

18 October 2019
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Dear Mr Jones

**Planning application reference LCC/2019/0029.
Application by MT Green Power Ltd for Longridge Road Energy Centre**

**The Town and Country Planning (Environmental Impact Assessment Regulations 2017 (“the Regulations”)
Regulation 25: Further information and evidence respecting environmental statements**

As you know the above application is an EIA application in the meaning of the Regulations and on its submission to you on 31 May 2019 was accompanied by an Environmental Statement. Following validation, the application was registered 12 June 2019.

Various comments on the application have been received by the County Council and where appropriate we have responded to you with clarification of certain issues. In particular the following two responses led us to submit information which you have informed us constitutes “further information” in respect of Regulation 25, above:

- response received from Lancashire County Council as Highways Authority dated 6 July and forwarded to us 4 September in respect of the local road network in the vicinity of the Site of the proposed development;
- response dated 11 September from Highways England in respect of the Strategic Road Network (the M6).

In both cases the information we have submitted is in the form of a note from RSK, MT Green Power’s Transport Consultant. Both notes are supported by Appendices.

The note titles and reference numbers are as follows:

- In respect of Lancashire County Council as Highways Authority’ comments – “RSK – Technical Note: Longridge Road Energy Centre TA Clarification reference 661304-TN06-Rev02”. Note dated 20 September 2019.
- In respect Highways England’s comments – “RSK – Technical Note: Longridge Road Energy Centre TA Clarification reference 661304-TN07-Rev00”. Note dated 20 September 2019.

In addition to these two notes we did at a much earlier stage submit an addendum to RSK’s Transport Assessment. This was necessary as it was apparent Table 6.2 of the document was incorrect. This addendum is:

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- RSK – Technical Note: Longridge Road Energy Centre TA Addendum reference 661304-TN05-Rev00. Note dated 30 July 2019.

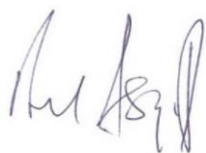
These three notes therefore comprise the further information submitted concerning the LREC Environmental Statement. In accordance with Regulation 25 we understand these will now be subject to further consultation undertaken by LCC as Waste Planning Authority.

We originally submitted two full copies of the Environmental Statement to you. Enclosed with this letter therefore are two copies of the above notes, bound together as a single volume. You will note there is a lot of repetition between the appendices of TN06 and TN07.

Should further hard copies be required we will be pleased to supply them. We will upload a copy of this letter and of the documents referred to on our project website <https://longridgeroadenergy.com/>

Should a member of the public require a copy of this documentation we would be pleased to provide it to them subject to receipt of £45 per copy to cover costs associated with printing and postage.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Robert Asquith". The signature is fluid and cursive, with a large initial 'R' and 'A'.

Robert Asquith
Director

Technical Note



LONGRIDGE ROAD ENERGY CENTRE TA CLARIFICATION

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Our reference: 661304-TN07-Rev00

Planning authority reference: LCC/2019/0029

Author: I Wickett

Date: 20/09/19

Reviewed: S van de Berg

Date: 20/09/19

This Technical Note has been prepared as a clarification to the Transport Assessment 661304-TA (02), dated 29 May 2019. The Transport Assessment (TA) is contained at appendix 9.1 to the Environmental Statement for the proposed Energy Recovery Facility on Land at Red Scar Industrial Estate. The proposed development is known as the Longridge Road Energy Centre (LREC). The following has been provided as clarification to a number of points raised by the highway authority for the Strategic Road Network (SRN), Highways England (HE) and uses the same heading referencing for consistency.

Background

The TA provides an assessment of transport impacts on the local road network as well as the SRN. Although LREC is located specifically to take advantage of the proximity of the M6 for its transport movements, the volume of operational vehicle movements onto Junction 31a remains low with less than 50 two-way vehicle movements in any given hour.

Based on this potential level of impact, a summary of the core Highways England planning guidance documents is provided below.

The Strategic Road Network: Planning for the Future (2015) – A Guide to Working with Highways England on Planning Matters

This document sets out the general principles by which Highways England will seek to engage and support the planning process. It was produced following the appointment of Highways England as a successor to the Highways Agency. The document relies heavily on DfT Circular 02/2013 (outlined below) for the assessment of impacts on the strategic road network, while providing further guidance on how this may be applied.

Paragraph 41 highlights that the mitigation of impacts should be approached in the following manner:

- **Avoidance** – the promoter should take all reasonable steps to minimise the level of physical mitigation required through the use of measures such as Travel Plans, and travel demand management measures, such as development phasing, HGV booking systems and encouraging flexible working and sustainable travel;
- **Off-line Improvements** – before considering to propose changes to the SRN, the promoters of development should assess the potential for alterations to be made to the local road network in the alternative;



- **Alterations to the SRN** – once all other options have been examined, we will consider the potential for changes to be made to the SRN.

In developing the proposals for the LREC, a variety of measures have been proposed to manage traffic volumes, some of which are inherent to the purpose of the facility. The reduction in mileage for the transportation of waste to alternative destinations, such as landfill, for example and promotion of sustainable travel. During construction, the application has been supported by a Travel Plan and the scope of a Construction Traffic Management Plan, which includes the commitment to provide a minibuss service to transport at least 25% of construction workers to the site. During operation a staff Travel Plan will also be implemented, which will include the use of shift changeover times that avoid peak hours such that reliable journey times can be achieved for those commuting by car. In addition, a delivery booking system will be adopted that will allow deliveries of feedstock to be held back at its origin should there be high levels of congestion or an incident on the M6, for example, minimising any effects on existing congestion levels during peak hours.

Given the provision of avoidance measures that are considered to adequately mitigate the impact of LREC-generated traffic, it is not deemed necessary to explore additional mitigation such as off-line improvements or alterations to the SRN.

Pages 21 to 27 of the document set out HE's approach to planning applications for projects that may affect the SRN. Paragraph 87 is relevant and states:

"If the development is in an approved local plan, and has had an appropriate level of assessment of the impact of the development undertaken, we do not anticipate the need to repeat the full assessment at the planning application stage".

The site is allocated in the Minerals and Waste Local Plan Site Allocations Document and in the Preston Local Plan, which was adopted in 2015 following Examination. Given that the site, and others in the locality, are allocated for development and that the plan expressly refers to access being via Junction 31a it is assumed Highways England were satisfied an appropriate level of assessment occurred as part of the local plan preparation.

It is relevant that the Preston Local Plan allocation is for B2 and B8. In our work on the site we have examined a previous (now lapsed) planning permission for B2 and B8 at the site and we have noted that the level of traffic anticipated with that proposal (which was speculative rather than for a specific occupier) is similar to that which LREC will generate.

Paragraph 109 also appears to be pertinent to the LREC project. It concerns capacity enhancements and states:

"Capacity enhancement measures on the SRN will only be considered after the travel plan has been fully incorporated in the development proposal. While capacity enhancements should normally be addressed at the plan making stage, such measures may be considered at the time when individual planning applications are submitted, subject to the over-riding principle that delivery of the adopted local plan proposals should not be compromised". [underlining is our emphasis].

This also seems to point to a general principle that HE will place great store on delivery of schemes that are in accordance with the adopted development plan.

Paragraph 113 also seems highly pertinent as it explains how HE will respond and the four options of which so far HE has chosen to ask the planning authority to delay determination pending further consideration. Paragraph 113's wording is "... *In circumstances where there remain several impacts that are considered severe we may recommend that the application is not approved until sufficient future assessment has been carried out in order to assess the cumulative impact of these, allowing a more definitive recommendation. In exceptional cases we may recommend that planning permission is refused.*"

In this case HE's response indicates a single issue, that of on-slip access to junction 31a being over-capacity during the PM peak. So this is not "several impacts". Moreover the response does not consider the effect to be "severe", in fact that word is not used in the response document. In fact, as we point out below, the additional traffic LREC might add would be at most 0.8%, before consideration of traffic management, and in fact much less. We wonder therefore whether HE's response is in line with its own policy and whether the appropriate response would actually have been to have selected either options a or b as set out in Paragraph 117.

DfT Circular 02/2013: The Strategic Road Network and the Delivery of Sustainable Development

This circular sets out the way in which Highways England will engage with communities and the development industry to deliver sustainable development and, thus, economic growth, whilst safeguarding the primary function and purpose of the strategic road network.

Paragraph 7 sets out that "*Highways England supports the economy through the provision of a safe and reliable strategic road network, which allows for the efficient movement of people and goods. Such a network can play a key part in enabling and sustaining economic prosperity and productivity, while also support environmental and social aims by contributing to wider sustainability objectives and improved accessibility to key economic and social services.*"

The Environmental Statement supporting the LREC planning application makes relevant conclusions on socio-economic effects and on climate change that directly address these purposes of the SRN. This is because:

- The socio-economic effects of LREC (See Chapter 5 of the Environmental Statement) are positive both in the quantum and nature of new jobs created and an additional £2.1m annually of direct GVA and £925,000 annually of indirect GVA, amounting to over £23.1m of GVA over the anticipated life of the operation.
- The climate change effects of LREC (see appendix 13.6 of the Environmental Statement) are also positive. The project will lead to a net reduction of 76,993 tonnes of CO₂ equivalent being released to the atmosphere than would have been the case without LREC being developed. It is approximately equivalent to the greenhouse gas (GHG) benefit of 28,500 typical cars doing typical mileage being removed from UK roads.
- At present some 46% of Local Authority Collected Waste in Lancashire is landfilled. The equivalent figure for the comparable county of Oxfordshire, in which a similar project to LREC was commissioned in 2015, is 5%. Landfilling of Lancashire's waste is mainly at Accrington to which it is transported from areas such as Preston and Blackpool via the SRN. LREC can have a significant benefit in terms of reducing such reliance on environmentally unfriendly landfill, reducing the GHG emissions associated with landfill, and moving the management of waste up the waste hierarchy in accordance with Government policy, whilst also in all likelihood reducing traffic on the SRN and local roads in the Accrington locale.

In addition, the location of LREC is an opportunity to provide electricity by private wire directly to energy users in the local business community. In so doing, electricity can be provided at a lower price than would be purchased from the distribution network. Heat can also be supplied from LREC to local businesses, for example those on the adjacent Red Scar Industrial Estate. These opportunities to provide lower cost energy represent a potential saving in operating costs and overheads to businesses. LREC therefore will support local business and economic activity, as well as enhancing the area's attractiveness to incoming businesses seeking to locate and invest in the locality.

Such opportunities should be seen in the context of Lancashire's ambitious growth plans as set out in the Lancashire Energy Strategy 2018 (LES). The LES identifies the creation of 50,000 new jobs, 40,000 new homes and £3 billion additional economic activity by 2025. The LES clearly states that *"energy is a vital component of the realisation of these plans."*

Furthermore, the proposed development will generate an estimated £1.3m per annum in business rates for the operational life of the project, likely to be in excess of 25 years. Local authorities benefit from the retention of business rates, and will do so potentially to greater levels if Government implements proposed future reforms to the rates retention system.

In summary, it is clear that LREC is an excellent opportunity to contribute to a beneficial step-change in economic prosperity and productivity, and contribute to wider environmental and sustainability objectives. Therefore, the purpose of the SRN, as set out in Paragraph 7 of [DfT Circular 02/2013](#) above, would directly be delivered by its facilitating the LREC project.

Paragraph 14 highlights that *"Highways England will aim to influence the scale and patterns of development so that it is planned in a manner which will not compromise the fulfilment of the primary purpose of the strategic road network"*. Paragraph 15 goes on to state that *"this will include assessing the cumulative and individual impacts of the Local Plan proposals upon the ability of the road links and junctions affected to accommodate the forecast traffic flows in terms of capacity and safety"*.

As highlighted previously, the site is already allocated for employment uses under the Preston Local Plan and for large scale waste management facilities within the Joint Lancashire Minerals and Waste Local Plan. It is assumed that this site allocation has been accepted by HE and that appropriate modelling would have been undertaken at the time of preparation of both Plans to demonstrate that employment uses can be accommodated on the SRN. In conformity with the Preston Local Plan, the site has also been the subject of planning consent for B2 and B8 uses (since lapsed). The traffic predicted to be generated by these developments is similar to the development-related traffic for LREC. On the basis that HE have already accepted previous consents for a similar volume of traffic, for which no mitigation to the SRN was required, and that the land remains an allocated site for such use, it is expected that the LREC proposals would also be acceptable to HE without mitigation to the SRN.

In assessing the impacts of development, paragraph 26 highlights that *"Highways England expects the promoters of development to put forward initiatives that manage down the traffic impact of proposals to support the promotion of sustainable transport.... This is particularly necessary where the potential impact is on sections of the strategic road network that could experience capacity problems in the short or medium term."*

The proposed development is, by its nature, promoting sustainable transport by reducing the mileage that waste will have to travel to a landfill site as these movements are already on the wider network across the region, some of which may already be passing through Junction 31a. The 24-hour operating profile (for energy generation) will also provide the opportunity to operate with shift changeovers for a proportion of staff that will not coincide with peak hours. For all staff a Travel Plan will be implemented to encourage modal shift from the private car to sustainable modes of transport, including walking, cycling and public transport. The Red Scar Industrial Estate, on which LREC is located, is well-served by such transport modes. Provision has also been included in the development proposals for secure cycle parking. Furthermore, LREC will secure contracts with feedstock suppliers that will allow it to implement a delivery booking system that can adapt to traffic conditions. This will help to minimise HGV deliveries during peak hours when traffic volumes are high or when an incident occurs on the M6, avoiding unnecessary delays to hauliers and reduce impacts on congestion.

The Circular adopts two key tests, stating that development proposals are likely to be wholly acceptable if:

- They can be accommodated within the existing capacity of a section (link or junction) of the SRN, or
- They do not increase demand for use of a section that is already at full capacity, taking account of any travel plan, traffic management and/or capacity enhancement measures that may be agreed.

The proposed development will generate similar volumes of traffic to the previous consents on the site and the robust assessment undertaken has demonstrated that it will contribute only a very small proportion of additional traffic predicted to be added to the SRN over the next 10 years. This is equivalent to a 0.8% increase in traffic on the M6 slip roads compared to a 12.2% increase from background traffic growth and 5.2% from committed developments.

Notwithstanding the above, based on the known congestion issues around the Bluebell Roundabout, the proposed development will aim to minimise traffic flows associated with LREC during peak hours through its selection of appropriate shift changeover times (the TA currently assumes shift changeovers coincide with both peak hours as a worst case), travel plan (the TA currently assumes that all staff travel by single occupancy vehicle as a worst case) and delivery booking system (peak of HGVs is currently assumed within the TA to coincide with both peak hours). Each of these avoidance mitigation measures, in compliance with HE guidance, would reduce the peak hour traffic flows below the volumes modelled in the assessment such that the increase in traffic as a result of the development is *de minimis* and should not be of concern to HE.

Given the significant benefits of the development from a socio-economic, environmental and sustainability perspective, a worst case increase in traffic of 0.8%, which is *de minimis* when mitigation measures described above are taken into account, the LREC proposal is not considered to be an unacceptable impact on the SRN which is designed to support such proposals. Furthermore, an alternative employment use on the site, for which the land is already allocated and the development of which has been shown by earlier planning consents to be acceptable in principle, has the potential to generate higher and unrestricted traffic movements without the same benefits as can be ascribed to LREC.

Traffic Data

Queue data was recorded at the time of the traffic surveys and was used to validate the traffic modelling reported in the submitted TA. A copy of this data is provided in Appendix B to this clarification.

Assessment Years

To clarify, the scenarios listed in the TA at section 7.4 are those that present the steps in the assessment, allowing the reviewer to confirm the changes applied from the surveyed traffic flows. The '2023 forecast' scenario has not been included as part of the junction capacity modelling as this excludes committed development.

To confirm, the consultee response from HE within the scoping opinion clearly states that the "operational phase impact assessment should also be repeated for 10 years after opening", which has subsequently been modelled within the TA. Notwithstanding this, as part of revised modelling undertaken to include an agreed list of committed developments, a future year assessment of 2029 has been assessed, details of which are described later in this response.

While it is noted that future year assessments are required to allow HE to identify and plan to address future problems before they arise, it is worth emphasising that the potential impact of the LREC on the SRN is negligible and represents a significantly smaller proportion of traffic increase than that arising from traffic growth and other committed developments. It is therefore not considered proportionate to request multiple future scenario years and possible identification of appropriate mitigation of the proposed development when the development itself is not the primary cause (or a material cause) of the SRN exceeding or approaching capacity.

Figures 1 and 2 below illustrate the insignificance of the LREC-generated traffic on the M6 slip roads in comparison to traffic growth over the period to 2029 (representing 10 years following the submission of the planning application) and of other committed developments that have the potential to impact Junction 31a. Over a 24 hour period, the LREC operational traffic is equivalent to just 0.8% of the traffic flow on these slip roads.

Figure 1 – LREC Operational Traffic Impact (2029) – M6 northbound off-slip

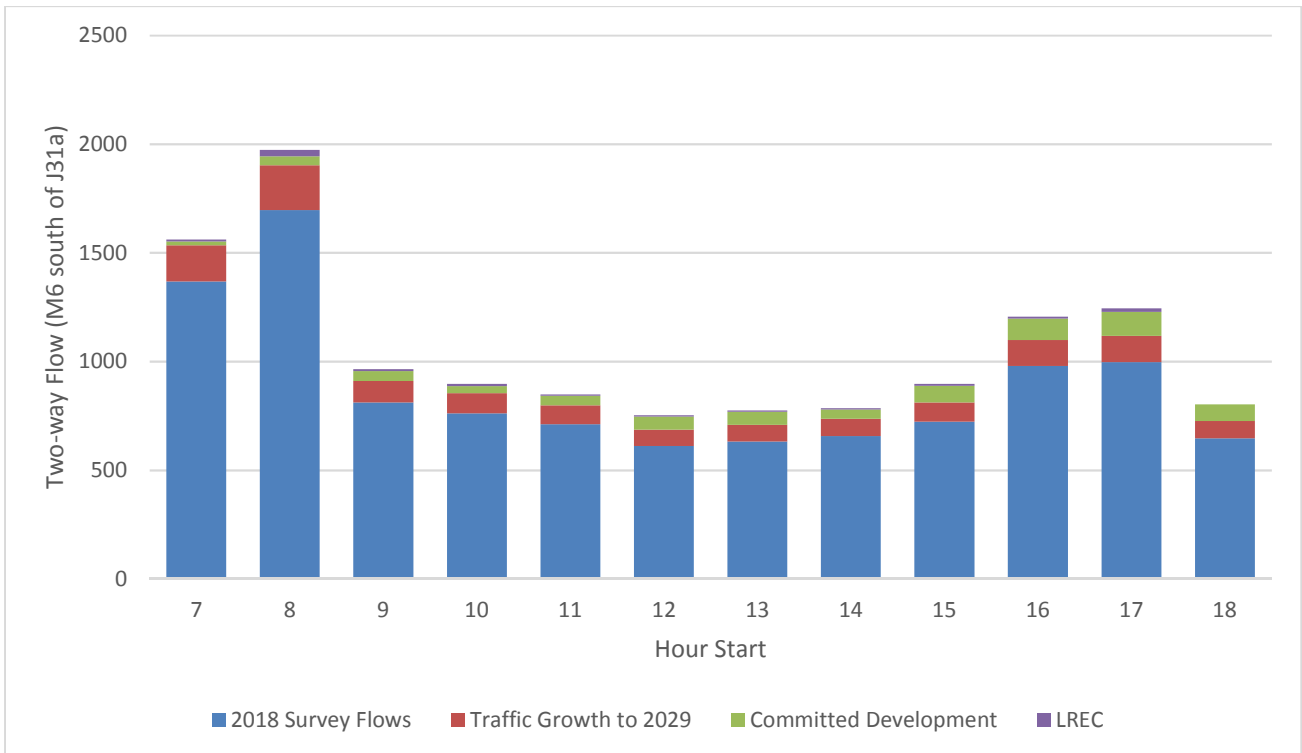
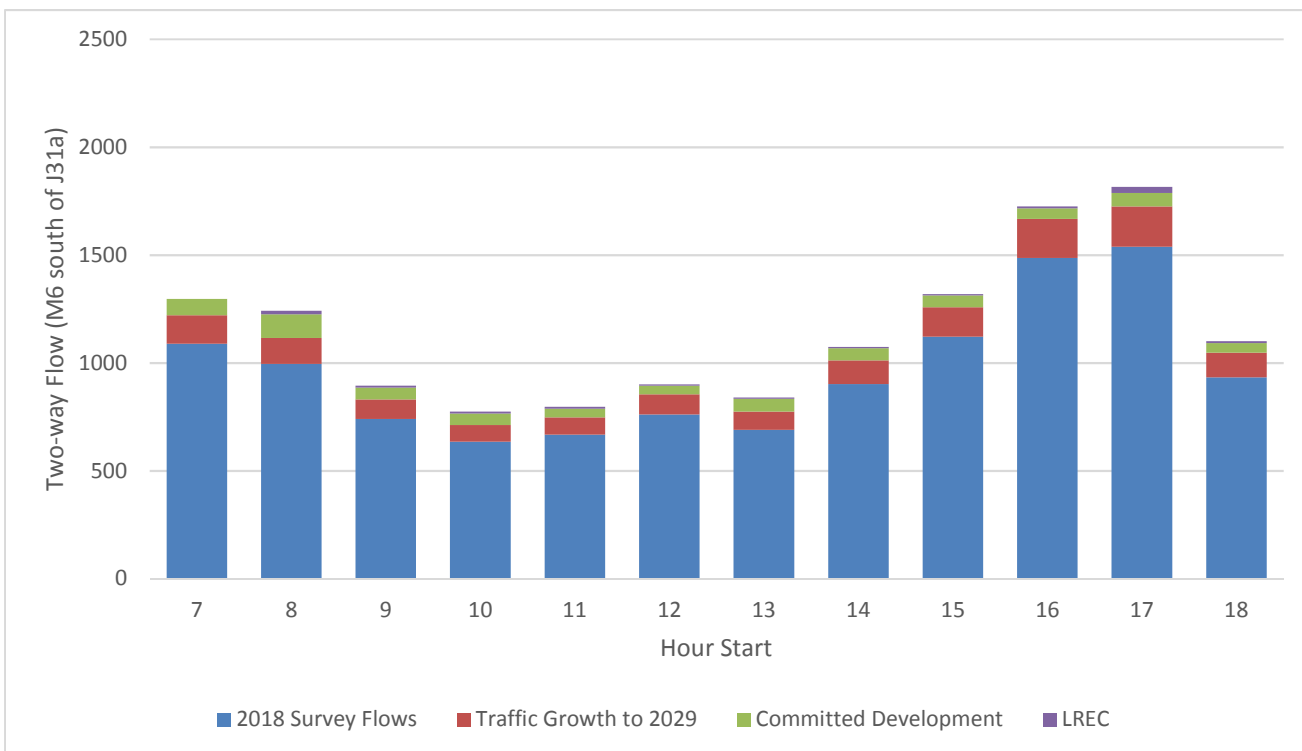


Figure 2 – LREC Operational Traffic Impact (2029) – M6 southbound on-slip



In relation to construction traffic impacts, these are relatively low and of a temporary nature. The peak construction period for workers and HGVs do not coincide, although the modelling has been robust by assessing both peaks concurrently. Furthermore, Table 4.2 of the TA illustrates that the peak period for workers has a predicted duration of just a year with significantly lower worker numbers before and after. It is also considered that it would be inappropriate to include 100% of committed development for a scenario year that occurs only two years from now. A 2021 assessment will therefore utilise traffic flows that are less than the 2023 year of opening. On this basis, a construction year assessment will not indicate any worse effects than that already demonstrated for the 2023 assessment.

Background traffic growth

Traffic growth figures have been generated using the standard DfT software, TEMPro. The following parameters have been used to calculate the factors:

<u>TEMPro 7.2</u>	
Data Selections	
Dataset version:	72
Result type:	Trip ends by time period
Area:	Preston 007
Trip end selections	
All purposes	
Transport mode:	"Car driver" only
Trip end by time period selections	
Trip end type:	Origin/Destination
Results	
NTM Dataset:	NTM AF15 Dataset (From 2010 to 2040)
Area type:	Urban
Road type:	Principal
Which area it serves:	"Region"

Only the start and end years have been adjusted in order to calculate the factors used. Factors have been calculated separately for the AM peak, PM peak, daily and weekday to allow relevant data to be calculated for traffic purposes.

Committed developments

A list of planning applications to be included within the cumulative assessment was agreed with the local planning authority for minerals and waste, Lancashire County Council, in February 2019 as part of the scoping report (November 2018) and scoping opinion (February 2019) and were taken into account in the TA. Preston City Council (PCC) are a statutory consultee for this planning application and have raised no objection.

Where data was available for the study area, this was incorporated into the modelling exercise. This is typically best practice as any other applications that do not overlap the study area are usually accounted for within the growth factors applied to survey data.

However, in this instance, LCC subsequently pointed out that the volume of housing consented around the Longridge and Grimsargh area may be such that growth factors alone may be unlikely to account for all of the consents. Therefore, a list of applications and the associated parameters for assigning traffic to the wider network have been identified and agreed with LCC. The traffic impact of these applications is already included within Figures 1 and 2 above, while the impact of these on the traffic modelling exercise within the TA has been updated (further details later in this response). The agreed list of applications is provided in Appendix A, along with their relevance to this assessment.

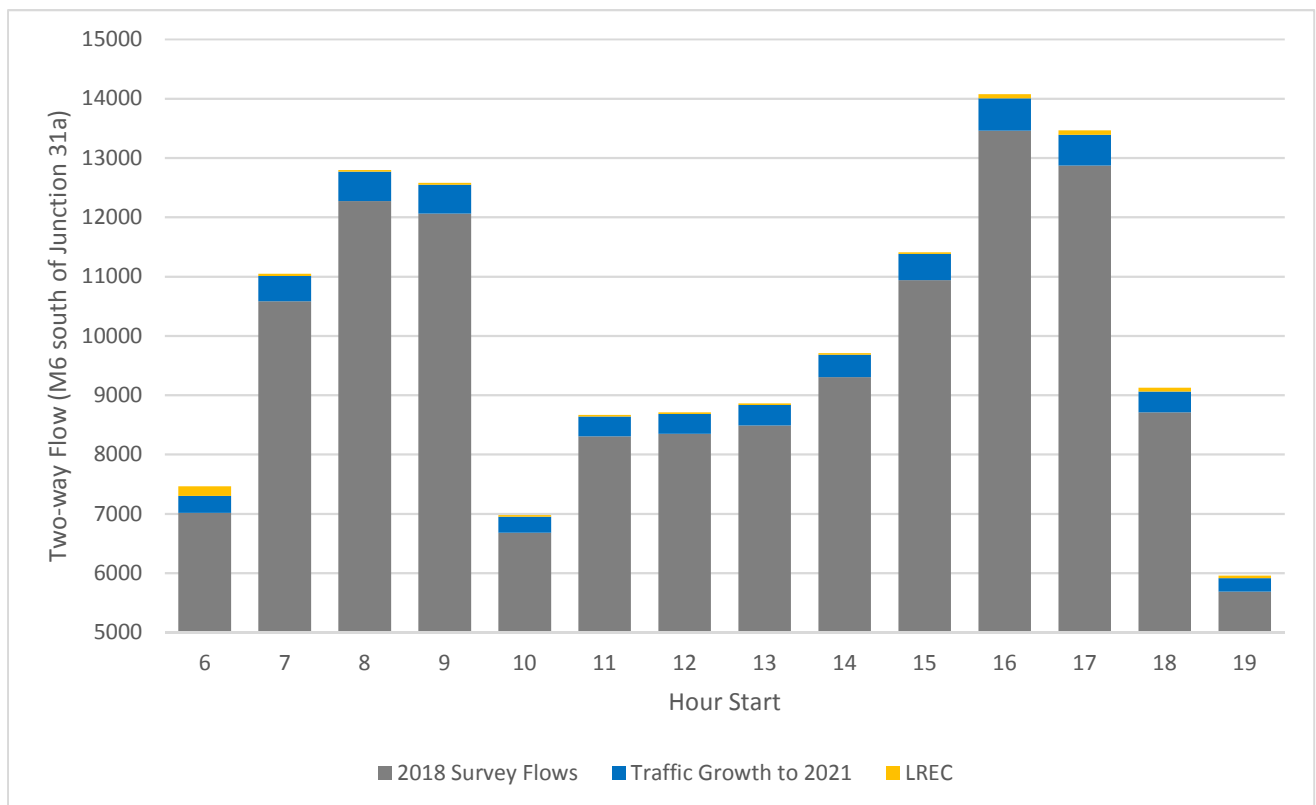
Development Traffic Forecast

Construction phase

Standard, industry-wide construction site hours are 7am to 7pm and for major projects such as this it is important that workers are on site at the start of the working day as construction teams are dependent on each other to achieve a critical timeline. However, the various teams will leave the site once their tasks are complete for the day based on their specific specialism, which will change from one day to the next, hence the TA adopts a spread of shift finishing times compared to their arrival.

A calculation has also been undertaken to demonstrate that workers arriving before 7am will not result in a shift of the peak hour. Figure 3 below illustrates the time period from 6am to 8pm, covering the period when construction activities and commuting may take place. For clarity and to support the case that a large proportion of the committed development will not be completed in 2021, the data excludes committed development and is therefore proportionally more robust. The vertical axis has been truncated to ensure that the LREC construction traffic is represented.

Figure 3 – LREC Construction Traffic Impact (2021) – M6



It is clear from the above that the period 6-7am experiences significantly lower traffic flows on the SRN than the period 7-9am.

The TA states that the daily volume of HGVs has been divided by 10 to reflect daily fluctuations and generate an HGV peak. The permitted period over which HGVs will arrive and depart is, in fact, 12 hours, as set out in the planning submission. Therefore, assuming that 10% of the daily HGV traffic will arrive and depart in the busiest hour of the day already represents a robust peak assessment. It should be remembered that hauliers would usually choose to avoid or minimise travel during peak hours in order to reduce the potential for delays and additional transport costs.

Operational phase

Similar to the construction phase the TA states that the daily volume of HGVs has been divided by 10 to reflect daily fluctuations and generate an HGV peak. The period over which HGVs will arrive and depart is 12 hours. Therefore, assuming that 10% of the daily HGV traffic will arrive and depart in the busiest hour of the day already represents a robust peak assessment when hauliers would usually avoid or minimise travel during peak hours to avoid delays and additional transport costs.

Junction capacity assessments / Mitigation strategy

As the circa 16 two-way HGV movements an hour at Junction 31a predicted as a result of the project is a tiny proportion of the amount of traffic that is causing and will cause peak hour congestion, and particularly in light of Figure 2, we consider that it would be unreasonable and disproportionate to recommend that the applicant present a strategy or potential solution to mitigate against a junction exceeding or approaching capacity. In reality hauliers will avoid busy parts of the network in peak hours and hence LREC will put even less traffic on these sensitive parts of the network at these times.

It would be reasonable for the applicant to make a proportionate (i.e. small) contribution to a study to investigate a scheme to increase capacity or reduce traffic flows through sustainable transport improvements at Junction 31a with the majority of the cost being borne by HE and LCC (because the capacity problems come from the volume of traffic already on the road network) and with other developments also contributing in proportion to the volume of traffic they will add to the junction. In the absence of a scheme, the applicant would be prepared to make a proportionate contribution to HE to enable it to design and implement a scheme, potentially also drawing in contributions from other future developers, or to help fund an investigative options study.

Accident analysis

Given the limited change in traffic flows and no infrastructural changes being proposed to existing junctions, the study area for road safety was confined to the section of Longridge Road between the M6 and Bluebell Way/B6242. An initial examination of a wider area did not reveal any clusters of accidents that would justify a detailed review beyond the area included within the TA.

Notwithstanding the above, a plan illustrating the whole study area for junction assessment and the associated road safety record for the current data period (2014-2018) has been produced and is enclosed at Appendix C. This plan confirms that there are no identifiable clusters of accidents that would justify further consideration. The plan does not provide any information that alters the TA.

Construction Traffic Management Plan

The applicant is happy for there to be a condition requiring agreement of the CTMP with LCC. We would expect the condition to follow standard practice as a pre-commencement condition. However, for HE to be required to sign the CTMP off would make it a Grampian condition and would be unusual. Therefore we would suggest that the condition could require HE to be consulted but it should be for LCC to approve it, which one assumes they would not do if HE were clearly in disagreement.

Grid Connection

Application LCC/2019/0029 does not include the grid connection and by granting consent for LREC, LCC would not be consenting a connection beneath or across the motorway. The applicant has already agreed that they accept the necessity of a Grampian condition stating LREC may not operate until such time as a grid connection is in place. It follows that this grid connection will require all appropriate consents to be delivered.

Junction capacity modelling

The junction modelling exercise in the TA provides a comprehensive assessment of the potential impacts of LREC-generated traffic on the surrounding road network, including the SRN. It has demonstrated that even applying worst-case assumptions to the traffic flows, the operational traffic will have a negligible effect on the operation of the Red Scar Roundabout on Longridge Road and the Fulwood and Bluebell Roundabouts that connect with Junction 31a.

As discussed earlier in this response, LCC has pointed out that the assumptions around growth factors may not take account of all committed developments in the Longridge and Grimsargh areas that will generate traffic through the TA study area. Therefore, a list of planning applications and the parameters used to assign this traffic to the study area has been agreed with LCC. The additional committed development traffic has been assigned to the road network surrounding the site based on the agreed parameters which will affect the baseline scenario and 'with development' scenario. This has the effect of increasing the traffic flows in both scenarios by the same amount, retaining the LREC traffic as previously assessed in the TA.

The following junctions have been updated to reflect the updated committed development list:

- Site access onto Longridge Road
- Longridge Road Roundabout (Longridge Road / Bluebell Way)
- Bluebell Roundabout (Bluebell Way / M6 southbound on-slip)
- Fulwood Roundabout (Longsands Lane / Bluebell Way / M6 northbound off-slip)

The results of each junction are summarised below with full outputs enclosed as appendices E to H. Although the 2019 forecast scenario is unchanged, this has been included for easy reference and comparison. The updated traffic flow diagrams are presented at Appendix D.

Site access junction

The access to the RSIE has been assessed using the industry-standard PICADY software for modelling priority junctions. A summary of the results for the three scenarios is provided in Tables 1 and 2 below for the AM and PM peak hours respectively.

Table 1: Summary of site access junction PICADY results – AM Peak

Junction Arm	2019 forecast		2023 baseline		2023 with development	
	Max Q	RFC	Max Q	RFC	Max Q	RFC
Site access to Longridge Road (W)	0.1	0.08	0.1	0.11	0.2	0.13
Site access to Longridge Road (E)	0.7	0.40	1.6	0.61	3.9	0.80
Longridge Road (W) to site access	0.3	0.24	0.4	0.28	0.5	0.31

Table 2: Summary of site access junction PICADY results – PM Peak

Junction Arm	2019 forecast		2023 baseline		2023 with development	
	Max Q	RFC	Max Q	RFC	Max Q	RFC
Site access to Longridge Road (W)	1.1	0.50	1.7	0.61	2.0	0.66
Site access to Longridge Road (E)	2.1	0.66	6.3	0.88	23.5	1.05
Longridge Road (W) to site access	0.1	0.08	0.1	0.09	0.12	0.10

Max Q = mean maximum queue during modelled period

RFC = ratio of flow to capacity

The above results show that the site access is predicted to operate with some queuing during the PM peak in 2023 during the baseline scenario, which is predicted to increase in ‘with development’ scenario. However, this traffic is within the RSIE and not on the public road network, so there is no effect on other highway users. In addition, the shift patterns of a proportion of LREC workers will be timed to avoid peak hours wherever possible to ensure that reliable changeover can occur for the 24-hour operation of the facility. In summary, the change to committed development assumptions do not affect the outcome of the TA modelling of this junction.

Longridge Road roundabout

This 3-arm roundabout has been modelled using industry-standard software ARCADY which models the capacity of roundabout junctions. A summary of the results for the three scenarios is provided in Tables 3 and 4 below for the AM and PM peak hours respectively.

