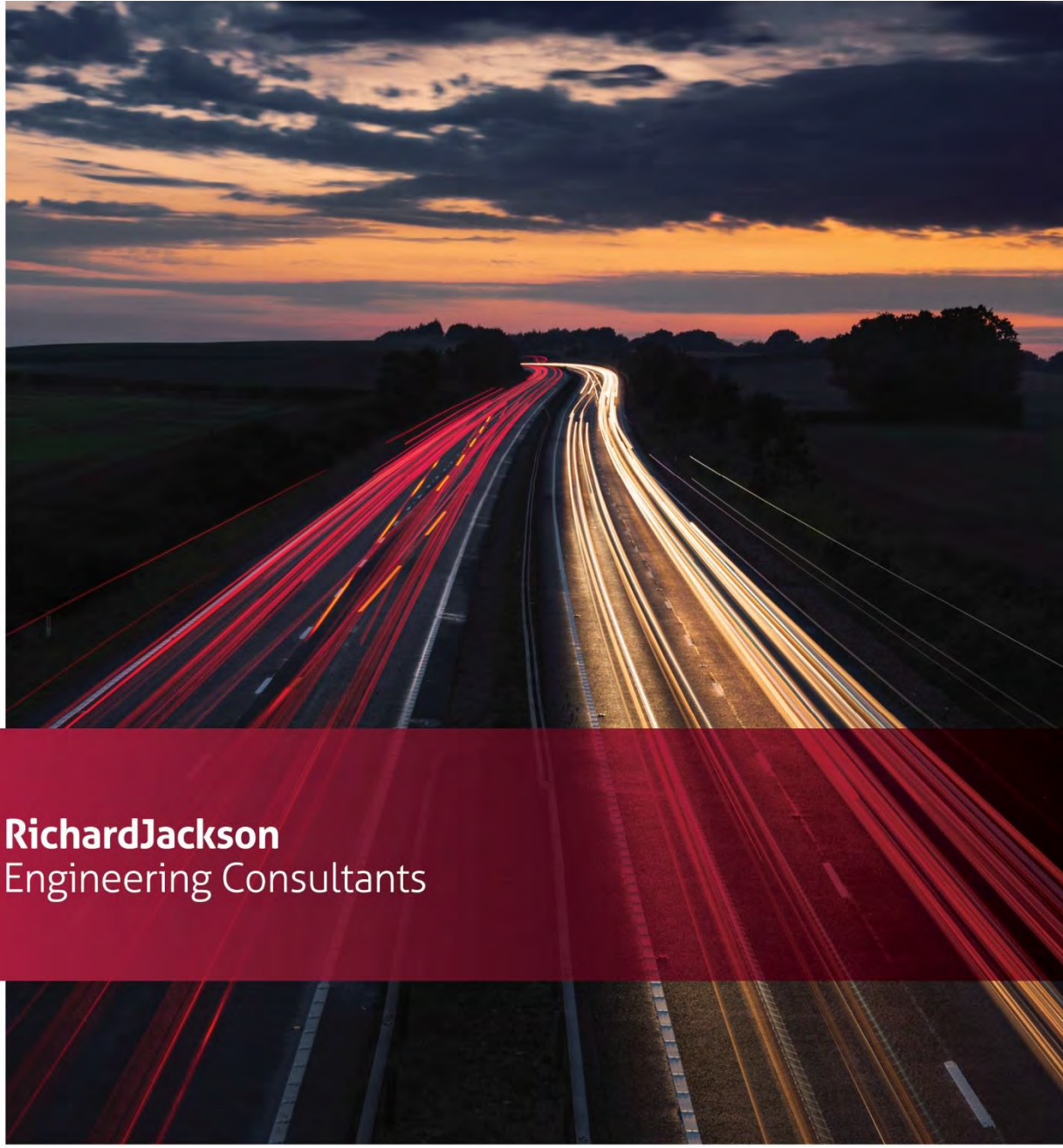

RichardJackson
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TRANSPORT ASSESSMENT

Hellesdon Park Industrial Estate

Gurloque Settlement

March 2020

Project no: 49763

RichardJackson
Engineering Consultants

Document Review Sheet: -

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Date: - 16/03/2020

Document Status

DRAFT	FINAL
☐	☒

Revision Status

Issue	Date	Description	Prepared	Checked	Approved

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1. INTRODUCTION

1.1. Richard Jackson Ltd have been commissioned by the Gurloque Settlement to prepare a Transport Assessment (TA) in support of an outline planning application for a development of some 7,335m² B1/B2/B8 development at Hellesdon Park Industrial Estate, Norwich. The location of the site is shown on Figure 1 with an approximate ordnance survey reference of 620200, 310800 and a postcode of NR6 5DS. Within the overall site boundary land is reserved for open space, a grave yard extension and associated car parking which do not form part of this assessment.

1.2. The proposed site would form an extension to the existing industrial estate using land which is part of the former Royal Norwich Golf Club (RNGC), and which is not part of the committed residential development (to which planning application 20151770 refers). The overall site shown on Figure 1 comprises of three areas, a commercial area (to which this TA and associated planning application applies), land reserved for a burial ground extension and an area of open space. The overall site is bound to the north by the permitted development at the RNGC and, to the east by the existing industrial estate. To the west is Low Road whilst to the south lies an existing burial ground, Clovelly Drive and a further industrial site (accessed from Hellesdon Hall Road).

1.3. The site lies within the Broadland District Council (BDC) area who are also the local planning authority for the development. The local highway authority for the development is Norfolk County Council (NCC).

1.4. NCC have been consulted during the preparation of this TA on matters of planned/permitted land uses, trip generation, distribution, committed highways improvements and scope of the capacity assessment. A copy of the scoping correspondence (text only) is included at Appendix A. The scoping response requested confirmation of the status of land with frontage to the A1067. No such land is within the control of the applicant and its use is not proposed or required for the planning application to which this TA supports.

1.5. This TA will cover the following areas:

- A review of National and Local land-use/transport policy is undertaken in Chapter 2.
- Chapter 3 describes the existing conditions including the surrounding highway network, the available facilities for public transport, cyclists and pedestrians and the range of local amenities.
- Highway safety is considered at Chapter 4 through a review of highway injury accident records.
- The proposed development is described in Chapter 5.
- Chapter 6 estimates the level of trip generation and distribution of vehicular trips likely to be associated with the development.

- Chapter 7 provides an assessment of the likely traffic impact and junction capacity assessment of the site development. The conclusions derived from the assessment are set out in Chapter 8.

1.6. The copyright of this report is vested in Richard Jackson Ltd. The client or its appointed representative may copy this report in connection with the development described herein. However, it should be noted that this report shall not be copied or distributed in any other form by any other party or used for any other purpose without the written consent of Richard Jackson Ltd.

2. POLICY CONSIDERATION

National Policy

2.1. National Planning Policy reflects and responds to growing concern over environmental issues and a greater public awareness of the problems associated with unrestrained car use. Current policies place a greater emphasis on increasing accessibility by more sustainable modes, such as walking, cycling and public transport.

National Planning Policy Framework (NPPF)

2.2. NPPF provides advice on assessing transport, infrastructure and sustainability for new developments. The NPPF highlights that *"transport issues should be considered from the earliest stages of plan-making and development proposals"* and that *"the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed".*

2.3. The NPPF identifies that priority should be given to pedestrian and cycle movements, followed by public transport. The development should address the needs of those with disabilities or reduced mobility, create places that are safe, secure and attractive minimising scope for conflicts between transport modes, allow for efficient delivery of goods and access by emergency services, and provide for the charging of plug-in and other ultra-low emission vehicles.

2.4. The highways acceptability criteria is identified at paragraph 109 which states that: *"development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or of the residual cumulative impacts on the road network would be severe."*

Planning Practice Guidance 2014
Travel Plans, Transport Assessments and Statements

2.5. Planning Practice Guidance provides advice for Travel Plans, Transport Assessments and Transport Statements and Travel in decision-taking. They are required for all development which generate significant amounts of movements.

2.6. Paragraph 15 sets out what information should be included in Transport Assessments and Statements:

- *information about the proposed development, site layout, (particularly proposed transport access and layout across all modes of transport);*
- *information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;*
- *data about existing public transport provision, including provision/ frequency of services and proposed public transport changes;*

- *a qualitative and quantitative description of the travel characteristics of the proposed development, including movements across all modes of transport that would result from the development and in the vicinity of the site;*

- *data about current traffic flows on links and at junctions (including by different modes of transport and the volume and type of vehicles) within the study area and identification of critical links and junctions on the highways network;*

- *an analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent 3-year period, or 5-year period if the proposed site has been identified as within a high accident area;*

- *an assessment of the likely associated environmental impacts of transport related to the development, particularly in relation to proximity to environmentally sensitive areas (such as air quality management areas or noise sensitive areas);*

- *measures to improve the accessibility of the location (such as provision/enhancement of nearby footpath and cycle path linkages) where these are necessary to make the development acceptable in planning terms;*

- *a description of parking facilities in the area and the parking strategy of the development;*

- *ways of encouraging environmental sustainability by reducing the need to travel; and*

- *measures to mitigate the residual impacts of development (such as improvements to the public transport network, introducing walking and cycling facilities, physical improvements to existing roads.*

2.7. The scope of this required TA and acknowledgement of the TP requirement is included in Appendix A.

Joint Core Strategy (JCS) (March 2011)

2.8. The transport elements of the JCS (adopted March 2011) are aimed at promoting sustainable economic development, improving local quality of life, reducing the contribution to climate change, promoting healthy travel choices and minimising the need to use the private car for single occupancy trips. The JCS transport policy would be achieved in part by the implementation of the Norwich Area Transport Strategy (NATS).

Local Transport Plan (LTP)

2.9. The LTP sets out the Local Highway Authority's vision, strategy and policies for transport delivery up to 2026 and also describes the approach and measures that will be taken to implement these policies.

2.10. Key objectives in Norfolk include:

- Improving strategic accessibility into Norfolk and also access to key services;
- Reducing the need to travel and improving journey reliability, especially for public transport;
- Reducing the number and severity of congestion incidents and road traffic collisions;
- Improving local air quality and minimising the adverse impacts of transport provision on the built environment.

2.11. The LTP defines Sub Region and Area Transport Strategies that set the particular emphasis in those specific areas. The LTP3 has been adopted and has been considered in the development of the proposals and the impact assessment of transport related to generated trips.

Norwich Area Transportation Strategy (NATS)

2.12. The NATS prepared by NCC contains a more detailed analysis and promotes travel choice, recognising the need to maintain the economic health of the Norwich area and does not propose radical restrictions on vehicular access.

2.13. Key objectives include:

- Undertaking transport improvements that enhance and support the local economy together with building a Northern Distributor Road (NDR) and creating a Bus Rapid Transit (BRT) on key routes;
- Improving the pedestrian environment and also reducing the impact of traffic on residential streets;
- Implementing a programme of potential public transport improvements, including park and ride;
- Reducing the impact of poor air quality;
- Develop the Urban Traffic Control System to provide up-to-date real time information to assist congestion control;
- Junction improvements on the A47 Norwich Southern Bypass.

Broadland Local Plan

2.11 Local planning policy is Broadland is comprises several documents with the Joint Core Strategy DPD (with Norwich City Council and South Norfolk Council) which was adopted in 2014 forming the overarching policies for the area covering the period to 2026. The Development Management DPD forms part of the Local Plan and was adopted in August 2015. It includes a number of policies with respect to transport. The requirements for a Transport Assessment is set out in Policy TS2 with the requirement for appropriate car parking provision in Policy TS4. Policy TS3 covers highway safety with a requirement for no significant adverse impact upon the

satisfactory functioning or safety of the highway network from new development.

2.12 The development proposals partially lie within areas covered by part of sites HEL2 and HEL3 included in the site allocations DPD (adopted in May 2016).

2.13 Site HEL2 includes RNGC land '*either side of Drayton High Road, Hellesdon (approximately 48.1 Ha)*' and that the allocation would '*accommodate approximately 800-1000 homes*'. The site details include the need for a phased approach in advance of the now open NDR (A1270 Norwich Northern Distributor Road) along with highway improvements. The allocated residential development (including associated highway improvements) is permitted under planning application 20151770.

2.14 Site HEL3 is the land adjacent to an existing burial ground northeast of St Marys Church covering an area of approximately 1.3Ha. The allocation is for an extension of the burial ground with access from the existing facility. An element of burial ground use will be retained should the proposed development proceed.

2.15 The overall development site includes and retains an open space area beyond the land within allocated sites HEL2 and HEL3 which includes frontage to Low Road.

2.16 Hellesdon Neighbourhood Plan 2017 was adopted in December 2017. The plan recognises the Hellesdon Park Industrial Estate as a local employment area. There are no specific policies with respect to the application which would be affected by the proposed development with respect to transport.

Greater Norwich Local Plan

2.17 BDC with Norwich City Council and South Norfolk Council are working together to prepare a Greater Norwich Local Plan (GNLP). It is expected to cover the period to 2038 for which the Regulation 18 consultation was held between January and March 2020. The final plan is expected to be adopted in 2022. The GNLP site reference is GNLP2142.

Compliance with Planning Policy

2.18 The NPPF and Policy TS2 identifies the need for this TA to assess the potential impact of the development proposals and will demonstrate that the impact of the development is not severe. The TA will demonstrate the opportunities for sustainable travel to show the development proposal is sustainable on transport grounds in accordance with the requirements of the local planning policy. In addition to the review of sustainable travel, this TA will also consider traffic capacity and highway safety and consider any mitigation measures that may be required to facilitate the delivery of the development. In addition to the above the NPPF also identifies that developments which will generate significant amounts of movement should be required to provide a travel plan and is expected that this will be conditioned upon any future planning permission for the site.

3. EXISTING CONDITIONS

Site Location & Existing Access

3.1. The site lies to the west of the existing Hellesdon Park Industrial Estate which itself is located to the north west of the A140/A1067 junction to the north of Norwich. The local environs of the site are outlined in Chapter 1 and its location shown on Figure 1.

3.2. The site partially formed of land of the former RNGC golf course which is not intended for residential development under planning application 20151770. There is no formal development in the remaining areas of the proposed site. For the purpose of this assessment the existing trip generation for the site is taken as being nil.

3.3. The site lies at the end of Alston Road, however there is no existing site access present at this point.

Pedestrian & Cycle Network

3.4. Footways are present within the existing industrial estate providing a link between the proposed development and the A1067 Drayton High Road to the east. The existing industrial estate roads of Hellesdon Park Road and Alston Road are subject to a 30mph speed limit and benefit from street lighting.

3.5. Along the A1067 Drayton High Road, footways (including foot/cycleways) are available on both sides to the south of the Hellesdon Park Road junction and on both sides of the A140 to the south. To the north of Hellesdon Park Road the footway on the south-western side provides access to the northbound bus stop only, some 50m to the north of the junction. Footway to the northwest of this bus stop is on the north-eastern side of the road only. The A1067 and A140 are street lit and subject to a 40mph speed limit.

3.6. Foot/cycleway facilities are present on the A1067 on the north-eastern side from the Hellesdon Park Road junction southwards and continuing on to the northern side of the A140 Boundary Road to City View Road (also providing access to Bowers Avenue). Further foot/cycleway facilities are present on the north-eastern side of the A1067 approximately 100m to the north of the Hellesdon Park Road junction to Middletons Lane to the north. Cyclists re-join the carriageway at the A1067 Drayton High Road/Middletons Lane/Hospital Lane junction.

3.7. A number of formal cycle routes are available in the area which are shown on the Norwich Cycle Map, an extract of which is included at Appendix B. According to the map, Norwich city centre can be reached in 15 to 20 minutes by bicycle. National Cycle Route 1 can be reached at its crossing of Drayton High Road, 4.7km to the northwest and via Drayton Road/Dolphin Path 2.5km to the southeast. Additionally, the outer circuit (purple) cycle route runs along Hospital Lane and Middletons Lane in to the north of the site and can also be used to reach National Cycle Route 1. National Cycle Route 1 passes through Norwich city centre.

3.8. There is presently an approximately 100m gap between the two sections of foot/cycleway on the A1067 near to Hellesdon Park Road which is presently footway only is due to be upgraded as part of the residential development on the RNGC land permitted under application 20151770. A copy of the scheme proposal from application 20151770 is included at Appendix C.

3.9. Within walking and cycling distance (up to 5km) of the development lie the residential areas of Taverham (part of), Drayton, Costessey (part of), Hellesdon, Upper Hellesdon, Heigham Grove, Earlham (part of), Old Catton, and Norwich City centre. The site is therefore considered to be within walking or cycling distance of a wide area of potential future employees of the development.

Public Transport

3.10. The nearest bus stops are located within 600m of the development boundary. Both bus stops include a lay-by with bus stop road markings, flag, shelter, raised kerb boarding point, and timetable information cases. The southbound stop additionally benefits from an electronic timetable information screen.

3.11. The key bus services from these stops are provided by First and are part of their Yellow Line timetable on routes 28 (to Thorpe Marriott), 29 (to Taverham) and X29 (to Fakenham), all of which connect to Norwich City centre. There are typically four Yellow Line services per hour during the weekday and Saturday daytime periods, with evening and Sunday services also available. Timetable information for the nearest stops to the development is included at Appendix D and the Yellow Line route is shown on Figure 2.

3.12. As part of the permitted residential development on the RNGC land to which planning application 20151770 refers, improvements to public transport locally are expected in the future in the form of bus lanes along part of the A1067 to the northwest. The proposed development site may therefore benefit from increased reliability on Norwich bound services as a result of the committed development in the future.

Highway Network

3.13. The future development site would be accessed from the A1067 Drayton High Road via Hellesdon Park Road and Alston Road which are existing industrial estate roads and are subject to a 30mph speed limit with street lighting present. At its western extent, near to the site boundary, Alston Road is approximately 6.7m in width with 1.8m wide footways on each side.

3.14. The A1067 provides access to the wider highway network and is reached from the development at a signal controlled junction with Hellesdon Park Road and the joint vehicular access to a food superstore and private sports facility. The A1067 is also street lit and is subject to a 40mph speed limit.

3.15. Approximately 160m to the south of Hellesdon Park Road, the A1067 meets the A140 / Norwich Outer Ring Road at a signal controlled junction,

where the A140 provides access to the wider highway network with the A1067 continuing towards Norwich city centre to the southeast.

3.16. As part of the permitted residential development (to which application 20151770 refers) on the RNGC land, local highway improvements are expected to be completed on the A1067 locally as that development progresses. This includes the A1067/Hellesdon Park Road junction to provide a capacity improvement for the adjacent A1067/A140 junction by extending the length of the right turn lane between the A1067 and the A140. The improvement repositions the signal islands on the A1067 arms of its junction with Hellesdon Park Road as shown in Appendix C. Improvements are also expected at the A1067/Middletons Lane/Hospital Lane junction to the north.

Existing Local Amenities

3.17. A number of local amenities are available within walking and cycling distance of the site which could potentially be used by future employees of the development as summarised in Table 3.3 below and illustrated on Figure 2.

Table 3.3 – Local Amenities

Amenity	Description	Location	Distance (km) from site
Sports Centre	David Lloyd	Hellesdon	0.8
Food Superstore	Asda	Hellesdon	0.7
Fast Food Restaurant	Mc Donald's (within Asda)	Hellesdon	0.7
Fast Food Restaurant	Burger King	Hellesdon	0.9
Fast Food Restaurant	Mc Donald's	Hellesdon	1.3
Public House	The Whiffler (Weatherspoon's)	Hellesdon	1.3
Food/Non-Food Retail	Sweet Briar Retail Park	Hellesdon	1.0
DIY Superstore	Wickes	Hellesdon	1.3
DIY Superstore	B&Q	Hellesdon	1.6

Traffic Data Review

3.18. In order to consider the current traffic conditions on the local highway network, traffic data has been collected for the A1067 junctions with the A140 and Hellesdon Park Road on Thursday 4th July 2019 for the periods 07:00-10:00 and 16:00-1900. The junction data included turning movements, queue lengths and, where possible, saturation flow data. A copy of the survey data is included at Appendix E. The peak hour as observed at the A140/A1067 junction (which has the higher flow of the two junctions surveyed) is summarised in Passenger Car Units (PCU's) on Traffic Flow Diagram 1 located in Appendix F.

3.19. Saturation flow data has been considered where a minimum of 5 samples were recorded of each over a minimum duration of 6 seconds. The average

saturation flow for each lane which meets this criteria is summarised in Table 3.4, with any results under 1,000 PCUs disregarded.

Table 3.4 – Observed Saturation Flow Summary

Junction/Approach	Saturation Flow	Number of Samples
A1067/A140 A1067 NW Lane 1	2050	11
A1067/A140 A1067 NW Lane 2	2235	9
A1067/A140 A1067 NW Lane 3	2147	14
A1067/A140 A140 NE Lane 1	2238	19
A1067/A140 A140 NE Lane 2	2192	16
A1067/A140 A140 NE Lane 3	1870	5
A1067/A140 A1067 SE Lane 1	1727	11
A1067/A140 A1067 SE Lane 2	2019	15
A1067/A140 A1067 SE Lane 3	N/A	3
A1067/A140 A140 SW Lane 1	2072	17
A1067/A140 A140 SW Lane 2	2178	18
A1067/A140 A140 SW Lane 3	2255	8
A1067/Hellesdon Park Road A1067 NW Lane 1	1859	12
A1067/Hellesdon Park Road A1067 NW Lane 2	1810	15
A1067/Hellesdon Park Road A1067 NW Lane 3	N/A	0
A1067/Hellesdon Park Road Asda Lane 1	1362	7
A1067/Hellesdon Park Road Asda Lane 2	1679	8
A1067/Hellesdon Park Road A1067 SE Lane 1	1771	11
A1067/Hellesdon Park Road A1067 SE Lane 2	N/A	3
A1067/Hellesdon Park Road A1067 SE Lane 3	<1000	10
A1067/Hellesdon Park Road Hellesdon Park Road	2206	20

3.20. The junction data was supplemented by Automatic Traffic Count (ATC) data which provided 1 weeks' worth of data commencing 4th July 2019 at Hellesdon Park Road (near to the A1067 at 52.65298, 1.25951) and on Alston Road (at 52.65202, 1.25603) a copy of which is included at Appendix E.

Compliance with Planning Policy

3.21. There are a number of opportunities for travel to local amenities/services on foot or by cycle. Regular public transport options are also available, the site can be considered to be in a sustainable location in terms of existing alternative transport infrastructure to that of the private car.

4. HIGHWAY SAFETY

4.1. A review of local highway injury accident data has been undertaken with data obtained from crashmap.co.uk. The study area agreed as part of the TA scoping in Appendix A, includes the A1067 junctions with Hellesdon Park Road and the A140 plus the full lengths of Hellesdon Park Road and Alston Road. The accident location plot is included in Appendix G covering the three year (36 month) period between 2016 and 2018 inclusive.

4.2. Within the study area there was 1 accident recorded in the vicinity of the A1067 junction with Hellesdon Park Road, which was classified as "slight" in severity which occurred on the supermarket access arm of the junction.

4.3. A total of 6 accidents were recorded at the A1067/A140 junction of which 5 were "slight" and the remaining accident classified as "severe".

4.4. Away from the A1067 there were no recorded injury accidents on either Hellesdon Park Road or Alston Road.

4.5. Improvements to the A1067 form part of committed development at the former RNGC (to which planning application 20151770 refers). These would be subject to the road safety audit process to the requirements of the highway authority to minimise road safety risk as far as practicable. A copy of the drawing showing these improvements is included at Appendix C.

Compliance with Planning Policy

4.6. It is considered that there are no specific issues with local highway safety between the development boundary and the access to the principal highway network at the A1067. The number of accidents recorded at the A140/A1067 junction may reflect the highway traffic volume at this location. The committed improvements will be subject to the Safety Audit process which may improve accident risk/severity at this junction.

4.7. Additional development on Alston Road/Hellesdon Park Road would therefore not be expected to result in significant impact upon the satisfactory functioning or safety of the route to the principal road network in accordance with Policy TS3.

5. PROPOSED DEVELOPMENT

5.1. The development is for some 7,335m² of B1/B2/B8 development and a copy of the architect's Proposed Site Areas plan is included in Appendix H. The plan includes land for open space, grave-yard extension and associated car parking which do not form part of this assessment.

Access

5.2. The vehicular and pedestrian access to the development will be from a continuation of Alston Road as shown on the architects plan in Appendix H.

5.3. The road into the site will comply with the requirements of NCC's Safe, Sustainable Development document, November 2019, note G2.5. The access roads expected to exceed the minimum required width of 5.5m.

Parking and Manoeuvring

5.4. BDC Policy TS4 requires new development to provide appropriate parking and manoeuvring space and to consider accessibility by non-car modes. Such provision is also noted in Safe, Sustainable Development note G3.5. The provision of vehicular parking will be based on the Broadland Parking Standards, June 2007.

5.5. For cars in B1 development the standard is for 1 car parking space per 30m² GFA, B2 is 1 per 50m² and B8 is 1 per 150m². Disabled provision should be a minimum of 6% of the maximum permissible car parking spaces with powered two wheeler (PTW) parking (for motorcycles) at 1 per 20 permissible car parking spaces. All vehicular parking spaces will be expected to accord with the dimensions defined in the aforementioned standard.

5.6. Secure, covered, cycle parking provision for the B1 use is 1 per 50m² for staff plus 1 per 100m² for visitors, with B2 at 1 per 50m² for staff plus 1 per 200m² for visitors, whilst B8 is for half of the spaces of the standard for B2.

5.7. In accordance with Policy TS4 the proposed layout also allows for the manoeuvring of larger vehicles which might be expected to service the proposed site. These include refuse collection and access for a fire appliance. Within the proposed site, at least one turning area will be provided accommodating very large vehicles in accordance with the requirements of Safe, Sustainable Development note G3.4. The provision of turning areas will enable all servicing vehicles to enter and exit the site in forward gear.

Construction Traffic

5.8. It is difficult to ascertain construction vehicle movements associated with the development until a contractor is on the project team. It is recommended therefore that on any planning approval given, a Construction Management Plan (CMP) is conditioned to be prepared and agreed with NCC. This will allow input from a Principal Contractor on

vehicle numbers, routing and programming. Any abnormal loads associated with on-site construction vehicles will be managed with respect to the NCC abnormal load policies; however, these are not expected. Given the site's location, construction traffic is likely to reach the development via the principal road network including the A1067. The access road into the development should be built to at least binder course level and wheel wash facilities located prior to vehicles leaving the site.

Compliance with Planning Policy

5.9. The development has been provided in accordance with design guidance and policy as applicable on matters of access design, parking (to which Policy TS4 refers) and manoeuvring.

6. TRIP GENERATION AND DISTRIBUTION

6.1. In order to assess the future impact of the development proposals on the local highway network, it is necessary to apply traffic growth to the traffic survey data described in Chapter 3. This section considers the 'base' traffic position and details the trip generation and distribution of traffic for the proposed development. As noted in Chapter 3, the trip generation for the existing use is taken as nil, with all trips assumed to be new to the network.

Background Traffic Growth

6.2. Background traffic growth factors have been calculated from data contained in TEMPro computer programme using data sets NTEM 7.2 and NTM AF15. The calculation has been made for Broadland 010 with road type urban principle and is summarised in Table 6.1. A copy of the TEMPro outputs are included at Appendix I.

Table 6.1 – Traffic Growth Factors

	Weekday AM	Weekday PM
2019– 2026	1.1356	1.1360

6.3. The traffic growth factors have been applied to the 2019 survey data to provide a baseline for comparison to the addition of development traffic. The resulting traffic flows are shown diagrammatically on Traffic Flow Diagram 2 in Appendix F.

Committed Development

6.4. The residential development on the RNGC land which forms planning application 20151770 has been taken as committed development. Whilst construction on the first phase of development is underway, for the purpose of this assessment no occupations have been assumed and no allowances have been made for any construction traffic present already on the network at the time of the traffic surveys. Additionally no reductions have been made for any trips to the RNGC, which was still in use at the time of the traffic surveys.

6.5. The trip generation and distribution of the RNGC development has been extracted from the traffic flow diagrams accompanying the developments Phase 2 TA for the full 1,000 dwellings. For the purpose of this TA all dwellings have been assumed to be complete by 2026.

6.6. The RNGC Phase 2 TA also considered potential redevelopment of the Hellesdon Hospital site as an additional test of junction capacity which is not considered herein. Whilst the site is allocated (local plan reference HEL1) no planning application has been submitted and the sites continued hospital use is therefore assumed at this time. This is consistent with traffic modelling methodology of the A1067/Middlestons Lane/Hospital Lane within the second addendum to the RNGC Phase 2 TA.

6.7. The committed development traffic is shown graphically on Traffic Flow Diagram 3 in Appendix F. The committed development has then been

added to the future year base traffic flows with the result shown on Traffic Flow Diagram 4.

Proposed Development

6.8. As outlined in the scoping correspondence contained in Appendix A, the proposed development trip generation has been calculated based on the observed trips for the existing industrial estate mix of B1/B2/B8 divided by its site area of 12.67ha to produce a trip rate per hectare which can be applied to the proposed site area.

6.9. The existing trips from which the trip rate has been calculated has been taken from the junction count data as this allows for the development peak to be calculated to the nearest 15 minute period, resulting in a reasonable worst case trip rate.

6.10. Approximately 1.8ha of the commercial site is developable out of the 2.4ha shown on the plan included in Appendix H. The reaming area includes an attenuation basin and landscaping which are not fully represented in the observed trip generations and are therefore excluded.

6.11. The observed trips (in PCUs) along with the trip rate and proposed development trips are summarised in Table 6.2.

Table 6.2 – Trip Rates and PCU Trip Generation

PCU Trip Rates & Trips	AM Peak (0800-0900)			PM Peak (1630-1730)		
	Arr	Dep	Total	Arr	Dep	Total
Hellesdon Park Road Trips	307.7	133.8	441.5	57.3	312.8	370.1
Trip Rate per hectare	24.286	10.560	34.846	4.522	24.688	29.211
Proposed Development Trips	43.7	19.0	62.7	8.1	44.4	52.6

Trip Distribution

6.12. The distribution of the proposed development traffic is based on the turning proportions for existing traffic observations as outlined in the scope included at Appendix A.

6.13. The traffic distribution for the proposed developments is shown graphically in Appendix F on Traffic Flow Diagram 5 these flows have then been added to those with committed development with the cumulative flows shown on Traffic Flow Diagram 6.

Measures to Reduce Vehicular Demand

6.14. The development is of sufficient size to require a site wide Travel Plan (TP) which can be provided through a planning condition/obligation. The TP would include sustainable travel initiatives such as cycle and public transport vouchers which would be promoted to employees via noticeboards and visitors via websites and leaflets. Such measures would support an overall objective of minimising vehicular travel demand for the development. No allowances have been made for any reductions in vehicular demand as a result of a successful TP for a robust assessment.

7. HIGHWAY CAPACITY

7.1. Key junctions on the local highway network have been assessed for vehicular capacity in 2026, which is the end of the current local plan period as requested by NCC in their response to the TA scope included at Appendix A. Standard modelling software LinSig has been used in the junction assessments of the two signal controlled junctions identified in the TA scope. Outputs from the junction models described in this section are included at Appendix J. Traffic inputs and outputs in each model are expressed in PCUs.

A1067/A140 (Junction 1) and A1067/Hellesdon Park Road (Junction 2)

7.2. The junction of the A1067/A140 is a 4 arm signal controlled junction with give-way left turns on each approach. Each arm features 2 ahead and 1 right turn signalised stop line. Uncontrolled pedestrian crossing points are provided around the junction.

7.3. Some 160m to the northwest, the A1067/Helllesdon Park Road junction also features 4 arms and provides signalised access to the adjacent food superstore and leisure facility to the east and a no-through route to industrial areas to the west. There are three stop lines on the A1067 approaches and 2 on each of the minor arms. Uncontrolled pedestrian crossing points are provided on the A1067 northwest arm and superstore access arm.

7.4. The two junctions have been modelled together in LinSig. The existing junction layout model has been prepared based on that used in planning application 20151770 which itself utilised signal information on phasing, staging and intergreen times from information supplied by NCC. The existing junction model has been updated with respect to more recent saturation flow data as identified in Chapter 3 with geometry based saturation flows used where there insufficient or no observations were available. The committed layout model has also been reproduced from 20151770 and updated on the same basis as for the existing. As with the 20151770 models stage split times and junction offset times have been calculated within LinSig. A cycle time of 112 seconds has been used in both peaks for consistency with application 20151770.

7.5. LinSig requires a single origin/destination matrix for the network for each time period. These were created from the 2019 surveyed turning count data for each individual junction using matrix estimation in accordance with LinSig guidance. The highest difference between observed and modelled flows is 9 PCUs and the maximum GEH of 0.5 and therefore the 2019 modelled flows are considered to be a good fit to the observed flows. The resulting modelled traffic therefore differs slightly from the surveyed flows which form the base of the traffic flow diagrams included herein. Traffic growth has been applied to the 2019 matrices within LinSig to provide a 2026 base to which development traffic could be added. All traffic flows calculations within LinSig are part of the committed layout model, with the 2019 flows copied to the existing layout model (for simplicity).

7.6. The model results for the observed traffic at the junction are summarised in Tables 7.1 and 7.2. The results assume optimal stage times within the

fixed cycle time used in the local traffic signal network. The 2019 results are shown for the existing junction layout with those for 2026 using the committed layout shown in Appendix C which has assumed to have been implemented by that time.

Table 7.1 – AM Peak Junction Capacity Results

Arm/Movement	2019 Surveyed		2026 Committed		2026 Proposed	
	Queue	DoS%	Queue	DoS%	Queue	DoS%
Junction 1:A1067/A140						
J1: 1/2+1/1 Boundary Road Left Ahead	9.8	44.9:44.9	26.6	83.8:83.8	24.8	87.7:87.7
J1:1/3+1/4 Boundary Road Right Ahead	11.3	69.5:69.5	7.2	81.7:81.7	7.1	83.9:83.9
J1: 2/2+2/1 Drayton Road SE Ahead Left	8.4	77.0:77.0	10.0	85.5:85.5	10.7	87.0:87.0
J1: 2/3+2/4 Drayton Road SE Ahead Right	4.7	47.0:47.0	8.8	78.2:78.2	9.3	80.5:80.5
J1: 3/2+3/1 Sweet Briar Road Left Ahead	15.2	77.0:77.0	17.1	85.7:85.7	17.7	86.4:86.4
J1: 3/3+3/4 Sweet Briar Road Ahead Right	9.4	63.4:72.5	18.4	79.7:81.3	19.0	80.7:81.3
J1: 4/2+4/1 Drayton High Road NW Left Ahead	3.5	23.7:23.7	9.3	79.7:81.3	9.6	59.1:59.1
J1: 4/3 Drayton High Road NW Ahead	11.7	74.5:74.5	9.9	56.0	10.1	56.9
J1: 4/4 Drayton High Road NW Right			13.7	85.8	14.1	87.0
Junction 2: A1067/Hellesdon Park Road						
J2: 1/2+1/1 Service Road Left Ahead Right	3.2	41.7:44.6	3.9	58.8:53.5	3.8	56.1:60.6
J2: 2/1 Drayton High Road SE Left Ahead	6.6	43.1	6.0	38.1	6.3	40.8
J2: 2/2+2/3 Drayton High Road SE Right Ahead	0.8	18.7:18.7	1.8	37.3:37.3	2.3	39.0:39.0
J2: 3/1 Hellesdon Park Road Right Ahead Left	3.6	46.5	4.5	55.4	5.2	59.0
J2: 4/1 Drayton High Road NW Ahead Left	5.3	30.2	10.9	51.5	11.1	52.6
J2 4/2+4/3 Drayton High Road NW Ahead Right	5.4	35.8:35.8	9.1	51.6:51.6	9.8	54.3:54.3

Notes: Queues shown in PCUs; DoS is the Degree of Saturation as a percentage

7.7. It can be seen from Table 7.1 that the junction is expected to be within capacity in the AM peak with all Degree of Saturation (DoS) results less than the preferred maximum of 90%. The junction would therefore continue to operate satisfactorily in the AM peak.

Table 7.2 – PM Peak Junction Capacity Results

Arm/Movement	2019 Surveyed		2026 Committed		2026 Proposed	
	Queue	DoS%	Queue	DoS%	Queue	DoS%
Junction 1:A1067/A140						
J1: 1/2+1/1 Boundary Road Left Ahead	13.9	69.2:69.2	18.2	81.7:81.7	18.7	84.1:84.1
J1:1/3+1/4 Boundary Road Right Ahead	13.1	71.5:71.5	16.4	80.5:94.3	17.0	83.0:95.1
J1: 2/2+2/1 Drayton Road SE Ahead Left	9.7	75.9:75.9	20.6	96.2:96.2	20.8	96.4:96.4
J1: 2/3+2/4 Drayton Road SE Ahead Right	8.8	72.8:72.8	17.5	94.7:94.7	17.9	95.2:95.2
J1: 3/2+3/1 Sweet Briar Road Left Ahead	17.3	77.6:77.6	30.2	96.9:96.9	34.2	98.6:98.6
J1: 3/3+3/4 Sweet Briar Road Ahead Right	14.9	75.1:77.6	30.5	96.3:96.3	33.4	98.2:98.2
J1: 4/2+4/1 Drayton High Road NW Left Ahead	3.2	36.2:36.2	3.8	46.5:46.5	3.9	45.5:45.5
J1: 4/3 Drayton High Road NW Ahead	17.5	77.5:77.5	4.3	39.7	4.7	41.7
J1: 4/4 Drayton High Road NW Right			22.0	98.2	21.2	96.7
Junction 2: A1067/Hellesdon Park Road						
J2: 1/2+1/1 Service Road Left Ahead Right	4.3	48.7:48.7	5.5	68.9:64.4	3.9	68.964.4
J2: 2/1 Drayton High Road SE Left Ahead	6.2	46.8	4.0	58.6	5.2	61.4
J2: 2/2+2/3 Drayton High Road SE Right Ahead	2.4	42.1:42.1	14.1	56.5:63.0	14.1	58.1:65.7
J2: 3/1 Hellesdon Park Road Right Ahead Left	9.4	60.5	12.6	75.2	14.1	77.8
J2: 4/1 Drayton High Road NW Ahead Left	6.7	38.1	10.2	52.5	10.6	54.7
J2 4/2+4/3 Drayton High Road NW Ahead Right	6.2	37.4:37.4	9.8	53.0:53.0	10.2	55.4:55.4

Notes: Queues shown in PCUs; DoS is the Degree of Saturation as a percentage

7.8. Table 7.2 shows that the junction is expected to be within theoretical capacity in both the committed and proposed scenarios with all DoS results being less than 100%. Whilst the results are above the preferred maximum of 90% the impacts of the development are low with the maximum DoS increasing by less than 2% and the corresponding queue length increasing by 4 PCUs.

7.9. Given the results above, no mitigation (other than that currently committed by planning application 20151770 and being carried out by others) is therefore considered to be necessary at this location to accommodate the proposed development as the impact is not considered to be severe.

Compliance with Planning Policy

7.10. The capacity assessments set out above have been completed in compliance with the requirements of the NPPF. The assessment indicates that no mitigation is required to accommodate the proposed development. The development is not expected to result in the unsatisfactory functioning of the highway network in accordance with Policy TS3.

8. SUMMARY AND CONCLUSION

8.1. Richard Jackson Ltd have reviewed the transport implications of developing the proposed site of some 7,335m² B1/B2/B8 as an extension to the existing Hellesdon Business Park, Norwich. This TA has also reviewed the relevant planning policy for the site with respect to transport and it is considered that the proposals, comply with policy with respect to transport matters.

8.2. A number of residential areas plus local amenities, lie within walking or cycling distance of the site. Local amenities include a food superstore (including fast food outlet) and local (private) sports facilities which could be used by employees during breaks or before/after work. The local amenities can be reached via a network of existing and proposed footways and cycleways.

8.3. Regular bus services can be found on the A1067 adjacent to Hellesdon Park Road (which forms the access to the existing industrial estate). From here regular services are available between Drayton/Taverham and Norwich with some services extending to Fakenham. The site is can therefore be reached by sustainably by residents of the local area.

8.4. For travel by private car, the development has access via the existing industrial estate to the A1067 from which the A140 and A1270 can be reached for onward travel.

8.5. The review of local highway safety records found no specific issues, casualties or locations of accidents. The development is considered unlikely to have a disproportionate impact on local highway safety.

8.6. In order to minimise vehicular use, a TP has been identified which would be provided through a planning condition/obligation. The TP would include sustainable travel initiatives such as cycle and public transport vouchers which would be promoted to employees via noticeboards and visitors via websites and leaflets.

8.7. Vehicular trip generation for the current proposals has been reviewed along with committed developments in the vicinity and background traffic growth.

8.8. Traffic modelling of the local road has been undertaken for the future weekday AM and PM peak hours. The conclusions from the modelling are that the development would not have a significant or severe impact on the existing or committed changes to the local highway network.

8.9. The expected construction traffic has also been considered with construction vehicles likely to use A1067/A140 to/from the development. A Construction Management Plan has however been identified to help manage traffic movements during the construction period.

8.10. In conclusion, the proposed development would be in accordance with the aims and objectives of Local and National Transport Planning Policy and would not have a severe impact on the local transport network.

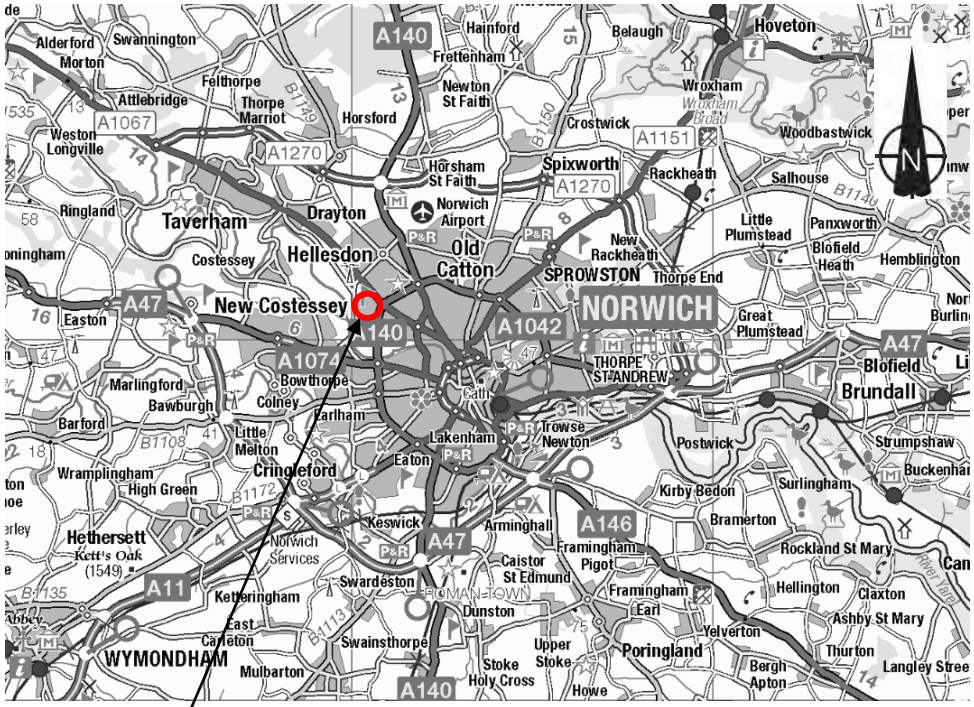
9. LIMITATIONS

9.1. This report has been prepared for the sole use of Gurloque Settlement in conjunction with the development of Hellesdon Park Industrial Estate. Its contents should not be relied upon by others without the written authority of Richard Jackson Ltd. If any unauthorised third party makes use of this report, they do so at their own risk and Richard Jackson Ltd owes them no duty of care or skill.

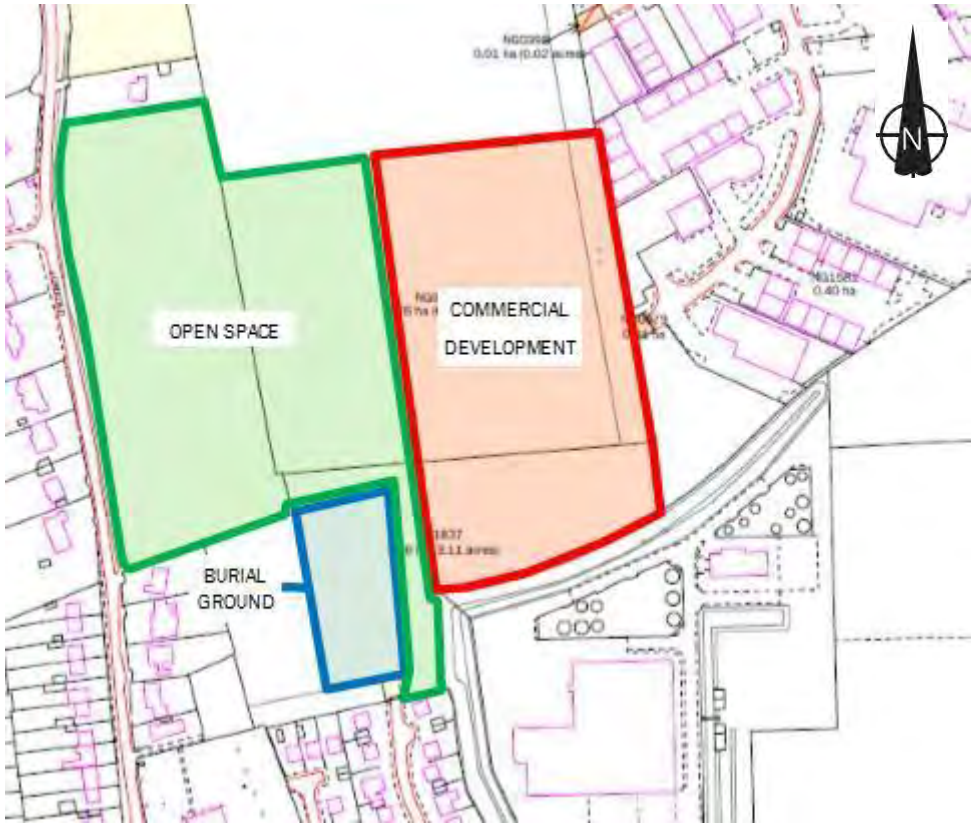
9.2. All information provided by others is taken in good faith as being accurate, but Richard Jackson Ltd cannot, and does not, accept any liability for the detailed accuracy, errors or omissions in such information.

RichardJackson
Engineering Consultants

FIGURES



SITE LOCATION (INDICATIVE)



Site Location Grid Reference 620200,310800 and Postcode NR6 5DS

Client:	Drawing Title:		
Gurloque Settlement	Site Location Plan		
Job Title:	Date:	Job No:	Dwg No:
Hellesdon Park Industrial Estate, Norwich	28/02/19	49763	Fig. 1

RichardJackson Engineering Consultants

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www.richardjackson.uk.com

DO NOT SCALE

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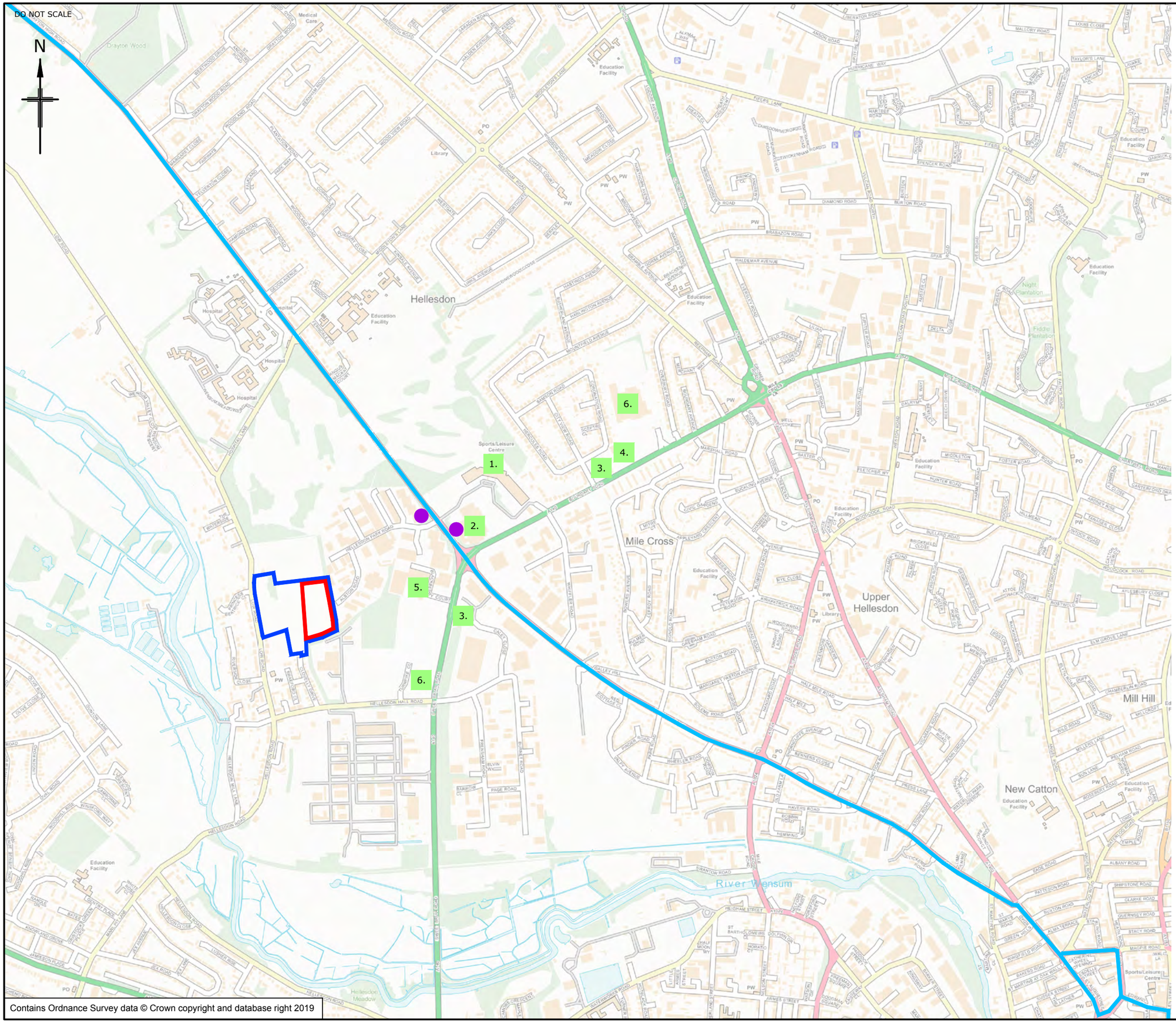

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KEY.

1. SPORTS CENTRE
2. FOOD SUPERSTORE & FAST FOOD RESTAURANT
3. PUBLIC HOUSE
4. FAST FOOD RESTAURANT
5. SWEET BRIAR RETAIL PARK
6. DIY SUPERSTORE

INDICATIVE SITE BOUNDARY

INDICATIVE BOUNDARY OF LAND WITHIN APPLICANTS CONTROL

BUS ROUTE 28/29/X29

NEAREST EXISTING BUS STOPS

REV	DATE	DESCRIPTION	DRAWN	CHKD

REVISIONS

This drawing is to be read in conjunction with all other Engineer's drawings and all other project information. Any discrepancy between the Engineer's drawings and other project information is to be reported to the Engineer immediately.

Project
HELLESDON PARK INDUSTRIAL ESTATE

Title
LOCAL AMENITIES & BUS ROUTES

Client
GURLOQUE SETTLEMENT

Scale	Drawn	Date
1:12,500	D. PALMER	13/03/20
Job Manager	Checked	Approved
R. LONG	L. GRAY	R. LONG

RichardJackson Engineering Consultants

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Unit 6040, 6th Floor, Aldgate Tower, 2 Leman Street, London E1 8FA Tel: 020 7448 9910 ☐
5 Quern House, Mill Court, Great Shelford, Cambs CB22 5LD Tel: 01223 314794 ☐
4 The Old Church, St. Matthews Road, Norwich, Norfolk NR1 1SP Tel: 01603 230240 ☒
The Wheelhouse, Bonds Mill, Stonehouse, Gloucestershire GL10 3RF Tel: 01172 020070 ☐
Email Address: mail@rj.uk.com Website: http://www.rj.uk.com

Drawing No. 49763-FIGURE 2

Revision

Drawing Status

☒ INFORMATION ☐ APPROVAL ☐ COSTING
☐ TENDER ☐ CONSTRUCTION ☐ AS CONSTRUCTED

A3

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APPENDICES

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APPENDIX A

Duncan Palmer

From: Wilson, David - ETD <david.wilson@norfolk.gov.uk>
Sent: 04 April 2019 16:10
To: Duncan Palmer
Subject: RE: New Commercial Site at Hellesdon Park Industrial Estate, Norwich

Categories: RJSave

Hi Duncan,

Thank you for your message, sorry for my very delayed response.

I am broadly happy with you proposed methodology but would ask that you use 2026 as your horizon year to reflect the end of the local plan period.

I would be interested to learn, is the developer also owner of the frontage to the A1067?

Kind regards,
Dave

Dave Wilson, Engineer (Major and Estate Development)
Community and Environmental Services
Tel: 01603 223272
County Hall, Martineau Lane, Norwich, NR1 2SG
Norfolk County Council

From: Duncan Palmer <DuncanPalmer@rj.uk.com>
Sent: 28 February 2019 16:31
To: Wilson, David - ETD <david.wilson@norfolk.gov.uk>
Cc: Dean Starkey <Dean.Starkey@Brown-co.com>; Raymond Long <RaymondLong@rj.uk.com>
Subject: New Commercial Site at Hellesdon Park Industrial Estate, Norwich

David

Richard Jackson Ltd have been instructed to provide transportation advice for a new Commercial Site at Hellesdon Park Industrial Estate, Norwich providing some 8,000m² of additional B1/B2/B8 development. The development is of sufficient size to require a Transport Assessment to support any forthcoming planning application, and we would therefore be grateful for your opinion on the proposed scope set out on the attached (with a copy to follow by post).

I look forward to any comments or queries you may have, however if you are not the correct point of contact for this site, I would be grateful if you could pass the attached scope on to the relevant officer for review and advise me of the appropriate contact details for future reference.

Kind regards

Duncan

RichardJackson
Engineering Consultants

Our Ref: 49763/DP
Your Ref:

28 February 2019

Mr D Wilson
Engineer (Network Analysis)
Norfolk County Council
County Hall
Martineau Lane
Norwich
Norfolk
NR1 2SG

Dear Mr Wilson

Re: New Commercial Site at Hellesdon Park Industrial Estate, Norwich

Richard Jackson Limited have been instructed to assess the impact of circa 8,000m² of additional B1/B2/B8 development (comprising of several industrial units) at Hellesdon Park Industrial Estate, Norwich, to support an outline planning application.

The proposed site presently forms part of land presently associated with the Royal Norwich Golf Course (RNGC), which is not part of the committed residential development associated with the RNGC. The site, shown on Figure 1 attached, comprises of three areas, the commercial development (to which this scope applies), land reserved for a burial ground extension and open space. The commercial aspect of the site has an approximate OS grid reference of 620200, 310800 and a postcode of NR6 5DS. The land forms part of Local Plan Policy areas HEL2 and HEL3.

I understand that a development of this size would require a Transport Assessment (TA) and that the site will ultimately also require a Travel Plan (TP) to be implemented. I would be grateful for your input on the proposed scope set out in this letter which is focused on the TA, however, where relevant the applicable information will also be included as part of the TP (should a TP be required to accompany the planning application).

Existing Conditions

The site would be accessed by a continuation of Alston Road which already serves existing industrial units. Alston Road leads to Hellesdon Park Road for access to the A1067 and the wider highway network. This access route will be available for trips by vehicular and non-vehicular modes, however any additional access opportunities for sustainable travel will be considered in the TA, if applicable, as the development design progresses.

Cont'd.../

4 The Old Church
St Matthews Road Norwich
Norfolk NR1 1SP

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Walking/Cycling

Footways are present along both sides of Alston Road, which would be continued into the site and on Hellesdon Park Road leading to the A1067. A footway link is present on the southwest side of the A1067 from the bus stop just north of Hellesdon Park Road, to facilities on the A140 to the south. A foot/cycleway is present on the northeast side of the A1067 from the Superstore Access in a southerly direction and on to the A140 Boundary Road. To the north of the Superstore Access the existing footway is expected to be upgraded to foot/cycleway to Middletons Lane to the north in the future, in connection with residential development on the RNGC site.

Public Transport

Bus stops are present at the A1067 Drayton High Road / Hellesdon Park Road junction.

From these stops services 28/29/X29 offer regular connections to/from Norwich City Centre. Details of these services and any other relevant bus services will be included in the TA.

Highway Safety

Local highway accident data would be reviewed in the TA for the most recent three year (36 month) period available to the Highway Authority. The proposed study area shown on the attached plan will include:

- A1067 Drayton High Road for its junctions with Hellesdon Park Road and A140;
- Hellesdon Park Road; and
- Alston Road.

Baseline Transport Data

To understand the current vehicular traffic conditions on the surrounding road network, classified turning counts of the following junctions would be undertaken on a neutral weekday between 07.00 to 10.00 and 16.00 to 19.00 in 15 minute intervals:

- A140 Boundary Road/A1067 Drayton Road/A140 Sweet Briar Road/A1067 Drayton High Road; and
- A1067 Drayton High Road/Hellesdon Park Road/Superstore Access.

Queue length surveys will be undertaken at these locations for the same time periods in 5 minute intervals. As the junctions are under traffic signal control, saturation flow data will be collected for each lane under signal control at the junction where sufficient flows permit. From the survey data we will determine the peak 60 minute interval for the A140/A1067 junction to assess as the peak hour and consider the survey data as converted into Passenger Car Units (PCUs).

In addition, ATC information will be collected at the following locations over a 1 week period:

- Hellesdon Park Road (near to A1067); and
- Alston Road (near to Hellesdon Park Road).

Cont'd.../

Traffic Data & Forecast

Background traffic growth factors to 2025 (five years from the likely completion of the proposed development) will be calculated from data contained in the TEMPro computer program. The site lies in the Broadland 010 area from which growth factors will be calculated using datasets NTEM 7.2 and NTM AF15 with a road type of urban principle for the weekday AM and PM peak periods.

Trip Generation

The site is presently in use as part of the RNGC (including 2 holes), however for the purpose of the TA the existing trip generation will be taken as nil in the interests of a robust assessment.

The proposed trip generation will be based on observed trip rates from the junction survey of the A1067 Drayton High Road / Hellesdon Park Road junction or ATC of Hellesdon Park Road which serves some 12.67ha of existing industrial estate development. In each peak the highest hourly flows on the Hellesdon Park Road arm of the junction will be used to derive a trip rate per hectare of existing industrial estate and applied to the developable area of 1.8ha.

As a guide however, a preliminary TRICS analysis (of similar uses and locations) has indicated up to 64 vehicular movements in the weekday peak hours could be expected.

Trip Distribution

Trip distribution would be based on the existing turning proportions of the surveyed junctions to/from Hellesdon Park Road.

Committed Development

The RNGC redevelopment for up to 1,000 dwellings, to which Broadland District Council planning application 20151770 refers, will be considered as committed development. The development will be considered as if it were completed in the future assessment year, regardless of the actual buildout rate.

Should there be any other developments which should be considered, the planning application number or Local Plan site reference(s) for these would be useful (if known).

Highway Capacity

Given the small size of the proposed development and expected vehicular trip generation, vehicular capacity assessments are proposed at the following junctions:

- A140 Boundary Road/A1067 Drayton Road/A140 Sweet Briar Road/A1067 Drayton High Road; and
- A1067 Drayton High Road/Hellesdon Park Road/Superstore Access.

The capacity assessment will be undertaken using JCT program LinSig for the observed AM and PM peak hours within the survey data at the A140/A1067 junction.

Cont'd.../

The following scenarios will be modelled: the 2019 survey (base year), 2025 with Committed Development and 2025 with Committed and Proposed Developments.

The conditions 30 and 32 of planning application 20151770 includes highway works at the junctions to be assessed which increases the length of the right turn lane for the A1067 Drayton High Road movement to A140 Sweet Briar Road, although the works to accommodate this are at the A1067 Drayton High Road/Hellesdon Park Road junction. The works are illustrated on Drawing 45986-C-203, attached, as referred to in the planning conditions of application 20151770. These works will be considered as committed and complete by 2025.

For consistency with the assessment work for planning application 20151770, it is proposed to reproduce the LinSig model as far is practicable from the previous application for use in this assessment.

Travel Plan

The proposed development is of sufficient size to require a Travel Plan (TP) and as there would be a number of future occupiers we would grateful if you could advise if a Framework Travel Plan should be provided as part of the planning application or if a planning condition/S106 obligation would suffice. Should a TP be required, please could you advise if there are any location specific measures or targets which we should consider during its preparation, if applicable.

I trust the above provides a satisfactory base for the TA (and TP if needed) which would accompany a forthcoming planning application. We would, however, appreciate any comments you may have or your acceptance of the above scope. In the meantime should you have any queries, however, please do not hesitate to contact us.

Yours sincerely

Duncan Palmer BSc (Hons) MCIHT MTPS
Transportation Engineer
on behalf of Richard Jackson Limited

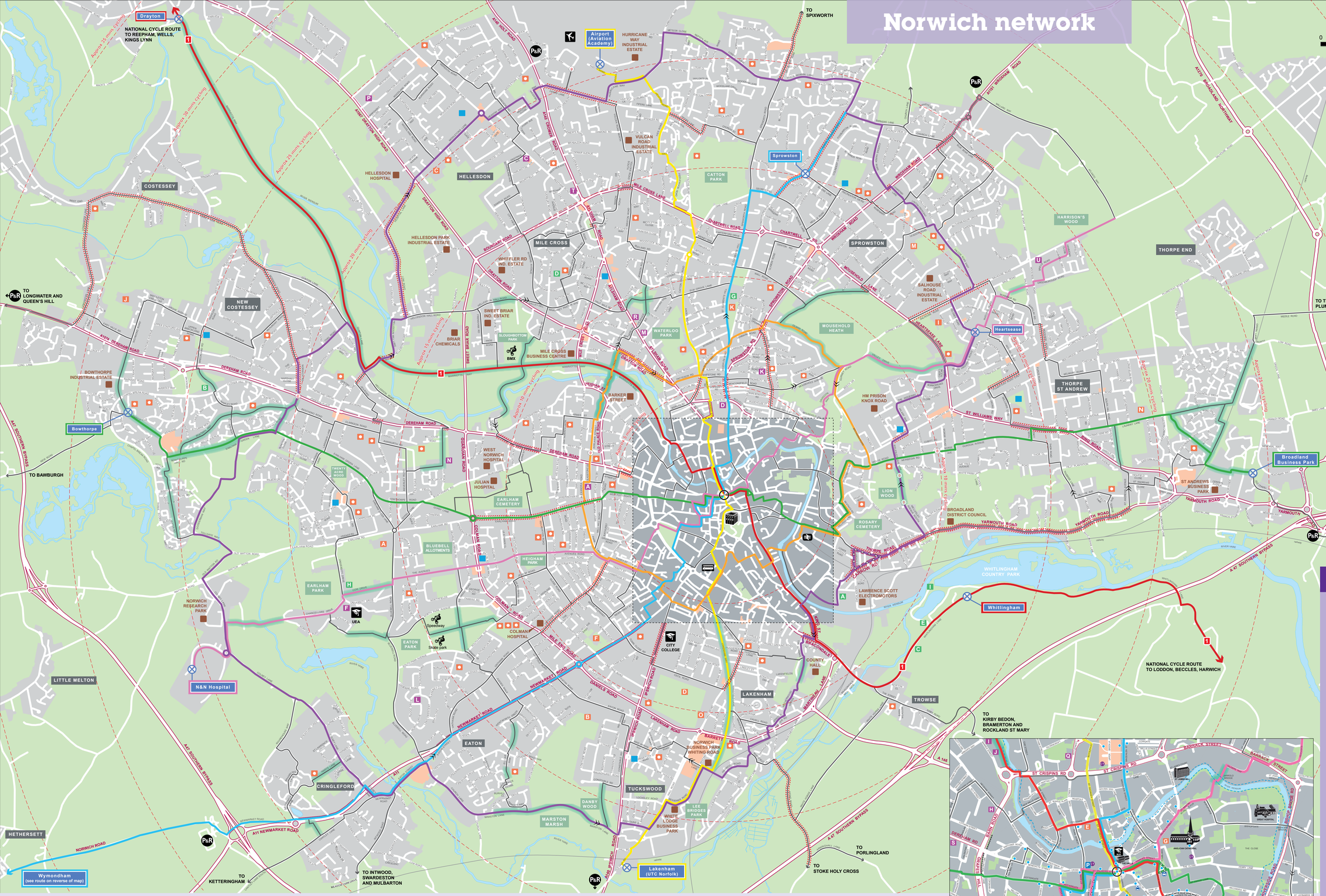
encs Site Location Plan
Highway Injury Accident Data Search Area Plan
Drawing 45986-C-203

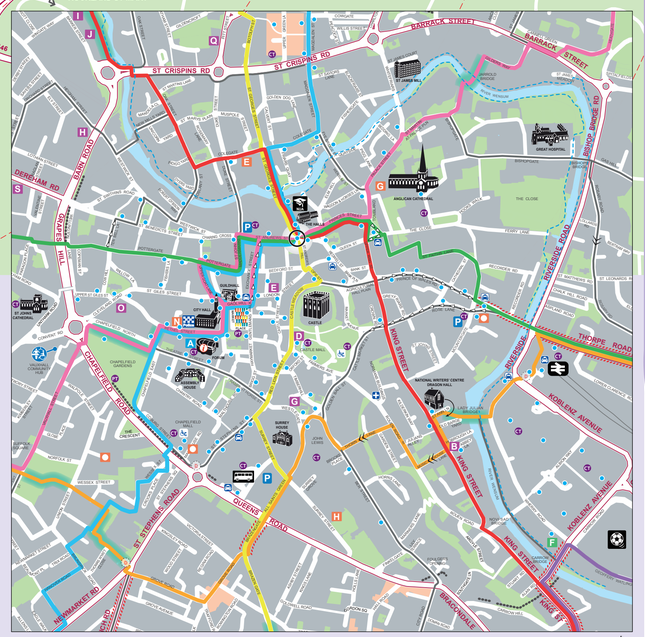
cc Dean Starkey – Brown & Co (by e-mail)

RichardJackson
Engineering Consultants

APPENDIX B

Norwich network





Norwich and beyond
great to explore by bike

The pace is right to spot a bargain in a quirky shop, pause for a conversation with a friend in the park, or explore a neighbouring beauty spot. The city is compact, making it manageable to ride from the edge to the centre in under twenty minutes. For those looking for more leisurely rides, the Broads, Loddon and Wymondham can be discovered in a few hours.

Welcome to the cycle network!

It features seven pedalways, each represented by a colour. Five cross the city from one side to the other and meet in the middle at St Andrew's Plain. Two others encircle the city – orange near the centre and purple on the edge. They are complemented by neighbourhood routes that help you get around from your home to schools and shops. Four looping leisure rides – circulars – take you into the beautiful countryside around Norwich.

Discover Norwich and beyond.

Happy pedalling!

How to use this map

Planning your route

Use this side of the map for planning your route within Norwich. It shows where the pedalways go and how they relate to facilities. The main routes are coloured and the colours can be found on signs and stickers along the way.

Turn over to see four looping leisure rides that take you out into the beautiful countryside and neighbouring towns.

Route conditions

The quality of the network varies from place to place and we are implementing a long-term plan to improve it. The maps show the busy traffic areas and the traffic-free parts of the pedalways and leisure routes so you can match your route to your level of cycling confidence and skill. The traffic-free parts are usually shared with pedestrians so please be considerate and use a bell. Their surfaces can also be slippery, uneven or unlit so please take care. Some parts of the network are privately owned and not maintained by the city or county councils.

Pedalways

- Bowthorpe ↔ Broadland Business Park
- Drayton ↔ Whitlingham (National Cycle Route 1)
- Lakenham ↔ Aviation Academy
- N&N Hospital ↔ Heartsease
- Wymondham ↔ Sprowston
- Inner circuit
- Outer circuit
- Neighbourhood routes
- St Andrew's Plain (centre of the network)
- Pedalway destination

Cycle network route conditions

- Cyclists dismount
- One way
- Route along busy road (with speed limit over 20mph and without off carriageway option)
- Steep hill (arrows point uphill)
- Traffic free path

Attractions and facilities

- Airport
- Bus station (including cycle hire)
- City wall
- Cycle sport venue
- Cycle stand parking
- Football stadium
- Higher and further education
- Local shopping centres
- Long stay secure cycle parking
- NHS walk in centre
- Norwich Market
- Park & Ride (cycle parking available)
- Riverside walk/pathway
- Toilets, public and customer
- Tourist Information Centre
- Train station (including cycle hire)

Schools

- First, infant or primary
- A City Academy Norwich
- B City of Norwich School
- C Hellesdon High
- D Hewett Academy
- E Jane Austen Free School
- F Norwich High School for Girls
- G Norwich School
- H Notre Dame
- I Open Academy
- J Ormiston Victory Academy
- K Sewell Park Academy
- L Sir Isaac Newton 6th Form
- M Sprowston Community Academy
- N Thorpe St Andrew School
- O Wherry School

Sports facilities

- A Carrow Park
- B Football Development Centre
- C Norfolk Snowsports Club
- D Norman Centre
- E Norwich Rowing Club
- F Riverside Leisure Centre
- G Sewell Park Academy Sports Centre
- H UEA Sports Park
- I Whitlingham Outdoor Education Centre

Bicycle shops

- A A.P. Cycles
- B Bicycle Links
- C Cycloservices
- D Cycle Republic
- E Cycles UK
- F Dr Bike @ UEA
- G Evans Cycles
- H Freemans
- I Go Outdoors
- J Halfords
- K John Borwell
- L Leisure Cycles
- M Mandarin
- N Not About The Bike
- O Pedal Revolution
- P Sorens
- Q The Bike Man
- R Wilco 'Bike' (Aylsham Rd)
- S Wilco 'Bike' (Dereham Rd)
- T Wilco 'Bike' (Reepham Rd)
- U Wilco 'Bike' (Salhouse Rd)

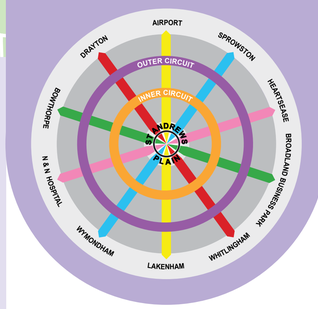
- Employment areas
- Libraries

3rd edition June 2018 • £4.95 • Tough and waterproof

Norfolk County Council

NORWICH City Council

Norwich CYCLE MAP



Supported by:

Broadland District Council

South Norfolk

Transport for Norwich

NEWANGLIA Local Enterprise Partnership for Norfolk and Suffolk

Department for Transport

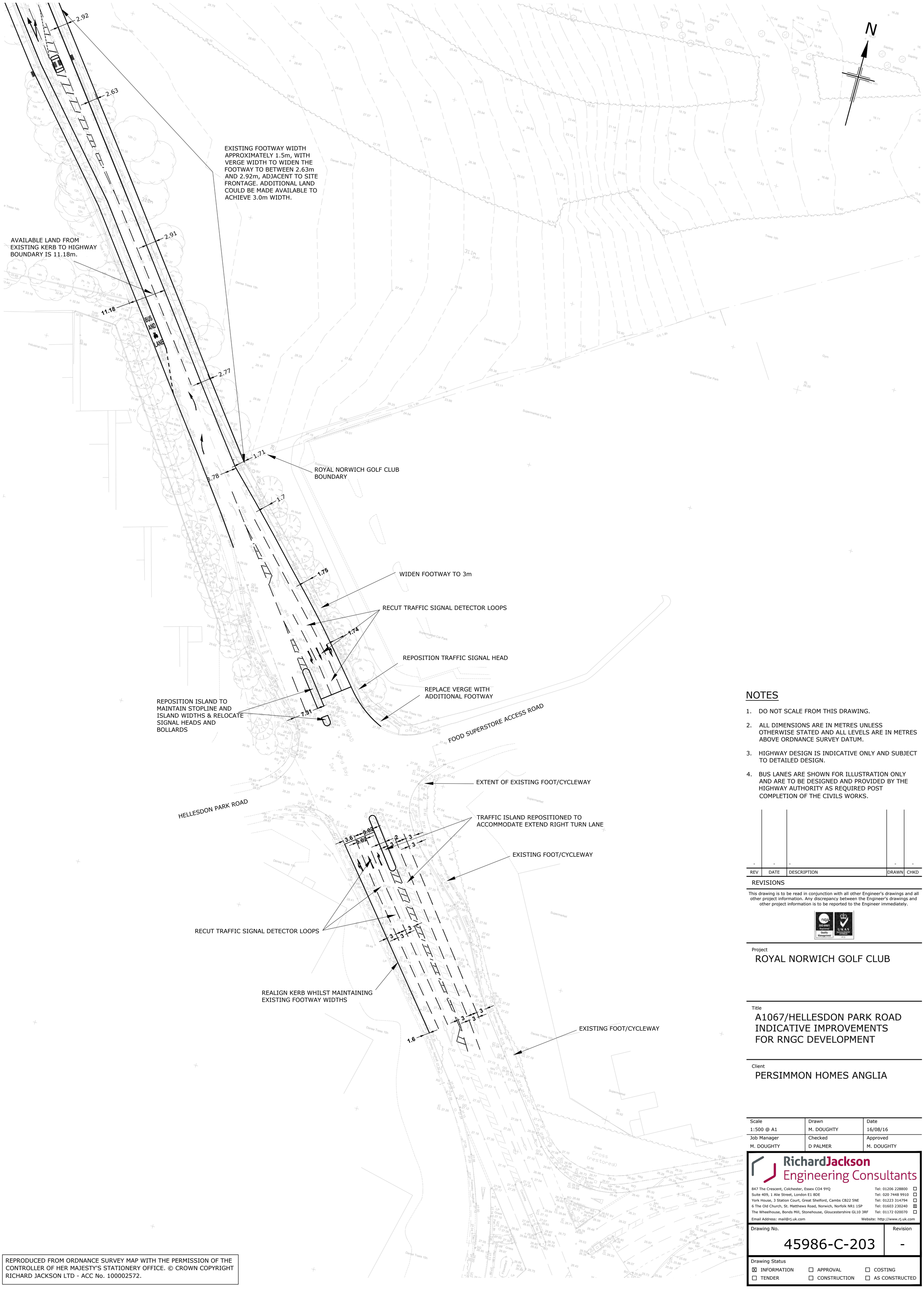
PUSHING AHEAD

NORWICH CYCLING CAMPAIGN

RichardJackson
Engineering Consultants

APPENDIX C

DO NOT SCALE



NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE SURVEY DATUM.
3. HIGHWAY DESIGN IS INDICATIVE ONLY AND SUBJECT TO DETAILED DESIGN.
4. BUS LANES ARE SHOWN FOR ILLUSTRATION ONLY AND ARE TO BE DESIGNED AND PROVIDED BY THE HIGHWAY AUTHORITY AS REQUIRED POST COMPLETION OF THE CIVILS WORKS.

REV	DATE	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

REVISIONS

This drawing is to be read in conjunction with all other Engineer's drawings and all other project information. Any discrepancy between the Engineer's drawings and other project information is to be reported to the Engineer immediately.

Project
ROYAL NORWICH GOLF CLUB

Title
A1067/HELLESDON PARK ROAD INDICATIVE IMPROVEMENTS FOR RNGC DEVELOPMENT

Client
PERSIMMON HOMES ANGLIA

Scale	Drawn	Date
1:500 @ A1	M. DOUGHTY	16/08/16
Job Manager	Checked	Approved
M. DOUGHTY	D PALMER	M. DOUGHTY

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Drawing No. 45986-C-203 Revision -

Drawing Status
☒ INFORMATION ☐ APPROVAL ☐ COSTING
☐ TENDER ☐ CONSTRUCTION ☐ AS CONSTRUCTED

A1

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Engineering Consultants

APPENDIX D

traveline public transport info
traveline.info/se
0871 200 22 33
Calls cost 12p per minute plus your phone company's access charge

Bus departures from this stop

23 Horningtoft - North Elmham - Taverham - Norwich — Sanders Coaches

here → 1 Norwich, Caley Close → 2 Norwich, Parr Road → 3 Norwich, Wheeler Road → 3 Norwich, Shorncliffe Avenue → 4 Norwich, Havers Road → 4 Norwich, Stone Road → 5 Norwich, Wensum Park → 5 Norwich, Wingfield Road → 7 Norwich, Edward Street → 8 Norwich, Anglia Square → 22 Riverside, Morrisons

28 Thorpe Marriott - Taverham - Hellesdon - Norwich — First in Norfolk & Suffolk

here → 4 Norwich, Shorncliffe Avenue → 10 Norwich, Anglia Square → 15 Norwich City Centre, Castle Meadow → 18 Norwich City Centre, St Stephens Street

29 Taverham - Hellesdon - Norwich — First in Norfolk & Suffolk

here → 5 Norwich, Shorncliffe Avenue → 12 Norwich, Anglia Square → 17 Norwich City Centre, Castle Meadow → 22 Norwich City Centre, St Stephens Street

X29 Fakenham - Taverham - Hellesdon - Norwich — First in Norfolk & Suffolk

here → 5 Norwich, Shorncliffe Avenue → 12 Norwich, Anglia Square → 17 Norwich City Centre, Castle Meadow → 22 Norwich City Centre, St Stephens Street

The numbers circled indicate approximate timings in minutes from

Mondays to Fridays

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note
0632	28		0805	29		0937	28		1107	28		1252	29		1437	28		1629	X29		1854	28	
0657	28		0810	28		0952	29		1122	X29		1307	28		1452	29		1644	28		1926	X29	
0708	X29		0815	X29		1007	28		1137	28		1322	X29		1507	28		1702	29		1946	28	
0719	28		0830	28		1008	23	We	1152	29		1337	28		1522	X29		1717	28		2046	28	
0734	28		0850	29		1022	X29		1207	28		1352	29		1542	28		1732	X29		2156	28	
0745	X29		0905	28		1037	28		1222	X29		1407	28		1557	29		1749	28		2256	28	
0755	28		0922	29		1052	29		1237	28		1422	X29		1614	28		1819	28				

Saturdays

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note
0707	28		0852	29		1037	28		1222	X29		1407	28		1552	29		1749	28		2256	28	
0737	28		0907	28		1052	29		1237	28		1422	X29		1612	28		1819	28				
0747	X29		0922	X29		1107	28		1252	29		1437	28		1629	X29		1849	28				
0752	29		0937	28		1122	X29		1307	28		1452	29		1642	28		1926	X29				
0807	28		0952	29		1137	28		1322	X29		1507	28		1657	29		1946	28				
0822	X29		1007	28		1152	29		1337	28		1522	X29		1712	28		2046	28				
0837	28		1022	X29		1207	28		1352	29		1537	28		1732	X29		2156	28				

Sundays

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note
0853	X29		1053	28		1223	28		1423	28		1623	28		1753	28		2046	28	
0923	28		1123	28		1253	28		1453	28		1643	X29		1823	28		2156	28	
0953	28		1133	X29		1323	28		1523	28		1653	28		1846	28		2256	28	
1023	28		1153	28		1353	28		1553	28		1723	28		1946	28				

Notes: **We** - Operates on Wednesdays only **We** - Wednesdays only

traveline public transport info
traveline.info/se
0871 200 22 33
Calls cost 12p per minute plus your phone company's access charge

Bus departures from this stop

23 Norwich - Taverham - North Elmham - Horningtoft — Sanders Coaches

here
1 Hellesdon, Hospital
1 Hellesdon, Hamond Road
2 Hellesdon, Margaret Close
2 Hellesdon, Drayton Wood Road
3 Drayton, Hurn Road
4 Drayton, King Georges Field
5 Drayton, Carter Road
6 Drayton, The Cock
6 Drayton, Budgens
7 Taverham, Seton Road
63 Horningtoft, Bus Shelter

28 Norwich - Hellesdon - Taverham - Thorpe Marriott — First in Norfolk & Suffolk

here
2 Hellesdon, Hospital
8 Drayton, Budgens
11 Taverham, Sandy Lane
12 Thorpe Marriott, Broadgate
16 Thorpe Marriott, The Otter
17 Thorpe Marriott, Cricket Close

29 Norwich - Hellesdon - Taverham — First in Norfolk & Suffolk

here
2 Hellesdon, Hospital
8 Drayton, Budgens
11 Taverham, Sandy Lane
13 Taverham, Maple Drive
20 Taverham, Byron Road
23 Taverham, adj Tusser Road
27 Taverham, opp Sylvan Way
32 Drayton, Badgers Brook Road
25 Taverham, adj Sylvan Way
27 Taverham, opp Tusser Road

X29 Norwich - Hellesdon - Taverham - Fakenham — First in Norfolk & Suffolk

here
2 Hellesdon, Hospital
8 Drayton, Budgens
11 Taverham, Sandy Lane
19 Lenwade, Bus Shelter
27 Bawdeswell, Blackhorse Meadow
30 Foxley, Chapel Road
33 Bintree, Foulsham Road
37 Guist, Post Office
57 Fakenham, Oak Street
60 Fakenham, Toll Bar
65 Fakenham, Oak Street

The numbers circled indicate approximate timings in minutes from

Mondays to Fridays

Time	Service	Note
0713	28	
0748	X29	1
0808	28	
0828	29	3
0848	28	
0858	29	3
0908	X29	
0923	28	
0938	29	
0953	28	
1008	X29	
1023	28	
1038	29	
1053	28	
1108	X29	
1123	28	
1138	29	
1153	28	
1208	X29	
1223	28	
1238	29	
1253	28	
1308	X29	
1323	28	
1338	29	
1353	28	
1402	23	We
1408	X29	
1423	28	
1438	29	5
1453	28	
1508	X29	
1523	28	
1538	29	4
1553	28	
1608	29	3
1628	28	
1643	28	6
1648	X29	2
1703	28	
1718	X29	
1733	28	
1743	29	4
1753	X29	2
1808	28	
1823	X29	2
1838	28	6
1906	28	
1936	28	6
2006	28	
2116	28	
2216	28	
2326	28	6

Saturdays

Time	Service	Note
0753	28	
0823	28	
0838	29	
0853	28	
0908	X29	
0923	28	
0938	29	
0953	28	
1008	X29	
1023	28	
1038	29	
1053	28	
1108	X29	
1123	28	
1138	29	
1153	28	
1208	X29	
1223	28	
1238	29	
1253	28	
1308	X29	
1323	28	
1338	29	
1353	28	
1408	X29	
1423	28	
1438	29	
1453	28	
1508	X29	
1528	28	
1543	29	
1558	28	
1613	X29	2
1628	28	
1643	29	4
1703	28	
1718	X29	
1733	28	
1748	X29	2
1803	28	
1823	X29	2
1838	28	6
1906	28	
1936	28	6
2006	28	
2116	28	
2216	28	
2326	28	6

Sundays

Time	Service	Note
0938	X29	1
1008	28	
1038	28	
1108	28	
1138	28	
1208	28	
1238	28	
1308	28	
1338	28	
1408	28	
1438	28	
1448	X29	1
1508	28	
1538	28	
1608	28	
1638	28	
1708	28	
1728	X29	1
1738	28	
1806	28	
1906	28	
2006	28	
2116	28	
2216	28	
2326	28	6

Notes:
We - Operates on Wednesdays only
We - Wednesdays only
1 - terminates at Fakenham, Oak Street
2 - terminates at Fakenham, Toll Bar
3 - terminates at Taverham, adj Sylvan Way
4 - terminates at Taverham, opp Sylvan Way
5 - terminates at Taverham, opp Tusser Road
6 - terminates at Thorpe Marriott, Cricket Close

RichardJackson
Engineering Consultants

APPENDIX E

Norwich - Manual Traffic Survey, Thursday 4th July 2019

Junction: (1) A1067 / Asda / Hellesdon Park Road

Approach: A1067 (North)

	Left to Asda								Ahead to A1067 (South)								Right to Hellesdon Park Road							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0700 - 0715	0	0	13	1	0	0	0	**14**	1	4	94	24	2	0	1	**126**	0	0	8	3	0	0	0	**11**
0715 - 0730	0	0	16	0	0	0	0	**16**	2	4	96	25	2	0	3	**132**	1	1	10	5	0	0	0	**17**
0730 - 0745	0	0	15	3	0	0	0	**18**	4	1	122	15	3	0	1	**146**	0	0	14	2	0	0	0	**16**
0745 - 0800	0	0	25	1	0	0	0	**26**	3	3	144	10	0	0	2	**162**	0	1	17	6	0	0	0	**24**
Hourly Total	**0**	**0**	**69**	**5**	**0**	**0**	**0**	**74**	**10**	**12**	**456**	**74**	**7**	**0**	**7**	**566**	**1**	**2**	**49**	**16**	**0**	**0**	**0**	**68**
0800 - 0815	0	0	22	1	0	0	0	**23**	2	3	114	18	0	1	4	**142**	0	0	14	2	0	0	0	**16**
0815 - 0830	0	0	17	0	0	0	0	**17**	2	2	109	12	2	0	3	**130**	0	1	14	2	0	0	0	**17**
0830 - 0845	0	0	25	2	0	0	0	**27**	2	1	111	14	3	3	2	**136**	0	0	16	4	1	0	0	**21**
0845 - 0900	0	0	23	1	0	0	0	**24**	1	1	110	15	2	2	0	**131**	0	0	15	2	0	0	0	**17**
Hourly Total	**0**	**0**	**87**	**4**	**0**	**0**	**0**	**91**	**7**	**7**	**444**	**59**	**7**	**6**	**9**	**539**	**0**	**1**	**59**	**10**	**1**	**0**	**0**	**71**
0900 - 0915	0	0	22	0	0	0	0	**22**	1	2	130	17	2	0	3	**155**	0	0	11	3	0	0	0	**14**
0915 - 0930	0	0	28	2	0	0	0	**30**	1	0	111	16	3	1	1	**133**	1	0	14	1	0	0	0	**16**
0930 - 0945	0	0	28	0	0	0	0	**28**	0	1	93	16	3	1	2	**116**	0	1	5	3	1	0	0	**10**
0945 - 1000	0	1	32	1	0	0	0	**34**	1	1	95	15	3	1	1	**117**	0	0	5	2	0	0	0	**7**
Hourly Total	**0**	**1**	**110**	**3**	**0**	**0**	**0**	**114**	**3**	**4**	**429**	**64**	**11**	**3**	**7**	**521**	**1**	**1**	**35**	**9**	**1**	**0**	**0**	**47**
Session Total	**0**	**1**	**266**	**12**	**0**	**0**	**0**	**279**	**20**	**23**	**1329**	**197**	**25**	**9**	**23**	**1626**	**2**	**4**	**143**	**35**	**2**	**0**	**0**	**186**
1600 - 1615	0	0	27	1	0	0	0	**28**	0	1	112	10	0	0	1	**124**	0	0	2	1	0	0	0	**3**
1615 - 1630	0	0	25	1	0	0	0	**26**	0	4	95	14	4	3	3	**123**	0	0	2	2	0	0	0	**4**
1630 - 1645	0	1	26	0	0	0	0	**27**	1	4	99	12	0	0	4	**120**	0	0	3	3	0	0	0	**6**
1645 - 1700	0	0	21	3	0	0	0	**24**	1	2	88	9	2	1	2	**105**	0	0	3	2	0	0	0	**5**
Hourly Total	**0**	**1**	**99**	**5**	**0**	**0**	**0**	**105**	**2**	**11**	**394**	**45**	**6**	**4**	**10**	**472**	**0**	**0**	**10**	**8**	**0**	**0**	**0**	**18**
1700 - 1715	0	0	27	2	0	0	0	**29**	0	3	103	11	0	0	1	**118**	0	0	2	1	0	0	0	**3**
1715 - 1730	0	0	20	3	0	0	0	**23**	1	2	118	10	0	0	1	**132**	0	0	1	1	0	0	0	**2**
1730 - 1745	2	0	22	1	0	0	0	**25**	1	3	86	15	1	0	1	**107**	0	0	2	0	0	0	0	**2**
1745 - 1800	0	1	16	0	0	0	0	**17**	0	3	95	7	1	1	1	**108**	0	0	2	0	0	0	0	**2**
Hourly Total	**2**	**1**	**85**	**6**	**0**	**0**	**0**	**94**	**2**	**11**	**402**	**43**	**2**	**1**	**4**	**465**	**0**	**0**	**7**	**2**	**0**	**0**	**0**	**9**
1800 - 1815	0	0	24	1	0	0	0	**25**	0	3	91	5	0	1	0	**100**	0	0	1	1	0	0	0	**2**
1815 - 1830	0	0	33	0	0	0	0	**33**	0	0	88	5	0	0	1	**94**	0	0	1	0	0	0	0	**1**
1830 - 1845	0	0	20	0	0	0	0	**20**	2	1	92	7	1	0	0	**103**	0	0	0	1	0	0	0	**1**
1845 - 1900	0	0	15	1	0	0	0	**16**	0	5	111	9	0	0	1	**126**	0	0	1	0	0	0	0	**1**
Hourly Total	**0**	**0**	**92**	**2**	**0**	**0**	**0**	**94**	**2**	**9**	**382**	**26**	**1**	**1**	**2**	**423**	**0**	**0**	**3**	**2**	**0**	**0**	**0**	**5**
Session Total	**2**	**2**	**276**	**13**	**0**	**0**	**0**	**293**	**6**	**31**	**1178**	**114**	**9**	**6**	**16**	**1360**	**0**	**0**	**20**	**12**	**0**	**0**	**0**	**32**

Norwich - Manual Traffic Survey, Thursday 4th July 2019

Junction: (1) A1067 / Asda / Hellesdon Park Road

Approach: Asda

	Left to A1067 (South)								Ahead to Hellesdon Park Road								Right to A1067 (North)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0700 - 0715	0	1	8	3	0	0	0	**12**	1	0	1	0	0	0	0	**2**	0	0	6	1	2	0	0	**9**
0715 - 0730	0	0	10	1	0	0	0	**11**	0	0	10	1	0	0	0	**11**	0	0	11	1	0	0	0	**12**
0730 - 0745	0	0	21	4	0	0	0	**25**	0	0	8	0	0	0	0	**8**	0	1	11	0	0	0	0	**12**
0745 - 0800	0	0	17	4	0	0	0	**21**	0	0	7	1	0	0	0	**8**	0	0	6	2	0	0	0	**8**
Hourly Total	**0**	**1**	**56**	**12**	**0**	**0**	**0**	**69**	**1**	**0**	**26**	**2**	**0**	**0**	**0**	**29**	**0**	**1**	**34**	**4**	**2**	**0**	**0**	**41**
0800 - 0815	0	0	28	3	0	1	0	**32**	0	0	8	1	0	0	0	**9**	0	0	11	1	0	0	0	**12**
0815 - 0830	0	0	23	2	0	0	0	**25**	0	0	6	0	0	0	0	**6**	0	0	13	0	0	0	0	**13**
0830 - 0845	0	0	11	2	0	0	0	**13**	0	0	5	2	0	0	0	**7**	0	0	12	0	0	0	0	**12**
0845 - 0900	0	0	19	6	0	0	0	**25**	0	0	4	0	0	0	0	**4**	0	0	13	0	0	0	0	**13**
Hourly Total	**0**	**0**	**81**	**13**	**0**	**1**	**0**	**95**	**0**	**0**	**23**	**3**	**0**	**0**	**0**	**26**	**0**	**0**	**49**	**1**	**0**	**0**	**0**	**50**
0900 - 0915	0	0	21	2	0	0	0	**23**	0	0	4	2	0	0	0	**6**	0	0	10	2	0	0	0	**12**
0915 - 0930	1	0	19	5	0	0	0	**25**	0	0	6	0	0	0	0	**6**	0	0	17	1	0	0	0	**18**
0930 - 0945	0	0	24	3	0	0	0	**27**	0	0	2	3	0	0	0	**5**	0	0	20	0	0	0	0	**20**
0945 - 1000	0	0	25	2	0	0	0	**27**	0	0	4	0	0	0	0	**4**	0	0	20	1	0	0	0	**21**
Hourly Total	**1**	**0**	**89**	**12**	**0**	**0**	**0**	**102**	**0**	**0**	**16**	**5**	**0**	**0**	**0**	**21**	**0**	**0**	**67**	**4**	**0**	**0**	**0**	**71**
Session Total	**1**	**1**	**226**	**37**	**0**	**1**	**0**	**266**	**1**	**0**	**65**	**10**	**0**	**0**	**0**	**76**	**0**	**1**	**150**	**9**	**2**	**0**	**0**	**162**
1600 - 1615	0	1	32	4	0	0	0	**37**	0	0	1	1	0	0	0	**2**	0	0	22	3	0	0	0	**25**
1615 - 1630	0	0	30	0	0	0	0	**30**	0	0	0	0	0	0	0	**0**	0	0	24	4	0	0	0	**28**
1630 - 1645	1	0	40	4	0	0	0	**45**	0	0	0	0	0	0	0	**0**	0	1	22	2	0	0	0	**25**
1645 - 1700	0	0	29	4	0	0	0	**33**	0	0	1	0	0	0	0	**1**	0	0	29	0	0	0	0	**29**
Hourly Total	**1**	**1**	**131**	**12**	**0**	**0**	**0**	**145**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**3**	**0**	**1**	**97**	**9**	**0**	**0**	**0**	**107**
1700 - 1715	1	0	30	2	0	0	0	**33**	0	0	0	0	0	0	0	**0**	0	0	23	0	0	0	0	**23**
1715 - 1730	0	1	34	0	0	0	0	**35**	0	0	2	0	0	0	0	**2**	0	2	21	0	0	0	0	**23**
1730 - 1745	0	1	27	3	0	0	0	**31**	0	0	0	0	0	0	0	**0**	0	0	29	2	0	0	0	**31**
1745 - 1800	1	0	40	3	0	0	0	**44**	0	0	0	0	0	0	0	**0**	0	0	11	1	0	0	0	**12**
Hourly Total	**2**	**2**	**131**	**8**	**0**	**0**	**0**	**143**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**84**	**3**	**0**	**0**	**0**	**89**
1800 - 1815	0	1	37	2	0	0	0	**40**	0	0	0	0	0	0	0	**0**	0	0	35	1	0	0	0	**36**
1815 - 1830	0	2	40	1	0	0	0	**43**	0	0	1	0	0	0	0	**1**	0	1	28	1	0	0	0	**30**
1830 - 1845	0	2	36	2	0	0	0	**40**	0	0	0	1	0	0	0	**1**	0	0	35	0	0	0	0	**35**
1845 - 1900	0	0	50	1	0	0	0	**51**	0	0	0	0	0	0	0	**0**	0	0	19	1	0	0	0	**20**
Hourly Total	**0**	**5**	**163**	**6**	**0**	**0**	**0**	**174**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**0**	**1**	**117**	**3**	**0**	**0**	**0**	**121**
Session Total	**3**	**8**	**425**	**26**	**0**	**0**	**0**	**462**	**0**	**0**	**5**	**2**	**0**	**0**	**0**	**7**	**0**	**4**	**298**	**15**	**0**	**0**	**0**	**317**

Norwich - Manual Traffic Survey, Thursday 4th July 2019

Junction: (1) A1067 / Asda / Hellesdon Park Road

Approach: A1067 (South)

	Left to Hellesdon Park Road								Ahead to A1067 (North)								Right to Asda							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0700 - 0715	0	1	23	11	0	0	0	**35**	0	0	45	9	1	3	0	**58**	1	0	13	5	0	1	0	**20**
0715 - 0730	0	0	27	14	1	0	0	**42**	2	4	66	19	2	2	1	**96**	0	1	23	2	0	0	0	**26**
0730 - 0745	0	1	37	13	0	0	0	**51**	1	1	81	15	1	0	3	**102**	0	2	18	3	0	0	0	**23**
0745 - 0800	1	0	47	11	0	0	0	**59**	2	0	107	21	2	2	2	**136**	0	0	22	2	0	0	0	**24**
Hourly Total	**1**	**2**	**134**	**49**	**1**	**0**	**0**	**187**	**5**	**5**	**299**	**64**	**6**	**7**	**6**	**392**	**1**	**3**	**76**	**12**	**0**	**1**	**0**	**93**
0800 - 0815	1	0	37	13	1	1	0	**53**	1	1	97	15	2	0	1	**117**	0	0	18	2	0	0	0	**20**
0815 - 0830	0	0	34	14	3	0	0	**51**	2	0	102	15	4	2	0	**125**	0	0	21	2	0	0	0	**23**
0830 - 0845	0	0	33	8	1	1	0	**43**	2	2	105	21	2	2	1	**135**	0	1	23	4	0	0	0	**28**
0845 - 0900	0	0	39	16	3	0	0	**58**	1	2	75	14	2	1	3	**98**	0	0	27	5	0	0	0	**32**
Hourly Total	**1**	**0**	**143**	**51**	**8**	**2**	**0**	**205**	**6**	**5**	**379**	**65**	**10**	**5**	**5**	**475**	**0**	**1**	**89**	**13**	**0**	**0**	**0**	**103**
0900 - 0915	1	0	15	4	3	0	0	**23**	0	0	83	15	0	2	1	**101**	0	0	37	2	0	0	0	**39**
0915 - 0930	0	0	14	15	3	0	0	**32**	0	1	109	15	1	0	2	**128**	0	1	28	0	0	1	0	**30**
0930 - 0945	1	1	28	17	4	0	0	**51**	0	0	70	14	0	0	1	**85**	0	1	41	2	1	0	0	**45**
0945 - 1000	0	0	11	5	1	0	0	**17**	0	0	78	21	2	0	4	**105**	0	0	32	1	0	0	0	**33**
Hourly Total	**2**	**1**	**68**	**41**	**11**	**0**	**0**	**123**	**0**	**1**	**340**	**65**	**3**	**2**	**8**	**419**	**0**	**2**	**138**	**5**	**1**	**1**	**0**	**147**
Session Total	**4**	**3**	**345**	**141**	**20**	**2**	**0**	**515**	**11**	**11**	**1018**	**194**	**19**	**14**	**19**	**1286**	**1**	**6**	**303**	**30**	**1**	**2**	**0**	**343**
1600 - 1615	0	0	8	8	1	0	0	**17**	0	0	115	20	0	0	1	**136**	0	0	44	6	0	0	0	**50**
1615 - 1630	0	0	10	3	1	0	0	**14**	0	3	109	21	0	0	0	**133**	0	0	33	2	0	0	0	**35**
1630 - 1645	0	0	11	1	0	1	0	**13**	0	1	123	22	0	1	1	**148**	0	0	47	5	0	0	0	**52**
1645 - 1700	0	0	3	4	0	0	0	**7**	1	2	136	17	0	1	2	**159**	0	0	32	1	0	0	0	**33**
Hourly Total	**0**	**0**	**32**	**16**	**2**	**1**	**0**	**51**	**1**	**6**	**483**	**80**	**0**	**2**	**4**	**576**	**0**	**0**	**156**	**14**	**0**	**0**	**0**	**170**
1700 - 1715	0	0	10	3	1	0	0	**14**	2	2	145	21	0	0	1	**171**	0	1	50	2	0	0	0	**53**
1715 - 1730	0	0	1	0	1	0	0	**2**	0	3	126	15	0	0	1	**145**	0	1	49	3	0	0	0	**53**
1730 - 1745	0	0	1	0	0	0	0	**1**	0	0	155	12	0	0	2	**169**	0	0	51	3	0	0	0	**54**
1745 - 1800	0	0	5	2	1	0	0	**8**	2	5	133	7	0	0	2	**149**	0	0	48	0	0	0	0	**48**
Hourly Total	**0**	**0**	**17**	**5**	**3**	**0**	**0**	**25**	**4**	**10**	**559**	**55**	**0**	**0**	**6**	**634**	**0**	**2**	**198**	**8**	**0**	**0**	**0**	**208**
1800 - 1815	0	0	4	1	0	0	0	**5**	2	3	138	9	0	0	1	**153**	0	2	57	1	0	0	0	**60**
1815 - 1830	0	0	2	1	0	1	0	**4**	2	4	140	4	1	0	1	**152**	0	1	45	4	0	0	0	**50**
1830 - 1845	0	0	3	1	1	0	0	**5**	0	0	109	9	0	0	1	**119**	0	0	48	1	0	1	0	**50**
1845 - 1900	0	0	3	0	1	0	0	**4**	0	1	92	5	0	0	0	**98**	0	0	42	2	0	0	0	**44**
Hourly Total	**0**	**0**	**12**	**3**	**2**	**1**	**0**	**18**	**4**	**8**	**479**	**27**	**1**	**0**	**3**	**522**	**0**	**3**	**192**	**8**	**0**	**1**	**0**	**204**
Session Total	**0**	**0**	**61**	**24**	**7**	**2**	**0**	**94**	**9**	**24**	**1521**	**162**	**1**	**2**	**13**	**1732**	**0**	**5**	**546**	**30**	**0**	**1**	**0**	**582**

Norwich - Manual Traffic Survey, Thursday 4th July 2019

Junction: (1) A1067 / Asda / Hellesdon Park Road

Approach: Hellesdon Park Road

	Left to A1067 (North)								Ahead to Asda								Right to A1067 (South)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0700 - 0715	0	0	2	0	0	0	0	**2**	0	0	1	0	0	0	0	**1**	0	0	0	4	1	1	0	**6**
0715 - 0730	0	0	0	1	0	1	0	**2**	0	0	1	0	0	0	0	**1**	0	0	5	4	2	0	0	**11**
0730 - 0745	0	0	3	2	0	0	0	**5**	0	0	1	2	0	0	0	**3**	0	0	2	11	1	0	1	**15**
0745 - 0800	0	0	1	7	0	0	0	**8**	0	0	0	0	0	0	0	**0**	0	0	6	10	3	0	0	**19**
Hourly Total	**0**	**0**	**6**	**10**	**0**	**1**	**0**	**17**	**0**	**0**	**3**	**2**	**0**	**0**	**0**	**5**	**0**	**0**	**13**	**29**	**7**	**1**	**1**	**51**
0800 - 0815	0	0	2	5	0	0	0	**7**	0	0	0	2	0	0	0	**2**	0	0	3	15	1	0	0	**19**
0815 - 0830	0	0	2	5	0	0	0	**7**	0	0	0	1	0	0	0	**1**	0	0	7	14	0	0	0	**21**
0830 - 0845	0	0	2	4	0	0	0	**6**	0	0	0	0	0	0	0	**0**	0	0	7	14	1	0	0	**22**
0845 - 0900	0	0	6	4	1	1	0	**12**	0	0	2	0	0	0	0	**2**	0	0	10	19	2	0	0	**31**
Hourly Total	**0**	**0**	**12**	**18**	**1**	**1**	**0**	**32**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**5**	**0**	**0**	**27**	**62**	**4**	**0**	**0**	**93**
0900 - 0915	0	0	7	3	1	0	0	**11**	0	0	1	0	0	0	0	**1**	0	0	6	9	2	1	0	**18**
0915 - 0930	0	0	6	3	1	0	0	**10**	0	0	0	1	0	0	0	**1**	0	0	8	8	2	1	0	**19**
0930 - 0945	0	0	3	8	0	0	0	**11**	0	0	3	0	0	0	0	**3**	0	0	14	11	4	0	0	**29**
0945 - 1000	0	0	2	5	0	0	0	**7**	0	0	0	0	0	0	0	**0**	0	0	8	18	4	0	0	**30**
Hourly Total	**0**	**0**	**18**	**19**	**2**	**0**	**0**	**39**	**0**	**0**	**4**	**1**	**0**	**0**	**0**	**5**	**0**	**0**	**36**	**46**	**12**	**2**	**0**	**96**
Session Total	**0**	**0**	**36**	**47**	**3**	**2**	**0**	**88**	**0**	**0**	**9**	**6**	**0**	**0**	**0**	**15**	**0**	**0**	**76**	**137**	**23**	**3**	**1**	**240**
1600 - 1615	0	2	17	4	0	0	0	**23**	0	0	3	1	0	0	0	**4**	0	1	43	11	2	0	0	**57**
1615 - 1630	1	0	3	0	0	0	0	**4**	0	0	1	0	0	0	0	**1**	0	0	19	9	1	2	0	**31**
1630 - 1645	0	0	16	3	0	0	0	**19**	0	0	7	0	0	0	0	**7**	0	2	28	9	0	0	0	**39**
1645 - 1700	0	0	21	4	0	0	0	**25**	0	0	3	0	0	0	0	**3**	1	0	46	14	0	0	0	**61**
Hourly Total	**1**	**2**	**57**	**11**	**0**	**0**	**0**	**71**	**0**	**0**	**14**	**1**	**0**	**0**	**0**	**15**	**1**	**3**	**136**	**43**	**3**	**2**	**0**	**188**
1700 - 1715	0	0	23	1	0	0	0	**24**	0	0	0	0	0	0	0	**0**	4	2	69	12	0	0	0	**87**
1715 - 1730	0	0	14	2	0	0	0	**16**	0	0	3	0	0	0	0	**3**	0	1	25	6	1	1	0	**34**
1730 - 1745	0	0	10	2	0	0	0	**12**	0	0	2	0	0	0	0	**2**	0	0	30	3	0	0	0	**33**
1745 - 1800	0	0	7	1	0	0	0	**8**	0	0	2	1	0	0	0	**3**	0	0	6	4	0	0	0	**10**
Hourly Total	**0**	**0**	**54**	**6**	**0**	**0**	**0**	**60**	**0**	**0**	**7**	**1**	**0**	**0**	**0**	**8**	**4**	**3**	**130**	**25**	**1**	**1**	**0**	**164**
1800 - 1815	0	1	9	2	0	0	0	**12**	0	0	3	1	0	0	0	**4**	0	0	18	3	0	0	0	**21**
1815 - 1830	0	0	2	0	0	0	0	**2**	0	0	1	0	0	0	0	**1**	0	0	8	1	0	0	0	**9**
1830 - 1845	0	0	1	1	0	0	0	**2**	0	0	0	0	0	0	0	**0**	0	0	6	1	0	0	0	**7**
1845 - 1900	0	0	2	0	0	0	0	**2**	0	0	1	0	0	0	0	**1**	0	0	7	1	0	1	0	**9**
Hourly Total	**0**	**1**	**14**	**3**	**0**	**0**	**0**	**18**	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**6**	**0**	**0**	**39**	**6**	**0**	**1**	**0**	**46**
Session Total	**1**	**3**	**125**	**20**	**0**	**0**	**0**	**149**	**0**	**0**	**26**	**3**	**0**	**0**	**0**	**29**	**5**	**6**	**305**	**74**	**4**	**4**	**0**	**398**

Norwich - Saturation Flows, Thursday 4th July 2019

	Arm A Lane 1 - A1067 North (AM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	85	-	-	-	07:00:47
2	74	-	-	-	07:21:32
3	43	5.2	12.38	**1512**	07:43:00
4	75	1.2	4.56	**948**	07:57:08
5	67	4.5	6.76	**2398**	08:15:43
6	71	7.5	11.31	**2387**	08:40:01
7	68	6.5	13.06	**1791**	08:46:09
8	52	2.7	6.33	**1535**	08:48:04
9	69	3	6.95	**1553**	08:53:41
10	90	1	3.88	**929**	09:00:15
11	69	-	-	-	09:19:15
12	69	1	4.72	**763**	09:36:07
13	69	1.2	3.94	**1096**	09:54:45

	Arm A Lane 2 - A1067 North (AM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	74	1	2.77	**1302**	07:02:50
2	75	1	1.78	**2025**	07:23:25
3	16	4	8.52	**1690**	07:45:24
4	33	7.4	14.01	**1902**	07:52:46
5	31	5	8.17	**2204**	07:53:49
6	72	-	-	-	07:58:53
7	68	4.5	6.74	**2405**	08:17:36
6	70	-	-	-	08:41:53
7	75	5	8.54	**2108**	09:02:22
8	74	5	10.62	**1694**	09:21:04
9	67	8	17.24	**1671**	09:38:01
10	64	5	7.37	**2199**	09:56:42

	Arm A Lane 3 - A1067 North (AM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	84	-	-	-	07:04:32
2	74	-	-	-	07:25:18
3	23	1	2.58	**1394**	07:46:36
4	65	-	-	-	08:00:49
5	68	-	-	-	08:19:29
6	73	-	-	-	08:43:43
7	71	-	-	-	09:04:18
8	73	-	-	-	09:22:59
9	62	-	-	-	09:39:53
10	71	-	-	-	09:58:28

	Arm A Lane 1 - A1067 North (PM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	63	1	4.41	**816**	16:22:32
2	63	9.5	14.94	**2289**	16:32:30
3	63	5.5	11.97	**1654**	16:34:37
4	66	7.5	11.64	**2321**	16:36:23
5	64	1	3.08	**1168**	16:43:07
6	57	3	6.49	**1665**	17:03:46
7	57	2	5.25	**1372**	17:22:30
8	69	-	-	-	17:59:57
9	69	4	10.14	**1421**	18:18:36
10	74	4	8.07	**1784**	18:41:05

	Arm A Lane 2 - A1067 North (PM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	89	2	5.31	**1356**	16:24:02
2	63	8.5	13.64	**2244**	16:42:08
3	63	9.5	61.03	**560**	16:45:01
4	65	4	7.3	**1973**	16:55:12
5	65	4.4	11.07	**1431**	16:57:10
6	57	4	8.54	**1686**	17:05:39
7	56	8.4	20.07	**1507**	17:24:23
8	79	4	7.68	**1875**	17:34:30
9	66	1	2.52	**1430**	18:01:48
10	68	2	3.31	**2177**	18:20:30
11	72	1	2.37	**1518**	18:43:00

	Arm A Lane 3 - A1067 North (PM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	69	-	-	-	16:26:14
2	61	-	-	-	16:46:54
3	51	-	-	-	17:07:34
4	63	-	-	-	17:26:09
5	68	-	-	-	18:03:38

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Arm B Lane 1 - Asda (AM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	18	2	4.36	**1649**	07:07:53
2	19	-	-	**-**	07:28:28
3	18	1	2.13	**1690**	07:48:12
4	19	1.4	4.37	**1154**	08:03:52
5	19	5	14.64	**1229**	08:08:10
6	18	1.4	3.88	**1300**	08:10:03
7	18	2	5.07	**1422**	08:13:47
8	18	-	-	**-**	08:22:33
9	18	1	2.58	**1394**	08:46:53
10	18	1	2.52	**1427**	09:07:27
11	11	2	4.81	**1496**	09:26:16
12	19	3.5	5.87	**2146**	09:33:29
13	18	-	-	**-**	09:42:53

Arm B Lane 2 - Asda (AM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	10	1.5	2.36	**2291**	07:09:54
2	12	1	1.09	**3303**	07:30:26
3	12	2	4.86	**1480**	07:49:37
4	10	3	6.05	**1785**	08:05:52
5	12	2	3.84	**1875**	08:24:35
6	10	-	-	**-**	08:48:49
7	10	2	3.97	**1815**	08:30:45
8	11	1	1.54	**2336**	08:32:38
9	10	2	4.38	**1643**	08:34:28
10	10	1	1.76	**2044**	08:36:21
11	10	-	-	**-**	09:09:24
12	10	-	-	**-**	09:27:26

Arm C Lane 1 - A1067 South (AM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	85	4.7	13.23	**1279**	07:12:11
2	87	-	-	**-**	07:32:45
3	19	-	-	**-**	07:51:10
4	86	3	6.54	**1652**	08:08:10
5	66	8.8	19.22	**1648**	08:12:28
6	71	4	6.53	**2205**	08:14:18
7	74	3.5	4.63	**2720**	08:25:38
8	85	3	6.64	**1626**	08:26:53
9	82	1	2.41	**1493**	08:51:13
10	82	-	-	**-**	09:11:46
11	80	-	-	**-**	09:28:35
12	77	2	6.81	**1057**	09:47:17

Arm B Lane 1 - Asda (PM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	19	4.5	9.6	**1688**	16:10:35
2	2	-	-	**-**	16:29:09
3	20	3	8.85	**1220**	16:29:20
4	18	4	10.21	**1411**	16:49:54
5	18	3	7.83	**1379**	17:00:02
6	19	1	3.09	**1167**	17:10:21
7	19	5	12.62	**1426**	17:29:13
8	18	2	5.15	**1397**	18:06:44
9	20	-	-	**-**	18:23:38
10	20	5	15.2	**1184**	18:46:13

Arm B Lane 2 - Asda (PM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	15	4	9.11	**1581**	16:12:10
2	21	5	12.78	**1408**	16:31:12
3	11	3	7.09	**1523**	16:51:50
4	13	4	9.18	**1568**	17:12:21
5	10	3.5	6.15	**2049**	17:31:16
6	14	4	8.52	**1690**	18:08:42
7	11	5	9.86	**1825**	18:27:36
8	10	2	4.22	**1707**	18:48:13

Arm C Lane 1 - A1067 South (PM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	63	1	4.41	**816**	16:22:32
2	67	8	9.43	**3054**	16:38:23
3	64	1	3.08	**1168**	16:43:07
4	65	7	12.03	**2094**	17:02:44
5	57	3	6.49	**1665**	17:03:46
6	57	2	5.25	**1372**	17:22:30
7	69	-	-	**-**	17:59:57
8	69	4	10.14	**1421**	18:18:36
9	74	4	8.07	**1784**	18:41:05

	Arm C Lane 2 - A1067 South (AM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	84	-	-	-	07:14:03
2	82	3	4.26	**2538**	07:34:40
3	44	-	-	-	07:51:56
4	83	-	-	-	08:10:05
5	74	2	2.57	**2805**	08:25:38
6	80	1	2.15	**1673**	08:33:01
7	75	2	3.84	**1876**	08:40:34
8	79	-	-	-	08:55:00
9	85	-	-	-	09:13:35

	Arm C Lane 3 - A1067 South (AM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	95	-	-	-	07:15:45
2	89	-	-	-	07:40:13
3	83	3.5	10.58	**1191**	07:53:19
4	82	-	-	-	08:11:58
5	80	-	-	-	08:32:33
6	73	5.5	31.21	**634**	08:56:52
7	85	3	26.13	**413**	09:15:28
8	84	2	12.1	**595**	09:32:20
9	71	-	-	-	09:51:03

	Arm D - Hellesdon Park Road (AM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	13	3	9.17	**1177**	07:17:36
2	10	1.5	2.86	**1887**	07:19:25
3	12	2.5	5.52	**1629**	07:41:56
4	11	-	-	-	07:55:00
5	16	3	4.76	**2267**	08:13:36
6	15	4	7.46	**1931**	08:36:01
7	21	5	9.28	**1940**	08:58:22
8	12	4	6.81	**2114**	09:17:09
9	16	5.5	8.3	**2384**	09:34:01
10	20	4.5	14.07	**1151**	09:52:32

	Arm C Lane 2 - A1067 South (PM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	89	2	5.31	**1356**	16:24:02
2	63	9.5	61.03	**560**	16:45:01
3	57	4	8.54	**1686**	17:05:39
4	56	8.4	20.07	**1507**	17:24:23
5	66	1	2.52	**1430**	18:01:48
6	68	2	3.31	**2177**	18:20:30
7	72	1	2.37	**1518**	18:43:00

	Arm C Lane 3 - A1067 South (PM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	76	-	-	-	16:18:46
2	73	-	-	-	16:39:24
3	37	1	4.47	**805**	16:58:07
4	74	-	-	-	17:18:42
5	84	-	-	-	17:56:12
6	78	-	-	-	18:14:51
7	67	3	11.79	**916**	17:02:44
8	64	2	9.61	**749**	17:12:06
9	62	2	29.99	**240**	17:27:08
10	60	3	25.73	**420**	17:40:16
11	67	2	7.54	**955**	17:53:19
12	77	3	19.73	**547**	18:08:16
13	87	-	-	-	18:37:20
14	78	-	-	-	18:54:19

	Arm D - Hellesdon Park Road (PM)				
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	22	12.5	19.1	**2356**	16:00:29
2	20	11.5	17.74	**2333**	16:02:23
3	20	10.5	17	**2224**	16:04:16
4	21	13.5	18.77	**2589**	16:06:08
5	21	8.5	13.2	**2319**	16:08:01
6	20	4	10.09	**1427**	16:20:17
7	18	10.5	13.58	**2783**	16:28:38
8	16	9	10.62	**3052**	16:30:27
9	13	9.5	10.34	**3307**	16:32:27
10	19	9	15.68	**2066**	16:34:16
11	21	8	13.08	**2201**	16:36:05
12	11	1	2.1	**1717**	16:40:58
13	16	7.5	12.17	**2218**	16:58:59
14	24	14.5	21.05	**2479**	17:00:20
15	24	12	20.86	**2071**	17:20:11
16	11	-	-	-	18:16:32
17	9	3	5.44	**1987**	18:55:58

Norwich - Manual Traffic Survey, Thursday 4th July 2019

Junction: (2) A1067 / A140

Approach: A1067 (North)

	Left to A140 (East)								Ahead to A1067 (South)								Right to A140 (West)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0700 - 0715	0	0	11	7	1	0	0	**19**	1	4	56	8	0	0	1	**70**	0	2	39	16	3	0	0	**60**
0715 - 0730	0	0	3	3	1	0	0	**7**	0	4	62	16	1	0	3	**86**	0	0	48	11	2	0	1	**62**
0730 - 0745	0	0	12	5	0	0	0	**17**	3	0	85	7	1	1	1	**98**	0	1	46	17	1	0	0	**65**
0745 - 0800	0	0	5	5	0	0	0	**10**	1	1	106	15	0	0	2	**125**	1	2	54	6	2	0	0	**65**
Hourly Total	**0**	**0**	**31**	**20**	**2**	**0**	**0**	**53**	**5**	**9**	**309**	**46**	**2**	**1**	**7**	**379**	**1**	**5**	**187**	**50**	**8**	**0**	**1**	**252**
0800 - 0815	0	0	8	3	0	0	1	**12**	1	1	90	16	2	1	3	**114**	1	1	52	16	0	1	0	**71**
0815 - 0830	0	0	9	4	0	0	0	**13**	0	2	88	13	1	0	2	**106**	1	0	45	11	1	0	0	**58**
0830 - 0845	0	0	14	7	1	0	0	**22**	1	1	78	17	3	0	1	**101**	1	0	38	9	1	2	0	**51**
0845 - 0900	0	0	13	6	3	0	0	**22**	1	1	92	18	0	0	1	**113**	0	0	32	15	1	0	0	**48**
Hourly Total	**0**	**0**	**44**	**20**	**4**	**0**	**1**	**69**	**3**	**5**	**348**	**64**	**6**	**1**	**7**	**434**	**3**	**1**	**167**	**51**	**3**	**3**	**0**	**228**
0900 - 0915	0	0	11	4	2	0	0	**17**	0	1	87	8	0	0	2	**98**	0	0	58	16	2	2	1	**79**
0915 - 0930	0	0	14	5	1	0	0	**20**	1	0	83	5	3	1	1	**94**	1	0	47	16	1	2	0	**67**
0930 - 0945	0	0	20	6	2	0	0	**28**	1	1	61	8	0	1	2	**74**	1	0	41	17	5	0	0	**64**
0945 - 1000	0	0	22	8	1	1	0	**32**	0	0	54	11	0	0	0	**65**	0	1	51	15	5	1	0	**73**
Hourly Total	**0**	**0**	**67**	**23**	**6**	**1**	**0**	**97**	**2**	**2**	**285**	**32**	**3**	**2**	**5**	**331**	**2**	**1**	**197**	**64**	**13**	**5**	**1**	**283**
Session Total	**0**	**0**	**142**	**63**	**12**	**1**	**1**	**219**	**10**	**16**	**942**	**142**	**11**	**4**	**19**	**1144**	**6**	**7**	**551**	**165**	**24**	**8**	**2**	**763**
1600 - 1615	0	1	22	7	0	0	0	**30**	0	1	92	9	0	0	1	**103**	0	1	63	11	1	0	0	**76**
1615 - 1630	0	0	20	4	0	1	1	**26**	0	2	76	6	0	0	2	**86**	0	0	64	11	4	4	1	**84**
1630 - 1645	0	0	27	7	0	0	0	**34**	0	6	63	4	0	0	2	**75**	0	0	72	10	1	0	1	**84**
1645 - 1700	0	0	22	7	0	0	0	**29**	0	2	72	6	1	0	2	**83**	0	1	53	9	1	1	0	**65**
Hourly Total	**0**	**1**	**91**	**25**	**0**	**1**	**1**	**119**	**0**	**11**	**303**	**25**	**1**	**0**	**7**	**347**	**0**	**2**	**252**	**41**	**7**	**5**	**2**	**309**
1700 - 1715	0	0	32	7	0	0	0	**39**	3	5	88	13	0	0	1	**110**	0	0	85	11	0	0	0	**96**
1715 - 1730	0	0	33	4	0	0	0	**37**	1	2	72	7	1	0	1	**84**	0	1	73	6	0	1	0	**81**
1730 - 1745	0	0	17	3	0	0	0	**20**	0	3	58	7	0	0	1	**69**	0	1	69	7	1	0	0	**78**
1745 - 1800	0	1	22	2	0	0	0	**25**	2	3	68	9	1	0	1	**84**	0	0	47	7	0	1	0	**55**
Hourly Total	**0**	**1**	**104**	**16**	**0**	**0**	**0**	**121**	**6**	**13**	**286**	**36**	**2**	**0**	**4**	**347**	**0**	**2**	**274**	**31**	**1**	**2**	**0**	**310**
1800 - 1815	0	0	17	0	0	0	0	**17**	1	0	61	7	0	0	0	**69**	0	3	60	6	0	1	0	**70**
1815 - 1830	0	0	14	1	0	0	0	**15**	0	0	71	3	0	0	1	**75**	0	2	56	1	0	0	0	**59**
1830 - 1845	0	0	18	4	0	0	0	**22**	0	0	57	2	1	0	0	**60**	1	1	69	4	1	0	0	**76**
1845 - 1900	0	1	28	4	0	0	0	**33**	0	2	100	5	0	0	1	**108**	0	4	52	4	0	1	0	**61**
Hourly Total	**0**	**1**	**77**	**9**	**0**	**0**	**0**	**87**	**1**	**2**	**289**	**17**	**1**	**0**	**2**	**312**	**1**	**10**	**237**	**15**	**1**	**2**	**0**	**266**
Session Total	**0**	**3**	**272**	**50**	**0**	**1**	**1**	**327**	**7**	**26**	**878**	**78**	**4**	**0**	**13**	**1006**	**1**	**14**	**763**	**87**	**9**	**9**	**2**	**885**

Norwich - Manual Traffic Survey, Thursday 4th July 2019

Junction: (2) A1067 / A140

Approach: A140 (East)

	Left to A1067 (South)								Ahead to A140 (West)								Right to A1067 (North)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0700 - 0715	0	0	1	0	1	0	0	**2**	0	0	132	32	2	3	4	**173**	0	0	20	6	0	0	0	**26**
0715 - 0730	3	0	2	0	0	0	0	**5**	0	2	150	40	6	2	2	**202**	0	1	28	9	0	0	0	**38**
0730 - 0745	0	0	4	0	0	0	0	**4**	0	3	145	39	9	1	3	**200**	0	0	20	5	0	0	1	**26**
0745 - 0800	0	0	0	1	0	0	0	**1**	0	3	160	40	3	2	1	**209**	0	0	24	5	0	0	0	**29**
Hourly Total	**3**	**0**	**7**	**1**	**1**	**0**	**0**	**12**	**0**	**8**	**587**	**151**	**20**	**8**	**10**	**784**	**0**	**1**	**92**	**25**	**0**	**0**	**1**	**119**
0800 - 0815	0	0	2	3	0	0	0	**5**	0	0	155	35	7	4	0	**201**	0	0	23	9	0	0	0	**32**
0815 - 0830	0	0	1	0	0	0	0	**1**	2	2	140	36	3	6	0	**189**	0	0	22	7	1	0	0	**30**
0830 - 0845	0	0	0	0	0	0	0	**0**	0	0	144	40	7	3	2	**196**	0	0	25	9	1	0	0	**35**
0845 - 0900	1	0	4	0	0	0	0	**5**	0	0	130	38	2	3	2	**175**	0	0	32	10	0	0	0	**42**
Hourly Total	**1**	**0**	**7**	**3**	**0**	**0**	**0**	**11**	**2**	**2**	**569**	**149**	**19**	**16**	**4**	**761**	**0**	**0**	**102**	**35**	**2**	**0**	**0**	**139**
0900 - 0915	0	0	5	1	0	0	0	**6**	0	1	126	36	10	8	2	**183**	0	1	14	4	0	0	0	**19**
0915 - 0930	0	0	0	1	1	0	0	**2**	1	0	131	45	6	8	0	**191**	0	1	35	11	1	1	0	**49**
0930 - 0945	0	0	6	0	0	0	0	**6**	0	0	110	45	7	1	3	**166**	0	0	21	3	2	0	0	**26**
0945 - 1000	0	0	3	0	1	0	0	**4**	0	2	120	35	10	3	0	**170**	0	0	20	3	2	1	0	**26**
Hourly Total	**0**	**0**	**14**	**2**	**2**	**0**	**0**	**18**	**1**	**3**	**487**	**161**	**33**	**20**	**5**	**710**	**0**	**2**	**90**	**21**	**5**	**2**	**0**	**120**
Session Total	**4**	**0**	**28**	**6**	**3**	**0**	**0**	**41**	**3**	**13**	**1643**	**461**	**72**	**44**	**19**	**2255**	**0**	**3**	**284**	**81**	**7**	**2**	**1**	**378**
1600 - 1615	0	0	4	1	0	0	0	**5**	0	4	155	38	2	4	0	**203**	0	0	22	5	0	0	0	**27**
1615 - 1630	0	0	3	1	0	0	0	**4**	0	2	175	25	4	4	1	**211**	0	0	8	6	0	0	0	**14**
1630 - 1645	0	0	3	2	0	0	0	**5**	0	3	176	25	5	0	1	**210**	0	0	21	8	0	1	0	**30**
1645 - 1700	0	0	5	1	0	0	0	**6**	0	1	174	30	3	4	0	**212**	0	0	15	5	0	0	0	**20**
Hourly Total	**0**	**0**	**15**	**5**	**0**	**0**	**0**	**20**	**0**	**10**	**680**	**118**	**14**	**12**	**2**	**836**	**0**	**0**	**66**	**24**	**0**	**1**	**0**	**91**
1700 - 1715	0	0	3	1	0	0	0	**4**	0	1	173	19	1	0	1	**195**	0	0	15	2	0	0	0	**17**
1715 - 1730	0	1	4	0	0	0	0	**5**	0	1	200	26	3	0	0	**230**	0	0	19	3	0	1	0	**23**
1730 - 1745	0	0	6	0	0	0	0	**6**	0	2	185	25	3	1	1	**217**	0	0	15	4	0	0	0	**19**
1745 - 1800	1	0	3	0	0	0	0	**4**	0	4	168	22	1	1	2	**198**	0	1	15	1	1	0	0	**18**
Hourly Total	**1**	**1**	**16**	**1**	**0**	**0**	**0**	**19**	**0**	**8**	**726**	**92**	**8**	**2**	**4**	**840**	**0**	**1**	**64**	**10**	**1**	**1**	**0**	**77**
1800 - 1815	0	0	1	1	0	0	0	**2**	0	2	165	16	2	1	0	**186**	0	0	10	0	0	0	0	**10**
1815 - 1830	0	0	3	0	0	0	0	**3**	0	3	162	15	0	1	0	**181**	0	0	20	0	0	0	0	**20**
1830 - 1845	0	1	0	0	0	0	0	**1**	0	5	150	10	0	2	0	**167**	0	0	18	4	0	0	0	**22**
1845 - 1900	0	0	4	0	0	0	0	**4**	0	0	135	20	1	1	0	**157**	0	1	20	3	0	0	0	**24**
Hourly Total	**0**	**1**	**8**	**1**	**0**	**0**	**0**	**10**	**0**	**10**	**612**	**61**	**3**	**5**	**0**	**691**	**0**	**1**	**68**	**7**	**0**	**0**	**0**	**76**
Session Total	**1**	**2**	**39**	**7**	**0**	**0**	**0**	**49**	**0**	**28**	**2018**	**271**	**25**	**19**	**6**	**2367**	**0**	**2**	**198**	**41**	**1**	**2**	**0**	**244**

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Junction: (2) A1067 / A140

Approach: A1067 (South)

	Left to A140 (West)								Ahead to A1067 (North)								Right to A140 (East)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0700 - 0715	0	0	25	6	0	0	0	**31**	0	1	22	8	0	0	0	**31**	0	0	2	2	0	0	0	**4**
0715 - 0730	0	2	33	10	1	0	1	**47**	3	3	44	11	0	0	1	**62**	0	0	2	1	0	0	0	**3**
0730 - 0745	0	1	40	8	1	1	2	**53**	0	1	52	10	1	0	1	**65**	0	0	7	0	1	0	0	**8**
0745 - 0800	0	1	43	7	1	0	0	**52**	2	0	72	7	0	0	1	**82**	0	0	8	0	0	0	0	**8**
Hourly Total	**0**	**4**	**141**	**31**	**3**	**1**	**3**	**183**	**5**	**5**	**190**	**36**	**1**	**0**	**3**	**240**	**0**	**0**	**19**	**3**	**1**	**0**	**0**	**23**
0800 - 0815	0	0	30	17	2	0	2	**51**	3	0	64	4	0	0	1	**72**	0	0	3	0	1	0	0	**4**
0815 - 0830	2	1	59	8	0	0	0	**70**	0	0	77	17	0	1	0	**95**	0	0	3	0	0	1	0	**4**
0830 - 0845	0	0	29	10	1	1	0	**41**	3	2	70	8	1	0	1	**85**	0	0	2	2	0	1	0	**5**
0845 - 0900	0	1	31	9	1	0	0	**42**	1	1	48	7	1	0	3	**61**	0	0	3	1	0	0	0	**4**
Hourly Total	**2**	**2**	**149**	**44**	**4**	**1**	**2**	**204**	**7**	**3**	**259**	**36**	**2**	**1**	**5**	**313**	**0**	**0**	**11**	**3**	**1**	**2**	**0**	**17**
0900 - 0915	0	1	37	13	2	0	0	**53**	0	0	58	13	1	0	1	**73**	0	0	3	1	0	0	0	**4**
0915 - 0930	0	0	30	20	4	0	1	**55**	0	0	62	10	0	0	1	**73**	0	1	7	0	0	0	0	**8**
0930 - 0945	0	0	28	27	1	0	0	**56**	0	0	38	11	1	0	1	**51**	0	0	4	1	0	0	0	**5**
0945 - 1000	0	0	27	15	0	1	0	**43**	0	1	54	9	0	0	4	**68**	0	0	12	1	0	0	0	**13**
Hourly Total	**0**	**1**	**122**	**75**	**7**	**1**	**1**	**207**	**0**	**1**	**212**	**43**	**2**	**0**	**7**	**265**	**0**	**1**	**26**	**3**	**0**	**0**	**0**	**30**
Session Total	**2**	**7**	**412**	**150**	**14**	**3**	**6**	**594**	**12**	**9**	**661**	**115**	**5**	**1**	**15**	**818**	**0**	**1**	**56**	**9**	**2**	**2**	**0**	**70**
1600 - 1615	0	1	26	11	0	0	0	**38**	0	0	70	13	0	0	1	**84**	0	0	7	2	1	0	0	**10**
1615 - 1630	0	0	39	10	1	1	0	**51**	0	3	70	12	0	0	0	**85**	0	0	15	1	0	0	0	**16**
1630 - 1645	0	1	43	7	0	0	0	**51**	0	1	97	10	0	0	1	**109**	0	3	9	4	0	0	0	**16**
1645 - 1700	0	0	47	11	0	0	0	**58**	0	0	107	12	0	0	2	**121**	0	1	15	1	0	0	0	**17**
Hourly Total	**0**	**2**	**155**	**39**	**1**	**1**	**0**	**198**	**0**	**4**	**344**	**47**	**0**	**0**	**4**	**399**	**0**	**4**	**46**	**8**	**1**	**0**	**0**	**59**
1700 - 1715	0	3	39	3	0	0	0	**45**	0	1	94	10	0	0	1	**106**	0	0	13	0	0	0	0	**13**
1715 - 1730	0	0	51	3	0	0	0	**54**	0	0	104	7	0	0	1	**112**	0	0	17	1	0	0	0	**18**
1730 - 1745	0	1	35	3	0	0	0	**39**	0	0	111	9	0	0	2	**122**	0	0	14	1	0	0	0	**15**
1745 - 1800	1	1	41	5	0	0	0	**48**	4	3	100	4	0	0	1	**112**	0	0	6	1	0	0	0	**7**
Hourly Total	**1**	**5**	**166**	**14**	**0**	**0**	**0**	**186**	**4**	**4**	**409**	**30**	**0**	**0**	**5**	**452**	**0**	**0**	**50**	**3**	**0**	**0**	**0**	**53**
1800 - 1815	0	0	47	5	0	0	0	**52**	1	4	106	5	0	0	1	**117**	0	0	12	3	0	0	0	**15**
1815 - 1830	1	0	30	2	0	0	0	**33**	2	2	93	4	0	0	1	**102**	0	1	8	1	0	0	0	**10**
1830 - 1845	0	1	33	3	0	0	0	**37**	1	0	86	4	1	0	1	**93**	0	0	13	2	0	1	0	**16**
1845 - 1900	1	0	30	3	0	0	0	**34**	0	0	60	2	0	0	0	**62**	0	1	12	2	0	0	0	**15**
Hourly Total	**2**	**1**	**140**	**13**	**0**	**0**	**0**	**156**	**4**	**6**	**345**	**15**	**1**	**0**	**3**	**374**	**0**	**2**	**45**	**8**	**0**	**1**	**0**	**56**
Session Total	**3**	**8**	**461**	**66**	**1**	**1**	**0**	**540**	**8**	**14**	**1098**	**92**	**1**	**0**	**12**	**1225**	**0**	**6**	**141**	**19**	**1**	**1**	**0**	**168**

Norwich - Manual Traffic Survey, Thursday 4th July 2019

Junction: (2) A1067 / A140

Approach: A140 (West)

	Left to A1067 (North)								Ahead to A140 (East)								Right to A1067 (South)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0700 - 0715	1	1	38	12	3	2	0	**57**	0	2	87	27	8	9	0	**133**	0	1	11	2	2	0	0	**16**
0715 - 0730	0	1	50	15	1	3	0	**70**	0	2	89	31	3	7	1	**133**	0	0	10	3	2	0	0	**15**
0730 - 0745	2	1	64	17	0	0	1	**85**	0	2	133	37	6	7	0	**185**	0	1	12	5	0	1	1	**20**
0745 - 0800	1	0	82	20	3	2	1	**109**	0	1	120	33	9	4	0	**167**	0	0	30	11	0	0	0	**41**
Hourly Total	**4**	**3**	**234**	**64**	**7**	**7**	**2**	**321**	**0**	**7**	**429**	**128**	**26**	**27**	**1**	**618**	**0**	**2**	**63**	**21**	**4**	**1**	**1**	**92**
0800 - 0815	0	1	65	15	4	1	0	**86**	2	1	129	36	9	4	0	**181**	0	0	29	10	0	1	0	**40**
0815 - 0830	0	0	66	10	6	1	0	**83**	0	2	154	35	4	3	0	**198**	0	0	31	7	1	1	0	**40**
0830 - 0845	0	1	63	17	3	3	0	**87**	0	1	115	27	4	3	2	**152**	0	0	20	7	0	0	0	**27**
0845 - 0900	0	1	48	11	3	1	0	**64**	0	0	127	36	4	4	0	**171**	0	0	32	9	1	0	0	**42**
Hourly Total	**0**	**3**	**242**	**53**	**16**	**6**	**0**	**320**	**2**	**4**	**525**	**134**	**21**	**14**	**2**	**702**	**0**	**0**	**112**	**33**	**2**	**2**	**0**	**149**
0900 - 0915	0	0	58	7	1	1	0	**67**	0	1	130	26	4	6	2	**169**	0	0	34	13	0	0	0	**47**
0915 - 0930	0	1	62	10	1	1	1	**76**	0	0	103	25	2	7	2	**139**	0	0	20	4	1	0	1	**26**
0930 - 0945	0	1	78	18	2	0	0	**99**	1	0	112	30	6	2	2	**153**	0	0	28	8	1	2	2	**41**
0945 - 1000	0	0	49	15	3	1	0	**68**	0	0	120	35	3	6	1	**165**	0	0	30	7	1	0	0	**38**
Hourly Total	**0**	**2**	**247**	**50**	**7**	**3**	**1**	**310**	**1**	**1**	**465**	**116**	**15**	**21**	**7**	**626**	**0**	**0**	**112**	**32**	**3**	**2**	**3**	**152**
Session Total	**4**	**8**	**723**	**167**	**30**	**16**	**3**	**951**	**3**	**12**	**1419**	**378**	**62**	**62**	**10**	**1946**	**0**	**2**	**287**	**86**	**9**	**5**	**4**	**393**
1600 - 1615	0	0	75	15	1	0	0	**91**	0	5	146	33	7	7	1	**199**	0	0	48	6	0	0	0	**54**
1615 - 1630	0	1	64	9	0	0	0	**74**	0	4	156	32	5	1	1	**199**	0	1	49	9	0	0	0	**59**
1630 - 1645	0	1	71	11	0	1	0	**84**	0	2	185	29	3	1	1	**221**	0	0	50	7	1	0	0	**58**
1645 - 1700	2	2	55	8	0	1	0	**68**	0	0	165	30	8	1	0	**204**	0	0	43	11	0	0	0	**54**
Hourly Total	**2**	**4**	**265**	**43**	**1**	**2**	**0**	**317**	**0**	**11**	**652**	**124**	**23**	**10**	**3**	**823**	**0**	**1**	**190**	**33**	**1**	**0**	**0**	**225**
1700 - 1715	0	2	88	15	1	0	0	**106**	0	4	185	38	5	1	1	**234**	0	1	54	6	0	0	0	**61**
1715 - 1730	0	3	63	6	1	0	0	**73**	0	7	161	23	3	3	2	**199**	0	0	36	7	0	0	0	**43**
1730 - 1745	0	0	69	5	1	0	0	**75**	0	7	184	21	2	1	2	**217**	0	0	47	10	0	0	0	**57**
1745 - 1800	0	1	75	4	0	0	1	**81**	0	5	145	21	1	2	0	**174**	0	1	41	8	0	0	1	**51**
Hourly Total	**0**	**6**	**295**	**30**	**3**	**0**	**1**	**335**	**0**	**23**	**675**	**103**	**11**	**7**	**5**	**824**	**0**	**2**	**178**	**31**	**0**	**0**	**1**	**212**
1800 - 1815	0	1	82	5	0	0	0	**88**	1	2	150	18	2	3	1	**177**	0	2	36	8	0	0	0	**46**
1815 - 1830	0	3	76	6	1	1	0	**87**	3	4	149	22	1	4	0	**183**	0	1	37	5	0	0	0	**43**
1830 - 1845	0	0	58	4	0	1	0	**63**	1	1	132	22	1	3	0	**160**	0	0	16	6	0	1	0	**23**
1845 - 1900	0	0	66	1	1	0	0	**68**	3	4	135	10	1	0	1	**154**	0	0	29	2	0	0	0	**31**
Hourly Total	**0**	**4**	**282**	**16**	**2**	**2**	**0**	**306**	**8**	**11**	**566**	**72**	**5**	**10**	**2**	**674**	**0**	**3**	**118**	**21**	**0**	**1**	**0**	**143**
Session Total	**2**	**14**	**842**	**89**	**6**	**4**	**1**	**958**	**8**	**45**	**1893**	**299**	**39**	**27**	**10**	**2321**	**0**	**6**	**486**	**85**	**1**	**1**	**1**	**580**

Norwich - Saturation Flows, Thursday 4th July 2019

Arm A Lane 1 - A1067 North (AM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	21	9	15.42	**2102**	07:57:13
2	25	3	4.88	**2211**	08:08:19
3	20	2	3.05	**2361**	08:27:00
4	22	5	9.72	**1851**	08:36:21
5	31	4	7.86	**1833**	08:49:25
6	19	4	5.75	**2504**	08:58:52
7	24	3	5.9	**1831**	09:39:56
8	28	4	7.8	**1845**	09:43:36
9	24	1	1.85	**1951**	09:54:50

Arm A Lane 2 - A1067 North (AM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	31	7.5	14.03	**1924**	07:58:56
2	21	6	10.7	**2018**	08:19:35
3	49	22.5	34.65	**2338**	08:27:50
4	25	4	7.17	**2008**	08:41:55
5	33	12.5	14.14	**3182**	08:57:52
6	23	5	9.69	**1857**	09:02:31
7	25	4.5	7.14	**2268**	09:47:22
8	19	-	-	**-**	09:49:17

Arm A Lane 3 - A1067 North (AM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	28	7	13.44	**1875**	07:08:56
2	24	11	15	**2640**	07:10:49
3	23	6	12.42	**1739**	07:20:11
4	31	6	11.13	**1941**	08:12:27
5	23	5.5	8.86	**2236**	08:20:01
6	30	7.3	11.1	**2369**	08:40:28
7	20	9.3	13.44	**2490**	09:10:27
8	25	10	16.47	**2186**	09:32:49

Arm A Lane 1 - A1067 North (PM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	21	2	3.38	**2133**	16:30:00
2	22	5.5	8.79	**2252**	16:37:38
3	23	8.5	15.94	**1920**	16:48:48
4	26	5.4	10.82	**1797**	17:13:09
5	30	5.3	8.33	**2290**	17:33:48
6	20	4.2	7.92	**1909**	17:45:05
7	26	3	3.7	**2920**	17:59:56
8	18	7	9.85	**2558**	18:14:59
9	23	2	2.94	**2446**	18:22:26
10	21	7	11.48	**2195**	18:48:45

Arm A Lane 2 - A1067 North (PM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	25	-	-	**-**	16:33:45
2	20	1	1.17	**3087**	16:43:16
3	21	2	3.07	**2349**	16:50:40
4	26	6	8.18	**2641**	17:20:44
5	23	2	3.88	**1854**	17:35:41
6	24	7	13.38	**1883**	17:48:47
7	22	1	1.44	**2503**	18:07:27
8	22	1	0.97	**3719**	18:16:50
9	18	3	4.75	**2274**	18:28:06
10	26	3	3.61	**2993**	18:50:38

Arm A Lane 3 - A1067 North (PM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	24	14.6	22.82	**2304**	16:24:56
2	27	14.6	25.48	**2063**	16:54:51
3	20	9	14.55	**2226**	17:09:51
4	28	9.5	16.65	**2055**	17:32:23
5	19	10.5	18.1	**2088**	17:45:29
6	22	3	5.28	**2046**	18:36:00
7	27	7.3	14.27	**1842**	18:56:39

Arm B Lane 1 - A140 East (AM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	24	5	7.46	**2414**	08:02:16
2	29	8.5	10.74	**2849**	08:09:39
3	35	11.8	20.65	**2057**	08:20:51
4	34	12.1	19.19	**2270**	08:33:52
5	45	13.1	20.76	**2272**	08:45:00
6	32	17.3	27.22	**2288**	09:00:05
7	34	15.1	29.98	**1813**	09:22:26
8	46	10.5	18.34	**2061**	09:33:34
9	26	14.3	20.52	**2509**	09:52:30

Arm B Lane 2 - A140 East (AM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	35	5.5	9.77	**2026**	08:03:57
2	34	14.3	22.88	**2250**	08:15:13
3	34	11.5	14.27	**2900**	08:32:04
4	36	5.5	9.78	**2024**	08:37:35
5	37	7.5	13.49	**2002**	08:46:56
6	30	-	-	**-**	09:03:47
7	37	6.5	11.8	**1984**	09:24:21
8	25	3.9	6.59	**2131**	09:35:34

Arm B Lane 3 - A140 East (AM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	10	3	3.15	**3425**	08:06:13
2	11	3.5	6.82	**1848**	08:30:30
3	14	3.5	6.69	**1884**	08:54:46
4	11	3	6.78	**1593**	09:13:28
5	10	4.8	7.11	**2430**	09:45:17

Arm B Lane 1 - A140 East (PM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	37	9.5	13.69	**2498**	16:20:07
2	31	20.7	30	**2484**	16:35:07
3	30	18.3	28.67	**2298**	16:46:24
4	29	18	24.47	**2648**	17:07:05
5	28	11	19.47	**2034**	17:14:30
6	35	11.3	16.22	**2508**	17:27:35
7	38	7.5	11.89	**2271**	17:55:37
8	32	5.5	11.13	**1779**	18:05:03
9	29	6	10.95	**1973**	18:20:02
10	32	3.5	8.46	**1489**	18:31:14

Arm B Lane 2 - A140 East (PM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	26	8.5	12.11	**2528**	16:25:47
2	32	9.4	16.09	**2103**	16:40:45
3	28	5.4	7.42	**2621**	16:52:04
4	26	10	17.85	**2017**	17:08:55
5	29	14	22.43	**2247**	17:18:18
6	28	5	9.61	**1873**	17:37:01
7	29	7.5	11.51	**2346**	18:01:17
8	35	8.5	14.56	**2102**	18:10:32
9	25	2	3.97	**1812**	18:23:42
10	22	4	7.54	**1910**	18:40:41

Arm B Lane 3 - A140 East (PM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	10	3	3.43	**3148**	16:31:40
2	44	1	2.01	**1791**	16:59:53
3	34	3.5	7.91	**1594**	17:50:03
4	9	1	1.67	**2158**	17:52:20
5	11	3	4.47	**2414**	18:18:31
6	14	2	4.22	**1706**	18:46:40
7	11	2	4.31	**1669**	18:55:56

Arm C Lane 1 - A1067 South (AM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	13	2	3.37	**2137**	07:48:58
2	23	7	12.69	**1986**	08:14:00
3	24	5.2	10.79	**1736**	08:23:15
4	18	2.3	4.02	**2060**	08:25:10
5	25	3	5.06	**2134**	08:51:19
6	25	3	6.43	**1680**	09:06:17
7	19	3.5	13.82	**912**	09:15:39
8	23	1	1.45	**2486**	09:36:14
9	23	3	5.38	**2006**	09:51:06

Arm C Lane 2 - A1067 South (AM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	17	3	6.88	**1570**	07:49:57
2	25	7	15.31	**1645**	08:17:40
3	13	3	4.52	**2391**	08:28:55
4	19	3	3.7	**2917**	08:43:52
5	22	6	11.08	**1950**	08:56:58
6	21	7.5	11.05	**2443**	09:11:53
7	17	4.5	6.28	**2581**	09:19:23
8	14	3	5.97	**1808**	09:38:11

Arm C Lane 3 - A1067 South (AM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	6	1	1.13	**3175**	08:01:17
2	14	2.3	4.13	**2006**	08:06:51
3	7	1.4	4.19	**1202**	09:25:18
4	9	1	0.71	**5085**	09:30:58
5	20	9	18.72	**1730**	09:42:44

Arm C Lane 1 - A1067 South (PM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	13	3	8.71	**1240**	16:22:40
2	13	5.5	4.96	**3994**	16:39:32
3	27	4.5	9.02	**1795**	16:56:19
4	24	5.4	12.56	**1548**	17:05:41
5	19	3	3.31	**3265**	17:22:38
6	21	5.5	8.91	**2221**	17:39:26
7	22	6.2	9.64	**2315**	17:58:11
8	24	6	11.48	**1881**	18:11:13
9	17	4	5.43	**2652**	18:26:19
10	24	6	12.8	**1687**	18:39:20

Arm C Lane 2 - A1067 South (PM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	16	7.5	10.19	**2650**	16:26:21
2	28	5	9.08	**1982**	16:45:07
3	19	5	8.46	**2127**	17:03:50
4	23	8.5	14.11	**2168**	17:11:19
5	26	5	11.82	**1523**	17:24:30
6	24	5	9.77	**1843**	17:46:56
7	24	6.4	13.55	**1701**	18:03:41
8	28	4	6.28	**2292**	18:13:07
9	25	9.5	16	**2138**	18:37:28
10	29	7.5	16.09	**1678**	18:44:58

Arm C Lane 3 - A1067 South (PM)					
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	8	1.5	2.69	**2008**	16:34:20
2	15	1	1.29	**2795**	16:58:38
3	29	2	3.62	**1989**	18:19:05
4	19	1	1.61	**2236**	18:34:12
5	28	5.3	10.91	**1748**	18:41:40
6	20	4.4	10.9	**1453**	18:54:52

Arm D Lane 1 - A140 South (AM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	30	4	8.75	**1645**	07:52:31
2	39	3.3	4.51	**2635**	08:07:19
3	36	5.3	8.39	**2275**	08:16:48
4	45	7.6	15.82	**1730**	08:35:23
5	29	5.5	11.15	**1776**	08:50:24
6	31	6.8	10.28	**2382**	09:01:36
7	47	8.1	12.19	**2392**	09:14:43
8	79	10.7	14.26	**2701**	09:27:47
9	35	1	2.76	**1305**	09:50:13

Arm D Lane 2 - A140 South (AM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	39	11	19.97	**1983**	07:56:14
2	40	17	29.93	**2045**	08:11:06
3	41	12.5	22.92	**1964**	08:25:59
4	37	16.4	21.74	**2715**	08:39:09
5	40	11.5	18.24	**2269**	08:52:09
6	51	8.5	15.66	**1954**	09:07:01
7	33	12.8	20.74	**2222**	09:20:17
8	35	6	8.55	**2527**	09:31:33

Arm D Lane 3 - A140 South (AM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	16	6	12	**1800**	08:22:28
2	21	1	1.95	**1848**	08:31:35
3	14	4.5	8.48	**1911**	08:48:26
4	11	3.5	5.17	**2439**	09:12:46
5	20	9	18.02	**1798**	09:46:26

Arm D Lane 1 - A140 South (PM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	42	4.4	6.86	**2308**	16:23:26
2	42	15.5	20.78	**2685**	16:36:40
3	35	12.8	23.37	**1972**	16:47:57
4	40	11.5	20.43	**2026**	17:01:01
5	38	7.3	12.01	**2188**	17:16:00
6	40	9.9	21.5	**1658**	17:44:05
7	35	6	11.23	**1924**	17:57:12
8	43	6.3	14.82	**1531**	18:06:28
9	45	8	14.11	**2041**	18:21:28
10	48	5.9	10.67	**1991**	18:32:59

Arm D Lane 2 - A140 South (PM)

Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	40	17.3	25.46	**2446**	16:29:03
2	26	17.2	25	**2477**	16:44:11
3	37	12	18.23	**2369**	16:49:46
4	48	24	44.13	**1958**	17:12:07
5	46	10	17.17	**2097**	17:47:47
6	47	5	9.12	**1974**	17:53:22
7	41	9.9	17.85	**1996**	17:58:59
8	39	7.5	11.85	**2278**	18:08:25
9	43	7.5	16.8	**1607**	18:29:01
10	39	8.5	13.22	**2315**	18:36:31

Arm D Lane 3 - A140 South (PM)

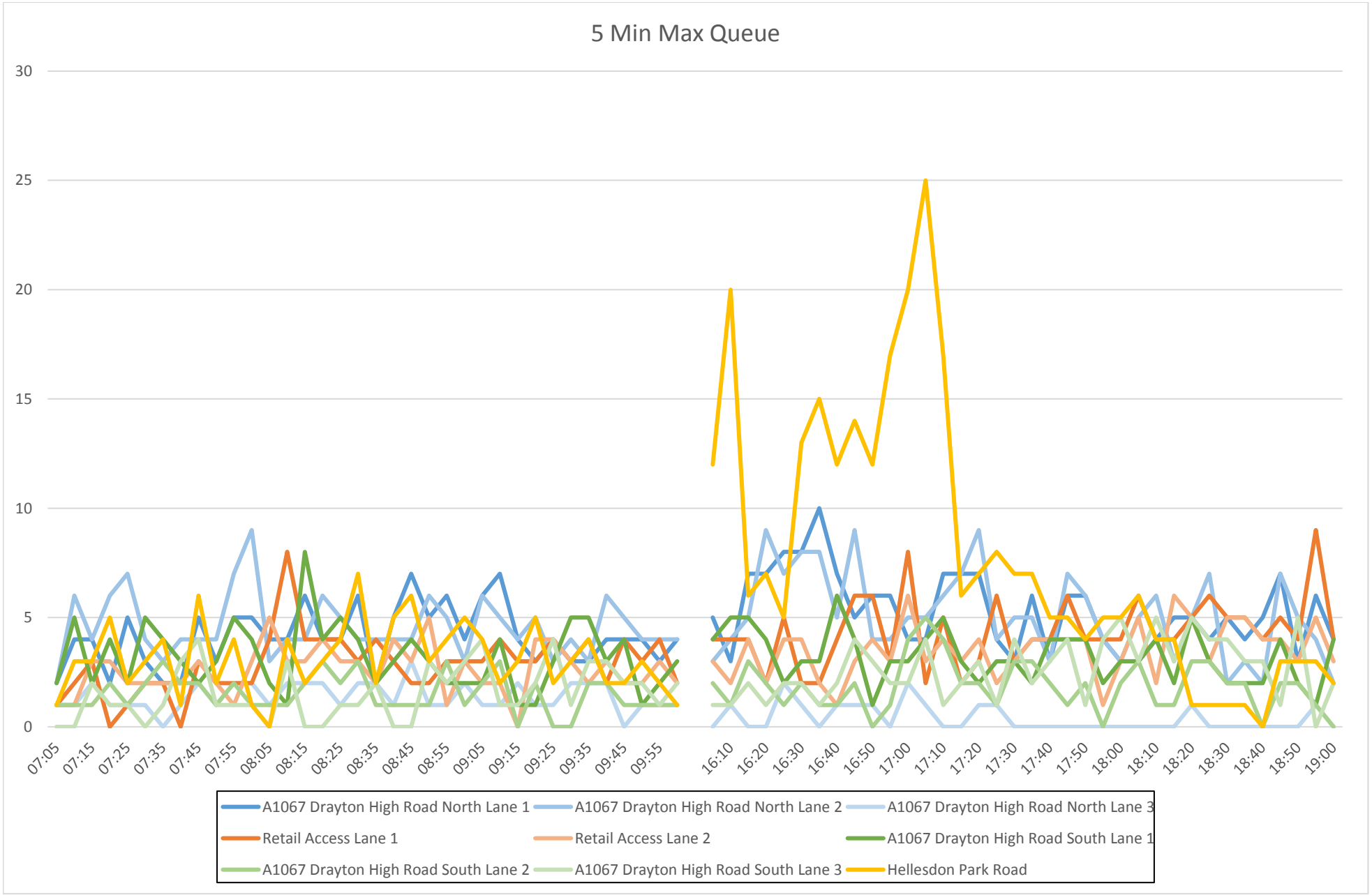
Cycle Index	Green Time (Seconds)	Full Demand PCU	Full Demand Time	Saturation Flow	Timestamp
1	20	6	11.19	**1930**	16:32:53
2	17	6	13.47	**1603**	16:53:30
3	17	7	9.35	**2694**	17:10:19
4	22	9.3	14.3	**2341**	17:51:28
5	20	17.7	16.09	**3961**	18:02:45
6	23	1	3.69	**976**	18:51:38

Norwich - 5 Minute Max Queue Length Survey, Thursday 4th July 2019

Time	A1067 Drayton High Road North Lane 1	A1067 Drayton High Road North Lane 2	A1067 Drayton High Road North Lane 3	Retail Access Lane 1	Retail Access Lane 2	A1067 Drayton High Road South Lane 1	A1067 Drayton High Road South Lane 2	A1067 Drayton High Road South Lane 3	Hellesdon Park Road
07:05	2	2	1	1	1	2	1	0	1
07:10	4	6	1	2	1	5	1	0	3
07:15	4	4	2	3	3	2	1	2	3
07:20	2	6	1	0	3	4	2	1	5
07:25	5	7	1	1	2	2	1	1	2
07:30	3	4	1	2	2	5	2	0	3
07:35	2	3	0	2	2	4	3	1	4
07:40	2	4	1	0	2	3	2	3	1
07:45	5	4	2	3	3	2	2	4	6
07:50	3	4	1	2	2	3	1	1	2
07:55	5	7	2	2	1	5	2	1	4
08:00	5	9	2	2	3	4	1	1	1
08:05	4	3	1	4	5	2	1	0	0
08:10	4	4	2	8	3	1	1	3	4
08:15	6	4	2	4	3	8	2	0	2
08:20	4	6	2	4	4	4	3	0	3
08:25	4	5	1	4	3	5	2	1	4
08:30	6	4	2	3	3	4	3	1	7
08:35	2	4	2	4	2	2	1	2	2
08:40	5	4	1	3	4	3	1	0	5
08:45	7	4	3	2	3	4	1	0	6
08:50	5	6	1	2	5	3	1	3	3
08:55	6	5	1	3	1	2	3	2	4
09:00	4	3	2	3	3	2	1	3	5
09:05	6	6	1	3	2	2	2	4	4
09:10	7	5	1	4	2	4	3	1	2
09:15	4	4	2	3	0	1	0	1	3
09:20	3	5	1	3	4	1	2	2	5
09:25	4	3	1	4	4	3	0	4	2
09:30	3	4	2	3	3	5	0	1	3
09:35	3	3	2	4	2	5	2	3	4
09:40	4	6	2	2	3	3	2	3	2
09:45	4	5	0	4	2	4	1	2	2
09:50	4	4	1	3	2	1	1	2	3
09:55	3	4	1	4	3	2	1	1	2
10:00	4	4	1	2	2	3	1	2	1

Norwich - 5 Minute Max Queue Length Survey, Thursday 4th July 2019

Time	A1067 Drayton High Road North Lane 1	A1067 Drayton High Road North Lane 2	A1067 Drayton High Road North Lane 3	Retail Access Lane 1	Retail Access Lane 2	A1067 Drayton High Road South Lane 1	A1067 Drayton High Road South Lane 2	A1067 Drayton High Road South Lane 3	Hellesdon Park Road
16:05	5	3	0	4	3	4	2	1	12
16:10	3	4	1	4	2	5	1	1	20
16:15	7	5	0	4	4	5	3	2	6
16:20	7	9	0	2	2	4	2	1	7
16:25	8	7	2	5	4	2	1	2	5
16:30	8	8	1	2	4	3	2	2	13
16:35	10	8	0	2	2	3	1	1	15
16:40	7	5	1	4	1	6	1	2	12
16:45	5	9	1	6	3	4	2	4	14
16:50	6	4	1	6	4	1	0	3	12
16:55	6	4	0	3	3	3	1	2	17
17:00	4	5	2	8	6	3	4	2	20
17:05	4	5	1	2	3	4	5	4	25
17:10	7	6	0	5	4	5	4	1	17
17:15	7	7	0	2	3	3	2	2	6
17:20	7	9	1	3	4	2	2	3	7
17:25	4	4	1	6	2	3	1	1	8
17:30	3	5	0	3	3	3	3	4	7
17:35	6	5	0	4	4	2	3	2	7
17:40	3	3	0	4	4	4	2	3	5
17:45	6	7	0	6	4	4	1	4	5
17:50	6	6	0	4	4	4	2	1	4
17:55	4	4	0	4	1	2	0	4	5
18:00	3	3	0	4	3	3	2	5	5
18:05	3	5	0	6	5	3	3	3	6
18:10	4	6	0	4	2	4	1	5	4
18:15	5	3	0	4	6	2	1	3	4
18:20	5	5	1	5	5	5	3	5	1
18:25	4	7	0	6	3	3	3	4	1
18:30	5	2	0	5	5	2	2	4	1
18:35	4	3	0	5	5	2	2	3	1
18:40	5	2	0	4	4	2	0	3	0
18:45	7	7	0	5	4	4	2	1	3
18:50	3	5	0	4	3	2	2	5	3
18:55	6	4	1	9	5	1	1	0	3
19:00	4	2	0	4	3	4	0	2	2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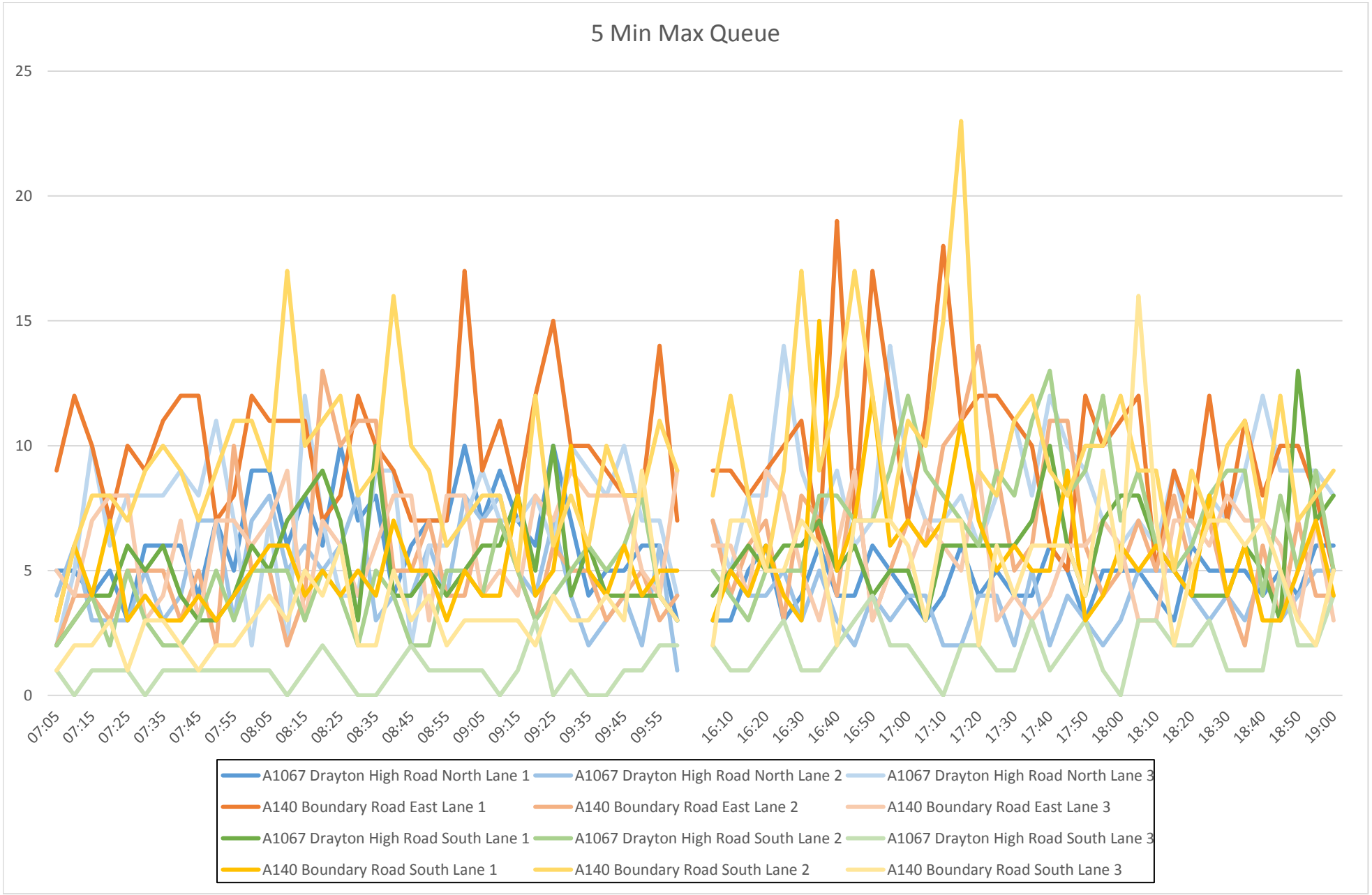
19:00
A1067 Drayton High Road North Lane 1
A1067 Drayton High Road North Lane 2
A1067 Drayton High Road North Lane 3
Retail Access Lane 1
Retail Access Lane 2
A1067 Drayton High Road South Lane 1
A1067 Drayton High Road South Lane 2
A1067 Drayton High Road South Lane 3
Hellesdon Park Road

Norwich - 5 Minute Max Queue Length Survey, Thursday 4th July 2019

Time	A1067 Drayton High Road North Lane 1	A1067 Drayton High Road North Lane 2	A1067 Drayton High Road North Lane 3	A140 Boundary Road East Lane 1	A140 Boundary Road East Lane 2	A140 Boundary Road East Lane 3	A1067 Drayton High Road South Lane 1	A1067 Drayton High Road South Lane 2	A1067 Drayton High Road South Lane 3	A140 Boundary Road South Lane 1	A140 Boundary Road South Lane 2	A140 Boundary Road South Lane 3
07:05	5	4	2	9	2	5	2	2	1	3	3	1
07:10	5	6	5	12	4	4	3	3	0	6	6	2
07:15	4	3	10	10	4	7	4	4	1	4	8	2
07:20	5	3	6	7	3	8	4	2	1	7	8	3
07:25	3	3	8	10	5	8	6	5	1	3	7	1
07:30	6	5	8	9	5	3	5	3	0	4	9	3
07:35	6	3	8	11	5	4	6	2	1	3	10	3
07:40	6	4	9	12	3	7	4	2	1	3	9	2
07:45	4	7	8	12	5	3	3	3	1	4	7	1
07:50	7	7	11	7	2	7	3	5	1	3	9	2
07:55	5	3	7	8	10	7	4	3	1	4	11	2
08:00	9	7	2	12	5	6	6	5	1	5	11	3
08:05	9	8	7	11	5	7	5	5	1	6	9	4
08:10	6	5	2	11	2	9	7	5	0	6	17	3
08:15	8	6	12	11	4	3	8	3	1	4	10	5
08:20	6	5	7	7	13	7	9	5	2	5	11	4
08:25	10	6	4	8	10	6	7	4	1	4	12	6
08:30	7	8	4	12	11	4	3	2	0	5	8	2
08:35	8	3	9	10	11	6	10	5	0	4	9	2
08:40	4	4	9	9	5	8	4	4	1	7	16	5
08:45	6	4	2	7	5	8	4	2	2	5	10	3
08:50	7	6	6	7	7	3	5	2	1	5	9	4
08:55	7	4	6	7	4	8	4	5	1	3	6	2
09:00	10	8	7	17	4	8	5	5	1	5	7	3
09:05	7	7	9	9	7	4	6	4	1	4	8	3
09:10	9	8	7	11	7	5	6	7	0	4	8	3
09:15	7	5	7	8	5	4	8	5	1	8	5	3
09:20	6	4	8	12	3	8	5	3	3	4	12	2
09:25	10	7	6	15	6	7	10	4	0	5	6	4
09:30	7	4	10	10	5	9	4	5	1	10	8	3
09:35	4	2	9	10	5	8	6	6	0	5	6	3
09:40	5	3	8	9	3	8	4	5	0	4	10	4
09:45	5	4	10	8	4	8	4	6	1	6	8	3
09:50	6	2	7	8	5	5	4	8	1	4	8	9
09:55	6	6	7	14	3	4	4	4	2	5	11	4
10:00	3	1	4	7	4	9	3	3	2	5	9	3

Norwich - 5 Minute Max Queue Length Survey, Thursday 4th July 2019

Time	A1067 Drayton High Road North Lane 1	A1067 Drayton High Road North Lane 2	A1067 Drayton High Road North Lane 3	A140 Boundary Road East Lane 1	A140 Boundary Road East Lane 2	A140 Boundary Road East Lane 3	A1067 Drayton High Road South Lane 1	A1067 Drayton High Road South Lane 2	A1067 Drayton High Road South Lane 3	A140 Boundary Road South Lane 1	A140 Boundary Road South Lane 2	A140 Boundary Road South Lane 3
16:05	3	4	7	9	7	6	4	5	2	3	8	2
16:10	3	5	5	9	4	6	5	4	1	5	12	7
16:15	5	4	8	8	6	4	6	3	1	4	8	7
16:20	6	4	8	9	7	9	5	5	2	6	5	5
16:25	3	5	14	10	3	8	6	5	3	4	9	5
16:30	4	3	9	11	8	5	6	5	1	3	17	7
16:35	6	5	7	6	7	3	7	8	1	15	9	6
16:40	4	3	9	19	4	6	5	8	2	5	12	2
16:45	4	2	6	7	9	9	6	7	3	7	17	7
16:50	6	4	7	17	3	3	4	7	4	12	12	7
16:55	5	3	14	12	5	5	5	9	2	6	7	7
17:00	4	4	9	7	7	5	5	12	2	7	11	6
17:05	3	4	7	11	6	7	3	9	1	6	10	3
17:10	4	2	7	18	10	6	6	8	0	7	15	7
17:15	6	2	8	11	11	5	6	7	2	11	23	7
17:20	4	4	6	12	14	9	6	6	2	7	9	2
17:25	5	4	8	12	9	3	6	9	1	5	8	6
17:30	4	2	11	11	5	4	6	8	1	6	11	4
17:35	4	5	8	10	6	3	7	11	3	5	12	6
17:40	6	2	12	6	11	4	10	13	1	5	9	6
17:45	5	4	10	5	11	6	6	8	2	9	8	6
17:50	3	3	9	12	6	6	4	9	3	3	10	4
17:55	5	2	7	10	4	7	7	12	1	4	10	9
18:00	5	3	6	11	5	6	8	7	0	6	12	5
18:05	5	5	7	12	7	3	8	9	3	5	9	16
18:10	4	5	6	5	5	3	6	6	3	6	9	7
18:15	3	5	9	9	8	7	5	5	2	5	5	2
18:20	6	4	6	7	5	7	4	6	2	4	9	5
18:25	5	3	8	12	7	6	4	8	3	8	7	7
18:30	5	4	7	7	4	8	4	9	1	4	10	7
18:35	5	3	9	11	2	7	6	9	1	6	11	6
18:40	4	5	12	8	6	7	5	4	1	3	7	7
18:45	5	3	9	10	3	6	3	8	5	3	12	5
18:50	4	4	9	10	7	3	13	5	2	5	7	3
18:55	6	5	9	8	4	7	7	9	2	7	8	2
19:00	6	5	8	5	4	3	8	5	4	4	9	5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A1067 Drayton High Road North Lane 1
A1067 Drayton High Road North Lane 2
A1067 Drayton High Road North Lane 3
A140 Boundary Road East Lane 1
A140 Boundary Road East Lane 2
A140 Boundary Road East Lane 3
A1067 Drayton High Road South Lane 1
A1067 Drayton High Road South Lane 2
A1067 Drayton High Road South Lane 3
A140 Boundary Road South Lane 1
A140 Boundary Road South Lane 2
A140 Boundary Road South Lane 3

Alston Road, Norwich, ATC 1

Site No. 493901 **Site Ref. 493901**

Norwich Site 1

Vehicle Count Report **Week Begin: 04 July 2019** **Channel: Northbound**

	Thu Jul 04	Fri Jul 05	Sat Jul 06	Sun Jul 07	Mon Jul 08	Tue Jul 09	Wed Jul 10	5-Day Ave.	7-Day Ave.
00:00	0	1	0	0	0	0	1	0	0
01:00	0	1	0	3	0	0	0	0	1
02:00	0	0	0	0	0	1	0	0	0
03:00	0	0	0	1	1	0	0	0	0
04:00	1	0	0	1	0	1	0	0	0
05:00	0	1	0	0	1	1	1	1	1
06:00	3	2	0	0	0	9	3	3	2
07:00	25	27	2	0	21	28	22	25	18
08:00	31	37	7	1	40	43	46	39	29
09:00	39	36	10	1	35	51	27	38	28
10:00	33	31	13	1	33	36	34	33	26
11:00	21	39	11	1	28	27	29	29	22
12:00	33	53	13	2	36	50	34	41	32
13:00	51	44	8	4	43	59	52	50	37
14:00	43	39	7	2	34	36	34	37	28
15:00	33	27	4	2	33	34	32	32	24
16:00	44	46	5	2	49	52	45	47	35
17:00	39	26	2	1	38	38	45	37	27
18:00	18	6	2	1	10	14	15	13	9
19:00	40	5	14	1	32	34	35	29	23
20:00	2	2	31	1	5	6	6	4	8
21:00	1	1	12	0	1	2	4	2	3
22:00	0	1	0	0	2	0	2	1	1
23:00	2	1	0	0	0	0	2	1	1
Total									
12H(7-19)	410	411	84	18	400	468	415	421	315
16H(6-22)	456	421	141	20	438	519	463	459	351
18H(6-24)	458	423	141	20	440	519	467	461	353
24H(0-24)	459	426	141	25	442	522	469	464	355
AM Peak	09:00	11:00	10:00	01:00	08:00	09:00	08:00	08:00	08:00
	39	39	13	3	40	51	46	39	29
PM Peak	13:00	12:00	20:00	13:00	16:00	13:00	13:00	13:00	13:00
	51	53	31	4	49	59	52	50	37

PCC Traffic Information Consultancy Ltd.

Alston Road, Norwich, ATC 1

Site No. 493901 **Site Ref.** 493901
Norwich Site 1
Vehicle Count Report **Week Begin: 04 July 2019** **Channel:** Southbound

	Thu Jul 04	Fri Jul 05	Sat Jul 06	Sun Jul 07	Mon Jul 08	Tue Jul 09	Wed Jul 10	5-Day Ave.	7-Day Ave.
00:00	0	1	0	1	0	0	1	0	0
01:00	0	0	0	1	0	0	0	0	0
02:00	0	0	0	0	0	1	0	0	0
03:00	0	0	0	1	0	0	0	0	0
04:00	3	1	0	0	0	3	2	2	1
05:00	0	1	0	0	3	0	1	1	1
06:00	14	13	7	0	7	19	19	14	11
07:00	54	57	5	0	57	46	53	53	39
08:00	54	59	12	3	50	75	58	59	44
09:00	55	41	14	1	52	61	42	50	38
10:00	36	34	8	1	29	40	32	34	26
11:00	24	33	9	1	23	28	34	28	22
12:00	37	48	6	2	37	48	28	40	29
13:00	43	35	4	3	41	46	50	43	32
14:00	43	23	5	1	30	41	25	32	24
15:00	21	20	2	4	27	23	27	24	18
16:00	25	14	3	1	28	21	17	21	16
17:00	7	2	4	0	6	7	8	6	5
18:00	10	3	1	1	6	9	11	8	6
19:00	6	5	17	1	4	8	8	6	7
20:00	0	1	31	1	3	1	3	2	6
21:00	1	0	5	0	1	1	4	1	2
22:00	0	2	0	0	2	0	3	1	1
23:00	1	0	0	0	0	0	1	0	0
Total									
12H(7-19)	409	369	73	18	386	445	385	399	298
16H(6-22)	430	388	133	20	401	474	419	422	324
18H(6-24)	431	390	133	20	403	474	423	424	325
24H(0-24)	434	393	133	23	406	478	427	428	328
AM Peak	09:00	08:00	09:00	08:00	07:00	08:00	08:00	08:00	08:00
	55	59	14	3	57	75	58	59	44
PM Peak	14:00	12:00	20:00	15:00	13:00	12:00	13:00	13:00	13:00
	43	48	31	4	41	48	50	43	32

PCC Traffic Information Consultancy Ltd.

Alston Road, Norwich, ATC 1

Site No. 493901 **Site Ref.** 493901
Norwich Site 1
Vehicle Count Report **Week Begin: 04 July 2019** **Channel:** Total Flow

	Thu Jul 04	Fri Jul 05	Sat Jul 06	Sun Jul 07	Mon Jul 08	Tue Jul 09	Wed Jul 10	5-Day Ave.	7-Day Ave.
00:00	0	2	0	1	0	0	2	1	1
01:00	0	1	0	4	0	0	0	0	1
02:00	0	0	0	0	0	2	0	0	0
03:00	0	0	0	2	1	0	0	0	0
04:00	4	1	0	1	0	4	2	2	2
05:00	0	2	0	0	4	1	2	2	1
06:00	17	15	7	0	7	28	22	18	14
07:00	79	84	7	0	78	74	75	78	57
08:00	85	96	19	4	90	118	104	99	74
09:00	94	77	24	2	87	112	69	88	66
10:00	69	65	21	2	62	76	66	68	52
11:00	45	72	20	2	51	55	63	57	44
12:00	70	101	19	4	73	98	62	81	61
13:00	94	79	12	7	84	105	102	93	69
14:00	86	62	12	3	64	77	59	70	52
15:00	54	47	6	6	60	57	59	55	41
16:00	69	60	8	3	77	73	62	68	50
17:00	46	28	6	1	44	45	53	43	32
18:00	28	9	3	2	16	23	26	20	15
19:00	46	10	31	2	36	42	43	35	30
20:00	2	3	62	2	8	7	9	6	13
21:00	2	1	17	0	2	3	8	3	5
22:00	0	3	0	0	4	0	5	2	2
23:00	3	1	0	0	0	0	3	1	1
Total									
12H(7-19)	819	780	157	36	786	913	800	820	613
16H(6-22)	886	809	274	40	839	993	882	882	675
18H(6-24)	889	813	274	40	843	993	890	886	677
24H(0-24)	893	819	274	48	848	1000	896	891	683
AM Peak	09:00	08:00	09:00	08:00	08:00	08:00	08:00	08:00	08:00
	94	96	24	4	90	118	104	99	74
PM Peak	13:00	12:00	20:00	13:00	13:00	13:00	13:00	13:00	13:00
	94	101	62	7	84	105	102	93	69

PCC Traffic Information Consultancy Ltd.

Alston Road, Norwich, ATC 1

Site No. 493901 Site Ref. 493901
Norwich Site 1
Classification Report Week Begin: 04 July 2019 Channel: Northbound

	Total Volume	Bin 1 M/Cycle	Bin 2 Car/IVan	Bin 3 LGV	Bin 4 HGV	Bin 5 Bus
Thu 4 Jul	459	18	390	26	24	1
Fri 5 Jul	426	12	371	24	18	1
Sat 6 Jul	141	1	132	6	1	1
Sun 7 Jul	25	1	23	1	0	0
Mon 8 Jul	442	7	391	31	10	3
Tue 9 Jul	522	11	461	26	23	1
Wed 10 Jul	469	19	402	26	22	0
5 Day Ave.	464	13	403	27	19	1
7 Day Ave.	355	10	310	20	14	1

PCC Traffic Information Consultancy Ltd.

Site No. 493901 Site Ref. 493901
Norwich Site 1
Classification Report Week Begin: 04 July 2019 Channel: Southbound

	Total Volume	Bin 1 M/Cycle	Bin 2 Car/IVan	Bin 3 LGV	Bin 4 HGV	Bin 5 Bus
Thu 4 Jul	434	11	380	29	13	1
Fri 5 Jul	393	4	340	41	8	0
Sat 6 Jul	133	1	122	7	3	0
Sun 7 Jul	23	0	22	1	0	0
Mon 8 Jul	406	7	358	23	17	1
Tue 9 Jul	478	13	392	45	27	1
Wed 10 Jul	427	8	356	45	18	0
5 Day Ave.	428	9	365	37	17	1
7 Day Ave.	328	6	281	27	12	0

PCC Traffic Information Consultancy Ltd.

Alston Road, Norwich, ATC 1

Site No. **493901** **Site Ref.** **493901**
Norwich Site 1
Classification Report **Week Begin: 04 July 2019** **Channel:** **Total Flow**

	Total Volume	Bin 1 M/Cycle	Bin 2 Car/IVan	Bin 3 LGV	Bin 4 HGV	Bin 5 Bus
Thu 4 Jul	893	29	770	55	37	2
Fri 5 Jul	819	16	711	65	26	1
Sat 6 Jul	274	2	254	13	4	1
Sun 7 Jul	48	1	45	2	0	0
Mon 8 Jul	848	14	749	54	27	4
Tue 9 Jul	1000	24	853	71	50	2
Wed 10 Jul	896	27	758	71	40	0
5 Day Ave.	891	22	768	63	36	2
7 Day Ave.	683	16	591	47	26	1

PCC Traffic Information Consultancy Ltd.

Alston Road, Norwich, ATC 1

Site No. 493901 **Site Ref.** 493901

Norwich Site 1

Speed Report (Speed Limit 30 Mph) **Week Begin: 04 July 2019** **Channel: Northbound**

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <5Mph	Bin 2 5-<10	Bin 3 10-<15	Bin 4 15-<20	Bin 5 20-<25	Bin 6 25-<30	Bin 7 30-<35	Bin 8 35-<40	Bin 9 40-<45	Bin 10 45-<50	Bin 11 50-<55	Bin 12 55-<60	Bin 13 =>60
Thu 4 Jul	459	22	14	8	0	181	76	102	84	15	1	0	0	0	0	0	0
Fri 5 Jul	426	23	15	8	0	125	92	90	92	21	6	0	0	0	0	0	0
Sat 6 Jul	141	21	14	7	0	53	29	30	24	4	1	0	0	0	0	0	0
Sun 7 Jul	25	20	12	8	0	14	2	4	5	0	0	0	0	0	0	0	0
Mon 8 Jul	442	22	14	8	0	165	74	105	77	18	3	0	0	0	0	0	0
Tue 9 Jul	522	22	14	8	0	194	104	114	89	18	3	0	0	0	0	0	0
Wed 10 Jul	469	22	15	8	0	165	80	112	91	20	1	0	0	0	0	0	0
5 Day Ave.	464	22	14	8	0	166	85	105	87	18	3	0	0	0	0	0	0
7 Day Ave.	355	22	14	8	0	128	65	80	66	14	2	0	0	0	0	0	0

PCC Traffic Information Consultancy Ltd.

Site No. 493901 **Site Ref.** 493901

Norwich Site 1

Speed Report (Speed Limit 30 Mph) **Week Begin: 04 July 2019** **Channel: Southbound**

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <5Mph	Bin 2 5-<10	Bin 3 10-<15	Bin 4 15-<20	Bin 5 20-<25	Bin 6 25-<30	Bin 7 30-<35	Bin 8 35-<40	Bin 9 40-<45	Bin 10 45-<50	Bin 11 50-<55	Bin 12 55-<60	Bin 13 =>60
Thu 4 Jul	434	22	14	7	0	152	95	100	68	19	0	0	0	0	0	0	0
Fri 5 Jul	393	23	15	8	0	124	66	84	98	17	3	1	0	0	0	0	0
Sat 6 Jul	133	22	15	7	0	45	26	33	18	8	2	1	0	0	0	0	0
Sun 7 Jul	23	19	12	7	0	14	3	2	4	0	0	0	0	0	0	0	0
Mon 8 Jul	406	22	15	7	0	132	80	102	78	14	0	0	0	0	0	0	0
Tue 9 Jul	478	22	14	7	0	165	108	108	80	17	0	0	0	0	0	0	0
Wed 10 Jul	427	22	15	8	0	140	75	105	89	16	2	0	0	0	0	0	0
5 Day Ave.	428	22	15	7	0	143	85	100	83	17	1	0	0	0	0	0	0
7 Day Ave.	328	22	14	7	0	110	65	76	62	13	1	0	0	0	0	0	0

PCC Traffic Information Consultancy Ltd.

Alston Road, Norwich, ATC 1

Site No. 493901 **Site Ref.** 493901
Norwich Site 1
Speed Report (Speed Limit 30 Mph) **Week Begin: 04 July 2019** **Channel:** Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <5Mph	Bin 2 5-<10	Bin 3 10-<15	Bin 4 15-<20	Bin 5 20-<25	Bin 6 25-<30	Bin 7 30-<35	Bin 8 35-<40	Bin 9 40-<45	Bin 10 45-<50	Bin 11 50-<55	Bin 12 55-<60	Bin 13 =>60
Thu 4 Jul	893	22	14	8	0	333	171	202	152	34	1	0	0	0	0	0	0
Fri 5 Jul	819	23	15	8	0	249	158	174	190	38	9	1	0	0	0	0	0
Sat 6 Jul	274	22	14	8	0	98	55	63	42	12	3	1	0	0	0	0	0
Sun 7 Jul	48	20	12	8	0	28	5	6	9	0	0	0	0	0	0	0	0
Mon 8 Jul	848	22	14	8	0	297	154	207	155	32	3	0	0	0	0	0	0
Tue 9 Jul	1000	22	14	8	0	359	212	222	169	35	3	0	0	0	0	0	0
Wed 10 Jul	896	22	15	8	0	305	155	217	180	36	3	0	0	0	0	0	0
5 Day Ave.	891	22	14	8	0	309	170	204	169	35	4	0	0	0	0	0	0
7 Day Ave.	683	22	14	8	0	238	130	156	128	27	3	0	0	0	0	0	0

Hellesdon Park Road, Norwich, ATC 2

Site No. 493902 **Site Ref. 493902**

Norwich Site 2

Vehicle Count Report **Week Begin: 04 July 2019** **Channel: Eastbound**

	Thu Jul 04	Fri Jul 05	Sat Jul 06	Sun Jul 07	Mon Jul 08	Tue Jul 09	Wed Jul 10	5-Day Ave.	7-Day Ave.
00:00	2	6	0	1	2	7	2	4	3
01:00	0	2	0	3	1	0	2	1	1
02:00	2	0	0	0	1	3	1	1	1
03:00	2	0	3	2	2	1	0	1	1
04:00	8	3	1	0	4	4	2	4	3
05:00	7	8	2	1	2	8	5	6	5
06:00	15	23	0	1	16	22	22	20	14
07:00	100	96	8	3	103	93	81	95	69
08:00	97	119	36	1	135	122	122	119	90
09:00	137	137	69	9	140	140	118	134	107
10:00	155	145	88	23	148	165	161	155	126
11:00	147	188	101	28	150	162	139	157	131
12:00	150	183	68	19	167	156	164	164	130
13:00	159	164	45	22	161	171	157	162	126
14:00	148	154	29	16	160	178	127	153	116
15:00	143	124	24	16	136	125	145	135	102
16:00	240	197	30	17	235	246	211	226	168
17:00	195	154	24	3	178	185	191	181	133
18:00	92	43	8	6	71	92	89	77	57
19:00	58	15	13	5	67	59	62	52	40
20:00	18	19	47	7	19	15	13	17	20
21:00	9	6	104	1	7	5	8	7	20
22:00	13	5	12	1	3	1	5	5	6
23:00	4	4	0	2	1	1	2	2	2
Total									
12H(7-19)	1763	1704	530	163	1784	1835	1705	1758	1355
16H(6-22)	1863	1767	694	177	1893	1936	1810	1854	1449
18H(6-24)	1880	1776	706	180	1897	1938	1817	1862	1456
24H(0-24)	1901	1795	712	187	1909	1961	1829	1879	1471
AM Peak	10:00	11:00	11:00	11:00	11:00	10:00	10:00	11:00	11:00
	155	188	101	28	150	165	161	157	131
PM Peak	16:00	16:00	21:00	13:00	16:00	16:00	16:00	16:00	16:00
	240	197	104	22	235	246	211	226	168

PCC Traffic Information Consultancy Ltd.

Hellesdon Park Road, Norwich, ATC 2

Site No. 493902 **Site Ref.** 493902
Norwich Site 2
Vehicle Count Report **Week Begin: 04 July 2019** **Channel:** Westbound

	Thu Jul 04	Fri Jul 05	Sat Jul 06	Sun Jul 07	Mon Jul 08	Tue Jul 09	Wed Jul 10	5-Day Ave.	7-Day Ave.
00:00	2	4	0	3	2	3	3	3	2
01:00	0	0	0	1	1	1	1	1	1
02:00	2	0	1	1	2	2	1	1	1
03:00	4	2	2	2	2	1	1	2	2
04:00	8	3	4	1	3	8	7	6	5
05:00	15	21	0	3	13	12	14	15	11
06:00	74	77	16	4	79	82	84	79	59
07:00	283	278	27	3	305	278	280	285	208
08:00	251	237	65	8	253	286	257	257	194
09:00	205	165	77	16	201	173	171	183	144
10:00	140	138	72	16	132	149	140	140	112
11:00	114	124	70	24	138	141	140	131	107
12:00	132	124	33	11	148	134	131	134	102
13:00	143	130	24	18	165	135	133	141	107
14:00	128	106	19	9	115	136	119	121	90
15:00	114	104	17	12	121	109	109	111	84
16:00	76	55	13	4	93	107	106	87	65
17:00	35	28	12	2	47	47	39	39	30
18:00	29	13	2	3	28	23	32	25	19
19:00	24	7	70	4	22	15	19	17	23
20:00	10	6	76	7	7	5	4	6	16
21:00	5	5	34	0	3	2	5	4	8
22:00	6	3	3	0	4	1	5	4	3
23:00	2	1	0	2	4	1	1	2	2
Total									
12H(7-19)	1650	1502	431	126	1746	1718	1657	1655	1261
16H(6-22)	1763	1597	627	141	1857	1822	1769	1762	1368
18H(6-24)	1771	1601	630	143	1865	1824	1775	1767	1373
24H(0-24)	1802	1631	637	154	1888	1851	1802	1795	1395
AM Peak	07:00	07:00	09:00	11:00	07:00	08:00	07:00	07:00	07:00
	283	278	77	24	305	286	280	285	208
PM Peak	13:00	13:00	20:00	13:00	13:00	14:00	13:00	13:00	13:00
	143	130	76	18	165	136	133	141	107

PCC Traffic Information Consultancy Ltd.

Hellesdon Park Road, Norwich, ATC 2

Site No. 493902 **Site Ref.** 493902
Norwich Site 2
Vehicle Count Report **Week Begin: 04 July 2019** **Channel:** **Total Flow**

	Thu Jul 04	Fri Jul 05	Sat Jul 06	Sun Jul 07	Mon Jul 08	Tue Jul 09	Wed Jul 10	5-Day Ave.	7-Day Ave.
00:00	4	10	0	4	4	10	5	7	5
01:00	0	2	0	4	2	1	3	2	2
02:00	4	0	1	1	3	5	2	3	2
03:00	6	2	5	4	4	2	1	3	3
04:00	16	6	5	1	7	12	9	10	8
05:00	22	29	2	4	15	20	19	21	16
06:00	89	100	16	5	95	104	106	99	74
07:00	383	374	35	6	408	371	361	379	277
08:00	348	356	101	9	388	408	379	376	284
09:00	342	302	146	25	341	313	289	317	251
10:00	295	283	160	39	280	314	301	295	239
11:00	261	312	171	52	288	303	279	289	238
12:00	282	307	101	30	315	290	295	298	231
13:00	302	294	69	40	326	306	290	304	232
14:00	276	260	48	25	275	314	246	274	206
15:00	257	228	41	28	257	234	254	246	186
16:00	316	252	43	21	328	353	317	313	233
17:00	230	182	36	5	225	232	230	220	163
18:00	121	56	10	9	99	115	121	102	76
19:00	82	22	83	9	89	74	81	70	63
20:00	28	25	123	14	26	20	17	23	36
21:00	14	11	138	1	10	7	13	11	28
22:00	19	8	15	1	7	2	10	9	9
23:00	6	5	0	4	5	2	3	4	4
Total									
12H(7-19)	3413	3206	961	289	3530	3553	3362	3413	2616
16H(6-22)	3626	3364	1321	318	3750	3758	3579	3615	2817
18H(6-24)	3651	3377	1336	323	3762	3762	3592	3629	2829
24H(0-24)	3703	3426	1349	341	3797	3812	3631	3674	2866
AM Peak	07:00	07:00	11:00	11:00	07:00	08:00	08:00	07:00	08:00
	383	374	171	52	408	408	379	379	284
PM Peak	16:00	12:00	21:00	13:00	16:00	16:00	16:00	16:00	16:00
	316	307	138	40	328	353	317	313	233

PCC Traffic Information Consultancy Ltd.

Hellesdon Park Road, Norwich, ATC 2

Site No. 493902 Site Ref. 493902
Norwich Site 2
Classification Report Week Begin: 04 July 2019 Channel: Eastbound

	Total Volume	Bin 1 M/Cycle	Bin 2 Car/IVan	Bin 3 LGV	Bin 4 HGV	Bin 5 Bus
Thu 4 Jul	1901	44	1504	165	180	8
Fri 5 Jul	1795	29	1443	141	170	12
Sat 6 Jul	712	10	575	55	69	3
Sun 7 Jul	187	2	152	12	20	1
Mon 8 Jul	1909	34	1525	179	158	13
Tue 9 Jul	1961	36	1577	137	197	14
Wed 10 Jul	1829	38	1449	174	157	11
5 Day Ave.	1879	36	1500	159	172	12
7 Day Ave.	1471	28	1175	123	136	9

PCC Traffic Information Consultancy Ltd.

Site No. 493902 Site Ref. 493902
Norwich Site 2
Classification Report Week Begin: 04 July 2019 Channel: Westbound

	Total Volume	Bin 1 M/Cycle	Bin 2 Car/IVan	Bin 3 LGV	Bin 4 HGV	Bin 5 Bus
Thu 4 Jul	1802	57	1544	131	66	4
Fri 5 Jul	1631	36	1431	112	49	3
Sat 6 Jul	637	30	583	15	9	0
Sun 7 Jul	154	8	134	9	3	0
Mon 8 Jul	1888	47	1645	138	50	8
Tue 9 Jul	1851	50	1602	139	60	0
Wed 10 Jul	1802	44	1547	128	75	8
5 Day Ave.	1795	47	1554	130	60	5
7 Day Ave.	1395	39	1212	96	45	3

PCC Traffic Information Consultancy Ltd.

Hellesdon Park Road, Norwich, ATC 2

Site No. 493902 **Site Ref.** 493902
Norwich Site 2
Classification Report **Week Begin: 04 July 2019** **Channel:** **Total Flow**

	Total Volume	Bin 1 M/Cycle	Bin 2 Car/IVan	Bin 3 LGV	Bin 4 HGV	Bin 5 Bus
Thu 4 Jul	3703	101	3048	296	246	12
Fri 5 Jul	3426	65	2874	253	219	15
Sat 6 Jul	1349	40	1158	70	78	3
Sun 7 Jul	341	10	286	21	23	1
Mon 8 Jul	3797	81	3170	317	208	21
Tue 9 Jul	3812	86	3179	276	257	14
Wed 10 Jul	3631	82	2996	302	232	19
5 Day Ave.	3674	83	3053	289	232	16
7 Day Ave.	2866	66	2387	219	180	12

PCC Traffic Information Consultancy Ltd.

Hellesdon Park Road, Norwich, ATC 2

Site No. 493902 **Site Ref.** 493902

Norwich Site 2

Speed Report (Speed Limit 30 Mph) **Week Begin: 04 July 2019** **Channel: Eastbound**

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <5Mph	Bin 2 5-<10	Bin 3 10-<15	Bin 4 15-<20	Bin 5 20-<25	Bin 6 25-<30	Bin 7 30-<35	Bin 8 35-<40	Bin 9 40-<45	Bin 10 45-<50	Bin 11 50-<55	Bin 12 55-<60	Bin 13 =>60
Thu 4 Jul	1901	21	15	6	0	394	582	582	284	47	11	0	1	0	0	0	0
Fri 5 Jul	1795	21	15	6	0	313	583	562	279	48	9	1	0	0	0	0	0
Sat 6 Jul	712	23	17	6	0	69	235	223	140	27	13	4	1	0	0	0	0
Sun 7 Jul	187	21	15	6	0	28	72	49	33	4	1	0	0	0	0	0	0
Mon 8 Jul	1909	21	15	6	0	390	593	586	298	34	8	0	0	0	0	0	0
Tue 9 Jul	1961	21	15	6	0	354	619	647	283	45	9	4	0	0	0	0	0
Wed 10 Jul	1829	21	15	6	0	370	549	574	279	51	5	1	0	0	0	0	0
5 Day Ave.	1879	21	15	6	0	364	585	590	285	45	8	1	0	0	0	0	0
7 Day Ave.	1471	21	15	6	0	274	462	460	228	37	8	1	0	0	0	0	0

PCC Traffic Information Consultancy Ltd.

Site No. 493902 **Site Ref.** 493902

Norwich Site 2

Speed Report (Speed Limit 30 Mph) **Week Begin: 04 July 2019** **Channel: Westbound**

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <5Mph	Bin 2 5-<10	Bin 3 10-<15	Bin 4 15-<20	Bin 5 20-<25	Bin 6 25-<30	Bin 7 30-<35	Bin 8 35-<40	Bin 9 40-<45	Bin 10 45-<50	Bin 11 50-<55	Bin 12 55-<60	Bin 13 =>60
Thu 4 Jul	1802	24	19	5	0	76	253	664	646	138	18	5	2	0	0	0	0
Fri 5 Jul	1631	24	19	5	0	55	250	576	586	135	25	3	1	0	0	0	0
Sat 6 Jul	637	25	20	5	0	21	104	214	203	77	14	3	1	0	0	0	0
Sun 7 Jul	154	26	18	7	0	7	48	44	28	25	1	1	0	0	0	0	0
Mon 8 Jul	1888	24	19	5	0	68	278	713	686	128	12	3	0	0	0	0	0
Tue 9 Jul	1851	24	19	5	0	65	260	746	642	110	22	4	0	0	0	0	2
Wed 10 Jul	1802	24	19	5	0	86	259	641	654	144	15	2	0	1	0	0	0
5 Day Ave.	1795	24	19	5	0	70	260	668	643	131	18	3	1	0	0	0	0
7 Day Ave.	1395	24	19	5	0	54	207	514	492	108	15	3	1	0	0	0	0

PCC Traffic Information Consultancy Ltd.

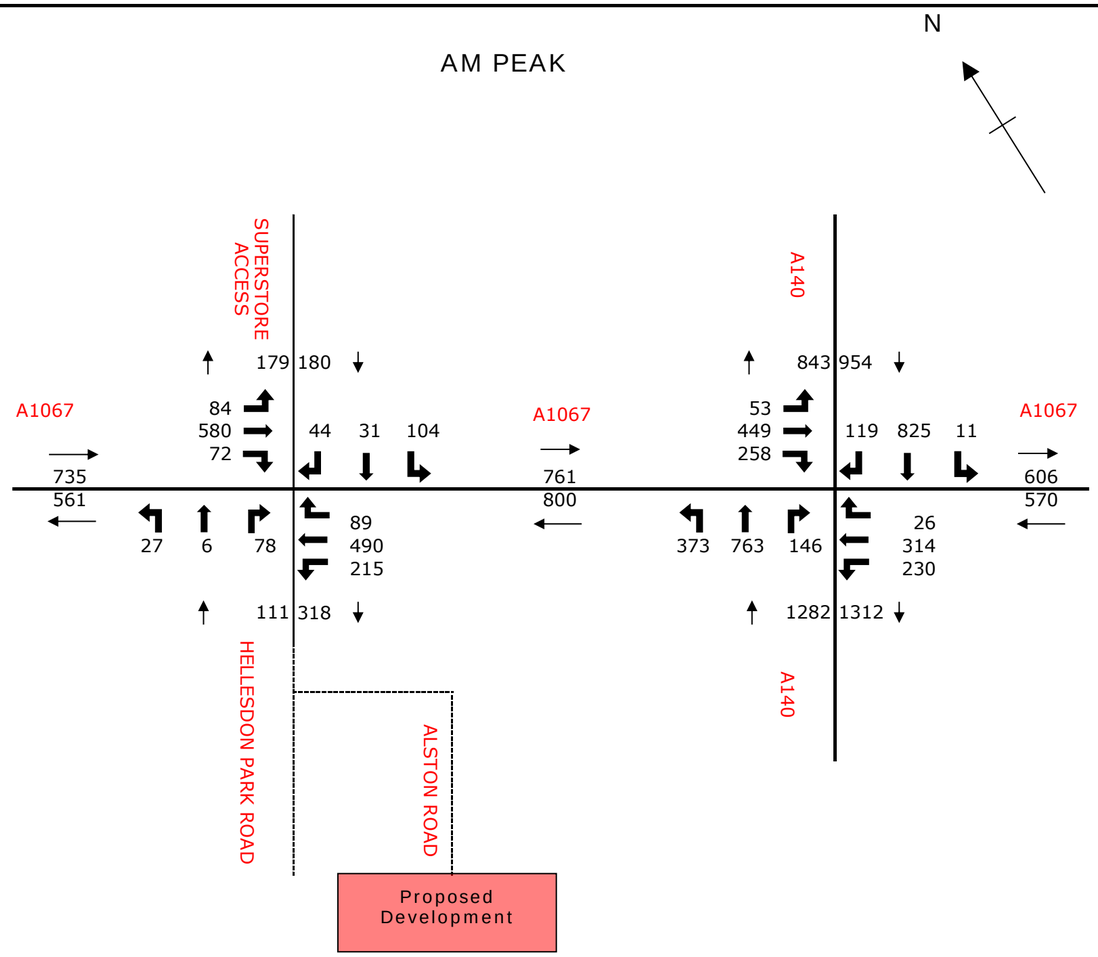
Hellesdon Park Road, Norwich, ATC 2

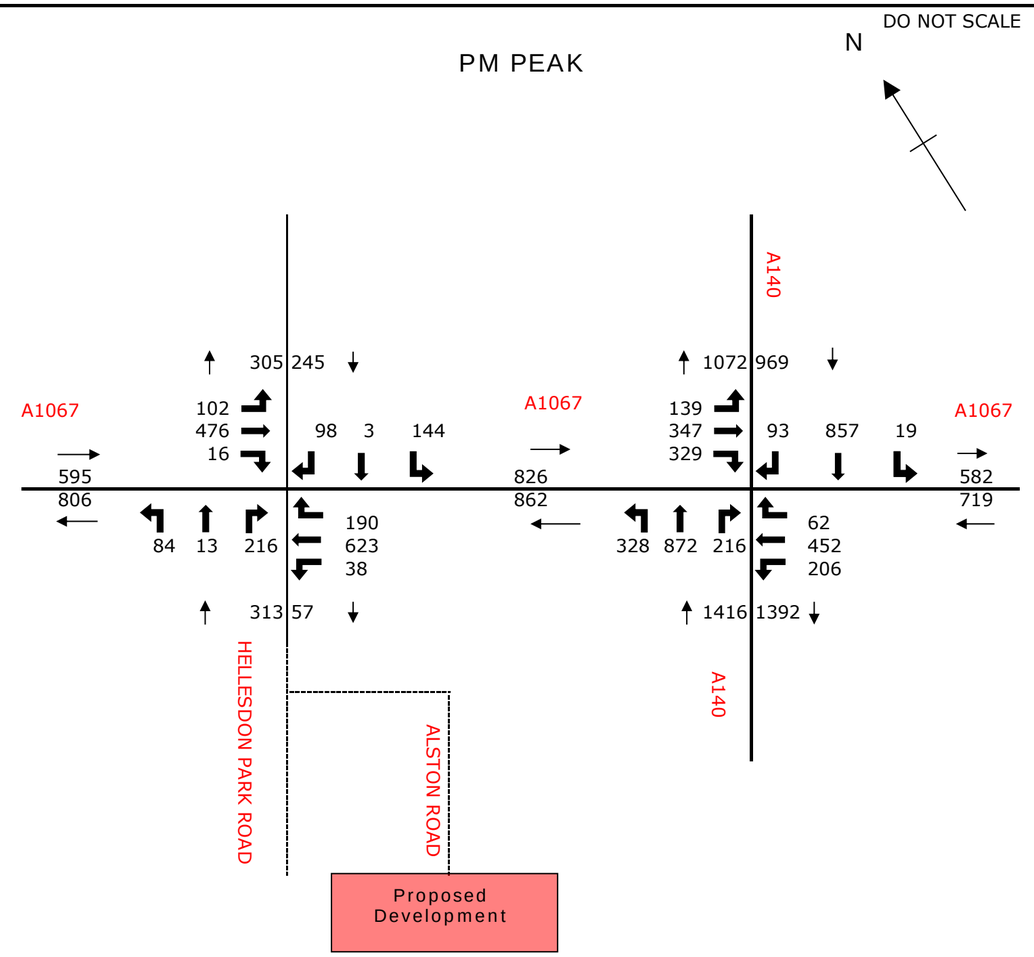
Site No. 493902 **Site Ref.** 493902
Norwich Site 2
Speed Report (Speed Limit 30 Mph) **Week Begin: 04 July 2019** **Channel: Total Flow**

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <5Mph	Bin 2 5-<10	Bin 3 10-<15	Bin 4 15-<20	Bin 5 20-<25	Bin 6 25-<30	Bin 7 30-<35	Bin 8 35-<40	Bin 9 40-<45	Bin 10 45-<50	Bin 11 50-<55	Bin 12 55-<60	Bin 13 =>60
Thu 4 Jul	3703	23	17	6	0	470	835	1246	930	185	29	5	3	0	0	0	0
Fri 5 Jul	3426	23	17	6	0	368	833	1138	865	183	34	4	1	0	0	0	0
Sat 6 Jul	1349	24	18	6	0	90	339	437	343	104	27	7	2	0	0	0	0
Sun 7 Jul	341	23	17	7	0	35	120	93	61	29	2	1	0	0	0	0	0
Mon 8 Jul	3797	23	17	6	0	458	871	1299	984	162	20	3	0	0	0	0	0
Tue 9 Jul	3812	23	17	6	0	419	879	1393	925	155	31	8	0	0	0	0	2
Wed 10 Jul	3631	23	17	6	0	456	808	1215	933	195	20	3	0	1	0	0	0
5 Day Ave.	3674	23	17	6	0	434	845	1258	927	176	27	5	1	0	0	0	0
7 Day Ave.	2866	23	17	6	0	328	669	974	720	145	23	4	1	0	0	0	0

RichardJackson
Engineering Consultants

APPENDIX F





Notes:

- Original survey date was Thursday 4th July 2019.
- Peak 60min flows range between 07.00-10.00 and 16.00-19.00.
- Highest peak 60min interval for each period presented from flows at A140/A1067 junction.
- Road network layout is representative only and not to scale.
- All flows are in PCUs

Key:

- Principal Road Network Assessed
- Local Road Network Assessed
- Indicative Road Network

Traffic Growth Factors

	AM	PM
2019-2026	1.1356	1.1360

REV	DATE	DESCRIPTION	DRAWN	CHKD

RichardJackson Engineering Consultants
847 The Crescent, Colchester, CO4 9YQ Tel: 01206 228800
Rennie House, 57-60 Aldgate High Street, London, EC3N 1AL Tel: 020 7448 9910
5 Quern House, Mill Court, Great Shelford, Cambs, CB22 5LD Tel: 01223 314794
4 The Old Church, St. Matthews Road, Norwich, Norfolk NR1 1SP Tel: 01603 230240
The Wheelhouse, Bonds Mill, Stonehouse, Gloucestershire GL10 3RF Tel: 01172 020270
Email Address: mail@rj.uk.com Web Site: http://www.rj.uk.com

Project Title: HELLESDON PARK INDUSTRIAL ESTATE

Client Title: GURLOQUE SETTLEMENT

Drawing No.: 49763/P/TA/001

Revision:

Drawing Title: TRAFFIC FLOW DIAGRAM 1

2019 Peak Hour (Maximum Junction Flows)

Scale: NTS

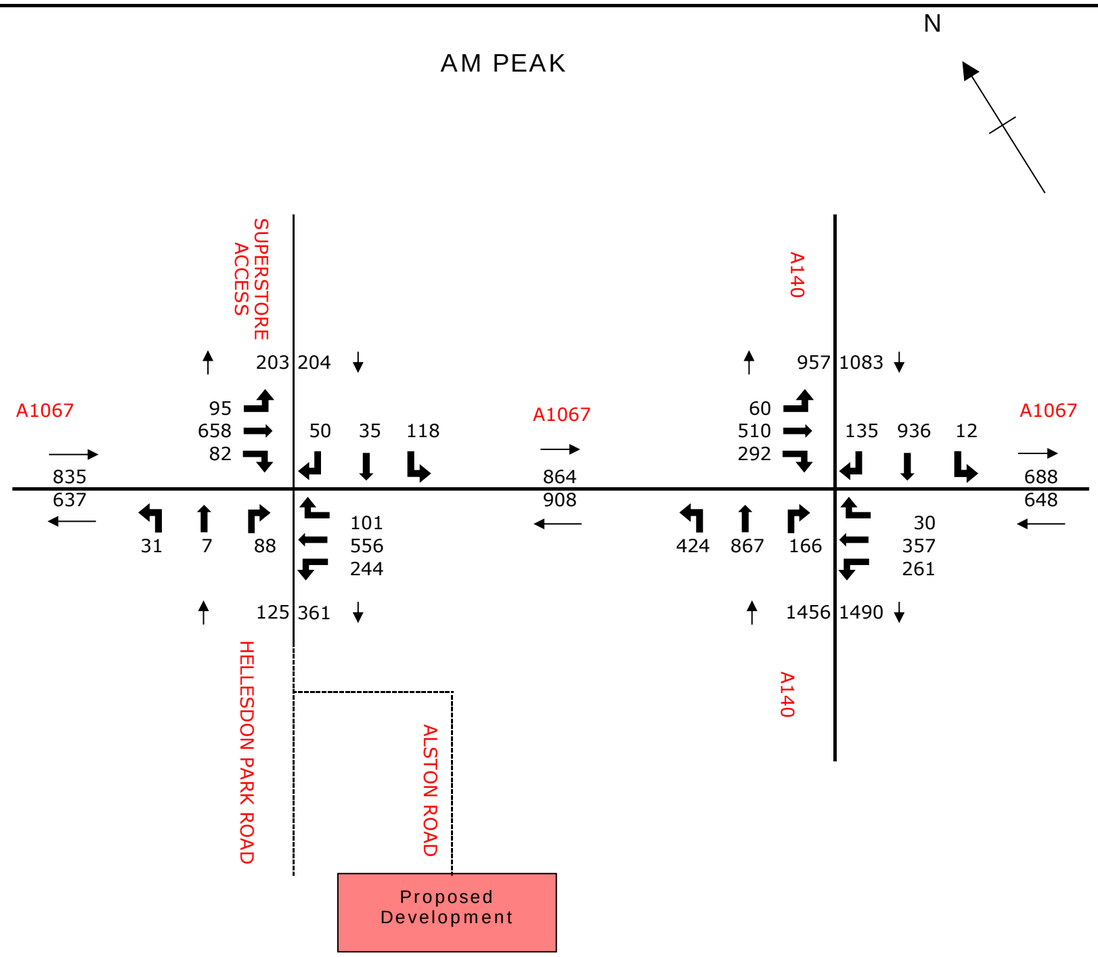
Drawn: DDP

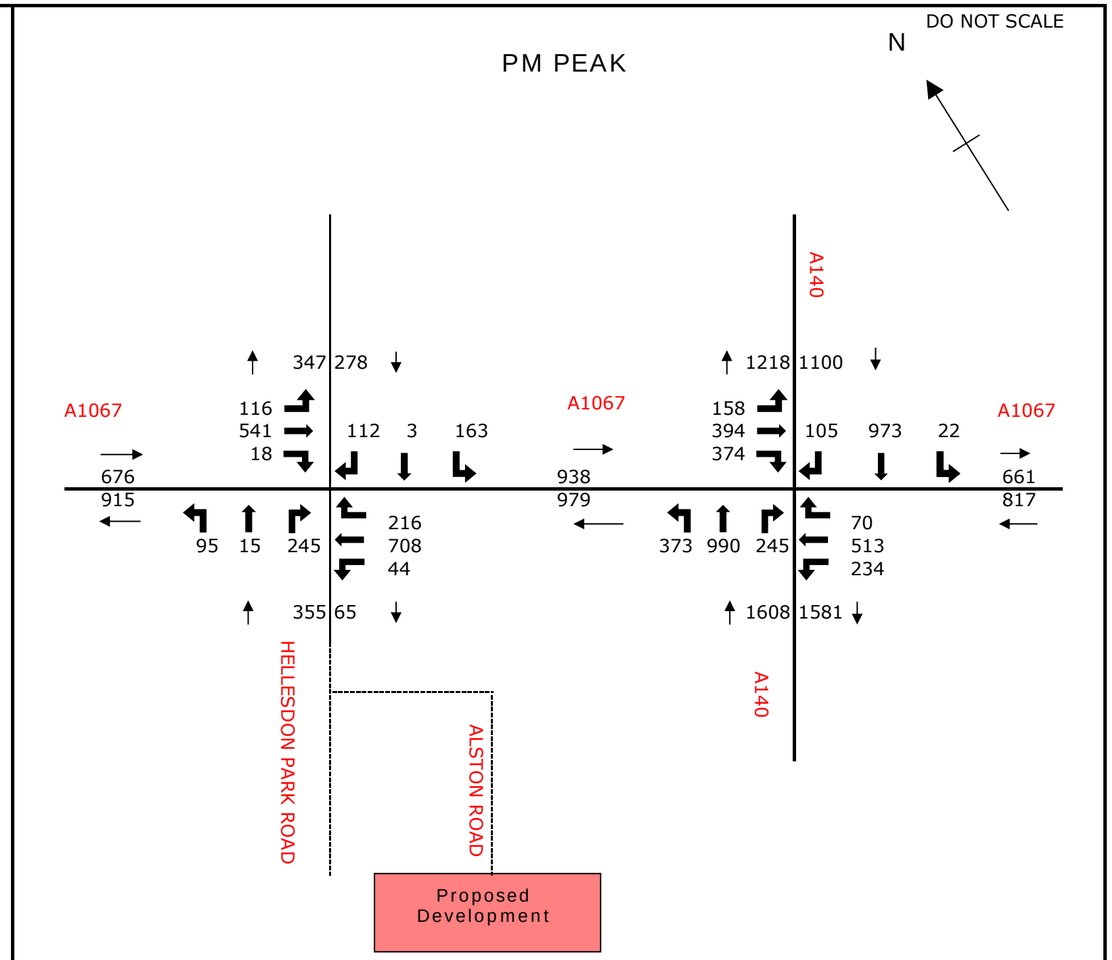
Date: 20/08/19

Job Manager: RNL

Quality Checked: RNL

Drawing Status: ☑ INFORMATION ☐ APPROVAL ☐ COSTING ☐ TENDER ☐ CONSTRUCTION ☐ AS CONSTRUCTED





Notes:

- Original survey date was Thursday 4th July 2019.
- Peak 60min flows range between 07.00-10.00 and 16.00-19.00.
- Highest peak 60min interval for each period presented from flows at A140/A1067 junction.
- Road network layout is representative only and not to scale.
- All flows are in PCUs

Key:

- Principal Road Network Assessed
- Local Road Network Assessed
- Indicative Road Network

Traffic Growth Factors	AM	PM
2019-2026	1.1356	1.1360

REV	DATE	DESCRIPTION	DRAWN	CHKD

RichardJackson Engineering Consultants
847 The Crescent, Colchester, CO4 9YQ ☐ Tel: 01206 228800
Rennie House, 57-60 Aldgate High Street, London, EC3N 1AL ☐ Tel: 020 7448 9910
5 Quern House, Mill Court, Great Shelford, Cambs, CB22 5LD ☐ Tel: 01223 314794
4 The Old Church, St. Matthews Road, Norwich, Norfolk NR1 1SP ☑ Tel: 01603 230240
The Wheelhouse, Bonds Mill, Stonehouse, Gloucestershire GL10 3RF ☐ Tel: 01172 020270
Email Address: mail@rj.uk.com Web Site: http://www.rj.uk.com

Project Title: HELLESDON PARK INDUSTRIAL ESTATE

Client Title: GURLOQUE SETTLEMENT

Drawing No.: 49763/P/TA/002

Revision:

Drawing Title: TRAFFIC FLOW DIAGRAM 2

2026 Peak Hour Flows

Scale	Drawn	Date
NTS	DDP	20/08/19

Job Manager: RNL

Quality Checked: RNL

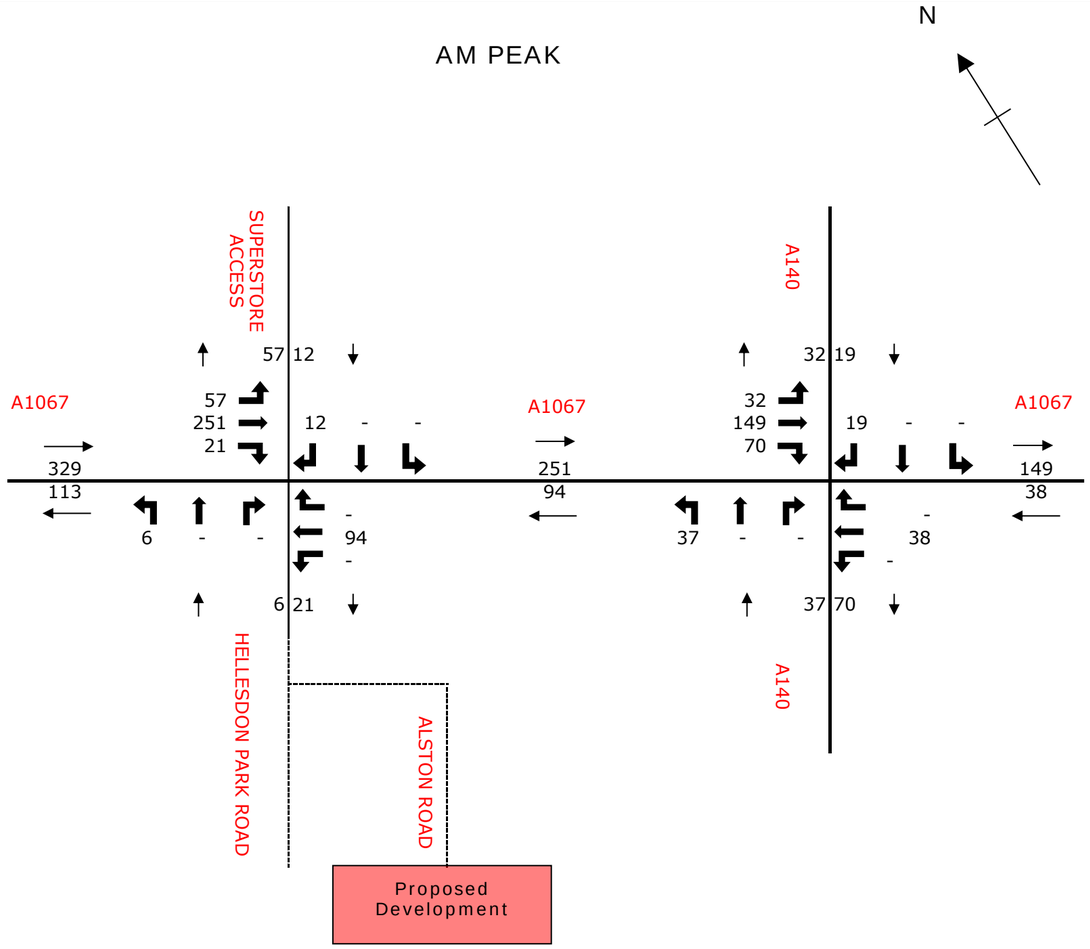
Drawing Status

☑ INFORMATION ☐ APPROVAL ☐ COSTING

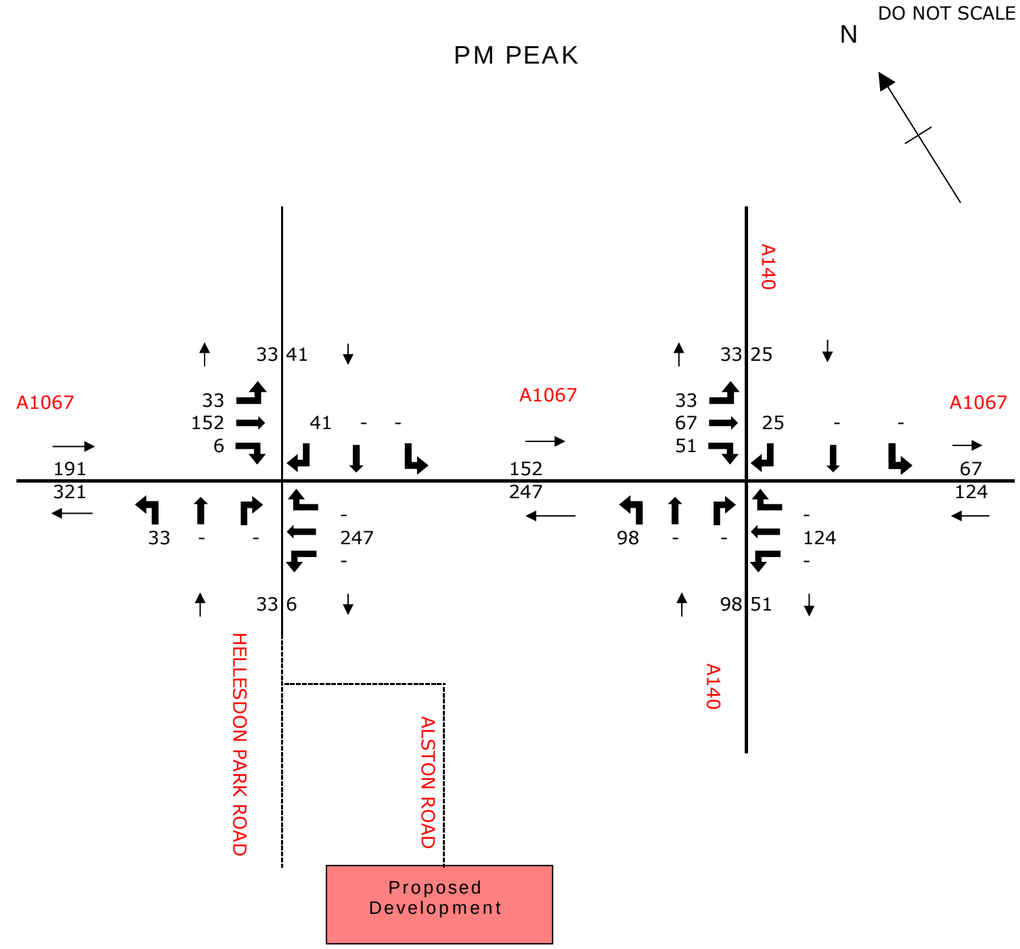
☐ TENDER ☐ CONSTRUCTION ☐ AS CONSTRUCTED

DO NOT SCALE

AM PEAK



PM PEAK



Notes:

- Original survey date was Thursday 4th July 2019.
- Peak 60min flows range between 07.00-10.00 and 16.00-19.00.
- Highest peak 60min interval for each period presented from flows at A140/A1067 junction.
- Road network layout is representative only and not to scale.
- All flows are in PCUs

Key:

- Principal Road Network Assessed
- Local Road Network Assessed
- Indicative Road Network

Traffic Growth Factors	AM	PM
2019-2026	1.1356	1.1360

REV	DATE	DESCRIPTION	DRAWN	CHKD

RichardJackson Engineering Consultants
847 The Crescent, Colchester, CO4 9YQ Tel: 01206 228800
Rennie House, 57-60 Aldgate High Street, London, EC3N 1AL Tel: 020 7448 9910
5 Quern House, Mill Court, Great Shelford, Cambs, CB22 5LD Tel: 01223 314794
4 The Old Church, St. Matthews Road, Norwich, Norfolk NR1 1SP Tel: 01603 230240
The Wheelhouse, Bonds Mill, Stonehouse, Gloucestershire GL10 3RF Tel: 01172 020270
Email Address: mail@rj.uk.com Web Site: http://www.rj.uk.com

Project Title: HELLESDON PARK INDUSTRIAL ESTATE

Client Title: GURLOQUE SETTLEMENT

Drawing No.: 49763/P/TA/003

Revision:

Drawing Title: TRAFFIC FLOW DIAGRAM 3

Committed Development Flows

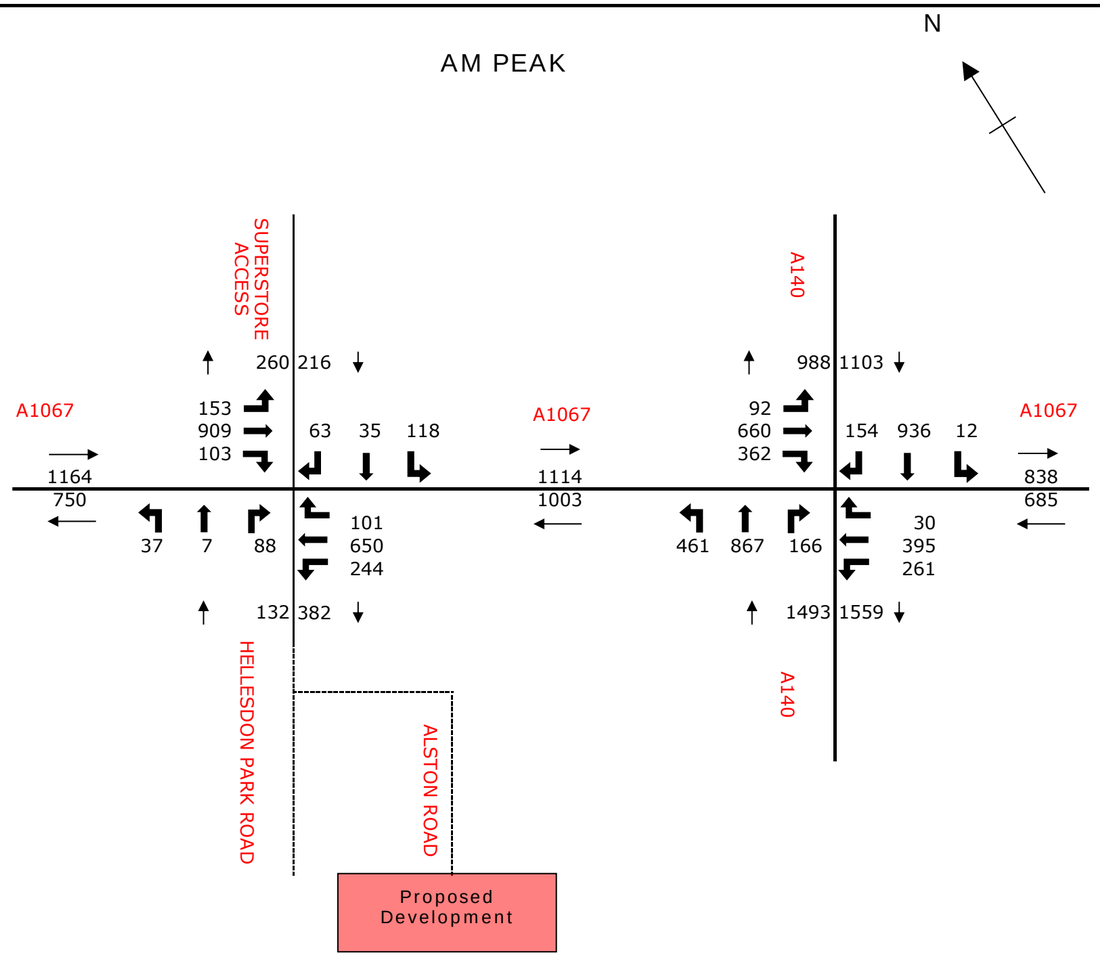
Scale: NTS | Drawn: DDP | Date: 20/08/19

Job Manager: RNL | Quality Checked: RNL

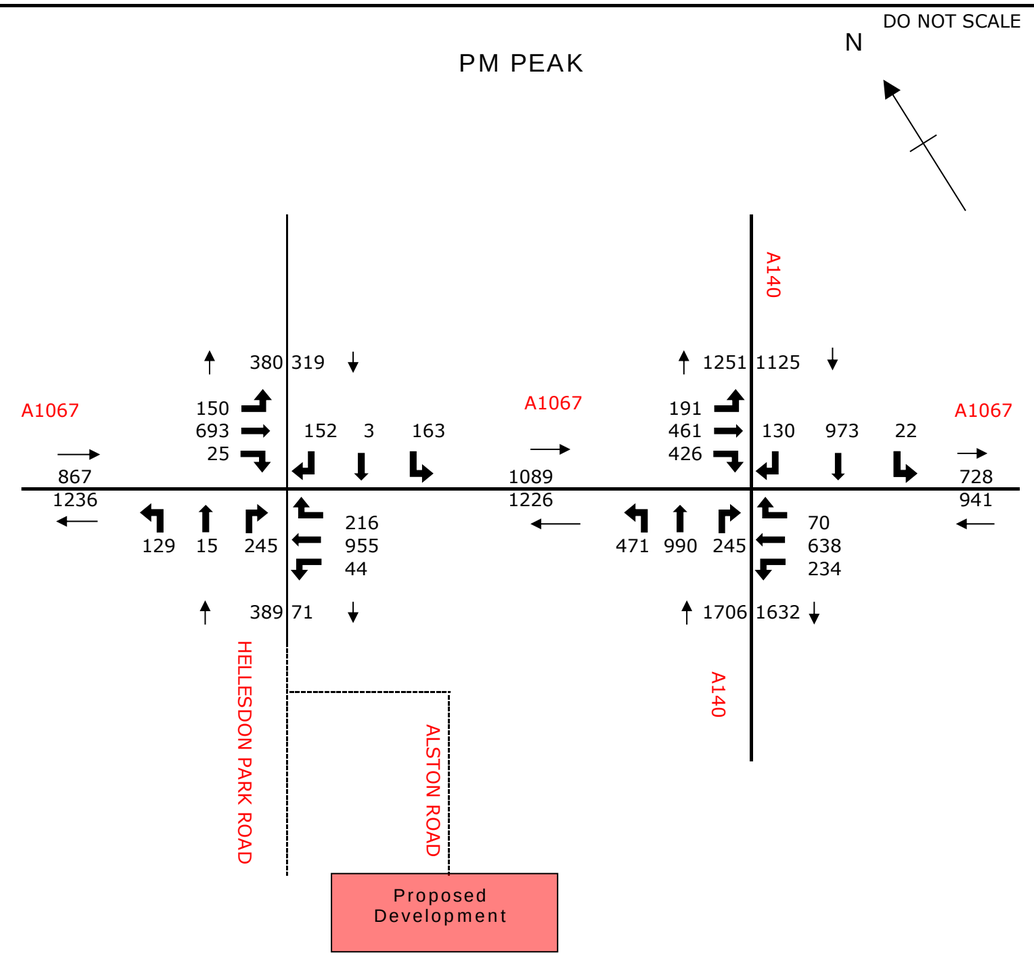
Drawing Status: ☑ INFORMATION ☐ APPROVAL ☐ COSTING ☐ TENDER ☐ CONSTRUCTION ☐ AS CONSTRUCTED

DO NOT SCALE

AM PEAK



PM PEAK



Notes:

- Original survey date was Thursday 4th July 2019.
- Peak 60min flows range between 07.00-10.00 and 16.00-19.00.
- Highest peak 60min interval for each period presented from flows at A140/A1067 junction.
- Road network layout is representative only and not to scale.
- All flows are in PCUs

Key:

- Principal Road Network Assessed
- Local Road Network Assessed
- Indicative Road Network

Traffic Growth Factors	AM	PM
2019-2026	1.1356	1.1360

REV	DATE	DESCRIPTION	DRAWN	CHKD

RichardJackson Engineering Consultants
847 The Crescent, Colchester, CO4 9YQ Tel: 01206 228800
Rennie House, 57-60 Aldgate High Street, London, EC3N 1AL Tel: 020 7448 9910
5 Quern House, Mill Court, Great Shelford, Cambs, CB22 5LD Tel: 01223 314794
4 The Old Church, St. Matthews Road, Norwich, Norfolk NR1 1SP Tel: 01603 230240
The Wheelhouse, Bonds Mill, Stonehouse, Gloucestershire GL10 3RF Tel: 01172 020270
Email Address: mail@rj.uk.com Web Site: http://www.rj.uk.com

Project Title: HELLESDON PARK INDUSTRIAL ESTATE

Client Title: GURLOQUE SETTLEMENT

Drawing No.: 49763/P/TA/004

Revision:

Drawing Title: TRAFFIC FLOW DIAGRAM 4

2026 Peak Hour with Committed Development

Scale	Drawn	Date
NTS	DDP	20/08/19

Job Manager: RNL

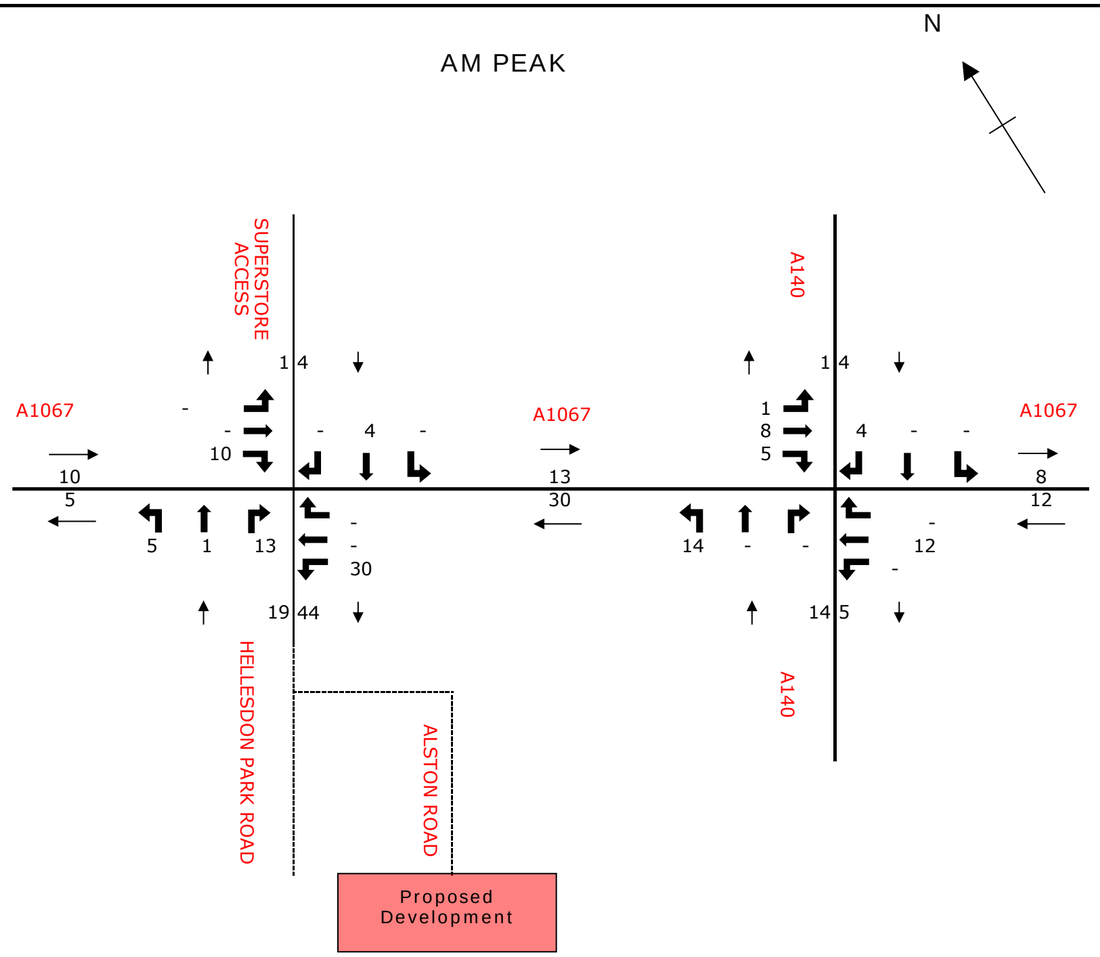
Quality Checked: RNL

Drawing Status

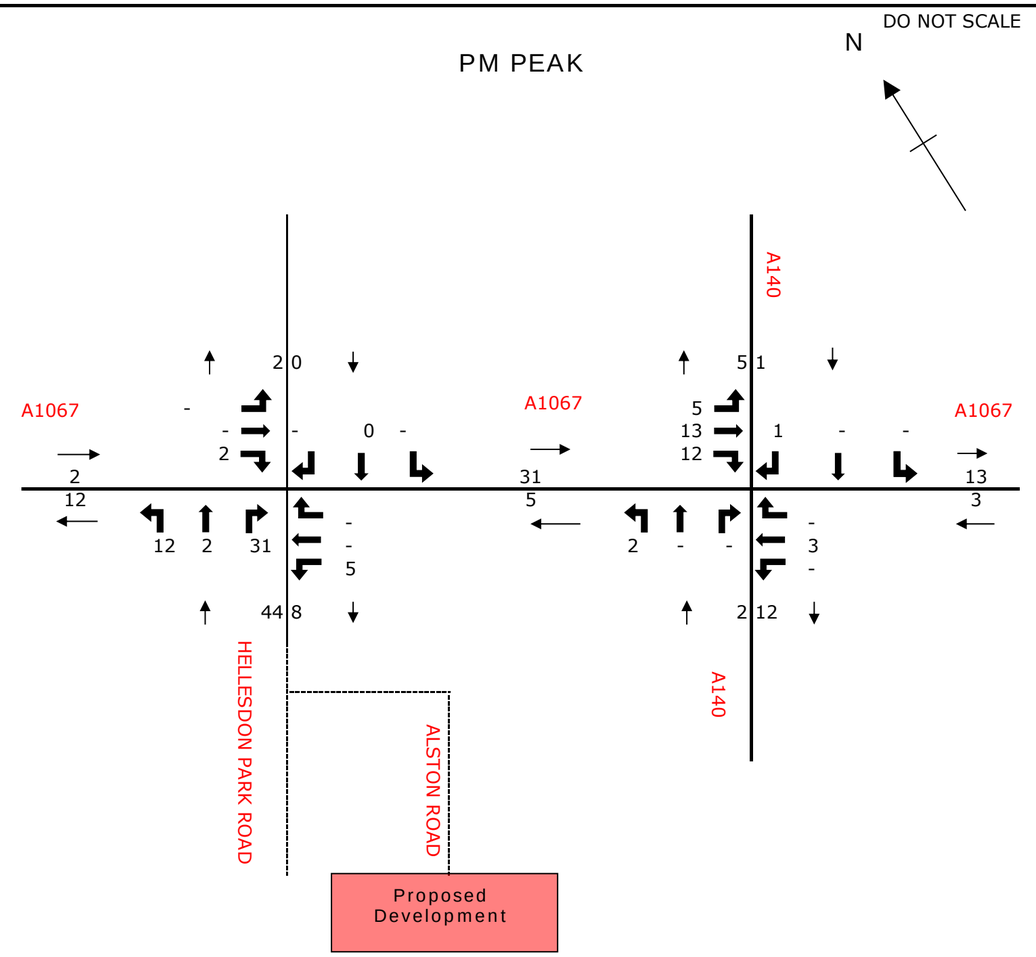
- [x] INFORMATION
- [ ] APPROVAL
- [ ] COSTING
- [ ] TENDER
- [ ] CONSTRUCTION
- [ ] AS CONSTRUCTED

DO NOT SCALE

AM PEAK



PM PEAK



Notes:

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- Highest peak 60min interval for each period presented from flows at A140/A1067 junction.
- Road network layout is representative only and not to scale.
- All flows are in PCUs

Key:

- Principal Road Network Assessed
- Local Road Network Assessed
- Indicative Road Network

Traffic Growth Factors	AM	PM
2019-2026	1.1356	1.1360

REV	DATE	DESCRIPTION	DRAWN	CHKD

RichardJackson Engineering Consultants
847 The Crescent, Colchester, CO4 9YQ Tel: 01206 228800
Rennie House, 57-60 Aldgate High Street, London, EC3N 1AL Tel: 020 7448 9910
5 Quern House, Mill Court, Great Shelford, Cambs, CB22 5LD Tel: 01223 314794
4 The Old Church, St. Matthews Road, Norwich, Norfolk NR1 1SP Tel: 01603 230240
The Wheelhouse, Bonds Mill, Stonehouse, Gloucestershire GL10 3RF Tel: 01172 020270
Email Address: mail@rj.uk.com Web Site: http://www.rj.uk.com

Project Title: HELLESDON PARK INDUSTRIAL ESTATE

Client Title: GURLOQUE SETTLEMENT

Drawing No.: 49763/P/TA/005

Revision:

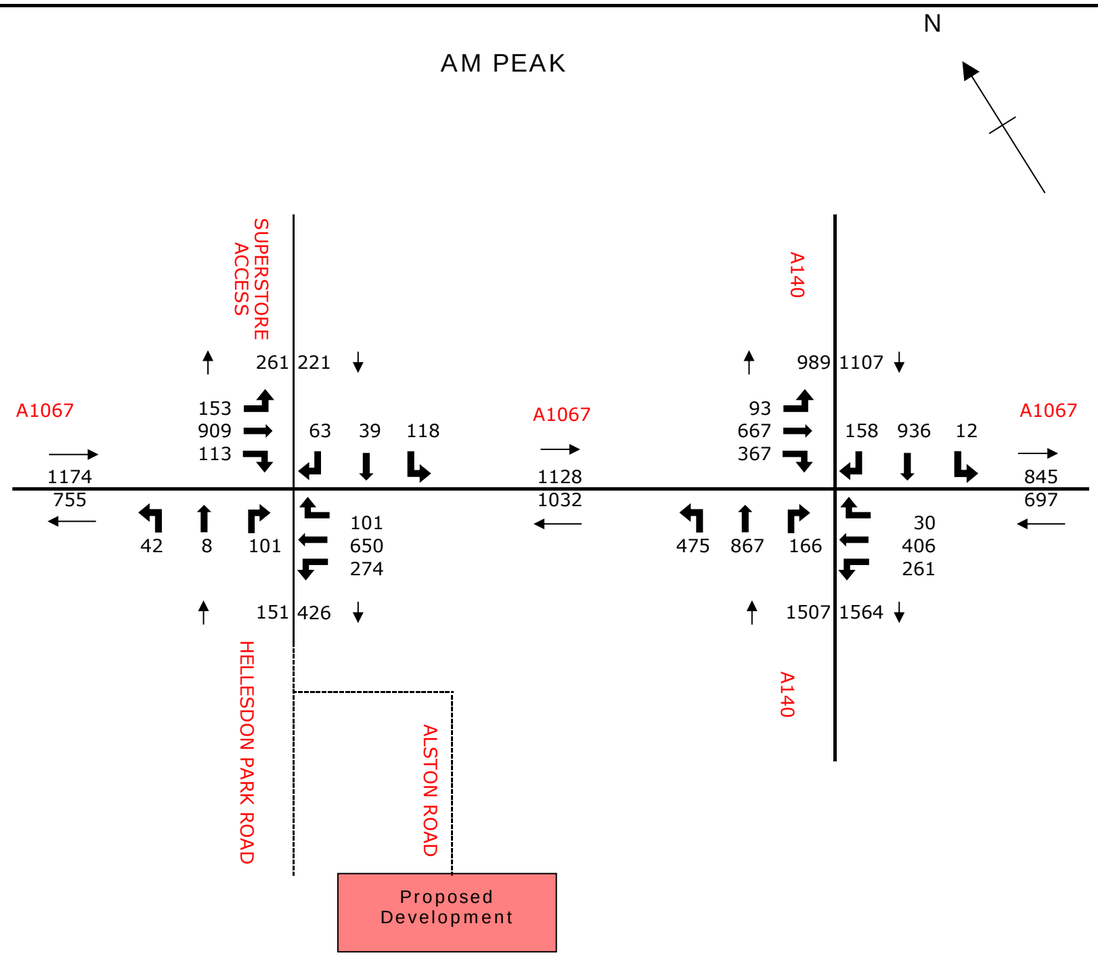
Drawing Title: TRAFFIC FLOW DIAGRAM 5

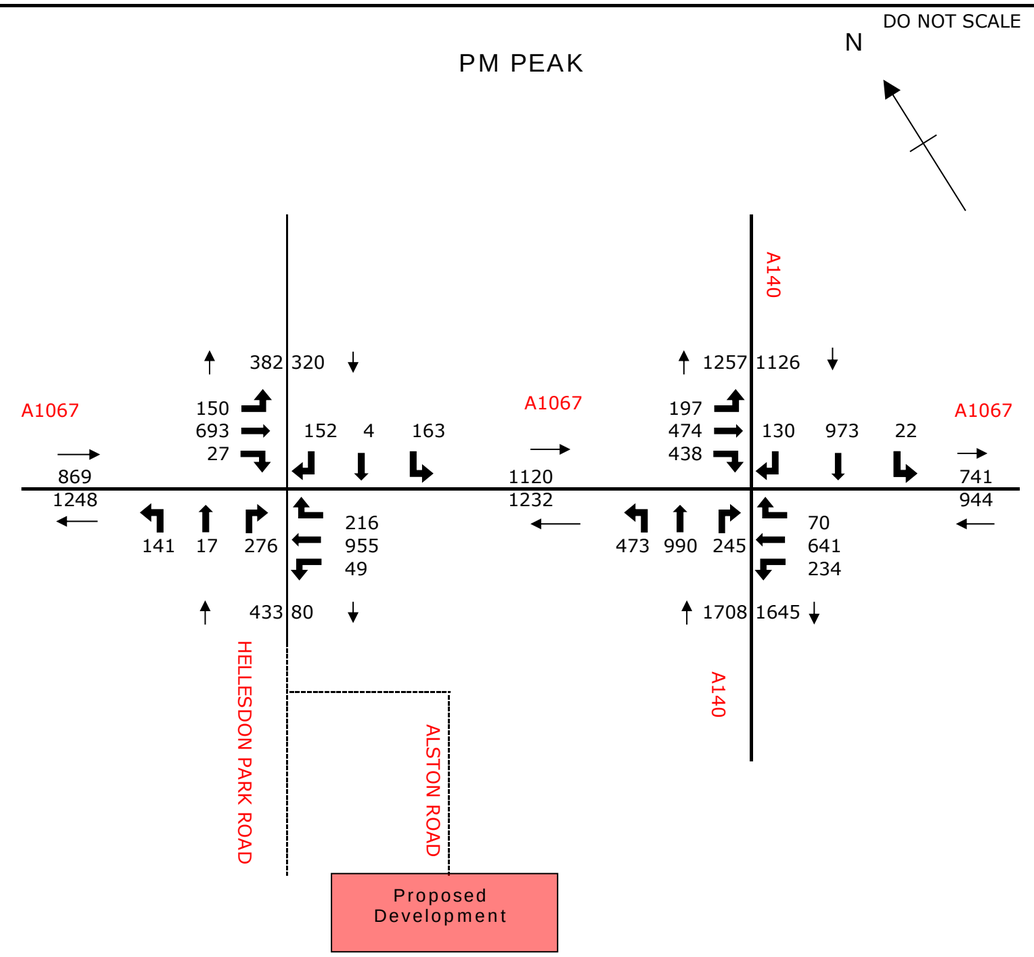
Proposed Development Flows

Scale: NTS | Drawn: DDP | Date: 20/08/19

Job Manager: RNL | Quality Checked: RNL

Drawing Status: ☑ INFORMATION ☐ APPROVAL ☐ COSTING ☐ TENDER ☐ CONSTRUCTION ☐ AS CONSTRUCTED





Notes:

- Original survey date was Thursday 4th July 2019.
- Peak 60min flows range between 07.00-10.00 and 16.00-19.00.
- Highest peak 60min interval for each period presented from flows at A140/A1067 junction.
- Road network layout is representative only and not to scale.
- All flows are in PCUs

Key:

- Principal Road Network Assessed
- Local Road Network Assessed
- Indicative Road Network

Traffic Growth Factors

	AM	PM
2019-2026	1.1356	1.1360

REV	DATE	DESCRIPTION	DRAWN	CHKD

RichardJackson Engineering Consultants
847 The Crescent, Colchester, CO4 9YQ Tel: 01206 228800
Rennie House, 57-60 Aldgate High Street, London, EC3N 1AL Tel: 020 7448 9910
5 Quern House, Mill Court, Great Shelford, Cambs, CB22 5LD Tel: 01223 314794
4 The Old Church, St. Matthews Road, Norwich, Norfolk NR1 1SP Tel: 01603 230240
The Wheelhouse, Bonds Mill, Stonehouse, Gloucestershire GL10 3RF Tel: 01172 020270
Email Address: mail@rj.uk.com Web Site: http://www.rj.uk.com

Project Title: HELLESDON PARK INDUSTRIAL ESTATE

Client Title: GURLOQUE SETTLEMENT

Drawing No.: 49763/P/TA/006

Revision:

Drawing Title: TRAFFIC FLOW DIAGRAM 6

2026 Peak Hour with Committed & Proposed Developments

Scale	Drawn	Date
NTS	DDP	20/08/19

Job Manager: RNL

Quality Checked: RNL

Drawing Status

- [x] INFORMATION
- [ ] APPROVAL
- [ ] COSTING
- [ ] TENDER
- [ ] CONSTRUCTION
- [ ] AS CONSTRUCTED

RichardJackson
Engineering Consultants

APPENDIX G

Data obtained from crashmap.co.uk for the three year period 2016 – 2018.

Client:	Drawing Title:		
Gurloque Settlement	Highway Injury Accident Locations		
Job Title:	**Date:**	**Job No:**	**Reference:**
Hellesdon Park Industrial Estate, Norwich	12/03/20	49763	Appendix G

RichardJackson Engineering Consultants
4 The Old Church, St Matthews Road, Norwich, NR1 1SP
Tel. 01603 230240
www.richardjackson.uk.com

RichardJackson
Engineering Consultants

APPENDIX H

Revision	Drawn	Check	Date

Low Road

Proposed Community Woodland

Proposed Community Woodland

Proposed Community Woodland

8985sq.ft *[10,065sq.ft]*
835m2 *[+100m2 mezz]*
19 spaces

8985sq.ft *[10,065sq.ft]*
835m2 *[+100m2 mezz]*
19 spaces

5810sq.ft
540m2
11 spaces

5810sq.ft
540m2
11 spaces

5810sq.ft
540m2
11 spaces

2900sq.ft
270m2
6 spaces

2900sq.ft
270m2
6 spaces

2900sq.ft
270m2
6 spaces

2900sq.ft
270m2
6 spaces

2900sq.ft
270m2
6 spaces

2900sq.ft
270m2
6 spaces

4575sq.ft
425m2
9 spaces

3230sq.ft
300m2
6 spaces

3230sq.ft
300m2
6 spaces

3230sq.ft
300m2
6 spaces

3230sq.ft
300m2
6 spaces

6460sq.ft
600m2
12 spaces

attenuation basin

foul water main

foul water main

wire fencing and hedging to provide 'soft' boundary to perimeter of extended grave yard

proposed extension to graveyard

existing graveyard

existing graveyard

proposed car park

Clovelly Drive

Bradford

The Parish Church of Saint Mary, Hellesdon

Low Road

- Community woodland: 2.71 hectares
- Industrial site: 2.41 hectares
- Car parking area: 0.24 hectares
- Graveyard: 0.35 hectares

North

10m 0 10 20 30 40 50 60

1:1250

client
Gurloque Settlement

project
Proposed Commercial Development, Hellesdon Industrial Estate, Norwich.

drawing
Proposed Site Areas

drawn	IAN	check	DMW
date	Dec '19	scale	1:1250 @ A3

BROWN & Co
ARCHITECTURE + PLANNING
Brown & Co. The Atrium, St George's Street, Norwich. NR3 1AB.
T: 01603 629871. W: www.brown-co.com
Brown & Co Registered Office: Granta Hall, Finkin Street, Grantham, Lincolnshire, NG31 6QZ.
Registration no: OC302092. Registered in England & Wales.

17	090	005	

RichardJackson
Engineering Consultants

APPENDIX I

TEMPro main form

Data selections

Select dataset version: 72

Result type

- Trip ends by time period
- Trip ends by car availability
- Car ownership data
- Planning data

Set area definition...

Enter base year: 2019

Enter future year: 2026

Trip end selections

Trip end by time period selections

Select time period:

Weekday AM peak period (0700 - 0959)

Trip end type

- Production/Attraction
- Origin/Destination

Select data type

- Growth factors
- Future year minus base year
- Base year data
- Future year data

Results

***Italicised results indicate that there is a lower level of confidence in data presented at the zonal level than when aggregated to higher geographical levels**

Car Driver | Combined Modes

Area Description		All Purposes	
Level	Name	Origin	Destination
E02005529	*Broadland 010*	*1.1253*	*1.0779*

NTM Traffic Growth Calculations

1: Select NTM Dataset:

NTM Dataset Description	From	To
NTM AF15 Dataset	2010	2040
NTM AF09 Dataset	2003	2035
NTM AF08 Dataset	2003	2025

2: Select Areas to make up the geographic region:

- [x] Broadland 010 (E02005529)

3. Select area type:

- Urban
- Rural
- All

4. Select road type:

- Motorway
- Trunk
- Principal
- Minor
- All

5. Select which area it serves:

- Region
- England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
E02005529	Broadland 010	1.1356

TEMPro main form

Data selections

Select dataset version: 72

Result type

- Trip ends by time period
- Trip ends by car availability
- Car ownership data
- Planning data

Set area definition...

Trip end selections

Trip end by time period selections

Select time period:

Weekday PM peak period (1600 - 1859)

Trip end type

- Production/Attraction
- Origin/Destination

Select data type

- Growth factors
- Future year minus base year
- Base year data
- Future year data

Results

***Italicised results indicate that there is a lower level of confidence in data presented at the zonal level than when aggregated to higher geographical levels**

Car Driver | Combined Modes

Area Description		All Purposes	
Level	Name	Origin	Destination
E02005529	*Broadland 010*	*1.0874*	*1.1167*

NTM Traffic Growth Calculations

1: Select NTM Dataset:

NTM Dataset Description	From	To
NTM AF15 Dataset	2010	2040
NTM AF09 Dataset	2003	2035
NTM AF08 Dataset	2003	2025

2: Select Areas to make up the geographic region:

- [x] Broadland 010 (E02005529)

3. Select area type:

- Urban
- Rural
- All

4. Select road type:

- Motorway
- Trunk
- Principal
- Minor
- All

5. Select which area it serves:

- Region
- England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
E02005529	Broadland 010	1.1360

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Engineering Consultants

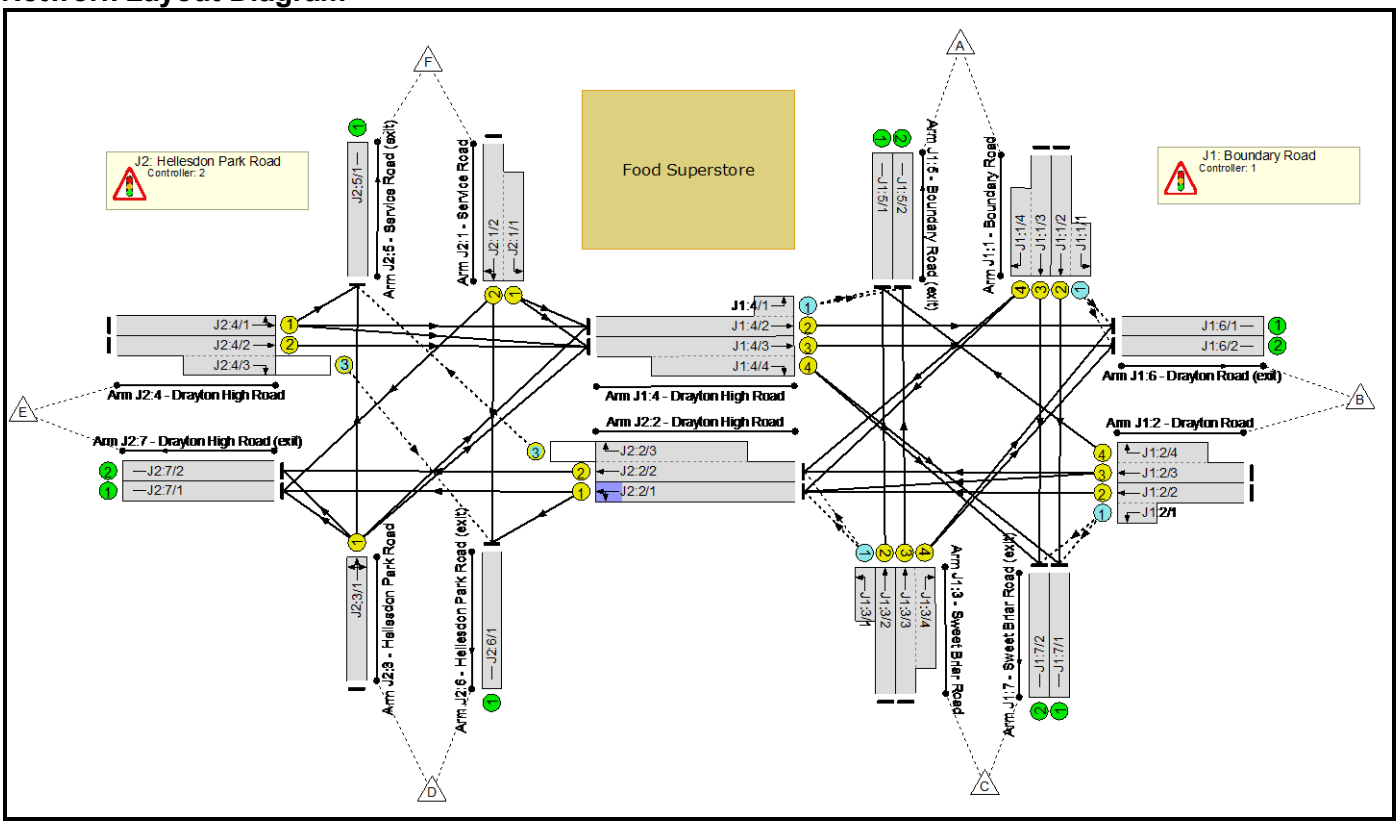
APPENDIX J

Full Input Data And Results

User and Project Details

Project:	
Title:	**Boundary Road & Hellesdon Park Road (existing)**
Location:	
Additional detail:	
File name:	Boundary Road & Hellesdon Park Road Existing Layout.lsg3x
Author:	Duncan Palmer
Company:	Richard Jackson ltd
Address:	

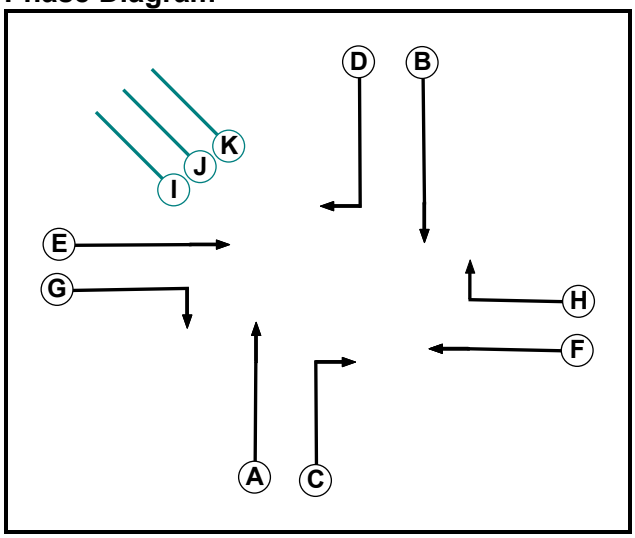
Network Layout Diagram



Full Input Data And Results

C1

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Traffic		7	7
H	Traffic		7	7
I	Dummy		1	1
J	Dummy		1	1
K	Dummy		1	1

Full Input Data And Results

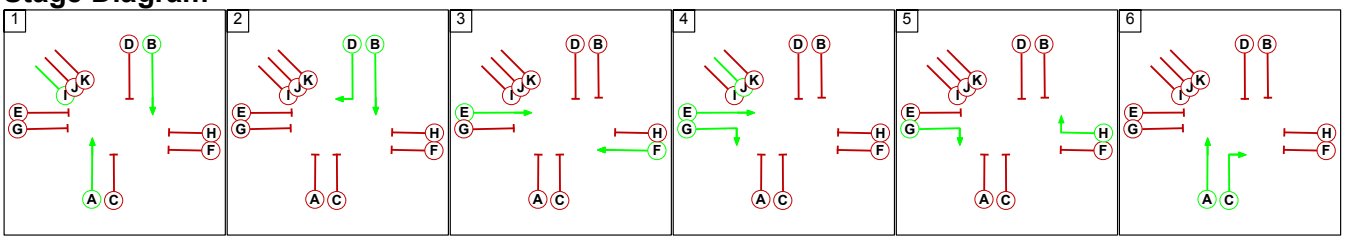
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K
A		-	-	5	7	5	7	6	-	7	3
B	-		5	-	5	7	5	7	-	5	3
C	-	5		-	5	5	5	5	5	5	3
D	5	-	-		5	5	5	5	5	5	3
E	6	6	6	6		-	-	5	6	-	3
F	6	6	6	6	-		5	-	6	5	3
G	6	6	6	6	-	5		-	6	-	3
H	6	6	6	6	5	-	-		6	5	3
I	-	-	5	5	5	5	5	6		-	3
J	6	6	6	6	-	5	-	5	-		3
K	2	2	2	2	2	2	2	2	2	2	

Phases in Stage

Stage No.	Phases in Stage
1	A B I
2	B D
3	E F
4	E G J
5	G H
6	A C

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

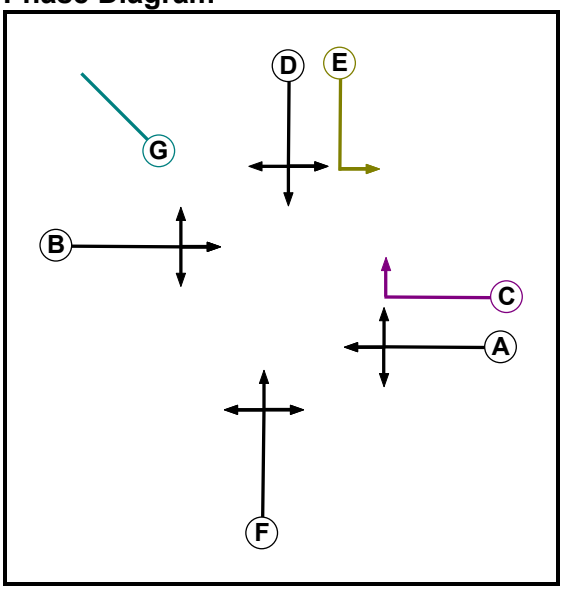
Full Input Data And Results

Prohibited Stage Change

From Stage	To Stage 1	2	3	4	5	6
1		5	7	7	7	5
2	5		7	5	7	5
3	6	6		5	5	6
4	6	6	5		5	6
5	6	6	5	5		6
6	5	5	7	7	7	

C2

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Ind. Arrow	A	4	4
D	Traffic		7	7
E	Filter	D	4	0
F	Traffic		7	7
G	Dummy		3	3

Full Input Data And Results

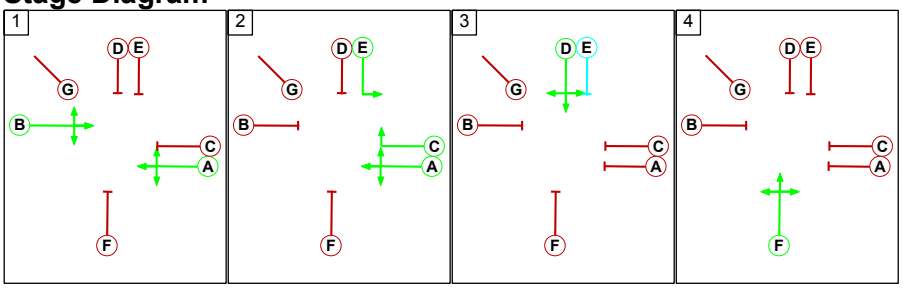
Phase Intergreens Matrix

Terminating Phase	Starting Phase							
		A	B	C	D	E	F	G
	A		-	-	5	-	6	3
	B	-		5	6	7	5	3
	C	-	5		5	-	5	3
	D	6	5	5		-	6	3
	E	-	5	-	-		5	3
	F	5	5	6	6	7		3
	G	2	2	2	2	2	2	

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	A C E
3	D
4	F

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage	To Stage				
		1	2	3	4
	1		7	6	6
	2	X		5	X
	3	6	X		6
	4	5	7	6	

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: Boundary Road											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
J1:1/1 (Boundary Road)	J1:6/1 (Left)	715	0	J1:4/2	0.22	All	-	-	-	-	-
				J1:4/3	0.22	All					
				J1:3/4	0.22	All					
	J1:6/2 (Left)	715	0	J1:4/2	0.22	All					
				J1:4/3	0.22	All					
				J1:3/4	0.22	All					
J1:2/1 (Drayton Road)	J1:7/1 (Left)	715	0	J1:1/2	0.22	All	-	-	-	-	-
				J1:1/3	0.22	All					
				J1:4/4	0.22	All					
	J1:7/2 (Left)	715	0	J1:1/2	0.22	All					
				J1:1/3	0.22	All					
				J1:4/4	0.22	All					
J1:3/1 (Sweet Briar Road)	J2:2/1 (Left)	715	0	J1:2/2	0.22	All	-	-	-	-	-
				J1:2/3	0.22	All					
				J1:1/4	0.22	All					
	J2:2/2 (Left)	715	0	J1:2/2	0.22	All					
				J1:2/3	0.22	All					
				J1:1/4	0.22	All					
J1:4/1 (Drayton High Road)	J1:5/1 (Left)	715	0	J1:3/2	0.22	All	-	-	-	-	-
				J1:3/3	0.22	All					
				J1:2/4	0.22	All					
	J1:5/2 (Left)	715	0	J1:3/2	0.22	All					
				J1:3/3	0.22	All					
				J1:2/4	0.22	All					

Full Input Data And Results

Junction: J2: Hellesdon Park Road											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
J2:2/3 (Drayton High Road)	J2:5/1 (Right)	1439	0	J2:4/1	1.09	All	3.40	-	0.50	3	3.00
				J2:4/2	1.09	All					
J2:4/3 (Drayton High Road)	J2:6/1 (Right)	1439	0	J2:2/1	1.09	All	4.10	-	0.50	4	3.00
				J2:2/2	1.09	All					

Full Input Data And Results

Lane Input Data

Junction: J1: Boundary Road												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
J1:1/1 (Boundary Road)	O		2	3	4.0	Inf	-	-	-	-	-	-
J1:1/2 (Boundary Road)	U	B	2	3	60.0	User	2238	-	-	-	-	-
J1:1/3 (Boundary Road)	U	B	2	3	60.0	User	2192	-	-	-	-	-
J1:1/4 (Boundary Road)	U	D	2	3	6.6	User	1870	-	-	-	-	-
J1:2/1 (Drayton Road)	O		2	3	3.0	Inf	-	-	-	-	-	-
J1:2/2 (Drayton Road)	U	F	2	3	60.0	User	1727	-	-	-	-	-
J1:2/3 (Drayton Road)	U	F	2	3	60.0	User	2019	-	-	-	-	-
J1:2/4 (Drayton Road)	U	H	2	3	6.8	Geom	-	3.50	0.00	N	Arm J1:5 Right	20.19
J1:3/1 (Sweet Briar Road)	O		2	3	4.0	Inf	-	-	-	-	-	-
J1:3/2 (Sweet Briar Road)	U	A	2	3	60.0	User	2072	-	-	-	-	-
J1:3/3 (Sweet Briar Road)	U	A	2	3	60.0	User	2178	-	-	-	-	-
J1:3/4 (Sweet Briar Road)	U	C	2	3	10.5	User	2255	-	-	-	-	-
J1:4/1 (Drayton High Road)	O		2	3	3.0	Inf	-	-	-	-	-	-
J1:4/2 (Drayton High Road)	U	E	2	3	22.9	User	2050	-	-	-	-	-
J1:4/3 (Drayton High Road)	U	E	2	3	22.9	User	2235	-	-	-	-	-
J1:4/4 (Drayton High Road)	U	G	2	3	10.7	User	2147	-	-	-	-	-
J1:5/1 (Boundary Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

J1:5/2 (Boundary Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/1 (Drayton Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/2 (Drayton Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:7/1 (Sweet Briar Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:7/2 (Sweet Briar Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Junction: J2: Hellesdon Park Road												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
J2:1/1 (Service Road)	U	D E	2	3	8.5	User	1362	-	-	-	-	-
J2:1/2 (Service Road)	U	D	2	3	60.0	User	1679	-	-	-	-	-
J2:2/1 (Drayton High Road)	U	A	2	3	24.1	User	1771	-	-	-	-	-
J2:2/2 (Drayton High Road)	U	A	2	3	24.1	Geom	-	3.85	0.00	N	Arm J2:7 Ahead	Inf
J2:2/3 (Drayton High Road)	O	A C	2	3	11.4	Geom	-	3.25	0.00	Y	Arm J2:5 Right	12.70
J2:3/1 (Hellesdon Park Road)	U	F	2	3	60.0	User	2206	-	-	-	-	-
J2:4/1 (Drayton High Road)	U	B	2	3	60.0	User	1859	-	-	-	-	-
J2:4/2 (Drayton High Road)	U	B	2	3	60.0	User	1810	-	-	-	-	-
J2:4/3 (Drayton High Road)	O	B	2	3	6.9	Geom	-	3.25	0.00	N	Arm J2:6 Right	10.72
J2:5/1 (Service Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/1 (Hellesdon Park Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:7/1 (Drayton High Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:7/2 (Drayton High Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2019 AM'	07:30	08:30	01:00	
2: '2019 PM'	16:30	17:30	01:00	

Traffic Flows, Desired

Scenario 1: '2019 AM' (FG1: '2019 AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

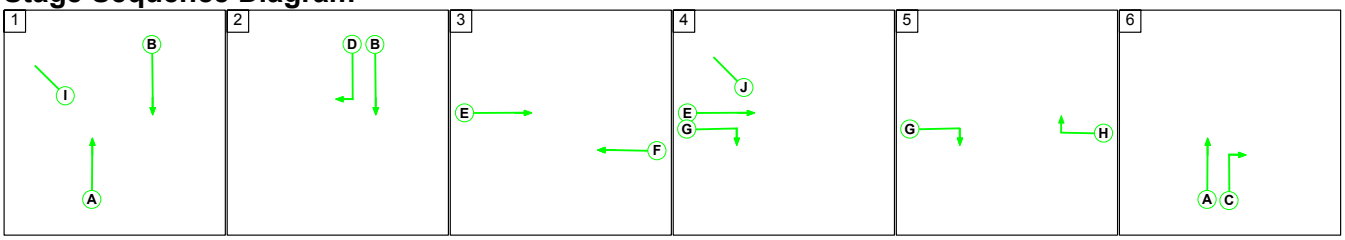
		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	11	825	31	74	11	952
	B	26	0	230	85	191	36	568
	C	763	146	0	100	225	44	1278
	D	11	39	27	0	27	6	110
	E	27	359	193	72	0	84	735
	F	15	51	37	31	44	0	178
	Tot.	842	606	1312	319	561	181	3821

Scenario 2: '2019 PM' (FG2: '2019 PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	19	857	3	70	16	965
	B	62	0	206	21	321	104	714
	C	872	216	0	14	234	71	1407
	D	56	102	55	0	84	13	310
	E	50	178	245	16	0	102	591
	F	37	68	37	3	98	0	243
	Tot.	1077	583	1400	57	807	306	4230

Scenario 1: '2019 AM' (FG1: '2019 AM', Plan 1: 'Network Control Plan 1')
C1

Stage Sequence Diagram

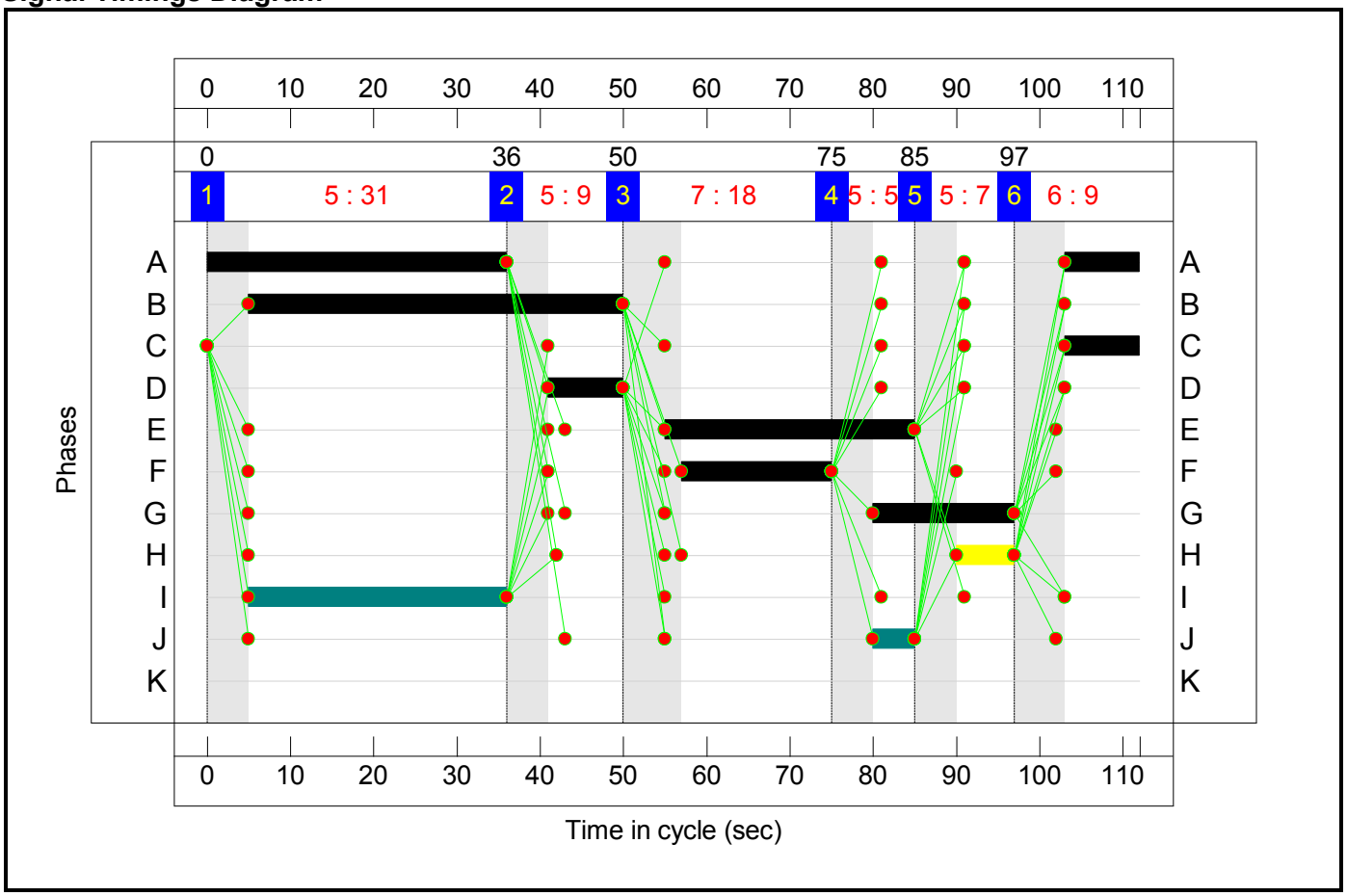


Stage Timings

Stage	1	2	3	4	5	6
Duration	31	9	18	5	7	9
Change Point	0	36	50	75	85	97

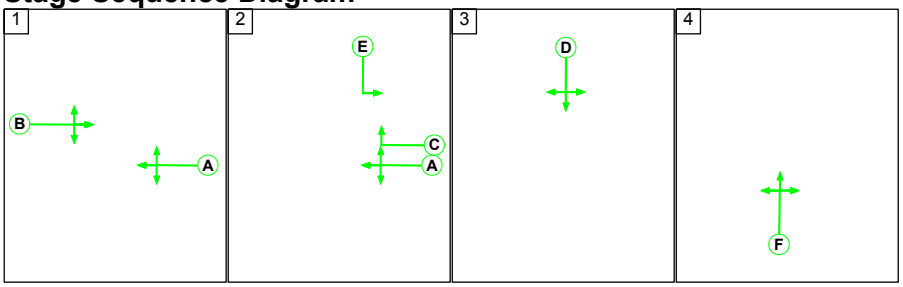
Full Input Data And Results

Signal Timings Diagram



C2

Stage Sequence Diagram

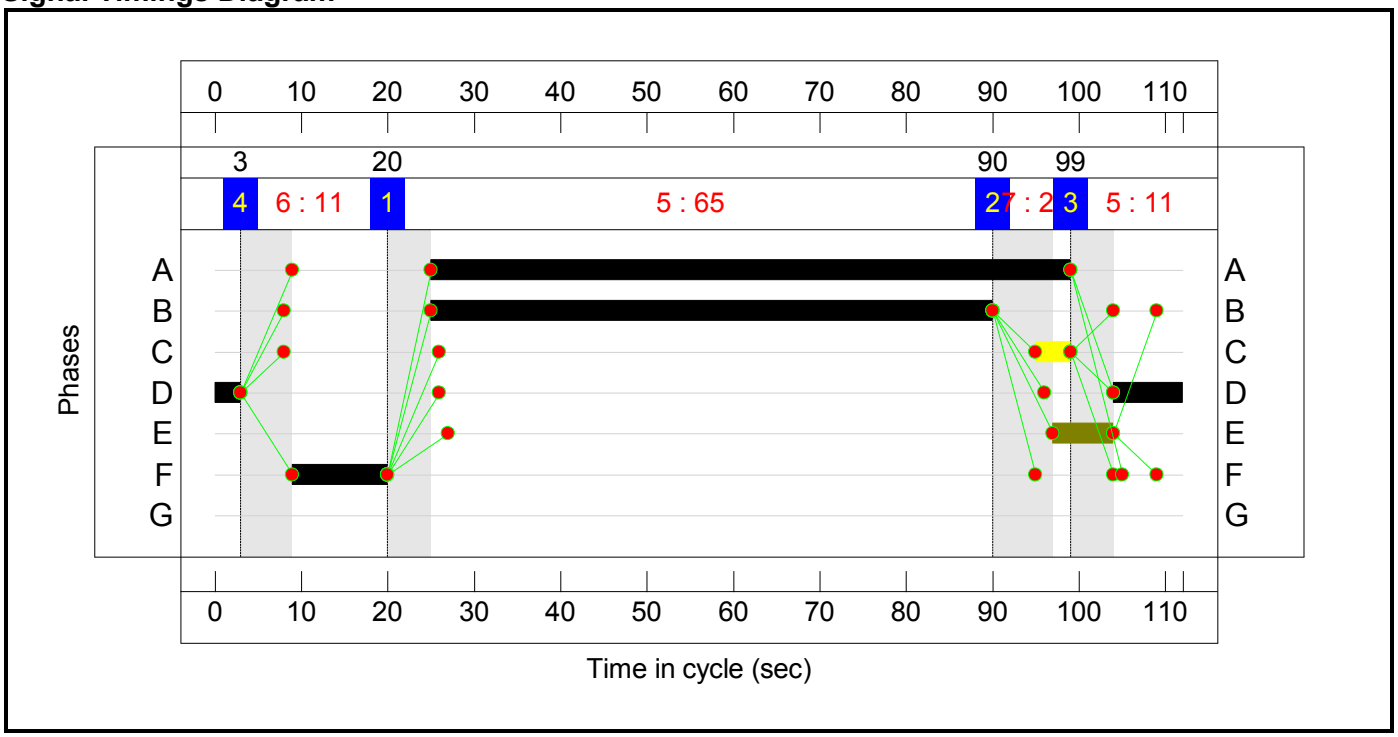


Stage Timings

Stage	1	2	3	4
Duration	65	2	11	11
Change Point	20	90	99	3

Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Results

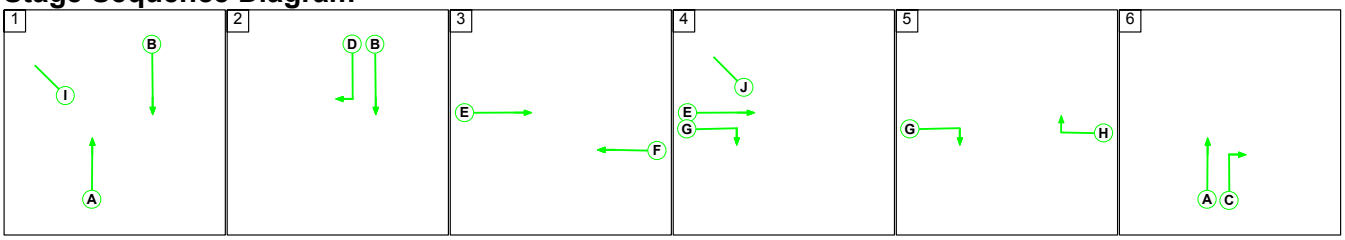
Item	Lane Description	Lane Type	Controller Stream	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Boundary Road && Hellesdon Park Road (existing)	**-**	**-**	**N/A**	**-**	**-**	**-**	**-**	**-**	**77.0%**	**40.4**	**-**	**-**	**-**	**-**
J1: Boundary Road	**-**	**-**	**N/A**	**-**	**-**	**-**	**-**	**-**	**77.0%**	**32.7**	**-**	**-**	**-**	**-**
1/2+1/1	Boundary Road Left Ahead	U+O	N/A	C1:B -	45	424	2238: Inf	919+24	44.9 : 44.9%	3.2	26.9	9.4	0.4	9.8
1/3+1/4	Boundary Road Right Ahead	U	N/A	C1:B C1:D	45:9	528	2192:1870	593+167	69.5 : 69.5%	5.5	37.3	10.2	1.1	11.3
2/2+2/1	Drayton Road Ahead Left	U+O	N/A	C1:F -	18	387	1727: Inf	204+299	77.0 : 77.0%	4.0	37.1	6.8	1.6	8.4
2/3+2/4	Drayton Road Ahead Right	U	N/A	C1:F C1:H	18:7	181	2019:1959	330+55	47.0 : 47.0%	2.6	51.7	4.3	0.4	4.7
3/2+3/1	Sweet Briar Road Left Ahead	U+O	N/A	C1:A -	45	750	2072: Inf	495+479	77.0 : 77.0%	5.5	26.3	13.6	1.6	15.2
3/3+3/4	Sweet Briar Road Ahead Right	U	N/A	C1:A C1:C	45:9	528	2178:2255	603+201	63.4 : 72.5%	5.5	37.3	8.5	1.0	9.4
4/2+4/1	Drayton High Road Left Ahead	U+O	N/A	C1:E -	30	179	2050: Inf	531+223	23.7 : 23.7%	1.0	20.8	3.5	0.0	3.5
4/3+4/4	Drayton High Road Ahead Right	U	N/A	C1:E C1:G	30:17	580	2235:2147	434+345	74.5 : 74.5%	5.5	33.9	11.7	0.0	11.7
5/1	Boundary Road (exit)	U	N/A	-	-	432	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
5/2	Boundary Road (exit)	U	N/A	-	-	410	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Drayton Road (exit)	U	N/A	-	-	204	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/2	Drayton Road (exit)	U	N/A	-	-	402	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Sweet Briar Road (exit)	U	N/A	-	-	657	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Sweet Briar Road (exit)	U	N/A	-	-	655	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
J2: Hellesdon Park Road	**-**	**-**	**N/A**	**-**	**-**	**-**	**-**	**-**	**46.5%**	**7.7**	**-**	**-**	**-**	**-**

Full Input Data And Results

1/2+1/1	Service Road Left Ahead Right	U	N/A	C2:D	11:18	178	1679:1362	180+231	41.7 : 44.6%	2.6	51.6	2.9	0.4	3.2
2/1	Drayton High Road Left Ahead	U	N/A	C2:A	74	511	1771	1186	43.1%	0.3	1.8	6.6	0.0	6.6
2/2+2/3	Drayton High Road Right Ahead	U+O	N/A	C2:A	74	286	2140:1735	1042+486	18.7 : 18.7%	0.1	1.4	0.8	0.0	0.8
3/1	Hellesdon Park Road Right Ahead Left	U	N/A	C2:F	11	110	2206	236	46.5%	1.9	61.2	3.2	0.4	3.6
4/1	Drayton High Road Ahead Left	U	N/A	C2:B	65	331	1859	1095	30.2%	1.3	13.8	5.1	0.2	5.3
4/2+4/3	Drayton High Road Ahead Right	U+O	N/A	C2:B	65	404	1810:1825	928+201	35.8 : 35.8%	1.6	14.3	5.2	0.3	5.4
5/1	Service Road (exit)	U	N/A	-	-	181	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Hellesdon Park Road (exit)	U	N/A	-	-	319	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Drayton High Road (exit)	U	N/A	-	-	352	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Drayton High Road (exit)	U	N/A	-	-	209	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0

C1	PRC for Signalled Lanes (%):	16.9	Total Delay for Signalled Lanes (pcuHr):	32.69	Cycle Time (s): 112
C2	PRC for Signalled Lanes (%):	93.4	Total Delay for Signalled Lanes (pcuHr):	7.67	Cycle Time (s): 112
	PRC Over All Lanes (%):	16.9	Total Delay Over All Lanes(pcuHr):	40.35	

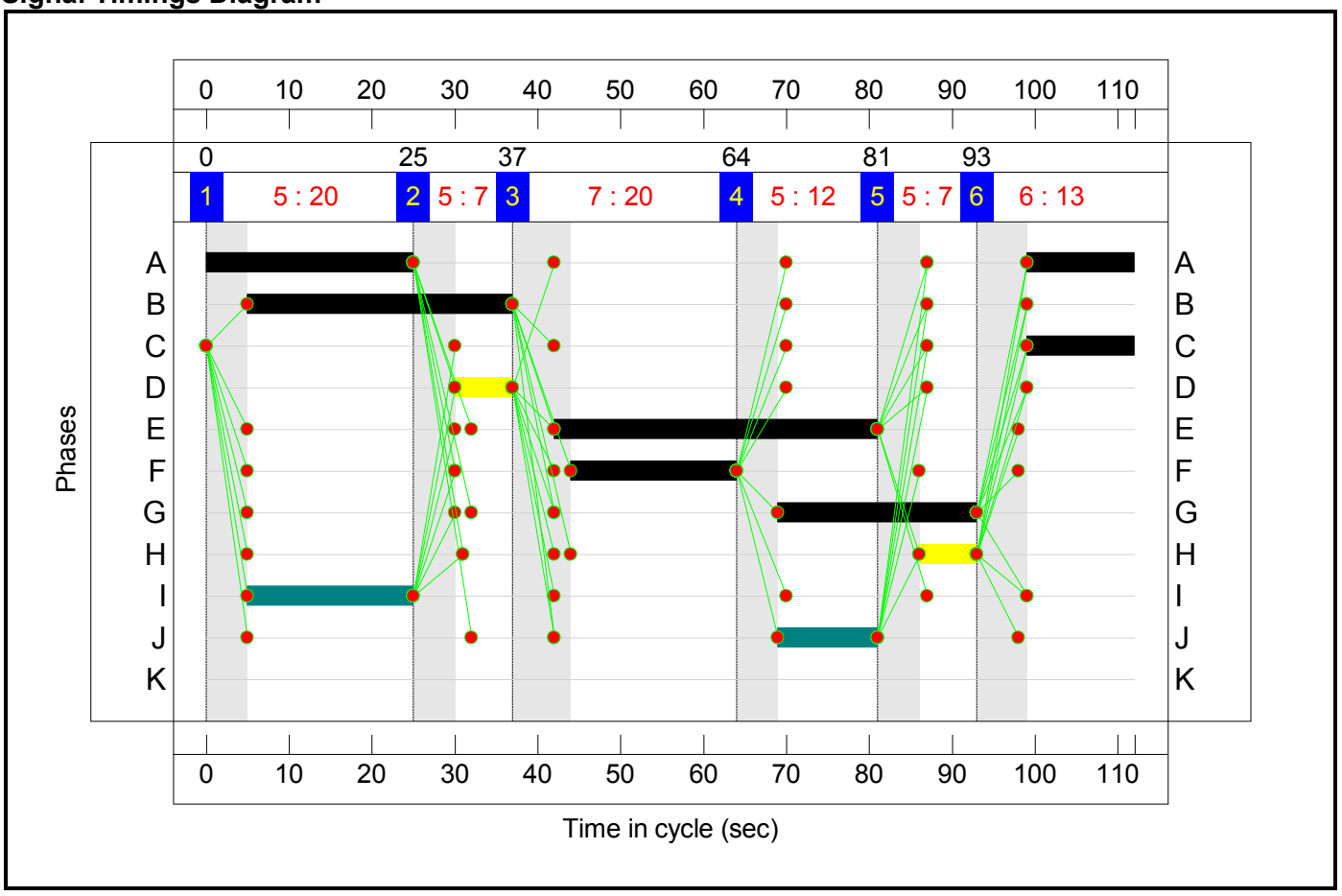
Full Input Data And Results
Scenario 2: '2019 PM' (FG2: '2019 PM', Plan 1: 'Network Control Plan 1')
C1
Stage Sequence Diagram



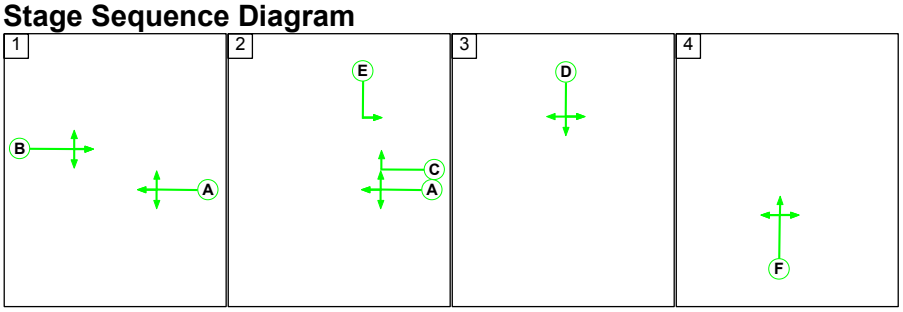
Stage Timings

Stage	1	2	3	4	5	6
Duration	20	7	20	12	7	13
Change Point	0	25	37	64	81	93

Signal Timings Diagram



C2
Stage Sequence Diagram

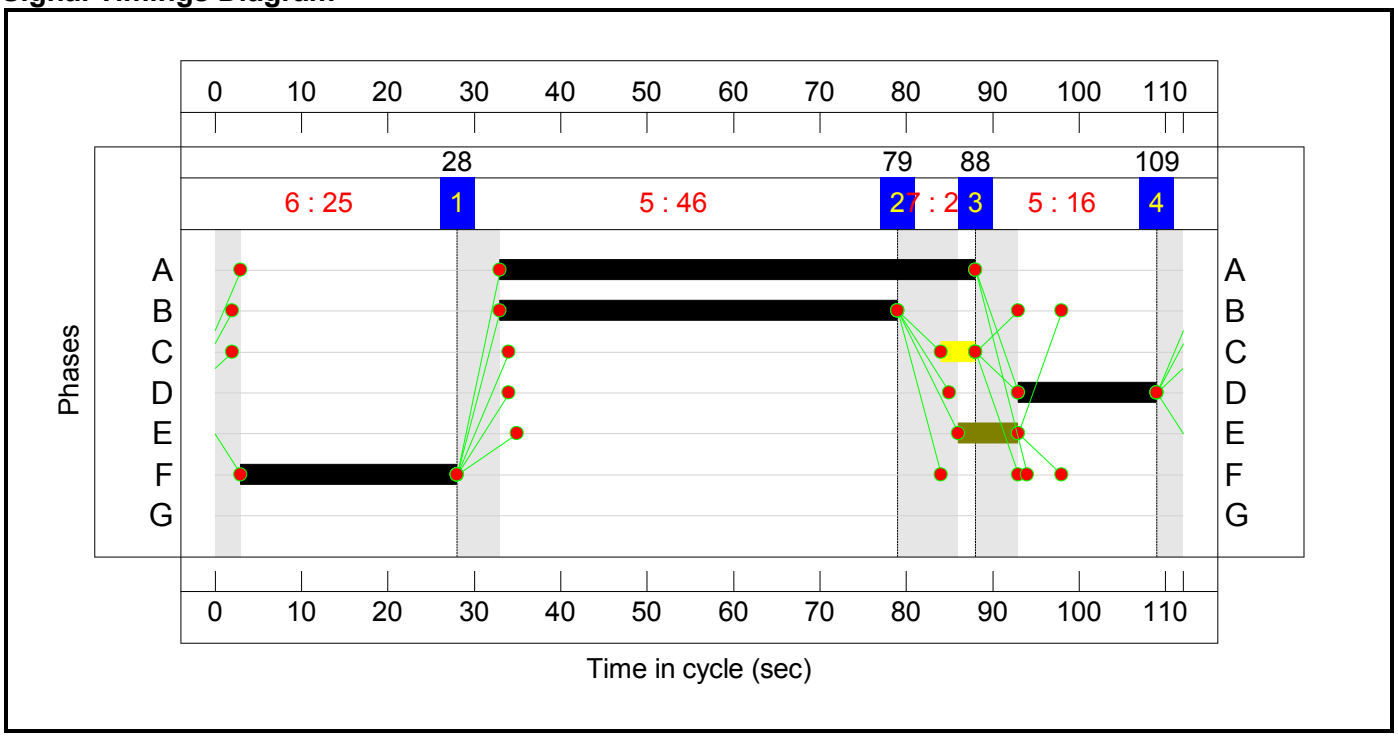


Full Input Data And Results

Stage Timings

Stage	1	2	3	4
Duration	46	2	16	25
Change Point	28	79	88	109

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Boundary Road && Hellesdon Park Road (existing)	-	-	**N/A**	-	-	-	-	-	**77.6%**	**54.2**	-	-	-	-
J1: Boundary Road	-	-	**N/A**	-	-	-	-	-	**77.6%**	**41.7**	-	-	-	-
1/2+1/1	Boundary Road Left Ahead	U+O	N/A	C1:B -	32	475	2238: Inf	659+27	69.2 : 69.2%	5.6	42.6	12.8	1.1	13.9
1/3+1/4	Boundary Road Right Ahead	U	N/A	C1:B C1:D	32:7	490	2192:1870	561+124	71.5 : 71.5%	6.3	46.4	11.9	1.2	13.1
2/2+2/1	Drayton Road Ahead Left	U+O	N/A	C1:F -	20	396	1727: Inf	250+272	75.9 : 75.9%	4.3	39.4	8.2	1.5	9.7
2/3+2/4	Drayton Road Ahead Right	U	N/A	C1:F C1:H	20:7	318	2019:1959	352+85	72.8 : 72.8%	5.2	58.6	7.5	1.3	8.8
3/2+3/1	Sweet Briar Road Left Ahead	U+O	N/A	C1:A -	38	719	2072: Inf	516+411	77.6 : 77.6%	6.5	32.8	15.6	1.7	17.3
3/3+3/4	Sweet Briar Road Ahead Right	U	N/A	C1:A C1:C	38:13	688	2178:2255	629+282	75.1 : 76.6%	8.8	46.2	13.4	1.5	14.9
4/2+4/1	Drayton High Road Left Ahead	U+O	N/A	C1:E -	39	294	2050: Inf	417+395	36.2 : 36.2%	1.1	12.9	3.2	0.0	3.2
4/3+4/4	Drayton High Road Ahead Right	U	N/A	C1:E C1:G	39:24	534	2235:2147	254+435	77.5 : 77.5%	3.8	25.8	17.5	0.0	17.5
5/1	Boundary Road (exit)	U	N/A	-	-	533	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
5/2	Boundary Road (exit)	U	N/A	-	-	544	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Drayton Road (exit)	U	N/A	-	-	268	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/2	Drayton Road (exit)	U	N/A	-	-	315	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Sweet Briar Road (exit)	U	N/A	-	-	728	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Sweet Briar Road (exit)	U	N/A	-	-	672	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
J2: Hellesdon Park Road	-	-	**N/A**	-	-	-	-	-	**60.5%**	**12.5**	-	-	-	-

Full Input Data And Results

1/2+1/1	Service Road Left Ahead Right	U	N/A	C2:D	16:23	243	1679:1362	208+292	48.7 : 48.7%	3.2	47.4	3.9	0.5	4.3
2/1	Drayton High Road Left Ahead	U	N/A	C2:A	55	414	1771	885	46.8%	0.3	3.0	6.2	0.0	6.2
2/2+2/3	Drayton High Road Right Ahead	U+O	N/A	C2:A	55	440	2140:1735	591+453	42.1 : 42.1%	0.6	5.1	2.4	0.0	2.4
3/1	Hellesdon Park Road Right Ahead Left	U	N/A	C2:F	25	310	2206	512	60.5%	4.1	47.3	8.6	0.8	9.4
4/1	Drayton High Road Ahead Left	U	N/A	C2:B	46	297	1859	780	38.1%	2.2	26.2	6.4	0.3	6.7
4/2+4/3	Drayton High Road Ahead Right	U+O	N/A	C2:B	46	294	1810:1825	743+43	37.4 : 37.4%	2.1	25.9	5.9	0.3	6.2
5/1	Service Road (exit)	U	N/A	-	-	306	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Hellesdon Park Road (exit)	U	N/A	-	-	57	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Drayton High Road (exit)	U	N/A	-	-	516	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Drayton High Road (exit)	U	N/A	-	-	291	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0

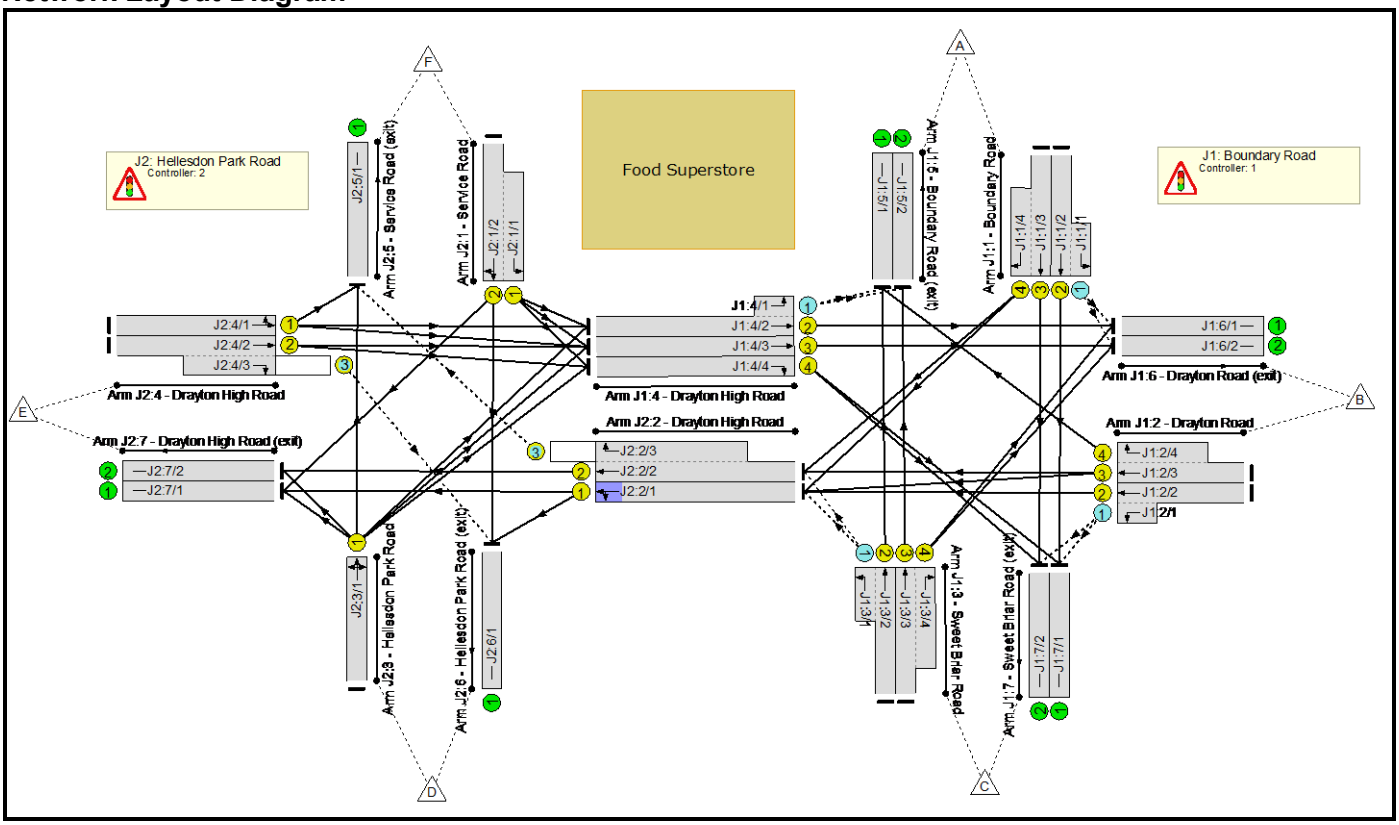
C1	PRC for Signalled Lanes (%):	16.0	Total Delay for Signalled Lanes (pcuHr):	41.72	Cycle Time (s): 112
C2	PRC for Signalled Lanes (%):	48.7	Total Delay for Signalled Lanes (pcuHr):	12.52	Cycle Time (s): 112
	PRC Over All Lanes (%):	16.0	Total Delay Over All Lanes(pcuHr):	54.23	

Full Input Data And Results

User and Project Details

Project:	
Title:	**Boundary Road & Hellesdon Park Road (Committed)**
Location:	
Additional detail:	
File name:	Boundary Road & Hellesdon Park Road Committed Layout.lsg3x
Author:	Duncan Palmer
Company:	Richard Jackson ltd
Address:	

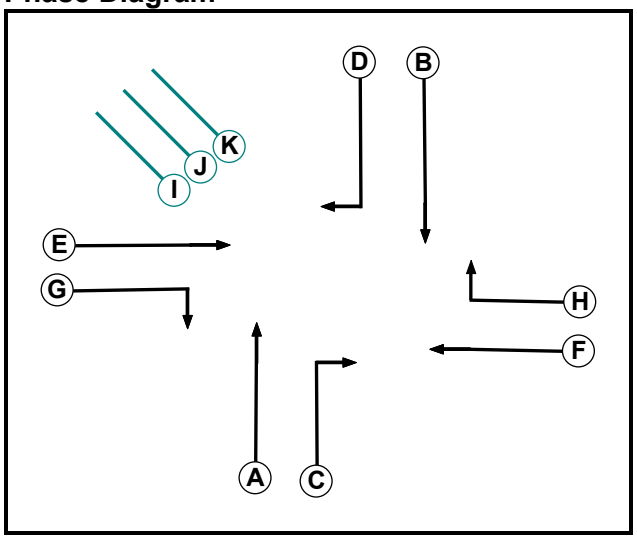
Network Layout Diagram



Full Input Data And Results

C1

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Traffic		7	7
H	Traffic		7	7
I	Dummy		1	1
J	Dummy		1	1
K	Dummy		1	1

Full Input Data And Results

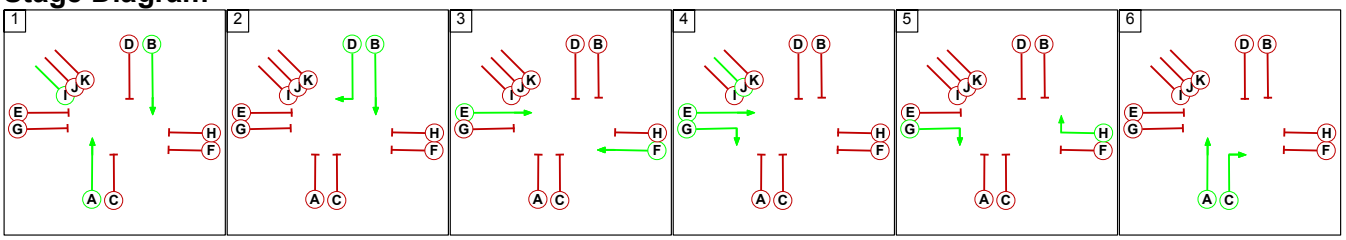
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K
A		-	-	5	7	5	7	6	-	7	3
B	-		5	-	5	7	5	7	-	5	3
C	-	5		-	5	5	5	5	5	5	3
D	5	-	-		5	5	5	5	5	5	3
E	6	6	6	6		-	-	5	6	-	3
F	6	6	6	6	-		5	-	6	5	3
G	6	6	6	6	-	5		-	6	-	3
H	6	6	6	6	5	-	-		6	5	3
I	-	-	5	5	5	5	5	6		-	3
J	6	6	6	6	-	5	-	5	-		3
K	2	2	2	2	2	2	2	2	2	2	

Phases in Stage

Stage No.	Phases in Stage
1	A B I
2	B D
3	E F
4	E G J
5	G H
6	A C

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

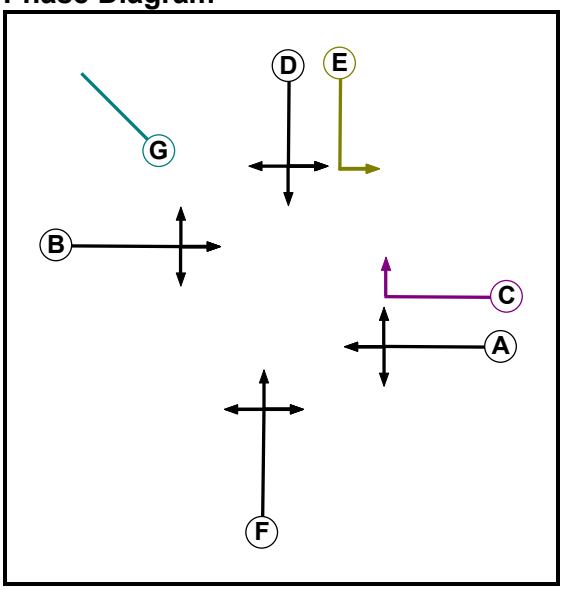
Full Input Data And Results

Prohibited Stage Change

From Stage	To Stage 1	2	3	4	5	6
1		5	7	7	7	5
2	5		7	5	7	5
3	6	6		5	5	6
4	6	6	5		5	6
5	6	6	5	5		6
6	5	5	7	7	7	

C2

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Ind. Arrow	A	4	4
D	Traffic		7	7
E	Filter	D	4	0
F	Traffic		7	7
G	Dummy		3	3

Full Input Data And Results

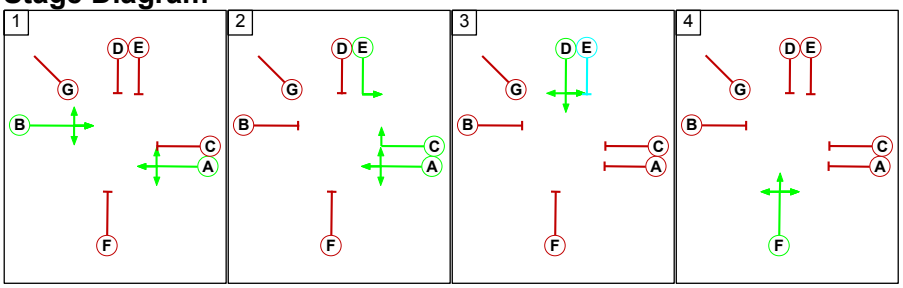
Phase Intergreens Matrix

Terminating Phase	Starting Phase							
		A	B	C	D	E	F	G
	A		-	-	5	-	6	3
	B	-		5	6	7	5	3
	C	-	5		5	-	5	3
	D	6	5	5		-	6	3
	E	-	5	-	-		5	3
	F	5	5	6	6	7		3
	G	2	2	2	2	2	2	

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	A C E
3	D
4	F

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage	To Stage				
		1	2	3	4
	1		7	6	6
	2	X		5	X
	3	6	X		6
	4	5	7	6	

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: Boundary Road											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
J1:1/1 (Boundary Road)	J1:6/1 (Left)	715	0	J1:4/2	0.22	All	-	-	-	-	-
				J1:4/3	0.22	All					
				J1:3/4	0.22	All					
	J1:6/2 (Left)	715	0	J1:4/2	0.22	All					
				J1:4/3	0.22	All					
				J1:3/4	0.22	All					
J1:2/1 (Drayton Road)	J1:7/1 (Left)	715	0	J1:1/2	0.22	All	-	-	-	-	-
				J1:1/3	0.22	All					
				J1:4/4	0.22	All					
	J1:7/2 (Left)	715	0	J1:1/2	0.22	All					
				J1:1/3	0.22	All					
				J1:4/4	0.22	All					
J1:3/1 (Sweet Briar Road)	J2:2/1 (Left)	715	0	J1:2/2	0.22	All	-	-	-	-	-
				J1:2/3	0.22	All					
				J1:1/4	0.22	All					
	J2:2/2 (Left)	715	0	J1:2/2	0.22	All					
				J1:2/3	0.22	All					
				J1:1/4	0.22	All					
J1:4/1 (Drayton High Road)	J1:5/1 (Left)	715	0	J1:3/2	0.22	All	-	-	-	-	-
				J1:3/3	0.22	All					
				J1:2/4	0.22	All					
	J1:5/2 (Left)	715	0	J1:3/2	0.22	All					
				J1:3/3	0.22	All					
				J1:2/4	0.22	All					

Full Input Data And Results

Junction: J2: Hellesdon Park Road											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
J2:2/3 (Drayton High Road)	J2:5/1 (Right)	1439	0	J2:4/1	1.09	All	3.40	-	0.50	3	3.00
				J2:4/2	1.09	All					
J2:4/3 (Drayton High Road)	J2:6/1 (Right)	1439	0	J2:2/1	1.09	All	4.10	-	0.50	4	3.00
				J2:2/2	1.09	All					

Full Input Data And Results

Lane Input Data

Junction: J1: Boundary Road												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
J1:1/1 (Boundary Road)	O		2	3	4.0	Inf	-	-	-	-	-	-
J1:1/2 (Boundary Road)	U	B	2	3	60.0	User	2238	-	-	-	-	-
J1:1/3 (Boundary Road)	U	B	2	3	60.0	User	2192	-	-	-	-	-
J1:1/4 (Boundary Road)	U	D	2	3	6.6	User	1870	-	-	-	-	-
J1:2/1 (Drayton Road)	O		2	3	3.0	Inf	-	-	-	-	-	-
J1:2/2 (Drayton Road)	U	F	2	3	60.0	User	1727	-	-	-	-	-
J1:2/3 (Drayton Road)	U	F	2	3	60.0	User	2019	-	-	-	-	-
J1:2/4 (Drayton Road)	U	H	2	3	6.8	Geom	-	3.50	0.00	N	Arm J1:5 Right	20.19
J1:3/1 (Sweet Briar Road)	O		2	3	4.0	Inf	-	-	-	-	-	-
J1:3/2 (Sweet Briar Road)	U	A	2	3	60.0	User	2072	-	-	-	-	-
J1:3/3 (Sweet Briar Road)	U	A	2	3	60.0	User	2178	-	-	-	-	-
J1:3/4 (Sweet Briar Road)	U	C	2	3	10.5	Geom	-	3.50	0.00	N	Arm J1:6 Right	14.40
J1:4/1 (Drayton High Road)	O		2	3	3.0	User	2255	-	-	-	-	-
J1:4/2 (Drayton High Road)	U	E	2	3	22.9	User	2050	-	-	-	-	-
J1:4/3 (Drayton High Road)	U	E	2	3	22.9	User	2235	-	-	-	-	-
J1:4/4 (Drayton High Road)	U	G	2	3	22.9	User	2147	-	-	-	-	-
J1:5/1 (Boundary Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

J1:5/2 (Boundary Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/1 (Drayton Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/2 (Drayton Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:7/1 (Sweet Briar Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:7/2 (Sweet Briar Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Junction: J2: Hellesdon Park Road												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
J2:1/1 (Service Road)	U	D E	2	3	8.5	User	1362	-	-	-	-	-
J2:1/2 (Service Road)	U	D	2	3	60.0	User	1679	-	-	-	-	-
J2:2/1 (Drayton High Road)	U	A	2	3	24.1	User	1771	-	-	-	-	-
J2:2/2 (Drayton High Road)	U	A	2	3	24.1	Geom	-	3.00	0.00	N	Arm J2:7 Ahead	Inf
J2:2/3 (Drayton High Road)	O	A C	2	3	11.4	Geom	-	3.00	0.00	Y	Arm J2:5 Right	12.70
J2:3/1 (Hellesdon Park Road)	U	F	2	3	60.0	User	2206	-	-	-	-	-
J2:4/1 (Drayton High Road)	U	B	2	3	60.0	User	1859	-	-	-	-	-
J2:4/2 (Drayton High Road)	U	B	2	3	60.0	User	1810	-	-	-	-	-
J2:4/3 (Drayton High Road)	O	B	2	3	6.9	Geom	-	3.25	0.00	N	Arm J2:6 Right	10.72
J2:5/1 (Service Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/1 (Hellesdon Park Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:7/1 (Drayton High Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:7/2 (Drayton High Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2019 AM'	07:30	08:30	01:00	
2: '2019 PM'	16:30	17:30	01:00	
3: '2026 AM'	07:30	08:30	01:00	F1*1.1356
4: '2026 PM'	16:30	17:30	01:00	F2*1.1360
5: 'AM Committed Development'	07:30	08:30	01:00	
6: 'PM Committed Development'	16:30	17:30	01:00	
7: '2026 AM + Committed'	07:30	08:30	01:00	F3+F5
8: '2026 PM + Committed'	16:30	17:30	01:00	F4+F6
9: 'AM Proposed Development'	07:30	08:30	01:00	
10: 'PM Proposed Development'	16:30	17:30	01:00	
11: '2026 AM + Committed & Propsoed'	07:30	08:30	01:00	F9+F7
12: '2020 PM + Committed & Propsoed'	16:30	17:30	01:00	F10+F8

Traffic Flows, Desired

Scenario 1: '2026 AM + Committed' (FG7: '2026 AM + Committed', Plan 1: 'Network Control Plan 1')
Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	12	937	35	103	12	1099
	B	30	0	261	97	255	41	684
	C	866	166	0	114	293	50	1489
	D	12	44	31	0	37	7	131
	E	63	557	289	103	0	152	1164
	F	17	58	42	35	62	0	214
	Tot.	988	837	1560	384	750	262	4781

Scenario 2: '2026 PM + Committed' (FG8: '2026 PM + Committed', Plan 1: 'Network Control Plan 1')
Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	22	974	3	105	18	1122
	B	70	0	234	24	489	118	935
	C	991	245	0	16	364	81	1697
	D	64	116	62	0	128	15	385
	E	90	269	329	24	0	149	861
	F	42	77	42	3	152	0	316
	Tot.	1257	729	1641	70	1238	381	5316

Full Input Data And Results

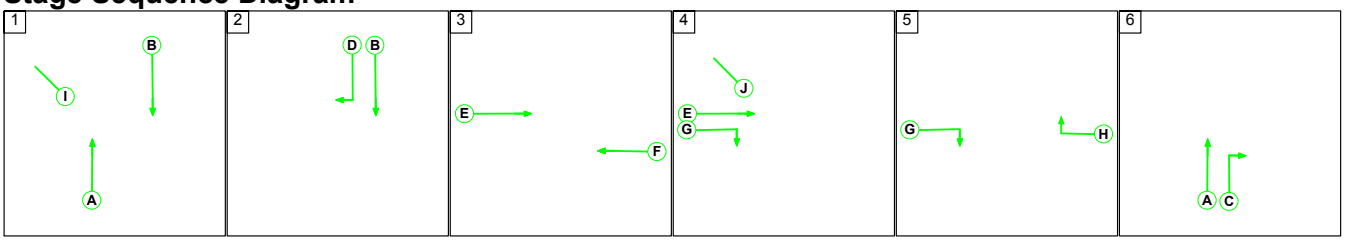
Scenario 3: '2026 AM + Committed & Propsoed' (FG11: '2026 AM + Committed & Propsoed', Plan 1: 'Network Control Plan 1')
Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	12	937	39	103	12	1103
	B	30	0	261	109	255	41	696
	C	866	166	0	128	293	50	1503
	D	13	52	36	0	42	8	151
	E	63	557	289	113	0	152	1174
	F	17	58	42	39	62	0	218
	Tot.	989	845	1565	428	755	263	4845

Scenario 4: '2026 PM + Committed & Propsoed' (FG12: '2020 PM + Committed & Propsoed', Plan 1: 'Network Control Plan 1')
Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	22	974	4	105	18	1123
	B	70	0	234	27	489	118	938
	C	991	245	0	18	364	81	1699
	D	69	129	74	0	140	17	429
	E	90	269	329	26	0	149	863
	F	42	77	42	3	152	0	316
	Tot.	1262	742	1653	78	1250	383	5368

Scenario 1: '2026 AM + Committed' (FG7: '2026 AM + Committed', Plan 1: 'Network Control Plan 1')
C1
Stage Sequence Diagram

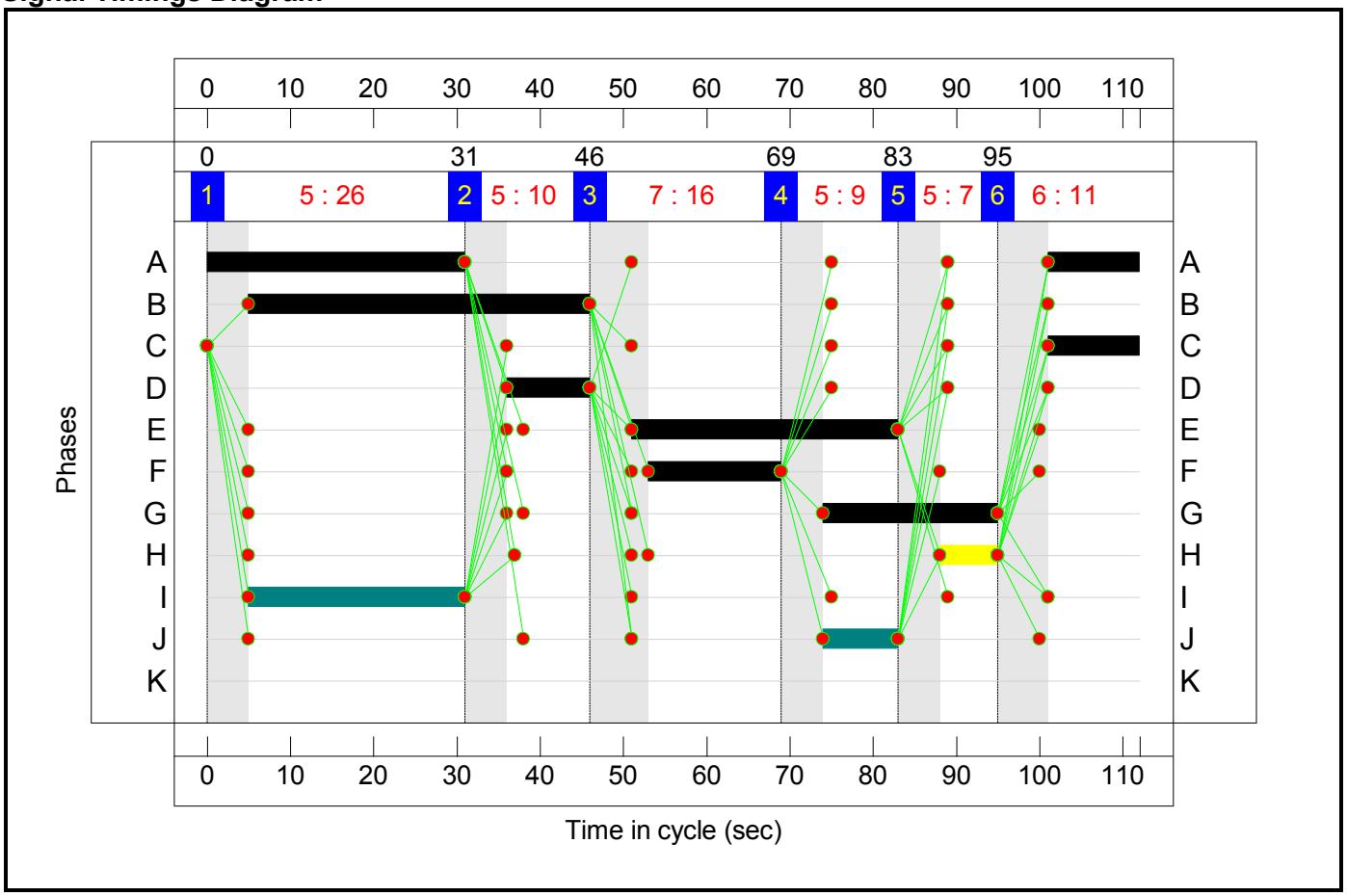


Stage Timings

Stage	1	2	3	4	5	6
Duration	26	10	16	9	7	11
Change Point	0	31	46	69	83	95

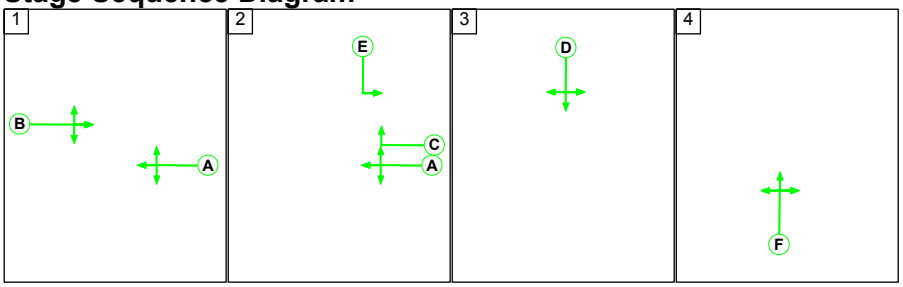
Full Input Data And Results

Signal Timings Diagram



C2

Stage Sequence Diagram

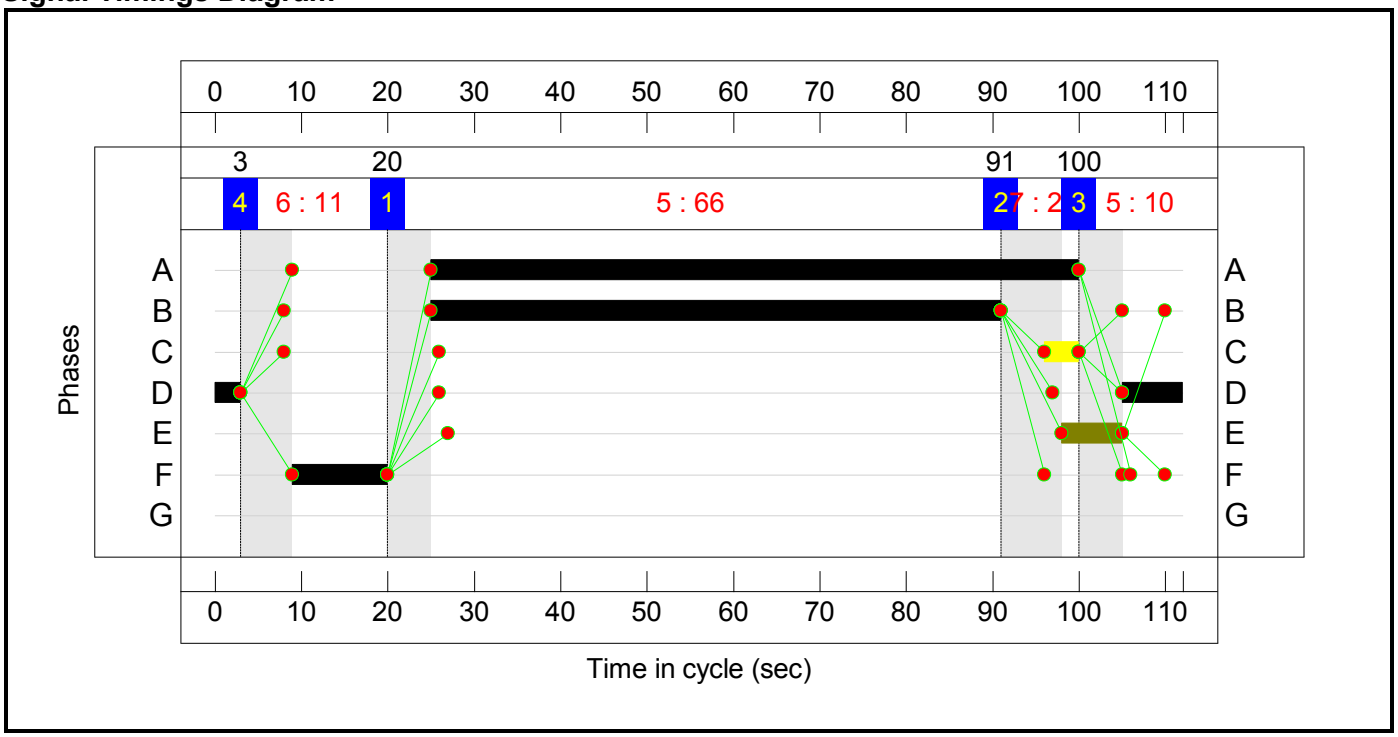


Stage Timings

Stage	1	2	3	4
Duration	66	2	10	11
Change Point	20	91	100	3

Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Boundary Road && Hellesdon Park Road (Committed)	-	-	**N/A**	-	-	-	-	-	**85.8%**	**63.8**	-	-	-	-
J1: Boundary Road	-	-	**N/A**	-	-	-	-	-	**85.8%**	**52.4**	-	-	-	-
1/2+1/1	Boundary Road Left Ahead	U+O	N/A	C1:B -	41	715	2238: Inf	839+14	83.8 : 83.8%	8.8	44.3	20.1	2.5	22.6
1/3+1/4	Boundary Road Right Ahead	U	N/A	C1:B C1:D	41:10	384	2192:1870	287+184	81.7 : 81.7%	5.8	54.2	5.1	2.1	7.2
2/2+2/1	Drayton Road Ahead Left	U+O	N/A	C1:F -	16	418	1727: Inf	184+305	85.5 : 85.5%	5.4	46.4	7.3	2.7	10.0
2/3+2/4	Drayton Road Ahead Right	U	N/A	C1:F C1:H	16:7	266	2019:1959	302+38	78.2 : 78.2%	5.1	69.2	7.1	1.7	8.8
3/2+3/1	Sweet Briar Road Left Ahead	U+O	N/A	C1:A -	42	757	2072: Inf	350+533	85.7 : 85.7%	6.7	31.7	14.2	2.9	17.1
3/3+3/4	Sweet Briar Road Ahead Right	U	N/A	C1:A C1:C	42:11	732	2178:1906	710+204	79.7 : 81.3%	9.4	46.0	16.4	2.0	18.4
4/2+4/1	Drayton High Road Left Ahead	U+O	N/A	C1:E -	32	382	2050:2255	494+157	58.7 : 58.7%	2.2	20.9	9.3	0.0	9.3
4/3	Drayton High Road Ahead	U	N/A	C1:E	32	369	2235	659	56.0%	2.4	23.5	9.9	0.0	9.9
4/4	Drayton High Road Right	U	N/A	C1:G	21	362	2147	422	85.8%	6.7	66.4	10.9	2.8	13.7
5/1	Boundary Road (exit)	U	N/A	-	-	375	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
5/2	Boundary Road (exit)	U	N/A	-	-	613	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Drayton Road (exit)	U	N/A	-	-	379	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/2	Drayton Road (exit)	U	N/A	-	-	458	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Sweet Briar Road (exit)	U	N/A	-	-	1016	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Sweet Briar Road (exit)	U	N/A	-	-	544	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

J2: Hellesdon Park Road	**-**	**-**	**N/A**	**-**	**-**	**-**	**-**	**-**	**58.8%**	**11.4**	**-**	**-**	**-**	**-**
1/2+1/1	Service Road Left Ahead Right	U	N/A	C2:D	10:17	214	1679:1362	165+219	58.8 : 53.5%	3.3	56.0	3.3	0.6	3.9
2/1	Drayton High Road Left Ahead	U	N/A	C2:A	75	458	1771	1202	38.1%	0.2	1.6	6.0	0.0	6.0
2/2+2/3	Drayton High Road Right Ahead	U+O	N/A	C2:A	75	542	2055:1713	1178+276	37.3 : 37.3%	0.3	2.1	1.8	0.0	1.8
3/1	Hellesdon Park Road Right Ahead Left	U	N/A	C2:F	11	131	2206	236	55.4%	2.3	64.4	3.9	0.6	4.5
4/1	Drayton High Road Ahead Left	U	N/A	C2:B	66	573	1859	1112	51.5%	2.6	16.4	10.3	0.5	10.9
4/2+4/3	Drayton High Road Ahead Right	U+O	N/A	C2:B	66	591	1810:1825	945+199	51.6 : 51.6%	2.6	15.7	8.6	0.5	9.1
5/1	Service Road (exit)	U	N/A	-	-	262	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Hellesdon Park Road (exit)	U	N/A	-	-	384	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Drayton High Road (exit)	U	N/A	-	-	292	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Drayton High Road (exit)	U	N/A	-	-	458	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0

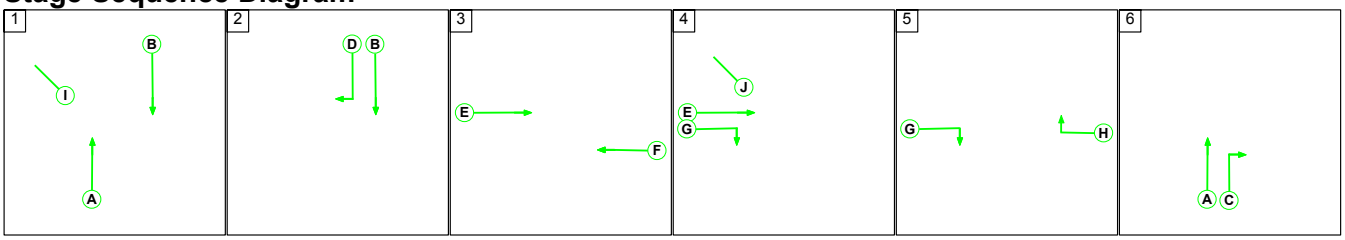
C1	PRC for Signalled Lanes (%):	4.9	Total Delay for Signalled Lanes (pcuHr):	52.38	Cycle Time (s): 112
C2	PRC for Signalled Lanes (%):	53.0	Total Delay for Signalled Lanes (pcuHr):	11.38	Cycle Time (s): 112
	PRC Over All Lanes (%):	4.9	Total Delay Over All Lanes(pcuHr):	63.75	

Full Input Data And Results

Scenario 2: '2026 PM + Committed' (FG8: '2026 PM + Committed', Plan 1: 'Network Control Plan 1')

C1

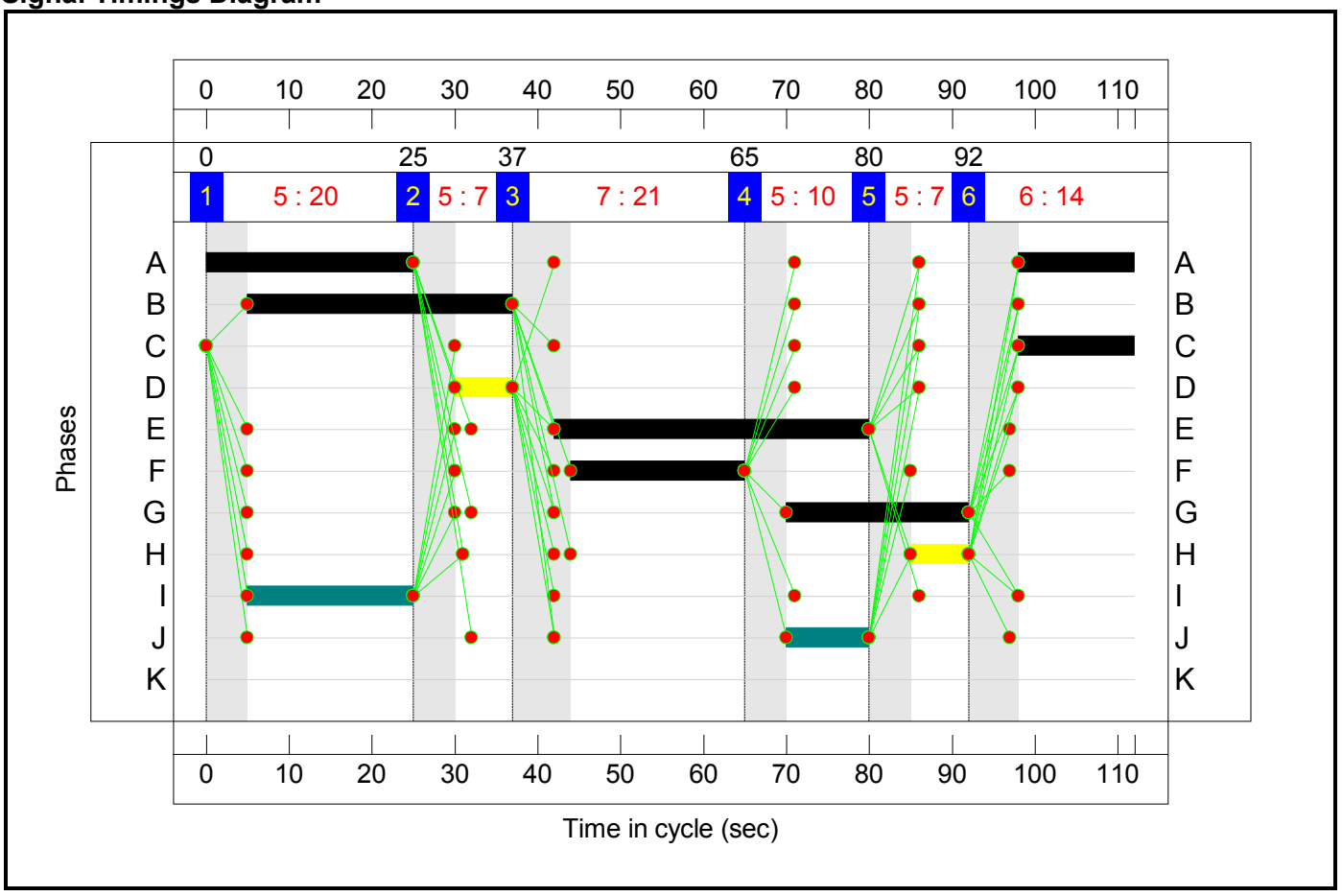
Stage Sequence Diagram



Stage Timings

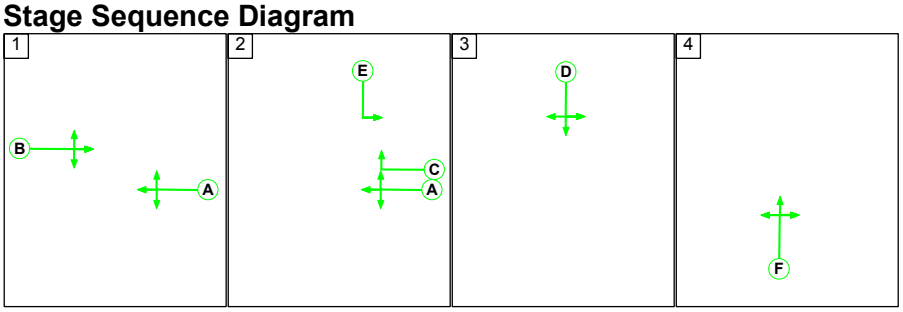
Stage	1	2	3	4	5	6
Duration	20	7	21	10	7	14
Change Point	0	25	37	65	80	92

Signal Timings Diagram



C2

Stage Sequence Diagram

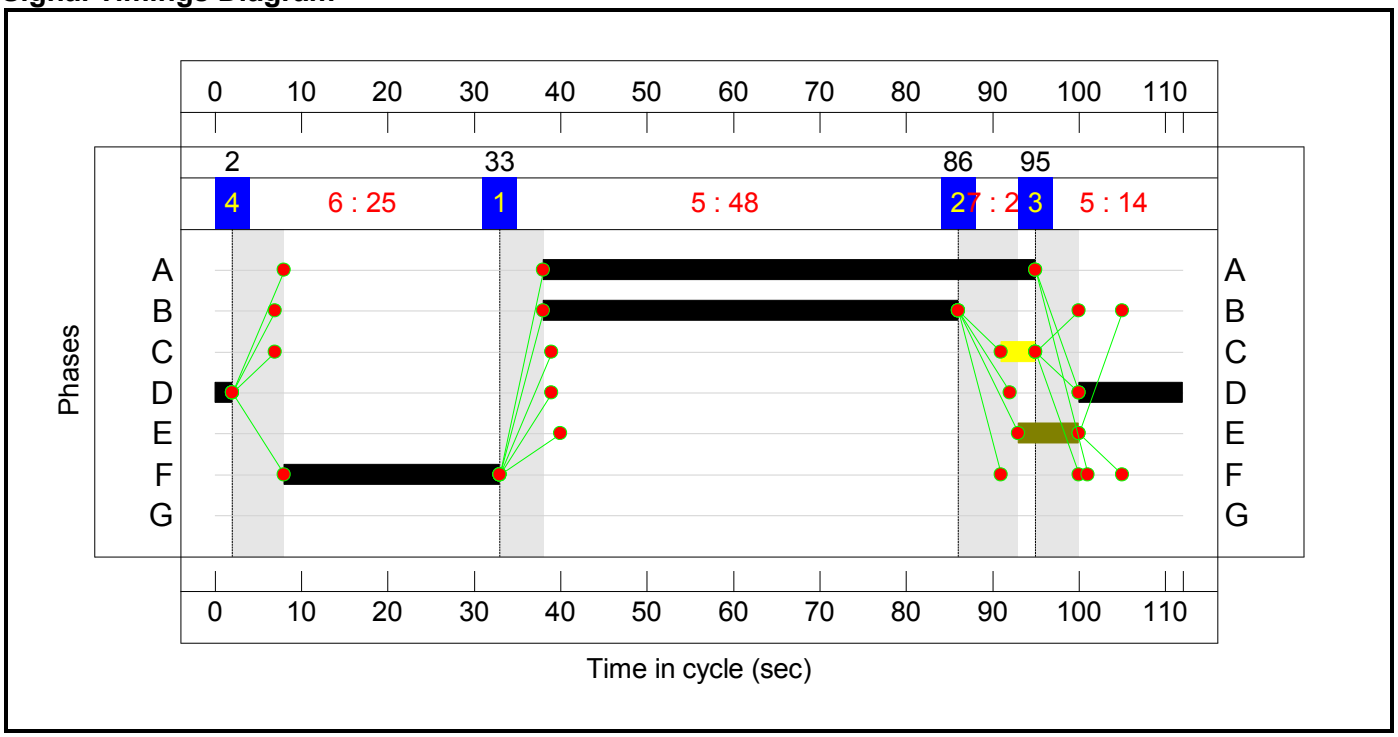


Full Input Data And Results

Stage Timings

Stage	1	2	3	4
Duration	48	2	14	25
Change Point	33	86	95	2

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Boundary Road && Hellesdon Park Road (Committed)	-	-	**N/A**	-	-	-	-	-	**98.2%**	**110.1**	-	-	-	-
J1: Boundary Road	-	-	**N/A**	-	-	-	-	-	**98.2%**	**89.9**	-	-	-	-
1/2+1/1	Boundary Road Left Ahead	U+O	N/A	C1:B -	32	561	2238: Inf	659+27	81.7 : 81.7%	7.8	49.9	16.0	2.2	18.2
1/3+1/4	Boundary Road Right Ahead	U	N/A	C1:B C1:D	32:7	561	2192:1870	540+134	80.5 : 94.3%	8.5	54.3	14.0	2.4	16.4
2/2+2/1	Drayton Road Ahead Left	U+O	N/A	C1:F -	21	513	1727: Inf	290+243	96.2 : 96.2%	12.3	86.2	13.3	7.4	20.6
2/3+2/4	Drayton Road Ahead Right	U	N/A	C1:F C1:H	21:7	422	2019:1959	372+74	94.7 : 94.7%	11.2	95.7	11.5	6.0	17.5
3/2+3/1	Sweet Briar Road Left Ahead	U+O	N/A	C1:A -	39	836	2072: Inf	387+476	96.9 : 96.9%	16.2	69.6	21.0	9.3	30.2
3/3+3/4	Sweet Briar Road Ahead Right	U	N/A	C1:A C1:C	39:14	861	2178:1906	640+254	96.3 : 96.3%	19.2	80.2	21.9	8.6	30.5
4/2+4/1	Drayton High Road Left Ahead	U+O	N/A	C1:E -	38	349	2050:2255	329+422	46.5 : 46.5%	1.3	13.3	3.8	0.0	3.8
4/3	Drayton High Road Ahead	U	N/A	C1:E	38	309	2235	778	39.7%	1.2	13.5	4.3	0.0	4.3
4/4	Drayton High Road Right	U	N/A	C1:G	22	433	2147	441	98.2%	12.3	102.6	13.4	8.6	22.0
5/1	Boundary Road (exit)	U	N/A	-	-	543	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
5/2	Boundary Road (exit)	U	N/A	-	-	714	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Drayton Road (exit)	U	N/A	-	-	286	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/2	Drayton Road (exit)	U	N/A	-	-	443	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Sweet Briar Road (exit)	U	N/A	-	-	873	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Sweet Briar Road (exit)	U	N/A	-	-	768	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

J2: Hellesdon Park Road	**-**	**-**	**N/A**	**-**	**-**	**-**	**-**	**-**	**75.2%**	**20.2**	**-**	**-**	**-**	**-**
1/2+1/1	Service Road Left Ahead Right	U	N/A	C2:D	14:21	316	1679:1362	225+250	68.9 : 64.4%	4.8	54.8	4.6	1.0	5.5
2/1	Drayton High Road Left Ahead	U	N/A	C2:A	57	537	1771	917	58.6%	0.8	5.4	4.0	0.0	4.0
2/2+2/3	Drayton High Road Right Ahead	U+O	N/A	C2:A	57	681	2055:1713	821+345	56.5 : 63.0%	2.2	11.7	14.1	0.0	14.1
3/1	Hellesdon Park Road Right Ahead Left	U	N/A	C2:F	25	385	2206	512	75.2%	5.8	53.8	11.1	1.5	12.6
4/1	Drayton High Road Ahead Left	U	N/A	C2:B	48	427	1859	813	52.5%	3.3	27.7	9.6	0.6	10.2
4/2+4/3	Drayton High Road Ahead Right	U+O	N/A	C2:B	48	434	1810:1825	773+45	53.0 : 53.0%	3.4	27.9	9.2	0.6	9.8
5/1	Service Road (exit)	U	N/A	-	-	381	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Hellesdon Park Road (exit)	U	N/A	-	-	70	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Drayton High Road (exit)	U	N/A	-	-	710	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Drayton High Road (exit)	U	N/A	-	-	528	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0

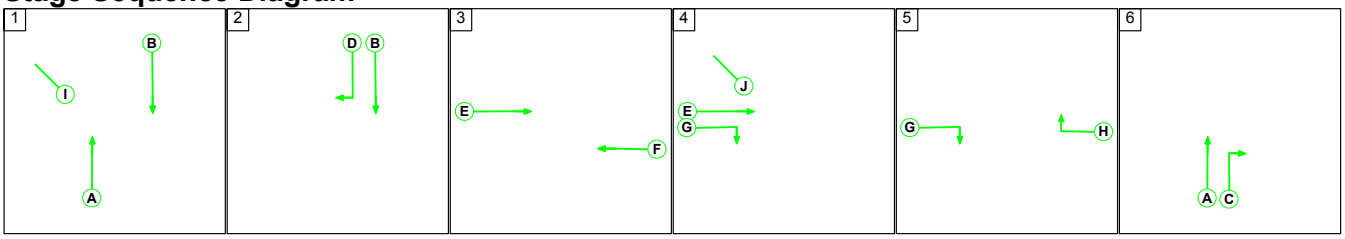
C1	PRC for Signalled Lanes (%):	-9.1	Total Delay for Signalled Lanes (pcuHr):	89.89	Cycle Time (s): 112
C2	PRC for Signalled Lanes (%):	19.7	Total Delay for Signalled Lanes (pcuHr):	20.22	Cycle Time (s): 112
	PRC Over All Lanes (%):	-9.1	Total Delay Over All Lanes(pcuHr):	110.11	

Full Input Data And Results

Scenario 3: '2026 AM + Committed & Propsoed' (FG11: '2026 AM + Committed & Propsoed', Plan 1: 'Network Control Plan 1')

C1

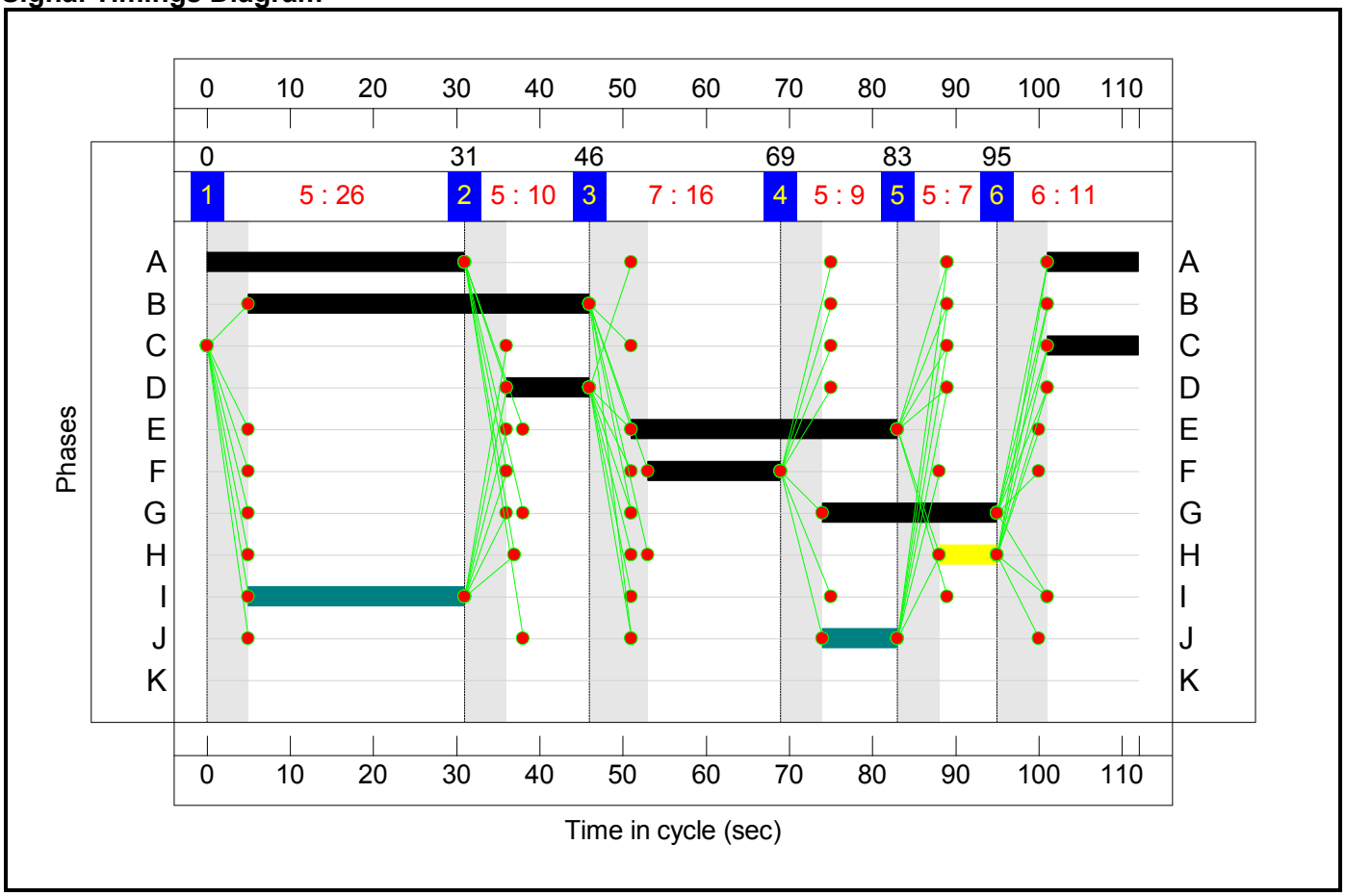
Stage Sequence Diagram



Stage Timings

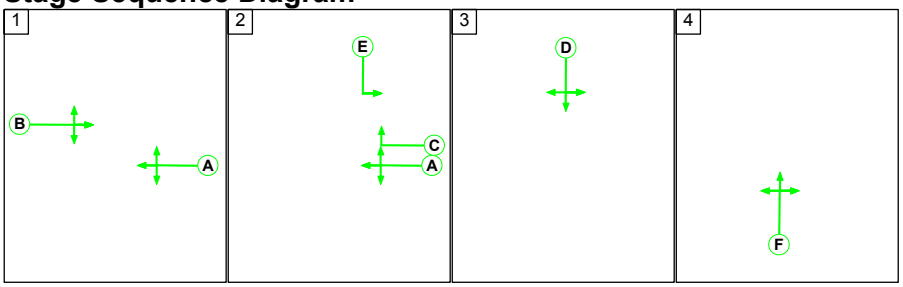
Stage	1	2	3	4	5	6
Duration	26	10	16	9	7	11
Change Point	0	31	46	69	83	95

Signal Timings Diagram



C2

Stage Sequence Diagram

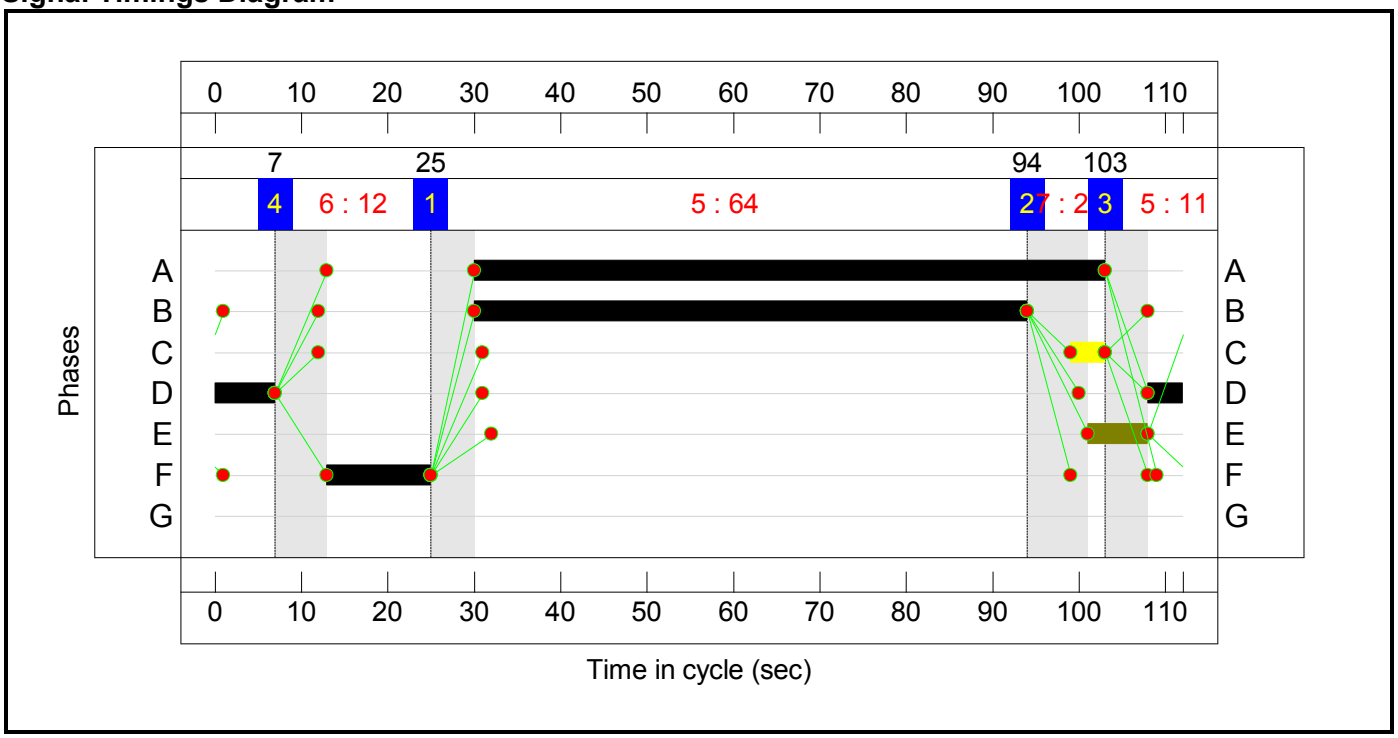


Full Input Data And Results

Stage Timings

Stage	1	2	3	4
Duration	64	2	11	12
Change Point	25	94	103	7

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Boundary Road && Hellesdon Park Road (Committed)	**-**	**-**	**N/A**	**-**	**-**	**-**	**-**	**-**	**87.7%**	**67.4**	**-**	**-**	**-**	**-**
J1: Boundary Road	**-**	**-**	**N/A**	**-**	**-**	**-**	**-**	**-**	**87.7%**	**54.9**	**-**	**-**	**-**	**-**
1/2+1/1	Boundary Road Left Ahead	U+O	N/A	C1:B -	41	748	2238: Inf	839+14	87.7 : 87.7%	10.1	48.6	21.5	3.4	24.8
1/3+1/4	Boundary Road Right Ahead	U	N/A	C1:B C1:D	41:10	355	2192:1870	240+184	83.9 : 83.9%	5.9	59.8	4.7	2.4	7.1
2/2+2/1	Drayton Road Ahead Left	U+O	N/A	C1:F -	16	423	1727: Inf	186+300	87.0 : 87.0%	5.8	49.5	7.7	3.0	10.7
2/3+2/4	Drayton Road Ahead Right	U	N/A	C1:F C1:H	16:7	273	2019:1959	302+37	80.5 : 80.5%	5.4	71.8	7.3	1.9	9.3
3/2+3/1	Sweet Briar Road Left Ahead	U+O	N/A	C1:A -	42	763	2072: Inf	338+545	86.4 : 86.4%	6.9	32.4	14.7	3.0	17.7
3/3+3/4	Sweet Briar Road Ahead Right	U	N/A	C1:A C1:C	42:11	740	2178:1906	711+204	80.7 : 81.3%	9.6	46.6	16.9	2.1	19.0
4/2+4/1	Drayton High Road Left Ahead	U+O	N/A	C1:E -	32	385	2050:2255	494+157	59.1 : 59.1%	2.1	19.7	9.6	0.0	9.6
4/3	Drayton High Road Ahead	U	N/A	C1:E	32	375	2235	659	56.9%	2.3	22.0	10.1	0.0	10.1
4/4	Drayton High Road Right	U	N/A	C1:G	21	367	2147	422	87.0%	6.8	67.1	11.1	3.0	14.1
5/1	Boundary Road (exit)	U	N/A	-	-	367	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
5/2	Boundary Road (exit)	U	N/A	-	-	622	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Drayton Road (exit)	U	N/A	-	-	381	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/2	Drayton Road (exit)	U	N/A	-	-	464	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Sweet Briar Road (exit)	U	N/A	-	-	1051	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Sweet Briar Road (exit)	U	N/A	-	-	514	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

J2: Hellesdon Park Road	**-**	**-**	**N/A**	**-**	**-**	**-**	**-**	**-**	**59.0%**	**12.4**	**-**	**-**	**-**	**-**
1/2+1/1	Service Road Left Ahead Right	U	N/A	C2:D	11:18	218	1679:1362	180+231	56.1 : 50.6%	3.3	54.0	3.3	0.6	3.8
2/1	Drayton High Road Left Ahead	U	N/A	C2:A	73	477	1771	1170	40.8%	0.3	2.2	6.3	0.0	6.3
2/2+2/3	Drayton High Road Right Ahead	U+O	N/A	C2:A	73	553	2055:1713	1153+264	39.0 : 39.0%	0.5	3.2	2.3	0.0	2.3
3/1	Hellesdon Park Road Right Ahead Left	U	N/A	C2:F	12	151	2206	256	59.0%	2.7	63.9	4.4	0.7	5.2
4/1	Drayton High Road Ahead Left	U	N/A	C2:B	64	568	1859	1079	52.6%	2.8	17.7	10.6	0.6	11.1
4/2+4/3	Drayton High Road Ahead Right	U+O	N/A	C2:B	64	606	1810:1825	908+208	54.3 : 54.3%	2.9	17.3	9.2	0.6	9.8
5/1	Service Road (exit)	U	N/A	-	-	263	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Hellesdon Park Road (exit)	U	N/A	-	-	428	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Drayton High Road (exit)	U	N/A	-	-	284	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Drayton High Road (exit)	U	N/A	-	-	471	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0

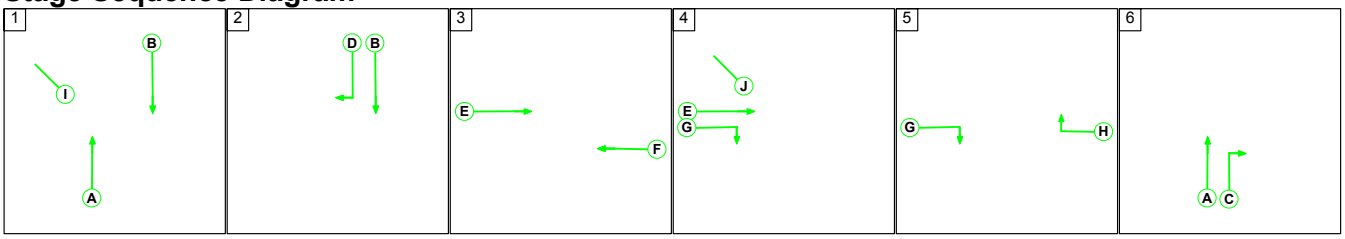
C1	PRC for Signalled Lanes (%):	2.6	Total Delay for Signalled Lanes (pcuHr):	54.93	Cycle Time (s): 112
C2	PRC for Signalled Lanes (%):	52.6	Total Delay for Signalled Lanes (pcuHr):	12.43	Cycle Time (s): 112
	PRC Over All Lanes (%):	2.6	Total Delay Over All Lanes(pcuHr):	67.36	

Full Input Data And Results

Scenario 4: '2026 PM + Committed & Propsoed' (FG12: '2020 PM + Committed & Propsoed', Plan 1: 'Network Control Plan 1')

C1

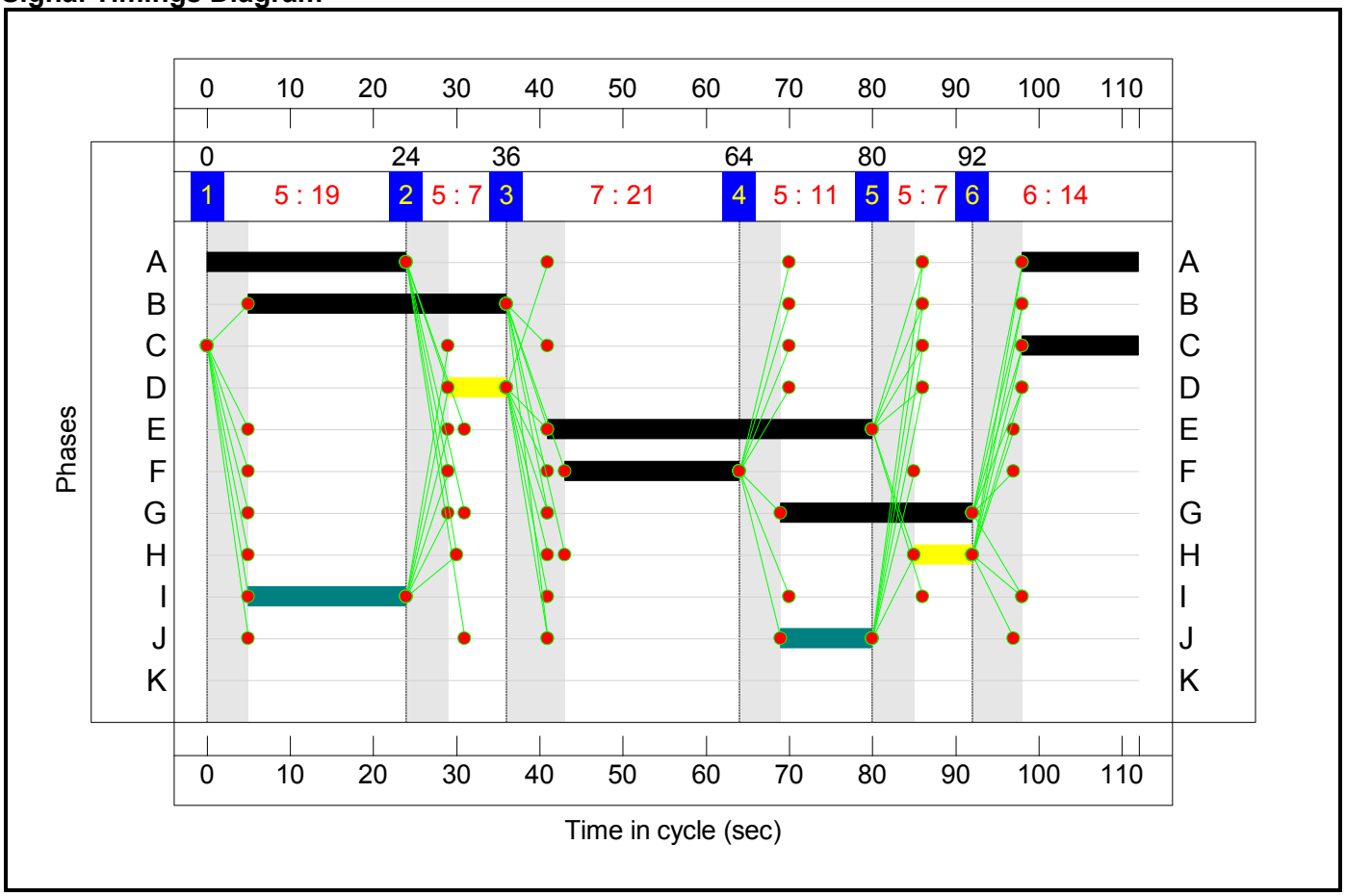
Stage Sequence Diagram



Stage Timings

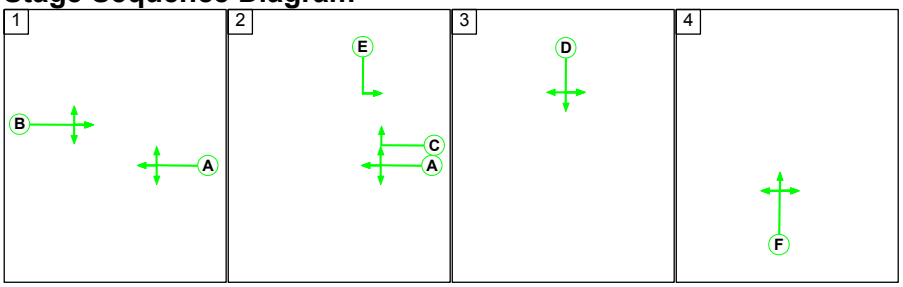
Stage	1	2	3	4	5	6
Duration	19	7	21	11	7	14
Change Point	0	24	36	64	80	92

Signal Timings Diagram



C2

Stage Sequence Diagram

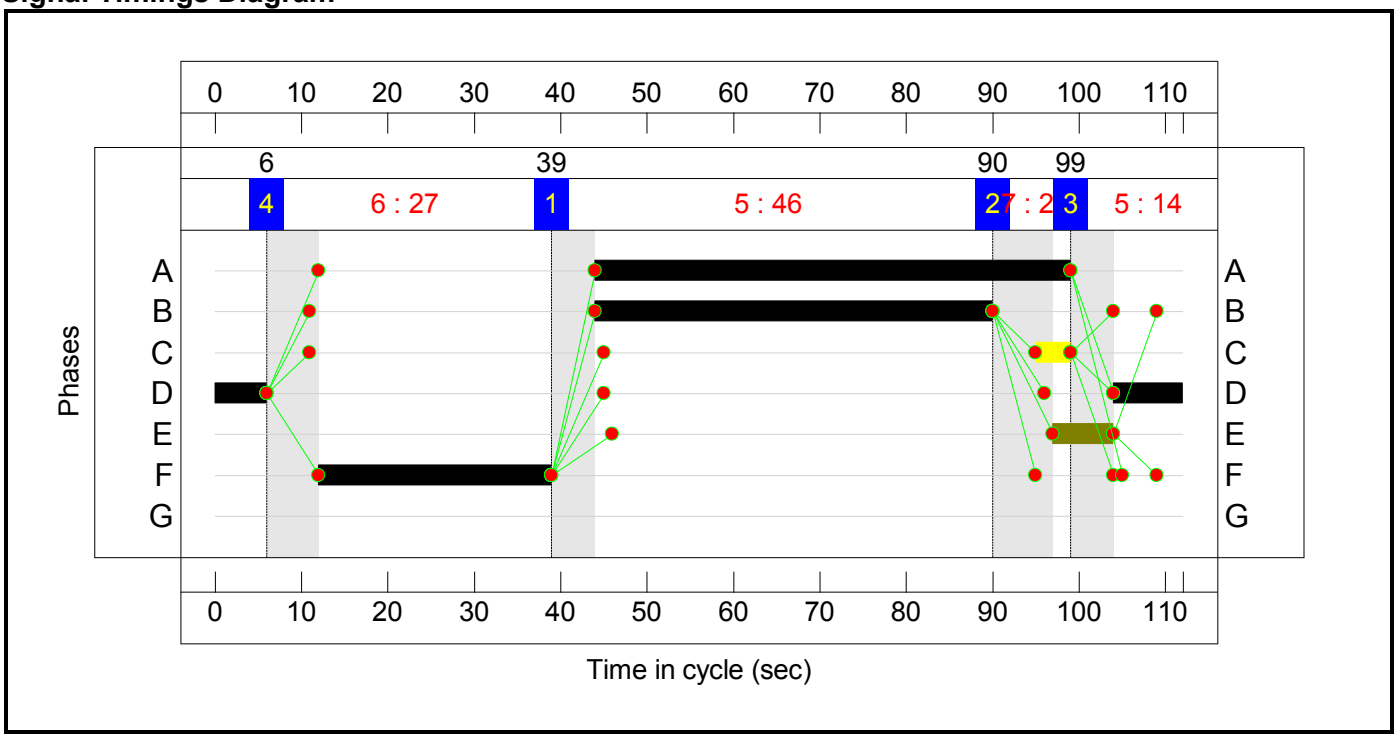


Full Input Data And Results

Stage Timings

Stage	1	2	3	4
Duration	46	2	14	27
Change Point	39	90	99	6

Signal Timings Diagram



Full Input Data And Results

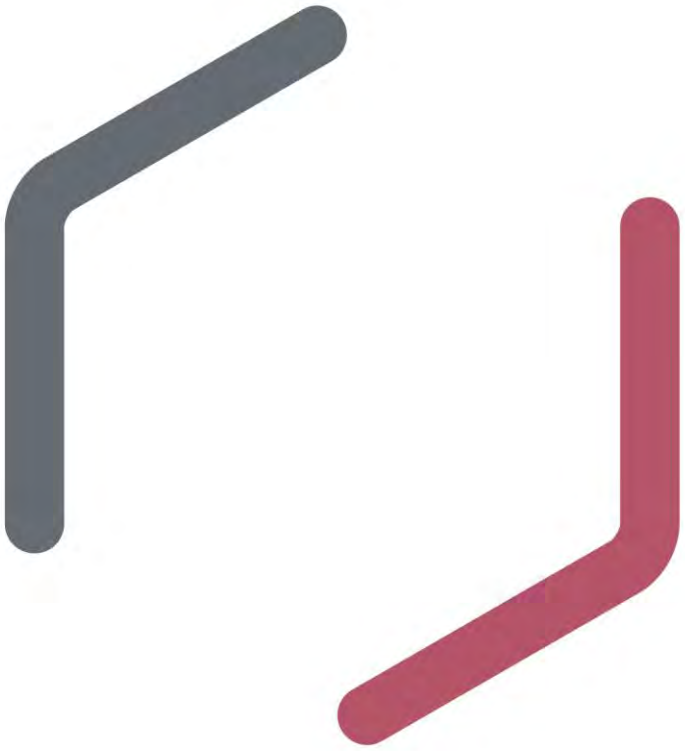
Network Results

Item	Lane Description	Lane Type	Controller Stream	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Boundary Road && Hellesdon Park Road (Committed)	-	-	**N/A**	-	-	-	-	-	**98.6%**	**117.6**	-	-	-	-
J1: Boundary Road	-	-	**N/A**	-	-	-	-	-	**98.6%**	**95.8**	-	-	-	-
1/2+1/1	Boundary Road Left Ahead	U+O	N/A	C1:B -	31	560	2238: Inf	639+26	84.1 : 84.1%	8.3	53.2	16.1	2.5	18.7
1/3+1/4	Boundary Road Right Ahead	U	N/A	C1:B C1:D	31:7	563	2192:1870	525+134	83.0 : 95.1%	9.0	57.5	14.2	2.8	17.0
2/2+2/1	Drayton Road Ahead Left	U+O	N/A	C1:F -	21	514	1727: Inf	290+243	96.4 : 96.4%	12.5	87.5	13.3	7.5	20.8
2/3+2/4	Drayton Road Ahead Right	U	N/A	C1:F C1:H	21:7	424	2019:1959	372+74	95.2 : 95.2%	11.6	98.2	11.6	6.3	17.9
3/2+3/1	Sweet Briar Road Left Ahead	U+O	N/A	C1:A -	38	839	2072: Inf	381+470	98.6 : 98.6%	19.1	81.9	22.4	11.8	34.2
3/3+3/4	Sweet Briar Road Ahead Right	U	N/A	C1:A C1:C	38:14	860	2178:1906	626+249	98.2 : 98.2%	22.1	92.6	22.1	11.3	33.4
4/2+4/1	Drayton High Road Left Ahead	U+O	N/A	C1:E -	39	343	2050:2255	312+442	45.5 : 45.5%	1.1	11.3	3.9	0.0	3.9
4/3	Drayton High Road Ahead	U	N/A	C1:E	39	333	2235	798	41.7%	1.2	13.0	4.7	0.0	4.7
4/4	Drayton High Road Right	U	N/A	C1:G	23	445	2147	460	96.7%	11.0	88.6	13.8	7.4	21.2
5/1	Boundary Road (exit)	U	N/A	-	-	546	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
5/2	Boundary Road (exit)	U	N/A	-	-	716	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Drayton Road (exit)	U	N/A	-	-	275	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/2	Drayton Road (exit)	U	N/A	-	-	467	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Sweet Briar Road (exit)	U	N/A	-	-	878	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Sweet Briar Road (exit)	U	N/A	-	-	775	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

J2: Hellesdon Park Road	**-**	**-**	**N/A**	**-**	**-**	**-**	**-**	**-**	**77.8%**	**21.8**	**-**	**-**	**-**	**-**
1/2+1/1	Service Road Left Ahead Right	U	N/A	C2:D	14:21	316	1679:1362	225+250	68.9 : 64.4%	4.8	54.8	4.6	1.0	5.5
2/1	Drayton High Road Left Ahead	U	N/A	C2:A	55	544	1771	885	61.4%	0.9	6.1	5.2	0.0	5.2
2/2+2/3	Drayton High Road Right Ahead	U+O	N/A	C2:A	55	680	2055:1713	797+330	58.1 : 65.7%	2.6	13.9	14.1	0.0	14.1
3/1	Hellesdon Park Road Right Ahead Left	U	N/A	C2:F	27	429	2206	552	77.8%	6.4	53.4	12.4	1.7	14.1
4/1	Drayton High Road Ahead Left	U	N/A	C2:B	46	427	1859	780	54.7%	3.5	29.6	10.0	0.6	10.6
4/2+4/3	Drayton High Road Ahead Right	U+O	N/A	C2:B	46	436	1810:1825	740+47	55.4 : 55.4%	3.6	29.8	9.6	0.6	10.2
5/1	Service Road (exit)	U	N/A	-	-	383	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
6/1	Hellesdon Park Road (exit)	U	N/A	-	-	78	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/1	Drayton High Road (exit)	U	N/A	-	-	717	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0
7/2	Drayton High Road (exit)	U	N/A	-	-	533	Inf	Inf	0.0%	0.0	0.0	0.0	0.0	0.0

C1	PRC for Signalled Lanes (%):	-9.6	Total Delay for Signalled Lanes (pcuHr):	95.75	Cycle Time (s): 112
C2	PRC for Signalled Lanes (%):	15.7	Total Delay for Signalled Lanes (pcuHr):	21.84	Cycle Time (s): 112
	PRC Over All Lanes (%):	-9.6	Total Delay Over All Lanes(pcuHr):	117.59	



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