Suffolk County Council

ID Number: 20026012

The Sizewell C Project, Ref. EN010012

Comments on any additional information/submissions received at D5

Suffolk County Council Registration ID Number: 20026012

Deadline 6 **6 August 2021**

Table of content

Preamble

A very large amount of additional information has been submitted at Deadline 5 by the Applicant, with only nine working days from receipt of the documentation from the Applicant to submission Deadline. Whilst Suffolk County Council (SCC) has attempted to respond to as much as reasonably possible, due to the amount of information we have been unable to review a large proportion of the new documents. We reserve the right to comment further on updated documents at a later date and currently expect to do so (as necessary) by Deadline 7 on 3 September 2021.

[REP5-015] 2.5 TEMPORARY AND PERMANENT COASTAL DEFENCE FEATURE PLANS - NOT FOR APPROVAL - REVISION 2

1. Whilst in general, SCC defers to ESC for comments on coastal sea defence and coastal geomorphology issues, we do wish to make the following comment in relation to the coast path.

Table 1. SCC response to [REP5-015]

Ref	SZC Co plans in [REP5-015]	SCC Deadline 6 response	Ref to other submissions
2.5 Temporary and Permanent Coastal Defence Feature Plans - Not for approval - Revision 2	Deadline 5 Submission - 3.1(D) Draft Development Consent Order - Tracked Changes Version Revision 5 against Revision 4 - Revision 5	SCC notes in the Temporary and Permanent Coastal Defence Feature Plans - Not for approval rev 1.0 June 2021, the position of the coast path is shown in both the general arrangement and typical section plans, but in the Temporary and Permanent Coastal Defence Feature Plans - Not for approval rev 2.0 July 2021, the coast path is shown in the general arrangement only, and not in the typical sections. The county council has not yet agreed the overall alignment of the coast path but wishes to highlight this anomaly.	Temporary and Permanent Coastal Defence Feature Plans - Revision 1.0 [REP3-004]

[REP5-030/REP5-028] DEADLINE 5 SUBMISSION - DRAFT DEVELOPMENT CONSENT ORDER - TRACKED CHANGES VERSION REVISION 5 / REVISION 6

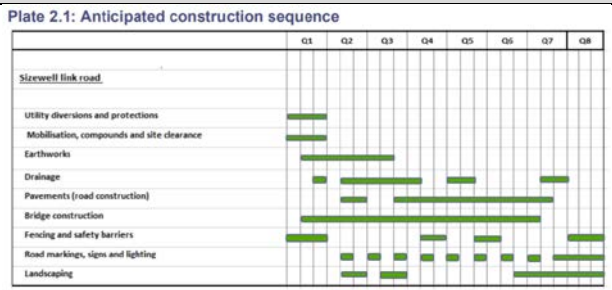
2. We note that the Applicant has submitted both Revision 5 [REP5-030] and Revision 6 [REP5-28] at Deadline 5. SCC, alongside ESC, is in discussion with the Applicant on a number of proposed changes to wording within the Draft Development Consent Order, and we assume that many of those changes will be incorporated in the next version of the Draft DCO to be submitted by the Applicant at Deadline 7. We therefore defer further comments until we have seen the next iteration of the Draft DCO.

3. As the Local Highway Authority, SCC has undertaken a high level review of the Rights of Way Plans in Schedule 5 and Schedules 10 and 11. While not a deep and exhaustive examination this has identified a number of anomalies indicating that in our view a full review for accuracy is necessary before these documents can be accepted. The definitive maps upon which the legal status of rights of way are recorded require a high level of clarity and accuracy. Failure to do so can compromise the legal status of any public rights of way stopped up, modified or created by the order.
4. SCC has also undertaken a similar high level review of the accuracy of DCO Schedules 10, 13 &14 from a highways perspective. While only a number of examples were examined the authority is concerned regarding the number of anomalies found int the review. As these also refer to legal orders, the accuracy of the documentation is vital to avoid challenges to their validity in the future.
5. SCC is in discussion with the Applicant to resolve these issues, with further comments to follow at Deadline 7 if necessary.

[REP5-058] 6.14 SIZEWELL LINK ROAD DESCRIPTION OF DEVELOPMENT - TRACKED CHANGES VERSION

6. SCC wishes to offer the following comments on the Applicant's updated Sizewell Link Road Description of Development [REP5-058]

Table 2. SCC response to [REP5-058]

Ref	SZC Co comments in [REP5-058]	SCC Deadline 6 response	Ref to other submissions
Plate 2.1		Plate 2.1 indicates the ESL bridge will be completed in Q7 from start of construction i.e. late 2024 according to the implementation plan [REP2-044] and not late 2023 as stated in page 5 of the Materials and Modal Split ISH2 actions [REP5-114] this is a key piece of infrastructure necessary to allow HGVs hauling fill from TVBP to avoid Yoxford	

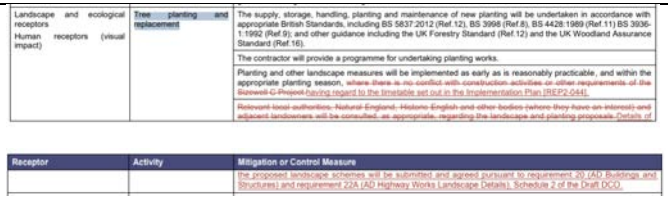
<table>
<tr><td></td><td></td><td>and the B1122 but may not be in place until late in the TVB / SLR construction program.</td><td></td></tr>
<tr><td>Plate 2.1</td><td></td><td>Does not separate Middleton More link from main SLR which makes it difficult to anticipate how the project will be delivered and at which stage sections will be available for use.</td><td></td></tr>
<tr><td>2.4.17</td><td>Where reasonably practicable, the movement of construction material, construction plant and/or construction workers from the temporary contractor compounds to the work sites would be along temporary roads within the area of land required for construction (known as haul routes). These haul routes would be located along the line of the route of the proposed Sizewell link road or running parallel to it.</td><td>The statement mentions the use of the haul roads but only for use where reasonably practical. SCC seeks further details on how the haul roads within the SLR site will operate to allow for the movement of fill between the SLR, TVB and main site.</td><td></td></tr>
<tr><td>2.4.20</td><td>All HGV construction traffic would use the A12 and B1122 between Yoxford and the new roundabout west of Middleton Moor to access the temporary contractor compounds. The construction of the proposed development is expected to generate up to 100 HGV (each way) movements per day during the construction period (200 movements in total). LGV and cars would use A12 and B1122 between Yoxford and Leiston, depending on origin/home location.</td><td>Do vehicle totals allow for movement of fill to main site or are these included in main site movements? Although SCC requests clarity on this it does welcome the proposals to include all SLR, main site and park and ride bus movements as HDVs capped on the B1122 in the early years.</td><td></td></tr>
<tr><td>Table 2.2</td><td>Table 2.2: Anticipated material quantities
<table><tr><th>Material</th><th>Mass of material required (tonnes).</th></tr><tr><td>Concrete</td><td>1,200</td></tr><tr><td>Granular sub-base.</td><td>80,000</td></tr><tr><td>Steel</td><td>600</td></tr><tr><td>Asphalt (including bitumen).</td><td>70,000</td></tr><tr><td>Other</td><td>100</td></tr></table></td><td>Table 2.2. does not include quantities of fill, either imported or exported from the site although 2.4.31 notes these quantities will be balance across the project.</td><td></td></tr>
</table>

[REP5-078] 8.11 CODE OF CONSTRUCTION PRACTICE - TRACKED CHANGES VERSION

7. SCC wishes to make the following comments, as local highway authority, on [REP5-078].

Table 3. SCC's comments on [REP5-078]

Ref	SZC Co comments in [REP5-078]	SCC Deadline 6 response	Ref to other submissions
2.4.13	A number of related management plans have been included within the DCO application and set out proposed mitigation for the Sizewell C Project. These are proposed to be secured by the draft Deed of Obligation (Doc Ref. 8.17(CE)). These documents include: • Traffic Incident Management Plan (Doc Ref. 8.6(A)).))[REP2-053]. • Construction Traffic Management Plan (Doc Ref. 8.7(A)).)) [REP2- 054]. • Construction Worker Travel Plan (Doc Ref. 8.8(A)).8.8(A)) [REP2- 055].	SCC suggest that the CoCP wording is clarified to explain that these management plans are part of the Environmental Management Plan and are overseen by the TRG not the ERG.	
3.13	SZC Co. will continue to provide ESC, as well as the local communities and stakeholders with information relating to: • the phasing of works at multiple sites and information on the types of construction activity associated with each phase at multiple locations; • activities that may be 'out of the ordinary' – that is, events that take place on an irregular or infrequent basis, such as the delivery of an	The Applicant is asked to include SCC in this information as well.	

	Abnormal Indivisible Load or particularly noisy activity; and • information about jobs, training, skills, education initiatives, the Community Fund, community safety and housing (including letting out of accommodation for workers).		
1.4.6	SZC Co. will take responsibility for handling all enquiries and complaints about Sizewell C that are made using the CoCP complaints procedure and will promote appropriate methods for making contact. Any potential breaches of the DCO would be enforced separately by ESC.	Should these read 'relevant discharging authority'?	
Part B: Main site 7.2.1	PRoW, cycle routes, footways, permissive footpaths, open access land and the beach, including temporary diversions, will be monitored to ensure that mitigation measures are effective.	Who will be responsible for monitoring and how will this be reported?	
Part C AD sites Table 5.1	 Landscape and ecological receptors Human receptors (visual impact) Tree planting and replacement The supply, storage, handling, planting and maintenance of new planting will be undertaken in accordance with appropriate British Standards, including BS 5837:2012 (Ref.12), BS 3998 (Ref.8), BS 4428:1989 (Ref.11) BS 3936-1:1992 (Ref.9); and other guidance including the UK Forestry Standard (Ref.12) and the UK Woodland Assurance Standard (Ref.16). The contractor will provide a programme for undertaking planting works. Planting and other landscape measures will be implemented as early as is reasonably practicable, and within the appropriate planting season, ~~where there is no conflict with construction activities or other requirements of the Sizewell C Project~~ having regard to the timetable set out in the Implementation Plan [REP2-044]. ~~Relevant local authorities, Natural England, Historic English and other bodies (where they have an interest) and adjacent landowners will be consulted, as appropriate, regarding the landscape and planting proposals.~~ Details of Receptor Activity Mitigation or Control Measure the proposed landscape schemes will be submitted and agreed pursuant to requirement 20 (AD Buildings and Structures) and requirement 22A (AD Highway Works Landscape Details), Schedule 2 of the Draft DCO.	Requirement 22A only refers to works 11 (TVB) and 12 (SLR) not park and ride sites, FMF or Yoxford Roundabout	
Part C AD sites Table 7.1		This part refers to DCO requirement 6A but SCC notes that this requirement only refers to main development site and is not consistent with schedule 11 that contains those PRoWs not in the main site.	

8. SCC is continuing to work with the Applicant on refining the draft Deed of Obligation and it is expected that further progress will be shared by the Applicant at future deadlines.

[REP5-107] THE APPLICANT'S WRITTEN SUMMARIES OF ORAL SUBMISSIONS AT ISH2: TRAFFIC AND TRANSPORT PART 1

9. Please refer to SCC's Deadline 5 Post Hearing Submission to ISH2 [REP5-173]. In addition to that submission, SCC offers the following comments to the Applicant's [REP5-107].

Table 4. SCC response to [REP5-107]

Ref	SZC Co comments in [REP5-107]	SCC Deadline 6 response	Ref to other submissions
1.2.5	There do not appear to be any major constraints to delivery of the materials. Having done the work to identify capacity, it will feed into the timetable bidding process to secure train paths with regards to the May 2022 timetable change. The aim will be to submit an electronic timetable file in Q4 of this year. The Applicant thanked Network Rail for the significant help which they are getting on this.	Can the Applicant give any indication as to the likelihood of the bidding process being unsuccessful or the timetable being affected or disrupted by other works? Trains travelling from Birmingham are likely to route via Ely which has limited, if any, spare capacity. The applicant is requested to confirm that capacity to route trains from Birmingham has been discussed with operators and Network Rail	
1.2.10	In response to a question from the ExA regarding the precise use of the temporary beach landing facility (BLF) proposed, Mr John Davies on behalf of the Applicant explained that the principal use of the temporary BLF is for bulk materials only, using its conveyor belt, although the Applicant would look to identify any opportunities to bring in other materials by sea.	SCC welcomes the Applicant's commitment on this issue and would suggest aspirational targets should be set. However, SCC notes with some concern that, notwithstanding the helpful statement of intent by Mr Davies, the Applicant also stated (at para 1.2.14) that 'a binding commitment to maximise marine would unnecessarily cut down on operational flexibility and the important resilience that flexibility provides'. SCC sees this as	

		inconsistent. The Applicant appears to want to take credit for making greater use of the marine facilities where achievable but is resistant to any suggestion that it should be obliged to identify or take up such opportunities. SCC accepts that there are practical reasons why greater use of marine could not be made into a 'hard control' but sees no reason why the FMS should not commit to maximising the use of marine where practicable. By recognising that the objective is subject to what is practicable, operational flexibility would be maintained.	
1.2.21	As to the Associated Development (AD) sites, Mr Oliver explained that AD traffic is generally excluded from the profile, because a lot of those deliveries will be across the wider network and will not travel down the more sensitive B1122. As to the SLR, the initial phases of its construction would involve a relatively small level of traffic travelling down the B1122, but subsequently the construction could take place from west to east without putting large volumes of construction traffic down the B1122. The movements down the B1122 are controlled within the cap of 300 in the early years and the profile takes account of the movements down the B1122. Even if it became expedient to construct the SLR from both ends, the cap would control movements on the B1122.	SCC acknowledges SZC Co's commitment to include all HGVs associated with construction within the HDV cap proposed for the B1122 (REP5-114 at para 1.6.21) and will comment further when it has seen this reflected in the next version of the CTMP.	
1.2.27	As to a question from the ExA as to the peak daily flow of AILs, Ms McMullen pointed to Table 3.3 of the CTMP [REP2-054] which contains HPC data and she explained was the best proxy for the SZC construction project.	SCC would request the applicant to clarify if the site accommodation campus will generate any AIL movements, for example if constructed in prefabricated units.	

	There would be a greater number of the AILs in the early years than later on.		
1.2.28	Regarding the duration it would take for an AIL to move from the A12 to the site, it would depend very much on the size of the AIL, with the higher end of the size scale taking considerably longer than the smaller end. It is intended that anything over 2.9m would be police escorted, which would have benefits in terms of journey time for their movement and safety. The smaller AILs, which comprise the vast majority, would not be travelling significantly slower than a typical HGV. The Applicant understood Mr Merry for SCC to say that two of the STGO category AILs are limited to a speed of 30mph and that it could take half an hour for an AIL to travel five miles along the B1122 for these categories. Ms McMullen offered to provide further detail on the potential time taken for AILs to route along the B1122 based on their category. This is contained in the Applicant's Written Submissions Responding to Actions Arising from ISH2(Doc Ref. 9.49), [REP5-114]	SCC notes that as with all speed limits these are a maximum. SCC welcomes the SZC Co proposal that any load wider than 2.9m should be escorted by Suffolk Constabulary.	Written Submissions Responding to Actions Arising from ISH2: Traffic and Transport Part 1 (7 July 2021) [REP5-114]
1.2.29	As to AILs and oncoming HGVs on the B1122, the B1122 is a recognised constraint but this can be managed by liaison with the delivery managers at the Plaza, so that there can be coordination on this final stretch to the site including so as to hold back HGVs as the AIL is coming through if necessary. Escorting of AILs by the police will also assist with any potential conflict, by being able to stop and	SCC recognise that any individual AIL is manageable in communication with the constabulary, but the significant volume will have negative impacts on the road network, as set out in SCC's Local Impact Report [REP1-045]. Appropriate forecasting and monitoring are needed on AILs as per [REP3-079]. SCC notes that while SZC Co can control its own vehicle movements, this is not the case with other road users and conflicts on the B1122 may still occur. It	East Suffolk Council / Suffolk County Council Deadline 1 Submission - Joint Local Impact Report (LIR)

	direct traffic. In October last year a 4.4m wide load was successfully taken down the B1122.	emphasises the need for SZC Co and Scottish Power Renewables (with regard to the East Anglia One North and East Anglia Two developments) to develop effective liaison as stated in the SoCG (REP2-092)	Suffolk County Council Deadline 3 Submission - Comments on any additional information/submissions received by D2 [REP3-079]
1.2.31	In response to a question from Mr Lovelock, Ms McMullen explained that there was no need to restrict AILs to outside railway operation hours, because there are already measures in place to minimise risk over level crossings including Darsham level crossing. There are laybys either side of Darsham level crossing which form part of Heavy Route 100. After the AIL has parked up, they make a phone call and await permission to cross, and make another phone call once they have done so.	SCC notes that while Darsham Level Crossing has laybys enabling AILs to pull off the carriageway the Middleton Level Crossing does not.	
1.3.17	Counsel for SZC Co. further observed on this issue that neither SCC nor ESC have sought a Grampian style requirement to prevent commencement until the SLR is in place, notwithstanding the opportunity to do so. That recognises that the balance must come down in favour of allowing construction to	While considering delivery of the whole length of the SLR before commencement is desirable SCC considered that to place a Grampian condition to do so was not proportionate. However, it has made strong representations that the highway works affecting the A12 and B1122, for example the roundabouts and junction connections to the TVB, SLR and Yoxford Roundabout should be complete before the route is used by SZC construction	East Suffolk Council / Suffolk County Council Deadline 1 Submission - Joint Local

	commence without the SLR, and that the SLR can come onstream after that.	vehicles to avoid disruption to road users including SZC Co (15.27 in REP1-045). SCC sees no reason why these elements of the works cannot be prioritised as advance works within the construction programme set out in the Implementation Plan. (REP2-044). The phasing of these works is a matter that SCC expects to see adequately addressed in the Implementation Plan but if that is not the case then a requirement would be appropriate to ensure they are delivered in advance of the construction commencing on the MDS.	Impact Report [REP1-045]
1.3.18	There is also an operational driver for the timing of the SLR in that at the start it acts as a haul road and enables the Applicant to take material not just from the SLR footprint but also the Two Village Bypass (TVBP) and the Yoxford roundabout and to move that to the MDS and to store it there for later use as fill. The mass balance of this spoil removed to the MDS is the equivalent of a very significant number of vehicle movements.	SCC were unaware that significant volumes of fill were expected to be moved from the TVBP and SLR to the main site. The use of a haul road on the alignment of the SLR to remove these trips off the B1122 is welcomed. However, SCC is mindful of that this requires early delivery of a bridge over the East Suffolk Line and the construction of a haul route parallel to the SLR will complicate construction of the permanent works.	
1.3.21	As to a question from the ExA on the modelling in Appendix 10 of that Response Paper and HGV movements through Yoxford, Mr Bull explained that in the event of a more southerly bypass route being adopted, there would still be significant numbers of HGV movements going through Yoxford, assuming 15% of HGVs coming from the north. This would amount to up to 105 HGV movements per day. The Applicant has assessed 224 bus movements to/from the Northern Park and	SCC maintains its position that this impact may have been considered acceptable in the context of greater legacy benefits [REP3-084] and wider impacts on other communities as set out in SCC's response to TT.1.91 at [REP3-084]. For clarity the numbers used should be: • Early Years 15% of 300 HGV deliveries (600 movements) = 45 HGV deliveries (90 movements) from the north of the B1122	Suffolk County Council Deadline 3 Submission - Comments on responses to ExA's Written Questions (ExQ1) [REP3-084]

	Ride and Lowestoft to the main development site which would either have to go down the B1122, or if they were diverted to a more southerly alignment of a bypass then they would be routed through Yoxford. So, although the HGV cap is to be 300 in the early years, 105 HGVs is a significant further number of movements which would go through Yoxford unless the proposed SLR alignment was adopted. Mr Collins referred to these 105 HGVs as being "only 15%" of the total, but that ignores the real benefit of avoiding those 105 HGVs going through Yoxford. The SLR route avoids that impact, unlike any other bypass route	• Peak Years 15% of 350 HGV deliveries (700 movements) = 52 HGV deliveries (105 movements) from the north of the B1122 With the Peak Years 224 bus movements from the N P&R and Lowestoft this gives a total of 329 HDV movements either along the B1122 or the A12 through Yoxford if a southern link road route was selected. This is against an Early Years cap of 600 HDV movements (as now proposed on the B1122) or 750 HGV movements in the Peak Year, the former of which will use the B1122 and the A12 through Yoxford until the SLR is opened.	
1.3.32	In response to suggestions by Mr Bedford for SCC that the TVBP might prejudice the business case for a four village bypass, Counsel for SZC Co. submitted that such a consideration, even if it was made out for which there is no evidence, should not weigh heavily in the balance because the case for a four village bypass was put forward to the Department for Transport (DfT) and rejected by the DfT as recently as 2019. This was the SEGway scheme to which Mr Bedford referred. Counsel for SZC Co. also observed that again, despite the points which SCC raise, SCC have not suggested that this issue should lead to the ExA recommending refusal of development consent	SCC remains of the position that the delivery of the Two village Bypass scheme would make subsequent delivery of a four village bypass more difficult as per our Post Hearing Submission for ISH2 [REP5-173].	Suffolk County Council Deadline 5 Submission - Responses to any further information requested by the ExA for this Deadline - Issue Specific Hearing 2 (7 July 2021) – (ISH2) Traffic and Transport [REP5-173].

1.4.1	In response to questions from the ExA about the Applicant's response to ExQ1 TT.1.29 [REP2-100], workforce numbers and the fact that the latest version of the Implementation Plan had expedited some infrastructure, Ms McMullen explained that the 2230 workforce figure in TT.1.29 was based on all the 730 AD workers (plus 1500 for the MDS), which was conservative given that in reality the workforce profile would be lower as not all of the AD sites workforce would peak at the same time and they would also be travelling to different AD sites. Further, as to the ExA's query as to what measures would be in place if the Park and Ride sites were delayed, Ms McMullen explained that the TRG would manage matters and monitor the mode share targets in the CWTP. There is also a commitment to fund buses and to limit parking spaces at both the LEEIE and the main site. Thus there are 'carrots and sticks' to manage any delay and ensure that the impact was not unacceptable. The TRG also has the ability to draw down from the Contingency Funds. Further, there is a commitment from the Applicant to fund remedial measures.	SCC will continue to engage with the Applicant on our concerns; however, we remain of the position that more extensive monitoring of workforce numbers is required as per [REP3-079].	Suffolk County Council Deadline 3 Submission - Comments on any additional information/submissions received by D2 [REP3-079]
1.4.7	On the suggestion of the potential for 'rat-running', Ms McMullen observed that it could more neutrally be referred to as route choice and it is looked at and taken into account through the strategic VISUM model and junction modelling.	While the strategic VISUM model and junction modelling do contain route choice, the authority notes that the model does not include a reasonable number of the minor roads that run through local communities and hence our, and the communities, concerns regarding 'rat running'. The highway network in East Suffolk is far more porous in terms of traffic than that around HPC. Since the strategic VISUM model is not 'fine-grained' enough to allow	

		all practical route choices to be captured, the potential for local 'rat-running' has to be assessed by reference to judgment and knowledge of the minor road network. SCC maintains its concerns in this regard based on its local knowledge.	

[REP5-108] THE APPLICANT'S WRITTEN SUMMARIES OF ORAL SUBMISSIONS MADE AT ISH3: TRAFFIC AND TRANSPORT PART 2

10. Please refer to SCC's Deadline 5 Post Hearing Submission to ISH3 [REP5-174]. In addition to that submission, SCC offers the following comments to the Applicant's [REP5-108].

Table 5. SCC comments to [REP5-108]

Ref	SZC Co response in [REP5-108]	SCC Deadline 6 response	Ref to other submissions
1.2.1	In the Construction Worker Travel Plan(CWTP)[REP2-055]at paragraph 3.4, the early years is defined as the period prior to the delivery of the northern or southern park and ride facilities. In that period, the control is provided by the early years' mode share targets. Afterwards, there is a change to the peak construction mode share targets.	SCC remain concerned over the two definitions of Early Years. It is also noteworthy that some infrastructure may not be delivered when both modal shift targets are in place, most pertinently the LEEIE caravan park and the accommodation campus. This would mean that the modal shift targets would effectively be unachievable as set out in our summary of our Post Hearing Submission for ISH3 [REP5-174]. SCC are working with the Applicant to resolve our concerns on this issue.	Suffolk County Council Deadline 5 Submission - Responses to any further information requested by the ExA for this Deadline - Issue Specific Hearing 3 (8 July 2021) – (ISH3) Traffic

			and Transport [REP5-174]
1.2.2	In the CTWP[REP2-054], the commitment is based on mode-share targets, not number of vehicles, but Table 3.1 in the CWTP[REP2-055] makes clear that it is not possible to achieve the mode share targets without the AD infrastructure. The purpose of that infrastructure is to manage trips to site. There is also a limit on parking spaces which creates a cap in that respect.	SCC is not convinced that restrictions on car parking and the mode share targets set out in REP2-055 are sufficient without adequate monitoring to provide early identification of issues. Appendix 7B of the Transport Assessment Appendices (Part 1 of 6) include the car park accumulation assessment [REP2-046]. The assessment shows that for a significant amount of the time the car parks have significant spare capacity indicating potential for additional vehicle movements without exceedance of currently proposed controls. Be that as it may, it also would not address SCC'sconcerns regarding greater number of movements during the peak periods than the Applicant has assessed.	NNB Generation Company (SZC) Limited Deadline 2 Submission - 8.5 Consolidated Transport Assessment Appendices Part 1 of 6 - Revision 3.0 [REP2-046]
1.2.3	The Transport Review Group (TRG) has the ability to impose or to require the Applicant to fund remedial measures in order to meet those targets. It is a very strong commitment and the level of walking and cycling is very high, nearly one third. Another third is by park and ride. That cannot be achieved without those facilities.	As per 1.2.1 above and in SCC's Post Hearing Submission for ISH3 [REP5-174], further clarity is needed on how this works in situations where infrastructure has not been delivered and the modal split cannot be achieved. SCC welcomes discussions with the Applicant on this. The vast majority of trips by foot or cycle are by workers in the site campus. It should be noted that workers will have to drive to the site accommodation campus, as evidenced by the 1,360 parking spaces provided, and will make non-work related trips to and from the main site. See also 1.2.0 which excludes the site accommodation campus in SZC Co's consideration of parking.	Suffolk County Council Deadline 5 Submission - Responses to any further information requested by the ExA for this Deadline - Issue Specific Hearing 3 (8 July 2021) – (ISH3) Traffic

			and Transport [REP5-174]
1.2.4	Mr Flanagan, Counsel for SZC Co., added that there were suggestions from other parties that everything that had been assessed should be controlled. There is no basis for that approach. Neither law nor policy requires the imposition of controls or monitoring on a project simply to ensure that a project conforms precisely with the outputs of the assessments undertaken at the application stage. An assessment does not automatically translate into multiple controls in this way. Rather, the policy test for the imposition of obligations is contained in paragraph 4.1.8 of NPS EN-1. This means that it must be asked whether it is necessary to provide a control to make the development acceptable in planning terms. Controls may be necessary to avoid harm, but the justification must be identified.	SCC remains of the opinion that if an impact resulting from construction traffic has not been assessed then it is not possible to determine the harm and therefore a process to avoid that potential harm is appropriate. It follows that monitoring to identify whether the development is exceeding the assessed parameters is reasonable. Whilst SCC can accept as a generality that not every element of a development which is assessed needs then to be reflected in either a control or monitoring, it is necessary to make a planning judgment as to what degree of regulation is required. That judgment is, necessarily site/case specific, having regard to the particular local context (here a predominantly rural road network not suited to construction traffic), the scale of the construction traffic activity, and the duration of the construction traffic activity. The Applicant makes reference to the fact that this is a unique project in terms of scale, complexity, and duration. SCC concur with this appreciation and consider it pertinent to the controls place on traffic arising from construction of the project Automatic Traffic Counters (ATC) as identified at [REP3-079] are inexpensive and would in a lot of cases provide a sufficient level of monitoring to identify issues as they arise; SCC also does not understand how they would affect the delivery of the project. SCC remains of the view that monitoring (and the potential for remedial measures) is required to	Suffolk County Council Deadline 3 Submission - Comments on any additional information/submissions received by D2 [REP3-079]

		ensure that the development's construction traffic remains within the assessed effects.	
1.2.6	That is consistent with Government policy of not seeking to impose unnecessary burdens on developers. The onerous nature of the additional controls and monitoring sought by SCC, particularly given the scale and length of the construction phase, should not be underestimated. They would come on top of the significant challenges presented by the delivery of a very large and complex infrastructure project. Further, it is infrastructure of national significance for which there is an urgent need. This weighs heavily against controls other than those that can be robustly justified.	As above, SCC does not understand how ATCs and associated monitoring are considered to be a burden. Compared to quarterly surveys ATC allow real time collection of data and allow for more immediate responses to issues as they arise as well as to understand profiles and to identify atypical traffic patterns.	
1.2.7	In response to the ExA's query as to whether vehicle movements needed to be controlled further, Counsel for SZC Co. observed that any such controls must be considered against the relevant tests. There is no dispute that controls on HGV movements are reasonable because of the impacts they create and the particular sensitivity of the B1122, but it does not at all follow that a control should be imposed in respect of every vehicle movement. That would be a wholly novel approach. For example, just down the road the Brightwell Lakes development of some 2,000 homes plus significant employment floorspace has recently been granted permission. The transport assessment for that development no doubt assessed very significant numbers of vehicle movements on	As per [REP3-079] and SCC's ISH3 Post Hearing Submission at Deadline 5 [REP5-174], SCC maintains its position that SCC should be able to have the casting vote in the event of a deadlock. As the local highway authority for the roads (and road users) most likely to experience impacts from construction traffic, SCC is well-placed to fulfil this role, acting in the public interest. Whilst Brightwell Lakes is a large scale development, its impact is more constrained geographically i.e. around Martlesham. It is not considered that the construction traffic activity is comparable in scale to SZC. SCC does not therefore consider that it provides a sensible comparator in relation to the effect of the Applicant's proposal.	Suffolk County Council Deadline 3 Submission - Comments on any additional information/submissions received by D2 [REP3-079] Suffolk County Council

	the same network with which this examination is concerned, yet no vehicle number controls at all were imposed on that permission.		Deadline 5 Submission - Responses to any further information requested by the ExA for this Deadline - Issue Specific Hearing 3 (8 July 2021) – (ISH3) Traffic and Transport [REP5-174]
1.2.11	The way in which the TRG is to operate means that there is an uncapped obligation on the Applicant to meet the mode share targets. The obligation through the Deed of Obligation (DoO) (Doc Ref. 8.17(E)), the CTMP [REP2-054], the CWTP [REP2-055] and the governance of the TRG is that the Applicant has to produce what is effectively a rolling action plan to demonstrate how the targets will be met and to show that they are being met. The TRG can require corrective action to be taken if it appears likely that the targets will not be met or if they are not being met. That is an uncapped liability for the Applicant. The significance of this should not be underestimated.	The TRG can only operate to manage the rolling action plan if sufficient detail in terms of forecasts is provided and robust monitoring undertaken to provide timely reports to enable the TRG to take action if necessary. SCC has commented on the structure elsewhere in relation to the split voting rights and potential to stymie action being taken in a timely manner (or at all).	
1.2.18	Ms McMullen explained that the line would be drawn to include the B1122 in the HGV movement cap. This would be done by having	SCC welcomes clarification that the limits are for all movements along the B1122, including those	

	the geo-fence at an appropriate point on the B1122 to capture and control those movements.	associated with the AD sites, and would welcome further details on the geofence.	
1.2.20	In response to a question from Mr Galloway with regards to a total of 5,000 parking spaces within the DCO, Ms McMullen explained that 1,000 parking spaces were sought at the MDS, and 1,250 at each of the northern and southern park and rides, which amounts to 3,500.Ms McMullen agreed to set out the position on parking in writing.	It is worth clarifying that these parking spaces do not include those associated with the accommodation campus.	
1.2.22	In response to questions from the ExA about the TRG, Counsel for SZC Co. confirmed that it would be chaired by SCC but there was no casting vote procedure as the composition and approach was deliberately balanced and collaborative.	SCC remains of the position that it should have the casting vote as per [REP3-079] and the SCC's ISH3 Post Hearing Submission submitted at Deadline 5 [REP5-174].	Suffolk County Council Deadline 3 Submission - Comments on any additional information/submissions received by D2 [REP3-079] Suffolk County Council Deadline 5 Submission - Responses to any further information requested by the ExA for

			this Deadline - Issue Specific Hearing 3 (8 July 2021) – (ISH3) Traffic and Transport [REP5-174]
1.2.23	Accordingly, the Applicant does not consider what SCC is proposing meets the tests in the NPS at paragraph 4.1.8, which requires development consent obligations to be reasonable and fair. That said, in response to a request by the ExA for the Applicant to explore if there could be a mutually acceptable form of wording on the TRG in dialogue with SCC, the Applicant said that it would take that away.	SCC welcomes further discussions with the Applicant on this issue.	
1.2.25	As to police involvement, Mr Rhodes stated that while it was not considered appropriate or necessary for the police to have voting rights on the TRG, police involvement was certainly envisaged as necessary, which could include attendance. The police would certainly not be marginalised in the process. The police will also be members of the Community Safety Working Group, the Applicant is agreeing a fund for additional police resources and generally a very close working relationship with the police is envisaged	SCC supports the Police having voting rights within the TRG, as per SCC's response to TT.1.23 at Deadline 5 [REP5-172].	Suffolk County Council Deadline 5 Submission - Comments on any additional information/submissions received by D3 and D4 [REP5-172]

