Mead Realisations Ltd

Lynchmead Farm
Weston-super-Mare

Transport Assessment

April 2019

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1 INTRODUCTION

Background

1.1 Vectos has been appointed by Mead Realisations Ltd to prepare a Transport Assessment (TA) and Travel Plan (FTP) in relation to a planning application for the development of land at Lynchmead Farm, Weston-super-Mare.

1.2 It is proposed that the site be developed to house 75 residential dwellings, which would provide a natural extension to the suburban area around Weston-super-Mare and the village of Worle. The development would contribute to the need for 20,985 new dwellings by 2026 in North Somerset, as identified in the Local Plan. The site layout is provided at **Appendix A**.

1.3 This report reviews the current transport conditions at the site, sets out its place within the context of national and local policy and provides a forecast of the potential trip characteristics at the site.

Scoping

1.4 Pre-application scoping advice for the proposed development was received from North Somerset Council in January 2018. A copy of the scoping note is provided at **Appendix B**. The advice on the subject of transport is summarised as follows:

- A comprehensive Transport Assessment should be provided in support of any planning application for the proposed development;
- Details of site access arrangements should be provided with capacity assessment. It should be demonstrated that site accesses can accommodate refuse, servicing and delivery vehicles with tracking plots;
- A stage 1 / 2 Road Safety Audit will be required to support the application;
- Impact on local highway junctions should be assessed, including the A370 / Wick Road junction and the Queen's Way / Bristol Road junction;
- The impact on the existing shuttle working scheme on Ebdon Road must all be taken into consideration;
- A Non-Motorised User Audit should be completed to ensure that pedestrian provision is identified and enhanced where necessary. There is particular concern over footway provision on the northern side of Ebdon Road;

- Parking should be provided in accordance with North Somerset's standards; and
- A Travel Plan should be provided.

1.5 Each of the above points is addressed within this report.

1.6 The remainder of this report is structured as follows:

- **Section 2** – Sustainability and Accessibility – sets out the existing conditions at the site and reviews accessibility by all modes of transport;
- **Section 3** – Policy Context – reviews relevant transport planning policy documents;
- **Section 4** – Development Proposals – outlines the proposals for the site, including site usage and access arrangements;
- **Section 5** – Trip Generation and Transport Impact – sets out the anticipated multi-modal trip characteristics of the proposed development and examines the impact of the site on the local mobility networks;
- **Section 6** – Framework Travel Plan – sets out the strategy for encouraging sustainable travel amongst future residents; and
- **Section 7** – Summary and Conclusion.

2 SUSTAINABILITY AND ACCESSIBILITY

Introduction

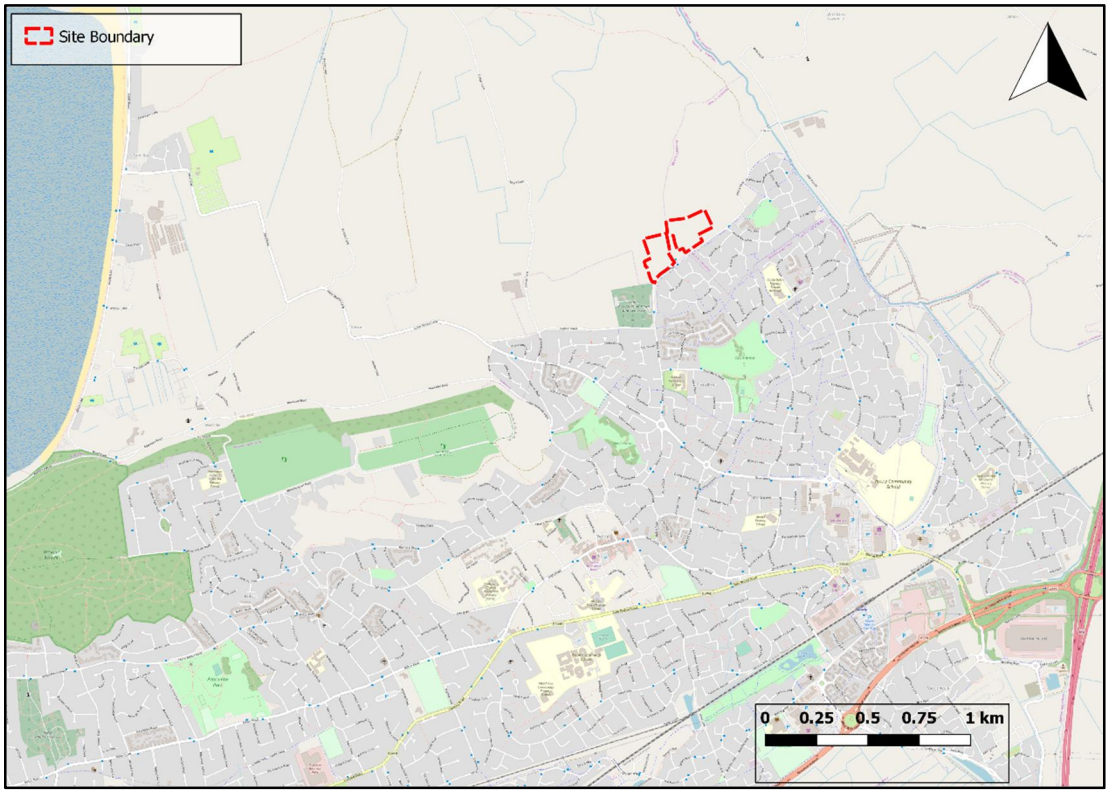
2.1 This section outlines the existing situation and transport conditions within the vicinity of the site, with a focus on the quality and extent of provision for sustainable travel.

Site and Location

2.2 The development site is located at the northern edge of Worle, approximately 2km north of the centre of Worle and 5km northeast of Weston-super-Mare. It is bordered by Ebdon Road and a small number of private dwellings to the south, and agricultural land surrounds all other sides.

2.3 The site location is shown in **Figure 2.1** in its local context.

Figure 2.1 – Site Location Plan



2.4 The site stands at approximately 10.04 hectares and is mostly occupied by undeveloped farmland. Within the red line boundary there is also a recycling centre and car park occupying a total of 0.35 hectares.

Access

2.5 There is currently no access point from the site onto the local highway network. The proposed site would introduce two accesses to the south onto Ebdon Road, which would cater for vehicles, pedestrians and cyclists.

Sustainable Travel

Walking

2.6 The proposed development site will connect directly to the local footway network, via a footpath along the southern side of Ebdon Road. This is segregated from the highway by a wide, grassed verge, and is largely overlooked by residential frontage. The path benefits from street lighting which lines the highway.

2.7 The residential estates to the south of Ebdon road provide connecting shared footway/cycleways. These give routes to variety of local services and facilities within the urban area between the development site and the local centres of Worle and Weston-super-Mare. **Figure 2.2** shows a selection of the amenities available within the locality of the site. **Table 2.1** presents the distances of facilities from the site, and gives approximate walking and cycling times.

Figure 2.2 – Local Facilities Plan

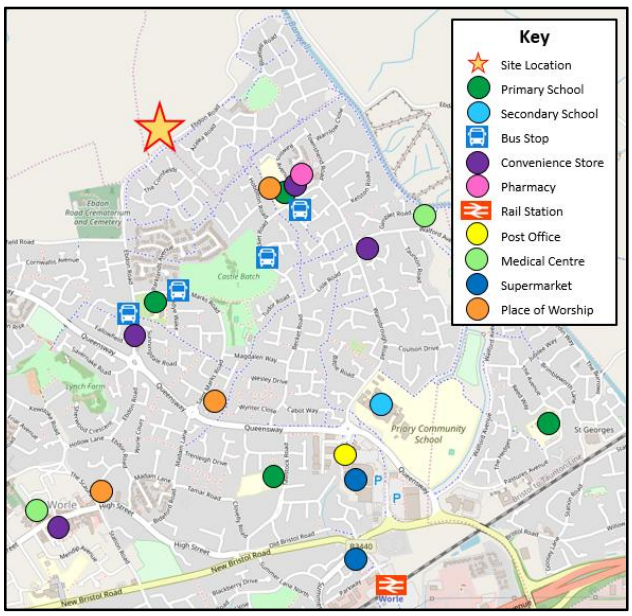


Table 2.1 – Walking and Cycling Times to Local Facilities

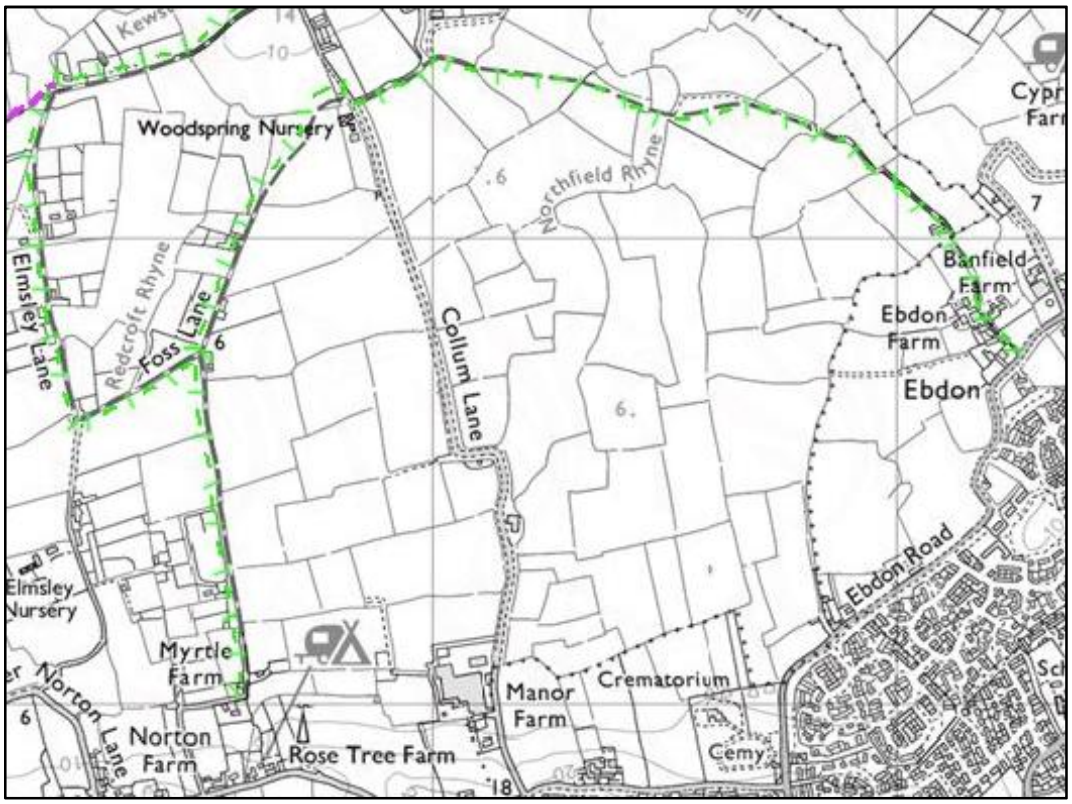
Service	Facility	Distance (m)	Walking Time (mins)	Cycling Time (mins)
Education	Castle Batch Primary School	900	11	3
	St Mark's Primary School	800	10	3
	Becket Primary School	1700	20	6
	Worle Village Primary School	1700	20	6
	Priory Community (Secondary) School	1800	21	7
Bus Stop	Castle Batch School	750	9	3
	Castle Batch	900	11	3
	St Marks School	650	8	2
Rail Station	Worle	2500	30	9
Healthcare	Riverbank Medical Centre	1400	17	5
	Lloyds Pharmacy	1000	12	4
	Worle Health Centre	1800	21	7
Convenience Store	Tesco Express	1000	12	4
Community / Leisure	Library and Childrens' Centre	1900	23	7
	Post Office	2000	24	8
	Castle Batch Community Centre	1200	14	5
	Flex Fitness Gym	1900	23	7
	Lloyds Bank	1600	19	6
Place of Worship	Worle Baptist Church	900	11	3

2.8 From the development site, primary education can be reached within a 10-minute walk, and secondary education is within a 21-minute walk. Amenities such as a convenience store, a medical centre, a bank and a community centre are within a 20-minute walking distance.

2.9 The pedestrian routes to these destinations are predominantly through residential areas, which are well-lit and have high quality, well-maintained footpaths on one or both sides of the road.

2.10 There are no existing Public Rights of Way within the site boundary. However, a bridleway exists in the area which arcs through agricultural land to the north of the site, leading from Ebdon Farm in the east to Myrtle Farm in the west. This path is shown in **Figure 2.3**.

Figure 2.3 – PRoW Bridleway Map



Cycling

2.11 Cycling is one of the most efficient ways to travel, in terms of number of people per area of carriageway. There is good provision for cycling in the vicinity of the site, in the form of the shared footway/cycleways through the residential areas to the south of Ebdon Road. This includes a pathway parallel to Ebdon Road, which is protected from the carriageway by verges or hedges.

2.12 Sustrans' National Cycle Network Route 33 runs between Worle and Weston-super-Mare, and can be joined within 1.6km from the development site on a traffic-free route. Route 33 continues southwards from Weston-super-Mare to Burnham-on-Sea and Bridgewater.

2.13 North Somerset Council has an interactive online map of maintained cycle routes across the district. This depicts traffic-free cycle routes which link Ebdon Road to Worle's local centre and continue into Weston-super-Mare.

2.14 It can be seen from **Table 2.1** that both primary and secondary education sites are accessible within a 7-minute cycle of the development site. Healthcare services, a variety of shops and the Worle rail station can all be reached by bike within 10 minutes.

2.15 Overall, it can be concluded that the site is highly accessible by active modes of travel.

Bus

2.16 The closest bus stops to the Lynchmead Farm site are located at St Mark's School, approximately 650m from the site, and at Castle Batch School, approximately 750m from the site. Those at St Mark's School westbound, and in both directions at Castle Batch School, benefit from shelters and timetable information. The eastbound stop at St Mark's School has a traditional flag and pole arrangement with timetable information.

2.17 The bus stops are serviced by the frequent number 7 in both directions, which runs from Worle to Oldmixon via the centre of Weston-super-Mare. The journey to Weston-super-Mare takes approximately 25 minutes.

2.18 On weekdays, services begin at 0628 towards Oldmixon and 0655 in the opposite direction, with the final services at 2259 and 2330 respectively. The typical frequency of these services during the day is one per 15 minutes in each direction.

2.19 On Saturdays a similar level of service is sustained, beginning slightly later but continuing to run until the same late times as on weekdays. On Sundays, buses typically run every 20 minutes throughout the day and early evening.

2.20 Overall, this is a good level of bus service provision, and would present a real choice of travel mode for future residents of the proposed development.

Rail

2.21 Worle rail station is located in Worle itself, approximately 2.5km from the development site. This is only 9 minutes' journey from the site by bicycle, and the station provides 78 sheltered cycle parking stands, which are monitored by CCTV. Further facilities at station include a ticket office, refreshment facilities and ticket machines.

2.22 Direct trains from the station travel to Weston-super-Mare, Bristol Temple Meads, Cardiff Central and Taunton, amongst other destinations. The journey times and approximate frequencies of these services are shown in **Table 2.2**.

Table 2.2 – Rail Services from Worle

Destination	Approximate Journey Time	Typical Frequency
Bristol Temple Meads	27 minutes	2 per hour
Weston-super-Mare	7 minutes	2 per hour
Taunton	43 minutes	1 per hour
Cardiff Central (direct services only)	1 hour 30 minutes	1 per hour

Sustainable Travel

2.23 It is not the purpose of transport planning to protect the convenience of the car commuter, but rather it is to facilitate the efficient and convenient movement of people. The travel habits of individuals are changing and gravitating towards a desire to minimise inconvenience. There is a shift away from the ideology that travel must be habitual, and towards a desire for flexibility and choice in travel options, in which technology plays an important role.

2.24 Sustainable travel provides a wide range of alternatives to the private car, and should be promoted and enhanced. It strengthens communities by promoting social inclusion, as well as having financial and environmental advantages. In particular, there are a variety of health benefits associated with active travel.

Local Highway Network

2.25 The vehicular site accesses will be onto Ebdon Road, a single carriageway with traffic calming measures in the form of footway build-outs, which narrow the road to a single lane. Ebdon Road is subject to a 30mph speed limit. Adjacent to the southern boundary of the site there is a three-arm roundabout, onto which a fourth arm is proposed as one of the site accesses. Ebdon Road forms the western and eastern arms. The southern arm, The Cornfields, is a minor street leading into a residential area. Two minor priority junctions allow access to existing residential and industrial units which are adjacent to the site boundary.

Highway Safety

2.26 The website 'crashmap.co.uk' has been consulted to examine records of road collisions over the latest five years of available data, 2013 – 2017. Over this period these have been two

incidents on Ebdon Road in the vicinity of the site, both of which were classified as 'slight' in severity.

2.27 The first of these occurred in 2014, approximately 50m to the west of the three-arm roundabout. This involved a single vehicle. The other accident took place in 2015 approximately 500m to the east of the roundabout and involved two vehicles.

2.28 There are no patterns or clusters of collisions in the area around the site, and therefore there are no evident deficiencies in highways design, in terms of safety concerns.

Traffic Surveys

2.29 To understand how the traffic at the site flows throughout the day and during morning and afternoon peak times, an ATC and MCC were both undertaken between 6th February and 12th February 2019.

2.30 A Manual Classified Count (MCC) was undertaken at the site at two junctions. The first MCC site was undertaken at Ebdon Road/Queen's Way roundabout. The second MCC site was undertaken at Ebdon Road/The Cornfields roundabout, directly south of the proposed site location. The MCC was undertaken on a neutral day (Wednesday 6th February). The results of the MCC showing the flow of traffic at the two junctions during the AM and PM peaks (0800-0900 and 1700-1800) are presented at **Appendix C**. The busiest flow of traffic was observed from Queen's Way (East) to Ebdon Road (South) during the AM peak.

2.31 An Automatic Traffic Survey (ATC) was undertaken at the site over the course of 7 days, beginning on 6th February 2019 and ending on the 12th February 2019. The ATC found that 5% of all northbound vehicles through the survey site were HGVs, southbound HGVs accounted for 7% of all traffic. **Table 2.3** summarises the key data observed from the ATC. The results of the ATC are provided at **Appendix C.**

Table 2.3: ATC Results

	Northbound	Southbound	Two way
AM Peak Flow	200	182	382
PM Peak Flow	193	190	383
Average Speed (mph)	27.5	29.0	-
85% Percentile Speed (mph)	33.5	33.2	-

3 POLICY CONTEXT

3.1 This TA has been written to accord with transport-related policy at national, regional and local levels. The overarching ideologies throughout these documents is that of sustainable travel and reducing reliance on the personal car.

National Planning Policy Framework (NPPF)

3.2 The current version of the NPPF was published in February 2019, and sets out the Government's planning policies for England.

3.3 The NPPF places sustainable development at the heart of the decision-making process. The core principles behind the planning for and delivery of such development are identified, and the key overarching policies are set out in paragraphs 7 to 10 in terms of defining sustainable development, and paragraphs 11 to 14 with respect to the delivery of sustainable development.

3.4 Section 9 of the NPPF covers promoting sustainable transport and how the impact of development should be considered from the transport perspective. The five main considerations in terms of transport are given in paragraph 102, including that "*opportunities to promote walking, cycling and public transport use are identified and pursued*".

3.5 Paragraph 108 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*".

3.6 The NPPF also highlights the idea that applications for development 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*" in

paragraph 110. This effectively sets out a hierarchy to be followed, whereby sustainable travel is prioritised over use of the private car.

3.7 This modern approach reflects changing priorities and attitudes towards travel and mobility. The proposed development at Lynchmead Farm adheres to this approach and is in line with national transport policy.

West of England Joint Local Transport Plan

3.8 The third Joint Local Transport Plan (JLTP) for the West of England Partnership area sets out the 15 year vision for transport provision within the area comprising Bristol City, B&NES, South Gloucestershire and North Somerset.

3.9 This vision is supported by five key goals:

- Reduce carbon emissions;
- Support economic growth;
- Promote accessibility;
- Contribute to better safety, security and health; and
- Improve quality of life and a healthy natural environment.

3.10 The document sets out additional information about how the Councils seek to achieve these goals, including additional information on specific schemes and on ways of promoting more sustainable travel. The Council's Travelwest website provides important information about the progress of schemes and assists journey planning by residents.

3.11 The overall attitude of the JTLP is forward-thinking, and recognises that in the period up to 2026 implementation must be seen in the context of a fast-moving world with changing technology and lifestyles.

North Somerset Local Plan

3.12 The Local Plan for North Somerset consists of a number of documents, which together guide development choices and decisions in the authority area. The key document for planning is the Core Strategy, which was adopted in 2012 and presents the long-term objectives for North Somerset up to 2026. It takes a high-level approach to this vision, giving strategic policies to cover a wide range of topics.

3.13 One of the priority objectives of the Strategy is to "*improve accessibility through the delivery of major transport schemes and local improvements to ensure that, particularly in Weston-super-Mare, Clevedon, Nailsea and Portishead, people are encouraged to make more sustainable transport choices*".

3.14 Another key objective covers the delivery sustainable housing development to meet housing needs, through the provision of a minimum of 20,985 homes by 2026. The proposed development would contribute directly to meeting this need.

3.15 A policy framework is laid out in the Core Strategy, and transport-related matters are raised in a number of policies. In particular, Policy CS1: Addressing Climate Change and Carbon Reduction states that "*developments of 10 or more dwellings should demonstrate a commitment to maximising the use of sustainable transport solutions, particularly at Weston-super-Mare. Opportunities for walking, cycling and use of public transport should be maximised through new development … emphasising the aim to provide opportunities that encourage and facilitate modal shift towards more sustainable transport modes*".

3.16 Furthermore, Policy CS10: Transportation and Movement dictates that "*development proposals that encourage an improved and integrated transport network and allow for a wide choice of modes of transport as a means of access to jobs, homes, services and facilities will be encouraged and supported*".

3.17 The proposed housing development is in a sustainable location, and will therefore be conducive to a modal shift away from use of the private car and towards more sustainable travel modes. It is therefore in line with the relevant policy context.

North Somerset Housing and Economic Land Availability Assessment

3.18 The HELAA was carried out in 2014, and identified the land at Lynchmead Farm as a potential opportunity to contribute towards North Somerset's housing need. The capacity was identified as 236 dwellings over a gross area of 7.87 hectares.

4 DEVELOPMENT PROPOSALS

Development

4.1 The development proposals are for 75 residential dwellings which will form an extension of the suburban area around Worle and Weston-super-Mare. The dwellings will be an appropriate mix of size and tenure, and will be complemented by associated development including roads and open spaces. The proposed masterplan is provided at **Appendix A**.

4.2 According to the North Somerset Strategic Housing Land Availability Assessment in 2018, the site has potential for up to 236 dwellings, although this quantum of development is not being proposed in the current application.

Access Strategy

4.3 Entry for all modes of travel, including vehicles, cyclists and pedestrians, will be provided through two accesses onto Ebdon Road on the site's southern boundary. This will be cohesive with the desire lines for active travel movement from the development, as the majority of destinations for pedestrian and cycling trips will be southwards, towards the developed areas of Weston-super-Mare and Worle.

4.4 The western access is proposed to be delivered through the construction of a fourth arm to the existing roundabout between Ebdon Road and The Cornfields. A scale drawing of the proposed arrangement is provided at **Appendix D**. The proposed eastern access is a priority junction off Ebdon Road, to be located approximately 120m west of the roundabout with The Cornfields. **Appendix D** gives a scale drawing of this junction.

4.5 The access junctions have been designed in accordance with relevant standards and traffic speeds as set out in **Table 2.3**

4.6 Pedestrian access will be provided on both accesses with a footpath connecting the two accesses along the site frontage. A pedestrian crossing is proposed on the eastern arm of the mini roundabout as this is the only location the scheme can connect to the existing footpath provision within the adopted highway. This is conveniently located on a key pedestrian desire line between the site and key services and facilities.

Parking Strategy

4.7 Parking will be provided in accordance with local policy. North Somerset Council's supplementary planning document 'Parking Standards' sets out minimum numbers of car and cycle parking spaces for new residential developments with 2 or more dwellings. These are given in **Table 4.1**.

Table 4.1 – Car and Cycle Parking Standards per dwelling

Number of Bedrooms	Min. Number of Car Parking Spaces	Required Number of Cycle Parking Spaces
1	1.5	1
2/3	2	2
4+	3	2

5 TRIP GENERATION AND TRANSPORT IMPACT

Development

5.1 This section presents an assessment of the likely trip characteristics of the proposed development, for all modes of travel. In the context of relevant transport policy, the focus should be on accommodating the movement of people and providing safe and efficient active travel routes to key local facilities, rather than simply on traffic.

Proposed Trip Generation

5.2 The development proposals are for 75 dwellings. An assessment of the likely trip generation for this quantum of development has been undertaken, in order to estimate the potential impact of the development on the local mobility networks.

5.3 Appropriate vehicular trip rates have been obtained from the TRICS database. The following parameters were used as selection criteria to achieve the most appropriate trip rates for the proposed development:

- Land Use – Residential;
- Sub Land Use Category – Houses Privately Owned;
- Location – UK (excluding Greater London, Northern Ireland and Scotland);
- Location type – Edge of Town and Suburban Area; and
- Location sub-category – Residential Zone.

5.4 Although the size and tenure of the proposed houses is yet to be determined, trip rates for privately owned houses have been used as these tend to be higher, and therefore provide a robust assessment for the potential effects of the development.

5.5 The forecast vehicular trip rates for weekday peak hours are presented in **Table 5.1**. The TRICS output files are provided at **Appendix E**. Applying these trip rates to the proposed 75 dwellings gives a forecast trip generation as shown in **Table 5.2**.

Table 5.1 – Vehicular Trip Rates, per dwelling

Time	Arrivals	Departures	Total
08:00-09:00	0.128	0.371	0.499
17:00-18:00	0.334	0.145	0.479

Table 5.2 – Vehicular Trip Generation

Time	Arrivals	Departures	Total
08:00-09:00	10	28	37
17:00-18:00	25	11	36

**Table may be subject to small rounding errors*

5.6 In total, the proposed development is forecast to generate up to 37 vehicular movements on the local highway network it its peak hour.

Existing Travel Behaviour

5.7 The travel behaviour of residents in the vicinity of the site has been analysed to determine existing travel characteristics. 2011 Census data has been queried to ascertain the method of travel to work for mid super output area (MSOA) North Somerset 015, which covers the suburban area of Worle immediately to the south of the proposed development site.

5.8 The resultant mode split is shown in **Table 5.3**. An adjusted mode split, to discount working from home, is also displayed in the table. Private Vehicle refers mainly to trips by car but also includes those by motorcycle and taxi.

Table 5.3 – Method of Travel to Work, MSOA North Somerset 015

Mode of Travel	Mode Split	Adjusted Mode Split
Train	3%	3%
Bus	5%	5%
Private Vehicle	74%	77%
Car Passenger	6%	7%
Bike	2%	2%
Walk	5%	6%
Other	0%	0%
Work from Home	4%	--
Total	100%	100%

5.9 The trip characteristics of the proposed site are likely to be very similar to those of MSOA North Somerset 015, and therefore this mode split is judged to be appropriate for the purpose of assessing the impact of the development.

5.10 Extrapolating from the previously established vehicular traffic flows, the adjusted mode split results in a multi-modal trip generation as presented in **Table 5.4** below.

Table 5.4 – Multi-Modal Trip Generation

	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Train	0	1	1	1	0	1
Bus	1	2	2	2	1	2
Private Vehicle	10	28	37	25	11	36
Car Passenger	1	2	3	2	1	3
Bike	0	1	1	1	0	1
Walk	1	2	3	2	1	3
Other	0	0	0	0	0	0
Total	12	36	48	32	14	46

**Table may be subject to small rounding errors*

Transport Impact

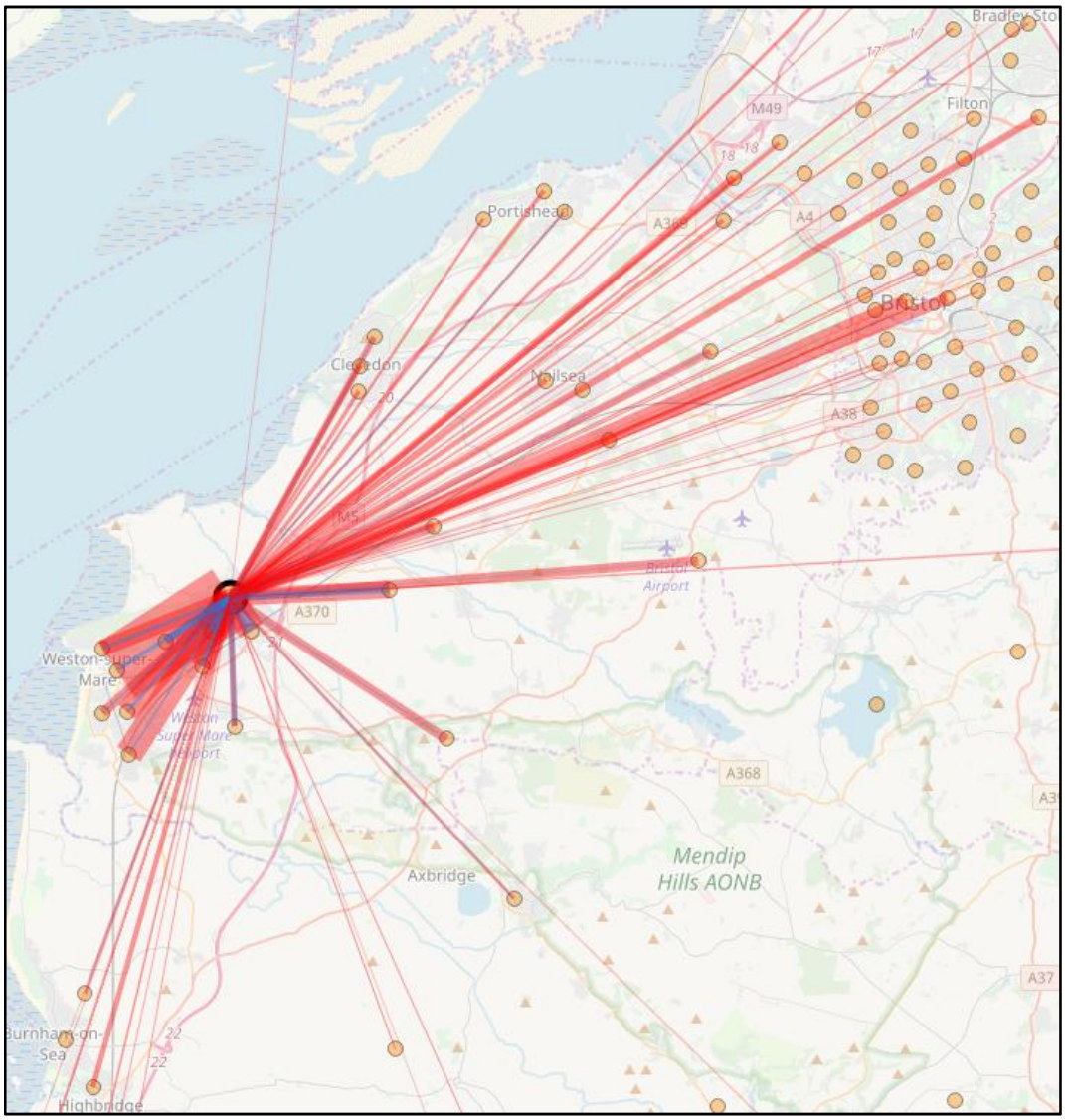
5.11 **Table 5.4** gives an overview of the likely peak hour trip generation for the proposed development, for all modes of travel.

5.12 The site is well-located in terms of opportunities for travel by sustainable modes. It lies within a 10-minute walk of primary education and a 21-minute walk of secondary education, which is ideal to encourage trips for such purposes to be made on foot, by bike or by scooter. Therefore, the actual proportion of trips by active modes of travel is likely to be higher.

5.13 **Figure 5.1** below provides a pictorial representation of 2011 census data for the workplace of residents of MSOA North Somerset 015. This is indicatively shown; however, it is clear that a large proportion of commuters work in the central areas of Weston-super-Mare. There are high quality active travel links between the site and Weston-super-Mare, alongside frequent bus provision. Together, this presents a key opportunity to promote sustainable travel habits amongst future residents.

5.14 A significant number of residents also commute to Bristol and other destinations to the northeast such as Yatton and Nailsea. There are strong rail connections to these towns, which present a genuine option for convenient travel by public transport.