Table 3: Summary of Red Scar roundabout junction ARCADY results – AM Peak

Junction Arm	2019 forecast		2023 baseline		2023 with development	
	Max Q	RFC	Max Q	RFC	Max Q	RFC
Longridge Rd (E)	1.4	0.57	3.5	0.76	3.7	0.77
B6242	0.7	0.37	0.9	0.45	1.0	0.46
Longridge Rd (W)	0.6	0.37	0.8	0.42	0.9	0.44

Table 4: Summary of Red Scar roundabout junction ARCADY results – PM Peak

Junction Arm	2019 forecast		2023 baseline		2023 with development	
	Max Q	RFC	Max Q	RFC	Max Q	RFC
Longridge Rd (E)	1.2	0.51	1.9	0.64	2.0	0.64
B6242	0.5	0.30	0.8	0.41	0.8	0.43
Longridge Rd (W)	0.6	0.34	0.8	0.43	0.9	0.44

Max Q = mean maximum queue during modelled period

RFC = ratio of flow to capacity

The above results demonstrate that the junction currently operates within capacity and will continue to do so in 2023 in the forecast scenario and with-development scenario. This reflects no change to the TA conclusion for the operation of this junction.

Bluebell roundabout

This junction has been modelled using industry-standard LinSig software, which models the capacity of signalised junctions. A summary of the results for the three scenarios is provided in Tables 5 and 6 below for the AM and PM peak hours respectively.

Table 5: Summary of Bluebell roundabout junction LinSig results – AM Peak

Approach	2019 forecast			2023 baseline			2023 with development		
	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red
Spar access ahead/right	19.2%	1.5	-	20.8%	1.5	-	21.0%	1.5	-
B6242 left	12.9%	1.3	1.1	12.7%	1.3	1.1	12.7%	1.3	1.1
B6242 ahead/right	86.1%	14.2	7.1	99.5%	29.7	8.4	103%	40.7	9.2
Bluebell Way left	87.7%	14.4	7.4	99.9%	24.3	8.1	99.9%	24.3	8.1
Bluebell Way ahead/right	86.5%	13.3	6.1	98.5%	23.6	7.2	101%	28.4	7.6

Table 6: Summary of Bluebell roundabout junction LinSig results – PM Peak

Approach	2019 forecast			2023 baseline			2023 with development		
	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red
Spar access ahead/right	23.2%	1.7	-	25.7%	2.5	-	25.8%	2.5	-
B6242 left	23.5%	2.9	2.5	24.0%	3.0	2.5	23.3%	3.0	2.5
B6242 ahead/right	103%	38.7	11.1	114%	80.8	15.8	117%	92.1	17.1
Bluebell Way left	105%	47.6	12.4	113%	75.4	14.6	116%	85.6	15.3
Bluebell Way ahead/right	57.4%	7.7	5.2	66.5%	10.0	6.2	69.2%	10.6	6.5

DoS = Degree of saturation

MMQ = effective mean maximum queue during modelled period

QEnd of Red = Physical queue length at end of red signal

The above results demonstrate that in the opening year of LREC the junction at capacity during the AM peak and exceeding capacity during the PM peak. As assessed in the TA, the ‘with development’ scenario will result in no material change from the 2023 baseline scenario with similar levels of saturation and queuing. As outlined in the TA, where there are levels of saturation over 100%, this leads to unrealistic queue results.

The 2023 baseline represents the predicted outcome of the operation of the junction, assuming 6% traffic growth and a variety of committed developments. These conditions have already been accepted by the highway authorities as part of the planning process for these committed schemes and forward planning for their networks in general.

As outlined in the TA, a better indicator of the operation of the junction is the queue at the end of the red signal, i.e. when drivers are about to start moving at the front of the queue. In this context, the queue is only predicted to extend by around 1.3 PCUs (1 medium sized HGV) during the PM peak. In summary, this reflects no change to the TA conclusion for the operation of this junction.

Fulwood roundabout

Similar to the Bluebell Roundabout, this junction also provides a partially signalised roundabout and has been modelled using LinSig. A summary of the results for the three scenarios is provided in Table 7 and 8 below for the AM and PM peak hours respectively.

Table 7: Summary of Fulwood roundabout junction LinSig results – AM Peak

Approach	2019 forecast			2023 baseline			2023 with development		
	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red
M6 off-slip left	46.0%	5.1	3.6	50.6%	5.7	3.9	52.7%	6.1	4.0
M6 off-slip ahead	86.5%	20.2	8.1	90.9%	23.4	8.5	90.9%	23.4	8.5
Bluebell Way	29.0%	2.4	2.0	30.6%	2.6	2.1	30.6%	2.6	2.1
Fulwood Row (south)	18.9%	1.3	-	21.0%	1.4	-	21.0%	1.4	-
Longsands Lane	58.9%	5.6	2.5	61.8%	6.5	2.6	61.8%	6.5	2.6
Fulwood Row (north)	0.9%	0.0	-	1.1%	0.0	-	1.1%	0.0	-

Table 8: Summary of Fulwood roundabout junction LinSig results – PM Peak

Approach	2019 forecast			2023 baseline			2023 with development		
	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red
M6 off-slip left	41.5%	4.8	3.6	51.2%	6.1	4.5	52.9%	6.4	4.6
M6 off-slip ahead	62.8%	9.1	5.9	67.9%	10.0	6.3	67.9%	10.0	6.3
Bluebell Way	33.3%	4.0	3.2	33.7%	4.2	3.3	33.7%	4.2	3.3
Fulwood Row (south)	6.2%	0.2	-	6.8%	0.3	-	6.8%	0.3	-
Longsands Lane	74.9%	11.6	3.6	78.3%	13.2	3.9	78.3%	13.2	3.9
Fulwood Row (north)	1.4%	0.0	-	1.5%	0.1	-	1.5%	0.1	-

DoS = Degree of saturation

MMQ = effective mean maximum queue during modelled period

QEnd of Red = Physical queue length at end of red period

The above results demonstrate that the junction currently operates within capacity and will continue to do so in 2023 in the forecast scenario and with-development scenario. This reflects no change to the TA conclusion for the operation of this junction.

Future Year Assessment – 2029

The need for a future year assessment is to inform HE of the likely operation of the network at a future point in time to assist with their forward network planning. Following conflicting advice on the future year, it has been considered that 2029, representing 10 years after submission of the planning application, is most appropriate.

Tables 9 and 10 below provide an assessment of the Bluebell Roundabout and Fulwood Roundabout respectively in 2029 for the 'with development' scenario.

Table 9: Summary of Bluebell roundabout junction LinSig results

Approach	2029 AM Peak			2029 AM Peak		
	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red
Spar access ahead/right	22.2%	1.6	-	27.6%	2.7	-
B6242 left	13.4%	1.4	1.2	24.4%	3.1	2.6
B6242 ahead/right	108%	61.1	10.3	122%	115	19.8
Bluebell Way left	106%	37.3	10.0	122%	110	17.1
Bluebell Way ahead/right	105%	43.8	9.6	71.5%	11.3	6.7

Table 10: Summary of Fulwood roundabout junction LinSig results

Approach	2029 AM Peak			2029 AM Peak		
	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red
M6 off-slip left	55.0%	6.4	4.2	55.0%	6.8	4.8
M6 off-slip ahead	96.0%	29.9	9.0	71.5%	10.9	6.7
Bluebell Way	32.2%	2.7	2.2	35.4%	4.4	3.4
Fulwood Row (south)	23.5%	1.5	-	7.5%	0.3	-
Longsands Lane	65.3%	7.4	2.8	82.4%	15.9	4.3
Fulwood Row (north)	1.2%	0.0	-	1.4%	0.1	-

The above results demonstrate that the predicted traffic growth over the next 10 years, equivalent to a 12% increase, is not achievable within the current network capacity. However, in reality, the existing levels of congestion will discourage people from driving during peak hours, instead changing the time they travel or may encourage them to change their mode of travel. The net effect of LREC on these results will remain negligible and therefore do not affect the conclusions of the TA.

Overall

The above junction capacity modelling results have demonstrated that the additional committed development traffic will increase levels of congestion in both the forecast scenario and 'with development' scenario. However, the effect of LREC-generated traffic remains the same as assessed in the TA.

The effect of traffic growth and consented development in the area yet to be constructed is unlikely to result in the levels of congestion predicted in 2023 as the congestion itself will influence travel patterns and vehicle routing.

LREC will generate similar levels of traffic to that previously consented on the site and therefore the effects on levels of congestion will be similar to what has previously been acceptable to HE without further mitigation. In addition, the traffic flows associated with peak hours are predominantly staff-related, which have been assigned to such periods as a worst case. However, the nature of the facility will result in 24 hour operation where shift changes will occur every 8 or 12 hours and therefore these times can be managed to avoid peak periods and ensure reliability of these handover periods. A staff Travel Plan will also be implemented, which will reduce the current worst case assumption of single car occupancy.

Furthermore, HGV traffic approaching the Site can be managed in terms of routing and timing given the contract-based nature of waste haulage and logistics operation for the proposed Development. This is in contrast to the unmanaged nature of most industrial estate type development. Therefore, HGV traffic can be managed to avoid the busiest periods on the surrounding road network using a delivery booking system.

Overall, once these avoidance mitigation measures have been adopted, the Proposed Development will have no material impact on the highway network and it is therefore considered unnecessary to provide additional mitigation to accommodate the proposals.

APPENDIX A
COMMITTED DEVELOPMENT APPLICATION LIST

Application no.	# of units	Location	Notes on relevance	Notes for revised modelling
06/2016/0258	70	Land off Ribblesdale Drive, Grimsargh	Included in TA modelling	
3/2015/0065	195	Land to North Of Dilworth Lane Longridge	Included in TA modelling	
3/2016/0974	275	Land west of Preston Road Longridge	Included in TA modelling	
06/2013/0785	220	Whittingham Road Preston	Not included as junction within TA was 5.4 km north of Red Scar RAB	Distribution has been estimated based on other Longidge developments
06/2014/0902	150	Preston Road Grimsargh	Application initially refused	Distribution has been estimated based on other Grimsargh developments
06/2016/0234	12	Land at, Preston Road, Grimsargh	Transport Statement only – no details of junction impacts	Distribution has been estimated based on other Grimsargh developments
06/2016/0719	34	Park House Farm, Whittingham Lane, Grimsargh	Transport Statement only – no details of junction impacts	Distribution has been estimated based on other Grimsargh developments
06/2017/0356	186	Inglewhite Road Preston	Not included as junction was 5.4 km north of Red Scar RAB. Application relates to 06/2014/0248	Distribution has been estimated based on other Longidge developments
06/2017/0676	80	Land to the west of Preston Road, Grimsargh	Older persons village: 80 dwellings + 60 bed care home. Flows for 80 private homes, taken from TA Addendum	Distribution has been estimated based on other Grimsargh developments
06/2018/1157	30	Land adjacent 329 Preston Road, Preston	Transport Statement only – no details of junction impacts	Distribution has been estimated based on other Grimsargh developments
06/2018/0711	70	Land south of Whittingham Lane, Grimsargh	Transport Statement only – no details of junction impacts	Distribution has been estimated based on other Grimsargh developments
06/2018/1042	52	20 Halfpenny Lane	Transport Statement only – no details of junction impacts	Distribution has been estimated based on other Longidge developments
06/2018/1180	34	Inglewhite Rd/Halfpenny Ln, Longridge	Transport Statement only – no details of junction impacts. Application reduced from 46 units	Distribution has been estimated based on other Longidge developments
3/2014/0764	363	Chipping Lane, Longridge	Traffic flows related to larger mixed use application	Distribution has been estimated based on other Longidge developments
3/2016/0580	34	Spout Farm, Preston Road, Longridge	Transport Statement only – no details of junction impacts	Distribution has been estimated based on development opposite application site
06/2014/0248		Inglewhite Road Preston	See 06/2017/0356	
06/2019/0050	50	55 Halfpenny Lane Longridge	Yet to be determined	
3/2015/0100	195	Land North of Dilworth Lane Longridge	Withdrawn	
3/2015/0393	305	Land west of Preston Road Longridge	Refused	
TOTAL UNITS	1805			

APPENDIX B QUEUE DATA

Preston, Lancashire
Queue Length Survey

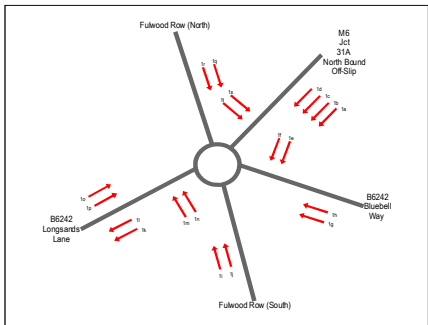
Site 1 of 3
M6 Jct 31A Northbound Off-Slip
B6242 Bluebell Way
Fulwood Row (South)
B6242 Longsands Lane
Fulwood Row (North)

Lat/Long
lat 53.786768° lon -2.664711°

Date
Tuesday 16 October 2018

Weather
Sunny Intervals
Temp: 14°C

0700 - 0900 (Weekday AM Peak)



TIME	1a	1b	1c	1d	1e	1f	1g	1h	1i	1j	1k	1l	1m	1n	1o	1p	1q	1r	1s	1t	
0700 - 0705	3	1	4	3	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	3	2
0705 - 0710	2	2	3	5	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	3	2
0710 - 0715	3	4	4	6	1	0	0	0	0	2	0	0	1	2	4	1	0	0	5	2	
0715 - 0720	2	2	7	8	1	0	2	0	1	0	0	0	0	0	1	4	0	0	4	3	
0720 - 0725	3	3	8	7	1	1	1	0	0	1	0	0	0	1	3	0	0	0	4	3	
0725 - 0730	4	2	8	7	1	0	4	0	0	0	0	0	0	0	0	0	0	0	5	4	
0730 - 0735	3	2	7	6	1	0	2	0	0	2	0	0	0	1	4	6	0	0	4	2	
0735 - 0740	1	3	5	9	2	1	0	0	0	2	0	0	1	1	16	4	0	0	5	2	
0740 - 0745	4	2	6	8	2	0	6	0	0	1	0	0	1	1	16	4	0	1	3	2	
0745 - 0750	3	3	6	7	2	0	2	1	1	1	3	3	1	1	14	3	0	0	5	4	
0750 - 0755	4	2	3	6	2	1	5	0	1	1	5	5	1	1	4	1	1	0	5	4	
0755 - 0800	5	1	7	8	5	5	3	1	2	7	7	7	1	0	18	4	0	0	5	1	
Hourly Average	3.08	2.25	5.67	6.67	1.48	0.67	2.25	0.17	0.33	1.08	1.25	1.25	0.67	0.67	5.63	2.25	0.08	0.08	4.25	2.67	
0800 - 0805	4	2	8	8	5	5	2	0	2	2	9	1	1	3	3	1	0	0	6	6	
0805 - 0810	5	2	7	8	5	5	6	0	2	1	6	6	2	1	6	7	1	0	5	3	
0810 - 0815	3	3	9	6	5	5	5	1	3	2	6	6	1	2	17	3	0	0	5	3	
0815 - 0820	6	2	10	6	4	4	3	1	0	0	7	7	1	2	19	2	1	0	5	5	
0820 - 0825	5	3	9	8	4	4	2	0	0	2	5	4	1	2	4	2	0	0	4	5	
0825 - 0830	2	3	7	8	4	2	0	0	1	2	5	5	1	0	4	0	0	1	4	2	
0830 - 0835	6	2	6	6	4	4	5	0	0	1	6	5	0	1	15	3	0	0	5	4	
0835 - 0840	7	3	8	6	4	5	6	0	0	2	6	6	1	2	3	5	0	1	6	4	
0840 - 0845	8	1	7	5	4	5	4	0	0	2	6	5	2	1	8	5	0	1	6	5	
0845 - 0850	9	3	9	6	4	4	4	0	1	0	5	5	1	2	3	4	0	0	6	3	
0850 - 0855	10	3	6	5	4	1	3	0	1	1	6	5	1	0	3	0	0	0	5	5	
0855 - 0900	8	6	7	7	4	0	3	0	0	2	7	4	1	1	9	1	0	0	5	3	
Hourly Average	6.08	3.08	7.75	6.58	4.25	3.83	3.67	0.17	0.83	1.42	6.17	5.58	1.08	1.25	7.75	3.17	0.17	0.25	5.17	4.00	
Session Total	4.58	2.67	6.71	6.63	2.92	2.25	2.96	0.17	0.58	1.25	3.71	3.42	0.88	0.96	7.29	2.71	0.13	0.17	4.71	3.33	

Date
Tuesday 16 October 2018

Weather
Cloudy
Temp: 13°C

1600 - 1800 (Weekday PM Peak)

TIME	1a	1b	1c	1d	1e	1f	1g	1h	1i	1j	1k	1l	1m	1n	1o	1p	1q	1r	1s	1t
1600 - 1605	5	6	3	2	1	0	2	1	0	0	0	0	0	1	3	1	0	0	5	3
1605 - 1610	4	6	4	4	3	1	8	3	0	0	0	0	3	1	7	2	0	0	6	3
1610 - 1615	4	3	3	4	2	0	5	2	0	0	0	0	0	1	8	3	0	0	6	2
1615 - 1620	6	6	4	6	1	2	2	0	0	2	0	0	0	1	11	2	0	0	6	3
1620 - 1625	5	7	3	5	4	1	4	0	0	0	0	0	1	1	20	3	0	0	5	5
1625 - 1630	4	3	4	6	1	0	0	0	0	0	0	0	0	1	4	0	0	0	6	4
1630 - 1635	6	3	3	5	2	0	3	1	1	0	3	3	0	0	8	0	0	0	5	4
1635 - 1640	5	3	6	5	1	0	4	0	0	1	3	0	0	2	5	1	0	0	6	2
1640 - 1645	6	3	5	6	2	0	0	0	0	1	5	0	0	1	5	1	1	0	5	4
1645 - 1650	5	3	4	3	1	1	1	0	0	1	0	0	1	1	17	5	0	0	6	2
1650 - 1655	7	2	3	2	2	0	5	0	0	1	0	0	1	0	7	3	0	0	6	2
1655 - 1700	7	3	2	4	1	1	2	0	1	1	0	0	1	1	19	2	0	0	5	2
Hourly Average	5.33	4.08	3.67	4.42	1.75	0.50	3.75	0.58	0.17	0.58	0.25	0.25	0.58	0.92	9.50	1.92	0.08	0.17	5.58	3.00
1700 - 1705	6	3	7	3	1	0	4	0	0	0	0	0	0	1	17	3	0	0	6	3
1705 - 1710	5	2	8	4	3	0	4	0	0	1	0	0	0	2	11	3	1	0	6	3
1710 - 1715	6	3	7	3	1	0	4	0	0	0	0	0	3	0	7	2	0	0	6	3
1715 - 1720	5	4	9	5	1	1	4	0	1	0	0	0	0	2	3	1	2	0	5	4
1720 - 1725	6	3	6	6	2	0	2	0	0	1	0	0	1	1	10	2	0	0	6	4
1725 - 1730	9	2	8	4	2	0	2	0	1	1	0	0	1	0	0	0	0	0	6	4
1730 - 1735	3	5	7	5	2	0	4	0	0	1	0	0	1	1	2	0	0	0	6	4
1735 - 1740	4	6	6	4	0	1	4	0	0	0	0	0	0	1	6	0	0	0	6	5
1740 - 1745	3	3	8	3	2	1	5	0	0	1	0	0	1	0	14	3	0	0	5	2
1745 - 1750	3	2	7	4	1	1	2	0	0	1	0	0	1	0	1	0	0	0	5	2
1750 - 1755	5	3	8	6	3	0	5	0	0	0	0	0	0	0	4	0	0	0	6	4
1755 - 1800	6	3	9	5	2	1	3	0	0	0	0	0	0	1	4	3	0	0	6	4
Hourly Average	5.08	3.25	7.50	4.33	1.67	0.50	3.58	0.00	0.17	0.50	0.00	0.00	0.92	0.58	6.08	1.42	0.25	0.17	5.75	3.50
Session Total	5.21	3.67	5.58	4.38	1.71	0.50	3.67	0.29	0.17	0.54	0.13	0.13	0.75	0.75	7.79	1.67	0.17	0.17	5.67	3.25

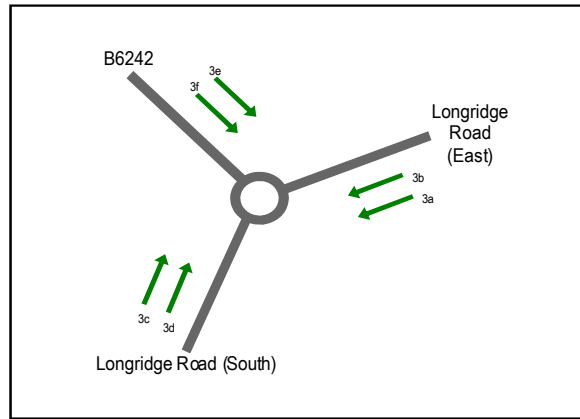
Preston, Lancashire
Queue Length Survey

Site 3 of 3
Longridge Road (East)
Longridge Road (West)
B6242

Lat/Long
lat 53.787543° lon -2.645927°

Date
Tuesday 16 October 2018

Weather
Sunny Intervals
Temp: 14°C



0700 - 0900 (Weekday AM Peak)

TIME	3a	3b	3c	3d	3e	3f
0700 - 0705	1	4	1	2	2	1
0705 - 0710	2	8	1	0	1	3
0710 - 0715	1	2	1	0	5	2
0715 - 0720	4	2	3	3	5	2
0720 - 0725	2	4	2	4	3	7
0725 - 0730	2	5	3	8	4	3
0730 - 0735	1	4	1	3	6	2
0735 - 0740	1	11	1	6	9	2
0740 - 0745	12	9	3	7	4	2
0745 - 0750	1	1	1	2	2	1
0750 - 0755	4	4	4	3	3	2
0755 - 0800	6	3	2	4	8	4
Hourly Average	3.08	4.75	1.92	3.50	4.33	2.58
0800 - 0805	4	4	1	2	5	2
0805 - 0810	3	6	0	2	6	2
0810 - 0815	2	4	1	5	5	3
0815 - 0820	6	12	8	7	8	6
0820 - 0825	3	1	4	8	15	6
0825 - 0830	3	6	2	3	16	6
0830 - 0835	6	5	1	5	5	15
0835 - 0840	0	1	2	4	4	2
0840 - 0845	3	2	2	3	4	3
0845 - 0850	3	3	2	3	5	2
0850 - 0855	2	2	2	1	5	2
0855 - 0900	6	3	2	1	3	2
Hourly Average	3.42	4.08	2.25	3.67	6.75	4.25

Session Total	3.25	4.42	2.08	3.58	5.54	3.42
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Date
Tuesday 16 October 2018

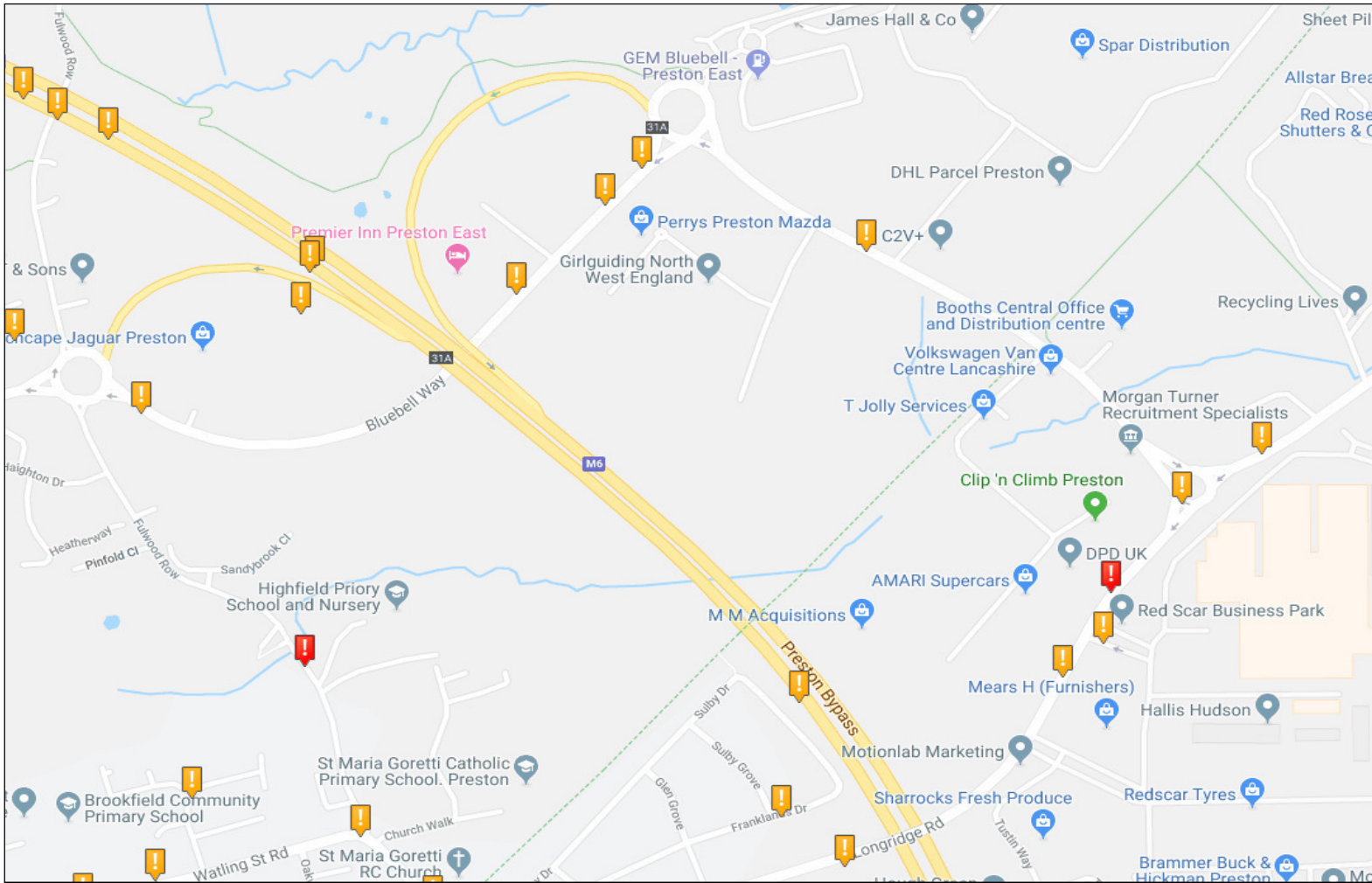
Weather
Cloudy
Temp: 13°C

1600 - 1800 (Weekday PM Peak)

TIME	3a	3b	3c	3d	3e	3f
1600 - 1605	5	1	1	4	1	1
1605 - 1610	2	2	4	5	9	3
1610 - 1615	1	3	3	4	4	2
1615 - 1620	2	7	15	9	8	2
1620 - 1625	2	5	9	6	6	2
1625 - 1630	2	2	3	5	4	3
1630 - 1635	2	12	15	10	10	2
1635 - 1640	9	13	20	8	3	1
1640 - 1645	13	12	6	5	3	1
1645 - 1650	2	12	15	8	9	3
1650 - 1655	4	10	14	8	2	2
1655 - 1700	5	11	2	8	7	3
Hourly Average	4.08	7.50	8.92	6.67	5.50	2.08
1700 - 1705	1	2	2	4	1	1
1705 - 1710	7	3	5	6	2	2
1710 - 1715	6	13	3	2	7	4
1715 - 1720	11	13	11	5	2	2
1720 - 1725	4	12	9	6	3	2
1725 - 1730	2	11	4	13	11	1
1730 - 1735	0	1	2	9	7	1
1735 - 1740	1	3	6	8	8	2
1740 - 1745	2	0	1	4	5	1
1745 - 1750	2	1	0	2	7	1
1750 - 1755	0	1	1	3	8	1
1755 - 1800	2	1	0	2	1	1
Hourly Average	3.17	5.08	3.67	5.33	5.17	1.58

Session Total	3.63	6.29	6.29	6.00	5.33	1.83
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APPENDIX C ACCIDENT DATA



Accident Analysis (2014 - 2018)



13 September 2019

Appendix C

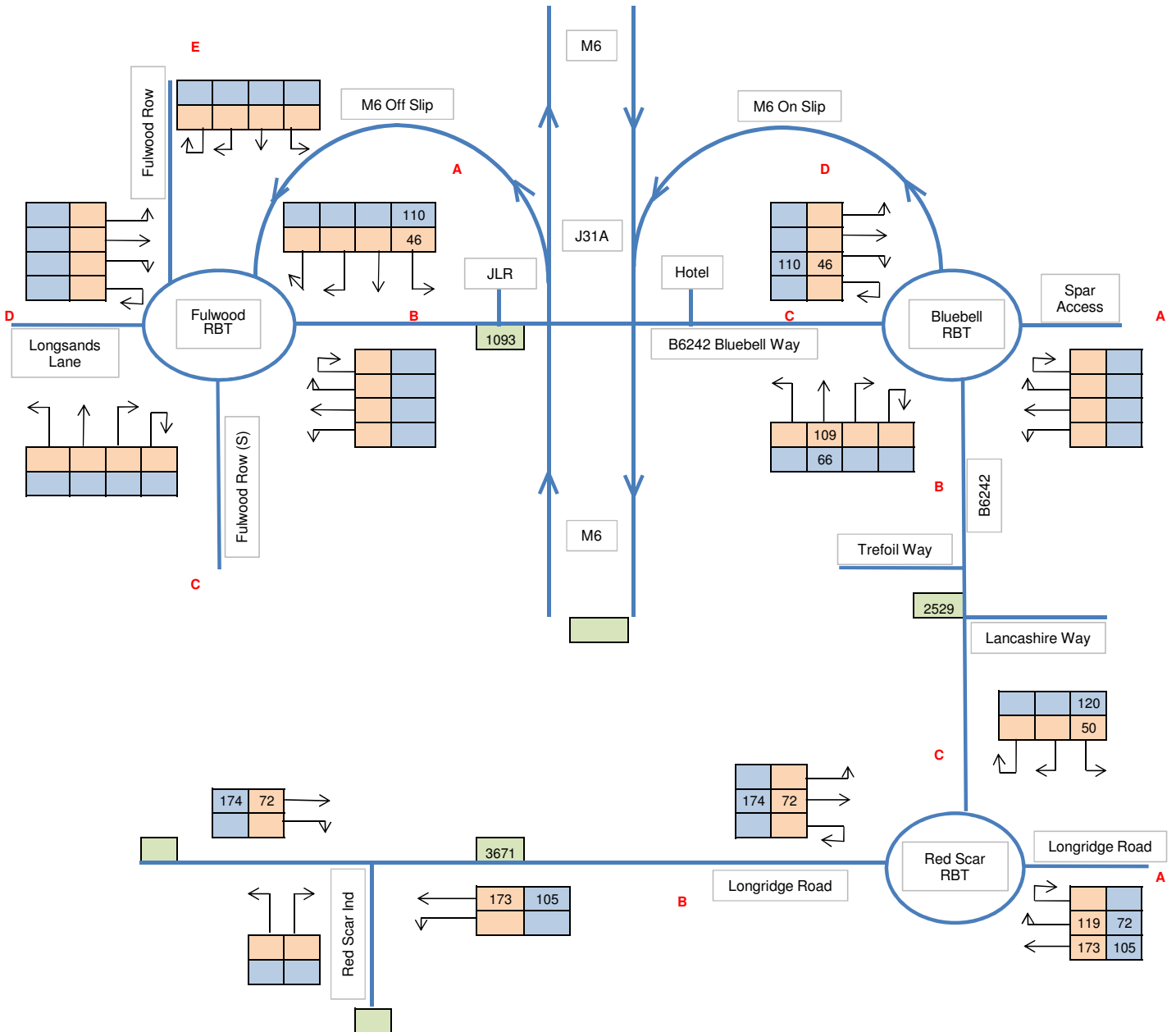
Project: 661304 - Longridge Road Energy Centre, Preston

APPENDIX D

TRAFFIC FLOW DIAGRAMS

- AM Flows
- PM Flows
- AADT

AM Peak: 07.30 - 08.30
 PM Peak: 16.15 - 17.15



NB: ALL PEAK HOUR FLOWS ARE PCUS

Committed Development Flows



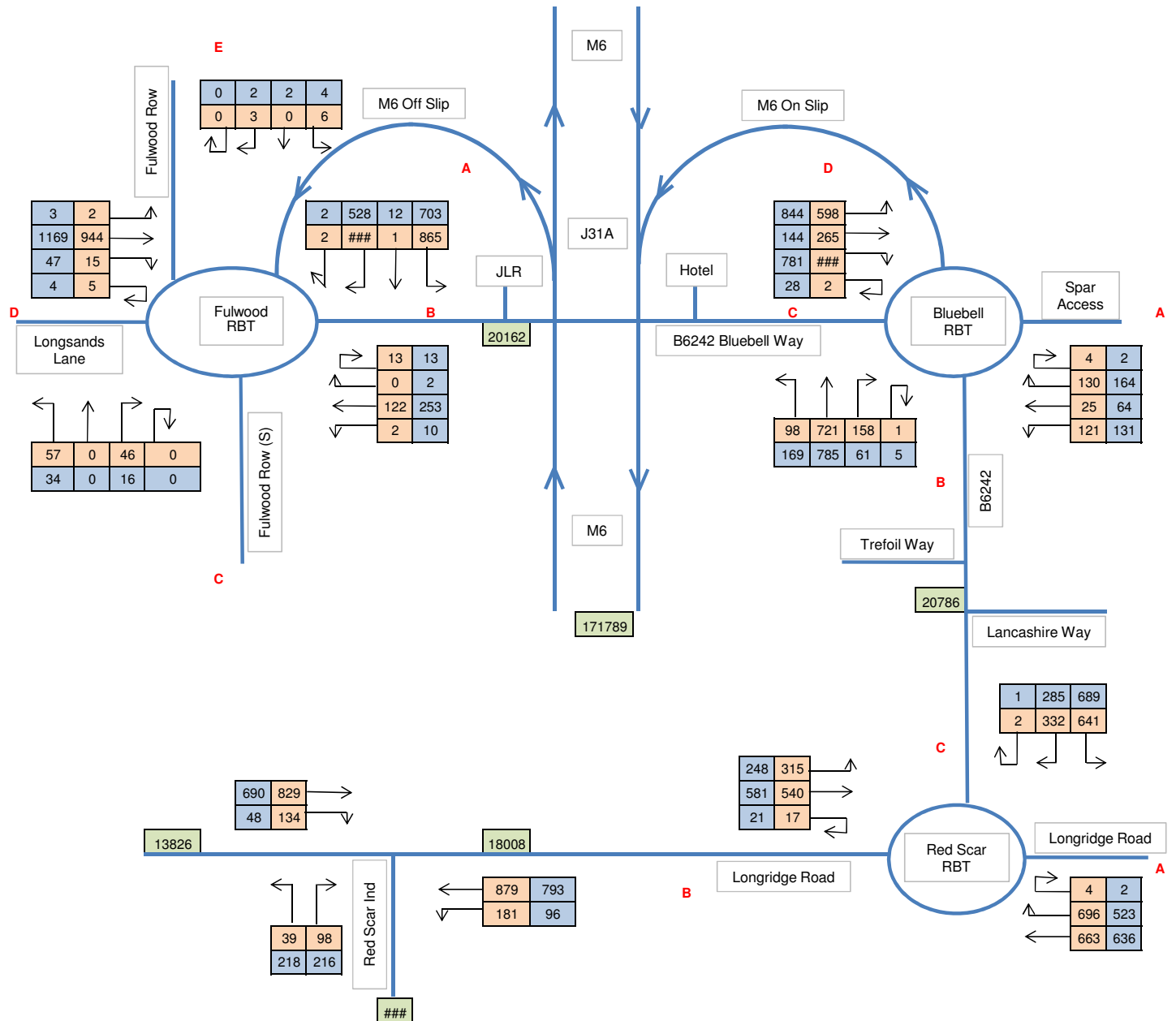
19 September 2019

Figure 006

Project: 661304 - Longridge Road Energy Centre, Preston

AM Flows
 PM Flows
 AADT

AM Peak: 07.30 - 08.30
 PM Peak: 16.15 - 17.15



NB: ALL PEAK HOUR FLOWS ARE PCUS

Base 2023 (Forecast 2023 + Committed development flows)



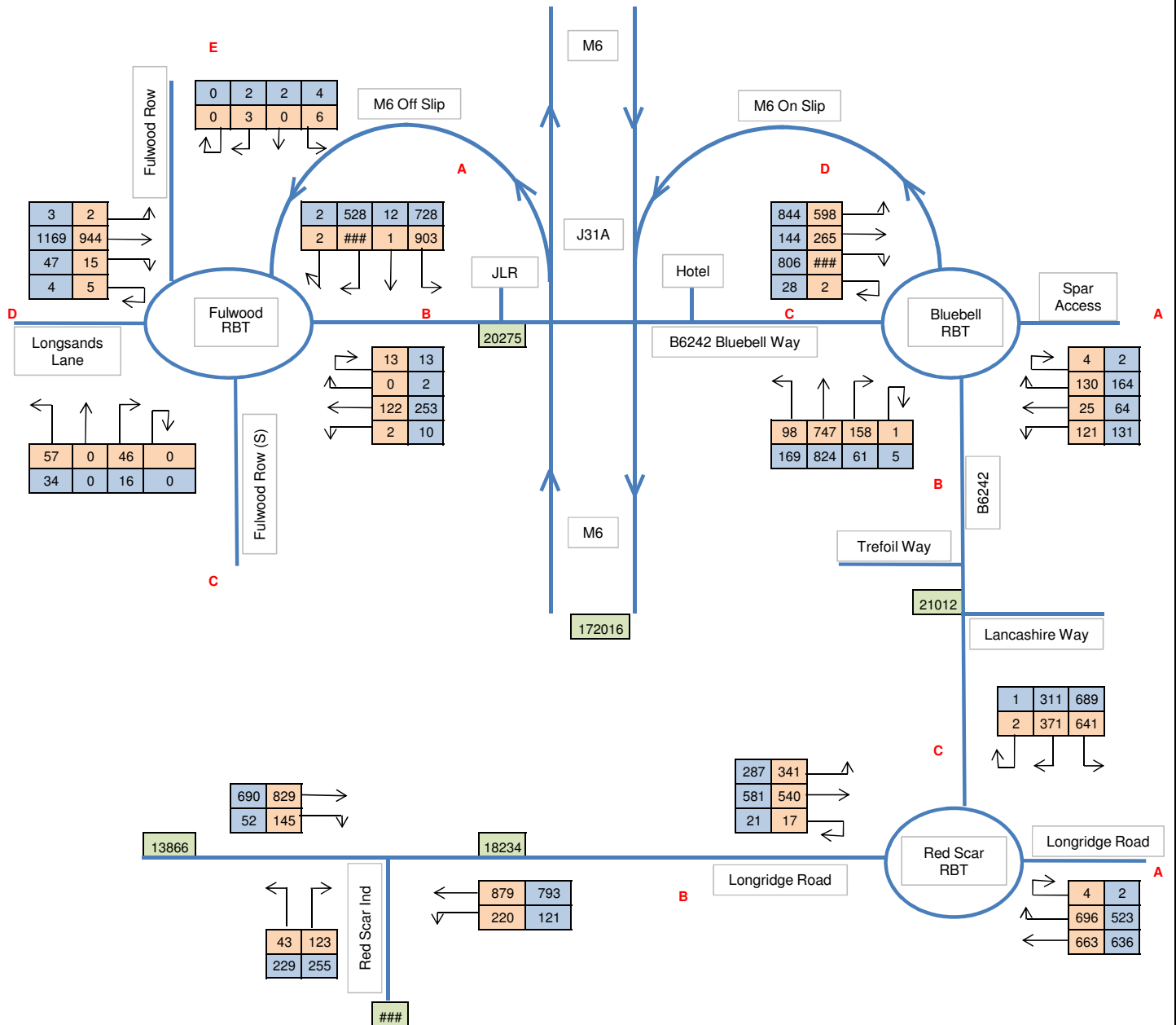
19 September 2019

Appendix 6.3

Project: 661304 - Longridge Road Energy Centre, Preston

AM Flows
 PM Flows
 AADT

AM Peak: 07.30 - 08.30
 PM Peak: 16.15 - 17.15



NB: ALL PEAK HOUR FLOWS ARE PCUs

Base 2023 + Operational flows



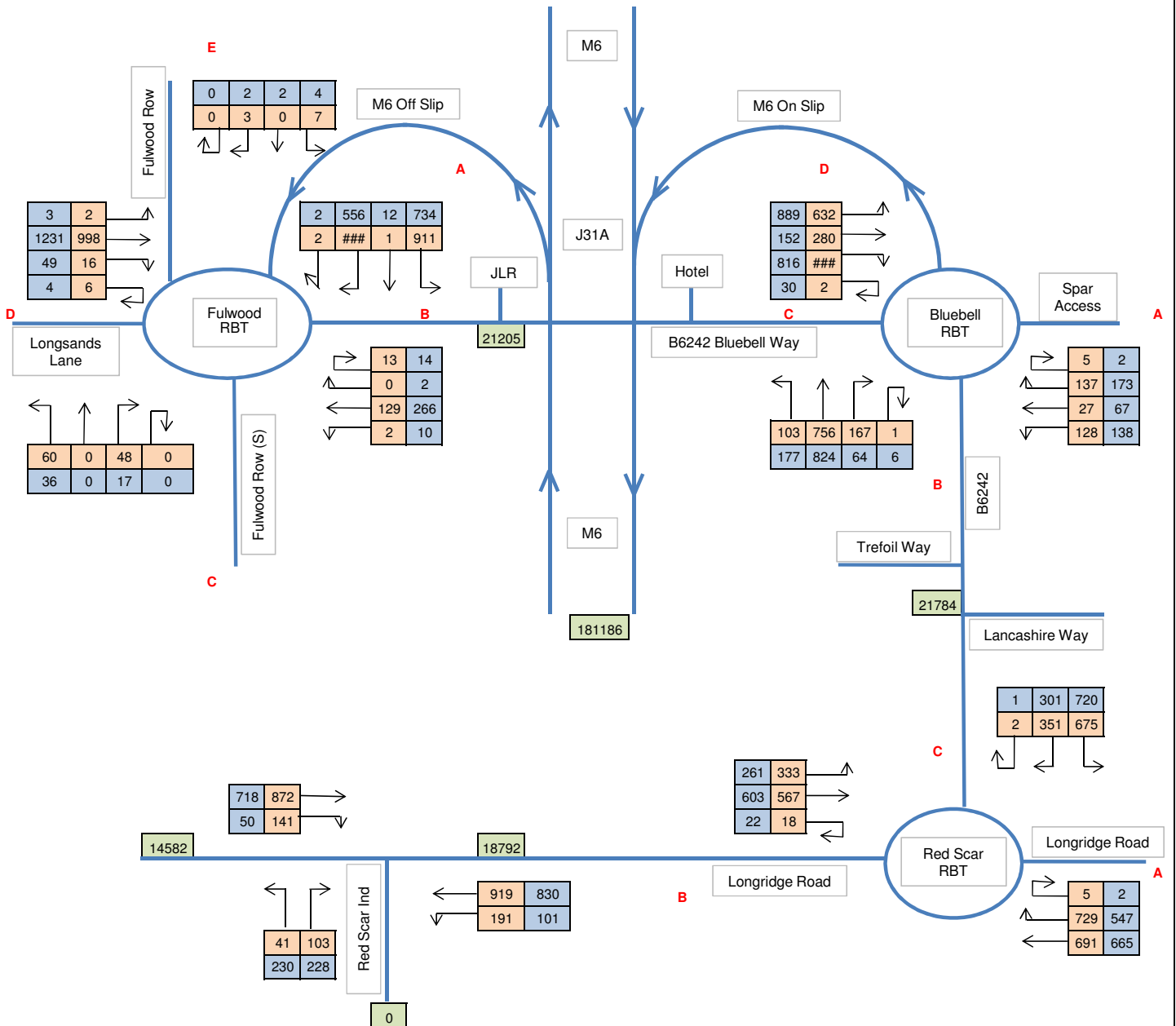
19 September 2019

Project: 661304 - Longridge Road Energy Centre, Preston

Appendix 6.4

AM Flows
 PM Flows
 AADT

AM Peak: 07.30 - 08.30
 PM Peak: 16.15 - 17.15



NB: ALL PEAK HOUR FLOWS ARE PCUs

Base 2029 (Forecast 2029 + Committed development flows)



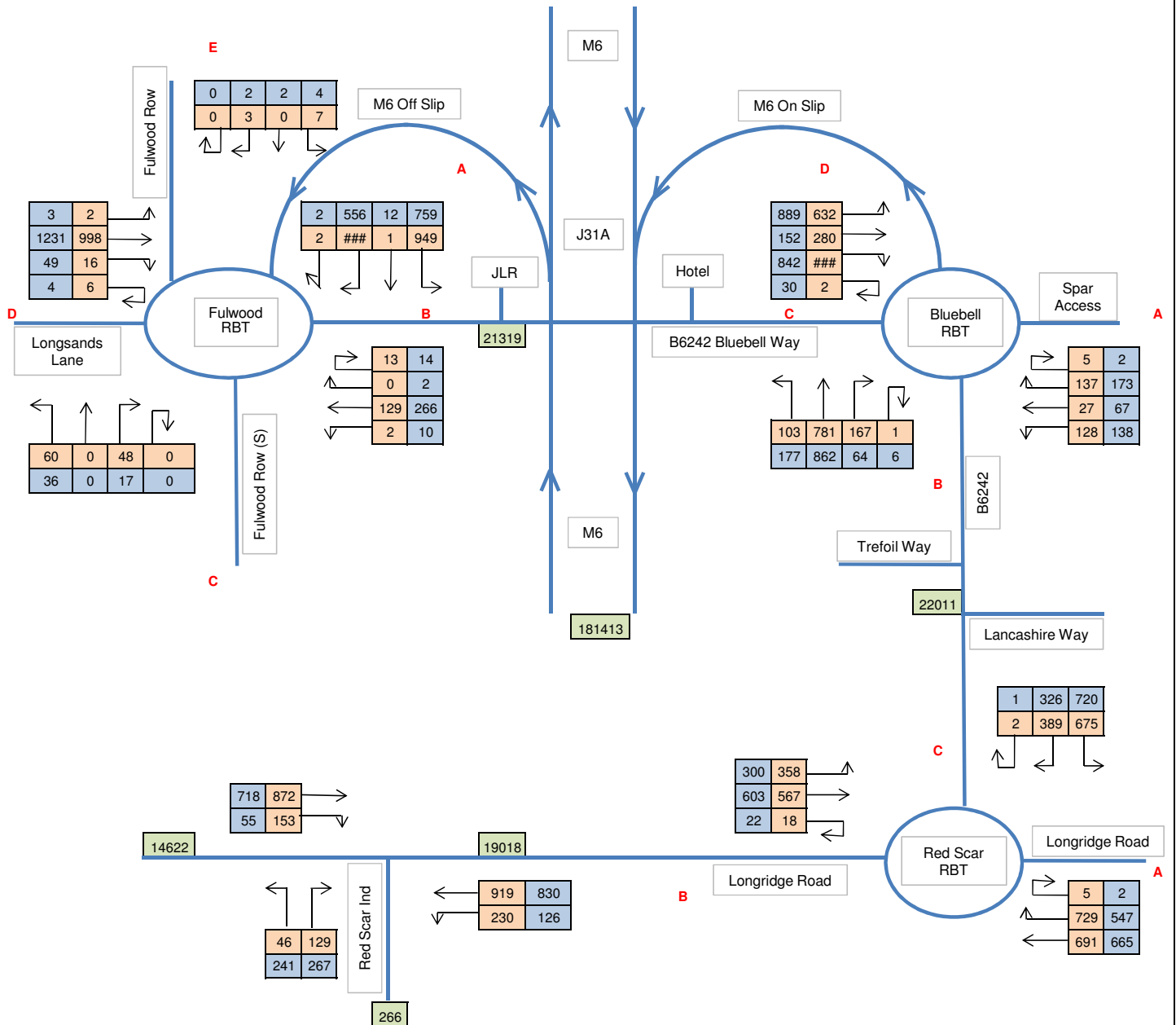
19 September 2019

Appendix 6.5

Project: 661304 - Longridge Road Energy Centre, Preston

AM Flows
 PM Flows
 AADT

AM Peak: 07.30 - 08.30
 PM Peak: 16.15 - 17.15



NB: ALL PEAK HOUR FLOWS ARE PCUs

Base 2033 + Operational flows



19 September 2019

Project: 661304 - Longridge Road Energy Centre, Preston

Appendix 6.6

APPENDIX E
PICADY OUTPUT – RSIE SITE ACCESS

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: Longridge Road_Site Access junction v2.arc8

Path: P:\660000 EA Man\661304 - EfW, Hillhouse IBP\Red Scar Business Park\4. Data\b. Traffic modelling\PICADY

Report generation date: 19/09/2019 15:27:24

-
- » Existing junction - Existing 2019, AM
 - » Existing junction - Existing 2019, PM
 - » Existing junction - Baseline 2023 (Forecast 2023 + Committed), AM
 - » Existing junction - Baseline 2023 (Forecast 2023 + Committed), PM
 - » Existing junction - 'With development' 2023 (Baseline 2023 + Operational), AM
 - » Existing junction - 'With development' 2023 (Baseline 2023 + Operational), PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
Existing junction - Baseline 2023 (Forecast 2023 + Committed)								
Stream B-C	0.13	12.05	0.11	B	1.71	28.91	0.61	D
Stream B-A	1.64	62.31	0.61	F	6.29	112.29	0.88	F
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.43	11.67	0.28	B	0.11	8.36	0.09	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
Existing junction - Existing 2019								
Stream B-C	0.10	9.80	0.08	A	1.09	19.00	0.50	C
Stream B-A	0.71	27.80	0.40	D	2.06	36.79	0.66	E
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.34	9.71	0.24	A	0.10	7.68	0.08	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
Existing junction - 'With development' 2023 (Baseline 2023 + Operational)								
Stream B-C	0.16	13.47	0.13	B	2.04	32.72	0.66	D
Stream B-A	3.87	121.43	0.80	F	23.49	347.60	1.05	F
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.50	12.49	0.31	B	0.12	8.56	0.10	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2019, AM " model duration: 07:30 - 08:30

"D2 - Existing 2019, PM" model duration: 16:15 - 17:15

"D3 - Baseline 2023 (Forecast 2023 + Committed), AM" model duration: 07:30 - 08:30

"D4 - Baseline 2023 (Forecast 2023 + Committed), PM" model duration: 16:15 - 17:15

"D5 - 'With development' 2023 (Baseline 2023 + Operational), AM" model duration: 07:30 - 08:30

"D6 - 'With development' 2023 (Baseline 2023 + Operational), PM" model duration: 16:15 - 17:15

Run using Junctions 8.0.4.487 at 19/09/2019 15:27:22

File summary

Title	(untitled)
Location	
Site Number	
Date	30/01/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MQuental
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing junction - Existing 2019, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2019, AM	Existing 2019	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	16.27	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	844.00	100.000
B	FLAT	✓	130.00	100.000
C	FLAT	✓	848.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	172.000	672.000
	B	93.000	0.000	37.000
	C	721.000	127.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.72	0.00	0.28
	C	0.85	0.15	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.08	9.80	0.10	A
B-A	0.40	27.80	0.71	D
C-A	-	-	-	-
C-B	0.24	9.71	0.34	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	37.00	36.60	0.00	442.64	0.084	0.10	9.744	A
B-A	93.00	90.27	0.00	235.86	0.394	0.68	26.744	D
C-A	721.00	721.00	0.00	-	-	-	-	-
C-B	127.00	125.65	0.00	534.71	0.238	0.34	9.649	A
A-B	172.00	172.00	0.00	-	-	-	-	-
A-C	672.00	672.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	37.00	37.00	0.00	441.12	0.084	0.10	9.798	A
B-A	93.00	92.93	0.00	235.36	0.395	0.70	27.764	D
C-A	721.00	721.00	0.00	-	-	-	-	-
C-B	127.00	126.99	0.00	534.71	0.238	0.34	9.712	A
A-B	172.00	172.00	0.00	-	-	-	-	-
A-C	672.00	672.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	37.00	37.00	0.00	441.08	0.084	0.10	9.799	A
B-A	93.00	92.98	0.00	235.36	0.395	0.71	27.792	D
C-A	721.00	721.00	0.00	-	-	-	-	-
C-B	127.00	127.00	0.00	534.71	0.238	0.34	9.712	A
A-B	172.00	172.00	0.00	-	-	-	-	-
A-C	672.00	672.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	37.00	37.00	0.00	441.07	0.084	0.10	9.799	A
B-A	93.00	92.99	0.00	235.36	0.395	0.71	27.800	D
C-A	721.00	721.00	0.00	-	-	-	-	-
C-B	127.00	127.00	0.00	534.71	0.238	0.34	9.712	A
A-B	172.00	172.00	0.00	-	-	-	-	-
A-C	672.00	672.00	0.00	-	-	-	-	-

Existing junction - Existing 2019, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2019, PM	Existing 2019	PM		FLAT	16:15	17:15	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	25.86	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	750.00	100.000
B	FLAT	✓	415.00	100.000
C	FLAT	✓	539.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	92.000	658.000
	B	207.000	0.000	208.000
	C	493.000	46.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.50	0.00	0.50
	C	0.91	0.09	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.50	19.00	1.09	C
B-A	0.66	36.79	2.06	E
C-A	-	-	-	-
C-B	0.08	7.68	0.10	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	208.00	203.84	0.00	419.63	0.496	1.04	18.029	C
B-A	207.00	199.37	0.00	314.28	0.659	1.91	32.652	D
C-A	493.00	493.00	0.00	-	-	-	-	-
C-B	46.00	45.61	0.00	561.45	0.082	0.10	7.671	A
A-B	92.00	92.00	0.00	-	-	-	-	-
A-C	658.00	658.00	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	208.00	207.87	0.00	416.54	0.499	1.07	18.951	C
B-A	207.00	206.60	0.00	314.13	0.659	2.01	36.486	E
C-A	493.00	493.00	0.00	-	-	-	-	-
C-B	46.00	46.00	0.00	561.45	0.082	0.10	7.682	A
A-B	92.00	92.00	0.00	-	-	-	-	-
A-C	658.00	658.00	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	208.00	207.96	0.00	416.38	0.500	1.08	18.986	C
B-A	207.00	206.85	0.00	314.13	0.659	2.05	36.705	E
C-A	493.00	493.00	0.00	-	-	-	-	-
C-B	46.00	46.00	0.00	561.45	0.082	0.10	7.682	A
A-B	92.00	92.00	0.00	-	-	-	-	-
A-C	658.00	658.00	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	208.00	207.98	0.00	416.33	0.500	1.09	18.997	C
B-A	207.00	206.92	0.00	314.13	0.659	2.06	36.786	E
C-A	493.00	493.00	0.00	-	-	-	-	-
C-B	46.00	46.00	0.00	561.45	0.082	0.10	7.682	A
A-B	92.00	92.00	0.00	-	-	-	-	-
A-C	658.00	658.00	0.00	-	-	-	-	-

Existing junction - Baseline 2023 (Forecast 2023 + Committed), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Baseline 2023 (Forecast 2023 + Committed), AM	Baseline 2023 (Forecast 2023 + Committed)	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	30.04	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	1060.00	100.000
B	FLAT	✓	137.00	100.000
C	FLAT	✓	963.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	181.000	879.000
	B	98.000	0.000	39.000
	C	829.000	134.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.17	0.83
	B	0.72	0.00	0.28
	C	0.86	0.14	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.11	12.05	0.13	B
B-A	0.61	62.31	1.64	F
C-A	-	-	-	-
C-B	0.28	11.67	0.43	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	39.00	38.49	0.00	372.38	0.105	0.13	11.842	B
B-A	98.00	92.16	0.00	161.63	0.606	1.46	53.484	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	134.00	132.29	0.00	473.24	0.283	0.43	11.558	B
A-B	181.00	181.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	39.00	38.99	0.00	368.14	0.106	0.13	12.030	B
B-A	98.00	97.54	0.00	161.00	0.609	1.57	61.395	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	134.00	133.98	0.00	473.24	0.283	0.43	11.672	B
A-B	181.00	181.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	39.00	39.00	0.00	367.83	0.106	0.13	12.042	B
B-A	98.00	97.83	0.00	161.00	0.609	1.62	62.057	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	134.00	133.99	0.00	473.24	0.283	0.43	11.672	B
A-B	181.00	181.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	39.00	39.00	0.00	367.71	0.106	0.13	12.046	B
B-A	98.00	97.91	0.00	161.00	0.609	1.64	62.306	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	134.00	134.00	0.00	473.24	0.283	0.43	11.672	B
A-B	181.00	181.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Existing junction - Baseline 2023 (Forecast 2023 + Committed), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Baseline 2023 (Forecast 2023 + Committed), PM	Baseline 2023 (Forecast 2023 + Committed)	PM		FLAT	16:15	17:15	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	64.23	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	889.00	100.000
B	FLAT	✓	434.00	100.000
C	FLAT	✓	738.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	96.000	793.000
	B	216.000	0.000	218.000
	C	690.000	48.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.50	0.00	0.50
	C	0.93	0.07	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.61	28.91	1.71	D
B-A	0.88	112.29	6.29	F
C-A	-	-	-	-
C-B	0.09	8.36	0.11	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.00	211.94	0.00	365.90	0.596	1.51	24.857	C
B-A	216.00	198.03	0.00	246.51	0.876	4.49	67.482	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	48.00	47.56	0.00	521.90	0.092	0.11	8.341	A
A-B	96.00	96.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.00	217.50	0.00	357.29	0.610	1.64	28.131	D
B-A	216.00	212.13	0.00	246.35	0.877	5.46	99.200	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	48.00	48.00	0.00	521.90	0.092	0.11	8.355	A
A-B	96.00	96.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.00	217.82	0.00	355.45	0.613	1.68	28.658	D
B-A	216.00	213.96	0.00	246.35	0.877	5.97	107.621	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	48.00	48.00	0.00	521.90	0.092	0.11	8.355	A
A-B	96.00	96.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.00	217.90	0.00	354.48	0.615	1.71	28.909	D
B-A	216.00	214.71	0.00	246.35	0.877	6.29	112.287	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	48.00	48.00	0.00	521.90	0.092	0.11	8.355	A
A-B	96.00	96.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Existing junction - 'With development' 2023 (Baseline 2023 + Operational), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
'With development' 2023 (Baseline 2023 + Operational), AM	'With development' 2023 (Baseline 2023 + Operational)	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	55.71	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	1099.00	100.000
B	FLAT	✓	166.00	100.000
C	FLAT	✓	974.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	220.000	879.000
	B	123.000	0.000	43.000
	C	829.000	145.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.74	0.00	0.26
	C	0.85	0.15	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.13	13.47	0.16	B
B-A	0.80	121.43	3.87	F
C-A	-	-	-	-
C-B	0.31	12.49	0.50	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.00	42.39	0.00	348.00	0.124	0.15	12.928	B
B-A	123.00	111.39	0.00	153.62	0.801	2.90	80.388	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	145.00	143.03	0.00	462.15	0.314	0.49	12.336	B
A-B	220.00	220.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.00	42.98	0.00	339.33	0.127	0.16	13.362	B
B-A	123.00	120.80	0.00	152.89	0.804	3.45	111.124	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	145.00	144.98	0.00	462.15	0.314	0.50	12.483	B
A-B	220.00	220.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.00	42.99	0.00	337.76	0.127	0.16	13.433	B
B-A	123.00	121.94	0.00	152.89	0.805	3.72	117.991	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	145.00	144.99	0.00	462.15	0.314	0.50	12.485	B
A-B	220.00	220.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.00	43.00	0.00	337.00	0.128	0.16	13.468	B
B-A	123.00	122.37	0.00	152.88	0.805	3.87	121.433	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	145.00	145.00	0.00	462.15	0.314	0.50	12.485	B
A-B	220.00	220.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Existing junction - 'With development' 2023 (Baseline 2023 + Operational), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
'With development' 2023 (Baseline 2023 + Operational), PM	'With development' 2023 (Baseline 2023 + Operational)	PM		FLAT	16:15	17:15	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	180.18	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	914.00	100.000
B	FLAT	✓	484.00	100.000
C	FLAT	✓	742.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	121.000	793.000
	B	255.000	0.000	229.000
	C	690.000	52.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.53	0.00	0.47
	C	0.93	0.07	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.66	32.72	2.04	D
B-A	1.05	347.60	23.49	F
C-A	-	-	-	-
C-B	0.10	8.56	0.12	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	229.00	221.40	0.00	349.56	0.655	1.90	29.418	D
B-A	255.00	217.21	0.00	242.50	1.052	9.45	107.743	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	52.00	51.51	0.00	514.79	0.101	0.12	8.539	A
A-B	121.00	121.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	229.00	228.65	0.00	349.56	0.655	1.99	32.508	D
B-A	255.00	233.88	0.00	242.32	1.052	14.73	214.525	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	52.00	52.00	0.00	514.79	0.101	0.12	8.556	A
A-B	121.00	121.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	229.00	228.87	0.00	349.56	0.655	2.02	32.664	D
B-A	255.00	236.76	0.00	242.32	1.052	19.29	284.546	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	52.00	52.00	0.00	514.79	0.101	0.12	8.556	A
A-B	121.00	121.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	229.00	228.93	0.00	349.56	0.655	2.04	32.722	D
B-A	255.00	238.18	0.00	242.32	1.052	23.49	347.598	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	52.00	52.00	0.00	514.79	0.101	0.12	8.556	A
A-B	121.00	121.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

**APPENDIX F
ARCADY OUTPUT – LONGRIDGE ROAD
ROUNDBABOUT**

Junctions 8
ARCADY 8 - Roundabout Module
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2019
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Filename: Red Scar roundabout v2.arc8

Path: P:\660000 EA Man\661304 - EfW, Hillhouse IBP\Red Scar Business Park\4. Data\b. Traffic modelling\ARCADY

Report generation date: 19/09/2019 15:23:17

- » Existing layout - Existing 2019, AM
- » Existing layout - Existing 2019, PM
- » Existing layout - Baseline 2023 (Forecast 2023 + Committed), AM
- » Existing layout - Baseline 2023 (Forecast 2023 + Committed), PM
- » Existing layout - 'With development' 2023 (Baseline 2023 + Operational), AM
- » Existing layout - 'With development' 2023 (Baseline 2023 + Operational), PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
Existing layout - Baseline 2023 (Forecast 2023 + Committed)								
Arm 1	3.45	9.21	0.76	A	1.93	6.00	0.64	A
Arm 2	0.90	3.71	0.45	A	0.76	3.24	0.41	A
Arm 3	0.80	2.94	0.42	A	0.82	3.02	0.43	A
Existing layout - Existing 2019								
Arm 1	1.42	5.05	0.57	A	1.16	4.46	0.51	A
Arm 2	0.65	3.08	0.37	A	0.48	2.65	0.30	A
Arm 3	0.64	2.61	0.37	A	0.55	2.44	0.34	A
Existing layout - 'With development' 2023 (Baseline 2023 + Operational)								
Arm 1	3.66	9.77	0.77	A	1.98	6.16	0.64	A
Arm 2	0.95	3.80	0.46	A	0.83	3.35	0.43	A
Arm 3	0.85	3.03	0.44	A	0.86	3.08	0.44	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2019, AM" model duration: 07:30 - 08:30

"D2 - Existing 2019, PM" model duration: 16:15 - 17:15

"D3 - Baseline 2023 (Forecast 2023 + Committed), AM" model duration: 07:30 - 08:30

"D4 - Baseline 2023 (Forecast 2023 + Committed), PM" model duration: 16:15 - 17:15

"D5 - 'With development' 2023 (Baseline 2023 + Operational), AM" model duration: 07:30 - 08:30

"D6 - 'With development' 2023 (Baseline 2023 + Operational), PM" model duration: 16:15 - 17:15

Run using Junctions 8.0.4.487 at 19/09/2019 15:23:16

File summary

Title	(untitled)
Location	
Site Number	
Date	15/10/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MQuental
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing layout - Existing 2019, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Existing 2019, AM	Existing 2019	AM		FLAT	07:30	08:30	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				3.68	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1019.00	100.000
2	FLAT	✓	762.00	100.000
3	FLAT	✓	881.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	4.000	466.000	549.000
	2	446.000	16.000	300.000
	3	563.000	316.000	2.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.46	0.54
	2	0.59	0.02	0.39
	3	0.64	0.36	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.57	5.05	1.42	A	1019.00	1019.00	84.21	4.96	1.40	84.24	4.96
2	0.37	3.08	0.65	A	762.00	762.00	38.71	3.05	0.65	38.71	3.05
3	0.37	2.61	0.64	A	881.00	881.00	38.09	2.59	0.63	38.10	2.59

Main Results for each time segment

Main results: (07:30-07:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1019.00	254.75	1013.36	1009.84	333.03	0.00	1803.96	1560.24	0.565	0.00	1.41	4.975	A
2	762.00	190.50	759.41	794.45	551.93	0.00	2051.31	1830.12	0.371	0.00	0.65	3.058	A
3	881.00	220.25	878.45	846.94	464.41	0.00	2396.69	1878.07	0.368	0.00	0.64	2.603	A

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1019.00	254.75	1018.96	1012.99	334.00	0.00	1803.34	1560.24	0.565	1.41	1.42	5.048	A
2	762.00	190.50	761.99	797.98	554.98	0.00	2049.05	1830.12	0.372	0.65	0.65	3.076	A
3	881.00	220.25	880.99	850.97	465.99	0.00	2395.43	1878.07	0.368	0.64	0.64	2.614	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1019.00	254.75	1018.99	1013.00	334.00	0.00	1803.34	1560.24	0.565	1.42	1.42	5.048	A
2	762.00	190.50	762.00	797.99	554.99	0.00	2049.04	1830.12	0.372	0.65	0.65	3.076	A
3	881.00	220.25	881.00	850.99	466.00	0.00	2395.43	1878.07	0.368	0.64	0.64	2.614	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1019.00	254.75	1018.99	1013.00	334.00	0.00	1803.34	1560.24	0.565	1.42	1.42	5.048	A
2	762.00	190.50	762.00	798.00	555.00	0.00	2049.04	1830.12	0.372	0.65	0.65	3.076	A
3	881.00	220.25	881.00	851.00	466.00	0.00	2395.43	1878.07	0.368	0.64	0.64	2.614	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:30-07:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.29	1.35	4.975	A	A
2	9.49	0.63	3.058	A	A
3	9.36	0.62	2.603	A	A

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.24	1.42	5.048	A	A
2	9.72	0.65	3.076	A	A
3	9.56	0.64	2.614	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.32	1.42	5.048	A	A
2	9.74	0.65	3.076	A	A
3	9.58	0.64	2.614	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.36	1.42	5.048	A	A
2	9.75	0.65	3.076	A	A
3	9.59	0.64	2.614	A	A

Existing layout - Existing 2019, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Existing 2019, PM	Existing 2019	PM		FLAT	16:15	17:15	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				3.29	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	941.00	100.000
2	FLAT	✓	646.00	100.000
3	FLAT	✓	818.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	2.000	508.000	431.000
	2	389.000	20.000	237.000
	3	544.000	273.000	1.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.54	0.46
	2	0.60	0.03	0.37
	3	0.67	0.33	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.51	4.46	1.16	A	941.00	941.00	68.92	4.39	1.15	68.94	4.40
2	0.30	2.65	0.48	A	646.00	646.00	28.35	2.63	0.47	28.35	2.63
3	0.34	2.44	0.55	A	818.00	818.00	33.06	2.43	0.55	33.07	2.43

Main Results for each time segment

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	941.00	235.25	936.39	932.38	293.20	0.00	1829.28	1595.00	0.514	0.00	1.15	4.412	A
2	646.00	161.50	644.11	797.71	431.87	0.00	2140.11	1915.07	0.302	0.00	0.47	2.643	A
3	818.00	204.50	815.79	666.19	409.79	0.00	2440.19	1798.33	0.335	0.00	0.55	2.434	A

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	941.00	235.25	940.97	934.99	294.00	0.00	1828.77	1595.00	0.515	1.15	1.16	4.460	A
2	646.00	161.50	645.99	800.98	433.99	0.00	2138.54	1915.07	0.302	0.47	0.47	2.652	A
3	818.00	204.50	817.99	668.99	411.00	0.00	2439.23	1798.33	0.335	0.55	0.55	2.442	A

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	941.00	235.25	940.99	935.00	294.00	0.00	1828.77	1595.00	0.515	1.16	1.16	4.460	A
2	646.00	161.50	646.00	800.99	434.00	0.00	2138.54	1915.07	0.302	0.47	0.48	2.652	A
3	818.00	204.50	818.00	669.00	411.00	0.00	2439.22	1798.33	0.335	0.55	0.55	2.442	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	941.00	235.25	941.00	935.00	294.00	0.00	1828.77	1595.00	0.515	1.16	1.16	4.460	A
2	646.00	161.50	646.00	801.00	434.00	0.00	2138.54	1915.07	0.302	0.48	0.48	2.652	A
3	818.00	204.50	818.00	669.00	411.00	0.00	2439.22	1798.33	0.335	0.55	0.55	2.442	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:15-16:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.70	1.11	4.412	A	A
2	6.97	0.46	2.643	A	A
3	8.14	0.54	2.434	A	A

Queueing Delay results: (16:30-16:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.36	1.16	4.460	A	A
2	7.12	0.47	2.652	A	A
3	8.30	0.55	2.442	A	A

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.42	1.16	4.460	A	A
2	7.13	0.48	2.652	A	A
3	8.31	0.55	2.442	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.44	1.16	4.460	A	A
2	7.13	0.48	2.652	A	A
3	8.32	0.55	2.442	A	A

Existing layout - Baseline 2023 (Forecast 2023 + Committed), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rela
Baseline 2023 (Forecast 2023 + Committed), AM	Baseline 2023 (Forecast 2023 + Committed)	AM		FLAT	07:30	08:30	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				5.81	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1363.00	100.000
2	FLAT	✓	872.00	100.000
3	FLAT	✓	975.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	4.000	663.000	696.000
	2	540.000	17.000	315.000
	3	641.000	332.000	2.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.49	0.51
	2	0.62	0.02	0.36
	3	0.66	0.34	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		1	2	3
	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.76	9.21	3.45	A	1363.00	1363.00	199.95	8.80	3.33	200.15	8.81
2	0.45	3.71	0.90	A	872.00	872.00	53.16	3.66	0.89	53.17	3.66
3	0.42	2.94	0.80	A	975.00	975.00	47.40	2.92	0.79	47.40	2.92

Main Results for each time segment

Main results: (07:30-07:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1349.61	1180.68	349.85	0.00	1793.27	1596.00	0.760	0.00	3.35	8.683	A
2	872.00	218.00	868.45	1004.34	695.12	0.00	1945.40	1850.52	0.448	0.00	0.89	3.665	A
3	975.00	243.75	971.83	1004.88	558.69	0.00	2321.62	1821.54	0.420	0.00	0.79	2.928	A

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.72	1184.97	351.00	0.00	1792.54	1596.00	0.760	3.35	3.42	9.197	A
2	872.00	218.00	871.97	1011.86	701.85	0.00	1940.42	1850.52	0.449	0.89	0.89	3.705	A
3	975.00	243.75	974.99	1012.85	560.98	0.00	2319.80	1821.54	0.420	0.79	0.80	2.944	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.90	1184.99	351.00	0.00	1792.53	1596.00	0.760	3.42	3.44	9.208	A
2	872.00	218.00	871.99	1011.95	701.95	0.00	1940.35	1850.52	0.449	0.89	0.90	3.705	A
3	975.00	243.75	975.00	1012.95	561.00	0.00	2319.79	1821.54	0.420	0.80	0.80	2.944	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.95	1185.00	351.00	0.00	1792.53	1596.00	0.760	3.44	3.45	9.211	A
2	872.00	218.00	872.00	1011.98	701.97	0.00	1940.33	1850.52	0.449	0.90	0.90	3.705	A
3	975.00	243.75	975.00	1012.97	561.00	0.00	2319.78	1821.54	0.420	0.80	0.80	2.944	A

Queueing Delay Results for each time segment
Queueing Delay results: (07:30-07:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	45.93	3.06	8.683	A	A
2	12.94	0.86	3.665	A	A
3	11.61	0.77	2.928	A	A

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	50.84	3.39	9.197	A	A
2	13.37	0.89	3.705	A	A
3	11.91	0.79	2.944	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	51.46	3.43	9.208	A	A
2	13.42	0.89	3.705	A	A
3	11.93	0.80	2.944	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	51.72	3.45	9.211	A	A
2	13.43	0.90	3.705	A	A
3	11.94	0.80	2.944	A	A

Existing layout - Baseline 2023 (Forecast 2023 + Committed), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rela
Baseline 2023 (Forecast 2023 + Committed), FM	Baseline 2023 (Forecast 2023 + Committed)	FM		FLAT	16:15	17:15	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				4.24	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1161.00	100.000
2	FLAT	✓	850.00	100.000
3	FLAT	✓	975.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	2.000	636.000	523.000
	2	581.000	21.000	248.000
	3	689.000	285.000	1.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.55	0.45
	2	0.68	0.02	0.29
	3	0.71	0.29	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		1	2	3
	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.64	6.00	1.93	A	1161.00	1161.00	113.43	5.86	1.89	113.49	5.87
2	0.41	3.24	0.76	A	850.00	850.00	45.49	3.21	0.76	45.49	3.21
3	0.43	3.02	0.82	A	975.00	975.00	48.62	2.99	0.81	48.63	2.99

Main Results for each time segment

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1153.40	1267.61	305.97	0.00	1821.16	1670.12	0.638	0.00	1.90	5.866	A
2	850.00	212.50	846.96	936.81	522.56	0.00	2073.03	1899.66	0.410	0.00	0.76	3.221	A
3	975.00	243.75	971.75	767.69	601.83	0.00	2287.27	1692.89	0.426	0.00	0.81	3.002	A

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.93	1271.98	307.00	0.00	1820.51	1670.12	0.638	1.90	1.92	6.001	A
2	850.00	212.50	849.99	941.96	525.97	0.00	2070.51	1899.66	0.411	0.76	0.76	3.243	A
3	975.00	243.75	974.99	771.96	603.99	0.00	2285.55	1692.89	0.427	0.81	0.82	3.020	A

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.98	1271.99	307.00	0.00	1820.51	1670.12	0.638	1.92	1.92	6.003	A
2	850.00	212.50	850.00	941.99	525.99	0.00	2070.50	1899.66	0.411	0.76	0.76	3.243	A
3	975.00	243.75	975.00	771.99	604.00	0.00	2285.55	1692.89	0.427	0.82	0.82	3.020	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.99	1272.00	307.00	0.00	1820.51	1670.12	0.638	1.92	1.93	6.003	A
2	850.00	212.50	850.00	941.99	525.99	0.00	2070.49	1899.66	0.411	0.76	0.76	3.243	A
3	975.00	243.75	975.00	771.99	604.00	0.00	2285.54	1692.89	0.427	0.82	0.82	3.020	A

Queueing Delay Results for each time segment
Queueing Delay results: (16:15-16:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	27.04	1.80	5.866	A	A
2	11.12	0.74	3.221	A	A
3	11.91	0.79	3.002	A	A

Queueing Delay results: (16:30-16:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	28.67	1.91	6.001	A	A
2	11.43	0.76	3.243	A	A
3	12.22	0.81	3.020	A	A

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	28.83	1.92	6.003	A	A
2	11.46	0.76	3.243	A	A
3	12.24	0.82	3.020	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	28.89	1.93	6.003	A	A
2	11.47	0.76	3.243	A	A
3	12.25	0.82	3.020	A	A

Existing layout - 'With development' 2023 (Baseline 2023 + Operational), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
'With development' 2023 (Baseline 2023 + Operational), AM	'With development' 2023 (Baseline 2023 + Operational)	AM		FLAT	07:30	08:30	60	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				6.05	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1363.00	100.000
2	FLAT	✓	898.00	100.000
3	FLAT	✓	1014.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	4.000	663.000	696.000
	2	540.000	17.000	341.000
	3	641.000	371.000	2.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.49	0.51
	2	0.60	0.02	0.38
	3	0.63	0.37	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		1	2	3
	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.77	9.77	3.66	A	1363.00	1363.00	211.36	9.30	3.52	211.59	9.31
2	0.46	3.80	0.95	A	898.00	898.00	56.08	3.75	0.93	56.09	3.75
3	0.44	3.03	0.85	A	1014.00	1014.00	50.74	3.00	0.85	50.75	3.00

Main Results for each time segment

Main results: (07:30-07:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1348.86	1180.56	388.68	0.00	1768.58	1562.36	0.771	0.00	3.54	9.151	A
2	898.00	224.50	894.26	1042.81	694.73	0.00	1945.69	1863.38	0.462	0.00	0.94	3.752	A
3	1014.00	253.50	1010.61	1030.35	558.64	0.00	2321.66	1842.52	0.437	0.00	0.85	3.013	A

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.67	1184.97	389.99	0.00	1767.74	1562.36	0.771	3.54	3.62	9.754	A
2	898.00	224.50	897.97	1050.83	701.83	0.00	1940.44	1863.38	0.463	0.94	0.94	3.797	A
3	1014.00	253.50	1013.99	1038.82	560.98	0.00	2319.80	1842.52	0.437	0.85	0.85	3.031	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.89	1184.99	390.00	0.00	1767.74	1562.36	0.771	3.62	3.65	9.770	A
2	898.00	224.50	897.99	1050.94	701.94	0.00	1940.36	1863.38	0.463	0.94	0.94	3.798	A
3	1014.00	253.50	1014.00	1038.94	561.00	0.00	2319.79	1842.52	0.437	0.85	0.85	3.031	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.94	1185.00	390.00	0.00	1767.74	1562.36	0.771	3.65	3.66	9.774	A
2	898.00	224.50	898.00	1050.97	701.97	0.00	1940.33	1863.38	0.463	0.94	0.95	3.798	A
3	1014.00	253.50	1014.00	1038.97	561.00	0.00	2319.78	1842.52	0.437	0.85	0.85	3.031	A

Queueing Delay Results for each time segment
Queueing Delay results: (07:30-07:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	48.25	3.22	9.151	A	A
2	13.63	0.91	3.752	A	A
3	12.42	0.83	3.013	A	A

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	53.79	3.59	9.754	A	A
2	14.11	0.94	3.797	A	A
3	12.75	0.85	3.031	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	54.51	3.63	9.770	A	A
2	14.16	0.94	3.798	A	A
3	12.78	0.85	3.031	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	54.82	3.65	9.774	A	A
2	14.18	0.95	3.798	A	A
3	12.79	0.85	3.031	A	A

Existing layout - 'With development' 2023 (Baseline 2023 + Operational), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
'With development' 2023 (Baseline 2023 + Operational), RM	'With development' 2023 (Baseline 2023 + Operational)	RM		FLAT	16:15	17:15	60	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				4.33	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1161.00	100.000
2	FLAT	✓	889.00	100.000
3	FLAT	✓	1001.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	2.000	636.000	523.000
	2	581.000	21.000	287.000
	3	689.000	311.000	1.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.55	0.45
	2	0.65	0.02	0.32
	3	0.69	0.31	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		1	2	3
	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.64	6.16	1.98	A	1161.00	1161.00	116.25	6.01	1.94	116.31	6.01
2	0.43	3.35	0.83	A	889.00	889.00	49.11	3.31	0.82	49.12	3.32
3	0.44	3.08	0.86	A	1001.00	1001.00	50.91	3.05	0.85	50.92	3.05

Main Results for each time segment

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1153.21	1267.50	331.86	0.00	1804.70	1643.18	0.643	0.00	1.95	6.009	A
2	889.00	222.25	885.72	962.60	522.47	0.00	2073.10	1908.68	0.429	0.00	0.82	3.325	A
3	1001.00	250.25	997.60	806.43	601.76	0.00	2287.32	1735.07	0.438	0.00	0.85	3.063	A

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.92	1271.98	333.00	0.00	1803.98	1643.18	0.644	1.95	1.97	6.155	A
2	889.00	222.25	888.98	967.95	525.96	0.00	2070.51	1908.68	0.429	0.82	0.82	3.350	A
3	1001.00	250.25	1000.99	810.96	603.99	0.00	2285.55	1735.07	0.438	0.85	0.85	3.082	A

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.97	1271.99	333.00	0.00	1803.98	1643.18	0.644	1.97	1.97	6.158	A
2	889.00	222.25	889.00	967.98	525.99	0.00	2070.50	1908.68	0.429	0.82	0.83	3.350	A
3	1001.00	250.25	1001.00	810.99	604.00	0.00	2285.55	1735.07	0.438	0.85	0.86	3.082	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.99	1272.00	333.00	0.00	1803.98	1643.18	0.644	1.97	1.98	6.158	A
2	889.00	222.25	889.00	967.99	525.99	0.00	2070.49	1908.68	0.429	0.83	0.83	3.350	A
3	1001.00	250.25	1001.00	810.99	604.00	0.00	2285.54	1735.07	0.438	0.86	0.86	3.082	A

Queueing Delay Results for each time segment
Queueing Delay results: (16:15-16:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	27.67	1.84	6.009	A	A
2	12.00	0.80	3.325	A	A
3	12.46	0.83	3.063	A	A

Queueing Delay results: (16:30-16:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	29.39	1.96	6.155	A	A
2	12.35	0.82	3.350	A	A
3	12.80	0.85	3.082	A	A

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	29.56	1.97	6.158	A	A
2	12.38	0.83	3.350	A	A
3	12.82	0.85	3.082	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	29.63	1.98	6.158	A	A
2	12.39	0.83	3.350	A	A
3	12.83	0.86	3.082	A	A



APPENDIX G
LINSIG OUTPUT – BLUEBELL ROUNDABOUT

User and Project Details

Project:	EfW Red Scar, Preston
Title:	Bluebell Way roundabout
Location:	M6 Jct 31A Southbound on slip junction
Additional detail:	
File name:	J2 - Bluebell roundabout.lsg3x
Author:	
Company:	RSK
Address:	

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		-9999	7
B	Traffic	1		-9999	7
C	Traffic	1		-9999	7
D	Traffic	1		-9999	7
E	Pedestrian	1		-9999	6

Phase Intergreens Matrix

		Starting Phase				
		A	B	C	D	E
Terminating Phase	A	5	-	-	-	-
	B	6	-	-	-	6
	C	-	-	-	6	-
	D	-	-	6	-	-
	E	-	10	-	-	-

Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	1	C	Losing	5	5

Prohibited Stage Change

Stage Stream: 1

		To Stage		
		1	2	3
From Stage	1	6	10	
	2	6	5	
	3	11	6	

Phases in Stage

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

Lane Input Data

Junction: Bluebell Roundabout												
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)
1/1 (Preston East Services Exit)	O		2	3	5.0	Geom	-	3.25	0.00	Y	Arm 10 Ahead	17.00
1/2 (Preston East Services Exit)	O		1	3	60.0	Geom	-	3.25	0.00	Y	Arm 10 Ahead	17.00
2/1 (B6242 southeast Entry)	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 7 Left	28.00
2/2 (B6242 southeast Entry)	U	B	2	3	24.5	Geom	-	3.50	0.00	Y	Arm 12 Ahead	28.00
2/3 (B6242 southeast Entry)	U	B	2	3	10.0	Geom	-	3.50	0.00	Y	Arm 12 Ahead	28.00
3/1 (Bluebell Way Entry)	U	D	2	3	60.0	Geom	-	3.20	0.00	Y	Arm 4 Left	44.00
3/2 (Bluebell Way Entry)	U	D	2	3	6.0	Geom	-	3.60	0.00	Y	Arm 8 Ahead	44.00
3/3 (Bluebell Way Entry)	U	D	2	3	28.3	Geom	-	3.70	0.00	Y	Arm 8 Ahead	44.00
3/4 (Bluebell Way Entry)	U	D	2	3	17.5	Geom	-	3.90	0.00	Y	Arm 8 Ahead	44.00
4/1 (M6 On Slip)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
5/1 (Preston East Services Entry)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
6/1 (B6242 southeast Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
6/2 (B6242 southeast Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
7/1 (Bluebell Way Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
8/1 (Gyratory (N))	U		1	3	14.3	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf

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8/2 (Gyratory (N))	U		2	3	14.3	Geom	-	3.25	0.00	Y	Arm 9 Right	Inf
8/3 (Gyratory (N))	U		2	3	14.3	Geom	-	3.25	0.00	Y	Arm 9 Right	Inf
9/1 (Gyratory (E))	U		1	3	3.7	Geom	-	3.25	0.00	Y	Arm 10 Right	Inf
9/2 (Gyratory (E))	U		1	3	3.7	Geom	-	3.25	0.00	Y	Arm 10 Right	Inf
10/1 (Gyratory (SE))	U		1	3	5.7	Geom	-	3.25	0.00	Y	Arm 6 Ahead	Inf
10/2 (Gyratory (SE))	U		2	3	5.7	Geom	-	3.25	0.00	Y	Arm 6 Ahead	Inf
10/3 (Gyratory (SE))	U		2	3	5.7	Geom	-	3.25	0.00	Y	Arm 11 Right	Inf
10/4 (Gyratory (SE))	U		1	3	5.7	Geom	-	3.25	0.00	Y	Arm 11 Right	Inf
11/1 (Gyratory (S))	U	A	1	3	4.0	Geom	-	3.90	0.00	Y	Arm 7 Ahead	Inf
11/2 (Gyratory (S))	U	A	2	3	4.0	Geom	-	4.60	0.00	Y	Arm 12 Right	Inf
12/1 (Gyratory (W))	U	C	1	3	5.2	Geom	-	3.25	0.00	Y	Arm 4 Left	Inf
12/2 (Gyratory (W))	U	C	2	3	5.2	Geom	-	3.25	0.00	Y	Arm 8 Right	Inf

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
3: 'Baseline 2023 (Forecast 2023 + Committed) AM'	07:30	08:30	01:00	

Traffic Flows, Desired

FG1: 'Existing 2019 AM'

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	4	115	24	124	267
	B	150	1	93	583	827
	C	252	991	2	569	1814
	D	0	0	0	0	0
	Tot.	406	1107	119	1276	2908

FG2: 'Existing 2019 PM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	2	125	61	157	345
	B	58	5	161	687	911
	C	138	641	27	807	1613
	D	0	0	0	0	0
	Tot.	198	771	249	1651	2869

FG3: 'Baseline 2023 (Forecast 2023 + Committed) AM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	4	121	25	130	280
	B	158	1	98	721	978
	C	265	1087	2	598	1952
	D	0	0	0	0	0
	Tot.	427	1209	125	1449	3210

FG4: 'Baseline 2023 (Forecast 2023 + Committed) PM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	2	131	64	164	361
	B	61	5	169	785	1020
	C	144	781	28	844	1797
	D	0	0	0	0	0
	Tot.	207	917	261	1793	3178

FG5: "With development" 2023 (Baseline 2023 + Operational) AM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	4	121	25	130	280
	B	158	1	98	747	1004
	C	265	1126	2	598	1991
	D	0	0	0	0	0
	Tot.	427	1248	125	1475	3275

FG6: "With development" 2023 (Baseline 2023 + Operational) PM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	2	131	64	164	361
	B	61	5	169	824	1059
	C	144	806	28	844	1822
	D	0	0	0	0	0
	Tot.	207	942	261	1832	3242

FG7: 'Baseline 2029 (Forecast 2029 + Committed) AM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	5	128	27	137	297
	B	167	1	103	756	1027
	C	280	1146	2	632	2060
	D	0	0	0	0	0
	Tot.	452	1275	132	1525	3384

FG8: 'Baseline 2029 (Forecast 2029 + Committed) PM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	2	138	67	173	380
	B	64	6	177	824	1071
	C	152	816	30	889	1887
	D	0	0	0	0	0
	Tot.	218	960	274	1886	3338

FG9: "With development" 2029 (Baseline 2029 + Operational) AM'

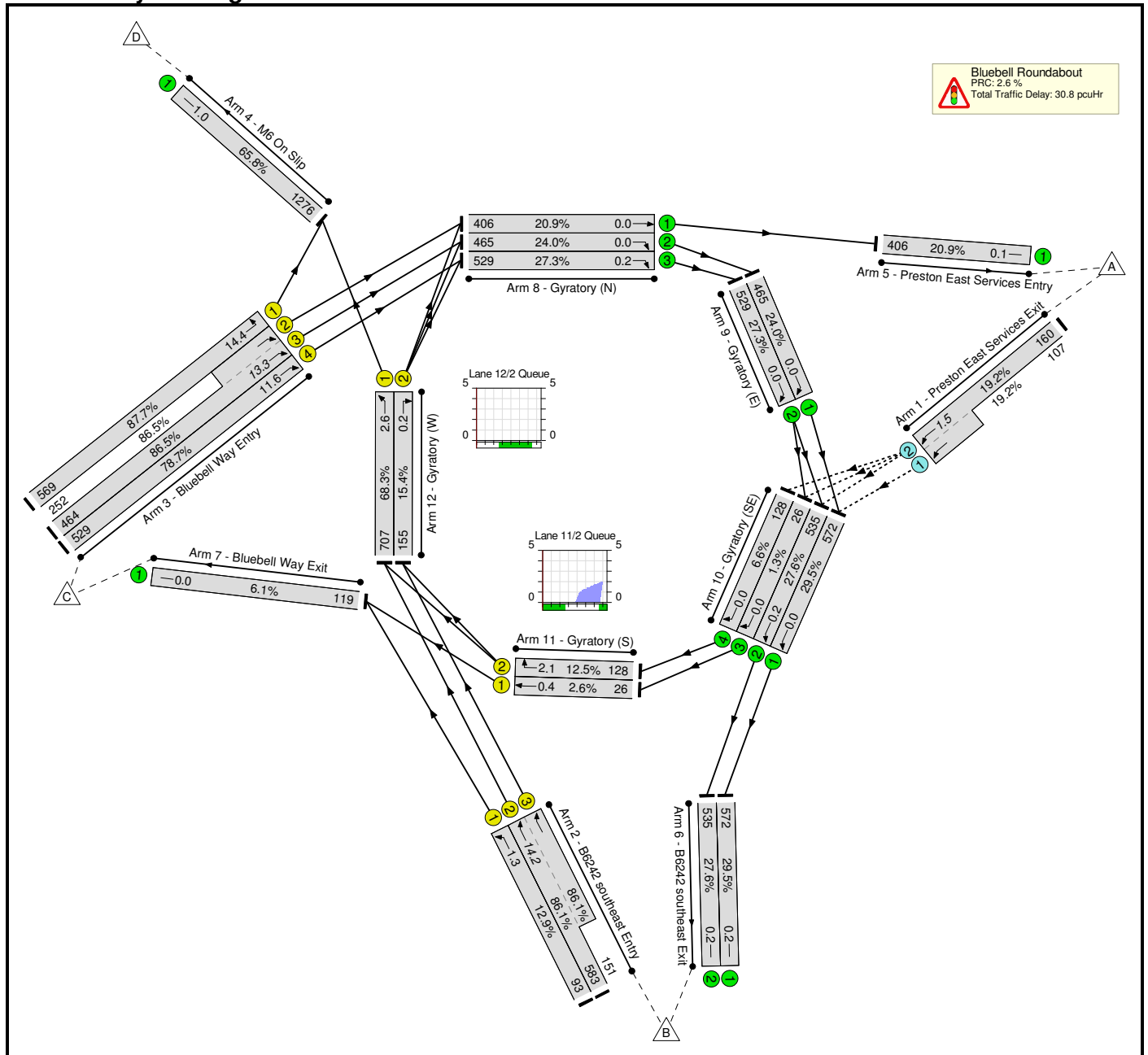
Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	5	128	27	137	297
	B	167	1	103	781	1052
	C	280	1184	2	632	2098
	D	0	0	0	0	0
	Tot.	452	1313	132	1550	3447

FG10: "With development" 2029 (Baseline 2029 + Operational) PM'
Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	2	138	67	173	380
	B	64	6	177	862	1109
	C	152	842	30	889	1913
	D	0	0	0	0	0
	Tot.	218	986	274	1924	3402

Scenario 1: 'Existing 2019 AM' (FG1: 'Existing 2019 AM', Plan 1: 'Network Control Plan 1')
Network Layout Diagram



Network Results

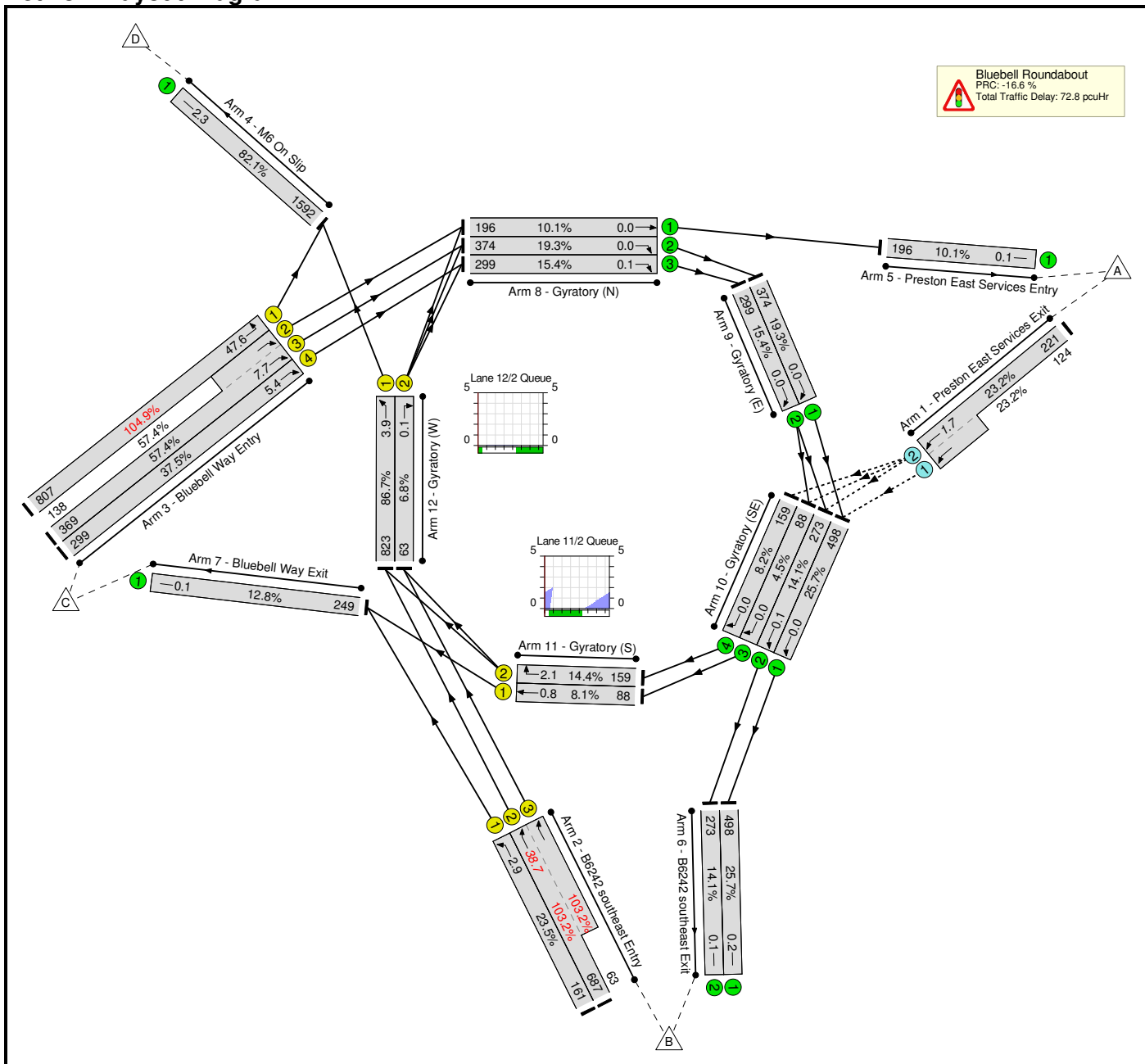
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	87.7%	17.5	13.4	30.8	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	87.7%	17.5	13.4	30.8	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	267	1783:1783	833+557	19.2 : 19.2%	0.4	0.1	0.5 (0.3+0.2)	6.7 (6.8:6.5)	1.3	0.1	1.5	-
2/1	B6242 southeast Entry Left	1	B	1	28	93	1865	721	12.9%	0.4	0.1	0.5	17.7	1.2	0.1	1.3	1.1
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	28	734	1865:1865	678+175	86.1 : 86.1%	4.0	2.9	6.9 (5.7+1.3)	33.9 (34.9:29.9)	11.2	2.9	14.2	7.1
3/1	Bluebell Way Entry Left	1	D	1	25	569	1871	649	87.7%	3.6	3.3	6.9	43.9	11.1	3.3	14.4	7.4
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	25	716	1920:1910	536+291	86.5 : 86.5%	4.1	3.0	7.2 (4.7+2.5)	36.1 (36.7:35.1)	10.3	3.0	13.3	6.1
3/4	Bluebell Way Entry Ahead	1	D	1	25	529	1939	672	78.7%	3.2	1.8	5.0	34.3	9.8	1.8	11.6	6.9
4/1	M6 On Slip	N/A	-	-	-	1276	1940	1940	65.8%	0.0	1.0	1.0	2.7	0.0	1.0	1.0	-
5/1	Preston East Services Entry	N/A	-	-	-	406	1940	1940	20.9%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	572	1940	1940	29.5%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	535	1940	1940	27.6%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
7/1	Bluebell Way Exit	N/A	-	-	-	119	1940	1940	6.1%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	406	1940	1940	20.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	465	1940	1940	24.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	529	1940	1940	27.3%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
9/1	Gyratory (E) Right	N/A	-	-	-	465	1940	1940	24.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	529	1940	1940	27.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	572	1940	1940	29.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	535	1940	1940	27.6%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
10/3	Gyratory (SE) Right	N/A	-	-	-	26	1940	1940	1.3%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	128	1940	1940	6.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	36	26	2005	1016	2.6%	0.1	0.0	0.1	15.0	0.4	0.0	0.4	0.4
11/2	Gyratory (S) Right	1	A	1	36	128	2075	1024	12.5%	0.5	0.1	0.6	17.3	2.0	0.1	2.1	1.8
12/1	Gyratory (W) Left	1	C	1	38	707	1940	1035	68.3%	1.0	0.0	1.0	5.3	2.6	0.0	2.6	2.6
12/2	Gyratory (W) Right	1	C	1	38	155	1940	1009	15.4%	0.0	0.1	0.1	2.9	0.1	0.1	0.2	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 2.6 Total Delay for Signalled Lanes (pcuHr): 28.42 Cycle Time (s): 75
 PRC Over All Lanes (%): 2.6 Total Delay Over All Lanes(pcuHr): 30.82

Network Layout Diagram



Network Results

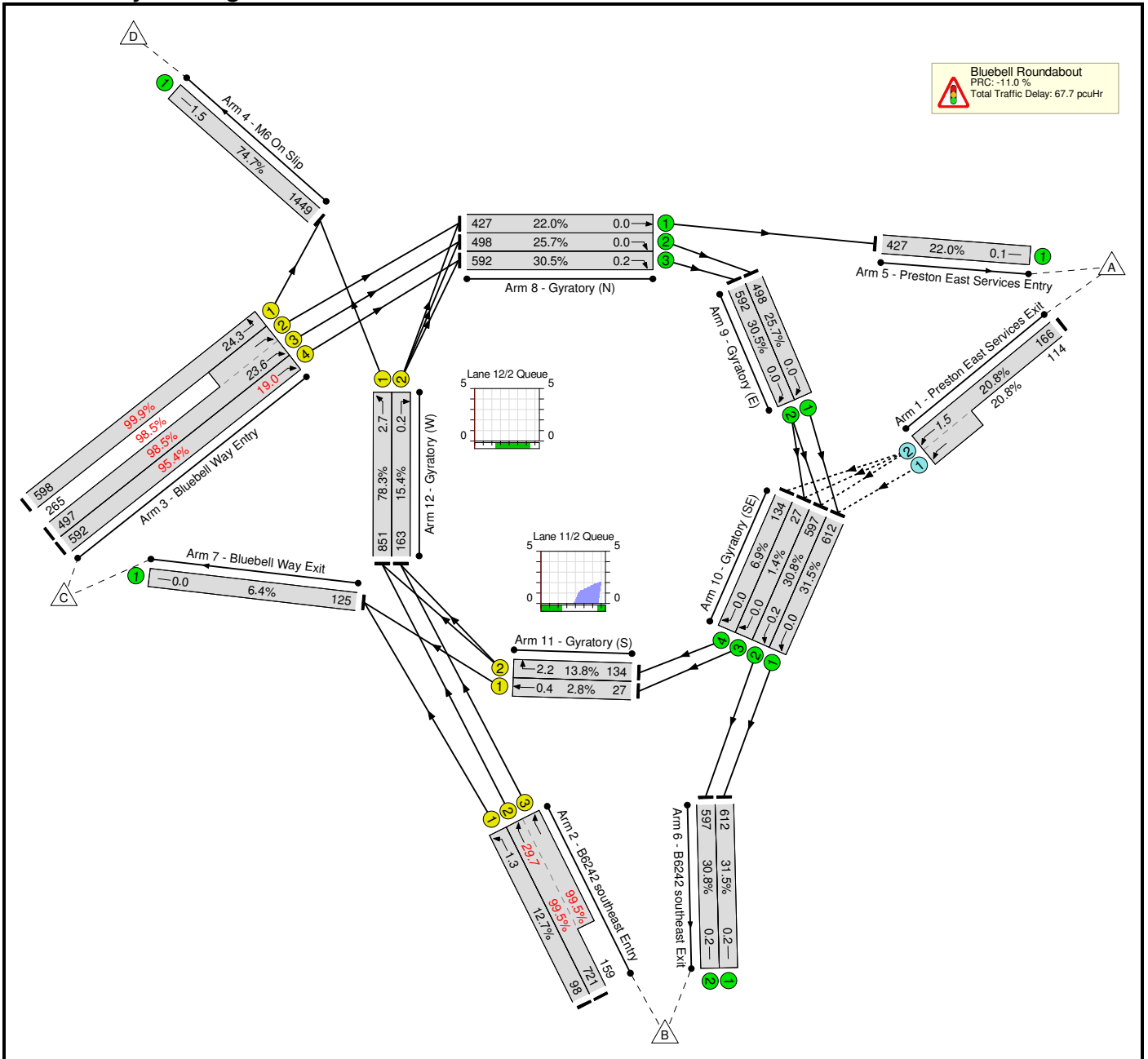
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	104.9%	21.3	51.5	72.8	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	104.9%	21.3	51.5	72.8	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	345	1783:1783	951+533	23.2 : 23.2%	0.2	0.2	0.4 (0.2+0.1)	3.8 (4.0:3.5)	1.5	0.2	1.7	-
2/1	B6242 southeast Entry Left	1	B	1	32	161	1865	684	23.5%	0.9	0.2	1.0	23.2	2.8	0.2	2.9	2.5
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	32	750	1865:1865	666+61	103.2 : 103.2%	6.5	20.7	27.1 (24.9+2.2)	130.2 (130.7:125.6)	18.0	20.7	38.7	11.1
3/1	Bluebell Way Entry Left	1	D	1	36	807	1871	769	104.9%	7.5	26.5	34.0	151.8	21.1	26.5	47.6	12.4
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	36	507	1920:1910	643+241	57.4 : 57.4%	2.6	0.7	3.3 (2.5+0.8)	23.5 (24.1:21.8)	7.0	0.7	7.7	5.2
3/4	Bluebell Way Entry Ahead	1	D	1	36	299	1939	797	37.5%	1.5	0.3	1.8	22.1	5.1	0.3	5.4	4.2
4/1	M6 On Slip	N/A	-	-	-	1651	1940	1940	82.1%	0.0	2.3	2.3	5.1	0.0	2.3	2.3	-
5/1	Preston East Services Entry	N/A	-	-	-	198	1940	1940	10.1%	0.0	0.1	0.1	1.0	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	498	1940	1940	25.7%	0.0	0.2	0.2	1.2	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	273	1940	1940	14.1%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
7/1	Bluebell Way Exit	N/A	-	-	-	249	1940	1940	12.8%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-

LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	198	1940	1940	10.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	374	1940	1940	19.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	299	1940	1940	15.4%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
9/1	Gyratory (E) Right	N/A	-	-	-	374	1940	1940	19.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	299	1940	1940	15.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	498	1940	1940	25.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	273	1940	1940	14.1%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
10/3	Gyratory (SE) Right	N/A	-	-	-	88	1940	1940	4.5%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	159	1940	1940	8.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	47	88	2005	1092	8.1%	0.2	0.0	0.2	10.0	0.8	0.0	0.8	0.8
11/2	Gyratory (S) Right	1	A	1	47	159	2075	1107	14.4%	0.5	0.1	0.6	12.8	2.0	0.1	2.1	1.8
12/1	Gyratory (W) Left	1	C	1	42	844	1940	948	86.7%	1.4	0.0	1.4	6.0	3.9	0.0	3.9	3.3
12/2	Gyratory (W) Right	1	C	1	42	65	1940	927	6.8%	0.0	0.0	0.1	3.1	0.0	0.0	0.1	0.0

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -16.6 Total Delay for Signalled Lanes (pcuHr): 69.57 Cycle Time (s): 90
 PRC Over All Lanes (%): -16.6 Total Delay Over All Lanes(pcuHr): 72.77

Network Layout Diagram



Network Results

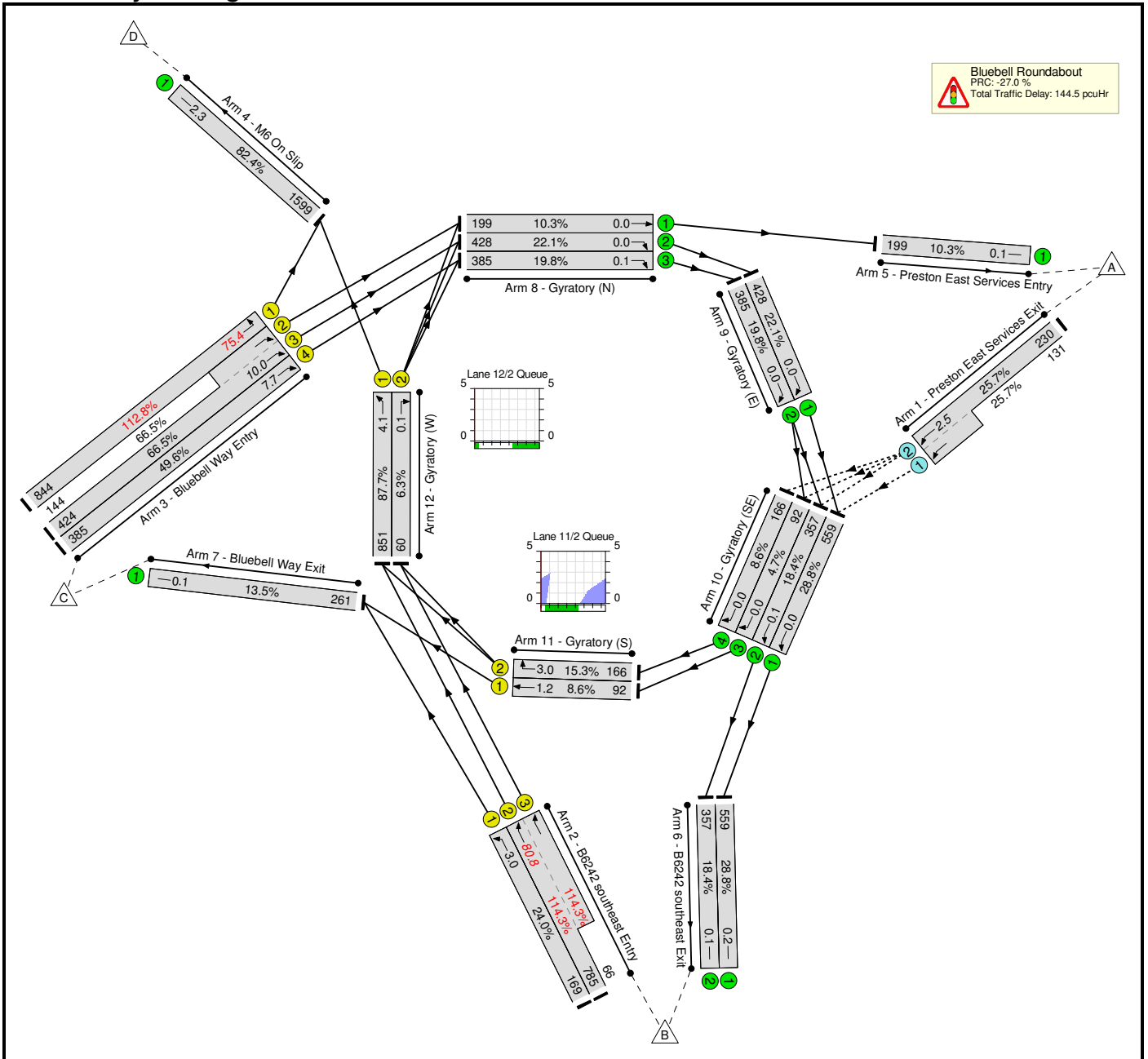
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	99.9%	20.8	46.9	67.7	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	99.9%	20.8	46.9	67.7	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	280	1783:1783	798+548	20.8 : 20.8%	0.4	0.1	0.5 (0.3+0.2)	7.0 (7.1:6.8)	1.4	0.1	1.5	-
2/1	B6242 southeast Entry Left	1	B	1	30	98	1865	771	12.7%	0.4	0.1	0.4	16.3	1.3	0.1	1.3	1.1
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	30	880	1865:1865	724+160	99.5 : 99.5%	5.0	13.8	18.8 (15.6+3.2)	76.8 (77.7:72.8)	15.9	13.8	29.7	8.4
3/1	Bluebell Way Entry Left	1	D	1	23	598	1871	599	99.9%	4.2	12.0	16.3	98.0	12.3	12.0	24.3	8.1
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	23	762	1920:1910	505+269	98.5 : 98.5%	5.0	11.2	16.1 (10.6+5.5)	76.3 (76.8:75.3)	12.5	11.2	23.6	7.2
3/4	Bluebell Way Entry Ahead	1	D	1	23	592	1939	620	95.4%	4.1	7.0	11.1	67.4	12.0	7.0	19.0	8.1
4/1	M6 On Slip	N/A	-	-	-	1449	1940	1940	74.7%	0.0	1.5	1.5	3.6	0.0	1.5	1.5	-
5/1	Preston East Services Entry	N/A	-	-	-	427	1940	1940	22.0%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	612	1940	1940	31.5%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	597	1940	1940	30.8%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
7/1	Bluebell Way Exit	N/A	-	-	-	125	1940	1940	6.4%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	427	1940	1940	22.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	498	1940	1940	25.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	592	1940	1940	30.5%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
9/1	Gyratory (E) Right	N/A	-	-	-	498	1940	1940	25.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	592	1940	1940	30.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	612	1940	1940	31.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	597	1940	1940	30.8%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
10/3	Gyratory (SE) Right	N/A	-	-	-	27	1940	1940	1.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	134	1940	1940	6.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	34	27	2005	962	2.8%	0.1	0.0	0.1	15.4	0.4	0.0	0.4	0.4
11/2	Gyratory (S) Right	1	A	1	34	134	2075	968	13.8%	0.6	0.1	0.6	17.3	2.1	0.1	2.2	1.9
12/1	Gyratory (W) Left	1	C	1	40	851	1940	1086	78.3%	1.0	0.0	1.0	4.4	2.7	0.0	2.7	2.7
12/2	Gyratory (W) Right	1	C	1	40	163	1940	1061	15.4%	0.0	0.1	0.1	2.7	0.1	0.1	0.2	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -11.0 Total Delay for Signalled Lanes (pcuHr): 64.66 Cycle Time (s): 75
 PRC Over All Lanes (%): -11.0 Total Delay Over All Lanes(pcuHr): 67.74

Network Layout Diagram



Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	114.3%	30.7	113.9	144.5	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	114.3%	30.7	113.9	144.5	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	361	1783:1783	895+510	25.7 : 25.7%	0.4	0.2	0.6 (0.4+0.2)	5.7 (6.1:5.0)	2.3	0.2	2.5	-
2/1	B6242 southeast Entry Left	1	B	1	33	169	1865	705	24.0%	0.9	0.2	1.1	22.5	2.9	0.2	3.0	2.5
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	33	851	1865:1865	687+58	114.3 : 114.3%	10.8	57.0	67.8 (62.6+5.2)	286.9 (287.2:282.7)	23.8	57.0	80.8	15.8
3/1	Bluebell Way Entry Left	1	D	1	35	844	1871	748	112.8%	10.3	51.9	62.2	265.2	23.5	51.9	75.4	14.6
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	35	568	1920:1910	638+217	66.5 : 66.5%	3.2	1.0	4.2 (3.2+1.0)	26.6 (27.1:25.1)	9.0	1.0	10.0	6.2
3/4	Bluebell Way Entry Ahead	1	D	1	35	385	1939	776	49.6%	2.2	0.5	2.7	24.8	7.2	0.5	7.7	5.6
4/1	M6 On Slip	N/A	-	-	-	1793	1940	1940	82.4%	0.0	2.3	2.3	5.2	0.0	2.3	2.3	-
5/1	Preston East Services Entry	N/A	-	-	-	207	1940	1940	10.3%	0.0	0.1	0.1	1.0	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	560	1940	1940	28.8%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	357	1940	1940	18.4%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
7/1	Bluebell Way Exit	N/A	-	-	-	261	1940	1940	13.5%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-

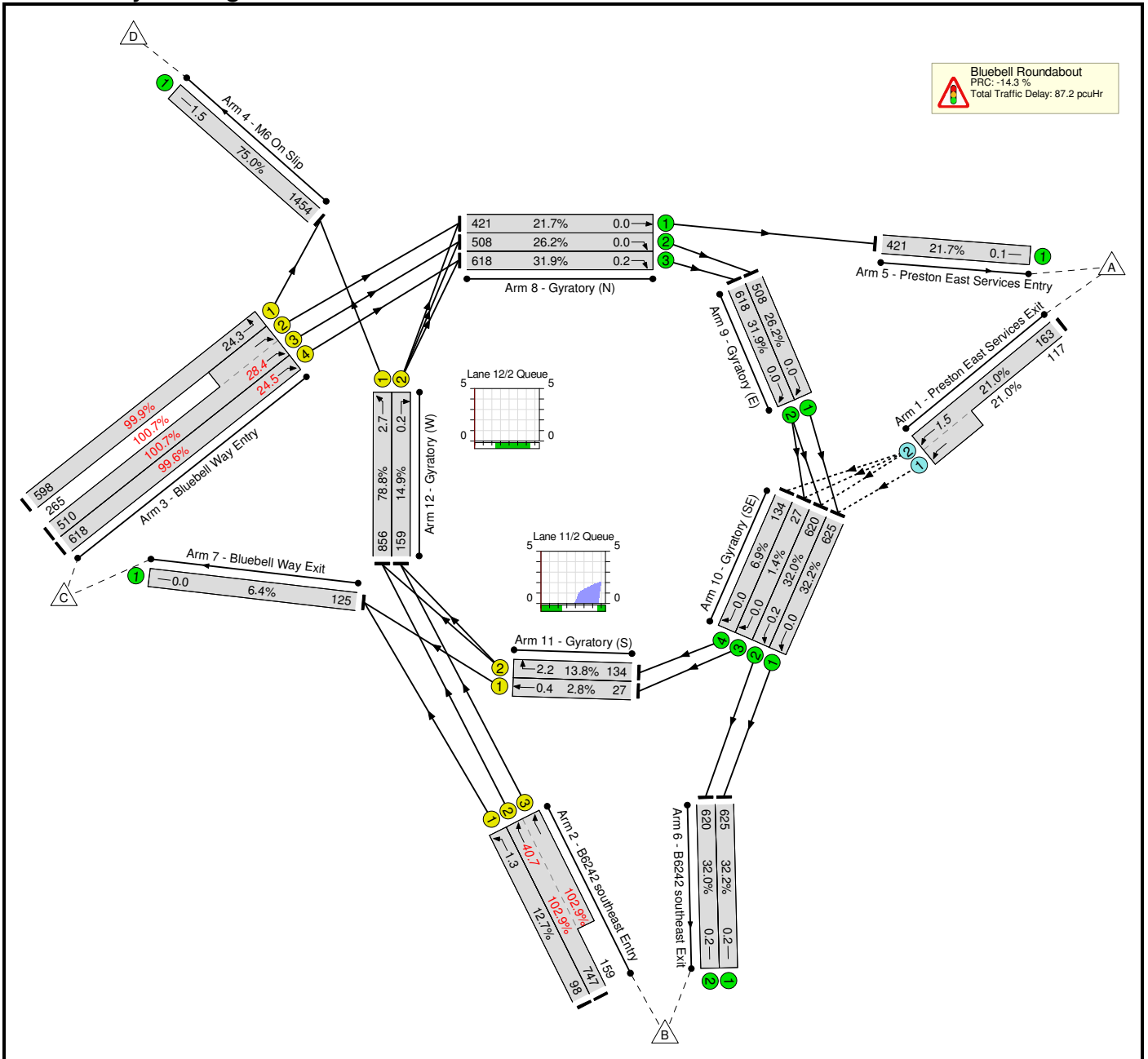
LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	207	1940	1940	10.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	429	1940	1940	22.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	385	1940	1940	19.8%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
9/1	Gyratory (E) Right	N/A	-	-	-	429	1940	1940	22.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	385	1940	1940	19.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	560	1940	1940	28.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	357	1940	1940	18.4%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
10/3	Gyratory (SE) Right	N/A	-	-	-	92	1940	1940	4.7%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	166	1940	1940	8.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	46	92	2005	1069	8.6%	0.3	0.0	0.4	14.7	1.1	0.0	1.2	1.1
11/2	Gyratory (S) Right	1	A	1	46	166	2075	1084	15.3%	0.8	0.1	0.9	20.3	2.9	0.1	3.0	2.6
12/1	Gyratory (W) Left	1	C	1	43	949	1940	970	87.7%	1.7	0.0	1.7	7.2	4.1	0.0	4.1	3.7
12/2	Gyratory (W) Right	1	C	1	43	68	1940	948	6.3%	0.0	0.0	0.1	3.2	0.0	0.0	0.1	0.0

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -27.0 Total Delay for Signalled Lanes (pcuHr): 140.95 Cycle Time (s): 90
 PRC Over All Lanes (%): -27.0 Total Delay Over All Lanes(pcuHr): 144.55

Scenario 5: "With development" 2023 (Baseline 2023 + Operational) AM' (FG5: "With development" 2023 (Baseline 2023 + Operational) AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	102.9%	22.3	64.8	87.2	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	102.9%	22.3	64.8	87.2	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	280	1783:1783	774+556	21.0 : 21.0%	0.4	0.1	0.6 (0.3+0.2)	7.3 (7.4:7.1)	1.4	0.1	1.5	-
2/1	B6242 southeast Entry Left	1	B	1	30	98	1865	771	12.7%	0.4	0.1	0.4	16.3	1.3	0.1	1.3	1.1
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	30	906	1865:1865	726+155	102.9 : 102.9%	5.9	22.7	28.6 (23.8+4.8)	113.6 (114.5:109.6)	18.0	22.7	40.7	9.2
3/1	Bluebell Way Entry Left	1	D	1	23	598	1871	599	99.9%	4.2	12.0	16.3	98.0	12.3	12.0	24.3	8.1
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	23	775	1920:1910	507+263	100.7 : 100.7%	5.3	15.3	20.6 (13.6+7.0)	95.6 (96.1:94.6)	13.1	15.3	28.4	7.6
3/4	Bluebell Way Entry Ahead	1	D	1	23	618	1939	620	99.6%	4.4	11.8	16.2	94.3	12.7	11.8	24.5	8.4
4/1	M6 On Slip	N/A	-	-	-	1475	1940	1940	75.0%	0.0	1.5	1.5	3.7	0.0	1.5	1.5	-
5/1	Preston East Services Entry	N/A	-	-	-	427	1940	1940	21.7%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	628	1940	1940	32.2%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	620	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
7/1	Bluebell Way Exit	N/A	-	-	-	125	1940	1940	6.4%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

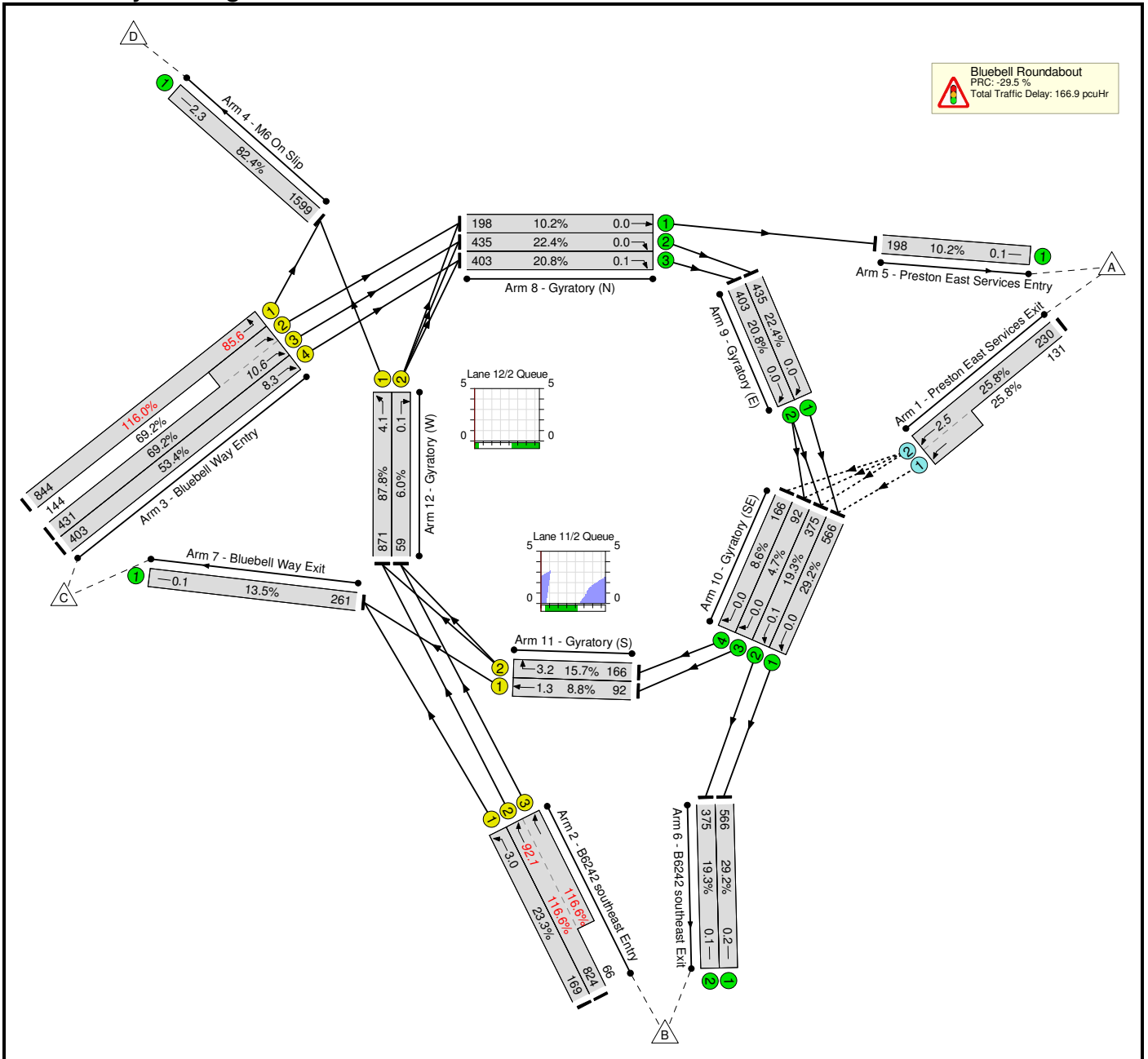
LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	427	1940	1940	21.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	511	1940	1940	26.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	618	1940	1940	31.9%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
9/1	Gyratory (E) Right	N/A	-	-	-	511	1940	1940	26.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	618	1940	1940	31.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	628	1940	1940	32.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	620	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
10/3	Gyratory (SE) Right	N/A	-	-	-	27	1940	1940	1.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	134	1940	1940	6.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	34	27	2005	962	2.8%	0.1	0.0	0.1	15.1	0.4	0.0	0.4	0.4
11/2	Gyratory (S) Right	1	A	1	34	134	2075	968	13.8%	0.6	0.1	0.6	17.0	2.1	0.1	2.2	1.9
12/1	Gyratory (W) Left	1	C	1	40	877	1940	1086	78.8%	1.0	0.0	1.0	4.4	2.7	0.0	2.7	2.7
12/2	Gyratory (W) Right	1	C	1	40	163	1940	1061	14.9%	0.0	0.1	0.1	2.7	0.1	0.1	0.2	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -14.3 Total Delay for Signalled Lanes (pcuHr): 84.00 Cycle Time (s): 75
 PRC Over All Lanes (%): -14.3 Total Delay Over All Lanes(pcuHr): 87.17

Scenario 6: "With development" 2023 (Baseline 2023 + Operational) PM' (FG6: "With development" 2023 (Baseline 2023 + Operational) PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



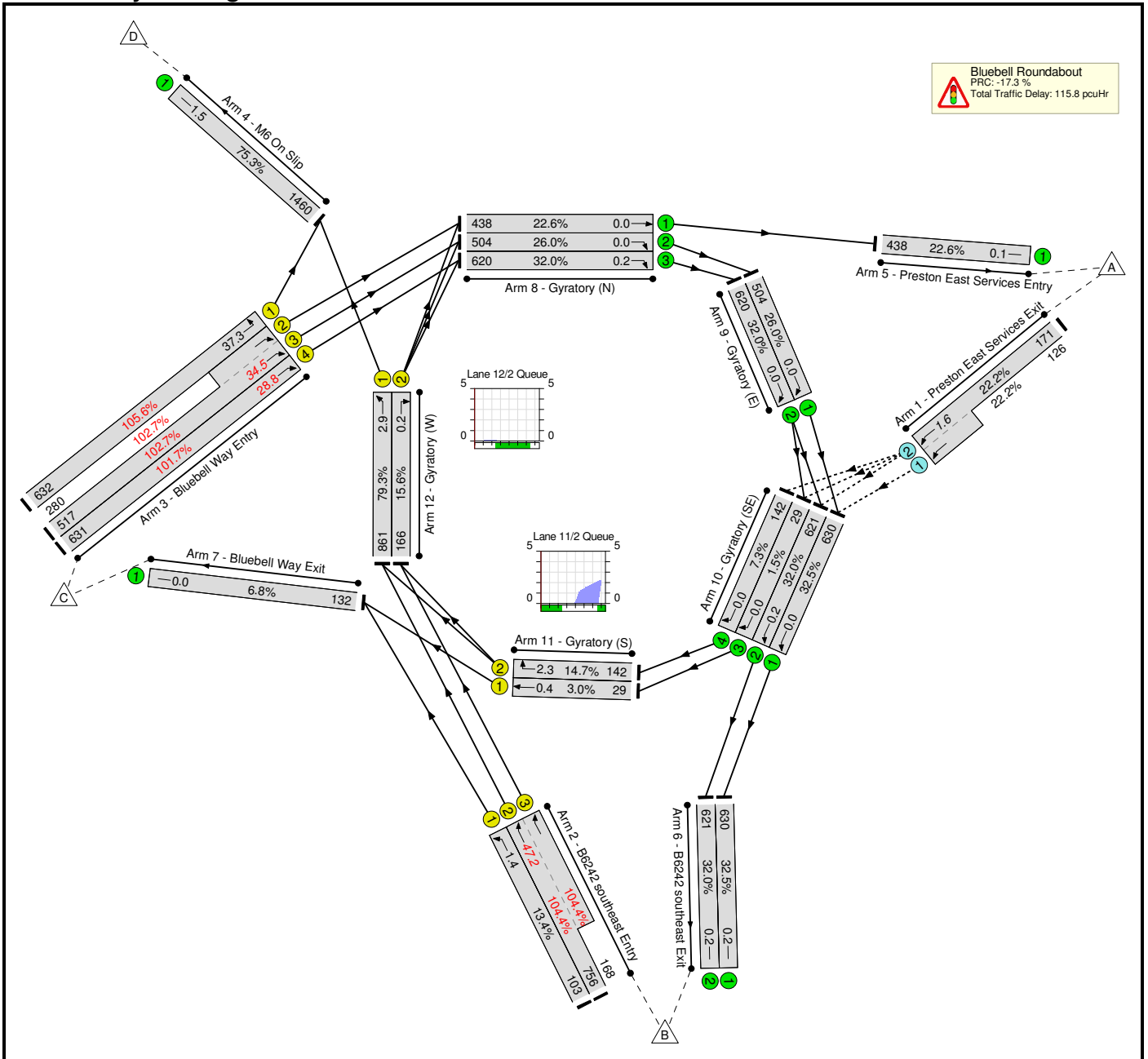
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	116.6%	33.5	133.4	166.9	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	116.6%	33.5	133.4	166.9	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	361	1783:1783	891+507	25.8 : 25.8%	0.4	0.2	0.6 (0.4+0.2)	6.2 (6.6:5.4)	2.3	0.2	2.5	-
2/1	B6242 southeast Entry Left	1	B	1	34	169	1865	725	23.3%	0.9	0.2	1.0	21.7	2.8	0.2	3.0	2.5
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	34	890	1865:1865	707+57	116.6 : 116.6%	12.0	66.5	78.6 (72.8+5.8)	317.8 (318.1:313.8)	25.5	66.5	92.1	17.1
3/1	Bluebell Way Entry Left	1	D	1	34	844	1871	728	116.0%	11.3	61.6	72.9	311.0	24.0	61.6	85.6	15.3
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	34	575	1920:1910	623+208	69.2 : 69.2%	3.4	1.1	4.5 (3.4+1.1)	28.3 (28.8:26.7)	9.5	1.1	10.6	6.5
3/4	Bluebell Way Entry Ahead	1	D	1	34	403	1939	754	53.4%	2.4	0.6	2.9	26.3	7.7	0.6	8.3	5.9
4/1	M6 On Slip	N/A	-	-	-	1832	1940	1940	82.4%	0.0	2.3	2.3	5.2	0.0	2.3	2.3	-
5/1	Preston East Services Entry	N/A	-	-	-	207	1940	1940	10.2%	0.0	0.1	0.1	1.0	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	567	1940	1940	29.2%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	375	1940	1940	19.3%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
7/1	Bluebell Way Exit	N/A	-	-	-	261	1940	1940	13.5%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-

LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	207	1940	1940	10.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	436	1940	1940	22.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	403	1940	1940	20.8%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
9/1	Gyratory (E) Right	N/A	-	-	-	436	1940	1940	22.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	403	1940	1940	20.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	567	1940	1940	29.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	375	1940	1940	19.3%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
10/3	Gyratory (SE) Right	N/A	-	-	-	92	1940	1940	4.7%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	166	1940	1940	8.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	45	92	2005	1047	8.8%	0.4	0.0	0.4	16.1	1.2	0.0	1.3	1.2
11/2	Gyratory (S) Right	1	A	1	45	166	2075	1061	15.7%	0.9	0.1	1.0	22.4	3.1	0.1	3.2	2.8
12/1	Gyratory (W) Left	1	C	1	44	988	1940	992	87.8%	1.7	0.0	1.7	7.2	4.1	0.0	4.1	3.9
12/2	Gyratory (W) Right	1	C	1	44	68	1940	970	6.0%	0.0	0.0	0.1	3.2	0.0	0.0	0.1	0.0
C1 - M25 Junction 6 North							Stream: 1	PRC for Signalled Lanes (%):	-29.5	Total Delay for Signalled Lanes (pcuHr):	163.20	Cycle Time (s):	90				
								PRC Over All Lanes (%):	-29.5	Total Delay Over All Lanes(pcuHr):	166.86						

Network Layout Diagram



Network Results

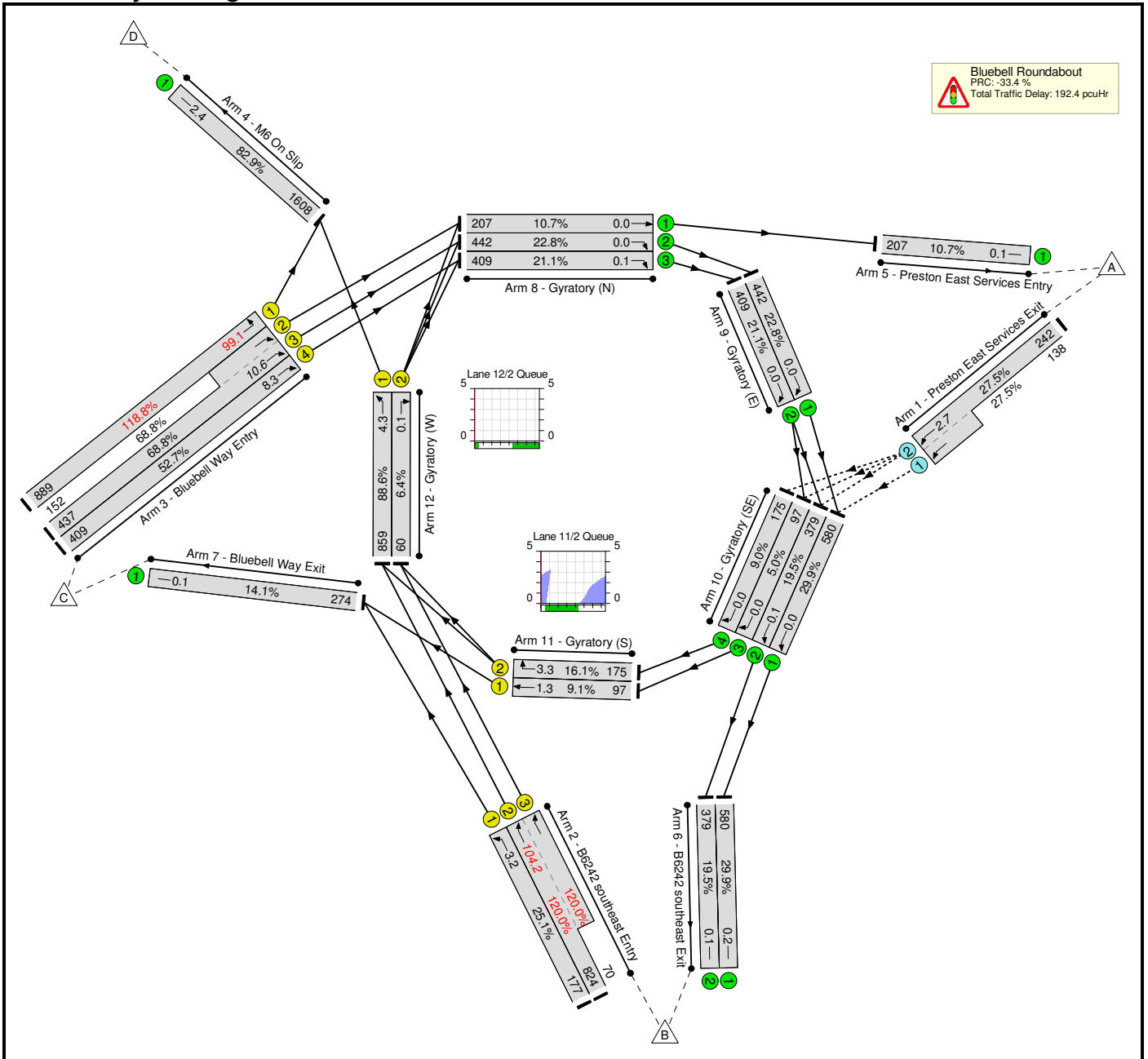
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	105.6%	25.8	90.0	115.8	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	105.6%	25.8	90.0	115.8	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	297	1783:1783	769+566	22.2 : 22.2%	0.5	0.1	0.6 (0.4+0.3)	7.4 (7.5:7.2)	1.5	0.1	1.6	-
2/1	B6242 southeast Entry Left	1	B	1	30	103	1865	771	13.4%	0.4	0.1	0.5	16.4	1.3	0.1	1.4	1.2
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	30	924	1865:1865	724+161	104.4 : 104.4%	6.4	27.8	34.2 (28.1+6.0)	133.1 (134.0:129.2)	19.4	27.8	47.2	9.5
3/1	Bluebell Way Entry Left	1	D	1	23	632	1871	599	105.6%	5.8	23.4	29.2	166.2	13.9	23.4	37.3	10.0
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	23	797	1920:1910	503+273	102.7 : 102.7%	6.1	20.3	26.3 (17.2+9.2)	118.9 (119.4:118.0)	14.2	20.3	34.5	8.5
3/4	Bluebell Way Entry Ahead	1	D	1	23	631	1939	620	101.7%	4.9	15.5	20.3	116.1	13.4	15.5	28.8	9.0
4/1	M6 On Slip	N/A	-	-	-	1525	1940	1940	75.3%	0.0	1.5	1.5	3.7	0.0	1.5	1.5	-
5/1	Preston East Services Entry	N/A	-	-	-	452	1940	1940	22.6%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	644	1940	1940	32.5%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	631	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
7/1	Bluebell Way Exit	N/A	-	-	-	132	1940	1940	6.8%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	452	1940	1940	22.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	518	1940	1940	26.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	631	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
9/1	Gyratory (E) Right	N/A	-	-	-	518	1940	1940	26.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	631	1940	1940	32.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	644	1940	1940	32.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	631	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
10/3	Gyratory (SE) Right	N/A	-	-	-	29	1940	1940	1.5%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	142	1940	1940	7.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	34	29	2005	962	3.0%	0.1	0.0	0.1	15.1	0.4	0.0	0.4	0.4
11/2	Gyratory (S) Right	1	A	1	34	142	2075	968	14.7%	0.6	0.1	0.7	17.0	2.2	0.1	2.3	2.0
12/1	Gyratory (W) Left	1	C	1	40	893	1940	1086	79.3%	1.1	0.0	1.1	4.6	2.9	0.0	2.9	2.9
12/2	Gyratory (W) Right	1	C	1	40	173	1940	1061	15.6%	0.0	0.1	0.1	2.9	0.1	0.1	0.2	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -17.3 Total Delay for Signalled Lanes (pcuHr): 112.51 Cycle Time (s): 75
 PRC Over All Lanes (%): -17.3 Total Delay Over All Lanes(pcuHr): 115.76

Network Layout Diagram



Network Results

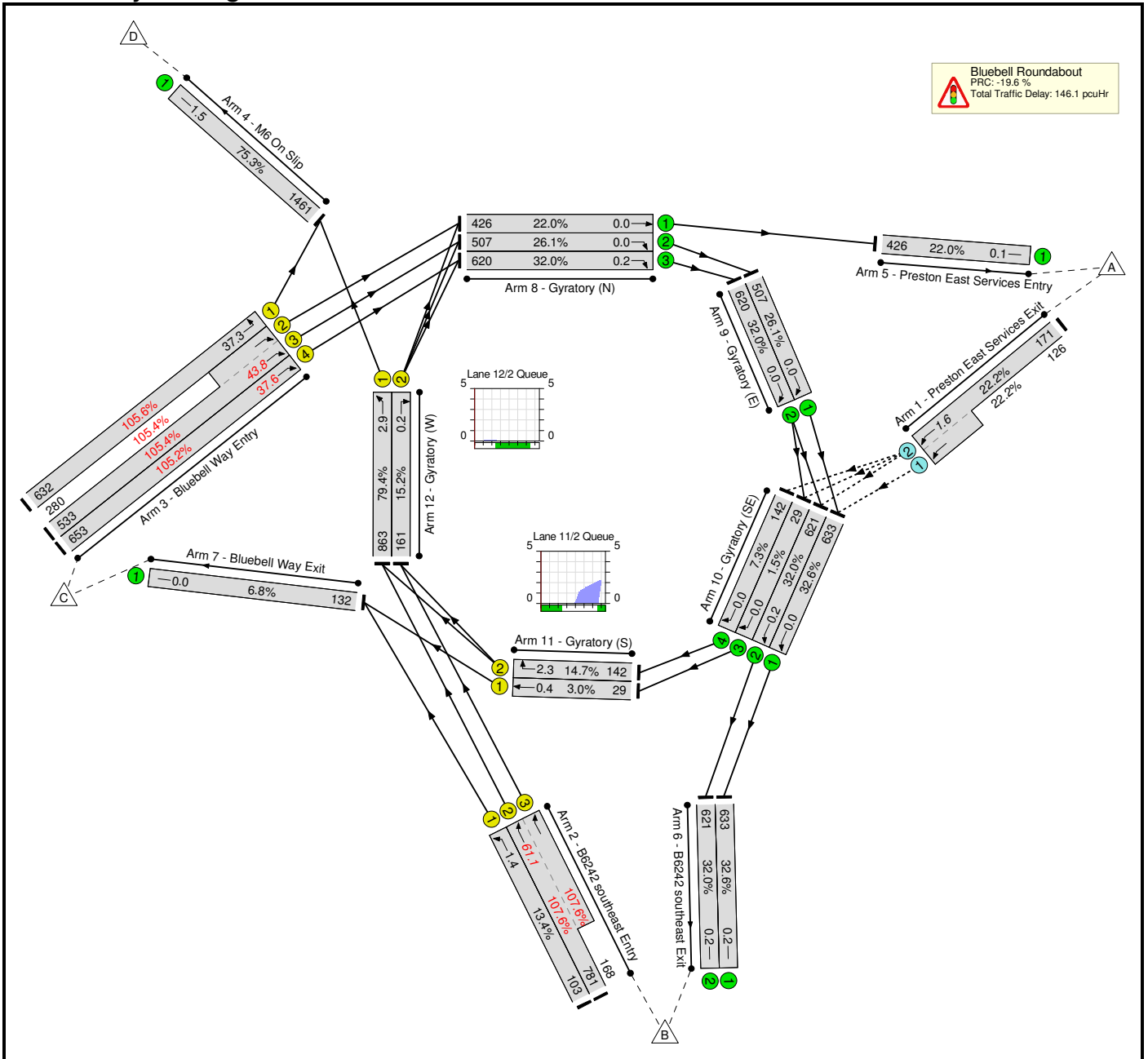
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	120.0%	36.2	156.1	192.4	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	120.0%	36.2	156.1	192.4	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	380	1783:1783	881+502	27.5 : 27.5%	0.5	0.2	0.7 (0.5+0.2)	6.5 (6.9:5.6)	2.6	0.2	2.7	-
2/1	B6242 southeast Entry Left	1	B	1	33	177	1865	705	25.1%	0.9	0.2	1.1	22.7	3.0	0.2	3.2	2.7
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	33	894	1865:1865	686+58	120.0 : 120.0%	13.4	77.5	90.9 (83.8+7.0)	365.9 (366.2:361.9)	26.7	77.5	104.2	18.5
3/1	Bluebell Way Entry Left	1	D	1	35	889	1871	748	118.8%	12.5	73.3	85.8	347.6	25.7	73.3	99.1	16.4
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	35	589	1920:1910	635+221	68.8 : 68.8%	3.4	1.1	4.5 (3.4+1.1)	27.3 (27.8:25.8)	9.5	1.1	10.6	6.4
3/4	Bluebell Way Entry Ahead	1	D	1	35	409	1939	776	52.7%	2.3	0.6	2.9	25.4	7.7	0.6	8.3	5.9
4/1	M6 On Slip	N/A	-	-	-	1886	1940	1940	82.9%	0.0	2.4	2.4	5.3	0.0	2.4	2.4	-
5/1	Preston East Services Entry	N/A	-	-	-	218	1940	1940	10.7%	0.0	0.1	0.1	1.0	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	581	1940	1940	29.9%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	379	1940	1940	19.5%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
7/1	Bluebell Way Exit	N/A	-	-	-	274	1940	1940	14.1%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-

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8/1	Gyratory (N) Ahead	N/A	-	-	-	218	1940	1940	10.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	443	1940	1940	22.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	409	1940	1940	21.1%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
9/1	Gyratory (E) Right	N/A	-	-	-	443	1940	1940	22.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	409	1940	1940	21.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	581	1940	1940	29.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	379	1940	1940	19.5%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
10/3	Gyratory (SE) Right	N/A	-	-	-	97	1940	1940	5.0%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	175	1940	1940	9.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	46	97	2005	1069	9.1%	0.4	0.0	0.4	15.4	1.3	0.0	1.3	1.2
11/2	Gyratory (S) Right	1	A	1	46	175	2075	1084	16.1%	0.9	0.1	1.0	21.5	3.2	0.1	3.3	2.9
12/1	Gyratory (W) Left	1	C	1	43	997	1940	970	88.6%	1.9	0.0	1.9	7.8	4.3	0.0	4.3	4.0
12/2	Gyratory (W) Right	1	C	1	43	72	1940	948	6.4%	0.0	0.0	0.1	3.3	0.0	0.0	0.1	0.0
C1 - M25 Junction 6 North							Stream: 1	PRC for Signalled Lanes (%):	-33.4	Total Delay for Signalled Lanes (pcuHr):	188.54	Cycle Time (s):	90				
								PRC Over All Lanes (%):	-33.4	Total Delay Over All Lanes(pcuHr):	192.36						

Scenario 9: "With development" 2029 (Baseline 2029 + Operational) AM' (FG9: "With development" 2029 (Baseline 2029 + Operational) AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

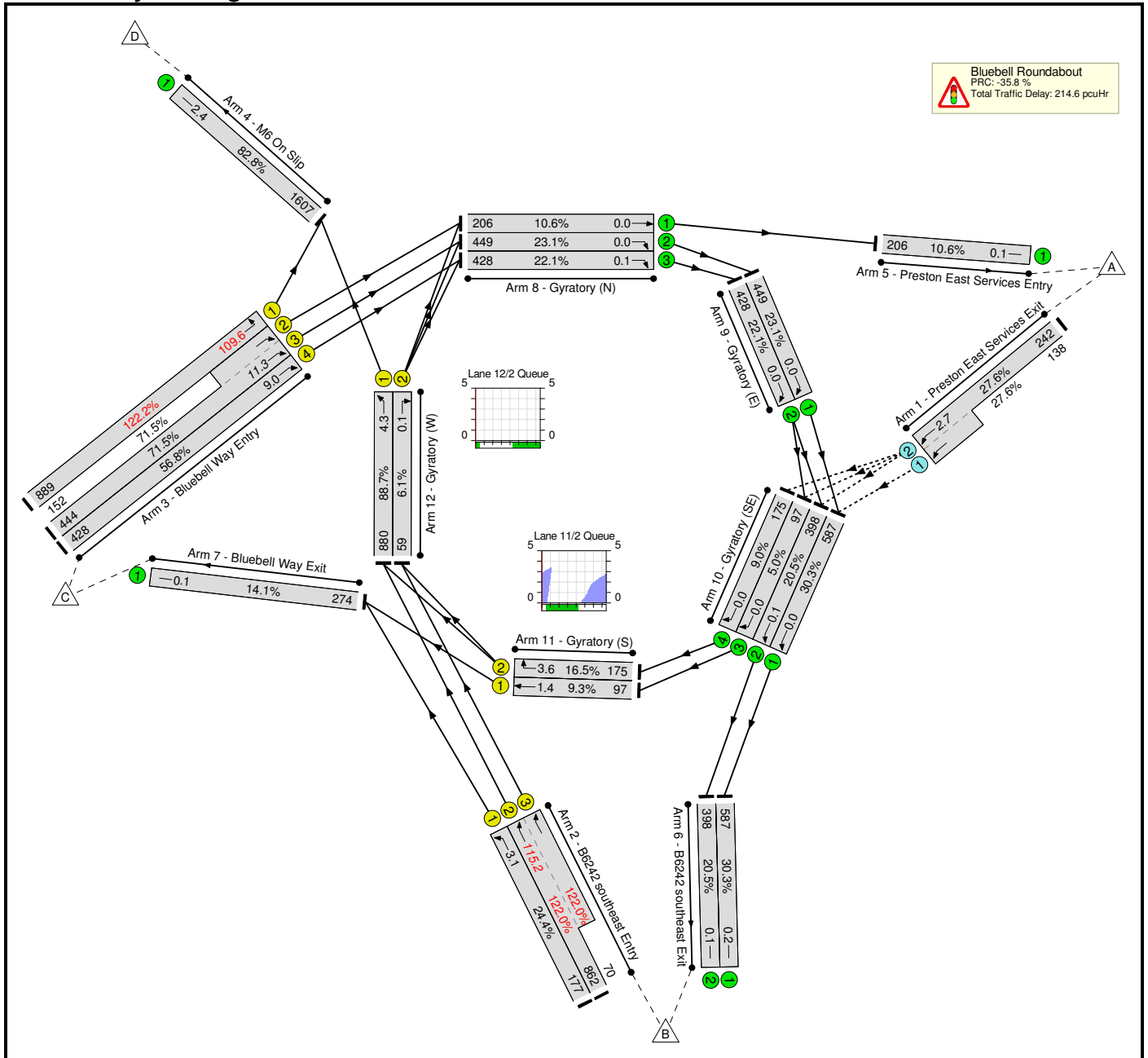
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	107.6%	28.7	117.4	146.1	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	107.6%	28.7	117.4	146.1	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	297	1783:1783	769+566	22.2 : 22.2%	0.5	0.1	0.6 (0.4+0.3)	7.4 (7.5:7.2)	1.5	0.1	1.6	-
2/1	B6242 southeast Entry Left	1	B	1	30	103	1865	771	13.4%	0.4	0.1	0.5	16.4	1.3	0.1	1.4	1.2
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	30	949	1865:1865	726+156	107.6 : 107.6%	7.4	39.7	47.0 (38.9+8.1)	178.4 (179.2:174.6)	21.4	39.7	61.1	10.3
3/1	Bluebell Way Entry Left	1	D	1	23	632	1871	599	105.6%	5.8	23.4	29.2	166.2	13.9	23.4	37.3	10.0
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	23	813	1920:1910	506+266	105.4 : 105.4%	7.0	28.0	35.0 (23.0+12.0)	155.1 (155.6:154.1)	15.8	28.0	43.8	9.6
3/4	Bluebell Way Entry Ahead	1	D	1	23	653	1939	620	105.2%	5.9	23.3	29.2	160.9	14.3	23.3	37.6	10.2
4/1	M6 On Slip	N/A	-	-	-	1550	1940	1940	75.3%	0.0	1.5	1.5	3.7	0.0	1.5	1.5	-
5/1	Preston East Services Entry	N/A	-	-	-	452	1940	1940	22.0%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	660	1940	1940	32.6%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	653	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
7/1	Bluebell Way Exit	N/A	-	-	-	132	1940	1940	6.8%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

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8/1	Gyratory (N) Ahead	N/A	-	-	-	452	1940	1940	22.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	534	1940	1940	26.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	653	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
9/1	Gyratory (E) Right	N/A	-	-	-	534	1940	1940	26.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	653	1940	1940	32.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	660	1940	1940	32.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	653	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
10/3	Gyratory (SE) Right	N/A	-	-	-	29	1940	1940	1.5%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	142	1940	1940	7.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	34	29	2005	962	3.0%	0.1	0.0	0.1	15.1	0.4	0.0	0.4	0.4
11/2	Gyratory (S) Right	1	A	1	34	142	2075	968	14.7%	0.6	0.1	0.7	17.0	2.2	0.1	2.3	2.0
12/1	Gyratory (W) Left	1	C	1	40	918	1940	1086	79.4%	1.1	0.0	1.1	4.6	2.9	0.0	2.9	2.9
12/2	Gyratory (W) Right	1	C	1	40	173	1940	1061	15.2%	0.0	0.1	0.1	2.9	0.1	0.1	0.2	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -19.6 Total Delay for Signalled Lanes (pcuHr): 142.89 Cycle Time (s): 75
 PRC Over All Lanes (%): -19.6 Total Delay Over All Lanes(pcuHr): 146.14

Network Layout Diagram



Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	122.2%	39.0	175.6	214.6	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	122.2%	39.0	175.6	214.6	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	380	1783:1783	878+501	27.6 : 27.6%	0.5	0.2	0.7 (0.5+0.2)	6.9 (7.4:6.1)	2.6	0.2	2.7	-
2/1	B6242 southeast Entry Left	1	B	1	34	177	1865	725	24.4%	0.9	0.2	1.1	21.9	3.0	0.2	3.1	2.6
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	34	932	1865:1865	707+57	122.0 : 122.0%	14.5	86.7	101.2 (93.7+7.5)	390.9 (391.2:387.1)	28.6	86.7	115.2	19.8
3/1	Bluebell Way Entry Left	1	D	1	34	889	1871	728	122.2%	13.5	83.4	96.9	392.3	26.3	83.4	109.6	17.1
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	34	596	1920:1910	621+213	71.5 : 71.5%	3.6	1.2	4.8 (3.6+1.2)	29.0 (29.6:27.6)	10.0	1.2	11.3	6.7
3/4	Bluebell Way Entry Ahead	1	D	1	34	428	1939	754	56.8%	2.6	0.7	3.2	27.1	8.3	0.7	9.0	6.3
4/1	M6 On Slip	N/A	-	-	-	1924	1940	1940	82.8%	0.0	2.4	2.4	5.3	0.0	2.4	2.4	-
5/1	Preston East Services Entry	N/A	-	-	-	218	1940	1940	10.6%	0.0	0.1	0.1	1.0	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	588	1940	1940	30.3%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	398	1940	1940	20.5%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
7/1	Bluebell Way Exit	N/A	-	-	-	274	1940	1940	14.1%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-

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8/1	Gyratory (N) Ahead	N/A	-	-	-	218	1940	1940	10.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	450	1940	1940	23.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	428	1940	1940	22.1%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
9/1	Gyratory (E) Right	N/A	-	-	-	450	1940	1940	23.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	428	1940	1940	22.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	588	1940	1940	30.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	398	1940	1940	20.5%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
10/3	Gyratory (SE) Right	N/A	-	-	-	97	1940	1940	5.0%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	175	1940	1940	9.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	45	97	2005	1047	9.3%	0.4	0.1	0.4	16.5	1.3	0.1	1.4	1.3
11/2	Gyratory (S) Right	1	A	1	45	175	2075	1061	16.5%	1.0	0.1	1.1	23.2	3.5	0.1	3.6	3.1
12/1	Gyratory (W) Left	1	C	1	44	1035	1940	992	88.7%	1.9	0.0	1.9	7.7	4.3	0.0	4.3	4.2
12/2	Gyratory (W) Right	1	C	1	44	72	1940	970	6.1%	0.0	0.0	0.1	3.3	0.1	0.0	0.1	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -35.8 Total Delay for Signalled Lanes (pcuHr): 210.68 Cycle Time (s): 90
 PRC Over All Lanes (%): -35.8 Total Delay Over All Lanes(pcuHr): 214.58

APPENDIX H
LINSIG OUTPUT – FULWOOD ROUNDABOUT

User and Project Details

Project:	EfW Red Scar, Preston
Title:	Fullwood roundabout
Location:	M6 Jct 31A Northbound off slip junction
Additional detail:	
File name:	J1 - Fulwood roundabout v2.lsg3x
Author:	
Company:	RSK
Address:	

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		-9999	7
B	Traffic	1		-9999	7
C	Traffic	1		-9999	7
D	Traffic	1		-9999	7
E	Traffic	1		-9999	7
F	Traffic	1		-9999	7
G	Traffic	1		-9999	7
H	Pedestrian	1		-9999	5

Phase Intergreens Matrix

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

Phase Delays

Stage Stream: 1

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

Prohibited Stage Change

Stage Stream: 1

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

Phases in Stage

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

Lane Input Data

Junction: Fulwood roundabout												
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)
1/1 (M6 Off Slip)	U	A	1	3	60.0	Geom	-	4.00	0.00	Y	Arm 6 Left	77.00
1/2 (M6 Off Slip)	U	A	2	3	12.7	Geom	-	4.00	0.00	N	Arm 6 Left	77.00
1/3 (M6 Off Slip)	U	B	1	3	50.0	Geom	-	3.80	0.00	Y	Arm 12 Ahead	77.00
1/4 (M6 Off Slip)	U	B	2	3	12.0	Geom	-	3.80	0.00	Y	Arm 12 Ahead	77.00
2/1 (B6242 Bluebell Way Entry)	U	D	1	3	60.0	Geom	-	3.90	0.00	Y	Arm 7 Left	26.00
											Arm 13 Ahead	Inf
2/2 (B6242 Bluebell Way Entry)	U	D	2	3	3.7	Geom	-	4.30	0.00	N	Arm 13 Ahead	26.00
3/1 (Fulwood Row (S) Entry)	O		1	3	60.0	Geom	-	4.60	0.00	Y	Arm 8 Left	38.00
											Arm 14 Ahead	38.00
4/1 (B6242 Longsands Ln Entry)	U	F	2	3	60.0	Geom	-	3.90	0.00	Y	Arm 9 Ahead	44.00
4/2 (B6242 Longsands Ln Entry)	U	F	2	3	2.7	Geom	-	3.50	0.00	N	Arm 10 Ahead	44.00
5/1 (Fulwood Row (N) Entry)	O		1	3	60.0	Geom	-	3.25	0.00	Y	Arm 11 Ahead	19.00
5/2 (Fulwood Row (N) Entry)	O		2	3	5.0	Geom	-	3.25	0.00	N	Arm 11 Ahead	19.00
6/1 (B6242 Bluebell Way Exit)	U		2	3	60.0	Geom	-	4.60	0.00	Y		
6/2 (B6242 Bluebell Way Exit)	U		2	3	60.0	Geom	-	4.60	0.00	Y		
7/1 (Fulwood Row (S) Exit)	U		2	3	60.0	Geom	-	3.50	0.00	Y		

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8/1 (B6242 Longsands Ln Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
8/2 (B6242 Longsands Ln Exit)	U		2	3	8.3	Geom	-	3.25	0.00	N		
9/1 (Fulwood Row (N) Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
10/1 (Fulwood Row (N) gyratory)	U		1	3	8.8	Geom	-	4.60	0.00	Y	Arm 11 Right	27.00
10/2 (Fulwood Row (N) gyratory)	U		2	3	8.8	Geom	-	4.60	0.00	N	Arm 11 Right	27.00
11/1 (M6 Off Slip gyratory)	U	C	1	3	4.5	Geom	-	4.60	0.00	Y	Arm 6 Ahead	27.00
11/2 (M6 Off Slip gyratory)	U	C	1	3	4.5	Geom	-	4.60	0.00	N	Arm 6 Ahead	27.00
											Arm 12 Right	27.00
12/1 (B6242 Bluebell Way gyratory)	U	E	1	3	7.5	Geom	-	4.60	0.00	Y	Arm 7 Ahead	27.00
											Arm 13 Right	Inf
12/2 (B6242 Bluebell Way gyratory)	U	E	1	3	7.5	Geom	-	4.60	0.00	N	Arm 13 Right	27.00
13/1 (Fulwood Row (S) gyratory)	U		2	3	6.2	Geom	-	4.60	0.00	Y	Arm 8 Ahead	Inf
13/2 (Fulwood Row (S) gyratory)	U		1	3	6.2	Geom	-	4.60	0.00	Y	Arm 8 Ahead	Inf
											Arm 14 Right	27.00
14/1 (B6242 Longsands Ln gyratory)	U	G	1	3	5.3	Geom	-	4.60	0.00	Y	Arm 9 Ahead	27.00
14/2 (B6242 Longsands Ln gyratory)	U	G	1	3	5.3	Geom	-	4.60	0.00	N	Arm 10 Right	27.00

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Existing 2019 AM'	07:30	08:30	01:00	
2: 'Existing 2019 PM'	16:15	17:15	01:00	
3: 'Baseline 2023 (Forecast 2023 + Committed) AM'	07:30	08:30	01:00	
4: 'Baseline 2023 (Forecast 2023 + Committed) PM'	16:15	17:15	01:00	
5: "With development" 2023 (Baseline 2023 + Operational) AM'	07:30	08:30	01:00	
6: "With development" 2023 (Baseline 2023 + Operational) PM'	16:15	17:15	01:00	
7: 'Baseline 2029 (Forecast 2029 + Committed) AM'	07:30	08:30	01:00	
8: 'Baseline 2029 (Forecast 2029 + Committed) PM'	16:15	17:15	01:00	
9: "With development" 2029 (Baseline 2029 + Operational) AM'	07:30	08:30	01:00	
10: "With development" 2029 (Baseline 2029 + Operational) PM'	16:15	17:15	01:00	

Traffic Flows, Desired

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

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	779	1	969	2	1751
	B	0	12	2	116	0	130
	C	0	44	0	54	0	98
	D	0	899	14	5	2	920
	E	0	6	0	3	0	9
	Tot.	0	1740	17	1147	4	2908

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

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	566	11	504	2	1083
	B	0	13	9	241	2	265
	C	0	15	0	32	0	47
	D	0	1117	45	4	3	1169
	E	0	4	2	2	0	8
	Tot.	0	1715	67	783	7	2572

Scenario 3: 'Baseline 2023 (Forecast 2023 + Committed) AM' (FG3: 'Baseline 2023 (Forecast 2023 + Committed) AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	865	1	1018	2	1886
	B	0	13	2	122	0	137
	C	0	46	0	57	0	103
	D	0	944	15	5	2	966
	E	0	6	0	3	0	9
	Tot.	0	1874	18	1205	4	3101

Scenario 4: 'Baseline 2023 (Forecast 2023 + Committed) PM' (FG4: 'Baseline 2023 (Forecast 2023 + Committed) PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	703	12	528	2	1245
	B	0	13	10	253	2	278
	C	0	16	0	34	0	50
	D	0	1169	47	4	3	1223
	E	0	4	2	2	0	8
	Tot.	0	1905	71	821	7	2804

Scenario 5: 'With development' 2023 (Baseline 2023 + Operational) AM' (FG5: 'With development' 2023 (Baseline 2023 + Operational) AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	903	1	1018	2	1924
	B	0	13	2	122	0	137
	C	0	46	0	57	0	103
	D	0	944	15	5	2	966
	E	0	6	0	3	0	9
	Tot.	0	1912	18	1205	4	3139

Scenario 6: "With development' 2023 (Baseline 2023 + Operational) PM' (FG6: "With development' 2023 (Baseline 2023 + Operational) PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	728	12	528	2	1270
	B	0	13	10	253	2	278
	C	0	16	0	34	0	50
	D	0	1169	47	4	3	1223
	E	0	4	2	2	0	8
	Tot.	0	1930	71	821	7	2829

Scenario 7: 'Baseline 2029 (Forecast 2029 + Committed) AM' (FG7: 'Baseline 2029 (Forecast 2029 + Committed) AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	911	1	1075	2	1989
	B	0	13	2	129	0	144
	C	0	48	0	60	0	108
	D	0	998	16	6	2	1022
	E	0	7	0	3	0	10
	Tot.	0	1977	19	1273	4	3273

Scenario 8: 'Baseline 2029 (Forecast 2029 + Committed) PM' (FG8: 'Baseline 2029 (Forecast 2029 + Committed) PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	734	12	556	2	1304
	B	0	14	10	266	2	292
	C	0	17	0	36	0	53
	D	0	1231	49	4	3	1287
	E	0	4	2	2	0	8
	Tot.	0	2000	73	864	7	2944

Scenario 9: "With development' 2029 (Baseline 2029 + Operational) AM' (FG9: "With development' 2029 (Baseline 2029 + Operational) AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	949	1	1075	2	2027
	B	0	13	2	129	0	144
	C	0	48	0	60	0	108
	D	0	998	16	6	2	1022
	E	0	7	0	3	0	10
	Tot.	0	2015	19	1273	4	3311

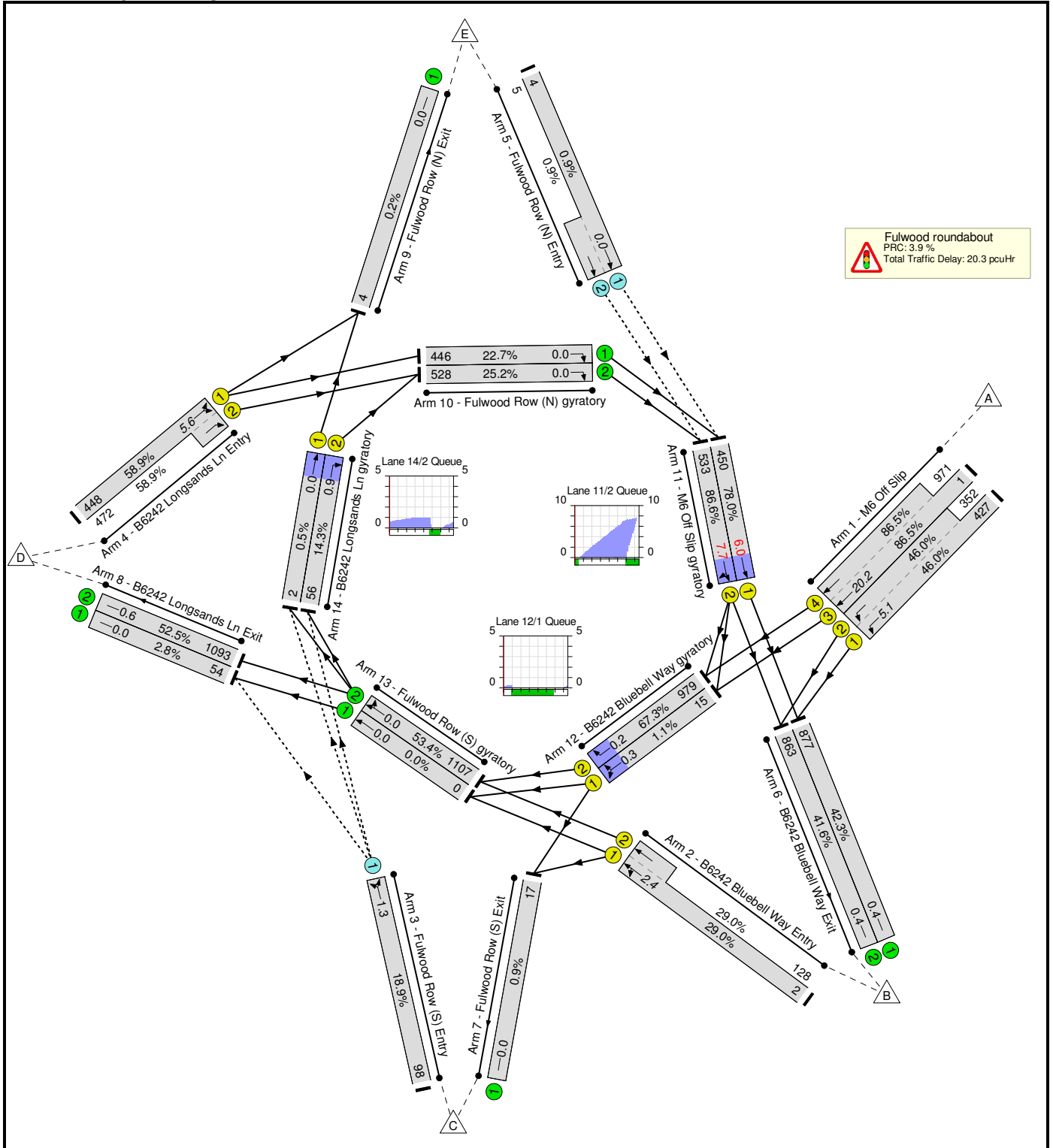
Scenario 10: "With development' 2029 (Baseline 2029 + Operational) PM' (FG10: "With development' 2029 (Baseline 2029 + Operational) PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	759	12	556	2	1329
	B	0	14	10	266	2	292
	C	0	17	0	36	0	53
	D	0	1231	49	4	3	1287
	E	0	4	2	2	0	8
	Tot.	0	2025	73	864	7	2969

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

Network Layout Diagram



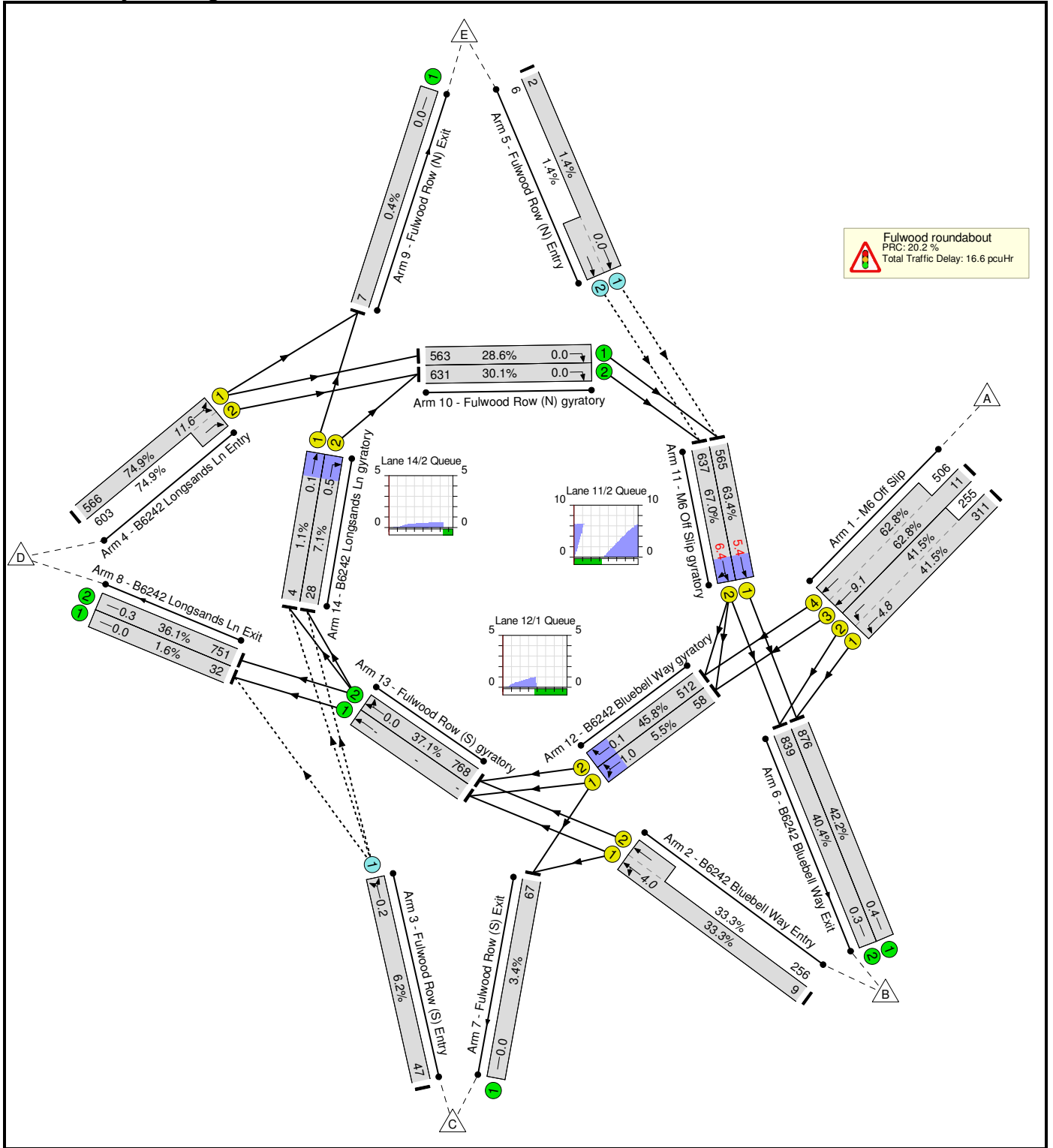
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	86.6%	14.4	5.8	20.3	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	86.6%	14.4	5.8	20.3	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	42	779	1976:2114	929+765	46.0 : 46.0%	1.8	0.4	2.2 (1.2+1.0)	10.2 (10.1:10.2)	4.6	0.4	5.1	3.6
1/3+1/4	M6 Off Slip Ahead	1	B	1	42	972	1957:1957	1+1122	86.5 : 86.5%	3.7	3.1	6.7 (0.0+6.7)	25.0 (19.3:25.0)	17.1	3.1	20.2	8.1
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	15	130	1896:2066	7+441	29.0 : 29.0%	0.9	0.2	1.1 (0.0+1.1)	30.4 (28.5:30.4)	2.2	0.2	2.4	2.0
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	98	1996	517	18.9%	0.3	0.1	0.4	14.1	1.1	0.1	1.3	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	920	1939:2036	761+802	58.9 : 58.9%	1.0	0.7	1.7 (0.8+0.9)	6.7 (6.7:6.7)	4.8	0.7	5.6	2.5
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	9	1798:1928	453+567	0.9 : 0.9%	0.0	0.0	0.0 (0.0+0.0)	2.7 (2.7:2.7)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	877	2075	2075	42.3%	0.0	0.4	0.4	1.5	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	863	2075	2075	41.6%	0.0	0.4	0.4	1.5	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	17	1965	1965	0.9%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	54	1940	1940	2.8%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

LinSig V1 style report

8/2	B6242 Longsands Ln Exit	N/A	-	-	-	1093	2080	2080	52.5%	0.0	0.6	0.6	1.8	0.0	0.6	0.6	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	4	1940	1940	0.2%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	446	1966	1966	22.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	528	2098	2098	25.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	20	450	1966	577	78.0%	2.9	0.0	2.9	23.2	6.0	0.0	6.0	6.0
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	20	533	2098	615	86.6%	3.3	0.0	3.3	22.1	7.7	0.0	7.7	7.1
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	50	15	1966	1363	1.1%	0.0	0.0	0.0	11.0	0.3	0.0	0.3	0.3
12/2	B6242 Bluebell Way gyratory Right	1	E	1	50	979	2098	1455	67.3%	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	2075	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	1107	2074	2074	53.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	2	1966	367	0.5%	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	56	2098	392	14.3%	0.6	0.0	0.6	38.8	0.9	0.0	0.9	0.9
C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 3.9 Total Delay for Signalled Lanes (pcuHr): 18.61 Cycle Time (s): 75 PRC Over All Lanes (%): 3.9 Total Delay Over All Lanes(pcuHr): 20.29																	

Network Layout Diagram



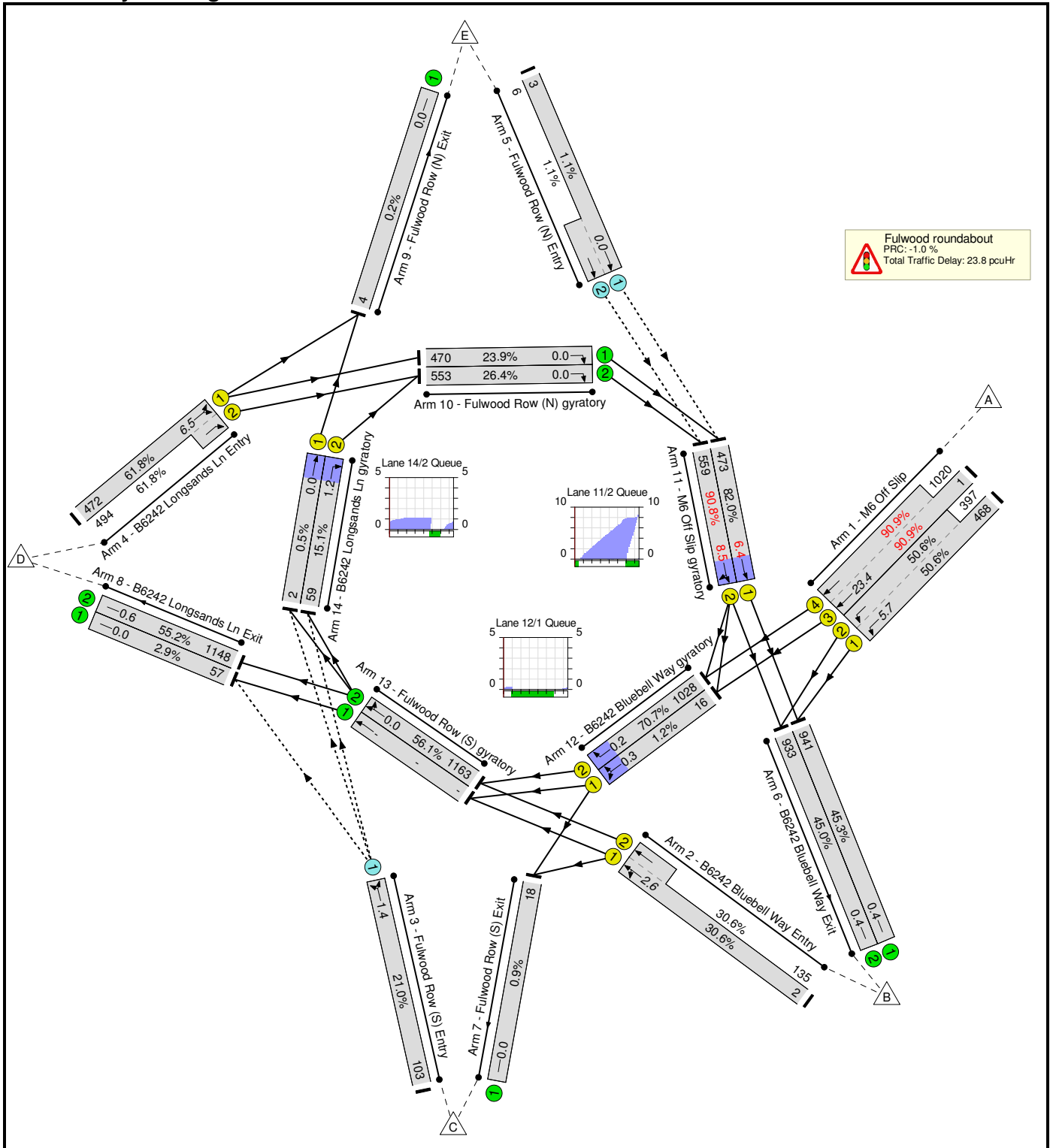
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	74.9%	12.6	4.0	16.6	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	74.9%	12.6	4.0	16.6	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	30	566	1976:2114	750+615	41.5 : 41.5%	2.3	0.4	2.7 (1.5+1.2)	16.9 (16.9:16.9)	4.4	0.4	4.8	3.6
1/3+1/4	M6 Off Slip Ahead	1	B	1	30	517	1957:1957	18+806	62.8 : 62.8%	2.5	0.8	3.3 (0.1+3.3)	23.2 (18.5:23.3)	8.3	0.8	9.1	5.9
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	27	265	1896:2066	27+769	33.3 : 33.3%	1.2	0.2	1.5 (0.0+1.4)	20.1 (17.8:20.2)	3.8	0.2	4.0	3.2
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	47	1996	762	6.2%	0.0	0.0	0.1	4.5	0.2	0.0	0.2	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1169	1939:2036	756+805	74.9 : 74.9%	1.5	1.5	3.0 (1.5+1.6)	9.3 (9.3:9.3)	10.1	1.5	11.6	3.6
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	8	1798:1928	140+419	1.4 : 1.4%	0.0	0.0	0.0 (0.0+0.0)	6.5 (6.3:6.5)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	876	2075	2075	42.2%	0.0	0.4	0.4	1.5	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	839	2075	2075	40.4%	0.0	0.3	0.3	1.5	0.0	0.3	0.3	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	67	1965	1965	3.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	32	1940	1940	1.6%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	751	2080	2080	36.1%	0.0	0.3	0.3	1.4	0.0	0.3	0.3	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	7	1940	1940	0.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	563	1966	1966	28.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	631	2098	2098	30.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	32	565	1966	891	63.4%	2.1	0.0	2.1	13.3	5.4	0.0	5.4	5.4
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	32	637	2098	951	67.0%	2.4	0.0	2.4	13.4	6.4	0.0	6.4	6.3
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	38	58	1966	1049	5.5%	0.3	0.0	0.3	16.2	1.0	0.0	1.0	0.9
12/2	B6242 Bluebell Way gyratory Right	1	E	1	38	512	2098	1119	45.8%	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	768	2072	2072	37.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	4	1966	367	1.1%	0.0	0.0	0.0	26.3	0.1	0.0	0.1	0.1
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	28	2098	392	7.1%	0.3	0.0	0.3	33.6	0.5	0.0	0.5	0.5
C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 20.2 Total Delay for Signalled Lanes (pcuHr): 15.52 Cycle Time (s): 75 PRC Over All Lanes (%): 20.2 Total Delay Over All Lanes(pcuHr): 16.61																	

Network Layout Diagram



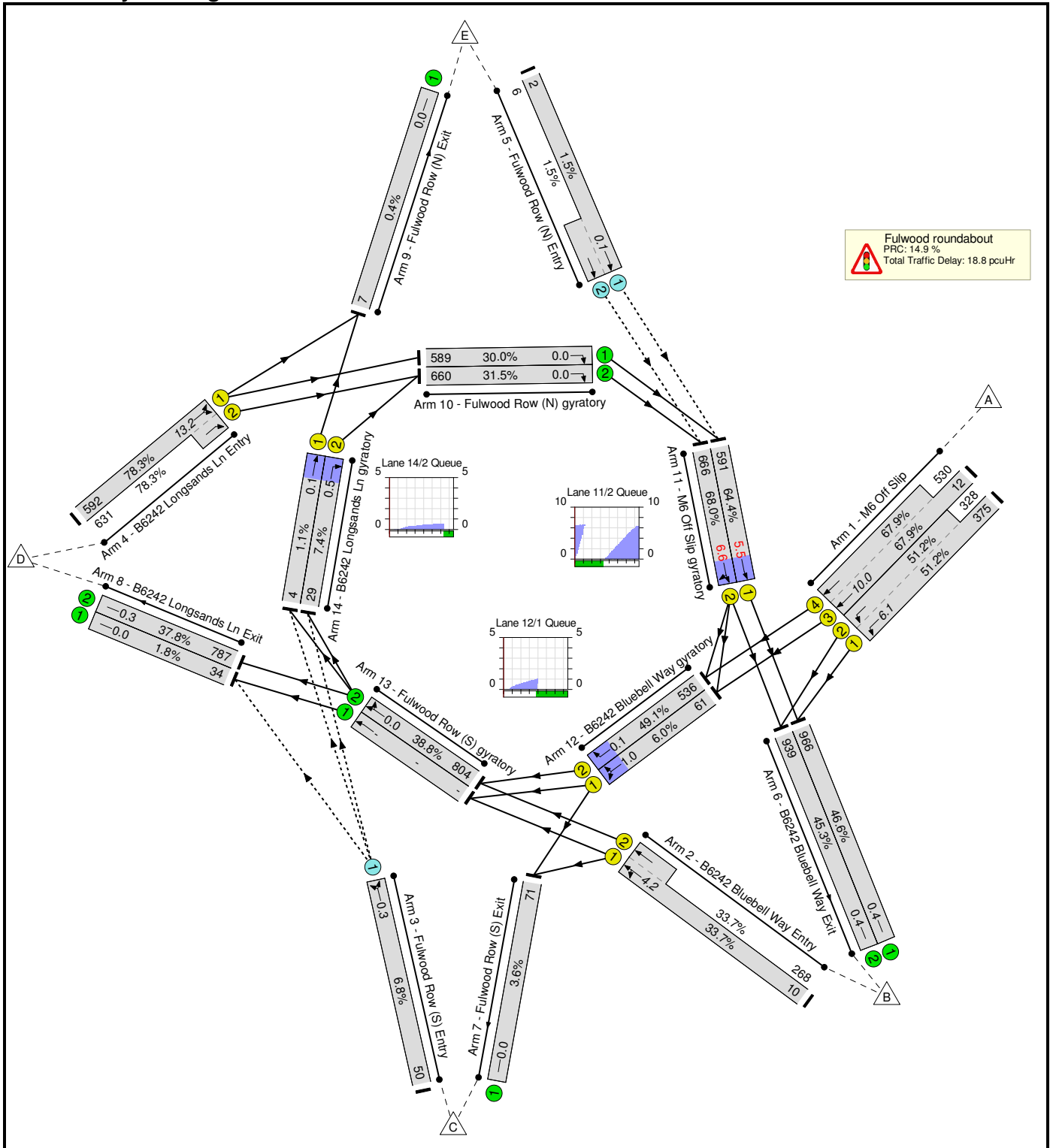
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	90.9%	16.0	7.7	23.8	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	90.9%	16.0	7.7	23.8	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	42	865	1976:2114	925+784	50.6 : 50.6%	2.0	0.5	2.5 (1.4+1.2)	10.5 (10.5:10.5)	5.2	0.5	5.7	3.9
1/3+1/4	M6 Off Slip Ahead	1	B	1	42	1021	1957:1957	1+1122	90.9 : 90.9%	4.0	4.6	8.6 (0.0+8.6)	30.4 (24.7:30.4)	18.8	4.6	23.4	8.5
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	15	137	1896:2066	7+441	30.6 : 30.6%	0.9	0.2	1.2 (0.0+1.1)	30.6 (28.6:30.6)	2.4	0.2	2.6	2.1
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	103	1996	490	21.0%	0.3	0.1	0.5	16.2	1.3	0.1	1.4	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	966	1939:2036	764+799	61.8 : 61.8%	1.1	0.8	1.9 (0.9+1.0)	7.0 (7.0:7.0)	5.7	0.8	6.5	2.6
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	9	1798:1928	265+529	1.1 : 1.1%	0.0	0.0	0.0 (0.0+0.0)	3.3 (3.3:3.3)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	941	2075	2075	45.3%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	933	2075	2075	45.0%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	18	1965	1965	0.9%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	57	1940	1940	2.9%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

LinSig V1 style report

8/2	B6242 Longsands Ln Exit	N/A	-	-	-	1148	2080	2080	55.2%	0.0	0.6	0.6	1.9	0.0	0.6	0.6	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	4	1940	1940	0.2%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	470	1966	1966	23.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	553	2098	2098	26.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	20	473	1966	577	82.0%	3.2	0.0	3.2	24.1	6.4	0.0	6.4	6.4
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	20	559	2098	615	90.8%	3.6	0.0	3.6	23.1	8.5	0.0	8.5	7.8
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	50	16	1966	1363	1.2%	0.0	0.0	0.0	10.9	0.3	0.0	0.3	0.3
12/2	B6242 Bluebell Way gyratory Right	1	E	1	50	1028	2098	1455	70.7%	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	1163	2074	2074	56.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	2	1966	367	0.5%	0.0	0.0	0.0	11.4	0.0	0.0	0.0	0.0
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	59	2098	392	15.1%	0.8	0.0	0.8	46.8	1.2	0.0	1.2	1.2
C1 - M25 Junction 6 North			Stream: 1			PRC for Signalled Lanes (%): -1.0		Total Delay for Signalled Lanes (pcuHr): 21.82		Cycle Time (s): 75							
						PRC Over All Lanes (%): -1.0		Total Delay Over All Lanes(pcuHr): 23.75									

Network Layout Diagram



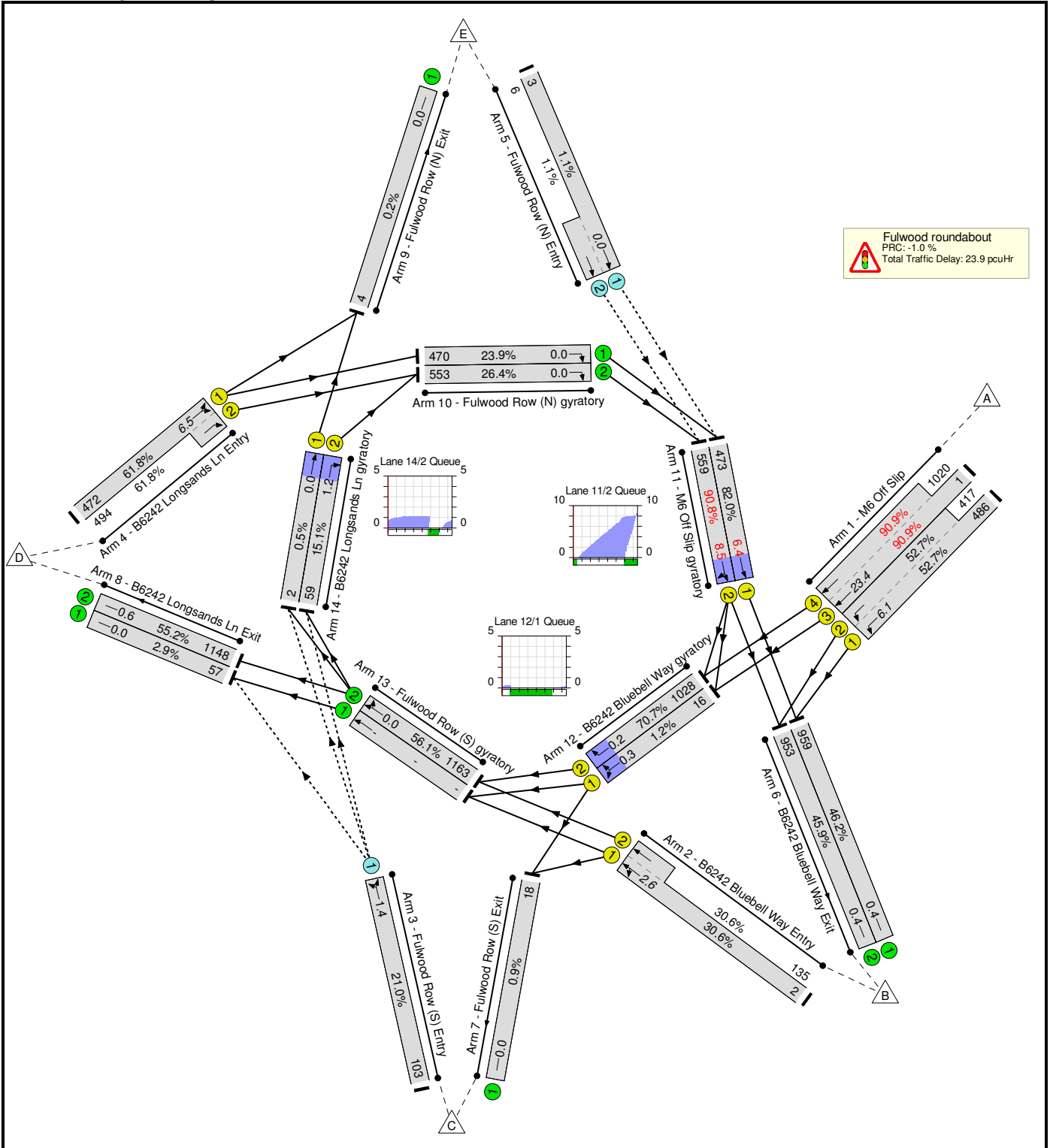
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	78.3%	14.0	4.8	18.8	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	78.3%	14.0	4.8	18.8	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	29	703	1976:2114	732+640	51.2 : 51.2%	3.1	0.5	3.6 (1.9+1.7)	18.6 (18.6:18.7)	5.6	0.5	6.1	4.5
1/3+1/4	M6 Off Slip Ahead	1	B	1	29	542	1957:1957	18+780	67.9 : 67.9%	2.8	1.1	3.8 (0.1+3.8)	25.4 (20.2:25.5)	9.0	1.1	10.0	6.3
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	28	278	1896:2066	30+795	33.7 : 33.7%	1.2	0.3	1.5 (0.0+1.5)	19.4 (17.1:19.5)	3.9	0.3	4.2	3.3
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	50	1996	739	6.8%	0.0	0.0	0.1	4.9	0.2	0.0	0.3	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1223	1939:2036	756+806	78.3 : 78.3%	1.7	1.8	3.5 (1.7+1.8)	10.3 (10.3:10.3)	11.4	1.8	13.2	3.9
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	8	1798:1928	129+387	1.5 : 1.5%	0.0	0.0	0.0 (0.0+0.0)	7.9 (7.7:8.0)	0.0	0.0	0.1	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	966	2075	2075	46.6%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	939	2075	2075	45.3%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	71	1965	1965	3.6%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	34	1940	1940	1.8%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-

LinSig V1 style report

8/2	B6242 Longsands Ln Exit	N/A	-	-	-	787	2080	2080	37.8%	0.0	0.3	0.3	1.4	0.0	0.3	0.3	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	7	1940	1940	0.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	589	1966	1966	30.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	660	2098	2098	31.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	33	591	1966	917	64.4%	2.1	0.0	2.1	12.9	5.5	0.0	5.5	5.5
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	33	666	2098	979	68.0%	2.4	0.0	2.4	13.0	6.6	0.0	6.6	6.4
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	37	61	1966	1022	6.0%	0.3	0.0	0.3	16.4	1.0	0.0	1.0	1.0
12/2	B6242 Bluebell Way gyratory Right	1	E	1	37	536	2098	1091	49.1%	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	804	2073	2073	38.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	4	1966	367	1.1%	0.0	0.0	0.0	25.6	0.1	0.0	0.1	0.1
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	29	2098	392	7.4%	0.3	0.0	0.3	33.1	0.5	0.0	0.5	0.5
C1 - M25 Junction 6 North			Stream: 1 PRC for Signalled Lanes (%): 14.9				Total Delay for Signalled Lanes (pcuHr): 17.58				Cycle Time (s): 75						
			PRC Over All Lanes (%): 14.9				Total Delay Over All Lanes(pcuHr): 18.85										

Network Layout Diagram



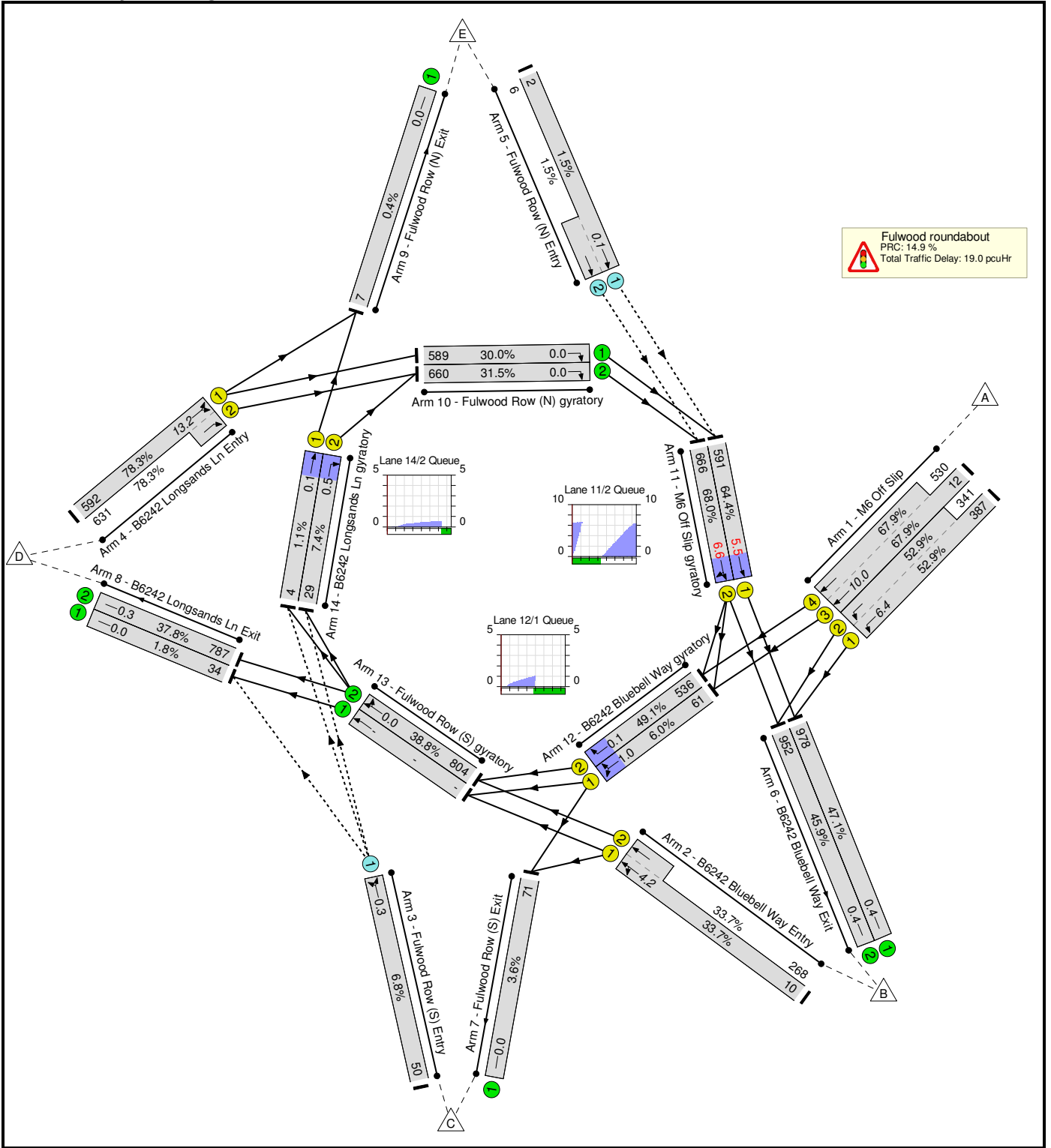
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	90.9%	16.1	7.8	23.9	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	90.9%	16.1	7.8	23.9	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	42	903	1976:2114	923+792	52.7 : 52.7%	2.1	0.6	2.7 (1.4+1.2)	10.7 (10.7:10.7)	5.5	0.6	6.1	4.0
1/3+1/4	M6 Off Slip Ahead	1	B	1	42	1021	1957:1957	1+1122	90.9 : 90.9%	4.0	4.6	8.6 (0.0+8.6)	30.4 (24.7:30.4)	18.8	4.6	23.4	8.5
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	15	137	1896:2066	7+441	30.6 : 30.6%	0.9	0.2	1.2 (0.0+1.1)	30.6 (28.6:30.6)	2.4	0.2	2.6	2.1
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	103	1996	490	21.0%	0.3	0.1	0.5	16.2	1.3	0.1	1.4	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	966	1939:2036	764+799	61.8 : 61.8%	1.1	0.8	1.9 (0.9+1.0)	7.0 (7.0:7.0)	5.7	0.8	6.5	2.6
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	9	1798:1928	265+529	1.1 : 1.1%	0.0	0.0	0.0 (0.0+0.0)	3.3 (3.3:3.3)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	959	2075	2075	46.2%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	953	2075	2075	45.9%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	18	1965	1965	0.9%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	57	1940	1940	2.9%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

LinSig V1 style report

8/2	B6242 Longsands Ln Exit	N/A	-	-	-	1148	2080	2080	55.2%	0.0	0.6	0.6	1.9	0.0	0.6	0.6	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	4	1940	1940	0.2%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	470	1966	1966	23.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	553	2098	2098	26.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	20	473	1966	577	82.0%	3.2	0.0	3.2	24.1	6.4	0.0	6.4	6.4
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	20	559	2098	615	90.8%	3.6	0.0	3.6	23.1	8.5	0.0	8.5	7.8
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	50	16	1966	1363	1.2%	0.0	0.0	0.0	10.9	0.3	0.0	0.3	0.3
12/2	B6242 Bluebell Way gyratory Right	1	E	1	50	1028	2098	1455	70.7%	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	1163	2074	2074	56.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	2	1966	367	0.5%	0.0	0.0	0.0	11.4	0.0	0.0	0.0	0.0
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	59	2098	392	15.1%	0.8	0.0	0.8	46.8	1.2	0.0	1.2	1.2
C1 - M25 Junction 6 North			Stream: 1			PRC for Signalled Lanes (%): -1.0		Total Delay for Signalled Lanes (pcuHr): 21.98		Cycle Time (s): 75							
						PRC Over All Lanes (%): -1.0		Total Delay Over All Lanes(pcuHr): 23.94									

Network Layout Diagram



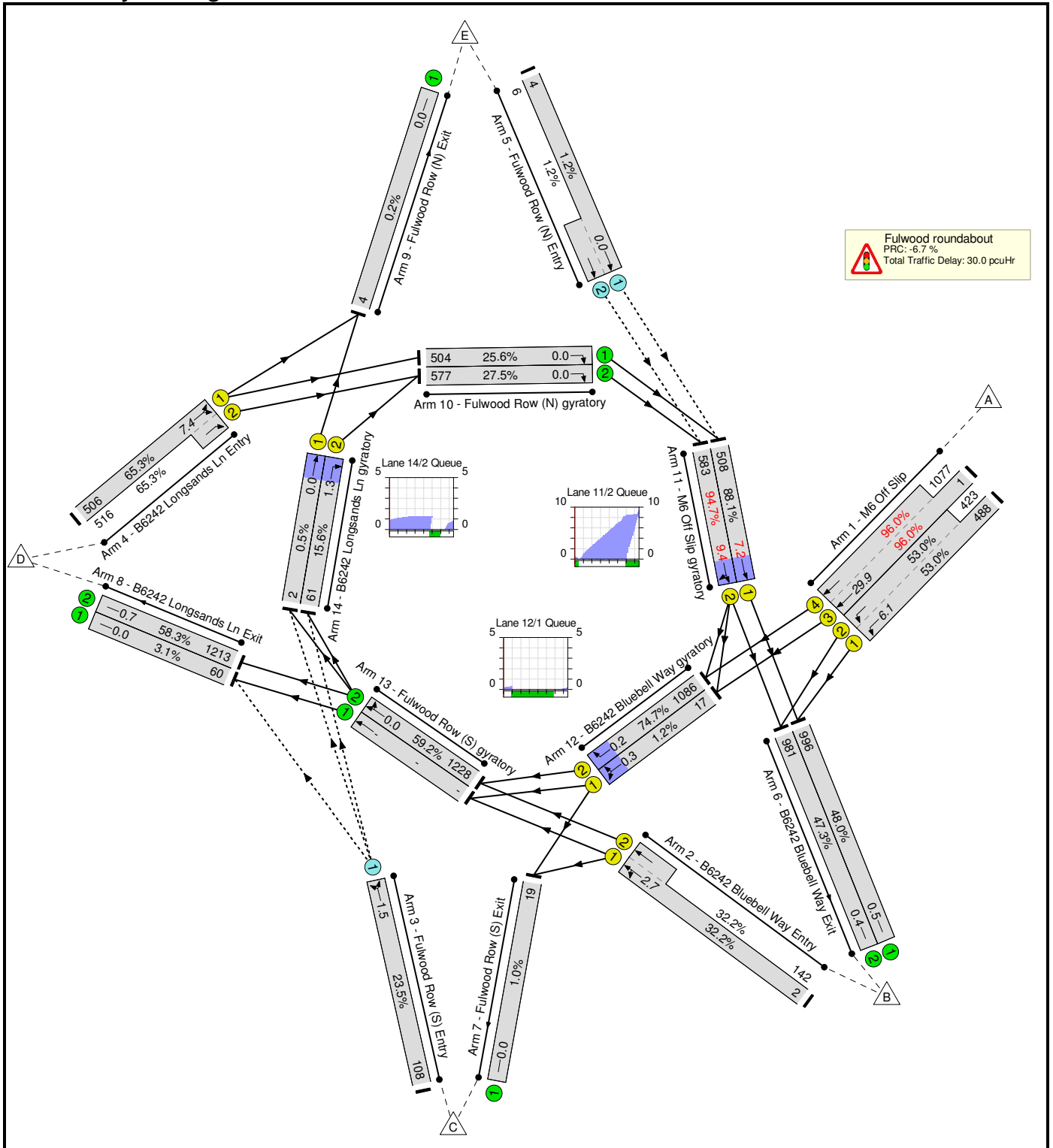
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	78.3%	14.1	4.9	19.0	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	78.3%	14.1	4.9	19.0	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	29	728	1976:2114	732+645	52.9 : 52.9%	3.3	0.6	3.8 (2.0+1.8)	18.9 (18.8:18.9)	5.8	0.6	6.4	4.6
1/3+1/4	M6 Off Slip Ahead	1	B	1	29	542	1957:1957	18+780	67.9 : 67.9%	2.8	1.1	3.8 (0.1+3.8)	25.4 (20.2:25.5)	9.0	1.1	10.0	6.3
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	28	278	1896:2066	30+795	33.7 : 33.7%	1.2	0.3	1.5 (0.0+1.5)	19.4 (17.1:19.5)	3.9	0.3	4.2	3.3
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	50	1996	739	6.8%	0.0	0.0	0.1	4.9	0.2	0.0	0.3	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1223	1939:2036	756+806	78.3 : 78.3%	1.7	1.8	3.5 (1.7+1.8)	10.3 (10.3:10.3)	11.4	1.8	13.2	3.9
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	8	1798:1928	129+387	1.5 : 1.5%	0.0	0.0	0.0 (0.0+0.0)	7.9 (7.7:8.0)	0.0	0.0	0.1	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	978	2075	2075	47.1%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	952	2075	2075	45.9%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	71	1965	1965	3.6%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	34	1940	1940	1.8%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-

LinSig V1 style report

8/2	B6242 Longsands Ln Exit	N/A	-	-	-	787	2080	2080	37.8%	0.0	0.3	0.3	1.4	0.0	0.3	0.3	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	7	1940	1940	0.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	589	1966	1966	30.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	660	2098	2098	31.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	33	591	1966	917	64.4%	2.1	0.0	2.1	12.9	5.5	0.0	5.5	5.5
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	33	666	2098	979	68.0%	2.4	0.0	2.4	13.0	6.6	0.0	6.6	6.4
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	37	61	1966	1022	6.0%	0.3	0.0	0.3	16.4	1.0	0.0	1.0	1.0
12/2	B6242 Bluebell Way gyratory Right	1	E	1	37	536	2098	1091	49.1%	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	804	2073	2073	38.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	4	1966	367	1.1%	0.0	0.0	0.0	25.6	0.1	0.0	0.1	0.1
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	29	2098	392	7.4%	0.3	0.0	0.3	33.1	0.5	0.0	0.5	0.5
C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 14.9 Total Delay for Signalled Lanes (pcuHr): 17.75 Cycle Time (s): 75 PRC Over All Lanes (%): 14.9 Total Delay Over All Lanes(pcuHr): 19.04																	

Network Layout Diagram



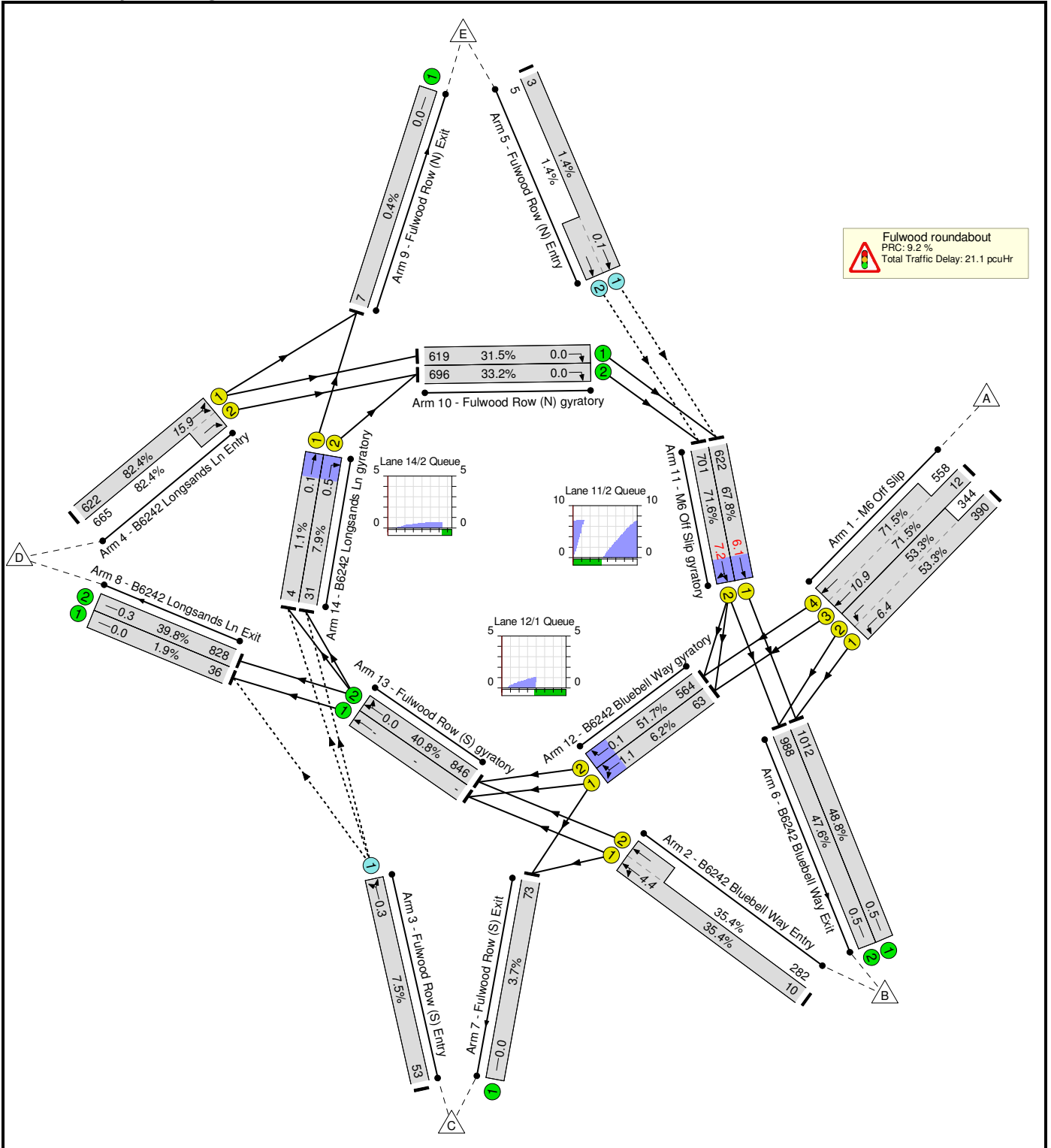
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	96.0%	17.8	12.2	30.0	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	96.0%	17.8	12.2	30.0	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	42	911	1976:2114	922+799	53.0 : 53.0%	2.2	0.6	2.7 (1.5+1.3)	10.7 (10.7:10.8)	5.6	0.6	6.1	4.1
1/3+1/4	M6 Off Slip Ahead	1	B	1	42	1078	1957:1957	1+1122	96.0 : 96.0%	4.5	8.6	13.2 (0.0+13.2)	44.0 (38.3:44.1)	21.2	8.6	29.9	9.0
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	15	144	1896:2066	6+441	32.2 : 32.2%	1.0	0.2	1.2 (0.0+1.2)	30.8 (28.7:30.9)	2.5	0.2	2.7	2.2
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	108	1996	460	23.5%	0.4	0.2	0.5	18.0	1.3	0.2	1.5	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1022	1939:2036	774+790	65.3 : 65.3%	1.2	0.9	2.1 (1.1+1.1)	7.5 (7.5:7.5)	6.4	0.9	7.4	2.8
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	10	1798:1928	324+486	1.2 : 1.2%	0.0	0.0	0.0 (0.0+0.0)	3.7 (3.7:3.7)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	996	2075	2075	48.0%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	981	2075	2075	47.3%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	19	1965	1965	1.0%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	60	1940	1940	3.1%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

LinSig V1 style report

8/2	B6242 Longsands Ln Exit	N/A	-	-	-	1213	2080	2080	58.3%	0.0	0.7	0.7	2.1	0.0	0.7	0.7	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	4	1940	1940	0.2%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	504	1966	1966	25.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	577	2098	2098	27.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	20	508	1966	577	88.1%	3.6	0.0	3.6	25.5	7.2	0.0	7.2	7.1
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	20	583	2098	615	94.7%	4.0	0.0	4.0	24.6	9.4	0.0	9.4	8.3
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	50	17	1966	1363	1.2%	0.1	0.0	0.1	10.7	0.3	0.0	0.3	0.3
12/2	B6242 Bluebell Way gyratory Right	1	E	1	50	1086	2098	1455	74.7%	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	1228	2074	2074	59.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	2	1966	367	0.5%	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	61	2098	392	15.6%	0.8	0.0	0.8	49.9	1.3	0.0	1.3	1.3
C1 - M25 Junction 6 North			Stream: 1 PRC for Signalled Lanes (%): -6.7				Total Delay for Signalled Lanes (pcuHr): 27.77				Cycle Time (s): 75						
			PRC Over All Lanes (%): -6.7				Total Delay Over All Lanes(pcuHr): 29.95										

Network Layout Diagram



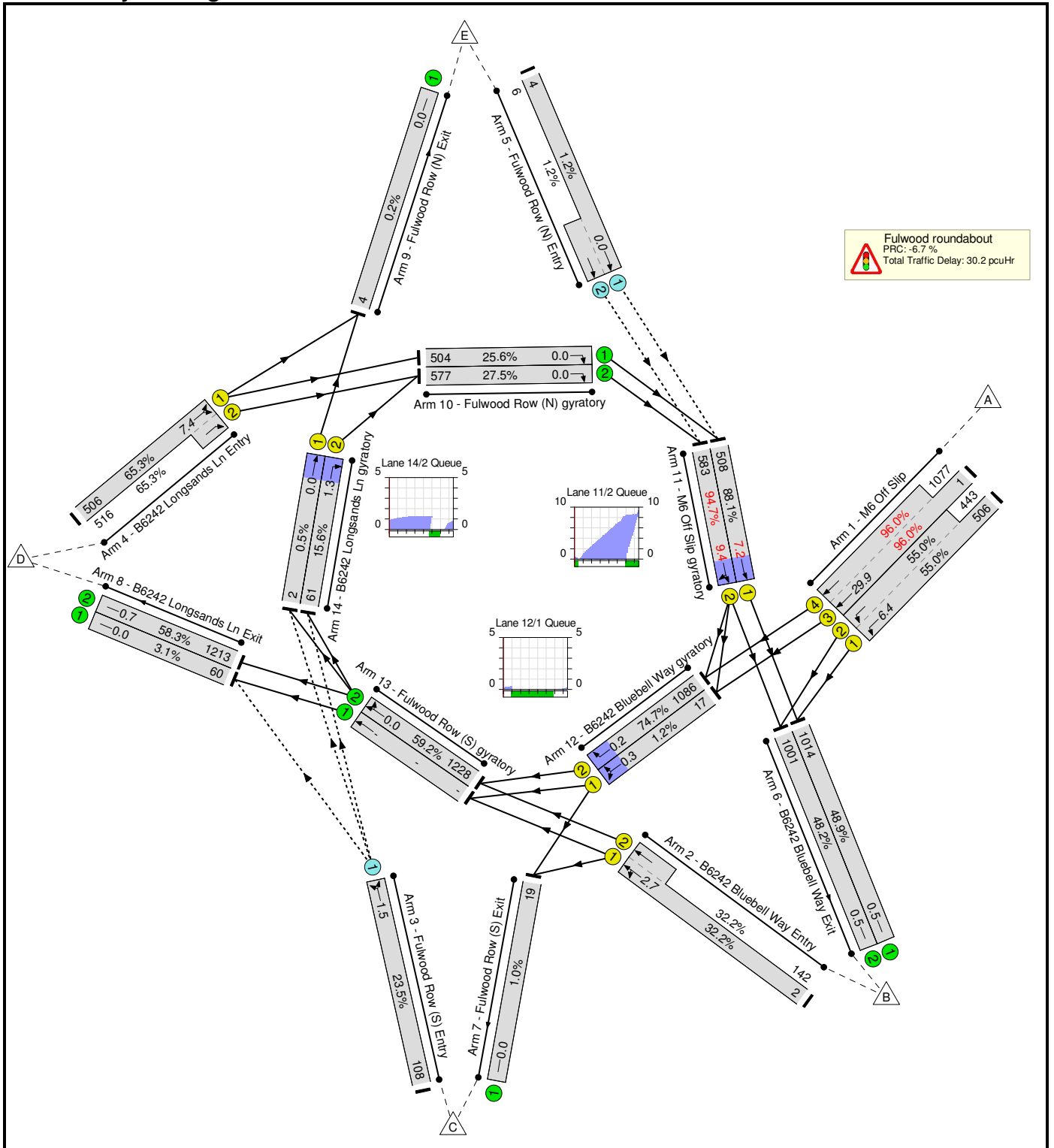
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	82.4%	15.4	5.7	21.1	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	82.4%	15.4	5.7	21.1	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	29	734	1976:2114	731+645	53.3 : 53.3%	3.3	0.6	3.9 (2.0+1.8)	18.9 (18.9:18.9)	5.8	0.6	6.4	4.7
1/3+1/4	M6 Off Slip Ahead	1	B	1	29	570	1957:1957	17+780	71.5 : 71.5%	3.0	1.2	4.2 (0.1+4.1)	26.6 (21.0:26.7)	9.6	1.2	10.9	6.7
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	28	292	1896:2066	28+796	35.4 : 35.4%	1.3	0.3	1.6 (0.0+1.5)	19.6 (17.3:19.7)	4.2	0.3	4.4	3.4
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	53	1996	707	7.5%	0.0	0.0	0.1	5.5	0.3	0.0	0.3	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1287	1939:2036	754+807	82.4 : 82.4%	1.9	2.3	4.2 (2.0+2.2)	11.9 (11.8:11.9)	13.6	2.3	15.9	4.3
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	8	1798:1928	213+355	1.4 : 1.4%	0.0	0.0	0.0 (0.0+0.0)	10.5 (10.2:10.7)	0.1	0.0	0.1	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	1012	2075	2075	48.8%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	988	2075	2075	47.6%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	73	1965	1965	3.7%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	36	1940	1940	1.9%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	828	2080	2080	39.8%	0.0	0.3	0.3	1.4	0.0	0.3	0.3	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	7	1940	1940	0.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	619	1966	1966	31.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	696	2098	2098	33.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	33	622	1966	917	67.8%	2.4	0.0	2.4	14.0	6.1	0.0	6.1	6.1
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	33	701	2098	979	71.6%	2.7	0.0	2.7	14.0	7.2	0.0	7.2	7.0
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	37	63	1966	1022	6.2%	0.3	0.0	0.3	16.5	1.1	0.0	1.1	1.0
12/2	B6242 Bluebell Way gyratory Right	1	E	1	37	564	2098	1091	51.7%	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	846	2073	2073	40.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	4	1966	367	1.1%	0.0	0.0	0.0	25.4	0.1	0.0	0.1	0.1
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	31	2098	392	7.9%	0.3	0.0	0.3	33.1	0.5	0.0	0.5	0.5
C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 9.2 Total Delay for Signalled Lanes (pcuHr): 19.69 Cycle Time (s): 75 PRC Over All Lanes (%): 9.2 Total Delay Over All Lanes(pcuHr): 21.09																	

Network Layout Diagram



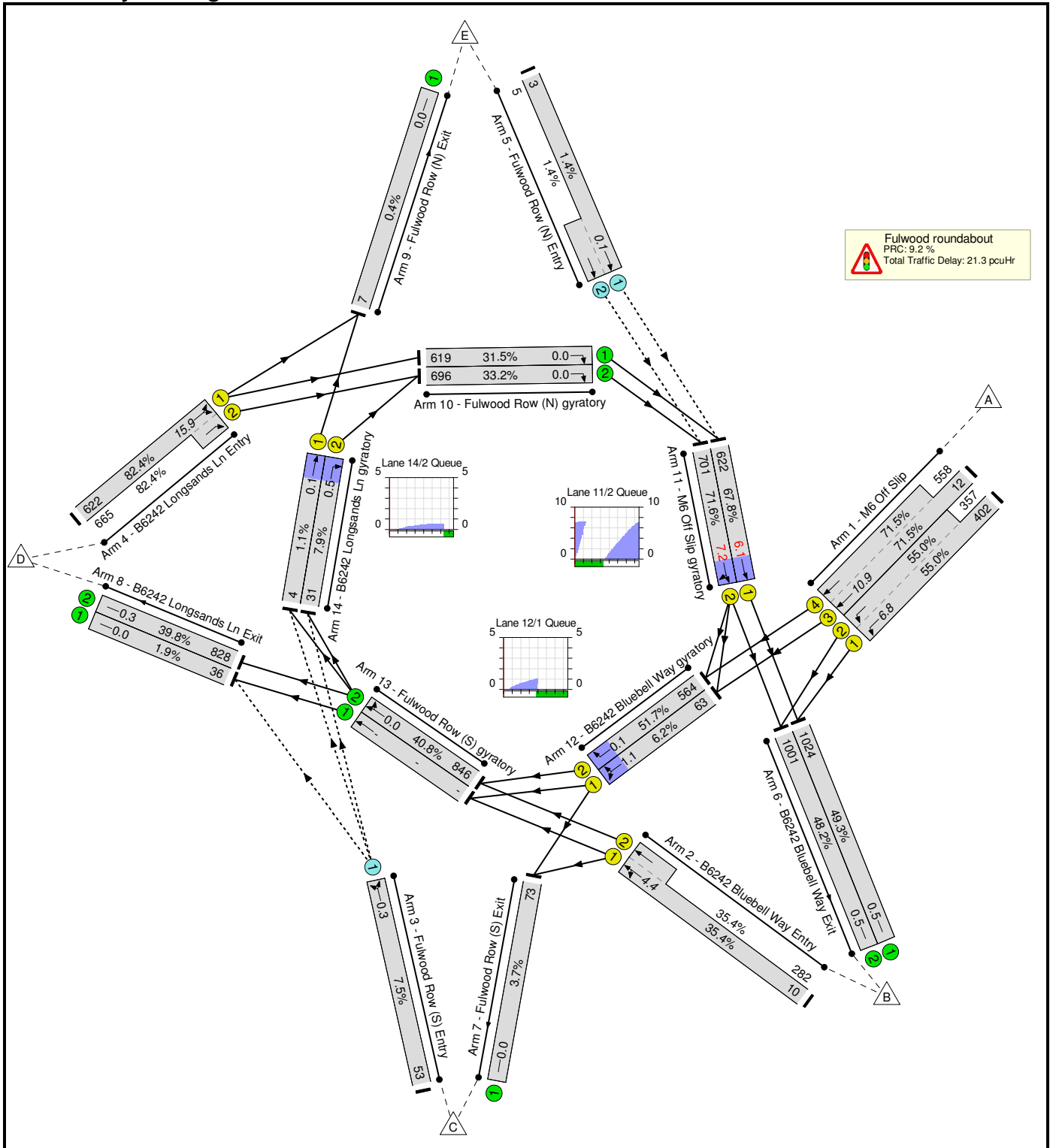
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	96.0%	17.9	12.3	30.2	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	96.0%	17.9	12.3	30.2	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	42	949	1976:2114	920+806	55.0 : 55.0%	2.3	0.6	2.9 (1.5+1.3)	10.9 (10.9:11.0)	5.8	0.6	6.4	4.2
1/3+1/4	M6 Off Slip Ahead	1	B	1	42	1078	1957:1957	1+1122	96.0 : 96.0%	4.5	8.6	13.2 (0.0+13.2)	44.0 (38.3:44.1)	21.2	8.6	29.9	9.0
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	15	144	1896:2066	6+441	32.2 : 32.2%	1.0	0.2	1.2 (0.0+1.2)	30.8 (28.7:30.9)	2.5	0.2	2.7	2.2
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	108	1996	460	23.5%	0.4	0.2	0.5	18.0	1.3	0.2	1.5	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1022	1939:2036	774+790	65.3 : 65.3%	1.2	0.9	2.1 (1.1+1.1)	7.5 (7.5:7.5)	6.4	0.9	7.4	2.8
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	10	1798:1928	324+486	1.2 : 1.2%	0.0	0.0	0.0 (0.0+0.0)	3.7 (3.7:3.7)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	1014	2075	2075	48.9%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	1001	2075	2075	48.2%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	19	1965	1965	1.0%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	60	1940	1940	3.1%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	1213	2080	2080	58.3%	0.0	0.7	0.7	2.1	0.0	0.7	0.7	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	4	1940	1940	0.2%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	504	1966	1966	25.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	577	2098	2098	27.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	20	508	1966	577	88.1%	3.6	0.0	3.6	25.5	7.2	0.0	7.2	7.1
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	20	583	2098	615	94.7%	4.0	0.0	4.0	24.6	9.4	0.0	9.4	8.3
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	50	17	1966	1363	1.2%	0.1	0.0	0.1	10.7	0.3	0.0	0.3	0.3
12/2	B6242 Bluebell Way gyratory Right	1	E	1	50	1086	2098	1455	74.7%	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	1228	2074	2074	59.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	2	1966	367	0.5%	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	61	2098	392	15.6%	0.8	0.0	0.8	49.9	1.3	0.0	1.3	1.3
C1 - M25 Junction 6 North			Stream: 1 PRC for Signalled Lanes (%): -6.7				Total Delay for Signalled Lanes (pcuHr): 27.94				Cycle Time (s): 75						
			PRC Over All Lanes (%): -6.7				Total Delay Over All Lanes(pcuHr): 30.15										

Network Layout Diagram



Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	82.4%	15.5	5.8	21.3	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	82.4%	15.5	5.8	21.3	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	29	759	1976:2114	731+649	55.0 : 55.0%	3.4	0.6	4.0 (2.1+1.9)	19.1 (19.1:19.1)	6.1	0.6	6.8	4.8
1/3+1/4	M6 Off Slip Ahead	1	B	1	29	570	1957:1957	17+780	71.5 : 71.5%	3.0	1.2	4.2 (0.1+4.1)	26.6 (21.0:26.7)	9.6	1.2	10.9	6.7
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	28	292	1896:2066	28+796	35.4 : 35.4%	1.3	0.3	1.6 (0.0+1.5)	19.6 (17.3:19.7)	4.2	0.3	4.4	3.4
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	53	1996	707	7.5%	0.0	0.0	0.1	5.5	0.3	0.0	0.3	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1287	1939:2036	754+807	82.4 : 82.4%	1.9	2.3	4.2 (2.0+2.2)	11.9 (11.8:11.9)	13.6	2.3	15.9	4.3
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	8	1798:1928	213+355	1.4 : 1.4%	0.0	0.0	0.0 (0.0+0.0)	10.5 (10.2:10.7)	0.1	0.0	0.1	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	1024	2075	2075	49.3%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	1001	2075	2075	48.2%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	73	1965	1965	3.7%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	36	1940	1940	1.9%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	828	2080	2080	39.8%	0.0	0.3	0.3	1.4	0.0	0.3	0.3	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	7	1940	1940	0.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	619	1966	1966	31.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	696	2098	2098	33.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	33	622	1966	917	67.8%	2.4	0.0	2.4	14.0	6.1	0.0	6.1	6.1
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	33	701	2098	979	71.6%	2.7	0.0	2.7	14.0	7.2	0.0	7.2	7.0
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	37	63	1966	1022	6.2%	0.3	0.0	0.3	16.5	1.1	0.0	1.1	1.0
12/2	B6242 Bluebell Way gyratory Right	1	E	1	37	564	2098	1091	51.7%	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	846	2073	2073	40.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	4	1966	367	1.1%	0.0	0.0	0.0	25.4	0.1	0.0	0.1	0.1
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	31	2098	392	7.9%	0.3	0.0	0.3	33.1	0.5	0.0	0.5	0.5
C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 9.2 Total Delay for Signalled Lanes (pcuHr): 19.87 Cycle Time (s): 75 PRC Over All Lanes (%): 9.2 Total Delay Over All Lanes(pcuHr): 21.29																	

Technical Note



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Planning authority reference: LCC/2019/0029

Author: I Wickett

Date: 20/09/19

Reviewed: S van de Berg

Date: 20/09/19

This Technical Note has been prepared as a clarification to the Transport Assessment 661304-TA (02), dated 29 May 2019. The Transport Assessment (TA) is contained at appendix 9.1 to the Environmental Statement for the proposed Energy Recovery Facility on Land at Red Scar Industrial Estate. The proposed development is known as the Longridge Road Energy Centre (LREC). The following information has been provided as clarification to a number of points raised by the local highway authority, Lancashire County Council (LCC) and uses the same sub-section referencing for consistency.

1.2.1 Committed developments

A list of planning applications to be included within the cumulative assessment was agreed with the local planning authority, Lancashire County Council, in February 2019 as part of the scoping report (November 2018) and scoping opinion (February 2019) and were taken into account in the TA. Where data was available for the study area, this was incorporated into the modelling exercise. This is typically best practice as any other applications that do not overlap the study area are usually accounted for within the growth factors applied to survey data.

However, in this instance, LCC subsequently pointed out that the volume of housing consented around the Longridge and Grimsargh area may be such that growth factors alone may be unlikely to account for all of the consents. Therefore, a list of applications has been identified that should be incorporated and a methodology for assigning appropriate levels of traffic has been discussed and agreed with LCC. The agreed list of applications is provided in Appendix A, along with their relevance to this assessment. A summary of the proposed approach is outlined below.

- Extract relevant traffic flow information from the consented sites identified;
- Where the study area for a consented development overlaps wholly with the LREC application, assign the consented traffic flows;
- Where the study area only partially overlaps with the LREC application, distribute the consented traffic flows on a site-by-site basis; and
- Where the study area has no overlap with the LREC application (or there is no study area), agree a common distribution (differentiated between Grimsargh and Longridge locations) and assign the consented traffic flows.

The baseline modelling and 'with development' scenarios have been updated (further details later in this response) to identify any changes to the previously assess impacts and whether this affects the conclusions of the TA.



1.3.1 Study area

LCC have indicated that a potential extension of the study area to include the B6243 Ribbleton Avenue / A5085 Blackpool Road signal-controlled junction should be considered. The proposals are predicted to generate a total of 16 Passenger Car Units (PCUs) in the AM and PM peak hours along Longridge Road to/from Preston, which pass through this junction. Based on the low volume of traffic, which represents an average of one vehicle movement every 4 minutes in any direction, the TA prepared in accordance with the pre-agreed scope considered that the impact on this junction will be negligible and therefore the study area does not include it.

3.2 Traffic flows

Queue data was recorded at the time of the traffic surveys and was used to validate the traffic modelling reported in the submitted TA. A copy of this data is provided in Appendix B to this clarification.

3.5 Accident analysis

The accident analysis was undertaken at a point in time when only the 2013-2017 data was available publicly. Given the limited change in traffic flows and no infrastructural changes being proposed to existing junctions, the study area for road safety was confined to the section of Longridge Road between the M6 and Bluebell Way/B6242. An initial examination of a wider area did not reveal any clusters of accidents that would justify a detailed review beyond the area included within the TA.

Notwithstanding the above, a plan illustrating the whole study area for junction assessment and the associated road safety record for the current data period (2014-2018) has been produced and is enclosed at Appendix C. This plan confirms that there are no identifiable clusters of accidents that would justify further consideration. The plan does not provide any information that alters the TA.

4.2 Construction phasing & 6.3.1 Construction trip distribution

Materials for construction of this type of development will typically comprise large volumes of aggregate, sand and cement for concrete production along with specialist mechanical and electrical equipment. These types of material in bulk volumes are not typically available within urban areas and are often sourced directly from the manufacturer or quarries. Therefore, bulk materials are assumed to arrive from origins via the M6 with a small proportion (10%) from local sources.

In terms of potential use of public transport by construction workers, the Transport Assessment highlights the operating times of buses travelling along Longridge Road, which are specifically targeted at the surrounding businesses and therefore offer an early start and late finish (Table 3.1). These times are consistent with the shift times for construction and therefore use of public transport is a realistic alternative to the private car in the context of construction workers travelling to and from the site.

The construction workforce would reach a peak of up to 500 for a period of about 6 months during the central part of the build programme. At other times the construction workforce would be less, building gradually from about 30 and reducing rapidly during commissioning. The contracting mechanisms for engaging construction staff are such that it will be very easy to specify that, for example, minibus shuttles to and from central Preston and other key locations (such as hotels) should be provided. It is for this reason and, based on experience of other construction projects, that it is assumed at least 25% of workers will be transported to and from the site by such minibus shuttles.

Contractors will also be expected to enforce parking restrictions at the construction site and it is highly likely they will collaborate with Tustin Developments, who own the Red Scar Industrial Estate, to avoid construction workers parking elsewhere on the Industrial Estate. As well as these “stick” methods to reduce car usage, contractors may also employ “carrot” incentives for workers to car share so as to reduce overall vehicle traffic.

The purpose of providing this minibus service is not just environmental, it is also to ensure workers do not need to have a car to get to the site, which is both a potential saving for them as well as enabling those who can't drive or don't have a car to be able to work on the construction programme. In addition to workers resident in the local area who may be attracted by the idea of free transport to work, it is possible that workers from further afield may weekly commute and stay in accommodation around the Preston area. Such people might prefer to travel to Preston by rail or coach and not to rely on a car. Free transport, be it with a minibus service or car share, is very attractive to the construction workforce as it represents an opportunity to significantly reduce person travel expenses.

The operation of a minibus service for this development will form part of the Travel Plan and Construction Traffic Management Plan commitments during construction and the scope of the CTMP is already outlined in Appendix 9.2 of the Environmental Statement. This can be secured through a planning condition, for which suggested wording is provided below:

No development shall take place until a Construction Traffic Management Plan (CTMP) has been submitted to and approved by the Waste Planning Authority. Provisions for monitoring and review of the CTMP shall be included within it. The CTMP shall set out the

- *anticipated flows of vehicles of different types to and from the site during the construction programme including anticipated routing between the site and Junction 31A of the M6 motorway or via Longridge Road or Longsands Lane,*
- *numerical profile of anticipated movements on an hourly basis across typical working days*
- *numbers of construction staff expected to be on site and*
- *general details of anticipated construction staff working hours.*

The plan shall include measures to minimise the use of private cars for access to the site for construction workers which shall include

- *measures to encourage cycling with a target of 7.5% of construction workers cycling to work and walking to work and use of public transport*
- *provision of a minibus shuttle service linking with Preston City Centre and other specific locations as may be appropriate*
- *control of car parking spaces at the construction site and surrounding the site, which may be coupled with measures to encourage car sharing.*

The plan shall include measures to ensure HGVs accessing or leaving the site during construction do so via Junction 31a of the M6 and Bluebell Way and do not approach or leave using that part of Longridge Road west of the Red Scar Industrial Estate entrance unless the origin or destination of their journey is within that part of the administrative area of

the City of Preston lying south of the M55 and west of the M6 but that they do not use Junction 31a of the M6 between 0730 and 0830 and between 1615 and 1715 Monday to Friday. Records must be kept of HGV routing to enable monitoring of compliance with this condition.

4.3 Operational phase & 6.3.2 Operational trip distribution

LREC will use residual waste and refuse derived fuels imported to the site by road in Heavy Goods Vehicles (HGVs) at an estimated rate of 93 loads (i.e. 186 two-way movements) per day including an allowance for vehicles removing ash and delivering consumables such as chemicals. A small proportion of this residual waste may be delivered directly by Refuse Collection Vehicles (RCVs) from the areas around the site but a substantial majority of feedstock will arrive in articulated bulk transfer vehicles. In practical terms the only areas from which waste may travel directly to the site without going on the M6 are the main built up areas of Preston itself, including Fulwood, to the west of the site (and west of the M6) and, to the east, Grimsargh and possibly Longridge. This material may come via Longridge Road east or west of Red Scar or via Longsands Lane.

At present, Preston's residual household waste is delivered to a transfer station at which it is loaded onto bulk transfer vehicles. It is assumed this pattern would continue with the bulkers possibly coming to LREC and, if so, most likely approaching the site via the M6. It is also assumed there is around 20,000 tonnes of residual Commercial and Industrial waste annually generated in Preston that would be suitable for LREC. This would come through commercial transfer stations or possibly directly on RCVs and much of this would be likely to come via Longridge Road or Longsands Lane. This anticipated pattern of Preston origin waste coming to the site other than on the M6 amounts to less than 10% of LREC's throughput capacity and, because it is assumed substantially to arrive via bulkers or larger vehicles, would be less than 10% of all HGV movements.

No account is taken in the above of the fact that there are existing transfer stations in and around Red Scar Industrial Estate and that some of the Commercial and Industrial waste is likely to come from these. Hence its delivery to Red Scar Industrial Estate is part of the existing baseline and its use at LREC would reduce existing bulker movements from these transfer stations to distant landfills.

The remaining tonnage, representing the majority of feedstock, will be from the other areas of Lancashire, Blackpool, and Blackburn with Darwen, and from areas to the south, east and north, all of which will access the site via Junction 31a. The unidirectional nature of Junction 31a dictates waste from the north and empty vehicles returning to the north will travel via Junction 31 to the south of the site, leaving and re-joining the M6 there in order to avoid travelling on local roads.

Around a quarter of all HGV movements are associated with the removal of ash and the delivery of chemicals and other consumables used in the process. All of the ash from the site will travel via the motorway because there are no facilities for handling it within Preston. It is anticipated the vast majority, if not all, of the consumable materials (chemicals etc) will also be delivered via the motorway as they will originate mainly at speciality chemical plants, of which there are none in Preston.

A key facet of the LREC project is all freight transportation to and from it will be further to a relatively small number of contracts and hence subject to great scope for monitoring and control. Moreover, the nature of the materials being carried (controlled waste and consumables) will be such that mechanisms to record their origin / destination and route to and from site will be available. Hence it is realistic for the site operators

to write into haulage contracts specific HGV routing requirements. Modern digital communications technology makes tracking vehicles very easy and it is now very common for HGV fleet operators to use GPS trackers to ensure drivers comply with routing requirements, safe working practices and traffic regulations.

So far as other operational traffic is concerned the majority will relate to staff travelling to and from work. However there will be only 40 staff and a large proportion will be on shift work, hence their travel to work times will avoid the morning and evening peak periods. Moreover the site is well located for workers to travel by bus, there being several routes that serve Longridge Road in the vicinity of the site, cycle, and on foot. The foot and cycle bridge across the M6 to the west of the site makes it highly accessible from areas including Ribblesdale, and the established Guild Wheel cycle and footpath will enable access from the south west and north of the site. Given the low number of staff required, broad assumptions have been used to distribute these car-based movements onto the local road network, assigning a third from the local Preston area and two thirds from other surrounding towns. Those travelling from beyond Preston would typically arrive via the M6 given the proximity of the site to junction 31a.

Similar to the suggested CTMP planning condition above, a planning condition could be imposed for operational HGV traffic to ensure that the same access routing rules apply, as indicated below:

Save for vehicles transporting material to or from the site between the site and that part of the administrative area of the City of Preston lying south of the M55 and west of the M6 and areas accessed directly from the B6243 north east of the site as far as and including Longridge, all HGVs accessing the site must travel via the M6 motorway and Junction 31A. HGVs approaching from the north must travel on the M6 to Junction 31, leave the motorway and then re-join it to approach via Junction 31A, and vice versa for HGVs leaving the site to travel north. The route used between Junction 31A and the site (and vice versa) must be the shortest, that is via Bluebell Way, the B6242 and Longridge Road. Records must be kept of HGV routing to enable monitoring of compliance with this condition.

4.5.1.1 Temporary cycle parking & 4.5.2.1 Permanent cycle parking

Secure cycle parking would be provided, details of which would be agreed and approved before commencing construction, secured through a planning condition. Permanent cycle parking provision is already identified as part of the proposals (see drawing 1377_PL101 Site Layout)

Promotion of cycling will be delivered through the Travel Plan and Construction Traffic Management Plan, details of which will be agreed with LCC's travel planning team in advance of construction. This could include discounted cycles, promotional material for local cycle routes and regular updates as the workforce fluctuates.

5.1.5 Travel Plan Coordinator

The Travel Plan Coordinator role would be fulfilled at the time of appointment of the principal contractor. Contractor(s) will be encouraged to outline their transport proposals to ensure it meets the aims both of the Travel Plan and of the Construction Traffic Management Plan. Upon approval, these documents will secure the monitoring of transport and travel to ensure it provides consistency throughout the construction programme.

7 Traffic impact

The traffic modelling exercise has used the signal timing data provided by LCC to assess the existing operation of the signal-controlled roundabouts at junction 31a. The results have been compared with queue data collected at the same time as turning movements to validate the model. Data have also been supported by on-site observations on a number of occasions relating to driver behaviour and extents of queues. This exercise concluded that the models reflected the current operation and queue lengths.

The junction modelling exercise in the TA provides a comprehensive assessment of the potential impacts of LREC-generated traffic on the surrounding road network, including the SRN. It has demonstrated that even applying worst-case assumptions to the traffic flows, the operational traffic will have a negligible effect on the operation of the Red Scar Roundabout on Longridge Road and the Fulwood and Bluebell Roundabouts that connect with Junction 31a.

As discussed earlier in this response, LCC has pointed out that the assumptions around growth factors may not take account of all committed developments in the Longridge and Grimsargh areas that will generate traffic through the TA study area. Therefore, a list of planning applications and the parameters used to assign this traffic to the study area has been agreed with LCC. The additional committed development traffic has been assigned to the road network surrounding the site based on the agreed parameters which will affect the baseline scenario and 'with development' scenario. This has the effect of increasing the traffic flows in both scenarios by the same amount, retaining the LREC traffic as previously assessed in the TA.

The following junctions have been updated to reflect the updated committed development list:

- Site access onto Longridge Road
- Longridge Road Roundabout (Longridge Road / Bluebell Way)
- Bluebell Roundabout (Bluebell Way / M6 southbound on-slip)
- Fulwood Roundabout (Longsands Lane / Bluebell Way / M6 northbound off-slip)

The results of each junction are summarised below with full outputs enclosed as appendices E to H. Although the 2019 forecast scenario is unchanged, this has been included for easy reference and comparison. The updated traffic flow diagrams are presented at Appendix D.

Site access junction

The access to the RSIE has been assessed using the industry-standard PICADY software for modelling priority junctions. A summary of the results for the three scenarios is provided in Tables 1 and 2 below for the AM and PM peak hours respectively.

Table 1: Summary of site access junction PICADY results – AM Peak

Junction Arm	2019 forecast		2023 baseline		2023 with development	
	Max Q	RFC	Max Q	RFC	Max Q	RFC
Site access to Longridge Road (W)	0.1	0.08	0.1	0.11	0.2	0.13
Site access to Longridge Road (E)	0.7	0.40	1.6	0.61	3.9	0.80
Longridge Road (W) to site access	0.3	0.24	0.4	0.28	0.5	0.31

Table 2: Summary of site access junction PICADY results – PM Peak

Junction Arm	2019 forecast		2023 baseline		2023 with development	
	Max Q	RFC	Max Q	RFC	Max Q	RFC
Site access to Longridge Road (W)	1.1	0.50	1.7	0.61	2.0	0.66
Site access to Longridge Road (E)	2.1	0.66	6.3	0.88	23.5	1.05
Longridge Road (W) to site access	0.1	0.08	0.1	0.09	0.12	0.10

Max Q = mean maximum queue during modelled period

RFC = ratio of flow to capacity

The above results show that the site access is predicted to operate with some queuing during the PM peak in 2023 during the baseline scenario, which is predicted to increase in 'with development' scenario. However, this traffic is within the RSIE and not on the public road network, so there is no effect on other highway users. In addition, the shift patterns of a proportion of LREC workers will be timed to avoid peak hours wherever possible to ensure that reliable changeover can occur for the 24-hour operation of the facility. In summary, the change to committed development assumptions do not affect the outcome of the TA modelling of this junction.

Longridge Road roundabout

This 3-arm roundabout has been modelled using industry-standard software ARCADY which models the capacity of roundabout junctions. A summary of the results for the three scenarios is provided in Tables 3 and 4 below for the AM and PM peak hours respectively.

Table 3: Summary of Red Scar roundabout junction ARCADY results – AM Peak

Junction Arm	2019 forecast		2023 baseline		2023 with development	
	Max Q	RFC	Max Q	RFC	Max Q	RFC
Longridge Rd (E)	1.4	0.57	3.5	0.76	3.7	0.77
B6242	0.7	0.37	0.9	0.45	1.0	0.46
Longridge Rd (W)	0.6	0.37	0.8	0.42	0.9	0.44

Table 4: Summary of Red Scar roundabout junction ARCADY results – PM Peak

Junction Arm	2019 forecast		2023 baseline		2023 with development	
	Max Q	RFC	Max Q	RFC	Max Q	RFC
Longridge Rd (E)	1.2	0.51	1.9	0.64	2.0	0.64
B6242	0.5	0.30	0.8	0.41	0.8	0.43
Longridge Rd (W)	0.6	0.34	0.8	0.43	0.9	0.44

Max Q = mean maximum queue during modelled period

RFC = ratio of flow to capacity

The above results demonstrate that the junction currently operates within capacity and will continue to do so in 2023 in the forecast scenario and with-development scenario. This reflects no change to the TA conclusion for the operation of this junction.

Bluebell roundabout

This junction has been modelled using industry-standard LinSig software, which models the capacity of signalised junctions. A summary of the results for the three scenarios is provided in Tables 5 and 6 below for the AM and PM peak hours respectively.

Table 5: Summary of Bluebell roundabout junction LinSig results – AM Peak

Approach	2019 forecast			2023 baseline			2023 with development		
	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red
Spar access ahead/right	19.2%	1.5	-	20.8%	1.5	-	21.0%	1.5	-
B6242 left	12.9%	1.3	1.1	12.7%	1.3	1.1	12.7%	1.3	1.1
B6242 ahead/right	86.1%	14.2	7.1	99.5%	29.7	8.4	103%	40.7	9.2
Bluebell Way left	87.7%	14.4	7.4	99.9%	24.3	8.1	99.9%	24.3	8.1
Bluebell Way ahead/right	86.5%	13.3	6.1	98.5%	23.6	7.2	101%	28.4	7.6

Table 6: Summary of Bluebell roundabout junction LinSig results – PM Peak

Approach	2019 forecast			2023 baseline			2023 with development		
	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red
Spar access ahead/right	23.2%	1.7	-	25.7%	2.5	-	25.8%	2.5	-
B6242 left	23.5%	2.9	2.5	24.0%	3.0	2.5	23.3%	3.0	2.5
B6242 ahead/right	103%	38.7	11.1	114%	80.8	15.8	117%	92.1	17.1
Bluebell Way left	105%	47.6	12.4	113%	75.4	14.6	116%	85.6	15.3
Bluebell Way ahead/right	57.4%	7.7	5.2	66.5%	10.0	6.2	69.2%	10.6	6.5

DoS = Degree of saturation

MMQ = effective mean maximum queue during modelled period

QEnd of Red = Physical queue length at end of red signal

The above results demonstrate that in the opening year of LREC the junction at capacity during the AM peak and exceeding capacity during the PM peak. As assessed in the TA, the ‘with development’ scenario will result in no material change from the 2023 baseline scenario with similar levels of saturation and queuing. As outlined in the TA, where there are levels of saturation over 100%, this leads to unrealistic queue results.

The 2023 baseline represents the predicted outcome of the operation of the junction, assuming 6% traffic growth and a variety of committed developments. These conditions have already been accepted by the highway authorities as part of the planning process for these committed schemes and forward planning for their networks in general.

As outlined in the TA, a better indicator of the operation of the junction is the queue at the end of the red signal, i.e. when drivers are about to start moving at the front of the queue. In this context, the queue is only predicted to extend by around 1.3 PCUs (1 medium sized HGV) during the PM peak. In summary, this reflects no change to the TA conclusion for the operation of this junction.

Fulwood roundabout

Similar to the Bluebell Roundabout, this junction also provides a partially signalised roundabout and has been modelled using LinSig. A summary of the results for the three scenarios is provided in Table 7 and 8 below for the AM and PM peak hours respectively.

Table 7: Summary of Fulwood roundabout junction LinSig results – AM Peak

Approach	2019 forecast			2023 baseline			2023 with development		
	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red
M6 off-slip left	46.0%	5.1	3.6	50.6%	5.7	3.9	52.7%	6.1	4.0
M6 off-slip ahead	86.5%	20.2	8.1	90.9%	23.4	8.5	90.9%	23.4	8.5
Bluebell Way	29.0%	2.4	2.0	30.6%	2.6	2.1	30.6%	2.6	2.1
Fulwood Row (south)	18.9%	1.3	-	21.0%	1.4	-	21.0%	1.4	-
Longsands Lane	58.9%	5.6	2.5	61.8%	6.5	2.6	61.8%	6.5	2.6
Fulwood Row (north)	0.9%	0.0	-	1.1%	0.0	-	1.1%	0.0	-

Table 8: Summary of Fulwood roundabout junction LinSig results – PM Peak

Approach	2019 forecast			2023 baseline			2023 with development		
	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red	DoS	MMQ	QEnd of Red
M6 off-slip left	41.5%	4.8	3.6	51.2%	6.1	4.5	52.9%	6.4	4.6
M6 off-slip ahead	62.8%	9.1	5.9	67.9%	10.0	6.3	67.9%	10.0	6.3
Bluebell Way	33.3%	4.0	3.2	33.7%	4.2	3.3	33.7%	4.2	3.3
Fulwood Row (south)	6.2%	0.2	-	6.8%	0.3	-	6.8%	0.3	-
Longsands Lane	74.9%	11.6	3.6	78.3%	13.2	3.9	78.3%	13.2	3.9
Fulwood Row (north)	1.4%	0.0	-	1.5%	0.1	-	1.5%	0.1	-

DoS = Degree of saturation

MMQ = effective mean maximum queue during modelled period

QEnd of Red = Physical queue length at end of red period

The above results demonstrate that the junction currently operates within capacity and will continue to do so in 2023 in the forecast scenario and with-development scenario. This reflects no change to the TA conclusion for the operation of this junction.

Overall

The above junction capacity modelling results have demonstrated that the additional committed development traffic will increase levels of congestion in both the forecast scenario and 'with development' scenario. However, the effect of LREC-generated traffic remains the same as assessed in the TA.

The effect of traffic growth and consented development in the area yet to be constructed is unlikely to result in the levels of congestion predicted in 2023 as the congestion itself will influence travel patterns and vehicle routing.

LREC will generate similar levels of traffic to that previously consented on the site and therefore the effects on levels of congestion will be similar to what has previously been acceptable to LCC without further mitigation. In addition, the traffic flows associated with peak hours are predominantly staff-related, which have been assigned to such periods as a worst case. However, the nature of the facility will result in 24 hour operation where shift changes will occur every 8 or 12 hours and therefore these times can be managed to avoid peak periods and ensure reliability of these handover periods. A staff Travel Plan will also be implemented, which will reduce the current worst case assumption of single car occupancy.

Furthermore, HGV traffic approaching the Site can be managed in terms of routing and timing given the contract-based nature of waste haulage and logistics operation for the proposed Development. This is in contrast to the unmanaged nature of most industrial estate type development. Therefore, HGV traffic can be managed to avoid the busiest periods on the surrounding road network using a delivery booking system.

Overall, once these avoidance mitigation measures have been adopted, the Proposed Development will have no material impact on the highway network and it is therefore considered unnecessary to provide additional mitigation to accommodate the proposals.

APPENDIX A
COMMITTED DEVELOPMENT APPLICATION LIST

Application no.	# of units	Location	Notes on relevance	Notes for revised modelling
06/2016/0258	70	Land off Ribblesdale Drive, Grimsargh	Included in TA modelling	
3/2015/0065	195	Land to North Of Dilworth Lane Longridge	Included in TA modelling	
3/2016/0974	275	Land west of Preston Road Longridge	Included in TA modelling	
06/2013/0785	220	Whittingham Road Preston	Not included as junction within TA was 5.4 km north of Red Scar RAB	Distribution has been estimated based on other Longidge developments
06/2014/0902	150	Preston Road Grimsargh	Application initially refused	Distribution has been estimated based on other Grimsargh developments
06/2016/0234	12	Land at, Preston Road, Grimsargh	Transport Statement only – no details of junction impacts	Distribution has been estimated based on other Grimsargh developments
06/2016/0719	34	Park House Farm, Whittingham Lane, Grimsargh	Transport Statement only – no details of junction impacts	Distribution has been estimated based on other Grimsargh developments
06/2017/0356	186	Inglewhite Road Preston	Not included as junction was 5.4 km north of Red Scar RAB. Application relates to 06/2014/0248	Distribution has been estimated based on other Longidge developments
06/2017/0676	80	Land to the west of Preston Road, Grimsargh	Older persons village: 80 dwellings + 60 bed care home. