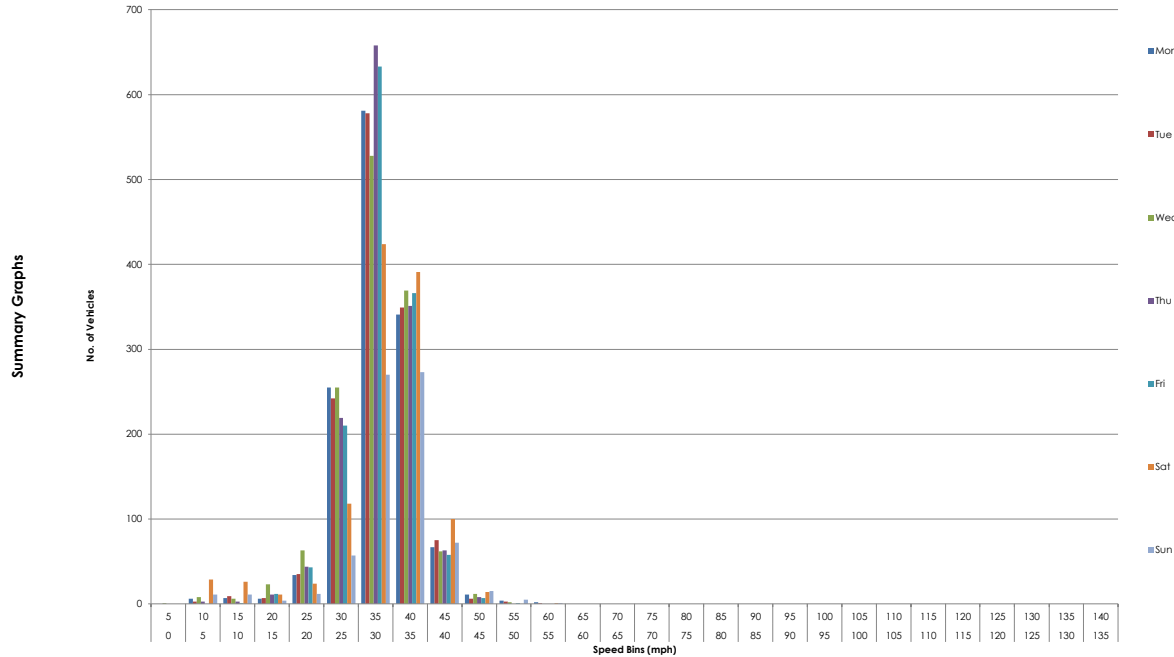
Time	Total	Classification														>PSL 40	>PSL% 40	>SL1 46 ACPO	>SL1% 46 ACPO	>SL2 55 DfT	>SL2% 55 DfT								
		1 PC	2 MC	3 SV	4 SVT	5 TB2	6 TB3	7 T4	8 ART3	9 ART4	10 ART5	11 ART6	12 BD	13 DRT	14 TRT														
Mon	1314	8	8	1201	10	83	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tue	1308	7	17	1178	2	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wed	1329	8	19	1175	7	108	2	6	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thu	1360	5	7	1243	6	94	1	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fri	1331	2	6	1183	3	125	1	7	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sat	1138	36	13	1007	3	67	0	7	0	2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sun	731	18	8	668	1	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Day Ave.	1328	6	11	1196	6	103	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Day Ave.	1214	12	11	1094	5	88	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	8511	84	78	7655	32	617	7	22	2	8	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Summary Graphs



