Project Title:	**Lower Thames Crossing Development Consent Order** **PINS Reference Number: TR010032** **IP Reference Number: 20035558**
Project No:	332410923
Note No:	LTC 02 Rev01
Date:	17 July, 2023
Subject	Written Representation Deadline 1 by Stantec for Uniper
Prepared By:	YA **Reviewed By:** MT/JL

1.0 Introduction

1.1.1 This written representation has been prepared by Stantec for Uniper. It seeks to demonstrate that the negative consequences of the Lower Thames Crossing (LTC) proposals have not been fully addressed. It will show that the LTC proposals will have an adverse impact on the Hoo Peninsula by limiting new development and on the safe operation of Junction 1 of the M2. There is no mitigation proposed for these impacts and the full impact has not been included in the Transport Assessment or business case.

1.1.2 These issues were raised during Issue Specific Hearing 1 and the details of that oral submission are summarised in our written summary of oral comments.

1.1.3 The material used to evidence this is the transport information submitted as part of planning application reference MC/21/0979 (validated April 2021) and consultation response by National Highway (NH). The application documents are attached to this submission. This information is compared with the LTC Transport Assessment (TA) dated November 2021 produced by NH document Application Ref. TR010032-001320-7.9.

1.1.4 Based on an interrogation of this evidence it is concluded that mitigation works are required at Junction 1 of the M2 to cope with the impact of the LTC.

2.0 MedwayOne (former Kingsnorth Power Station)

2.1.1 A planning application was submitted April 2021 (planning reference: MC/21/0979) at Kingsnorth Power Station, Hoo St Werburgh, Rochester Medway ME3 9NQ for:

"Outline planning application with all matters reserved except access (to be taken from Eschol Road) for the construction of flexible EG (iii)/B2/B8 use class buildings, sui generis uses for energy uses and a lorry park, together with servicing, parking, landscaping, drainage, remediation, demolition and earthworks"

2.1.2 The application is in outline and therefore the floor areas for the individual use classes are yet to be defined. The floor areas have a direct influence on traffic generation resulting from the proposals.

2.1.3 During the application process NH were asked to respond to the applicant's Transport Assessment (TA) dated October 2022. NH requested a review of the trip generation based on a 'worst case' use of the site in traffic terms. A review of the impact on the M2 was also requested and was presented in a subsequent TA Addendum dated November 2021. This assessment used outputs from the Medway Aimsun Model which was identified as more appropriate than the Lower Thames Area Model to assess local impacts.

2.1.4 In response NH noted concerns regarding congestion and safety at M2 J1. The concern was specific to the northbound off-slip and the southbound on-slip links. The analysis presented in the November 2021 TA Addendum, used a merge/diverge assessment to show that the

existing layout for these links was not appropriate to cope with the traffic volume forecast during the peak hours in 2037 without the development.

2.1.5 In a response to the TA Addendum and merge/diverge assessment, dated 4th November 2021, NH maintained that the northbound off-slip and the southbound on-slip links are sensitive to additional traffic movements. In their response NH state:

> *'The evidence submitted, when combined with all other evidence available to the parties, demonstrates that the proposals would have an impact on the M2J1. The evidence also demonstrates that the junction has very limited spare capacity. Once that remaining spare capacity, approximately 60 AM or PM peak movements on the merge/diverges occur, any further development will require a significant improvement to the junction.'*

2.1.6 To manage the impact of the proposals, NH have recommended two conditions. The first is a trip cap of 60 traffic movements in the AM (8.00 to 9.00) or PM (17.00 to 18.00) peak at J1 M2 northbound off slip and/or southbound on slip.

2.1.7 The second condition is to submit a Monitor & Manage Framework to ensure the cap is not exceeded. The condition acknowledges that the trip cap could be altered or removed in light of further analysis or physical work to improve capacity at the junction.

2.1.8 NH conclude that the development will not have an unacceptable impact on M2 J1 if the above conditions are adhered to. The conditions attached to the planning approval indicate NH believe the junction to be highly sensitive to additional traffic movements.

3.0 Lower Thames Crossing

3.1.1 The proposals and traffic impact of the Lower Thames Crossing are presented in the Transport Assessment (TA) dated October 2022 and supporting information.

3.1.2 The future traffic impact of the LTC on the wider road network is presented in the TA and non-technical summary document for 2045 and 2030 respectively. The information provided looks at:

- Change in traffic flows on road network due to LTC.
- Change in volume of traffic relative to road capacity due to LTC.
- 'Type' of impact resulting on wider road network.

3.1.3 In 2030 and 2045 the LTC is expected to add over 1000 vehicles to M2 J1[1] [2] in the AM and PM network peak periods. Up to 500 additional vehicles are expected on the links which NH noted safety and congestion concern over in the same periods. This represents a 20% to 40%+ uplift in traffic movements through the junction in 2030 and 2045 in both peak periods[3]. This is a significant increase in traffic. Particularly as the current junction layout is not adequate for existing traffic flows as identified in the MedwayOne TA Addendum reviewed by NH. Figures 1 to 4 are extracted from the LTC TA and supporting documentation which show the change in traffic flows described.

[1] *TR010032-001330-7.8 Traffic Forecasts Non-Technical Summary (Plate 7.16 and 7.18)*
[2] Lower Thames Crossing Transport Assessment (Plate 5.4 and 5.6)
[3] *Plate 5.7 and 5.9 of Non-Tech Summary and Plate 7.16 and 7.18 of TA*

Figure 1: 2030 Change in flows with the Project: AM peak (07:00–08:00)

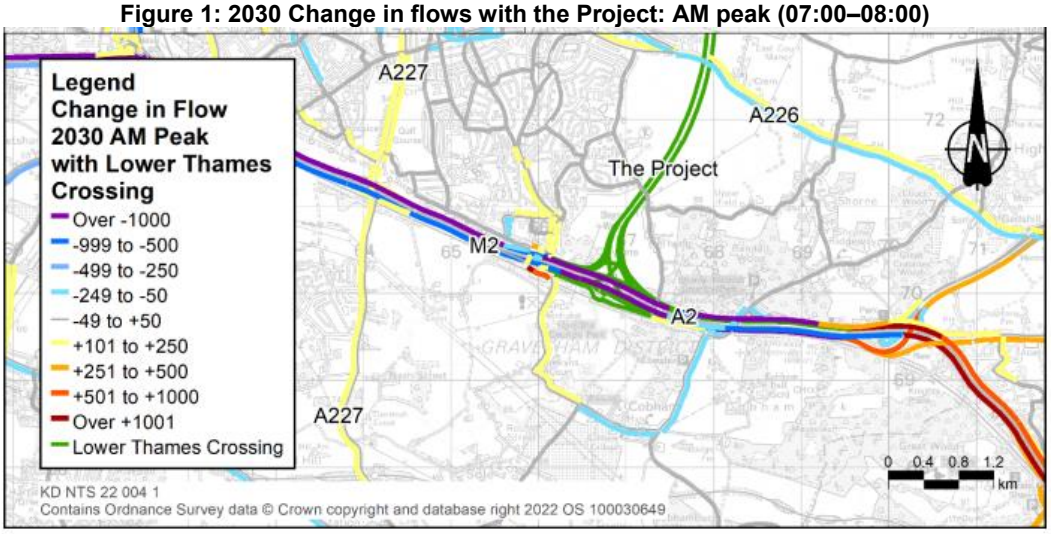


Figure 2: 2030 Change in flows with the Project: PM peak (17:00–18:00)

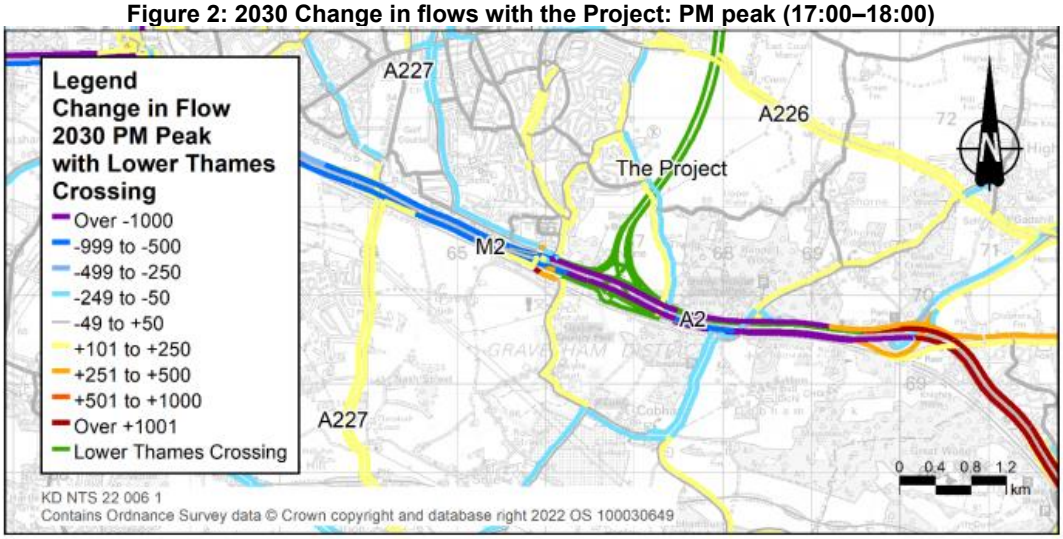


Figure 3: 2045 Change in flows with the Project: AM peak (07:00–08:00) (From LTC TA)

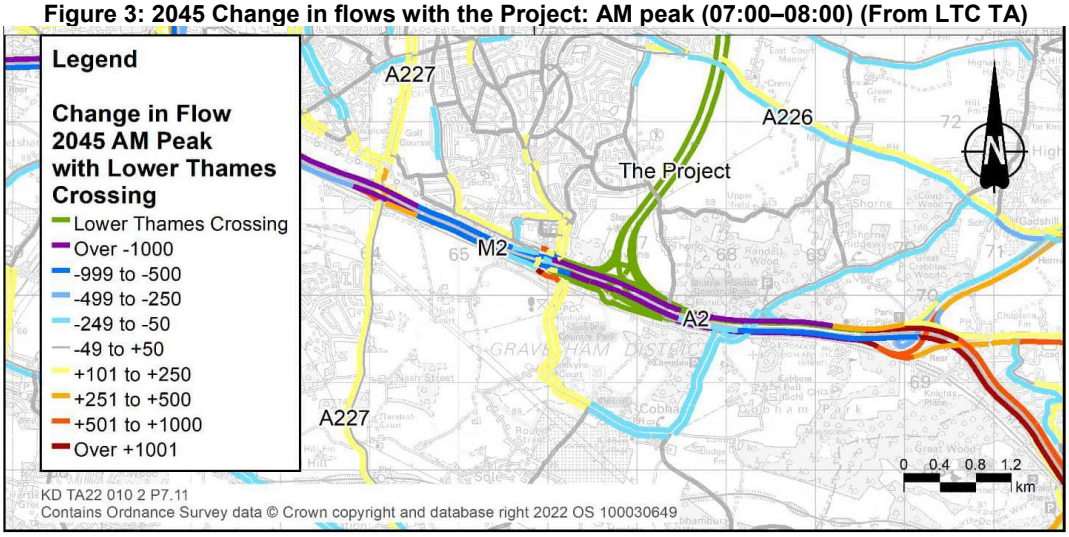
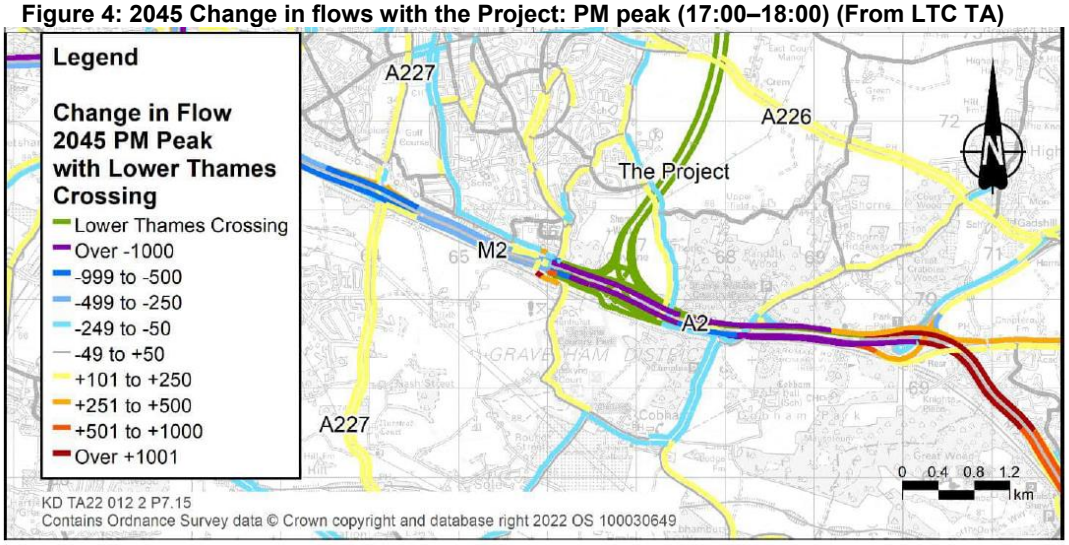


Figure 4: 2045 Change in flows with the Project: PM peak (17:00–18:00) (From LTC TA)



3.1.4 The increased traffic volume has an impact on the capacity of the junction. Information provided in the referenced documents (*TA and Non-Tech Summary*) suggests links on the junction will reach 85% capacity. 85% is widely accepted as the point at which junction performance is reduced, resulting in lower speeds and increased queuing. In 2045, the TA suggests this junction will be between 85% and 95%. At this point the junction will be at or exceed capacity on its links. Figures 5 to 9 are extracted from the LTC TA and supporting documentation which show the change in volume to capacity described.

Figure 5: 2030 Change in Volume to Capacity with the Project: AM peak (07:00–08:00)

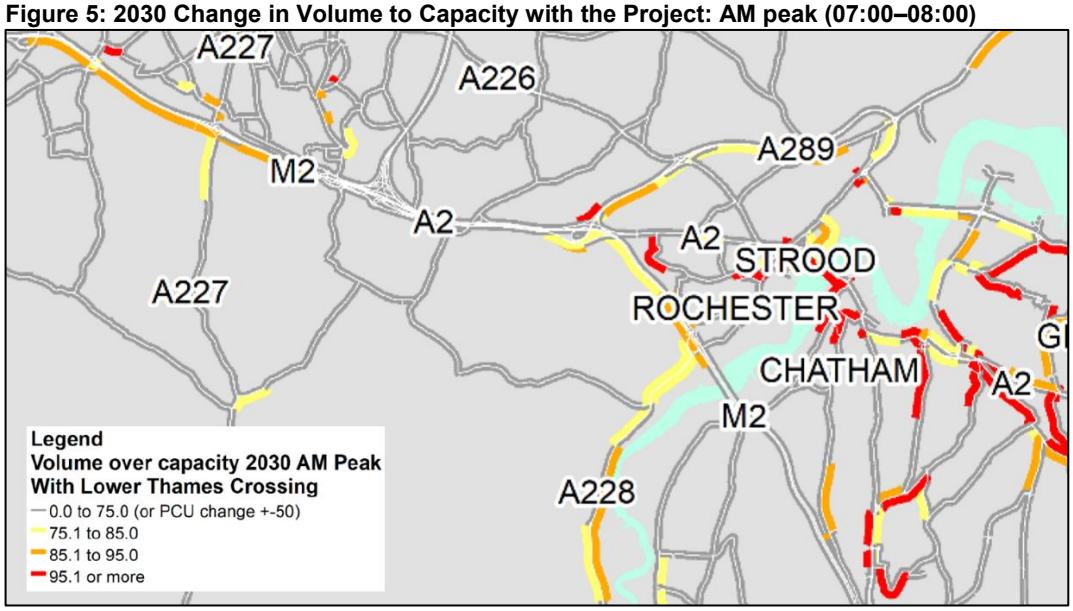


Figure 6: 2030 Change in Volume to Capacity with the Project: PM peak (17:00–18:00)

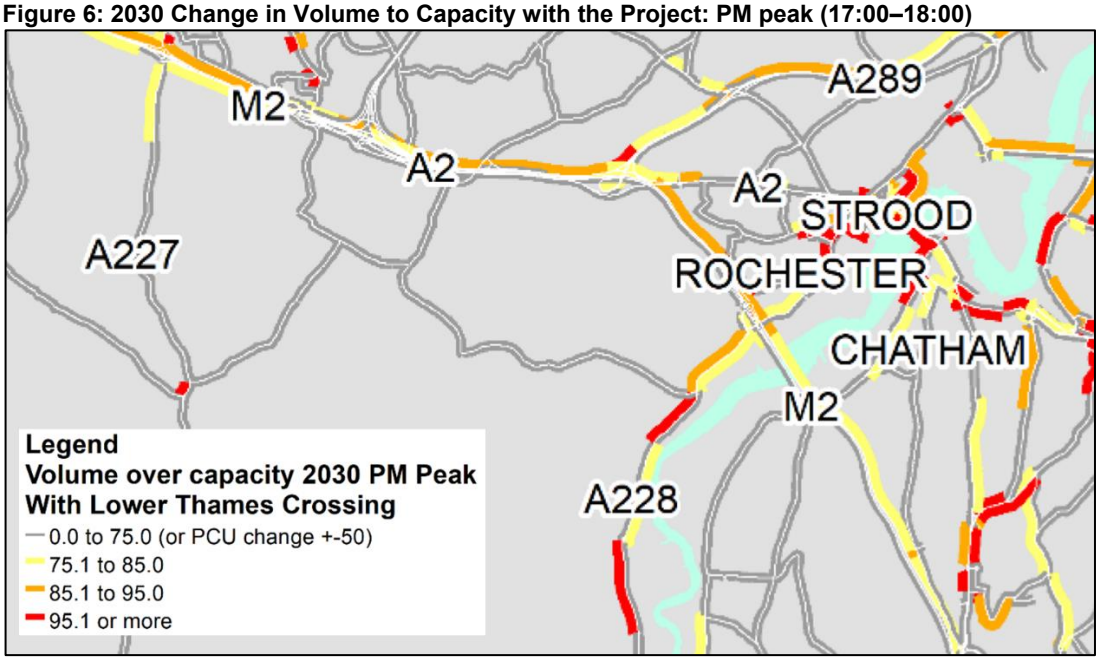


Figure 7: 2045 Change in Volume to Capacity with the Project: AM peak (07:00–08:00)