1.2.29	Ms McMullen explained that there are two types of LGV in the assessment. First, the LGVs going through to the site. In addition, there are LGVs associated with the postal consolidation facility at Wickham Market. The Applicant is not proposing management measures for LGVs for various reasons, including that they are generally not new trips on the network, and further because they are making multiple trips to multiple places it is contractually very difficult to control them. But there would be a signage strategy directing such traffic to use the same routes as the HGVs. LGVs going to site would be monitored through the DMS booker system, so the Applicant would know on a daily basis how many LGVs are routing to site and associated with Sizewell C and that monitoring data is proposed to be provided to the TRG. As to whether to track the LGVs, the definition of HGVs for monitoring purposes is 3.5 tonnes or above, which means that larger LGVs would actually be classified and tracked as HGVs. That is a form of mitigation. Further, LGVs have been modelled with route choice, and the assessment has found the effect to be acceptable, such that tracking is not required.	The comment that LGV trips are generally not new trips on the network only applies to those LGVs dropping off items at the postal consolidation facility in the southern park and ride, not any LGV trips to the main site or AD sites. The justification of not tracking LGVs is based on the route choice assumed in the traffic modelling and no mechanism is provided to manage changes in the routing and potential impacts on the local highway network. SCC is also concerned that if LGVs are allowed into the main construction site rather than the main park and ride there will be no control on their numbers. It is requested that the applicant confirms if LGVs will be permitted to enter the main site for work purposes and if so what quantity of vehicles does this involve. Being mindful of the comments about the reasonableness of any control measures, SCC would consider a monitoring total LGV numbers travelling to and from the site against a programme related profile and maximum number would, together with the TRGs ability to invoke tracking proposed in 1.2.30 would be appropriate.	
1.2.32	As to the ExA's question as to whether AD sites should be included in a cap of some description, Mr Rhodes stated that the Applicant, while recognising the sensitivity on the B1122, did not consider it necessary to cap everything, and unnecessary caps could have adverse consequences in removing	See paragraph 1.6.30 to 1.6.34 of SCC's response to Written Submissions Responding to Actions Arising from ISH2: Traffic and Transport Part 1 below.	

	flexibility, necessitating a change application, and thereby delaying an urgent project. Ms McMullen added that in the next version of the CTMP[REP2-054]it is proposed to track the HGV movements going to the AD sites so that compliance with the HGV routes can be monitored. The ExA asked whether a cap was necessary in the early years to protect Farnham and Wickham Market and Ms McMullen agreed to consider that.		
1.2.46	Counsel for SZC Co. explained that the DoO (Doc Ref. 8.17(E)) obliged the Applicant to produce an Operational Travel Plan (OTT). Ms McMullen further explained that one had not yet been produced yet because it would be difficult to plan so far into the future. It would be more appropriate to have the relevant discussions with the authorities at the relevant time. The uncertain matters include what the public transport system would look like at that time and any move to electric vehicles. As to the obligation in the DoO to implement the OTT for five years after the end of construction, that is the period in SCC's guidance. However, in response to the ExA's and SCC's oral observations about the potential benefits of a Framework Travel Plan at this stage, the Applicant stated that it would take that away and consider it.[SZC Co. responded further to this in its Written Submissions Responding to Actions Arising from ISH3 (Doc Ref. 9.50).]	SCC would welcome submission of a Framework Operational Travel Plan as per our ISH3 Post Hearing Submission [REP5-174]. This would be beneficial as it could set out the process of review of the Travel Plan. There are a number of differences between the transport options available to workers during construction and in the operational phase. An outline operational travel plan would enable good behaviour to be embedded in workers behaviour at an early stage. SCC's view is that the operational travel plan is a useful tool to manage workers choice of transport modes during outages to reduce dependence on car travel and hence the requirement for excessive temporary parking areas. The applicant is correct that SCC only ask for a workplace travel plan to be submitted to SCC for the first five years. However, there is nothing to prevent a travel plan being extended and a voluntary extension of the travel plan is recommended for such a significant project.	Suffolk County Council Deadline 5 Submission - Responses to any further information requested by the ExA for this Deadline - Issue Specific Hearing 3 (8 July 2021) – (ISH3) Traffic and Transport [REP5-174] https://www.suffolk.gov.uk/assets/Roads

		SCC Guidance: *The Owner covenants to submit to the County Council on an annual basis on the anniversary of the date that the Full Workplace Travel Plan is first implemented the Full Workplace Travel Plan Monitoring Report until the anniversary of the date that the Full Workplace Travel Plan was first implemented which falls after the fifth (5th) anniversary of the date of Occupation of the final Commercial Unit forming part of the Commercial Development*	-and-transport/public-transport-and-transport-planning/Local-Links/26444-Suffolk-Travel-Plan-Guidance-V5-Printable-Version-LR.pdf
1.3.2	In response to a question from Mr Humphrey, Ms McMullen explained that in Table 10.2 of Chapter 10 in respect of fear and intimidation, although the IEMA guidelines use extreme, great and moderate, and the Applicant has used high, medium and low, the Applicant was not downgrading but simply standardising them. However, the Applicant said that it would take the matter away to consider further whether it makes any difference. The Applicant confirmed that close work had been taking place with SCC to arrive at what the Applicant understood to be a largely agreed approach to the ES assessment, which took account of all of SCC's comments, and that a technical note would be provided to detail this.	SCC and the Applicant have been working together to resolve our concerns regarding the ES, and this has included updates that should address many of our concerns; however, we are awaiting further information on elements of the assessment and completion of the updated workstream. Therefore, we cannot say that the process is fully agreed at this point.	
1.3.6	Mr Bull responded to a question from Mr Collins concerning mitigation on the B1122 and explained that discussions had already been had with SCC to discuss early years mitigation on the B1122, and it is proposed to	Working with SPR, SCC has secured what it considers is appropriate and proportional mitigation for the cumulative impacts of EA1(N) and EA2.	

	be much broader than what is proposed in the Scottish Power application. Matters being considered include an appropriate crossing point, entry points to the village and enhanced pedestrian amenity. That will be taken forward with the Parish Council as we		
1.3.9	In response to a question from Mr Sutherell and a request for consideration of a crossing in Yoxford, Mr Bull stated that he would be very happy to sit down with Mr Sutherell and the Parish Council to discuss all elements of the project.	SCC can confirm that EDF, SCC and ESC have held early stage discussions with representatives of Yoxford Parish Council regarding mitigation in that community.	
1.3.10	Mr Bull confirmed in response to a question from Ms Bassinette that mitigation for the B1125 was being looked at for inclusion in the Deed of Obligation, including additional pedestrian enhancement, village gateways and making the road safer for cycling.	SCC have not yet received proposals of mitigation along the B1125 beyond a number of concepts and inclusion as a 'headline' item in the Deed of Obligation.	
1.3.11	In response to a question from Mr Galloway, Mr Bull explained that discussions had taken place over the years for what the right solution was at Fordley Road and the Applicant had sought to work with all stakeholders to come up with the right solution. It was not felt that an outcome like that proposed for Pretty Road in the change request was deliverable in this location. It is not possible to lower the level of Fordley Road due to the requirements of the Flood Risk Assessment. If the SLR was to be routed over Fordley Road by bridge it would increase the height of the road significantly which would create a very large structure in the landscape. As to severance between Middleton Moor and Kelsale, the Applicant	SCC concur with the application that to create a segregated link across the SLR at Fordley Road would either create an unacceptable sump in the road with resultant drainage issues or require raising of the SLR that in turn would create significant visual intrusion in the landscape.	

	was seeking to retain connectivity, and although it required a diversion onto the SLR it was felt to be the best outcome that could be achieved. There is no intention to promote any Sizewell C traffic on that road and signage will reinforce that. As part of ongoing discussion with the local authorities, the Applicant considers that there are ways of making these routes more visibly quiet, via signage and because the appearance is different to what would be normal route for traffic. In response to a request from Mr Humphrey to respond in writing to this issue and outline to the ExA the approach and options considered for this road, in a similar way to Pretty Road, Mr Bull stated that the Applicant would do so.		
1.3.14	In respect of points raised by Mr Collins, Mr Bull explained that the Applicant had worked hard with SCC public rights of way team to come up with the most appropriate safe diversion route. The landscaping strategy could present opportunities to respond to concerns as well. Regarding Mr Collins' suggestion for cycle lanes on the SLR, it is the B1122 which could be repurposed as a road more suitable for cycling after construction of the SLR. As to Mr Collins' comparison with HPC, Mr Bull drew attention to the fact that the Applicant is providing an off road cycle route from Sizewell Gap to the construction site and along Abbey Road and Eastbridge Road, which could feed into the tourism and heritage coast offer. In response to a question from Mr Humphrey about whether there was	SCC note there is still disagreement between the applicant and the authority regarding the provision of safe pedestrian facilities between the northern end of BW19 and Eastbridge.	

	anywhere where the cycling plan including for the B1122 was set out, Mr Bull explained that it was a work in progress with the authorities and the Applicant would seek to formalise it and set it out for the ExA		

[REP5-109] WRITTEN SUMMARIES OF ORAL SUBMISSIONS MADE AT ISH4: SOCIO-ECONOMIC AND COMMUNITY ISSUES (9 JULY 2021)

11. Please refer to SCC's Deadline 5 Post Hearing Submission to ISH4 [REP5-175]. In addition to that submission, SCC offers the following comments to the Applicant's [REP5-109].

Table 6. SCC response to [REP5-109]

Ref	SZC Co comments in [REP5-109]	SCC Deadline 6 response	Ref to other submissions
Para 1.3.51	In summary, SZC Co.'s view is that the pre-employment and UKSV checks combined with ongoing personnel security (aftercare) constitute a high standard of due diligence and ethical practice based on facts rather than opinion. If SZC Co. were to raise the standard of minimum pre-employment checks, it is not considered that this would be proportionate or confer any further community safety benefit.	SCC recognises that the proposed pre-employment checks are appropriate, and we not asking the Applicant to raise the standard of minimum pre-employment checks. However, the point that SCC made at the hearing and in the post hearing submission [REP6-175] is that it is in the nature of any pre-employment check and vetting process that, for example, a propensity for domestic abuse or drug addiction will not be picked up, and these crimes by their nature often occur behind closed doors, so will remain hidden. Thus, robust pre-employment checks, as welcome as they are, will not wholly mitigate against the significant community safety impacts that come with such an increase in population.	Responses to any further information requested by the ExA for this Deadline – Issue Specific Hearing 4 (9 July 2021) – (ISH4) Socio-economic and Community Issues [REP5-175]

		SCC would welcome confirmation from the Applicant that vetting processes will be mandatory also for all subcontractors, and how this would be secured.	
1.2.16	Members of the construction workforce for the Project would be asked to provide information to SZC Co. in a workforce survey. Home-based workers would be characterised as those who indicated the following: (1) they lived within Norfolk, Suffolk, Essex, South Cambridgeshire or East Cambridgeshire immediately prior to obtaining work on the Sizewell C Project; and (2) continue to live within Norfolk, Suffolk, Essex, South Cambridgeshire or East Cambridgeshire on starting work on the Sizewell C Project. Therefore, those who moved within the defined area would continue to be characterised as home-based workers.	The definition of home-based workers provided by the applicant significantly extends the 90-minute CDCZ to include the entirety of all county-level local authority areas that fall within the 90-minute area from the project. This means there will be no distinction made between an individual living within close proximity of the site and an individual living up to around 100 miles and 140 minutes away. Both will be classed as a 'home-based' worker (HBW) according to this definition despite clear differences in the likely socio-economic impact that their respective employment on the project will have. If 'HBW' is understood to refer to an individual residing across such a varied and vast geographical area, SCC does not consider 'HBW' to be a suitable measure to assess neither potential negative impact nor added socio-economic value for the local area.	
1.2.42	As such, the effect of 'displacement' is not considered significant.	The Applicant continues to assert that the effect of 'displacement' is not considered significant. As set out in paragraph 25.14 of the LIR [REP1-045], SCC continues to have a significant concern that labour market churn is still not being adequately recognised as a risk by the Applicant, especially given the potential in-combination and cumulative labour market impact across multiple projects that will be active during the timescale for construction. This concern is twofold:	

		• the pull of skilled labour from current local employment to work on the project leading to a damaging reduction in economic activity, and • deliverability of essential public services such as adult social care services and community health care provision.	
1.2.44 – 1.2.45	As set out in Issue Specific Hearing 2, the Sizewell C Project needs the flexibility to be able to recruit the people it needs in order to deliver the Project. The Applicant is confident that it can reach the estimated HB recruitment number, and in fact, exceed it - but believes it would be inappropriate to fix that as a minimum that must be achieved.	The Applicant states their confidence in not only reaching estimated HBW numbers but exceeding it. SCC does not consider the fulfilment of these HB worker levels to be optional. Mitigation across all other themes is based on a worst-case scenario of non- home-based workers. If the quoted number of HB workers is not reached then the mitigation cases developed and agreed will not be sufficient. Therefore, SCC expects the HB worker numbers used within the Economic Statement – which SZC Co. themselves consider to be conservative and easily attainable - to be set as a minimum commitment.	

[REP5-112] WRITTEN SUMMARIES OF ORAL SUBMISSIONS MADE AT ISH7: BIODIVERSITY AND ECOLOGY PARTS 1 AND 2

12. SCC understands that the Applicant will not submit their 'Actions Arising' document relating to ISH 7 until deadline 7, due to the amount of work to be produced in the timescale allowed. SCC would like to wait until this document is available before commenting on the Applicant's written summary and actions arising together at a future deadline.

[REP5-113] THE APPLICANT'S WRITTEN SUBMISSIONS RESPONDING TO ACTIONS ARISING FROM ISH1: DRAFT DEVELOPMENT CONSENT ORDER AND DRAFT DEED OF OBLIGATION

13. SCC has set out in some detail its position on the draft DCO and draft Deed of Obligation, in its Deadline 5 Post Hearing Submission to ISH 1 [REP5-177], and in its most recent comments on the revised draft Deed of Obligation [REP5-179] / [REP3-83] and the first revised draft DCO [REP3-082]. These comments remain valid, and are not repeated in this submission.
14. SCC is continuing to work with the Applicant on refining the draft Deed of Obligation and it is expected that further progress will be shared by the Applicant at future deadlines.
15. In addition to those submissions, SCC offers the following comments to the Applicant's [REP5-113]:

Table 7. SCC's comments to [REP5-113]

Ref	SZC Co comments in [REP5-113]	SCC Deadline 6 response	Ref to other submissions
1.6.6	Requirement 12: relates to those buildings where detailed designs are not yet available and details of layout, scale and external appearance have been reserved for subsequent determination by ESC. These designs must be developed in accordance with the limits set by the Operational Parameter Plans [REP2-009] and associated tables [AS-202] and in general accordance with the Design Principles set by the Design and Access Statement.	When seeking approval for any changes SCC should be consulted with respect to any changes affecting the BW19 crossing of the main access road.	
1.6.9	The location and layout of the proposed rail infrastructure is set out within the Work Plans and within Schedule 7 (Approved Plans), which are then secured by Requirement 14 (Rail Infrastructure). Requirement 14 also then secures that the works must be delivered in general accordance with the design	Insofar as the rail works relate to level crossings or other infrastructure works that affect the public highway, including public rights of way, technical approval will be required from SCC as the Local Highway Authority (requirement 22).	

	principles set out in the AD Design Principles. Paragraph (2) of Requirement 18 then allows for alternative detailed designs to be submitted to ESC for approval. Any such alternative details must be within the defined limits set by Article 4 of the Draft Order and in general accordance with the design principles set out in the AD Design Principles. Article 4(1)(b) currently restricts the limits of deviation, but it is proposed to also restrict these works to a limit of deviation of +/- 1m to the stated levels. This limit of deviation is consistent with the Rochdale envelope assessed by the Environmental Statement.		
Appendix B 4.1.3	However, the additional level of control being sought by the Councils, particularly the request that the plan cover all items of the works and that SZC Co. should cede control of the construction programme, would make the project undeliverable. The risk that work on a multi-billion pound project would have to regularly stop pending agreement with the authorities would impose a risk that was unfinanceable and it would be perceived by funders and others that the approach would create a situation in which the progress of the project was regularly at risk of being ransomed in exchange for consent because of the massive financial implications of pausing the project. The controls proposed by SZC Co. seek to balance this risk, whilst providing for robust and enforceable controls that allow for legitimate and proportionate control over the project so far as necessary and justified in the public interest.	The Applicant seeks to paint an extreme picture which is not a fair reflection of SCC's position. SCC is not expecting the Applicant to 'cede control of the construction programme' but to recognise that there is a public interest in ensuring that that control (which will remain with the undertaker) is exercised within identified external limits which safeguard the interests of the receiving environment and the local communities that will be impacted by the undertaking of the project. Since not all aspects and details of the construction programme are known at the present time, SCC is not seeking rigid limits that are incapable of flexing to reflect future events but it is seeking clear commitments in the Implementation Plan to a phased programme, where identified key mitigation measures need to be provided ahead or by defined stages of the construction unless a variation to that programme is subsequently agreed by SCC (or ESC as appropriate). If that position is clearly set out at the outset, SCC sees no reason why funding	

		should be jeopardised because those making such decisions will be able to assess the risks accordingly. Financial institutions and commercial bodies are well used to assessing uncertainty and risk when making investment decisions. No evidence has been presented to demonstrate the assertion that the limits SCC wishes to see in place would render the project 'unfinanceable'.	
Appendix B 4.1.5	Equally, the suggestion that worker numbers should be capped seems inappropriate in a context where there are already controls on site parking, modal share commitments and transport mitigation measures that can secure appropriate control and mitigation over this stage. It would be extraordinary and entirely disproportionate to control the number of workers who can be recruited to deliver the Project when (a) this would give rise to delay in the delivery of nationally significant infrastructure which is urgently needed in the public interest, (b) the generation of employment is an important public interest benefit of the project, and (c) it is the workers that are obviously necessary to build the project in accordance with the Implementation Plan. Given the existing controls, and the lack of evidence to justify any further restriction, the proposed additional Requirement would also be unnecessary and contrary to policy for the reasons set out in the Applicant's Response to the Local Impact Report at Chapter 31 [REP3- 045].	Restrictions on parking will not resolve the concerns that there is a difference in time between delivery of the Early Years infrastructure for workers and for freight. This results in additional buses and worker car trips on the B1122 until the SLR is open. The proposals to include buses within a HDV cap is acceptable in principle but this does not resolve the matter of additional unassessed workers car trips to the main site after completion of the park and ride sites removes any caps or controls on workforce numbers. It is understood that the 1000 space main site P&R will be available from this time so there will be a surplus of onsite parking.	

Appendix B 5.1.1	SCC's Response to Additional Submissions from the Applicant [REP3- 079] provides a table (Table 1) which compares the delivery of some HPC infrastructure with that anticipated in the HPC Implementation Plan. There is no disagreement that some elements of the HPC Associated Development were delayed as a result of "various external influences and causations" (as expressed in SCC's Comments on the draft Deed of Obligation [REP3-083] at paragraph 13E). In fact, it is because events and external factors beyond the Undertaker's control sometimes cause impacts on the construction programme that SZC. Co is un-willing to commit to precise dates, caps or to have the construction programme controlled by the Local Authorities.	5.1.1 SZC Co state there is no disagreement that some elements of the HPC associated development were delayed. This contradicts the second table in Annex A that implies most of the mitigation was delivered within the timescales of the implementation plan. There is clearly confusion in the comments between the duration of construction within the implementation plan which was generally accurate and completion of the mitigation at the date stated in the implementation which was generally later than planned. For example, the comments regarding the temporary jetty should more accurately state that the construction period took one month longer construction, but completion was 38 months later than planned in the implementation plan (based on commencement being Nov 2014. SCC would dispute the comment in 5.1.5 that this is an impressive record of timely delivery nor that they were delivered more quickly than anticipated in the implementation plan. The authority notes that although the marine jetty has been delivered at HPC proportion of materials being delivered by sea is not reaching the proportions assumed in the DCO. Details are provided in the HPC TRG quarterly reports for Q3 2020, Q4 2020 and Q1 2021 on the Sedgemoor District Council website	https://www.sedgemoor.gov.uk/article/1668/Transport-Review-Group
Appendix B 5.1.2	The very fact that the Suffolk authorities actively want to have control over these matters is also relevant to understanding why SZC Co is unwilling to cede control. SZC Co wishes to continue a collaborative, close	The suggestion that Suffolk Authorities want to have control over implementation is not the case. SCC merely wants adequate controls to be put in place to demonstrate that SZC is meeting the commitments it is making in the DCO and that the	

	working relationship with the authorities through the implementation of the project in which the respective roles of each party are fully respected. SZC Co. expects the Councils to enforce planning controls and ensure mitigation is put in place in accord with the DCO but it does not expect the councils to limit worker numbers or insist on construction sequences which are not necessary or deliverable.	impacts assessed in the TA and ES are not exceeded and that the assumptions made within the supporting modelling remains realistic. With regard to transport, SCC accepts that pinning delivery to specific dates is unreasonable but considers that delivering key infrastructure should relate to the construction phasing, for example delivery of the SLR, TVB and Green Rail Route should be complete before the Phase 2 Bulk Earthwork commences unless there is an agreed variation to that phasing sequence. This is a similar approach applied to other developments. SCC sees no reason why the Applicant cannot commit to a phasing programme which the information presently available shows is deliverable but with the safeguard of a mechanism for the review of that phasing in the event of unforeseen changes of circumstance. The Applicant seeks to present a picture of any such changes happening 'out of the blue' and incapable of prudent foresight and anticipatory responses, as a reason why the Applicant should not be subject to such controls. However, it is the essence of project management to be continuously scrutinising project delivery, including forward work streams, so as to identify risks and problems before they become time critical. The scale and complexity of the project should not be a reason for the Applicant to abdicate the responsibility to engage in pro-active and diligent project management. The local community should not be expected to absorb additional (and unassessed) impacts as a default mechanism if the project does not go according to plan.	

Appendix B 6.1.13	The plan contains multiple measures, some of which are expressed conditionally but at its core are the commitments in Section 4 (Measures and controls for HGVs to / from the Main Development Site) where the language is deliberately imperative (SZC Co. 'will'). In particular, binding commitments are given to a key framework of controls, including: • HGV routes • Caps on HGV movements (daily and peak hour caps) • HGV timings (for arrivals and departures).	SCC has already set out its concerns about the enforceability of these measures via the current governance arrangements for the TRG. Imperative language is insufficient if the remedies for any default are either inadequate or too slow to be effective. Caps on HGV timings are not agreed with SCC; we remain concerned that by specifying these at the main site entrance the measures do not prevent SZC HGVs using the local network between 2300 and 0700.	East Suffolk Council / Suffolk County Council Deadline 1 Submission - Joint Local Impact Report (LIR) [REP1-045]
Appendix B 6.1.5	The significance of the HGV limits in particular should not be underestimated. SZC. Co committed itself to tighter HGV limits in January 2021, partly at the request of SCC. The work undertaken on materials quantities and transport options in the Deadline 5 paper Materials and Modal Split (Doc ref. 9.49) demonstrates that the construction programme has been carefully managed and sequenced in order to respect the HGV limits. Those limits not only shape the construction programme, they also drive the necessity to deliver the rail capacity and marine capacity on time – otherwise, the project cannot be constructed. SZC. Co needs no greater incentive to deliver the infrastructure. But, if it failed to do so, no greater harm would rise to local communities, because the HGV limits would be in place.	SCC notes that no legal commitment is proposed to the freight management strategy nor to monitor and report the modal split of material deliveries. SCC would expect to see monitoring measures included in the next version of the CTMP in order that the aspirations in the Materials and Modal Split paper (Appendix A of [REP5-114]) are realised, and in order that the opportunities recognised there (see sections 3.3 and 6) to maximise the use of rail and marine are taken wherever practicable.	

Appendix B 6.1.6	Similarly, the Construction Worker Travel Plan [REP2-055] (the CWTP) contains a detailed plan for the management of construction traffic. The core commitment, however, is that given at paragraph 3.4.9, which is an obligation that SZC Co. must achieve the mode share targets set out in Table 3.1, allied to the limitations set out at paragraph 4.7.2, which places a limit on car parking at the main development site.	See 'Written Submissions Responding to Actions Arising from ISH2: Traffic and Transport Part 1' paras 1.6.50, 1.6.53 and 1.6.56 and ISH3 Para 1.2.2 below regarding our disagreement with this conclusion and the need for additional monitoring.	Sections below
Appendix B 6.1.7.	Multiple other matters are set out –including walking and cycling improvement measures, bus provision, cycle parking, the operation of the park and rides etc. In theory, a Grampian style requirement could be drafted for every single component of the plan –resulting in a complicated mix of controls. In practice, however, the mode share targets and the parking controls provide clear and enforceable obligations, which will be effective in protecting against additional harm.	See 'Written Submissions Responding to Actions Arising from ISH2: Traffic and Transport Part 1' paras 1.6.50, 1.6.53 and 1.6.56 and ISH3 Para 1.2.2 below regarding our disagreement with this conclusion and the need for additional monitoring.	Sections below
Appendix 6.1.11	As at Hinkley, the Transport Review Group (TRG) has an important role to play. In respect of the CWTP for example, paragraphs 3.5.5, 5.3.5 and 6.4.3 make clear that the Transport Coordinator must report to the TRG meetings with an action plan to show how the mode share targets are being met or, if they are not, how they will be. The TRG has the power to require additional measures to be taken to meet the targets and those paragraphs of the CWTP are clear that any such action would be fully funded by SZC Co. That liability is uncapped. In practice, those	While uncapped the current TRG governance structure would enable SZC Co to block expenditure pending review by the Delivery Steering Group (noting that dispute resolution is not within the Delivery Steering Group's remit). In addition, if the DSG does not make a decision (because its own governance structure does not give any party a casting vote) the impasse would continue. Moreover, escalating matters through reference to the DSG before reconsideration by the TRG is time-consuming and unlikely to provide a swift or timely response to identified problems.	

	measures could be substantial – such as funding more busses, controlling worker travel to enforce car sharing, further investment in walking and cycling etc. The powers are real, enforceable and substantial.		
Appendix B 6.1.15.	Similarly, in relation to accommodation, SZC. Co's Comments on the Councils' Local Impact Report (Doc Ref 9.29) [REP3-045] at Chapter 31 explain why imposing caps on worker numbers would be counterproductive and contrary to policy. That response also explains why additional controls are not necessary	SCC proposes that delivery of the site accommodation should be linked to construction phases (and hence forecast demand) rather than dates or numbers of workers.	

[REP5-114] THE APPLICANT'S WRITTEN SUBMISSIONS RESPONDING TO ACTIONS ARISING FROM ISH2: TRAFFIC AND TRANSPORT PART 1

16. Please refer to SCC's Deadline 5 Post Hearing Submission to ISH2 [REP5-173]. In addition to that submission, SCC offers the following comments to the Applicant's [REP5-114].

Table 8. SCC response to [REP5-114]

Ref	SZC Co response in [REP5-114]	SCC Deadline 6 response	Ref to other submissions
1.4.3	SZC Co. has engaged with Suffolk Constabulary to develop and agree a risk assessed escorting guide for the movement of AILs by road to/from the main development site during the early years (i.e. AILs that may require police escort, self-escort or no escort). The AIL escorting guide is in the form of a matrix and has been agreed with Suffolk Constabulary for the early years, prior to the	Does A12 Lowestoft to Leiston and A12 Woodbridge to Leiston include the B1122 as far as Lovers Lane and that the fourth column is Lovers Lane from the B1122 to the SZB entrance? Can it be that columns 2 and 3 refer to Yoxford rather than Leiston? If columns 2 and 3 are correct the statement in 1.4.8 that all loads wider than 2.9m on the B1122	

	delivery of the Sizewell link road and two-village bypass and is provided in Figure 1 below	are escorted by Suffolk Constabulary does not reflect Fig 1 where loads of 2.91-3.499 and 3.5 to 4.99m are shown in columns 2 and 3 as shown as ones where the hauliers should consider self-escort for the vehicle.	
1.4.9	It is only VR1 and Special Order loads that may take circa 30 minutes to travel along the B1122 under police escort but as demonstrated in Table 1 above, there is forecast to be low numbers of these types of AILs during the early years.	For the first two years of the project, averages of one VR1 or Special Order movements every other week are expected, which should still be considered an impact. This impact is on top of between approximately 1,000 and 2,000 other AILs each year, so based on the figures provided, the amount of time an AIL would be travelling towards the site on the B1122 would be in excess of 400 hours in the first two years, or over 16 days in total, which would have impacts on delay and vulnerable road users.	
1.5.1	Figure 1 in the note provided in Appendix A to this document provides a breakdown of the classification of vehicles over the construction phase. Within Figure 1, freight vehicles that will be monitored for the Sizewell C project as HGVs are categorised as 3.5t-7.5t, 7.5t-18t and 18t-44t.	The breakdown referred to in 1.5.1 does not discriminate between 8-wheel aggregate lorries and articulated vehicles as both fall within the 18t to 44t category.	https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/211948/simplified-guide-to-lorry-types-and-weights.pdf
1.6.5	There have been suggestions from some parties to the examination that everything that has been assessed should be controlled. There is no basis for that approach. Neither law nor policy requires the imposition of	SCC believe that appropriate monitoring and controls are needed to identify issues throughout the programme. SCC recognise that the project is complex, but that the impacts identified are based on evidence and assumptions and that those	

	controls or monitoring on a project simply to ensure that a project conforms precisely with the outputs of the assessments undertaken at the application stage. In those circumstances every EIA development would be subject to scores of detailed controls. Nor would it be realistic to expect a development to operate precisely as has been assessed in all respects. An assessment does not automatically translate into controls in this way. Rather, the policy tests must be applied to justify controls.	impacts could be exceeded for a variety of reasons. The ability to identify unforeseen impacts on this basis through comprehensive monitoring and to be able to respond through the TRG is seen as a reasonable and pragmatic way of addressing this.	
1.6.6	That is consistent with Government policy of not seeking to impose unnecessary burdens on developers. The onerous nature of the additional limits, controls and monitoring sought by, for example, SCC should not be underestimated. They would come on top of the extensive regime of control already proposed and would add to the significant challenges presented by the delivery of a very large and complex infrastructure project	SCC is not looking to infringe upon the delivery of the project, but should be able to quickly identify issues and respond accordingly to address very real impacts that could be occurring to communities. Monitoring of key parameters against realistic forecasts to meet agreed targets is seen as the appropriate course for this.	
1.6.8	Any such suggestion would also be wholly novel. For example, just down the road the Brightwell Lakes development of some 2,000 homes plus significant employment floorspace has recently been granted permission. The transport assessment for that development assessed very significant numbers of vehicle movements on the same network (i.e. circa 4,000 two-way movements over the 3 hour AM and 3 hour PM peak periods and more over the course of a day) with which this examination is concerned, yet no vehicle	As set out at Table 6 of our Deadline 5 submission [REP5-172] SCC does not accept the Applicant's comparison of Sizewell C to Brightwell Lakes. The Brightwell Lakes development is predominately residential with local services including provision of early years to GCSE education and is located adjacent to a large retail and commercial centre. It includes an aspirational travel to maximise internal and non-motorised trips to reduce the impact on the A12. In terms of controls the number of dwellings is controlled by	Suffolk County Council Deadline 5 Submission - Comments on any additional information/submissions received by D3 and D4

	movement limits at all were imposed on that permission.	planning conditions and obligations requiring delivery of the appropriate highway infrastructure.	[REP5-172]
1.6.10	In relation to other construction and workforce traffic there are limits on car parking and controls to ensure workers use direct buses or park and ride buses, or to walk or cycle if they are close enough, which will result in 80% of the workers arriving at the main development site by sustainable modes.	The controls proposed do not control the total vehicle movements nor the timing of those movements, which could result in unassessed impacts. While 80% of workers may arrive at the main site by sustainable modes a large number of them will have driven to the north or south park and ride.	
1.6.13	The Deed of Obligation gives the Transport Review Group (TRG) the power to revise the management plans, but far from relaxing the controls this power is expressly framed as a means to ensure sufficient mitigation is provided. Further and crucially the TRG operates by majority vote and SZC Co. does not have a majority on the TRG. The other parties to the TRG –namely SCC, ESC and the Highways Agency – can hold SZC Co. to the limits to which it has committed	SCC considers it is important for sufficient monitoring to be undertaken to ensure that effective response can be undertaken as per [REP3-079]. As the TRG operates on a majority vote actions could be frustrated by a split vote.	Suffolk County Council Deadline 3 Submission - Comments on any additional information/submissions received by D2 [REP3-079]
1.6.15 to 1.6.17	Controls on HGVs	SCC has set out its position on controls on HGVs in [REP3-079] however, we believe that clarity of definitions is important here regarding what is a cap that should not be exceeded and what is a control that needs to be monitored and addressed through the TRG. We will continue to discuss these issues with the Applicant.	Suffolk County Council Deadline 3 Submission - Comments on any additional information/submissions received by

			D2 [REP3-079]
1.6.21	All Heavy Duty Vehicle (HDV) movements (i.e. HGVs and buses) associated with SZC, which route through Theberton and Middleton Moor on the B1122 are to be included in the daily HDV cap of 600 two-way movements for the early years. This includes HGVs for the construction of the main development site (including construction of LEEIE), Sizewell B relocated facilities, Green Rail Route, Lover's Lane improvements and any HGVs for the construction of the SLR. In addition any SZC park and ride or direct buses are also included in the early years cap. Monitoring and enforcement of this will be achieved by use of a GPS geofence. The line of the geofence will be located to include all such movements on the B1122.	SCC welcome this clarification. It is worth noting that no HGVs for the construction of the SLR have been modelled on the B1122 within the Transport Assessment or Environmental Statement. The inclusion of buses within the cap is welcome as no bus movements along this corridor are modelled or assessed, as they use the SLR. 1.6.21 note 2 states that spoil from TVBP and SLR will use a haul road along the route of the SLR. The LHA seeks confirmation that the spoil will only be moved after the haul road is available and details of how this is secured. SCC also seeks clarification that the non bus related workers trips on the B1122 have been included on the understanding that the early years for workers precedes opening of the SLR and that the number of workers by SZC Co own comments (1.6.25) will be increasing at that time.	
1.6.22	During the ISHs, questions were asked with regard to the level of the caps. The level of the caps reflects SZC Co.'s updated freight management strategy, whereby the maximum proportion of construction materials moved by HGVs is 40% and the total by rail and marine is at least 60%. Appendix A of this submission is a note entitled Material Imports and Modal Split, which provides further information (beyond that already contained in the Freight	SCC welcomes updated freight management strategy (1.6.22) where the <u>maximum</u> proportion (in weight or volume?) moved by HGVs is 40% and the total by rail or marine is <u>at least</u> 60% subject to suitable measures to secure this.	