Time	Virtual Dc			Virtual Day (7)																											
	Total	Mean	Vpp 85	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130	130-135	135-140
0000	3	30.8	-	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100	1	31.3	-	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0200	1	35.4	-	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0300	0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0400	1	35.1	-	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0500	4	34.7	-	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0600	20	34.2	40.5	0	0	0	0	0	1	5	11	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0700	84	33.0	38.4	0	0	0	2	6	11	31	28	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800	136	33.3	37.6	0	0	1	1	4	20	63	38	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0900	97	33.0	37.9	0	1	1	1	2	16	40	29	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1000	88	32.6	37.1	0	1	0	0	2	19	41	22	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1100	85	32.2	37.6	0	1	2	2	3	15	34	23	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1200	85	32.5	37.6	0	2	1	1	3	14	36	25	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1300	81	33.5	38.3	0	1	1	0	2	10	35	25	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1400	76	33.5	38.1	0	0	0	0	1	13	34	21	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1500	88	32.5	37.4	0	1	1	2	3	16	38	22	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1600	94	33.0	37.8	0	0	1	1	4	15	43	23	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1700	95	33.6	37.8	0	0	0	1	1	15	45	27	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1800	62	33.7	38.2	0	0	0	0	2	10	26	18	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1900	45	34.1	38.6	0	0	0	0	1	6	20	14	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2000	30	34.1	39.4	0	0	0	0	0	4	12	9	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2100	21	34.0	39.0	0	0	0	0	0	4	8	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2200	13	34.5	39.1	0	0	0	0	0	2	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2300	6	33.2	-	0	0	0	0	0	1	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07-19	1071	33.0	37.8	0	8	8	10	33	174	466	302	58	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
06-22	1184	33.2	37.9	0	9	9	10	35	190	511	341	69	10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
06-00	1206	33.2	37.9	0	9	9	10	36	193	520	345	71	10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
06-00	1216	33.2	37.9	0	9	9	11	36	194	525	349	71	10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Time	Virtual Wk			Virtual Week (1)																										
	Total	Mean	Vpp 85	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130	130-135
Mon	1314	33.1	37.6	0	6	7	6	34	255	581	341	67	11	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tue	1308	33.1	37.8	0	3	9	7	35	242	578	349	75	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wed	1329	32.6	37.7	1	8	6	23	63	255	528	369	62	12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thu	1360	33.1	37.6	0	3	3	11	44	219	658	351	63	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fri	1331	33.2	37.4	0	0	1	12	43	210	633	366	58	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sat	1138	33.3	39.0	0	29	26	11	24	118	424	391	100	14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sun	731	34.5	39.5	0	11	11	4	12	57	270	273	72	15	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Day Ave.	1328	33.0	37.6	0	4	5	12	44	236	596	355	65	9	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Day Ave.	1214	33.2	37.9	0	9	9	11	36	194	525	349	71	10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	8511	33.2	37.9	1	60	63	74	255	1356	3672	2440	497	73	15	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Appendix PAB-B

Stage 1 Road Safety Audit & Designer's Response

LAND EAST OF KNOWLE LANE, CRANLEIGH

Proposed Access Arrangements

Stage 1 Road Safety Audit
Prepared on behalf of Gleeson Land

September 2023



Road Safety Engineering

Project: Land East of Knowle Lane, Cranleigh
Proposed Access Arrangements

Document: Stage 1 Road Safety Audit

Design Organisation: Motion

Overseeing Organisation: Surrey County Council

Client: Gleeson Land

Gateway RSE ref: WP/SG/2309-09 RSA1 v1.2

Issue date: 6th October 2023

Status: Final v1.2

Authorised by: WP

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2	Problems Identified by this Road Safety Audit	3
3	Audit Team Statement	5

Appendices

Appendix A:	Items Considered by this RSA
Appendix B:	Location Plan(s)