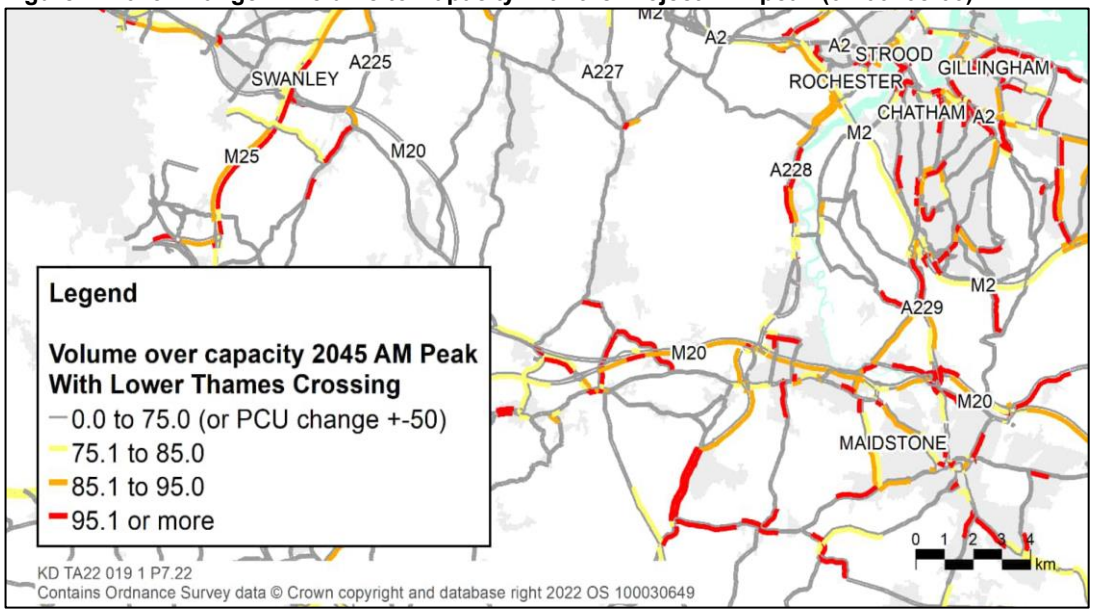
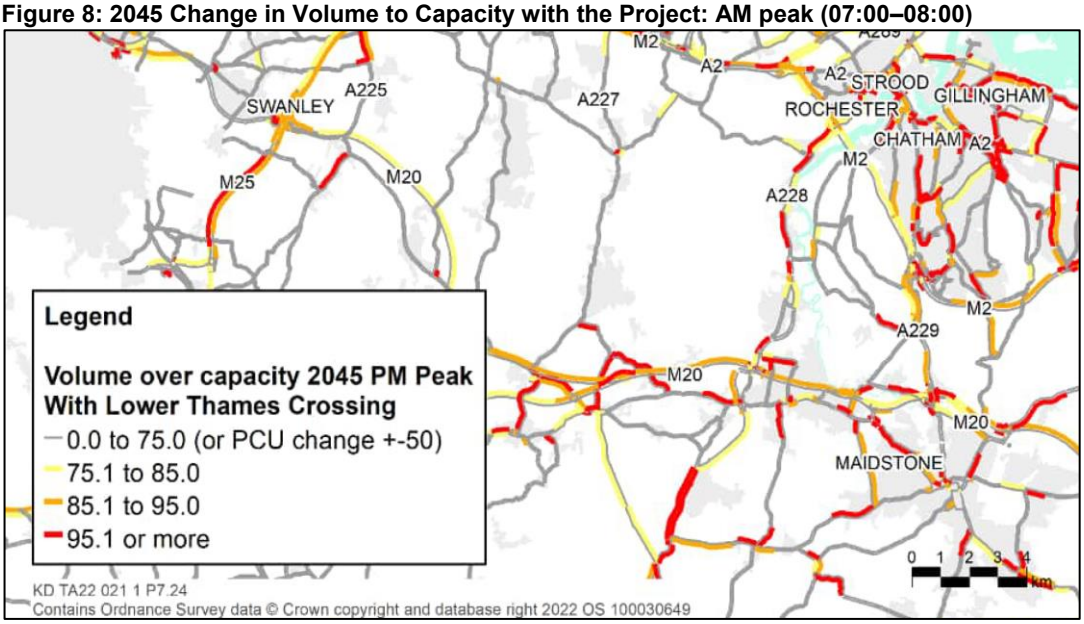


Figure 8: 2045 Change in Volume to Capacity with the Project: AM peak (07:00–08:00)



3.1.5 The LTC Wider Network Impacts Management and Monitoring Plan 7.12 document[4] acknowledges the adverse impact in paragraph 4.2.10 where it says that '*South of the River Thames, the main adverse impacts would be at junctions, such as M2 junctions 1,2 and 3 and M20 junction 6…'.*

3.1.6 No mitigation is proposed by the applicant to allow this junction to cope safely the with proposed increase in traffic due to the LTC.

3.1.7 In the Medway One planning application documents (Environmental Statement Addendum Volume 3a -Transport Assessment Addendum, attached) there is a merge diverge assessment. Below in our Figure 9 we reproduce that diagram for the M2 J1 eastbound merge. Merging and main line traffic flows are plotted for each peak hour with and without the Medway one development. It can be seen that in both peaks the forecast traffic flows are outside the area indicated as appropriate for the existing layout. In the evening peak it shows that an additional up-stream lane and an additional down-stream lane would be appropriate for the forecast flows. The addition of about a thousand mainline vehicles in the PM peak as forecast by the Applicant for the LTC will push that requirement to two additional lanes through the junction.

[4] Application Document Ref: TR010032/APP/7.12

Figure 9: Merge Analysis east bound merge M2 J1

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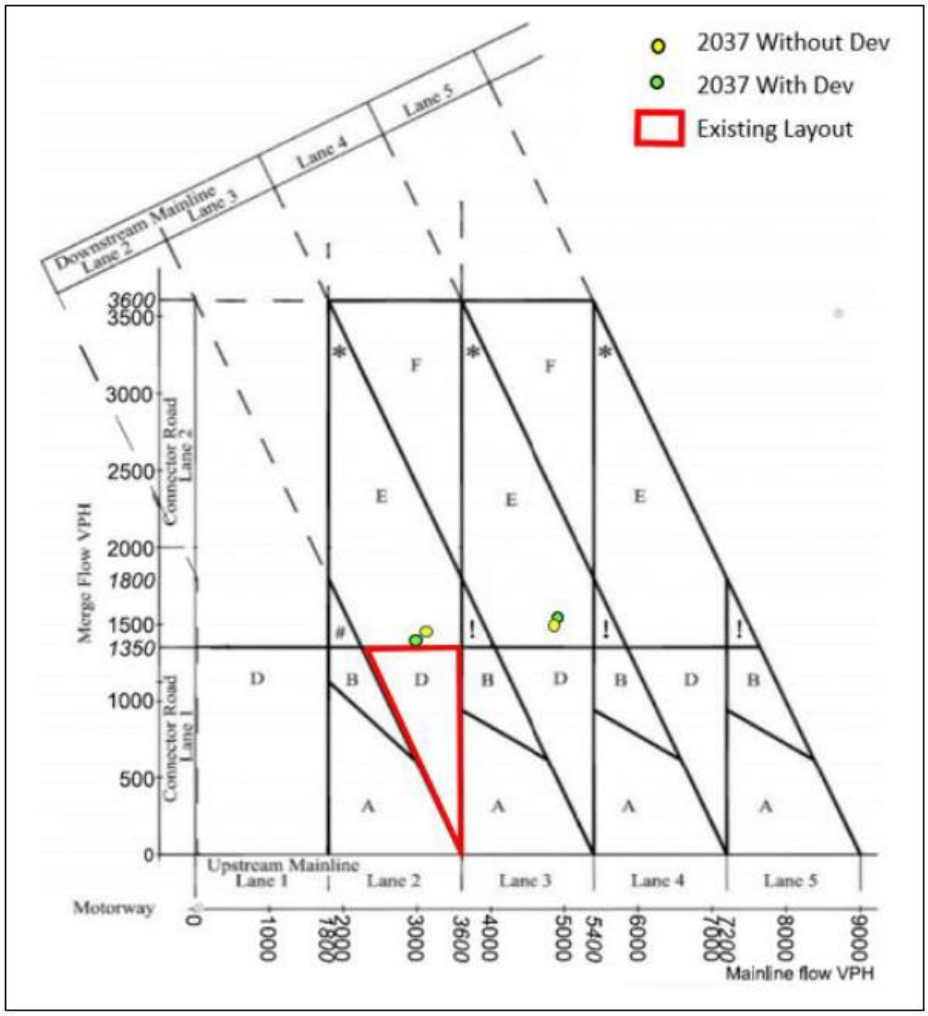
Figure 9.5 – Merge diverge junction 4 (A289 to M2 – Merge)



Scope of LTC Assessment

3.1.8 The MedwayOne development has been excluded from the Uncertainty Log used to inform the future year trip matrices in the LTAM, as stated in paragraph 5.7.20 of the Transport Assessment. This exclusion is despite MedwayOne meeting the criteria set out in TAG Unit M4 for inclusion in the Uncertainty Log.

3.1.9 The application for MedwayOne was submitted and validated in April 2021 and the Uncertainty Log for the LTAM was put together in September 2021, meaning MedwayOne was a live application when the modelling was undertaken and therefore should have been classified as 'more than likely' and thus included in the Uncertainty Log. The only justification given for the exclusion was that 'the development proposals do not include necessary highway interventions that would maintain the integrity of the road network'. At this time, National Highways had not made it known that they had major concerns about the integrity of the Strategic Highway Network. In their consultation response dated 04 May 2021, only minor

concerns had been raised in relation to M2 J2. The more major concerns relating to M2 J1 were not brought to Uniper's attention until August/September 2022.

3.1.10 Not only had the MedwayOne application been submitted at the time the Uncertainty Log was put together, but MedwayOne is an allocated site in the Medway Local Plan and has been since 2003. Therefore, the rationale for excluding it from the Uncertainty Log is unclear and arguably unjustified.

3.1.11 Uniper is concerned that the impact of variety of "known" development schemes have not been considered in the context of the LTC, specifically in relation to M2 J1, these developments are:

- Extant Allocated employments site(s) since 2003
- MedwayOne
- Emerging Hoo Development Framework.

3.1.12 This is particularly important given the changes that are proposed as part of the LTC to M2 J1, and it is therefore highly unlikely that the full impacts of the LTC on M2 J1 have been considered.

3.1.13 Uniper also has concerns about the exclusion of the Hoo Development Framework, of which MedwayOne is part, from the LTAM. This is for up to 10,000 homes, employment growth and supporting infrastructure.

3.1.14 It is acknowledged that, in accordance with TAG Unit M4, the Hoo Development Framework does not necessarily need to be included in the LTAM Core Scenario due to its current planning status.

3.1.15 Given the anticipated level of direct impacts of the Hoo Development Framework and the LTC will have on M2 J1, it is highly questionable as to why alternative scenarios have not been undertaken to consider the potential impacts.

4.0 Consequence of no LTC Mitigation Strategy

4.1.1 The applicant, NH, maintain the position that against National Policy Statement for National Networks (DfT, 2014) and other relevant policy documents, adverse impacts associated with the LTC are acceptable[4]. However, when consulting on schemes, NH have acknowledged the limited capacity of M2 J1 and sought to implement measures to mitigate significantly lower impacts than the LTC.

4.1.2 When consulted on the MedwayOne development, NH have imposed a trip cap on M2 J1 due to potential congestion and safety issues. The LTC by NH's own assessment will generate significant additional traffic through the junction, well in excess in of the 60 movements proposed for the peak hour trip cap.

4.1.3 Within the assessment undertaken by NH, the LTC impact on traffic capacity in 2030 has only been described as 'moderate adverse' even when general traffic growth on the wider network is expected to be low. No impact is described for 2045 when overall junction performance is expected to be significantly reduced. The descriptions of impact type unfortunately do not provide thresholds for change or means of mitigation.

4.1.4 NH want to include M2 J1 as part of several monitoring locations to guide local authority evidence basis to make a case for improvement works.

4.1.5 It is understood that NH have committed to the monitoring of several locations including M2 Junction 1[4]. The data would then be used to identify the need for improvements based on the impact of the LTC. Funding for these improvements is expected to come from government funding streams. However, this location has already been identified as having an inappropriate junction form and is nearing capacity. If M2 J1 only has spare capacity on the

northbound off-slip and the southbound on-slip for 60 peak hour movements, the addition of trips resulting from the LTC requires mitigation at the outset, not as a reactive after thought.

4.1.6 The purpose of the proposed LTC monitoring strategy is to look at junctions that might need improving in a future scenario based on changes in traffic flows resulting from the LTC. NH already note that M2 J1 will experience some of the main adverse impacts from the LTC in the TA. They then state it is nearing capacity when consulting on the MedwayOne scheme. The proposed monitoring approach clearly does not go far enough to address existing safety and congestion concerns at M2 J1.

4.1.7 Physical works are required to upgrade the junction to cope with the existing traffic flows and the high additional traffic flows expected to result from the LTC. To ensure the safety and performance of this junction, it would be prudent to bring forward funding for these works rather than retrospectively following the proposed monitoring strategy.

5.0 Impact on Hoo Peninsula

5.1.1 Plans for the LTC are driven by expected traffic and economic benefits at a national scale. However, these benefits would not be extended to the Hoo Peninsula which would see a worsening of traffic conditions on its strategic routes. The proposals will result in traffic capacity being taken away for local people making journey times less reliable for a variety of journey purposes. This is a region more reliant on car use than neighbouring places such as London.

5.1.2 This potential impact is contrary to the LTC objectives set out in the *Need for the Project Application Document 7.1.* These objectives are set out in in Table 5 – 1 below.

Table 5 – 1: LTC Scheme Objectives[5]

Scheme Objectives	
Transport	• To relieve the congested Dartford Crossing and approach roads and improve their performance by providing free-flowing north-south capacity • To improve the resilience of the Thames crossings and the major road network • To improve safety
Community and environment	• To minimise adverse impacts on health and the environment
Economic	• To support sustainable local development and regional economic growth in the medium to long term • To be affordable to government and users • To achieve value for money

5.1.3 Should no mitigation come forward and traffic conditions worsen as expected, the LTC would not in any way support sustainable development in the Hoo Peninsula.

5.1.4 The transport objectives of resilience of the major network and improved safety would not be realised in this context. Reduced capacity on local roads is also unlikely to contribute to improved impacts on health and the environment.

5.1.5 If the wider impact of safety and congestion on the road network within the Hoo Peninsula is not addressed, future development of this region could be compromised. Development which is necessary to see growth and the achievement of local plan ambitions.

[5] Application Document Ref: TR010032/APP/7.1

6.0 Summary and Conclusion

6.1.1 The LTC is expected to generate a significant uplift in future traffic movements through M2 J1. M2 J1 has been identified as having very little spare capacity by NH based on an assessment undertaken as part of the MedwayOne scheme. The LTC will therefore have an unacceptable impact on M2 J1.

6.1.2 To make LTC acceptable provision must be made for package of mitigation for the roads and junctions that will be impacted by the proposals.

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ENVIRONMENTAL STATEMENT ADDENDUM VOLUME 3A –TRANSPORT ASSESSMENT ADDENDUM

Uniper UK Ltd

MedwayOne, Former Kingsnorth Power Station

November 2021

Environmental Statement Addendum Volume 3A - Transport Assessment Addendum

Prepared by Vectos on behalf of Uniper UK Ltd

Contents

1 Introduction

1.1 Vectos has been appointed by Uniper to provide traffic and transport advice in relation to the proposed development of the former Kingsnorth Power Station site in Medway. The Site is located within the administrative boundary of Medway Council.

1.2 The application to Medway Council was submitted in March 2021 (application ref: MC/21/0979).

1.3 National Highways and Medway Council (in their role as the local highway authority) have commented on the planning application in relation to the transport aspects of the proposed development.

1.4 Correspondence and meetings between Vectos, National Highways and Medway Council has taken place to determine an appropriate response to the comments raised.

1.5 The key matters considered relate to the definition of maximum trips associated with each land use, the definition of trip rate parameters and Trip Credits and wider modelling on the Strategic Road Network to assess junctions 1 to 4 of the M2

1.6 This Addendum Transport Assessment provides responses to the comments raised by National Highways and Medway Council.

2 Policy Context

2.1 Since the submission of the planning application, updates to the National Planning Policy Framework have been made. Accordingly, an updated summary relevant to the transport matters and the development proposal is set out below.

National Planning Policy Framework (July 2021)

2.2 The National Planning Policy Framework (NPPF) was published by the Ministry of Housing, Communities and Local Government in July 2021. This replaces the previous version of the NPPF which was updated in July 2018 and February 2019 after it was originally published in March 2012.

2.3 The NPPF sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced.

2.4 The three overarching objectives to achieve sustainable development outlined within the NPPF include:

- *"an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;*
- *a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and*
- *an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."*

2.5 NPPF states that in assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- *"appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- *safe and suitable access to the site can be achieved for all users; and*

- *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."*

2.6 Guidance is provided on the consideration of proposals. It is mentioned that "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe".

2.7 Within the above context it is stated that all applications for developments should:

- *"give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations"*

2.8 With regard to the necessary documentation to be provided it is stated that "*All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed*".

3 Baseline Conditions

3.1 No updates to the baseline conditions chapter were required.

4 Development Proposals

4.1 There are no changes to the overall development proposal.

Travel Plan

4.2 Through discussion with Medway Council, it has been agreed that future Travel Plans will be developed with the emerging Strategic Travel Plan being prepared by Medway Council for the area in mind.

4.3 The Strategic Travel Plan is still being developed but the principle of engaging as part of the overall approach is agreed.

4.4 A Framework Travel Plan (FTP) has been prepared to accompany the planning application. The FTP is put forward for agreement in principle as part of the application with a detailed Site-wide Travel Plan or individual Travel Plans to be submitted for approval by future operators.

4.5 A commitment that will need to be secured as part of the Site-wide and Occupier Travel Plans will be to ensure that future occupiers and Travel Plan Coordinators actively engage with emerging proposals for a coordinated approach to travel planning on the Hoo Peninsula through the Strategic Travel Plan.

4.6 The emerging Strategic Travel Plan will set out measures and initiatives that will be helpful to Travel Plans going forward and accordingly, should form part of the future strategies outlined in those documents.

5 Mobility Strategy

5.1 No updates to the overall Mobility Strategy for the development are required as part of this Transport Assessment Addendum.

6 Forecast Trips

6.1 A wider assessment of trips associated with the range of uses that may come forward has been undertaken.

6.2 This analysis of trips by land use defines the maximum trips associated with each with reference to the maximum floorspace parameters. It therefore defines a worst-case situation in the basis that the Site maximises the floorspace associated with any single land use.

E(g) (iii) industrial

6.3 An assessment of trip forecasts using the Trics database has been undertaken. Trics Class 02/D (Employment/Industrial Estate) has been used. The trip rates from this assessment have been applied to the maximum floor area parameter and presented in the tables later in this section of the report.

6.4 The Trics output report is presented in **Appendix A**.

Parcel distribution

6.5 An assessment of parcel distribution sites from the Trics database has been undertaken to provide trip rates relevant to this land use.

6.6 Trics Class 02/G (Parcel Distribution Centres) was used for the assessment. Trip rates by floor area were derived and applied to the maximum floor area parameter. The results are presented later in this section of the report.

6.7 The Trics output report is presented in **Appendix A**.

Data centre

6.8 The Trics database does not contain relevant information to forecast movements associated with a datacentre land use.

6.9 Proposals for a new data centre in Didcot, Oxfordshire were supported by RGP – transport planning and infrastructure design consultants who prepared a Transport Note which included surveys of existing data centre sites and vehicle trip rates were derived. The note is provided at **Appendix B**.