	Management Strategy [AS-280]) on the detailed breakdown of the quantities and types of materials required, and the justification for the modal split by reference to material type and source.		
1.6.23 and 1.6.24	The note justifies the early years and peak construction HGV caps as those required to deliver the project, whilst maximising non-HGV modes of transport. In particular, the HGV profiles in Figures 1 – 3 of the note show that HGV movements do not follow a linear profile. They are not evenly distributed across the 12 year construction period, such that there will necessarily be 'white space' under the cap within the profile at points. Accordingly, dividing the total tonnage of freight required by the capacity of an HGV and spreading the resulting number of HGVs evenly out across the construction period does not lead to a daily HGV movement figure that will enable delivery of the project. The profile is required to deliver the project and it is not realistic that the cap should 'hug' the profile tightly, given the peaks and troughs in the profile. Nor is it desirable that it does so, because any large construction project will inevitably not proceed precisely in accordance with the indicative profile provided at the application stage. There needs to be flexibility to allow this to happen	While SCC accept the comments in 1.6.23 and 1.6.24 that HGV flows do vary and that close fitting caps are inappropriate it remains concerned that there are no measures in place that ensure SZC Co's preferred freight management strategy will be delivered. As a minimum SCC would expect the modal split of materials to be forecast against the project phasing and monitored so that it can be demonstrated that the anticipated modal split at the relevant stage in the project is being achieved. Thus, an enforceable quarterly average HGV target based on the numbers forecast as necessary for the project is welcomed.	
1.6.27	Nevertheless, in light of concerns raised by stakeholders and the ExA, SZC Co. is now proposing a further control by way of a quarterly HGV target for the early years and	SCC welcomes this commitment to an additional target and await an updated CTMP; however, consider that the profile of material transported to site by the different freight modes should be	

	peak construction, based on average daily movements for the relevant quarter, which would be enforceable by the TRG. This is additional to the measures currently contained in the CTMP [REP2-054] and refinements to the scope of the daily HGV caps, as set out above. The detail of the quarterly measure will be discussed with the local authorities before inclusion in a revised version of the CTMP[REP2-054]. It is a control which would limit SZC Co.'s ability to operate continuously at the maximum daily cap. It provides a further mechanism to ensure that the number of HGVs is limited to those necessary to construct the project and would demonstrate SZC Co's commitment to delivering materials by rail and marine.	monitored against forecast deliveries and the data reported to the TRG and published to demonstrate that the preferred freight strategy is being realised in practice.	
1.6.31	The likely impacts of HGV movements to off-site associated development sites have been assessed as part of the Environmental Statement and Consolidated Transport Assessment [REP4-005] and any appropriate mitigation has been proposed. The assessments indicate that the impacts are acceptable and no impacts have been identified which would justify the imposition of HGV caps on the construction of the associated development sites along the A12 corridor.	The Environmental Statement workstream is not complete and so further locations may be identified as set out in [REP2-192] and the ISH3 Post Hearing Submission [REP5-174]. As per ISH3 Post Hearing Submission, SCC considers that proportional mitigation is required along the A12. It should be stressed that the mitigation is proposed on the basis of the impacts of the assessment, which includes those AD site HGV movements modelled for the A12. Increases beyond those assessed figures may mean potential increases in impacts on communities particularly the villages of Farnham, Stratford St Andrew, Little Glemham, Farnham and Yoxford. This includes the potential for HGV numbers on routes to the north being higher than those assessed.	Suffolk County Council Deadline 2 Submission - Response to the ExA's Written Questions (ExQ1) [REP2-192] Suffolk County Council Deadline 5 Submission - Responses to

			any further information requested by the ExA for this Deadline - Issue Specific Hearing 3 (8 July 2021) – (ISH3) Traffic and Transport [REP5-174]
1.6.33	A full list of measures to manage HGVs connected with the off-site associated development sites is contained in section 5 of the CTMP [REP2-054]. In addition, SZC Co. after discussion with SCC, now propose to not only book the associated development site HGVs into the DMS-booker but to also track the HGV movements to the associated development sites along the HGV routes via the DMS-tracker, to provide further monitoring and control. This will be reflected in the next version of the CTMP to be submitted at Deadline 6.	This is noted, however, SCC remains of the opinion that a cap on AD site HGV movements is required and that monitoring of HGV numbers is required along each route to identify when a breach beyond assessed movements has occurred as set out at [REP3-079].	Comments on any additional information/submissions received by D2 [REP3-079]
1.6.34	These associated development sites are important mitigation for the construction phase. It is desirable that they are completed as quickly as reasonably possible. The imposition of HGV caps in respect of the associated development sites would be contrary to that aim.	As per paragraph 1.6.32, the Applicant identifies that these are peak flows at all sites; on that basis it is not understood how controlling the HGV numbers would be considered a risk to the delivery of the project.	

1.6.40	The CTMP [REP2-054] proposes to monitor the number of LGV movements to and from the main development site against the assessed levels (as recorded in the CTMP) via the DMS. Exceeding those levels would not constitute a breach but the TRG would have the power to decide if any remedial action was needed or not.	SCC believes that more extensive monitoring is required, as set out at [REP3-079]. Exceedance of the assumed movements would compromise the assessment of impacts in the TA and ES, for example in terms of junction capacity and invalidate the conclusions used to develop the mitigation measures. Further discussions are needed with the Applicant on management of these impacts through the TRG.	Comments on any additional information/submissions received by D2 [REP3-079]
1.6.45	It is not proposed to cap road-based AIL movements to/from the main development site. As set out in the earlier section of these written submissions which deals with AILs, the number of AILs travelling by road to the main development site is a limited proportion of the overall HGVs. AIL movements will be the subject of bespoke arrangements currently in the process of being agreed with Suffolk Constabulary. This will ensure that AILs will be properly managed and controlled. Further control by way of a cap is not necessary	The LHA accepts that it is not reasonable to cap AIL movements but that these will be managed through accurate forecasting, monitoring and where issues arise through remedial actions agreed with the TRG.	
1.6.48	Accordingly, any buses on the B1122 in the early years (whether park and ride buses or direct buses) will now be included in the 600 daily HDV (i.e. HGVs and buses) cap for the early years. This will ensure that the impacts are within what has been assessed and will also serve to protect the B1122.	SCC welcomes this commitment from the Applicant.	
1.6.49	It is not proposed to include buses in any cap after the early years. Including buses within the cap in the early years is to address the specific concern, raised by the ExA, about the additional impact of buses on the B1122 in the early years in addition to the assessed 600	SCC agrees that sustainable transport should be encouraged and not necessarily capped; however, we consider that the same mechanisms for control on bus movements that apply to direct buses should apply to park and ride buses as per our Deadline 3 submission [REP3-079].	Comments on any additional information/submissions received by

	two-way HGV movements. After the early years, the Sizewell link road will be in place and there will be no buses on the B1122. Park and ride buses have been assessed on the Sizewell link road in addition to the HGVs as part of the peak construction assessment, and therefore do not need to be included in the peak construction daily HGV cap. Bus transport is a key part of the sustainable transport workforce strategy for the project. It is a sustainable mode of transport which should generally be encouraged not capped.		D2 [REP3-079]
1.6.50	It is not proposed to cap car movements directly. However, they are in effect capped by the limited number of car parking spaces provided. It is proposed to provide a 1,000-space car park at the main development site. SZC Co. will implement a permit system to actively manage parking. The number of parking spaces means that at peak construction, only 12% of the construction workforce will be able to park at the main development site. This restricted number of spaces, as well as the proposed parking control measures, will act to reduce the impact of construction workforce trips on the local highway network. Further to the ISH, SZC Co. is also considering whether the provision of parking at the main development site should be phased – in practice, SZC co. will need to control its provision and use in order to meet the mode share targets (see further below).	Whilst it may be only 12%, it remains a significantly large workforce and car park especially for the location it is in. Nor does it reflect those workers who drive to the site accommodation campus or the offsite park and rides. SCC welcomes further investigation of phasing of car parking provision. SCC recognises the commitment to meet the mode share targets, but believe more extensive monitoring of total vehicle movements should be undertaken as per our Deadline 3 submission [REP3-079].	Comments on any additional information/submissions received by D2 [REP3-079]

1.6.51	A key parking control measure is that at peak construction only workers living inside the area bounded by the A12, River Blyth, and River Deben (except those living in Leiston or within 800m of the main development site) will be issued a parking permit for the main development site on-site parking. This area is referred to as the 'drive to site' catchment. Workers without a parking permit for the main development site will need to use one of the park and ride sites, a direct bus service, or walk or cycle to the main development site.	As noted in (REP5-174) very little accommodation is located within 800m of any park and ride site or the main site. The definition of 'Leiston' needs to be agreed.	Suffolk County Council Deadline 5 Submission - Responses to any further information requested by the ExA for this Deadline - Issue Specific Hearing 3 (8 July 2021) – (ISH3) Traffic and Transport [REP5-174]
1.6.56	Accordingly, and particularly in light of the control provided by the limited car parking, SZC Co. does not consider that caps on car movements are necessary or appropriate.	SCC does not agree with this conclusion and is seeking more extensive monitoring and control through the TRG to respond to be able to respond to impacts as per [REP3-079]. SCC considers that monitoring of car movements to the main site and park and ride sites is necessary and proportionate to validate the assumptions made in the TA, CWTP and ES. The TA relies heavily on shift patterns to reduce workers trips in peak periods. If actual workers movements depart form this assumption the forecast impacts may be exceeded.	Comments on any additional information/submissions received by D2 [REP3-079]
1.6.59	It is recognised that the mode share targets are based on two key points in time over the 12-year construction phase (i.e. the point in	SCC welcomes the proposal to set interim mode share targets although this will need to be based on realistic forecasting and suitable monitoring to	

	time just before the delivery of the northern or southern park and ride facilities and the peak of the peak construction when the workforce is at its highest). It is standard travel planning practice to set interim mode share targets to enable progress to be tracked in meeting the mode share. As part of the next version of the CWTP[REP2-055] to be submitted at Deadline 6, the ability for the TRG to agree interim mode share targets will be included.	allow the applicant the tools to demonstrate compliance with the mode share targets at the appropriate time.	
1.6.63	Therefore, should the number of workers exceed the assessed 1,500 workers prior to the delivery of the northern or southern park and ride facility, SZC Co. would continue to be committed to achieve the early years mode share targets set out in Table 3.1 of the CWTP[REP2-055] and the proposed early years limit on car parking at the main development site would act to limit vehicle numbers and promote sustainable modes for travel to the main development site.	SCC welcomes the limit on parking during the Early Years. However, parking does not entirely control the number of movements. Simply put, the car park could be more occupied than has been assessed within the TA. Appendix 7B of the Transport Assessment Appendices (Part 1 of 6) include the car park accumulation assessment [REP2-046]. The assessment shows that for a significant amount of the time the car parks have significant spare capacity indicating potential for additional vehicle movements without exceedance of currently proposed controls. The issues around greater peak hour vehicle movements would also not be addressed through this management measure.	Deadline 2 Submission - 8.5 Consolidated Transport Assessment Appendices Part 1 of 6 - Revision 3.0 [REP2-046].
1.7	Design of the Yoxford and Middleton Moor roundabouts	SCC is satisfied with the general principles of the roundabout design although the design will be subject to further examination during the technical approval process.	
1.8	Freight Management Facility alternative access	SCC concur with SZC Co's comments that to route HGVs via the A14 junction 59 at Trimley St Martin would require them to travel and excessive distance and that use of the A14 westbound off slip	

		towards Levington by HGVs accessing the FMF is unsuitable.	
1.9	SLR Alignment: Alternative and Justification	As set out in SCC's ISH2 Post Hearing Submission at Deadline 5 [REP5-173], whilst SCC considers that no demonstrable 'best' solution emerges, it nonetheless acknowledges that the Applicant has made that choice and so formulated its proposals. SCC is focussing on the proposal on its own merits.	Suffolk County Council Deadline 5 Submission - Responses to any further information requested by the ExA for this Deadline - Issue Specific Hearing 2 (7 July 2021) – (ISH2) Traffic and Transport [REP5-173].
1.9.21	The conclusions of the Sizewell Link Road: Principle and Route Selection Paper at Deadline 2 [REP2-108] (electronic pages 193 to 504) remain valid in that the Sizewell Link Road minimises the effects on local residents, which is the main objective of the new road, has less impact on landscape and visual amenity than the alternatives, involves the least land take and avoids conflict with any Local Plan allocations.	SCC does not agree with the conclusions of this assessment, but acknowledges that the Applicant has made that choice and so formulated its proposals. SCC is focussing on the proposal on its own merits.	
1.10	Early Years Traffic Modelling	SCC does not accept SZC Co's response to the issue raised regarding additional vehicles,	

		specifically park and ride buses and workers cars using the B1122 in the period between the park and rides opening and completion of the SLR. While it is accepted that inclusion of the buses in the total of HDVs that are capped, car trips are not controlled. The LHA is still concerned that additional trips by workers to the main site will exceed those modelled in the TA and that this matter has not been addressed by the applicant.	
1.11	Seasonality	SCC has accepted that the methodology used to develop the traffic modelling, including consideration of seasonal effects on traffic is acceptable.	
Appendix A	Material Imports and Modal Split	The authority welcomes the additional information provided in this appendix and the efforts made by SZC to develop a more sustainable Freight Management Strategy which does resolve some of the concerns raised by the authority regarding the Freight Management Strategy. In the authority's view the significant residual risks are: • Delivery of the infrastructure to enable use of the rail and marine options at the appropriate time in the programme. Of particular concern is delivery of rail infrastructure that is not within the DCO. • Delivery of the ESL rail bridge and the impact on routing of fill material from the 2VBP and SLR to the main site. • Implementation of the associated development works on the A12 and B1122	

		and the impact on HGV and AIL movements in the early years. • Unforeseen increases in material demand, for example due to unfavourable ground conditions. While welcoming the aspirations to use local ports such as Ipswich and Lowestoft to bring in materials for inward movement by road to avoid movements on the SRN the authority is aware that this will still apply pressure to the local road network.	
Appendix A 3.1	The delivery of the main associated development (referred to within the project as AD3 schemes) (SLR, TVBP and Yoxford) will divert the traffic away from the sensitive receptors e.g. those located on or near the B1122, in Yoxford and at Farnham	The delivery of these works will divert traffic away from some of the sensitive receptors. There are sensitive receptors, most notably Marlesford and Little Glemham which will not see traffic diverted away from them.	
Appendix B	Comparison of Outage vs Seasonality Traffic Flows	Table 1: Shows source / destination of trips associated with outages. 1402 trips (62%) are from the south and Aldeburgh, 92 trips from Saxmundham via the B1119 (10.2%). This shows the bulk of outage trips do not use the SLR.	
Appendix 1 Section 2 'Strategy'	Further development and supply chain engagement is ongoing to determine if further opportunities exist for diverting materials away from road transport to more sustainable means, if their nature and the quantity in which they are required makes this practical and cost effective.	SCC welcomes these discussions and would request that all efforts are made to ensure this is the case.	
Appendix 1 Figure 2	Figure 2 – SZC HGV Histogram (one-way deliveries)	The profile provided indicates that the proposed peak HGV movements would only be predicted to be exceeded once with 300 HGVs only exceeded during a few weeks. Whilst recognising that the figures are indicative, SCC would query why the	

		peak HGV movement cap cannot be reduced to 600 HGV movements to reflect these profiles through good management with the DMS, as the number of exceedances does not appear particularly different to the early years?	
Appendix 1 '4.2.1' 'Enabling Works Backfill'	By reusing the site won material from the SLR and TVBP, circa 140,000m3 of surplus material will be diverted from off-site disposal to on-site reuse. This saves the export of HGV movements, equivalent to 20,000 two-way movements, assuming 27t capacity HGVs, or 30,000 HGVs assuming 18.5t capacity. This material will be used to reprofile the TCA to suit the project's requirements for laydown platforms and roads and to achieve the landscape requirements and bunds around the site.	While sourcing fill from the TVBP and SLR reduces the need for trips from further afield it still generates a significant number of movements along the B1122 corridor. The proposal for a haul road is welcome but SCC is concerned regarding the phasing of this, in particular the bridge across the East Suffolk Line. The applicant is requested to confirm that this material is included within the 12.1 million tonnes estimated in the materials strategy (AS-280)	

[REP5-115] THE APPLICANT'S WRITTEN SUBMISSION RESPONDING TO ACTIONS ARISING ISH3: TRAFFIC AND TRANSPORT PART 2

17. Please refer to SCC's Deadline 5 Post Hearing Submission to ISH 5 [REP5-174]. In addition to that submission, SCC offers the following comments to the Applicant's [REP5-115].

Table 9. SCC response to [REP5-115]

Ref	SZC Co comments in [REP5-115]	SCC Deadline 6 response	Ref to other submissions
1.3.2	c) The responsiveness of the TRG. Concerns were raised about the ability of the TRG to respond expeditiously to urgent matters. The CTMP [REP2-054] already includes provision for any breaches to be referred to the TRG as	Noted. However, SCC maintains our position regarding a casting vote.	

	and when they occur and for TRG to determine the frequency of its meetings, but SZC Co. will consider how the ability of the TRG to respond expeditiously can be clarified in the Deed. This will also include issues as to attendance at meetings and the TRG's ability to act notwithstanding a party's non-attendance d)Inability to reach agreement. Concern was raised as to what would happen if the TRG failed to reach agreement. SZC Co. will consider whether clarification is needed as to the power of the Delivery Steering Group to resolve disputes in this circumstance (in particular by reference to paragraph 3.5.3 of Schedule 17of the Deed of Obligation(Doc Ref. 8.17(E))and also as to the scope there after to utilise the dispute resolution procedure (involving an appointed expert) in clause 8 of the Deed in the very unlikely event that agreement still could not be reached. The drafting around these issues will be reviewed		
1.5.7	Next the workforce trips that have been distributed based on the gravity model were allocated a mode of travel to the main development site. The allocation of mode of travel is set out in Section 4.8 of the CWTP [REP2- 055] summarised as follows: • Walk and cycle: Any worker living within 800m of a park and ride facility or the main development site will be expected to walk or	It is worth noting that there are very few dwellings within 800m of main site or park and rides. A clear definition of 'Leiston' is needed to determine who the requirement would apply to, for instance is it based on the parish boundary? Or postcode based?	

	cycle to that site and will not be issued with a parking permit. • Workers in Leiston: All workers living in Leiston will be expected to walk, cycle or use the direct bus to travel to the main development site and will not be issued with a parking permit for the main development site. • Drive to site zone: Only workers living inside the area bounded by the A12, River Blyth, and River Deben (except those living in the Leiston area or within 800m of the main development site) will qualify for a parking permit for the main development site.		
1.5.12	Car park design at any facility that operates a shift pattern such as proposed at Sizewell C (for example major distribution warehouses) is based on the shift change over time and at other times of the day there is more capacity. Therefore, this situation is not unique to Sizewell C.	While accepting the car park capacity reflects the assumed shift patterns the authority remains convinced that use of the car parks (and other modes of transport) needs to be monitored to validate the assumed shift patterns. As the authority's main concern in this respect is workers movements by car in peak hours (or creation of a displaced peak hour) it remains of the view that ongoing monitoring of vehicles at site entrances is a valid and reasonable measure.	
1.7.1	As summarised in the Written Summaries of Oral Submissions made at ISH3 (Doc Ref 9.43), SZC Co. committed to work with the highway authorities and Suffolk Constabulary to undertake further scenario planning as part of the Traffic Incident Management Plan (TIMP) [REP2-053]. As part of the ongoing	SCC welcomes SZC Co undertaking scenario testing of the TIMP and offers its assistance in contributing to these. Although not directly related to measures within the TIMP the authority suggests that the scenario of outward-bound freight trains being unable to leave the site before daytime passenger trains commence (as stated in NR	

	regular engagement with the key transport stakeholders, SZC Co. will provide flow charts setting out the broad sequence of steps that would be followed for various scenarios. A series of scenarios will be agreed with the stakeholders, which will take on board comments made by interested parties at ISH3. This scenario planning will be incorporated into the next version of the TIMP [REP2-053].	SoCG 5.2 REP5-095) and the impact on the following nights rail movements.	
1.8.1	During ISH3, the ExA asked SZC Co. to consider preparing a Framework Operational Travel Plan for submission to the Examination.	SCC supports a framework or outline Operational Travel Plan to embed good behaviour within the project and considers this should be in place when the first operational workers start on site with the final Operational Travel Plan coming into use at the delivery of the fuel for the first reactor. While SCCs guidance does state that the authority will be funded to monitor the plan for five years Sizewell is a unique project and extension of the duration would be strongly supported. The authority also considers the Operational Travel Plan is an opportunity to influence good travel behaviour during outages, in particular reducing workers trips by car which would be beneficial in reducing the size of the temporary car park proposed for use during outages.	
1.11.1	Chapter 2, Volume 6 of the Environmental Statement [APP-446] describes the Sizewell link road highway arrangements proposed at Fordley Road. There were only minor updates to the description of development in the Environmental Statement Addendum [AS-248]	The status of any link across the SLR on the approximate alignment of existing highway will be that available to cyclist and equestrians not merely a footpath. This reflects the confusion resulting from the applicants insistence of referring to	

	submitted in January 2021. The Sizewell link road would rise gradually on an embankment up to 3.5m high for approximately 200m until it meets the junction with Fordley Road. Fordley Road would be realigned on the south side of the Sizewell link road so northbound traffic could join the new road. On the north side, Fordley Road would be stopped up where it meets the proposed route of the Sizewell link road. A new footpath and private means of access would be created on the north side of the proposed route to provide access for Old Abbey Farm, with the new footpath connecting to the diverted Footpath E396/017/0. The proposals are shown on Sizewell Link Road, Fordley Road Junction – Proposed General Arrangement [AS-137].	footpath in the DCO (REP5-027) in article 2 "footpath" means a public right of way on foot only, unless otherwise specified in article and article 15 status of *footpaths* created or improved. SCC acknowledge schedule 10 does include the status of the rights of way but there is a significant risk of confusion by relying on the imprecise terms of the articles.	
Appendix A	'Responses to SCC's A12 Economic Assessment Paper'	A technical note has been appended to this response at Appendix A, which provides a detailed response to the Applicant's submission.	

[REP5-116] THE APPLICANT'S WRITTEN SUBMISSIONS RESPONDING TO ACTIONS ARISING FROM ISH4: SOCIO-ECONOMIC AND COMMUNITY ISSUES (9 JULY 2021)

18. We refer the ExA to our Deadline 5 Post-Hearing Submission for ISH4 [REP5-116].

19. SCC welcomes the clarification on the Revised Implementation Plan [REP2-044] in section 1.2, and has no further comments at this point about the phasing (notwithstanding our view that controls need to be in place to ensure that the accommodation campus is delivered well before reaching peak workforce numbers).

20. In response to Section 1.4 'Economic cost of congestion', SCC believes that there are two issues here which are being potentially conflated. The first relates to the specific economic impacts of congestion on the A12 corridor between A14 Seven Hills and A1152 Woods Lane, and further details and evidence has been provided in an Appendix to this document which sets out SCC's response to the Applicant's "Appendix A of Written Submissions Responding to Actions Arising from ISH3 Part 2

[REP5-115]". The second relates to specific impacts on local businesses, particularly those that rely on the A12 corridor to the north of the A1152 (such as logistics, tourism businesses, community health and social care providers) who would be impacted by reduced resilience and reduced journey times that may not be being picked up through the modelling. SCC considers that there could be localised issues that might have specific impacts on particular businesses, and mitigation for these impacts needs to be considered. However proportionate mitigation for the A12 corridor between Seven Hills and A1152 remains a separate issue.

21. In response to Section 1.8, SCC considers that there would be an impact on emergency service response times that should be appropriately mitigated. With regards to use of the modelling software to determine impacts on emergency services, the following should be taken into consideration. Given the modelling information to date, it should be acknowledged that the emergency services, including the police, fire and emergency medical services, will be impacted with the additional Sizewell C vehicle demands, however to what extent is difficult to ascertain. The impact on journey times will depend on their route and the time in which the emergency services undertake their duties, therefore given the unpredictable nature of these services it is difficult to assess the expected impacts. The only traffic assessment tools available are the VISUM and VISSIM traffic models. Although they both have the capabilities of assessing journey time changes, they have limitations which hinder their capacity to predict impacts to emergency services. Both models have been built to assess a segment of the day, therefore the model cannot assess outside these periods. With regards to the VISUM model, this provides a general understanding of traffic conditions on specific routes and is generally used to assess changes in vehicle movements and to inform lower tier models i.e. individual junction models, therefore has limited capability to accurately report on specific routes if they have not been validated. Furthermore, assessing the change in emergency vehicle response times can only be assessed by extracting journey times from general traffic within the model, however this could significantly overestimate the journey time differences given that emergency vehicles are likely to have greater freedom to bypass queues or travel through red lights at junctions, therefore the assessment would not provide an accurate measure of change in journey time. The VISSIM model provides greater detail, but uses a limited network, consisting of the A12 corridor between Seven Hills Junction and north of Woodbridge, therefore cannot assess on the basis of all the possible routes in which emergency vehicles could take.

22. In addition no assessment has been undertaken of the impacts of the significant number of AIL movements 1,000 to 2,000 annually, which works out as between half and three quarters of working days having AIL movements and between four and seven movements on those days during the Early Years of the project, nor the traffic management associated with delivery of numerous online highway works; all of which would add to impacts on response times. Neither the VISUM nor the VISSIM modelling includes modelling of such slow-moving movements or any queues of 'tailing' traffic. In summary, the overarching issue is the unpredictable nature of the travel patterns of the emergency services, which cannot be easily assessed, and although there are assessment tools available the combination of this unpredictability and limitations with the software makes

the assessment of impacts to emergency services difficult to assess or monetise. Therefore, it is not considered reasonable for the Applicant to draw a conclusion that there would not be an impact on this basis.

23. Even relatively small changes can have impacts on the services ability to meet their response standards. The standards below are for the fire service and were set locally around 2004/5 following the change/loss of the fire response standards legislation.

- Response Standard 1 - Attend 80% of property fires within 11 minutes of alert (1st fire engine).
- Response Standard 2 - Attend 80% of property fires within 16 minutes of alert (2nd fire engine).
- Response Standard 3 - Attend 80% of Road Traffic Collisions within 13 minutes of alert.

24. As part of these standards, the fire service have to account for the type of crewing on each station, the time to reach the incident, and the response to station for the On Call firefighters, which is where the additional traffic would result in potential impacts. SCC will be discussing with the Applicant potential mitigation approaches as part of the Suffolk Fire and Rescue element of the Deed of Obligation in advance of Deadline 7.

25. The other emergency services, i.e. police and ambulance, may ask for their own mitigation provisions through their discussions with the Applicant.

26. We note the Applicant's comments, under 1.12, about Governance – Quorum of Groups. SCC is broadly content with the commentary provided in this section, although we are seeking the possibility of proxy votes through one of the other members attending if an organisation is unavailable. The arrangements for the Groups to be quorate however does not address the circumstance where there is an impasse because decisions are made by majority vote and no party has a casting vote. SCC continues discussions about the governance proposals with the Applicant, and will be able to update the ExA at Deadline 7 through the updated Statement of Common Ground.

[REP5-117] THE APPLICANT'S WRITTEN SUBMISSIONS RESPONDING TO ACTIONS ARISING FROM ISH5: LANDSCAPE AND VISUAL IMPACT AND DESIGN (13 JULY 2021)

27. Please refer to SCC's Deadline 5 Post Hearing Submission to ISH 5 [REP5-176]. In addition to that submission, SCC offers the following comments to the Applicant's [REP5-117].

Table 10. SCC Response to [REP5-117]

Ref	SZC Co response in [REP5-117]	SCC Deadline 6 response	Ref to other submissions
Para 1.7.2 (last bullet) and Para 1.8.3 (Excerpt)	(Para 1.7.2) A forced outage is typically due to a breakdown. They are unplanned by nature and an emergency shutdown of all/part of the nuclear plant is required to ensure no increased safety risk. In that scenario it is inconceivable that a new nuclear power station would be planned on the basis that it would have to rely upon there happening to be outage car parking spaces available at Sizewell B when they are needed. On the balance of probability, there would be a clash on at least one in every 5 forced outages on any reactor if there was a single outage car park (further details on this are set out below). (Para 1.8.3) The likelihood of two or three outages occurring simultaneously, and causing a significant effect, is considered low, although it cannot be ruled out – planned outages for SZB and SZC outages will not be undertaken concurrently – and they will be planned to predominantly occur outside of the peak tourist season.	SCC notes this additional information with regard to the probability of parallel outages. We note that Para 1.7.2 states that "on the balance of probability, there would be a clash on at least one in five of forced outages if there was a single outage car park." However, it does not clarify the probability of how often there might be a forced outage. If, for instance, there was a forced outage once every four years, then does this mean that a clash would occur only once every twenty years? SCC also notes that in para 1.8.3 the Applicant does not differentiate between the likelihood of two or three outages occurring simultaneously. Either scenario is regarded as a 'low' probability event. SCC also notes that if both unplanned outages involve the reactors at Sizewell C it would be necessary to utilise the Sizewell B outage car park (as well as the Sizewell C outage car park) and yet the Applicant asserts at para 1.7.2 that 'it is inconceivable that a new nuclear power station would be planned on the basis that it would have to rely upon there happening to be outage car parking spaces available at Sizewell B when they are needed.' That 'inconceivable' scenario is embedded in the Applicant's proposals, with only one outage car park available at Sizewell C for two reactors. SCC therefore remains unpersuaded that the Applicant has provided a coherent explanation as to why the risk of two simultaneous outages from three reactors is so likely that two outage car parks must be provided (in the AONB) but the risk	[REP5-171] Alternative Outage Car Park

		of three simultaneous outages from three reactors is so low that no measures need to be taken to address it. See also SCC's commentary on likelihood of outages in [REP5-171], SCC's submission with an alternative proposal to handling double outages without the need of the outage car park at Goose Hill. In addition to [Rep5-171], it should be noted inclusion of outages within the Operational Travel Plan gives an opportunity to manage demand and embed good travel behaviour in both the permanent and temporary workforce. This itself can reduce the demand for onsite parking and hence size of temporary parking areas.	
Para 1.12.4	The Architecture and Landscape teams used the Sizewell AONB "Guidance on the selection and use of colour" document to aid the colour selection of for the cladding for all buildings. From this guidance document the "Sand dunes and shingle ridges" colour palette was used to inform the appropriate anodised aluminium colour palette with specialist advice from Jem Waygood the original author of that study to inform the colour selection. The approach to colour is detailed in the Design and Access Statement: Section 6 – Site Response Delivering Good Design and Section 7 Building Proposals - Main Platform (Doc Ref. 8.1(A)).	We welcome this reference and consider that there is good referencing of colour in the DAS. However, this section of the DAS is not part of the document that is for approval. SCC seeks means of securing approval of the colour referencing.	

Para 1.20.1	It was confirmed at the Hearing that Requirement 22A would be amended so that a detailed landscape scheme would be submitted to and approved by ESC before the relevant works would commence. This would secure the detailed design of the landscape of the two village bypass and the Sizewell link road, along with the implementation of the measures set out in the Sizewell link road Landscape and Ecology Management Plan and the two village bypass Landscape and Ecology Management Plan, submitted as part of Deadline 5.	SCC notes that the Applicant did not state at the Hearing that there would be a change to who would discharge Requirement 22A. SCC considers that SCC as the Local Highway Authority should be responsible for the discharge of the detailed highway design including drainage and landscaping within the highway boundary, to ensure highway safety (e.g. sight lines etc.), and in consideration of SCC becoming responsible for the ongoing maintenance. SCC acknowledges that some of the landscape schemes extend beyond the highway boundary, so an integrated approach with ESC is required. If SCC discharged this requirement, this would mirror the mechanism used for most road schemes in the county where SCC determines its own service-related planning applications (and subsequently discharges conditions, including landscape conditions) under Regulation 3 of the Town and Country Planning General Regulations 1992. As such, SCC has the appropriate skills available in landscape, ecology as well as highways. It also has recent experience of dealing with such work through schemes such as the Eye improvements on the A140, the southern relief road at Beccles, and the Southern Relief Road at Lowestoft. SCC is in discussion with ESC and the Applicant to seek a suitable solution for this issue.	
Appendix A: New Nuclear Need and Urgency		SCC notes that the Applicant has provided further commentary setting out its position on New Nuclear: Need and Urgency. SCC also notes that the ExA has asked a series of detailed and specific	

		questions on this topic (primarily to the Applicant) in its ExQ2 Part 1 Questions on Policy and Need. The Applicant is due to provide its response to those Questions at Deadline 7 and other parties will have the opportunity to submit comments on that response at Deadline 8. To avoid unnecessary duplication of submissions (and to ensure that SCC is able to focus its submissions on the matters raised by the ExA and the Applicant's response to those matters), SCC does not propose to provide its own commentary on Appendix A at this stage but to deal with all relevant matters at Deadline 8.	

[REP5-120] DEADLINE 5 SUBMISSION - 9.54 SZC CO. COMMENTS ON SUBMISSIONS FROM EARLIER DEADLINES (DEADLINES 2-4) APPENDICES - REVISION 1

Appendix A: Summary of the control and approval of highway matters

28. Please refer to SCC's Deadline 5 submission for comments on any additional information/submissions received by D3 and D4 [REP5-172]. In addition to that submission, SCC offers the following comments to the Applicant's [REP5-120].

Table 11. SCC comments on Appendix A

Ref	SZC Co response in [REP5-120]	SCC Deadline 6 response	Ref to other submissions
Appendix A: Summary of the control and approval of highway matters 1.3	Requirement 22 provides as follows in relation to the highway works comprised in Work Nos. 4A(c), 9(b), 10(b), 11,12,13(b),14,15,16 and 17:	SCC consider that an additional sub clause is necessary for sites where the highway needs to be returned to its original condition after removal of temporary works e.g., works 9 and 10, the park and ride sites.	