1 INTRODUCTION

- 1.1 This report describes a Stage 1 Road Safety Audit (RSA) of proposed access arrangements at Cranleigh, within the Borough of Waverley and the County of Surrey. The audit brief, dated 20th September 2023, describes the scheme as a *‘residential development of up to 162 dwellings including the creation of new vehicular access, pedestrian and cycle accesses, parking spaces, public open space, biodiversity enhancement, landscape planting, surface water attenuation, associated infrastructure and other associated works. The main pedestrian/cycle access will be located at the north of the site with a connection to the Downs Link bridleway. Access to the site for vehicles is proposed via a new vehicular access onto Knowle Lane.’*. The scope of this RSA covers the vehicular access onto Knowle Lane only.
- 1.2 Knowle Lane is a semi-rural 2-lane single carriageway road running broadly north to south. It is unlit, with no footways and is within the 40mph speed limit zone.
- 1.3 This Road Safety Audit was carried out by Wendy Palmer and Steve Giles and consisted of a desktop study and a site visit, which was carried out between 3pm and 4pm on Thursday 28th September 2023, when the weather was overcast and the road surface dry. No traffic congestion was observed, and no pedestrian or cyclist movements occurred.
- 1.4 The terms of reference for this RSA are as described in the Design Manual for Roads and Bridges (DMRB) document GG119. The Audit Team is independent of the project design team and has not been involved in the design process in any other capacity. The audit considers only the potential road safety implications of the scheme and has not verified compliance of the design with any other criteria.
- 1.5 The Audit Team has not been made aware of any Departures from Standard. Whilst reference may be made to design standards, this report is not intended to provide a design check.
- 1.6 Recommendations are aimed at addressing the identified potential road safety problems. However, there may be other acceptable ways to overcome a problem, considering wider constraints and opportunities; the Auditors would be pleased to discuss such alternative solutions as appropriate. The recommendations contained herein do not absolve the Designer of his/her responsibilities.

Collision Data

- 1.7 Personal Injury Collision (PIC) information was obtained from the Crashmap database (www.crashmap.co.uk). This indicates that no PICs occurred at or close to the site during the latest five-year period.

Previous Road Safety Audit

- 1.8 The Audit Team is not aware of any previous RSA having been undertaken of this scheme.

2 PROBLEMS IDENTIFIED BY THIS ROAD SAFETY AUDIT

General Matters

2.1 Problem

Carriageway narrowings may lead to head on or side swipe collisions

Location: Knowle Lane - proposed access to Knowle Park

Knowle Lane is subject to a 40mph speed limit at the location of the proposed site access, reducing to 30mph just to the south of Knowle Park on the approach to Cranleigh village centre. A series of three carriageway narrowings is proposed on Knowle Lane between Knowle Park and the proposed access. The audit brief refers to a similar scheme locally with a similar layout and speed limit. The audit team is concerned that drivers approaching a narrowing may not give way to oncoming vehicles, leading to head on or side swipe collisions.

Recommendation

Signing and surfacing should be proposed to highlight the narrowings and, if possible, the 30mph speed limit should be extended to the south beyond the proposed access with adequate advance warning of the narrowings.

Local Alignment

2.2 The Audit Team raises no concerns in respect of local alignment.

Junctions

2.3 Problem

Restricted visibility splay may lead to T-bone collisions

Location: South of proposed Access

The section of Knowle Lane where the proposed access would be located is in cutting, with steep banks on both sides. It is noted on drawing no. 2010010-04 rev D that a visibility splay of 2.4 x 60.3m is achievable, however the audit team is concerned that visibility to the south of the access may become restricted by overgrown vegetation leading to T-bone collisions. (It was not possible to view this from the exact access location due to the existing verge conditions.)

Recommendation

The embankments to the south of the proposed access should be clear of overgrown vegetation within the visibility splay. The extent of this should be agreed at detailed design and included in a maintenance regime.

Walking, Cycling and Horse Riding

2.4

Problem

Pedestrians walking in the carriageway may be struck by passing vehicles.

Location: Non-motorised user route from development to village centre

The proximity of the development to the village centre would tempt pedestrians to walk via Knowle Lane and join the existing footway just north of Snoxhall Fields, approximately 500m north of the proposed access, continuing onto High Street. The audit team is concerned that pedestrians taking this route may be struck by a passing vehicle particularly during darkness.

Recommendation

Proposals to for pedestrians and cyclists to access the village centre should be developed to reflect the volume of pedestrians who may wish to access the village centre via the quickest and shortest route.