6.10 The use of information from the Woking and Redhill site was included as part of the assessment associated with the planning permission for a new datacentre at Maxwells Farm in Broxbourne, Hertfordshire (ref. 07/18/1181/O) for which National Highways was a consultee and subsequently accepted the analysis. This same information was used for the planning application submitted to

Tonbridge & Malling Borough Council associated with the redevelopment of the Aylesford Newsprint site (ref. 20/01820/OAEA) for which National Highways was a consultee.

6.11 The primary purpose of a data centre is the storage of digital information, using information technology equipment within a warehouse setting. It is for this reason that data centres fall under land use classification B8, however the characteristics of data centres compared to the storage of physical items is markedly different.

6.12 The digital data that a data centre might store is transmitted to the Site or can be transported via storage devises and delivered physically to the centre. Vehicle movements associated with the transfer of data is low.

6.13 Once operational, the number of employees that might be present within a data centre is generally limited to maintenance staff or personnel responsible for the upload of data. Land agents Cushman and Wakefield are advising on the Site and suggest that data centres employ very few people per hectare. Limited visitors would be expected, and other servicing and delivery movements would be largely minimal, particularly during peak periods.

6.14 Co-located or significant office facilities are not considered appropriate at the Site. Again, Cushman and Wakefield do not consider the Site generally to be a viable office location. As such, any office facilities, as with wider logistics uses, will be ancillary to the main use.

6.15 It is therefore appropriate to reflect the low operational and employee characteristics in terms of traffic flow forecasts.

6.16 The trip rates per sqm of floor area have been applied to the maximum parameter defined by the planning application for the Site. The Woking and Redhill facilities have floor areas of 24,155sqm and 8,921sqm respectively. The trip rates have been applied to the floor area on a linear basis. This approach is robust where it is considered that some levelling off in respect of the trip to floor area ratio will alter according to the larger size of development.

6.17 The application of trip rates ultised from the Woking and Redhill surveys suggest 50 arrivals in the morning and 68 departures in the evening. Given the statements around the expectation of limited employees numbers associated with a datacentre at the Site, such figures that broadly reflect employees travelling to and from work are considered to be robust and at a level that potentially exaggerates the likely travel characteristics. The socio economic information that supports the planning application also confirms around 60 full time roles are expected to be generated further supporting the figures.

6.18 Given the limited information available on data centre uses, the general acceptance of the Woking and Redhill surveys for the Site and other proposals, together with the limited attraction of the Site for office-based staff, the trip rates proposed, together with the robust associated arrival and departure figures for the AM and PM peak are considered appropriate.

Energy uses

6.19 Trics does not contain sufficient data to consider this land use and as such, a first principles approach to deriving trips was undertaken.

6.20 Information relating to future movements associated with the operation of the Energy from Waste facility has been provided by a prospective end user.

6.21 The key aspect for an Energy from Waste plant in determining the number of vehicle trips is the volume of waste that is imported to the Site. For the Site, a facility that accommodates 520,000 tonnes per year was considered appropriate for the purposes of forecasting vehicle movements. Alongside the importing of waste, the output of ash and other inert materials is also relevant and the associated figure for outputs is 160,000.

6.22 The planning application is in outline and end occupiers are currently unknown. However, activities and processes will need to fall within the scope of the environmental parameters assessed. The planning application seeks permission for up to 500,000 tonnes as a maximum annual operational through put. In the same way that other uses have maximum floor spaces which may be secured through any consent, the energy from waste use would be capped to this limit. Accordingly the figures used to consider possible trips are robust.

6.23 Clearly, waste must be both imported and exported from the Site. The trip calculations are based on the overall tonnage of 520ktpa (which is a higher end value) and a conservative average load weight of 20 tonnes per HGV. In practice bulk waste could come in at up to 28 tonnes per load.

6.24 A further characteristic of the operation is that all waste is transported in bulk and not in refuse collection vehicles which would naturally require additional vehicles. The same vehicle bringing in waster would export the residual ash.

6.25 Further elements of the forecast are a 5.5 day working week – which is industry standard for such plants, an 11-hour day, which could be longer, and a robust assumption that there is no backloading i.e. the export of the by-product is made by different vehicles to those that import waste. The details of the operation results in a peak hour number of HGVs of 11 arrivals and 11 departures. The further assumption was that all staff (30 at any one time) arrive and leave during the peak hours.

6.26 The principles set out for the Site facility are consistent with those for a proposed facility at Redcar (reference R/2020/0411/FFM). In terms of the trip forecasts associated with bulk waste transfer the Transport Assessment used the same criteria which was based on the requirements of an operator. The planning application was considered by National Highways and has subsequently been granted planning permission.

6.27 The first principles details set out for the Energy from Waste trip forecasts are based on a viable facility for the Site and the experience of a prospective operator. The analysis is consistent with the assessment that supported a proposal in Redcar. Accordingly, the forecasts are considered appropriate.

Lorry park

6.28 The parameters identify the provision of a lorry park for between 40 to 50 vehicles. This is proposed to be complementary and ancillary to the overall employment uses, providing drivers with an important facility for rest. It may also provide a facility for drivers travelling to nearby industrial areas where there is a noticeable lack of facilities currently.

6.29 It is not proposed to attract additional demand, rather to provide for future and existing drivers to the area.

6.30 In respect of wider attraction and diversion from the SRN, particularly the A2 / M2, the distance of the Site is a significant factor. It is unlikely that, given the 13km distance between the Site and the SRN and the scale of the proposed lorry park, the facility will attract HGV drivers from a wider area.

6.31 At this stage the flexibility of use is considered relevant so as to not restrict use to drivers associated with the Site. This is in direct response to the observations of local residents who are concerned that resting drivers may park on the local highway.

6.32 The proposal follows extensive public consultation where the issue of HGVs parking on surrounding roads was identified and the proposed lorry park presented as a possible measure to address the possibility of future operations at the Site making this worse. It is not proposed as a commercial proposal seeking to maximise attraction from a wide area.

Summary of trip rates

6.33 A summary of vehicle trip rates for the various land uses are provided in Table 6.1 which sets out peak hour trip rates for both cars/LGVs and separately HGVs.

Table 6.1: Vehicle trip rates by land use

Land use	Vehicle type	AM peak (0800 to 0900)		PM peak (1700 to 1800)	
		Arrive	Depart	Arrive	Depart
E(g) (iii)	Cars / LGVs	0.479	0.18	0.136	0.495
	HGVs	0.018	0.023	0.005	0.008
B2	Cars / LGVs	0.224	0.047	0.034	0.24
	HGVs	0.011	0.01	0.004	0.004
B8 (non-data centre)	Cars / LGVs	0.097	0.022	0.032	0.091
	HGVs	0.033	0.008	0.009	0.024
B8 (data centre)	Cars / LGVs	0.053	0.013	0.017	0.078
	HGVs	0.004	0.002	0	0
B8 (parcel distribution only)	Cars / LGVs	0.208	0.528	0.417	0.5
	HGVs	0.028	0.083	0.042	0.042

6.34 The vehicle trip rates presented in **Table 6.1** have been applied to the maximum individual floor areas associated with each individual land use. The figures presented in **Table 6.2** represent the maximum peak hour trips that may be associated with each land use.

Table 2: Maximum vehicle trips by land use (Car / LGV and HGV split)

Land use	Vehicle type	AM peak (0800 to 0900)		PM peak (1700 to 1800)	
		Arrive	Depart	Arrive	Depart
E(g) (iii)	Cars / LGVs	158	59	45	163
	HGVs	6	8	2	3
B2	Cars / LGVs	353	74	54	378
	HGVs	17	16	6	6
B8 (non-data centre)	Cars / LGVs	306	69	101	287
	HGVs	104	25	28	76
B8 (data centre)	Cars / LGVs	46	11	15	68
	HGVs	3	2	0	0
B8 (parcel distribution only)	Cars / LGVs	125	317	250	300
	HGVs	17	50	25	25
Sui Generis (Energy Use)	Cars / LGVs	30	0	0	30
	HGVs	11	11	11	11

6.35 Total vehicles associated with each land use, combined with the maximum floor area parameter is presented in **Table 6.3**.

Table 6.3: Maximum vehicle trips by land use

Land Use	Floor areas	AM peak (0800 to 0900)		PM peak (1700 to 1800)	
		Arrive	Depart	Arrive	Depart
E(g) (iii)	33,000sqm	164	67	47	166
B2	157,500sqm	370	90	60	384
B8 (non-data centre)	315,000sqm	410	95	129	362
B8 (data centre)	87,379sqm	50	13	15	68
B8 (parcel distribution only)	60,000sqm	142	367	275	325
Sui Generis (Energy Use)	60,000sqm	41	11	11	41
Sui Generis (Lorry park)	1ha comprising 40 to 50 spaces	None forecast, ancillary to development.			

6.36 Whilst **Table 6.3** identifies the maximum peak hour vehicle trips for each land use, future reserved matters planning applications would apply the trip rates presented in **Table 6.1** (or other approaches as agreed) to the proposed floor area for the specific land use being applied for unless wider evidence is provided to support alternative assumptions.

Forecast Vehicle Trip Attraction

6.37 The traffic modelling has been based on earlier assumptions relating to land use mixes and defines a peak hour trip parameter for the purposes of assessment. These are presented in **Table 6.4** for completeness.

6.38 The maximum parameters are greater than individual maximum land use vehicle forecast presented in **Table 6.3.**

Table 6.4: Assessed vehicle trip attraction

Vehicle type	AM peak 0800 to 0900		PM peak 1700 to 1800	
	Arrive	Depart	Arrive	Depart
Car / LGV	404	90	106	398
HGV	95	27	26	65
Total vehicles	498	117	132	463

6.39 The forecast vehicle trips presented in **Table 6.4** have been used to assess the effect of the development upon the local highway network.

6.40 Alongside the Parameter Plan, land use assumptions for the proposed development are provided that sets out the maximum floorspace that could be implemented for each land use as part of the proposed development. Where a variety of land uses are allowed for, a Maximum AM & PM Peak Trip Rate Parameter has also been defined.

6.41 The Trip Rate Parameter details that the overall mix of uses to be implemented shall not exceed 615 trips for the AM peak hour and 598 trips for the PM peak hour.

Trip Credits

6.42 As part of the Local Plan, Medway Council are developing an Strategic Travel Plan which will include the concept of Trip Credits (or budgets) associated with Local Plan growth. Each site will be allocated a trip credit to work within.

6.43 The emerging local Plan approach is consistent with the planning application at the Site which incorporates Trip Parameters.

6.44 Future reserved matters planning applications would present the forecast trips associated with specific proposals and indicate how this remains within the overall Trip Credit associated with the Site.

6.45 In this regard the planning application does not seek to identify the combination of land uses that would result in the greatest number of trips. The application of maximum land use floor areas, the overall maximum floor area for the Site and peak hour trip (Trip Credit) parameters will ensure that where the development is agreed at outline, trip attraction associated with the Site will not be breached.

6.46 In terms of the overall floor space parameter, this is set as follows: *The total amount of built floorspace for the proposed development shall not exceed 315,000 sqm (GIA) excluding the lorry park*.

6.47 There is also a maximum AM & PM Peak Trip Rate Parameter as follows: *The overall mix of uses to be implemented shall not exceed 615 trips for the AM and 598 trips for the PM*.

6.48 Trip Rate Parameters can set the Trip Credit associated with any grant of planning permission for the Site.

6.49 Where the mix of development and the timing of development is not known or fixed at this time the Trip Credit approach, which is consistent with a Monitor and Manage approach is considered appropriate.

6.50 A monitoring framework will need to be agreed such that as a development comes forward, reviews can occur. The details will need to be agreed by means of an appropriate planning condition or obligation.

7 Assessment methodology

7.1 The additional modelling presented in this Addendum Transport Assessment has principally been prepared in order to provide National Highways with the assessment they requested for wider junctions on the Strategic Road Network. This is defined in the revised study area.

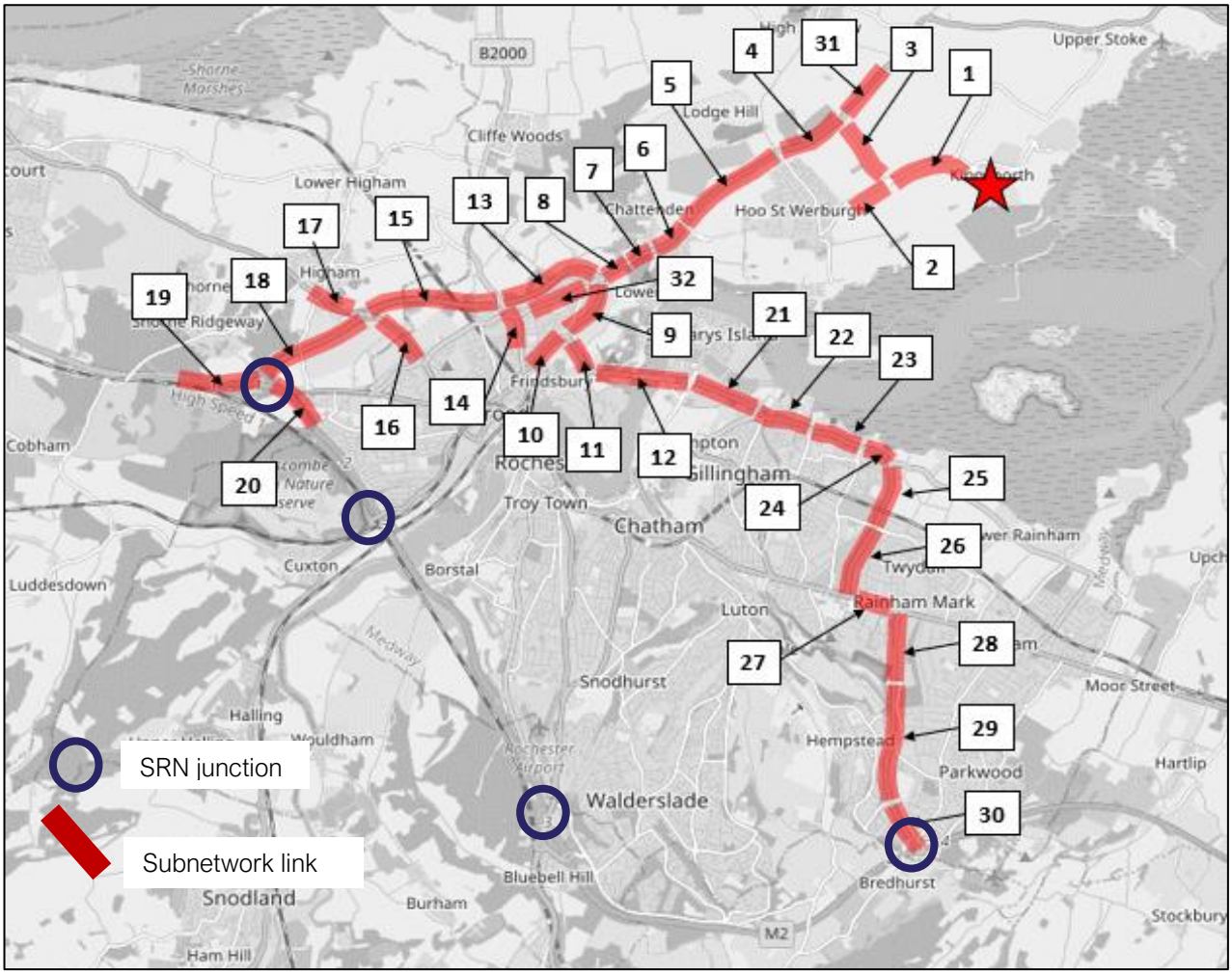
7.2 The updated modelling uses the latest assumptions in respect of committed development sites considered by Medway Council and contained in the Aimsun model. The Reference Case scenario that has been prepared for this assessment now includes the Isle of Grain National Grid site and reflects the Local Plan Strategic Transport Assessment (STA).

Study area

7.3 In addition to the assessments of Subnetworks 1 and 2 undertaken within the Transport Assessment, new assessments of Strategic Road Network Junction on the M2 have been made. Junctions 1 to 4 of the M2 fall within Subnetwork 5 of the Medway Council Aimsun model

7.4 The extent of the study area is presented in **Figure 7.1**.

Figure 7.1 – Study area extents



Development Scenarios

7.5 A range of scenarios have been assessed in order to consider the effects of the development on the local highway network. The Aimsun modelling of the following scenarios has been undertaken at both a macroscopic level and using microsimulation.

7.6 A summary of the assessment scenarios is provided below:

- 2037 Scenario (Committed development plus growth) Do Minimum: This scenario is without the proposed development and is used to determine the baseline against which impacts of the development are compared. This represents the Reference Case scenario that has been set up as part of the ongoing Local Plan STA modelling. This scenario includes committed development in Medway and background traffic growth in neighbouring areas.

- 2037 Scenario (Committed development plus growth, plus the Site) Do Something: This scenario includes the 2037 Do Minimum scenario, plus the proposed development and will be used to determine the impact of the proposed development.

7.7 A summary of these Scenarios is presented in **Table 7.1**.

Table 7.1 – Summary of Assessment Scenarios

Scenario		Existing Traffic Flows	Com. Dev	Traffic Growth	Local Plan Growth	HIF	The Site
2037 Scenario	Future Year Baseline	✓	✓	✓	×	×	×
	Future Year Baseline plus the Site	✓	✓	✓	×	×	✓

Assessment periods

7.8 Outputs providing Annual Average Daily Traffic (AADT) flows have also been provided and these have been used to inform traffic data assumptions for assessments made as part of the Environmental Impact Assessment as contained in the Environmental Statement.

7.9 Whilst updates to the Local Plan scenario were not required for this Addendum Transport Assessment, updated AADT flows were obtained from Medway Councils Aimsun model to inform wider assessments within the Environmental Statement. The Local Plan now moves away from 2028 as an assessment year utilising information for 2026.

8 Local Highway Assessment

8.1 In order to provide a wider assessment of junctions required by National Highways, the Medway Council Aimsun model was used to determine effects. As part of this, updated assumptions relating to committed development were included. Medway Council did not require a further assessment of individual junction to be undertaken but request that a summary confirming the effect be provided.

8.2 The results from the Aimsun modelling is presented in **Appendix C**.

2037 Scenario assessment

8.3 The 2037 Scenarios consider the core test of committed development with and without the Site, with further assumptions that factor in background traffic growth assumptions made for the 2037 Scenario assessments.

8.4 One indicator of network performance is the average delay a driver may experience. An increase in congestion would corelate with an increase in delay. During the AM peak the model forecast no increase in average delay with the PM peak hour indicating an average delay per km increase of 17 seconds.

8.5 It can be concluded that the impact of the development on the network during the AM and PM peak hour is not severe, with modest increase in delay on the network during the PM peak.

8.6 Consideration is given to individual junctions to understand the localised effect the development may have on the adjacent road network.