Figure 5.1 – Datashine Commute Graph for North Somerset 015



Sustainable Travel Impact

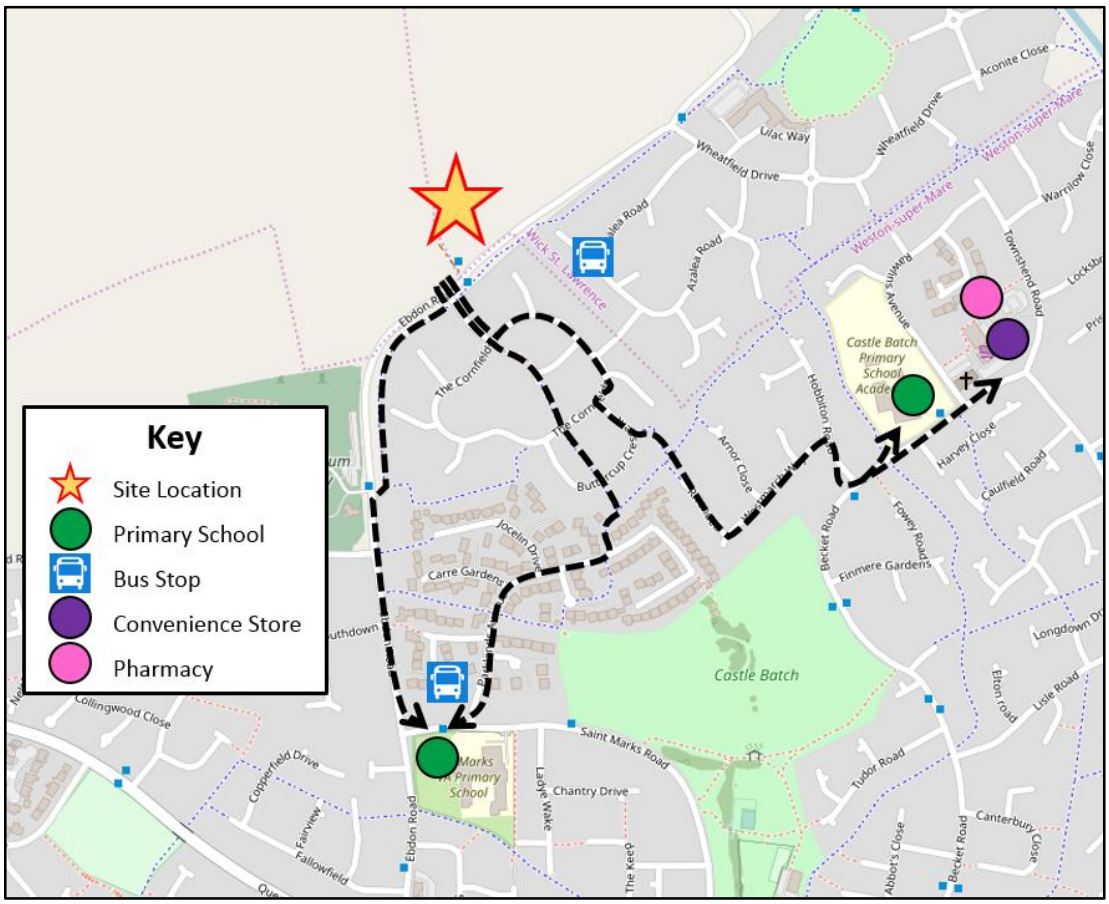
Non-Motorised User Routes

5.15 The key routes for non-motorised users to and from the development site have been audited to determine their suitability for pedestrians and cyclists. The key characteristics taken into consideration are:

- Footpath availability and width;
- Cycleway availability;
- Street lighting; and
- Facilities for the mobility impaired.

5.16 The routes analysed include those to the nearest primary schools, bus stops, pharmacy and convenience store, all within 1km of the proposed development. These routes are depicted in **Figure 5.2**.

Figure 5.2 – Pedestrian and Cyclist Routes



5.17 All identified key destinations are to the south of the site, and therefore require crossing of Ebdon Road. The site access proposals include a 2m footway along the northern side of Ebdon Road which will link the two accesses. At the roundabout access, crossing facilities for pedestrians will be provided in the form of dropped kerbs with tactile paving on both the access arm and the eastern arm of Ebdon Road. The eastern arm will also have a pedestrian island. Altogether, these proposals provide a safe and convenient way for trips on foot or by bike to be made from the site.

5.18 The eastern route leads to the Castle Batch Primary school, Castle Batch bus stops, a Tesco Express and a Lloyds Pharmacy. This primarily runs through an area of quiet, residential streets to the south of Ebdon Road. The streets throughout this area typically have wide footways on both sides of the carriageway and street lighting is provided throughout.

Between some of the housing areas, shared cycleway/footways are also present. Dropped kerbs are prevalent at intersections.

5.19 There are two routes to St Mark's Primary School its bus stops, one of which covers only residential areas of the same type as described above. The other route follows Ebdon Road with the first 250m along a segregated cycleway / footway set behind a hedgerow on the southeastern side. Following this, a dropped kerb with tactile paving allows Ebdon Road to be crossed. The remainder of the route is along Ebdon Road with footpaths on one or both sides of the carriageway, and a pedestrian island to allow crossings. This road is well-lit and overlooked by residential frontage. Dropped kerbs with tactile paving are present at each intersection.

5.20 Altogether, the routes for non-motorised users present a range of high-quality options for journeys from the proposed development to be made by means other than the private car.

Walking and Cycling Capacity

5.21 In the peak hour for development trips, there would be an additional 3 movements on foot and 1 movement by bicycle. The existing pedestrian and cycling networks have ample capacity to safely absorb this number of additional journeys.

5.22 In reality, the numbers of trips made by active modes may be slightly higher than those stated, due to the site's high potential for sustainable travel and the fact that bus users will likely walk to reach their bus stops. However, it is clear that the mobility networks around the site are of sufficient quality and quantity to accommodate more trips.

Public Transport

5.23 It is anticipated that the proposed development would lead to two extra trips by bus in the peak hours. As discussed in **Section 2** of this report, there is ample bus provision in the vicinity of the proposed development. At 08:00-09:00 and 17:00-18:00, there are 4-5 bus services to / from Worle and the anticipated impact of one extra passenger on every other bus would be imperceptible.

5.24 It is also anticipated that the proposed development will generate one movement by train in each peak hour. Worle station, as discussed in **Section 2**, provides two services per hour to Weston-super-Mare and to Bristol Temple Meads. This is sufficient to enable commuting and

leisure trips by rail, and the addition of one additional passenger in the peak hour would be unnoticeable.

Traffic Impact

5.25 The above assessment demonstrates that in the AM peak hour, the development could generate an additional 28 outbound and 10 inbound vehicle movements. In the PM peak hour, an additional 11 outbound and 25 inbound vehicular movements would be added to the local highway network.

5.26 **Appendix F** sets out the traffic flows used for assessing the impact of the development.

5.27 This level of traffic corresponds to roughly an extra vehicle movement every one to two minutes in peak hours, which is a low level of impact. This change in traffic would be likely to go unnoticed by existing road users. Furthermore, the actual vehicular demand is anticipated to be lower, as trip purpose has not been fully accounted for in this assessment and no allowance has been made for the implementation of a Travel Plan.

5.28 Given the scale of development, it is deemed unnecessary to use a strategic transport model for capacity assessment of existing junctions. Each site access will be modelled using Junctions 9 software which is an industry standard tool and which will enable a judgement to be made on the traffic impact of a development of this scale. The major local junctions upon which the proposed development may impact have been considered individually, and modelled using Junctions 9 software where appropriate.

5.29 Baseline traffic flows for 2019 have been obtained from the MCC surveys discussed in **Section 2** of this report. The future year baseline has been calculated according to TEMPro growth factors for 2019 to 2024. It is judged inappropriate to include any additional assumptions of committed development, as TEMPro takes into account the general forecast quantum of development within the area for the coming years.

5.30 Traffic associated with the proposed development has been distributed onto the network in line with proportions observed in the MCCs of existing traffic.

Western Site Access (Roundabout)

5.31 The western site access will take the form of a fourth, north-facing arm to the existing 3-arm roundabout between Ebdon Road and The Cornfields. It has been assessed by means of an ARCADY assessment, the output for which is given at **Appendix G**, with a summary in **Table 5.5**.

Table 5.5 – ARCADY Output, Western Site Access

	AM			PM		
	Max Delay (s)	**Max RFC**	**Network Residual Capacity**	**Max Delay (s)**	**Max RFC**	**Network Residual Capacity**
2019 Base	7.34	0.33	155%	8.19	0.41	113%
2024 Growth	7.71	0.37	134%	8.75	0.44	95%
2024 + Development	7.86	0.38	126%	9.32	0.48	81%

5.32 It is clear that this junction will operate well within capacity even with added development traffic. The maximum modelled delay in either peak hour is under 10 seconds and in all scenarios the residual capacity of the 4 arm roundabout is above 80%.

Eastern Site Access

5.33 The eastern access will be a simple priority junction onto Ebdon Road. This has been modelled using PICADY software. The results are summarised in **Table 5.6** and can be seen in full at **Appendix G**.

Table 5.6 – PICADY Output, Eastern Site Access

	AM			PM		
	Max Delay (s)	**Max RFC**	**Network Residual Capacity**	**Max Delay (s)**	**Max RFC**	**Network Residual Capacity**
2024 + Development	8.71	0.02	319%	5.16	0	577%

5.34 It is clear that this junction will operate well within capacity. The maximum modelled delay in either peak hour is under 9 seconds, which will not have a material impact on the flow of traffic along Ebdon Road.

Queen's Way / Ebdon Road

5.35 The roundabout between Queen's Way and Ebdon Road lies approximately 750m south of the development site. it is forecast that the development would increase traffic at this junction by 33 during the AM peak hour and 32 during the PM peak hour prior to the implementation of a Travel Plan. This constitutes an impact of 1.7% during the AM peak hour and 1.9% during the PM peak hour against 2024 forecast flows.

5.36 Give the level of additional vehicle trips and proportional impact no further assessment is considered necessary as this level of additional traffic (circa 1 vehicle every 2 minutes) would not be noticeable.

A370 / Wick Road and Queen's Way / Bristol Road

5.37 The pre-application scoping advice from North Somerset County Council indicated that the priority junction between A370 and Wick Road, and the signalised junction between Queen's Way and Bristol Road, should also be assessed for capacity.

Queens Way / Bristol Road Junction

5.38 The peak hour traffic distribution indicates that at most 15 vehicles per hour will use roads east of the Queen's Way / Ebdon Road roundabout. This level of traffic would be diluted by the time it reaches the Queens Way / Bristol Road junctions as there are numerous side roads along the route between the Queens Way roundabout and the Queens Way / Bristol Road junction. The traffic impact at this junction would be lower than 15 vehicle trips during peak hours.

5.39 Assuming an upper limit of 15 vehicle trips, this reflects approximately 1 vehicle every 4 minutes, an impact which would be imperceptible to users of the junction. On this basis, it is deemed unnecessary to perform a modelling assessment of this roundabout.

A370 / Wick Road Junction

5.40 In each peak hour, there are at most 5 new trips to the east of the proposed development site, and therefore at most 5 additional vehicular movements will be introduced at the A370 / Wick Road junction in any given hour. This level of traffic would have a negligible effect on the operation of the junction. No modelling work is required for this junction.

6 FRAMEWORK TRAVEL PLAN

Introduction

6.1 The NPPF defines a Travel Plan as "*a long-term management strategy for an organisation or site that seeks to deliver sustainable transport objectives and is regularly reviewed*". As per the pre-application advice from NSCC for this scheme, a Travel Plan is required and is set out as below.

6.2 The overarching aim of the Travel Plan for Lynchmead Farm is to reduce the number of single occupancy vehicle trips made by residents. A greater take-up of sustainable travel will minimise the impact of the development on the local highway network.

6.3 To achieve this, various measures can be implemented to incentivise and encourage trips to instead be made by sustainable travel modes, and also to reduce the need to travel in the first instance.

Organisation

6.4 A Travel Plan Coordinator (TPC) will be identified to oversee the implementation of the plan. The TPC will work with North Somerset Council to ensure the effective implementation of the plan, to ensure that there is the greatest possible opportunity to achieve its aim.

Measures

6.5 The Travel Plan for the proposed development will include a number of measures aimed at encouraging sustainable travel to and from the proposed development. The measures which are deemed suitable for Lynchmead Farm are:

- The provision of a Sustainable Travel Information Pack to each new homeowner;
- Promotion of local walking and cycling routes;
- Promotion of public transport links;
- Promotion of car sharing opportunities; and
- A contribution of £120 per dwelling to the council for sustainable travel initiatives.

7 SUMMARY AND CONCLUSION

Summary

7.1 Vectos has been commissioned by Mead Realisation Ltd to prepare a Transport Assessment in support of the planning application at Lynchmead Farm, Weston-super-Mare. This TA has been written in compliance with relevant transport policy at national and local levels.

7.2 The development proposals are for a total of 75 dwellings. Access will be provided to the south of the site onto Ebdon Road, in two locations. The development provides two accesses which are safe and appropriate.

7.3 The site is highly suitable for such development, as it is accessible by all modes of travel and its location presents a genuine choice of sustainable travel modes. There is excellent potential to encourage sustainable mobility habits in future residents from the outset.

7.4 An assessment of the potential trip generation of the development proposals has been undertaken, which determines that the site could generate up to 37 vehicular movements per hour on the local highway network.

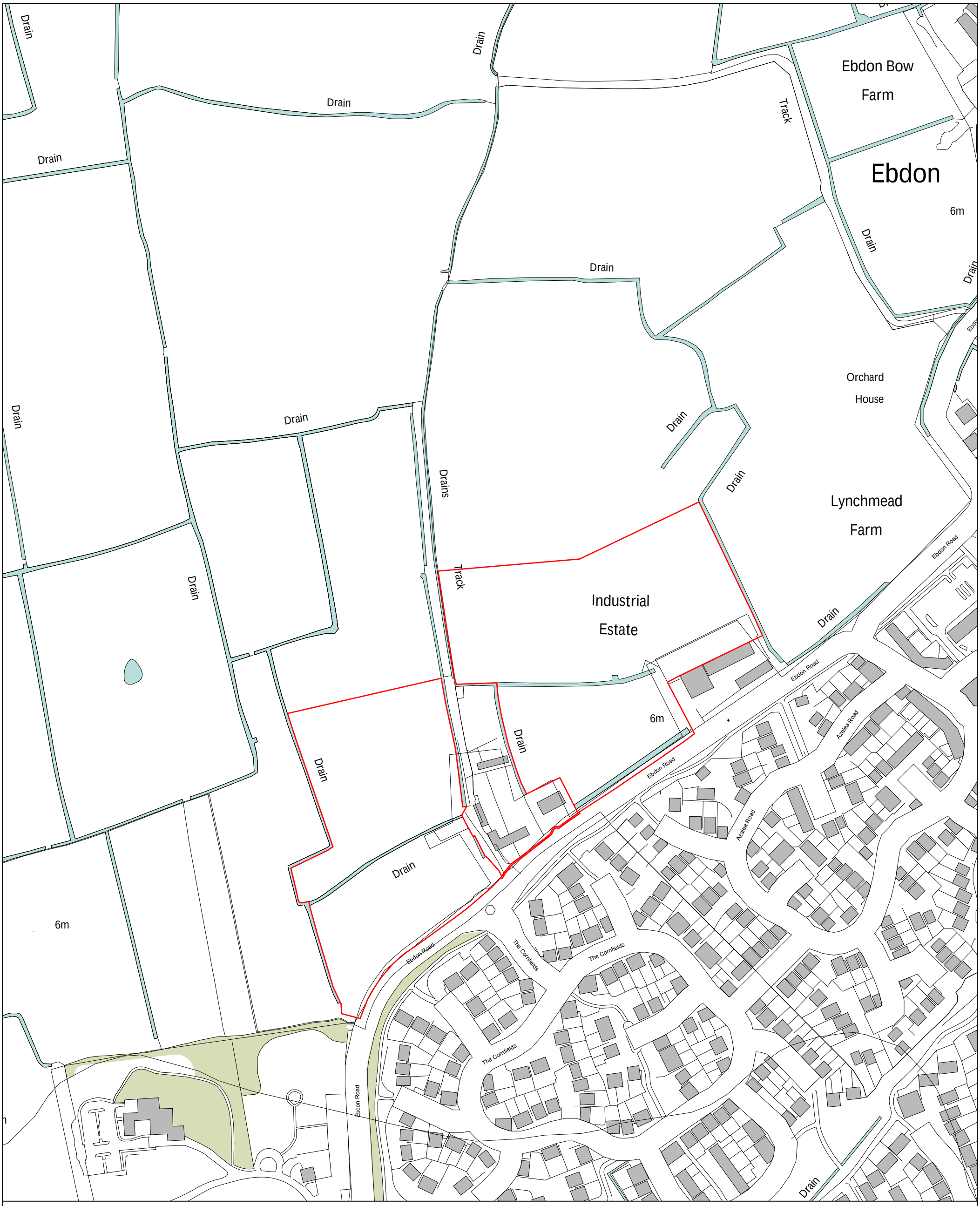
7.5 This low level of impact will not have a significant effect on the operation of the local highway network. Therefore, there is no good reason to object to the proposed development on transport grounds.

Conclusion

7.6 The development will not result in a severe residual cumulative impact and as such there is no reason on transport grounds to refuse this application.

APPENDIX A

Masterplan



Application Boundary (4.99ha)

Land at Lynchmead Farm Site Location Plan		F DH
180809 L 01 01	1:2500 @ A3	March 2019

CliftonEmerydesign

Spike Island, 133 Cumberland Road, Bristol, BS1 6UX
T: 01179 479 595 W: www.cliftonemerydesign.co.uk M: mail@cliftonemerydesign.co.uk

DRAWING STATUS Information

Existing Agricultural Pasture Land

Existing Drainage Gulleys

Weston-super-Mare Crematorium

To Worle

The Cornfields

Eddon Road

Existing Industrial Units

Wheatfield Drive

The Ebdon Arms & Local Centre

Ebdon

4.99ha

A

B

C

D

E

F

Legend

- Application boundary - 4.99ha
- Primary road network
- Secondary road network
- Proposed bridge/ access
- Proposed site entrance
- Area also under client
- Proposed pedestrian routes
- Existing trees retained
- Proposed trees

Landscape Intervention

- A Village green/Wetland Meadow
- B Integrated Swale systems (Sustainable Urban Drainage)
- C Vehicular free green corridor
- D Areas of designated woodland/ecological buffering
- E Proposed area of attenuation
- F Green infrastructure connection

Net Developable Area

Net Developable Area - 2.91ha

Public Open Space - 2.09ha

Density	No.
25.7dph	75

N

0m 100m

Lynchmead Farm, Weston-Super-Mare
Illustrative Masterplan

180809 L 02 02 1:1000 / A1

B
DH/DE
February 2019

CliftonEmerydesign

Studio 54, 133 Cumberland Rd, Bristol BS1 6UX
T. 01392 368866, W. www.cliftonemerydesign.co.uk M. mail@cliftonemerydesign.co.uk

Drawing Status DRAFT Planning

APPENDIX B

Scoping Response

NORTH SOMERSET COUNCIL
PRE-APPLICATION ADVICE REPORT

Pre-application No	17/P/5072/PRE
Case Officer:	Graham Quick
Location:	Land at Lynchmead Farm Ebdon Rd
Parish:	Weston-super-Mare

We understand your proposal to be

The development of land at Lynchmead Farm Ebdon Rd Weston-super-Mare for approximately 75 dwellings

Summary of our response

The site is adjacent to the settlement boundary for Weston-super-Mare and the proposal is not larger than 75 dwellings Therefore the proposal is compliant with Policy CS28 provided that the detailed criteria set out in that policy are met

Although the proposal may satisfy Policy CS28 it will also need to be compliant with other adopted policies most notably Policy DM10 (Sites and Policies Part1: Development Management Policies) There are concerns that the development will have an adverse impact on the landscape character of the area and this needs to be addressed through the submission of a Landscape Visual Impact Assessment

If you wish to pursue a planning application then there are a number of other detailed matters raised in this report that will need to be addressed and primarily these relate to l
, highways, archaeology, flooding and ecology

The scope of this report

The purpose of this advice is to identify whether your proposal has a realistic chance of success and, if relevant, highlight any potential problems before you submit a formal planning application. It is based on the information you have given us and aims to set out the policy issues that should be addressed with any future planning application and identify any potential problems. We also draw your attention to the advice notes at end of this report.

This document makes use of links to web sites and requires use of a computer. If you do not have access to a computer, or you require any information in an alternative format or a different language, then please phone our Customer Services Team on 01275 888811. All of the council's libraries have public computers for your use and staff available to help.

Planning policy and background

Legislation requires us to make decisions on planning applications in accordance with the 'development plan' unless there are other 'material considerations' that should take precedence (such as emerging national policy).

The 'development plan' for North Somerset comprises the North Somerset Core Strategy, the North Somerset Sites and Policies Plan (Part 1) and 'saved policies' in the North Somerset Replacement Local Plan (there are other documents relating to waste and minerals). There are a number of Neighbourhood Plans which also form part of the development plan. Copies of all of our development plan documents are available on our website where you can also view an up to date table of extant and superseded policies and the current proposals map. You should satisfy yourself that your proposals comply with all relevant development plan policies before submitting an application.

'Material considerations' can include national policy, which mainly comprises The National Planning Policy Framework and additional guidance produced by the council in Supplementary Planning Documents.

You can view the planning history of this site, the key planning constraints and the land based planning policies that apply to it on our interactive planning map which is available on our website.

Planning Assessment

Planning Policy

The adopted Core Strategy and Sites and Policies Part 1: Development Management Policies has a number of detailed policies that are relevant and these are listed below:

Core Strategy

Policy Ref	Policy heading
CS1	Addressing climate change and carbon reduction
CS2	Delivering sustainable design and construction
CS3	Environmental impacts and flood risk management
CS4	Nature Conservation
CS5	Landscape and the historic environment
CS9	Green infrastructure
CS10	Transport and movement
CS11	Parking
CS12	Achieving high quality design and place making
CS13	Scale of new housing
CS14	Distribution of new housing
CS15	Mixed and balanced communities
CS16	Affordable housing
CS28	Weston-super-Mare
CS34	Infrastructure delivery and Development Contributions

Sites and Policies Part 1: Development Management Policies

Policy	Policy heading
DM1	Flooding and drainage
DM2	Renewable and low carbon energy

DM 6	Archaeology
DM 8	Nature Conservation
DM9	Trees and Woodlands
DM10	Landscape
DM19	Green infrastructure
DM24	Safety, traffic and provision of infrastructure etc. associated with development
DM25	Public rights of way, pedestrian and cycle access
DM27	Bus accessibility criteria
DM28	Parking standards
DM32	High quality design and place making
DM34	Housing type and mix
DM36	Residential densities
DM70	Development infrastructure
DM71	Development contributions, Community Infrastructure Levy and viability

Supplementary Planning Documents

The following documents are relevant and can be viewed here

- Residential Design Guide (RDG1) Section 1: Protecting living conditions of neighbours SPD (adopted January 2013)
- Residential Design Guide (RDG2) Section 2: Appearance and character of house extensions and alterations (adopted April 2014)
- North Somerset Parking Standards SPD (adopted November 2013)
- Biodiversity and Trees SPD (adopted December 2005)
- Creating sustainable buildings and places SPD (adopted March 2015)
- Affordable Housing SPD (adopted November 2013)
- Development contributions SPD (adopted January 2016)
- North Somerset and Mendip Bats SAC Guidance on development (2017 Draft)

Critical Policies

There a number of the above policies that are critical in the determination of any forthcoming planning application

The site lies adjacent to the settlement boundary of Weston-super-Mare and the relevant policy governing residential development in such locations is Core Strategy Policy CS28 which states:

Weston-super-Mare will be the primary focus for development within North Somerset. A minimum of 12,800 dwellings will be delivered over the plan period at Weston-super-Mare and the sustainable new communities, together with approximately 10,500 jobs as part of an employment-led strategy to deliver improved self-containment and reduced out-commuting during the plan period.
New development at Weston-super-Mare will be focused on two key locations:
• Town centre and gateway where the emphasis is on the regeneration of a range of key sites to stimulate investment, and will include residential, retail, employment and leisure opportunities (see Policy CS29).
• Weston Villages where the emphasis is on comprehensive development to create two sustainable new communities linked to the delivery of employment (see Policy CS30).
Residential development will be delivered in accordance with the employment-led strategy (see policies CS20 and CS30 for more detail).
No strategic development will be permitted to the east of the M5 motorway. The settlement boundary of Weston-super-Mare will be amended to incorporate the new Weston Villages.
New development proposals at Weston-super-Mare within or adjoining the settlement boundary should take into account the following objectives:
• support the focus of the town centre as the location for higher order facilities and services, including retail, tourism and leisure opportunities;
• support existing community hubs of local retailing and other services located within the town;
• respect the characteristic heritage of Weston-super-Mare;
• provide high quality design;
• support the enhancement of its green infrastructure and biodiversity, including the ridges and hinterland to the north and south, the woodland areas, the rhynes network, and the seafront;
• improve accessibility within Weston-super-Mare by walking, cycling and public transport, particularly where they enhance connectivity with, for example, local facilities, service centres, the town centre and sea front and do not lead to significant adverse impacts on the transport network; and
• ensure that services and infrastructure are adequate to support the development.
Housing sites outside the settlement boundary in excess of about 75 dwellings must be brought forward as allocations through Local Plans or Neighbourhood Development Plans

Given that the site is outside of the settlement boundary for Weston-super-Mare the impact on the surrounding landscape will need to be addressed and in that regard Policy DM10: Landscape of the Sites and Policies Part 1 Development Management Policies is very relevant. This states that:

All development proposals should:

- Not have an unacceptable adverse impact on the designated landscape character of the district as defined in the Landscape Character Assessment SPD (2005) and respond to the distinctive qualities of the landscape including both the nationally registered and unregistered Historic Parks and Gardens in North Somerset
- Be carefully integrated into the natural, built and historic environment, aiming to establish a strong sense of place, respond to local character, and reflect the identity of local surroundings, whilst minimising landscape impact.
- Where appropriate respect the tranquillity of an area.
- Include appropriate landscaping and boundary treatments in the scheme.
- Conserve and enhance natural or semi-natural vegetation characteristic of the area.

- Respect the character of the historic landscape including features such as field patterns, watercourses, drainage ditches, stone walls and hedgerows.
- Where outdoor lighting is proposed adopt a lighting scheme which minimises obtrusive light and where dark skies are an important feature of the area.

Where some harm to the local landscape character is unavoidable, but a development is otherwise deemed beneficial, then positive mitigation measures should be secured by a landscape condition or planning agreement (Section 106), involving works on or off-site as necessary.

Site Allocations Plan (SAP)

The site is currently outside of the settlement boundary for Weston-super-Mare as shown in the North Somerset Replacement Local Plan and Site Allocations Plan. The Site Allocations Plan was submitted to the Planning Inspectorate for examination on 24 February 2017. Hearings were held on 16–18 May 2017. Following the close of the hearings the Inspector wrote to the Council on 26 June 2017 requesting that the Council tests additional housing supply to provide flexibility and choice and to ensure that the Core Strategy housing requirement is delivered within the plan period. This assessment was undertaken and the additional supply identified for inclusion in the plan by the Executive Committee at its meeting on 5 September 2017. This was submitted to the Inspector who instructed the Council to publish the Proposed Modifications to the plan. Consultation over six weeks commenced on 18 September

Land at Lynchmead Farm, Ebdon Rd Weston-super-Mare was not included as a site to be reassessed and therefore its allocation for development does not form part of the Proposed Modifications to the plan

The Inspectors Report was received on 16th February 2018 and this is to be reported to Full Council on 10th April 2018 with a recommendation that the Site Allocations Plan be adopted

5 Year Housing Supply

The SAP Inspector recognises that the planning policy framework is being reviewed and has taken into account that the plan is likely to have a very short lifespan following adoption as it will be replaced by the new local plan currently under preparation. She therefore considers it appropriate for the Council to concentrate on seeking to boost delivery of housing over the short term rather than using its resources to test strategic and longer term housing allocations for the SAP (paragraph 61).

The 5 year supply calculation is confirmed as being undertaken on the basis of the Sedgefield approach with a buffer of 20%.

The Inspector concluded that the Council identifies sufficient land to provide a five year supply, but indicates there is considerable dispute as to the deliverability within five years. 'The report does highlight that the rate at which sites are developed is to a large degree dependent on the commercial decisions of developers' (paragraph 68).

The Inspector however reached no conclusion as to whether a 5 year supply had been demonstrated as she said this was not a soundness issue. However, she does "find that the plan provides a sufficient balance between immediately available sites and longer term opportunities for residential development and makes a positive contribution to the achievement of a five year housing supply" (paragraph 69).

The plan makes provision for some 23,080 dwellings, 2,095 dwellings above the Core Strategy housing requirement. In terms of the housing land provision, while there may be some uncertainty in terms of delivery, the Inspector concluded "there is headroom within the allocated supply which could provide compensation for any under delivery on these sites" (paragraph 71).

The Inspector also states that "with the modifications to the housing land allocations I consider that the provisions in the SAP for the supply of housing land are sufficient to deliver the strategy of the Core Strategy as set out in Policy CS13 and CS14 in the interim period prior to the adoption of the Joint Spatial Plan and the new Local Plan ' (paragraph 72)".

There are sufficient sites identified to deliver the Core Strategy requirement, taking account of the need to provide flexibility and choice. The Inspector does not identify whether or not there is a five year supply.

The Council's housing land supply published position at October 2017 was that a marginal 5 year supply could be demonstrated. This supply position was calculated in the light of the evidence submitted through the examination process.

MAIN ISSUES

In addition to the main planning policy issue which is covered in the conclusion it is considered the principal technical matters to be addressed in the submission of any planning application is:

(i) Effect on the surrounding highway network
(ii) Flood Risk / Surface Water
(iii) Ecology
(iv) Landscape impact
(vi) Assessment of impact on heritage assets

(i) Effect on the surrounding highway network and the principle of access off Ebdon Rd

The Council would request that the following points are considered in relation to any subsequent application:

Traffic Generation
National Planning Policy Framework 2012 (NPPF) states in paragraph 32 that *"all developments that generate significant amounts of traffic should be supported by a Transport Statement or Transport Assessment"*. In addition, Annex 2 outlines that a Transport Assessment (TA) is *"a comprehensive and systematic process that sets out transport issues relating to a proposed development. It identifies what measures will be required to improve accessibility and safety for all modes of travel, particularly for alternatives to the car such as walking, cycling and public transport and what measures will need to be taken to deal with the anticipated transport impacts of the development".*

The North Somerset Highways Development Design Guide (HDDG) sets out the thresholds for when a planning application is required to be supported by a Transport Statement or a Transport Assessment. The indicative threshold for provision of a Transport Assessment is 80+ dwellings. Given the current proposal for 75 dwellings falls short by only 5 units and considering local highway constraints, we would request a comprehensive Transport Assessment be provided to support any subsequent planning application closely following the NSC guidance on Transport Assessment.

If the development were to lead to an unacceptable traffic impact on this section of public highway and on the character of the surrounding area, this would be contrary to policy DM24 Highway Safety of North Somerset Sites and Policies Plan (Part One) and could provide grounds for refusal.

We note that you seek to submit an outline application with access to be determined. We think that it is crucial that you liaise with Highways officers at the earliest opportunity to agree the scope of a Transport Assessment which must be submitted in support of any outline application**.**

Site Access

No information regarding the proposed site access arrangements or indicative designs has been provided at this stage. With regards to operation, capacity assessment will need to be included within the Transport Assessment to demonstrate the appropriateness of any access.

You will need to demonstrate that junction geometry is fit-for-purpose in traffic and highways terms and meets the required design and safety criteria as set out within Manual for Streets and the North Somerset Highways Development Design Guide. This includes ensuring that two-way working is achievable and that appropriate visibility splays can be provided. A stage 1 / 2 Road Safety Audit will be require to support any subsequent application. Stage 3 and 4 would be secured via condition. The CVs of any audit team along with a brief should be submitted to our Road Safety Team (Mike.O'Sullivan@n-somerset.gov.uk) for approval ***before*** beginning an audit.

You will need to demonstrate that any proposed junction can accommodate the movement of large vehicles including refuse, emergency service and delivery vehicles in accordance with the required standards. Tracking plots will be required to demonstrate this.