Road Signs, Carriageway Markings and Lighting.

2.5

The Audit Team raises no concerns in respect of road signs, carriageway markings and lighting.

3 AUDIT TEAM STATEMENT

3.1 We certify that this Road Safety Audit has been carried out in accordance with DMRB document GG119.

Audit Team Leader

Wendy Palmer
MCIHT, MSoRSA, FIHE, HE Cert Comp
Senior Road Safety Engineer

Signed:



Date: 29th September 2023

Audit Team Member(s)

Steve Giles
BEng (Hons), IEng, FIHE, MCIHT, MICE, CMILT, MSoRSA, HE Cert Comp
Senior Road Safety Engineer

Signed:



Date: 29th September 2023

APPENDIX A

Items Considered by this RSA

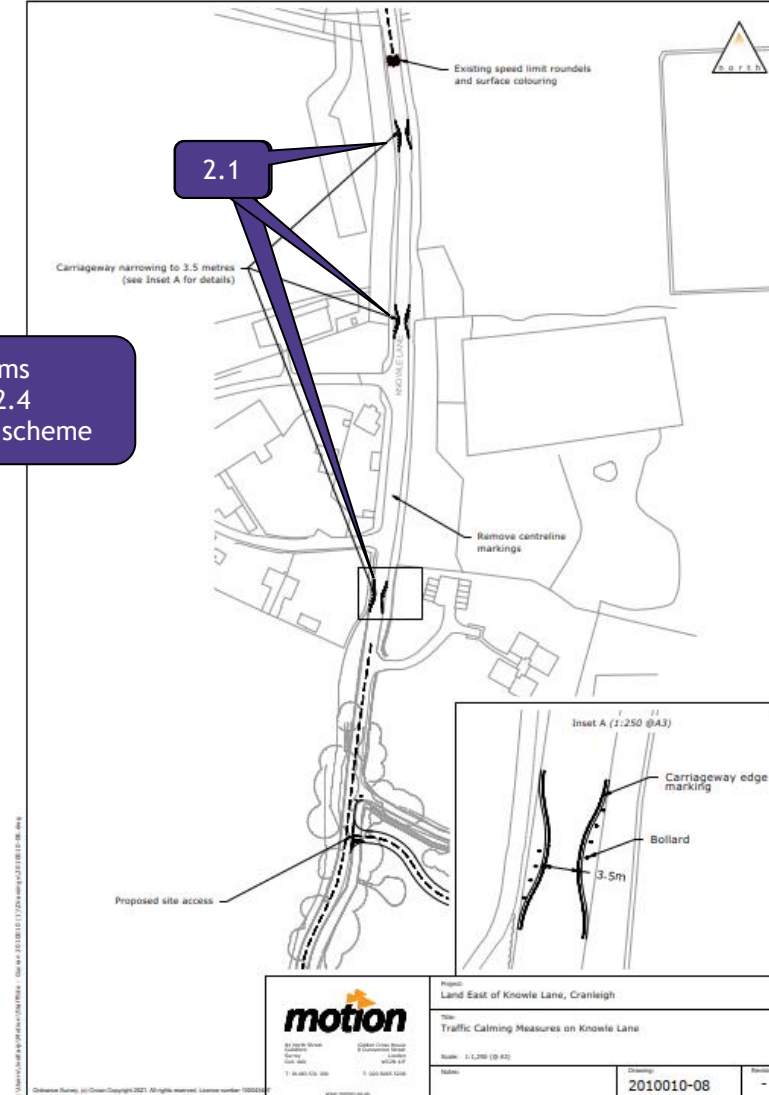
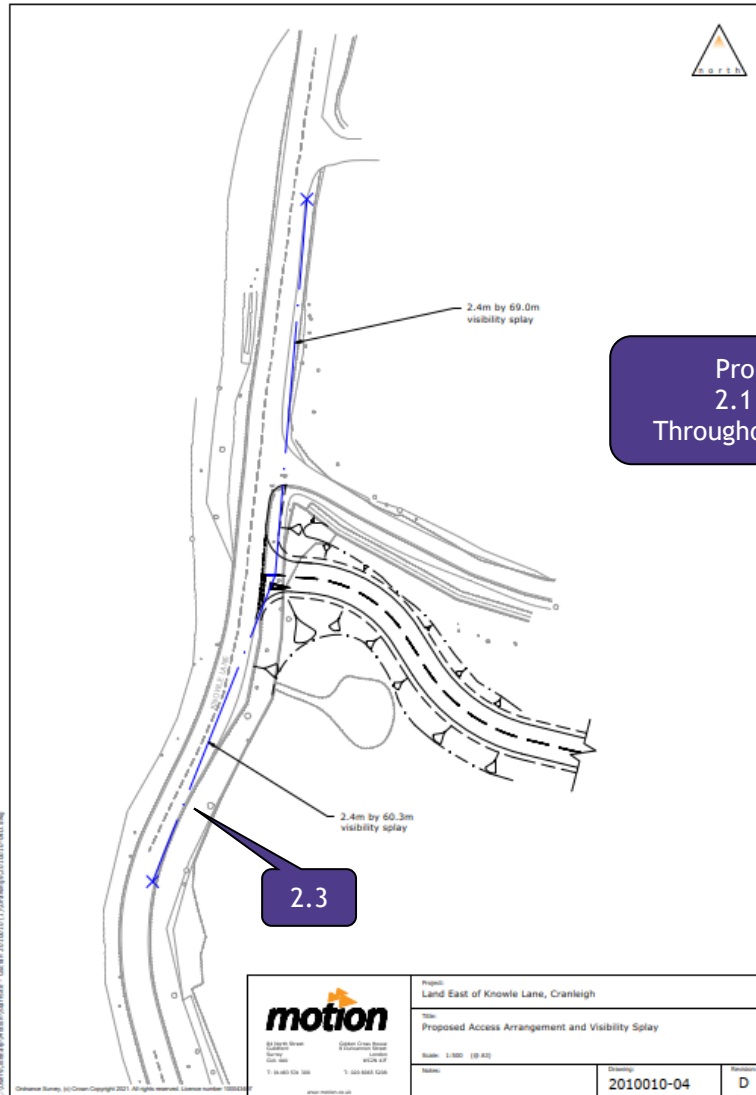
Items Considered by this Road Safety Audit