8.7 The LoS for key junctions within Subnetwork 1 for the AM and PM peak hours is presented in **Table 8.1**.

Table 8.1: Core and 2037 Scenario Level of service – Subnetwork 1

Junction	2037 - without the Site	2037 - with the Site
AM peak		
Bell's Lane Roundabout	A	A
Main Hoo Road Roundabout	B	A
Four Elms Roundabout	E	F
Sans Pareil Roundabout	F	F
Anthony's Way Roundabout	F	F
Roper's Lane Roundabout	F	F
PM peak		
Bell's Lane Roundabout	A	B
Main Hoo Road Roundabout	D	F
Four Elms Roundabout	F	F
Sans Pareil Roundabout	F	F
Anthony's Way Roundabout	F	F
Roper's Lane Roundabout	B	B

8.8 The review of the LoS for Subnetwork 1 suggests that a level of impact may occur at the main Hoo Roundabout where the LoS rises from D to F during the PM peak hour. Additionally, impact at the Four Elms Roundabout is identified in the AM peak hour with the LoS increasing from E to F.

8.9 In order to more fully consider the impact at the Main Road Hoo and Four Elms Roundabouts, the detailed delay and queue results for each arm of the roundabouts during the AM and PM peak hours have been assessed.

8.10 Results for the Four Elms Roundabout are presented in **Table 8.2**.

Table 8.2: 2037 Scenario Four Elms Roundabout

Arm	AM peak		PM peak	
	Delay (s)	Queue	Delay (s)	Queue
Without development				
Four Elms Hill	11.7	0.1	141.9	27.6
A289 Wulfere Way	136.9	16.5	35.5	4.3
B2108 Hoo Road	11.8	0.7	23.5	2.4
A289 Hasted Road	22.6	2.5	42.6	6.4
With development				
Four Elms Hill	15.0	0.66	205.6	40.1
A289 Wulfere Way	506.1	74.9	39.5	6.1
B2108 Hoo Road	12.9	0.9	54.1	5.8
A289 Hasted Road	132.0	21.4	604.4	134.3

8.11 The results indicate that during the AM peak hour, additional delay of around 6 minutes is forecast for the A289 Wulfere Way and 2 minutes for the A289 Hasted Road arms of the roundabout. Associated increase in queuing is also forecast. The results suggest that the impact during the PM peak is also noticeable.

8.12 Junction capacity results for the Main Road Hoo Roundabout have also been provided and a summary of the results is presented in **Table 8.3**.

Table 8.3: 2037 Scenario Main Road Hoo Roundabout

Arm	AM peak		PM peak	
	Delay (s)	Queue	Delay (s)	Queue
Without development				
Main Road Hoo	53.1	2.2	185.8	27.0
A228 Peninsula Way W	1.4	0.0	1.5	0.0
Development Access	10.1	0.2	5.7	0.1
A228 Peninsula Way E	20.1	2.4	18.3	2.0
With development				
Main Road Hoo	38.7	2.0	692.7	79.6
A228 Peninsula Way W	1.4	0.0	1.3	0.0
Development Access	10.0	0.2	5.1	0.0
A228 Peninsula Way E	13.6	1.1	161.3	34.6

8.13 The results of the modelling suggest that increases in driver delay and queueing is expected in both the AM and PM peak hours on the Main Road Hoo arms of the roundabout. This is likely to be due to increases in main road traffic travelling along the A289 reducing available gaps.

Highway Mitigation

Prior to planned highway improvements

8.14 The analysis presented in this section of the Addendum Transport Assessment identifies that, with consideration of movements associated with committed developments, the Site may increase delay at both the Four Elms Roundabout and Main Road Hoo Roundabout.

8.15 The proposed HIF improvement schemes at these roundabouts are due to be implemented in 2024. The Site is due to be constructed across a 10-year period with completion currently planned for 2031. Prior to completion of the planned highway improvement schemes, the scale of development at the Site that would be fully completed and occupied is likely to be relatively small.

8.16 In terms of the associated traffic impacts, whilst dependent on the nature of the first occupiers, the level of vehicle movements generated within an initial 2-to-3-year period to 2024 will be low. Around 20 to 30 percent of forecast traffic movements might occur, assuming early occupation by industrial / warehouse and storage end users. Lower trip attractors such as energy uses or a datacentre may also be early occupiers which would lessen the impact.

8.17 This level of impact at the roundabouts will be significantly less that the full development and less likely to cause material changes in delay. Any impacts will be short term prior to the completion of the planned improvement schemes.

8.18 There would be little point in introducing short term improvement measures since it is highly likely that the HIF schemes would be under construction at that time. Equally we do not consider it would be appropriate to delay any occupations until the HIF works are complete since that would then be delaying the employment and economic regeneration of the Site unnecessarily. Hence, there may be some short term increase in delay but this is likely to be relatively minor within the overall context, especially if the HIF highway improvement works are underway.

Without planned highway improvements

8.19 The planned improvements to the roundabouts form part of the emerging Local Plan for Medway Council to facilitate growth in homes and jobs. The schemes are included within the HIF secured by Medway Council and the proposed improvements to the roundabout are currently being consulted upon.

8.20 Notwithstanding this, consideration of a scenario where those improvements are not implemented has been made. The assessment considers the full forecast traffic movement associated with the Site at these roundabouts.

8.21 Schemes that add capacity to those arms of the roundabouts have been developed. The drawings presented in the Transport Assessment represent preliminary design improvements for the roundabouts which add capacity on those arms where additional delay is expected.

8.22 The schemes have been developed to facilitate discussions around improvements to the highway network that might be necessary as part of wider development in the area. They can be used to inform discussions with Medway Council which may lead to an appropriate financial contribution in the absence of HIF.

8.23 Should delivery and any improvements be required (in the absence of the HIF scheme coming forward), the trigger point for such improvements would need to be agreed with Medway Council and should consider a range of factors such as the position of the Local Plan, wider improvement schemes, level of impact on specific junctions, the nature of occupiers at the Site and consideration of changing travel patterns generally associated with Covid-19.

8.24 A suitable planning obligation would be agreed as part of the S106 agreement for the development.

9 Strategic Road Network assessment

9.1 The Medway Council Aimsun model has been utilised to assess the effects of the proposed development on the wider SRN. In this regard, junctions 1 to 4 of the M2 have been assessed as requested by National Highways.

9.2 The assessment considers the effects of the proposed development in the future year with the consideration of committed development and forecast traffic growth.

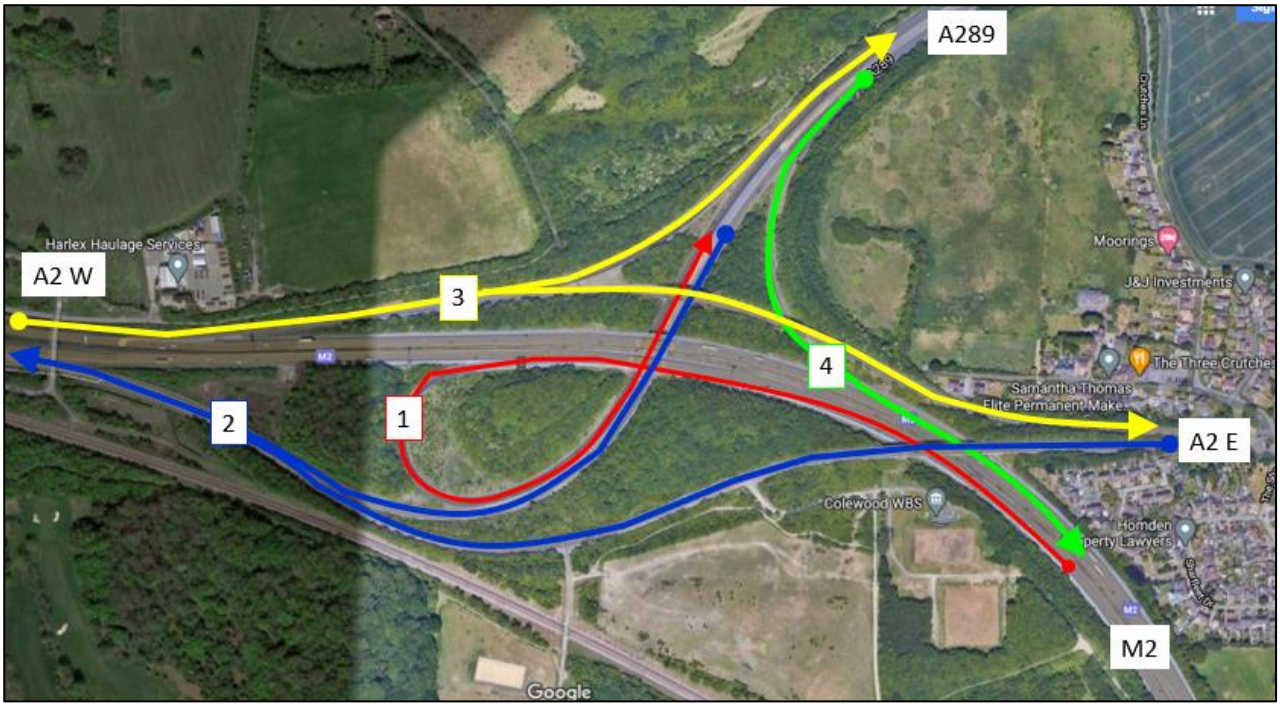
9.3 A microsimulation subnetwork ("Subnetwork 5") of the Aimsun model has been developed, calibrated, and validated covering the M2 Junctions 2, 3 and 4. Given this subnetwork includes three of these key interchanges, Subnetwork 5 would provide an appropriate area to assess the detailed impacts of the proposed development on the SRN. Subnetwork 1 incorporates junction 1 of the M2

Junction 1 M2/A2/A289 Merge/Diverge Junction Assessment

9.4 The M2/A2/A689 junction has been assessed to determine its layout type suitability for traffic related to the proposed development. The merge and diverge junctions to/from the A2 to the east and west, the M2 to the east, and the A289 have been assessed using guidance set out in DMRB *"CD 122 Geometric design of grade separated junctions".*

9.5 Each merge/diverge junction assessed is shown below in **Figure 9.1.**

Figure 9.1 – Merge/Diverge Junctions



9.6 The AM and PM traffic flows have been taken from the Aimsun Model for the future base year of 2037. Flows at the junction has been extracted from the strategic macroscopic model.

9.7 Two scenarios have been assessed:

- 2037 with committed development and background growth; and
- 2037 with committed development and background growth plus the proposed development.

9.8 The assessment Scenarios for 2037 account for committed development and growth in a future year that follows 16 years from the submission of the planning application and is beyond the expected completion date.

9.9 The flows per merge/diverge junction, as shown in **Figure 9.1,** are outlined below in **Table 9.1**.

Table 9.1 – Flows per merge/diverge junction

Time Period	AM Peak (08:00 – 09:00)				PM Peak (17:00 – 18:00)			
Reference Number	1	2	3	4	1	2	3	4
2037 No Development – Slip	1,646	2,377	1,646	1,443	1,524	1,884	2,364	1,540
2037 No Development – Mainline Flow	4,115	4,115	3,057	3,057	3,440	3,440	4,913	4,913
2037 With Development – Slip	1,668	2,306	1,736	1,379	1,715	1,953	2,331	1,589
2037 With Development – Mainline Flow	4,178	4,178	2,997	2,997	3,416	3,416	4,933	4,933

9.10 It should be noted that the flow gradients for each of the eastbound, westbound and northbound roads have been determined as less than +/- 2% 500m up to the merge 'nose'. As such, no factors have been applied. Furthermore, factors only need to be applied to HGV flowing traffic when an incline is observed. As this is not the case, no factor has been applied to HGV traffic.

9.11 The resultant slip and mainline flow for the merges and diverges have been plotted on the motorway merge and diverge diagrams respectively. The existing merge and diverge junction types have been indicated on the diagrams to enable an easy comparison of the results. The results are shown for each merge/diverge junction below in **Figures 9.2, 9.3, 9.4** and **9.5**.

Figure 9.2 – Merge diverge junction 1 (M2 to A689 – Diverge)

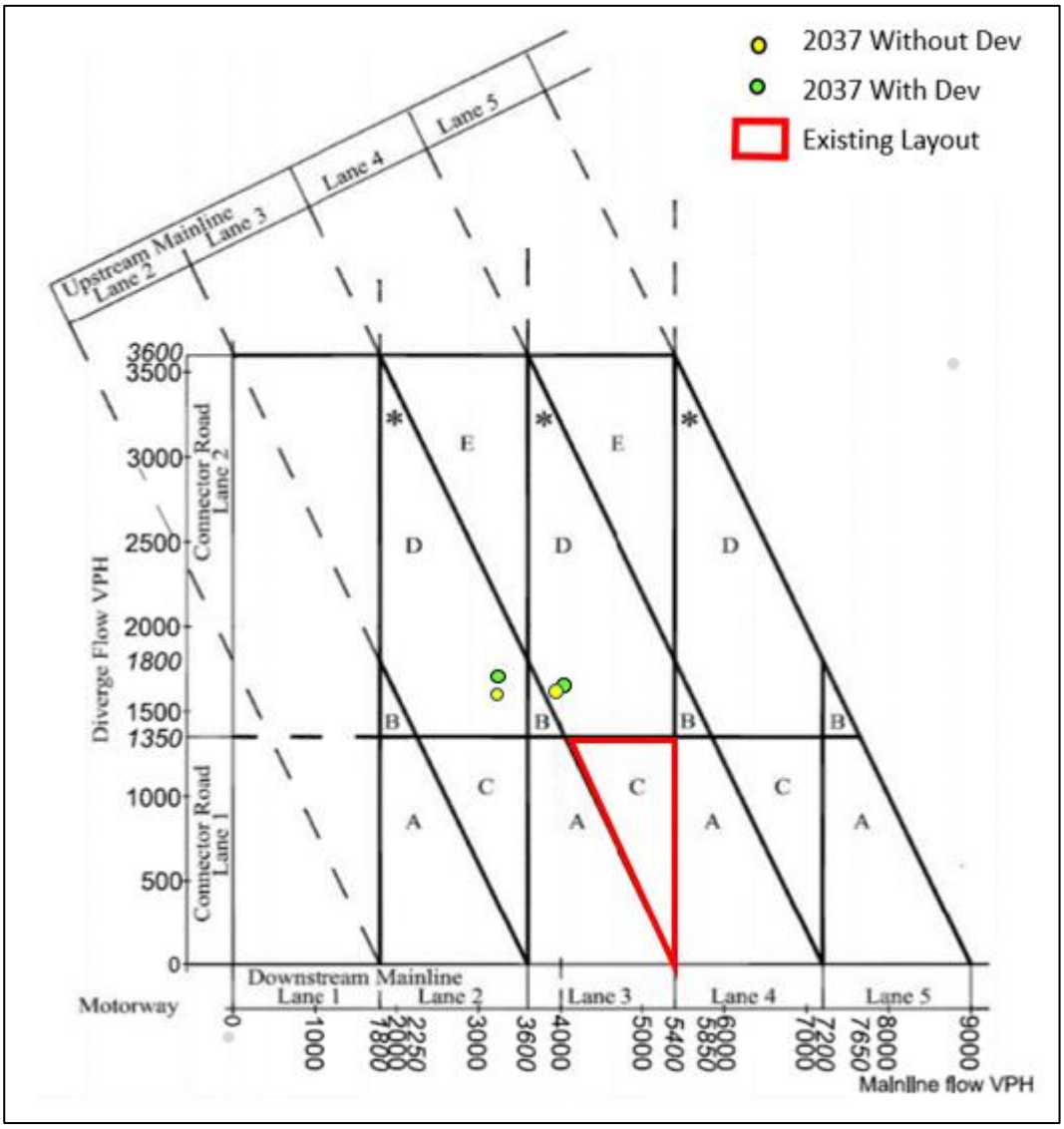


Figure 9.3 – Merge diverge junction 2 (A289 & A2 East to A2 West – Merge)

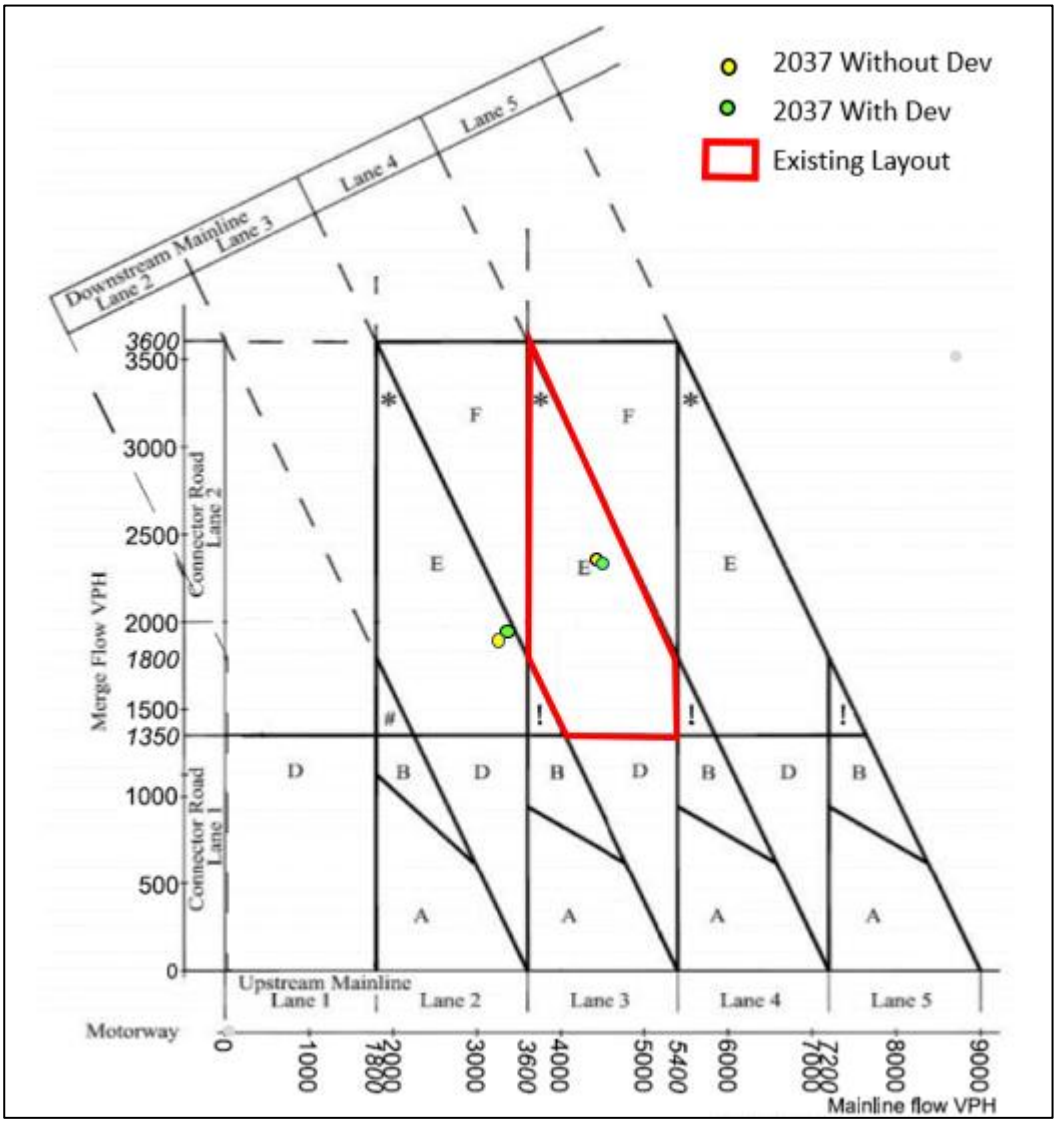


Figure 9.4 – Merge diverge junction 3 (A2 West to A289 & A2 East – Diverge)

