

Appendix F – Speed Strategy

Technical Note 01 – Speed Limit Rationale

Client name Homes England	Project name Northern Arc - Central Section	Date 23 June 2023	Project number 60610807
Prepared by Natasha Smithson	Checked by Sean O'Connell	Approved by Bevin Carey	

Revision History

Revision	Revision date	Details	Authorised	Name	Position
-	23/06/2023	Final draft for client review	BC	Bevin Carey	Regional Director
A	17/07/2023	Final for issue	BC	Bevin Carey	Regional Director

1. Introduction

- 1.1 AECOM has been appointed by Homes England to provide transport advice for the development of Brookleigh (formerly known as Northern Arc) in Burgess Hill, West Sussex.
- 1.2 An Outline Planning Application was submitted for the Northern Arc Strategic Allocation Site (ref: DM/18/5114) and consent was granted in October 2019.
- 1.3 The development will be served by a new link road, the Northern Arc Avenue. This generally runs east to west through the development, connecting the A273 Jane Murray Way in the west and Maple Drive in the east and intersecting with the A2300, B2036 Cuckfield Road and A273 Isaac's Lane. The Northern Arc Masterplan is shown in Figure 1, illustrating the proposed route of the Northern Arc Avenue.

Figure 1 – Northern Arc Masterplan



- 1.4 This Technical Note has been prepared to provide a rationale to support the proposed speed limits along the Central Section (between the River Adur and A273 Isaac's Lane) and amendments to speed limits along existing roads in the vicinity of the Central Section. The Technical Note also identifies measures required to support the speed limit strategy on Central Avenue and B2036 Cuckfield Rd, particularly in light of the phased delivery of the development frontages to these roads.

Figure 3 – Speed Survey Locations

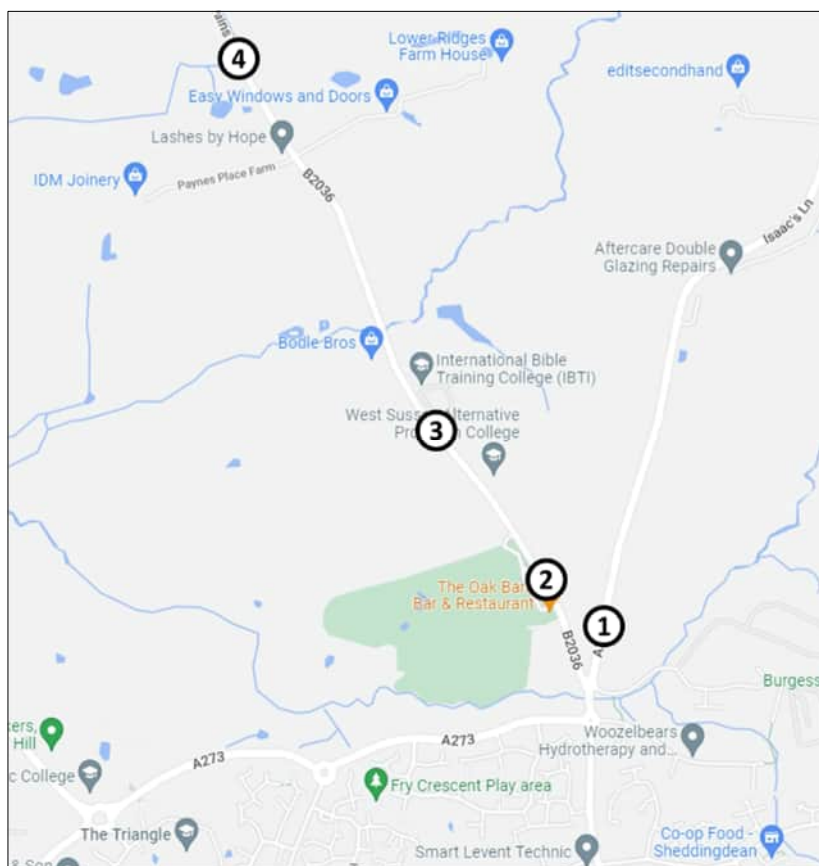


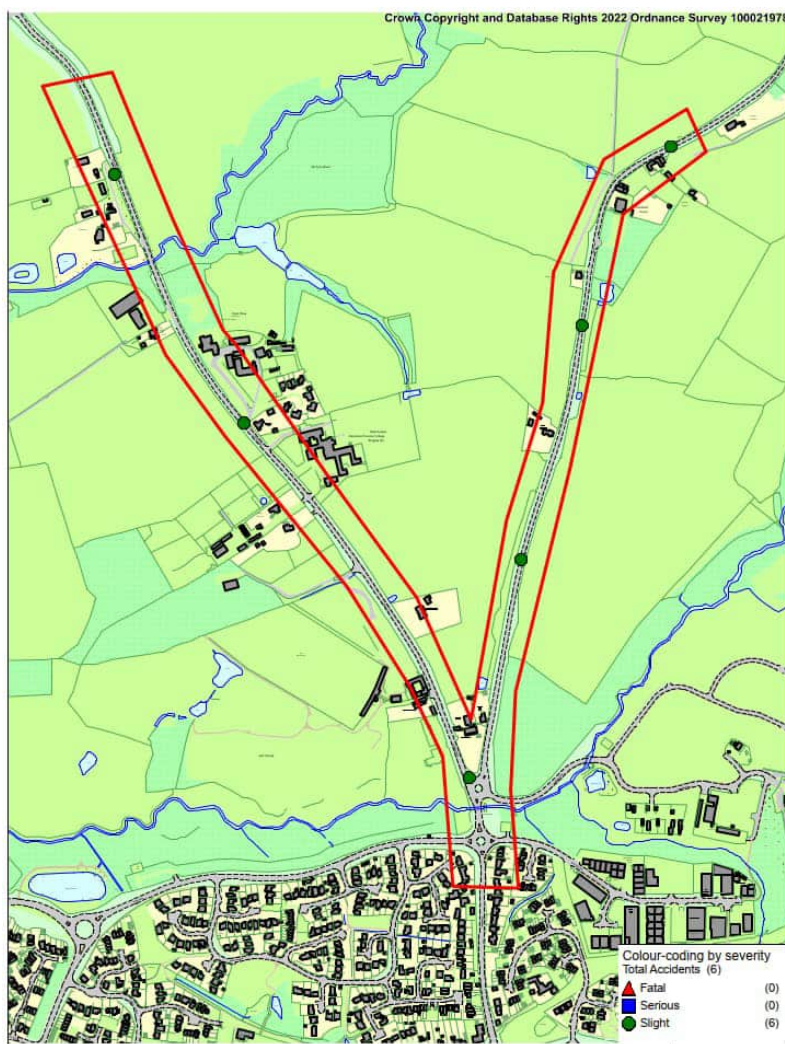
Table 1 – Existing Speed Data

Ref	Location	Direction	Existing Speed Limit	Proposed Speed Limit	Average Speed	Source
1	A273 Isaac's Lane (near Bridge House)	Northbound	60mph	30mph	37mph	Survey undertaken 12 th - 21 st October 2018. Average Monday to Friday.
		Southbound			38mph	
2	B2036 Cuckfield Road (near The Oak Barn pub)	Northbound	40mph	30mph	36mph	Survey undertaken 27 th January 2021.
		Southbound			37mph	
3	B2036 Cuckfield Road (north of Hook Place)	Northbound	40mph	30mph	42mph	Survey undertaken 20 th - 29 th January 2023. Average Monday to Friday.
		Southbound			42mph	
4	B2036 Cuckfield Road (between Lower Ridges and Moonhill Farm)	Northbound	60mph	40mph	Unable to collect traffic data due to safety issues installing the equipment. Therefore, existing speed limit is assumed for design purposes.	
		Southbound				

Road Traffic Collision History

2.6 Personal Injury Collision (PIC) data has been obtained from Sussex Safer Roads for the five-year period up to 31st August 2022. A five-year period was selected in order to ensure that a thorough understanding of the existing collision record was obtained to identify any areas for further investigation. The study area and locations of the recorded collisions are shown in Figure 4.

Figure 4 – PIC Data (2017-2022)



Source: Sussex Safer Roads (2022)

2.7 Over the five-year period studied, the PIC data indicates that there was a total of six recorded incidents. A full analysis of the six recorded collisions is provided in Appendix B, and a summary is provided in Table 2.

Table 2 – PIC Data Summary (September 2017 to August 2022)

Severity	Light Conditions		Road Surface		Collision Type		VRU Involved		
	Light	Dark	Dry	Wet	Single Veh	Veh to Veh	Ped	Cycle	M/C
Slight (6)	5	1	4	2	3	3	0	0	2

2.8 Of the six collisions, all were classified as slight in severity. There were no collisions that were classified as serious or fatal. Each of the six collisions occurred in different locations; no more than one collision took place at the same location. The main causation factor of the collisions was 'Loss of control' (50%); the remaining causation factors were 'Travelling too fast for conditions' (1), 'Failed to look properly' (1), 'Impaired by drugs (illicit or medicinal)' (1), and 'Slippery road (due to weather)' (1).

2.9 The collision analysis presented above and in Appendix B concludes that there are no existing patterns of collisions on the roads immediately surrounding the proposed speed limit changes that would suggest a particular safety issue.

3. WSCC Speed Limit Policy and Guidance

West Sussex Speed Limit Policy (2022)

- 3.1 WSCC document *West Sussex Speed Limit Policy (2022)* sets out the policy and criteria for the setting of speed limits in West Sussex. WSCC has adopted 'a "safe system" approach to road safety' and 'has a long-term goal for a road traffic system which is eventually free from death and serious injury'.
- 3.2 The policy notes that 'effective speed management involves many components designed to work together to require, encourage and help road users adopt appropriate safe speeds below the speed limit. Speed limits should be self-explaining, encourage self-compliance and be seen as the maximum rather than a target speed at which to drive regardless of conditions.'
- 3.3 Changes to the highway, such as narrowings, vertical speed reducing measures, realigning the road or additional road signs and markings may be considered to encourage lower speeds where reducing the speed limit may not achieve the desired result on its own.
- 3.4 The policy document states that the key factors in determining appropriate speed limits are:
 - Functional hierarchy of the route (route assessment);
 - Length of the route to be subject to the speed limit (route length assessment);
 - Road Traffic Collision history;
 - Traffic speeds (speed assessment); and
 - Other means of intervention to improve road safety.

Functional Hierarchy / Route Assessment

- 3.5 Functional hierarchy relates to the way the road is being, or could potentially be, utilised by a mix of Vulnerable Road Users (VRUs) and motorised traffic. According to the WSCC guidance, the typical functional use is as follows:

Table 3 – Functional Hierarchy / Route Assessment Guidance (Table 1 in *West Sussex Speed Limit Policy, 2022*)

Speed Limit	Typical Functional Use
20mph	Generally, where a high proportion of VRUs are, or could be, present or traffic flows are low: - Urban residential areas - Shopping streets - Industrial estates (where there is a mix of HGV traffic and pedestrian movements) - Roads adjacent to schools - Locations / routes forming part of an Active Travel “corridor” - Rural villages - Rural “Quiet Ways” where roads are very narrow with no footway or verge, have low traffic volume and low speeds and support a combination of VRUs
30mph	Generally, where a high proportion of VRUs are, or could be, present and 20mph is deemed not appropriate: - Built-up / partially built-up urban areas with a high proportion of property (e.g. houses, shops, church) frontage - Rural villages - Rural “Quiet Ways” where roads are narrow, have no footways and only a narrow verge, have low traffic volume and low speeds and support a combination VRUs
40mph	- Through traffic routes (single or dual carriageway) in partially built-up areas with segregated VRU facilities and limited frontage accesses or junctions - Lengths of A and B class rural roads identified as high risk - Rural C class and unclassified roads not within a village
50mph	Generally, few VRUs present or segregated facilities provided: - Rural A and B class single carriageways (not within a village) - Rural all-purpose dual carriageways with frequent junctions or development access or otherwise identified as high risk
60mph	Rural all-purpose dual carriageways with minimal junctions identified as high risk

Route Length

3.6 WSCC recommend a minimum route length for a speed limit to be 600m. When considering a compact village location along a route or when provided as a buffer length to provide transition to a lower speed limit, this may be reduced to 400m, and in exceptional circumstances down to 300m with appropriate approvals.

Average Speeds

3.7 The average (mean) speeds appropriate for each speed limit without the need to consider supporting measures are shown below:

Table 4 – Functional Hierarchy / Route Assessment Guidance (Table 2 in *West Sussex Speed Limit Policy, 2022*)

Speed Limit	20	30	40	50
Average speed should be below	26	35	46	57

3.8 Where speeds exceed the figures above, potential supporting measures or other road safety interventions should be considered.

Speed Reduction / Behavioural Change Measures

3.9 There is no prescriptive guidance on which supporting measures to use in order to support a lower speed limit, however the following table indicates a range of options that could be considered on a case by case basis.

Table 5 – Typical Speed Reducing Measures (Table 3 in *West Sussex Speed Limit Policy, 2022*)

Type of Measure	Application
Traffic Signs	May include: • Hazard warning or advisory signs • Gateways including village name signs with optional road safety measures • Enhanced speed limit signs • Vehicle activated (interactive) signs • School Safety Zones
Road markings	May include: • Speed limit roundels • 'slow' markings • hatching • rumble devices
Vertical deflections	Only for use on roads with a 30mph or lower speed limit. May include: • road humps • raised tables • speed cushions
Horizontal deflections	May include: • road narrowing such as kerb build outs, chicanes, or pinch points • traffic islands • pedestrian refuge islands

Specific Speed Limit Application

3.10 Specific guidance is provided on when each speed limit is likely to be appropriate, subject to individual site circumstances and additional requirements that may be identified as part of the assessment process. The guidance includes the following:

20mph Speed Limits and Zones

- 3.11 20mph speed limits are most appropriate in urban residential areas, shopping streets, village environments, industrial estates where large vehicles may be manoeuvring or in locations/ on routes forming part of an Active Travel 'corridor' and a lower speed limit is deemed necessary to support movement of VRUs.
- 3.12 In some circumstances a 20mph zone may be the preferred option. These are generally very effective in reducing speeds and casualties. Where a 20mph zone with supporting measures is implemented, any part of the road included within the zone must be within 50m of suitable supporting measures and to comply with the Traffic Signs Regulations and General Directions (TSRGD) Schedule 10, General Direction 1. Supporting measures may include horizontal and vertical deflections, as well as some signs and road markings.
- 3.13 A 20mph speed limit may be provided adjacent to schools where there is a mixed use of vulnerable road users and motorised traffic.

Towns and Villages

- 3.14 Within the formal defined boundaries of a town or village it is acceptable for the speed limit to be set at either 20mph or 30mph on all roads.

Single Carriageway Rural Roads

- 3.15 Requests for speed reductions on single carriageway rural roads should be assessed against the functional hierarchy / route assessment criteria. Potentially that speed limit could be:
- 50mph on 'A' and 'B' class roads
 - 40mph on 'C' class and 'Unclassified' roads; and

- 20/ 30mph on a road deemed to be a 'Quiet Way'.

3.16 However, speed and collision history assessments may also be required to ascertain if any supporting measures may also be required.

WSSC Traffic Calming Guidance

3.17 WSSC has produced a guidance note for developers, '*Developer-Funded Traffic Engineering and Traffic Calming Schemes*', for preparation of traffic calming and associated engineering schemes to be delivered through Section 106 and Section 278/38 processes.

3.18 The guidance note identifies groups of traffic calming types:

- Vertical and/or horizontal deflections (e.g. road humps, road narrowing, mini-roundabouts, surface features);
- Traffic management and control (e.g. parking management, one-way management, vehicle restrictions, bus gates, gateway features, rising bollards);
- Traffic signs, road markings, and lighting;
- Zone or area-wide treatments (e.g. pedestrian zone, shared space, concept, 20mph zone or limit, home zone, quiet lanes);
- Enforcement activity.

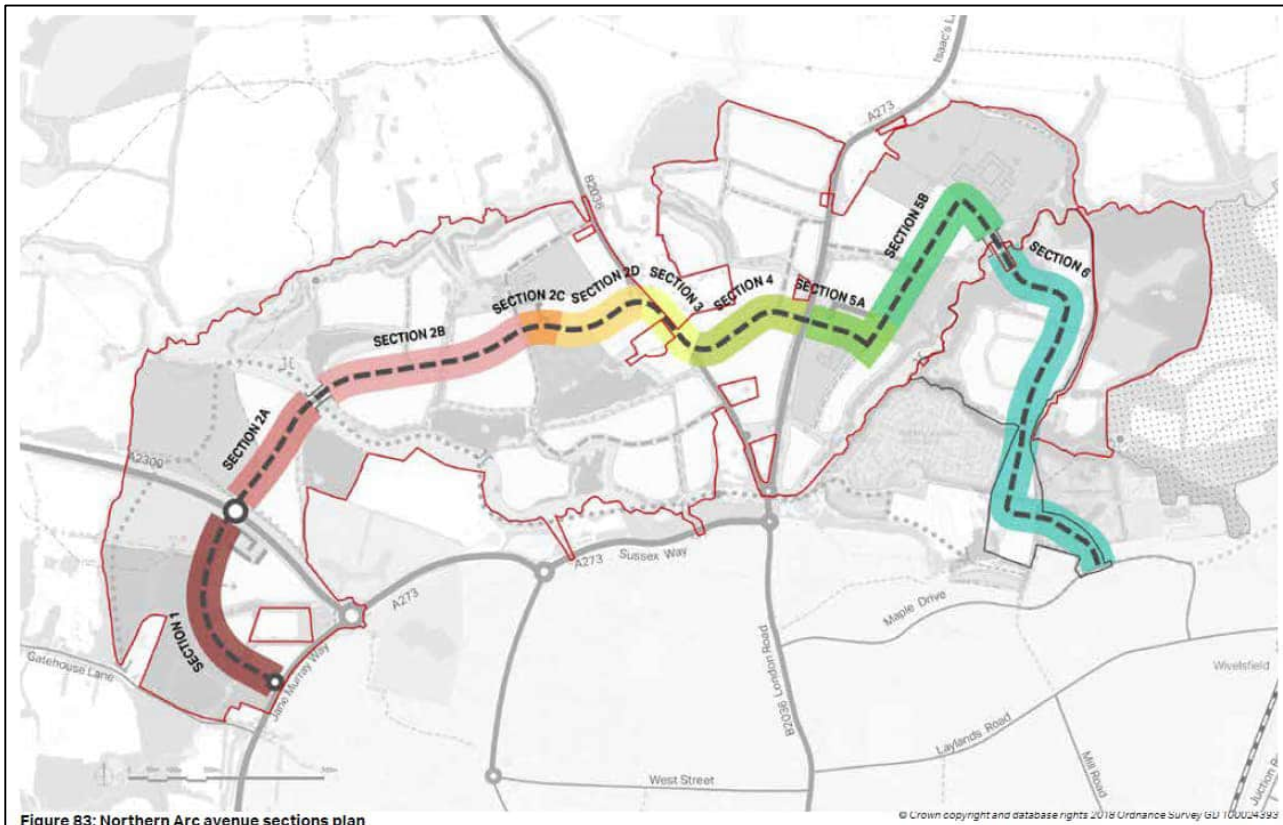
3.19 The guidance note states that whilst each of these techniques may be used in isolation, it is often the case that combinations will be more effective. This guidance has been considered in the context of the development proposals.

4. Central Section Speed Limit Strategy

Central Section

- 4.1 The Central Section under consideration comprises the section of the Northern Arc Avenue between the River Adur in the west and the A273 Isaac's Lane in the east. This includes Sections 2B, 2C, 2D, 3 and 4 on the Northern Arc Avenue section plan included within the approved Northern Arc Design Guide (reproduced in Figure 5 below):

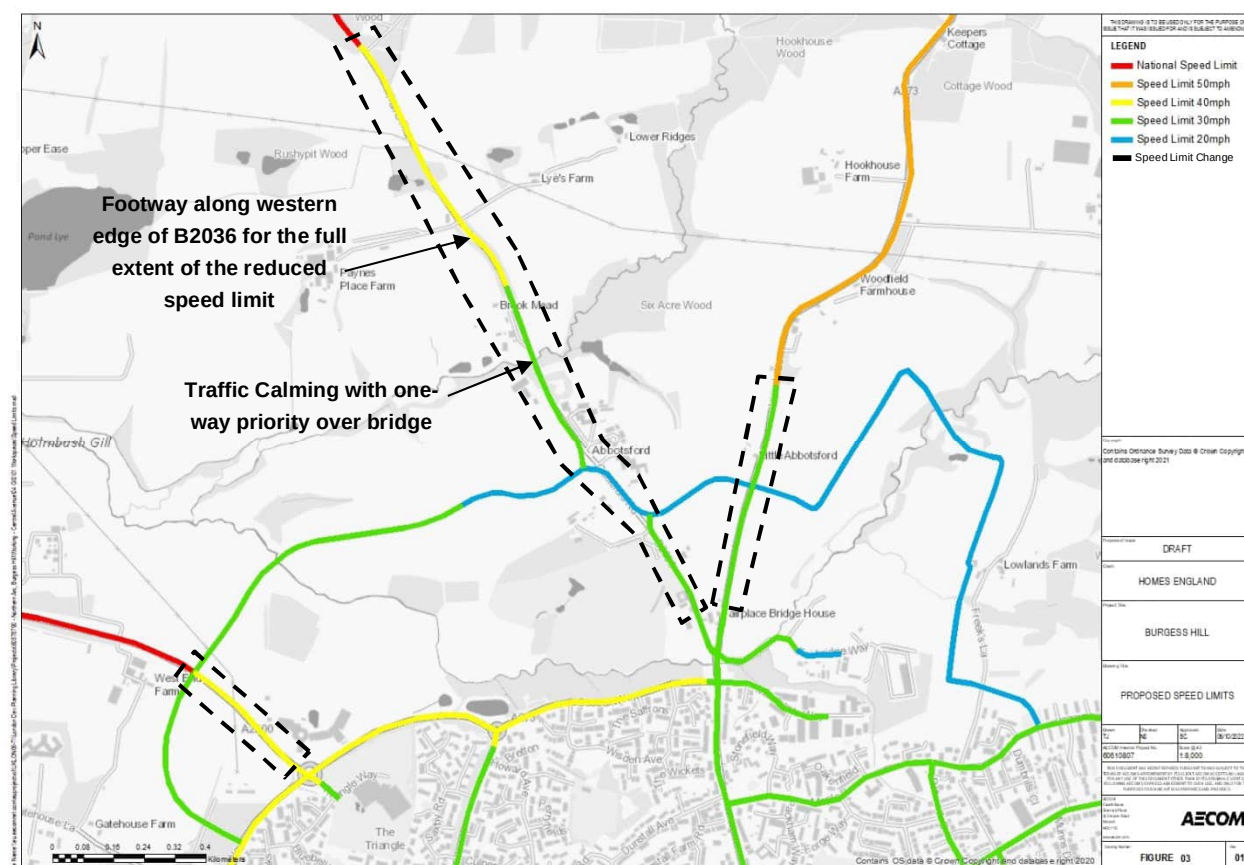
Figure 5 – Northern Arc Avenue Section Plan



Proposed Speed Limits

- 4.2 The design of the Central Section of the Northern Arc Avenue is being progressed in line with the Outline Planning Application and the approved Northern Arc Design Guide. The highway will include features such as street lighting, active frontages, pedestrian, cycle and equestrian crossings and facilities and new junctions, and is intended to create conditions where drivers will comply with the proposed speed limits of 30mph and 20mph. The area intended to be subject to a 20mph speed limit will be the section extending from the EBLR and through the Central Neighbourhood Centre. As the alignment proceeds west it will transition to a 30mph speed limit as it extends to meet the WBLR, which is also subject to a 30mph speed limit.
- 4.3 There will also be consistency with the sections of the Northern Arc Avenue currently under construction in terms of traffic signs, vertical deflections (raised tables) and horizontal deflections (e.g. bends in the road), footway and cycleway provision.
- 4.4 The proposed speed limits along the Central Section and surrounding area are shown in Figure 6 below. The Central Section between the River Adur in the west and the Central Neighbourhood Centre is proposed to be 30mph, reducing to 20mph as the Northern Arc Avenue continues east to A273 Isaac's Lane. The speed limit along the B2036 Cuckfield Road north of the intersection with the Northern Arc Avenue will also be reduced, creating a sense of arrival as users enter Burgess Hill from the north and reinforcing the message that Brookleigh is part of the town. The 40mph speed limit section is to be reduced to 30mph and a section of the national speed limit between Brook Mead and north of the Moonhill Farm access junction will be reduced to 40mph.

Figure 6 – Proposed Speed Limits & Supporting Measures



EBLR

- 4.5 The Eastern Bridge and Link Road (EBLR) gained planning consent in January 2020 (ref: DM/18/0509) and is currently under construction. The EBLR will have a 20mph speed limit along its entire length which is supported by planned active frontages and the road alignment, and supporting traffic calming measures such as street trees, build outs, raised tables and changes in surface materials.
- 4.6 Where the EBLR intersects with A273 Isaac's Lane in the form of a signalised junction, it has been agreed with WSCC that the existing 60mph speed limit on Isaac's Lane will be reduced to 40mph in the short term. In the longer term, the speed limit on Isaac's Lane is proposed to be reduced to 30mph between the A273 / B2036 / Fairbridge Way roundabout and the existing extent of the 50mph speed limit, following evidence from speed surveys and as the development frontage and further improvements on Isaacs Lane come forward.

WBLR

- 4.7 The first phase of the Western Bridge and Link Road (WBLR) gained planning consent in July 2020 (ref: DM/20/0504) and is currently under construction. This section, between the A273 Jane Murray Way and the A2300, is proposed to have a 30mph speed limit. A planning application for the second phase of the WBLR, between the A2300 and River Adur, is due to be submitted soon and is being designed to a 30mph design speed, in line with the Outline Planning Application.

Cuckfield Road

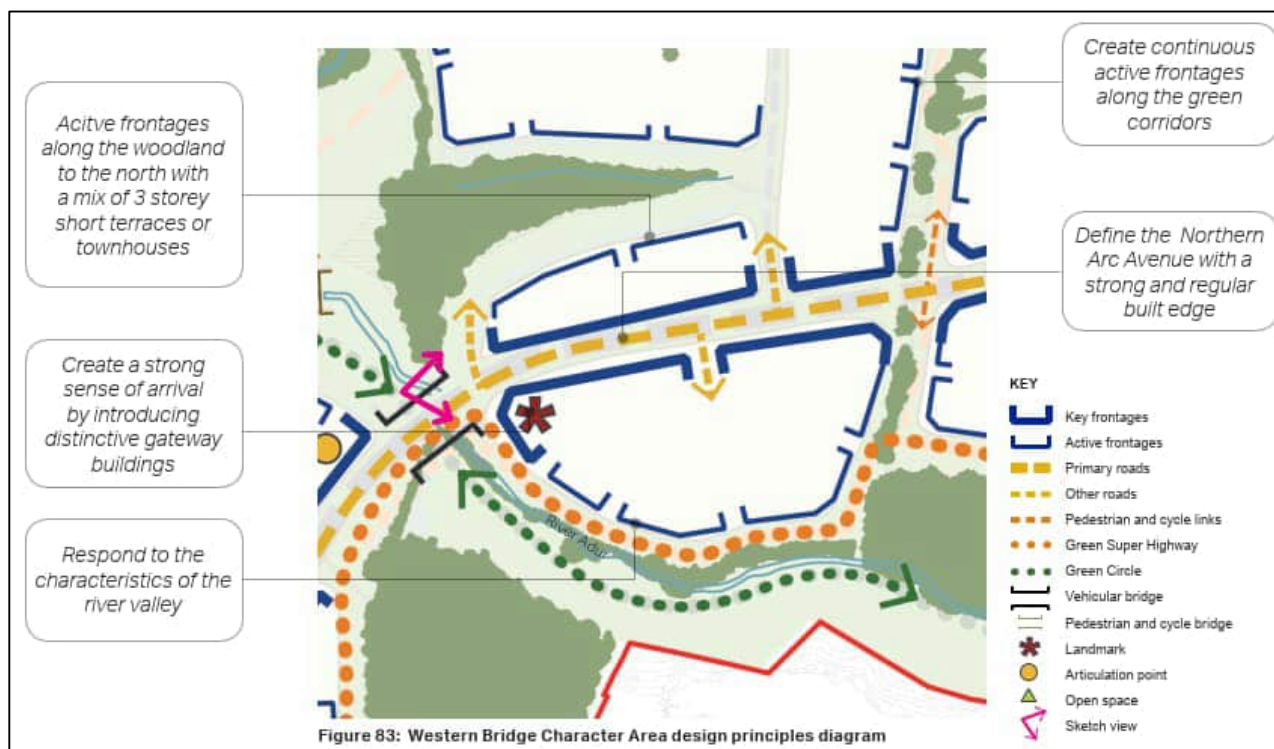
- 4.8 As part of a planning application relating to the Oak Barn pub access, approved in December 2021 (ref: DM/20/2671), a speed limit change was proposed along the B2036 Cuckfield Road, between the A273 / B2036 / Fairbridge Way roundabout and the Central Section, reducing the existing speed limit of 40mph to 30mph to reflect the changing nature of the road as the Brookleigh development is built out. This change in speed limit was supported by speed survey data.
- 4.9 Therefore, the proposed speed limits along the Central Section of the Northern Arc Avenue and B2036 Cuckfield Road are considered appropriate and in line with WSCC's strategy to provide consistent and easily understandable speed limits that will integrate Brookleigh with the rest of Burgess Hill.

5. Central Section Assessment

Section 2B

5.1 The Western Bridge character area covers Section 2B. The area has been designed with a strong and regular built edge along the Northern Arc Avenue and it is therefore proposed to continue the 30mph speed limit that will be applied along the WBLR through this section. The principles of the character area are shown in Figure 7.

Figure 7 – Western Bridge Neighbourhood Character Area



5.2 The proposed speed limit is assessed against the WSCC Speed Limit Policy criteria in the following Table.

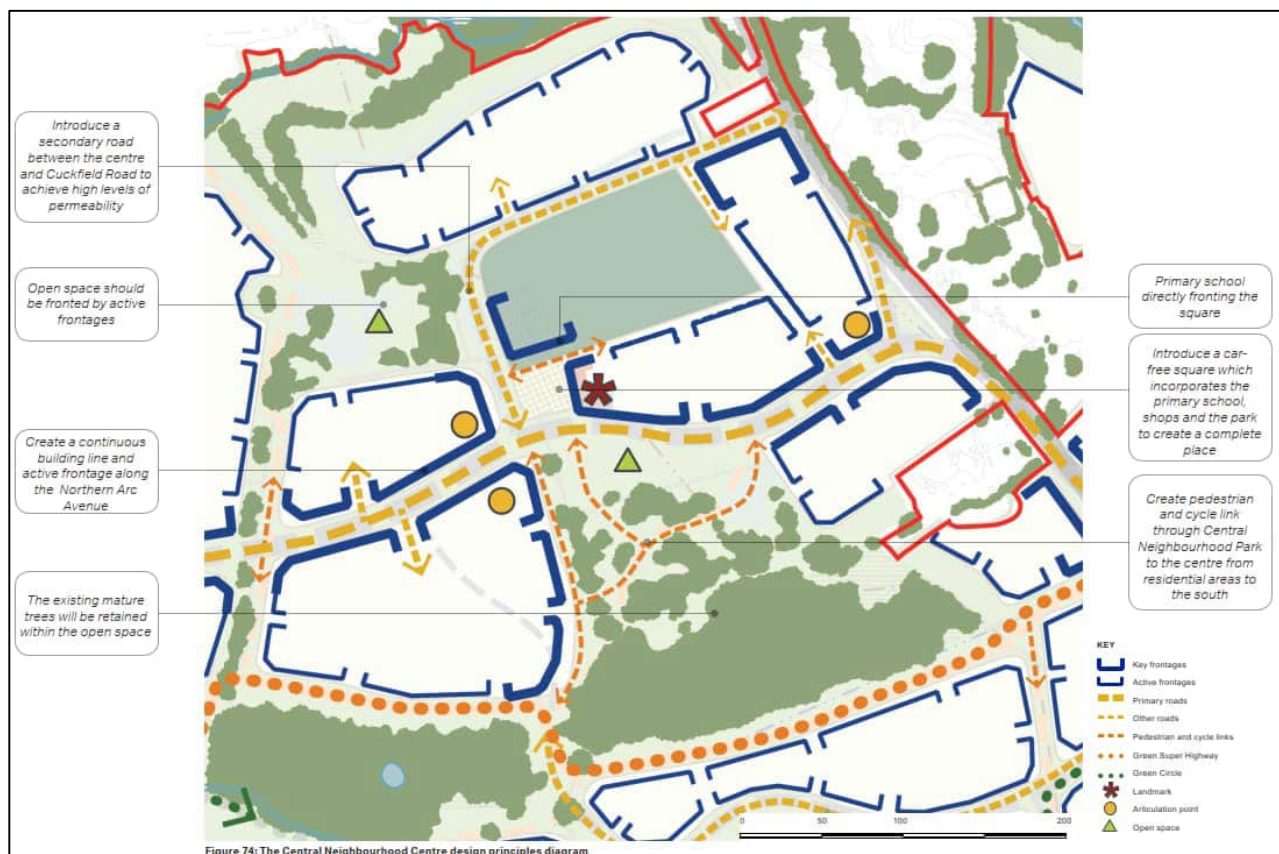
Table 6 – Section 2B – Assessment Against WSCC Speed Limit Policy Criteria

Key Factors	Proposed Speed Limit: 30mph
Route Assessment	Functional hierarchy for speed limit is met. The proposed 30mph section will have a high proportion of VRUs present as this section serves residential development. This area qualifies as 'built-up' with footways and street lighting provided throughout.
Route Length Assessment	Minimum route length for a speed limit is met. Section 2B, as well as WBLR, provide a proposed continuous 30mph section between A2300 and Central Neighbourhood Centre that is 1.4km in length.
PIC History	As a new road, this is therefore not applicable.
Speed Assessment	As a new road, supporting measures are being built into the design in order to achieve the proposed speed limits, such as raised tables and pedestrian crossings.