Document ref.	Rev.	Originator	Title
2010010-04	D	Motion	Proposed Access Arrangement and Visibility Splay
2010010-08	-	Motion	Traffic Calming Measures on Knowle Lane
2010010-09	-	Motion	Forward Visibility to Site Access

Additional/background information provided to the Audit Team

- Audit Brief Ref. email dated 20/09/23, (Motion)
- Transport Assessment Ref. R01-gscren dated 11/01/23, (Motion)

APPENDIX B Location Plan(s)



ROAD SAFETY AUDIT RESPONSE REPORT

Project Details

Project: Land East of Knowle Lane, Cranleigh
Proposed Access Arrangements
GRSE Ref: WP/SG/2309-09 RSA1 v1.2
Status: Final v1.2
Issue date: 6th October 2023
Design Organisation: Motion
Overseeing Organisation: Surrey County Council
Client: Gleeson Land

Authorisation

Prepared by:
Name: Julian Smith
Position: Associate Director
Organisation: Motion

Approved by:
Name: Phil Bell
Position: Managing Director
Organisation: Motion
Signed:

The Scheme

The highway works considered by the Road Safety Audit comprise:

- new vehicular access onto Knowle Lane
- traffic calming on Knowle Lane, north of the new access

Key Personnel

Overseeing Organisation:	Richard Cooper, Principal Transport Development Planning Officer Surrey County Council
RSA Team:	Wendy Palmer, Senior Road Safety Engineer, Gateway RSE Steve Giles, Senior Road Safety Engineer, Gateway RSE
Design Organisation:	Julian Smith, Associate Director, Motion Phil Bell, Managing Director, Motion