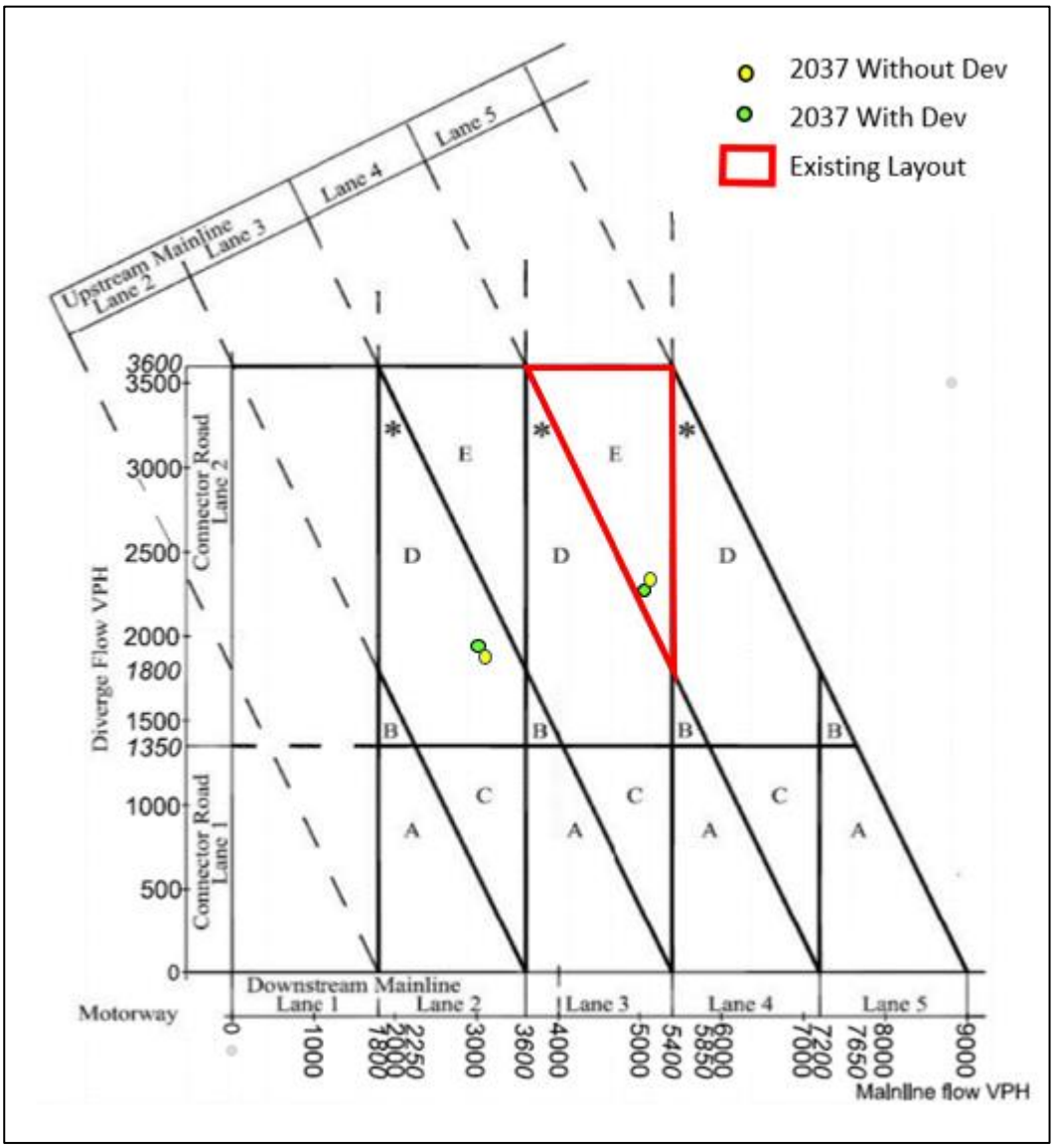
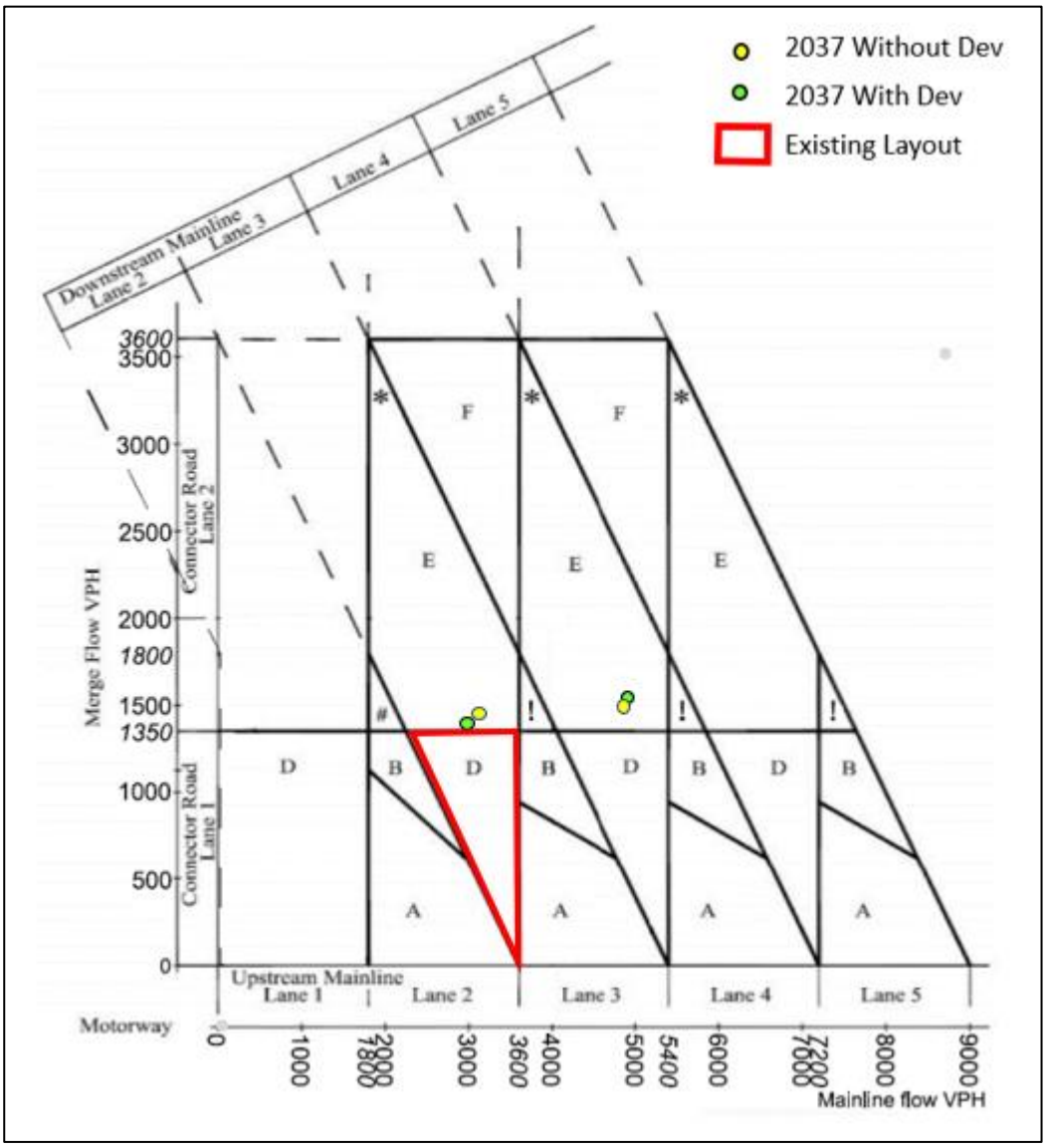


Figure 9.5 – Merge diverge junction 4 (A289 to M2 – Merge)



9.12 It can be seen from the figures above that the current provision (merge and diverge type) for both merge and diverge junctions is appropriate for the safe provision of what is being assessed. Even though the plotted points do not necessarily coincide with the area of the existing junction layouts for Junctions 1, 3 and 4 in one of the peak hours, the current provision either matches or exceeds that which is necessary to accommodate the flows being assessed.

9.13 Furthermore, it can be seen from the figures above, that the addition of the proposed development traffic onto the 2037 baseline will not change the layout type required.

9.14 As such it can be concluded that no alterations to the junctions are required.

Junction 2 M2

9.15 Results for this junction have been extracted from the Aimsun model and are summarised in **Table 9.2** where peak hour delay and queueing is provided.

Table 9.2: 2037 modelling results - Junction 2 M2

Arm	AM peak		PM peak	
	Delay (s)	Queue	Delay (s)	Queue
Without development				
M2 Southbound Off-Slip	17.2	0.6	149.0	3.2
Westbound Dumbbell Link	2.3	0.2	13.1	1.2
M2 Northbound Off-Slip	48.7	4.3	51.1	4.8
With development				
M2 Southbound Off-Slip	28.4	0.6	134.3	1.6
Westbound Dumbbell Link	2.1	0.1	8.7	0.9
M2 Northbound Off-Slip	36.1	1.7	40.8	3.8

9.16 The analysis for Junction 2 summarised in Table 9.2 suggests that the proposed development will have a minimal impact at this junction.

9.17 An increase in delay is identified for the Southbound off-slip during the AM peak with average delay increasing by 11 seconds.

9.18 The results do not suggest a material impact resulting from the proposed development at this junction.

Junction 3 M2

9.19 Results for this junction which is located further south along the M2 have been extracted from the Aimsun model and are summarised in Table 9.3 where peak hour delay and queueing is provided.

Table 9.3: 2037 modelling results - Junction 3 M2

Arm	AM peak		PM peak	
	Delay (s)	Queue	Delay (s)	Queue
Without development				
A2045 E	68.3	10.4	71.5	10.4
M2 NB Off-Slip	203.6	38.8	218.4	40.3
A229 W	100.3	19.4	105.6	19.4
M2 SB Off-Slip	264.6	45.0	79.0	11.9
With development				
A2045 E	68.3	10.1	63.1	9.3
M2 NB Off-Slip	200.9	38.5	168.2	30.0
A229 W	103.6	19.4	115.6	20.8
M2 SB Off-Slip	224.2	36.8	132.8	21.7

9.20 The results for Junction 3 suggests that overall the effect of the development is relatively neutral with some links experiences modest increases in delay and others some decreases.

9.21 A noticeable increase is forecast for the M2 southbound off slip during the PM peak. An increase in delay of 54 seconds is identified with associated increase in queuing of 10 vehicles, increasing from 12 to 22 vehicles.

9.22 It is understood that National Highways consider a 30 second threshold to be relevant where further consideration of the results are required.

9.23 Fore Consulting who are the custodians of the Aimsun model has confirmed that queue at this link can occasionally affect the mainline flow during the simulation period during he reference case but that its impact is minimal. Overall, the average maximum queue of 53 vehicles would be accommodated on the slip road.

9.24 Given the forecast is based on assumptions of future year 15 years hence, consideration of committed development forecasts and development trips, the ability for the slip road to accommodate forecast average maximum queues is relevant.

9.25 Additionally, changes to other arms of the junction are minimal and for this link, positive during the AM peak. It is therefore considered that the development can be accommodated at this junction.

Junction 4 M2

9.26 Results for this junction which is located further south along the M2 have been extracted from the Aimsun model and are summarised in Table 9.4 where peak hour delay and queueing is provided.

Table 9.4: 2037 modelling results - Junction 4 M2

Arm	AM peak		PM peak	
	Delay (s)	Queue	Delay (s)	Queue
Without development				
M2 WB Off-Slip	25.1	1.7	14.9	0.7
M2 EB Off-Slip	18.3	0.0	14.6	0.0
A278 Hoath Way	26.7	0.1	48.5	0.1
With development				
M2 WB Off-Slip	24.7	1.6	14.5	0.7
M2 EB Off-Slip	18.1	0.0	14.8	0.0
A278 Hoath Way	27.9	0.1	48.6	0.1

9.27 Np noticeable change in performance at this junction is identified as a result of the development proposal.

Summary

9.28 The Subnetwork 5 modelling for the SRN indicates that the proposed development would have a broadly neutral impact on network operation in both the AM and PM peaks.

10 Summary and Conclusions

Summary

10.1 Vectos has been appointed by Uniper to provide transport advice with regard to development proposals at the former Kingsnorth Power Station in Medway.

10.2 The Site is allocated in the current Local Plan and forms and important element of the emerging Local Plan.

10.3 Occupiers of the development are not defined and the outline nature of the application and range of land uses identified within the parameter ensure those future occupiers will be taken from a range of land uses. Maximum trip associated with each use have been identified and Maximum Trip Rate parameters identified.

10.4 The proposed development is also supported by a Framework Travel Plan which will aim to encourage employees to travel to the Site by sustainable modes of transport. This will be linked to the emerging Strategic Travel Plan being developed by Medway Council.

10.5 A traffic impact assessment has been undertaken using Medway Council's Aimsun Model. The use of the model is suitable where it is currently being used to assess the emerging Local Plan.

10.6 The 2037 scenarios have been used to assess the wider SRN impact as requested by National Highways. The Subnetwork 5 modelling for the SRN indicates that the proposed development would have a broadly neutral impact on network operation in both the AM and PM peaks.

Conclusion

10.7 The correct tests to be applied to this application are set out in NPPF paragraphs 110 and 111:

Paragraph 110. In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;

b) safe and suitable access to the site can be achieved for all users;

c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and

d) any significant impacts from the development network (in terms of capacity and congestion), or on highway safety can be cost effectively mitigated to an acceptable degree.

Paragraph 111. Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

10.8 The proposed development complies with these tests in that it provides safe access to the Site for road users, cyclists and pedestrians via the proposed shared footway/cycleway along Eschol Road, through the Site and which connects to the wider existing provision.

10.9 There are also opportunities to promote sustainable transport to the Site via links to the new Sharnal Station, the potential diversion of existing bus services with proposed on-site facilities and a potential bus shuttle for employees at least for certain times of the year. A Travel Plan will also be implemented which will encourage travel to the Site by sustainable modes and this promotes a range of sustainable mobility measures.

10.10 The impact of the proposed development on the local highway network, is considered acceptable in the context of peak hour commuter periods and we conclude certainly not severe. The wider strategy for trip reduction associated with the mobility measures and future adjustments to travel patterns associated with the relationship between new homes and new jobs will reduce the traffic impact further.

10.11 In conclusion, based on the information in the foregoing, there is no reason, from a transport perspective, why planning consent for the proposed development should not be granted.

vectos.

Appendix A

Calculation Reference: AUDIT-152303-200304-0356

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : G - PARCEL DISTRIBUTION CENTRES
VEHICLES

Selected regions and areas:

05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
	NT	NOTTINGHAMSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	RI	EAST RIDING OF YORKSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 1496 to 3000 (units: sqm)
Range Selected by User: 763 to 25000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/11/12 to 28/06/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Wednesday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town	2
Free Standing (PPS6 Out of Town)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	1
Commercial Zone	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

B8	3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
10,001 to 15,000	1 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
125,001 to 250,000	1 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

1.1 to 1.5	2 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	3 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	3 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 LN-02-G-01 PARCELFORCE WORLDWIDE LINCOLNSHIRE
WHISBY WAY
LINCOLN
BIRCHWOOD
Edge of Town
Industrial Zone
Total Gross floor area: 1496 sqm
Survey date: FRIDAY 28/06/19 Survey Type: MANUAL

2 NT-02-G-02 CITY LINK NOTTINGHAMSHIRE
MILLENIUM WAY
NOTTINGHAM
PHOENIX CENTRE
Edge of Town
Commercial Zone
Total Gross floor area: 3000 sqm
Survey date: MONDAY 17/06/13 Survey Type: MANUAL

3 RI-02-G-01 UK MAIL EAST RIDING OF YORKSHIRE
YORK ROAD
NEAR POCKLINGTON
ALLERTHORPE BUS. PARK
Free Standing (PPS6 Out of Town)
Commercial Zone
Total Gross floor area: 2700 sqm
Survey date: WEDNESDAY 19/12/12 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
SO-02-G-01	40% floorspace is office

TRIP RATE for Land Use 02 - EMPLOYMENT/G - PARCEL DISTRIBUTION CENTRES
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	2	2098	0.572	2	2098	0.071	2	2098	0.643
06:00 - 07:00	2	2098	1.001	2	2098	0.167	2	2098	1.168
07:00 - 08:00	3	2399	0.347	3	2399	0.542	3	2399	0.889
08:00 - 09:00	3	2399	0.208	3	2399	0.528	3	2399	0.736
09:00 - 10:00	3	2399	0.181	3	2399	0.208	3	2399	0.389
10:00 - 11:00	3	2399	0.125	3	2399	0.056	3	2399	0.181
11:00 - 12:00	3	2399	0.097	3	2399	0.097	3	2399	0.194
12:00 - 13:00	3	2399	0.167	3	2399	0.320	3	2399	0.487
13:00 - 14:00	3	2399	0.278	3	2399	0.125	3	2399	0.403
14:00 - 15:00	3	2399	0.139	3	2399	0.208	3	2399	0.347
15:00 - 16:00	3	2399	0.292	3	2399	0.334	3	2399	0.626
16:00 - 17:00	3	2399	0.375	3	2399	0.431	3	2399	0.806
17:00 - 18:00	3	2399	0.417	3	2399	0.500	3	2399	0.917
18:00 - 19:00	3	2399	0.417	3	2399	0.514	3	2399	0.931
19:00 - 20:00	3	2399	0.139	3	2399	0.236	3	2399	0.375
20:00 - 21:00	3	2399	0.083	3	2399	0.195	3	2399	0.278
21:00 - 22:00	2	2850	0.000	2	2850	0.053	2	2850	0.053
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.838			4.585			9.423

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	1496 - 3000 (units: sqm)
Survey date date range:	01/11/12 - 28/06/19
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 02 - EMPLOYMENT/G - PARCEL DISTRIBUTION CENTRES
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	2	2098	0.262	2	2098	0.071	2	2098	0.333
06:00 - 07:00	2	2098	0.191	2	2098	0.119	2	2098	0.310
07:00 - 08:00	3	2399	0.028	3	2399	0.264	3	2399	0.292
08:00 - 09:00	3	2399	0.028	3	2399	0.083	3	2399	0.111
09:00 - 10:00	3	2399	0.056	3	2399	0.069	3	2399	0.125
10:00 - 11:00	3	2399	0.042	3	2399	0.000	3	2399	0.042
11:00 - 12:00	3	2399	0.000	3	2399	0.028	3	2399	0.028
12:00 - 13:00	3	2399	0.083	3	2399	0.097	3	2399	0.180
13:00 - 14:00	3	2399	0.042	3	2399	0.042	3	2399	0.084
14:00 - 15:00	3	2399	0.042	3	2399	0.028	3	2399	0.070
15:00 - 16:00	3	2399	0.139	3	2399	0.028	3	2399	0.167
16:00 - 17:00	3	2399	0.042	3	2399	0.028	3	2399	0.070
17:00 - 18:00	3	2399	0.042	3	2399	0.042	3	2399	0.084
18:00 - 19:00	3	2399	0.083	3	2399	0.056	3	2399	0.139
19:00 - 20:00	3	2399	0.056	3	2399	0.028	3	2399	0.084
20:00 - 21:00	3	2399	0.028	3	2399	0.069	3	2399	0.097
21:00 - 22:00	2	2850	0.000	2	2850	0.018	2	2850	0.018
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.164			1.070			2.234