Highway Connections
In addition to the site access, you must undertake assessment of relevant junctions to be agreed with us prior to submission of an application. This should include but not be limited to;

- A370 / Wick Road junction
- Queensway / Bristol Road

Both of these routes would be used by development traffic to reach M5 Junction 21 and must therefore be appropriately assessed. The Queensway junction is considered particularly sensitive to increased throughput and Highways officers have concern regarding the impact the development proposal may have on this junction.

In accordance with the NSC HDDG Appendix A, you may use a strategic transport model to identify the junctions likely to be adversely impacted and then use micro simulation to further test impacts upon these junctions.

The impact on the existing shuttle working scheme on Ebdon Road must all be taken into consideration.

Pedestrian Links
You must demonstrate that safe means of pedestrian access from the site to local facilities and services is provided. A Non-Motorised User Audit should be completed to ensure that appropriate pedestrian provision is identified and enhanced where necessary. Assessment of walking distances to facilities is essential in addition to commentary on sustainable mode provision.

Highways officers are particularly concerned that there is no footway provision on the northern side of Ebdon Road fronting the site. Pedestrian infrastructure including formalised footway on the northern side of Ebdon Road and appropriate pedestrian crossing provision would be expected to be provided by the applicant in support of any subsequent application. We will also take into account the impact on the rural appearance of the area as a result of any changes e.g. that may involve loss of hedgerows or grass verges.

Any application coming forward without the provision for pedestrians on Ebdon Road would raise significant pedestrian safety concern and this would be contrary to policy DM24 Highway Safety of North Somerset Sites and Policies Plan (Part One) and could provide grounds for refusal.

Parking
Policy CS11 of the adopted Core Strategy requires that a development provides adequate parking to meet the needs of the users and Parking Standards are currently set out in the North Somerset Parking Standards SPD. Parking and cycle parking provision in accordance with the SPD is required.

Please note that Highways officers are currently revising the Parking Standards SPD to include a visitor parking standard of 0.2 spaces per dwelling, (this amounts to a requirement to provide 15 parking spaces based on the 75 dwellings currently proposed).

Sustainability
A full travel plan will be required to support any subsequent application.

You will be required to provide homeowner travel information packs and a contribution per dwelling for sustainable travel initiatives administered by the Council which amounts to £120 per dwelling.

Further Considerations
In addition to the above, the following items must also be taken account of in any subsequent application;

- Committed development
- The applicant would be required to submit a comprehensive construction traffic management plan with any full / reserved matters application

(ii) Flood Risk/Surface Water

Surface Water

You will need to demonstrate that you have followed NPPF (paragraph: 103) plus the PPG and local guidance which is set out in SPD Creating Sustainable Buildings and Places in North Somerset.

The following hierarchy of drainage options should be followed
1. into ground (infiltration)
2. to a surface water body
3. to a surface water sewer

For further advice on design and concepts - West of England Sustainable Drainage Developer Guide Section 1
http://www.n-somerset.gov.uk/wp-content/uploads/2015/12/West-of-England-sustainable-drainage-developer-guide.pdf

We are aware from a desk study that the site may be suitable for infiltration and therefore storage could be reduced if infiltration was used, information from the (British Geological Society) BGS maps. If ground conditions will not allow for full infiltration we would recommend that source control is considered with green roofs or rainwater harvesting as indications to reduce the need for long term storage. Our aim would be to use the existing rhyne network with above ground swales used, which lead to the ponds and that pipe work is kept to a minimum. The pond structures should be designed with shelves to allow for treatment of pollution and integrated into the design of the site.

We will require percolation tests, ground water monitoring, plus a geotechnical report into the geology of the site to accompany the design. Systems which allow easy clearance of sediments must be used, and a full maintenance plan must be in place, which includes details of ownership and the maintenance company, because the ease of maintenance of these systems is both prohibitive and required on a regular base, also in the long term they could increase flood risk if not maintained correctly.

The proposed access point to the site would be flooded at a 1 in 30 year return we would therefore require a drainage study and drainage work at the access point to ensure no flooding occurs up to and at a 1 in 30 yr. return plus Climate Change. We are also aware that a surface water flow route crosses the site, although this is shown on the surface water maps, as following the watercourse. Therefore development in this area will need to accommodate the flow route and not cause any detriment to existing properties.

The drainage system must be designed so that, unless an area is designated to flood as part of the design, flooding does not occur on any part of the site for a 1 in 30 year rainfall event and that at 1 in 100 year rainfall event no flooding occurs to any part of: a building (including a basement) or in any utility plant susceptible to water (e.g. pumping station or electricity substation) within the development. Any flows resulting from rainfall in excess of a 1 in 100 year rainfall event should be managed in conveyance routes that minimise the risks to people and property.
The runoff volume from the developed site to any, sewer or surface water body in the 1 in 100 year, 6 hour rainfall event must not exceed the green field runoff volume however in this case we may ask for more storage in the form of long term storage, based on the design and the impact on the flooding regime downstream. The peak runoff rate from the development to any off site area, must not exceed the green field runoff rate from the site at equivalent green field event.

The site lies with the IDB area and their bylaws require a 9 metre access along all rhynes to be provided. North Somerset Council also require a maintenance access corridor along any watercourses (ditches) of 5 metres as stated in our Biodiversity and Trees SPD (Section 8.4). Any watercourse (ditch) network must remain open and culverted for access only this is in line with our LFRMS and our planning policies and where possible culverts should be opened up. From the mapping the site appears to have culverts which will require surveying and no development over, with an easement of 4 metres to either side for access

To discharge any drainage condition attached to the application our minimum requirements would be:

- A site layout which respects the natural drainage regime and deals with known flooding problems
- Source control measures, Infiltration tests to BRE Digest 365 revised 2016
- A detailed layout of the drainage scheme demonstrating an above ground drainage system, with the flooding routes and layouts
- The calculations to allow us to check the drainage runoff and storage
- Design of sustainable drainage to CIRIA 753, BS8582
- Plan showing the flooded area at a 1 in 100 year event before and after development

- A maintenance schedule with details of the ownership, and future maintenance regimes of all SuDS elements and any rhyne network.

Flood Risk

The site is located within a high risk flood zone (zone 3a). The principal way to manage flood risk is to avoid locating development within areas at risk of flooding. To encourage developers to avoid flood risk areas, Government policy set out in the National Planning Policy Framework and related guidance, requires that a Sequential Test and Exception Test are passed before planning permission is granted for a new dwelling in flood zone 3a. If you decide to proceed with your proposal, you will need to demonstrate that these tests have been met.

The Sequential Test is a tool to direct new development first to sites at the lowest probability of flooding. The test needs to demonstrate that there are no reasonably available alternative sites within the area of flood risk (in this case, Weston-super-Mare) which can accommodate the proposal. If the requirements of the Sequential Test are successfully met, the proposal must then also pass the requirements of the Exception Test.

For the Exception Test to be passed, you must satisfy the following tests:

1. It must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk; (if the Council does not have a five year housing supply this can be used as justification); and
2. A site-specific Flood Risk Assessment must demonstrate that the development will be safe for its lifetime, taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

Both of these requirements must be met. Failure to comply with any one will mean that the Exception Test has been failed and the planning application will be refused.

For further information and advice regarding this matter, please refer to the council's advice note entitled 'Development and Flood Risk Issues' and to the Environment Agency's website.

(iii) Ecology

Statutory Site Designations: Severn Estuary RAMSAR, SPA, SAC, and SSSI ~2.3km to the north and west.

Non Statutory Site Designations**:** Land Adjacent to Severn Estuary SSSI ~1.5km to the north and west; Worle Hill and Worlebury Golf Course ~1km southwest.

HRA Screening Required:
Yes: Severn Estuary SPA/SAC/RAMSAR – application site is in reasonable proximity to the Severn Estuary that there may be potential Likely Significant Effects – for example: habitats - pollution risk, recreational pressures; qualifying species – possible disturbance (visual, noise, recreation), possible loss of foraging/refuge habitat.

TCB: North Somerset and Mendip Bats SAC considered unlikely as the application site falls outside of the SPD consultation zone. However, should the bat survey work identify presence of greater and/or lesser horseshoe bats, screening may be required – refer to North Somerset and Mendip Bat SAC SPD : http://www.n-somerset.gov.uk/my-services/planning-building-control/planningpolicy/supplementary-planning-advice/adopted-supplementary-plans/supplementary-plans-adopted/

Anticipated Scope of Surveys:

- Extended Phase 1 Habitat Survey (results of phase 1 will inform the scope of phase 2 surveys)
- Bats – building inspections, trees (if affected by proposals) and activity surveys – in line with best practice BCT guidelines (3rd Ed, Collins 2016).
- Badger
- Over-wintering bird survey
- Otter (historic record in vicinity of the application site at Ebdon Farm)

Possibly:

- Great Crested Newts – extended phase 1 will need to include an assessment of waterbodies on site and within 500m of the site using the Habitat Suitability Index.
- Reptiles

Masterplanning:
Whilst there is no indicative layout plan at this stage, it is noted in the pre app letter that the houses are proposed to be sited along the existing settlement boundary, leaving open space to the north.

Key ecological objectives for the development are considered to be:

- Boundary habitats and traversing linear features are likely to be important and should be retained within the proposed layout, with minimal fragmentation of hedges for access and kept dark with sensitive lighting strategy;
- Adequate buffering of hedgerows and rhyne networks – minimum of 5m for hedgerows and 8m for rhynes. Should ecological surveys identify particularly important features/corridors, buffers should be increased accordingly;
- The rhyne network with the development site is connected to Statutory and Non Statutory site designations. Pollution risk and quality of surface water run-off must be appropriately protected from the impacts of development – both for temporary risks during construction, and incorporation of robust measures for water quality in operation;
- Incorporation of habitat enhancements, for example bird and bat roosting opportunities in building design, SuDS, wildflower meadows, dedicated cattle/sheep grazing area; native species planting (enhancement of existing habitat/ creation of new habitats).

Ecology reports: Please √ all which apply	
Methodology	
Details of the surveyors including confirmation that they are suitably qualified ecologists	√
Date of surveys, including justification if completed in sub-optimal conditions	√.
Results	
Ecological desk study, including BRERC data search.	√
Assessment and details of all semi-natural habitats within the site, including important habitats (Biodiversity Action Plan/Section 41 habitats)	√
Assessment of any buildings/trees within the site for potential for/evidence of roosting bats and nesting birds	√
Assessment and details of any potentially impacted semi-natural habitats outside of the site boundary (e.g. adjacent habitats, impacts of enabling works, etc)	√

Assessment of well-connected waterbodies within 500m using Habitat Suitability Index or equivalent	√
Assessment of potential for and evidence of legally protected species within the site or potentially impacted by the proposals, with avoidance and mitigation measures	√
Assessment of potential for and evidence of notable species, including Biodiversity Action Plan/Section 41 species, with avoidance of harm and habitat mitigation measures	√
A site plan showing key findings	√
Site photographs showing key features including key habitats and buildings	√
Impact Assessment and Recommendations	√
An assessment of likely impacts of the proposals based on current plans	√
Recommendations for compliance with EU and UK legislation. Requirements for licensing if appropriate	√
Recommendations for enhancement measures to meet planning policy (NPPF and North Somerset Adopted Core Strategy CS4)	√

(iv) Landscape impact

This proposal extends residential development into the A1: Kingston Seymour and Puxton Moors (see North Somerset Landscape Character Assessment) north of Ebdon Road. The road provides a well-established settlement edge, following relatively recent northern expansion of the town, although some cottages and a small industrial estate lie to the north of it. A strong edge to the town is a desirable objective, although the number of dwellings is within the threshold set by Policy CS28

It is considered that even with good landscaped buffers and careful control of design, scale and height, this addition to the settlement edge might have a slight to moderate adverse impact on the overall landscape character. Built development should not project too far into the moor, reserving the northern parts of the site for open space provision and landscape mitigation, to ensure the 'slight' influence of the settlement edge noted in the NSC Landscape Character Assessment does not become more significant.

In the absence of a suggested layout it is difficult to comment further at this stage, but the proposals should respect the rural nature of the site retaining key features such as hedges and rhynes. The developer would need to show that the number of dwellings suggested could be accommodated, along with suitable buffers to hedges / rhynes and the provision of open space. Note also that there are few surviving orchards (none in Ebdon, but some east of Wick St. Lawrence) in an area where they were once prevalent, so these might be re-introduced where appropriate. A Landscape Visual Impact Assessment and Landscape Character Statement would be needed for a development of this scale. This will need to demonstrate that the various criteria in Policy DM10 can be satisfied. Without this information it is difficult to form a judgement on the landscape impact of the proposal but at this preliminary stage it is a concern that may warrant a refusal.

(v) Assessment of impact on heritage assets

The proposed development sits within an area characterised historically as 'post-medieval (15th-17th century) irregular fields enclosed from anciently reclaimed moors'. Within the immediate vicinity of the proposed application boundary there are two recorded non-designated heritage assets in the form of a findspot of Romano-British pottery southwest of Ebdon (MNS189) and former field boundaries west of Ebdon (MNS1769). The Romano-British pottery is recorded as being found at Poplar Cottage. The field boundaries are recorded as banks and linear depressions suggesting remains of strip fields.

There are further non-designated heritage assets in the form of historic core settlements of Lynchmead Farm (MNS5433) and Ebdon (MNS5434) close to the proposed development site. Core settlements are identifiable on late 18th or early 19th century maps. They may still preserve medieval or even earlier outlines, and building fabric may originate from the 17th and 18th centuries.

A desk based assessment should be compiled and submitted to assess the impact of development on known heritage assets within the vicinity, and the potential for as yet unrecorded archaeological remains within the site in line with NPPF. Geophysical survey of the application area should also be undertaken with a view to undertake investigation in the form of trial trenching, dependent on the results of the survey.

OTHER ISSUES

Green Infrastructure

Based on 75 dwellings, with an average 2.3 person occupancy, equating to 172 people and calculated in accordance with Section 8 (Green Infrastructure) of the adopted Development Contributions SPD. See also Area Profile extract for POS in Kewstoke (incorporates Wick St Lawrence).

The proposed development is a significant increase in dwellings and population. Due to the size of the development useable informal public open space should be provided on site to ensure that space is accessible to all residents

Formal Park and Public Garden (rural) – It is only practical to provide new on-site provision as part of a larger Strategic Development Area.

Community Park – Not required, as threshold not met.

2,232 m2 Neighbourhood Open Space **–** Under supply. This should be delivered on-site to provide for the new residents.

1,720 m2 Woodland – There is an under supply of accessible woodland in the area, but no sites in the immediate vicinity because of the open nature of the levels landscape. The nearest Council owned woodland is at Worle Hill some 1800m away. This site is approx.10,000 m2 of mixed woodland which would benefit from thinning. Also improvement to public footpath AX31/23/20, which has a series of steps in need of renewal, would be desirable to ensure continued safe access. Off-site contribution to this project is requested (See sum at section 3).

2,064 m2 Conservation Site (rural) – As there is an under supply of Conservation sites in the area, it would be desirable to enhance the perimeter hedges and field margins where retained.

Green Corridors – On site delivery (where possible) should aim to integrate existing green corridors, with new provision across the development.

430 m2 Allotments – The site is outside the 1000m threshold to existing allotments, so off-site provision may be required if the Wick St. Lawrence Parish Council have any demand for allotments (See sum at section 3). This site cannot deliver the above allotment request, but we would accept off-site contributions to improve existing provision in or near the village.

On-site provision will require 15 year commuted maintenance sums to be paid prior to adoption, where the land is to be transferred to and maintained by North Somerset Council (See TABLE 1 below).

Note that landscape buffers and SUDS areas are not included in any calculation as POS, although they may also be considered for adoption if offered with a 15 year commuted maintenance sum.

Cash Contributions calculated in accordance with the rates in the Development Planning Obligations SPD (as at May 2015 and subject to indexation), would be as follows:

1,720 m2 Woodland = £ 17,045.20

430 m2 Allotments = £ 50,881.90 This will need discussion with the Parish Council who are responsible for allotment provision.

Education

Based on the current submission for 75 residential units it is estimated that the following number of pupils of school age will be reside on site:

Early Years 9
Primary 26
Secondary 15
Special Educational Needs 0.44

Total 40

A financial contribution through the Community Infrastructure Levy (see later) will be required to accommodate these children in local schools

Sustainable Construction

Policy CS2 of the Core Strategy requires development to be of a good standard of design and include sustainable construction techniques with high levels of energy saving. Should you decide to proceed with your proposal, you will need to submit a sustainability/energy statement with your planning application.

Your sustainability/energy statement must show how the dwelling has been designed to reduce its energy use by reason of its design, and how 15% of the energy needs of the development will be provided by decentralised (preferably on-site), renewable and/or low-carbon technologies. Further information on this subject is available in the council's Supplementary Planning Document (SPD) entitled Creating Sustainable Buildings and Places (adopted 24 March 2015).

The sustainability/energy statement should show how sustainable design principles have been incorporated into the development. A checklist is provided in the SPD which outlines the documentation which must be submitted with different development types to comply with policy CS2. Please note that the government released a planning statement on 25 March 2015 to confirm that the Code for Sustainable Homes will cease to exist, so this will not form part of policy CS2 from this date.

Space Standards

Policy DM42 of the North Somerset Sites and Policies Plan (Part 1) states that '*Where practical and viable, the Council expects all new build market and affordable housing (across all tenures) to comply with the DCLG's 'Technical housing standards – nationally described space standard"*. If you decide to submit a planning application, your plans and drawings must demonstrate that your proposal meets this standards set in this document.

Living conditions of neighbours

Policy DM32 of the Sites and Policies Plan (Part 1) states that the design and layout of development should not prejudice the living conditions for the occupiers of the proposal or that of adjoining occupiers through loss of privacy, overlooking, overshadowing or overbearing impact. Policy DM37 also requires that the living conditions of the occupiers and adjoining properties are not prejudiced.

Any new dwelling should not cause significant harm to the living conditions of neighbouring residents when using their gardens or habitable rooms and the scheme should also be designed to provide adequate living conditions for the occupants of the proposed dwelling. For further information and advice, please refer to the council's design guide on the subject, which can be found on our website at: Residential Design Guide - Section 1

Waste Storage

New dwellings must be provided with sufficient space for a waste storage area and collection point. Provision should be made for every household to store 1 x 180 litre wheeled bin, two recycling boxes and a food waste caddy. For single dwellings, an area of 1.2m^2 should be sufficient to provide for storage of waste containers and provide space for access. Storage areas should be sited so that the distance householders are required to carry refuse does not usually exceed 30m. A refuse collection point must also be made available that is no more than 15m away from where the refuse collection vehicle can manoeuvre. The surface treatment for the collection point and storage area should be non-permeable to prevent potential contamination from liquids seeping into the ground. Care will need to be taken to ensure that the storage area and collection point are designed in such a manner as to respect the character of the development and the wider area. The council has produced a guidance note on this subject entitled: Residential Design Guide - Section 4 - Recycling and Waste.

Accessible Housing

Access for disabled people is a material consideration in the determination of a planning application for new dwellings. Policy DM42 of the Sites and Policies Plan (Part 1) and policy CS2 of the Core Strategy, promote the development of accessible housing to standards that enable all housing to be capable of adaptation and use by everyone.

Any Design and Access Statement (DAS) that you submit with your planning application should, amongst other things, describe how your proposals will meet the standards set out in the national

Building Regulations 2010 Approved Document Part M, Volume 1: Dwellings – M4(2) Category 2: Accessible and adaptable dwellings.

Your DAS should address each of the features in the Approved Document one by one, where relevant.

If, due to the scale and nature of your proposals, you are not required to submit a DAS (as set out in the Planning Practice Guidance), you should explain in writing how you have addressed the above requirements and annotate your plans accordingly.

Further advice and help on the interpretation of this advice is available by contacting the council's Access Officer, Anthony Rylands, on 01934 634989 or email: Anthony.rylands@n-somerset.gov.uk.

Affordable Housing

All sites proposed for 11 or more dwellings, or comprising 1000m2 or more are required to provide a minimum of 30% on-site affordable housing, at nil public subsidy, with a tenure split of 77% social rent and 23% shared ownership.

This application proposes **75 dwellings**; therefore the affordable housing requirement is **23 of** these units. If the total number of dwellings change during the planning application, then required amount of affordable housing will change according to the revised number of dwellings.

The Council will only accept a lower affordable housing contribution if the economics of provision are such that the provision of affordable housing renders the development economically unviable. In this circumstance, the Council or an independent expert employed by the Council, will undertake a full review (funded by the developer) of the development costs and projected sales values in order to determine the level of provision that may be sought from the developer. Please see section 6.1 of the Affordable Housing Supplementary Planning Document (AH SPD) 2013 for more information.

Discussions on housing need, mix, unit type and affordability should take place early on with the Council's Housing Strategy & Enabling Team. The affordable housing should provide a choice of housing types, having regard to the recommendations of the Strategic Housing Market Assessment (SHMA), the existing mix of dwellings in the locality and the character and accessibility of the location.

Breakdown of the requested mix:

77% social rent

Unit size/type	Number of Occupants	Percentage to be provided
1 bed	2	20%
2 bed flat	3	18%
2 bed house	4	23%
3 bed house	5	31%
4+ bed house	6+	8%

23% intermediate affordable housing (shared ownership):

Unit size/type	Number of Occupants	Percentage to be provided

1 bed	2	13%
2 bed flat	3	21%
2 bed house	4	25%
3 bed house	5	35%
4 bed house	6	6%

Community Infrastructure Levy (CIL)

The community infrastructure levy is a charge which developers will have to pay towards the cost of infrastructure to support development. The levy will be a charge per square metre of development. It can vary according to the size, type and location of the proposal

North Somerset Council has adopted a Community Infrastructure Levy (CIL) Charging Schedule, which took effect on 18th January 2018. This means that certain types of development will be required to pay a per square metre levy towards the costs of delivering infrastructure to support the growth of the area. Affordable housing and site specific requirements will still need to be addressed through s106 agreements.

Residential and retail development is likely to be liable for CIL charges if:

- it contains at least 100 square metres of extra floor space (new build); or
- it is less than 100 square metres but results in the creation of a new dwelling; or
- you are converting a building that is not 'in-use'.

Liable applications consented after the 18th January 2018 are required to pay CIL. For more information please see www.n-somerset.gov.uk/cil and https://www.gov.uk/guidance/community-infrastructure-levy

The rates are as set out in the table below:

Location(s)	**Development type (use class)**	**CIL charge £/m²**
Zone A: Weston Town Centre	Residential (C3/C4).	0
Zone B: Outer Weston: sites	Residential (C3/C4) development on sites designated as Strategic Development Areas.	20
	Residential (C3/C4) development on sites not designated as Strategic Development Areas.	40
Zone C: Rest of District	Residential (C3/C4) development on sites designated as Strategic Development Areas.	40
	Residential (C3/C4) development on sites not designated as Strategic Development Areas.	80
All (zones A, B, C)	Extra-care (C2) housing.	0
	Purpose-built student accommodation / halls of residence.	40

	Large-scale retail (A1/A2/A3/A4/A5): more than 280m2 net sales area.	120
	Small-scale retail (A1/A2/A3/A4/A5): less than 280m2 net sales area.	60
	Commercial (B1/B2/B8).	0
	All other qualifying development.	0

Definitions and maps showing zones are available on our website at www.n-somerset.gov.uk/cil
Your site would appear to fall within Zone C.

Conclusion

On the assumption that technical issues such as drainage, highways and flood risk can be overcome the fundamental test is whether the scheme is in accordance with Policy CS28 and if not, does the harm outweigh the benefits from additional housing and the need to address the 5 year housing supply (Para 14 of NPPF)

Although the scheme is just within the threshold set by Policy CS28 and is adjacent to the settlement boundary there are concerns regarding the impact on the landscape, the rural character of the area and the breach of the strong northern boundary to Weston-super-Mare

In addition it is the Council's view that by the time a planning application is submitted and /or determined the Council will be able to demonstrate a 5 year housing supply and a fully adopted Site Allocations Plan.Ttherefore the settlement boundary and relevant housing policies in adopted Development Plan policies will carry full weight.

If you wish to pursue a planning application then there are a number of detailed matters raised in this report that will need to be addressed and primarily these relate to landscape, highways, archaeology, flooding and ecology

It is likely that previous s106 contributions mentioned here, with the exception of affordable housing and any site specific ones may be subsumed within the new Community Infrastructure Levy, mentioned above.

Things we recommend you do

Should you decide to proceed with your proposal you are advised to contact the local parish/town council and your elected North Somerset ward councillor. You can find contact details for your local council and ward councillor on our planning map on our website.

You are also strongly advised to speak to any neighbours that may be affected by this proposal. You will find helpful advice about how to get your project completed and avoid unnecessary delays and costs on our website.

What to submit if you choose to submit an application

In addition to the relevant application form you will also need to submit the items identified on our validation checklist. If you do not submit all these items we may not be able to process your application which will result in delays. Our planning application requirements can be viewed on our website.

The following document/s will be particularly important and must be included if you submit a formal planning application

- Affordable housing statement
- Ecology Report
- Tree Survey
- Draft heads of terms for a planning obligation
- Design and Access Statement
- Energy statement
- Flood Risk Assessment
- Open space assessment
- Street scene drawing
- Landscape Visual Impact Assessment and Landscape Plan
- Transport Assessment including Travel Plan

Detailed advice about each of the documents referred to above can be found on our on our website.

Advice notes

1. The views expressed are informal views on and based on the information currently available. They are without prejudice to the consideration of any planning application, which may be submitted, and the more detailed assessment of the issues involved at that stage.
2. Any advice given in relation to the planning history of the site, planning constraints or statutory designations does not constitute a formal response of the council under the provisions of the Land Charges Act 1975.
3. The weight given to our advice will reduce the more time that lapses between the advice given and the application being submitted because circumstances may change.
4. Whilst we try to give you all the information available at the advice stage, new information may come to light once a planning application has been submitted that we were not previously aware of. We reserve the right to take a different view if this occurs, however, we will contact you first to discuss the best way forward.
5. We do not normally undertake consultation with external bodies when considering pre-application requests. If you decide to submit a planning application we will formally consult and this process may raise new and relevant issues that need to be taken into account in reaching our formal decision.
6. We do not normally undertake a site visit at the pre-application stage. If you decide to submit a planning application we will carry out a site visit and this may raise new and relevant issues that need to be taken into account in reaching our formal decision
7. Should you require any further advice and information there may be an additional charge.
8. Further fees or contributions may be required prior to the granting of planning permission under S106 agreements or unilateral undertakings.

Signed: Graham Quick 23/01/2018

APPENDIX C

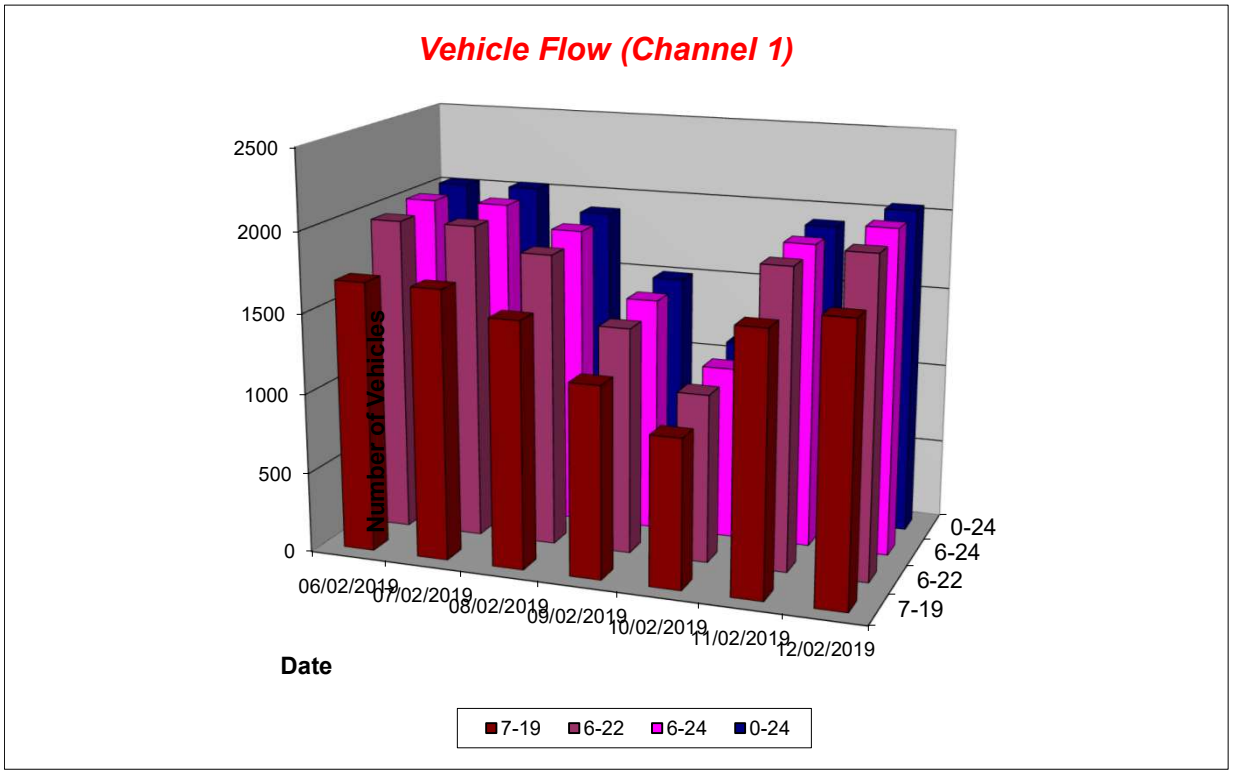
Traffic Surveys

Weston Super Mare ATC, Ebdon Road

Channel 1 - Northbound **Vehicle Flow** **Week 1**

Hr Ending	06/02/2019 Wednesday	07/02/2019 Thursday	08/02/2019 Friday	09/02/2019 Saturday	10/02/2019 Sunday	11/02/2019 Monday	12/02/2019 Tuesday	5 Day Ave	7 Day Ave
1	5	4	4	15	14	2	1	3	6
2	1	2	0	3	5	2	1	1	2
3	0	1	1	4	4	2	3	1	2
4	1	2	4	1	5	2	2	2	2
5	3	5	2	4	5	1	2	3	3
6	9	7	9	2	1	4	6	7	5
7	52	58	39	6	8	43	43	47	36
8	279	264	179	27	9	293	308	265	194
9	205	215	173	37	22	210	199	200	152
10	80	81	75	74	52	87	91	83	77
11	70	77	100	79	63	68	73	78	76
12	93	93	100	123	113	85	80	90	98
13	114	114	117	128	134	92	106	109	115
14	92	91	99	117	104	91	109	96	100
15	104	103	112	116	92	90	102	102	103
16	151	150	158	126	90	134	157	150	138
17	148	147	131	144	103	146	140	142	137
18	194	193	190	141	83	179	208	193	170
19	156	155	103	82	64	145	145	141	121
20	87	86	117	113	57	93	112	99	95
21	83	83	81	60	41	66	58	74	67
22	56	56	51	40	15	46	49	52	45
23	31	31	24	30	24	20	36	28	28
24	12	12	27	30	9	11	14	15	16

7-19	1686	1683	1537	1194	929	1620	1718	1649	1481
6-22	1964	1966	1825	1413	1050	1868	1980	1921	1724
6-24	2007	2009	1876	1473	1083	1899	2030	1964	1768
0-24	2026	2030	1896	1502	1117	1912	2045	1982	1790