RSA Decision Log				
Item No.	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action
2.1	Signing and surfacing should be proposed to highlight the narrowings and, if possible, the 30mph speed limit should be extended to the south beyond the proposed access with adequate advance warning of the narrowings.	Accepted. Signage will be provided in advance of the traffic calming to warn motorists of the road narrowings ahead, and markings will be provided to increase the conspicuity of the narrowings consisting of 'SLOW' markings, hatched edge markings and/or coloured carriageway treatment; final specifications for signage and markings will be determined at the detailed design stage.	Agree with Design Organisation Response	Signage will be provided in advance of the traffic calming to warn motorists of the road narrowings ahead, and markings will be provided to increase the conspicuity of the narrowings consisting of 'SLOW' markings, hatched edge markings and/or coloured carriageway treatment; final specifications for signage and markings will be determined at the detailed design stage.
2.3	The embankments to the south of the proposed access should be clear of overgrown vegetation within the visibility splay. The extent of this should be agreed at detailed design and included in a maintenance regime.	The visibility splay is contained within the carriageway extents; therefore the designer considers that it will remain clear of obstructions. Notwithstanding this the recommendation is accepted and visibility splays will be reviewed at the detailed design stage and any vegetation clearance requirements will be specified as part of the site clearance plans.	Agree with Design Organisation Response	Visibility splays will be reviewed at the detailed design stage and any vegetation clearance requirements will be specified as part of the site clearance plans.
2.4	Proposals to for pedestrians and cyclists to access the village centre should be developed to reflect the volume of pedestrians who may wish to access the village centre via the quickest and shortest route.	Accepted. The development proposals include the provision of a new pedestrian / cycle path connecting to the 'Downs Link' bridleway. This will provide a direct off-carriageway route between the development and the town centre to the north.	Agree with Design Organisation Response	The development proposals include the provision of a new pedestrian / cycle path connecting to the 'Downs Link' bridleway.

Design Organisation Statement:

On behalf of the design organisation, I certify that:

The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.



.....

Name: Phil Bell
Organisation: Motion
Position: Managing Director
Date: 17th October 2023

Overseeing Organisation Statement:

On behalf of the overseeing organisation, I certify that:

The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Design Organisation.

The agreed RSA actions will be progressed.



.....

Name: Richard Cooper
Organisation: Surrey County Council
Position: Principal Transport Development Planning Officer
Date: 17th October 2023

Appendix PAB-C

Downs Link Pedestrian Survey (August 2023)

Job ID	Project Name	Site Location	Google Coordinates	Survey Date	Survey Day	Survey Timings	Weather AM	Weather Inter Peak	Weather PM
IW0161	Cranleigh	Downs Link Bridleway / Pedestrian link to Northdowns Residential Street / Footpath 378 (runs parallel to Downs Link)	51.136001, -0.486848	25/08/2023	Friday	0700-1900hrs	Sunny Intervals	Sunny Intervals	Sunny Intervals



Job ID	Project Name	Site Location	Google Coordinates	Survey Date	Survey Day	Survey Timings	Weather AM	Weather Inter Peak	Weather PM
IW0161	Cranleigh	Downs Link Bridleway / Pedestrian link to Northdowns Residential Street / Footpath 378 (runs parallel to Downs Link)	51.136001, -0.486848	19/08/2023	Saturday	0700-1900hrs	Sunny Intervals	Sunny	Sunny





Project ID and Name: IW0161 Cranleigh
 Location name: Downs Link Brideway / Pedestrian link to Northdowns Residential Street / Footpath 378 (runs parallel to Downs Link)

Survey Date: 19/08/2023
 Survey Day: Saturday

Arm A				
Time Interval	A-A	A-B	A-C	A-D
07:00 07:15	0	0	0	0
07:15 07:30	0	0	2	0
07:30 07:45	0	0	1	0
07:45 08:00	0	0	0	2
08:00 08:15	0	0	0	1
08:15 08:30	0	0	0	0
08:30 08:45	0	0	0	3
08:45 09:00	0	0	0	3
09:00 09:15	0	0	0	3
09:15 09:30	0	0	0	6
09:30 09:45	0	0	0	2
09:45 10:00	0	0	0	3
10:00 10:15	0	0	0	3
10:15 10:30	2	0	0	10
10:30 10:45	0	0	0	3
10:45 11:00	0	0	0	4
11:00 11:15	0	0	0	15
11:15 11:30	0	0	0	5
11:30 11:45	0	0	0	4
11:45 12:00	0	0	0	7
12:00 12:15	0	0	0	1
12:15 12:30	0	0	1	9
12:30 12:45	0	0	0	3
12:45 13:00	0	0	0	5
13:00 13:15	0	0	0	9
13:15 13:30	0	0	0	2
13:30 13:45	4	0	0	2
13:45 14:00	0	0	0	2
14:00 14:15	0	0	0	4
14:15 14:30	0	0	0	2
14:30 14:45	0	0	0	1
14:45 15:00	0	0	0	6
15:00 15:15	0	0	0	0
15:15 15:30	0	0	0	6
15:30 15:45	0	0	0	1
15:45 16:00	0	0	1	0
16:00 16:15	0	0	0	1
16:15 16:30	0	0	0	3
16:30 16:45	0	0	2	0
16:45 17:00	0	0	0	5
17:00 17:15	0	0	1	1
17:15 17:30	0	0	0	2
17:30 17:45	0	0	0	3
17:45 18:00	0	0	0	1
18:00 18:15	0	0	0	2
18:15 18:30	0	0	0	1
18:30 18:45	0	0	0	1
18:45 19:00	0	0	0	0
Total	6	0	8	147

Arm B				
Time Interval	B-A	B-B	B-C	B-D
07:00 07:15	0	0	0	0
07:15 07:30	0	0	0	0
07:30 07:45	0	0	1	0
07:45 08:00	0	0	3	0
08:00 08:15	0	0	1	0
08:15 08:30	0	0	1	0
08:30 08:45	0	0	3	0
08:45 09:00	0	0	5	2
09:00 09:15	0	6	2	3
09:15 09:30	0	0	1	0
09:30 09:45	0	1	2	0
09:45 10:00	0	0	3	0
10:00 10:15	0	0	1	0
10:15 10:30	0	0	1	0
10:30 10:45	0	0	5	0
10:45 11:00	0	0	14	1
11:00 11:15	0	0	2	1
11:15 11:30	0	0	1	0
11:30 11:45	0	0	1	1
11:45 12:00	0	0	3	0
12:00 12:15	0	0	4	0
12:15 12:30	0	0	3	1
12:30 12:45	0	0	4	0
12:45 13:00	0	0	6	2
13:00 13:15	0	0	5	0
13:15 13:30	0	0	1	0
13:30 13:45	0	0	3	0
13:45 14:00	0	0	1	1
14:00 14:15	0	0	2	0
14:15 14:30	0	0	9	0
14:30 14:45	0	0	7	1
14:45 15:00	0	0	2	1
15:00 15:15	0	0	11	1
15:15 15:30	0	0	5	0
15:30 15:45	0	0	3	5
15:45 16:00	0	0	4	2
16:00 16:15	0	0	8	0
16:15 16:30	0	0	4	0
16:30 16:45	0	0	2	0
16:45 17:00	0	0	3	0
17:00 17:15	0	1	1	0
17:15 17:30	0	1	2	0
17:30 17:45	0	0	5	1
17:45 18:00	0	0	2	0
18:00 18:15	0	0	1	0
18:15 18:30	0	0	0	0
18:30 18:45	0	1	3	0
18:45 19:00	0	0	0	0
Total	0	10	151	23

Arm C				
Time Interval	C-A	C-B	C-C	C-D
07:00 07:15	1	2	0	0
07:15 07:30	0	0	0	0
07:30 07:45	0	1	0	0
07:45 08:00	2	2	0	0
08:00 08:15	0	2	0	0
08:15 08:30	0	4	0	0
08:30 08:45	0	4	0	0
08:45 09:00	0	5	0	0
09:00 09:15	0	4	0	0
09:15 09:30	2	4	0	3
09:30 09:45	0	2	0	0
09:45 10:00	0	7	0	0
10:00 10:15	0	8	0	0
10:15 10:30	0	3	0	0
10:30 10:45	0	3	0	3
10:45 11:00	0	2	0	0
11:00 11:15	0	11	0	0
11:15 11:30	1	5	0	1
11:30 11:45	2	7	0	0
11:45 12:00	0	6	0	1
12:00 12:15	0	8	0	0
12:15 12:30	2	8	0	0
12:30 12:45	2	1	0	1
12:45 13:00	3	2	0	0
13:00 13:15	0	11	0	0
13:15 13:30	2	1	0	0
13:30 13:45	0	4	0	0
13:45 14:00	2	5	0	2
14:00 14:15	0	2	0	0
14:15 14:30	3	5	0	0
14:30 14:45	0	8	0	0
14:45 15:00	0	15	0	0
15:00 15:15	0	4	0	0
15:15 15:30	0	5	0	0
15:30 15:45	0	5	0	0
15:45 16:00	0	3	0	0
16:00 16:15	0	1	1	0
16:15 16:30	2	2	0	0
16:30 16:45	0	3	0	2
16:45 17:00	3	3	1	1
17:00 17:15	1	2	0	0
17:15 17:30	0	1	0	0
17:30 17:45	2	3	0	0
17:45 18:00	0	3	0	3
18:00 18:15	0	1	1	0
18:15 18:30	2	3	0	1
18:30 18:45	1	2	0	1
18:45 19:00	0	1	0	0
Total	33	194	3	19

Arm D				
Time Interval	D-A	D-B	D-C	D-D
07:00 07:15	1	0	0	0
07:15 07:30	0	0	0	0
07:30 07:45	2	0	0	0
07:45 08:00	1	0	0	0
08:00 08:15	3	2	1	0
08:15 08:30	2	0	1	0
08:30 08:45	2	0	0	0
08:45 09:00	3	0	0	0
09:00 09:15	4	0	0	0
09:15 09:30	2	0	0	0
09:30 09:45	8	0	0	0
09:45 10:00	2	0	0	0
10:00 10:15	3	0	0	0
10:15 10:30	2	0	0	0
10:30 10:45	5	0	0	0
10:45 11:00	2	1	0	0
11:00 11:15	6	0	0	0
11:15 11:30	7	0	0	0
11:30 11:45	6	0	1	0
11:45 12:00	11	0	0	0
12:00 12:15	6	2	0	0
12:15 12:30	11	2	1	0
12:30 12:45	10	1	0	0
12:45 13:00	4	0	0	0
13:00 13:15	7	0	0	0
13:15 13:30	7	0	0	0
13:30 13:45	5	0	0	0
13:45 14:00	4	0	0	0
14:00 14:15	8	0	0	0
14:15 14:30	5	0	0	0
14:30 14:45	3	0	0	0
14:45 15:00	8	0	0	5
15:00 15:15	4	0	0	0
15:15 15:30	5	1	1	0
15:30 15:45	1	0	0	0
15:45 16:00	1	1	0	0
16:00 16:15	4	0	0	0
16:15 16:30	0	0	0	0
16:30 16:45	4	0	0	0
16:45 17:00	3	0	0	0
17:00 17:15	4	0	0	0
17:15 17:30	3	0	0	0
17:30 17:45	2	0	1	0
17:45 18:00	4	0	0	0
18:00 18:15	2	1	2	0
18:15 18:30	1	0	0	0
18:30 18:45	2	0	0	0
18:45 19:00	2	0	0	0
Total	192	11	8	5