Appendix A: Summary of the control and approval of highway matters 1.5	In addition, among other things, Schedule 16 of the Deed of Obligation sets up working groups to facilitate the design of further highway schemes at Wickham Market, Leiston, and Marlesford and Little Glemham. The Deed provides that SZC Co. will pay for delivery by SCC of the schemes agreed through these groups.	This is not agreed by SCC. Our position is that all highway mitigation shall be delivered by the Applicant as it is unreasonable to expect the authority takes on the financial and reputational risks, particularly as it is not possible to quantify the former at this time.	Deed of Obligation
Appendix A: Summary of the control and approval of highway matters 1.7 Schedule 16 of the draft Deed of Obligation – "Contingent Effects Fund 1" and "Contingent Effects Fund 2"	Highway works required by the Deed of Obligation. The delivery of all of these highway schemes referred to in Schedule 16 is therefore controlled and executed by SCC rather than SZC Co, and therefore the comments made in Section 2 below in relation to design approval and delivery are not relevant to this class of highway works.	This is not agreed by SCC. Our position is that all highway mitigation including the Contingent Effects Fund 1 and Fund 2 shall be delivered by the Applicant as it is unreasonable to expect the authority takes on the financial and reputational risks, particularly as it is not possible to quantify the former at this time.	Deed of Obligation
Appendix A: Summary of the control and approval of highway matters 2.2	Further, it may be necessary for other details to be approved by SCC prior to commencement of construction of some or all of these highway works. In a non-DCO context, this very detailed level of approval would ordinarily be given via a s278 or s38 Highway Act agreement. A s278 agreement authorises a developer to enter existing highway and carry out works (with a 'lawful excuse' for the purpose of the Highway Act 1980) such that the obstruction of the highway by such works is not an offence. Section 278 agreements also ordinarily provide a	The details of what and when the highway works will be adopted by SCC as highway maintainable at public expense is a matter of discussion between the parties. SCC notes that on adoption of any new highway by the authority it would expect SZC Cos powers under the DCO for that part of the highway to be terminated. This could be an additional clause in article 20.	

	procedure for the auditing and sign-off of the works from a safety perspective as they are carried out, and a duty to maintain the highway works for a period of 12 months after which the works are adopted by the highway authority. Section 38 agreements are similar, but relate to the creation of highway on land not already dedicated as highway land.		
Appendix A: Summary of the control and approval of highway matters 3.1	Article 22 and Schedule 20 of the dDCO provide SZC Co. with powers in relation to traffic regulation. Article 22 provides that the undertaker can make the traffic regulation orders specified in Schedule 20, relating to changes to speed limits for specific streets. In the event that the undertaker needs other traffic regulations to be put in place, SCC's consent would be required pursuant to article 22(2). In either case, the undertaker must give at least 28 days' notice to the chief officer of police and SCC and advertise in such manner as SCC specify within 7 days of SCC receiving the undertaker's notice.	Notwithstanding the authorities comments at deadline 5 (REF) regarding the process for traffic regulation orders SZC Co in making any orders must do so in a format compatible with the LHA requirements. The authority has noted elsewhere (REF) that the information provided in the relevant DCO schedules is inaccurate and in the LHAs view would make enforcement of the orders difficult.	

Appendix B: ACA Drainage Strategy Technical Note (DCO Task 4)

29. The principles used in this document are generally supported, however the document lacks supporting information such as calculations, dimensioned plans and sections of the proposed SuDS strategy. Some aspects of the proposed drainage strategy require further thought/clarification in order to reach agreement.

30. Whilst treatment options are proposed, it is unclear whether these have been designed in accordance with CIRIA SuDS Manual treatment design requirements, in order to be eligible for the allocated indices.

Table 12. SCC comments on Appendix B

Ref	SZC Co statement	SCC Deadline 6 response	
Table 2.1 Para 3.1.2 Para 3.2.6	ACA greenfield runoff rates As stated in the DCO drainage strategy, the ACA is known to have a low infiltration potential and therefore no infiltration has been conservatively assumed in Basic Design. The surface water runoff from this site would be managed on site, stored, and then discharged to a suitable nearby watercourse at an equivalent rate of QBAR, as agreed with external stakeholders on 17th December 2020 (see meeting minutes, item 4 in Appendix D1). The outflow rate at both outfall locations will be restricted to the QBAR as agreed in the meeting quoted above.	The table and paragraphs referenced contain/reference the use of Qbar, supported by calculations contained in Appendix C1. Multiple stakeholders have previously agreed that utilising a surface water discharge rate of Qbar is supported (Item 4 of Appendix D1), as per national and local guidance. No discussions have taken place on the methodology used to calculate Qbar. Only IH124 methodology has been used, as per Appendix C1. National guidance expresses a preference for FEH methodologies (CIRIA SuDS Manual (Section 24.3)). SCC request that the Applicant undertakes a sensitivity test between both methodologies and utilises the more conservative of the two rates. SCC would also like to highlight that these discharge rates would need to be agreed with Natural England to ensure they do not have a detrimental impact to the surrounding environment, but would accept this takes place at detailed design, providing the above conservative approach is taken at this stage.	
Para 3.1.3	Figure 3-1 shows the historic infiltration rates recorded during ground investigation campaigns in 2016 by Structural Soils Limited (2016 Onshore Ground Investigation Campaign. Factual Report on Ground Investigation ref. SZC-SZC030-XX-000-REP-100000) and in 2020 by Fugro (Report on Ground Investigation without Geotechnical Evaluation. Sizewell Infiltration Testing ref G200003U_GIR Rev 02), within the ACA site. Infiltration test results from both reports are shown in Appendix E1…	None of the test results provided in Appendix E comply with BRE365 testing methodology. SCC agree with the Applicants approach to assume no infiltration for this phase of design work but would highlight that BRE365 compliant testing should take place prior to detailed design.	

Multiple paragraphs and Table 4.5		Throughout the document, reference is made to 'ponds' and 'sediment ponds'. The use of this terminology is incorrect and should be amended to refer to 'basins' and 'sediment basins'. This is important and relevant as the pollution mitigation indices provided by basins and ponds are very different. The design criteria for a pond are very strict and are not met in these instances. Regardless, this site is not suitable for a pond as this feature is best used as a final 'polishing' element, not for primary treatment. This has been stated to the Applicant previously, as per Item 15 of Appendix D1.	
Para 3.2.2	The original drainage strategy proposed in basic design aimed to mimic the existing site characteristics and predominantly discharge surface water runoff to the Leiston Drain at outfall O6, along Lover's Lane, at greenfield runoff rates. However, discussions with the EA, ESC, SCC and the IDB in December 2020 concluded that there was a preference to make the primary surface water discharge from the ACA to the Sizewell Marshes instead (see Appendix D1 for meeting minutes, item 2).	SCC have no preference to discharge location and defer to IDB & Natural England on this matter to maintain the existing water balance to the surrounding environment. SCC's understanding is that the change of discharge location from O6 to a combination of O6 & O7 is to facilitate the routing of surface water through the attenuation basin for most of the catchment for most rainfall events to ensure sufficient treatment. This is supported by SCC.	
Para 3.2.8 Para 3.2.47	A hydraulic model for the overall site has been constructed in Innovyze Microdrainage (2019) to size the networks and attenuation/infiltration features. The hydraulic model parameters used are summarised in Table 3-1. An initial conservative storage estimate for the West ACA WMZ resulted in a storage requirement of 4000 m3 , with a proposed flowrate to the	These calculations should be provided in support of this submission, as previously requested in Item 4 of Appendix D1.	

Para 3.2.48	Leiston Drain of 10.5 l/s, as stated in the Water Management Zone Summary technical note (ref. SZC-EW0321-ATK-XX-000-XXXXXX-NOT-CCD000001). The proposed rate is based on the calculated QBAR for the ACA site (Appendix C1). This assessment was undertaken using a source control calculation, which excluded any onsite storage upstream of the WMZ within the swale network. Hydraulic modelling of the ACA has been progressed and the water volume produced during a 100-year rainfall event including 20% climate change is 1,900 m3 . Further work will be undertaken during Detailed Design to refine the hydraulic modelling and optimise the storage requirements. The current proposed storage pond using an outflow rate of 10.5 l/s is as per Table 3-3.		
Table 3.2 Table 3.3	East ASA WMZ attenuation basin summary West ACA WMZ infiltration basin summary	Water levels exceed national design guidance maximum water depths of 1.0m. Justification for this should be provided. Whilst some design parameters have been provided, other information, such as the base area and plan area of the proposed basins has not been provided, either in text, or preferably in plan view with suitable annotation.	
Para 3.2.25	… It is acknowledged that SCC prefers to not use oil separators to capture and treat oil spills and instead supports the use of a lined permeable pavement whereby oil spills can be treated	For clarification, SCC understand and support the use of interceptors and other proprietary treatment methods, however, they should not be used as a primary method of treating surface water as this	

	through granular pavement layers. To provide further treatment and protection of the receiving watercourse, a hydrodynamic separator such as a Hydro Downstream Defender may also be utilised in conjunction with a permeable pavement. This approach will be considered at the next design stage and is further discussed in Section 4.4.8	can result in a reliance on maintenance. Where used as a failsafe or as a supplementary treatment option, these components can complement a sustainable drainage strategy and afford the surrounding environment with further protection.	
Para 3.2.45	Therefore, surface water runoff in Catchment 2, indicatively outlined by dashed-red line in Figure 3-8 is proposed to be captured separately through perimeter swales that convey to a sediment pond (West ACA WMZ) within the catchment and to stop any water running off site. As no infiltration is assumed, the attenuated runoff will require pumping from the low point of the site, east towards outfall O6 on Lover's Lane, discharging to the Leiston Drain.	It must be demonstrated that the pumped system can contain the critical event if there is a pump failure, without increasing offsite flood risk.	
Table 3.3	West ACA WMZ infiltration basin summary	This basin is located on a significant gradient. SCC would like to see a section through this proposed basin, showing existing and proposed ground levels, to better understand the potential need for a water retaining embankment. Especially important given this would be located very close to residential properties.	
Table 4.5	ACA SuDS mitigations indices for discharges to surface waters	The formula for calculating multiple mitigation indices has not been included in the submission, for clarity. As per response to Table 4.5, the use of pond mitigation indices is not appropriate.	

		Neither part of the park and ride (paragraph 3.2.21) or the access road (paragraph 3.2.26) have been included in this table. These are areas which are not provided with any treatment. Multiple areas of the ACA do not provide sufficient pollution mitigation. SCC expect more areas to fall short of the required treatment when attenuation basin indices are applied correctly, as opposed to incorrectly using mitigation indices for a pond. The applicant should demonstrate what proprietary treatment options are available to them to supplement the proposed drainage strategy and make up any shortfall in mitigation. This demonstration of options should include the appropriate indices for any listed options.	
Paragraph 4.4.8	Proprietary drainage methods water quality risk management	Has this paragraph been missed or was it intended as a title?	

Appendix C: Sizewell Drain Water Management Control Structure (DCO Task 5)

31. No comment to make, defer to East Suffolk Internal Drainage Board and other interested stakeholders on this matter.

Appendix D: Main Development Site Water Management Zone Summary (DCO Task D2)

32. The principles used in this document are generally supported, however the document lacks supporting information such as calculations, dimensioned plans and sections of the proposed SuDS strategy. Some aspects of the proposed drainage strategy require further thought/clarification in order to reach agreement.

33. Whilst treatment options are proposed, no assessment has been undertaken to determine if those treatment options are sufficient to mitigate the pollution hazard. There is also no assessment of whether treatment options have been designed in accordance with CIRIA SuDS Manual treatment design requirements, in order to be eligible for the allocated indices.

Table 13. SCC comments on Appendix D

Ref	SZC Co statement	SCC Deadline 6 response
Paragraph 1.1.2	This note provides details of the WMZ infiltration basins for the established site. Temporary surface water control measures such as temporary sediment ponds will be required in areas prior to some of the WMZ infiltration basins are installed. The locations of the temporary surface water controls measures are to comply with the Code of Construction Practice (CoCP) and will be detailed alongside the construction sequencing with the Contractor.	Whilst details for the construction phase are addressed in this document, and temporary surface water management measures during site establishment will be covered under the Code of Construction Practice (CoCP), it is unclear how surface water will be managed during the operational phase of the proposed development. This remains an outstanding concern for SCC that is yet to be addressed.
Paragraph 1.2.1 Paragraph 1.2.5	The extent of the SZC Main Development Site (MDS) is set by the red line boundary shown in the Construction Site Plot Plan (CSPP). This incorporates the ACA, TCA, Main Construction Area (MCA), and Railway to the west. These areas are approximately outlined in Figure 1-1. The surface water drainage design is required to capture all surface water runoff from within the red line boundary, as defined in the Outline Drainage Strategy described in the Development Consent Order (DCO)	Figure 1.1 excludes the Campus Area. At submission, the Outline Drainage Strategy [APP-181], which was updated at Deadline 2 [REP2-033], included the Campus Area which in those documents was described as Water Management Zone 10. This area has been omitted from this document with no explanation given. The Outline Drainage Strategy, did not include details for the site entrance hub/plaza area. SCC welcome that this is now included in Water Management Zone 6 and further comments are made on this area later in this document.
Paragraph 1.2.9	Infiltration basins in catchments 1, 2, 3, and 6 have an outlet to nearby watercourses, restricted to greenfield runoff rates, and to be agreed with external stakeholders Suffolk County Council (SCC),	Unclear if this outlet is used for all rainfall events, or only for certain rainfall events (give parameters).

	Environment Agency (EA) and/or Internal Drainage Board (IDB) where applicable…	Natural England should also be included in these discussions and agreement to ensure that surface water discharges mimic natural processes without any detrimental impact to the surrounding environment
Paragraph 1.3.2	This document does not address the design of other minor SuDS features such as swales, infiltration trenches, and permeable paving. These features will be further detailed in future proposals, in conjunction with Contractor involvement.	The proposed swales and infiltration trenches will be serving very large areas. Consideration should be given at this stage to the space requirements of these features to ensure that sufficient land is allocated. Indicative sections through these features in varying locations should be provided.
Paragraph 2.1.1	In accordance with the Outline Drainage Strategy, all infiltration basins within the MDS are designed to cater for a 100-year flood event plus a 20% allowance for climate change. This section summarises the design parameters used in the hydraulic assessment to determine the size of the WMZ infiltration basins. The volume assessment was conducted using MicroDrainage Source Control using the parameters and assumptions in the following sections. By sizing the infiltration basins using Source Control and not considering additional storage in the upstream network, the storage volumes calculated are conservative and will be able to be reduced in the next design phase.	The inputs and outputs of MicroDrainage Source Control calculations should be provided, alongside details of the design criteria used, such as maximum design water depths and total basin depths.
Table 2.1	Input parameters for MicroDrainage Source Control storage volumes	Justification for varying volumetric runoff coefficient must be provided. SCC agree with the other stated input parameters and the explanation given in footnote 3.
Paragraph 2.3.1	Several ground investigation (GI) campaigns have been undertaken across the site to determine the infiltration potential across various catchment areas. The figure below summarises the range of infiltration	Results of infiltration testing should be submitted to the Examination, either separately or as an appendices to this document. If these test results have already been submitted, the Examination Library reference should be provided. It is unknown

	rates recorded in four separate campaigns in 2014, 2015, 2017 and 2020. The lowest (worst-case) rate for each catchment has been used at this design stage for surface water calculations, specifically to calculate the storage volume required in infiltration basins…	whether the test methodology or depth is acceptable. SCC support the approach of using the worst-case rate for each catchment, but this does not address the aforementioned unknown factors.
Paragraph 2.3.2	In order to calculate the contributing areas to each of the water management zones, they have been assessed based on their land use with their appropriate percentage impermeable (PIMP) value for each area type…	These values should be justified/explained. For example, it is unclear how or why an asphalt road is considered to have a percentage impermeable area of 90%.
Paragraph 2.3.3	Using the above PIMP values and known areas within each catchment, a source control model has been run to provide assurance that the design storage is able to be catered for within the WMZ infiltration basins	MicroDrainage Source Control outputs should be provided.
Paragraph 2.4.5	The positioning and location of these features will be further defined in the following design phases and will follow overarching principles in the CIRIA SuDS Manual (C753) as well as the Outline Drainage Strategy document.	Whilst the positioning and location of these features can wait for detailed design, the size of these features must be identified at this stage, to understand the required land take, using a Rochdale Envelope approach.
Paragraph 2.4.7	The assessment of water quality risk management for each WMZ will be provided through the simple index approach as outlined in Section 26.7.1 of the CIRIA SuDS Manual (C753). This method will ultimately determine what SuDS measures are required to treat different types of developments across the MDS. The steps are set out as: Step 1 – Allocate suitable pollution hazard indices for the proposed land use	This approach is acceptable, however some locations may require a risk assessment based approach, such as the concrete batching plant, as per CIRIA SuDS Manual, Table 26.1. Mitigation indices (Step 2) are only assigned if the treatment design criteria, detailed in the subsection for each SuDS component, is met. At this moment in time, it is not possible to state whether treatment design criteria has been complied with as sufficient information has not been provided. A high level assessment using the indices approach should be provided at this stage, any risk assessments can be undertaken at a detailed design stage, post-consent.

	Step 2 – Select SuDS with a total pollution mitigation index that equals or exceeds the pollution hazard index Step 3 – Where the discharge is to protected surface waters or groundwater, consider the need for a more precautionary approach	
Paragraph 2.4.8	Proposed SuDS features within each catchment will be used to determine a total pollution mitigation index (Table 26.3 CIRIA SuDS Manual). Where additional SuDS features are not considered appropriate at this design stage, proprietary, non-SuDS treatment may be proposed. This assessment will be carried out for each WMZ in the next design phase.	Why has this assessment not been undertaken at this stage, as has been the case for the ASA (Appendix B of this submission)? Given SuDS are relied upon as primary mitigation in the Environmental Assessment, it is vital that an initial assessment is undertaken to determine that a sufficient SuDS treatment train has been provided (including that treatment design criteria is met), and if not, what the shortfall may be for different land uses and how this could be made up using proprietary treatment measures.
Paragraph 2.5.2	It is important that the SSSI is neither overwhelmed with additional surface water runoff, nor starved of surface water during the construction and operation of SZC. Maintaining the status quo of how the existing site drains is required to ensure the SSSI retains its current ecological and hydrological features. This has been reinforced by conversations with the EA and other stakeholders and is represented in both the groundwater/surface water modelling and flood risk modelling.	SCC agree that the SSSI must be neither overwhelmed or starved of surface water. SCC have not seen any modelling on this topic yet to determine what the thresholds of the above limits would be. Providing a Rochdale Envelope approach is taken for the design of MDS SuDS features a this stage, it would be acceptable to SCC for this work to be undertaken at detailed design, post-consent.
Paragraph 3.1.1	Generally, the surfaces of the catchments are largely permeable, so surface water will infiltrate to ground in the first instance. Any runoff that does not infiltrate directly or captured through swales with infiltration trenches will be captured by a perforated pipe within the trench, that will convey the flow to a Water Management Zone (WMZ) infiltration basin.	SCC do not agree with this statement. Whilst this may be the case for the existing catchment, SCC find it difficult to believe that surfaces will not be altered as part of the construction phase. Any ground that is left unmodified would likely be significantly compacted through use during the 10-12 year construction period. It would therefore not continue to act in a natural, permeable manner to any extent that could be considered greenfield/unmodified.

Table 3.1 Table 3.2 Table 3.3 Table 3.4 Table 3.5 Table 3.6 Table 3.7 Table 3.8 Table 3.9	Water Management Zone 1 – Infiltration Basin Summary Water Management Zone 2 – Infiltration Basin Summary Water Management Zone 3 – Infiltration Basin Summary Water Management Zone 4 – Infiltration Basin Summary Water Management Zone 5 – Infiltration Basin Summary Water Management Zone 6 – Infiltration Basin Summary ACA East – Infiltration Basin Summary ACA West – Infiltration Basin Summary Abbey Road WMZ – Infiltration Basin Summary	The below points are applicable to all of these Tables: 1. Percentage of runoff – As per response to Paragraph 2.3.2, further justification is required for PIMP values. Also, further information is required to understand the land uses in each catchment. A combination of these two are used to calculate the percentage of runoff in each table, but more explanation on how this has been allocated/calculated is required 2. Volumetric runoff coefficient (Cv) – As per response to Table 2.1, the use of bespoke Cv values must be justified 3. MicroDrainage Source Control Summary – As per response to Paragraph 2.1.1, please provide Source Control Outputs 4. Civil 3D Model Summary – Please provide annotated plans that illustrate the dimensions of the proposed basin 5. Further design information should be provided such as crest level, top of basin level, 1:1+CC water level, 1:100+CC water level. This will enable SCC to understand the total basin depth and total water depth for the 1:1+CC event (for treatment) and 1:100+CC event (for storage). A section should also be provided through each basin, with water levels annotated. 6. Where infiltration rates are given in addition to a discharge to watercourse, it is unclear which outflow (infiltration or discharge to watercourse) has been used for source control simulations, or whether both have been used. Provision of calculations would clarify this 7. The top of basin areas, assessed against the storage volume requirements would suggest that some, if not most, of the proposed basins have water depths that exceed national design guidance. Given public access is not likely to be an issue, this may be acceptable, but would require further assessment at this stage. If this further assessment is not forthcoming at this stage then national design criteria

		should be complied with, to determine maximum land allocations, as per Rochdale Envelope. 8. Given the top of basin areas and the storage volume requirements, it is unlikely that the SuDS features would meet treatment design criteria with such water depths. 9. Features that rely on infiltration only must demonstrate a half drain time of 24 hours. If this cannot be complied with then it must be demonstrated that there is sufficient volume for a follow on 1:10+CC storm, 24 hours after a 1:100+CC storm
Tables 3.5	Water Management Zone 5 – Infiltration Basin Summary	The infiltration rate used for the design of this WMZ is below the 10mm/hr threshold considered to be acceptable by SCC LLFA. There is also no alternative method of surface water disposal for this catchment. As such, this catchment is not currently proposing an acceptable surface water drainage strategy. It is noted that the infiltration rate used for design purposes is elsewhere in the catchment and better testing results have been achieved near the infiltration basin location. A more bespoke approach may be suitable for this catchment which can be agreed through engagement with SCC.
Section 3.8	Ancillary Construction Area (ACA)	Defer to SCC response to Appendix B of this submission. It should be noted that the level of information provided in this section compared to Appendix B of this submission differs. For example, the bespoke Cv values are not included in Appendix B of this submission.
3.9.1	The West Railway Catchment 3 is one of five catchments serving the proposed Green Rail Route, which is located with the Main Development Site.	Why has only this catchment (1 of 5) been included in this response, without the other catchments?
Annex C	Figures 1 & 2	These figures are useful but should be provided for all WMZ's, should be annotated with dimensions and should be accompanied by sections through each basin

		It would appear that WMZ 1 basin discharges outside of the Order Limits. The outlet from WMZ 3 to the nearby watercourse is not shown in Figure 2. This justifies the need to see detailed layouts of all the proposed WMZs, including discharge locations, at an appropriate scale.

Appendix E: Temporary Marine Outfall Operation Summary (DCO Task D3)

34. Further detail is required for SCC to come to a considered view on the operation of the temporary marine outfall, as detailed in table 14 below.

Table 14. SCC comments on Appendix E

Ref	SZC Co statement	SCC Deadline 6 response
Paragraph 2.1.3	The collection of surface water across the MCA will be designed to suit the sequence of construction events. Surface water will be collected and held in temporary attenuation ponds within the MCA, before being treated using proprietary devices if required.	What are the attenuation requirements for this catchment? No details have been provided.
Paragraph 2.2.2	Temporary infiltration ponds within the MCA will have outfalls discharging to the Sizewell Drain if infiltration alone is not sufficient to discharge surface water.	What would be the proposed invert levels of attenuation basins in this location in relation to local groundwater levels? Infiltration may not be suitable at this location, further discussion required with SCC LLFA and other stakeholders.
Paragraph 2.2.5	Attenuated surface water runoff from catchments within the TCA will be discharged to the Leiston Drain at various locations if infiltration alone is not sufficient to discharge surface water. However, during the early months of site establishment of Water Management Zone (WMZ) 1 and WMZ2 when the CDO is under construction, if the site is subject to an extreme storm or inundated locally with surface water, the temporary marine outfall will be used to discharge surface water to sea.	At a detailed design, post-consent stage, more details, including scope, duration and thresholds for any proposals to discharge surface water through the temporary marine outfall will be required. Regular discharge through the temporary marine outfall would not be encouraged. This would not replicate the natural drainage regime and could result in harm to the surrounding sensitive environment.

Appendix F: Sizewell Link Road Preliminary Drainage Design Note

35. The principles used in this document are generally supported, however the document lacks supporting information such as calculations, dimensioned plans and sections of the proposed SuDS strategy. Some aspects of the proposed drainage strategy require further thought/clarification in order to reach agreement.

Table 15. SCC comments on Appendix F

Ref	SZC Co statement	SCC Deadline 6 response
Paragraph 4.1.2	The new data which informs the design is listed…	Some of this information should be appended to this report. Results of infiltration testing, HEWRAT assessment and level information are critical pieces of information that should be provided as these can directly influence the size and location of proposed SuDS.
Plate 4	Middleton link roundabout drainage outfall	Whilst the outfall location is clearly illustrated, the drainage arrangement described in paragraph 5.1.5, is not clear.
Paragraph 5.1.6	For Sizewell link road and all other side roads, the swale drainage and filter drains proposed will remain broadly as shown in DCO drawings. However, these will now provide a continuous outfall route to a watercourse.	Sections should be provided through the Sizewell Link Road and associated surface water drainage infrastructure, at grade, in cutting and on embankment, so it is clearly understood what the proposed surface water drainage arrangement is, what land requirement there is for this and that there is sufficient space within the Order Limits to accommodate this. The sections contained in the Plans Not for Approval [REP5-022] are noted, but do not provide sufficient detail. Also, these sections present some concerns RE the spill of surface water from the carriageway, down the embankment into the proposed swale. Discussed further in Paragraph 5.1.12. Sections shown in Plans Not for Approval for Two Village Bypass [REP5-018] that show swales on the top of the embankment are a more favoured approach by SCC.
Paragraph 5.1.9	In order to limit the size of these outfall attenuation basins and their inflow rate, upstream flow control points and offline attenuation basins are proposed along the line of the swales.	Offline attenuation basins may not provide treatment for smaller rainfall events that contain higher pollutant loads. Attenuation basins should be online to maximise treatment and interception.

Paragraph 5.1.12	Swales at the toe of embankment will remain as proposed in the DCO design, at 0.5 m deep.	Unclear if this is a swale to intercept overland flow, or if it is for highway runoff. If highway runoff, how will water get into the swale from top of the embankment without presenting a scour risk to the embankment surface. Sections requested in response to paragraph 5.1.6 would help to clarify this. SCC Highways will wish to comment on this aspect once sections have been provided.
Table 2	Highway discharge points to watercourses	What is the gross catchment area? Is this the total catchment feeding into this area, or the adoptable highway and surface water drainage infrastructure feeding into this catchment? Only the adoptable highway and surface water drainage infrastructure area is relevant and supporting Qbar calculations should be provided for each catchment, even if that approach is not chosen.
SCC comment	N/A	No basin details, including locations or discharge locations have been provided. No capacity assessment has been provided for any of the proposed basins. The design criteria used for the sizing of proposed basins (i.e side slopes, maximum water depths, total basin depths etc.) are not known. In general, whilst the principles of the drainage strategy are agreeable, the level of detail provided is insufficient to demonstrate that the proposed mitigation is either deliverable within the Order Limits, or sufficient to be considered suitable as primary mitigation.

Appendix G: Two Village Bypass Preliminary Drainage Design Note

36. The principles used in this document are generally supported, however the document lacks supporting information such as calculations, dimensioned plans and sections of the proposed SuDS strategy. Some aspects of the proposed drainage strategy require further thought/clarification in order to reach agreement.

Table 16. SCC comments on Appendix G

Ref	SZC Co statement	SCC Deadline 6 response
Paragraph 4.1.2	The new data which informs the design is listed…	Some of this information should be appended to this report. Results of infiltration testing, HEWRAT assessment and level information are critical

		pieces of information that should be provided as these can directly influence the size and location of proposed SuDS.
Paragraph 6.1.4	The 3 proposed infiltration basins were shown schematically in the DCO drawings. As part of preliminary design, the highway drainage network has been developed using hydraulic modelling. This has enabled the required size of the basins to be determined and space has been allocated.	Please provide results of hydraulic modelling
Plate 10 Plate 11 Plate 14 Plate 16	Two village bypass infiltration basin 1 approximate size and hydraulic performance A12 west roundabout northern arm with soakaway manhole location Two village bypass infiltration basin 2 approximate size and hydraulic performance Two village bypass infiltration basin 3 approximate size and hydraulic performance	The below information is required to support the information contained within all of these plates: 1. The catchment used for the design and other design parameters such a PIMP and Cv values are unknown 2. The plan area of the basin at base, top and crest are unknown. This should be stated, but also shown on plan, with dimensions and supporting sections (not applicable to Plate 11) 3. Other design criteria, such as Factors of Safety and side slope gradients are not stated 4. As per response to paragraph 6.1.4, calculation outputs should be provided 5. Depth/clearance between base of infiltration and peak seasonal groundwater levels has not been identified 6. It is unclear if the 'storage depth' is the total basin depth and/or whether it includes freeboard
Plate 10	Two village bypass infiltration basin 1 approximate size and hydraulic performance	The infiltration rate stated (112.39mm/hr), is far greater than the value achieved by testing at this location which has previously been reviewed by SCC (60.12mm/hr @ TVTH201). This is why the results of infiltration testing should be appended or submitted separately and directly referenced.

		The water depth exceeds national design guidance maximum of 1m. This has not been agreed with SCC Highways. The total depth (storage depth) exceeds national design guidance maximum of 1.5m. This has not been agreed with SCC Highways.
Plate 11	A12 west roundabout northern arm with soakaway manhole location	Depth of manhole exceeds 2m. This depth is considered to be the threshold between shallow infiltration and deep infiltration. Deep infiltration should be avoided where possible. If deep infiltration cannot be avoided, approval from the Environment Agency would be required. Alternative options for surface water disposal have been identified in 6.1.10 & Plate 12. Given this is a fairly short section of road with multiple options to discharge surface water and at worse, the fallback option of deep infiltration, this can be left to detailed design, post-consent.
Plate 14	Two village bypass infiltration basin 2 approximate size and hydraulic performance	The infiltration rate stated (820.05mm/hr), is far greater than the value achieved by testing at this location which has previously been reviewed by SCC (363.6mm/hr @ TVTH212A). This is why the results of infiltration testing should be appended or submitted separately and directly referenced. SCC have previously expressed a concern of the infiltration rate at this location. It is quite high and could suggest continuity with the underlying aquifer. This basin complies with national design criteria for maximum water depth. However, the infiltration rate used for design purposes is higher than has been demonstrated through testing. As such, the basin has been undersized. This could result in an increase in water depths. The total depth (storage depth) exceeds national design guidance maximum of 1.5m. This has not been agreed with SCC Highways.
Plate 16	Two village bypass infiltration basin 3 approximate size and hydraulic performance	The infiltration rate stated (126.11mm/hr) is less than the value achieved by testing at this location which has previously been reviewed by SCC

		(149.76mm/hr @ TVTH211A). This is why the results of infiltration testing should be appended or submitted separately and directly referenced. The water depth exceeds national design guidance maximum of 1m. This has not been agreed with SCC Highways. The total depth (storage depth) exceeds national design guidance maximum of 1.5m. This has not been agreed with SCC Highways
SCC comment	N/A	Depth of infiltration testing should be compared against the proposed depth of infiltration to assess how relevant the infiltration tests are Sections should be provided through the Two village bypass and associated surface water drainage infrastructure, at grade, in cutting and on embankment, so it is clearly understood what the proposed surface water drainage arrangement is, what land requirement there is for this and that there is sufficient space within the Order Limits to accommodate this.
Paragraph 6.1.22	The section of Hill Farm Lane to the south, which is at a higher level than two village bypass, has swale/filter drains which discharge into those proposed alongside the two village bypass, and for which Infiltration testing achieves satisfactory results.	Does this catchment discharge to Infiltration Basin 3? If so, is this area included in the catchment?
Paragraph 6.1.24	Discussions have taken place with SCC. Since it is agreed that there are no watercourses to which discharge can be made, it has been agreed that subject to detail, in principle a deep borehole soakaway could be permitted, providing evidence of the underlying granular material at reasonable depth is proven.	Permission from Environment Agency is also required for deep infiltration, as per response to Plate 11.

Appendix H: Yoxford Roundabout Updated Drainage Strategy

37. The principles used in this document are generally supported, however the document lacks supporting information such as calculations, dimensioned plans and sections of the proposed SuDS strategy. Some aspects of the proposed drainage strategy require further thought/clarification in order to reach agreement.

Table 17. SCC comments on Appendix H

Ref	SZC Co statement	SCC Deadline 6 response
Paragraph 4.1.2	The new data which informs the design is listed…	Some of this information should be appended to this report. Results of infiltration testing, HEWRAT assessment and level information are critical pieces of information that should be provided as these can directly influence the size and location of proposed SuDS.
SCC comments		Calculations should be provided to support the sizing and design of the proposed infiltration basin The catchment used for the design and other design parameters such a PIMP and Cv values are unknown The plan area of the basin at base, top and crest are unknown. This should be stated, but also shown on plan, with dimensions and supporting sections Other design criteria, such as Factors of Safety and side slope gradients are not stated Depth/clearance between base of infiltration and peak seasonal groundwater levels has not been identified A section and plan of the proposed infiltration basin should be provided, along with a statement of design criteria and water levels

		Sections should also be provided in support of the statements made in 6.1.3 and 6.1.5

Various Plans Not for Approval

Sheet 2 of 22, Drawing No: SZC-SZ0204-XX-000-DRW-100488

An infiltration basin is proposed at this location. SCC have not seen the results of any infiltration testing at this location. This site is not included in the Main Development Site Water Management Zone Summary [REP5-120, Appendix D]. No further details on the surface water drainage strategy at this location is known.