Sections 2C, 2D and 3

- 5.3 The Central Neighbourhood Centre character area covers Sections 2C, 2D and 3 of the Northern Arc Avenue. The principles of the character area are shown in Figure 8, which continue the active frontage along the Northern Arc Avenue from the Western Bridge character area, before reaching a car-free square which incorporates the primary school, shops and park. The public realm design will reinforce the village-like character of the area with a reduction in speed limit to 20mph proposed. There is also proposed to be a secondary road access from the B2036 Cuckfield Road and active frontage along the western extent of the road.

Figure 8 – Central Neighbourhood Centre Character Area



- 5.4 The proposed speed limit is assessed against the WSCC Speed Limit Policy criteria in the following Table.

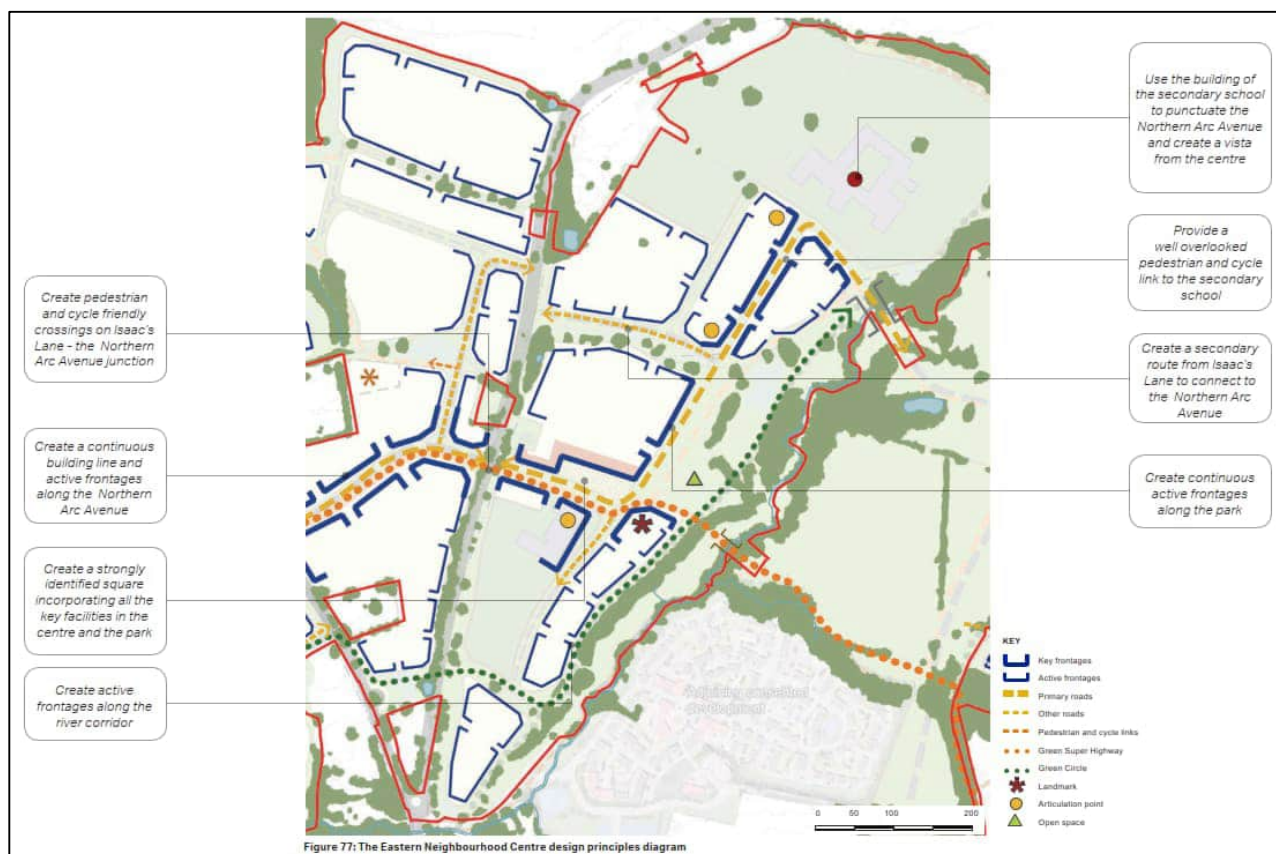
Table 7 – Section 2C, 2D & 3 – Assessment Against WSCC Speed Limit Policy Criteria

Key Factors	Proposed Speed Limit: 20mph
Route Assessment	Functional hierarchy for speed limit is met. The proposed 20mph section will have a high proportion of VRUs present as this section serves shops, education and residential development. This area qualifies as 'urban residential street' and will form part of the 'active travel corridor' along the Northern Arc Avenue.
Route Length Assessment	Minimum route length for a speed limit is met. The proposed 20mph section between Central Neighbourhood Centre and Maple Drive is 750m.
PIC History	Collision history on Cuckfield Road shows no existing patterns and the speed limit changes are anticipated to improve safety.
Speed Assessment	As a new road, supporting measures are being built into the design in order to achieve the proposed speed limits, such as raised tables and pedestrian crossings with refuge islands, traffic signs and road markings.

Sections 3 and 4

- 5.5 The Eastern Neighbourhood Centre character area covers Sections 3 and 4. The principles of the character area are shown in Figure 9. There will be a continuous building line and active frontages along the Northern Arc Avenue with pedestrian and cycle friendly crossings. The Northern Arc Avenue in this section is proposed to be 20mph, consistent with the speed limit in the Central Neighbourhood Centre to the west and the Eastern Bridge and Link Road to the east.

Figure 9 – Eastern Neighbourhood Centre Character Area



- 5.6 The proposed speed limit is assessed against the WSCC Speed Limit Policy criteria in the following Table.

Table 8 – Sections 3 & 4 – Assessment Against WSCC Speed Limit Policy Criteria

Key Factors	Proposed Speed Limit: 20mph
Route Assessment	Functional hierarchy for speed limit is met. The proposed 20mph section will have a high proportion of VRUs present as this section serves shops, education and residential development. This area qualifies as 'urban residential street' and will form part of the 'active travel corridor' along the Northern Arc Avenue.
Route Length Assessment	Minimum route length for a speed limit is met. The proposed 20mph section between Central Neighbourhood Centre and Maple Drive is 750m.
PIC History	Collision history shows no existing patterns on Isaac's Lane and the speed limit changes are anticipated to improve safety.
Speed Assessment	As a new road, supporting measures are being built into the design in order to achieve the proposed speed limits such as raised tables and pedestrian crossings with refuge island, traffic signs and road markings.

B2036 Cuckfield Road

- 5.7 The B2036 Cuckfield Road currently has a 40mph speed limit between A273 / B2036 / Fairbridge Way roundabout and Brook Mead, beyond which is national speed limit. Given the gateway into Burgess Hill will move further north with the development of Brookleigh, it is proposed that speed limits along the B2036 Cuckfield Road be lowered as follows:
- existing 40mph section to be reduced to 30mph (either side of the Northern Arc Avenue); and
 - national speed limit section between Brook Mead and Moon Hill Farm to be reduced to 40mph.
- 5.8 As part of the Outline Planning Application, preliminary measures were proposed along the B2036 Cuckfield Road to reduce vehicle speeds. This included a footway along the western edge of the road, a build out over the River Adur bridge where priority is given to vehicles travelling southbound, and narrowing of the carriageway to 5m north of the B2036 / Palace Place Farm / Lower Ridges junction. The drawings showing the proposed traffic calming measures have been provided in Appendix A for reference.
- 5.9 The proposed speed limit is assessed against the WSCC Speed Limit Policy criteria in the following Table.

Table 9 – B2036 Cuckfield Road – Assessment Against WSCC Speed Limit Policy Criteria

Key Factors	Proposed Speed Limit: 30mph	Proposed Speed Limit: 40mph
Route Assessment	Functional hierarchy for speed limit is met. The proposed 30mph section will have a high proportion of VRUs present as this section serves residential development. This area qualifies as 'built-up' with footways and street lighting provided throughout this section.	Functional hierarchy for speed limit is met. The proposed 40mph section will decrease speeds on the approach to the built-up section of the Northern Arc development. There are farm buildings with direct access from the B2036 and some bending of the road which is anticipated to create a degree of conflict which justifies lowering the speed limit to 40mph.
Route Length Assessment	Minimum route length for a speed limit is met. The proposed 30mph section between Central Section and Brookmead House is 600m.	Minimum route length for a speed limit is met. The proposed 40mph section between Brookmead House and Moonhill Farm is 700m.
PIC History	Collision history shows no existing patterns and the speed limit changes are anticipated to improve safety.	Collision history shows no existing patterns and the speed limit changes are anticipated to improve safety.
Speed Assessment	Average speeds recorded are 42mph. Supporting measures are therefore proposed to be built into the design in order to achieve compliance with the proposed speed limits. These measures include a footway along the western edge of the B2036, one-way priority over the bridge, traffic signs and road markings.	Unable to collect traffic data, therefore average speeds assumed to be approximately existing speed limit (i.e. 60mph). Supporting measures are therefore proposed to be incorporated into the design in order to achieve compliance with the proposed speed limits, including traffic signs and road markings.

- 5.10 The proposed speed limits along B2036 Cuckfield Road are considered appropriate, subject to traffic calming measures being introduced, and in line with WSCC's strategy to provide consistent and easily understandable speed limits that will integrate Brookleigh with the rest of Burgess Hill.

Summary

- 5.11 In summary, the assessments of each individual section along the Central Section and changes to speed limits along B2036 Cuckfield Road against the criteria set out in WSCC's Speed Limit Policy demonstrates that:
- route assessment and route length assessment are met;
 - there are no existing patterns in the PIC history that would suggest a particular safety issue, and the speed limit changes are anticipated to improve safety; and
 - appropriate supporting measures are being implemented to aid in meeting the speed assessment criteria.

6. Interim Situation

Northern Arc Avenue

- 6.1 The current programme for delivery of the Central Section of the Northern Arc Avenue assumes it will come forward as several phases, with full completion by 2025. The Central Section forms the final section of the Northern Arc Avenue, completing the connection between the A273 Jane Murray Way to the west and Maple Drive to the east.
- 6.2 Completion of the Northern Arc Avenue will allow development of the plots in the Central Section to come forward, by providing a link to the wider highway network. The current programme (which may be subject to change) for delivery of the plots that front onto the Northern Arc Avenue is as follows:
- Plot 2.4 (Section 2B) in 2026
 - Plots 2.2, 2.5 and 2.6 (Section 2D), Plots 2.8 (Section 2C) and Plot 2.7 (Section 3) in 2027
 - Plot 3.1 (Section 3) in 2028
- 6.3 As each plot will have direct access to the Northern Arc Avenue, development is likely to commence at the plot frontage on the Northern Arc Avenue, to provide greater visibility and public awareness of the properties available.
- 6.4 Therefore, although there will be a period of approximately 1-2 years between completion of the Northern Arc Avenue and occupation of the first units within the plots served by it along its frontage, this period will see a lot of construction activity including construction vehicle movements on the Northern Arc Avenue, to help create an environment that will encourage compliance with the proposed speed limits.
- 6.5 Having the proposed speed limits and traffic calming measures in place from the opening of the Northern Arc Avenue is considered important to ensure drivers understand the intended residential nature of the road from the outset, to maintain consistency along the entirety of the Northern Arc Avenue, vehicle speeds are reduced on the approach to the Northern Arc development site and to discourage its use as a rat-run between the A273 Jane Murray Way and A273 Isaac's Lane / Maple Drive.

Cuckfield Road

- 6.6 To construct the Central Section junctions with B2036 Cuckfield Road, it is likely that B2036 Cuckfield Road will need to be closed temporarily and traffic diverted via Cuckfield Road. When B2036 Cuckfield Road re-opens, with the priority junctions in place, the proposed speed limit reductions would also have to be implemented so that vehicles approach the new priority junctions at safe speeds. The road closure would provide a convenient opportunity to also deliver the proposed speed reduction measures along Cuckfield Road so that the proposed speed strategy is delivered from day 1 of the Central Section opening.
- 6.7 The introduction of the traffic calming features and the presence of the new priority junctions will reduce average speeds along the B2036 as vehicles approach the Northern Arc Avenue junctions. Therefore, this may bring the average speeds, which are currently 42mph northbound and southbound, to less than the 35mph required to comply with the speed assessment for a 30mph speed limit change on the approach to the junctions.
- 6.8 Should the speed assessment not be met as Brookleigh is built out, further supporting measures would be required to reduce vehicle speeds. These measures are likely to be required prior to Plots 2.5 and 2.6 being completed, as these developments will provide active frontage and a high proportion of VRUs. The first occupations in Plots 2.5 and 2.6 are likely to occur in 2028.

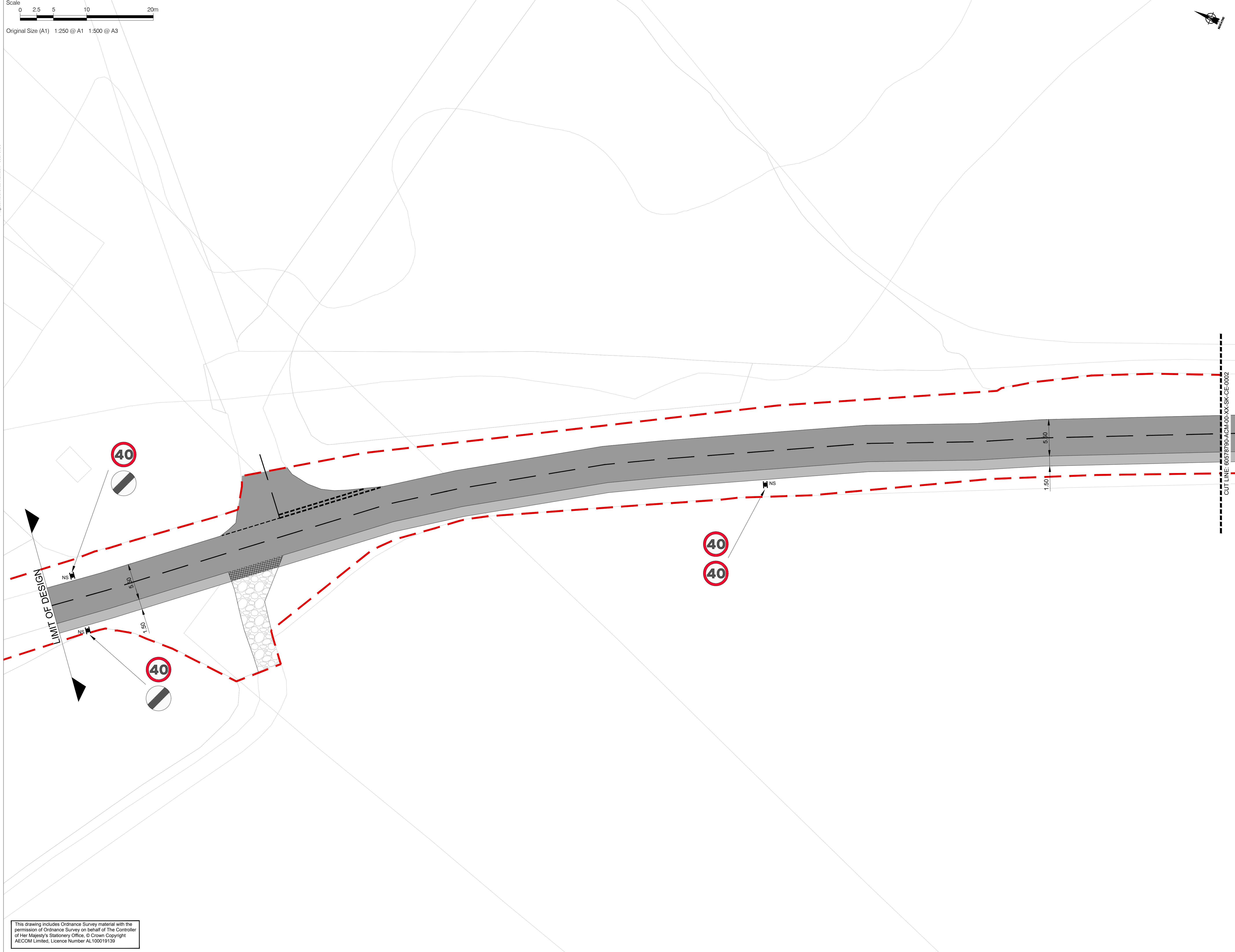
7. Summary / Conclusion

- 7.1 The speed limits proposed for the Central Section of the Northern Arc Avenue are 30mph between the Western Bridge and Central Neighbourhood Centre and 20mph between the Central Neighbourhood Centre and the A273 Isaac's Lane. There is also a proposed reduction in speed limits along the B2036 Cuckfield Road with 30mph proposed between the intersection of the Northern Arc Avenue and Brook Mead, and 40mph between Brook Mead and the Moonhill Farm access junction.
- 7.2 Based on the WSCC Speed Limit policy, the criteria to support a speed limit are as follows:
- The functional hierarchy of the route / route assessment criterion is met;
 - The route length assessment criterion is met;
 - The road traffic collision history has been reviewed and no existing patterns exist or anticipated to exacerbate as the speed limit changes are delivered; and
 - The speed assessment criterion is not met, and will therefore require supporting measures to support the proposed speed limit changes.
- 7.3 Measures such as street lighting, signage, active frontages, pedestrian, cycle and equestrian crossings and facilities along the length of the Northern Arc Avenue and sections of the B2036 Cuckfield Road are to be implemented to create an environment that will encourage compliance with the proposed speed limits. With frontage development, the route assessment criteria will be met, and the route length assessment criteria is also met, supporting the case for the proposed 20mph and 30mph speed limits along the Central Section. In addition, traffic calming measures along the B2036 Cuckfield Road, including active frontage, footway facilities, build outs and carriageway narrowing, will support a reduced speed limit along this section of the road.
- 7.4 As this is a new scheme, the measures required to ensure the speed criterion is met have been built into the design. Therefore, the proposed speed limits along the Central Section of the Northern Arc are considered appropriate and in line with WSCC's strategy to provide consistent and easily understandable speed limits that will integrate Brookleigh with the rest of Burgess Hill and encourage through traffic to continue to use the more strategic routes including the A273 Sussex Way / A273 Jane Murray Way.
- 7.5 Completion of the Northern Arc Avenue will allow development of the plots in the Central Section to come forward, by providing a link to the wider highway network. Although there will be a period between completion of the Northern Arc Avenue and occupation of the first units fronting onto it, this period will see a lot of construction activity along the Northern Arc Avenue, creating an environment that will encourage compliance with the proposed speed limits until the frontage development is complete.
- 7.6 Having the proposed speed limits in place from the opening of the Northern Arc Avenue is considered important to ensure drivers understand the intended residential nature of the road from the outset, to maintain consistency along the entirety of the Northern Arc Avenue and to discourage its use as a rat-run between the A273 Jane Murray Way and A273 Isaac's Lane / Maple Drive. Vehicle speed reductions on existing roads on the approaches to the Northern Arc development site are required to ensure a safe transitions from existing speed limits.
- 7.7 The introduction of the traffic calming features and the presence of the new priority junctions will reduce average speeds along the B2036 as vehicles approach the Northern Arc Avenue junctions. Therefore, this may bring the average speeds, which are currently 42mph northbound and southbound, to less than the 35mph required to comply with the speed assessment for a 30mph speed limit change on the approach to the junctions.
- 7.8 Should the speed assessment not be met as Brookleigh is built out, further supporting measures would be required to reduce vehicle speeds. These measures are likely to be required prior to Plots 2.5 and 2.6 being completed, as these developments will provide active frontage and a high proportion of VRUs.

Appendix A – B2036 Traffic Calming and Footway Improvements

ISO A1 594mm x 841mm
Approved: JS
Checked: JS
Designer: RC
Project Management Initials:
Latest Revision Initials:
Project Reference Number: 6057890

6057890-XX-SK-CE-0001.DWG
NORTHERN ARC, BURGESS HILL
WORKING DRAWINGS
2019-06-25
Last Plotted: 2019-06-25
Last saved by: CHAMPION(2019-06-25)
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- CARRIAGEWAY
- PROPOSED FOOTWAY
- PROPOSED ACCESS VEHICLE CROSSOVER
- EXISTING GRAVEL ACCESS
- PROPOSED ROAD TRAFFIC SIGN

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SHEET TITLE
NORTHERN ARC BURGESS HILL
B2036 PROPOSED WALKING ROUTE
SHEET 1 OF 6

SHEET NUMBER
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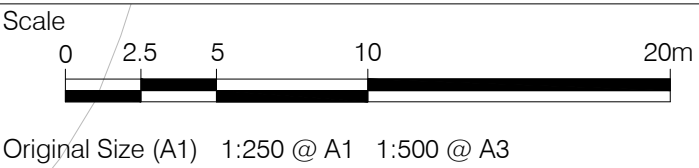
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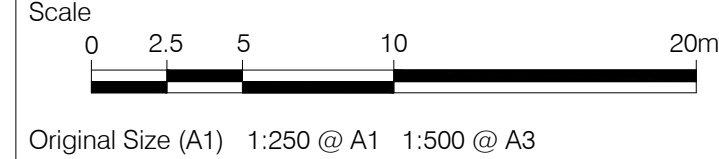
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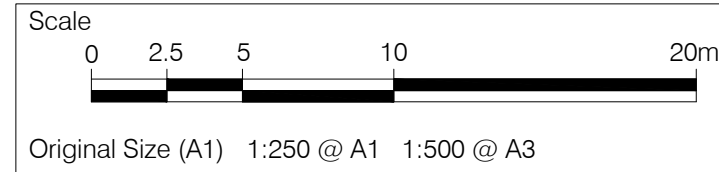
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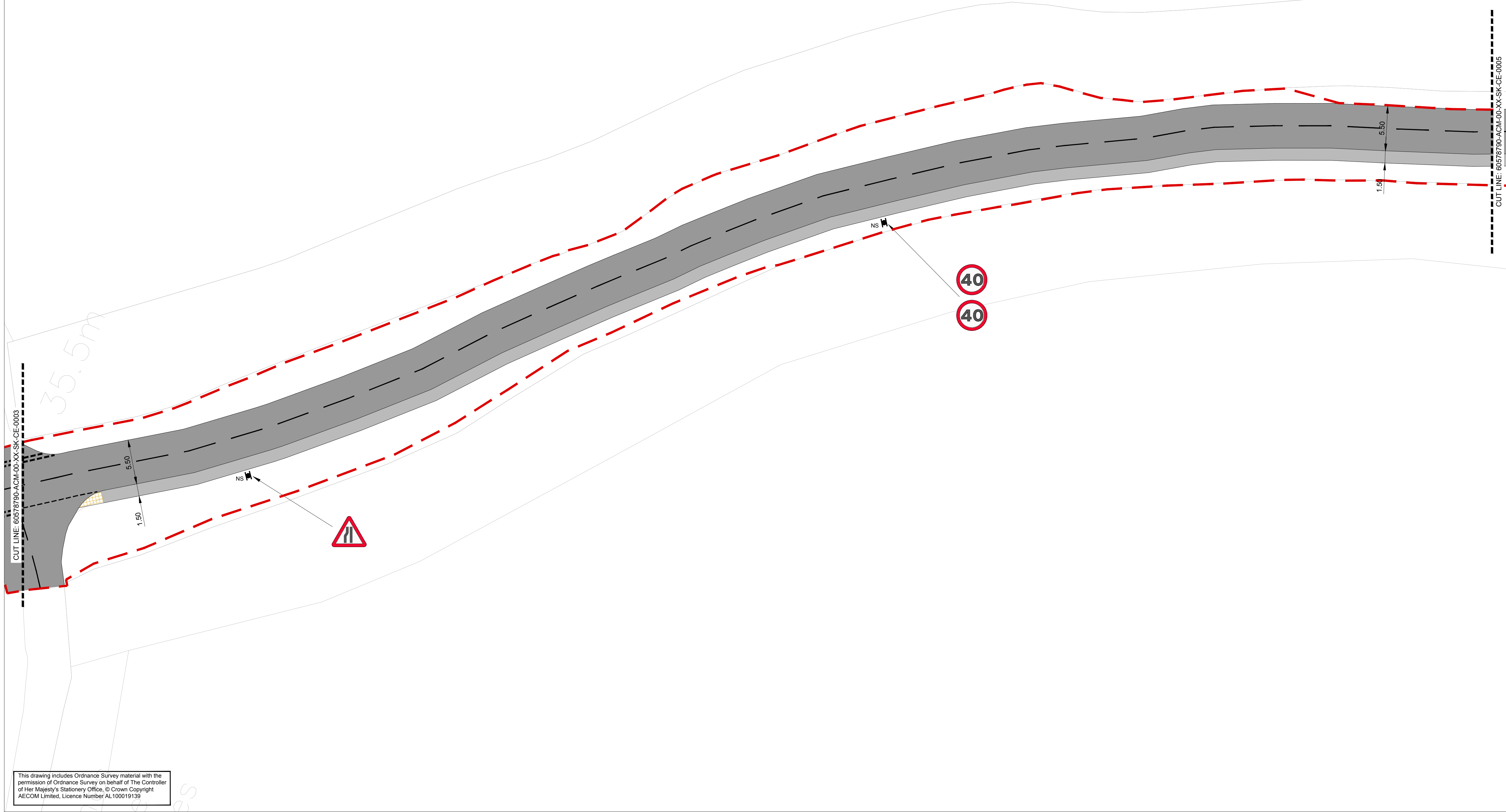
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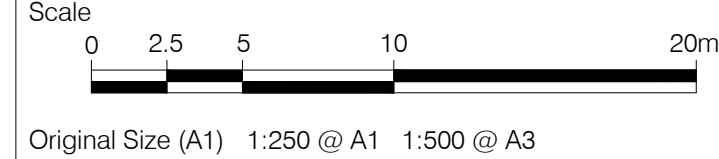
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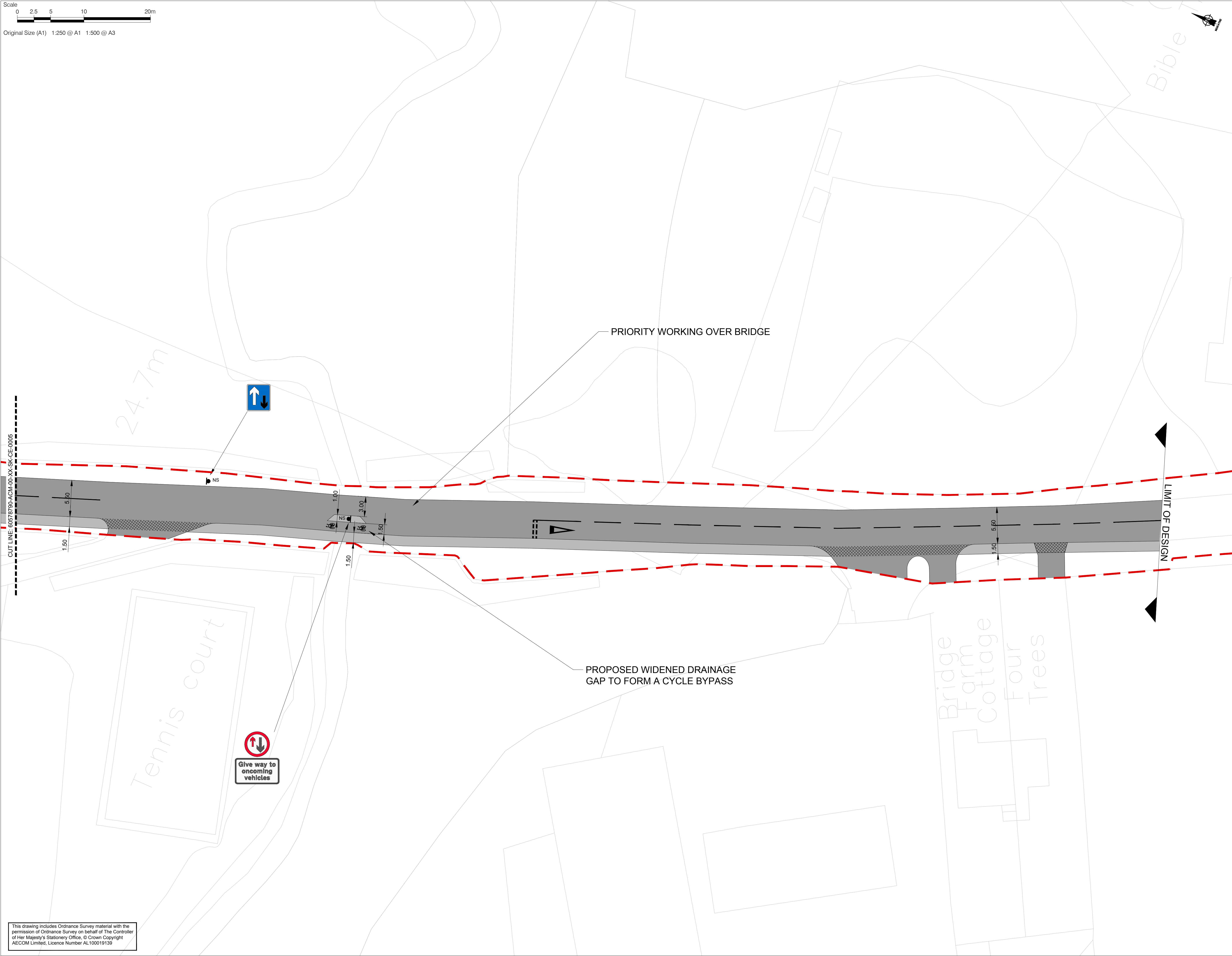
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Appendix B – PIC Data

Cuckfield Road – Burgess Hill – Aecom

Collision report 01/09/2017 – 31/08/2022

Date produced
05 October 2022

This report is marked as **Official – Sensitive**

- The information included in this report is provided for analysis purposes and is for the exclusive use of the applicant, the information must only be used for the purposes for which it has been obtained.
- The data has been provided by Sussex Police and should not be transmitted to any other person without their consent, including reports for the general public.
- Be aware that any improper disclosure, copying, distribution or use of the contents of this information is prohibited and criminal proceedings may follow.

Sussex Safer Roads
P A R T N E R S H I P

Safer Roads
Safer Communities
Sharing the Responsibility

Data regarding personal injury collisions is recorded by Sussex Police in accordance with the DfT Stats 19 requirements. The data is subsequently used by Sussex Safer Roads Partnership for monitoring and planning. While every effort is made to ensure that this data is accurate, it is subject to change should further information become available.

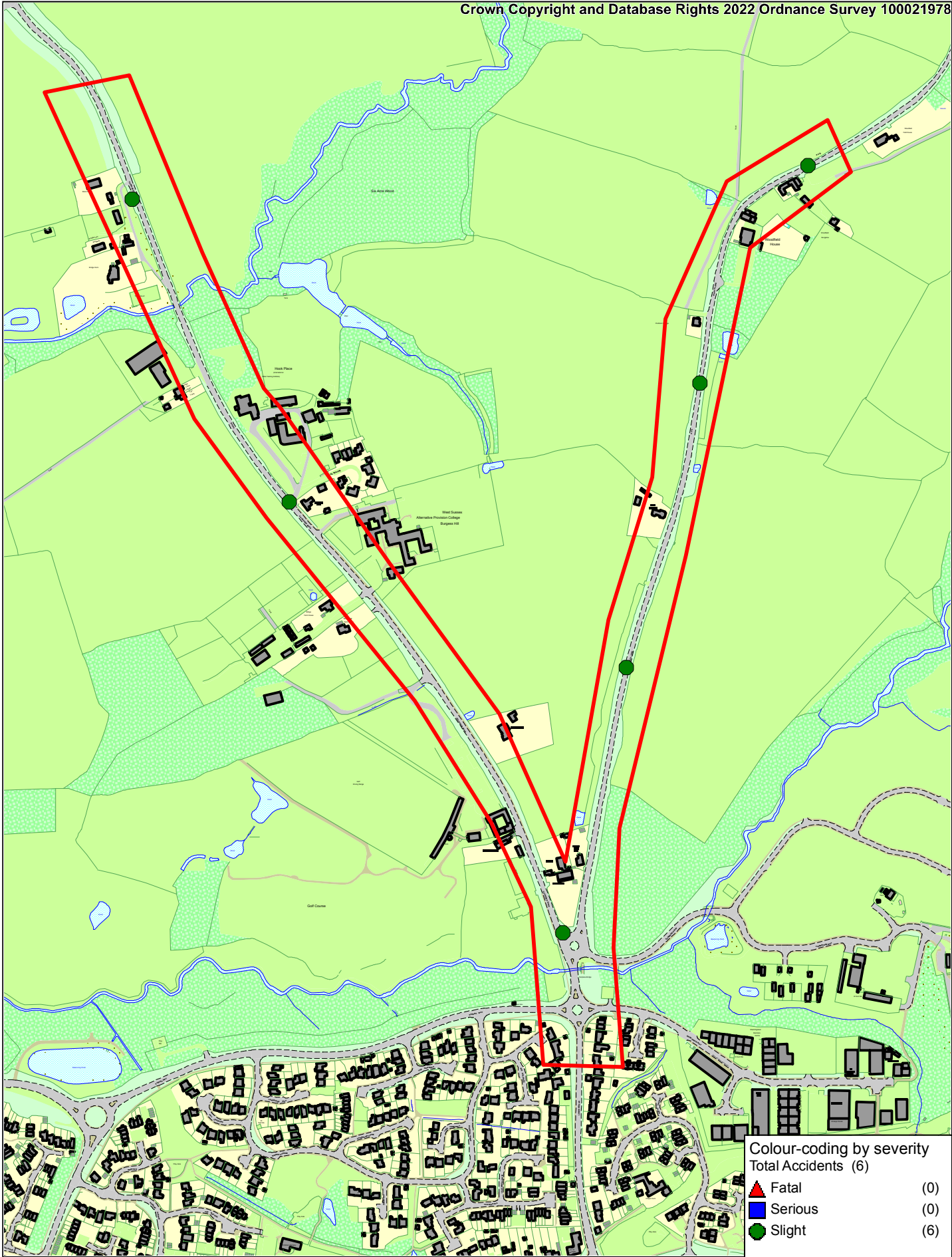
This data may not be fully validated and while every effort is made to ensure its accuracy any statistics provided may not match those published elsewhere.