Weston Super Mare ATC, Ebdon Road

Channel 1 - Northbound **Average Speed** **Week 1**

Hr Ending	06/02/2019 Wednesday	07/02/2019 Thursday	08/02/2019 Friday	09/02/2019 Saturday	10/02/2019 Sunday	11/02/2019 Monday	12/02/2019 Tuesday
1	31.0	30.5	27.4	29.7	30.7	35.5	25.5
2	25.5	25.5	-	32.2	25.5	31.8	33.0
3	-	33.0	33.0	31.1	29.2	35.5	35.5
4	25.5	25.5	32.4	33.0	33.5	34.2	31.8
5	25.5	25.5	29.2	27.4	31.5	33.0	29.2
6	31.3	30.5	29.9	34.2	25.5	31.8	31.8
7	29.0	28.5	29.3	26.3	28.9	28.1	27.9
8	27.3	27.4	28.0	29.4	28.0	28.1	26.6
9	27.3	27.2	26.9	28.7	28.1	26.4	27.1
10	27.3	27.2	27.2	27.8	27.3	27.0	26.2
11	27.7	27.8	27.6	26.9	27.2	26.6	26.5
12	27.8	27.9	27.4	27.1	26.7	27.0	27.7
13	26.5	26.4	26.8	27.3	27.4	27.7	26.5
14	27.5	27.5	28.2	27.7	28.0	28.7	27.3
15	26.4	26.3	26.9	28.0	27.0	27.9	25.5
16	27.3	27.3	27.8	27.4	28.0	28.0	26.1
17	27.0	27.0	26.9	27.4	28.0	27.5	26.8
18	25.8	25.9	26.6	27.5	29.0	27.1	26.7
19	26.3	26.3	28.6	27.6	28.7	27.1	27.1
20	28.3	28.3	28.5	27.1	28.8	27.8	28.0
21	30.3	30.3	28.6	28.0	27.5	29.1	28.4
22	29.1	29.1	29.8	28.0	31.5	29.4	29.0
23	29.5	29.5	30.0	27.6	31.0	30.0	29.1
24	29.0	29.0	26.7	28.4	31.9	32.3	34.2
10-12	27.8	27.8	27.5	27.0	26.9	26.8	27.1
14-16	27.0	26.9	27.4	27.7	27.5	27.9	25.9
0-24	27.3	27.3	27.6	27.6	28.0	27.7	27.0

Average	27.5

Channel 1 - Northbound **85th Percentile**

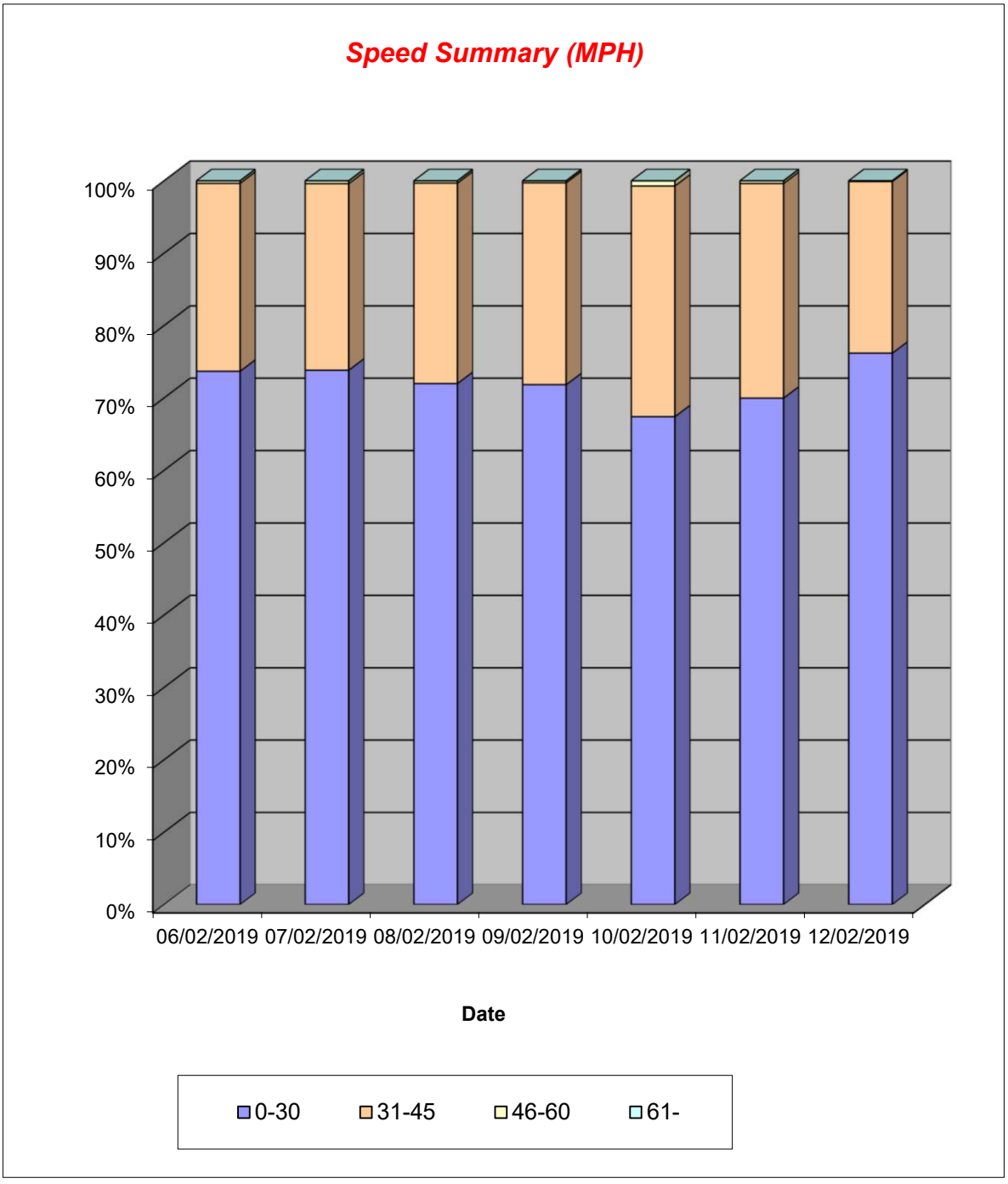
Hr Ending	06/02/2019 Wednesday	07/02/2019 Thursday	08/02/2019 Friday	09/02/2019 Saturday	10/02/2019 Sunday	11/02/2019 Monday	12/02/2019 Tuesday
1	38.7	38.6	33.9	33.1	38.5	38.4	-
2	-	26.1	-	38.6	25.7	38.1	-
3	-	-	-	33.7	33.9	38.7	43.2
4	-	25.8	38.4	-	38.7	43.9	38.5
5	25.8	26.3	33.3	33.8	33.5	-	33.3
6	43.3	43.8	38.2	43.0	-	43.1	48.3
7	38.8	33.6	33.2	33.5	33.1	33.8	33.0
8	33.0	34.0	33.6	33.9	33.8	33.4	33.5
9	33.8	33.9	33.4	33.4	33.5	33.5	33.2
10	33.8	33.2	33.4	33.7	33.8	33.5	33.9
11	33.7	33.7	33.7	33.5	33.6	33.2	33.6
12	33.0	34.0	33.3	33.5	33.8	33.3	33.8
13	33.4	33.2	33.6	33.5	33.0	33.1	33.9
14	33.9	33.5	33.2	33.4	33.2	33.6	33.3
15	33.8	33.1	33.2	33.4	33.1	33.2	26.0
16	33.4	34.0	33.6	33.3	33.1	33.9	33.1
17	34.0	33.7	33.1	33.1	33.3	33.1	33.6
18	33.9	33.0	33.5	33.2	33.1	33.4	33.4
19	33.1	33.6	33.9	34.0	33.0	33.3	34.0
20	33.9	33.1	33.3	33.1	33.5	33.9	33.1
21	33.4	33.1	33.8	33.4	33.7	33.8	33.9
22	33.5	33.8	33.4	33.4	38.5	33.3	33.6
23	33.8	33.3	33.3	33.5	38.8	38.7	33.3
24	33.1	33.0	33.9	33.2	43.1	38.3	43.1
10-12	33.6	33.3	33.6	33.5	33.2	33.1	33.5
14-16	33.5	33.4	33.6	33.3	33.7	33.0	33.2
0-24	33.3	33.3	33.4	33.6	33.5	33.3	34.0

85th %ile	33.5

Weston Super Mare ATC, Ebdon Road

Channel 1 - Northbound | **Speed Summary** | **Week 1**

Speed (MPH)	06/02/2019 Wednesday	07/02/2019 Thursday	08/02/2019 Friday	09/02/2019 Saturday	10/02/2019 Sunday	11/02/2019 Monday	12/02/2019 Tuesday
0-30	1493	1499	1365	1079	753	1338	1558
31-45	526	523	525	419	356	567	485
46-60	7	8	6	4	8	7	2
61-	0	0	0	0	0	0	0
TOTAL	**2026**	**2030**	**1896**	**1502**	**1117**	**1912**	**2045**

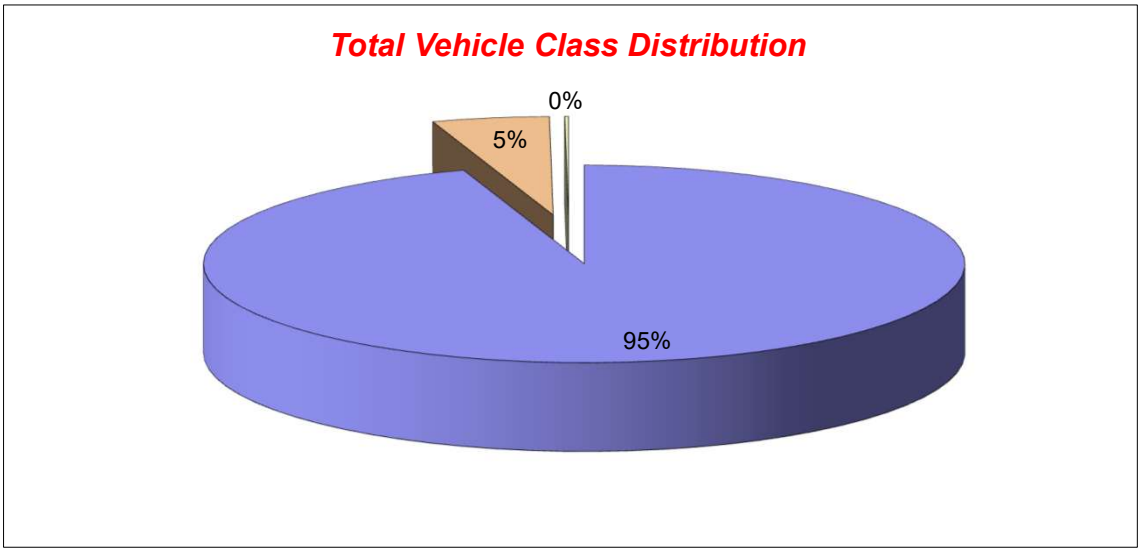


Weston Super Mare ATC, Ebdon Road

Channel 1 - Northbound | **Vehicle Class** | **Week 1**

Classes / Day / Time	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
06/02/2019				
7-19	1575	108	3	1686
6-22	1846	114	4	1964
6-24	1889	114	4	2007
0-24	1908	114	4	2026
07/02/2019				
7-19	1583	94	6	1683
6-22	1862	97	7	1966
6-24	1905	97	7	2009
0-24	1925	98	7	2030
08/02/2019				
7-19	1433	103	1	1537
6-22	1714	110	1	1825
6-24	1764	111	1	1876
0-24	1781	114	1	1896
09/02/2019				
7-19	1157	34	3	1194
6-22	1372	38	3	1413
6-24	1432	38	3	1473
0-24	1459	40	3	1502
10/02/2019				
7-19	897	32	0	929
6-22	1016	34	0	1050
6-24	1048	35	0	1083
0-24	1079	38	0	1117
11/02/2019				
7-19	1530	90	0	1620
6-22	1768	100	0	1868
6-24	1796	103	0	1899
0-24	1809	103	0	1912
12/02/2019				
7-19	1610	103	5	1718
6-22	1863	112	5	1980
6-24	1913	112	5	2030
0-24	1924	116	5	2045

Average				
7-19	1398	81	3	1481
6-22	1634	86	3	1724
6-24	1678	87	3	1768
0-24	1698	89	3	1790

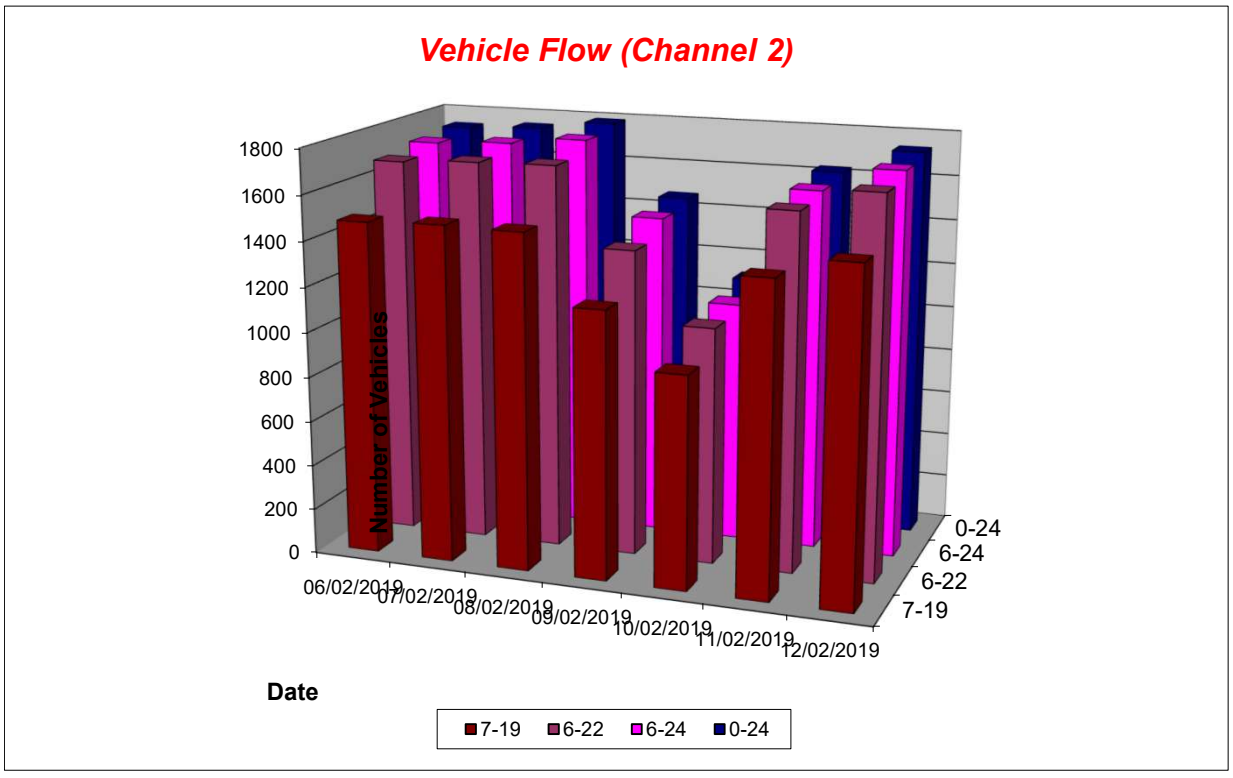


Weston Super Mare ATC, Ebdon Road

Channel 2 - Southbound **Vehicle Flow** **Week 1**

Hr Ending	06/02/2019 Wednesday	07/02/2019 Thursday	08/02/2019 Friday	09/02/2019 Saturday	10/02/2019 Sunday	11/02/2019 Monday	12/02/2019 Tuesday	5 Day Ave	7 Day Ave
1	2	2	0	17	17	0	0	1	5
2	0	0	1	1	3	1	0	0	1
3	0	0	0	1	5	3	0	1	1
4	0	0	2	0	3	1	2	1	1
5	2	2	2	3	5	3	2	2	3
6	16	14	19	6	2	14	19	16	13
7	54	60	59	17	10	66	69	62	48
8	104	118	110	29	21	111	109	110	86
9	179	170	199	90	44	178	185	182	149
10	105	121	100	113	89	115	104	109	107
11	94	90	90	106	119	93	93	92	98
12	86	85	110	115	118	78	102	92	99
13	104	103	89	128	88	91	86	95	98
14	94	93	103	126	107	78	106	95	101
15	118	117	122	86	81	103	112	114	106
16	111	110	124	107	79	104	106	111	106
17	139	138	154	105	76	118	136	137	124
18	202	202	168	104	59	188	188	190	159
19	144	144	117	76	61	117	136	132	114
20	79	79	71	81	47	67	79	75	72
21	40	40	57	55	31	47	36	44	44
22	30	30	34	25	23	27	32	31	29
23	23	23	19	30	10	17	22	21	21
24	8	8	38	43	12	6	11	14	18

7-19	1480	1491	1486	1185	942	1374	1463	1459	1346
6-22	1683	1700	1707	1363	1053	1581	1679	1670	1538
6-24	1714	1731	1764	1436	1075	1604	1712	1705	1577
0-24	1734	1749	1788	1464	1110	1626	1735	1726	1601



Weston Super Mare ATC, Ebdon Road

Channel 2 - Southbound **Average Speed** **Week 1**

Hr Ending	06/02/2019 Wednesday	07/02/2019 Thursday	08/02/2019 Friday	09/02/2019 Saturday	10/02/2019 Sunday	11/02/2019 Monday	12/02/2019 Tuesday
1	29.2	25.5	-	30.4	28.1	-	-
2	-	-	25.5	25.5	25.5	25.5	-
3	-	-	-	15.5	27.0	34.7	-
4	-	-	36.8	-	33.8	25.5	35.5
5	35.5	35.5	25.5	32.2	32.5	36.3	38.0
6	28.2	29.1	31.7	30.5	29.2	31.0	30.1
7	30.2	29.7	30.3	30.9	29.8	29.6	29.6
8	29.5	29.2	30.0	28.2	29.1	30.2	29.5
9	33.0	29.2	28.8	29.3	28.5	29.4	29.2
10	28.6	28.2	28.4	30.0	28.7	29.7	27.5
11	28.5	27.3	28.4	28.7	28.9	26.6	28.6
12	27.8	27.9	27.8	28.4	28.2	27.5	27.4
13	28.3	28.3	29.0	28.7	29.7	27.9	27.4
14	29.7	29.7	29.2	29.3	30.1	29.5	27.6
15	29.2	29.3	29.4	29.1	29.3	29.4	26.8
16	28.9	28.9	29.8	29.1	29.9	28.8	28.4
17	29.8	29.7	29.0	28.5	28.4	28.2	26.6
18	27.9	27.9	28.3	27.5	29.3	28.5	29.5
19	30.2	30.2	28.8	29.6	29.6	29.5	29.4
20	29.8	29.8	30.1	29.0	29.2	31.2	29.4
21	29.8	29.8	31.2	29.1	29.0	29.5	29.7
22	29.6	29.6	27.4	31.4	32.0	29.7	28.6
23	29.4	29.4	29.2	30.2	31.8	31.1	34.0
24	30.5	30.5	27.9	28.7	28.6	33.0	31.2
10-12	28.2	27.6	28.1	28.6	28.5	27.0	28.0
14-16	29.1	29.1	29.6	29.1	29.6	29.1	27.6
0-24	29.1	29.0	29.0	29.0	29.2	29.1	28.6

Average	29.0

Channel 2 - Southbound **85th Percentile**

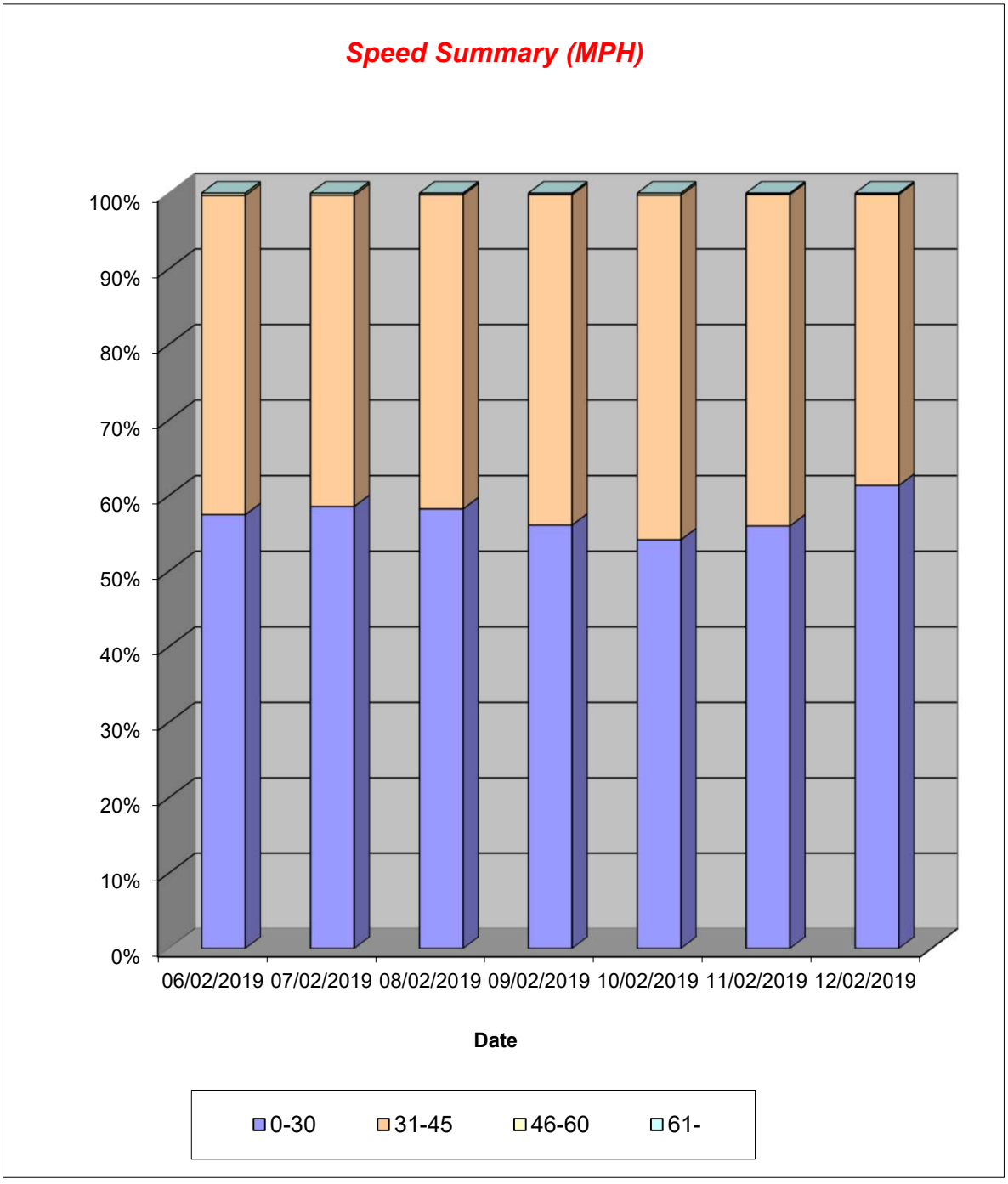
Hr Ending	06/02/2019 Wednesday	07/02/2019 Thursday	08/02/2019 Friday	09/02/2019 Saturday	10/02/2019 Sunday	11/02/2019 Monday	12/02/2019 Tuesday
1	33.1	26.1	-	34.0	33.5	-	-
2	-	-	-	-	26.5	-	-
3	-	-	-	-	33.6	38.8	-
4	-	-	48.8	-	38.9	-	38.9
5	38.0	38.5	25.9	38.4	38.7	38.4	38.6
6	33.3	33.7	38.5	33.7	33.4	33.0	33.9
7	33.5	33.9	33.1	38.3	33.7	33.2	33.5
8	33.9	33.4	33.1	33.4	33.1	33.2	33.3
9	33.5	33.3	33.2	33.4	33.8	33.5	33.9
10	33.4	33.3	33.0	33.9	33.7	38.4	33.3
11	33.8	33.2	33.7	33.1	33.5	33.1	33.3
12	33.8	33.5	33.5	33.6	33.2	33.3	33.2
13	33.7	33.2	33.6	33.3	33.2	33.6	33.3
14	33.7	33.6	33.2	33.1	33.3	33.8	33.0
15	34.0	33.4	38.5	33.2	33.8	33.5	33.7
16	33.3	33.9	33.7	33.1	33.1	33.2	33.8
17	38.5	38.5	33.8	33.4	38.5	33.9	33.3
18	33.4	33.2	33.4	34.0	33.8	33.4	33.7
19	38.7	38.7	33.9	38.5	33.8	33.3	33.4
20	33.2	33.7	38.7	33.5	33.3	38.8	33.8
21	33.4	33.6	38.1	34.0	39.0	33.2	33.7
22	38.5	38.8	33.6	38.2	43.8	33.4	38.4
23	33.8	33.2	38.7	38.4	38.7	38.2	38.1
24	33.5	33.8	33.0	33.4	33.9	43.9	38.4
10-12	33.4	33.2	33.4	33.3	33.9	33.6	33.3
14-16	33.5	34.0	33.4	33.5	33.4	33.4	33.7
0-24	33.2	33.1	33.3	33.1	33.1	33.4	33.3

85th %ile	33.2

Weston Super Mare ATC, Ebdon Road

Channel 2 - Southbound | **Speed Summary** | **Week 1**

Speed (MPH)	06/02/2019 Wednesday	07/02/2019 Thursday	08/02/2019 Friday	09/02/2019 Saturday	10/02/2019 Sunday	11/02/2019 Monday	12/02/2019 Tuesday
0-30	894	1024	1041	821	601	910	1064
31-45	657	720	743	640	506	713	668
46-60	5	5	4	3	3	3	3
61-	0	0	0	0	0	0	0
TOTAL	**1556**	**1749**	**1788**	**1464**	**1110**	**1626**	**1735**



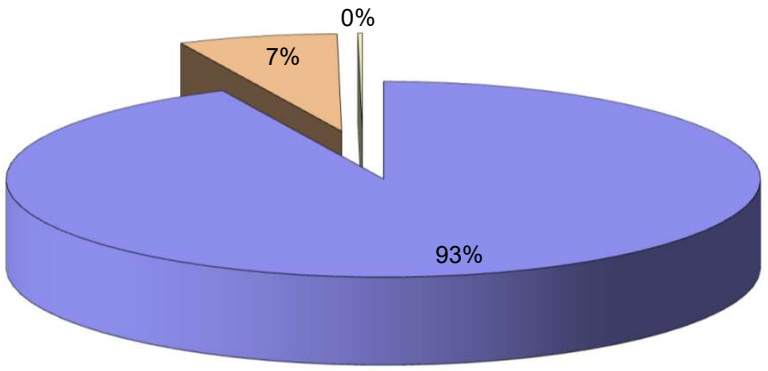
Weston Super Mare ATC, Ebdon Road

Channel 2 - Southbound | **Vehicle Class** | **Week 1**

Classes / Day / Time	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
06/02/2019				
7-19	1348	127	5	1480
6-22	1541	137	5	1683
6-24	1572	137	5	1714
0-24	1590	139	5	1734
07/02/2019				
7-19	1378	109	4	1491
6-22	1579	117	4	1700
6-24	1610	117	4	1731
0-24	1626	118	5	1749
08/02/2019				
7-19	1353	128	5	1486
6-22	1565	137	5	1707
6-24	1622	137	5	1764
0-24	1643	140	5	1788
09/02/2019				
7-19	1122	62	1	1185
6-22	1294	68	1	1363
6-24	1366	69	1	1436
0-24	1393	70	1	1464
10/02/2019				
7-19	898	43	1	942
6-22	1005	47	1	1053
6-24	1026	48	1	1075
0-24	1057	52	1	1110
11/02/2019				
7-19	1270	104	0	1374
6-22	1462	119	0	1581
6-24	1484	120	0	1604
0-24	1503	123	0	1626
12/02/2019				
7-19	1350	109	4	1463
6-22	1555	119	5	1679
6-24	1587	120	5	1712
0-24	1607	123	5	1735

Average				
7-19	1246	97	3	1346
6-22	1429	106	3	1538
6-24	1467	107	3	1577
0-24	1488	109	3	1601

Total Vehicle Class Distribution



Weston Super Mare, Wednesday 6th February 2019

Queues Measured as Stationary Vehicles (Maximum Observed in Period)

Junction: (1) Ebdon Road / The Cornfields

Approach: Ebdon Road (North)

	Left to The Cornfields				Ahead to Ebdon Road (South)			
TIME	LIGHT	HEAVY	BUS	**TOTAL**	LIGHT	HEAVY	BUS	**TOTAL**
0700 - 0715	1	0	0	**1**	22	0	0	**22**
0715 - 0730	0	0	0	**0**	20	0	0	**20**
0730 - 0745	0	0	0	**0**	30	0	0	**30**
0745 - 0800	1	0	0	**1**	32	0	0	**32**
Hourly Total	**2**	**0**	**0**	**2**	**104**	**0**	**0**	**104**
0800 - 0815	2	0	0	**2**	51	0	0	**51**
0815 - 0830	0	0	0	**0**	43	0	0	**43**
0830 - 0845	1	0	0	**1**	50	0	0	**50**
0845 - 0900	1	0	0	**1**	33	1	0	**34**
Hourly Total	**4**	**0**	**0**	**4**	**177**	**1**	**0**	**178**
0900 - 0915	0	0	0	**0**	25	1	0	**26**
0915 - 0930	0	0	0	**0**	28	0	0	**28**
0930 - 0945	0	0	0	**0**	27	1	0	**28**
0945 - 1000	0	0	0	**0**	25	0	0	**25**
Hourly Total	**0**	**0**	**0**	**0**	**105**	**2**	**0**	**107**
Session Total	**6**	**0**	**0**	**6**	**386**	**3**	**0**	**389**
1600 - 1615	4	0	0	**4**	23	0	0	**23**
1615 - 1630	2	0	0	**2**	27	1	0	**28**
1630 - 1645	5	0	0	**5**	41	0	0	**41**
1645 - 1700	1	0	0	**1**	39	0	0	**39**
Hourly Total	**12**	**0**	**0**	**12**	**130**	**1**	**0**	**131**
1700 - 1715	2	0	0	**2**	48	0	0	**48**
1715 - 1730	0	0	0	**0**	49	0	0	**49**
1730 - 1745	2	0	0	**2**	53	1	0	**54**
1745 - 1800	3	0	0	**3**	51	0	0	**51**
Hourly Total	**7**	**0**	**0**	**7**	**201**	**1**	**0**	**202**
1800 - 1815	2	0	0	**2**	46	0	0	**46**
1815 - 1830	5	0	0	**5**	31	0	0	**31**
1830 - 1845	2	0	0	**2**	33	0	0	**33**
1845 - 1900	3	0	0	**3**	29	0	0	**29**
Hourly Total	**12**	**0**	**0**	**12**	**139**	**0**	**0**	**139**
Session Total	**31**	**0**	**0**	**31**	**470**	**2**	**0**	**472**

TIME	Queue Lengths (Vehicles)
700	0
705	0
710	0
715	0
720	0
725	0
730	2
735	0
740	0
745	0
750	0
755	0
800	0
805	0
810	2
815	0
820	0
825	0
830	0
835	0
840	0
845	2
850	0
855	0
900	0
905	0
910	0
915	0
920	0
925	0
930	0
935	2
940	0
945	0
950	0
955	0

TIME	Queue Lengths (Vehicles)
1600	0
1605	0
1610	0
1615	0
1620	0
1625	2
1630	0
1635	0
1640	0
1645	0
1650	0
1655	2
1700	0
1705	0
1710	0
1715	0
1720	0
1725	0
1730	3
1735	0
1740	2
1745	3
1750	2
1755	0
1800	2
1805	2
1810	3
1815	0
1820	2
1825	2
1830	2
1835	0
1840	0
1845	0
1850	0
1855	0

Weston Super Mare, Wednesday 6th February 2019

Junction: (1) Ebdon Road / The Cornfields

Approach: The Cornfields

	Left to Ebdon Road (South)				Right to Ebdon Road (North)			
TIME	LIGHT	HEAVY	BUS	**TOTAL**	LIGHT	HEAVY	BUS	**TOTAL**
0700 - 0715	7	0	0	**7**	3	0	0	**3**
0715 - 0730	10	0	0	**10**	4	0	0	**4**
0730 - 0745	18	1	0	**19**	5	0	0	**5**
0745 - 0800	26	0	0	**26**	6	0	0	**6**
Hourly Total	**61**	**1**	**0**	**62**	**18**	**0**	**0**	**18**
0800 - 0815	26	0	0	**26**	6	0	0	**6**
0815 - 0830	20	0	0	**20**	4	0	0	**4**
0830 - 0845	20	0	0	**20**	2	0	0	**2**
0845 - 0900	13	0	0	**13**	2	0	0	**2**
Hourly Total	**79**	**0**	**0**	**79**	**14**	**0**	**0**	**14**
0900 - 0915	15	0	0	**15**	1	0	0	**1**
0915 - 0930	8	0	0	**8**	1	0	0	**1**
0930 - 0945	11	0	0	**11**	0	0	0	**0**
0945 - 1000	6	0	0	**6**	0	0	0	**0**
Hourly Total	**40**	**0**	**0**	**40**	**2**	**0**	**0**	**2**
Session Total	**180**	**1**	**0**	**181**	**34**	**0**	**0**	**34**
1600 - 1615	4	0	0	**4**	0	0	0	**0**
1615 - 1630	3	0	0	**3**	1	0	0	**1**
1630 - 1645	7	0	0	**7**	0	0	0	**0**
1645 - 1700	4	0	0	**4**	2	0	0	**2**
Hourly Total	**18**	**0**	**0**	**18**	**3**	**0**	**0**	**3**
1700 - 1715	6	0	0	**6**	2	0	0	**2**
1715 - 1730	6	0	0	**6**	2	0	0	**2**
1730 - 1745	2	0	0	**2**	4	0	0	**4**
1745 - 1800	7	0	0	**7**	1	0	0	**1**
Hourly Total	**21**	**0**	**0**	**21**	**9**	**0**	**0**	**9**
1800 - 1815	3	0	0	**3**	3	0	0	**3**
1815 - 1830	4	0	0	**4**	1	0	0	**1**
1830 - 1845	2	0	0	**2**	1	0	0	**1**
1845 - 1900	3	0	0	**3**	0	0	0	**0**
Hourly Total	**12**	**0**	**0**	**12**	**5**	**0**	**0**	**5**
Session Total	**51**	**0**	**0**	**51**	**17**	**0**	**0**	**17**

Queues Measured as Stationary Vehicles (Maximum Observed in Period)

TIME	Queue Lengths (Vehicles)
700	0
705	0
710	2
715	0
720	2
725	0
730	2
735	2
740	3
745	2
750	2
755	2
800	0
805	2
810	0
815	3
820	0
825	2
830	2
835	2
840	0
845	2
850	3
855	2
900	0
905	0
910	0
915	0
920	2
925	0
930	0
935	0
940	2
945	0
950	0
955	0

TIME	Queue Lengths (Vehicles)
1600	0
1605	0
1610	0
1615	0
1620	0
1625	0
1630	0
1635	2
1640	0
1645	0
1650	0
1655	0
1700	0
1705	0
1710	0
1715	2
1720	0
1725	0
1730	0
1735	0
1740	2
1745	0
1750	2
1755	0
1800	0
1805	0
1810	0
1815	0
1820	0
1825	0
1830	0
1835	0
1840	0
1845	0
1850	0
1855	0

Weston Super Mare, Wednesday 6th February 2019

Junction: (1) Ebdon Road / The Cornfields

Approach: Ebdon Road (South)

	Ahead to Ebdon Road (North)				Right to The Cornfields			
TIME	LIGHT	HEAVY	BUS	**TOTAL**	LIGHT	HEAVY	BUS	**TOTAL**
0700 - 0715	57	0	0	**57**	5	1	0	**6**
0715 - 0730	64	1	0	**65**	0	1	0	**1**
0730 - 0745	72	0	0	**72**	2	0	0	**2**
0745 - 0800	68	0	0	**68**	2	0	0	**2**
Hourly Total	**261**	**1**	**0**	**262**	**9**	**2**	**0**	**11**
0800 - 0815	65	0	0	**65**	8	0	0	**8**
0815 - 0830	55	0	0	**55**	8	0	0	**8**
0830 - 0845	30	0	0	**30**	5	0	0	**5**
0845 - 0900	42	0	0	**42**	11	0	0	**11**
Hourly Total	**192**	**0**	**0**	**192**	**32**	**0**	**0**	**32**
0900 - 0915	27	1	0	**28**	9	0	0	**9**
0915 - 0930	18	0	0	**18**	4	0	0	**4**
0930 - 0945	19	0	0	**19**	4	1	0	**5**
0945 - 1000	16	0	0	**16**	4	0	0	**4**
Hourly Total	**80**	**1**	**0**	**81**	**21**	**1**	**0**	**22**
Session Total	**533**	**2**	**0**	**535**	**62**	**3**	**0**	**65**
1600 - 1615	36	0	0	**36**	8	0	0	**8**
1615 - 1630	31	0	0	**31**	4	0	0	**4**
1630 - 1645	38	0	0	**38**	11	1	0	**12**
1645 - 1700	42	1	0	**43**	15	0	0	**15**
Hourly Total	**147**	**1**	**0**	**148**	**38**	**1**	**0**	**39**
1700 - 1715	52	0	0	**52**	19	0	0	**19**
1715 - 1730	48	0	0	**48**	22	0	0	**22**
1730 - 1745	45	0	0	**45**	26	0	0	**26**
1745 - 1800	43	0	0	**43**	18	0	0	**18**
Hourly Total	**188**	**0**	**0**	**188**	**85**	**0**	**0**	**85**
1800 - 1815	45	0	0	**45**	20	0	0	**20**
1815 - 1830	38	0	0	**38**	15	0	0	**15**
1830 - 1845	36	0	0	**36**	13	0	0	**13**
1845 - 1900	33	0	0	**33**	13	0	0	**13**
Hourly Total	**152**	**0**	**0**	**152**	**61**	**0**	**0**	**61**
Session Total	**487**	**1**	**0**	**488**	**184**	**1**	**0**	**185**

Queues Measured as Stationary Vehicles (Maximum Observed in Period)

TIME	Queue Lengths (Vehicles)
700	0
705	0
710	0
715	0
720	0
725	0
730	0
735	0
740	2
745	0
750	0
755	0
800	0
805	0
810	0
815	0
820	0
825	0
830	0
835	2
840	0
845	0
850	0
855	0
900	0
905	0
910	0
915	0
920	0
925	0
930	0
935	0
940	0
945	0
950	0
955	2

TIME	Queue Lengths (Vehicles)
1600	0
1605	0
1610	0
1615	0
1620	0
1625	0
1630	0
1635	0
1640	2
1645	0
1650	0
1655	0
1700	0
1705	2
1710	0
1715	2
1720	0
1725	0
1730	0
1735	0
1740	0
1745	0
1750	0
1755	0
1800	0
1805	0
1810	2
1815	0
1820	0
1825	0
1830	0
1835	0
1840	0
1845	0
1850	0
1855	0

Weston Super Mare, Wednesday 6th February 2019

Queues Measured as Stationary Vehicles (Maximum Observed in Period)

Junction: (2) Ebdon Road / Queen's Way / Savernake Road

Approach: Ebdon Road (North)

	Left to Queen's Way (East)				Ahead to Ebdon Road (South)				Right to Savernake Road				Last Right to Queen's Way (West)			
TIME	LIGHT	HEAVY	BUS	**TOTAL**	LIGHT	HEAVY	BUS	**TOTAL**	LIGHT	HEAVY	BUS	**TOTAL**	LIGHT	HEAVY	BUS	**TOTAL**
0700 - 0715	25	0	1	**26**	13	0	0	**13**	1	0	0	**1**	1	0	0	**1**
0715 - 0730	27	0	1	**28**	22	0	0	**22**	1	0	0	**1**	4	0	0	**4**
0730 - 0745	35	1	1	**37**	28	0	0	**28**	0	0	0	**0**	7	0	0	**7**
0745 - 0800	51	1	0	**52**	43	1	0	**44**	0	0	0	**0**	6	0	0	**6**
Hourly Total	**138**	**2**	**3**	**143**	**106**	**1**	**0**	**107**	**2**	**0**	**0**	**2**	**18**	**0**	**0**	**18**
0800 - 0815	68	0	1	**69**	52	0	0	**52**	0	0	0	**0**	6	0	0	**6**
0815 - 0830	65	1	1	**67**	54	1	0	**55**	1	0	0	**1**	7	0	0	**7**
0830 - 0845	59	0	0	**59**	51	0	0	**51**	0	0	0	**0**	7	0	0	**7**
0845 - 0900	52	1	0	**53**	44	0	0	**44**	0	0	0	**0**	6	0	0	**6**
Hourly Total	**244**	**2**	**2**	**248**	**201**	**1**	**0**	**202**	**1**	**0**	**0**	**1**	**26**	**0**	**0**	**26**
0900 - 0915	50	1	1	**52**	42	0	0	**42**	1	0	0	**1**	5	0	0	**5**
0915 - 0930	45	1	0	**46**	33	0	0	**33**	1	0	0	**1**	3	0	0	**3**
0930 - 0945	33	0	1	**34**	30	1	0	**31**	0	0	0	**0**	2	0	0	**2**
0945 - 1000	25	0	0	**25**	22	0	0	**22**	0	0	0	**0**	2	0	0	**2**
Hourly Total	**153**	**2**	**2**	**157**	**127**	**1**	**0**	**128**	**2**	**0**	**0**	**2**	**12**	**0**	**0**	**12**
Session Total	**535**	**6**	**7**	**548**	**434**	**3**	**0**	**437**	**5**	**0**	**0**	**5**	**56**	**0**	**0**	**56**
1600 - 1615	18	1	0	**19**	29	0	0	**29**	2	0	0	**2**	4	0	0	**4**
1615 - 1630	22	2	0	**24**	22	0	0	**22**	0	0	0	**0**	6	0	0	**6**
1630 - 1645	26	0	1	**27**	31	0	0	**31**	1	0	0	**1**	2	0	0	**2**
1645 - 1700	21	0	0	**21**	36	1	0	**37**	0	0	0	**0**	7	0	0	**7**
Hourly Total	**87**	**3**	**1**	**91**	**118**	**1**	**0**	**119**	**3**	**0**	**0**	**3**	**19**	**0**	**0**	**19**
1700 - 1715	29	0	0	**29**	44	0	0	**44**	2	0	0	**2**	10	0	0	**10**
1715 - 1730	34	0	1	**35**	47	0	0	**47**	0	0	0	**0**	9	0	0	**9**
1730 - 1745	31	2	1	**34**	49	0	0	**49**	1	0	0	**1**	9	0	0	**9**
1745 - 1800	37	0	0	**37**	52	0	0	**52**	2	0	0	**2**	12	0	0	**12**
Hourly Total	**131**	**2**	**2**	**135**	**192**	**0**	**0**	**192**	**5**	**0**	**0**	**5**	**40**	**0**	**0**	**40**
1800 - 1815	29	0	1	**30**	50	0	0	**50**	1	0	0	**1**	11	0	0	**11**
1815 - 1830	34	1	1	**36**	48	1	0	**49**	2	0	0	**2**	9	0	0	**9**
1830 - 1845	28	0	1	**29**	44	0	0	**44**	1	0	0	**1**	6	0	0	**6**
1845 - 1900	22	0	0	**22**	27	0	0	**27**	0	0	0	**0**	5	0	0	**5**
Hourly Total	**113**	**1**	**3**	**117**	**169**	**1**	**0**	**170**	**4**	**0**	**0**	**4**	**31**	**0**	**0**	**31**
Session Total	**331**	**6**	**6**	**343**	**479**	**2**	**0**	**481**	**12**	**0**	**0**	**12**	**90**	**0**	**0**	**90**

TIME	Queue Lengths (Vehicles)
700	2
705	2
710	3
715	2
720	3
725	4
730	4
735	4
740	5
745	4
750	4
755	3
800	5
805	5
810	5
815	7
820	5
825	6
830	5
835	6
840	5
845	5
850	6
855	5
900	5
905	3
910	5
915	4
920	4
925	4
930	3
935	3
940	2
945	3
950	3
955	2

TIME	Queue Lengths (Vehicles)
1600	2
1605	3
1610	3
1615	3
1620	2
1625	5
1630	4
1635	6
1640	5
1645	5
1650	5
1655	6
1700	7
1705	5
1710	6
1715	7
1720	5
1725	6
1730	6
1735	7
1740	4
1745	6
1750	5
1755	7
1800	7
1805	7
1810	6
1815	5
1820	6
1825	7
1830	6
1835	7
1840	6
1845	5
1850	5
1855	5

Weston Super Mare, Wednesday 6th February 2019

Queues Measured as Stationary Vehicles (Maximum Observed in Period)

Junction: (2) Ebdon Road / Queen's Way / Savernake Road

Approach: Queen's Way (East)

	First Left to Ebdon Road (South)				Second Left to Savernake Road				Ahead to Queen's Way (West)				Right to Ebdon Road (North)			
TIME	LIGHT	HEAVY	BUS	**TOTAL**	LIGHT	HEAVY	BUS	**TOTAL**	LIGHT	HEAVY	BUS	**TOTAL**	LIGHT	HEAVY	BUS	**TOTAL**
0700 - 0715	3	0	0	**3**	1	0	0	**1**	14	1	0	**15**	21	1	1	**23**
0715 - 0730	11	0	0	**11**	1	0	0	**1**	20	1	0	**21**	19	1	1	**21**
0730 - 0745	19	0	0	**19**	2	0	0	**2**	26	1	0	**27**	21	0	2	**23**
0745 - 0800	23	0	0	**23**	0	0	0	**0**	27	0	0	**27**	18	0	2	**20**
Hourly Total	**56**	**0**	**0**	56	**4**	**0**	**0**	**4**	**87**	**3**	**0**	**90**	**79**	**2**	**6**	**87**
0800 - 0815	43	0	0	**43**	1	0	0	**1**	40	2	1	**43**	32	0	1	**33**
0815 - 0830	64	0	0	**64**	1	0	0	**1**	36	1	1	**38**	30	1	1	**32**
0830 - 0845	73	0	0	**73**	2	0	0	**2**	33	0	0	**33**	28	1	2	**31**
0845 - 0900	51	0	0	**51**	1	0	0	**1**	35	1	1	**37**	23	1	1	**25**
Hourly Total	**231**	**0**	**0**	231	**5**	**0**	**0**	**5**	**144**	**4**	**3**	**151**	**113**	**3**	**5**	**121**
0900 - 0915	25	0	0	**25**	0	0	0	**0**	36	3	1	**40**	21	2	0	**23**
0915 - 0930	22	0	0	**22**	1	0	0	**1**	29	1	1	**31**	22	1	0	**23**
0930 - 0945	23	0	0	**23**	2	0	0	**2**	27	1	0	**28**	26	1	1	**28**
0945 - 1000	30	0	0	**30**	2	0	0	**2**	28	0	0	**28**	24	0	1	**25**
Hourly Total	**100**	**0**	**0**	100	**5**	**0**	**0**	**5**	**120**	**5**	**2**	**127**	**93**	**4**	**2**	**99**
Session Total	**387**	**0**	**0**	387	**14**	**0**	**0**	**14**	**351**	**12**	**5**	**368**	**285**	**9**	**13**	**307**
1600 - 1615	27	0	0	**27**	3	0	0	**3**	25	1	0	**26**	38	0	0	**38**
1615 - 1630	23	0	0	**23**	0	0	0	**0**	31	0	1	**32**	37	1	1	**39**
1630 - 1645	29	0	0	**29**	2	0	0	**2**	33	1	0	**34**	44	1	0	**45**
1645 - 1700	37	0	0	**37**	0	0	0	**0**	36	2	1	**39**	46	0	1	**47**
Hourly Total	**116**	**0**	**0**	116	**5**	**0**	**0**	**5**	**125**	**4**	**2**	**131**	**165**	**2**	**2**	**169**
1700 - 1715	34	0	0	**34**	5	0	0	**5**	44	0	0	**44**	51	3	1	**55**
1715 - 1730	40	0	0	**40**	1	0	0	**1**	50	2	0	**52**	54	0	1	**55**
1730 - 1745	44	0	0	**44**	3	0	0	**3**	43	2	1	**46**	50	1	0	**51**
1745 - 1800	51	0	0	**51**	2	0	0	**2**	55	1	0	**56**	38	0	1	**39**
Hourly Total	**169**	**0**	**0**	169	**11**	**0**	**0**	**11**	**192**	**5**	**1**	**198**	**193**	**4**	**3**	**200**
1800 - 1815	39	0	0	**39**	2	0	0	**2**	38	0	1	**39**	49	1	1	**51**
1815 - 1830	27	0	0	**27**	2	0	0	**2**	37	0	0	**37**	36	1	0	**37**
1830 - 1845	30	0	0	**30**	0	0	0	**0**	28	0	0	**28**	33	0	1	**34**
1845 - 1900	21	0	0	**21**	2	0	0	**2**	30	1	0	**31**	32	0	0	**32**
Hourly Total	**117**	**0**	**0**	117	**6**	**0**	**0**	**6**	**133**	**1**	**1**	**135**	**150**	**2**	**2**	**154**
Session Total	**402**	**0**	**0**	402	**22**	**0**	**0**	**22**	**450**	**10**	**4**	**464**	**508**	**8**	**7**	**523**

TIME	Queue Lengths (Vehicles)
700	0
705	2
710	0
715	3
720	2
725	3
730	0
735	3
740	2
745	2
750	3
755	2
800	3
805	3
810	2
815	4
820	3
825	3
830	3
835	4
840	3
845	5
850	3
855	2
900	2
905	3
910	4
915	4
920	4
925	3
930	3
935	3
940	4
945	4
950	2
955	3

TIME	Queue Lengths (Vehicles)
1600	2
1605	5
1610	6
1615	3
1620	3
1625	3
1630	2
1635	0
1640	2
1645	3
1650	5
1655	4
1700	3
1705	3
1710	2
1715	3
1720	3
1725	2
1730	3
1735	4
1740	6
1745	4
1750	4
1755	3
1800	4
1805	2
1810	2
1815	4
1820	3
1825	3
1830	3
1835	2
1840	3
1845	3
1850	2
1855	2

Weston Super Mare, Wednesday 6th February 2019

Queues Measured as Stationary Vehicles (Maximum Observed in Period)

Junction: (2) Ebdon Road / Queen's Way / Savernake Road

Approach: Ebdon Road (South)

	First Left to Savernake Road				Second Left to Queen's Way (West)				Ahead to Ebdon Road (North)				Right to Queen's Way (East)			
TIME	LIGHT	HEAVY	BUS	TOTAL	LIGHT	HEAVY	BUS	TOTAL	LIGHT	HEAVY	BUS	TOTAL	LIGHT	HEAVY	BUS	TOTAL
0700 - 0715	0	0	0	**0**	4	0	0	**4**	30	0	0	**30**	30	0	0	**30**
0715 - 0730	0	0	0	**0**	6	0	0	**6**	37	0	0	**37**	27	0	0	**27**
0730 - 0745	0	0	0	**0**	8	0	0	**8**	45	0	0	**45**	28	0	0	**28**
0745 - 0800	0	0	0	**0**	8	0	0	**8**	45	0	0	**45**	34	0	0	**34**
Hourly Total	**0**	**0**	**0**	**0**	**26**	**0**	**0**	**26**	**157**	**0**	**0**	**157**	**119**	**0**	**0**	**119**
0800 - 0815	0	0	0	**0**	10	0	0	**10**	48	0	0	**48**	38	0	0	**38**
0815 - 0830	1	0	0	**1**	12	0	0	**12**	41	0	0	**41**	52	0	0	**52**
0830 - 0845	1	0	0	**1**	15	0	0	**15**	35	0	0	**35**	55	0	0	**55**
0845 - 0900	2	0	0	**2**	11	0	0	**11**	32	0	0	**32**	41	0	0	**41**
Hourly Total	**4**	**0**	**0**	**4**	**48**	**0**	**0**	**48**	**156**	**0**	**0**	**156**	**186**	**0**	**0**	**186**
0900 - 0915	0	0	0	**0**	7	1	0	**8**	34	0	0	**34**	34	0	0	**34**
0915 - 0930	1	0	0	**1**	5	1	0	**6**	21	0	0	**21**	29	0	0	**29**
0930 - 0945	2	0	0	**2**	5	0	0	**5**	14	1	0	**15**	26	0	0	**26**
0945 - 1000	2	0	0	**2**	3	0	0	**3**	9	0	0	**9**	17	0	0	**17**
Hourly Total	**5**	**0**	**0**	**5**	**20**	**2**	**0**	**22**	**78**	**1**	**0**	**79**	**106**	**0**	**0**	**106**
Session Total	**9**	**0**	**0**	**9**	**94**	**2**	**0**	**96**	**391**	**1**	**0**	**392**	**411**	**0**	**0**	**411**
1600 - 1615	2	0	0	**2**	9	0	0	**9**	20	0	0	**20**	19	0	0	**19**
1615 - 1630	0	0	0	**0**	12	0	0	**12**	22	0	0	**22**	22	0	0	**22**
1630 - 1645	1	0	0	**1**	10	0	0	**10**	26	0	0	**26**	26	0	0	**26**
1645 - 1700	5	0	0	**5**	11	0	0	**11**	36	0	0	**36**	31	0	0	**31**
Hourly Total	**8**	**0**	**0**	**8**	**42**	**0**	**0**	**42**	**104**	**0**	**0**	**104**	**98**	**0**	**0**	**98**
1700 - 1715	2	0	0	**2**	15	0	0	**15**	29	1	0	**30**	36	0	0	**36**
1715 - 1730	2	0	0	**2**	9	0	0	**9**	44	0	0	**44**	31	0	0	**31**
1730 - 1745	4	0	0	**4**	16	0	0	**16**	46	0	0	**46**	41	0	0	**41**
1745 - 1800	1	0	0	**1**	12	0	0	**12**	41	0	0	**41**	40	0	0	**40**
Hourly Total	**9**	**0**	**0**	**9**	**52**	**0**	**0**	**52**	**160**	**1**	**0**	**161**	**148**	**0**	**0**	**148**
1800 - 1815	3	0	0	**3**	10	0	0	**10**	38	0	0	**38**	35	0	0	**35**
1815 - 1830	3	0	0	**3**	9	0	0	**9**	33	0	0	**33**	30	0	0	**30**
1830 - 1845	1	0	0	**1**	10	0	0	**10**	29	0	0	**29**	25	0	0	**25**
1845 - 1900	1	0	0	**1**	6	0	0	**6**	22	0	0	**22**	21	0	0	**21**
Hourly Total	**8**	**0**	**0**	**8**	**35**	**0**	**0**	**35**	**122**	**0**	**0**	**122**	**111**	**0**	**0**	**111**
Session Total	**25**	**0**	**0**	**25**	**129**	**0**	**0**	**129**	**386**	**1**	**0**	**387**	**357**	**0**	**0**	**357**

TIME	Queue Lengths (Vehicles)
700	3
705	2
710	4
715	3
720	2
725	3
730	3
735	3
740	4
745	3
750	3
755	2
800	4
805	3
810	3
815	4
820	4
825	5
830	5
835	3
840	4
845	5
850	5
855	5
900	4
905	3
910	4
915	3
920	2
925	3
930	3
935	3
940	3
945	4
950	2
955	2

TIME	Queue Lengths (Vehicles)
1600	2
1605	3
1610	6
1615	2
1620	4
1625	4
1630	3
1635	4
1640	3
1645	3
1650	3
1655	3
1700	4
1705	5
1710	3
1715	4
1720	4
1725	6
1730	5
1735	5
1740	5
1745	4
1750	4
1755	5
1800	2
1805	4
1810	4
1815	4
1820	3
1825	4
1830	5
1835	4
1840	2
1845	4
1850	0
1855	2

Weston Super Mare, Wednesday 6th February 2019

Queues Measured as Stationary Vehicles (Maximum Observed in Period)

Junction: (2) Ebdon Road / Queen's Way / Savernake Road

Approach: Savernake Road

	First Left to Queen's Way (West)				Second Left to Ebdon Road (North)				Right to Queen's Way (East)				Last Right to Ebdon Road (South)			
TIME	LIGHT	HEAVY	BUS	TOTAL	LIGHT	HEAVY	BUS	TOTAL	LIGHT	HEAVY	BUS	TOTAL	LIGHT	HEAVY	BUS	TOTAL
0700 - 0715	0	0	0	**0**	1	0	0	**1**	5	0	0	**5**	0	0	0	**0**
0715 - 0730	0	0	0	**0**	1	0	0	**1**	2	0	0	**2**	0	0	0	**0**
0730 - 0745	1	0	0	**1**	1	0	0	**1**	4	0	0	**4**	2	0	0	**2**
0745 - 0800	1	0	0	**1**	2	0	0	**2**	4	0	0	**4**	6	0	0	**6**
Hourly Total	**2**	**0**	**0**	**2**	**5**	**0**	**0**	**5**	**15**	**0**	**0**	**15**	**8**	**0**	**0**	**8**
0800 - 0815	1	0	0	**1**	3	0	0	**3**	5	0	0	**5**	6	0	0	**6**
0815 - 0830	2	0	0	**2**	2	0	0	**2**	4	0	0	**4**	8	0	0	**8**
0830 - 0845	1	0	0	**1**	2	0	0	**2**	3	0	0	**3**	4	0	0	**4**
0845 - 0900	0	0	0	**0**	2	0	0	**2**	3	0	0	**3**	2	0	0	**2**
Hourly Total	**4**	**0**	**0**	**4**	**9**	**0**	**0**	**9**	**15**	**0**	**0**	**15**	**20**	**0**	**0**	**20**
0900 - 0915	1	0	0	**1**	0	0	0	**0**	1	0	0	**1**	2	0	0	**2**
0915 - 0930	1	0	0	**1**	1	0	0	**1**	1	0	0	**1**	1	0	0	**1**
0930 - 0945	1	0	0	**1**	2	0	0	**2**	2	0	0	**2**	2	0	0	**2**
0945 - 1000	0	0	0	**0**	1	0	0	**1**	1	0	0	**1**	1	0	0	**1**
Hourly Total	**3**	**0**	**0**	**3**	**4**	**0**	**0**	**4**	**5**	**0**	**0**	**5**	**6**	**0**	**0**	**6**
Session Total	**9**	**0**	**0**	**9**	**18**	**0**	**0**	**18**	**35**	**0**	**0**	**35**	**34**	**0**	**0**	**34**
1600 - 1615	0	0	0	**0**	0	0	0	**0**	2	0	0	**2**	0	0	0	**0**
1615 - 1630	1	0	0	**1**	1	0	0	**1**	0	0	0	**0**	1	0	0	**1**
1630 - 1645	0	0	0	**0**	0	0	0	**0**	1	0	0	**1**	1	0	0	**1**
1645 - 1700	1	0	0	**1**	1	0	0	**1**	0	0	0	**0**	2	0	0	**2**
Hourly Total	**2**	**0**	**0**	**2**	**2**	**0**	**0**	**2**	**3**	**0**	**0**	**3**	**4**	**0**	**0**	**4**
1700 - 1715	0	0	0	**0**	1	0	0	**1**	2	0	0	**2**	2	0	0	**2**
1715 - 1730	0	0	0	**0**	0	0	0	**0**	4	0	0	**4**	0	0	0	**0**
1730 - 1745	1	0	0	**1**	1	0	0	**1**	0	0	0	**0**	0	0	0	**0**
1745 - 1800	1	0	0	**1**	1	0	0	**1**	1	0	0	**1**	2	0	0	**2**
Hourly Total	**2**	**0**	**0**	**2**	**3**	**0**	**0**	**3**	**7**	**0**	**0**	**7**	**4**	**0**	**0**	**4**
1800 - 1815	1	0	0	**1**	0	0	0	**0**	2	0	0	**2**	1	0	0	**1**
1815 - 1830	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	2	0	0	**2**
1830 - 1845	0	0	0	**0**	1	0	0	**1**	1	0	0	**1**	0	0	0	**0**
1845 - 1900	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**
Hourly Total	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**3**	**0**	**0**	**3**	**3**	**0**	**0**	**3**
Session Total	**5**	**0**	**0**	**5**	**6**	**0**	**0**	**6**	**13**	**0**	**0**	**13**	**11**	**0**	**0**	**11**

TIME	Queue Lengths (Vehicles)
700	0
705	0
710	0
715	0
720	0
725	0
730	0
735	0
740	0
745	2
750	0
755	0
800	0
805	0
810	0
815	2
820	0
825	0
830	0
835	0
840	0
845	2
850	0
855	0
900	0
905	0
910	2
915	0
920	0
925	0
930	0
935	0
940	0
945	0
950	0
955	0

TIME	Queue Lengths (Vehicles)
1600	0
1605	0
1610	0
1615	0
1620	0
1625	0
1630	0
1635	0
1640	0
1645	0
1650	0
1655	0
1700	0
1705	0
1710	0
1715	0
1720	0
1725	0
1730	0
1735	0
1740	0
1745	0
1750	0
1755	0
1800	0
1805	0
1810	0
1815	0
1820	0
1825	0
1830	0
1835	0
1840	0
1845	0
1850	0
1855	0

Weston Super Mare, Wednesday 6th February 2019

Queues Measured as Stationary Vehicles (Maximum Observed in Period)

Junction: (2) Ebdon Road / Queen's Way / Savernake Road

Approach: Queen's Way (West)

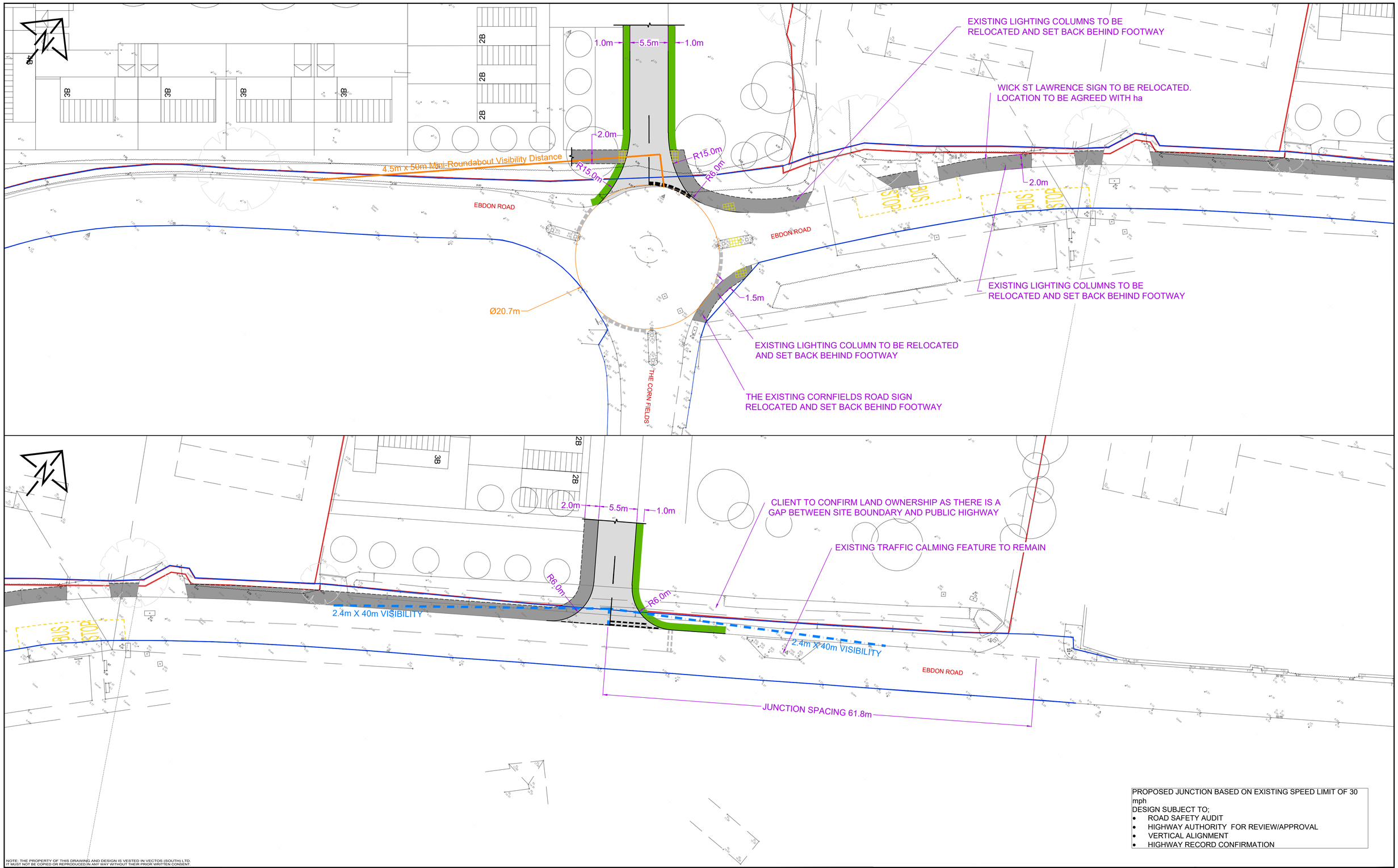
	Left to Ebdon Road (North)				Ahead to Queen's Way (East)				Right to Ebdon Road (South)				Last Right to Savernake Road			
TIME	LIGHT	HEAVY	BUS	TOTAL	LIGHT	HEAVY	BUS	TOTAL	LIGHT	HEAVY	BUS	TOTAL	LIGHT	HEAVY	BUS	TOTAL
0700 - 0715	7	0	0	**7**	42	0	0	**42**	9	0	0	**9**	0	0	0	**0**
0715 - 0730	7	0	0	**7**	40	0	1	**41**	11	0	0	**11**	0	0	0	**0**
0730 - 0745	5	0	0	**5**	30	0	1	**31**	10	0	0	**10**	0	0	0	**0**
0745 - 0800	9	0	0	**9**	39	0	0	**39**	14	0	0	**14**	0	0	0	**0**
Hourly Total	**28**	**0**	**0**	**28**	**151**	**0**	**2**	**153**	**44**	**0**	**0**	**44**	**0**	**0**	**0**	**0**
0800 - 0815	14	0	0	**14**	46	0	0	**46**	18	0	0	**18**	0	0	0	**0**
0815 - 0830	12	0	0	**12**	50	1	1	**52**	14	0	0	**14**	0	0	0	**0**
0830 - 0845	11	0	0	**11**	51	1	1	**53**	12	0	0	**12**	0	0	0	**0**
0845 - 0900	9	0	0	**9**	37	1	0	**38**	12	0	0	**12**	0	0	0	**0**
Hourly Total	**46**	**0**	**0**	**46**	**184**	**3**	**2**	**189**	**56**	**0**	**0**	**56**	**0**	**0**	**0**	**0**
0900 - 0915	9	0	0	**9**	28	1	0	**29**	13	0	0	**13**	0	0	0	**0**
0915 - 0930	7	0	0	**7**	28	1	1	**30**	12	0	0	**12**	1	0	0	**1**
0930 - 0945	6	0	0	**6**	36	2	1	**39**	11	0	0	**11**	0	0	0	**0**
0945 - 1000	4	0	0	**4**	25	2	0	**27**	8	0	0	**8**	0	0	0	**0**
Hourly Total	**26**	**0**	**0**	**26**	**117**	**6**	**2**	**125**	**44**	**0**	**0**	**44**	**1**	**0**	**0**	**1**
Session Total	**100**	**0**	**0**	**100**	**452**	**9**	**6**	**467**	**144**	**0**	**0**	**144**	**1**	**0**	**0**	**1**
1600 - 1615	3	0	0	**3**	29	2	1	**32**	5	0	0	**5**	2	0	0	**2**
1615 - 1630	6	0	0	**6**	22	0	1	**23**	9	0	0	**9**	1	0	0	**1**
1630 - 1645	7	0	0	**7**	26	1	0	**27**	11	0	0	**11**	1	0	0	**1**
1645 - 1700	7	0	0	**7**	30	1	0	**31**	15	0	0	**15**	2	0	0	**2**
Hourly Total	**23**	**0**	**0**	**23**	**107**	**4**	**2**	**113**	**40**	**0**	**0**	**40**	**6**	**0**	**0**	**6**
1700 - 1715	5	0	0	**5**	31	0	1	**32**	9	0	0	**9**	1	0	0	**1**
1715 - 1730	10	0	0	**10**	36	1	0	**37**	12	0	0	**12**	1	0	0	**1**
1730 - 1745	8	0	0	**8**	41	0	1	**42**	10	0	0	**10**	0	0	0	**0**
1745 - 1800	8	0	0	**8**	37	1	0	**38**	9	0	0	**9**	1	0	0	**1**
Hourly Total	**31**	**0**	**0**	**31**	**145**	**2**	**2**	**149**	**40**	**0**	**0**	**40**	**3**	**0**	**0**	**3**
1800 - 1815	3	0	0	**3**	33	1	0	**34**	6	0	0	**6**	0	0	0	**0**
1815 - 1830	6	0	0	**6**	29	0	0	**29**	10	0	0	**10**	1	0	0	**1**
1830 - 1845	7	0	0	**7**	29	0	1	**30**	7	0	0	**7**	0	0	0	**0**
1845 - 1900	4	0	0	**4**	18	0	0	**18**	7	0	0	**7**	0	0	0	**0**
Hourly Total	**20**	**0**	**0**	**20**	**109**	**1**	**1**	**111**	**30**	**0**	**0**	**30**	**1**	**0**	**0**	**1**
Session Total	**74**	**0**	**0**	**74**	**361**	**7**	**5**	**373**	**110**	**0**	**0**	**110**	**10**	**0**	**0**	**10**

TIME	Queue Lengths (Vehicles)
700	2
705	0
710	3
715	0
720	3
725	2
730	2
735	2
740	3
745	0
750	3
755	2
800	0
805	2
810	0
815	2
820	2
825	0
830	2
835	0
840	2
845	0
850	0
855	2
900	0
905	0
910	2
915	0
920	2
925	2
930	0
935	0
940	2
945	0
950	2
955	2

TIME	Queue Lengths (Vehicles)
1600	0
1605	0
1610	2
1615	0
1620	0
1625	2
1630	3
1635	0
1640	2
1645	2
1650	0
1655	2
1700	2
1705	0
1710	0
1715	3
1720	2
1725	4
1730	2
1735	0
1740	2
1745	2
1750	0
1755	2
1800	2
1805	2
1810	0
1815	2
1820	2
1825	0
1830	2
1835	0
1840	2
1845	2
1850	0
1855	2

APPENDIX D

Access Design



PROPOSED JUNCTION BASED ON EXISTING SPEED LIMIT OF 30 mph
DESIGN SUBJECT TO;
- ROAD SAFETY AUDIT
- HIGHWAY AUTHORITY FOR REVIEW/APPROVAL
- VERTICAL ALIGNMENT
- HIGHWAY RECORD CONFIRMATION

REV.	DETAILS	DRAWN	CHECKED	DATE
A	WESTERN ACCESS REMOVED AS PER MASTER PLAN	SCJ	DR	01/04/19
B	UPDATE FOLLOWING REVISED MASTER PLAN	SCJ	DR	09/03/20

STATUS: INFORMATION ONLY

KEY
- APPLICATION SITE
- PROPOSED KERB LINE
- PROPOSED EDGING
- PROPOSED FOOTWAY
- PROPOSED CARRIAGEWAY
- PROPOSED EDGING PROPOSED GRASS MARGIN
- TACTILE PAVING (BUFF)
- PROPOSED ROAD MARKINGS
- EXISTING ROAD MARKINGS TO REMAIN
- HIGHWAY BOUNDARY (INTERPRETED FROM NORTH SOMERSET COUNCIL RECORDS). RECORDS SUBJECT TO REVIEW

PROJECT: Lynchmead Farm, Weston-super-Mare

CLIENT: Mead Realisations Ltd

DRAWING TITLE: SITE ACCESS GENERAL ARRANGEMENT

vectos
5th Floor, 4 Colston Avenue , Bristol , BS1 4ST
t: 0117 203 5240 e: enquiries@vectos.co.uk

DRAWN:	CHECKED:	DATE:	SCALES:	DRAWING NUMBER:	REVISION:
SCJ	DR	29/01/19	1:250 @ A1	184199-GA-01	B

APPENDIX E

TRICS

Calculation Reference: AUDIT-152303-190328-0349

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	3 days
	EX	ESSEX	1 days
	HC	HAMPSHIRE	3 days
	KC	KENT	4 days
	SC	SURREY	1 days
	WS	WEST SUSSEX	6 days
03	SOUTH WEST		
	DC	DORSET	1 days
	DV	DEVON	3 days
	SM	SOMERSET	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	NF	NORFOLK	3 days
	SF	SUFFOLK	2 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LN	LINCOLNSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	2 days
	WK	WARWICKSHIRE	2 days
	WO	WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	5 days
	SY	SOUTH YORKSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	2 days
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	1 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	DH	DURHAM	1 days
	TW	TYNE & WEAR	1 days
10	WALES		
	PS	POWYS	1 days
	VG	VALE OF GLAMORGAN	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: Number of dwellings
Actual Range: 6 to 805 (units:)
Range Selected by User: 6 to 4334 (units:)

Parking Spaces Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/11 to 20/11/18

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	12 days
Tuesday	10 days
Wednesday	14 days
Thursday	11 days
Friday	8 days

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

Selected survey types:

Manual count	55 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)	26
Edge of Town	29

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:

Residential Zone	55

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:

C3	55 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®.

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	6 days
5,001 to 10,000	11 days
10,001 to 15,000	15 days
15,001 to 20,000	10 days
20,001 to 25,000	7 days
25,001 to 50,000	5 days

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

Secondary Filtering selection (Cont.):

Population within 5 miles:

5,001 to 25,000	6 days
25,001 to 50,000	3 days
50,001 to 75,000	6 days
75,001 to 100,000	13 days
100,001 to 125,000	2 days
125,001 to 250,000	18 days
250,001 to 500,000	6 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:

0.6 to 1.0	16 days
1.1 to 1.5	39 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:

Yes	10 days
No	45 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	54 days
2 Poor	1 days

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

LIST OF SITES relevant to selection parameters

1 CA-03-A-04 DETACHED CAMBRIDGESHIRE

PETERBOROUGH
THORPE PARK ROAD
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 9
Survey date: TUESDAY *18/10/11* *Survey Type: MANUAL*

2 CA-03-A-05 DETACHED HOUSES CAMBRIDGESHIRE
EASTFIELD ROAD
PETERBOROUGH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 28
Survey date: MONDAY *17/10/16* *Survey Type: MANUAL*

3 CH-03-A-08 DETACHED CHESHIRE
WHITCHURCH ROAD
CHESTER
BOUGHTON HEATH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY *22/05/12* *Survey Type: MANUAL*

4 CH-03-A-09 TERRACED HOUSES CHESHIRE
GREYSTOKE ROAD
MACCLESFIELD
HURDSFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 24
Survey date: MONDAY *24/11/14* *Survey Type: MANUAL*

5 DC-03-A-08 BUNGALOWS DORSET
HURSTDENE ROAD
BOURNEMOUTH
CASTLE LANE WEST
Edge of Town
Residential Zone
Total Number of dwellings: 28
Survey date: MONDAY *24/03/14* *Survey Type: MANUAL*

6 DH-03-A-01 SEMI DETACHED DURHAM
GREENFIELDS ROAD
BISHOP AUCKLAND

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 50
Survey date: TUESDAY *28/03/17* *Survey Type: MANUAL*

7 DS-03-A-02 MIXED HOUSES DERBYSHIRE
RADBOURNE LANE
DERBY

Edge of Town
Residential Zone
Total Number of dwellings: 371
Survey date: TUESDAY *10/07/18* *Survey Type: MANUAL*

8 DV-03-A-01 TERRACED HOUSES DEVON
BRONSHILL ROAD
TORQUAY

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 37
Survey date: WEDNESDAY *30/09/15* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 DV-03-A-02 HOUSES & BUNGALOWS DEVON
MILLHEAD ROAD
HONITON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 116
Survey date: FRIDAY *25/09/15* *Survey Type: MANUAL*

10 DV-03-A-03 TERRACED & SEMI DETACHED DEVON
LOWER BRAND LANE
HONITON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 70
Survey date: MONDAY *28/09/15* *Survey Type: MANUAL*

11 ES-03-A-02 PRIVATE HOUSING EAST SUSSEX
SOUTH COAST ROAD
PEACEHAVEN

Edge of Town
Residential Zone
Total Number of dwellings: 37
Survey date: FRIDAY *18/11/11* *Survey Type: MANUAL*

12 ES-03-A-03 MIXED HOUSES & FLATS EAST SUSSEX
SHEPHAM LANE
POLEGATE

Edge of Town
Residential Zone
Total Number of dwellings: 212
Survey date: MONDAY *11/07/16* *Survey Type: MANUAL*

13 ES-03-A-04 MIXED HOUSES & FLATS EAST SUSSEX
NEW LYDD ROAD
CAMBER

Edge of Town
Residential Zone
Total Number of dwellings: 134
Survey date: FRIDAY *15/07/16* *Survey Type: MANUAL*

14 EX-03-A-02 DETACHED & SEMI-DETACHED ESSEX
MANOR ROAD
CHIGWELL
GRANGE HILL
Edge of Town
Residential Zone
Total Number of dwellings: 97
Survey date: MONDAY *27/11/17* *Survey Type: MANUAL*

15 GM-03-A-10 DETACHED/SEMI GREATER MANCHESTER
BUTT HILL DRIVE
MANCHESTER
PRESTWICH
Edge of Town
Residential Zone
Total Number of dwellings: 29
Survey date: WEDNESDAY *12/10/11* *Survey Type: MANUAL*

16 HC-03-A-20 HOUSES & FLATS HAMPSHIRE
CANADA WAY
LIPHOOK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 62
Survey date: TUESDAY *20/11/18* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

17 HC-03-A-21 TERRACED & SEMI-DETACHED HAMPSHIRE
PRIESTLEY ROAD
BASINGSTOKE
HOUNDMILLS
Edge of Town
Residential Zone
Total Number of dwellings: 39
Survey date: TUESDAY *13/11/18* *Survey Type: MANUAL*

18 HC-03-A-22 MIXED HOUSES HAMPSHIRE
BOW LAKE GARDENS
NEAR EASTLEIGH
BISHOPSTOKE
Edge of Town
Residential Zone
Total Number of dwellings: 40
Survey date: WEDNESDAY *31/10/18* *Survey Type: MANUAL*

19 KC-03-A-03 MIXED HOUSES & FLATS KENT
HYTHE ROAD
ASHFORD
WILLESBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 51
Survey date: THURSDAY *14/07/16* *Survey Type: MANUAL*

20 KC-03-A-04 SEMI-DETACHED & TERRACED KENT
KILN BARN ROAD
AYLESFORD
DITTON
Edge of Town
Residential Zone
Total Number of dwellings: 110
Survey date: FRIDAY *22/09/17* *Survey Type: MANUAL*

21 KC-03-A-06 MIXED HOUSES & FLATS KENT
MARGATE ROAD
HERNE BAY

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 363
Survey date: WEDNESDAY *27/09/17* *Survey Type: MANUAL*

22 KC-03-A-07 MIXED HOUSES KENT
RECULVER ROAD
HERNE BAY

Edge of Town
Residential Zone
Total Number of dwellings: 288
Survey date: WEDNESDAY *27/09/17* *Survey Type: MANUAL*

23 LC-03-A-31 DETACHED HOUSES LANCASHIRE
GREENSIDE
PRESTON
COTTAM
Edge of Town
Residential Zone
Total Number of dwellings: 32
Survey date: FRIDAY *17/11/17* *Survey Type: MANUAL*

24 LN-03-A-03 SEMI DETACHED LINCOLNSHIRE
ROOKERY LANE
LINCOLN
BOULTHAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 22
Survey date: TUESDAY *18/09/12* *Survey Type: MANUAL*

25 MS-03-A-03 DETACHED MERSEYSIDE
BEMPTON ROAD
LIVERPOOL
OTTERSPOOL
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 15
Survey date: FRIDAY *21/06/13* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

26 NF-03-A-01 SEMI DET. & BUNGALOWS NORFOLK
YARMOUTH ROAD
CAISTER-ON-SEA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 27
Survey date: TUESDAY *16/10/12* *Survey Type: MANUAL*

27 NF-03-A-02 HOUSES & FLATS NORFOLK
DEREHAM ROAD
NORWICH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 98
Survey date: MONDAY *22/10/12* *Survey Type: MANUAL*

28 NF-03-A-03 DETACHED HOUSES NORFOLK
HALING WAY
THETFORD

Edge of Town
Residential Zone
Total Number of dwellings: 10
Survey date: WEDNESDAY *16/09/15* *Survey Type: MANUAL*

29 NY-03-A-06 BUNGALOWS & SEMI DET. NORTH YORKSHIRE
HORSEFAIR
BOROUGHBRIDGE

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: FRIDAY *14/10/11* *Survey Type: MANUAL*

30 NY-03-A-08 TERRACED HOUSES NORTH YORKSHIRE
NICHOLAS STREET
YORK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 21
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

31 NY-03-A-09 MIXED HOUSING NORTH YORKSHIRE
GRAMMAR SCHOOL LANE
NORTHALLERTON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 52
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

32 NY-03-A-11 PRIVATE HOUSING NORTH YORKSHIRE
HORSEFAIR
BOROUGHBRIDGE

Edge of Town
Residential Zone
Total Number of dwellings: 23
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

33 NY-03-A-13 TERRACED HOUSES NORTH YORKSHIRE
CATTERICK ROAD
CATTERICK GARRISON
OLD HOSPITAL COMPOUND
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 10
Survey date: WEDNESDAY *10/05/17* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

34 PS-03-A-02 DETACHED/SEMI-DETACHED POWYS
GUNROG ROAD
WELSHPOOL

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 28
Survey date: MONDAY *11/05/15* *Survey Type: MANUAL*

35 SC-03-A-04 DETACHED & TERRACED SURREY
HIGH ROAD
BYFLEET

Edge of Town
Residential Zone
Total Number of dwellings: 71
Survey date: THURSDAY *23/01/14* *Survey Type: MANUAL*

36 SF-03-A-04 DETACHED & BUNGALOWS SUFFOLK
NORMANSTON DRIVE
LOWESTOFT

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 7
Survey date: TUESDAY *23/10/12* *Survey Type: MANUAL*

37 SF-03-A-05 DETACHED HOUSES SUFFOLK
VALE LANE
BURY ST EDMUNDS

Edge of Town
Residential Zone
Total Number of dwellings: 18
Survey date: WEDNESDAY *09/09/15* *Survey Type: MANUAL*

38 SH-03-A-05 SEMI-DETACHED/TERRACED SHROPSHIRE
SANDCROFT
TELFORD
SUTTON HILL
Edge of Town
Residential Zone
Total Number of dwellings: 54
Survey date: THURSDAY *24/10/13* *Survey Type: MANUAL*

39 SH-03-A-06 BUNGALOWS SHROPSHIRE
ELLESMERE ROAD
SHREWSBURY

Edge of Town
Residential Zone
Total Number of dwellings: 16
Survey date: THURSDAY *22/05/14* *Survey Type: MANUAL*

40 SM-03-A-01 DETACHED & SEMI SOMERSET
WEMBDON ROAD
BRIDGWATER
NORTHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 33
Survey date: THURSDAY *24/09/15* *Survey Type: MANUAL*

41 ST-03-A-07 DETACHED & SEMI-DETACHED STAFFORDSHIRE
BEACONSIDE
STAFFORD
MARSTON GATE
Edge of Town
Residential Zone
Total Number of dwellings: 248
Survey date: WEDNESDAY *22/11/17* *Survey Type: MANUAL*

42 ST-03-A-08 DETACHED HOUSES STAFFORDSHIRE
SILKMORE CRESCENT
STAFFORD
MEADOWCROFT PARK
Edge of Town
Residential Zone
Total Number of dwellings: 26
Survey date: WEDNESDAY *22/11/17* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

43 SY-03-A-01 SEMI DETACHED HOUSES SOUTH YORKSHIRE
A19 BENTLEY ROAD
DONCASTER
BENTLEY RISE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 54
Survey date: WEDNESDAY 18/09/13 Survey Type: MANUAL

44 TW-03-A-02 SEMI-DETACHED TYNE & WEAR
WEST PARK ROAD
GATESHEAD

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 16
Survey date: MONDAY 07/10/13 Survey Type: MANUAL

45 VG-03-A-01 SEMI-DETACHED & TERRACED VALE OF GLAMORGAN
ARTHUR STREET
BARRY

Edge of Town
Residential Zone
Total Number of dwellings: 12
Survey date: MONDAY 08/05/17 Survey Type: MANUAL

46 WK-03-A-01 TERRACED/SEMI/DET. WARWICKSHIRE
ARLINGTON AVENUE
LEAMINGTON SPA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 6
Survey date: FRIDAY 21/10/11 Survey Type: MANUAL

47 WK-03-A-02 BUNGALOWS WARWICKSHIRE
NARBERTH WAY
COVENTRY
POTTERS GREEN
Edge of Town
Residential Zone
Total Number of dwellings: 17
Survey date: THURSDAY 17/10/13 Survey Type: MANUAL

48 WL-03-A-02 SEMI DETACHED WILTSHIRE
HEADLANDS GROVE
SWINDON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 27
Survey date: THURSDAY 22/09/16 Survey Type: MANUAL

49 WO-03-A-07 MIXED HOUSES WORCESTERSHIRE
TEASEL WAY
WORCESTER
CLAINES
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 146
Survey date: TUESDAY 26/06/18 Survey Type: MANUAL

50 WS-03-A-04 MIXED HOUSES WEST SUSSEX
HILLS FARM LANE
HORSHAM
BROADBRIDGE HEATH
Edge of Town
Residential Zone
Total Number of dwellings: 151
Survey date: THURSDAY 11/12/14 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

51 WS-03-A-05 TERRACED & FLATS WEST SUSSEX
UPPER SHOREHAM ROAD
SHOREHAM BY SEA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 48
Survey date: WEDNESDAY *18/04/12* *Survey Type: MANUAL*

52 WS-03-A-06 MIXED HOUSES WEST SUSSEX
ELLIS ROAD
WEST HORSHAM
S BROADBRIDGE HEATH
Edge of Town
Residential Zone
Total Number of dwellings: 805
Survey date: THURSDAY *02/03/17* *Survey Type: MANUAL*

53 WS-03-A-08 MIXED HOUSES WEST SUSSEX
ROUNDSTONE LANE
ANGMERING

Edge of Town
Residential Zone
Total Number of dwellings: 180
Survey date: THURSDAY *19/04/18* *Survey Type: MANUAL*

54 WS-03-A-09 MIXED HOUSES & FLATS WEST SUSSEX
LITTLEHAMPTON ROAD
WORTHING
WEST DURRINGTON
Edge of Town
Residential Zone
Total Number of dwellings: 197
Survey date: THURSDAY *05/07/18* *Survey Type: MANUAL*

55 WS-03-A-10 MIXED HOUSES WEST SUSSEX
TODDINGTON LANE
LITTLEHAMPTON
WICK
Edge of Town
Residential Zone
Total Number of dwellings: 79
Survey date: WEDNESDAY *07/11/18* *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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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									
06:00 - 07:00									
07:00 - 08:00	55	89	0.079	55	89	0.309	55	89	0.388
08:00 - 09:00	55	89	0.128	55	89	0.371	55	89	0.499
09:00 - 10:00	55	89	0.143	55	89	0.167	55	89	0.310
10:00 - 11:00	55	89	0.126	55	89	0.152	55	89	0.278
11:00 - 12:00	55	89	0.138	55	89	0.149	55	89	0.287
12:00 - 13:00	55	89	0.156	55	89	0.147	55	89	0.303
13:00 - 14:00	55	89	0.164	55	89	0.154	55	89	0.318
14:00 - 15:00	55	89	0.153	55	89	0.178	55	89	0.331
15:00 - 16:00	55	89	0.245	55	89	0.167	55	89	0.412
16:00 - 17:00	55	89	0.267	55	89	0.160	55	89	0.427
17:00 - 18:00	55	89	0.334	55	89	0.145	55	89	0.479
18:00 - 19:00	55	89	0.282	55	89	0.160	55	89	0.442
19:00 - 20:00	1	97	0.062	1	97	0.052	1	97	0.114
20:00 - 21:00	1	97	0.031	1	97	0.021	1	97	0.052
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.308			2.332			4.640

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:	6 - 805 (units:)
Survey date date range:	01/01/11 - 20/11/18
Number of weekdays (Monday-Friday):	55
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	3
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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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									
06:00 - 07:00									
07:00 - 08:00	55	89	0.003	55	89	0.003	55	89	0.006
08:00 - 09:00	55	89	0.005	55	89	0.004	55	89	0.009
09:00 - 10:00	55	89	0.003	55	89	0.002	55	89	0.005
10:00 - 11:00	55	89	0.003	55	89	0.003	55	89	0.006
11:00 - 12:00	55	89	0.002	55	89	0.002	55	89	0.004
12:00 - 13:00	55	89	0.002	55	89	0.002	55	89	0.004
13:00 - 14:00	55	89	0.002	55	89	0.002	55	89	0.004
14:00 - 15:00	55	89	0.003	55	89	0.003	55	89	0.006
15:00 - 16:00	55	89	0.005	55	89	0.005	55	89	0.010
16:00 - 17:00	55	89	0.003	55	89	0.003	55	89	0.006
17:00 - 18:00	55	89	0.002	55	89	0.002	55	89	0.004
18:00 - 19:00	55	89	0.002	55	89	0.002	55	89	0.004
19:00 - 20:00	1	97	0.031	1	97	0.041	1	97	0.072
20:00 - 21:00	1	97	0.021	1	97	0.010	1	97	0.031
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.087			0.084			0.171

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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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									
06:00 - 07:00									
07:00 - 08:00	55	89	0.001	55	89	0.000	55	89	0.001
08:00 - 09:00	55	89	0.002	55	89	0.001	55	89	0.003
09:00 - 10:00	55	89	0.003	55	89	0.002	55	89	0.005
10:00 - 11:00	55	89	0.003	55	89	0.002	55	89	0.005
11:00 - 12:00	55	89	0.002	55	89	0.003	55	89	0.005
12:00 - 13:00	55	89	0.001	55	89	0.002	55	89	0.003
13:00 - 14:00	55	89	0.002	55	89	0.001	55	89	0.003
14:00 - 15:00	55	89	0.001	55	89	0.002	55	89	0.003
15:00 - 16:00	55	89	0.001	55	89	0.002	55	89	0.003
16:00 - 17:00	55	89	0.001	55	89	0.001	55	89	0.002
17:00 - 18:00	55	89	0.001	55	89	0.001	55	89	0.002
18:00 - 19:00	55	89	0.000	55	89	0.000	55	89	0.000
19:00 - 20:00	1	97	0.000	1	97	0.000	1	97	0.000
20:00 - 21:00	1	97	0.000	1	97	0.000	1	97	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.018			0.017			0.035

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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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									
06:00 - 07:00									
07:00 - 08:00	55	89	0.000	55	89	0.000	55	89	0.000
08:00 - 09:00	55	89	0.001	55	89	0.001	55	89	0.002
09:00 - 10:00	55	89	0.000	55	89	0.000	55	89	0.000
10:00 - 11:00	55	89	0.000	55	89	0.000	55	89	0.000
11:00 - 12:00	55	89	0.000	55	89	0.000	55	89	0.000
12:00 - 13:00	55	89	0.000	55	89	0.000	55	89	0.000
13:00 - 14:00	55	89	0.000	55	89	0.000	55	89	0.000
14:00 - 15:00	55	89	0.000	55	89	0.000	55	89	0.000
15:00 - 16:00	55	89	0.001	55	89	0.001	55	89	0.002
16:00 - 17:00	55	89	0.000	55	89	0.000	55	89	0.000
17:00 - 18:00	55	89	0.000	55	89	0.000	55	89	0.000
18:00 - 19:00	55	89	0.000	55	89	0.000	55	89	0.000
19:00 - 20:00	1	97	0.000	1	97	0.000	1	97	0.000
20:00 - 21:00	1	97	0.000	1	97	0.000	1	97	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.002			0.002			0.004

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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

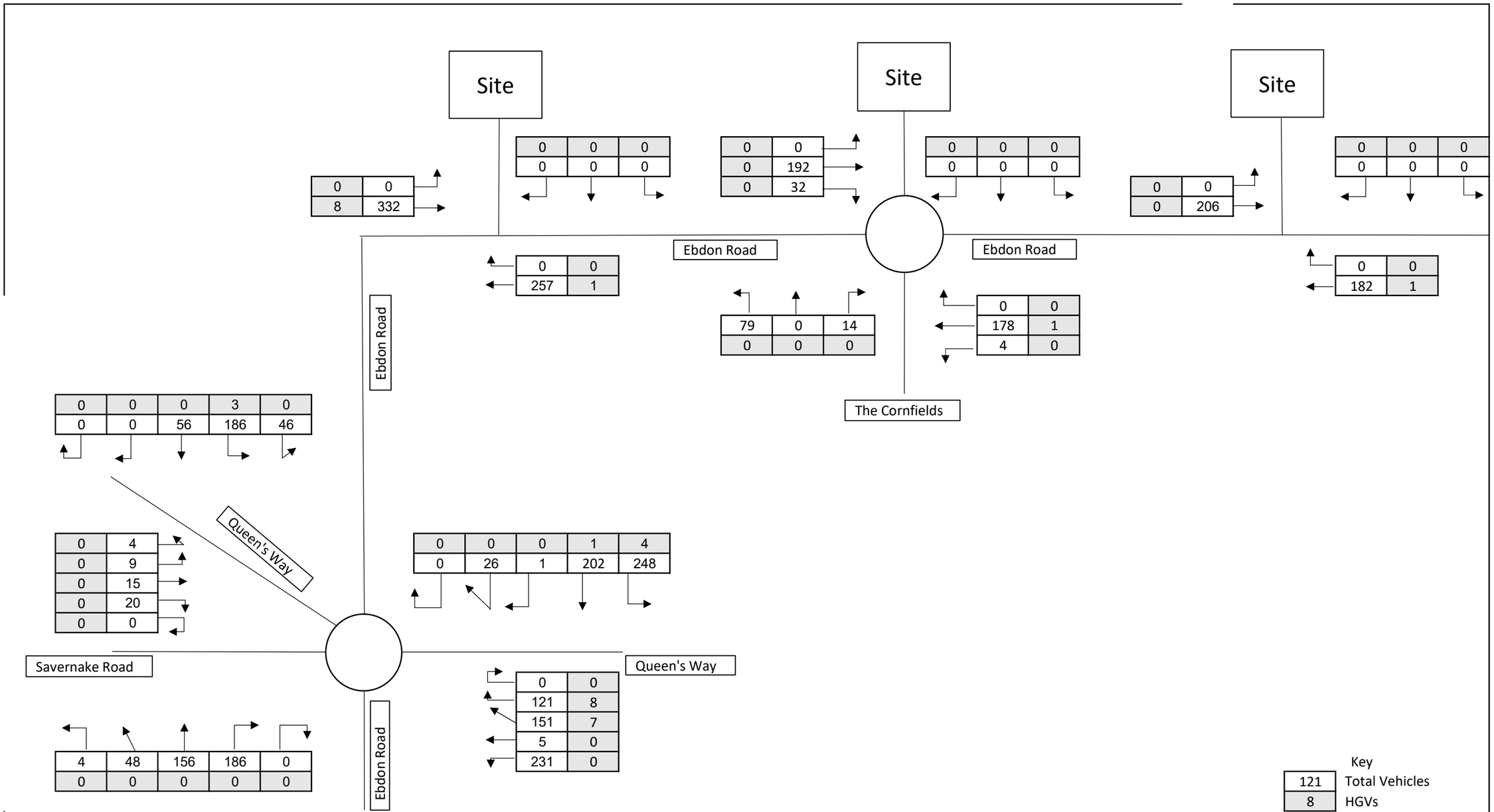
	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	55	89	0.005	55	89	0.013	55	89	0.018
08:00 - 09:00	55	89	0.005	55	89	0.013	55	89	0.018
09:00 - 10:00	55	89	0.001	55	89	0.004	55	89	0.005
10:00 - 11:00	55	89	0.002	55	89	0.005	55	89	0.007
11:00 - 12:00	55	89	0.003	55	89	0.004	55	89	0.007
12:00 - 13:00	55	89	0.005	55	89	0.005	55	89	0.010
13:00 - 14:00	55	89	0.003	55	89	0.003	55	89	0.006
14:00 - 15:00	55	89	0.003	55	89	0.003	55	89	0.006
15:00 - 16:00	55	89	0.010	55	89	0.004	55	89	0.014
16:00 - 17:00	55	89	0.010	55	89	0.007	55	89	0.017
17:00 - 18:00	55	89	0.015	55	89	0.009	55	89	0.024
18:00 - 19:00	55	89	0.009	55	89	0.007	55	89	0.016
19:00 - 20:00	1	97	0.031	1	97	0.000	1	97	0.031
20:00 - 21:00	1	97	0.031	1	97	0.010	1	97	0.041
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.133			0.087			0.220

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.*

APPENDIX F

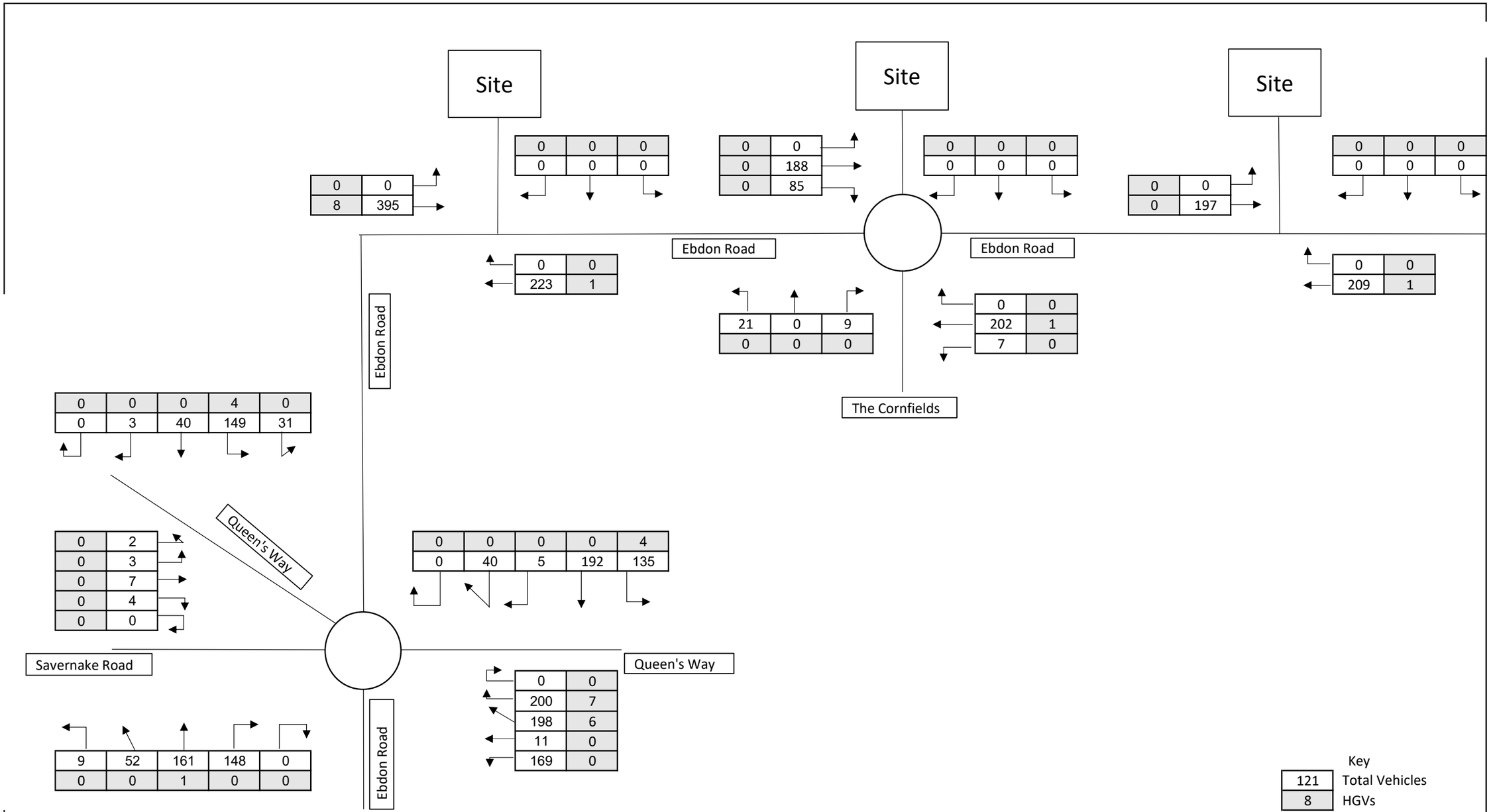
Traffic Flow Diagram



vectos transport planning specialists

Network Building, 97 Tottenham Court Road, London, W1T 4TP Tel: 020 7580 7373
Email:london@vectos.co.uk www.vectos.co.uk

Project Title: Lynchmead Road, Weston-super-Mare	Scale: NTS	Drawn TD	Date: 22/02/2019	Checked:	Rev:
Client:	Figure: 2019 Baseline Flows AM Peak				Figure No:



Key

121	Total Vehicles
8	HGVs

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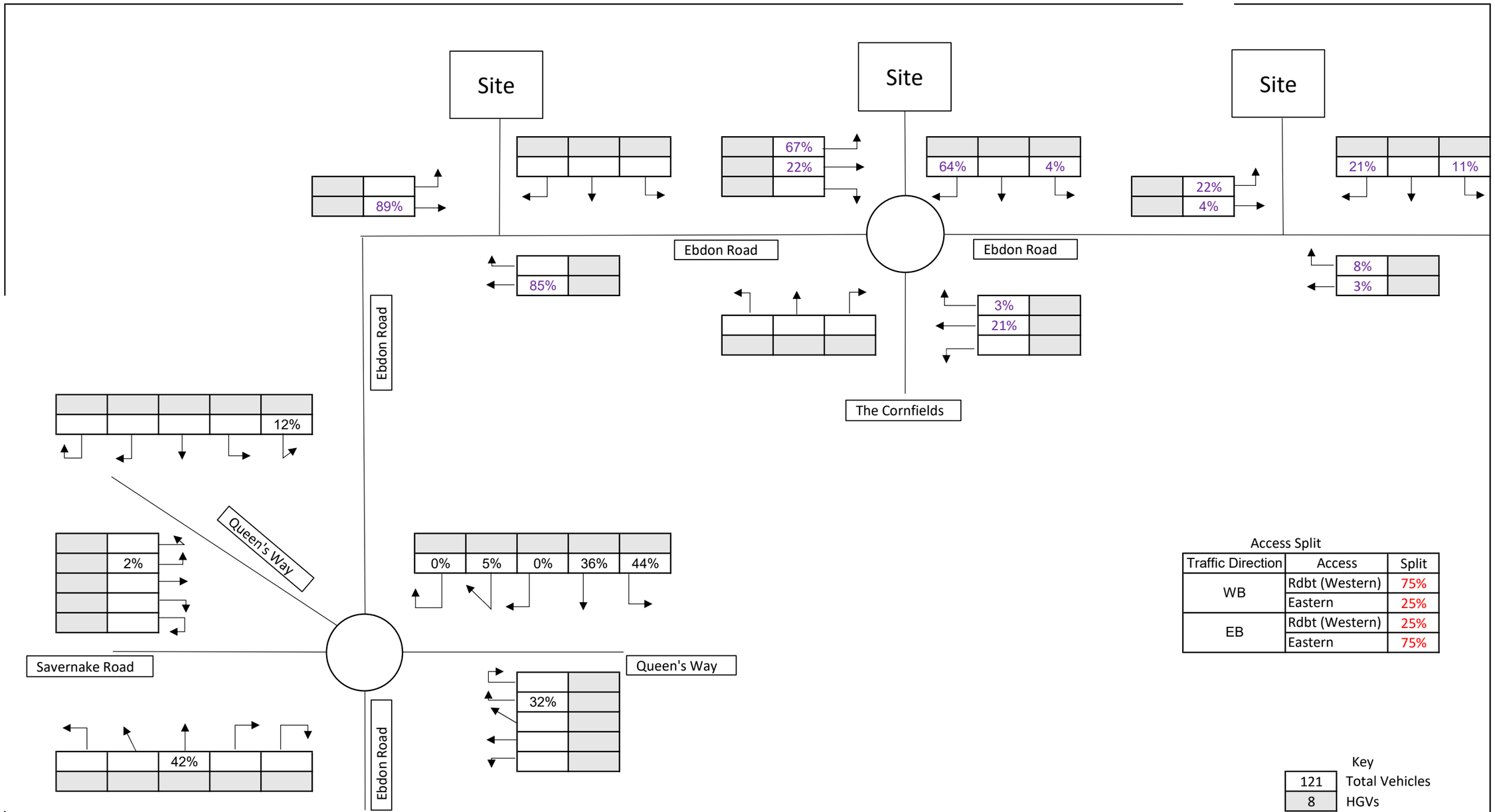
Network Building, 97 Tottenham Court Road, London, W1T 4TP Tel: 020 7580 7373
Email:london@vectos.co.uk www.vectos.co.uk

Project Title:	Scale:	Drawn	Date:	Checked:	Rev:
Lynchmead Road, Weston-super-Mare	NTS	TD	22/02/2019		

Client:	Figure	Figure No:
	2019 Baseline Flows PM Peak	



Access Split

Traffic Direction	Access	Split
WB	Rdbt (Western)	75%
	Eastern	25%
EB	Rdbt (Western)	25%
	Eastern	75%

Key

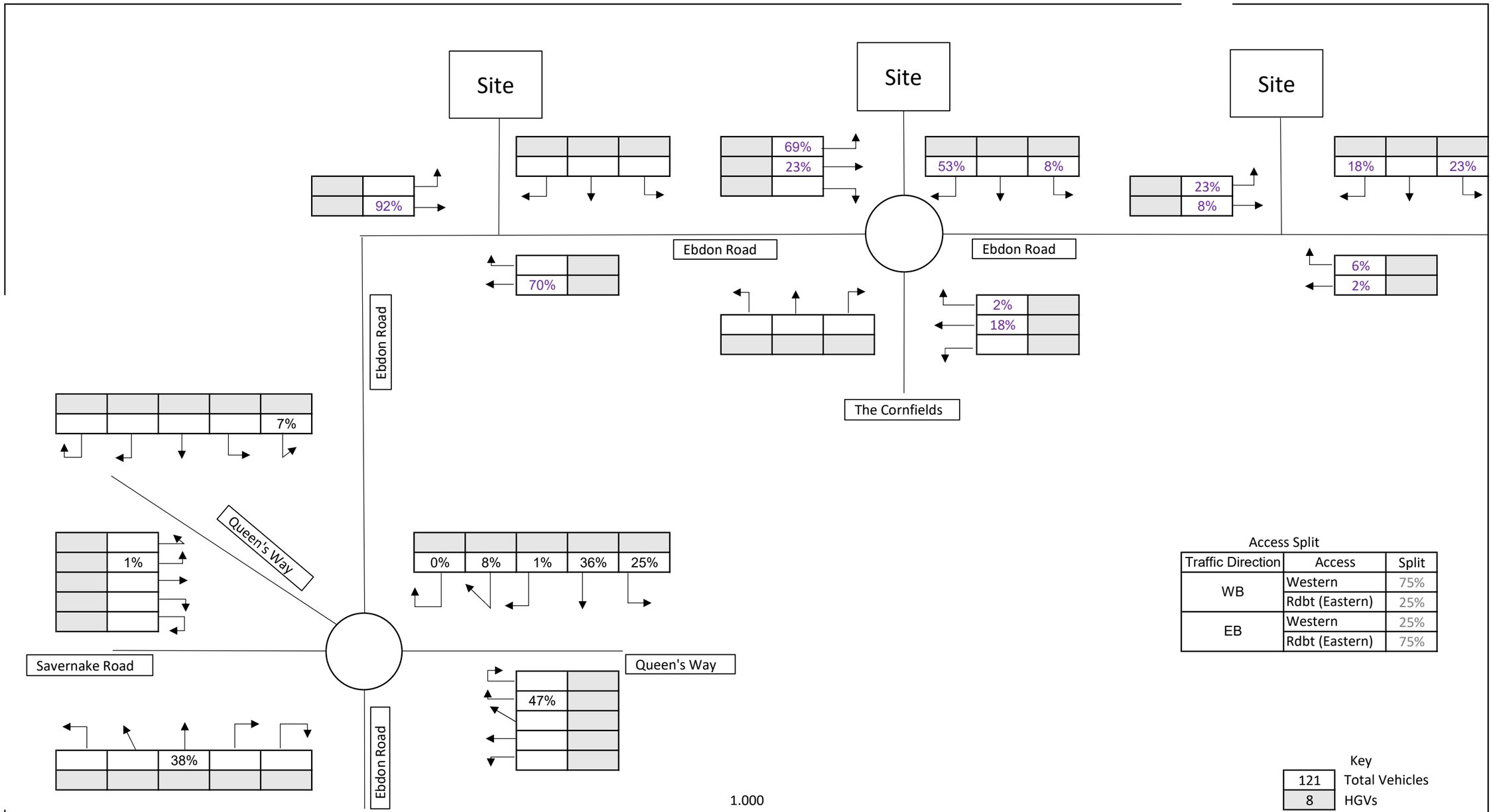
121	Total Vehicles
8	HGVs

vectos transport planning specialists

Network Building, 97 Tottenham Court Road, London, W1T 4TP Tel: 020 7580 7373
Email:london@vectos.co.uk www.vectos.co.uk

Project Title:	Scale:	Drawn	Date:	Checked:	Rev:
Lynchmead Road, Weston-super-Mare	NTS	TD	22/02/2019		

Client:	Figure	Figure No:
	Development 08:00-09:00	



Access Split

Traffic Direction	Access	Split
WB	Western	75%
	Rdbt (Eastern)	25%
EB	Western	25%
	Rdbt (Eastern)	75%

Key

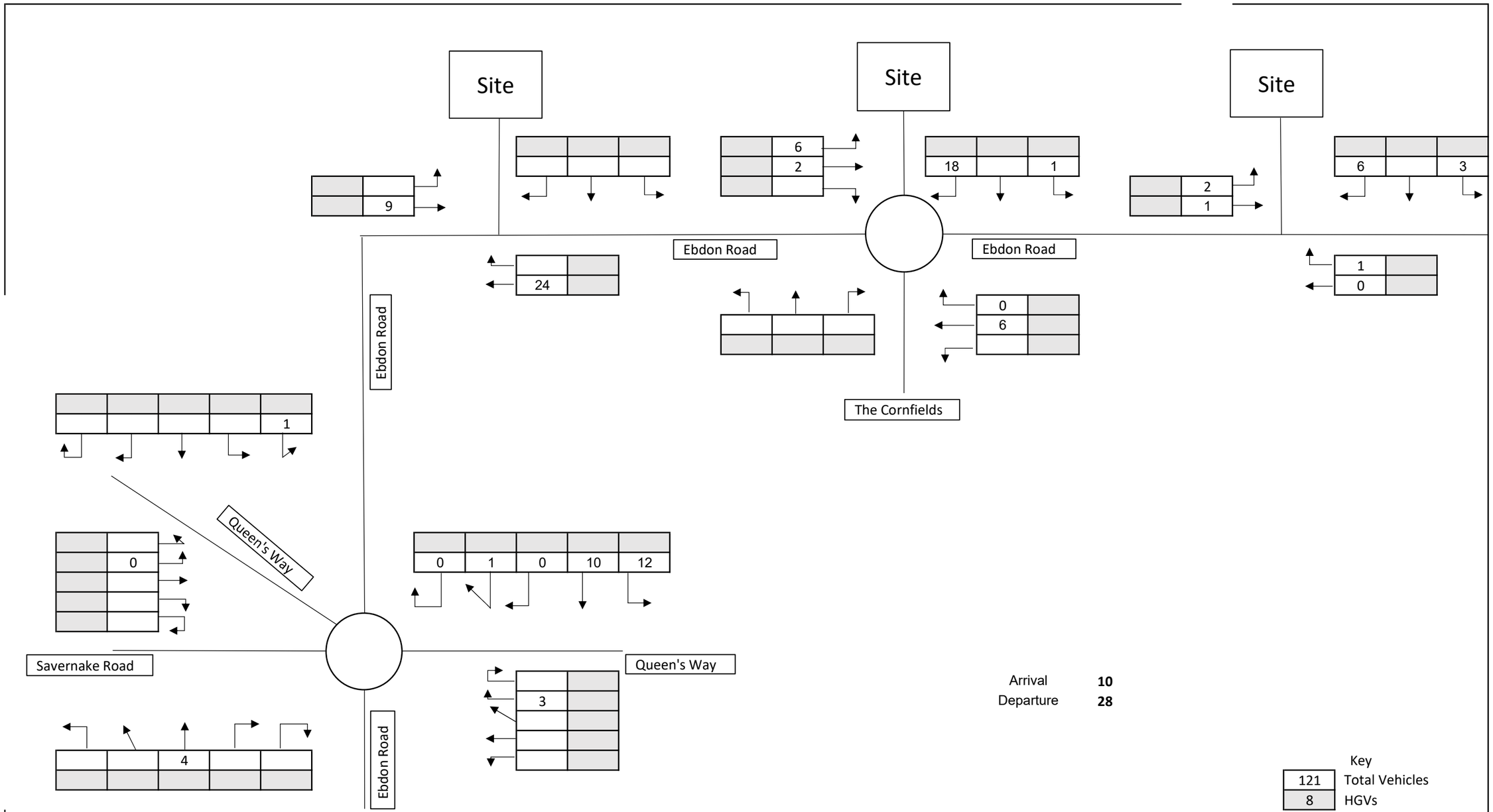
121	Total Vehicles
8	HGVs

vectos transport planning specialists

Network Building, 97 Tottenham Court Road, London, W1T 4TP Tel: 020 7580 7373
Email:london@vectos.co.uk www.vectos.co.uk

Project Title:	Scale:	Drawn	Date:	Checked:	Rev:
Lynchmead Road, Weston-super-Mare	NTS	TD	22/02/2019		

Client:	Figure	Figure No:
	Development 17:00-18:00	



Arrival **10**
Departure **28**

Key

121	Total Vehicles
8	HGVs

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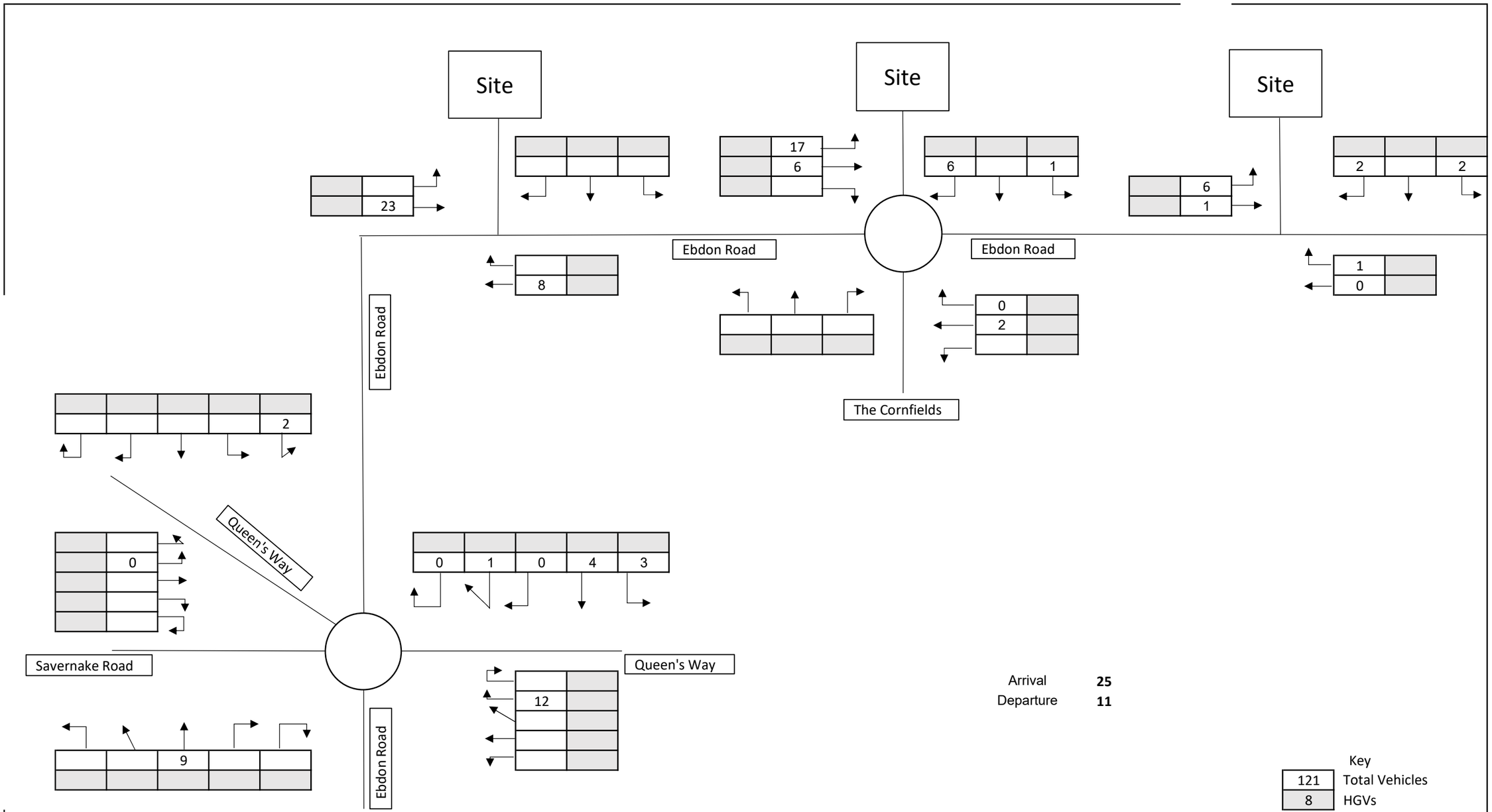
Email:london@vectos.co.uk www.vectos.co.uk

Project Title:	Scale:	Drawn	Date:	Checked:	Rev:
Lynchmead Road, Weston-super-Mare	NTS	TD	22/02/2019		

Client:	Figure	Figure No:
	Development 08:00-09:00	



Arrival **25**
Departure **11**

Key
121 Total Vehicles
8 HGVs

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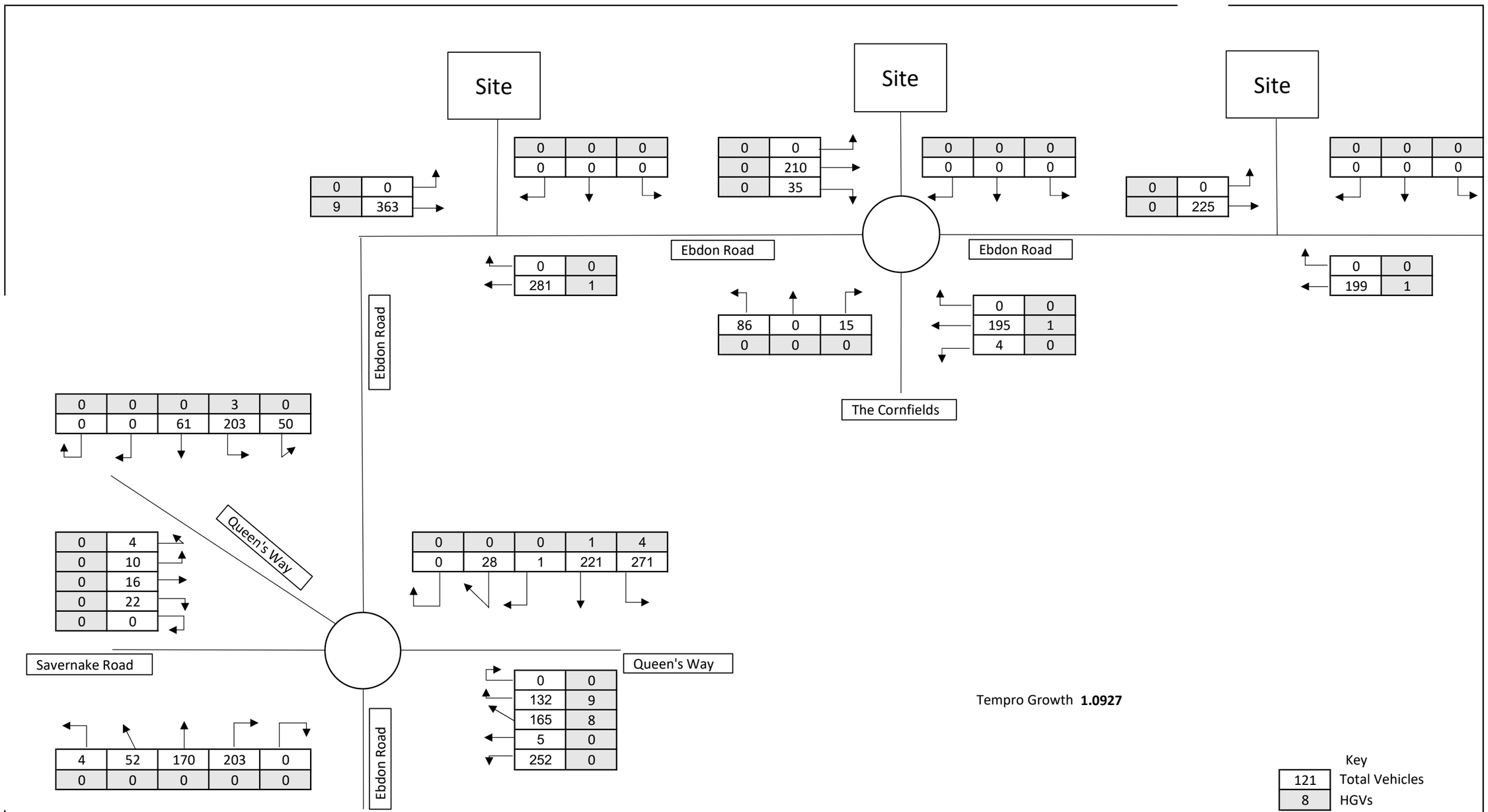
transport planning specialists
Network Building, 97 Tottenham Court Road, London, W1T 4TP Tel: 020 7580 7373
Email:london@vectos.co.uk www.vectos.co.uk

Project Title:	Scale:	Drawn	Date:	Checked:	Rev:
Lynchmead Road, Weston-super-Mare	NTS	TD	22/02/2019		
Client:	Figure: Development 17:00-18:00				Figure No:



Tempro Growth **1.0927**

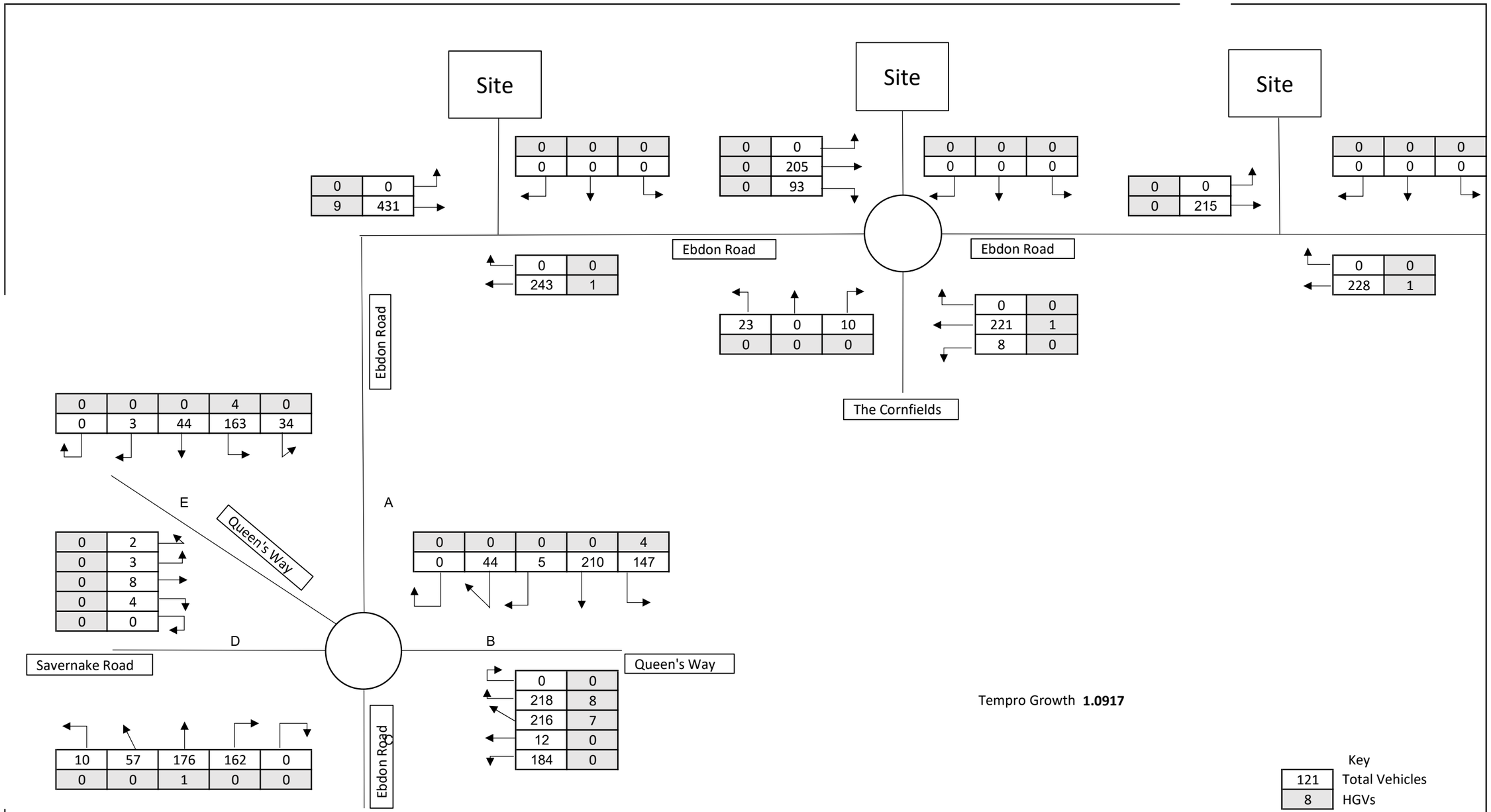
Key

121	Total Vehicles
8	HGVs

vectos transport planning specialists

Network Building, 97 Tottenham Court Road, London, W1T 4TP Tel: 020 7580 7373
Email:london@vectos.co.uk www.vectos.co.uk

Project Title: Lynchmead Road, Weston-super-Mare	Scale: NTS	Drawn TD	Date: 22/02/2019	Checked:	Rev:
Client:	Figure: Base + TEMPro 08:00-09:00				Figure No:



Tempro Growth **1.0917**

Key

121	Total Vehicles
8	HGVs

vectos transport planning specialists

Network Building, 97 Tottenham Court Road, London, W1T 4TP Tel: 020 7580 7373
Email:london@vectos.co.uk www.vectos.co.uk

Project Title:	Scale:	Drawn	Date:	Checked:	Rev:
Lynchmead Road, Weston-super-Mare	NTS	TD	22/02/2019		

Client:	Figure	Figure No:
	Base + TEMPro 17:00-18:00	

APPENDIX G

Modelling Outputs

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: Eastern Access.j9
Path: P:\Projects\180000\184199 - Lynchmead Farm, Weston-super-Mare\3. Design and Calcs\4. PICADY
Report generation date: 17/08/2020 11:00:49

»2024+Development, AM
»2024+Development, PM

Summary of junction performance

	AM						PM					
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
	2024+Development											
Stream B-C	D7	0.0	5.90	0.01	A	319 %	D8	0.0	0.00	0.00	A	577 %
Stream B-A		0.0	8.71	0.02	A	[Stream B-A]		0.0	0.00	0.00	A	[Stream C-AB]
Stream C-AB		0.0	5.29	0.00	A			0.0	5.16	0.00	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/04/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	VECTOS\Dafydd.Rees
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D1	2019	AM	ONE HOUR	07:45	09:15	15			
D2	2019	PM	ONE HOUR	16:45	18:15	15			
D3	2024	AM	ONE HOUR	07:45	09:15	15		Simple	D1*1.0927
D4	2024	PM	ONE HOUR	16:45	18:15	15		Simple	D2*1.0917
D5	Development	AM	ONE HOUR	07:45	09:15	15			
D6	Development	PM	ONE HOUR	16:45	18:15	15			
D7	2024+Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5
D8	2024+Development	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D4+D6

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024+Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Site Access - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Set Relationship	D7 - 2024+Development, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Eastern Access	T-Junction	Two-way		0.18	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	319	Stream B-A

Arms

Arms

Arm	Name	Description	Arm type
A	Ebdon Rd W		Major
B	Site Access		Minor
C	Ebdon Rd E		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Ebdon Rd E	6.10			83.4	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane plus flare	8.50	2.60	2.50	2.50	2.50	✓	1.00	40	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	511	0.093	0.234	0.147	0.335
B-C	682	0.104	0.263	-	-
C-B	622	0.240	0.240	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2024+Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Ebdon Rd W		ONE HOUR	✓	228	100.000
B - Site Access		ONE HOUR	✓	9	100.000
C - Ebdon Rd E		ONE HOUR	✓	200	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Ebdon Rd W	B - Site Access	C - Ebdon Rd E
From	A - Ebdon Rd W	0	2	226
	B - Site Access	6	0	3
	C - Ebdon Rd E	199	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Ebdon Rd W	B - Site Access	C - Ebdon Rd E
From	A - Ebdon Rd W	0	0	0
	B - Site Access	0	0	0
	C - Ebdon Rd E	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.01	5.90	0.0	A	3	4
B-A	0.02	8.71	0.0	A	6	8
C-AB	0.00	5.29	0.0	A	1	2
C-A					182	273
A-B					2	3
A-C					207	311

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.56	635	0.004	2	0.0	0.0	5.688	A
B-A	5	1	449	0.010	4	0.0	0.0	8.104	A
C-AB	0.96	0.24	682	0.001	0.96	0.0	0.0	5.285	A
C-A	150	37			150				
A-B	2	0.38			2				
A-C	170	43			170				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.67	626	0.004	3	0.0	0.0	5.774	A
B-A	5	1	437	0.012	5	0.0	0.0	8.349	A
C-AB	1	0.30	694	0.002	1	0.0	0.0	5.192	A
C-A	178	45			178				
A-B	2	0.45			2				
A-C	203	51			203				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.83	613	0.005	3	0.0	0.0	5.899	A
B-A	7	2	420	0.016	7	0.0	0.0	8.713	A
C-AB	2	0.40	712	0.002	2	0.0	0.0	5.066	A
C-A	218	55			218				
A-B	2	0.55			2				
A-C	249	62			249				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.83	613	0.005	3	0.0	0.0	5.899	A
B-A	7	2	420	0.016	7	0.0	0.0	8.713	A
C-AB	2	0.40	712	0.002	2	0.0	0.0	5.067	A
C-A	218	55			218				
A-B	2	0.55			2				
A-C	249	62			249				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.67	626	0.004	3	0.0	0.0	5.777	A
B-A	5	1	437	0.012	5	0.0	0.0	8.349	A
C-AB	1	0.30	694	0.002	1	0.0	0.0	5.194	A
C-A	178	45			178				
A-B	2	0.45			2				
A-C	203	51			203				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.56	635	0.004	2	0.0	0.0	5.688	A
B-A	5	1	449	0.010	5	0.0	0.0	8.106	A
C-AB	0.97	0.24	682	0.001	0.97	0.0	0.0	5.289	A
C-A	150	37			150				
A-B	2	0.38			2				
A-C	170	43			170				

2024+Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Site Access - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Set Relationship	D7 - 2024+Development, AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Eastern Access	T-Junction	Two-way		0.02	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	577	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2024+Development	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D4+D6

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Ebdon Rd W		ONE HOUR	✓	221	100.000
B - Site Access		ONE HOUR	✓	4	100.000
C - Ebdon Rd E		ONE HOUR	✓	229	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Ebdon Rd W	B - Site Access	C - Ebdon Rd E
From	A - Ebdon Rd W	0	5	216
	B - Site Access	2	0	2
	C - Ebdon Rd E	228	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Ebdon Rd W	B - Site Access	C - Ebdon Rd E
From	A - Ebdon Rd W	0	0	0
	B - Site Access	0	0	0
	C - Ebdon Rd E	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.00	0.00	0.0	A	0	0
B-A	0.00	0.00	0.0	A	0	0
C-AB	0.00	5.16	0.0	A	1	2
C-A					209	313
A-B					5	7
A-C					198	297

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	684	0.000	0	0.0	0.0	0.000	A
B-A	0	0	441	0.000	0	0.0	0.0	0.000	A
C-AB	1.00	0.25	699	0.001	0.99	0.0	0.0	5.160	A
C-A	172	43			172				
A-B	4	0.94			4				
A-C	163	41			163				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	675	0.000	0	0.0	0.0	0.000	A
B-A	0	0	428	0.000	0	0.0	0.0	0.000	A
C-AB	1	0.32	714	0.002	1	0.0	0.0	5.049	A
C-A	205	51			205				
A-B	4	1			4				
A-C	194	49			194				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	663	0.000	0	0.0	0.0	0.000	A
B-A	0	0	411	0.000	0	0.0	0.0	0.000	A
C-AB	2	0.42	736	0.002	2	0.0	0.0	4.899	A
C-A	251	63			251				
A-B	6	1			6				
A-C	238	59			238				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	663	0.000	0	0.0	0.0	0.000	A
B-A	0	0	411	0.000	0	0.0	0.0	0.000	A
C-AB	2	0.42	736	0.002	2	0.0	0.0	4.899	A
C-A	251	63			251				
A-B	6	1			6				
A-C	238	59			238				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	675	0.000	0	0.0	0.0	0.000	A
B-A	0	0	428	0.000	0	0.0	0.0	0.000	A
C-AB	1	0.32	714	0.002	1	0.0	0.0	5.051	A
C-A	205	51			205				
A-B	4	1			4				
A-C	194	49			194				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	684	0.000	0	0.0	0.0	0.000	A
B-A	0	0	441	0.000	0	0.0	0.0	0.000	A
C-AB	1	0.25	699	0.001	1	0.0	0.0	5.162	A
C-A	172	43			172				
A-B	4	0.94			4				
A-C	163	41			163				

Junctions 9

ARCADY 9 - Roundabout Module

Filename: Western Access.j9
Path: P:\Projects\180000\184199 - Lynchmead Farm, Weston-super-Mare\3. Design and Calcs\3. ARCADY
Report generation date: 03/04/2019 11:18:24

Summary of junction performance

	AM					PM				
	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
	2019									
Arm 1	0.4	6.82	0.28	A	155 % [Arm 3]	0.5	7.78	0.33	A	113 % [Arm 3]
Arm 2	0.1	4.56	0.11	A		0.0	4.28	0.04	A	
Arm 3	0.5	7.34	0.33	A		0.7	8.19	0.41	A	
Arm 4	0.0	0.00	0.00	A		0.0	0.00	0.00	A	
	2024									
Arm 1	0.4	7.10	0.30	A	134 % [Arm 3]	0.6	8.25	0.37	A	95 % [Arm 3]
Arm 2	0.1	4.68	0.13	A		0.0	4.36	0.04	A	
Arm 3	0.6	7.71	0.37	A		0.8	8.75	0.44	A	
Arm 4	0.0	0.00	0.00	A		0.0	0.00	0.00	A	
	Development									
Arm 1	0.0	4.93	0.01	A	900 % []	0.0	0.00	0.00	A	900 % []
Arm 2	0.0	0.00	0.00	A		0.0	0.00	0.00	A	
Arm 3	0.0	4.88	0.01	A		0.0	4.99	0.03	A	
Arm 4	0.0	4.68	0.03	A		0.0	4.61	0.01	A	
	2024+Development									
Arm 1	0.5	7.36	0.32	A	126 % [Arm 3]	0.6	8.37	0.37	A	81 % [Arm 3]
Arm 2	0.1	4.79	0.13	A		0.0	4.39	0.04	A	
Arm 3	0.6	7.86	0.38	A		0.9	9.32	0.48	A	
Arm 4	0.0	6.01	0.03	A		0.0	6.23	0.01	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	03/04/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	VECTOS\Dafydd.Rees
Description	

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75	✓		✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D1	2019	AM	ONE HOUR	07:45	09:15	15	✓		
D2	2019	PM	ONE HOUR	16:45	18:15	15	✓		
D3	2024	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D1*1.0917
D4	2024	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D2*1.0927
D5	Development	AM	ONE HOUR	07:45	09:15	15	✓		
D6	Development	PM	ONE HOUR	16:45	18:15	15	✓		
D7	2024+Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5
D8	2024+Development	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D4+D6

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2019, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 81% of the total flow for the roundabout for one or more time segments]
Warning	Demand Set Relationship	D7 - 2024+Development, AM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1,2,3,4	6.63	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		155	Arm 3

Arms

Arms

Arm	Name	Description
1	Ebdon RD E	j
2	The Cornfields	
3	Ebdon Rd W	
4	Site Access	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.30	2.90	3.80	1.9	15.40	12.20	0.0	
2	3.20	3.20	5.30	4.0	16.90	13.50	0.0	
3	2.60	2.20	3.70	1.7	12.20	7.90	0.0	
4	2.70	2.70	4.30	1.8	13.20	9.40	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.606	756
2	0.639	1018
3	0.575	746
4	0.596	792

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	182	100.000
2		ONE HOUR	✓	93	100.000
3		ONE HOUR	✓	224	100.000
4		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	4	178	0
	2	14	0	79	0
	3	192	32	0	0
	4	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	1	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.28	6.82	0.4	1.5	A	167	251
2	0.11	4.56	0.1	0.5	A	85	128
3	0.33	7.34	0.5	2.3	A	206	308
4	0.00	0.00	0.0	~1	A	0	0

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	137	34	24	735	0.186	136	154	0.0	0.2	6.005	A
2	70	18	133	932	0.075	70	27	0.0	0.1	4.173	A
3	169	42	10	740	0.228	167	192	0.0	0.3	6.276	A
4	0	0	178	686	0.000	0	0	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	164	41	29	732	0.224	163	185	0.2	0.3	6.329	A
2	84	21	160	915	0.091	84	32	0.1	0.1	4.329	A
3	201	50	13	739	0.273	201	231	0.3	0.4	6.690	A
4	0	0	214	665	0.000	0	0	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	200	50	35	728	0.275	200	226	0.3	0.4	6.814	A
2	102	26	196	892	0.115	102	40	0.1	0.1	4.559	A
3	247	62	15	737	0.335	246	283	0.4	0.5	7.324	A
4	0	0	262	636	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	200	50	35	728	0.275	200	227	0.4	0.4	6.823	A
2	102	26	196	892	0.115	102	40	0.1	0.1	4.560	A
3	247	62	15	737	0.335	247	283	0.5	0.5	7.338	A
4	0	0	262	636	0.000	0	0	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	164	41	29	732	0.224	164	186	0.4	0.3	6.345	A
2	84	21	160	915	0.091	84	32	0.1	0.1	4.334	A
3	201	50	13	739	0.273	202	231	0.5	0.4	6.711	A
4	0	0	214	664	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	137	34	24	735	0.187	137	155	0.3	0.2	6.030	A
2	70	18	134	932	0.075	70	27	0.1	0.1	4.180	A
3	169	42	11	740	0.228	169	194	0.4	0.3	6.310	A
4	0	0	180	685	0.000	0	0	0.0	0.0	0.000	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.23	0.00	0.00	0.23	0.23			N/A	N/A
2	0.08	0.00	0.00	0.08	0.08			N/A	N/A
3	0.29	0.00	0.00	0.29	0.29			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.29	0.00	0.00	0.29	0.29			N/A	N/A
2	0.10	0.03	0.25	0.45	0.48			N/A	N/A
3	0.37	0.00	0.00	0.37	0.37			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.38	0.03	0.25	0.46	0.48			N/A	N/A
2	0.13	0.03	0.26	0.46	0.49			N/A	N/A
3	0.50	0.03	0.25	0.50	0.50			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.38	0.03	0.31	1.25	1.45			N/A	N/A
2	0.13	0.03	0.25	0.45	0.48			N/A	N/A
3	0.50	0.03	0.30	1.29	2.29			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.29	0.00	0.00	0.29	0.29			N/A	N/A
2	0.10	0.00	0.00	0.10	0.10			N/A	N/A
3	0.38	0.00	0.00	0.38	0.38			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.23	0.00	0.00	0.23	0.23			N/A	N/A
2	0.08	0.00	0.00	0.08	0.08			N/A	N/A
3	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2019, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 94% of the total flow for the roundabout for one or more time segments]
Warning	Demand Set Relationship	D7 - 2024+Development, AM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1,2,3,4	7.79	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		113	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2019	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	209	100.000
2		ONE HOUR	✓	30	100.000
3		ONE HOUR	✓	273	100.000
4		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	7	202	0
	2	9	0	21	0
	3	188	85	0	0
	4	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	1	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.33	7.78	0.5	2.2	A	192	288
2	0.04	4.28	0.0	0.5	A	28	41
3	0.41	8.19	0.7	2.7	A	251	376
4	0.00	0.00	0.0	~1	A	0	0

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	157	39	64	711	0.221	156	147	0.0	0.3	6.475	A
2	23	6	151	921	0.025	22	69	0.0	0.0	4.008	A
3	206	51	7	742	0.277	204	167	0.0	0.4	6.671	A
4	0	0	211	666	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	188	47	76	703	0.267	188	177	0.3	0.4	6.974	A
2	27	7	181	901	0.030	27	83	0.0	0.0	4.117	A
3	245	61	8	741	0.331	245	200	0.4	0.5	7.247	A
4	0	0	253	641	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	230	58	93	693	0.332	230	216	0.4	0.5	7.757	A
2	33	8	222	875	0.038	33	101	0.0	0.0	4.275	A
3	301	75	10	740	0.406	300	245	0.5	0.7	8.159	A
4	0	0	310	607	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	230	58	94	693	0.332	230	217	0.5	0.5	7.776	A
2	33	8	222	875	0.038	33	101	0.0	0.0	4.277	A
3	301	75	10	740	0.406	301	246	0.7	0.7	8.187	A
4	0	0	310	607	0.000	0	0	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	188	47	77	703	0.267	188	178	0.5	0.4	7.001	A
2	27	7	182	901	0.030	27	83	0.0	0.0	4.122	A
3	245	61	8	741	0.331	246	201	0.7	0.5	7.279	A
4	0	0	254	640	0.000	0	0	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	157	39	64	711	0.221	158	149	0.4	0.3	6.515	A
2	23	6	152	920	0.025	23	69	0.0	0.0	4.013	A
3	206	51	7	742	0.277	206	168	0.5	0.4	6.723	A
4	0	0	213	665	0.000	0	0	0.0	0.0	0.000	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.28	0.00	0.00	0.28	0.28			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.38	0.00	0.00	0.38	0.38			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.36	0.00	0.00	0.36	0.36			N/A	N/A
2	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3	0.49	0.00	0.00	0.49	0.49			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.49	0.03	0.25	0.49	0.49			N/A	N/A
2	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3	0.67	0.03	0.26	0.67	0.67			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.49	0.03	0.30	1.31	2.25			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.68	0.03	0.28	0.89	2.70			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.50	0.50	1.00	1.40	1.45			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

18:00 - 18:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.29	0.00	0.00	0.29	0.29			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.39	0.03	0.27	0.48	0.63			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2024, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 81% of the total flow for the roundabout for one or more time segments]
Warning	Demand Set Relationship	D7 - 2024+Development, AM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1,2,3,4	6.92	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		134	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D3	2024	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D1*1.0917

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	199	100.000
2		ONE HOUR	✓	102	100.000
3		ONE HOUR	✓	245	100.000
4		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	4	194	0
	2	15	0	86	0
	3	210	35	0	0
	4	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	1	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.30	7.10	0.4	1.8	A	182	273
2	0.13	4.68	0.1	0.5	A	93	140
3	0.37	7.71	0.6	2.6	A	224	337
4	0.00	0.00	0.0	~1	A	0	0

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	150	37	26	733	0.204	149	168	0.0	0.3	6.146	A
2	76	19	145	924	0.083	76	29	0.0	0.1	4.241	A
3	184	46	11	739	0.249	183	210	0.0	0.3	6.454	A
4	0	0	194	676	0.000	0	0	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	179	45	31	730	0.245	178	202	0.3	0.3	6.519	A
2	91	23	174	906	0.101	91	35	0.1	0.1	4.420	A
3	220	55	14	738	0.298	219	252	0.3	0.4	6.937	A
4	0	0	233	653	0.000	0	0	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	219	55	38	726	0.301	218	247	0.3	0.4	7.084	A
2	112	28	214	880	0.127	112	43	0.1	0.1	4.683	A
3	269	67	17	736	0.366	269	308	0.4	0.6	7.688	A
4	0	0	285	622	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	219	55	38	726	0.301	219	248	0.4	0.4	7.096	A
2	112	28	214	880	0.127	112	43	0.1	0.1	4.685	A
3	269	67	17	736	0.366	269	309	0.6	0.6	7.707	A
4	0	0	286	621	0.000	0	0	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	179	45	31	730	0.245	179	203	0.4	0.3	6.538	A
2	91	23	175	905	0.101	91	35	0.1	0.1	4.424	A
3	220	55	14	738	0.298	220	253	0.6	0.4	6.961	A
4	0	0	234	652	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	150	37	26	733	0.204	150	170	0.3	0.3	6.175	A
2	76	19	147	924	0.083	77	30	0.1	0.1	4.251	A
3	184	46	12	739	0.249	184	212	0.4	0.3	6.494	A
4	0	0	196	675	0.000	0	0	0.0	0.0	0.000	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.25	0.00	0.00	0.25	0.25			N/A	N/A
2	0.09	0.00	0.00	0.09	0.09			N/A	N/A
3	0.33	0.00	0.00	0.33	0.33			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.32	0.00	0.00	0.32	0.32			N/A	N/A
2	0.11	0.00	0.00	0.11	0.11			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.43	0.03	0.25	0.46	0.48			N/A	N/A
2	0.14	0.03	0.26	0.46	0.49			N/A	N/A
3	0.57	0.03	0.25	0.57	0.57			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.43	0.03	0.31	1.31	1.83			N/A	N/A
2	0.15	0.03	0.25	0.45	0.48			N/A	N/A
3	0.57	0.03	0.29	1.18	2.59			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.33	0.00	0.00	0.33	0.33			N/A	N/A
2	0.11	0.00	0.00	0.11	0.11			N/A	N/A
3	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.26	0.00	0.00	0.26	0.26			N/A	N/A
2	0.09	0.00	0.00	0.09	0.09			N/A	N/A
3	0.33	0.00	0.00	0.33	0.33			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2024, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 94% of the total flow for the roundabout for one or more time segments]
Warning	Demand Set Relationship	D7 - 2024+Development, AM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1,2,3,4	8.29	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		95	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D4	2024	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D2*1.0927

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	228	100.000
2		ONE HOUR	✓	33	100.000
3		ONE HOUR	✓	298	100.000
4		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	8	221	0
	2	10	0	23	0
	3	205	93	0	0
	4	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	1	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.37	8.25	0.6	2.6	A	210	314
2	0.04	4.36	0.0	0.5	A	30	45
3	0.44	8.75	0.8	2.6	A	274	411
4	0.00	0.00	0.0	~1	A	0	0

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	172	43	69	708	0.243	171	161	0.0	0.3	6.695	A
2	25	6	165	912	0.027	25	75	0.0	0.0	4.058	A
3	225	56	7	742	0.303	223	182	0.0	0.4	6.916	A
4	0	0	230	655	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	205	51	83	699	0.294	205	193	0.3	0.4	7.280	A
2	29	7	198	890	0.033	29	90	0.0	0.0	4.181	A
3	268	67	9	741	0.362	268	219	0.4	0.6	7.599	A
4	0	0	276	627	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	251	63	102	688	0.365	251	236	0.4	0.6	8.224	A
2	36	9	242	862	0.042	36	110	0.0	0.0	4.360	A
3	328	82	11	740	0.444	328	268	0.6	0.8	8.714	A
4	0	0	338	590	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	251	63	102	688	0.366	251	237	0.6	0.6	8.249	A
2	36	9	243	861	0.042	36	111	0.0	0.0	4.362	A
3	328	82	11	740	0.444	328	268	0.8	0.8	8.750	A
4	0	0	339	590	0.000	0	0	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	205	51	84	699	0.294	206	194	0.6	0.4	7.310	A
2	29	7	199	890	0.033	30	91	0.0	0.0	4.186	A
3	268	67	9	741	0.362	269	220	0.8	0.6	7.643	A
4	0	0	278	626	0.000	0	0	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	172	43	70	707	0.243	172	162	0.4	0.3	6.738	A
2	25	6	167	911	0.027	25	76	0.0	0.0	4.063	A
3	225	56	7	742	0.303	225	184	0.6	0.4	6.975	A
4	0	0	233	653	0.000	0	0	0.0	0.0	0.000	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.32	0.00	0.00	0.32	0.32			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.41	0.00	0.00	0.41	0.41			N/A	N/A
2	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3	0.56	0.55	1.00	1.40	1.45			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.57	0.03	0.26	0.57	0.57			N/A	N/A
2	0.04	0.03	0.25	0.46	0.48			N/A	N/A
3	0.79	0.03	0.26	0.79	0.79			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.57	0.03	0.29	1.22	2.62			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.79	0.03	0.28	0.79	2.65			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.57	0.08	0.78	1.36	1.43			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

18:00 - 18:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.32	0.00	0.00	0.32	0.32			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.44	0.03	0.35	1.14	1.32			N/A	N/A
4	0.00	0.00	0.00	0.00	0.00			N/A	N/A

Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2024+Development, AM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1,2,3,4	4.77	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	Development	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	6	100.000
2		ONE HOUR	✓	0	100.000
3		ONE HOUR	✓	8	100.000
4		ONE HOUR	✓	19	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	0	6	0
	2	0	0	0	0
	3	2	0	0	6
	4	1	0	18	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	1	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.01	4.93	0.0	0.5	A	6	8
2	0.00	0.00	0.0	~1	A	0	0
3	0.01	4.88	0.0	0.5	A	7	11
4	0.03	4.68	0.0	0.5	A	17	26

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	5	1	13	741	0.006	4	2	0.0	0.0	4.888	A
2	0	0	18	1007	0.000	0	0	0.0	0.0	0.000	A
3	6	2	0	746	0.008	6	18	0.0	0.0	4.864	A
4	14	4	1	791	0.018	14	4	0.0	0.0	4.634	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	5	1	16	739	0.007	5	3	0.0	0.0	4.905	A
2	0	0	22	1004	0.000	0	0	0.0	0.0	0.000	A
3	7	2	0	746	0.010	7	22	0.0	0.0	4.872	A
4	17	4	2	791	0.022	17	5	0.0	0.0	4.652	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	7	2	20	737	0.009	7	3	0.0	0.0	4.928	A
2	0	0	26	1001	0.000	0	0	0.0	0.0	0.000	A
3	9	2	0	746	0.012	9	26	0.0	0.0	4.883	A
4	21	5	2	791	0.026	21	7	0.0	0.0	4.676	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	7	2	20	737	0.009	7	3	0.0	0.0	4.928	A
2	0	0	26	1001	0.000	0	0	0.0	0.0	0.000	A
3	9	2	0	746	0.012	9	26	0.0	0.0	4.883	A
4	21	5	2	791	0.026	21	7	0.0	0.0	4.676	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	5	1	16	739	0.007	5	3	0.0	0.0	4.905	A
2	0	0	22	1004	0.000	0	0	0.0	0.0	0.000	A
3	7	2	0	746	0.010	7	22	0.0	0.0	4.872	A
4	17	4	2	791	0.022	17	5	0.0	0.0	4.654	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	5	1	14	741	0.006	5	2	0.0	0.0	4.889	A
2	0	0	18	1007	0.000	0	0	0.0	0.0	0.000	A
3	6	2	0	746	0.008	6	18	0.0	0.0	4.864	A
4	14	4	2	791	0.018	14	5	0.0	0.0	4.634	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.01	0.00	0.00	0.01	0.01			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.01	0.01	0.25	0.45	0.48			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.01	0.01	0.25	0.45	0.48			N/A	N/A
4	0.02	0.02	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.01	0.01	0.26	0.47	0.50			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.01	0.00	0.00	0.01	0.01			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.01	0.00	0.00	0.01	0.01			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.01	0.00	0.00	0.01	0.01			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A

Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2024+Development, AM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1,2,3,4	4.91	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	Development	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	2	100.000
2		ONE HOUR	✓	0	100.000
3		ONE HOUR	✓	23	100.000
4		ONE HOUR	✓	7	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	0	2	0
	2	0	0	0	0
	3	6	0	0	17
	4	1	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	1	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.00	0.00	0.0	~1	A	0	0
2	0.00	0.00	0.0	~1	A	0	0
3	0.03	4.99	0.0	0.5	A	21	32
4	0.01	4.61	0.0	0.5	A	6	10

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	0	0	4	746	0.000	0	5	0.0	0.0	0.000	A
2	0	0	4	1015	0.000	0	0	0.0	0.0	0.000	A
3	17	4	0	746	0.023	17	4	0.0	0.0	4.940	A
4	5	1	4	789	0.007	5	13	0.0	0.0	4.591	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	0	0	5	746	0.000	0	6	0.0	0.0	0.000	A
2	0	0	5	1015	0.000	0	0	0.0	0.0	0.000	A
3	21	5	0	746	0.028	21	5	0.0	0.0	4.963	A
4	6	2	5	789	0.008	6	15	0.0	0.0	4.600	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	0	0	7	745	0.000	0	8	0.0	0.0	0.000	A
2	0	0	7	1014	0.000	0	0	0.0	0.0	0.000	A
3	25	6	0	746	0.034	25	7	0.0	0.0	4.995	A
4	8	2	7	788	0.010	8	19	0.0	0.0	4.613	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	0	0	7	745	0.000	0	8	0.0	0.0	0.000	A
2	0	0	7	1014	0.000	0	0	0.0	0.0	0.000	A
3	25	6	0	746	0.034	25	7	0.0	0.0	4.995	A
4	8	2	7	788	0.010	8	19	0.0	0.0	4.613	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	0	0	5	746	0.000	0	6	0.0	0.0	0.000	A
2	0	0	5	1015	0.000	0	0	0.0	0.0	0.000	A
3	21	5	0	746	0.028	21	5	0.0	0.0	4.963	A
4	6	2	5	789	0.008	6	15	0.0	0.0	4.601	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	0	0	5	746	0.000	0	5	0.0	0.0	0.000	A
2	0	0	5	1015	0.000	0	0	0.0	0.0	0.000	A
3	17	4	0	746	0.023	17	5	0.0	0.0	4.940	A
4	5	1	5	789	0.007	5	13	0.0	0.0	4.593	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.00	0.00	0.00	0.00	0.00			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.00	0.00	0.00	0.00	0.00			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.03	0.03	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.00	0.00	0.00	0.00	0.00			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.03	0.03	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.26	0.46	0.49			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.00	0.00	0.00	0.00	0.00			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.00	0.00	0.00	0.00	0.00			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

18:00 - 18:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.00	0.00	0.00	0.00	0.00			N/A	N/A
2	0.00	0.00	0.00	0.00	0.00			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

2024+Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 79% of the total flow for the roundabout for one or more time segments]
Warning	Demand Set Relationship	D7 - 2024+Development, AM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1,2,3,4	7.08	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		126	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2024+Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	205	100.000
2		ONE HOUR	✓	102	100.000
3		ONE HOUR	✓	253	100.000
4		ONE HOUR	✓	19	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	4	200	0
	2	15	0	86	0
	3	212	35	0	6
	4	1	0	18	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	1	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.32	7.36	0.5	2.0	A	188	282
2	0.13	4.79	0.1	0.5	A	93	140
3	0.38	7.86	0.6	2.6	A	232	348
4	0.03	6.01	0.0	0.5	A	17	26

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	154	39	40	725	0.212	153	170	0.0	0.3	6.279	A
2	76	19	163	913	0.084	76	29	0.0	0.1	4.300	A
3	190	48	11	739	0.257	189	228	0.0	0.3	6.522	A
4	14	4	196	675	0.021	14	4	0.0	0.0	5.446	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	184	46	48	721	0.255	184	205	0.3	0.3	6.703	A
2	91	23	196	892	0.102	91	35	0.1	0.1	4.496	A
3	227	57	14	738	0.308	227	273	0.3	0.4	7.039	A
4	17	4	235	652	0.026	17	5	0.0	0.0	5.670	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	225	56	58	714	0.316	225	250	0.3	0.5	7.352	A
2	112	28	240	863	0.129	112	43	0.1	0.1	4.788	A
3	278	70	17	736	0.378	277	335	0.4	0.6	7.834	A
4	21	5	288	620	0.034	21	7	0.0	0.0	6.003	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	225	56	58	714	0.316	225	251	0.5	0.5	7.364	A
2	112	28	240	863	0.130	112	43	0.1	0.1	4.790	A
3	278	70	17	736	0.378	278	335	0.6	0.6	7.855	A
4	21	5	288	620	0.034	21	7	0.0	0.0	6.007	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	184	46	48	720	0.255	184	205	0.5	0.3	6.721	A
2	91	23	197	891	0.102	91	35	0.1	0.1	4.501	A
3	227	57	14	738	0.308	228	274	0.6	0.4	7.063	A
4	17	4	236	651	0.026	17	5	0.0	0.0	5.676	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	154	39	40	725	0.213	154	172	0.3	0.3	6.312	A
2	76	19	165	912	0.084	77	30	0.1	0.1	4.309	A
3	190	48	12	739	0.257	191	230	0.4	0.3	6.563	A
4	14	4	198	674	0.021	14	5	0.0	0.0	5.455	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.27	0.00	0.00	0.27	0.27			N/A	N/A
2	0.09	0.00	0.00	0.09	0.09			N/A	N/A
3	0.34	0.00	0.00	0.34	0.34			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.34	0.00	0.00	0.34	0.34			N/A	N/A
2	0.11	0.00	0.00	0.11	0.11			N/A	N/A
3	0.44	0.00	0.00	0.44	0.44			N/A	N/A
4	0.03	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.46	0.03	0.25	0.46	0.48			N/A	N/A
2	0.15	0.03	0.26	0.46	0.49			N/A	N/A
3	0.60	0.03	0.26	0.60	0.60			N/A	N/A
4	0.03	0.03	0.25	0.45	0.48			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.46	0.03	0.30	1.32	1.99			N/A	N/A
2	0.15	0.03	0.25	0.45	0.48			N/A	N/A
3	0.60	0.03	0.29	1.11	2.64			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.35	0.00	0.00	0.35	0.35			N/A	N/A
2	0.11	0.00	0.00	0.11	0.11			N/A	N/A
3	0.45	0.00	0.00	0.45	0.45			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.27	0.00	0.00	0.27	0.27			N/A	N/A
2	0.09	0.00	0.00	0.09	0.09			N/A	N/A
3	0.35	0.00	0.00	0.35	0.35			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2024+Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 93% of the total flow for the roundabout for one or more time segments]
Warning	Demand Set Relationship	D7 - 2024+Development, AM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1,2,3,4	8.64	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		81	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2024+Development	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D4+D6

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	230	100.000
2		ONE HOUR	✓	33	100.000
3		ONE HOUR	✓	321	100.000
4		ONE HOUR	✓	7	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	8	223	0
	2	10	0	23	0
	3	211	93	0	17
	4	1	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	1	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.37	8.37	0.6	2.7	A	211	317
2	0.04	4.39	0.0	0.5	A	30	45
3	0.48	9.32	0.9	2.5	A	295	442
4	0.01	6.23	0.0	0.5	A	6	10

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	173	43	74	705	0.246	172	166	0.0	0.3	6.741	A
2	25	6	171	908	0.027	25	75	0.0	0.0	4.075	A
3	242	60	7	742	0.326	240	188	0.0	0.5	7.148	A
4	5	1	235	652	0.008	5	13	0.0	0.0	5.565	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	207	52	89	696	0.298	207	199	0.3	0.4	7.352	A
2	29	7	205	886	0.033	29	90	0.0	0.0	4.204	A
3	289	72	9	741	0.390	288	226	0.5	0.6	7.941	A
4	6	2	282	624	0.010	6	15	0.0	0.0	5.827	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	254	63	109	684	0.371	253	244	0.4	0.6	8.339	A
2	36	9	251	856	0.042	36	110	0.0	0.0	4.389	A
3	354	88	11	740	0.478	353	276	0.6	0.9	9.273	A
4	8	2	345	586	0.013	8	19	0.0	0.0	6.220	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	254	63	109	684	0.371	254	245	0.6	0.6	8.368	A
2	36	9	252	856	0.042	36	111	0.0	0.0	4.392	A
3	354	88	11	740	0.478	354	277	0.9	0.9	9.324	A
4	8	2	346	586	0.013	8	19	0.0	0.0	6.226	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	207	52	89	696	0.298	208	201	0.6	0.4	7.390	A
2	29	7	206	885	0.033	30	91	0.0	0.0	4.209	A
3	289	72	9	741	0.390	290	227	0.9	0.6	8.002	A
4	6	2	283	623	0.010	6	15	0.0	0.0	5.839	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	173	43	75	704	0.246	174	168	0.4	0.3	6.792	A
2	25	6	173	907	0.027	25	76	0.0	0.0	4.080	A
3	242	60	7	742	0.326	243	190	0.6	0.5	7.223	A
4	5	1	237	651	0.008	5	13	0.0	0.0	5.578	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.32	0.00	0.00	0.32	0.32			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.48	0.00	0.00	0.48	0.48			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3	0.63	0.19	0.93	1.39	1.44			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.58	0.03	0.26	0.58	0.58			N/A	N/A
2	0.04	0.03	0.25	0.46	0.48			N/A	N/A
3	0.90	0.03	0.26	0.90	0.90			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.59	0.03	0.29	1.20	2.66			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.91	0.03	0.28	0.91	2.52			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.43	0.00	0.00	0.43	0.43			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.65	0.10	0.84	1.37	1.44			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

18:00 - 18:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.33	0.00	0.00	0.33	0.33			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.49	0.04	0.44	1.27	1.38			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A