Sheet 13 of 22, Drawing No: SZC-SZ0204-XX-000-DRW-100171

Swales are shown in section along the length of the proposed works on Lovers Lane. More detail on these swales (side slopes, depth and base width) should be provided, along with details of where they discharge to. It is unclear in the ACA Drainage Strategy Technical Note [REP5-120, Appendix B] whether they are part of this catchment or not.

Sheet 14 of 22, Drawing No: SZC-SZ0204-XX-000-DRW-100172

Sections D-D & E-E show swales along the western edge of the road, despite the road being super-elevated. These are unlikely to serve the road, so unless they act as a feature to prevent overland flow from adjacent land, they are unlikely to be needed.

[REP5-121] THE APPLICANT'S DEADLINE 5 COMMENTS ON RESPONSES TO THE EXA'S FIRST WRITTEN QUESTIONS SUBMITTED AT DEADLINE 3

38. With regards to the Applicant's deadline 5 responses, unless otherwise stated in the Table below SCC maintain's our position as set out in our Deadline 5 [REP5-172], Deadline 3 [REP3-084] and Deadline 2 [REP2-192] submissions; and no further response is considered required.

Table 18. SCC comments on [REP5-121]

Ref	SZC Co response in [REP5-121]	SCC Deadline 6 response	Ref to other submissions
DCO.1.30	At Hinkley Point C, such agreements have been based on an amended version of the highway authority's standard section 278 agreement and include the usual provisions typically included in such an agreement, including provision for: (vii) arrangements to provide evidence of compliance with Construction (Design and Management) Regulations 2007 and for the undertaker to be responsible for such compliance;	For clarity the 2007 regulations have been superseded by the 2015 regulations	https://www.legislation.gov.uk/uksi/2015/51/contents/made
DCO 1.6	The interpretation provision at article 2(5A) was added to address the ExA's original concerns raised in this ExQ1 (see above). At paragraph 5.3 of Appendix 14A - DCO Drafting Note 1 [REP2-111], it is explained that "there are a handful of requirements in Schedule 2 where Suffolk County Council is tasked with approving requirements in its capacity as an archaeological authority, drainage authority or fire and rescue authority (rather than as highway authority). These capacities are all now referred to expressly in the relevant requirements." In this regard, the Applicant draws SCC's attention to sub-paragraph (5) of Requirement 3. For these reasons, the Applicant does not agree that article 2(5A) should be removed.	Paragraph 5(A) of article 2 states – "Unless otherwise stated, references to East Suffolk Council refer to this body in its capacity as a local planning authority, and references to Suffolk County Council refer to this body in its capacity as a local highway authority". In respect of SCC, this is not entirely correct. For instance – • Notwithstanding SCC's concerns with article 9(5)(b) (which are set out in SCC's D5 submission on ISH1), in entering into any deed of adherence under article 9(5)(b), SCC would not be doing so exclusively in its capacity as a local highway authority; • The same point applies to the references to SCC in article 9A (enforcement of the deed of obligation);	

		• In requirement 14A(1)(ii) (main development site: fen meadow), SCC will not be exercising functions as Lead Local Flood Authority and drainage authority, but as local planning authority. SCC maintains that article 2(5A) should be removed. Notwithstanding the points above, this article should be (5A) not 5(A).	
DCO 1.76	Temporary works refers to any non-permanent elements of the authorised development. The reason for including specific reference to "temporary works" was to respond to the ExA's original ExQ1 DCO 1.76 by way of clarifying that "removal and reinstatement" does not relate to removal and reinstatement of the permanent elements of the authorised development (e.g. Work No. 1A).	Since "temporary works" is not defined in Requirement 2, SCC considers the requirement is imprecise, and so does not meet the test of precision as required by *Circular 11/95: Use of conditions in planning permission*. SCC considers a definition of "temporary works" should be included in Requirement 2.	
DCO.1.129	The terms of the Natural Environment Fund will reflect the policy tests set out in the NPS. Whilst SCC may see the Fund as compensatory, such an approach would not meet the tests for obligations set out in the NPS, nor the specific expectations of the NPS in relation landscape and visual impact. NPS EN-6 recognises at para. 3.10.8 that visual impacts are unlikely to be eliminated through mitigation, but that mitigation should be designed to reduce visual intrusion as far as reasonably practical. There is not then a requirement to compensate for residual impacts. NPS EN-1 takes a comparable approach, requiring mitigation through design	As set out in SCC's Post-Hearing Submission to ISH4 [REP5-175], and repeated here for ease of reference: *SCC does not agree that compensation for – or offsetting of - inevitable residual impacts on the AONB falls outside of the scope of mitigation prescribed by the NPS, or outside of the scope of what the Applicant should be expected to address. SCC notes that 'mitigation' is not a term defined in the Infrastructure Planning (EIA) Regulations 2017 but that para 7 of Schedule 4 of the EIA Regulations expects an ES to describe 'the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment'. This description*	Post-Hearing Submission to ISH4 [REP5-175]; Deadline 3 response to DCO.1.129 [REP3-084]

	(para 5.9.22) and advising that it may be appropriate to provide off-site planting to mitigate longer views (para. 5.9.23). At para. 4.2.4 NPS EN-1 requires likely significant effects to be adequately assessed (not eliminated or compensated) and para 4.1.3 directs the decision maker to balance the potential benefits of the project against potential adverse effects. It is expected that there will be some adverse effects which cannot be fully mitigated and NPS EN-6 recognises at para 3.10.2 this as a likely consequence of the rural, coastal location of the identified sites. The Natural Environment Fund is being designed with these policy requirements in mind – to fund off site mitigation to the extent that it may be effective in mitigating the adverse effects of views to the development (including the Associated Development). As SCC recognises, there are limits to the mitigation that can be practically achieved This recognition should guide the scale of the Fund. It is SZC Co.'s view that the Fund should be front loaded so that enduring mitigation is provided as early as practical to mature and help mitigate long term effects. Deferring elements of the Fund into the long term would serve no purpose. High quality site restoration following construction is committed to in the DCO, whilst decommissioning will require its own consenting process.	*recognises that there can be different forms of mitigation. Some measures eliminate (avoid/prevent) adverse effects, others minimise (reduce) adverse effects which cannot be eliminated, and others compensate for (offset) adverse effects which can neither be eliminated nor minimised. Since prevention/avoidance is preferable to minimisation, and minimisation is preferable to compensation, it is reasonable to see this as a mitigation hierarchy. However, there is nothing in the EIA Regulations to suggest that offsetting should not be sought or provided where there are residual adverse effects that cannot be avoided or reduced. Whether any particular measure will serve to offset such residual impacts (and to what degree) is a matter for planning judgment, but SCC considers there is no in principle objection to seeking to offset residual impacts by compensatory measures.* The IP(EIA)Regulations 2017 refer (para 7 of Schedule 4) to mitigation measures addressing both the construction and the operational effects of a project. There is no suggestion that this is limited to part of the operational period solely. Based on these considerations, and those set out in SCC's Deadline 3 response to this question, it is reasonable and in line with national policy for the Natural Environment Fund to be of a scale, scope and longevity that is able to deliver effective long-term mitigation that is commensurate with the residual harm on the landscape and natural environment of these areas, including offsetting the harm that cannot be directly mitigated, by enabling improvements and enhancements to the receiving	

		landscape of the AONB and other areas more widely within the defined Natural Environment Improvement Fund area. The AONB is a single designation which covers a coherent and indivisible area of land. The proposal during its operational phase will result in residual impacts on the AONB which cannot be avoided or further minimised and therefore will cause enduring harm to the AONB. Offsetting that harm by providing a fund that is sufficient in scale to allow for long term enhancement of other areas of the AONB during the operational period is a legitimate form of mitigation (using that term in its broadest sense to embrace compensatory measures as well as avoidance and minimising measures), so as to provide a proportionate and appropriate response to the longer term residual harm. In net terms, the fund will allow that harm to one part of the AONB to be addressed (offset) by delivering enhancements to another part of the AONB. In the context that the AONB is an integral whole, there is a sufficient nexus between a fund directed to such offsetting measures and the residual harm caused to satisfy all relevant legal and policy tests. Simply leaving such residual harm to be weighed in the planning balance against the benefits of the proposal (which appears to be the approach advanced by the Applicant) is a sub-optimal response which should not be preferred when there is an effective mechanism for offsetting that harm. SCC would accept that there is a planning judgment to be made as to whether there is a sufficient nexus between any particular	

		enhancement measure and the residual harm so that they could be fairly and reasonably regarded as offsetting that harm (or helping to do so) but considers that that is an issue that can be adequately addressed through the governance arrangements for the application of the fund to specific projects. SCC can also accept that there is merit in the fund being front-loaded so far as practicable so as to deliver the greater part of its mitigation at an early stage so that such measures are in place for the greatest part of the operational period. However, suitable enhancement measures which have a sufficient nexus to be offsetting measures falling within the scope of the fund may take time to identify and deliver, particularly where there may be a need for third party landowner consent, and an artificial time limit on the fund would not be appropriate. SCC is in discussion with the Applicant about the principles and scales of the Natural Environment Fund.	
TT.1.11	The materials for the associated developments that do not route along the B1122 are not included in the HGV profile as these deliveries do not enter the main development site or travel along the B1122 through the villages of Theberton and Middleton Moor and instead are distributed along the A12 corridor. The HGV deliveries for these elements of the work have been assessed and modelled separately.	SCC dispute that no HGVs for construction of the SLR would travel on the B1122 during the early years as the ESL creates a barrier to movement along the site. However, SZC Co have committed to including HGVs to and from the SLR construction site(s) within the HDV cap for the B1122 in the early years, which would be an acceptable control measure.	

TT.1.15	As noted in TT.1.11 the distribution of materials over the construction of a project is not linear and therefore an assessment of average movement requirements over the total construction period cannot be undertaken. The early earthworks phase and latter surfacing phase of the highway schemes demand much greater HGV imports than outside of these periods. During these discrete operations the daily HGV movements will be aligned with the figure stated in the CTMP.	On this basis, SCC understands then that the assessed movements for the AD sites included in the CTMP are far higher than the typical daily movements. SCC fails to understand why caps cannot be put on AD Site HGV movements given what seems to be a significant gap.	
TT.1.99	Improvement works at Marlesford and Little Glemham are proposed to be delivered by Suffolk County Council as the highway authority for the road. The programme for delivery of these schemes would therefore need to be discussed and agreed with SCC	SCC maintains that SZC Co. should deliver these highway works, as per SCC's response to Schedule 16 at our Deadline 5 submission [REP5-179].	Suffolk County Council Deadline 5 Submission - If needed, comments on revised draft s.106, accompanying draft Explanatory Memorandum and draft Confirmation and Compliance Document [REP5-179]

Suffolk County Council

ID Number: 20026012

APPENDIX A: TECHNICAL COMMENTS ON THE APPLICANT'S [REP5-115] "RESPONSE TO ECONOMIC ASSESSMENT OF THE EFFECT OF CONGESTION ON THE ECONOMY"

Appendix to Suffolk County Council's Deadline 6 submission - Comments on Additional Submissions: Comments on the Applicant's [REP5-115] "Response to economic assessment of the effect of congestion on the economy"

Delivering a better world

Quality information

Prepared by	Checked by	Verified by	Approved by
Ben Muirhead Consultant	Colin Hardie Associate Director	Caroline Brooks Principal Consultant	Bevin Carey Regional Director

Revision History

Revision	Revision date	Details	Authorised	Name	Position
0	28/07/2021	Draft for Client comment	✓	Colin Hardie	Associate Director
1	03/08/2021	Updated Draft	✓	Colin Hardie	Associate Director

Distribution List

# Hard Copies	PDF Required	Association / Company Name

Prepared for:

Suffolk County Council

Prepared by:

Ben Muirhead
Consultant
E: ben.muirhead@aecom.com

AECOM Infrastructure & Environment UK Limited
1 Tanfield
Edinburgh EH3 5DA
United Kingdom

T: +44 131 301 8600
aecom.com

Table of Contents

Figures

Tables

1 Introduction

1.1 Purpose

1.1 The purpose of this document is to provide a response to the comments made and issues raised by SZC Co. in 'Written Submission Responding to Actions Arising from ISH3; Traffic and Transport Part 2 dated 8th July 2021 'Appendix A: Response to economic assessment of the effect of congestion on the economy', herein referred to as [REP5-115], regarding the Economic Assessment that was carried out by AECOM on behalf of Suffolk County Council (SCC) on both the strategic VISUM models and microsimulation VISSIM models as well as to provide supplementary evidence regarding the modelled traffic impacts on the A12 corridor between the A12 / A14 / A1156 Seven Hills Interchange and the A12 / A1152 roundabout.

1.2 The A12 corridor between the two aforementioned junctions currently experiences high daily traffic volumes, significant congestion on some approaches to junctions and as demonstrated through the forecast modelling these conditions are expected to worsen in the coming years. SZC Co. have proposed mitigation measures at points on the wider road network e.g. the Two-Village Bypass and Sizewell Link Road and although these measures would likely result in a benefit to transport users, they are not located in areas which experience high traffic volumes and/ or significant congestion which are proposed to be used as main routes to and from Sizewell C.

1.3 In their response in [REP5-115] , SZC Co. list several reasons as to why the effect of Sizewell C traffic has been overestimated in the transport user Economic Assessment. In response, this document will discuss their impact and relation to the strategic VISUM Economic Assessment, how they impact the microsimulation VISSIM Economic Assessment that was carried out and provide supplementary evidence regarding the transport user economic impact on the A12 corridor.

1.4 This document will also highlight the junction approaches which were shown to experience significant increases in queueing in the 2028 Peak Construction scenario compared to the 2028 Reference Case.

1.5 Despite the points discussed above, it should be noted that AECOM, SCC and SZC Co. are satisfied in general with the 2019 Base Year VISSIM models which display a high level of calibration and validation against surveyed data, the 2023 and 2028 Reference Case models which have demonstrated suitable forecast traffic growth and the 2023 'Early Years' models which have indicated that any increases in journey times and queue lengths would in most instances be minor but would still contribute to an economic disbenefit to transport users. However, it should be noted that there are some results from the 2019 Base Year model validation which will be discussed in this document.

1.2 Report Structure

1.6 This document has been structured as follows:

- **Section 2** summarises the points raised by SZC Co.'s regarding the Economic Assessment that AECOM carried out on behalf of SCC and discusses how these have been addressed through further assessment and clarifications. This section also discusses the conclusions made by SZC Co. relating to overall impact of Sizewell C traffic on the A12 corridor.
- **Section 3** provides a summary of the supplementary Economic Assessment that was carried out which considered the 500 and 700 daily two-way HGV movements scenarios. This section also details AECOM's response to the statements made by SZC Co. regarding the modelled traffic impacts along the A12 corridor in the 'A12 VISSIM Technical Note v13' by providing additional evidence relating to traffic impacts.
- **Section 4** summarises the contents of this document and provides conclusions on the results provided.

2 AECOM Response to Economic Assessment Comments

2.1 Summary of AECOM's Economic Assessment

2.1 AECOM carried out an Economic Assessment of the potential transport user impacts that traffic associated with the construction of Sizewell C and the proposed mitigation measures may have. The methodology and results of this assessment are summarised in the 'Sizewell C - Economic Assessment' note appended to [REP2-192]. The assessment involved the separate analysis of the strategic VISUM models, which were acknowledged to be unsuitable for economic assessment due to their limitations, however provided a general view on whether the mitigation measures being provided mitigated against the development; and the microsimulation models which were stated to be robustly developed and representative of on-site traffic conditions.

2.2 Response to SZC Co.'s Economic Assessment Comments

2.2 In response to SZC Co.'s statement in paragraph 2.2.1 of Appendix A of [REP5-115], that:

> *"There are a number of issues with the Economic Assessment assumptions which mean the benefits of the Sizewell C infrastructure is underestimated. In particular, the two park and ride sites are excluded from the modelling of the proposed infrastructure; this reduces the benefit associated with the proposed infrastructure. This is particularly true in the early years since the park and ride sites will come forward in 2024 as outlined in the Implementation Plan Update [REP2-044]. Similarly section 4.2 of the Economic Assessment appears to assume that the Sizewell C highway infrastructure is not in place until 2028, when in fact all Sizewell C associated development (including the Sizewell Link Road, the Two Village Bypass, Sizewell C main access roundabout and Yoxford roundabout) will be in place by 2024 as shown in the Implementation Plan Update [REP2- 044]. A substantial proportion of the benefit (c. three years) of these improvements are therefore omitted from the assessment. Therefore, by omitting SZC infrastructure entirely or by failing to recognise the full period during which it is operational the assessment overestimates the implied net effect of the Sizewell C traffic."*

AECOM acknowledges the limitations of the strategic VISUM models which have been used to assess the economic impacts of Sizewell C traffic and infrastructure on the wider Suffolk area as stated throughout [REP2-192]. The results of the assessment were used to provide SCC with an indication of the potential economic costs to transport users as well as the magnitude of any benefits that the proposed infrastructure improvements associated with Sizewell C may have. As correctly highlighted by SZC Co. in [REP5-115] , the calculated economic benefits from the strategic VISUM model assessments are potentially flawed due to a lack of suitable convergence and the limited number of intermediary construction year models which if available would have further improved the economic benefits highlighted in AECOM's [REP2-192]. It is therefore accepted that any economic results being presented by the VISUM model are referenced as indicative benefits.

SZC Co. also note that the proposed Park & Ride sites were not included in the economic assessment which is correct in relation to the strategic VISUM model assessment, however this is not applicable for the microsimulation VISSIM assessment. The two Park & Ride sites are located outside of the microsimulation network and therefore could not be directly assessed. In any case, traffic travelling either to the Park & Ride sites or directly to the Sizewell C site in the absence of the Park & Ride sites would be required to travel through the A12 corridor modelled in the microsimulation network and therefore have an impact on traffic conditions.

2.3 In response to SZC Co.'s statement in paragraph 2.3.1 of the [REP5-115] that:

> *The Economic Assessment assumed that there will be 1,000 two-way HGVs per construction day between 2028 and 2034 (section 3.2). However, the preferred freight strategy is forecast to generate 500 two-way HGVs on a typical day during the peak construction phase and up to 700 two-way HGVs on the busiest day. Plate 4.2 of the Freight Management Strategy [AS-280] provides an HGV profile over the construction phase based on the preferred freight strategy (i.e. four trains per day and temporary beach landing facility). An updated HGV profile of the construction phase is shown in Figure 2 of the Materials Import and Modal Split note (Appendix A of Doc Ref. 9.49), which will be submitted at Deadline 5 in response to questions raised at the Issue Specific Hearings on Transport. It shows that the level of HGVs per day is far less*

> *than the 1000 two-way HGVs assessed in the Economic Assessment. In addition, workforce profile (Plate 1.1 of the Construction Worker Travel Plan [REP2-054]) varies significantly over the construction period, and the Economic Assessment does not properly take account of this. The use of the wrong HGV numbers significantly overestimates the effect of Sizewell C*

With regards to the number of two-way Sizewell C HGV movements that were used in the Economic Assessment, SZC Co. state:

> *"Further, it has been assumed that there will be 1,000 two-way HGVs per construction day between 2028 and 2034. However, the preferred freight strategy is forecast to generate 500 two-way HGVs on a typical day during the peak construction phase and up to 700 two-way HGVs on the busiest day."*

AECOM used the 1,000 two-way HGVs per construction day based on SZC Co.'s previous estimates for the Busiest Day scenario. It is accepted that any reduction in the number of HGVs would typically reduce the calculated disbenefit, however it would not eliminate the economic disbenefit being presented in the Economic Assessment. Given that the revised Peak Construction HGV volume has been reduced to 700 two-way HGVs per construction day and to better represent the impact of a typical day of construction, AECOM have revised their economic estimates which are detailed in Section 3.

2.4 In response to SZC Co.'s statement in paragraph 2.4.1 of [REP5-115] that:

> *"By making this assumption, disbenefits are included for 2034 (which are higher than any other year – see Figure 3.1 of the Economic Assessment) when they should be zero. Sizewell C construction traffic demand does not follow a linear profile. Figure 2 of the Materials Import and Modal Split note (Appendix A of Doc Ref. 9.49)), which will be submitted at Deadline 5 in response to questions raised at the Issue Specific Hearings on Transport, shows that HGV traffic falls steeply in the years leading up to 2034"*

Figure 3.1 which is referred to mistakenly shows economic impacts from 2034 however it should be noted that all reported economic impacts from the microsimulation VISSIM assessment do not include 2034. Had the economic impacts from 2034 been reported, the upper estimate for the Net Present Value shown in the Economic Assessment would have been £12,400,000 and not the £11,000,000 which was reported. Any limitations related to the proposed reduction in daily HGV traffic leading up to 2034 is a result of the absence of any intermediary year microsimulation models that would allow for a more accurate assessment to be carried out. The presence of any Sizewell C traffic on this corridor without any mitigation measures can only result in a net economic disbenefit to transport users regardless of volume and for the purpose of the Economic Assessment, to provide an approximate cost to transport users on the corridor to enable SCC to begin a dialogue with SZC Co. regarding mitigation measures, therefore it was deemed suitable to use a single Peak Construction scenario to represent several years of construction. Furthermore this is standard practice to derive linear interpolation to minimise the number of models, if there are significant changes in the construction profile between modelled years then this may merit further models to be developed, not just for the economic assessment but also for operational assessment.

2.5 In response to SZC Co.'s statement in paragraph 2.5.1 of [REP5-115] that

> *The forecasts include 2028 as 'peak construction' using a 'busiest day' estimate (with 1000 HGV trips per day). This is not the central case forecast, which is what would normally be used for an economic appraisal that is aiming to capture an average impact over a longer time horizon. By not using the central case, the Assessment will overestimate the impact.*

An updated Economic Assessment using the 500 two-way HGV movements per day has been carried out and the results will be presented later in this document.

2.6 In response to SZC Co.'s statement in paragraph 2.6.1 of [REP5-115] that

> *The report states that the VISUM models "do not display a suitable level of convergence for economic assessment … Consequently, there may be areas in the model which experience a benefit or disbenefit which is not related to the proposed infrastructure or changes in traffic volumes. These benefits / disbenefits have not been masked during the assessment." (Section 3.3). It is therefore unsuitable to use the models to estimate the economic effect; in this case the transport user (dis)benefits. The models used are not fit for this purpose and this undermines confidence in the findings of the assessment*

It was acknowledged in the Economic Assessment [REP2-192] that the strategic VISUM models had several limitations, including instability, which would make them unsuitable for use in an economic assessment. However, the microsimulation VISSIM models from which transport user disbenefits are also being extracted from use an "all or nothing" assignment meaning that there is no route choice and therefore convergence is assured. It is accepted that the models used in the Economic Assessment have their limitations and assumptions, however, the majority of these limitations stated within the Economic Assessment are associated with the strategic VISUM model, not the microsimulation VISSIM model. Furthermore, the majority of the issues raised in the Economic Assessment relate to the disbenefits being presented by the VISSIM model solely on the A12 corridor.

2.7 With regards to SZC Co.'s statement regarding wider re-assignment on the A12 corridor in paragraph 2.7.1 of [REP5-115] where it is stated:

> *"The VISSIM micro-simulation model of the A12 corridor was intentionally constrained to not allow the reassignment of A12 traffic away from the corridor in direct response to Sizewell C traffic. This approach was taken in order to produce a robust (i.e. upper-end) forecast of journey time effects due to Sizewell C on the A12, and was agreed with SCC. The VISSIM model also does not take account of other demand responses in the forecasts, for the same reasons of robustness. The demand forecasting approach is described in Appendix 9C of the Consolidated Transport Assessment [REP2-045]. This approach is reasonable for the operational assessment documented in the Consolidated Transport Assessment [REP2-045] and Environmental Statement Addendum [AS-181] but for an economic appraisal this will not account for the real life impacts of rerouting and demand responses that would reduce the impact of Sizewell traffic on other users on the A12. By omitting reassignment the Assessment will have potentially overestimated the economic impact."*

Although it is accepted that confining the demands to the modelled corridor by restricting any alternative routes will marginally over-estimate the economic disbenefits, it must also be acknowledged that if traffic were to re-route onto parallel routes such as the lower standard Dobbs Lane and Hall Road due to significant increases in delay and/or queueing that would be perceptible to road users, then delays would not be removed but rather be spatially displaced from the corridor.

2.8 In response to Paragraphs 2.8.1 and 2.10.1 in [REP5-115], that:

> *"There is no detail provided in the Economic Assessment to show that the method used to extract 'Total Travel Time' from the VISSIM model has dealt appropriately with trips in each modelled period and demonstrate that checks and balances are included to ensure no double counting of trips across modelled periods. Potential double counting adds significant uncertainty to the assessment."*
>
> *"The Economic Assessment states that factors were used to uplift the model time periods to cover 'standard' morning peak (7:00-10:00), interpeak (10:00-16:00) and evening peaks (16:00-19:00) based on local traffic count data. Particularly for the interpeak, where the model covers only the 15:00- 16:00 part of the period, this approach may overestimate Sizewell C effects. The Economic Assessment recognises this point, stating: "Given the lower background traffic volumes and the reduced number of cars and LGVs associated with Sizewell C within the interpeak hours, the disbenefits may be over-estimated." It further states that "The interpeak period is extrapolated from the 15:00 to 16:00 period which contains a noticeable volume of Sizewell C related traffic and therefore assumes that a similar volume of Sizewell C traffic will be present on the network throughout the interpeak period. This may not be the case in reality, as construction traffic volumes may reduce at certain periods of the working day e.g. between 11:00 and 13:00." The report also states: "Therefore, a range should be considered for the interpeak period, this is discussed further within the economic results." The way in which this range of disbenefits (£7.1M to £11.0M) is calculated is not discussed. The application of the factors to convert modelled time period outputs to appraisal periods will have a direct bearing on the calculation of benefits, and these are not reported. Lack of clarity around uplift factors adds significant uncertainty to the assessment."*

The total travel times for all non-Sizewell C vehicle classes were extracted from the Vehicle Network Performance results in VISSIM for the 2023 and 2028 Reference Case, 2023 Early Years and 2028 Peak Construction scenarios; a summary of which is provided in **Appendix C**. The results for each hour within a

period (AM, IP and PM) were then added together for each main vehicle category i.e. Car, LGV and HGV and then scaled based on the scaling factor calculated through analysis of several ATC sites in the Woodbridge and A12 area. For example, the AM 07:00 to 09:00 had to be uplifted to 07:00 to 10:00 and the calculated factor of 1.5 was used to do this. A factor of 1.4 was used to uplift the 16:00 to 18:00 period to 16:00 to 19:00, a scaling factor of 1 was used for the lower estimate IP i.e. only the 15:00 to 16:00 modelled hour was used with no acknowledgement of any other disbenefits from the other IP hours, whereas a scaling factor of 5.4 was used for the upper estimate IP to uplift 15:00 to 16:00 to the full IP period of 10:00 to 16:00. **Appendix B** shows the process used to calculate the scaling factors for each period based on the ATC data provided by SCC.

2.9 In response to Paragraphs 2.11.1 in [REP5-115], that:

> *"SZC Co. have not had access to the economic analysis underlying data or calculation sheets so are not able to verify that the assessment has been done correctly. There is no evidence in the Economic Assessment to demonstrate that values of time and other salient factors in the appraisal have been applied correctly, and it is unclear what price base/discounting has been used in the analysis. The lack of transparency over the use of the value of time adds significant uncertainty to the assessment."*

All TUBA input and output files have been provided to SZC Co. for analysis and the TUBA and TAG workbook versions that were used in the assessment were stated throughout the Economic Assessment note in [REP2-192]. The TUBA output files provided state that all calculated values have been discounted to 2010 prices. Any additional files which are required by SZC Co. to improve transparency can be readily provided.

2.10 In response to Paragraphs 2.12.1 in [REP5-115], that:

> *"The Economic Assessment states in Section 3.3: "It should also be highlighted that the critical peak switches between 2023 and 2028 within the VISSIM model, with the majority of disbenefits in 2023 occurring in the AM peak period, however by 2028 the majority of the disbenefits are experienced in the PM Peak, which includes 15:00 – 16:00 which forms the basis of the interpeak assessment." The report further states: "From inspection of the VISSIM models, there is a noticeable increase in queuing in the PM peak period, the contributing factors for this are difficult to identify, however between 2023 and 2028 the introduction of signalisation to a number of key junctions along the corridor may have impacted the operation more severely in the PM peak compared to the AM peak, also between 2023 and 2028 the 15:00 to 16:00 background traffic increases by around 6.5% compared to around 5% in other hours, which may marginally increase the queuing prior to the start of the PM peak." The signalisation of junctions on the A12 is not associated with Sizewell C and its effects should not be included within an assessment of economic effects of Sizewell C. Attributing delay from signals unrelated to SZC is not appropriate and adds significant uncertainty to the analysis."*

The increase in delay related to the implementation of traffic signals on the corridor has not and cannot be attributed to Sizewell C as the 'with Sizewell C traffic' models have been compared directly against the associated Reference Case models which have the same traffic signals and timings. However, any differences in delay, travel time, queueing etc. between the Reference Case and 'with Sizewell C traffic' models can and has been attributed to Sizewell C as the presence of Sizewell C traffic is the only difference between them.

It must be highlighted that the models used in this assessment are robust according to WSP, which state:

> *"The VISSIM model provides a robust evidence base which has been used to assess the operational performance of the network in 2023 and 2028 with and without the Sizewell C construction traffic." (WSP, 2021).*

This statement confirms that SZC Co. are of the opinion that the microsimulation models developed for the A12 corridor are robust and fit for purpose. Therefore, the results extracted from these models are representative of on-site traffic conditions and consequently suitable for economic assessment. As a result, any calculated disbenefits from these models should be viewed as valid and suitable for use in assessing the requirement for mitigation measures on the A12 corridor.

2.11 In response to Paragraphs 2.13.1 in [REP5-115] , that:

> *There are a number of other potential issues with the analysis which add significant uncertainty, including, for example, lack of detail on the annualisation factors used to convert modelled data to appraisal periods, lack of detail on reconciliation of demand inputs between the model and TUBA, forecast years which do not align with TAG advice in Unit M4 Forecasting and Uncertainty at para.1.2.2 which states "For economic appraisal it is best if the final forecast year is as far into the future as possible.", however as the model is not fit for purpose for economic appraisal these and any further issues have not been considered in detail.*

The strategic VISUM model economic assessment carried out through TUBA presented a Net Present Value for a 60-year assessment period between 2028 and 2087 as per the recommendations in TAG Unit A1.1. A shorter 7-year assessment period was used to demonstrate the calculated benefits during the time in which Sizewell C construction traffic would be on the network and this was incorporated into the 60-year assessment. Further details regarding the annualisation factors is provided in **Appendix B** and can be readily provided to SZC Co. if required. However, it should be noted that the issues being raised are undermining the VISUM assessment, which presenting a benefit to the network.

2.12 In conclusion, although concerns have been raised by SZC Co. in relation to the Economic Assessment, these concerns are primarily associated with the outcomes from the strategic VISUM economic assessment, not the microsimulation VISSIM economic assessment. AECOM was attempting to highlight, via the VISUM model, that SZC Co. were providing suitable measures to mitigate against the Sizewell C development, although the actual benefits are uncertain given the limitations raised by SZC Co. within [REP5-115]. However, the economic assessment has also highlighted a significant economic cost to drivers using the A12 corridor between A12 / A14 / A1156 Seven Hills Interchange and the A12 / A1152 roundabout. Given the sensitivity of this section of the corridor combined with the higher levels of queueing, it is questionable why no mitigation measures have been considered to date. Therefore the findings of the Economic Assessments carried out by AECOM on behalf of SCC should form the basis for discussions on mitigation measures.

2.3 AECOM Response to A12 Impact Conclusions

2.13 Within the examination SZC Co. highlighted, based on the microsimulation VISSIM results produced by WSP, that they were satisfied that the inclusion of traffic associated with the construction of Sizewell C would have a minimal impact to existing traffic on the A12 corridor. Reference was made to the average overall end-to-end journey times on the A12 increasing by only 62 seconds (8%) in the worst-case Peak Construction scenario (1,000 two-way HGVs per day). However, the results presented by SZC Co. do not fully convey the impact of traffic associated with Sizewell C.

2.14 SZC Co. acknowledge that the magnitude of queueing observed on Anson Road in the 2028 PM Peak Construction model would result in vehicles travelling from the Martlesham Heath commercial and industrial park via an alternate route such as Gloster Road or Felixstowe Road. However, given that there is no route choice in the models, the scale of such re-routeing cannot be assessed and therefore it cannot be concluded that traffic would simply use another route. As a result, the magnitude of the impact to traffic elsewhere on the network which may be caused by such re-routeing e.g. due to vehicles trying to enter the A1214 Main Road from Felixstowe Road cannot be determined. Although the Anson Road approach was already shown to be over capacity in the 2019 Base Year and 2028 Reference Case models due to the build-up of queueing on the approach, the presence of Sizewell C traffic has been shown to greatly increase the magnitude of congestion.

2.15 This document will also illustrate the potential underestimation of the impact of Sizewell C traffic due to additional traffic being held on Anson Road in the 2028 Peak Construction PM (700 two-way HGV movements) model.

3 Supplementary Economic and Corridor Impact Assessment

3.1 Overview

3.1 This section of the note will summarise the methodology that was followed to produce a supplementary Economic Assessment as well as additional results to assess the traffic impact of Sizewell C vehicles. The results of these assessments will be presented and discussed.