Sussex Safer Roads Partnership does not hold collision data either where there are no recorded casualties or the incident has not been reported to Sussex Police.

For further information:

web: www.sussexsaferroads.gov.uk

email: data@sussexsaferroads.gov.uk



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Sussex Safer Roads
PARTNERSHIP

Cuckfield Road, Burgess Hill
Collision Dates 01/09/2017 - 31/08/2022
Aecom

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DRAWING No.	
DRAWN BY	

Details of Personal Injury Accidents for Period - 01/09/2017 to 31/08/2022 (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents
within selected Polygons -sussex 2022 consultant requests
("cuckfield road burges hill (aecom)")

Notes:

Police Ref.	Day Date	Location Description	Vehicles				Casualties			
			Veh No /	Type /	Manv /	Dir /	Class	Sex /	Age /	Sev
Road No.	Time									
2nd Road No.	D/L									
Grid Ref.	R.S.C									
	Weather									
	Speed									
	Account of Accident									

Causation Factor:

Selected Polygon:cuckfield road burges hill (aecom)

471806816	Saturday	B2036 PAINS FLAT HAYWARDS	Veh 1	Car	Going ahead	S	to	N				
R1: B 2036	08/12/2018	HEATH 320M SOUTH OF U LOWER	Veh 2	Car	Going ahead RH bend	N	to	SW	Dri	F	26	Slight
	0650hrs	RIDGES OUTSIDE BRIDGE FARM										
		Darkness: no street lighting										
E 530,187		Wet/Damp										
N 121,283		Raining without high winds										
		60 mph										

Causation Factor:

1st: Travelling too fast for conditions
2nd: Loss of control
3rd: Careless/Reckless/In a hurry

Participant:

Vehicle 1
Vehicle 2
Vehicle 1

Confidence:

Very Likely
Very Likely

VEH 2 TRAVELLING SOUTH BOUND ON SINGLE CARRIAGEWAY CRESTING A SLIGHT RIGHT HAND BEND, CLAIMS TO HAVE FOUNE VEH 1 TRAVELLING, AT SPEED, NORTH BOUND, IN THE MIDDLE OF THE ROAD. VEH 2 TOOK AVOIDING ACTION TO MISS VEH 1 WHICH CAUSED DRIVER TO TOUCH N/S VERG E AND LOOSE CONTROL, SENDING VEH 2 TO OPPOSITE VERGE AND INTO BUSH. NO ACTUAL CONTACT WAS MADE BETWEEN THE VEH'S. VEH 1 DID NOT STOP AT SCENE & REMAINS UNIDENTIFIED.

20974282	Thursday	CUCKFIELD ROAD (B2036) NEAR	Veh 1	M/C < 125 cc	Going ahead	NW	to	SE	Dri	M	17	Slight
R1: B 2036	20/08/2020	JUNCTION WITH ISAAC'S LANE										
R2: A 273	1728hrs	(A273)										
E 530,702		Daylight:street lights present										
N 120,406		Dry										
		Fine without high winds										
		30 mph										

Causation Factor:

1st: Loss of control

Participant:

Vehicle 1

Confidence:

Very Likely

V1 WAS TRAVELLING NORTH WEST TO SOUTH EAST ALONG CUCKFIELD ROAD, BURGESS HILL. AS V1 HAS SLOWED DOWN TO APPROACH THE ROUNDABOUT JUNCTION WITH ISAACS LANE THE ACCELERATOR HAS FAULTED AND THE VEHICLE HASNT SLOWED. THE RIDER HAS THEN PRESSED THE BRAKES WHICH HAS CAUSED V1 TO SLIGHTLY FLIP. THE DRIVER HAS FALLEN OFF OF V1 AND THE BIKE HAS FALLEN ON TOP OF HIM SLIGHTLY. NO OTHER VEHICLES WERE INVOLVED AND THE V1 REMAINED ON THE ROAD AT ALL TIMES. THE DRIVER COMPLAINED OF PAIN TO HIS WRIST BUT WAS BLE TO MOVE IT, HE STATED HE INITIALLY HAD BACK PAINS BUT THESE HAD GONE BY THE TIME OFFICERS ARRIVED. AN AMBULANCE HAD BEEN CALLED BUT HAD NOT ATTENDED WHILST OFFICERS WERE ON SCENE. FAMILY MEMBERS WERE ON SCENE.

Details of Personal Injury Accidents for Period - 01/09/2017 to 31/08/2022 (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents
within selected Polygons - sussex 2022 consultant requests
("cuckfield road burges hill (aecom)")

Notes:

Police Ref.	Day Date	Location Description	Vehicles				Casualties			
			Veh No	Type	Manv	Dir	Class	Sex	Age	Sev
Road No.	Time									
2nd Road No.	D/L									
Grid Ref.	R.S.C									
	Weather									
	Speed									
	Account of Accident									
Causation Factor:										

20975887 Wednesday ISAACS LANE (A273) - 122 METRES Veh 1 Car Going ahead S to N Dri M 23 Slight
26/08/2020 FROM JUNCTION WITH
R1: A 273 0656hrs UNCLASSIFIED ROAD
Daylight:street lights present
E 530,866 Dry
N 121,063 Fine without high winds
50 mph

Causation Factor:

1st: Loss of control

Participant:

Vehicle 1

Confidence:

Very Likely

VEHICLE HAS APPROACHED THE FIRST BEND ON ISAACS LANE TRAVELLING FROM BURGESS HILL TOWARDS HAYWARDS HEATH AND LOST CONTROL AT THE BEND.

201003476 Wednesday CUCKFIELD ROAD (B2036) AT Veh 1 Car Turning right NE to NW Dri F 20 Slight
02/12/2020 JUNCTION WITH THE SQUIRES Veh 2 Car Going ahead NWto SE FSP F 65 Slight
R1: B 2036 1400hrs
R2: U Daylight:street lights present
E 530,375 Dry
N 120,921 Fine without high winds
40 mph

Causation Factor:

1st: Failed to look properly

Participant:

Vehicle 1

Confidence:

Very Likely

V1 WAS AT THE JUNCTION OF THE SQUIRES, BURGESS HILL TURNING RIGHT NORTHBOUND ONTO CUCKFIELD ROAD. V1 HAD LOOKED BOTH WAYS AND SAW THAT ITS WAS CLEAR. ON V1 PULLING OUT V2 WHO WAS DRIVING SOUTHBOUND ON CUCKFIELD ROAD COULD NOT GET OUT OF THE WAY AND H IT V1. THE DRIVER OF V1 HAS BAD WHIPLASH AND BRUISING ALONG THE CHEST. THE PASSENGER OF V2 WHO WAS SITTING IN THE FRONT HAS BRUISING TO HER CHEST.

221163326 Tuesday ISAACS LANE (A273) - 177 METRES Veh 1 Goods < 3.5t Going ahead S to N Dri M 33 Slight
05/04/2022 SOUTH FROM JUNCTION WITH
R1: A 273 0934hrs UNNAMED ROAD, BURGESS HILL,
Daylight:street lights present
E 530,995 Dry
N 121,323 Fine without high winds
60 mph

Causation Factor:

1st: Impaired by drugs (illicit or medicinal)

Participant:

Vehicle 1

Confidence:

Very Likely

VEHICLE 1 TRAVELLING NORTH ON ISACS LANE BURGESS HILL. LIKELY TO BE TRAVELLING TOO QUICKLY, LOST CONTROL AND CRASHED.

Notes:

Causation Factor:

Causation Factor:

Participant:

Vehicle 1

Confidence:

Very Likely

PLEASE NOTE - V1 SHOULD BE V2 AND VICE VERSA V1 (MOTORBIKE) WAS PASSING V2 (NO VRM) WHILE GOING THROUGH TEMPORARY TRAFFIC LIGHTS FILTERING TRAFFIC ONTO THE OPPOSITE CARRIAGEWAY. V1 WAS FORCED TO BRAKE AND DRIVE/ FELL OFF, CAUSING MINOR INJURIES

AND DAMAGE TO V1. V2 DID NOT STOP TO EXCHANGE DETAILS. DRIVER OF V1 WAS TREATED BY SECAMB AT THE SCENE - POLICE ALSO ATTENDED. NO CCTV OR DASHCAM FOOTAGE, NO INDEPENDENT WITNESSES.

Appendix G – Stage 1 RSA

27 January 2025

Daniel Parker
AECOM

Letter sent by email

Report Ref: 60610807-ACM-CS-XX-RP-HW-0005

Dear Daniel,

Brookleigh, Northern Arc – Northern Arc Avenue and Diversion of Cuckfield Road (B2036) – Stage 1 Road Safety Audit

Please find enclosed the FINAL Stage 1 Road Safety Audit for the above scheme. In addition to the problems raised within the audit report, we wish to raise the following points which were considered to be outside the scope of this road safety audit:

- It was noted that some of the visibility splays on the plans covering the 30mph section of the scheme were shown for a 20mph speed limit (25m), rather than the proposed 30mph speed limit (43m), for example the splays shown from roads 03 and 04 on drawing 60610807-ACM-CS-ZZ-DR-HW-00-0103. Appropriate visibility splays should be shown based on the proposed speed limits across the scheme.
- Streetlighting information has been provided as part of this Stage 1 Road Safety Audit. As streetlighting is not generally reviewed at this stage of audit, a comprehensive review has not been undertaken. However, it is noted that there were a few locations (for example the Green Spoke uncontrolled crossing location on 60610807-ACM-CS-ZZ-DR-HW-00-0102 and the uncontrolled crossing facility east of the Central Section (CS) junction with Road 05 on 60610807-ACM-CS-ZZ-DR-HW-00-0103) where proposed crossing facilities appear to be located some distance from street lighting provision. A review of lighting provision throughout the scheme, particularly at crossings and junctions, should be undertaken at detailed design stage (and reviewed as part of the Stage 2 Road Safety Audit).
- Whilst some signage details have been provided as part of the stage 1 Road Safety Audit this element of the design is not usually reviewed at this stage. Therefore, although some problems regarding signage (for example Problem/ Recommendation E1 - absence of speed limit transition signage on Road 09) have been raised within the report a comprehensive review of the proposed scheme signage has not been undertaken at this stage.
- It is noted that some of the tactile waiting areas for the numerous side road crossings (running parallel with the CS and so 'in-line' with the shared use footways and pedestrian footways approaching the crossings) appear to only be two pavers deep in some parts. Examples include the Road 05/ CS junction (eastern side), the Road 10/ CS junction (both sides), the Road 09/ CS junction (both sides) and the Road 11/ CS junction (both sides). Inadequate depth of tactile could result in pedestrians (especially those with visual impairments) stepping over the tactile paving and entering the live carriageway of the respective side roads unknowingly (with a risk of being struck by road users). Although it is acknowledged that the detail is only indicative at this stage, provision of tactile paving to at least three pavers depth for in-line crossings should be provided at detailed design stage.
- The contour plans provided indicate a number of locations where proposed gullies do not appear to be located correctly, i.e. not at the edge of the proposed carriageway, misaligned or in



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incorrect places. One such example is on drawing 60610807-ACM-CS-ZZ-DR-HW-00-0605, where the gulley on the western side of Road 8, just north of the junction with Road 13 appears to be offset from the edge of the carriageway. It is advised that a full review of gulley locations/drainage is undertaken at detailed design stage

If you have any queries, please do not hesitate to contact me.

Yours sincerely
For **AECOM Limited**

Mark Watson
Audit Team Leader

Tel: 07827-831951
Email: mark.watson@aecom.com
Enc: Road Safety Audit report

Brookleigh, Northern Arc

Stage 1 Road Safety Audit
Northern Arc Avenue and Diversion of Cuckfield Road
(B2036)

Homes England

Project number: 60610807
60610807-ACM-CS-XX-RP-HW-0005
January 2025

Quality information

Prepared by	Checked by	Verified and Approved by
		
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Revision History

Revision	Revision date	Details	Authorised	Name	Position
P01	17/01/2025	DRAFT	MRW	Mark Watson	Regional Director
P01	27/01/2025	FINAL	MRW	Mark Watson	Regional Director

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1. Introduction

This report results from a Stage 1 Road Safety Audit (RSA) carried out for the revised proposed Central Section of Northern Arc Avenue and the part realignment of Cuckfield Road (B2036) scheme, part of the Brookleigh, Northern Arc development north of Burgess Hill, West Sussex.

The Audit has been carried out at the request of the Design Team; AECOM Limited (Development Infrastructure), commissioned on behalf of the client, Homes England.

The Road Safety Audit Team consisted of the following members:

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The Road Safety Audit was undertaken in accordance with the initial information provided on 11th December 2024 and subsequently the Audit Brief received on 13th December 2024 from the Design Team: AECOM Limited (Development Infrastructure), on behalf of Homes England. The Audit Brief was prepared by AECOM Limited (Development Infrastructure) with further supporting information provided on 17th December 2024. The Audit Team confirms that they accept the brief provided.

The Road Safety Audit took place between December 2024 and January 2025 and comprised an examination of the documents provided by the Design Team, which are listed in **Appendix A**, and an examination of the site during daylight hours.

The site visit was carried out on Thursday 19th December 2024 between the off-peak hours of 11:00 and 12:15 when traffic was flowing freely on the road network in the vicinity of the study area (Cuckfield Road and Issacs Lane), although traffic management was in place on Issacs Lane (at the eastern extent of the study area). The weather during the site visit was sunny and dry; the road surface was dry.

The locations of problems shown in conjunction with the proposed scheme are held in **Appendix B** where the reference numbers relate to the problems identified in **Section 4** of this report.

The Terms of Reference of the Audit are as described in GG 119 'Road Safety Audit' of Highways England's (now National Highways) Design Manual for Roads and Bridges (DMRB). The advice issued in the GG119 applies to trunk road and motorway highway improvement schemes, as well as highway schemes on the Trans-European Road Network (TERN) but has been used in this report to define the scope of this Audit.

The scheme has been examined, and this report compiled, only with regards to the safety implications to road users of the scheme as presented. It has not been examined or verified for compliance with any other standards, best practice guidance or criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem, the Road Safety Audit Team may, on occasion, have referred to a design standard without touching on technical audit.

The RSA does not consider structural safety or cover health and safety issues concerning road users during the construction, maintenance and operation of the road.

An absence of comment relating to specific road users/ modes in **Section 4** of this report does not imply that they have not been considered; instead the Audit Team feels they are not adversely affected by the proposed changes.

This Road Safety Audit is not intended to identify pre-existing hazards which remain unchanged due to the proposals; hence they are not raised in **Section 4** of this report as they fall outside the remit of Road Safety Audit in general.

Nothing in this Audit should be regarded as a direct instruction to include or remove a measure from within the scheme. Responsibility for designing the scheme lies with the designer and as such the Audit Team accepts no design responsibility for any changes made to the scheme as a result of this Audit.

All traffic sign and road marking diagram number references are made to the Traffic Signs Regulations and General Directions, 2016 (TSRGD).

2. Scheme Description

Brookleigh, Northern Arc is a proposed new residential development (comprising of 3,500 homes) to the north of Burgess Hill in West Sussex. The site is located approximately 2.5km north of the Burgess Hill train station and is currently predominantly rural in nature.

The scope of this road safety audit covers the Central Section (CS) of Northern Arc Avenue, which consists of new highway infrastructure to support the development and will form the link connecting the Western Bridge and Link Road (WBLR) via Cuckfield Road (B2036) and the East Bridge and Link Road (EBLR) sections. The CS will extend through existing agricultural fields to enable future development including residential units and a central neighbourhood centre. Details of the proposed scheme forming the scope of this audit are as follows:

- The CS is a proposed two-way single carriageway road running in an approximate east to west direction with a minimum carriageway width of 6.5m. The route will predominantly feature a 3m wide shared footway/ cycleway along its northern side and a 2m wide footway on its southern side.
- Within the study area the majority of the CS will be subject to a 20mph speed limit, with the western extent subject to a 30mph speed limit. Street lighting is proposed along the CS.
- The CS will feature inset layby parking, six on-carriageway bus stops with shelters, traffic calming features (including raised tables both on the main alignment and the side roads joining it), uncontrolled crossing facilities (some featuring refuge islands) and give-way markings on the side roads on the approaches to the pedestrian/ cycle crossings to allow for pedestrian/ cycle priority across the side roads.
- The CS includes the realignment of part of the existing Cuckfield Road (B2036). The road will feature a 6m wide two-lane (single lane in each direction) carriageway and a 2m pedestrian footway along part of its western side.
- New speed limits will be in place along the Cuckfield Road parts of the scheme. The northern part of Cuckfield Road (within the study area) will be subject to a 40mph speed limit (south from its junction with the Moonhill Farm Access Road). The southern part will be subject to a 30mph speed limit (featuring traffic calming measures) up to its junction with the CS.

The scope of this audit covers the areas shown on the plans referenced in **Appendix A**. The problems identified for the Scheme are set out within **Section 4** of this report, supported by the locations of problems plans held in **Appendix B**.

3. Items Raised at Previous Road Safety Audits

A Stage 1 Road Safety Audit was undertaken on the initial 'Northern Arc: Northern Arc Avenue and Diversion of Cuckfield Road' scheme proposals in January 2024. Since then, a revised design has been produced which is covered by the scope of this (January 2025) Stage 1 Road Safety Audit.

4. Items Raised at this Road Safety Audit

A GENERAL

A1 PROBLEM

Location: Entire CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101 – 60610807-ACM-CS-ZZ-DR-HW-00-0107 (inclusive)

Summary: Proposed trees and landscaping within planted verges may obstruct visibility levels between road users/ pedestrians/ cyclists, resulting in collisions between users on the CS.

There are several locations along the CS where planted verges, featuring trees and landscaping, are proposed immediately adjacent to uncontrolled crossing facilities and junctions. Whilst it is acknowledged that the landscaping/ tree detail shown in the GA plans is largely indicative the Audit Team is concerned that any proposed trees and/ or landscaping may restrict intervisibility between road users on the CS and both road users on adjoining side roads waiting to turn onto the CS and pedestrians/ cyclists at the waiting areas of the crossings. This could result in vehicle/ vehicle turning collisions on the CS or vehicle to pedestrian/ cyclist collisions at the crossings.

RECOMMENDATION

It is recommended that care is taken at detailed design with respect to proposed tree locations and landscaping types/ heights to ensure that adequate visibility splays are achieved at all locations within the scheme. Regular maintenance of verges/ tree growth will need to be considered throughout the life of the scheme also.

A2 PROBLEM

Location: Cuckfield Road Realignment (Proposed 40mph Section)

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0110 to 60610807-ACM-CS-ZZ-DR-HW-00-0115 (inclusive)

Summary: Road users unlikely to adhere to 40mph speed limit change. Loss of control/ speed related collisions may occur on this section.

It is proposed to reduce the speed limit on the northern part of Cuckfield Road from derestricted to 40mph. Although minor local realignment and 40mph gateway and repeater signage is proposed along this section, the relatively straight alignment of this existing route is being retained. These measures alone are unlikely to result in drivers adhering to this (much reduced) speed limit, particularly given the rural, straight character of the route and because many road users utilising the route will have been familiar with the derestricted nature of this section of Cuckfield Road previously. Road users proceeding at excess speeds could result in loss of control collisions and turning collisions with vehicles at side roads/ accesses etc. or increase the risk of collisions with pedestrians attempting to cross Cuckfield Road (who may be expecting vehicles to be adhering to the 40mph speed limit). Furthermore, this may result in sudden braking and rear end shunt type collisions when southbound vehicles encounter the 30mph speed limit change to the south of the 40mph section.

RECOMMENDATION

It is recommended that additional measures are implemented along this section of the B2036 Cuckfield Road to ensure adherence with the proposed 40mph speed limit.

A3 PROBLEM

Location: Cuckfield Road Realignment (Proposed 30mph Section) Ch. 150 – 310

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0108 and 60610807-ACM-CS-ZZ-DR-HW-00-0109

Summary: Insufficient traffic calming measures towards southern part of 30mph speed limit area may result in road users not adhering to 30mph speed limit. Road users may drive at inappropriate speeds, potentially resulting in speed-related collisions.

A 30mph speed limit is proposed along the southern part of Cuckfield Road (between the proposed 40mph section to the north and the CS to the south). Although a number of traffic calming measures (splitter island and buildouts) are proposed, broadly with less than 100 metres between them, the section between chainages 150 and 310 (a distance of circa. 160m) has no such measures in place. The absence of any traffic calming measures along this length, coupled with the straight alignment along this section may result in road users proceeding at inappropriate speeds for the posted speed limit, potentially resulting in loss of control and/ or speed-related collisions in this area.

RECOMMENDATION

It is recommended that additional measure(s) are implemented within the above chainages to ensure road users proceed at appropriate speeds along this section of the B2036 Cuckfield Road.

A4 PROBLEM

Location: Roads 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102 to 0107

Summary: Proximity of give-way lines to CS mainline may result in rear end shunt collisions occurring.

Give-way lines are provided at the side road junctions throughout the scheme to give priority for pedestrian/ cycle crossing users over vehicles. The give-way lines located on the immediate exit of the junction (for road users turning into the side roads from the CS) are within very close proximity to the mainline, such that a typical vehicle exiting the CS cannot fully clear the junction before giving way. This will result in vehicles partially protruding back into the CS when giving way to non-motorised crossing users, potentially resulting in rear end shunts with road users following on the CS. **See also Problem/ Recommendation C11 and E2.**

RECOMMENDATION

It is recommended that the give-way lines are relocated further into the side road to allow vehicles to clear the CS carriageway before giving way. This would also involve realigning the shared use/ pedestrian crossings accordingly, so they are further set back from the junction mouth provision. Alternatively, the give way lining should be removed. **See also Problem/ Recommendation C11 and E2.**

B LOCAL ALIGNMENT

B1 PROBLEM

Location: Southern waiting area of uncontrolled crossing over CS (at location of Green Super Highway connection)

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101

Summary: Stationary westbound bus at bus stop may obscure visibility to the right for crossing users. This may result in vehicle/ pedestrian or vehicle/ cyclist collisions on the crossing.

A bus stop is proposed on the southern side of the CS, a short distance to the east of this uncontrolled crossing facility. Pedestrians and cyclists waiting to head north across the crossing will have restricted visibility to the right from this southern waiting area to westbound vehicles passing a stationary bus at the bus stop. This could result in vehicle/ pedestrian and/ or vehicle/ cyclist collisions on the crossing.

RECOMMENDATION

It is recommended that either the crossing or bus stop are relocated to ensure adequate levels of visibility are provided between non-motorised users crossing the CS and westbound road users.

B2 PROBLEM

Location: Road 1 junction with CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101 and 60610807-ACM-CS-ZZ-DR-HW-00-0102

Summary: Stationary eastbound bus at bus stop may obscure visibility to the right for road users emerging from Road 1 onto the CS. This may result in vehicle/ vehicle collisions at the junction.

A bus stop is proposed on the northern side of the CS, a short distance to the west of the proposed Road 1/ Road 2 crossroads. Road users exiting Road 1 will have restricted visibility to the right to eastbound vehicles passing a stationary bus at the bus stop. This could result in vehicle to vehicle turning collisions at the junction.

RECOMMENDATION

It is recommended that either the junction or bus stop are relocated to ensure adequate levels of visibility are provided for road users turning onto the CS from Road 1.

B3 PROBLEM

Location: Northern waiting area of uncontrolled crossing over CS (just west of Road 1)

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101 and 60610807-ACM-CS-ZZ-DR-HW-00-0102

Summary: Stationary eastbound bus at bus stop may obscure visibility to the right for crossing users. This may result in vehicle/ pedestrian collisions on the crossing.

A bus stop is proposed on the northern side of the CS, a short distance to the west of this uncontrolled crossing facility. Pedestrians waiting to head south across the crossing will have restricted visibility to the right from the northern waiting area to eastbound vehicles passing a stationary bus at the bus stop. This could result in vehicle/ pedestrian collisions on the crossing.

RECOMMENDATION

It is recommended that either the crossing or bus stop are relocated to ensure adequate levels of visibility are provided between non-motorised users crossing the CS and eastbound road users.

B4 PROBLEM

Location: Northern waiting area of uncontrolled crossing over CS (just east of Road 5)

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0103

Summary: Stationary eastbound bus at bus stop may obscure visibility to the left for crossing users. This may result in vehicle/ pedestrian collisions on the crossing.

A bus stop is proposed on the northern side of the CS, a short distance to the east of this uncontrolled crossing facility. Pedestrians waiting to head south across the crossing will have restricted visibility to the left from the northern waiting area to westbound vehicles when a bus is stationary at the bus stop. This could result in vehicle/ pedestrian collisions on the crossing.

RECOMMENDATION

It is recommended that either the crossing or bus stop are relocated to ensure adequate levels of visibility are provided between non-motorised users crossing the CS and westbound road users.

B5 PROBLEM

Location: Bends to west and east of Road 9

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106 and 0107

Summary: Blocked/ obstructed forward visibility around bends may result in collisions occurring.

The forward visibility splays shown on the plans provided appear to run through the planted verges to the north of the CS. It is unclear whether these splays will be kept clear of obstructions (i.e. planting, signage etc), however if they are not kept clear this may result in rear end shunt collisions between vehicles negotiating the road layout.

RECOMMENDATION

It is recommended that the verges are kept clear of all obstructions to allow the forward visibility splays to be achieved.

B6 PROBLEM

Location: Southern waiting area of uncontrolled crossing over CS (just east of Road 11)

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0107

Summary: Stationary westbound bus at bus stop may obscure visibility to the right for crossing users. This may result in vehicle/ pedestrian collisions on the crossing.

A bus stop is proposed on the southern side of the CS, a short distance to the east of this uncontrolled crossing facility. Pedestrians waiting to head north across the crossing will have restricted visibility to the right from the southern waiting area to westbound vehicles passing a stationary bus at the bus stop. This could result in vehicle/ pedestrian collisions on the crossing.

RECOMMENDATION

It is recommended that either the crossing or bus stop are relocated to ensure adequate levels of visibility are provided between non-motorised users crossing the CS and westbound road users.

B7 PROBLEM

Location: Road 05 Junction with Cuckfield Road

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0108

Summary: Visibility splay to left and right from proposed junction may be restricted by vegetation. This may result in collisions between vehicles turning from Road 05 and mainline traffic on Cuckfield Road.

Vegetation within the property boundary of the adjacent property 'Four Trees' located immediately north of the proposed Road 05 junction and vegetation/ trees proposed in the western verge of Cuckfield Road (to the south of the junction) may obscure visibility for road users exiting Road 5 at the junction. This could result in collisions between vehicles emerging from Road 05 and mainline traffic on Cuckfield Road.

RECOMMENDATION

It is recommended that adequate visibility is provided in both directions from this junction for the life of the scheme. The junction may need to be relocated further south (**see also Problem/ Recommendation D3**) to achieve this. Alternatively, the vegetation could be cut back/ removed, although this would need to be maintained which is of concern given some of it appears to be within third party land.

B8 PROBLEM

Location: Road 08/ Cuckfield Road - Proposed Splitter Island

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0708

Summary: Larger vehicles may struggle to safely negotiate narrow carriageway section. Southbound kerb provision is unclear and inconsistent. Road users may collide with the kerbs and/ or lose control as a result.

3m wide kerbed lanes are proposed past the proposed splitter island on Cuckfield Road. Larger vehicles, for example HGVs or large agricultural vehicles may struggle to safely negotiate this relatively narrow, channelled width without striking the kerbs, which could result in vehicular damage and/ or loss of control collisions.

In addition, the proposed nearside kerb provision (for southbound road users) through this section is inconsistent and unclear. Kerbing is provided past the splitter island, and further south on Road 08, however a short section where no kerbing is provided is proposed in between. It is also unclear whether any transition kerbing is proposed in this area. Road users may collide with the end of the kerbing and lose control if no transition kerbing is provided. Similarly, road users may leave the carriageway because of the absence of kerbing in this area.

RECOMMENDATION

It is recommended that the width/ alignment past the splitter islands proposed is reviewed to ensure it is suitable for the vehicle types expected to utilise Road 08/ Cuckfield Road. It is also recommended that the proposed kerbing on the nearside of the southbound carriageway is extended to fill the gap between that proposed adjacent to the splitter island and the provision further south. Transition kerbs should be provided at the start of the proposed kerbing.

C NON-MOTORISED USER PROVISION

C1 PROBLEM

Location: Southern waiting area of uncontrolled crossing over CS at location of Green Super Highway connection

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101

Summary: Visually impaired users may be unaware of crossing causing them to enter the live carriageway unknowingly where they may be at risk of being struck by road users.

The southern tactile waiting area of this crossing features two rows of tactile paving. As it is an inline crossing (in line with northbound pedestrian/ cycle movements from the Green Super Highway) visually impaired pedestrians may inadvertently step over the tactile arrangement and enter the live carriageway unknowingly, where they may be at risk of being struck by road users on the CS.

RECOMMENDATION

It is recommended that a minimum of three rows of tactile paving are provided at the waiting area for this uncontrolled crossing.

C2 PROBLEM

Location: Green Spoke North South Green Corridor connection with CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102

Summary: CS and Green Spoke corridor connection/ gradient may result in difficult access/ falls. Pedestrians may collide with cyclists or enter the live carriageway unknowingly where they may be struck by road users.

It is unclear whether the existing Green Spoke North South Green Corridor crosses the CS via an underpass or whether a connection is proposed for it to utilise the proposed uncontrolled crossing facility (with refuge island) at this location. It appears that the CS is on an embankment (and so at a higher level than the green corridor) and so if a connection is proposed it is unclear whether any suitable provision to allow footway/ green corridor users to connect between the two facilities is proposed. If no suitable provision is provided this could result in users of the facilities struggling to safely negotiate the embankment, potentially resulting in falls/ injuries etc.

In addition, the following concerns are also noted at this location:

- the southern and northern tactile paving areas of this crossing feature two rows of tactile paving. As it may be an inline crossing (in line with movements to/from the Green Corridor potentially) visually impaired pedestrians may inadvertently step over the tactile arrangement and enter the live carriageway unknowingly, where they may be at risk of being struck by road users on the CS.
- there are no measures (signage or tactile paving etc) proposed to inform footway users to be aware of cyclists joining the facility particularly from the south where a footway only facility is provided alongside the CS. A lack of such warning may result in pedestrian/ cyclist collisions at this location.

RECOMMENDATION

It is recommended that:

- suitable tie-in provision for non-motorised users is provided to allow them to travel between the Green Spoke North South Green Corridor and the uncontrolled crossing facility.
- a minimum of three rows of tactile paving should be provided at the waiting areas for this uncontrolled crossing.
- suitable corduroy paving/ signage provision is proposed to warn footway users of the presence of cyclists in this area.

C3 PROBLEM

Location: Various locations on CS southern footway and northern shared use path

Drawings: 60610807-ACM-CS-ZZ-DR-HW-00-0101 to 60610807-ACM-CS-ZZ-DR-HW-00-0107 (inclusive)

Summary: Height/ gradient of embankment at rear of footways/ paths unclear. Pedestrians and cyclists on these facilities may incur injury if they fall from height/ down steep gradients.

The drawings indicate that the CS will be on an embankment with a drop/ slope at the back of the footways/ paths on either side of it. The height of the embankment and gradient of the slopes are unclear. No protection (such as fencing) appears to be proposed at the back of the footways/ paths. Pedestrians and non-motorised users on these footways/ paths may incur injury if they fall from height and/ or down steep embankments.

RECOMMENDATION

It is recommended that appropriate protection is provided to footway/ path users to protect them from falling down the embankments or that suitable gradients are provided at the back of the footways/ paths to remove this potential hazard.

C4 PROBLEM

Location: Severed section of Cuckfield Road (in the vicinity of Hook Place Lodge and Northern College Access)/ Road 08

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0105

Summary: Absence of adequate pedestrian facilities may result in pedestrians walking in live carriageway/ crossing at inappropriate locations etc., potentially resulting in vehicle/ pedestrian collisions.

Significant changes are proposed in this area of the scheme. The Audit Team has the following concerns with regards to proposed pedestrian facilities and movements in this area:

- Pedestrians travelling between the new western footway of the realigned (new) section of Cuckfield Road/ Road 08 and The Squires/ Hook Place Lodge etc. (and vice-versa) will have to detour significantly further south (via the crossing at the Road 08 junction with the CS) to cross safely. In the absence of suitable facilities this could result in some pedestrians attempting to cross at inappropriate places, potentially resulting in vehicle/ pedestrian collisions.
- With reference to the above, the proposed footways on the area between the severed section of Cuckfield Road and Road 08 appear to direct pedestrians into the above section of live carriageway.

The above concerns may result in vehicle/ pedestrian collisions.

RECOMMENDATION

It is recommended that:

- A crossing facility is provided across Cuckfield Road/ Road 08 to facilitate the likely west-east pedestrian movement.
- A safe pedestrian footway/ route and crossing is provided across the severed section of Cuckfield Road to avoid pedestrians walking in the live carriageway.

C5 PROBLEM

Location: Western extent of Super Green Highway

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106

Summary: No onward route to/ from the west for cyclists. Cyclists may either continue on the footway or join the carriageway where cycle/ pedestrian or vehicle/ cycle collisions may occur.