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

VECTOS 97 TOTTENHAM COURT ROAD LONDON Licence No: 152301

Filtering Summary

Land Use	02/D	EMPLOYMENT/INDUSTRIAL ESTATE
Selected Trip Rate Calculation Parameter Range	10000-80000 sqm GFA	
Actual Trip Rate Calculation Parameter Range	10600-66500 sqm GFA	
Date Range	Minimum: 01/01/13	Maximum: 21/10/20
Parking Spaces Range	All Surveys Included	
Days of the week selected	Monday	1
	Tuesday	1
	Wednesday	3
	Thursday	4
	Friday	4
Main Location Types selected	Suburban Area (PPS6 Out of Centre)	2
	Edge of Town	9
	Free Standing (PPS6 Out of Town)	2
Population within 500m	All Surveys Included	
Population <1 Mile ranges selected	1,000 or Less	1
	5,001 to 10,000	3
	10,001 to 15,000	3
	20,001 to 25,000	3
	25,001 to 50,000	3
Population <5 Mile ranges selected	5,001 to 25,000	1
	25,001 to 50,000	1
	50,001 to 75,000	3
	75,001 to 100,000	1
	100,001 to 125,000	1
	125,001 to 250,000	4
	500,001 or More	2
Car Ownership <5 Mile ranges selected	0.6 to 1.0	5
	1.1 to 1.5	8
PTAL Rating	No PTAL Present	13
Filter by Site Operations Breakdown	All Surveys Included	

Calculation Reference: AUDIT-152301-210518-0544

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : D - INDUSTRIAL ESTATE
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	1 days
03	SOUTH WEST		
	BR	BRISTOL CITY	1 days
	DC	DORSET	1 days
	SM	SOMERSET	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
	NR	NORTHAMPTONSHIRE	2 days
06	WEST MIDLANDS		
	WK	WARWICKSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
	WY	WEST YORKSHIRE	3 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 10600 to 66500 (units: sqm)
Range Selected by User: 10000 to 80000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 21/10/20

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	1 days
Wednesday	3 days
Thursday	4 days
Friday	4 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	13 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	9
Free Standing (PPS6 Out of Town)	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	8
Out of Town	3
No Sub Category	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

Not Known	13 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
5,001 to 10,000	3 days
10,001 to 15,000	3 days
20,001 to 25,000	3 days
25,001 to 50,000	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	3 days
75,001 to 100,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	4 days
500,001 or More	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	8 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	13 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	13 days

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 BR-02-D-04 INDUSTRIAL ESTATE BRISTOL CITY
CROFTS END ROAD
BRISTOL
SPEEDWELL
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 18018 sqm
Survey date: FRIDAY *29/11/13* *Survey Type: MANUAL*

2 DC-02-D-20 INDUSTRIAL ESTATE DORSET
OLD BARN FARM ROAD
NEAR BOURNEMOUTH
THREE LEGGED CROSS
Free Standing (PPS6 Out of Town)
Out of Town
Total Gross floor area: 70000 sqm
Survey date: MONDAY *24/03/14* *Survey Type: MANUAL*

3 EX-02-D-04 INDUSTRIAL ESTATE ESSEX
PASTURE ROAD
WITHAM

Edge of Town
Industrial Zone
Total Gross floor area: 37130 sqm
Survey date: THURSDAY *10/05/18* *Survey Type: MANUAL*

4 LN-02-D-03 INDUSTRIAL ESTATE LINCOLNSHIRE
DEACON ROAD
LINCOLN

Edge of Town
Industrial Zone
Total Gross floor area: 11265 sqm
Survey date: FRIDAY *28/06/19* *Survey Type: MANUAL*

5 NR-02-D-01 INDUSTRIAL ESTATE NORTHAMPTONSHIRE
ROBINSON WAY
KETTERING

Edge of Town
Industrial Zone
Total Gross floor area: 12900 sqm
Survey date: THURSDAY *23/10/14* *Survey Type: MANUAL*

6 NR-02-D-02 INDUSTRIAL ESTATE NORTHAMPTONSHIRE
CORNHILL CLOSE
NORTHAMPTON
LODGE FARM IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 12670 sqm
Survey date: WEDNESDAY *21/10/20* *Survey Type: MANUAL*

7 NY-02-D-02 INDUSTRIAL ESTATE NORTH YORKSHIRE
RACECOURSE ROAD
RICHMOND

Edge of Town
Out of Town
Total Gross floor area: 35183 sqm
Survey date: TUESDAY *12/03/19* *Survey Type: MANUAL*

8 SM-02-D-01 INDUSTRIAL ESTATE SOMERSET
A359
YEOVIL
SPARKFORD
Free Standing (PPS6 Out of Town)
Out of Town
Total Gross floor area: 12000 sqm
Survey date: WEDNESDAY *03/04/19* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9	WK-02-D-03 EASTBORO WAY NUNEATON	INDUSTRIAL ESTATE	WARWICKSHIRE
	Edge of Town Industrial Zone Total Gross floor area:	20860 sqm	
	Survey date: THURSDAY	*26/09/19*	*Survey Type: MANUAL*
10	WK-02-D-04 ABELES WAY ATHERSTONE	INDUSTRIAL ESTATE	WARWICKSHIRE
	Edge of Town No Sub Category Total Gross floor area:	17500 sqm	
	Survey date: FRIDAY	*27/09/19*	*Survey Type: MANUAL*
11	WY-02-D-03 ARMLEY ROAD LEEDS	INDUSTRIAL ESTATE	WEST YORKSHIRE
	Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area:	24980 sqm	
	Survey date: FRIDAY	*20/09/13*	*Survey Type: MANUAL*
12	WY-02-D-04 LAW STREET CLECKHEATON	INDUSTRIAL ESTATE	WEST YORKSHIRE
	Edge of Town Industrial Zone Total Gross floor area:	23226 sqm	
	Survey date: THURSDAY	*15/09/16*	*Survey Type: MANUAL*
13	WY-02-D-08 MILL LANE HALIFAX	INDUSTRIAL ESTATE	WEST YORKSHIRE
	Edge of Town No Sub Category Total Gross floor area:	11305 sqm	
	Survey date: WEDNESDAY	*17/10/18*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	3	14877	0.067	3	14877	0.011	3	14877	0.078
06:00 - 07:00	4	13974	0.122	4	13974	0.036	4	13974	0.158
07:00 - 08:00	13	22081	0.359	13	22081	0.095	13	22081	0.454
08:00 - 09:00	13	22081	0.479	13	22081	0.180	13	22081	0.659
09:00 - 10:00	13	22081	0.287	13	22081	0.199	13	22081	0.486
10:00 - 11:00	13	22081	0.226	13	22081	0.198	13	22081	0.424
11:00 - 12:00	13	22081	0.226	13	22081	0.214	13	22081	0.440
12:00 - 13:00	13	22081	0.217	13	22081	0.259	13	22081	0.476
13:00 - 14:00	13	22081	0.252	13	22081	0.244	13	22081	0.496
14:00 - 15:00	13	22081	0.208	13	22081	0.265	13	22081	0.473
15:00 - 16:00	13	22081	0.178	13	22081	0.247	13	22081	0.425
16:00 - 17:00	13	22081	0.260	13	22081	0.368	13	22081	0.628
17:00 - 18:00	13	22081	0.136	13	22081	0.495	13	22081	0.631
18:00 - 19:00	13	22081	0.078	13	22081	0.171	13	22081	0.249
19:00 - 20:00	4	13974	0.098	4	13974	0.091	4	13974	0.189
20:00 - 21:00	4	13974	0.020	4	13974	0.055	4	13974	0.075
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.213			3.128			6.341

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	10600 - 66500 (units: sqm)
Survey date date range:	01/01/13 - 21/10/20
Number of weekdays (Monday-Friday):	13
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	3	14877	0.000	3	14877	0.002	3	14877	0.002
06:00 - 07:00	4	13974	0.004	4	13974	0.002	4	13974	0.006
07:00 - 08:00	13	22081	0.012	13	22081	0.010	13	22081	0.022
08:00 - 09:00	13	22081	0.018	13	22081	0.023	13	22081	0.041
09:00 - 10:00	13	22081	0.026	13	22081	0.021	13	22081	0.047
10:00 - 11:00	13	22081	0.024	13	22081	0.024	13	22081	0.048
11:00 - 12:00	13	22081	0.020	13	22081	0.019	13	22081	0.039
12:00 - 13:00	13	22081	0.022	13	22081	0.021	13	22081	0.043
13:00 - 14:00	13	22081	0.025	13	22081	0.021	13	22081	0.046
14:00 - 15:00	13	22081	0.019	13	22081	0.019	13	22081	0.038
15:00 - 16:00	13	22081	0.016	13	22081	0.020	13	22081	0.036
16:00 - 17:00	13	22081	0.012	13	22081	0.013	13	22081	0.025
17:00 - 18:00	13	22081	0.005	13	22081	0.008	13	22081	0.013
18:00 - 19:00	13	22081	0.003	13	22081	0.003	13	22081	0.006
19:00 - 20:00	4	13974	0.000	4	13974	0.000	4	13974	0.000
20:00 - 21:00	4	13974	0.004	4	13974	0.000	4	13974	0.004
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.210			0.206			0.416

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	3	14877	0.054	3	14877	0.004	3	14877	0.058
06:00 - 07:00	4	13974	0.104	4	13974	0.027	4	13974	0.131
07:00 - 08:00	13	22081	0.209	13	22081	0.029	13	22081	0.238
08:00 - 09:00	13	22081	0.268	13	22081	0.053	13	22081	0.321
09:00 - 10:00	13	22081	0.146	13	22081	0.075	13	22081	0.221
10:00 - 11:00	13	22081	0.105	13	22081	0.082	13	22081	0.187
11:00 - 12:00	13	22081	0.100	13	22081	0.100	13	22081	0.200
12:00 - 13:00	13	22081	0.105	13	22081	0.143	13	22081	0.248
13:00 - 14:00	13	22081	0.119	13	22081	0.119	13	22081	0.238
14:00 - 15:00	13	22081	0.088	13	22081	0.135	13	22081	0.223
15:00 - 16:00	13	22081	0.075	13	22081	0.122	13	22081	0.197
16:00 - 17:00	13	22081	0.121	13	22081	0.235	13	22081	0.356
17:00 - 18:00	13	22081	0.088	13	22081	0.296	13	22081	0.384
18:00 - 19:00	13	22081	0.052	13	22081	0.108	13	22081	0.160
19:00 - 20:00	4	13974	0.091	4	13974	0.086	4	13974	0.177
20:00 - 21:00	4	13974	0.013	4	13974	0.047	4	13974	0.060
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.738			1.661			3.399

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	3	14877	0.009	3	14877	0.004	3	14877	0.013
06:00 - 07:00	4	13974	0.014	4	13974	0.007	4	13974	0.021
07:00 - 08:00	13	22081	0.078	13	22081	0.037	13	22081	0.115
08:00 - 09:00	13	22081	0.087	13	22081	0.085	13	22081	0.172
09:00 - 10:00	13	22081	0.072	13	22081	0.085	13	22081	0.157
10:00 - 11:00	13	22081	0.065	13	22081	0.077	13	22081	0.142
11:00 - 12:00	13	22081	0.074	13	22081	0.074	13	22081	0.148
12:00 - 13:00	13	22081	0.061	13	22081	0.067	13	22081	0.128
13:00 - 14:00	13	22081	0.072	13	22081	0.073	13	22081	0.145
14:00 - 15:00	13	22081	0.071	13	22081	0.062	13	22081	0.133
15:00 - 16:00	13	22081	0.065	13	22081	0.060	13	22081	0.125
16:00 - 17:00	13	22081	0.070	13	22081	0.071	13	22081	0.141
17:00 - 18:00	13	22081	0.026	13	22081	0.060	13	22081	0.086
18:00 - 19:00	13	22081	0.010	13	22081	0.021	13	22081	0.031
19:00 - 20:00	4	13974	0.005	4	13974	0.002	4	13974	0.007
20:00 - 21:00	4	13974	0.004	4	13974	0.009	4	13974	0.013
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.783			0.794			1.577

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

vectos.

Appendix B

PRE-APPLICATION TRANSPORT NOTE

PROPOSED DATA CENTRE

Didcot Distribution Park, Didcot, Oxfordshire, OX14 4TA

Date: October 2017 **Ref: JLLS/17/3759/TN02**

1 INTRODUCTION

1.1 RGP is commissioned by Cloud HQ UK Limited to provide transport planning support with respect to a proposed data centre facility on land between Didcot Power Station and Sutton Courtenay Lane, Dicot OX14 4TA.

1.2 This Pre-Application Transport Note summarises the key highway and transportation considerations associated with the proposed data centre at Didcot Distribution Park. In particular it sets out matters relating to traffic impact, access and mitigation in context with the extant B8 storage and distribution use on the same land. The proposals would operate as a B8 land use, as is typical for this type of facility, with a total floor area of 70,714 square metres.

1.3 Oxfordshire County Council (OCC), as Highway Authority (HA), and Vale of White Horse District Council (VWHDC), as Local Planning Authority (LPA), are respectfully requested to advise of the suitability of the proposed use against the background of the extant permission and previous obligations sought, which are not considered necessary or appropriate in the context of the proposed data centre use.

1.4 As background to the proposals, outline planning permission was granted by VWHDC in July 2015 (Ref: P14/V1906) for 87,720 square metres of B8 warehousing and distribution floor space (with 605 car parking spaces and 233 HGV parking spaces) at the site. The scheme (Ref: P14/V1906) would replace the previous total of 68,746 square metres B8 floor space at the site (this has since been demolished). The scheme (Ref: P14/V1906) is yet to be implemented but remains an extant planning consent.

1.5 The plan attached at **Appendix A** provides an illustration of the extant permission with the proposed data overlaid, which comprises two separate buildings with a floor area of 34,296 square metres (369,160 square feet) and 36,417.5 square metres (391,998 square feet) labelled as Unit A and Unit B respectively.

1.6 The previous application was accompanied by a number of Transport Assessment / Transport Assessment Addendum / Travel Plan reports, prepared by Fairhurst in November 2013 and November 2014. This included traffic generation figures associated with the previous use of the site (B8 - 68,746 square metres) and proposed / extant use of the site (B8 – 87,720 square metres). These trip rates and associated traffic generation figures were accepted as being appropriately representative of these existing and previously proposed uses by OCC.

1.7 In summary, the previous, extant and latest proposed scenarios at the site are as follows:

i) **Previous Use** – 68,746 square metres (B8 land use).

ii) **Extant Use** (Ref: P14/V1906) – 87,720 square metres (B8 land use).

iii) **Proposed Use** – 70,714 square metres (B8 land use).

1.8 These latest data centre proposals therefore represent a development floor area which is smaller than the consented scheme at the site and is commensurate (albeit a 2.7% increase) with the previous situation at the site in terms of floor area.

1.9 Notwithstanding the above floor area comparisons, such data centre sites generate significantly fewer vehicle movements than traditional B8 operators, such as the previous and extant scenarios for this site. Indeed, this Note includes survey results which have been commissioned at comparable existing data centre sites in order to establish trip rates and the likely levels of classified peak hour and daily traffic associated with these latest data centre proposals. Importantly, these existing data centre sites also operate under a B8 Land Use Class. Further details of the sites surveyed are included later in this report.

1.10 Against the background of the intended operation of the data centre, this Note goes on to consider suitable access arrangements and the appropriateness of the mitigation measures and financial contributions that were required for the approved scheme (P14/V1906).

2 TRAFFIC GENERATION

Previous and Extant Site Use

2.1 The following table sets out the previous and consented levels of classified traffic movements at the site, as per the schedules at Section 1 and as accepted by OCC. The figures replicate those provided by Fairhurst within the Transport Assessment 2nd Addendum document (Ref: 97980/TA.A02) dated November 2014, which was submitted for application P14/V1906.

Scenario	Time Period	Arrivals		Total Arr.	Departures		Total Dep.	Total Two-Way Movements (Total Vehicles)
		CARS / LGV	HGV		CARS / LGV	HGV		
PREVIOUS – 68,746 SQ. M.	AM Peak Hour (0800-0900)	36	17	53	10	22	32	**85**
	PM Peak Hour (1700-1800)	17	23	40	39	23	62	**102**
	Daily (12-Hour)	390	219	609	409	205	614	**1,223**
	Daily (24-Hour)	765	375	1,140	802	351	1,153	**2,293**
EXTANT – 87,720 SQ. M.	AM Peak Hour (0800-0900)	50	19	69	12	25	37	**106**
	PM Peak Hour (1700-1800)	23	26	49	43	26	69	**118**
	Daily (12-Hour)	534	287	821	559	268	827	**1,648**
	Daily (24-Hour)	1,047	491	1,538	1,097	459	1,556	**3,094**

Table 2.1 – Previous / Extant Traffic Generation Associated with the Site

2.2 On the basis of the above it is apparent that the site previously generated between 85 and 102 two-way peak hour movements, including between 39 and 46 two-way movements by HGV. Over a 24-hour period, the current site use could generate 2,293 two-way vehicle movements, including 726 HGV movements.

2.3 If implemented, the extant use would increase this level of traffic. There would be between 106 and 118 two-way movements during the peak hours, including between 44 and 52 HGV movements. Over the course of a 24-hour period, the site would generate in the order of 3,094 two-way vehicle movements, including 950 two-way movements by HGV.

Proposed Data Centre Use

2.4 In order to establish the likely level of traffic associated with the proposed data centre, Modal Data, an independent data collection company, were commissioned to undertake 24-hour classified in / out surveys at the accesses to two existing data centre sites. The sites are operated by Digital Realty (also B8 land use) and operate in a similar manner to that proposed at Didcot. The selected data centres are situated in a comparable location as the subject site and are as follows:

i) Digital Realty, 3 Foxboro Park, Holmethorpe Avenue, Redhill, RH1 2NB – 8,921 Sq. M.; and,

ii) Digital Realty, Unit 21, Goldsworth Park Trading Estate, Woking, GU21 3BA – 24,155 Sq. M.

2.5 Google Earth images of each data centre are included at **Appendix B**

2.6 The surveys of both data centres were undertaken between Thursday 28th September and Friday 29th September 2017, for the hours of 04:00-04:00, which represented a neutral period in terms of the operation of the local highway network and data centres.

2.7 The full survey results for each site is included at **Appendix B** and summarised below in terms of the classified traffic generation during the traditional highway network peak hours (0800-0900 and 1700-1800) and over the course of a daily 12-hour (0700-1900) and 24-hour period.