3.2 Economic Assessment

3.2 For the VISSIM Economic Assessment, the calculated disbenefits to transport users in the 2028 700 two-way HGV and 500 two-way HGV scenarios against the 2028 Reference Case scenario will be calculated and presented. This will seek to demonstrate that despite a significant decrease in the daily volume of HGVs associated with Sizewell C, the network would still experience a detrimental impact over the course of construction. To carry out this additional assessment, the same methodology as the previous Economic Assessment was used albeit with a greater number of simulation runs for greater accuracy and a different Peak Construction HGV volume. The methodology, assumptions and limitations are documented in Appendix A.

3.3 With no proposed mitigation measures on the A12 corridor, the increase in traffic associated with the construction of Sizewell C can only result in a disbenefit to existing vehicles on the network. The 2028 to 2033 is expected to experience the greatest volume of construction traffic on a daily basis and therefore this is likely to be the period which results in the greatest disbenefits to the corridor.

3.4 **Table 3.1** shows the Net Present Value that was calculated previously using the 1,000 two-way HGV movements per day between 2023 and 2033. Note that values have been rounded to the nearest £100,000.

Table 3.1: 1,000 Two-Way HGV Movements Economic Assessment

From Year	To Year	Net Present Value (Upper Estimate)	Net Present Value (Lower Estimate)
2023	2027	-£3,200,000	-£2,200,000
2028	2033	-£7,800,000	-£5,000,000
2023	**2033**	**-£11,000,000**	**-£7,100,000**

3.5 As shown, a Net Present Value ranging from -£7,100,000 to -£11,000,000 was calculated for the A12 corridor. For comparison, **Table 3.2** shows the updated Net Present Value that has been calculated using the 700 two-way HGV movements per day between 2028 and 2033.

Table 3.2: 700 Two-Way HGV Movements Economic Assessment

From Year	To Year	Net Present Value (Upper Estimate)	Net Present Value (Lower Estimate)
2023	2027	-£2,800,000	-£2,000,000
2028	2033	-£6,600,000	-£4,200,000
2023	**2033**	**-£9,400,000**	**-£6,200,000**

3.6 Although no changes have been made to the volume of Sizewell C traffic between 2023 and 2027 when compared to the previous economic assessment, the linear estimation of impacts between the two modelled years of 2023 and 2028 means that the estimated values have decreased by approximately £400,000 in the upper estimate and £200,000 in the lower estimate.

3.7 Between 2028 and 2033, the impact was found to range from a lower estimate of -£4,200,000 to an upper estimate of -£6,600,000 which represents a £800,000 and £1,200,000 decrease compared to the previous Economic Assessment. Between 2023 and 2033 this results in a total impact ranging from between -£6,200,000 and -£9,400,000.

3.8 **Table 3.4** shows the Net Present Value that was calculated for the 500 two-way HGV movements per day between 2028 and 2033.

Table 3.3: 500 Two-Way HGV Movements Economic Assessment

From Year	To Year	Net Present Value (Upper Estimate)	Net Present Value (Lower Estimate)
2023	2027	-£2,500,000	-£1,800,000
2028	2033	-£5,500,000	-£3,500,000
2023	**2033**	**-£8,000,000**	**-£5,300.000**

3.9 As shown, even with significantly fewer HGV movements across the assessment period the economic impact to transport users was found to range from -£5,300,000 to -£8,000,000 between 2023 and 2033.

3.10 When considering the assumptions listed earlier in this document, the impact of Sizewell C traffic on the A12 corridor has still been shown to have a significant economic impact to transport users over the assessment period. Although these disbenefits must be viewed as estimates, given the significant financial impact over this period it merits further discussions with SCC and SZC Co on deliverable measures which can mitigate against the impact caused by Sizewell C traffic.

3.3 Underestimation of Sizewell C Traffic Impacts

3.11 Although the overall impact of Sizewell C traffic has largely been shown to be limited in terms of increases in average journey times and queue lengths, there are issues present within the microsimulation VISSIM models, most notably in the PM Peak Construction models, which are likely causing an underestimation of the impact of Sizewell C traffic.

3.12 After reviewing the results presented by SZC Co. in the 'A12 VISSIM Technical Note v13', the impact that Sizewell C traffic has on the queueing on Anson Road in the PM Peak Construction models was investigated further to determine the extent that the increase in queueing may have.

3.13 To understand the traffic conditions that are being presented in greater detail, it is necessary to first establish the level of validation that was achieved on Anson Road and the wider Martlesham Heath commercial and industrial park i.e. on Barrack Square. It should be noted that AECOM acknowledge the difficulties in achieving a fully calibrated and validated model wherein all areas accurately represent the surveyed conditions, therefore this analysis should not be viewed as a critique of the modelling carried out by SZC Co. but instead an observation which should be considered when reviewing the forecast results within this area.

3.14 **Figure 3.1** to **Figure 3.6** were extracted from the 'A12 VISSIM Technical Note v13' and illustrates the PM journey time validation results for Barrack Square and Anson Road approaches to their respective junctions with the A12.

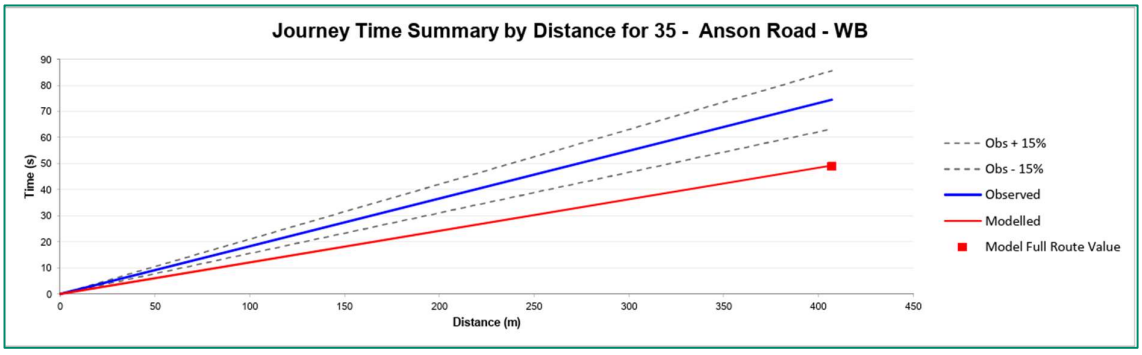


Figure 3.1: Barrack Square Journey Time Validation Results (15:00 - 16:00)

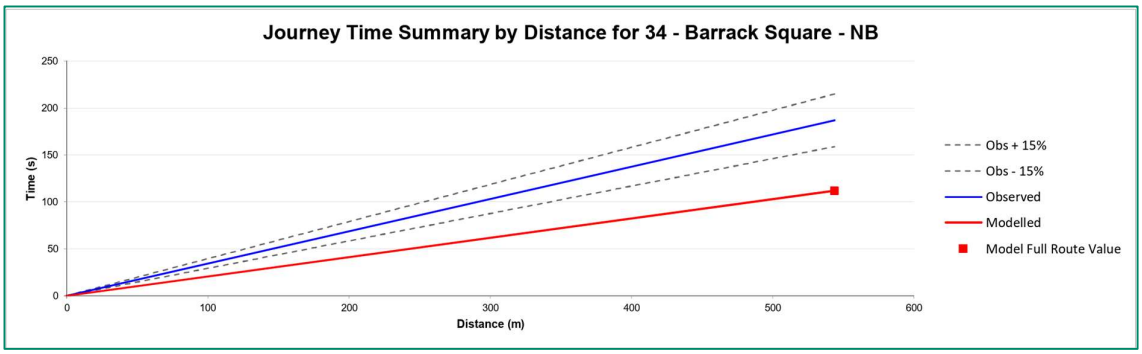


Figure 3.2: Barrack Square Journey Time Validation Results (16:00 - 17:00)

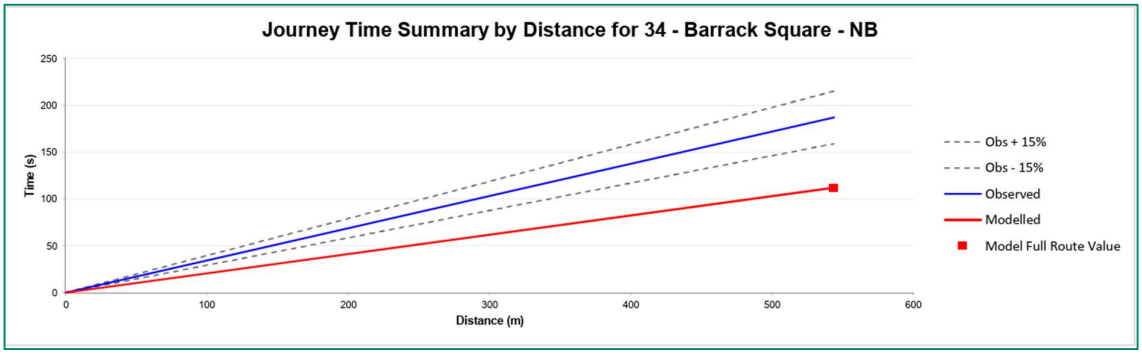


Figure 3.3: Barrack Square Journey Time Validation Results (17:00 - 18:00)

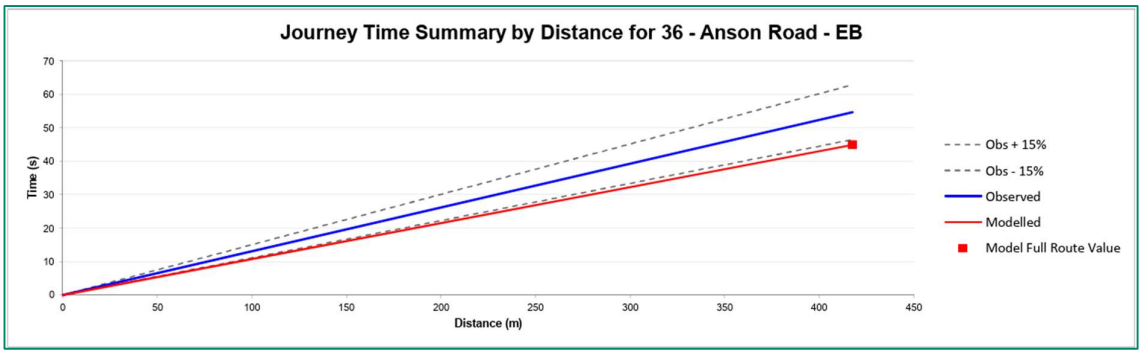


Figure 3.4: Anson Road Journey Time Validation Results (15:00 - 16:00)

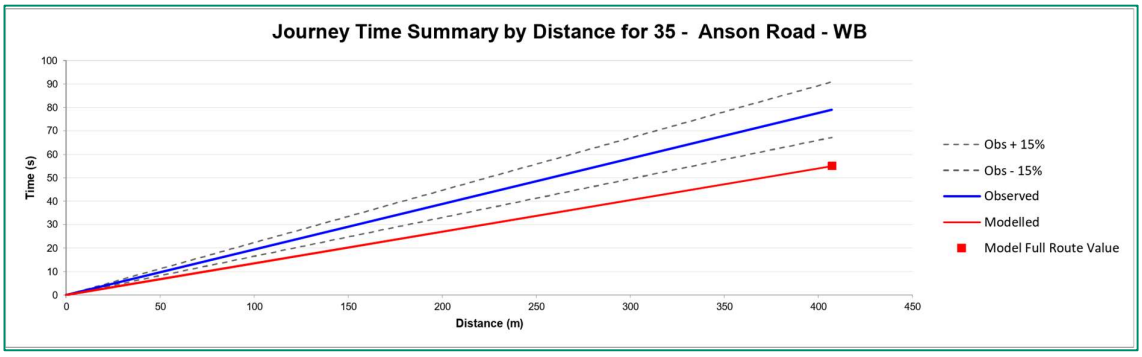


Figure 3.5: Anson Road Journey Time Validation Results (16:00 - 17:00)

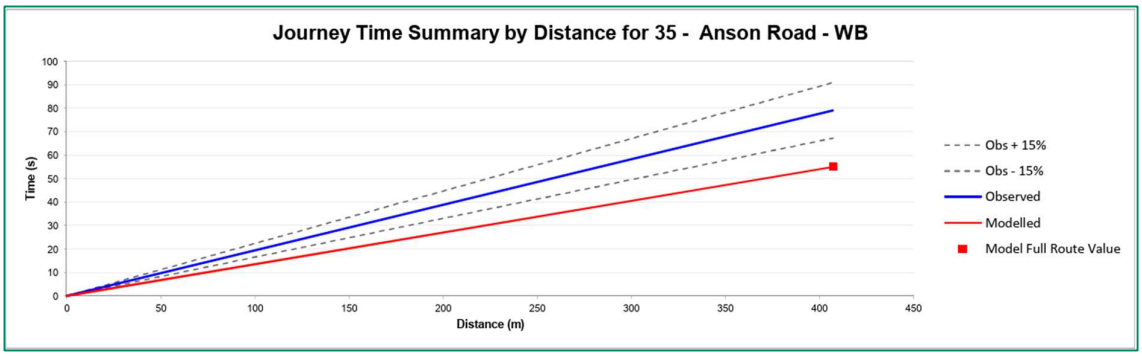


Figure 3.6: Anson Road Journey Time Validation Results (17:00 - 18:00)

3.15 As shown, the modelled journey times on both the Barrack Square and Anson Road approaches was found to be below the observed journey times which indicates that the magnitude of congestion on these approaches is not being accurately represented in the Base Year and forecast models. Cognisance of this should be taken when viewing the results of the forecast year congestion on these approaches; particularly when assessing the requirement for any future mitigation measures as the congestion shown on these approaches in forecast years may only just exceed what is currently experienced in reality due to underestimation.

3.16 As well as understanding the level of accuracy that the models are demonstrating for this area, it is also important to understand how the increased congestion that is observed in the Martlesham Heath commercial and industrial park approaches to the A12 in scenarios with Sizewell C traffic e.g. the 2028 Peak Construction (700 two-way HGVs) PM scenario has on wider network impacts.

3.17 **Table 3.4** shows a comparison of the volume of traffic that is able to enter the A12 / Anson Road / Eagle Way roundabout in the 2028 Peak Construction (700 two-way HGVs) scenario compared to the 2028 Reference Case in the PM period.

Table 3.4: 2028 Anson Road Volume Comparison

From	To	2028 Reference Case (15:00 – 18:00)	2028 Peak Construction [700 two-way HGVs] (15:00 – 18:00)	Difference (Vehicles)
15:00	15:15	238	230	-8
15:15	15:30	223	231	+8
15:30	15:45	214	213	-1
15:45	16:00	196	197	+1
Hourly Total		**871**	**871**	**0**
16:00	16:15	199	192	-7
16:15	16:30	220	197	-23
16:30	16:45	217	208	-9
16:45	17:00	240	219	-21
Hourly Total		**876**	**816**	**-60**
17:00	17:15	235	228	-7
17:15	17:30	243	224	-19
17:30	17:45	249	251	+2
17:45	18:00	224	272	+48
Hourly Total		**951**	**975**	**+24**
			3 Hour Net Difference	**-36**

3.18 The table above shows that across the entire 3 hour PM period, there were 36 vehicles which were unable to enter the roundabout in the Peak Construction scenario compared to the reference case however, from 16:00 to 17:30 (the busiest modelled period) there were 86 vehicles unable to enter the roundabout. Only

a sudden release of traffic towards the end of the modelled period (17:30 to 18:00) due to a reduction in traffic on the A12 meant that this trend did not continue until the end of the modelled period.

3.19 By preventing traffic from entering the roundabout and continuing to the wider network the actual impact of Sizewell C traffic is being underestimated as a large number Sizewell C vehicles have taken the place of vehicles that would have otherwise been on the network. **Table 3.5** shows the volume of background and Sizewell C traffic per modelled hour in the 2028 Reference Case and Peak Construction scenarios.

Table 3.5: 2028 Peak Construction Total Demand (Vehicles per Hour)

	6-7am	7-8am	8-9am	3-4pm	4-5pm	5-6pm
Adjusted Base 2028	4,347	8,799	10,986	10,255	11,092	10,598
Background Growth	517	898	1,142	1,359	1,156	1,264
Background Total	**4,864**	**9,697**	**12,128**	**11,614**	**12,248**	**11,862**
Sizewell C (Car + LGV)	202	147	70	140	107	104
SZC Bus	6	6	5	6	6	6
SZC HGV (700)	54	73	72	65	45	36
SZC Total	**262**	**226**	**147**	**210**	**158**	**146**

Source; Table 20, 'A12 VISSIM Technical Note v13', WSP, 2021

3.20 Assuming that 50% of the Sizewell C traffic between 17:00 and 18:00 enters the network by 17:30, this means that there is a total of 231 (158 + (0.5 x 146) Sizewell C vehicles on the modelled network between 16:00 and 17:30. When compared to the volume of traffic that is being held on Anson Road over the same time period (86 vehicles), this equates to approximately 37% of the Sizewell C demand on the corridor during the busiest period of the PM. 37% represents a significant proportion of Sizewell C vehicles and although not directly comparable due to the different composition and directions of travel, it is likely that the impact of Sizewell C vehicles in the PM Peak Construction scenario is being underestimated.

3.4 Queue Length Impacts

3.21 Although SZC Co. have demonstrated that in terms of overall impacts to journey times and queue lengths on the A12 corridor Sizewell C traffic is expected to have a limited impact, there are several junction approaches which have been found to be significantly impacted in terms of queue length increases. Based on the results of the supplementary economic assessment presented earlier in this document, the junction approaches which are shown to experience significant increases in queueing may require mitigation measures, however further detailed assessments would be required to confirm the exact scope of any measures deemed necessary to mitigate Sizewell C impacts.

3.22 In general, average queue lengths were found to increase across the modelled hours in the Peak Construction scenarios as expected due to the increase in traffic using the corridor with some approaches seeing small decreases in queueing. However, when viewing the maximum queue length results provided by SZC Co. in the 'A12 VISSIM Technical Note v13', the sensitivity of several junctions on the corridor are highlighted.

3.23 This section will highlight the most significant increases in queueing that were observed in the Peak Construction 700 two-way HGVs and 500 two-way HGVs scenarios throughout each of the modelled hours. It should be noted that the Anson Road approach to the A12 / Eagle Way / Anson Road junction will not be discussed in this section as it has been discussed at length previously.

3.4.1.1 Junction 21 – A12 / A14 / A1156 Seven Hills Interchange

3.24 At the A12 / A14 / A1156 Seven Hills Interchange, the southbound A12 (N) approach was found to be the most sensitive to increases in traffic using the roundabout as shown below in **Figure 3.7**.

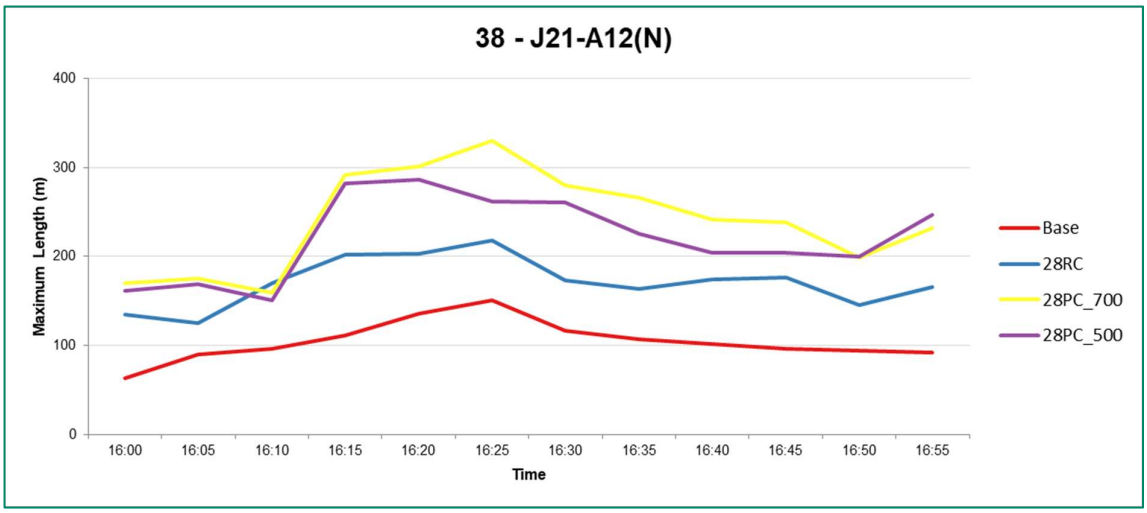


Figure 3.7: J21 - A12 (N) Queue Lengths (16:00 - 17:00)

3.25 In the Peak Construction (700 two-way HGVs) scenario the maximum queue length extended over 200m from approximately 16:15 onwards, reaching a maximum of approximately 330m at 16:25. As demonstrated through the average queue length results presented by SZC Co., there is a sustained level of queueing of over 200m between 16:00 and 17:00 which indicates that this approach is sensitive to increases in traffic using the roundabout.

3.4.1.2 Junction 25 – A12 / A1214 Main Road / Martlesham Park & Ride

3.26 At the A12 / A1214 / Martlesham Park & Ride roundabout, the northbound A12 (S) approach was found to be the most sensitive to increases in traffic using the roundabout as shown below in **Figure 3.8**.

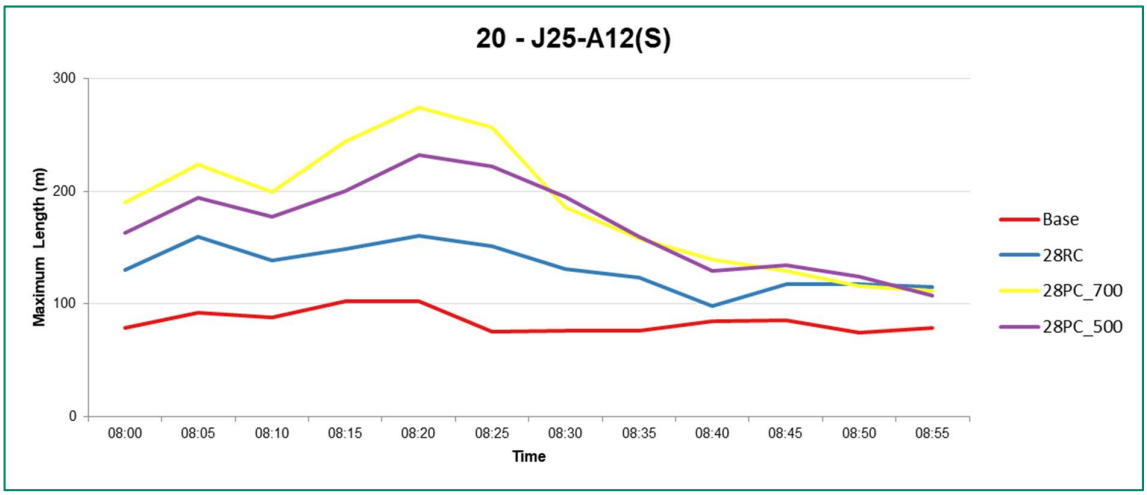


Figure 3.8: J25 - A12 (S) Queue Lengths (08:00 - 09:00)

3.27 In the Peak Construction (700 two-way HGVs) scenario the maximum queue length extended to approximately 270m at 08:20 which was over 100m greater than in the 2028 Reference Case. In the AM period there is a large volume of northbound Sizewell C traffic which is likely the cause of this increase as the approach is already shown to be over capacity.

3.4.1.3 Junction 26 – A12 / B1438

3.28 The northbound A12 (S) approach at the A12 / B1438 roundabout was found to be sensitive to increases in traffic across multiple hours in both the AM and PM periods. **Figure 3.9** shows the maximum queue lengths between 07:00 and 08:00 and **Figure 3.10** shows them between 08:00 and 09:00.

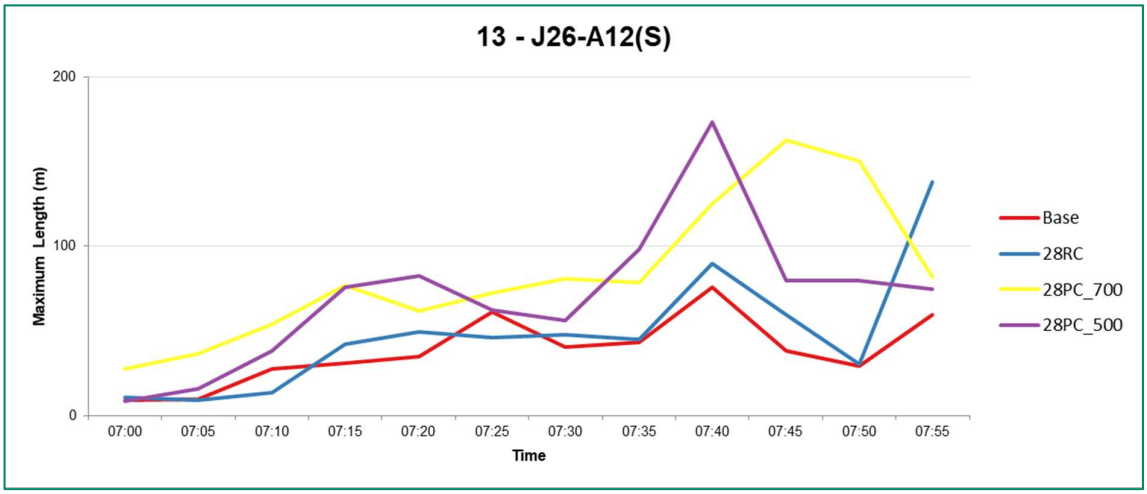


Figure 3.9: J26 - A12 (S) Queue Lengths (07:00 - 08:00)

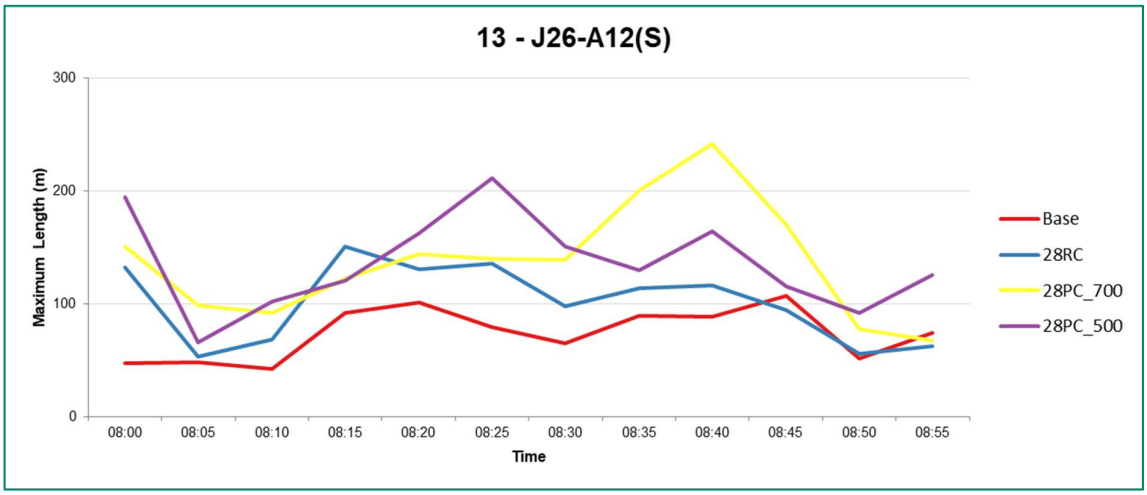


Figure 3.10: J26 - A12 (S) Queue Lengths (08:00 - 09:00)

3.29 Due to the increase in northbound traffic in the AM period and the single lane approach for northbound vehicles at this junction, it was found to be very sensitive to increases in traffic. Between 07:00 and 08:00, the maximum queue length in the 700 two-way HGV movements scenario was approximately 163m at 07:45 compared to only 60m in the 2028 Reference Case at this time. Between 08:00 and 09:00, the maximum queue length was approximately 241m in the 700 two-way HGV movements scenario at 08:40 compared to 116m in the 2028 Reference Case at this time.

3.30 Furthermore, given the minor differences in queueing between the 500 two-way HGV movements and 700 two-way HGV movements scenarios, the junction also appears to be sensitive to the rate in which vehicles arrive at the northbound approach as queues are shown to spike at different times.

3.31 This approach also experienced a notable increase in queueing in the PM as shown in **Figure 3.11**.

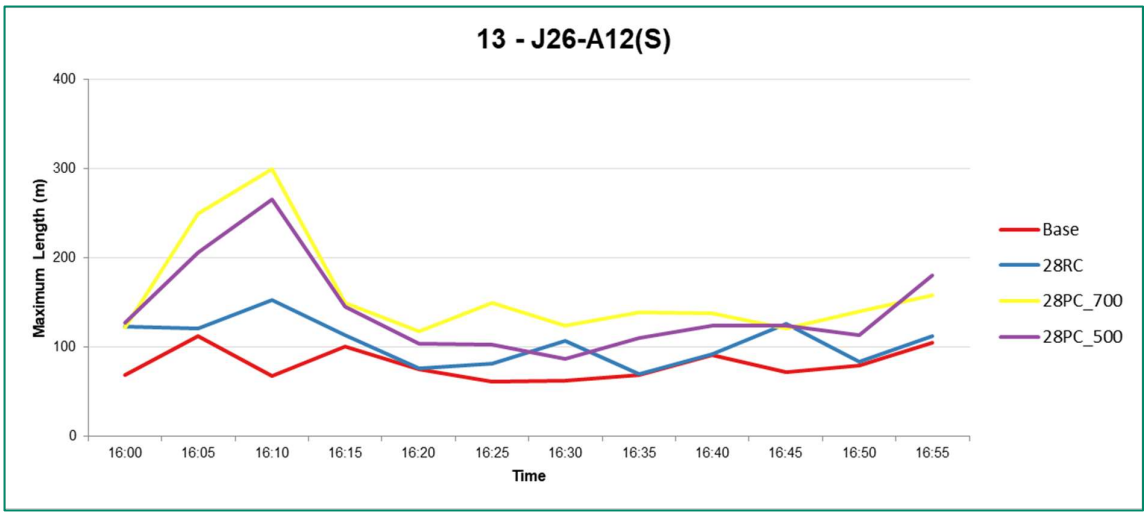


Figure 3.11: J26 - A12 (S) Queue Lengths (16:00 - 17:00)

3.32 In the PM period at 16:10 there was a notable spike in queueing where the queue reached approximately 300m in the 700 two-way HGV movements scenario compared to approximately 150m in the 2028 Reference Case. Maximum queue lengths throughout the rest of the hour were largely similar to what was observed in the 2028 Reference Case.

3.4.1.4 Junction 27 – A12 / B1079

3.33 At the A12 / B1079 roundabout, the northbound A12 (S) approach was found to be the most sensitive to increases in traffic using the roundabout as shown below in **Figure 3.12**.

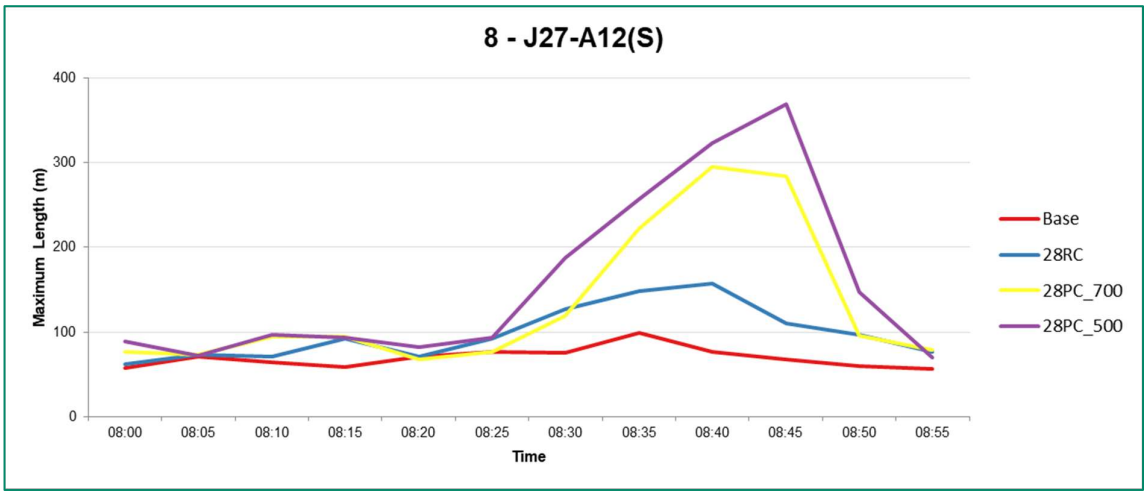


Figure 3.12: J27 - A12 (S) Queue Lengths (08:00 - 09:00)

3.34 As shown, there was found to be a significant spike in queueing between 08:30 and 08:45 in the 700 two-way HGV movements as well as the 500 two-way HGV movements scenarios with peaks of 295m and 370m respectively. This is a significant increase compared to the 2028 Reference Case where the maximum queue length was 157m during this 15-minute period. It should be noted that prior to this approach to the junction, the A12 is only a single lane northbound, therefore any queueing which extends back to the single carriageway section would be worse than if it were all dual carriageway.

3.4.1.5 Summary

3.35 Although SZC Co. have demonstrated that on average, queue lengths and average journey times would not increase significantly as a result of additional traffic on the network associated with Sizewell C, there are several junction approaches which were found to experience significant spikes in queueing in the Peak Construction scenarios compared to the 2028 Reference Case.

4 Summary, Conclusion and Recommendations

4.1 The purpose of this document is to provide a response to the comments made and issues raised by SZC Co. in [REP5-115] regarding the Economic Assessment that was carried out by AECOM on behalf of Suffolk County Council on both the strategic VISUM models and microsimulation VISSIM models as well as to provide supplementary evidence regarding the modelled traffic impacts on the A12 corridor between the A12 / A14 / A1156 Seven Hills Interchange and the A12 / A1152 roundabout.

4.2 Comments made by SZC Co. in relation to the AECOM's Economic Assessment that was conducted on behalf of SCC were addressed and an updated Economic Assessment was carried out based on 700 daily two-way HGV movements and the results of which were presented, discussed and compared to the previous 1,000 daily two-way HGV movements Economic Assessment that was carried out previously. With fewer daily HGV movements, the economic impact of Sizewell C traffic on the A12 corridor across the construction period was still found to be significant. **Table 4.1** summarises the results of the 700 two-way HGV movements Economic Assessment and **Table 4.2** summarises the results of the 500 two-way HGV movements Economic Assessment.