The Super Green Highway terminates a short distance to the west of the Cuckfield Road /Road 09 junction. There does not appear to be any onward dedicated cycle provision proposed beyond this point. Cyclists are likely to utilise the narrow area of footway to the west of this point either to continue their journey on the southern/ western (pedestrian only) footway or to access the uncontrolled crossing over the CS to the shared use path (in both cases potentially colliding with pedestrians). Alternatively, cyclists may drop down a full height kerb to access the CS carriageway at an angle where westbound road users on the CS will be behind them having just negotiated a relatively sharp right bend in the alignment. This could potentially result in collisions with vehicles.

RECOMMENDATION

It is recommended that a suitable onward cycle link is provided at this location. If the provision is to terminate at this point, then the narrow pinch point area (caused by the verge layout) adjacent to the uncontrolled crossing should be relocated/ realigned to provide a wider area to accommodate both pedestrian and cycle movements between the crossing and the Super Green Highway. Additionally, a dropped kerb should be provided at a suitable location where there is sufficient width for cyclists to join the carriageway safely.

C6 PROBLEM

Location: Road 09/ Oak Barn Restaurant and Golf Club Access/ CS junction complex

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106

Summary: Pedestrians/ cyclists may struggle to cross safely and/ or continue their journey within the live carriageway (where they may be struck by passing vehicles) due to absence of onward facilities.

A short section of footway/ cycleway is proposed along the western side of Road 09 to the south of its junction with the CS. This section of footway appears to terminate at the Oak Barn junction with no onward facilities (crossings or footway/ cycleway routes) proposed south or east from this point. For example, there is no crossing to the eastern footway on Cuckfield Road South (Road 09) assuming this latter footway is being retained.

The absence of suitable connections/ onward routes/ crossing facilities in this area is likely to result in pedestrians or cyclists attempting to cross at inappropriate locations or potentially walking in the live Cuckfield Road South (Road 09) carriageway where they may be at risk of being struck by vehicles.

RECOMMENDATION

It is recommended that suitable onward pedestrian/ cycle connections and/ or crossing facilities are provided in this area of the scheme.

C7 PROBLEM

Location: Super Green Highway – eastern sections of CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106 and 60610807-ACM-CS-ZZ-DR-HW-00-0107

Summary: Pedestrians will need to cross proposed cycleway section of Super Green Highway to access crossings and bus stops, however no facilities are proposed to aid these movements. This could result in collisions between cyclists and pedestrians on the Super Green Highway.

A segregated cycleway/ footway (Super Green Highway) is proposed in this area. There are locations where pedestrians will need to cross (and potentially wait within) the cycleway section to access bus stops and crossing points, however no break in cycle lane provision is proposed to provide a safe route for pedestrians to cross it. Example locations of concern include:

- Access to/ from the westbound bus stop on the CS to the east of Road 11
- Access to/ from the crossing facility to the east of Road 11

Absence of a break in cycleway provision or suitable pedestrian facilities at these locations could result in collisions between pedestrians and cyclists on the Super Green Highway.

RECOMMENDATION

It is recommended that suitable provision to assist safe pedestrian movements across the proposed cycleway section of the Super Green Highway is provided at detailed design stage. **See also related Problem/ Recommendation C14.**

C8 PROBLEM

Location: Road 9 junction with CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106

Summary: Cycle lane across ramp may result in cyclists falling into live carriageway and being struck.

The Green Super Highway (east/ west section) at the location of the Road 9 junction with the CS is adjacent to the carriageway. Part of the crossing width appears to be on a ramp and there is a concern that cyclists negotiating the ramp angle may become unseated or veer into the carriageway at this point, where they may be at risk of being struck by a passing road user.

RECOMMENDATION

It is recommended that the cycle crossing is provided on a flat gradient (i.e. not across the ramp).

C9 PROBLEM

Location: Footway on western side of Cuckfield Road / Road 08

Drawings: 60610807-ACM-CS-ZZ-DR-HW-00-0105 and 60610807-ACM-CS-ZZ-DR-HW-00-0108

Summary: Height/ gradient of embankment at rear of footway unclear. Pedestrians on this facility may incur injury if they fall from height/ down steep gradient.

A footway is proposed along the western side of Cuckfield Road / Road 08 between the junctions with the CS (in the south) and Road 05 in the north. The plans show that the footway will have an embankment with a drop/ slope at the back of it. The height of the embankment and gradient of the slope is unclear. No protection (such as a fence) appears to be proposed at the back of the footway. Pedestrians on the footway may incur injury if they fall from height and/ or down the steep embankment.

RECOMMENDATION

It is recommended that appropriate protection is provided to footway users to protect them from falling down the embankment or that a suitable gradient is provided at the back of the footway to remove this potential hazard.

C10 PROBLEM

Location: Western extent of scheme, Green Super Highway connection

Drawings: 60610807-ACM-CS-ZZ-DR-HW-00-0101

Summary: Inadequate warning of differing footway/ cycle provisions may result in confusion and subsequent collisions.

At the above location, four different types of footway provision meet (segregated footway/ cycleway, pedestrian crossing across the CS, a pedestrian footway and the Green Super Highway) and there does not appear to be sufficient warning for all users, particularly visually impaired users, that footway users are potentially entering a different provision type. This may lead to confusion and subsequent collisions involving cyclists and pedestrians at this location.

RECOMMENDATION

It is recommended that appropriate warning of the various footway/ cycle provision is provided at the detailed design stage.

C11 PROBLEM

Location: Numerous - Roads 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101 to 0107

Summary: Tactile paving and give-way line provision may result in ambiguity as to who has right of way leading to collisions occurring.

Give-way lines are provided at the above-named side road junctions throughout the scheme in order to allow priority for pedestrian/ cycle crossing users. In addition to the give-way lines, pedestrian tactile paving is also provided at the crossing waiting areas. This may cause ambiguity as to who has right of way at these crossings (the tactile paving tells visually impaired users that they are entering a live carriageway and that they may not have right of way) and result in confusion leading to collisions occurring at these locations. **See also Problem/ Recommendation A4 and E2.**

RECOMMENDATION

It is recommended that either the give-way lines are removed or that the tactile paving at the crossing waiting areas is removed so that it is clear who has right of way at these locations. **See also Problem/ Recommendation A4 and E2.**

C12 PROBLEM

Location: Various locations throughout scheme

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102 to 0107

Summary: Corduroy paving provided at incorrect locations/ not provided may result in collisions involving visually impaired users and cyclists.

There are a number of locations throughout the scheme where corduroy paving is provided where it does not appear it is required, for example where two pedestrian-only footways join each other. Similarly, there a number of locations where corduroy paving has not been shown where it is required, for example, the pedestrian crossing across the CS to the east of Road 5, and to the west of Road 8. This may result in visually impaired users becoming confused when navigating the scheme and unknowingly entering cycle-only sections (and vice-versa) resulting in collisions occurring between pedestrians and cyclists.

RECOMMENDATION

It is recommended that the corduroy paving provision is reviewed throughout the scheme at detailed design stage.

C13 PROBLEM

Location: CS between Road 9 and Road 10

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102-0107

Summary: Potential desire line between Road 9 and Road 10 may result in footway users looking to cross the CS in this area, potentially via the proposed splitter island. Absence of crossing on desire line may result in unsafe crossings occurring, potentially resulting in vehicle/ non-motorised user collisions.

There is potential for a pedestrian/ cycle desire line to form between Road 9 (and the Super Green Highway link on Road 9) and Road 10 and the northern side of the CS in general. No crossing provision is proposed in this area to facilitate this desire line, and although crossings exist further to the west and the east of this area, these are some distance from the desire line and therefore unlikely to be used by non-motorised users wishing to cross. As a result, pedestrians/ cyclists are likely to attempt to cross the CS without a formal crossing facility in place, potentially using the proposed splitter island for refuge. Collisions may occur between road users and non-motorised users crossing in these conditions.

RECOMMENDATION

It is recommended that a crossing facility is provided in this area to aid safe crossing movements by non-motorised users. The proposed splitter island could be utilised in this respect potentially.

C14 PROBLEM

Location: Super Green Highway connection between provision on Road 9 and provision along southern part of CS (southwestern corner of Road 9/ CS Junction)

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102-0106 and 1206

Summary: Lack of connection between Green Super Highway Sections may result in cyclists continuing journey across pedestrian only facility and collisions occurring as a result.

Sections of the Super Green Highway meet at this location, however, there appears to be a lack of connection between the section running along the southern part of the CS and the section running along the western part of Road 9. There do not appear to be any proposed signs informing cyclists to dismount at this location and cyclists are likely to continue their journey between the two sections across a pedestrian only area, where collisions may occur between pedestrians and cyclists.

RECOMMENDATION

It is recommended that the facilities in this area are reviewed at detailed design stage with an appropriate connection/ layout provided. **See also related Problem/ Recommendation C7.**

D JUNCTIONS

D1 PROBLEM

Location: Proposed priority crossroads junction between CS / Road 1 and Road 2

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102

Summary: Crossroads layout may result in turning collisions between vehicles joining CS on opposing arms.

It is proposed to create a priority crossroads layout between the CS, Road 1 and Road 2. Depending on the likely traffic flows from the two minor arms, this layout has the potential to create a road safety concern where opposing vehicles from the minor arms may collide when gap seeking and simultaneously turning onto the CS.

RECOMMENDATION

It is recommended that the junction layout is reviewed and subject to the expected traffic flows on the side roads (Road 1 and Road 2), that these are relocated/ staggered so that a priority crossroads layout is not proposed at this location.

D2 PROBLEM

Location: Proposed priority crossroads junction between CS / Road 3 and Road 4

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0103

Summary: Crossroads layout may result in turning collisions between vehicles joining CS on opposing arms.

It is proposed to create a priority crossroads layout between the CS, Road 3 and Road 4. Depending on the likely traffic flows from the two minor arms, this layout has the potential to create a road safety concern where opposing vehicles from the minor arms may collide when gap seeking and simultaneously turning onto the CS.

RECOMMENDATION

It is recommended that the junction layout is reviewed and subject to the expected traffic flows on the side roads (Road 3 and Road 4) that these are relocated/ staggered so that a priority crossroads layout is not proposed at this location.

D3 PROBLEM

Location: Proposed junction of Road 5 and Cuckfield Road

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0108

Summary: Road 5 junction proposed immediately south of residential property access. Turning collisions may occur due to close proximity of junction to access.

The Cuckfield Road junction with Road 05 is proposed to be immediately south of the existing residential access to Four Trees. The close proximity of these junctions may result in turning collisions as vehicles simultaneously turn in and out of the junction and the access.

RECOMMENDATION

It is recommended that the Road 05 junction is relocated further south to increase the distance between the existing access and the junction. **See also Problem/ Recommendation B7.**

D4 PROBLEM

Location: Proposed junction of Road 11 and CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-3002

Summary: Westbound articulated vehicle swept path on CS overhangs Road 11 give way line and CS centre line markings; this may result in collisions with eastbound road users or road users waiting to emerge from Road 11.

The swept path analysis provided shows that articulated vehicles proceeding westbound along the CS appear to overhang both the centre line of the CS and the give way line of Road 11 (where it joins the CS). This may result in head-on collisions occurring between westbound articulated vehicles and eastbound road users on the CS and westbound articulated vehicles on the CS with vehicles at the Road 11 give way line.

RECOMMENDATION

It is recommended that the CS alignment in the vicinity of Road 11 is reviewed to ensure westbound articulated vehicles do not encroach into the eastbound CS or Road 11.

D5 PROBLEM

Location: Proposed junction of Road 08 and CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-3012

Summary: Large vehicles turning to/ from Road 08 may be involved in head-on collisions on Road 08 (left turn in) or collide with the central island/ pedestrian crossing waiting area on CS (right turn out).

The swept path analysis provided shows that large vehicles turning left into Road 08 will significantly overrun the centre line on Road 08. This could result in head-on collisions with traffic heading south on Road 08.

In addition, the swept path analysis appears to show that large vehicles turning right out of Road 08 would potentially overrun the central island on the CS to the west of the junction, or the pedestrian crossing waiting area to the south. This could result in vehicles colliding with the island potentially damaging infrastructure on the island or pedestrians at the southern waiting area (resulting in subsequent injury).

RECOMMENDATION

It is recommended that the junction layout is revisited/ revised to better accommodate the turning manoeuvres specified so that larger vehicles do not significantly overrun the centre line on Road 08 or potentially collide with the central island to the west of the junction or pedestrians on the southern crossing waiting area.

D6 PROBLEM

Location: Proposed junction of Road 09 and CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-3012

Summary: Large vehicles turning to/ from Road 09 may be involved in head-on collisions on Road 09 (left turn in) or collide with vehicles waiting in the ghost island right turn area (left turn in and out).

The swept path analysis provided shows that large vehicles turning left into Road 09 will overrun the ghost island right turn area and will significantly overrun the centreline on Road 09, potentially resulting in head-on collisions with road users heading north on Road 09 or waiting in the ghost island right turn area. Similarly large vehicles making the left turn out appear to significantly overrun the ghost island right turn area on the CS, as well as overhanging part of the footway on the western side of the CS.

It is also noted that no swept path analysis for a large vehicle turning either right in or right out of this junction has been provided; the Audit Team is concerned that similar issues may exist with these movements.

RECOMMENDATION

It is recommended that the junction layout is revisited/ revised to better accommodate the turning manoeuvres specified so that larger vehicles do not significantly overrun the centre line on Road 09, or the ghost island right turn lane/ footway. Swept path analysis of large vehicles turning right in and out of the junction should also be carried out to ensure that these movements can also be safely accommodated.

E ROAD SIGNS, CARRIAGEWAY MARKINGS & LIGHTING

E1 PROBLEM

Location: Cuckfield Road South (Road 09) junction with CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-1206

Summary: Road users proceeding north on Cuckfield Road South (Road 09) may be unaware of transition to 20mph on joining CS. This could result in road users proceeding at excessive speeds along the CS.

Whilst a comprehensive signage review has not been undertaken as part of this Stage 1 Road Safety Audit, it is understood that the proposed speed limit of the eastern section of the CS is 20mph, whereas the existing speed limit on Cuckfield Road South (Road 09) is 30mph. Whilst speed limit signage is proposed elsewhere within the scheme, no speed limit signs are proposed at the CS/ Cuckfield Road South (Road 09) junction to inform road users of the 20mph/ 30mph speed limit change. This could result in road users proceeding at inappropriate speeds on the CS in the scheme, increasing the potential for speed-related collisions with vulnerable users attempting to cross the CS or with road users turning at junctions.

RECOMMENDATION

It is recommended that appropriate speed limit signage is provided throughout the scheme at detailed design stage.

E2 PROBLEM

Location: Roads 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101 to 0107

Summary: Give-way lines on ramps may result in vehicles rolling back into other road users.

Give-way lines are provided at the side road junctions throughout the scheme in order to allow priority for pedestrian/ cycle crossing users. At a number of locations, the give-way lines are shown on the ramps leading up to the raised tables. This may result in vehicles rolling back and into a vehicle behind, either on the CS or the side road, resulting in vehicular collisions occurring. **See also Problem/ Recommendation A4 and C11.**

RECOMMENDATION

It is recommended that the give-way lines are not provided on the ramps, or at locations where vehicles may roll back when giving-way.

E3 PROBLEM

Location: Road 9 junction with CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106

Summary: Lack of give-way line on approach to crossing may result in collisions involving crossing users and turning vehicles.

Give-way lines are provided at the side road junctions throughout the scheme in order to allow priority for pedestrian/ cycle crossing users, however give-way lining is not provided on the side road exit from the CS for the Road 9 junction crossing. This omission may result in vehicles failing to stop at the crossing and colliding with crossing users.

RECOMMENDATION

It is recommended that a give-way line is provided for traffic exiting the CS onto Road 9 (as is proposed at other similar side road junctions along the scheme). **See also Problem/ Recommendation C11 and A4.**

E4 PROBLEM

Location: Road 11 junction with CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0107

Summary: Positioning of give-way line may mislead drivers into thinking a one-way road is provided, leading to head-on collisions occurring.

A give-way line is provided at the side road junction to allow priority for pedestrian/ cycle crossing users. The positioning of the give-way line at this location is across the junction mouth, appearing as a continuation of the give-way line for those exiting Road 11; the audit team are concerned that some road users may believe that Road 11 is a one-way road (heading towards the CS) which may result in some road users approaching the CS along Road 11 in the offside (southbound lane), potentially resulting in head on collisions occurring.

RECOMMENDATION

It is recommended that the give-way line is positioned further south, away from the junction mouth. **See also Problem/ Recommendation C11 and A4.**

E5 PROBLEM

Location: Proposed build out traffic calming measures on Cuckfield Road

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0109 and 0110

Summary: Absence of lighting in vicinity of build outs may result in road users colliding with the build outs or failing to give-way. This could result in collisions with the build outs or head on collisions with opposing traffic.

No lighting is proposed in the vicinity of the two traffic calming buildouts proposed on Cuckfield Road. As a result, road users may fail to be aware of these features, for example in adverse weather conditions, which may result in collisions with the build outs or head on collisions with opposing traffic.

RECOMMENDATION

It is recommended that the proposed build outs and/ or the area around them are illuminated. It is considered that lighting of these features would also help to provide a message to drivers in terms of the character/ nature of the area they are entering (from the north) which should assist in reducing speeds appropriate with the proposed 30mph limit in this section.

E6 PROBLEM

Location: Cuckfield Road – Proposed 40/ 30mph speed limit transition point

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-1210

Summary: Absence of suitable 30mph/ 40mph speed limit transition gateway may result in southbound road users continuing at inappropriate speeds into the proposed 30mph area.

The proposed speed limit transition is located in a rural part of the scheme. Only standard speed limit gateway signs are proposed at this location. These alone, given the rural character of the road at this location are unlikely to be sufficient to rely on some southbound drivers reducing their speed limit appropriately for the speed limit change. This could result in road users entering the 30mph speed limit area at excess speeds for the speed limit which could result in loss of control/ speed related collisions in the study area.

RECOMMENDATION

It is recommended that a specific gateway feature, clearly highlighting the change of character and 30mph speed limit ahead is provided at this location to enhance the speed limit change to southbound drivers.

5. Audit Team Statement

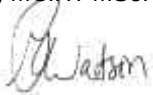
We certify that this road safety audit has been carried out in accordance with GG119.

ROAD SAFETY AUDIT TEAM LEADER

Mark Watson

BA (Hons) MCHT MSoRSA CoC

Signed:



Position: Regional Director

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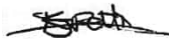
Date: 27/01/2025

ROAD SAFETY AUDIT TEAM MEMBER

Kim Pettingill

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Signed:



Position: Associate Director

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Date: 27/01/2025

Appendix A List of Provided Information

The following documents were provided to the Audit Team as part of the Road Safety Audit:

Table A-1. List of Included Drawings

Drawing Number & Drawing Title	Revision
60600807-ACM-CS-ZZ-DR-HW-00-0201 - Site Clearance Sheet 1	P04
60600807-ACM-CS-ZZ-DR-HW-00-0202 - Site Clearance Sheet 2	P04
60600807-ACM-CS-ZZ-DR-HW-00-0203 - Site Clearance Sheet 3	P04
60600807-ACM-CS-ZZ-DR-HW-00-0204 - Site Clearance Sheet 4	P04
60600807-ACM-CS-ZZ-DR-HW-00-0205 - Site Clearance Sheet 5	P04
60600807-ACM-CS-ZZ-DR-HW-00-0206 - Site Clearance Sheet 6	P04
60600807-ACM-CS-ZZ-DR-HW-00-0207 - Site Clearance Sheet 7	P04
60600807-ACM-CS-ZZ-DR-HW-00-0208 - Site Clearance Sheet 8	P04
60600807-ACM-CS-ZZ-DR-HW-00-0209 - Site Clearance Sheet 9	P04
60600807-ACM-CS-ZZ-DR-HW-00-0210 - Site Clearance Sheet 10	P04
60600807-ACM-CS-ZZ-DR-HW-00-0212 - Site Clearance Sheet 12	P02
60600807-ACM-CS-ZZ-DR-HW-00-0212 - Site Clearance Sheet 13	P02
60600807-ACM-CS-ZZ-DR-HW-00-0212 - Site Clearance Sheet 14	P02
60600807-ACM-CS-ZZ-DR-HW-00-0212 - Site Clearance Sheet 15	P02
60600807-ACM-CS-ZZ-DR-HW-00-0216 - Site Clearance Sheet 16	P03
60610807-ACM-CS-ZZ-DR-HW-00-0030 - Construction Details	P05
60610807-ACM-CS-ZZ-DR-HW-00-0100 - General Arrangement Overview Sheet	P05
60610807-ACM-CS-ZZ-DR-HW-00-0101 - General Arrangement Sheet 1	P07
60610807-ACM-CS-ZZ-DR-HW-00-0102 - General Arrangement Sheet 2	P07
60610807-ACM-CS-ZZ-DR-HW-00-0103 - General Arrangement Sheet 3	P07
60610807-ACM-CS-ZZ-DR-HW-00-0104 - General Arrangement Sheet 4	P07
60610807-ACM-CS-ZZ-DR-HW-00-0105 - General Arrangement Sheet 5	P07
60610807-ACM-CS-ZZ-DR-HW-00-0106 - General Arrangement Sheet 6	P07
60610807-ACM-CS-ZZ-DR-HW-00-0107 - General Arrangement Sheet 7	P07
60610807-ACM-CS-ZZ-DR-HW-00-0108 - General Arrangement Sheet 8	P07
60610807-ACM-CS-ZZ-DR-HW-00-0109 - General Arrangement Sheet 9	P05
60610807-ACM-CS-ZZ-DR-HW-00-0110 - General Arrangement Sheet 10	P05
60610807-ACM-CS-ZZ-DR-HW-00-0111 - General Arrangement Sheet 11	P05
60610807-ACM-CS-ZZ-DR-HW-00-0112 - General Arrangement Sheet 12	P05
60610807-ACM-CS-ZZ-DR-HW-00-0113 - General Arrangement Sheet 13	P05
60610807-ACM-CS-ZZ-DR-HW-00-0114 - General Arrangement Sheet 14	P05
60610807-ACM-CS-ZZ-DR-HW-00-0115 - General Arrangement Sheet 15	P04
60610807-ACM-CS-ZZ-DR-HW-00-0601 - Road Contours Sheet 1	P03
60610807-ACM-CS-ZZ-DR-HW-00-0602 - Road Contours Sheet 2	P03
60610807-ACM-CS-ZZ-DR-HW-00-0603 - Road Contours Sheet 3	P03
60610807-ACM-CS-ZZ-DR-HW-00-0604 - Road Contours Sheet 4	P03
60610807-ACM-CS-ZZ-DR-HW-00-0605 - Road Contours Sheet 5	P03
60610807-ACM-CS-ZZ-DR-HW-00-0605 - Road Contours Sheet 6	P03
60610807-ACM-CS-ZZ-DR-HW-00-0607 - Road Contours Sheet 7	P03
60610807-ACM-CS-ZZ-DR-HW-00-0608 - Road Contours Sheet 8	P03
60610807-ACM-CS-ZZ-DR-HW-00-0631 - Road Longsections Sheet 1	P03
60610807-ACM-CS-ZZ-DR-HW-00-0632 - Road Longsections Sheet 2	P03
60610807-ACM-CS-ZZ-DR-HW-00-0633 - Road Longsections Sheet 3	P03
60610807-ACM-CS-ZZ-DR-HW-00-0634 - Road Longsections Sheet 4	P03
60610807-ACM-CS-ZZ-DR-HW-00-0635 - Road Longsections Sheet 5	P03
60610807-ACM-CS-ZZ-DR-HW-00-0636 - Road Longsections Sheet 6	P03
60610807-ACM-CS-ZZ-DR-HW-00-0651 - Road Cross Sections Sheet 1	P03
60610807-ACM-CS-ZZ-DR-HW-00-0652 - Road Cross Sections Sheet 2	P03
60610807-ACM-CS-ZZ-DR-HW-00-0653 - Road Cross Sections Sheet 3	P03
60610807-ACM-CS-ZZ-DR-HW-00-0654 - Road Cross Sections Sheet 4	P03
60610807-ACM-CS-ZZ-DR-HW-00-0655 - Road Cross Sections Sheet 5	P03
60610807-ACM-CS-ZZ-DR-HW-00-0656 - Road Cross Sections Sheet 6	P03
60610807-ACM-CS-ZZ-DR-HW-00-0661 - Road Cross Sections Sheet 1	P03

60610807-ACM-CS-ZZ-DR-HW-00-0662 - Road Cross Sections Sheet 2	P03
60610807-ACM-CS-ZZ-DR-HW-00-0701 - Road Kerb and Pavement Plan Sheet 1	P04
60610807-ACM-CS-ZZ-DR-HW-00-0702 - Road Kerb and Pavement Plan Sheet 2	P04
60610807-ACM-CS-ZZ-DR-HW-00-0703 - Road Kerb and Pavement Plan Sheet 3	P04
60610807-ACM-CS-ZZ-DR-HW-00-0704 - Road Kerb and Pavement Plan Sheet 4	P04
60610807-ACM-CS-ZZ-DR-HW-00-0705 - Road Kerb and Pavement Plan Sheet 5	P03
60610807-ACM-CS-ZZ-DR-HW-00-0706 - Road Kerb and Pavement Plan Sheet 6	P04
60610807-ACM-CS-ZZ-DR-HW-00-0707 - Road Kerb and Pavement Plan Sheet 7	P04
60610807-ACM-CS-ZZ-DR-HW-00-0708 - Road Kerb and Pavement Plan Sheet 8	P04
60610807-ACM-CS-ZZ-DR-HW-00-0709 - Road kerb and Pavement Plan Sheet 9	P04
60610807-ACM-CS-ZZ-DR-HW-00-0715 - Road kerb and Pavement Plan Sheet 10	P04
60610807-ACM-CS-ZZ-DR-HW-00-0751 - Typical Road Corridor Cross Sections Sheet 1	P02
60610807-ACM-CS-ZZ-DR-HW-00-0752 - Typical Road Corridor Cross Sections Sheet 2	P02
60610807-ACM-CS-ZZ-DR-HW-00-1201 - Traffic Signs and Road Markings Sheet 1	P04
60610807-ACM-CS-ZZ-DR-HW-00-1202 - Traffic Signs and Road Markings Sheet 2	P04
60610807-ACM-CS-ZZ-DR-HW-00-1203 - Traffic Signs and Road Markings Sheet 3	P04
60610807-ACM-CS-ZZ-DR-HW-00-1204 - Traffic Signs and Road Markings Sheet 4	P04
60610807-ACM-CS-ZZ-DR-HW-00-1205 - Traffic Signs and Road Markings Sheet 5	P04
60610807-ACM-CS-ZZ-DR-HW-00-1206 - Traffic Signs and Road Markings Sheet 6	P04
60610807-ACM-CS-ZZ-DR-HW-00-1207 - Traffic Signs and Road Markings Sheet 7	P04
60610807-ACM-CS-ZZ-DR-HW-00-1208 - Traffic Signs and Road Markings Sheet 8	P04
60610807-ACM-CS-ZZ-DR-HW-00-1209 - Traffic Signs and Road Markings Sheet 9	P04
60610807-ACM-CS-ZZ-DR-HW-00-1210 - Traffic Signs and Road Markings Sheet 10	P04
60610807-ACM-CS-ZZ-DR-HW-00-1211 - Traffic Signs and Road Markings Sheet 11	P01
60610807-ACM-CS-ZZ-DR-HW-00-1212 - Traffic Signs and Road Markings Sheet 12	P02
60610807-ACM-CS-ZZ-DR-HW-00-1213 - Traffic Signs and Road Markings Sheet 13	P02
60610807-ACM-CS-ZZ-DR-HW-00-1214 - Traffic Signs and Road Markings Sheet 14	P02
60610807-ACM-CS-ZZ-DR-HW-00-1215 - Traffic Signs and Road Markings Sheet 15	P02
60610807-ACM-CS-ZZ-DR-HW-00-3001 - Full Length CS 16m Articulated Vehicle Tracking Sht 1	P03
60610807-ACM-CS-ZZ-DR-HW-00-3002 - Full Length CS 16m Articulated Vehicle Tracking Sht 2	P03
60610807-ACM-CS-ZZ-DR-HW-00-3003 - Full Length CS 11m Single Deck Bus Vehicle Tracking Sht 1	
60610807-ACM-CS-ZZ-DR-HW-00-3004 - Full Length CS 11m Single Deck Bus Vehicle Tracking Sht 2	
60610807-ACM-CS-ZZ-DR-HW-00-3005 - Road 01 and Road 02 Refuse Collection Vehicle Tracking	P03f
60610807-ACM-CS-ZZ-DR-HW-00-3006 - Road 03 and Road 04 Refuse Collection Vehicle Tracking	P03
60610807-ACM-CS-ZZ-DR-HW-00-3007 - Road 05 and Road 06 Refuse Collection Vehicle Tracking	P03
60610807-ACM-CS-ZZ-DR-HW-00-3008 - Road 07 and Road 08 Refuse Collection Vehicle Tracking	P03
60610807-ACM-CS-ZZ-DR-HW-00-3009 - Road 09 Refuse Collection Vehicle Tracking	P03
60610807-ACM-CS-ZZ-DR-HW-00-3010 - Road 10 and Road 11 Refuse Collection Vehicle Tracking	P03
60610807-ACM-CS-ZZ-DR-HW-00-3011 - Road 12 Refuse Collection Vehicle Tracking	P03
60610807-ACM-CS-ZZ-DR-HW-00-3012 - Road 08 and Road 09 16m Articulated Vehicle Tracking	P03
60610807-ACM-CS-ZZ-DR-HW-00-3013 - Alternative Provision College LC & RC Veh Two-way Veh Trckg	P03
60610807-ACM-CS-ZZ-DR-HW-00-3014 - Road 05 with Cuckfield Road junction Refuse Vehicle Tracking	P03
P0103-150-1301-03 – Proposed Street Lighting Layout 1/5	12/24
P0103-150-1302-03 – Proposed Street Lighting Layout 2/5	12/24
P0103-150-1303-03 – Proposed Street Lighting Layout 3/5	12/24
P0103-150-1304-04 – Proposed Street Lighting Layout 4/5	12/24
P0103-150-1305-03 – Proposed Street Lighting Layout 5/5	12/24

List of Included Documents

Revised Road Safety Audit Brief – 60610807-ACM-CS-XX-RP-HW-0005	2 December 2024
P0103-150-1001 Lighting Specification for Highway Works Rev P01	October 2023
P0103-150-1002-01 – Road Lighting Risk Assessment.pdf	October 2023
P0103-150-1003-01 - Proposed Column Schedule.pdf	Undated
P0103-150-1004-01 Road Lighting Design Considerations.pdf	November 2024
P0103-150-CA01-02 Area calculation report	04/11/24
P0103-150-CR01-02 Roadway calculation report.pdf	05/11/24
P0103-150-CR02-02 Roadway calculation report.pdf	05/11/24
P0103-150-CR03-02 Roadway calculation report.pdf	05/11/24
P0103-150-CR04-02 Roadway calculation report.pdf	05/11/24
P0103-150-CR05-02 Roadway calculation report.pdf	05/11/24

P0103-150-CR06-02 Roadway calculation report.pdf
P0103-150-CR07-02 Roadway calculation report.pdf

05/11/24
05/11/24

Departures from Standard

None presented.

Appendix B Locations of Problems

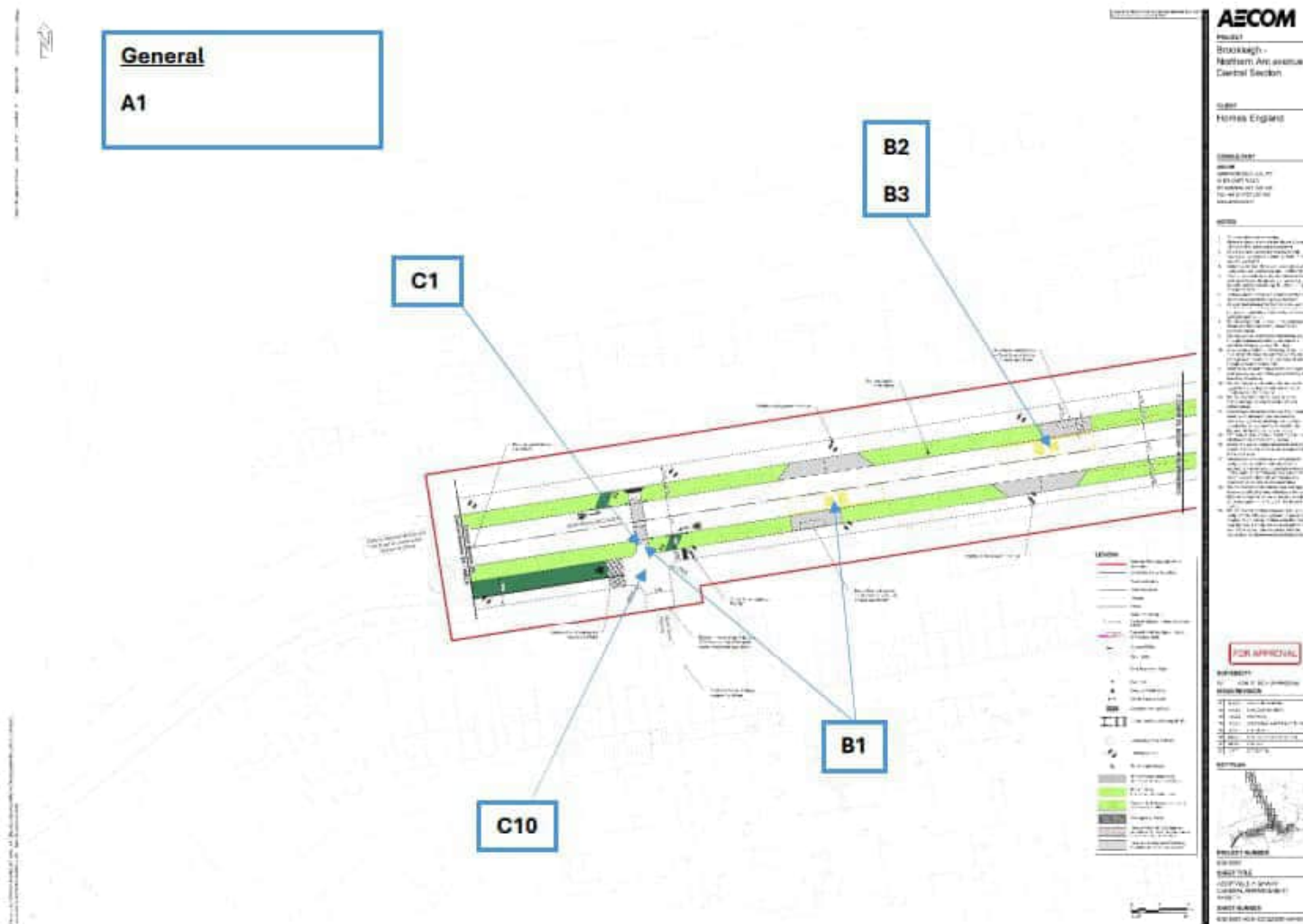


Figure B-1. Locations of Problems (GA Sheet 1)



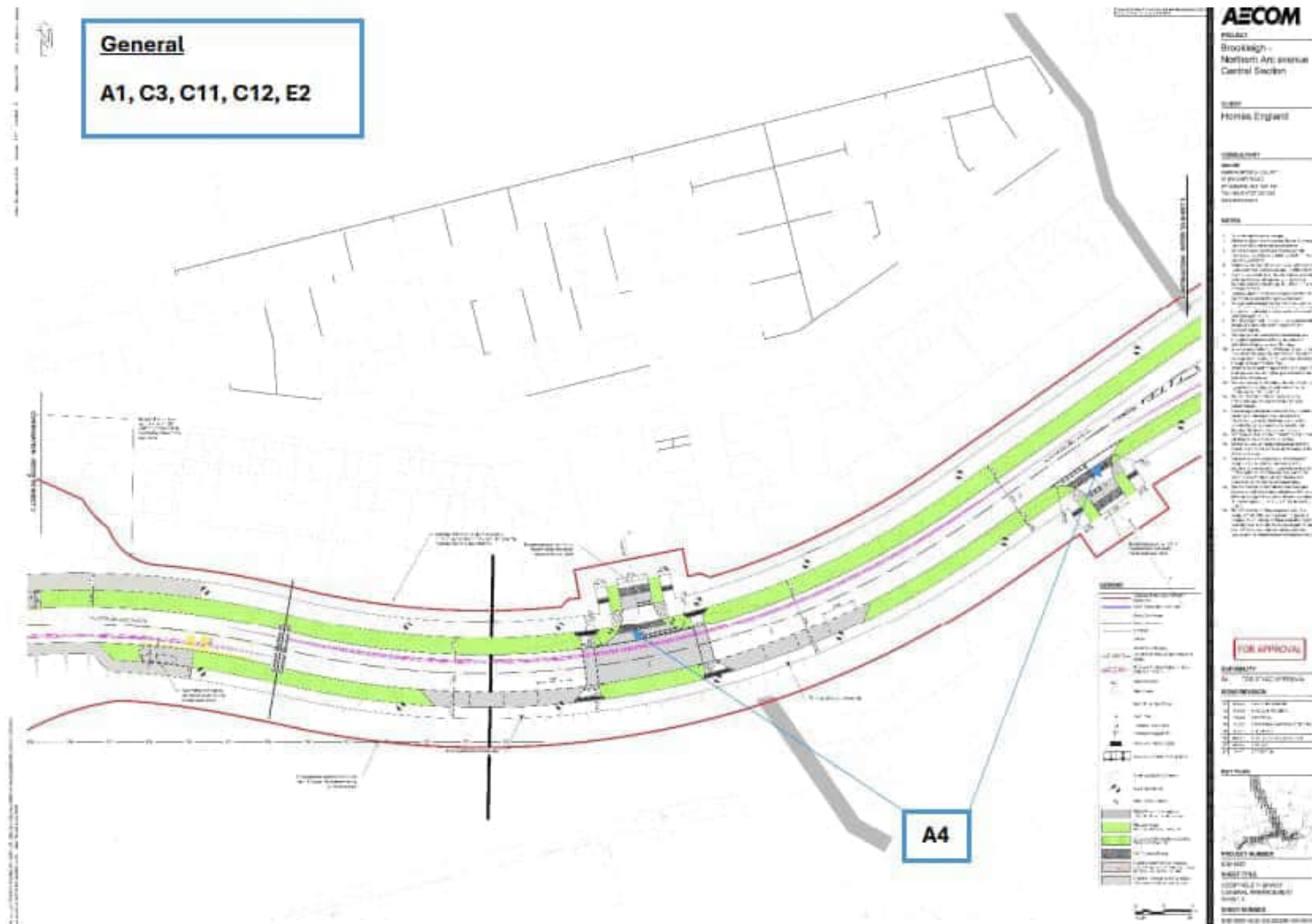


Figure B-4. Locations of Problems (GA Sheet 4)



Figure B-5. Locations of Problems (GA Sheet 5)

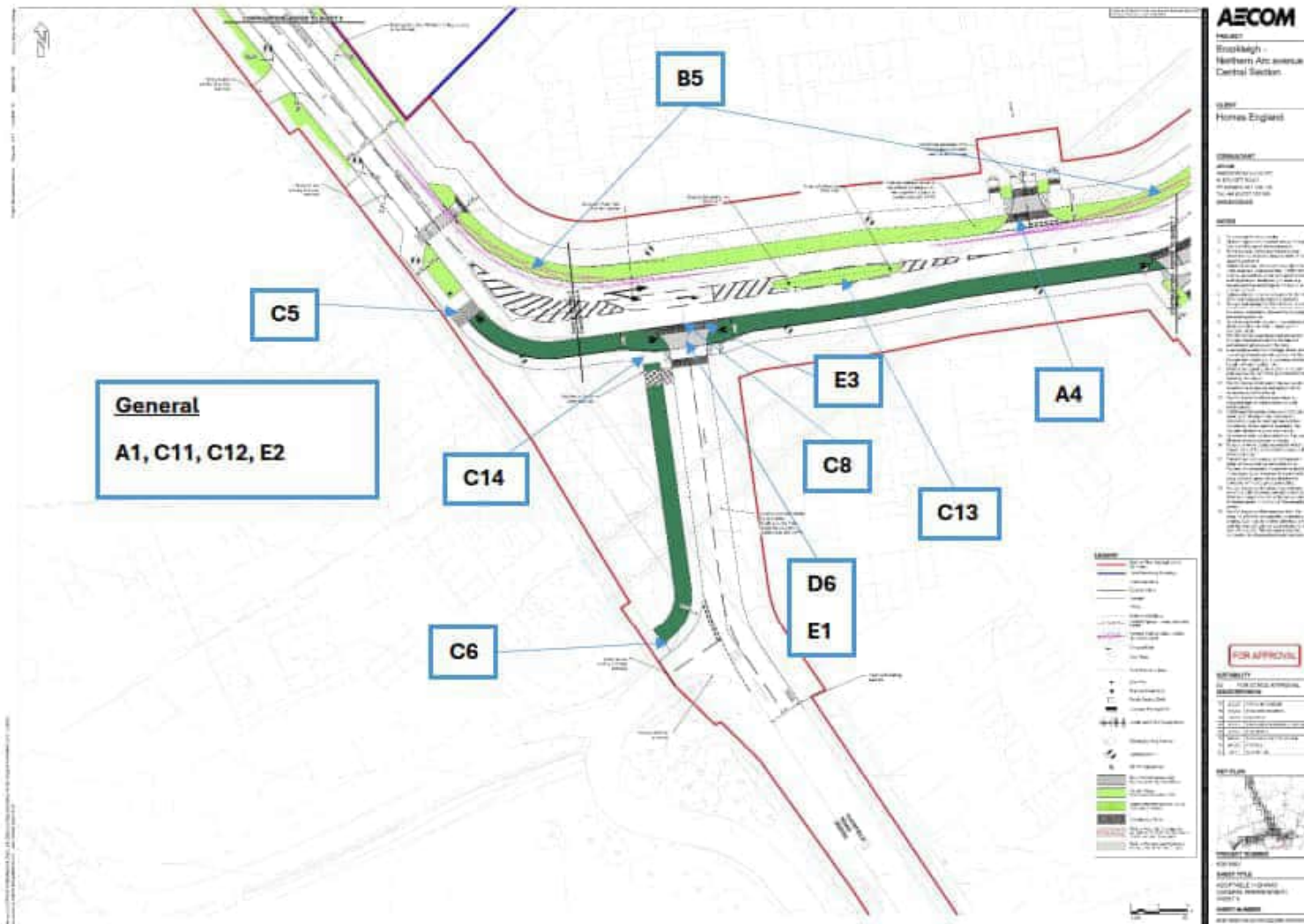


Figure B-6. Locations of Problems (GA Sheet 6)



Figure B-7. Locations of Problems (GA Sheet 7)



Figure B-8. Locations of Problems (GA Sheet 8)

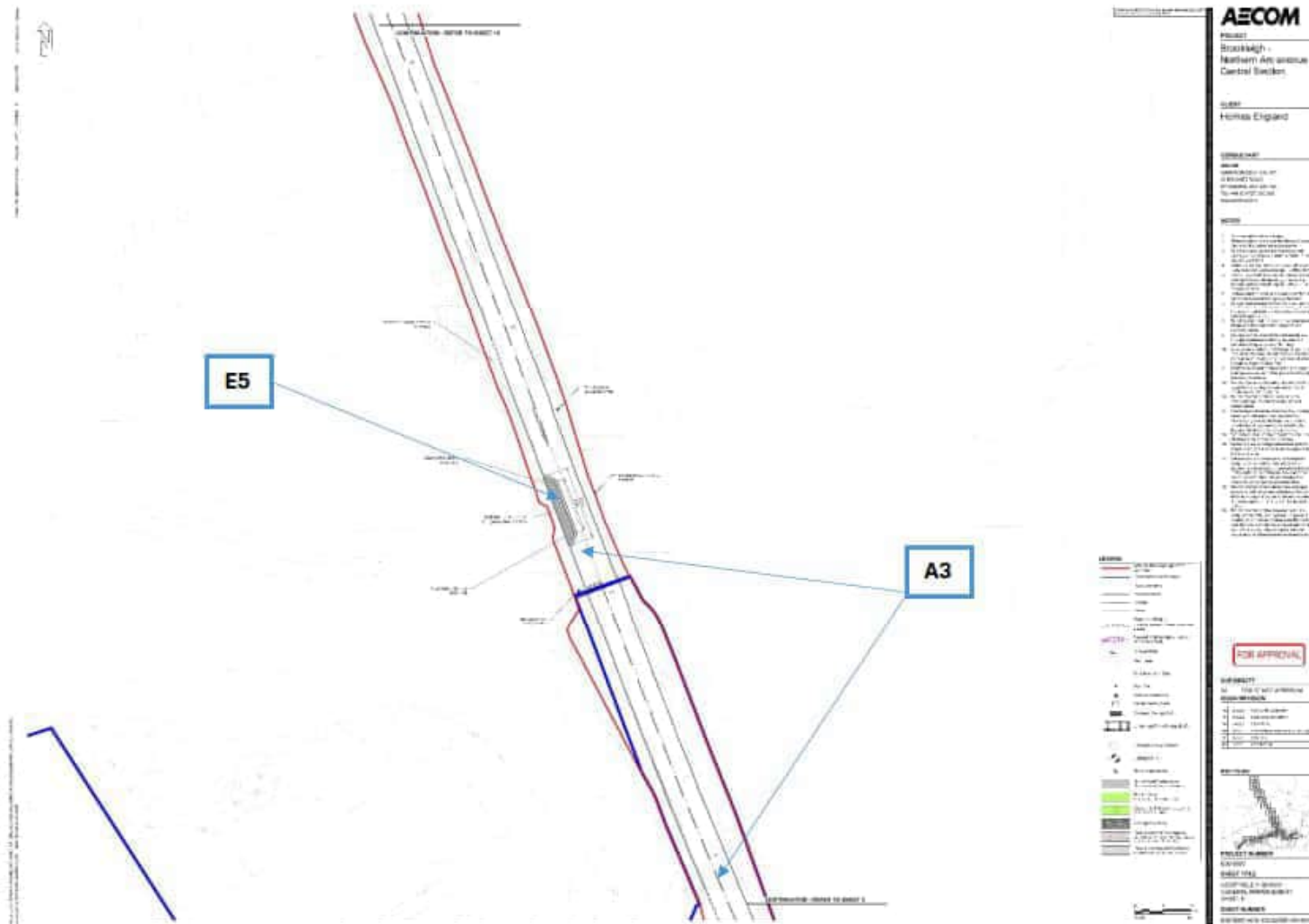


Figure B-9. Locations of Problems (GA Sheet 9)

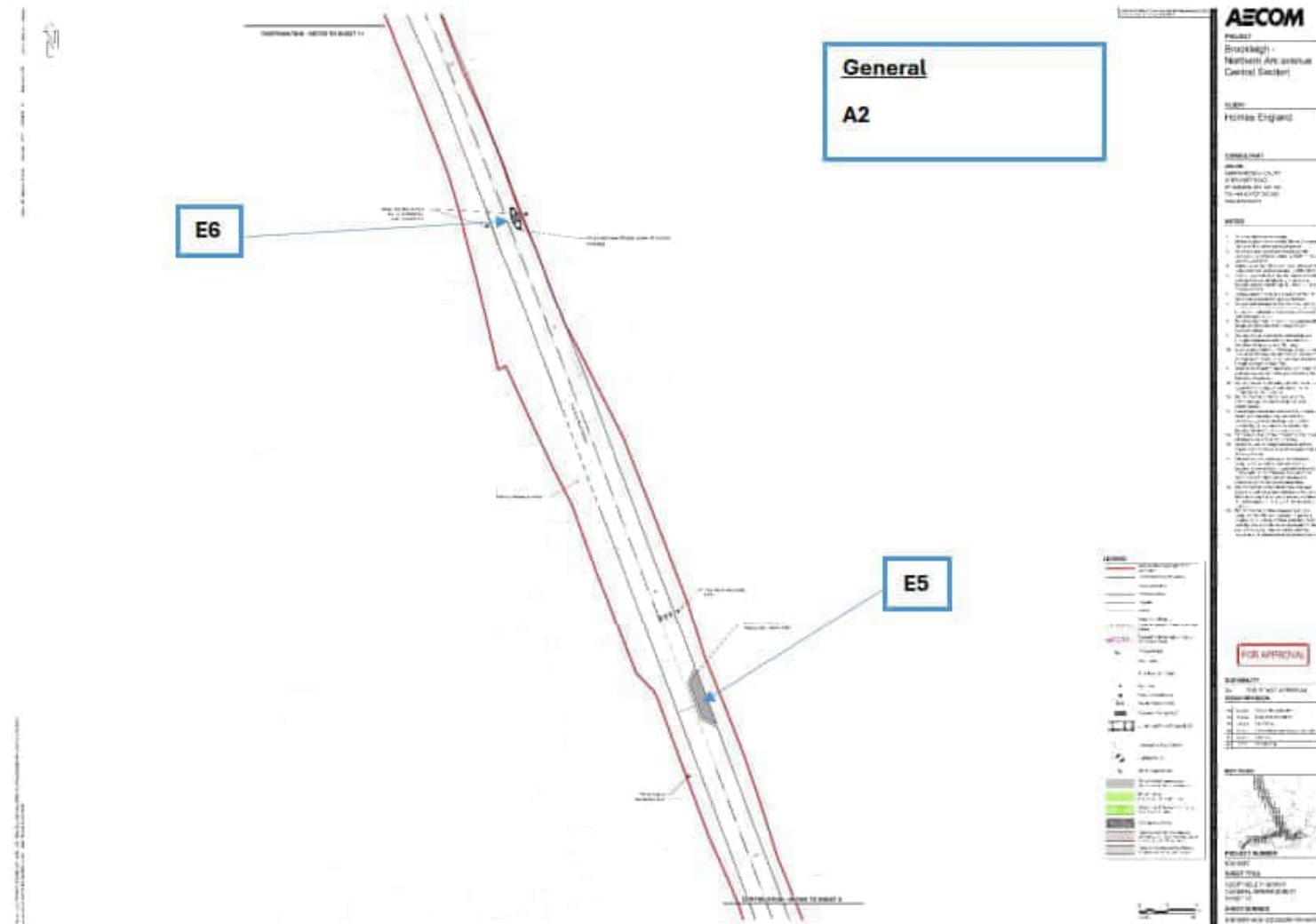


Figure B-10. Locations of Problems (GA Sheet 10)

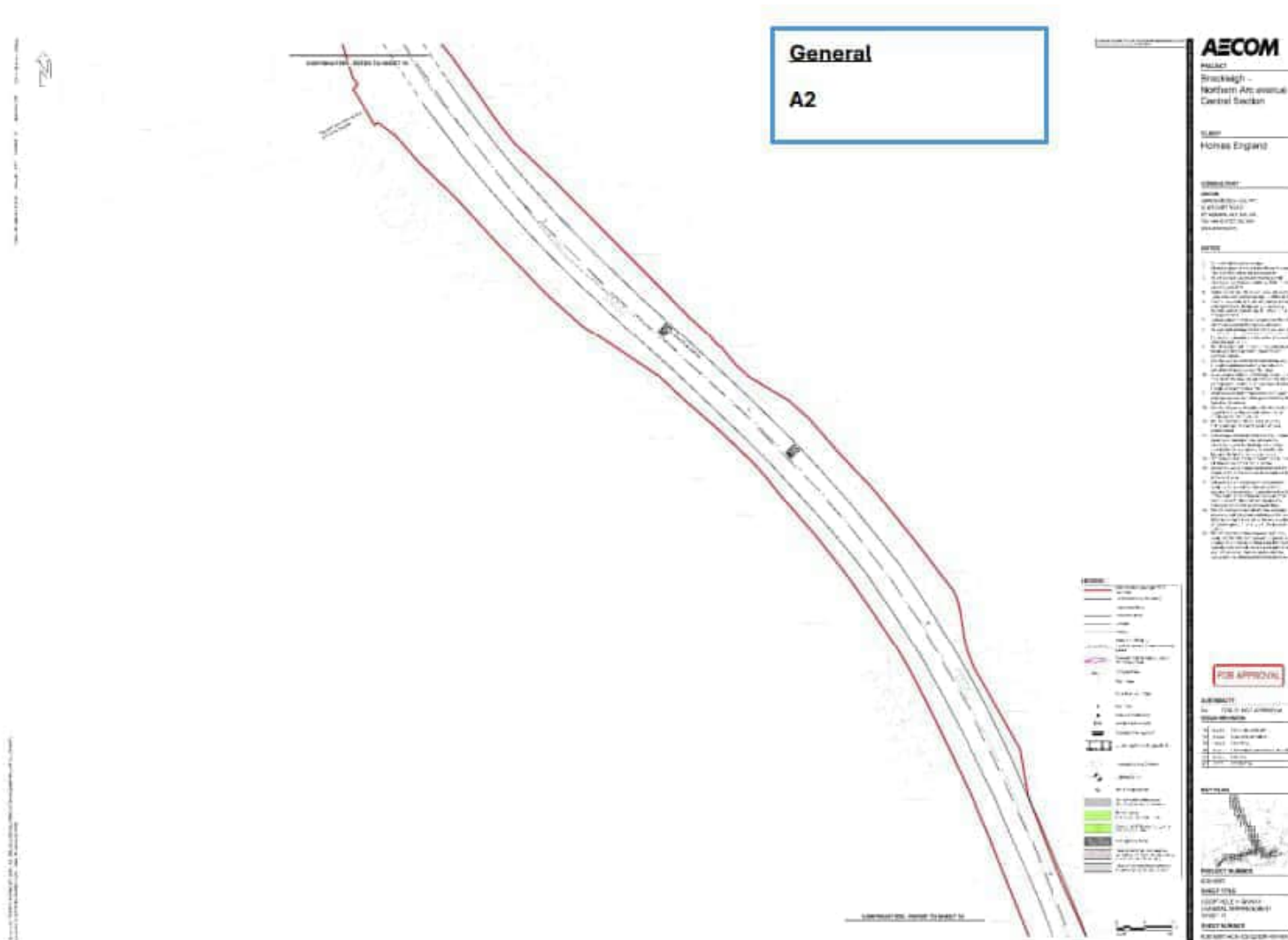


Figure B-11. Locations of Problems (GA Sheet 11)



Figure B-12. Locations of Problems (GA Sheet 12)

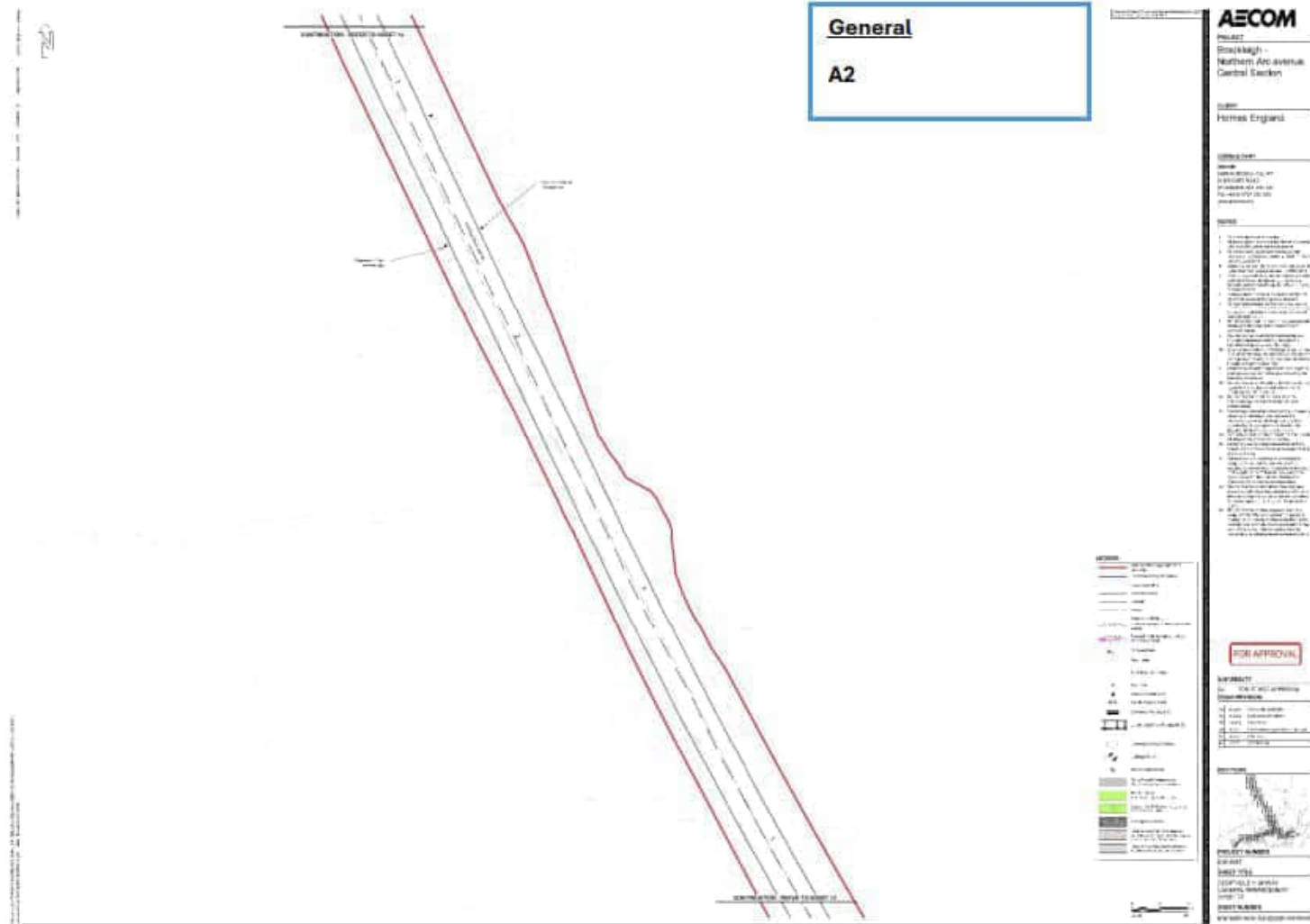


Figure B-13. Locations of Problems (GA Sheet 13)

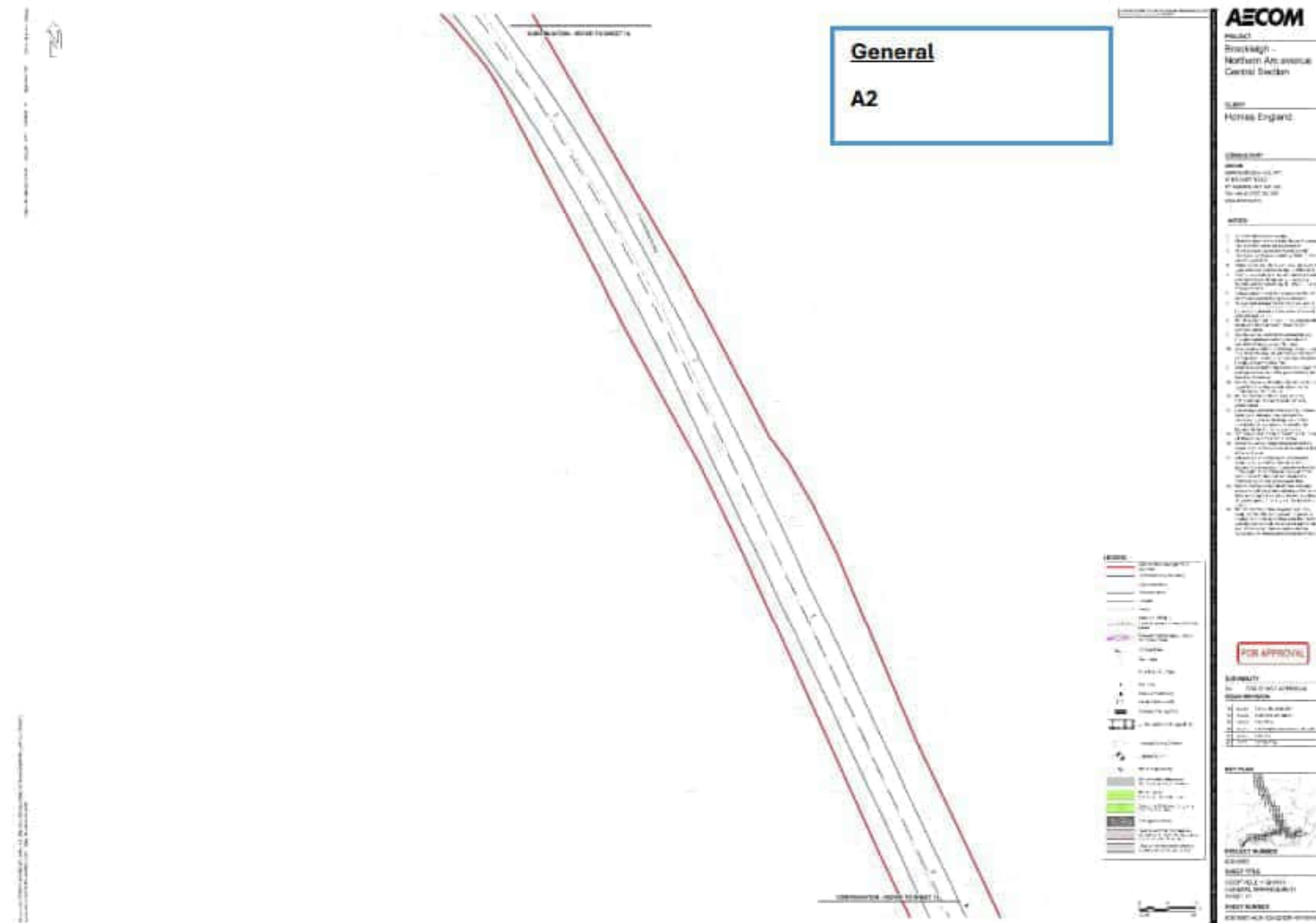


Figure B-14. Locations of Problems (GA Sheet 14)



Figure B-15. Locations of Problems (GA Sheet 15)

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Brookleigh, Northern Arc

Safety Audit Designer's Response - Stage 1

Homes England

Project number: 60610807
60610807-ACM-CS-XX-RP-HW-0006

12 February 2025

Quality information

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Revision History

Revision	Revision date	Details	Authorised	Name	Position
P01	21.01.2025	For Information		N. Mitchell	Regional Director

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1. Designer's Response

Project Details

Table 1: Project Details

Report Title:	Brookleigh, Northern Arc- Road Safety Audit Designer's Response - Stage 1
Date:	17 January 2024
Document Reference and Revision:	60610807-ACM-CS-XX-RP-HW-0006 Revision -
Prepared By:	AECOM Limited
On Behalf of:	Homes England

Table 2: Authorisation Sheet

Project:	Brookleigh, Northern Arc
Report Title:	Brookleigh, Northern Arc - Road Safety Audit Designer's Response - Stage 1
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Introduction

This Designer's Response is related to the Stage 1 Road Safety Audit document, dated 16 January 2024 (document ref: 60610807-ACM-CS-XX-RP-HW-0002 Version P02), for the proposed Central Section of Northern Arc avenue and the part realignment of Cuckfield Road (B2036), as part of the Brookleigh, Northern Arc development north of Burgess Hill, West Sussex.

The Stage 1 Road Safety Audit identified a number of problems associated with the design proposed for the public highway and this Designers Response is provided in accordance with the requirements of GG 119.

Table 3: Key Personnel

Role	Organisation
Overseeing Organisation	West Sussex County Council (WSCC)
Road Safety Audit Team	AECOM Limited (Aldgate)
Design Organisation	AECOM Limited (Development Infrastructure - St Albans)

Highway Works

Table 4: Road Safety Audit Decision Log

Road Safety Audit Problem	Road Safety Audit Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed Road Safety Audit Action
Area: Problem: Location: Drawing: GENERAL A1 Entire CS 60610807-ACM-CS-ZZ-DR-HW-00-0101 – 60610807-ACM-CS-ZZ-DR-HW-00-0107 (inclusive)				
Summary: Proposed trees and landscaping within planted verges may obstruct visibility levels between road users/ pedestrians/ cyclists, resulting in collisions between users on the CS. There are several locations along the CS where planted verges (featuring trees and it is assumed landscaping) are proposed immediately adjacent to uncontrolled crossing facilities and junctions. Whilst it is acknowledged that the landscaping/ tree detail shown in the GA plans is largely indicative the Audit Team is concerned that any proposed trees and/ or landscaping may restrict intervisibility between road users on the CS and both road users on adjoining side roads waiting to turn onto the CS and pedestrians/ cyclists at the waiting areas of the crossings. This could result in vehicle/ vehicle turning collisions on the CS or vehicle to pedestrian/ cyclist collisions at the crossings.	It is recommended that care is taken at detailed design with respect to proposed tree locations and landscaping types/ heights to ensure that adequate visibility splays are achieved at all locations within the scheme. Regular maintenance of verges/ tree growth will need to be considered throughout the life of the scheme also	Agreed. Trees, along with other street furniture, have been sighted outside of visibility splays. In addition, the design has been prepared to generally accord with the principals set out in Manual for Street (2007)). In particular MfS section 7.8.5 states: <i>Parking in visibility splays in built-up areas is quite common, yet it does not appear to create significant problems in practice. Ideally, defined parking bays should be provided outside the visibility splay. However, in some circumstances, where speeds are low, some encroachment may be acceptable.</i> Guidance has been sort from Highway Authority (highway) on street furinture and landscaping feautres and the proposed scheme also accords with their guidance. No change is proposed.		
Area: Problem: Location: Drawing: GENERAL A2 Cuckfield Road Realignment (Proposed 40mph Section) 60610807-ACM-CS-ZZ-DR-HW-00-0110 to 60610807-ACM-CS-ZZ-DR-HW-00-0115 (inclusive)				
Summary: Road users unlikely to adhere to 40mph speed limit change. Loss of control/ speed related collisions may occur on this section.	It is recommended that additional measures are implemented along this section of the B2036 Cuckfield Road to ensure	The proposed measures aim to strike a balance between catering for the existing road users (agricultural and standard passenger vehicles) whilst also target a reduction in speed. There		

It is proposed to reduce the speed limit on the northern part of Cuckfield Road from derestricted to 40mph. Although minor local realignment and 40mph gateway and repeater signage is proposed along this section, the relatively straight alignment of this existing route is being retained. These measures alone are unlikely to result in drivers adhering to this (much reduced) speed limit, particularly given the rural, straight character of the route and because many road users utilising the route will have been familiar with the derestricted nature of this section of Cuckfield Road previously. Road users proceeding at excess speed could result in loss of control collisions and turning collisions with vehicles at side roads/ accesses etc. or increase the risk of collisions with pedestrians attempting to cross Cuckfield Road (who may be expecting vehicles to be adhering to the 40mph speed limit). Furthermore, this may result in sudden braking and rear end shunt type collisions when southbound vehicles encounter the 30mph speed limit change to the south of the 40mph section.

adherence with the proposed 40mph speed limit.

are also a number of physical constraints along the highway corridor (including land ownership, existing privately owned trees and vegetation etc) that limit the opportunity for more substantial speed reduction measures being implemented along the straight section of Cucfield Road.

It is recommended the current proposals be tested and monitored and further upgrades be considered should the speed of vehicles travelling along Cuckfield Road not adhere to the new speed limits.

Area: GENERAL

Problem: A3

Location: Cuckfield Road Realignment (Proposed 30mph Section) Ch. 150 – 310

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0108 and 60610807-ACM-CS-ZZ-DR-HW-00-0109

Summary: Insufficient traffic calming measures towards southern part of 30mph speed limit area may result in road users not adhering to 30mph speed limit. Road users may drive at inappropriate speeds, potentially resulting in speed-related collisions.

A 30mph speed limit is proposed along the southern part of Cuckfield Road (between the proposed 40mph section to the north and the CS to the south). Although a number of traffic calming measures (central island and chicanes) are proposed, broadly with less than 100 metres between them, the section between chainages 150 and 310 (a distance of circa. 160m) has no such measures in place. The absence of any traffic calming measures within this length, coupled with the straight alignment along this section may result in road users proceeding at inappropriate speeds for the posted speed limit, potentially resulting in speed-related collisions in this area.

It is recommended that additional measure(s) are implemented within the above chainages to ensure road users proceed at appropriate speeds along this section of the B2036 Cuckfield Road.

The proposed measures aim to strike a balance between catering for the existing road users (agricultural and standard passenger vehicles) whilst also target a reduction in speed. There are also a number of physical constraints along the highway corridor (including land ownership, existing privately owned trees and vegetation etc) that limit the opportunity for more substantial speed reduction measures being implemented along the straight section of Cucfield Road.

It is recommended the current proposals be tested and monitored and further upgrades be considered should the speed of vehicles travelling along Cuckfield Road not adhere to the new speed limits.

Area: GENERAL

Problem: A4

Location: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102 to 0107

Proximity of give-way lines to CS mainline may result in rear end shunt collisions occurring.

Give-way lines are provided at the side road junctions throughout the scheme to give priority for pedestrian/ cycle crossing users over vehicles. The give-way lines located on the immediate exit of the junction (for road users turning into the side roads from the CS) are within very close proximity to the mainline, such that a typical vehicle exiting the CS cannot fully clear the junction before giving way. This will result in vehicles partially protruding back into the CS when giving way to non-motorised crossing users, potentially resulting in rear end shunts with road users following on the CS. See also Problem/ Recommendation C11 and E2.

It is recommended that the give-way lines are relocated further into the side road to allow vehicles to clear the CS carriageway before giving way. This would also involve realigning the shared use/ pedestrian crossings accordingly, so they are further set back from the junction mouth provision. Alternatively, the give way lining should be removed. See also Problem/ Recommendation C11 and E2.

The design of these junction are in keeping with wider the development and the implementation of continuous footpath crossings (aka Copenhagen junctions), giving priority to non-motorised users on the highway. The placement of the give way markings, as currently documented, will require vehicles coming off the CS to give way and we believe this encourages speed compliance in an area intended for low speeds.

Further, and according to rule H2 of the Highway Code, regardless of whether a giveaway line is provided or not; or where the footpath is positioned relative to back from the kerb, drivers should give way to pedestrians crossing or waiting to cross on a road into which they are turning and this would typically result in vehicles not clearing the main highway when exiting onto a side street.

No change is proposed.

Brookelgh (formerly referred to as Northern Arc) Northern Arc avenue, Central Section		Stage 1 / 2 Road Safety Audit, Designer's Response Project Number: 6061087	
Area:	LOCAL ALIGNMENT		
Problem:	B1		
Location:	Southern waiting area of uncontrolled crossing over CS (at location of Green Super Highway connection)		
Drawing:	60610807-ACM-CS-ZZ-DR-HW-00-0101		
Stationary westbound bus at bus stop may obscure visibility to the right for crossing users. This may result in vehicle/ pedestrian or vehicle/ cyclist collisions on the crossing.	It is recommended that either the crossing or bus stop are relocated to ensure adequate levels of visibility are provided between non-motorised users crossing the CS and westbound road users.	The distance between a stationary vehicle waiting behind a stationary bus to the edge of the uncontrolled crossing is approximately 44m. Visibility from the uncontrolled crossing point west of the west bound bus stop will only be temporarily obscured, and the frequency of this occurrence is expected to be low. With reference to MfS Para, 7.8.5 <i>Parking in visibility splays in built-up areas is quite common, yet it does not appear to create significant problems in practice. Ideally, defined parking bays should be provided outside the visibility splay. However, in some circumstances, where speeds are low, some encroachment may be acceptable.</i> In this case the visibility splay will only be temporarily obscured for a short period by a stationary bus. Non motorised users should always proceed with caution when entering the carriageway or wait until the obstruction (bus) has gone.	
Area:	LOCAL ALIGNMENT		
Problem:	B2		
Location:	Road 1 junction with CS		
Drawing:	60610807-ACM-CS-ZZ-DR-HW-00-0101 and 60610807-ACM-CS-ZZ-DR-HW-00-0102		
Stationary eastbound bus at bus stop may obscure visibility to the right for road users emerging from Road 1 onto the CS. This may result in vehicle/ vehicle collisions at the junction.	It is recommended that either the junction or bus stop are relocated to ensure adequate levels of visibility are provided for road users turning onto the CS from Road 1.	Visibility for vehicles leaving Road 01 onto the CS will only be temporarily obscured by stationary buses. Further, vehicles exiting Road 01 will be required to give way twice on approaching the CS. East bound vehicles overtaking a stationary bus will be approaching a raised table junction, and likely to be proceeding at	
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		AECOM	

stationary bus at the bus stop. This could result in vehicle to vehicle turning collisions at the junction.

slow speeds. The will reduce the potential for a vehicle to vehicle turning collision.
Reference to MfS Para, 7.8.5 *Parking in visibility splays in built-up areas is quite common, yet it does not appear to create significant problems in practice. Ideally, defined parking bays should be provided outside the visibility splay. However, in some circumstances, where speeds are low, some encroachment may be acceptable.*
In this case the visibility splay will only be temporarily obscured for a short period by a stationary bus.
No change is proposed.

Area:	LOCAL ALIGNMENT
Problem:	B3
Location:	Northern waiting area of uncontrolled crossing over CS (just west of Road 1)
Drawing:	60610807-ACM-CS-ZZ-DR-HW-00-0101 and 60610807-ACM-CS-ZZ-DR-HW-00-0102

Stationary eastbound bus at bus stop may obscure visibility to the right for crossing users. This may result in vehicle/ pedestrian collisions on the crossing. A bus stop is proposed on the northern side of the CS, a short distance to the west of this uncontrolled crossing facility. Pedestrians waiting to head south across the crossing will have restricted visibility to the right from the northern waiting area to eastbound vehicles passing a stationary bus at the bus stop. This could result in vehicle/ pedestrian collisions on the crossing	It is recommended that either the crossing or bus stop are relocated to ensure adequate levels of visibility are provided between non-motorised users crossing the CS and westbound road users.	Visibility from the uncontrolled crossing point west of Roads 01 and 02 junctions will only be temporarily obscured, while buses use the stop. East bound vehicles overtaking a stationary bus will be approaching a raised table junction, and likely to be proceeding at slow speeds. This will likely reduce the potential for a vehicle to pedestrian collision. Reference to MfS Para, 7.8.5 <i>Parking in visibility splays in built-up areas is quite common, yet it does not appear to create significant problems in practice. Ideally, defined parking bays should be provided outside the visibility splay. However, in some circumstances, where speeds are low, some encroachment may be acceptable.</i> In this case the visibility splay will only be temporarily obscured for a short period by a stationary bus.
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No change is proposed.

Area: LOCAL ALIGNMENT

Problem: B4

Location: Northern waiting area of uncontrolled crossing over CS (just east of Road 5)

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0103

Stationary eastbound bus at bus stop may obscure visibility to the left for crossing users. This may result in vehicle/ pedestrian collisions on the crossing.

A bus stop is proposed on the northern side of the CS, a short distance to the east of this uncontrolled crossing facility. Pedestrians waiting to head south across the crossing will have restricted visibility to the left from the northern waiting area to westbound vehicles when a bus is stationary at the bus stop. This could result in vehicle/ pedestrian collisions on the crossing.

It is recommended that either the crossing or bus stop are relocated to ensure adequate levels of visibility are provided between non-motorised users crossing the CS and westbound road users.

Visibility from the uncontrolled crossing point east of Road 05 junction will only be temporarily obscured, while buses use the stop.

Reference to MfS Para, 7.8.5 *Parking in visibility splays in built-up areas is quite common, yet it does not appear to create significant problems in practice. Ideally, defined parking bays should be provided outside the visibility splay. However, in some circumstances, where speeds are low, some encroachment may be acceptable.*

In this case the visibility splay will only be temporarily obscured for a short period by a stationary bus.

We agree to relocate the designated uncontrolled crossing location closer to Road 05 in order to improve visibility for both pedestrians and west bound vehicles overtaking a stationary bus.

Area: LOCAL ALIGNMENT

Problem: B5

Location: Bends to west and east of Road 9

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106 and 0107

Blocked/ obstructed forward visibility around bends may result in collisions occurring.

The forward visibility splays shown on the plans provided appear to run through the planted verges to the north of the CS. It is unclear whether these splays will be kept clear of obstructions (i.e. planting, signage etc), however if they are not kept clear this may result in rear end shunt collisions between vehicles negotiating the road layout.

It is recommended that the verges are kept clear of all obstructions to allow the forward visibility splays to be achieved.

Refer to Landscaping drawing No.60610807-ACM-CS-ZZ-DR-LA-00-0407. 2 No. trees are proposed in the landscaping strip, one *Acer Buergeranum* and one *Tilia Cordata*. As defined within the landscaping proposals, maintenance of the trees will be required to maintain adequate visibility.

A wetland / rain garden mix is also proposed within the verge. This mix is a low height mix and is not anticipated to obstruct visibility albeit some maintenance will be required to ensure this.
No change is proposed.

Area: LOCAL ALIGNMENT
Problem: B6
Location: Southern waiting area of uncontrolled crossing over CS (just east of Road 11)
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0107

Stationary westbound bus at bus stop may obscure visibility to the right for crossing users. This may result in vehicle/ pedestrian collisions on the crossing.

A bus stop is proposed on the southern side of the CS, a short distance to the east of this uncontrolled crossing facility. Pedestrians waiting to head north across the crossing will have restricted visibility to the right from the southern waiting area to westbound vehicles passing a stationary bus at the bus stop. This could result in vehicle/ pedestrian collisions on the crossing.

It is recommended that either the crossing or bus stop are relocated to ensure adequate levels of visibility are provided between non-motorised users crossing the CS and westbound road users.

Visibility from the uncontrolled crossing point east of Road 11 junction will only be temporarily obscured, while buses use the stop.

Reference to MfS Para, 7.8.5 *Parking in visibility splays in built-up areas is quite common, yet it does not appear to create significant problems in practice. Ideally, defined parking bays should be provided outside the visibility splay. However, in some circumstances, where speeds are low, some encroachment may be acceptable.*

In this case the visibility splay will only be temporarily obscured for a short period by a stationary bus in a low speed (i.e 20MPH) area.

Non motorised users should always proceed with caution when entering the carriageway or wait until the obstruction (bus) has gone.

No change is proposed.

Area: LOCAL ALIGNMENT
Problem: B7
Location: Road 05 Junction with Cuckfield Road
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0108

Visibility splay to left from proposed junction may be restricted by vegetation. This may result in collisions between vehicles turning from Road 05 and mainline traffic on Cuckfield Road. Vegetation within the property boundary of the adjacent

It is recommended that adequate visibility is provided to the left from this junction for the life of the scheme. The

Agreed, vegetation within the development red line boundary adjacent to Road 05 will be removed as part of the works. No footpath is

Brookelgh (formerly referred to as Northern Arc) Northern Arc avenue, Central Section		Stage 1 / 2 Road Safety Audit, Designer's Response Project Number: 6061087	
property 'Four Trees' located immediately north of the proposed Road 05 junction may obscure visibility to the left for road users exiting Road 5 at the junction. This could result in collisions between vehicles emerging from Road 05 and mainline traffic on Cuckfield Road. Whilst it is acknowledged that the drawing referenced appears to suggest that a section of footway may be situated on the western side of Cuckfield Road to the north of the Road 05 junction which may improve the visibility splay to the left, it is unclear whether this is the case		junction may need to be relocated further south (see also Problem/ Recommendation D4) to achieve this. Alternatively, the vegetation could be cut back, although this would need to be maintained which is of concern given it is located within third party land. A section of footway (if proposed) may help to alleviate these concerns. proposed to the north of Road 05 as part of this submission, but is being considered as part of a future planning application. It is recommend that privately owned vegetation that extends into the highway boundary be cut back or removed in consultation with the existing land owner. . Further, the visibility splays demonstrate there will be no obstruction following the above works. No change is proposed.	
Area: LOCAL ALIGNMENT Problem: B8 Location: Road 08/ Cuckfield Road - Proposed Splitter Island Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0108			
Larger vehicles may struggle to safely negotiate narrow carriageway section. Southbound kerb provision is unclear and inconsistent. Road users may collide with the kerbs and/ or lose control as a result. 3m wide kerbed lanes are proposed past the proposed splitter island on Cuckfield Road. Larger vehicles, for example HGVs or large agricultural vehicles may struggle to safely negotiate this relatively narrow, channelled width without striking the kerbs, which could result in vehicular damage and/ or loss of control collisions. In addition, the proposed nearside kerb provision (for southbound road users) through this section is inconsistent and unclear. Kerbing is provided past the splitter island, and further south on Road 08, however a short section where no kerbing is provided is proposed in between. It is also unclear whether any transition kerbing is proposed in this area. Road users may collide with the end of the kerbing and lose control if no transition kerbing is provided. Similarly, road users may leave the carriageway because of the absence of kerbing in this area.		It is recommended that the width/ alignment past the splitter islands proposed is reviewed to ensure it is suitable for the vehicle types expected to utilise Road 08/ Cuckfield Road. It is also recommended that the proposed kerbing on the nearside of the southbound carriageway is extended to fill the gap between that proposed adjacent to the splitter island and the provision further south. Transition kerbs should be provided at the start of the proposed kerbing. The horizontal geometry of Cuckfield Road is chicaned at 1in10 tapers on both approaches to the splitter island narrowing. An additional Vehicle Swept Path drawing will be provided to demonstrate that a Max Legal Length Articulated Vehilce can negotiate the splitter island on both approaches. Noted regarding the extension of kerbs, the intention is to neatly match the existing section of kerb, however this can be reviewed on site and during Technical Review stage with the Highway Authority.	
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Area: NON-MOTORISED USER PROVISION

Problem: C1

Location: Southern waiting area of uncontrolled crossing over CS at location of Green Super Highway connection

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101

Visually impaired users may be unaware of crossing causing them to enter the live carriageway unknowingly where they may be at risk of being struck by road users.

It is recommended that a minimum of three rows of tactile paving are provided at the waiting area for this uncontrolled crossing.

Agreed, an extra row of tactile paving will be provided.

The southern tactile waiting area of this crossing features two rows of tactile paving. As it is an inline crossing (in line with northbound pedestrian/ cycle movements from the Green Super Highway) visually impaired pedestrians may inadvertently step over the tactile arrangement and enter the live carriageway unknowingly, where they may be at risk of being struck by road users on the CS.

Area: NON-MOTORISED USER PROVISION

Problem: C2

Location: Green Spoke North South Green Corridor connection with CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102

CS and Green Spoke corridor connection/ gradient may result in difficult access/ falls. Pedestrians may collide with cyclists or enter the live carriageway unknowingly where they may be struck by road users.

- suitable tie-in provision for non-motorised users is provided to allow them to travel between the Green Spoke North South Green Corridor and the uncontrolled crossing facility.
- a minimum of three rows of tactile paving should be provided at the waiting areas for this uncontrolled crossing.
- suitable corduroy paving/ signage provision is proposed to warn footway users of the presence of cyclists in this area.

Partly agree with comments. The Green Spoke is not designated as a formal pathway and should only be used informally.

Final design of pedestrian connectivity on the North to South Green corridor is to be developed further by the future developers of land parcels on either side of the Green Spoke, including a connection onto the new CS.

The level difference between the proposed CS back of footpath and the existing surface is only temporary, as the future land parcel developer will need to neatly interface and raise the existing surface within the land parcel.

It is unclear whether the existing Green Spoke North South Green Corridor crosses the CS via an underpass or whether a connection is proposed for it to utilise the proposed uncontrolled crossing facility (with refuge island) at this location. It appears that the CS is on an embankment (and so at a higher level than the green corridor) and so if a connection is proposed it is unclear whether any suitable provision to allow footway/ green corridor users to connect between the two facilities is proposed. If no suitable provision is provided this could result in users of the facilities struggling to safely negotiate the embankment, potentially resulting in falls/ injuries etc.

In addition, the following concerns are also noted at this location:

Crossing points and the proposed tactile paving has been designed generally in accordance with Guidance on the Use of Tactile Paving Surfaces (Dec 2021). Referring to paragraph

- the southern and northern tactile paving areas of this crossing feature two rows of tactile paving. As it may be an inline crossing (in line with movements to/from the Green Corridor potentially) visually impaired pedestrians may inadvertently step over the tactile arrangement and enter the live carriageway unknowingly, where they may be at risk of being struck by road users on the CS.
- there are no measures (signage or tactile paving etc) proposed to inform footway users to be aware of cyclists joining the facility particularly from the south where a footway only facility is provided alongside the CS. A lack of such warning may result in pedestrian/ cyclist collisions at this location.

2.4.2. 3 No. or 1200mm deep tactile are only required on uncontrolled crossings on the direct line of travel. The direct line of travel is east to west. We do not consider the direct line of travel to be north to south.

Area: NON-MOTORISED USER PROVISION
Problem: C3
Location: Various locations on CS southern footway and northern shared use path
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101 to 60610807-ACM-CS-ZZ-DR-HW-00-0107 (inclusive)

Height/ gradient of embankment at rear of footways/ paths unclear. Pedestrians and cyclists on these facilities may incur injury if they fall from height/ down steep gradients.

It is recommended that appropriate protection is provided to footway/ path users to protect them from falling down the embankments or that suitable gradients are provided at the back of the footways/ paths to remove this potential hazard.

Agree with concerns regarding level difference between back of footway and proposed embankments. The level difference is a result of temporary banking which aims to neatly match the existing surface. The level difference will be reviewed and likely be reduced by the future land parcel developer through their onplot site grading works and /or suitable provision for restraints will be considered at that stage.

The drawings indicate that the CS will be on an embankment with a drop/ slope at the back of the footways/ paths on either side of it. The height of the embankment and gradient of the slopes are unclear. No protection (such as fencing) appears to be proposed at the back of the footways/ paths. Pedestrians and non-motorised users on these footways/ paths may incur injury if they fall from height and/ or down steep embankments.

Area: NON-MOTORISED USER PROVISION
Problem: C4
Location: Severed section of Cuckfield Road (in the vicinity of Hook Place Lodge and Northern College Access)/ Road 08
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0105

Absence of adequate pedestrian facilities may result in pedestrians walking in live carriageway/ crossing at inappropriate locations etc., potentially resulting in vehicle/ pedestrian collisions.

☐ A crossing facility is provided across Cuckfield Road/ Road 08 to facilitate the likely west-east pedestrian movement.

Agree with concerns raised. Footway along east side of Cuckfield Rd to be reconstructed as part of the works. An uncontrolled crossing point is proposed on the junction of Cuckfield Rd and Road 08, on the desire line on the north foot/cycleway.

Significant changes are proposed in this area of the scheme. The Audit Team has the following concerns with regards to proposed pedestrian facilities and movements in this area: ☐

☐ A safe pedestrian footway/ route is provided on the severed section of Cuckfield Road (with suitable

Safe pedestrian access is maintained from the College onto the diverted Cuckfield Rd from the main footpath

Pedestrians travelling between the new western footway of the realigned (new) section of Cuckfield Road/ Road 08 and The Squires/ Hook Place Lodge etc. (and vice-versa) will have to detour significantly further south (via the crossing at the Road 08 junction with the CS) in order to cross safely. This could result in some pedestrians attempting to cross at inappropriate places, in the absence of suitable facilities, potentially resulting in vehicle/ pedestrian collisions. □ The removal of the section of footway on the eastern side of Cuckfield Road (between Hook Place Lodge/ The Squires and the northern college access) will displace pedestrians into the adjacent section of live carriageway where they may be at risk of being struck by passing vehicles.

□ With reference to the above, the two 'triangular' (assumed pedestrian) areas between the severed section of Cuckfield Road and Road 08 appear to direct pedestrians into the above section of live carriageway. The above concerns may result in vehicle/ pedestrian collisions.

connections/ provisions to/ from the two triangular areas) to avoid pedestrians walking in the live carriageway.

link in/out of the College campus. Feedback has been obtained during consultation with the Alternate Provision College and incorporated into the design which is conservative of the recommendations from the RSA team.

Area: NON-MOTORISED USER PROVISION
Problem: C5
Location: Western extent of Super Green Highway
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106

No onward route to/ from the west for cyclists. Cyclists may either continue on the footway or join the carriageway where cycle/ pedestrian or vehicle/ cycle collisions may occur.

The Super Green Highway terminates a short distance to the west of the Cuckfield Road /Road 09 junction where there does not appear to be any onward dedicated cycle provision proposed beyond this point. Cyclists are likely to utilise the narrow area of footway to the west of this point either to continue their journey on the southern (pedestrian only) footway or to access the uncontrolled crossing over the CS to the shared use path (in both cases potentially colliding with pedestrians). Alternatively, cyclists may drop down a full height kerb to access the CS carriageway (at an angle where westbound road users on CS will be behind them through a narrowed section), potentially resulting in collisions with vehicles.

It is recommended that a suitable onward cycle link is provided at this location. If the provision is to terminate at this point, then the narrow pinch point area (caused by the verge layout) adjacent to the uncontrolled crossing should be relocated/ realigned to provide a wider area to accommodate both pedestrian and cycle movements between the crossing and the Super Green Highway. Alternatively, or additionally, a dropped kerb should be provided at a suitable location where there is sufficient width for cyclists to join the carriageway safely.

The section of the Green Super Highway to the west of Road 09 (Cuckfield Road) is provided to accommodate the temporary condition where the Green Super Highway terminates to the south adjacent to the Oak Bar and Barn carpark. In the fully developed state, the Green Super Highway will continue west from the Oak Bar and Barn carpark entrance through the land parcel and this will be developed by Homes England's development partners as part of a future planning application. We agree with comment, and will include a dropped kerb and additional signage to allow cyclists travelling west to rejoin carriageway or to dismount and use the northern footway.

Area: NON-MOTORISED USER PROVISION

Problem: C6
Location: Road 09/ Oak Barn Restaurant and Golf Club Access/ CS junction complex
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106

Pedestrians may struggle to cross safely and/ or continue their journey within the live carriageway (where they may be struck by passing vehicles) due to absence of onward pedestrian facilities.

A short section of footway is proposed along the western side of Road 09 to the south of its junction with the CS. This section of footway appears to terminate at the Oak Barn junction with no onward pedestrian facilities (crossings or footway routes) proposed south or east from this point. For example, there is no crossing to the eastern footway on Cuckfield Road South (Road 09) if this being retained, or a connection with the footway along the southern side of the CS to the north.

The absence of suitable connections/ onward routes/ crossing facilities in this area is likely to result in pedestrians attempting to cross at inappropriate locations or potentially walking in the live Cuckfield Road South (Road 09) carriageway where they may be at risk of being struck by vehicles.

It is recommended that suitable onward pedestrian connections and/ or crossing facilities are provided in this area of the scheme.

Agreed, with issues raised regarding pedestrian connectivity on Road 09 to the west.
The extension to the Green Super Highway that terminates north of the Oak Bar and Barn driveway entrance is provision for future extension through the land parcels which will be completed under separate planning application submissions. The termination at this point is therefore temporary and aims to provide access to the Oak Bar and Barn entrance only.
We agree, re-establishing a temporary connection to the existing footpath on the eastern side of Road 09 (Cuckfield Road) should be provided as part of these works and this will be updated in the proposed documentation. The permanent arrangement will be considered by the Homes England's development partner of the adjacent land parcel.

Area: NON-MOTORISED USER PROVISION
Problem: C7
Location: Super Green Highway – eastern sections of CS
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106 and 60610807-ACM-CS-ZZ-DR-HW-00-0107

Pedestrians will need to cross proposed cycleway section of Super Green Highway to access crossings and bus stops, however no facilities are proposed to aid these movements. This could result in collisions between cyclists and pedestrians on the Super Green Highway.

A segregated cycleway/ footway (Super Green Highway) is proposed in this area. There are locations where pedestrians will need to cross (and potentially wait within) the cycleway section to access bus stops and crossing points, however no break in cycle lane provision is proposed to provide a safe route for pedestrians to cross it.
Example locations include:

It is recommended that suitable provision to assist safe pedestrian movements across the proposed cycleway section of the Super Green Highway are provided at detailed design stage.

Agreed, generally according to the Department for Transport's Guidance on the use of Tactile Paving Surfaces recommendations, ladder and tram sections of tactiles 800mm deep and set of 1.2m away from the uncontrolled crossing and bus stop will be incorporated into the proposed design.

- Access to/ from the westbound bus stop on the CS to the east of Road 11
- Access to/ from the crossing facilities to the east and west of the CS/ Road 10/ Road 11 junction
- Access to/ from the crossing facility on the CS to the east of Road 09

Absence of a break in cycleway provision or suitable pedestrian facilities at these locations could result in collisions between cyclists and pedestrians on the Super Green Highway.

Area: NON-MOTORISED USER PROVISION		
Problem: C8		
Location: Road 9 junction with CS)		
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106		
Cycle lane across ramp may result in cyclists falling into live carriageway and being struck.	It is recommended that the cycle crossing is provided on a flat gradient (i.e. not across the ramp).	Agreed, we propose to adjust the extent of green pavement such that it is aligned to the 5.0m wide raised table of the junction and away from the ramp.
The Green Super Highway (east/ west section) at the location of the Road 9 junction with the CS is adjacent to the carriageway. Part of the crossing width appears to be on a ramp and there is a concern that cyclists negotiating the ramp angle may become unseated or veer into the carriageway at this point, where they may be at risk of being struck by a passing road user.		
Area: NON-MOTORISED USER PROVISION		
Problem: C9		
Location: Footway on western side of Cuckfield Road / Road 08		
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0105 and 60610807-ACM-CS-ZZ-DR-HW-00-0108		
Height/ gradient of embankment at rear of footway unclear. Pedestrians on this facility may incur injury if they fall from height/ down steep gradient.	It is recommended that appropriate protection is provided to footway users to protect them from falling down the embankment or that a suitable gradient is provided at the back of the footway to remove this potential hazard.	The level difference between the back of the footpath and the existing surface is only temporary, with the future land parcel developer likely to neatly interface with the back of path, raising the surface within the land parcel and minimising or eliminating the level difference.
A footway is proposed along the western side of Cuckfield Road / Road 08 between the junctions with the CS (in the south) and Road 05 in the north. The plans show that footway will have an embankment with a drop/ slope at the back of it. The height of the embankment and gradient of the slope is unclear. No protection (such as a fence) appears to be proposed at the back of the footway. Pedestrians on the footway may incur injury if they fall from height and/ or down the steep embankment.		

Area: NON-MOTORISED USER PROVISION
Problem: C10
Location: Western extent of scheme, Green Super Highway connection
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101

Inadequate warning of differing footway/ cycle provisions may result in confusion and subsequent collisions.

At the above location, four different types of footway provision meet (segregated footway/ cycleway, pedestrian crossing across the CS, a pedestrian footway and the Green Super Highway) and there does not appear to be sufficient warning for all users, particularly visually impaired users, that footway users are potentially entering a different provision type. This may lead to confusion and subsequent collisions involving cyclists and pedestrians at this location.

It is recommended that appropriate warning of the various footway/ cycle provision is provided at the detailed design stage.

Agreed. We will add in additional terminal signs including 957 segregated terminal signs and 956 shared route signs.

Area: NON-MOTORISED USER PROVISION
Problem: C11
Location: Numerous - Roads 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101 to 0107

Tactile paving and give-way line provision may result in ambiguity as to who has right of way leading to collisions occurring.

Give-way lines are provided at the above-named side road junctions throughout the scheme in order to allow priority for pedestrian/ cycle crossing users. In addition to the give-way lines, pedestrian tactile paving is also provided at the crossing waiting areas. This may cause ambiguity as to who has right of way at these crossings (the tactile paving tells visually impaired users that they are entering a live carriageway and that they may not have right of way) and result in confusion leading to collisions occurring at these locations. See also Problem/ Recommendation A4 and E2.

It is recommended that either the give-way lines are removed or that the tactile paving at the crossing waiting areas is removed so that it is clear who has right of way at these locations. See also Problem/ Recommendation A4 and E2.

Proposals to provide both tactile paving and give-way lines are consistent with the design approach implement across other phases on the Brookelgh development.
Further, and according to rule H2 of the Highway Code, regardless of whether a give-way line is provided or not; or there is tactile paving or not, drivers should give way to pedestrians crossing or waiting to cross on a road into which they are turning. Removal of the give way lines was discussed with the highway authority and the Highway Authority has requested to keep them in the design.
No change is proposed.

Area: NON-MOTORISED USER PROVISION
Problem: C12
Location: Various locations throughout scheme
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102 to 0107

Corduroy paving provided at incorrect locations/ not provided may result in collisions involving visually impaired users and cyclists.

There are a number of locations throughout the scheme where corduroy paving is provided where it does not appear it is required, for example where two pedestrian-only footways join each other. Similarly, there a number of locations where corduroy paving has not been shown where it is required, for example, the pedestrian crossing across the CS to the east of Road 5, and to the west of Road 8. This may result in visually impaired users becoming confused when navigating the scheme and unknowingly entering cycle-only sections (and vice-versa) resulting in collisions occurring between pedestrians and cyclists.

It is recommended that the corduroy paving provision is reviewed throughout the scheme at detailed design stage.

Agreed, the implementation of corduroy paving to be reviewed during the Technical Approval process with the Highway Authority.

Area: NON-MOTORISED USER PROVISION
Problem: C13
Location: CS between Road 9 and Road 10
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102-0107

Potential desire line between Road 9 and Road 10 may result in footway users looking to cross the CS in this area, potentially via the proposed splitter island. Absence of crossing on desire line may result in unsafe crossings occurring, potentially resulting in vehicle/ non-motorised user collisions.

There is potential for a pedestrian/ cycle desire line to form between Road 9 (and the Super Green Highway link on Road 9) and Road 10 and the northern side of the CS in general. No crossing provision is proposed in this area to facilitate this desire line, and although crossings exist further to the west and the east of this area, these are some distance from the desire line and therefore unlikely to be used by non-motorised users wishing to cross. As a result, pedestrians/ cyclists are likely to attempt to cross the CS without a formal crossing facility in place, potentially using the proposed splitter island for refuge. Collisions may occur between road users and non-motorised users crossing in these conditions.

It is recommended that a crossing facility is provided in this area to aid safe crossing movements by non-motorised users. The proposed splitter island could be utilised in this respect potentially.

The anticipated desire lines for pedestrians heading north along Cuckfield Road is towards the central neighbourhood (turning left), or towards the land parcels to the east. Only a small number of residential land parcels are located immediately north of Road 09 (Cuckfield Road) which are easily serviced by the adjacent uncontrolled crossing to the west. An additional uncontrolled crossing at this location was not proposed given the diversity of vehicle movements into and out of Road 09, particularly HGV's which may require use of the full carriageway pavement to navigate infrequent manoeuvres. No change is proposed.

Area: NON-MOTORISED USER PROVISION
Problem: C14
Location: Super Green Highway connection between provision on Road 9 and provision along southern part of CS (southwestern corner of Road 9/ CS Junction)
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102-0106 and 1206

Lack of connection between Green Super Highway Sections may result in cyclists continuing journey across pedestrian only facility and collisions occurring as a result.

Sections of the Super Green Highway meet at this location, however, there appears to be a lack of connection between the section running along the southern part of the CS and the section running along the western part of Road 9. There do not appear to be any proposed signs informing cyclists to dismount at this location and cyclists are likely to continue their journey between the two sections across a pedestrian only area, where collisions may occur between pedestrians and cyclists.

It is recommended that the facilities in this area are reviewed at detailed design stage with an appropriate connection/ layout provided. See also related Problem/ Recommendation C7.

Agreed. The proposals intentionally introduce a break in the Green Super Highway (as a temporary treatment) as the south bound section along Road 09 terminates (temporarily) at the Oak Barn and Bar driveway entrance. During this interim period, the desire line for cyclists will be across Road 09 towards the Central Neighbourhood Center (adjacent Road 05). In the fully developed scenario, the permanent connection for the Green Super Highway will be to the south through land parcels to be developed under future planning applications approved under the Brookleigh Outline Planning Application. Local adjustments to the junction as recommended in the RSA comments (tactiles, surface treatment and changes to signage) will be required to advise cyclists of their new journey onward journey as part of a future minor S278 on completion of the GSH.

No change is proposed, however this will need to be considered as part of the future adjustments to this junction..

Area: JUNCTIONS

Problem: D1

Location: Proposed priority crossroads junction between CS / Road 1 and Road 2

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0102

Crossroads layout may result in turning collisions between vehicles joining CS on opposing arms. It is proposed to create a priority crossroads layout between the CS, Road 1 and Road 2. Depending on the likely traffic flows from the two minor arms, this layout has the potential to create a road safety concern where opposing vehicles from the minor arms may collide when gap seeking and simultaneously turning onto the CS.

It is recommended that the junction layout is reviewed and subject to the expected traffic flows on the side roads (Road 1 and Road 2), that these are relocated/ staggered so that a priority crossroads layout is not proposed at this location.

As described in Manual for Streets, crossed road junctions improve pedestrian and cyclist connectivity. With active travel being a key focus of the scheme, we believe the cross road junctions are in keeping with this principle and no change is proposed. Further, given the good visibility, and low peak AM/PM traffic flow estimates (refer to the supporting Transport Assessment), the likelihood of concurrent right turn exits from Road 01 and Road 02 onto the CS will be unlikely.

Area: JUNCTIONS

Problem: D2

Location: Proposed priority crossroads junction between CS / Road 3 and Road 4

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0103

Crossroads layout may result in turning collisions between vehicles joining CS on opposing arms. It is proposed to create a priority crossroads layout between the CS, Road 3 and Road 4. Depending on the likely traffic flows from the two minor arms, this layout has the potential to create a road safety concern where opposing vehicles from the minor arms may collide when gap seeking and simultaneously turning onto the CS.

It is recommended that the junction layout is reviewed and subject to the expected traffic flows on the side roads (Road 3 and Road 4) that these are relocated/ staggered so that a priority crossroads layout is not proposed at this location.

As described in Manual for Streets, crossed road junctions improve pedestrian and cyclist connectivity. With active travel being a key focus of the scheme, we believe the cross road junctions are in keeping with this principle and no change is proposed. Further, given the good visibility, and low peak AM/PM traffic flow estimates (refer to the supporting Transport Assessment), the likelihood of concurrent right turn exits from Road 03 and Road 04 onto the CS will be unlikely.

Area: JUNCTIONS

Problem: D3

Location: Proposed junction of Road 5 and Cuckfield Road

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0108

Road 5 junction proposed immediately south of residential property access.

Turning collisions may occur due to close proximity of junction to access. The Cuckfield Road junction with Road 05 is proposed to be immediately south of the existing residential access to Four Trees. The close proximity of these junctions may result in turning collisions as vehicles simultaneously turn in and out of the junction and the access.

It is recommended that the Road 05 junction is relocated further south to increase the distance between the existing access and the junction. See also Problem/ Recommendation B7.

The commercial property serviced by the subject vehicular crossing is small and infrequently accessed. The likelihood of concurrent access (one vehicle accessing / exiting Road 05 and one accessing / exiting the commercial property) is considered low and given the good visibility from Road 05 onto Cuckfield Road, this risk is also considered low.

No change proposed.

Area: JUNCTIONS

Problem: D4

Location: Proposed junction of Road 11 and CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-3002

Westbound articulated vehicle swept path on CS overhangs Road 11 give way line and CS centre line markings; this may result in collisions with eastbound road users or road users waiting to emerge from Road 11.

The swept path analysis provided shows that articulated vehicles proceeding westbound along the CS appear to overhang both the centre line of the CS and the give way line of Road 11 (where it joins the CS). This may result in head-on collisions occurring between westbound articulated vehicles and eastbound road users on the CS and westbound articulated vehicles on the CS with vehicles at the Road 11 give way line.

It is recommended that the CS alignment in the vicinity of Road 11 is reviewed to ensure westbound articulated vehicles do not encroach into the eastbound CS or Road 11.

Upon review, the vehicle swept path can be adjusted to demonstrate the Articulate Vehicle will not overhang the centerline. Vehicle swept path to be updated, but no change to the highway geometry is proposed.

Area: JUNCTIONS

Problem: D5

Location: Proposed junction of Road 08 and CS

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-3012

Large vehicles turning to/ from Road 08 may be involved in head-on collisions on Road 08 (left turn in) or collide with the central island on CS (right turn out).

The swept path analysis provided shows that large vehicles turning left into Road 08 will significantly overrun the centre line on Road 08. This could result in head-on collisions with traffic heading south on Road 08.

It is recommended that the junction layout is revisited/ revised to better accommodate the turning manoeuvres specified so that larger vehicles do not significantly overrun the centre line on Road 08 or potentially collide with the central island to the west of the junction.

The subject swept path analysis associated with the Road 08 and and Northern Arc avenue junction aims to demonstrate that a 16m long articulated (HGV) could physically make these manoeuvres while remaining within the carriageway, a. The junction is not intended to facilitate HGV movements concurrent to opposing vehicle movements as the likelihood of damage to kerbs and

Brookelgh (formerly referred to as Northern Arc) Northern Arc avenue, Central Section	Stage 1 / 2 Road Safety Audit, Designer's Response Project Number: 6061087 In addition, the swept path analysis appears to show that large vehicles turning right out of Road 08 would overrun the central island on the CS to the west of the junction. This could result in vehicles colliding with the island (resulting in subsequent injury) and/ or potentially damaging infrastructure on the island.
	street furniture ed of this occurring is low. MfS 6.5.8 suggests Swept-path analysis can be used to determine the ability of streets to accommodate large vehicles. Bus routes in residential areas are likely to require a more generous swept path to allow efficient operation. While it would be acceptable for the occasional lorry to have to negotiate a particular junction with care, buses need to be able to do so with relative ease. In addition, the Northern Arc avenue aims to deter large vehicle movements along Cuckfield Road by providing direct access from Isaccs Lane to the A3200 to the east. The proposed junction layout accords to the above. No change is proposed.
Area: Problem: Location: Drawing: JUNCTIONS D6 Proposed junction of Road 09 and CS 60610807-ACM-CS-ZZ-DR-HW-00-3012	
Large vehicles turning to/ from Road 09 may be involved in head-on collisions on Road 09 (left turn in) or collide with the central islands on CS (left turn in and out). The swept path analysis provided shows that large vehicles turning left into Road 09 will overrun/ collide with the central island on the CS to the east of the junction. In addition, large vehicles making this left turn in will significantly overrun the centreline on Road 09, potentially resulting in head-on collisions with road users heading north on Road 09. Similarly large vehicles making the left turn out appear to overrun/ collide with the central island on the CS to the west of the junction. It is also noted that no swept path analysis for a large vehicle turning either right in or right out of this junction has been provided; the Audit Team is concerned that similar issues may exist with these movements.	It is recommended that the junction layout is revisited/ revised to better accommodate the turning manoeuvres specified so that larger vehicles do not significantly overrun the centre line on Road 09 or potentially collide with the central islands. Swept path analysis of large vehicles turning right in and out of the junction should also be carried out to ensure that these movements can also be safely accommodated. The subject swept path analysis associated with the Road 08 and Northern Arc avenue junction aims to demonstrate that a 16m long articulated (HGV) could physically make these manourve while remaining within the carriageway, avoiding damage to kerbs and street furniture. The junction is not intended to facilitate HGV movements concurrent to opposing vehicle movements as the likelihood of this occurring is low. MfS 6.5.8 suggests swept-path analysis can be used to determine the ability of streets to accommodate large vehicles. Bus routes in residential areas are likely to require a more generous swept path to allow efficient operation. While it would be acceptable for the occasional lorry to have to negotiate a particular junction with care, buses
Prepared for: Homes England Document No.: 60610807-ACM-CS-XX-RP-HW-0006 Version 1.0 Status S1 Date 21.01.2025	AECOM

need to be able to do so with relative ease.

In addition, the Northern Arc avenue aims to deter large vehicle movements along Cuckfield Road by providing direct access from Isaccs Lane to the A3200 to the east.

The proposed junction layout accords to the above.

No change is proposed.

Area: ROAD SIGNS, CARRIAGEWAY MARKINGS & LIGHTING
Problem: E1
Location: Cuckfield Road South (Road 09) junction with CS
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-1206

Road users proceeding north on Cuckfield Road South (Road 09) may be unaware of transition to 20mph on joining CS. This could result in road users proceeding at excessive speeds along the CS.

It is recommended that appropriate speed limit signage is provided throughout the scheme at detailed design stage.

Agreed, terminal signs for transition between 30mph Cuckfield Road and 20mph CS to be provided.

In addition, please refer to Highways Traffic Signs and Marking Plan Layout by Tony Gee drawing No. EBLR-TGEE-XX-12-DR-C-1202. Confirming intention for speed terminal signs (20/40mph) on the west junction from Isaac's Lane (A273).

Whilst a thorough signage review has not been undertaken as part of this Stage 1 Road Safety Audit, it is understood that the proposed speed limit of the eastern section of the CS is 20mph, whereas the existing speed limit on Cuckfield Road South (Road 09) is 30mph. Whilst speed limit signage is proposed elsewhere within the scheme, no speed limit signs are proposed at the CS/ Cuckfield Road South (Road 09) junction to inform road users of the 20mph/ 30mph speed limit change. This could result in road users proceeding at inappropriate speeds on the CS in the scheme, increasing the potential for speed-related collisions with vulnerable users attempting to cross the CS or with road users turning at junctions.

Area: ROAD SIGNS, CARRIAGEWAY MARKINGS & LIGHTING
Problem: E2
Location: Roads 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0101 to 0107

Give-way lines are provided at the side road junctions throughout the scheme in order to allow priority for pedestrian/ cycle crossing users.

It is recommended that the give-way lines are not provided on the ramps, or at locations where vehicles may roll back when giving-way.

Refer to response to A4 and C11.

Give way lines will be moved away from ramps where space permits. Elsewhere (e.g. where the ramp for the raised crossing aligns to the CS kerb, the give way lines will remain as documented.

At a number of locations, the give-way lines are shown on the ramps leading up to the raised tables. This may result in vehicles rolling back and into a vehicle behind, either on the CS or the side road, resulting in vehicular collisions occurring. See also Problem/ Recommendation A4 and C11.

Area: ROAD SIGNS, CARRIAGEWAY MARKINGS & LIGHTING

Problem: E3
Location: Road 9 junction with CS
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0106

Lack of give-way line on approach to crossing may result in collisions involving crossing users and turning vehicles.

It is recommended that a give-way line is provided for traffic exiting the CS onto Road 9 (as is proposed at other similar side road junctions along the scheme. See also Problem/ Recommendation C11 and A4.

Agreed, give-way marking to be added to drawings.

Give-way lines are provided at the side road junctions throughout the scheme in order to allow priority for pedestrian/ cycle crossing users, however give-way lining is not provided on the side road exit from the CS for the Road 9 junction crossing. This omission may result in vehicles failing to stop at the crossing and colliding with crossing users.

Area: ROAD SIGNS, CARRIAGEWAY MARKINGS & LIGHTING
Problem: E4
Location: Road 11 junction with CS
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0107

Positioning of give-way line may mislead drivers into thinking a one-way road is provided, leading to head-on collisions occurring.

It is recommended that the give-way line is positioned further south, away from the junction mouth. See also Problem/ Recommendation C11 and A4.

Agreed, give-way marking position to be amended.

A give-way line is provided at the side road junction to allow priority for pedestrian/ cycle crossing users. The positioning of the give-way line at this location is across the junction mouth, appearing as a continuation of the give-way line for those exiting Road 11; the audit team are concerned that some road users may believe that Road 11 is a one-way road (heading towards the CS) which may result in some road users approaching the CS along Road 11 in the offside (southbound lane), potentially resulting in head on collisions occurring.

Area: ROAD SIGNS, CARRIAGEWAY MARKINGS & LIGHTING
Problem: E5
Location: Proposed build out traffic calming measures on Cuckfield Road
Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-0109 and 0110

Absence of lighting in vicinity of build outs may result in road users colliding with the build outs or failing to give-way. This could result in

It is recommended that the proposed build outs and/ or the area around them are illuminated. It is considered that lighting of these features

Comment to be reviewed in conjunction with the Highway Authority.

collisions with the build outs or head on collisions with opposing traffic.

No lighting is proposed in the vicinity of the two traffic calming buildouts proposed on Cuckfield Road. As a result, road users may fail to be aware of these features, for example in adverse weather conditions, which may result in collisions with the build outs or head on collisions with opposing traffic.

would also help to provide a message to drivers in terms of the character/ nature of the area they are entering (from the north) which should assist in reducing speeds appropriate with the proposed 30mph limit in this section.

Area: ROAD SIGNS, CARRIAGEWAY MARKINGS & LIGHTING

Problem: E6

Location: Cuckfield Road – Proposed 40/ 30mph speed limit transition point

Drawing: 60610807-ACM-CS-ZZ-DR-HW-00-1210

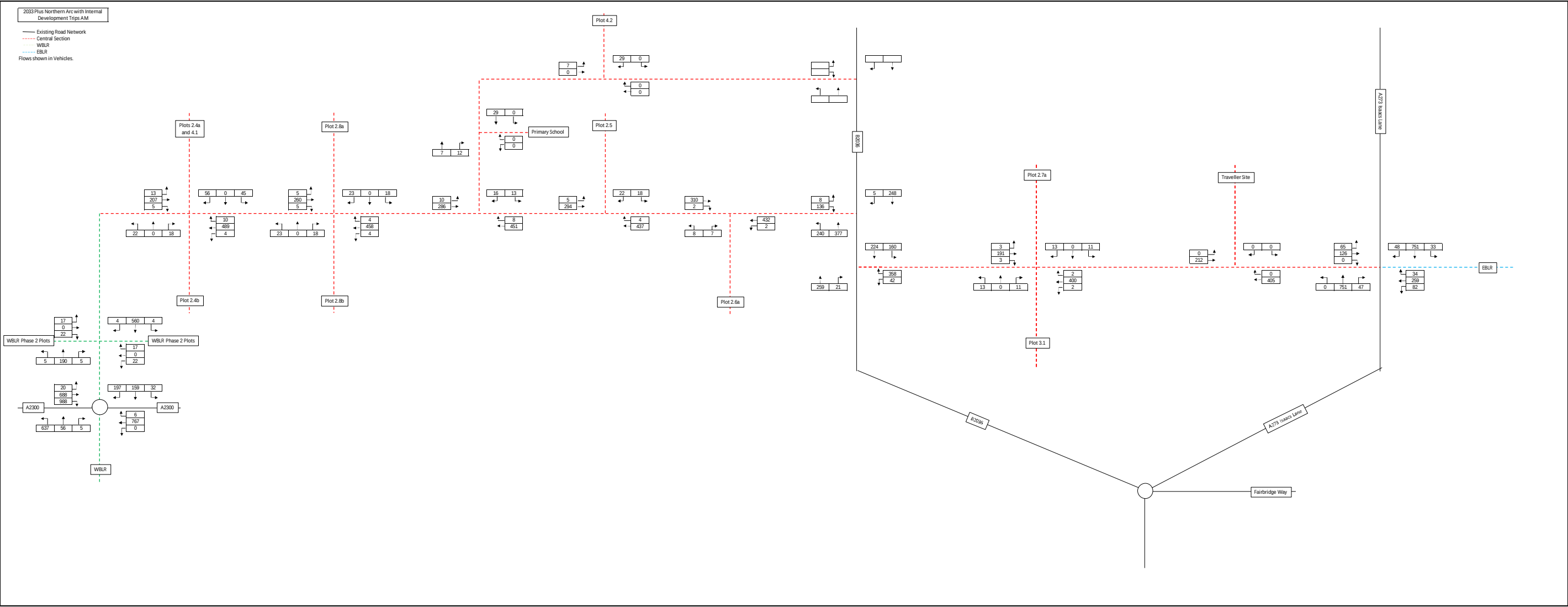
Absence of suitable 30mph/ 40mph speed limit transition gateway may result in southbound road users continuing at inappropriate speeds into the proposed 30mph area.

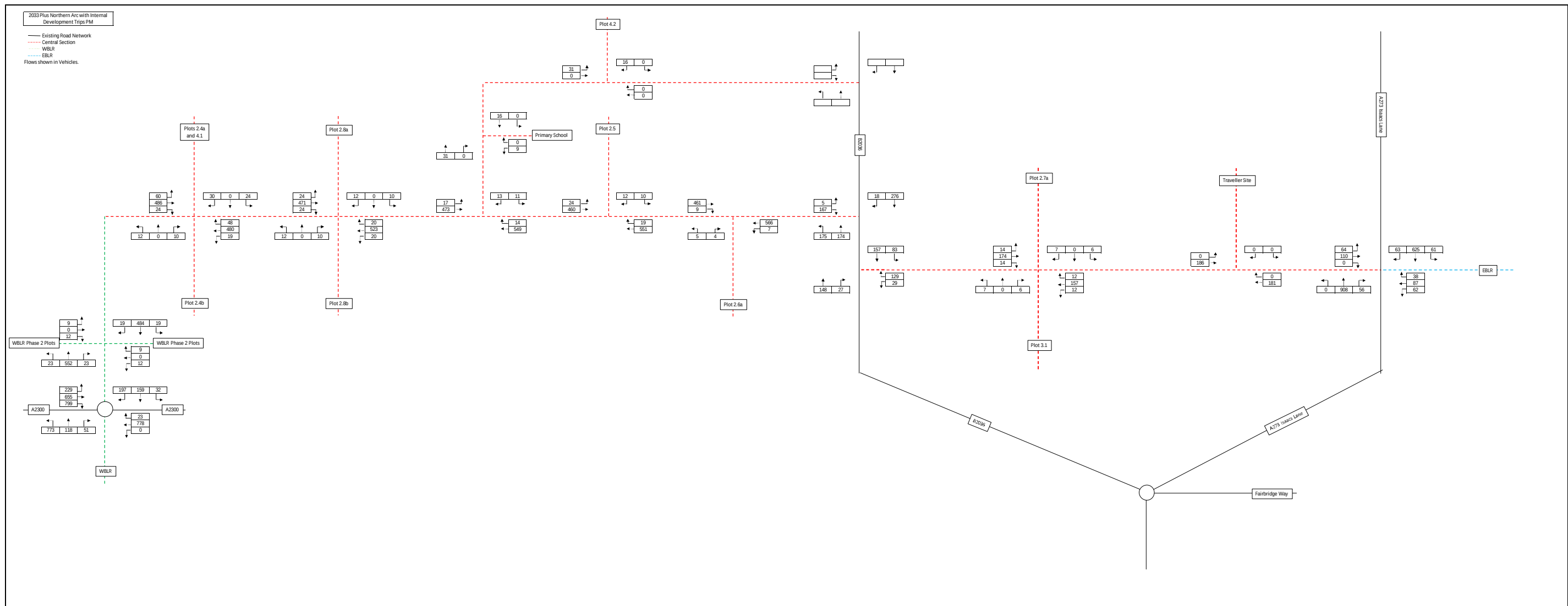
The proposed speed limit transition is located in a rural part of the scheme. Only standard speed limit gateway signs are proposed at this location. These alone, given the rural character of the road at this location are unlikely to be sufficient to rely on some southbound drivers reducing their speed limit appropriately for the speed limit change. This could result in road users entering the 30mph speed limit area at excess speeds for the speed limit which could result in loss of control/ speed related collisions in the study area.

It is recommended that a specific gateway feature, clearly highlighting the change of character and 30mph speed limit ahead is provided at this location to enhance the speed limit change to southbound drivers.

The existing highway in the subject area includes domestic driveways as well as a continuous domestic fence along the western side which implies the character of the area has changed relative to that north of the point at which the speed reduction is proposed. Further there is limited space within the highway boundary to accommodate a more substantial gateway feature. We propose to include a yellow backing board to the 30MPH speed sign, and (subject to the highway authority's review) colocate the 30MPH speed sign with a boundary sign similar to that proposed in Figure 8-21 of the Traffic Signs Manual (e.g. Brookleigh name sign). Red coloured surface markings will also be proposed to emphasise this gateway.

Appendix H – Flow Diagram





Appendix I – Junction Capacity Outputs

Junctions 10
PICADY 10 - Priority Intersection Module
Version: 10.0.4.1693 © Copyright TRL Software Limited, 2021
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Filename: Plot 2.4a_2.4b_4.1 Access.j10

Path: \\eu.aecomnet.com\euprojectvol\UKLON06-TI\London Dev Planning Library\Projects\60578790 - Northern Arc, Burgess Hill\Working - Central Avenue\06 Modelling\01 Plot 2.4a, 2.4b, 4.1

Report generation date: 24/07/2023 09:28:52

»2033 Plus Central Section, AM

»2033 Plus Central Section, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2033 Plus Central Section									
Stream B-ACD	D1	0.1	9.88	0.11	A	D2	0.1	10.45	0.07	B
Stream A-BCD		0.0	6.69	0.02	A		0.2	7.93	0.12	A
Stream D-ABC		0.3	10.60	0.25	B		0.2	12.16	0.17	B
Stream C-ABD		0.0	6.75	0.01	A		0.1	6.90	0.05	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	Brookleigh
Location	Central Section
Site number	Plot 2.4a_2.4b_4.1 Access
Date	30/06/2023
Version	
Status	(new file)
Identifier	
Client	Homes England
Jobnumber	60610807
Enumerator	NA\olivia.ross
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)
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		0.85	36.00	20.00
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Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2033 Plus Central Section, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Plot 2.4a_2.4b_4.1 Access	Crossroads	Two-way	Two-way	Two-way	Two-way		1.80	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.80	A

Arms

Arms

Arm	Name	Description	Arm type
A	Northern Arc Avenue (WB)		Major
B	Plot 2.4b Access (S)		Minor
C	Northern Arc Avenue (EB)		Major
D	Plot 2.4a and 4.1 Access (N)		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	6.50			34.8	✓	1.00
C	6.50			184.2	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.22	18	18
D	One lane	3.48	21	23

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	594	-	-	-	-	-	-	0.225	0.322	0.225	-	-	-
B-A	503	0.090	0.226	0.226	-	-	-	0.142	0.324	-	0.226	0.226	0.113
B-C	649	0.097	0.246	-	-	-	-	-	-	-	-	-	-

B-D, nearside lane	503	0.090	0.226	0.226	-	-	-	0.142	0.324	0.142	-	-	-
B-D, offside lane	503	0.090	0.226	0.226	-	-	-	0.142	0.324	0.142	-	-	-
C-B	681	0.258	0.258	0.369	-	-	-	-	-	-	-	-	-
D-A	669	-	-	-	-	-	-	0.254	-	0.100	-	-	-
D-B, nearside lane	520	0.147	0.147	0.334	-	-	-	0.234	0.234	0.093	-	-	-
D-B, offside lane	520	0.147	0.147	0.334	-	-	-	0.234	0.234	0.093	-	-	-
D-C	520	-	0.147	0.334	0.117	0.234	0.234	0.234	0.234	0.093	-	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	503	100.000
B		✓	40	100.000
C		✓	225	100.000
D		✓	101	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		A	B	C	D
	A	0	4	489	10
	B	18	0	22	0
	C	207	5	0	13
	D	45	0	56	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
--------	---------	---------------	-----------------	---------

B-ACD	0.11	9.88	0.1	A
A-BCD	0.02	6.69	0.0	A
A-B				
A-C				
D-ABC	0.25	10.60	0.3	B
C-ABD	0.01	6.75	0.0	A
C-D				
C-A				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	30	462	0.065	30	0.1	8.326	A
A-BCD	8	561	0.014	8	0.0	6.508	A
A-B	3			3			
A-C	368			368			
D-ABC	76	492	0.154	75	0.2	8.618	A
C-ABD	4	583	0.006	4	0.0	6.212	A
C-D	10			10			
C-A	156			156			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	36	440	0.082	36	0.1	8.917	A
A-BCD	9	555	0.016	9	0.0	6.589	A
A-B	4			4			
A-C	439			439			
D-ABC	91	475	0.191	91	0.2	9.357	A
C-ABD	5	565	0.008	5	0.0	6.427	A
C-D	12			12			
C-A	186			186			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	44	408	0.108	44	0.1	9.874	A
A-BCD	11	549	0.020	11	0.0	6.695	A
A-B	4			4			
A-C	538			538			
D-ABC	111	451	0.247	111	0.3	10.577	B
C-ABD	6	539	0.010	6	0.0	6.747	A
C-D	14			14			
C-A	228			228			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	44	408	0.108	44	0.1	9.881	A
A-BCD	11	549	0.020	11	0.0	6.695	A
A-B	4			4			
A-C	538			538			
D-ABC	111	451	0.247	111	0.3	10.599	B

C-ABD	6	539	0.010	6	0.0	6.747	A
C-D	14			14			
C-A	228			228			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	36	440	0.082	36	0.1	8.927	A
A-BCD	9	555	0.016	9	0.0	6.589	A
A-B	4			4			
A-C	439			439			
D-ABC	91	475	0.191	91	0.2	9.386	A
C-ABD	5	565	0.008	5	0.0	6.427	A
C-D	12			12			
C-A	186			186			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	30	462	0.065	30	0.1	8.342	A
A-BCD	8	561	0.014	8	0.0	6.511	A
A-B	3			3			
A-C	368			368			
D-ABC	76	492	0.154	76	0.2	8.659	A
C-ABD	4	583	0.006	4	0.0	6.213	A
C-D	10			10			
C-A	156			156			

2033 Plus Central Section, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Plot 2.4a_2.4b_4.1 Access	Crossroads	Two-way	Two-way	Two-way	Two-way		1.24	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.24	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	547	100.000
B		✓	22	100.000
C		✓	570	100.000
D		✓	54	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		A	B	C	D
	A	0	19	480	48
	B	10	0	12	0
	C	486	24	0	60
	D	24	0	30	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	0.07	10.45	0.1	B
A-BCD	0.12	7.93	0.2	A
A-B				
A-C				
D-ABC	0.17	12.16	0.2	B
C-ABD	0.05	6.90	0.1	A
C-D				
C-A				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	17	437	0.038	16	0.0	8.550	A
A-BCD	38	523	0.073	38	0.1	7.413	A
A-B	14			14			
A-C	359			359			
D-ABC	41	429	0.095	40	0.1	9.254	A
C-ABD	18	583	0.032	18	0.0	6.369	A
C-D	45			45			
C-A	366			366			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	20	409	0.048	20	0.1	9.244	A
A-BCD	47	517	0.091	47	0.1	7.652	A
A-B	17			17			
A-C	428			428			
D-ABC	49	399	0.122	48	0.1	10.275	B
C-ABD	22	568	0.039	22	0.0	6.594	A
C-D	54			54			
C-A	436			436			

17:15 - 17:30

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Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	24	369	0.066	24	0.1	10.439	B
A-BCD	60	515	0.117	60	0.1	7.921	A
A-B	21			21			
A-C	521			521			
D-ABC	59	356	0.167	59	0.2	12.140	B
C-ABD	28	550	0.051	28	0.1	6.897	A
C-D	66			66			
C-A	534			534			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	24	369	0.066	24	0.1	10.446	B
A-BCD	60	515	0.117	60	0.2	7.927	A
A-B	21			21			
A-C	521			521			
D-ABC	59	355	0.167	59	0.2	12.162	B
C-ABD	28	550	0.051	28	0.1	6.898	A
C-D	66			66			
C-A	534			534			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	20	409	0.048	20	0.1	9.252	A
A-BCD	47	517	0.091	47	0.1	7.662	A
A-B	17			17			
A-C	428			428			
D-ABC	49	398	0.122	49	0.1	10.305	B
C-ABD	22	568	0.039	22	0.0	6.599	A
C-D	54			54			
C-A	436			436			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	17	437	0.038	17	0.0	8.562	A
A-BCD	38	523	0.073	38	0.1	7.426	A
A-B	14			14			
A-C	359			359			
D-ABC	41	429	0.095	41	0.1	9.283	A
C-ABD	18	583	0.032	19	0.0	6.374	A
C-D	45			45			
C-A	366			366			

Junctions 10
PICADY 10 - Priority Intersection Module
Version: 10.0.4.1693 © Copyright TRL Software Limited, 2021
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Filename: Plot 2.8a_2.8b_Access.j10

Path: \\eu.aecomnet.com\euprojectvol\UKLON06-TI\London Dev Planning Library\Projects\60578790 - Northern Arc, Burgess Hill\Working - Central Avenue\06 Modelling\02 Plot 2.8a, 2.8b

Report generation date: 24/07/2023 09:54:13

»2033 Plus Central Section, AM

»2033 Plus Central Section, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2033 Plus Central Section									
Stream B-ACD	D1	0.1	9.55	0.11	A	D2	0.1	10.43	0.07	B
Stream A-BCD		0.0	6.38	0.01	A		0.0	7.21	0.04	A
Stream D-ABC		0.1	9.39	0.11	A		0.1	10.79	0.07	B
Stream C-ABD		0.0	7.33	0.01	A		0.1	7.67	0.06	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	Brookleigh
Location	Central Section
Site number	Plot 2.8a_2.8b Access
Date	30/06/2023
Version	
Status	(new file)
Identifier	
Client	Homes England
Jobnumber	60610807
Enumerator	NA\olivia.ross
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)
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		0.85	36.00	20.00
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Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2033 Plus Central Section, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Plot 2.8a_2.8b Access	Crossroads	Two-way	Two-way	Two-way	Two-way		1.03	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.03	A

Arms

Arms

Arm	Name	Description	Arm type
A	Northern Arc Avenue (WB)		Major
B	Plot 2.8b Access (S)		Minor
C	Northern Arc Avenue (EB)		Major
D	Plot 2.8a Access (N)		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	6.50			108.9	✓	1.00
C	6.50			67.7	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.22	18	19
D	One lane	3.22	19	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	637	-	-	-	-	-	-	0.241	0.345	0.241	-	-	-
B-A	503	0.090	0.227	0.227	-	-	-	0.143	0.324	-	0.227	0.227	0.113
B-C	649	0.097	0.246	-	-	-	-	-	-	-	-	-	-

B-D, nearside lane	503	0.090	0.227	0.227	-	-	-	0.143	0.324	0.143	-	-	-
B-D, offside lane	503	0.090	0.227	0.227	-	-	-	0.143	0.324	0.143	-	-	-
C-B	613	0.232	0.232	0.332	-	-	-	-	-	-	-	-	-
D-A	650	-	-	-	-	-	-	0.246	-	0.097	-	-	-
D-B, nearside lane	504	0.143	0.143	0.324	-	-	-	0.227	0.227	0.090	-	-	-
D-B, offside lane	504	0.143	0.143	0.324	-	-	-	0.227	0.227	0.090	-	-	-
D-C	504	-	0.143	0.324	0.114	0.227	0.227	0.227	0.227	0.090	-	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	466	100.000
B		✓	41	100.000
C		✓	270	100.000
D		✓	41	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		A	B	C	D
	A	0	4	458	4
	B	18	0	23	0
	C	260	5	0	5
	D	18	0	23	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
--------	---------	---------------	-----------------	---------

B-ACD	0.11	9.55	0.1	A
A-BCD	0.01	6.38	0.0	A
A-B				
A-C				
D-ABC	0.11	9.39	0.1	A
C-ABD	0.01	7.33	0.0	A
C-D				
C-A				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	31	472	0.065	31	0.1	8.154	A
A-BCD	3	589	0.005	3	0.0	6.139	A
A-B	3			3			
A-C	345			345			
D-ABC	31	471	0.066	31	0.1	8.167	A
C-ABD	4	533	0.007	4	0.0	6.804	A
C-D	4			4			
C-A	196			196			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	37	451	0.082	37	0.1	8.690	A
A-BCD	4	581	0.006	4	0.0	6.239	A
A-B	4			4			
A-C	412			412			
D-ABC	37	453	0.081	37	0.1	8.642	A
C-ABD	5	518	0.009	5	0.0	7.016	A
C-D	4			4			
C-A	234			234			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	45	422	0.107	45	0.1	9.543	A
A-BCD	4	569	0.008	4	0.0	6.379	A
A-B	4			4			
A-C	504			504			
D-ABC	45	428	0.105	45	0.1	9.389	A
C-ABD	6	497	0.011	6	0.0	7.328	A
C-D	6			6			
C-A	286			286			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	45	422	0.107	45	0.1	9.549	A
A-BCD	4	569	0.008	4	0.0	6.379	A
A-B	4			4			
A-C	504			504			
D-ABC	45	428	0.105	45	0.1	9.395	A

C-ABD	6	497	0.011	6	0.0	7.328	A
C-D	6			6			
C-A	286			286			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	37	451	0.082	37	0.1	8.698	A
A-BCD	4	581	0.006	4	0.0	6.239	A
A-B	4			4			
A-C	412			412			
D-ABC	37	453	0.081	37	0.1	8.651	A
C-ABD	5	518	0.009	5	0.0	7.019	A
C-D	4			4			
C-A	234			234			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	31	472	0.065	31	0.1	8.167	A
A-BCD	3	589	0.005	3	0.0	6.139	A
A-B	3			3			
A-C	345			345			
D-ABC	31	471	0.066	31	0.1	8.182	A
C-ABD	4	533	0.007	4	0.0	6.805	A
C-D	4			4			
C-A	196			196			

2033 Plus Central Section, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Plot 2.8a_2.8b Access	Crossroads	Two-way	Two-way	Two-way	Two-way		0.72	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.72	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	563	100.000
B		✓	22	100.000
C		✓	519	100.000
D		✓	22	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		A	B	C	D
	A	0	20	523	20
	B	10	0	12	0
	C	471	24	0	24
	D	10	0	12	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	0.07	10.43	0.1	B
A-BCD	0.04	7.21	0.0	A
A-B				
A-C				
D-ABC	0.07	10.79	0.1	B
C-ABD	0.06	7.67	0.1	A
C-D				
C-A				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	17	437	0.038	16	0.0	8.554	A
A-BCD	15	552	0.028	15	0.0	6.702	A
A-B	15			15			
A-C	393			393			
D-ABC	17	425	0.039	16	0.0	8.806	A
C-ABD	19	526	0.035	18	0.0	7.086	A
C-D	18			18			
C-A	354			354			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	20	409	0.048	20	0.1	9.243	A
A-BCD	19	539	0.034	19	0.0	6.917	A
A-B	18			18			
A-C	470			470			
D-ABC	20	397	0.050	20	0.1	9.531	A
C-ABD	22	513	0.044	22	0.0	7.335	A
C-D	22			22			
C-A	423			423			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	24	369	0.066	24	0.1	10.423	B
A-BCD	23	523	0.044	23	0.0	7.205	A

A-B	22			22			
A-C	575			575			
D-ABC	24	358	0.068	24	0.1	10.782	B
C-ABD	28	498	0.057	28	0.1	7.666	A
C-D	26			26			
C-A	517			517			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	24	369	0.066	24	0.1	10.428	B
A-BCD	23	523	0.044	23	0.0	7.208	A
A-B	22			22			
A-C	575			575			
D-ABC	24	358	0.068	24	0.1	10.787	B
C-ABD	28	498	0.057	28	0.1	7.666	A
C-D	26			26			
C-A	517			517			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	20	409	0.048	20	0.1	9.250	A
A-BCD	19	539	0.034	19	0.0	6.922	A
A-B	18			18			
A-C	470			470			
D-ABC	20	397	0.050	20	0.1	9.539	A
C-ABD	22	513	0.044	22	0.0	7.337	A
C-D	22			22			
C-A	423			423			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	17	437	0.038	17	0.0	8.563	A
A-BCD	15	552	0.028	15	0.0	6.706	A
A-B	15			15			
A-C	393			393			
D-ABC	17	425	0.039	17	0.0	8.813	A
C-ABD	19	526	0.035	19	0.0	7.093	A
C-D	18			18			
C-A	354			354			

Junctions 10				
PICADY 10 - Priority Intersection Module				
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Filename: Central Neighbourhood Centre Access.j10

Path: \\eu.aecomnet.com\euprojectvol\UKLON06-TI\London Dev Planning Library\Projects\60578790 - Northern Arc, Burgess Hill\Working - Central Avenue\06 Modelling\03 Local Centre

Report generation date: 24/07/2023 09:51:38

»2033 Plus Central Section, AM

»2033 Plus Central Section, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2033 Plus Central Section										
 Stream B-AC	D1	0.1	8.11	0.07	A	D2	0.1	9.50	0.07	A
Stream C-AB		0.0	6.71	0.02	A		0.0	7.34	0.03	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	Brookleigh
Location	Central Section
Site number	Central Neighbourhood Centre Access
Date	29/06/2023
Version	
Status	(new file)
Identifier	
Client	Homes England
Jobnumber	60610807
Enumerator	NA\olivia.ross
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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2033 Plus Central Section, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Central Neighbourhood Centre Access	T-Junction	Two-way	Two-way	Two-way		0.37	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.37	A

Arms

Arms

Arm	Name	Description	Arm type
A	Northern Arc Avenue (EB)		Major
B	Local Access (N)		Minor
C	Northern Arc Avenue (WB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.50			67.0	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	4.16	24	31

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	558	0.100	0.252	0.158	0.359
B-C	718	0.108	0.272	-	-
C-B	613	0.232	0.232	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	296	100.000
B		✓	29	100.000
C		✓	459	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	10	286
	B	16	0	13
	C	451	8	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.07	8.11	0.1	A
C-AB	0.02	6.71	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	22	523	0.042	22	0.0	7.184	A
C-AB	6	565	0.011	6	0.0	6.444	A
C-A	339			339			
A-B	8			8			
A-C	215			215			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	26	503	0.052	26	0.1	7.545	A
C-AB	7	556	0.013	7	0.0	6.556	A
C-A	405			405			
A-B	9			9			
A-C	257			257			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	32	476	0.067	32	0.1	8.110	A
C-AB	9	545	0.016	9	0.0	6.712	A
C-A	496			496			
A-B	11			11			
A-C	315			315			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	32	476	0.067	32	0.1	8.112	A
C-AB	9	545	0.016	9	0.0	6.712	A
C-A	496			496			
A-B	11			11			
A-C	315			315			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	26	503	0.052	26	0.1	7.547	A
C-AB	7	556	0.013	7	0.0	6.557	A
C-A	405			405			
A-B	9			9			
A-C	257			257			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	22	523	0.042	22	0.0	7.191	A
C-AB	6	565	0.011	6	0.0	6.447	A
C-A	339			339			
A-B	8			8			
A-C	215			215			

2033 Plus Central Section, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Central Neighbourhood Centre Access	T-Junction	Two-way	Two-way	Two-way		0.31	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.31	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	490	100.000
B		✓	24	100.000
C		✓	563	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	17	473
	B	13	0	11
	C	549	14	0

Vehicle Mix

Heavy Vehicle Percentages

--	--

From	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.07	9.50	0.1	A
C-AB	0.03	7.34	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	18	476	0.038	18	0.0	7.850	A
C-AB	11	535	0.020	11	0.0	6.861	A
C-A	413			413			
A-B	13			13			
A-C	356			356			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	22	447	0.048	22	0.1	8.462	A
C-AB	13	523	0.025	13	0.0	7.061	A
C-A	493			493			
A-B	15			15			
A-C	425			425			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	26	405	0.065	26	0.1	9.499	A
C-AB	16	507	0.032	16	0.0	7.337	A
C-A	604			604			
A-B	19			19			
A-C	521			521			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	26	405	0.065	26	0.1	9.504	A
C-AB	16	507	0.032	16	0.0	7.340	A
C-A	604			604			
A-B	19			19			

A-C	521			521			
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17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	22	447	0.048	22	0.1	8.469	A
C-AB	13	523	0.025	13	0.0	7.062	A
C-A	493			493			
A-B	15			15			
A-C	425			425			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	18	476	0.038	18	0.0	7.856	A
C-AB	11	535	0.020	11	0.0	6.861	A
C-A	413			413			
A-B	13			13			
A-C	356			356			

Junctions 10				
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Filename: Plot 2.5 Access.j10

Path: \\eu.aecomnet.com\euprojectvol\UKLON06-TI\London Dev Planning Library\Projects\60578790 - Northern Arc, Burgess Hill\Working - Central Avenue\06 Modelling\04 Plot 2.5

Report generation date: 24/07/2023 09:58:11

»2033 Plus Central Section, AM

»2033 Plus Central Section, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2033 Plus Central Section										
Stream B-AC	D1	0.1	9.31	0.10	A	D2	0.1	10.54	0.07	B
Stream C-AB		0.0	6.47	0.01	A		0.0	7.05	0.04	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	Brookleigh
Location	Central Section
Site number	Plot 2.5 Access
Date	30/06/2023
Version	
Status	(new file)
Identifier	
Client	Homes England
Jobnumber	60610807
Enumerator	NA\olivia.ross
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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2033 Plus Central Section, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Plot 2.5 Access	T-Junction	Two-way	Two-way	Two-way		0.51	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.51	A

Arms

Arms

Arm	Name	Description	Arm type
A	Northern Arc Avenue (EB)		Major
B	Plot 2.5 Access (N)		Minor
C	Northern Arc Avenue (WB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.50			107.9	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.23	17	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	503	0.090	0.226	0.142	0.324
B-C	649	0.097	0.246	-	-
C-B	636	0.241	0.241	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	299	100.000
B		✓	40	100.000
C		✓	441	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	5	294
	B	22	0	18
	C	437	4	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.10	9.31	0.1	A
C-AB	0.01	6.47	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	30	472	0.064	30	0.1	8.128	A
C-AB	3	584	0.005	3	0.0	6.197	A
C-A	329			329			
A-B	4			4			
A-C	221			221			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	36	455	0.079	36	0.1	8.588	A
C-AB	4	574	0.006	4	0.0	6.309	A
C-A	393			393			
A-B	4			4			
A-C	264			264			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	44	431	0.102	44	0.1	9.309	A
C-AB	4	561	0.008	4	0.0	6.469	A
C-A	481			481			
A-B	6			6			
A-C	324			324			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	44	431	0.102	44	0.1	9.312	A
C-AB	4	561	0.008	4	0.0	6.469	A
C-A	481			481			
A-B	6			6			
A-C	324			324			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	36	455	0.079	36	0.1	8.594	A
C-AB	4	574	0.006	4	0.0	6.310	A
C-A	393			393			
A-B	4			4			
A-C	264			264			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	30	472	0.064	30	0.1	8.140	A
C-AB	3	584	0.005	3	0.0	6.199	A
C-A	329			329			
A-B	4			4			
A-C	221			221			

2033 Plus Central Section, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Plot 2.5 Access	T-Junction	Two-way	Two-way	Two-way		0.34	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.34	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	484	100.000
B		✓	22	100.000
C		✓	570	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	24	460
	B	12	0	10
	C	551	19	0

Vehicle Mix

Heavy Vehicle Percentages

--	--

From	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.07	10.54	0.1	B
C-AB	0.04	7.05	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	17	430	0.039	16	0.0	8.711	A
C-AB	15	559	0.026	14	0.0	6.607	A
C-A	415			415			
A-B	18			18			
A-C	346			346			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	20	403	0.049	20	0.1	9.388	A
C-AB	18	547	0.032	18	0.0	6.794	A
C-A	495			495			
A-B	22			22			
A-C	414			414			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	24	366	0.066	24	0.1	10.540	B
C-AB	22	533	0.041	22	0.0	7.045	A
C-A	606			606			
A-B	26			26			
A-C	506			506			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	24	366	0.066	24	0.1	10.544	B
C-AB	22	533	0.041	22	0.0	7.048	A
C-A	606			606			
A-B	26			26			

A-C	506			506			
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17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	20	403	0.049	20	0.1	9.396	A
C-AB	18	547	0.032	18	0.0	6.797	A
C-A	495			495			
A-B	22			22			
A-C	414			414			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	17	430	0.039	17	0.0	8.718	A
C-AB	15	559	0.026	15	0.0	6.610	A
C-A	415			415			
A-B	18			18			
A-C	346			346			

Junctions 10									
PICADY 10 - Priority Intersection Module									
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Filename: Plot 2.6a Access_updated.j10

Path: \\eu.aecomnet.com\euprojectvol\UKLON06-TI\London Dev Planning Library\Projects\60578790 - Northern Arc, Burgess Hill\Working - Central Avenue\06 Modelling\05 Plot 2.6a

Report generation date: 31/10/2024 12:39:25

»2033 Plus Central Section, AM

»2033 Plus Central Section, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2033 Plus Central Section										
Stream B-AC	D1	0.0	8.82	0.04	A	D2	0.0	9.91	0.03	A
Stream C-AB		0.0	7.48	0.00	A		0.0	8.02	0.02	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	Brookleigh
Location	Central Section
Site number	Plot 2.6a Access
Date	30/06/2023
Version	
Status	(new file)
Identifier	
Client	Homes England
Jobnumber	60610807
Enumerator	NA\olivia.ross
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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15

D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15
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Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2033 Plus Central Section, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Plot 2.6a Access	T-Junction	Two-way	Two-way	Two-way		0.19	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.19	A

Arms

Arms

Arm	Name	Description	Arm type
A	Northern Arc Avenue (WB)		Major
B	Plot 2.6a Access (S)		Minor
C	Northern Arc Avenue (EB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.50			25.2	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.21	18	18

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	503	0.090	0.226	0.142	0.323
B-C	649	0.097	0.246	-	-
C-B	589	0.223	0.223	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	434	100.000
B		✓	15	100.000
C		✓	312	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	2	432
	B	7	0	8
	C	310	2	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.04	8.82	0.0	A
C-AB	0.00	7.48	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	11	472	0.024	11	0.0	7.813	A
C-AB	2	516	0.003	1	0.0	6.991	A
C-A	233			233			
A-B	2			2			
A-C	325			325			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	13	452	0.030	13	0.0	8.206	A
C-AB	2	502	0.004	2	0.0	7.189	A
C-A	279			279			
A-B	2			2			
A-C	388			388			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	17	425	0.039	16	0.0	8.819	A
C-AB	2	483	0.005	2	0.0	7.478	A
C-A	341			341			
A-B	2			2			
A-C	476			476			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	17	425	0.039	17	0.0	8.819	A
C-AB	2	483	0.005	2	0.0	7.478	A
C-A	341			341			
A-B	2			2			
A-C	476			476			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	13	452	0.030	14	0.0	8.209	A
C-AB	2	502	0.004	2	0.0	7.189	A
C-A	279			279			
A-B	2			2			
A-C	388			388			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	11	472	0.024	11	0.0	7.817	A
C-AB	2	516	0.003	2	0.0	6.994	A
C-A	233			233			
A-B	2			2			
A-C	325			325			

2033 Plus Central Section, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Plot 2.6a Access	T-Junction	Two-way	Two-way	Two-way		0.15	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.15	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	573	100.000
B		✓	9	100.000
C		✓	470	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	7	566
	B	4	0	5
	C	461	9	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	0
	B	0	0	0

	C	0	0	0
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Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.03	9.91	0.0	A
C-AB	0.02	8.02	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	7	439	0.015	7	0.0	8.327	A
C-AB	7	497	0.014	7	0.0	7.342	A
C-A	347			347			
A-B	5			5			
A-C	426			426			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	8	412	0.020	8	0.0	8.920	A
C-AB	8	481	0.017	8	0.0	7.618	A
C-A	414			414			
A-B	6			6			
A-C	509			509			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	10	373	0.027	10	0.0	9.914	A
C-AB	10	459	0.022	10	0.0	8.019	A
C-A	507			507			
A-B	8			8			
A-C	623			623			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	10	373	0.027	10	0.0	9.914	A
C-AB	10	459	0.022	10	0.0	8.021	A
C-A	507			507			
A-B	8			8			
A-C	623			623			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	8	412	0.020	8	0.0	8.923	A
C-AB	8	481	0.017	8	0.0	7.618	A
C-A	414			414			

A-B	6			6			
A-C	509			509			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	7	439	0.015	7	0.0	8.330	A
C-AB	7	497	0.014	7	0.0	7.345	A
C-A	347			347			
A-B	5			5			
A-C	426			426			

Junctions 10				
PICADY 10 - Priority Intersection Module				
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Filename: Northern Arc Avenue_B2036 Cuckfield Road (northern)_updated.j10

Path: \\eu.aecomnet.com\euprojectvo\UKLON06-TI\London Dev Planning Library\Projects\60578790 - Northern Arc, Burgess Hill\Working - Central Avenue\06 Modelling\06 NA Cuckfield Rd North

Report generation date: 31/10/2024 13:35:30

»2033 Plus Central Section, AM

»2033 Plus Central Section, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2033 Plus Central Section										
Stream B-C	D1	0.7	8.76	0.40	A	D2	0.8	9.95	0.46	A
Stream B-A		0.0	13.77	0.02	B		0.1	11.64	0.06	B
Stream C-AB		2.3	16.61	0.68	C		0.5	8.70	0.32	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	Brookleigh
Location	Central Section
Site number	Northern Arc Avenue_B2036 Cuckfield Road (N)
Date	30/06/2023
Version	
Status	(new file)
Identifier	
Client	Homes England
Jobnumber	60610807
Enumerator	NA\olivia.ross
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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2033 Plus Central Section, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Northern Arc Avenue_B2036 Cuckfield Road (N)	T-Junction	Two-way	Two-way	Two-way		8.78	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.78	A

Arms

Arms

Arm	Name	Description	Arm type
A	Northern Arc Avenue (EB)		Major
B	B2036 Cuckfield Road (N)		Minor
C	Northern Arc Avenue (WB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.82		✓	3.00	39.7	✓	3.50

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	4.80	4.00	3.99	3.99	✓	1.00	41	30

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	483	0.085	0.214	0.135	0.306
B-C	729	0.108	0.272	-	-
C-B	649	0.242	0.242	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	144	100.000
B		✓	253	100.000
C		✓	617	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	8	136
	B	5	0	248
	C	240	377	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.40	8.76	0.7	A
B-A	0.02	13.77	0.0	B
C-AB	0.68	16.61	2.3	C
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	187	699	0.267	185	0.4	6.993	A
B-A	4	343	0.011	4	0.0	10.617	B
C-AB	289	634	0.456	286	0.8	10.242	B
C-A	175			175			
A-B	6			6			
A-C	102			102			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	223	692	0.322	223	0.5	7.654	A
B-A	4	312	0.014	4	0.0	11.719	B
C-AB	353	644	0.549	352	1.2	12.269	B
C-A	201			201			
A-B	7			7			
A-C	122			122			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	273	684	0.399	272	0.7	8.731	A
B-A	6	268	0.021	5	0.0	13.710	B
C-AB	462	679	0.680	458	2.2	16.089	C
C-A	218			218			
A-B	9			9			
A-C	150			150			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	273	684	0.399	273	0.7	8.763	A
B-A	6	267	0.021	6	0.0	13.771	B
C-AB	462	679	0.680	461	2.3	16.609	C
C-A	218			218			
A-B	9			9			
A-C	150			150			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	223	692	0.322	224	0.5	7.692	A
B-A	4	310	0.015	5	0.0	11.790	B
C-AB	353	644	0.549	357	1.3	12.742	B
C-A	201			201			
A-B	7			7			
A-C	122			122			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	187	699	0.267	187	0.4	7.044	A
B-A	4	341	0.011	4	0.0	10.677	B
C-AB	289	634	0.456	291	0.9	10.545	B
C-A	175			175			
A-B	6			6			
A-C	102			102			

2033 Plus Central Section, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Northern Arc Avenue_B2036 Cuckfield Road (N)	T-Junction	Two-way	Two-way	Two-way		5.49	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.49	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	172	100.000
B		✓	294	100.000
C		✓	349	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	5	167
	B	18	0	276
	C	175	174	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	0	0
	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.46	9.95	0.8	A
B-A	0.06	11.64	0.1	B
C-AB	0.32	8.70	0.5	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	208	686	0.303	206	0.4	7.475	A
B-A	14	392	0.035	13	0.0	9.515	A
C-AB	131	618	0.212	130	0.3	7.360	A
C-A	132			132			
A-B	4			4			
A-C	126			126			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	248	678	0.366	248	0.6	8.360	A
B-A	16	367	0.044	16	0.0	10.253	B
C-AB	157	613	0.256	156	0.3	7.885	A
C-A	157			157			
A-B	4			4			
A-C	150			150			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	304	666	0.456	303	0.8	9.890	A
B-A	20	330	0.060	20	0.1	11.615	B
C-AB	193	606	0.318	192	0.5	8.676	A
C-A	192			192			
A-B	6			6			
A-C	184			184			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	304	666	0.456	304	0.8	9.946	A
B-A	20	329	0.060	20	0.1	11.636	B
C-AB	193	606	0.318	193	0.5	8.699	A
C-A	192			192			
A-B	6			6			
A-C	184			184			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	248	678	0.366	249	0.6	8.423	A
B-A	16	367	0.044	16	0.0	10.278	B
C-AB	157	613	0.256	157	0.3	7.912	A
C-A	157			157			
A-B	4			4			
A-C	150			150			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	208	686	0.303	208	0.4	7.551	A
B-A	14	391	0.035	14	0.0	9.544	A
C-AB	131	618	0.212	131	0.3	7.401	A
C-A	132			132			
A-B	4			4			
A-C	126			126			

Junctions 10				
PICADY 10 - Priority Intersection Module				
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Filename: Northern Arc Avenue_B2036 Cuckfield Road (southern)_updated.j10

Path: \\eu.aecomnet.com\euprojectvol\UKLON06-TI\London Dev Planning Library\Projects\60578790 - Northern Arc, Burgess Hill\Working - Central Avenue\06 Modelling\07 NA Cuckfield Rd South

Report generation date: 31/10/2024 13:45:17

»2033 Plus Central Section, AM

»2033 Plus Central Section, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2033 Plus Central Section										
Stream B-C	D1	0.8	10.53	0.45	B	D2	0.3	6.70	0.23	A
Stream B-A		0.1	12.00	0.07	B		0.1	8.41	0.06	A
Stream C-AB		0.7	9.56	0.40	A		0.3	6.94	0.25	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	Brookleigh
Location	Central Section
Site number	Northern Arc Avenue_B2036 Cuckfield Road (S)
Date	30/06/2023
Version	
Status	(new file)
Identifier	
Client	Homes England
Jobnumber	60610807
Enumerator	NA\olivia.ross
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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2033 Plus Central Section, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Northern Arc Avenue_B2036 Cuckfield Road (S)	T-Junction	Two-way	Two-way	Two-way		4.83	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.83	A

Arms

Arms

Arm	Name	Description	Arm type
A	Northern Arc Avenue (WB)		Major
B	B2036 Cuckfield Road (S)		Minor
C	Northern Arc Avenue (EB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.70		✓	3.30	148.0	✓	3.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	9.00	4.05	3.94	3.85	3.85	✓	1.00	30	87

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	583	0.103	0.260	0.164	0.372
B-C	756	0.112	0.284	-	-
C-B	739	0.277	0.277	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	400	100.000
B		✓	280	100.000
C		✓	384	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	42	358
	B	21	0	259
	C	160	224	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.45	10.53	0.8	B
B-A	0.07	12.00	0.1	B
C-AB	0.40	9.56	0.7	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	195	669	0.291	193	0.4	7.538	A
B-A	16	418	0.038	16	0.0	8.957	A
C-AB	169	657	0.257	168	0.3	7.336	A
C-A	120			120			
A-B	32			32			
A-C	270			270			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	233	652	0.357	232	0.5	8.567	A
B-A	19	380	0.050	19	0.1	9.974	A
C-AB	203	643	0.315	202	0.5	8.155	A
C-A	142			142			
A-B	38			38			
A-C	322			322			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	285	627	0.455	284	0.8	10.460	B
B-A	23	324	0.071	23	0.1	11.967	B
C-AB	251	628	0.400	250	0.7	9.520	A
C-A	172			172			
A-B	46			46			
A-C	394			394			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	285	627	0.455	285	0.8	10.527	B
B-A	23	323	0.072	23	0.1	11.999	B
C-AB	251	628	0.400	251	0.7	9.559	A
C-A	172			172			
A-B	46			46			
A-C	394			394			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	233	652	0.357	234	0.6	8.637	A
B-A	19	379	0.050	19	0.1	10.006	B
C-AB	203	643	0.315	204	0.5	8.203	A
C-A	142			142			
A-B	38			38			
A-C	322			322			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	195	669	0.291	196	0.4	7.609	A
B-A	16	417	0.038	16	0.0	8.986	A
C-AB	169	657	0.257	170	0.4	7.394	A
C-A	120			120			
A-B	32			32			
A-C	270			270			

2033 Plus Central Section, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Northern Arc Avenue_B2036 Cuckfield Road (S)	T-Junction	Two-way	Two-way	Two-way		4.03	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.03	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	158	100.000
B		✓	175	100.000
C		✓	240	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	29	129
	B	27	0	148
	C	83	157	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	0	0
	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.23	6.70	0.3	A
B-A	0.06	8.41	0.1	A
C-AB	0.25	6.94	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	111	718	0.155	111	0.2	5.917	A
B-A	20	500	0.041	20	0.0	7.506	A
C-AB	118	706	0.168	117	0.2	6.110	A
C-A	62			62			
A-B	22			22			
A-C	97			97			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	133	711	0.187	133	0.2	6.229	A
B-A	24	482	0.050	24	0.1	7.858	A
C-AB	141	700	0.202	141	0.3	6.441	A
C-A	74			74			
A-B	26			26			
A-C	116			116			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	163	700	0.233	163	0.3	6.698	A
B-A	30	458	0.065	30	0.1	8.404	A
C-AB	173	692	0.250	173	0.3	6.933	A
C-A	91			91			
A-B	32			32			
A-C	142			142			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	163	700	0.233	163	0.3	6.704	A
B-A	30	458	0.065	30	0.1	8.409	A
C-AB	173	692	0.250	173	0.3	6.941	A
C-A	91			91			
A-B	32			32			
A-C	142			142			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	133	711	0.187	133	0.2	6.238	A
B-A	24	482	0.050	24	0.1	7.866	A
C-AB	141	700	0.202	142	0.3	6.451	A
C-A	74			74			
A-B	26			26			
A-C	116			116			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	111	718	0.155	112	0.2	5.935	A
B-A	20	499	0.041	20	0.0	7.519	A
C-AB	118	706	0.168	118	0.2	6.132	A
C-A	62			62			
A-B	22			22			
A-C	97			97			

Junctions 10				
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Filename: Plot 2.7a_3.1 Access_updated.j10

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Report generation date: 31/10/2024 13:55:48

»2033 Plus Central Section, AM

»2033 Plus Central Section, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2033 Plus Central Section										
Stream B-ACD	D1	0.1	8.37	0.06	A	D2	0.0	7.17	0.03	A
Stream A-BCD		0.0	6.58	0.00	A		0.0	6.72	0.02	A
Stream D-ABC		0.1	8.18	0.06	A		0.0	7.49	0.03	A
Stream C-ABD		0.0	6.83	0.01	A		0.0	6.27	0.03	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	Brookleigh
Location	Central Section
Site number	Plot 2.7a_3.1 Access
Date	30/06/2023
Version	
Status	(new file)
Identifier	
Client	Homes England
Jobnumber	60610807
Enumerator	NA\olivia.ross
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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2033 Plus Central Section, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Plot 2.7a_3.1 Access	Crossroads	Two-way	Two-way	Two-way	Two-way		0.66	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.66	A

Arms

Arms

Arm	Name	Description	Arm type
A	Northern Arc Avenue (WB)		Major
B	Plot 3.1 Access (S)		Minor
C	Northern Arc Avenue (EB)		Major
D	Plot 2.7a Access (N)		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	7.50			34.7	✓	1.00
C	7.50			98.2	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.22	27	29
D	One lane	3.22	19	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	594	-	-	-	-	-	-	0.215	0.307	0.215	-	-	-
B-A	512	0.087	0.220	0.220	-	-	-	0.138	0.314	-	0.220	0.220	0.110
B-C	656	0.094	0.238	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	512	0.087	0.220	0.220	-	-	-	0.138	0.314	0.138	-	-	-
B-D, offside lane	512	0.087	0.220	0.220	-	-	-	0.138	0.314	0.138	-	-	-
C-B	631	0.228	0.228	0.326	-	-	-	-	-	-	-	-	-
D-A	651	-	-	-	-	-	-	0.236	-	0.093	-	-	-
D-B, nearside lane	505	0.137	0.137	0.310	-	-	-	0.217	0.217	0.086	-	-	-
D-B, offside lane	505	0.137	0.137	0.310	-	-	-	0.217	0.217	0.086	-	-	-
D-C	505	-	0.137	0.310	0.109	0.217	0.217	0.217	0.217	0.086	-	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	404	100.000
B		✓	24	100.000
C		✓	197	100.000
D		✓	24	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	2	400	2
	B	11	0	13	0
	C	191	3	0	3
	D	11	0	13	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	A	B	C	D	
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	0.06	8.37	0.1	A
A-BCD	0.00	6.58	0.0	A
A-B				
A-C				
D-ABC	0.06	8.18	0.1	A
C-ABD	0.01	6.83	0.0	A
C-D				
C-A				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	18	496	0.036	18	0.0	7.522	A
A-BCD	2	563	0.003	1	0.0	6.413	A
A-B	2			2			
A-C	301			301			
D-ABC	18	498	0.036	18	0.0	7.500	A
C-ABD	2	562	0.004	2	0.0	6.433	A
C-D	2			2			
C-A	144			144			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	22	480	0.045	22	0.0	7.857	A
A-BCD	2	557	0.003	2	0.0	6.484	A
A-B	2			2			
A-C	360			360			
D-ABC	22	485	0.045	22	0.0	7.770	A
C-ABD	3	549	0.005	3	0.0	6.594	A
C-D	3			3			
C-A	172			172			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	26	457	0.058	26	0.1	8.366	A
A-BCD	2	549	0.004	2	0.0	6.584	A
A-B	2			2			
A-C	440			440			
D-ABC	26	467	0.057	26	0.1	8.174	A
C-ABD	3	530	0.006	3	0.0	6.830	A
C-D	3			3			
C-A	210			210			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	26	457	0.058	26	0.1	8.368	A
ABCD	2	549	0.004	2	0.0	6.584	A
A-B	2			2			
A-C	440			440			
D-ABC	26	467	0.057	26	0.1	8.175	A
C-ABD	3	530	0.006	3	0.0	6.830	A
C-D	3			3			
C-A	210			210			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	22	480	0.045	22	0.0	7.859	A
ABCD	2	557	0.003	2	0.0	6.487	A
A-B	2			2			
A-C	360			360			
D-ABC	22	485	0.045	22	0.0	7.772	A
C-ABD	3	549	0.005	3	0.0	6.595	A
C-D	3			3			
C-A	172			172			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	18	496	0.036	18	0.0	7.530	A
ABCD	2	563	0.003	2	0.0	6.416	A
A-B	2			2			
A-C	301			301			
D-ABC	18	498	0.036	18	0.0	7.504	A
C-ABD	2	562	0.004	2	0.0	6.433	A
C-D	2			2			
C-A	144			144			

2033 Plus Central Section, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Plot 2.7a_3.1 Access	Crossroads	Two-way	Two-way	Two-way	Two-way		0.88	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.88	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	181	100.000
B		✓	13	100.000
C		✓	202	100.000
D		✓	13	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	12	157	12
	B	6	0	7	0
	C	174	14	0	14
	D	6	0	7	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	0.03	7.17	0.0	A
ABCD	0.02	6.72	0.0	A
A-B				
A-C				
D-ABC	0.03	7.49	0.0	A
C-ABD	0.03	6.27	0.0	A
C-D				
C-A				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	10	537	0.018	10	0.0	6.827	A
ABCD	9	562	0.016	9	0.0	6.505	A
A-B	9			9			
A-C	118			118			
D-ABC	10	516	0.019	10	0.0	7.104	A
C-ABD	11	601	0.018	11	0.0	6.093	A
C-D	11			11			
C-A	131			131			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	12	528	0.022	12	0.0	6.966	A
ABCD	11	557	0.019	11	0.0	6.593	A
A-B	11			11			
A-C	141			141			
D-ABC	12	507	0.023	12	0.0	7.262	A
C-ABD	13	596	0.021	13	0.0	6.169	A
C-D	13			13			
C-A	156			156			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	14	516	0.028	14	0.0	7.168	A
ABCD	13	549	0.024	13	0.0	6.716	A
A-B	13			13			
A-C	173			173			
D-ABC	14	495	0.029	14	0.0	7.494	A
C-ABD	16	589	0.026	16	0.0	6.272	A
C-D	15			15			
C-A	191			191			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	14	516	0.028	14	0.0	7.168	A
ABCD	13	549	0.024	13	0.0	6.716	A
A-B	13			13			
A-C	173			173			
D-ABC	14	495	0.029	14	0.0	7.494	A
C-ABD	16	589	0.026	16	0.0	6.275	A
C-D	15			15			
C-A	191			191			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	12	528	0.022	12	0.0	6.970	A
ABCD	11	557	0.019	11	0.0	6.594	A
A-B	11			11			
A-C	141			141			
D-ABC	12	507	0.023	12	0.0	7.263	A
C-ABD	13	596	0.021	13	0.0	6.172	A
C-D	13			13			
C-A	156			156			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	10	537	0.018	10	0.0	6.828	A
ABCD	9	562	0.016	9	0.0	6.505	A
A-B	9			9			
A-C	118			118			
D-ABC	10	516	0.019	10	0.0	7.105	A
C-ABD	11	601	0.018	11	0.0	6.094	A
C-D	11			11			
C-A	131			131			

Junctions 10				
PICADY 10 - Priority Intersection Module				
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Filename: Local Access.j10

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Report generation date: 24/07/2023 10:37:48

»2033 Plus Central Section, AM

»2033 Plus Central Section, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2033 Plus Central Section										
Stream B-AC	D1	0.0	0.00	0.00	A	D2	0.0	0.00	0.00	A
Stream C-AB		0.0	0.00	0.00	A		0.0	0.00	0.00	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	Brookleigh
Location	Central Section
Site number	Local Access
Date	30/06/2023
Version	
Status	(new file)
Identifier	
Client	Homes England
Jobnumber	60610807
Enumerator	NA\olivia.ross
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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2033 Plus Central Section, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Local Access	T-Junction	Two-way	Two-way	Two-way		0.00	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.00	A

Arms

Arms

Arm	Name	Description	Arm type
A	Northern Arc Avenue (EB)		Major
B	Local Access (N)		Minor
C	Northern Arc Avenue (WB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	9.30		✓	3.01	56.0	✓	3.30

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.24	27	31

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	514	0.083	0.209	0.131	0.298
B-C	659	0.084	0.212	-	-
C-B	660	0.219	0.219	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2033 Plus Central Section	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	212	100.000
B		✓	0	100.000
C		✓	405	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	0	212
	B	0	0	0
	C	405	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	517	0.000	0	0.0	0.000	A
C-AB	0	1250	0.000	0	0.0	0.000	A
C-A	305			305			
A-B	0			0			
A-C	160			160			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	505	0.000	0	0.0	0.000	A
C-AB	0	1236	0.000	0	0.0	0.000	A
C-A	364			364			
A-B	0			0			
A-C	191			191			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	488	0.000	0	0.0	0.000	A
C-AB	0	1218	0.000	0	0.0	0.000	A
C-A	446			446			
A-B	0			0			
A-C	233			233			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	488	0.000	0	0.0	0.000	A
C-AB	0	1218	0.000	0	0.0	0.000	A
C-A	446			446			
A-B	0			0			
A-C	233			233			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	505	0.000	0	0.0	0.000	A
C-AB	0	1236	0.000	0	0.0	0.000	A
C-A	364			364			
A-B	0			0			
A-C	191			191			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	517	0.000	0	0.0	0.000	A
C-AB	0	1250	0.000	0	0.0	0.000	A
C-A	305			305			
A-B	0			0			
A-C	160			160			

2033 Plus Central Section, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Local Access	T-Junction	Two-way	Two-way	Two-way		0.00	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.00	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2033 Plus Central Section	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	186	100.000
B		✓	0	100.000
C		✓	181	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	0	186
	B	0	0	0
	C	181	0	0

Vehicle Mix

Heavy Vehicle Percentages

--	--

From	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	536	0.000	0	0.0	0.000	A
C-AB	0	1258	0.000	0	0.0	0.000	A
C-A	136			136			
A-B	0			0			
A-C	140			140			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	528	0.000	0	0.0	0.000	A
C-AB	0	1247	0.000	0	0.0	0.000	A
C-A	163			163			
A-B	0			0			
A-C	167			167			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	517	0.000	0	0.0	0.000	A
C-AB	0	1230	0.000	0	0.0	0.000	A
C-A	199			199			
A-B	0			0			
A-C	205			205			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	517	0.000	0	0.0	0.000	A
C-AB	0	1230	0.000	0	0.0	0.000	A
C-A	199			199			
A-B	0			0			

A-C	205			205			
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17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	528	0.000	0	0.0	0.000	A
C-AB	0	1247	0.000	0	0.0	0.000	A
C-A	163			163			
A-B	0			0			
A-C	167			167			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	536	0.000	0	0.0	0.000	A
C-AB	0	1258	0.000	0	0.0	0.000	A
C-A	136			136			
A-B	0			0			
A-C	140			140			