Scenario	Time Period	Arrivals		Total Arr.	Departures		Total Dep.	Total Two-Way Movements (Total Vehicles)
		CARS / LGV	HGV		CARS / LGV	HGV		
DIGITAL REALTY, REDHILL 8,921 Sq. M.	AM Peak Hour (0800-0900)	4	0	4	2	0	2	**6**
	PM Peak Hour (1700-1800)	3	0	3	11	0	11	**14**
	Daily (12-Hour)	32	2	34	38	2	40	**74**
	Daily (24-Hour)	43	2	45	51	2	53	**98**
DIGITAL REALTY, WOKING 24,155 Sq. M.	AM Peak Hour (0800-0900)	13	2	15	0	1	1	**16**
	PM Peak Hour (1700-1800)	2	0	2	13	0	13	**15**
	Daily (12-Hour)	113	6	119	106	6	112	**231**
	Daily (24-Hour)	124	6	130	127	6	133	**263**

Table 2.2 – Data Centre Traffic Observed Survey Results

2.8 The above survey results have been applied to the respective floor areas of these existing data centres in order to establish trip rates (per 100 square metres floor area). These trip subsequent trip rates are presented below.

Scenario	Time Period	Arrivals		Total Arr.	Departures		Total Dep.	Total Two-Way Movements (Total Vehicles)
		CARS / LGV	HGV		CARS / LGV	HGV		
DIGITAL REALTY, REDHILL 8,921 Sq. M.	AM Peak Hour (0800-0900)	0.045	0.000	0.045	0.022	0.000	0.022	**0.067**
	PM Peak Hour (1700-1800)	0.034	0.000	0.034	0.123	0.000	0.123	**0.157**
	Daily (12-Hour)	0.359	0.022	0.381	0.426	0.022	0.448	**0.830**
	Daily (24-Hour)	0.482	0.022	0.504	0.572	0.022	0.594	**1.099**
DIGITAL REALTY, WOKING 24,155 Sq. M.	AM Peak Hour (0800-0900)	0.054	0.008	0.062	0.000	0.004	0.004	**0.066**
	PM Peak Hour (1700-1800)	0.008	0.000	0.008	0.054	0.000	0.054	**0.062**
	Daily (12-Hour)	0.468	0.025	0.493	0.439	0.025	0.464	**0.956**
	Daily (24-Hour)	0.513	0.025	0.538	0.526	0.025	0.551	**1.089**

Table 2.3 – Data Centre Traffic Survey Results – Trip Rates per 100 Sq. M.

2.9 The above trip rates from both existing data centre sites are very similar, confirming the comparable nature of operations at different data centres. The daily trip rate at the Redhill site is 1.099 while the daily trip rate at the Woking site is 1.089, which is a variation of less than 1%. The above trip rates have been averaged, with the subsequent trip rates presented in **Table 2.3**.

Scenario	Time Period	Arrivals		Total Arr.	Departures		Total Dep.	Total Two-Way Movements (Total Vehicles)
		CARS / LGV	HGV		CARS / LGV	HGV		
PROPOSED DATA CENTRE – 70,714 SQ. M.	AM Peak Hour (0800-0900)	0.049	0.004	0.053	0.011	0.002	0.013	**0.067**
	PM Peak Hour (1700-1800)	0.021	0.000	0.021	0.089	0.000	0.089	**0.110**
	Daily (12-Hour)	0.413	0.024	0.437	0.432	0.024	0.456	**0.893**
	Daily (24-Hour)	0.498	0.024	0.521	0.549	0.024	0.572	**1.094**

Table 2.4 – Data Centre Traffic Survey Results – Average Trip Rates per 100 Sq. M.

2.10 The trip rates presented at **Table 2.4** have been applied to the floor area of the proposed data centre at Didcot in order to establish the projected traffic generation by cars / LGV and HGV. This is presented in **Table 2.5** as follows.

Scenario	Time Period	Arrivals		Total Arr.	Departures		Total Dep.	Total Two-Way Movements (Total Vehicles)
		CARS / LGV	HGV		CARS / LGV	HGV		
PROPOSED DATA CENTRE – 70,714 SQ. M.	AM Peak Hour (0800-0900)	35	3	38	8	1	9	**47**
	PM Peak Hour (1700-1800)	15	0	15	63	0	63	**77**
	Daily (12-Hour)	292	17	309	306	17	322	**631**
	Daily (24-Hour)	352	17	369	388	17	405	**773**

Table 2.5 – Estimated Traffic Generation Associated with Proposed Data Centre (70,714 Sq. M.)

2.11 On the basis of the above, it is estimated that the proposed Didcot data centre could generate 47 two-way vehicle movements during the AM peak hour and 77 two-way vehicle movements during the PM peak hour. This includes 4 HGV movements during the AM peak hour and no HGV movements during the PM peak hour. Notwithstanding the previous / extant scenarios at the site, this is a negligible level of traffic.

2.12 Over the course of a 24-hour period there is estimated to be 773 two-way vehicle movements, including 34 movements by HGV. Again, this is a negligible level of traffic over a 24-hour period.

Net Impact

2.13 The figures presented at **Table 2.5** and **Table 2.1** have been compared in order to establish the net impact of the data centre proposals when compared against the previous / extant scenarios at the site. This is presented in **Table 2.6** below.

Scenario	Time Period	Arrivals		Total Arr.	Departures		Total Dep.	Total Two-Way Movements (Total Vehicles)
		CARS / LGV	HGV		CARS / LGV	HGV		
NET IMPACT AGAINST PREVIOUS	AM Peak Hour (0800-0900)	-1	-14	-15	-2	-21	-23	**-38**
	PM Peak Hour (1700-1800)	-2	-23	-25	24	-23	1	**-25**
	Daily (12-Hour)	-98	-202	-300	-103	-188	-292	**-592**
	Daily (24-Hour)	-413	-358	-771	-414	-334	-748	**-1520**
NET IMPACT AGAINST EXTANT	AM Peak Hour (0800-0900)	-15	-16	-31	-4	-24	-28	**-59**
	PM Peak Hour (1700-1800)	-8	-26	-34	20	-26	-6	**-41**
	Daily (12-Hour)	-242	-270	-512	-253	-251	-505	**-1017**
	Daily (24-Hour)	-695	-474	-1169	-709	-442	-1151	**-2321**

Table 2.6 – Net Traffic Impact of Proposed Data Centre

2.14 It is apparent that the proposed data centre would result in a significant reduction, and therefore benefit, in traffic impact terms when compared against both the previous and extant scenarios at the site. When considered against the previous situation, it is estimated that the proposals would remove between 25 and 38 vehicle movements from the highway network during the peak hours. In terms of the daily (24-hour) period, the proposals would remove 1,520 vehicular movements from the highway network. This is a significant reduction in traffic and the proposals therefore represent a significant benefit in highways terms when compared against the previous situation at the site.

2.15 When considered against the extant scenario, the proposals would have an even greater benefit. The proposals would result in between 41 and 59 fewer peak hour movements and 2,321 fewer daily (24-hour) movements. Again, this is a significant benefit in highway terms.

2.16 Importantly, the proposals would generate significantly fewer HGV movements. The net impact against the previous situation at the site would see between 35 and 46 fewer peak hour movements by HGV and 692 fewer daily (24-hour) movements by HGV. When considered against the extant situation, the proposals would result in between 40 and 52 fewer HGV movements during the peak hours and 916 fewer HGV movements daily (24-hour). The data centre proposals therefore represent a significant benefit due to the reduction in HGV movements on the highway network in both safety and capacity terms.

3 ACCESS

3.1 Access to the site is currently provided by way of a longstanding priority junction from the eastern side of Sutton Courtenay Lane. The associated access arrangement for extant application P14/V1906 would be via a proposed new priority junction some 70 metres to the north of the current access (which would then be closed). This is shown on the background layout at **Appendix A**.

3.2 The proposed data centre would utilise this same new access arrangement. The design and layout of this new access has already been subject to junction modelling and safety assessment for a significantly greater level of traffic than the current data centre would generate. On this basis it is considered that this previously proposed, and subsequently approved, access design remains appropriate for the data centre.

3.3 Notwithstanding this, in the event that the new access arrangement has not been completed prior to the construction of the data centre, it is also considered that the existing access arrangement would also remain appropriate to accommodate the data centre's operation. The proposed data centre would generate significantly less traffic than the previous site use, which is served by this longstanding access arrangement.

3.4 OCC as Highway Authority are respectfully requested to confirm the suitability of the above approach.

4 MITIGATION

4.1 A key issue that required significant assessment and ongoing mitigation as part of the extant planning permission (P14/V1906) was the issue of potential vehicle routing north of the site through the village of Sutton Courtenay and Milton Park Estate. All traffic was required to route south along Milton Road and the A4130 to access the A34.

4.2 As such, the previous scheme was required to incorporate a number of hard and soft measures to prevent any vehicular routing to the north of the site. The subsequent mitigation measures that were agreed as part of application P14/V1906 include the following:

i) Central kerbed island at the access to physically restrict right-turning movements (the access itself would also be relocated 70 metres further north);

ii) Routing plan to be provided to all staff;

iii) Signage on-site to warn that the exit is left-out only;

iv) Additional width restrictions north of the site access on Sutton Courtenay Road to prevent HGV access;

v) Requirement to program any route navigation systems with the permitted routes to ensure all operational traffic accords with the routing agreement;

vi) Automatic Number Plate Recognition Scheme to monitor vehicle movements;

vii) Traffic surveys of the access by way of 24-hour turning counts to ensure no vehicles turn right out of the access;

viii) A Traffic Regulation Order in conjunction with OCC would be implemented in order to prevent right-turning movements out of the site if the abovementioned survey results indicate that any vehicles turn right out of the access.

4.3 These measures were secured through a S.106 legal agreement for the provision and ongoing adherence to a Freight Management Plan, Travel Plan and an Automatic Number Plate Recognition Scheme Proposal Report.

4.4 The Travel Plan accompanying application P14/V1906 also included a number of measures and commitments for reducing vehicular travel to and from the site. The previous outline Travel Plan measures are summarised as follows:

i) Appointment of a Travel Plan Co-ordinator to monitor travel modes, ensure implementation of the Travel Plan and monitor the access arrangements (i.e. no right-turn manoeuvres);

ii) Implementation of a range of 'hard' and 'soft' measures, including provision of lockers, changing rooms, showers and cycle parking on-site to encourage travel by non-car modes;

iii) Monitoring surveys every year for the first 5-years to ensure targets are met;

iv) Provision of monitoring reports to be provided to OCC every year.

4.5 In addition to the above, a financial contribution of £350,000 was to be provided by the Developer as part of the extant approval and secured through a Section 106 agreement to secure sustainable transport improvements. A proportion of this included for the provision of a new and upgraded bridleway to the site to facilitate access by cycle and foot.

4.6 Given the significant benefit that the data centre proposals would bring in traffic impact terms when compared against both the previous and extant traffic impact scenarios at the site, it is considered that the above mitigation and financial contributions cannot reasonably be justified as being necessary, directly related or fairly and reasonably related in scale (in accordance with paragraph 204 of the NPPF) to the proposed data centre scheme. OCC and VWHDC are respectfully requested to advise on this matter.

5 SUMMARY

5.1 This Pre-Application Transport Note summarises the key highway and transportation elements associated with a proposed data centre at Didcot Distribution Park, Didcot. The proposal seeks to construct a data centre (Land Use Class B8) with a total floor area of 70,714 square metres. In particular, it sets out matters relating to traffic impact, access and mitigation.

5.2 In summary, it demonstrates the following:

i) The proposals would generate significantly fewer total vehicle movements on the highway network than the previous and extant scenarios at the site;

ii) The proposals would also generate significantly fewer HGV movements than the previous and extant operations;

iii) Access to the site would be provided by way of the proposed new access arrangement consented as part of extant application P14/V1906. In the event that the new access is not completed prior to the data centre being completed, it is considered that access via the existing junction from Sutton Courtenay Lane would remain appropriate; and

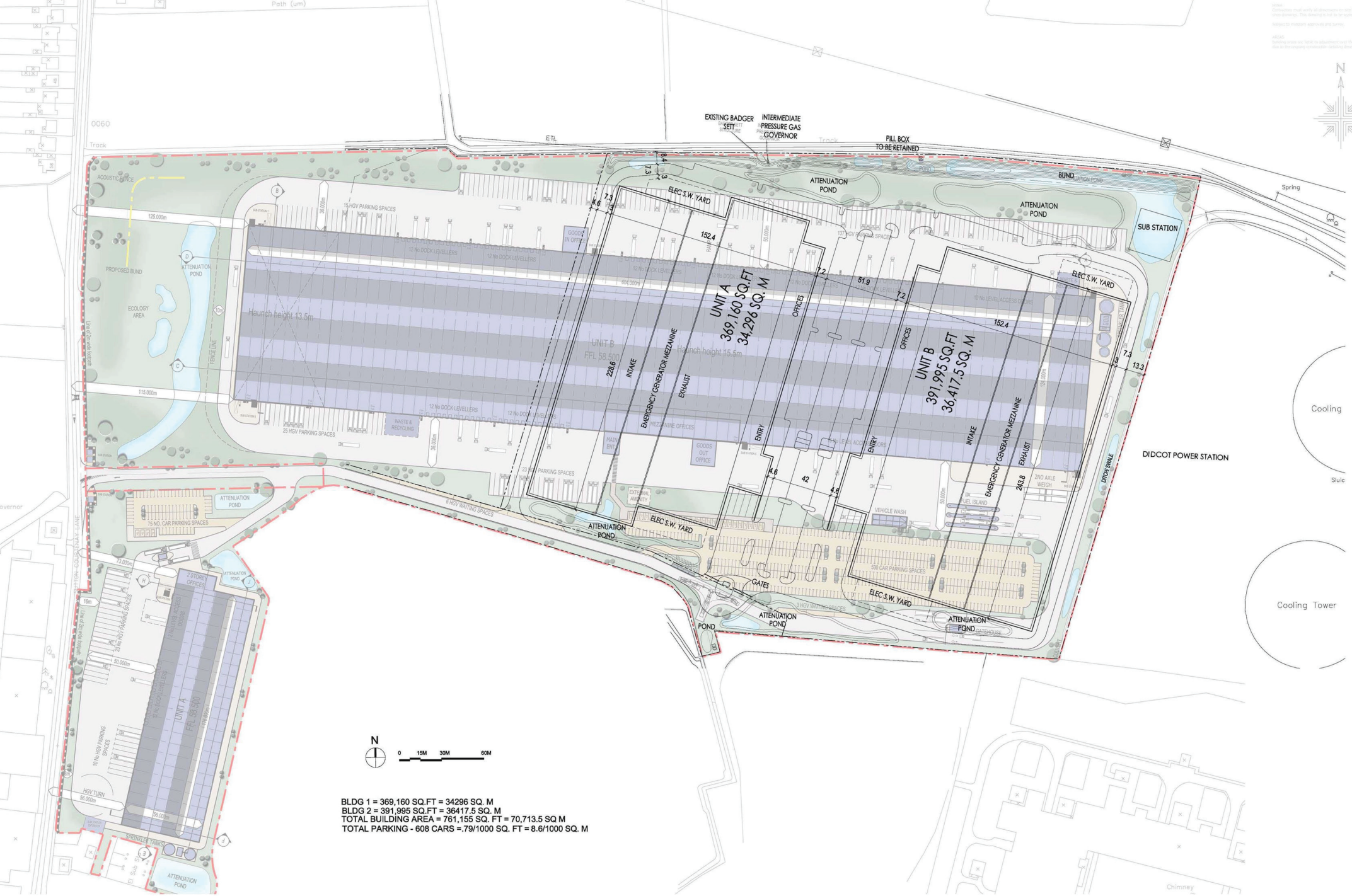
iv) Given the significant benefit of the data centre in traffic impact terms when considered against both the extant and previous scenarios for the site, it is considered that the current mitigation and financial contributions would not meet the necessary tests of paragraph 204 of the NPPF.

5.3 Oxfordshire County Council (OCC) as Highway Authority (HA) and Vale of White Horse District Council (VWHDC) as Local Planning Authority (LPA) are respectfully requested to advise of the appropriateness of the findings set out herein and advise of any particular transport related elements that would require consideration as part of a formal planning application to enable Scoping of a potential Transport Assessment and Travel Plan.

5.4 Specific advice is sought on the likely controls and restrictions that may be imposed by OCC on the proposed data centre use.

5.5 Due to contractual obligations with Cloud HQ Limited, a meeting with OCC to discuss the proposals is sought soonest and we respectfully request that written feedback is provided by week commencing 6th November 2017.

APPENDIX A



BLDG 1 = 369,160 SQ.FT = 34296 SQ. M
BLDG 2 = 391,995 SQ.FT = 36417.5 SQ. M
TOTAL BUILDING AREA = 761,155 SQ. FT = 70,713.5 SQ M
TOTAL PARKING - 608 CARS =.79/1000 SQ. FT = 8.6/1000 SQ. M

DIDCOT DATA CENTRE PARK

SITE OVERLAY ON PREVIOUS PERMITTED PLAN

OXFORDSHIRE, ENGLAND

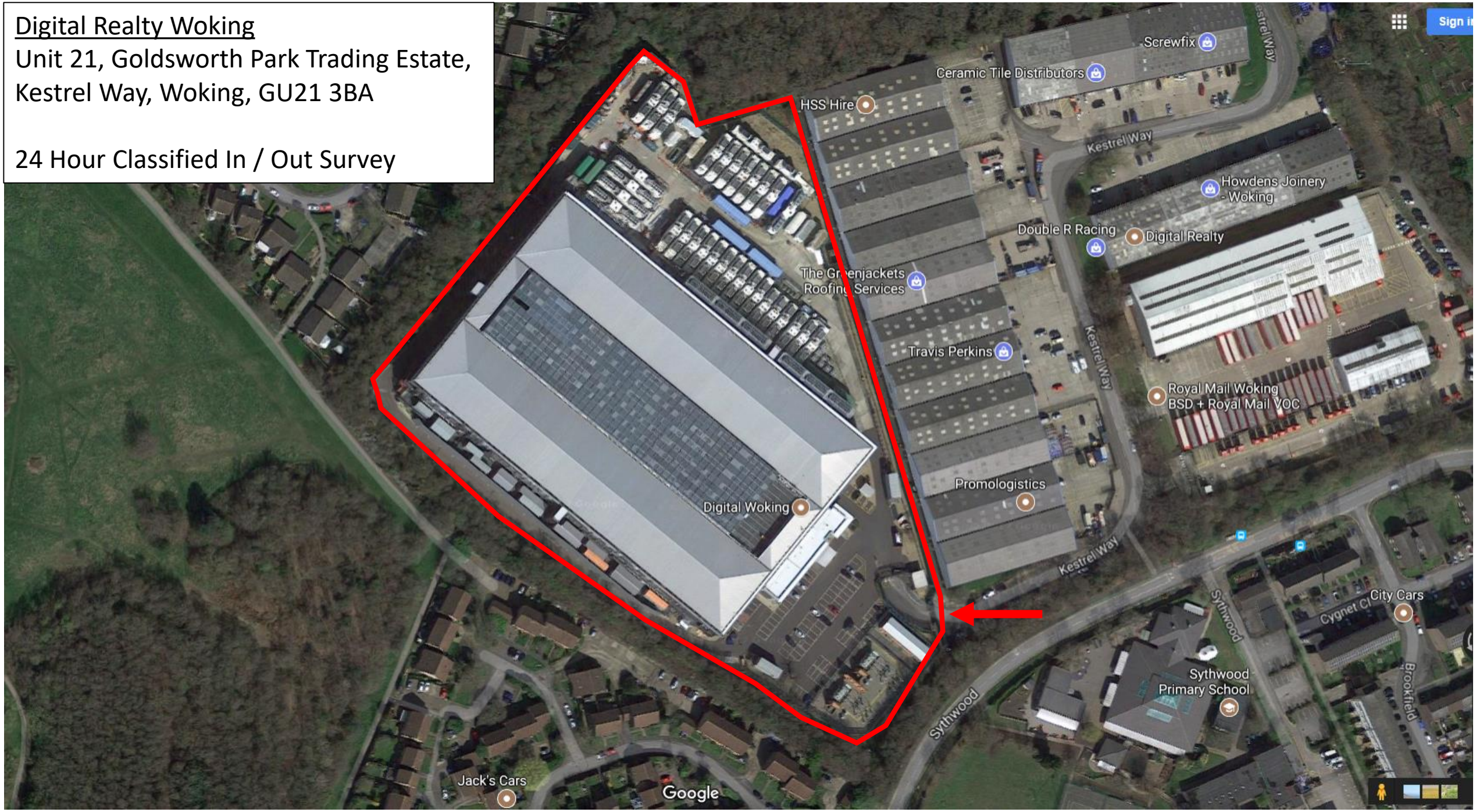
CloudHQ
Where data lives.

DVA ARCHITECTS

APPENDIX B

<u>Digital Realty Woking</u>
Unit 21, Goldsworth Park Trading Estate,
Kestrel Way, Woking, GU21 3BA

24 Hour Classified In / Out Survey



Digital Realty Data Centre, Redhill – 24 Hour Classified In / Out Survey

DIGITAL REALTY WOKING

THURSDAY 28TH - FRIDAY 29TH SEPTEMBER 2017

MODAL
modaldata.com

TIME		IN TO CENTRE			TOTAL IN	STREET PARKED	PEDS IN	OUT FROM CENTRE			TOTAL OUT	STREET PARKED	PEDS OUT	TOTAL MOVEMENTS CAR HGV & LGV IN/OUT OF CENTRE
		CAR	LGV	HGV				CAR	LGV	HGV				
04:00	04:15	0	0	0	0			0	0	0	0			0
04:15	04:30	0	0	0	0			0	0	0	0			0
04:30	04:45	0	0	0	0			0	0	0	0			0
04:45	05:00	0	0	0	0			1	0	0	1			1
05:00	05:15	0	0	0	0			0	0	0	0			0
05:15	05:30	0	0	0	0			0	0	0	0			0
05:30	05:45	1	0	0	1			0	0	0	0			1
05:45	06:00	0	0	0	0			1	0	0	1			1
06:00	06:15	0	0	0	0			0	0	0	0			0
06:15	06:30	5	0	0	5	3		2	0	0	2			7
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06:45	07:00	6	0	0	6	1		2	0	0	2	1		8
07:00	07:15	1	3	0	4	4		0	0	0	0			4
07:15	07:30	3	0	0	3	3		0	0	0	0			3
07:30	07:45	3	0	0	3	1		0	0	0	0			3
07:45	08:00	0	0	0	0	1		2	0	0	2	1		2
08:00	08:15	4	0	1	5			0	0	0	0			5
08:15	08:30	2	0	0	2			0	0	1	1			3
08:30	08:45	2	0	0	2			0	0	0	0			2
08:45	09:00	3	2	1	6			0	0	0	0			6
09:00	09:15	4	0	1	5			0	0	1	1			6
09:15	09:30	3	1	1	5	1		0	0	1	1			6
09:30	09:45	1	2	0	3			1	0	0	1			4
09:45	10:00	1	2	0	3			0	2	0	2			5
10:00	10:15	2	1	0	3		3	0	2	0	2		3	5
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11:45	12:00	2	1	0	3		1	1	0	0	1	2	4	4
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12:45	13:00	0	0	0	0		4	0	0	0	0	1	5	0
13:00	13:15	0	0	0	0	1	2	2	0	0	2		15	2
13:15	13:30	1	3	0	4		3	2	0	1	3		5	7
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14:15	14:30	1	0	0	1		1	1	1	0	2		2	3
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15:00	15:15	1	1	0	2			1	0	0	1	1	4	3
15:15	15:30	0	1	0	1	1		1	2	1	4			5
15:30	15:45	0	0	1	1		1	2	0	0	2		2	3
15:45	16:00	0	0	0	0		1	2	2	1	5	3	6	5
		59	21	6	86	25	45	35	18	6	59	15	66	145

TIME		IN TO CENTRE			TOTAL IN	STREET PARKED	PEDS IN	OUT FROM CENTRE			TOTAL OUT	STREET PARKED	PEDS OUT	TOTAL MOVEMENTS CAR HGV & LGV IN/OUT OF CENTRE
		CAR	LGV	HGV				CAR	LGV	HGV				
16:00	16:15	1	0	0	1			5	0		5	3	1	6
16:15	16:30	0	0	0	0			2	2		4	2	2	4
16:30	16:45	0	0	0	0			2	0		2	1	1	2
16:45	17:00	1	0	0	1			2	1		3	1	1	4
17:00	17:15	0	0	0	0			3	0		3			3
17:15	17:30	0	0	0	0			3	0		3			3
17:30	17:45	0	0	0	0	1		1	0		1	1	2	1
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18:45	19:00	0	0	0	0			4	0		4		1	4
19:00	19:15	0	0	0	0			0	0		0	1		0
19:15	19:30	2	0	0	2			0	0		0			2
19:30	19:45	1	0	0	1	1		2	0		2		1	3
19:45	20:00	0	0	0	0			0	0		0			0
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20:15	20:30	0	0	0	0			1	0		1			1
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22:00	22:15	0	0	0	0			0	0		0			0
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03:45	04:00	0	0	0	0			0	0		0			0
		10	1	0	11	8	1	34	6	0	40	19	13	51
Total 24h		69	22	6	97	33	46	69	24	6	99	34	79	196

DIGITAL REALTY REDHILL

THURSDAY 28TH - FRIDAY 29TH SEPTEMBER 2017

MODAL
modaldata.com

		IN TO DATACENTRE										OUT OF DATACENTRE										
		Entrance 1 St Annes Blvd			Entrance 2 St Annes Drive North			Entrance 3 St Annes Drive North			TOTAL IN	Entrance 1 St Annes Blvd			Entrance 2 St Annes Drive North			Entrance 3 St Annes Drive North			TOTAL OUT	TOTAL MOVEMENT
TIME		CAR	LGV	HGV	CAR	LGV	HGV	CAR	LGV	HGV		CAR	LGV	HGV	CAR	LGV	HGV	CAR	LGV	HGV		
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05:15	05:30							1			1										0	1
05:30	05:45										0										0	0
05:45	06:00							1			1	1									1	2
06:00	06:15										0										0	0
06:15	06:30	2									2										0	2
06:30	06:45	1						1			2	1									1	3
06:45	07:00	1						2			3	1			1						2	5
07:00	07:15										0	1									1	1
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08:00	08:15										0										0	0
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09:30	09:45	1									1										0	1
09:45	10:00	1	1								2		1								1	3
10:00	10:15										0										0	0
10:15	10:30	1									1										0	1
10:30	10:45	1									1										0	1
10:45	11:00		1								1										0	1
11:00	11:15	1	1								2										0	2
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11:30	11:45										0				1						1	1
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13:00	13:15										0	2			1						3	3
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13:30	13:45	1	1								2		1								1	3
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14:00	14:15		1								1										0	1
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14:45	15:00										0	1									1	1
15:00	15:15										0										0	0
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17:00	17:15										0										0	0
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17:30	17:45	1									1	1									1	2
17:45	18:00	1									1	2			1			1			4	5
18:00	18:15	1									1							1			1	2

18:15	18:30	2									2										0	2
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18:45	19:00	1									1	1			1						2	3
19:00	19:15										0	1									1	1
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00:00	00:15										0										0	0
00:15	00:30										0										0	0
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00:45	01:00										0										0	0
01:00	01:15										0										0	0
01:15	01:30										0										0	0
01:30	01:45										0										0	0
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02:00	02:15										0										0	0
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03:30	03:45										0										0	0
03:45	04:00										0										0	0
04:00	04:15										0										0	0
04:15	04:30										0										0	0
04:30	04:45										0										0	0
04:45	05:00										0										0	0
05:00	05:15										0										0	0
Total 24h		26	11	2	0	0	0	6	0	0	45	28	9	2	9	0	0	5	0	0	53	98

vectos.

Appendix C

MedwayOne, Kingsnorth Power Station

Network Statistics - Subnetwork 1

Statistic	Units	AM Peak Hour (08:00 - 09:00)	
		2037 Do Minimum	2037 Do Something
Key Statistics			
Delay	sec/km	79	79
Mean Queue	veh	526	565
Speed	km/h	38	37
Stop Time	sec/km	63	61
Throughput			
Total Throughput	veh	16,773	16,348
Total Statistics			
Total Travel Time Including Virtual Queue	h	2,786	3,099
Total Travelled Distance	km	87,300	88,154
Derived Statistics			
Average Travel Time per Vehicle	s/veh	598	682

Statistic	Units	PM Peak Hour (17:00 - 18:00)	
		2037 Do Minimum	2037 Do Something
Key Statistics			
Delay	sec/km	57	74
Mean Queue	veh	214	470
Speed	km/h	43	36
Stop Time	sec/km	46	58
Throughput			
Total Throughput	veh	14,052	14,431
Total Statistics			
Total Travel Time Including Virtual Queue	h	1,921	2,611
Total Travelled Distance	km	74,332	78,185
Derived Statistics			
Average Travel Time per Vehicle	s/veh	492	651

MedwayOne, Kingsnorth Power Station

Network Statistics - Subnetwork 5

Statistic	Units	AM Peak Hour (08:00 - 09:00)	
		2037 Do Minimum	2037 Do Something
Key Statistics			
Delay	sec/km	37	36
Mean Queue	veh	497	488
Speed	km/h	58	59
Stop Time	sec/km	28	28
Throughput			
Total Throughput	veh	32,556	32,613
Total Statistics			
Total Travel Time Including Virtual Queue	h	4,117	4,069
Total Travelled Distance	km	222,406	221,271
Derived Statistics			
Average Travel Time per Vehicle	s/veh	455	449

Statistic	Units	PM Peak Hour (17:00 - 18:00)	
		2037 Do Minimum	2037 Do Something
Key Statistics			
Delay	sec/km	47	43
Mean Queue	veh	668	623
Speed	km/h	57	57
Stop Time	sec/km	36	33
Throughput			
Total Throughput	veh	38,202	38,156
Total Statistics			
Total Travel Time Including Virtual Queue	h	5,064	5,030
Total Travelled Distance	km	250,779	251,161
Derived Statistics			
Average Travel Time per Vehicle	s/veh	477	475

Junction Level of Service - Subnetwork 1 - 2037 Assessment Year

Junction	2016 Base	2037 Reference Case	2037 Local Plan
AM Peak Hour			
Bell's Lane Roundabout	A	A	A
Main Road Hoo Roundabout	A	B	A
Four Elms Roundabout	F	E	F
San Pareil Roundabout	E	F	F
Anthony's Way Roundabout	D	F	F
Ropers Lane Roundabout	A	F	F
PM Peak Hour			
Bell's Lane Roundabout	A	A	B
Main Road Hoo Roundabout	A	D	F
Four Elms Roundabout	F	F	F
San Pareil Roundabout	F	F	F
Anthony's Way Roundabout	F	F	F
Ropers Lane Roundabout	A	B	B

Junction Statistics - Subnetwork 1 - 2037 Assessment Year

Main Road Hoo Roundabout	AM Peak Hour				PM Peak Hour			
2037 Do Minimum	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
Main Road Hoo	230.8	53.1	2.2	13.1	558.2	185.8	27.0	78.7
A228 Peninsula Way W	2500.5	1.4	0.0	1.8	2061.4	1.5	0.0	2.1
Development Access	71.1	10.1	0.2	2.7	43.5	5.7	0.1	1.5
A228 Peninsula Way E	2306.5	20.1	2.4	13.0	1871.7	18.3	2.0	11.4
2037 Do Something	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
Main Road Hoo	331.3	38.7	2.0	14.1	298.5	692.7	79.6	134.9
A228 Peninsula Way W	2491.7	1.4	0.0	1.4	1893.2	1.3	0.0	1.7
Development Access	63.8	10.0	0.2	2.4	32.5	5.1	0.0	1.4
A228 Peninsula Way E	2023.7	13.6	1.1	9.1	2254.2	161.3	34.6	56.9

Four Elms Roundabout	AM Peak Hour				PM Peak Hour			
2037 Do Minimum	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
Four Elms Hill	1561.4	11.7	0.1	7.6	1519.2	141.9	27.6	70.8
A289 Wulfere Way	1053.4	136.9	16.5	26.7	1262.1	35.5	4.3	11.6
B2108 Hoo Road	768.2	11.8	0.7	10.9	953.0	23.5	2.4	20.3
A289 Hasted Road	1418.5	22.6	2.5	11.4	1538.7	42.6	6.4	18.7
2037 Do Something	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
Four Elms Hill	1457.5	15.0	0.6	8.8	1270.1	205.6	40.1	88.2
A289 Wulfere Way	1264.3	506.1	74.9	95.9	1580.0	39.5	6.1	16.9
B2108 Hoo Road	788.2	12.9	0.9	11.9	856.8	54.1	5.8	28.1
A289 Hasted Road	1589.4	132.0	21.4	39.0	1905.1	604.4	134.3	174.4

Junction Statistics - Subnetwork 1 - 2037 Assessment Year

San Pareil Roundabout	AM Peak Hour				PM Peak Hour			
2037 Do Minimum	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
A228 Frindsbury Hill	565.9	447.2	71.8	118.2	651.6	392.6	65.2	115.2
Wainscott Road	466.0	5.1	0.0	5.0	364.8	35.7	1.9	12.0
A289 Wulfere Way	521.8	11.0	0.4	3.1	366.7	12.8	0.2	2.4
A289 Berwick Way	2217.5	31.5	2.4	14.0	2521.4	35.2	1.0	11.5
2037 Do Something	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
A228 Frindsbury Hill	450.2	328.3	38.7	74.6	648.0	130.9	15.6	41.4
Wainscott Road	302.1	28.9	0.9	6.9	289.6	18.6	0.2	7.0
A289 Wulfere Way	490.4	7.4	0.1	2.2	433.1	12.7	0.2	2.2
A289 Berwick Way	2100.2	109.8	13.3	41.5	2512.4	44.6	1.8	14.6

Anthony's Way Roundabout	AM Peak Hour				PM Peak Hour			
2037 Reference Case	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
A289 Berwick Way	751.0	25.2	1.1	13.7	245.4	93.1	14.1	36.6
A289 Vanguard Way	2490.1	427.7	160.6	244.4	2256.5	27.0	2.8	15.0
Anthony's Way	916.9	279.0	71.4	133.4	832.3	393.9	71.9	127.6
2037 Local Plan	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
A289 Berwick Way	711.2	23.2	0.8	12.8	268.6	100.1	11.0	36.7
A289 Vanguard Way	2442.8	477.5	210.5	315.2	2200.8	28.0	2.9	14.7
Anthony's Way	898.3	548.3	169.1	232.5	892.1	243.7	41.9	88.4

Ropers Lane Roundabout	AM Peak Hour				PM Peak Hour			
2037 Do Minimum	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
Ropers Lane	1297.3	40.4	0.7	19.3	428.7	8.9	0.0	5.2
A228 Peninsula Way	1701.6	12.9	0.1	2.6	1064.7	5.7	0.0	0.7
Ratcliffe Highway N	281.3	8.6	0.6	5.9	0.0	-2.0	0.0	0.0
Ratcliffe Highway E	790.7	535.4	97.7	143.9	1394.6	22.6	1.0	11.0
2037 Do Something	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
Ropers Lane	993.1	40.5	0.0	11.9	784.7	12.8	0.1	12.8
A228 Peninsula Way	1615.1	9.6	0.1	2.5	997.5	5.7	0.0	0.5
Ratcliffe Highway N	429.6	7.2	0.6	6.7	0.0	-2.0	0.0	0.0
Ratcliffe Highway E	707.6	628.7	106.8	150.6	1252.2	22.6	1.0	10.9

Junction Statistics - Subnetwork 5 - 2037 Assessment Year

M2 Junction 3	AM Peak Hour				PM Peak Hour			
2037 Do Minimum	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
A2045 E	1273.5	68.3	10.4	21.2	1199.3	71.5	10.4	20.8
M2 NB Off-Slip	1857.9	203.6	38.8	68.7	1458.4	218.4	40.3	74.6
A229 W	2533.3	100.3	19.4	37.3	2377.7	105.6	19.4	37.6
M2 SB Off-Slip	1851.0	264.6	45.0	86.9	2691.4	79.0	11.9	33.7
2037 Do Something	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
A2045 E	1234.3	68.3	10.1	20.9	1199.4	63.1	9.3	20.3
M2 NB Off-Slip	1881.2	200.9	38.5	68.4	1502.2	168.2	30.0	61.5
A229 W	2419.2	103.6	19.4	37.0	2325.0	115.6	20.8	38.4
M2 SB Off-Slip	1775.6	224.2	36.8	72.0	2614.2	132.8	21.7	52.5

M2 Junction 2	AM Peak Hour				PM Peak Hour			
2037 Do Minimum	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
M2 Southbound Off-Slip	758.3	17.2	0.6	9.6	709.9	149.0	3.2	18.0
Westbound Dumbbell Link	756.6	2.3	0.2	0.8	692.8	13.1	1.2	3.1
M2 Northbound Off-Slip	833.1	48.7	4.3	20.9	634.7	51.1	4.8	16.9
2037 Do Something	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
M2 Southbound Off-Slip	751.8	28.4	0.6	9.8	731.1	134.3	1.6	16.4
Westbound Dumbbell Link	753.3	2.1	0.1	0.9	718.7	8.7	0.9	2.9
M2 Northbound Off-Slip	814.8	36.1	1.7	15.0	641.7	40.8	3.8	14.6

M2 Junction 4	AM Peak Hour				PM Peak Hour			
2037 Do Minimum	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
M2 WB Off-Slip	631.5	25.1	1.7	11.6	527.9	14.9	0.7	7.7
M2 EB Off-Slip	9.2	18.3	0.0	0.5	7.3	14.6	0.0	0.6
A278 Hoath Way	1885.5	26.7	0.1	6.4	1726.7	48.5	0.1	5.9
2037 Do Something	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)	Count (veh)	Delay (s)	Mean Queue (veh)	Max Queue (veh)
M2 WB Off-Slip	620.9	24.7	1.6	11.4	534.8	14.5	0.7	7.8
M2 EB Off-Slip	6.9	18.1	0.0	0.5	8.3	14.8	0.0	0.5
A278 Hoath Way	1933.4	27.9	0.1	6.1	1675.6	48.6	0.1	6.7

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