Table 4.1: 700 Two-Way HGV Movements Economic Assessment Summary

From Year	To Year	Net Present Value (Upper Estimate)	Net Present Value (Lower Estimate)
2023	2027	-£2,800,000	-£2,000,000
2028	2033	-£6,600,000	-£4,200,000
2023	**2033**	**-£9,400,000**	**-£6,200,000**

Table 4.2: 500 Two-Way HGV Movements Economic Assessment Summary

From Year	To Year	Net Present Value (Upper Estimate)	Net Present Value (Lower Estimate)
2023	2027	-£2,500,000	-£1,800,000
2028	2033	-£5,500,000	-£3,500,000
2023	**2033**	**-£8,000,000**	**-£5,300.000**

4.3 An assessment of the impact of the increase in congestion on Anson Road in the 2028 PM Peak Construction model was carried out to understand the volume of traffic being held off the network and how it relates to the hourly volumes of Sizewell C traffic. It was found that during the peak PM period that vehicles which equated to 37% of Sizewell C demand over the same period were being held off the network and therefore were unable to carry out their journey when they otherwise would have been able to. This could result in the underestimation of Sizewell C traffic impacts throughout the A12 corridor, especially the end to end journey times.

4.4 Although SZC Co. have demonstrated through the microsimulation VISSIM modelling that a significant number of junctions and road links are likely to experience limited impacts as a result of the addition of Sizewell C traffic on the network, there are still several areas which have been shown to experience significant impacts. Evidence of these areas was provided and discussed.

4.5 In conclusion, this note has demonstrated that even with a reduction in the number of daily HGV movements on the A12 corridor, the potential economic impact to transport users was still found to be significant, ranging from -£5,300,000 to -£8,000,000 in the 500 two-way HGV movement assessment and -£6,200,000 to -£9,400,000 in the 700 two-way HGV movement assessment. Although SZC Co have highlighted that the overall journey time along the corridor is relatively small, this only presents one aspect on the impact Sizewell C traffic is having on the network. Suppressed demand from Anson Road during the PM peak is in part mitigating against the Sizewell C traffic by restricting their access onto the A12, therefore the full extent of the delays along the A12 are not being presented. There were found to be several junction approaches which experienced significant increases in queueing which may require mitigation measures however further detailed assessments would be required to identify the exact location and scope of any measures specifically linked to Sizewell C. Based on the findings of this report, it is

recommended that SZC Co engage with SCC on delivering measures which can mitigate against the impact caused by Sizewell C traffic.

Appendix A – Economic Assessment Methodology, Limitations and Assumptions

A.1 Methodology

For the VISSIM Economic Assessment, the calculated disbenefits to transport users in the 2028 700 two-way HGV scenario against the 2028 Reference Case scenario will be calculated and presented. This will seek to demonstrate that despite a significant decrease in the daily volume of HGVs associated with Sizewell C, the network would still experience a detrimental impact over the course of construction. To carry out this additional assessment, the same methodology as the previous Economic Assessment was used albeit with a greater number of simulation runs and a different Peak Construction HGV volume. The methodology is as follows:

1. The 2028 Reference Case and 2028 Peak Construction (700 two-way HGVs) models were assigned for a total of 20 simulation runs to mitigate against any erroneous seed results and to obtain a high confidence interval in the results. The results from the 2023 Reference Case and 2023 Early Years models that were used previously were also used for this assessment.
2. The Network Performance statistics for each simulation run were reviewed to identify if there were any erroneous simulation runs which led to abnormal results, however there were no issues with the model runs.
3. The average 'Total Travel Time' for each background vehicle type (i.e. non-Sizewell C traffic) was extracted from the models for each modelled hour. Checks were carried out to determine the extent of any latent demand that may be present in the models.
4. To obtain a 12-hour economic assessment, results from the 07:00 – 10:00 and 16:00 – 19:00 periods were required. Given that the microsimulation models only cover the 06:00 – 09:00 and 15:00 – 18:00 periods, it was necessary to estimate the missing hours for each peak period i.e.09:00 – 10:00 and 18:00 – 19:00. To do this, the following steps were taken:
    a. Automatic Traffic Count (ATC) data for April 2016 which was provided to AECOM by SCC was analysed and four of the ten sites were found to be within the extents of the model.
    b. Factors were then calculated to uplift the 07:00 – 09:00 period to 07:00 – 10:00 and the 16:00 – 18:00 period to 16:00 – 19:00. The interpeak (10:00 – 16:00) was calculated by applying a factor to the 15:00 – 16:00 period.
    c. TAG Data Book v1.13.1 (July 2020) tables including value of time, occupancy, proportion of work and non-work trips were used to calculate the dis-benefits over the assessment period.

To undertake the analysis relating to the withheld demand from Anson Road in the PM 2028 Peak Construction model, the following methodology was used:

1. The 2028 Reference Case and 2028 Peak Construction (700 two-way HGVs) models were assigned for a total of 20 simulation runs to mitigate against any erroneous seed results and to obtain a high confidence interval in the results.
2. Node results were extracted from these models for the A12 / Anson Road / Eagle Way roundabout (Junction 24) to determine the volume of traffic that is able to enter the network from Anson Road in each scenario.
3. Total vehicle volumes for each hour and scenario were extracted from the 'A12 VISSIM Technical Note v13' and used to determine the difference in vehicles on the network.

To demonstrate that the proposed reduction in two-way HGV volumes through the preferred freight strategy would still result in a perceptible negative impact to existing road users, results from SZC Co.'s 'A12 VISSIM Technical Note v13' for the 2028 Reference Case and 2028 Peak Construction scenarios were extracted.

A.2 Assumptions

As with the initial Economic Assessment that was carried out on the A12 corridor, several assumptions have been made which are likely to impact the accuracy of the calculated transport user impacts. These are:

- It is assumed that daily Sizewell C traffic volumes, in particular HGVs would remain the same in each modelled year e.g. 700 two-way HGV movements per day between 2028 and 2034. This would not occur in reality given the proposed traffic profiles during construction and the varying day-to-day construction activities. However, this does represent a reasonable worst-case scenario but does mean that the calculated impacts would likely be lessened, but still present, in reality.
- It is assumed that the change in traffic volume would follow a linear profile between 2023 and 2028 but then a flat profile between 2028 and 2033 i.e. traffic would increase from 2023 volumes to 2028 volumes incrementally each year but the volume of traffic between 2028 and 2033 would remain the same each year. This would not occur in reality but is an assumption for this assessment given the absence of any intermediate modelled years.

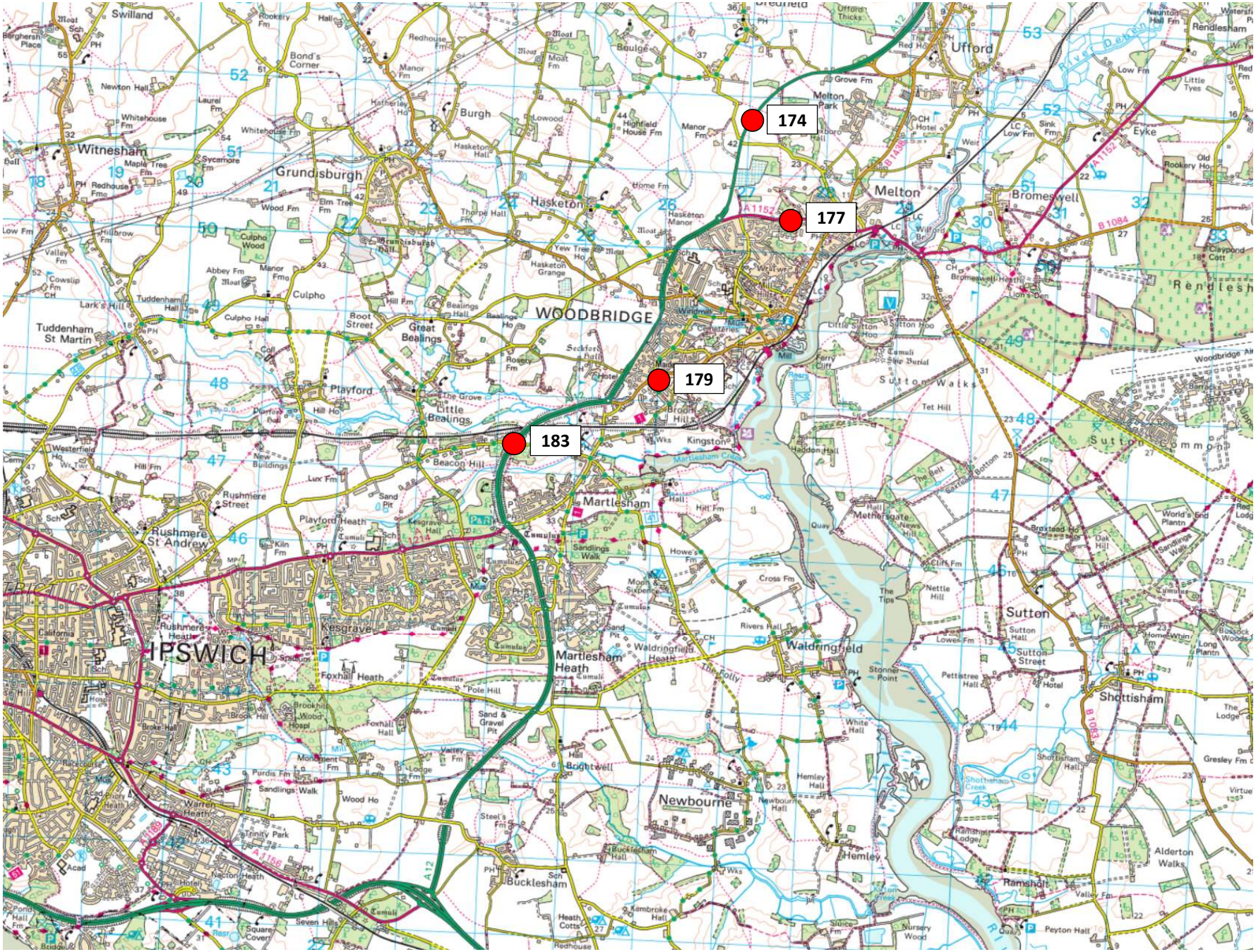
4.1 Limitations

It is important to understand the limitations of this economic assessment when viewing the calculated benefits or disbenefits as the limitations may adversely impact the accuracy of the calculations. The limitations of this assessment are:

- The interpeak period is extrapolated from the 15:00 to 16:00 period which contains a noticeable volume of Sizewell C related traffic and therefore assumes that a similar volume of Sizewell C traffic will be present on the network throughout the interpeak period. This may not be the case in reality, as construction traffic volumes may reduce at certain periods of the working day e.g. between 11:00 and 13:00.
- Due to the absence of intermediary year models which would provide a greater level of accuracy for the economic assessment by replicating the daily / weekly / monthly variation in Sizewell C traffic volumes, a single scenario has been used for each modelled year. Consequently, the economic impact to transport users may be overestimated but is still expected to be significant given the lack of any proposed mitigation measures on the corridor.

Appendix B – ATC Annualisation Factors

B.1 ATC Site Map


174
177
179
183
WOODBRIDGE
IPSWICH
Martlesham
Martlesham Heath
Newbourne
Waldringfield
Sutton
Melton
Ufford
Grundisburgh
Hasketon
Playford
Kesgrave
Rushmere St Andrew
Witnesham
Tuddenham St Martin
Bucklesham
Shottisham
Ramsholt

B.2 AM & PM Annualisation Factor Calculations

ATC SITE 183 (TUESDAY - THURSDAY 2016)

		Direction 1			Direction 2			Total		
		Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
07:00	08:00	4,914	1,734	582	7,155	1,068	353	12,069	2,802	935
08:00	09:00	6,250	1,439	578	7,801	801	408	14,051	2,240	986
09:00	10:00	5,307	1,050	522	6,447	814	574	11,754	1,864	1,096
16:00	17:00	7,658	933	263	7,631	1,572	365	15,289	2,505	628
17:00	18:00	8,103	686	146	7,869	864	194	15,972	1,550	340
18:00	19:00	6,591	457	106	5,724	466	114	12,315	923	220

		Car	LGV	HGV
07:00	09:00	26,120	5,042	1,921
07:00	10:00	37,874	6,906	3,017
09:00	10:00	**1.45**	**1.37**	**1.57**
16:00	18:00	31,261	4,055	968
16:00	19:00	43,576	4,978	1,188
18:00	19:00	**1.39**	**1.23**	**1.23**

ATC SITE 174 (TUESDAY - THURSDAY 2016)

		Direction 1			Direction 2			Total		
		Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
07:00	08:00	2,658	1,250	444	4,230	833	252	6,888	2,083	696
08:00	09:00	2,811	937	395	5,865	616	312	8,676	1,553	707
09:00	10:00	2,769	659	407	3,945	541	390	6,714	1,200	797
16:00	17:00	4,730	750	224	4,149	1,207	294	8,879	1,957	518
17:00	18:00	5,077	574	129	4,179	706	172	9,256	1,280	301
18:00	19:00	3,624	332	89	2,970	275	76	6,594	607	165

		Car	LGV	HGV
07:00	09:00	15,564	3,636	1,403
07:00	10:00	22,278	4,836	2,200
09:00	10:00	**1.43**	**1.33**	**1.57**
16:00	18:00	18,135	3,237	819
16:00	19:00	24,729	3,844	984
18:00	19:00	**1.36**	**1.19**	**1.20**

ATC SITE 177 (TUESDAY - THURSDAY 2016)

		Direction 1			Direction 2			Total		
		Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
07:00	08:00	1,992	930	166	2,679	702	115	4,671	1,632	281
08:00	09:00	2,451	1,090	151	3,115	835	189	5,566	1,925	340
09:00	10:00	1,920	993	175	2,217	636	182	4,137	1,629	357
16:00	17:00	2,484	957	160	2,821	882	138	5,305	1,839	298
17:00	18:00	2,887	1,081	82	3,054	732	89	5,941	1,813	171
18:00	19:00	2,155	833	43	1,807	461	62	3,962	1,294	105

		Car	LGV	HGV
07:00	09:00	10,237	3,557	621
07:00	10:00	14,374	5,186	978
09:00	10:00	**1.40**	**1.46**	**1.57**
16:00	18:00	11,246	3,652	469
16:00	19:00	15,208	4,946	574
18:00	19:00	**1.35**	**1.35**	**1.22**

ATC SITE 179 (TUESDAY - THURSDAY 2016)

		Direction 1			Direction 2			Total		
		Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
07:00	08:00	1,336	384	31	1,474	130	54	2,810	514	85
08:00	09:00	2,875	737	70	2,167	244	65	5,042	981	135
09:00	10:00	2,479	699	56	1,948	264	66	4,427	963	122
16:00	17:00	2,624	730	51	2,387	438	50	5,011	1,168	101
17:00	18:00	2,763	791	59	2,712	389	53	5,475	1,180	112
18:00	19:00	2,258	733	33	1,586	202	24	3,844	935	57

		Car	LGV	HGV
07:00	09:00	7,852	1,495	220
07:00	10:00	12,279	2,458	342
09:00	10:00	**1.56**	**1.64**	**1.55**
16:00	18:00	10,486	2,348	213
16:00	19:00	14,330	3,283	270
18:00	19:00	**1.37**	**1.40**	**1.27**

SITE SUMMARY

		Direction 1			Direction 2			Total		
		Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
07:00	08:00	10,900	4,298	1,223	15,538	2,733	774	26,438	7,031	1,997
08:00	09:00	14,387	4,203	1,194	18,948	2,496	974	33,335	6,699	2,168
09:00	10:00	12,475	3,401	1,160	14,557	2,255	1,212	27,032	5,656	2,372
16:00	17:00	17,496	3,370	698	16,988	4,099	847	34,484	7,469	1,545
17:00	18:00	18,830	3,132	416	17,814	2,691	508	36,644	5,823	924
18:00	19:00	14,628	2,355	271	12,087	1,404	276	26,715	3,759	547

		Car	LGV	HGV	Total
07:00	09:00	59,773	13,730	4,165	77,668
07:00	10:00	86,805	19,386	6,537	112,728
09:00	10:00	**1.45**	**1.41**	**1.57**	**1.45**
16:00	18:00	71,128	13,292	2,469	86,889
16:00	19:00	97,843	17,051	3,016	117,910
18:00	19:00	**1.38**	**1.28**	**1.22**	**1.36**

B.3 Inter Peak Annualisation Factor Calculations

ATC SITE 183 (TUESDAY - THURSDAY 2016)

		Direction 1			Direction 2			Total		
		Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
10:00	**11:00**	5,343	842	538	5,776	835	596	11,119	1,677	1,134
11:00	**12:00**	5,881	765	506	5,421	858	576	11,302	1,623	1,082
12:00	**13:00**	5,782	746	452	5,429	820	509	11,211	1,566	961
13:00	**14:00**	5,569	721	467	5,774	849	534	11,343	1,570	1,001
14:00	**15:00**	5,647	794	447	5,938	930	551	11,585	1,724	998
15:00	**16:00**	6,322	854	396	6,613	1,178	578	12,935	2,032	974

		Car	LGV	HGV
10:00	**16:00**	69,495	10,192	6,150
15:00	**16:00**	12,935	2,032	974
		5.37	**5.02**	**6.31**
		18.6%	**19.9%**	**15.8%**

ATC SITE 174 (TUESDAY - THURSDAY 2016)

		Direction 1			Direction 2			Total		
		Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
10:00	**11:00**	2,837	526	403	3,451	522	444	6,288	1,048	847
11:00	**12:00**	3,116	517	362	3,057	498	402	6,173	1,015	764
12:00	**13:00**	2,964	453	320	2,989	494	409	5,953	947	729
13:00	**14:00**	2,926	481	346	3,063	572	402	5,989	1,053	748
14:00	**15:00**	3,076	465	307	3,242	600	423	6,318	1,065	730
15:00	**16:00**	3,610	566	271	3,578	790	427	7,188	1,356	698

		Car	LGV	HGV
10:00	**16:00**	37,909	6,484	4,516
15:00	**16:00**	7,188	1,356	698
		5.27	**4.78**	**6.47**
		19.0%	**20.9%**	**15.5%**

ATC SITE 177 (TUESDAY - THURSDAY 2016)

		Direction 1			Direction 2			Total		
		Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
10:00	**11:00**	1,643	852	167	1,868	561	163	3,511	1,413	330
11:00	**12:00**	1,813	789	147	1,894	613	179	3,707	1,402	326
12:00	**13:00**	1,822	857	135	1,916	601	148	3,738	1,458	283
13:00	**14:00**	1,759	787	161	1,999	635	142	3,758	1,422	303
14:00	**15:00**	1,740	838	166	2,043	631	189	3,783	1,469	355
15:00	**16:00**	2,105	905	139	2,590	828	169	4,695	1,733	308

		Car	LGV	HGV
10:00	**16:00**	23,192	8,897	1,905
15:00	**16:00**	4,695	1,733	308
		4.94	**5.13**	**6.19**
		20.2%	**19.5%**	**16.2%**

ATC SITE 179 (TUESDAY - THURSDAY 2016)

		Direction 1			Direction 2			Total		
		Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
10:00	**11:00**	2,403	701	68	1,953	278	52	4,356	979	120
11:00	**12:00**	2,285	688	64	2,162	394	62	4,447	1,082	126
12:00	**13:00**	2,490	625	61	2,332	339	47	4,822	964	108
13:00	**14:00**	2,452	646	67	2,095	409	56	4,547	1,055	123
14:00	**15:00**	2,243	626	42	2,206	409	49	4,449	1,035	91
15:00	**16:00**	2,377	678	48	2,420	431	42	4,797	1,109	90

		Car	LGV	HGV
10:00	**16:00**	27,418	6,224	658
15:00	**16:00**	4,797	1,109	90
		5.72	**5.61**	**7.31**
		17.5%	**17.8%**	**13.7%**

SITE SUMMARY

		Direction 1			Direction 2			Total		
		Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
10:00	**11:00**	12,226	2,921	1,176	13,048	2,196	1,255	25,274	5,117	2,431
11:00	**12:00**	13,095	2,759	1,079	12,534	2,363	1,219	25,629	5,122	2,298
12:00	**13:00**	13,058	2,681	968	12,666	2,254	1,113	25,724	4,935	2,081
13:00	**14:00**	12,706	2,635	1,041	12,931	2,465	1,134	25,637	5,100	2,175
14:00	**15:00**	12,706	2,723	962	13,429	2,570	1,212	26,135	5,293	2,174
15:00	**16:00**	14,414	3,003	854	15,201	3,227	1,216	29,615	6,230	2,070

		Car	LGV	HGV	Total
10:00	**16:00**	158,014	31,797	13,229	203,040
15:00	**16:00**	29,615	6,230	2,070	37,915
		5.34	**5.10**	**6.39**	**5.36**

Appendix C – Total Travel Time Results

C.1 500 Two-Way HGV Movements

TOTAL TRAVEL TIME BY VEHICLE TYPE (S)

Scenario	Hour	Vehicle Type						
		Car	Car Growth	HGV	HGV Growth	Bus	LGV	LGV Growth
2023 Reference Case	06:00 - 07:00	998161.28	53496.45	205431.04	9419.07	2394.57	242189.56	8364.83
	07:00 - 08:00	2267930.42	77756.69	273026.93	11292.09	3002.76	576385.56	25899.81
	08:00 - 09:00	3315056.96	110976.84	323116.65	9951.51	2853.29	540748.30	28374.50
	09:00 - 10:00							
	15:00 - 16:00	2925798.60	157793.20	244540.66	14737.25	3018.35	444570.70	17487.97
	16:00 - 17:00	3469117.79	164606.78	204231.89	14395.61	4670.00	485307.65	19154.50
	17:00 - 18:00	3344260.87	158308.28	126761.16	11899.54	5128.32	339784.69	13659.77
	18:00 - 19:00							
2023 Early Years	06:00 - 07:00	1000497.60	53612.11	205798.59	9322.59	2401.28	242989.42	8286.44
	07:00 - 08:00	2280663.21	78847.44	274985.98	11259.76	3003.70	583299.63	26144.72
	08:00 - 09:00	3389005.83	113861.57	327719.60	9906.66	2890.27	552127.02	28893.23
	09:00 - 10:00							
	15:00 - 16:00	2931529.78	158197.99	244998.10	14767.23	3018.51	445867.25	17436.16
	16:00 - 17:00	3493696.53	166204.90	204242.65	14378.17	4763.12	487453.71	19249.26
	17:00 - 18:00	3361584.67	160203.46	126950.62	11873.06	5232.72	341616.44	13701.36
	18:00 - 19:00							
2028 Reference Case	06:00 - 07:00	1001419.19	108196.25	208139.41	11230.96	2484.66	247590.32	19749.10
	07:00 - 08:00	2308802.33	198523.70	277550.66	13186.01	3034.32	587613.34	63960.86
	08:00 - 09:00	3361805.28	319998.73	326412.93	11517.87	2986.99	546128.81	60300.38
	09:00 - 10:00							
	15:00 - 16:00	3060414.26	393296.44	249833.60	17164.38	3019.63	460316.89	51833.77
	16:00 - 17:00	3613307.97	350849.13	207069.61	20882.92	4363.87	496686.17	51034.21
	17:00 - 18:00	3551645.58	392414.82	126744.59	14410.08	4828.53	356266.06	40673.54
	18:00 - 19:00							
2028 Peak Construction	06:00 - 07:00	1008146.74	108858.23	207430.10	11274.89	2492.28	248648.10	19724.80
	07:00 - 08:00	2328639.92	200906.29	278642.72	13084.52	3027.90	593485.92	64715.83
	08:00 - 09:00	3430165.35	327381.39	332890.62	11642.33	3114.96	560666.49	61512.79
	09:00 - 10:00							
	15:00 - 16:00	3117530.71	400184.09	251348.02	17300.19	3057.04	468711.08	52681.78
	16:00 - 17:00	3699814.71	358574.14	209269.99	20794.49	4453.59	508717.89	51798.54
	17:00 - 18:00	3671600.03	404396.29	127593.55	14486.78	5034.64	367761.46	41624.33
	18:00 - 19:00							

ACTIVE VEHICLES

Scenario	Hour	Vehicle Type						
		Car	Car Growth	HGV	HGV Growth	Bus	LGV	LGV Growth
2023 Reference Case	06:00 - 07:00	380	19	67	3	1	114	4
	07:00 - 08:00	858	32	92	3	1	176	8
	08:00 - 09:00	882	31	84	3	0	132	6
	09:00 - 10:00							
	15:00 - 16:00	865	48	65	5	1	136	6
	16:00 - 17:00	962	45	43	3	2	123	7
	17:00 - 18:00	794	35	29	4	2	63	2
	18:00 - 19:00							
2023 Early Years	06:00 - 07:00	377	19	66	3	1	114	4
	07:00 - 08:00	872	33	92	2	1	177	8
	08:00 - 09:00	899	32	86	3	0	134	6
	09:00 - 10:00							
	15:00 - 16:00	869	49	66	5	1	135	6
	16:00 - 17:00	976	46	43	3	2	125	6
	17:00 - 18:00	801	35	29	4	2	63	2
	18:00 - 19:00							
2028 Reference Case	06:00 - 07:00	384	43	68	3	1	116	10
	07:00 - 08:00	871	76	91	3	1	177	19
	08:00 - 09:00	902	90	85	4	0	132	13
	09:00 - 10:00							
	15:00 - 16:00	911	113	66	6	1	140	15
	16:00 - 17:00	1,031	95	43	4	2	129	12
	17:00 - 18:00	828	93	29	4	2	69	7
	18:00 - 19:00							
2028 Peak Construction	06:00 - 07:00	386	44	71	3	1	117	11
	07:00 - 08:00	877	77	93	3	1	180	19
	08:00 - 09:00	919	91	86	4	0	133	14
	09:00 - 10:00							
	15:00 - 16:00	917	116	70	5	1	143	16
	16:00 - 17:00	1,062	98	44	5	2	134	13
	17:00 - 18:00	882	97	31	4	2	74	8
	18:00 - 19:00							

ARRIVED VEHICLES

Scenario	Hour	Vehicle Type						
		Car	Car Growth	HGV	HGV Growth	Bus	LGV	LGV Growth
2023 Reference Case	06:00 - 07:00	2,826	119	668	40	8	14	0
	07:00 - 08:00	6,034	220	778	49	13	55	0
	08:00 - 09:00	8,952	296	823	42	9	55	0
	09:00 - 10:00							
	15:00 - 16:00	8,276	452	688	63	11	34	0
	16:00 - 17:00	9,154	407	587	63	12	40	0
	17:00 - 18:00	9,487	433	423	51	15	33	0
	18:00 - 19:00							
2023 Early Years	06:00 - 07:00	2,829	120	669	40	8	14	3
	07:00 - 08:00	6,016	218	777	49	13	55	4
	08:00 - 09:00	8,949	296	821	42	9	55	5
	09:00 - 10:00							
	15:00 - 16:00	8,271	451	687	63	11	34	6
	16:00 - 17:00	9,145	407	587	63	12	41	6
	17:00 - 18:00	9,493	433	423	51	15	32	7
	18:00 - 19:00							
2028 Reference Case	06:00 - 07:00	2,707	331	669	48	8	41	0
	07:00 - 08:00	5,935	568	779	57	13	151	0
	08:00 - 09:00	8,850	869	821	49	9	145	0
	09:00 - 10:00							
	15:00 - 16:00	8,223	1,106	688	73	11	98	0
	16:00 - 17:00	9,157	917	583	80	12	109	0
	17:00 - 18:00	9,479	1,054	420	61	15	84	0
	18:00 - 19:00							
2028 Peak Construction	06:00 - 07:00	2,708	330	666	49	8	40	8
	07:00 - 08:00	5,931	567	781	56	13	152	15
	08:00 - 09:00	8,839	870	822	50	9	145	30
	09:00 - 10:00							
	15:00 - 16:00	8,222	1,103	686	74	11	97	20
	16:00 - 17:00	9,119	916	586	79	12	109	17
	17:00 - 18:00	9,468	1,054	420	62	15	84	16
	18:00 - 19:00							

COMBINED TRAVEL TIME (S)

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	1051657.73	214850.11	250554.39
	07:00 - 08:00	2345687.11	284319.02	602285.37
	08:00 - 09:00	3426033.80	333068.16	569122.80
	09:00 - 10:00			
	15:00 - 16:00	3083591.80	259277.91	462058.67
	16:00 - 17:00	3633724.57	218627.50	504462.15
	17:00 - 18:00	3503069.15	138660.70	353444.46
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	1054109.71	215121.18	251275.86
	07:00 - 08:00	2367910.65	286245.74	609444.35
	08:00 - 09:00	3502867.40	337626.26	581020.25
	09:00 - 10:00			
	15:00 - 16:00	3089727.77	259745.33	463303.41
	16:00 - 17:00	3659901.43	218620.82	506702.97
	17:00 - 18:00	3521788.13	138823.68	355317.80
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	1109615.44	219370.37	267339.42
	07:00 - 08:00	2507326.03	290736.67	651574.20
	08:00 - 09:00	3681804.01	337930.80	606429.19
	09:00 - 10:00			
	15:00 - 16:00	3453710.70	266997.98	512150.66
	16:00 - 17:00	3964157.10	227952.53	547720.38
	17:00 - 18:00	3944060.40	141154.67	396939.60
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	1117004.97	218704.99	268372.90
	07:00 - 08:00	2529546.21	291727.24	658201.75
	08:00 - 09:00	3757546.74	344532.95	622179.28
	09:00 - 10:00			
	15:00 - 16:00	3517714.80	268648.21	521392.86
	16:00 - 17:00	4058388.85	230064.48	560516.43
	17:00 - 18:00	4075996.32	142090.33	409385.79
	18:00 - 19:00			

COMBINED ACTIVE VEHICLES

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	399	70	118
	07:00 - 08:00	890	95	184
	08:00 - 09:00	913	87	138
	09:00 - 10:00			
	15:00 - 16:00	913	70	142
	16:00 - 17:00	1,007	46	130
	17:00 - 18:00	829	33	65
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	396	69	118
	07:00 - 08:00	905	94	185
	08:00 - 09:00	931	89	140
	09:00 - 10:00			
	15:00 - 16:00	918	71	141
	16:00 - 17:00	1,022	46	131
	17:00 - 18:00	836	33	65
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	427	71	126
	07:00 - 08:00	947	94	196
	08:00 - 09:00	992	89	145
	09:00 - 10:00			
	15:00 - 16:00	1,024	72	155
	16:00 - 17:00	1,126	47	141
	17:00 - 18:00	921	33	76
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	430	74	128
	07:00 - 08:00	954	96	199
	08:00 - 09:00	1,010	90	147
	09:00 - 10:00			
	15:00 - 16:00	1,033	75	159
	16:00 - 17:00	1,160	49	147
	17:00 - 18:00	979	35	82
	18:00 - 19:00			

COMBINED ARRIVED VEHICLES

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	2,945	708	14
	07:00 - 08:00	6,254	827	55
	08:00 - 09:00	9,248	865	55
	09:00 - 10:00			
	15:00 - 16:00	8,728	751	34
	16:00 - 17:00	9,561	650	40
	17:00 - 18:00	9,920	474	33
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	2,949	709	17
	07:00 - 08:00	6,234	826	59
	08:00 - 09:00	9,245	863	60
	09:00 - 10:00			
	15:00 - 16:00	8,722	750	40
	16:00 - 17:00	9,552	650	47
	17:00 - 18:00	9,926	474	39
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	3,038	717	41
	07:00 - 08:00	6,503	836	151
	08:00 - 09:00	9,719	870	145
	09:00 - 10:00			
	15:00 - 16:00	9,329	761	98
	16:00 - 17:00	10,074	663	109
	17:00 - 18:00	10,533	481	84
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	3,038	715	48
	07:00 - 08:00	6,498	837	167
	08:00 - 09:00	9,709	872	175
	09:00 - 10:00			
	15:00 - 16:00	9,325	760	117
	16:00 - 17:00	10,035	665	126
	17:00 - 18:00	10,522	482	100
	18:00 - 19:00			

DIFFERENCE IN TOTAL TRAVEL TIME (S)

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023	06:00 - 07:00	2451.98	271.07	721.47
	07:00 - 08:00	22223.54	1926.72	7158.98
	08:00 - 09:00	76833.60	4558.10	11897.45
	09:00 - 10:00			
	15:00 - 16:00	6135.97	467.42	1244.74
	16:00 - 17:00	26176.86	-6.68	2240.82
	17:00 - 18:00	18718.98	162.98	1873.34
	18:00 - 19:00			
2028	06:00 - 07:00	7389.53	-665.38	1033.48
	07:00 - 08:00	22230.18	990.57	6627.55
	08:00 - 09:00	75742.73	6602.15	15750.09
	09:00 - 10:00			
	15:00 - 16:00	64004.10	1650.23	9242.20
	16:00 - 17:00	94231.75	2111.95	12796.05
	17:00 - 18:00	131935.92	935.66	12446.19
	18:00 - 19:00			

DIFFERENCE IN TOTAL TRAVEL TIME (HOURS)

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023	06:00 - 07:00	0.68	0.08	0.20
	07:00 - 08:00	6.17	0.54	1.99
	08:00 - 09:00	21.34	1.27	3.30
	09:00 - 10:00			
	15:00 - 16:00	1.70	0.13	0.35
	16:00 - 17:00	7.27	0.00	0.62
	17:00 - 18:00	5.20	0.05	0.52
	18:00 - 19:00			
2028	06:00 - 07:00	2.05	-0.18	0.29
	07:00 - 08:00	6.17	0.28	1.84
	08:00 - 09:00	21.04	1.83	4.38
	09:00 - 10:00			
	15:00 - 16:00	17.78	0.46	2.57
	16:00 - 17:00	26.18	0.59	3.55
	17:00 - 18:00	36.65	0.26	3.46
	18:00 - 19:00			

TOTAL TRAVEL TIME DIFFERENCE BY PERIOD (HOURS)

2023			
	Car	HGV	LGV
AM (07:00 - 09:00)	27.52	1.80	5.29
PM (16:00 - 18:00)	12.47	0.04	1.14

2028			
	Car	HGV	LGV
AM (07:00 - 09:00)	27.21	2.11	6.22
PM (16:00 - 18:00)	62.82	0.85	7.01

COMBINED ARRIVED + ACTIVE VEHICLES

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	3,344	778	132
	07:00 - 08:00	7,144	922	239
	08:00 - 09:00	10,161	952	193
	09:00 - 10:00			
	15:00 - 16:00	9,641	821	176
	16:00 - 17:00	10,568	696	170
	17:00 - 18:00	10,749	507	98
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	3,345	778	135
	07:00 - 08:00	7,139	920	244
	08:00 - 09:00	10,176	952	200
	09:00 - 10:00			
	15:00 - 16:00	9,640	821	181
	16:00 - 17:00	10,574	696	178
	17:00 - 18:00	10,762	507	104
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	3,465	788	167
	07:00 - 08:00	7,450	930	347
	08:00 - 09:00	10,711	959	290
	09:00 - 10:00			
	15:00 - 16:00	10,353	833	253
	16:00 - 17:00	11,200	710	250
	17:00 - 18:00	11,454	514	160
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	3,468	789	176
	07:00 - 08:00	7,452	933	366
	08:00 - 09:00	10,719	962	322
	09:00 - 10:00			
	15:00 - 16:00	10,358	835	276
	16:00 - 17:00	11,195	714	273
	17:00 - 18:00	11,501	517	182
	18:00 - 19:00			

DIFFERENCE

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023	06:00 - 07:00	1	0	3
	07:00 - 08:00	-5	-2	5
	08:00 - 09:00	15	0	7
	09:00 - 10:00			
	15:00 - 16:00	-1	0	5
	16:00 - 17:00	6	0	8
	17:00 - 18:00	13	0	6
	18:00 - 19:00			
2028	06:00 - 07:00	3	1	9
	07:00 - 08:00	2	3	19
	08:00 - 09:00	8	3	32
	09:00 - 10:00			
	15:00 - 16:00	5	2	23
	16:00 - 17:00	-5	4	23
	17:00 - 18:00	47	3	22
	18:00 - 19:00			

C.2 700 Two-Way HGV Movements

TOTAL TRAVEL TIME BY VEHICLE TYPE (S)

		Vehicle Type						
Scenario	Hour	Car	Car Growth	HGV	HGV Growth	Bus	LGV	LGV Growth
2023 Reference Case	06:00 - 07:00	998161.28	53496.45	205431.04	9419.07	2394.57	242189.56	8364.83
	07:00 - 08:00	2267930.42	77756.69	273026.93	11292.09	3002.76	576385.56	25899.81
	08:00 - 09:00	3315056.96	110976.84	323116.65	9951.51	2853.29	540748.30	28374.50
	09:00 - 10:00							
	15:00 - 16:00	2925798.60	157793.20	244540.66	14737.25	3018.35	444570.70	17487.97
	16:00 - 17:00	3469117.79	164606.78	204231.89	14395.61	4670.00	485307.65	19154.50
	17:00 - 18:00	3344260.87	158808.28	126761.16	11899.54	5128.32	339784.69	13659.77
	18:00 - 19:00							
2023 Early Years	06:00 - 07:00	1000497.60	53612.11	205798.59	9322.59	2401.28	242989.42	8286.44
	07:00 - 08:00	2289063.21	78847.44	274985.98	11259.76	3003.70	583299.63	26144.72
	08:00 - 09:00	3389005.83	113861.57	327719.60	9906.66	2890.27	552127.02	28893.23
	09:00 - 10:00							
	15:00 - 16:00	2931529.78	158197.99	244998.10	14747.23	3018.51	445867.25	17436.16
	16:00 - 17:00	3493696.53	166204.90	204242.65	14378.17	4763.12	487453.71	19249.26
	17:00 - 18:00	3361584.67	160203.46	126950.62	11873.06	5232.72	341616.44	13701.36
	18:00 - 19:00							
2028 Reference Case	06:00 - 07:00	1001419.19	108196.25	208139.41	11230.96	2484.66	247590.32	19749.10
	07:00 - 08:00	2308802.33	198523.70	277550.66	13186.01	3034.32	587613.34	63960.86
	08:00 - 09:00	3361805.28	319998.73	326412.93	11517.87	2986.99	546128.81	60300.38
	09:00 - 10:00							
	15:00 - 16:00	3060414.26	393296.44	249833.60	17164.38	3019.63	460316.89	51833.77
	16:00 - 17:00	3613307.97	350849.13	207069.61	20882.92	4363.87	496686.17	51034.21
	17:00 - 18:00	3551645.58	392414.82	126744.59	14410.08	4828.53	356266.06	40673.54
	18:00 - 19:00							
2028 Peak Construction	06:00 - 07:00	1008459.86	108867.79	207558.85	11282.52	2489.06	248780.84	19762.52
	07:00 - 08:00	2336192.10	201935.67	279300.28	13098.99	3036.63	595988.99	65075.90
	08:00 - 09:00	3439919.71	328771.57	333851.15	11637.04	3143.52	562888.11	61780.98
	09:00 - 10:00							
	15:00 - 16:00	3128804.92	401217.96	251800.70	17302.61	3073.59	469813.17	52939.84
	16:00 - 17:00	3720171.99	360807.31	209981.76	20817.32	4443.14	511244.31	52128.76
	17:00 - 18:00	3685548.87	405917.58	127654.02	14514.83	5045.73	369633.82	41857.45
	18:00 - 19:00							

COMBINED TRAVEL TIME (S)

		Vehicle Type		
Scenario	Hour	Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	1051657.73	214850.11	250554.39
	07:00 - 08:00	2345687.11	284319.02	602285.37
	08:00 - 09:00	3426033.80	333068.16	569122.80
	09:00 - 10:00			
	15:00 - 16:00	3083591.80	259277.91	462058.67
	16:00 - 17:00	3633724.57	218627.50	504462.15
	17:00 - 18:00	3503069.15	138660.70	353444.46
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	1054109.71	215121.18	251275.86
	07:00 - 08:00	2367910.65	286245.74	609444.35
	08:00 - 09:00	3502867.40	337626.26	581020.25
	09:00 - 10:00			
	15:00 - 16:00	3089727.77	259745.33	463303.41
	16:00 - 17:00	3659901.43	218620.82	506702.97
	17:00 - 18:00	3521788.13	138823.68	355317.80
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	1109615.44	219370.37	267339.42
	07:00 - 08:00	2507326.03	290736.67	651574.20
	08:00 - 09:00	3681804.01	337930.80	606429.19
	09:00 - 10:00			
	15:00 - 16:00	3453710.70	266997.98	512150.66
	16:00 - 17:00	3964157.10	227952.53	547720.38
	17:00 - 18:00	3944060.40	141154.67	396939.60
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	1117327.65	218841.37	268543.36
	07:00 - 08:00	2538127.77	292399.27	661064.89
	08:00 - 09:00	3768691.28	345488.19	624669.09
	09:00 - 10:00			
	15:00 - 16:00	3530022.88	269103.31	522753.01
	16:00 - 17:00	4080979.30	230799.08	563373.07
	17:00 - 18:00	4091466.45	142168.85	411491.27
	18:00 - 19:00			

DIFFERENCE IN TOTAL TRAVEL TIME (S)

		Vehicle Type		
Scenario	Hour	Total Car	Total HGV	Total LGV
2023	06:00 - 07:00	2451.98	271.07	721.47
	07:00 - 08:00	22223.54	1926.72	7158.98
	08:00 - 09:00	76833.60	4558.10	11897.45
	09:00 - 10:00			
	15:00 - 16:00	6135.97	467.42	1244.74
	16:00 - 17:00	26176.86	-6.68	2240.82
	17:00 - 18:00	18718.98	162.98	1873.34
	18:00 - 19:00			
2028	06:00 - 07:00	7712.21	-529.00	1203.94
	07:00 - 08:00	30801.74	1662.60	9490.69
	08:00 - 09:00	86887.27	7557.39	18239.90
	09:00 - 10:00			
	15:00 - 16:00	76312.18	2105.33	10602.35
	16:00 - 17:00	116822.20	2846.55	15652.69
	17:00 - 18:00	147406.05	1014.18	14551.67
	18:00 - 19:00			

DIFFERENCE IN TOTAL TRAVEL TIME (HOURS)

		Vehicle Type		
Scenario	Hour	Total Car	Total HGV	Total LGV
2023	06:00 - 07:00	0.68	0.08	0.20
	07:00 - 08:00	6.17	0.54	1.99
	08:00 - 09:00	21.34	1.27	3.30
	09:00 - 10:00			
	15:00 - 16:00	1.70	0.13	0.35
	16:00 - 17:00	7.27	0.00	0.62
	17:00 - 18:00	5.20	0.05	0.52
	18:00 - 19:00			
2028	06:00 - 07:00	2.14	-0.15	0.33
	07:00 - 08:00	8.56	0.46	2.64
	08:00 - 09:00	24.14	2.10	5.07
	09:00 - 10:00			
	15:00 - 16:00	21.20	0.58	2.95
	16:00 - 17:00	32.45	0.79	4.35
	17:00 - 18:00	40.95	0.28	4.04
	18:00 - 19:00			

TOTAL TRAVEL TIME DIFFERENCE BY PERIOD (HOURS)

2023			
	Car	HGV	LGV
AM (07:00 - 09:00)	27.52	1.80	5.29
PM (16:00 - 18:00)	12.47	0.04	1.14

2028			
	Car	HGV	LGV
AM (07:00 - 09:00)	32.69	2.56	7.70
PM (16:00 - 18:00)	73.40	1.07	8.39

ACTIVE VEHICLES

		Vehicle Type						
Scenario	Hour	Car	Car Growth	HGV	HGV Growth	Bus	LGV	LGV Growth
2023 Reference Case	06:00 - 07:00	380	19	67	3	1	114	4
	07:00 - 08:00	858	32	92	3	1	176	8
	08:00 - 09:00	882	31	84	3	0	132	6
	09:00 - 10:00							
	15:00 - 16:00	865	48	65	5	1	136	6
	16:00 - 17:00	962	45	43	3	2	123	7
	17:00 - 18:00	794	35	29	4	2	63	2
	18:00 - 19:00							
2023 Early Years	06:00 - 07:00	377	19	66	3	1	114	4
	07:00 - 08:00	872	33	92	2	1	177	8
	08:00 - 09:00	899	32	86	3	0	134	6
	09:00 - 10:00							
	15:00 - 16:00	869	49	66	5	1	135	6
	16:00 - 17:00	976	46	43	3	2	125	6
	17:00 - 18:00	801	35	29	4	2	63	2
	18:00 - 19:00							
2028 Reference Case	06:00 - 07:00	384	43	68	3	1	116	10
	07:00 - 08:00	871	76	91	3	1	177	19
	08:00 - 09:00	902	90	85	4	0	132	13
	09:00 - 10:00							
	15:00 - 16:00	911	113	66	6	1	140	15
	16:00 - 17:00	1,031	95	43	4	2	129	12
	17:00 - 18:00	828	93	29	4	2	69	7
	18:00 - 19:00							
2028 Peak Construction	06:00 - 07:00	385	44	71	3	1	117	11
	07:00 - 08:00	880	78	93	3	1	181	19
	08:00 - 09:00	922	91	87	4	0	134	14
	09:00 - 10:00							
	15:00 - 16:00	916	116	70	5	1	143	16
	16:00 - 17:00	1,066	98	44	5	2	135	13
	17:00 - 18:00	901	98	30	4	2	76	8
	18:00 - 19:00							

COMBINED ACTIVE VEHICLES

		Vehicle Type		
Scenario	Hour	Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	399	70	118
	07:00 - 08:00	890	95	184
	08:00 - 09:00	913	87	138
	09:00 - 10:00			
	15:00 - 16:00	913	70	142
	16:00 - 17:00	1,007	46	130
	17:00 - 18:00	829	33	65
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	396	69	118
	07:00 - 08:00	905	94	185
	08:00 - 09:00	931	89	140
	09:00 - 10:00			
	15:00 - 16:00	918	71	141
	16:00 - 17:00	1,022	46	131
	17:00 - 18:00	836	33	65
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	427	71	126
	07:00 - 08:00	947	94	196
	08:00 - 09:00	992	89	145
	09:00 - 10:00			
	15:00 - 16:00	1,024	72	155
	16:00 - 17:00	1,126	47	141
	17:00 - 18:00	921	33	76
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	429	74	128
	07:00 - 08:00	958	96	200
	08:00 - 09:00	1,013	91	148
	09:00 - 10:00			
	15:00 - 16:00	1,032	75	159
	16:00 - 17:00	1,164	49	148
	17:00 - 18:00	999	34	84
	18:00 - 19:00			

COMBINED ARRIVED + ACTIVE VEHICLES

		Vehicle Type		
Scenario	Hour	Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	3,344	778	132
	07:00 - 08:00	7,144	922	239
	08:00 - 09:00	10,161	952	193
	09:00 - 10:00			
	15:00 - 16:00	9,641	821	176
	16:00 - 17:00	10,568	696	170
	17:00 - 18:00	10,749	507	98
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	3,345	778	135
	07:00 - 08:00	7,139	920	244
	08:00 - 09:00	10,176	952	200
	09:00 - 10:00			
	15:00 - 16:00	9,640	821	181
	16:00 - 17:00	10,574	696	178
	17:00 - 18:00	10,762	507	104
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	3,465	788	167
	07:00 - 08:00	7,450	930	347
	08:00 - 09:00	10,711	959	290
	09:00 - 10:00			
	15:00 - 16:00	10,353	833	253
	16:00 - 17:00	11,200	710	250
	17:00 - 18:00	11,454	514	160
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	3,469	789	176
	07:00 - 08:00	7,452	933	367
	08:00 - 09:00	10,722	962	322
	09:00 - 10:00			
	15:00 - 16:00	10,358	834	276
	16:00 - 17:00	11,184	715	274
	17:00 - 18:00	11,513	515	185
	18:00 - 19:00			

DIFFERENCE

		Vehicle Type		
Scenario	Hour	Total Car	Total HGV	Total LGV
2023	06:00 - 07:00	1	0	3
	07:00 - 08:00	-5	-2	5
	08:00 - 09:00	15	0	7
	09:00 - 10:00			
	15:00 - 16:00	-1	0	5
	16:00 - 17:00	6	0	8
	17:00 - 18:00	13	0	6
	18:00 - 19:00			
2028	06:00 - 07:00	4	1	9
	07:00 - 08:00	2	3	20
	08:00 - 09:00	11	3	32
	09:00 - 10:00			
	15:00 - 16:00	5	1	23
	16:00 - 17:00	-16	5	24
	17:00 - 18:00	59	1	25
	18:00 - 19:00			

ARRIVED VEHICLES

		Vehicle Type						
Scenario	Hour	Car	Car Growth	HGV	HGV Growth	Bus	LGV	LGV Growth
2023 Reference Case	06:00 - 07:00	2,826	119	668	40	8	14	0
	07:00 - 08:00	6,034	220	778	49	13	55	0
	08:00 - 09:00	8,952	296	823	42	9	55	0
	09:00 - 10:00							
	15:00 - 16:00	8,276	452	688	63	11	34	0
	16:00 - 17:00	9,154	407	587	63	12	40	0
	17:00 - 18:00	9,487	433	423	51	15	33	0
	18:00 - 19:00							
2023 Early Years	06:00 - 07:00	2,829	120	669	40	8	14	3
	07:00 - 08:00	6,016	218	777	49	13	55	4
	08:00 - 09:00	8,949	296	821	42	9	55	5
	09:00 - 10:00							
	15:00 - 16:00	8,271	451	687	63	11	34	6
	16:00 - 17:00	9,145	407	587	63	12	41	6
	17:00 - 18:00	9,493	433	423	51	15	32	7
	18:00 - 19:00							
2028 Reference Case	06:00 - 07:00	2,707	331	669	48	8	41	0
	07:00 - 08:00	5,935	568	779	57	13	151	0
	08:00 - 09:00	8,850	869	821	49	9	145	0
	09:00 - 10:00							
	15:00 - 16:00	8,223	1,106	688	73	11	98	0
	16:00 - 17:00	9,157	917	583	80	12	109	0
	17:00 - 18:00	9,479	1,054	420	61	15	84	0
	18:00 - 19:00							
2028 Peak Construction	06:00 - 07:00	2,710	330	666	49	8	40	8
	07:00 - 08:00	5,927	567	781	56	13	152	15
	08:00 - 09:00	8,839	870	821	50	9	144	30
	09:00 - 10:00							
	15:00 - 16:00	8,223	1,103	685	74	11	97	20
	16:00 - 17:00	9,105	915	587	79	12	109	17
	17:00 - 18:00	9,460	1,054	420	61	15	85	16
	18:00 - 19:00							

COMBINED ARRIVED VEHICLES

		Vehicle Type		
Scenario	Hour	Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	2,945	708	14
	07:00 - 08:00	6,254	827	55
	08:00 - 09:00	9,248	865	55
	09:00 - 10:00			
	15:00 - 16:00	8,728	751	34
	16:00 - 17:00	9,561	650	40
	17:00 - 18:00	9,920	474	33
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	2,949	709	17
	07:00 - 08:00	6,234	826	59
	08:00 - 09:00	9,245	863	60
	09:00 - 10:00			
	15:00 - 16:00	8,722	750	40
	16:00 - 17:00	9,552	650	47
	17:00 - 18:00	9,926	474	39
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	3,038	717	41
	07:00 - 08:00	6,503	836	151
	08:00 - 09:00	9,719	870	145
	09:00 - 10:00			
	15:00 - 16:00	9,329	761	98
	16:00 - 17:00	10,074	663	109
	17:00 - 18:00	10,533	481	84
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	3,040	715	48
	07:00 - 08:00	6,494	837	167
	08:00 - 09:00	9,709	871	174
	09:00 - 10:00			
	15:00 - 16:00	9,326	759	117
	16:00 - 17:00	10,020	666	126
	17:00 - 18:00	10.514	481	101
	18:00 - 19:00			

C.3 1,000 Two-Way HGV Movements

TOTAL TRAVEL TIME BY VEHICLE TYPE (S)

Scenario	Hour	Vehicle Type						
		Car	Car Growth	HGV	HGV Growth	Bus	LGV	LGV Growth
2023 Reference Case	06:00 - 07:00	998161.28	53496.45	205431.04	9419.07	2394.57	242189.56	8364.83
	07:00 - 08:00	2267930.42	77756.69	273026.93	11292.09	3002.76	576385.56	25889.81
	08:00 - 09:00	3315056.96	110976.84	323116.65	9951.51	2853.29	540748.30	28374.50
	09:00 - 10:00							
	15:00 - 16:00	2925798.60	157793.20	244540.66	14737.25	3018.35	444570.70	17487.97
	16:00 - 17:00	3469117.79	164606.78	204231.89	14395.61	4670.00	485307.65	19154.50
	17:00 - 18:00	3344260.87	158808.28	126761.16	11899.54	5128.32	339784.69	13659.77
	18:00 - 19:00							
2023 Early Years	06:00 - 07:00	1000497.60	53612.11	205798.59	9322.59	2401.28	242989.42	8286.44
	07:00 - 08:00	2289063.21	78847.44	274985.98	11259.76	3003.70	583299.63	26144.72
	08:00 - 09:00	3389005.83	113861.57	327719.60	9906.66	2890.27	552127.02	28893.23
	09:00 - 10:00							
	15:00 - 16:00	2931529.78	158197.99	244998.10	14747.23	3018.51	445867.25	17436.16
	16:00 - 17:00	3493696.53	166204.90	204242.65	14378.17	4763.12	487453.71	19249.26
	17:00 - 18:00	3361584.67	160203.46	126950.62	11873.06	5232.72	341616.44	13701.36
	18:00 - 19:00							
2028 Reference Case	06:00 - 07:00	1001419.19	108196.25	208139.41	11230.96	2484.66	247590.32	19749.10
	07:00 - 08:00	2308802.33	198523.70	277550.66	13186.01	3034.32	587613.34	63960.86
	08:00 - 09:00	3361805.28	319998.73	326412.93	11517.87	2986.99	546128.81	60300.38
	09:00 - 10:00							
	15:00 - 16:00	3060414.26	393296.44	249833.60	17164.38	3019.63	460316.89	51833.77
	16:00 - 17:00	3613307.97	350849.13	207069.61	20882.92	4363.87	496686.17	51034.21
	17:00 - 18:00	3551645.58	392414.82	126744.59	14410.08	4828.53	356266.06	40673.54
	18:00 - 19:00							
2028 Peak Construction	06:00 - 07:00	1009208.96	109049.55	208735.66	11223.48	2493.87	250129.42	20010.71
	07:00 - 08:00	2338255.42	201941.87	279867.71	13220.07	3067.86	597702.72	64778.68
	08:00 - 09:00	3468593.08	333504.31	334506.74	11496.95	3074.96	567555.18	62697.86
	09:00 - 10:00							
	15:00 - 16:00	3143116.42	402441.08	252920.74	17205.00	3074.86	471423.78	53256.33
	16:00 - 17:00	3744867.13	362296.30	210641.78	20895.42	4379.10	514019.19	52490.81
	17:00 - 18:00	3688315.26	406322.32	127519.98	14444.77	4872.36	370275.84	41627.38
	18:00 - 19:00							

COMBINED TRAVEL TIME (S)

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	1051657.73	214850.11	250554.39
	07:00 - 08:00	2345687.11	284319.02	602285.37
	08:00 - 09:00	3426033.80	333068.16	569122.80
	09:00 - 10:00			
	15:00 - 16:00	3083591.80	259277.91	462058.67
	16:00 - 17:00	3633724.57	218627.50	504462.15
	17:00 - 18:00	3503069.15	138660.70	353444.46
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	1054109.71	215121.18	251275.86
	07:00 - 08:00	2367910.65	286245.74	609444.35
	08:00 - 09:00	3502867.40	337626.26	581020.25
	09:00 - 10:00			
	15:00 - 16:00	3089727.77	259745.33	463303.41
	16:00 - 17:00	3659901.43	218620.82	506702.97
	17:00 - 18:00	3521788.13	138823.68	355317.80
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	1109615.44	219370.37	267339.42
	07:00 - 08:00	2507326.03	290736.67	651574.20
	08:00 - 09:00	3681804.01	337930.80	606429.19
	09:00 - 10:00			
	15:00 - 16:00	3453710.70	266997.98	512150.66
	16:00 - 17:00	3964137.10	227952.53	547720.38
	17:00 - 18:00	3944060.40	141154.67	396939.60
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	1118258.51	219959.14	270140.13
	07:00 - 08:00	2540197.29	293087.78	662481.40
	08:00 - 09:00	3802097.39	346003.69	630253.04
	09:00 - 10:00			
	15:00 - 16:00	3545557.50	270125.74	524680.11
	16:00 - 17:00	4107163.43	231537.20	566510.00
	17:00 - 18:00	4094637.58	141964.75	411903.22
	18:00 - 19:00			

DIFFERENCE IN TOTAL TRAVEL TIME (S)

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023	06:00 - 07:00	2451.98	271.07	721.47
	07:00 - 08:00	22223.54	1926.72	7158.98
	08:00 - 09:00	76833.60	4558.10	11897.45
	09:00 - 10:00			
	15:00 - 16:00	6135.97	467.42	1244.74
	16:00 - 17:00	26176.86	-6.68	2240.82
	17:00 - 18:00	18718.98	162.98	1873.34
	18:00 - 19:00			
2028	06:00 - 07:00	8643.07	588.77	2800.71
	07:00 - 08:00	32871.26	2351.11	10907.20
	08:00 - 09:00	120293.38	8072.89	23823.85
	09:00 - 10:00			
	15:00 - 16:00	91846.80	3127.76	12529.45
	16:00 - 17:00	143006.33	3584.67	18789.62
	17:00 - 18:00	150577.18	810.08	14963.62
	18:00 - 19:00			

DIFFERENCE IN TOTAL TRAVEL TIME (HOURS)

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023	06:00 - 07:00	0.68	0.08	0.20
	07:00 - 08:00	6.17	0.54	1.99
	08:00 - 09:00	21.34	1.27	3.30
	09:00 - 10:00			
	15:00 - 16:00	1.70	0.13	0.35
	16:00 - 17:00	7.27	0.00	0.62
	17:00 - 18:00	5.20	0.05	0.52
	18:00 - 19:00			
2028	06:00 - 07:00	2.40	0.16	0.78
	07:00 - 08:00	9.13	0.65	3.03
	08:00 - 09:00	33.41	2.24	6.62
	09:00 - 10:00			
	15:00 - 16:00	25.51	0.87	3.48
	16:00 - 17:00	39.72	1.00	5.22
	17:00 - 18:00	41.83	0.23	4.16
	18:00 - 19:00			

TOTAL TRAVEL TIME DIFFERENCE BY PERIOD (HOURS)

2023			
	Car	HGV	LGV
AM (07:00 - 09:00)	27.52	1.80	5.29
PM (16:00 - 18:00)	12.47	0.04	1.14

2028			
	Car	HGV	LGV
AM (07:00 - 09:00)	42.55	2.90	9.65
PM (16:00 - 18:00)	81.55	1.22	9.38

ACTIVE VEHICLES

Scenario	Hour	Vehicle Type						
		Car	Car Growth	HGV	HGV Growth	Bus	LGV	LGV Growth
2023 Reference Case	06:00 - 07:00	380	19	67	3	1	114	4
	07:00 - 08:00	858	32	92	3	1	176	8
	08:00 - 09:00	882	31	84	3	0	132	6
	09:00 - 10:00							
	15:00 - 16:00	865	48	65	5	1	136	6
	16:00 - 17:00	962	45	43	3	2	123	7
	17:00 - 18:00	794	35	29	4	2	63	2
	18:00 - 19:00							
2023 Early Years	06:00 - 07:00	377	19	66	3	1	114	4
	07:00 - 08:00	872	33	92	2	1	177	8
	08:00 - 09:00	899	32	86	3	0	134	6
	09:00 - 10:00							
	15:00 - 16:00	869	49	66	5	1	135	6
	16:00 - 17:00	976	46	43	3	2	125	6
	17:00 - 18:00	801	35	29	4	2	63	2
	18:00 - 19:00							
2028 Reference Case	06:00 - 07:00	384	43	68	3	1	116	10
	07:00 - 08:00	871	76	91	3	1	177	19
	08:00 - 09:00	902	90	85	4	0	132	13
	09:00 - 10:00							
	15:00 - 16:00	911	113	66	6	1	140	15
	16:00 - 17:00	1,031	95	43	4	2	129	12
	17:00 - 18:00	828	93	29	4	2	69	7
	18:00 - 19:00							
2028 Peak Construction	06:00 - 07:00	385	43	68	4	1	116	10
	07:00 - 08:00	892	79	93	3	1	181	20
	08:00 - 09:00	936	92	86	4	0	138	13
	09:00 - 10:00							
	15:00 - 16:00	933	117	68	6	1	143	16
	16:00 - 17:00	1,067	99	44	5	2	133	12
	17:00 - 18:00	898	101	30	4	2	77	8
	18:00 - 19:00							

COMBINED ACTIVE VEHICLES

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	399	70	118
	07:00 - 08:00	890	95	184
	08:00 - 09:00	913	87	138
	09:00 - 10:00			
	15:00 - 16:00	913	70	142
	16:00 - 17:00	1,007	46	130
	17:00 - 18:00	829	33	65
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	396	69	118
	07:00 - 08:00	905	94	185
	08:00 - 09:00	931	89	140
	09:00 - 10:00			
	15:00 - 16:00	918	71	141
	16:00 - 17:00	1,022	46	131
	17:00 - 18:00	836	33	65
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	427	71	126
	07:00 - 08:00	947	94	196
	08:00 - 09:00	992	89	145
	09:00 - 10:00			
	15:00 - 16:00	1,024	72	155
	16:00 - 17:00	1,126	47	141
	17:00 - 18:00	921	33	76
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	428	72	126
	07:00 - 08:00	971	96	201
	08:00 - 09:00	1,028	90	151
	09:00 - 10:00			
	15:00 - 16:00	1,050	74	159
	16:00 - 17:00	1,166	49	145
	17:00 - 18:00	999	34	85
	18:00 - 19:00			

COMBINED ARRIVED + ACTIVE VEHICLES

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	3,344	778	132
	07:00 - 08:00	7,144	922	239
	08:00 - 09:00	10,161	952	193
	09:00 - 10:00			
	15:00 - 16:00	9,641	821	176
	16:00 - 17:00	10,568	696	170
	17:00 - 18:00	10,749	507	98
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	3,345	778	135
	07:00 - 08:00	7,139	920	244
	08:00 - 09:00	10,176	952	200
	09:00 - 10:00			
	15:00 - 16:00	9,640	821	181
	16:00 - 17:00	10,574	696	178
	17:00 - 18:00	10,762	507	104
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	3,465	788	167
	07:00 - 08:00	7,450	930	347
	08:00 - 09:00	10,711	959	290
	09:00 - 10:00			
	15:00 - 16:00	10,353	833	253
	16:00 - 17:00	11,200	710	250
	17:00 - 18:00	11,454	514	160
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	3,464	789	174
	07:00 - 08:00	7,451	930	367
	08:00 - 09:00	10,735	961	327
	09:00 - 10:00			
	15:00 - 16:00	10,357	834	276
	16:00 - 17:00	11,187	713	271
	17:00 - 18:00	11,516	517	184
	18:00 - 19:00			

DIFFERENCE

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023	06:00 - 07:00	1	0	3
	07:00 - 08:00	-5	-2	5
	08:00 - 09:00	15	0	7
	09:00 - 10:00			
	15:00 - 16:00	-1	0	5
	16:00 - 17:00	6	0	8
	17:00 - 18:00	13	0	6
	18:00 - 19:00			
2028	06:00 - 07:00	-1	1	7
	07:00 - 08:00	1	0	20
	08:00 - 09:00	24	2	37
	09:00 - 10:00			
	15:00 - 16:00	4	1	23
	16:00 - 17:00	-13	3	21
	17:00 - 18:00	62	3	24
	18:00 - 19:00			

ARRIVED VEHICLES

Scenario	Hour	Vehicle Type						
		Car	Car Growth	HGV	HGV Growth	Bus	LGV	LGV Growth
2023 Reference Case	06:00 - 07:00	2,826	119	668	40	8	14	0
	07:00 - 08:00	6,034	220	778	49	13	55	0
	08:00 - 09:00	8,952	296	823	42	9	55	0
	09:00 - 10:00							
	15:00 - 16:00	8,276	452	688	63	11	34	0
	16:00 - 17:00	9,154	407	587	63	12	40	0
	17:00 - 18:00	9,487	433	423	51	15	33	0
	18:00 - 19:00							
2023 Early Years	06:00 - 07:00	2,829	120	669	40	8	14	3
	07:00 - 08:00	6,016	218	777	49	13	55	4
	08:00 - 09:00	8,949	296	821	42	9	55	5
	09:00 - 10:00							
	15:00 - 16:00	8,271	451	687	63	11	34	6
	16:00 - 17:00	9,145	407	587	63	12	41	6
	17:00 - 18:00	9,493	433	423	51	15	32	7
	18:00 - 19:00							
2028 Reference Case	06:00 - 07:00	2,707	331	669	48	8	41	0
	07:00 - 08:00	5,935	568	779	57	13	151	0
	08:00 - 09:00	8,850	869	821	49	9	145	0
	09:00 - 10:00							
	15:00 - 16:00	8,223	1,106	688	73	11	98	0
	16:00 - 17:00	9,157	917	583	80	12	109	0
	17:00 - 18:00	9,479	1,054	420	61	15	84	0
	18:00 - 19:00							
2028 Peak Construction	06:00 - 07:00	2,706	330	669	48	8	40	8
	07:00 - 08:00	5,914	566	777	57	13	151	15
	08:00 - 09:00	8,838	869	822	49	9	145	31
	09:00 - 10:00							
	15:00 - 16:00	8,205	1,102	687	73	11	97	20
	16:00 - 17:00	9,107	914	584	80	12	109	17
	17:00 - 18:00	9,466	1,051	421	62	15	84	15
	18:00 - 19:00							

COMBINED ARRIVED VEHICLES

Scenario	Hour	Vehicle Type		
		Total Car	Total HGV	Total LGV
2023 Reference Case	06:00 - 07:00	2,845	708	14
	07:00 - 08:00	6,254	827	55
	08:00 - 09:00	9,248	865	55
	09:00 - 10:00			
	15:00 - 16:00	8,728	751	34
	16:00 - 17:00	9,561	650	40
	17:00 - 18:00	9,920	474	33
	18:00 - 19:00			
2023 Early Years	06:00 - 07:00	2,949	709	17
	07:00 - 08:00	6,234	826	59
	08:00 - 09:00	9,245	863	60
	09:00 - 10:00			
	15:00 - 16:00	8,722	750	40
	16:00 - 17:00	9,552	650	47
	17:00 - 18:00	9,926	474	39
	18:00 - 19:00			
2028 Reference Case	06:00 - 07:00	3,038	717	41
	07:00 - 08:00	6,503	836	151
	08:00 - 09:00	9,719	870	145
	09:00 - 10:00			
	15:00 - 16:00	9,329	761	98
	16:00 - 17:00	10,074	663	109
	17:00 - 18:00	10,533	481	84
	18:00 - 19:00			
2028 Peak Construction	06:00 - 07:00	3,036	717	48
	07:00 - 08:00	6,480	834	166
	08:00 - 09:00	9,707	871	176
	09:00 - 10:00			
	15:00 - 16:00	9,307	760	117
	16:00 - 17:00	10,021	664	126
	17:00 - 18:00	10,517	483	99
	18:00 - 19:00			

Ben Muirhead
Consultant
E:ben.muirhead@aecom.com

AECOM Infrastructure & Environment UK Limited
1 Tanfield
Edinburgh EH3 5DA
United Kingdom

T: +44 131 301 8600
aecom.com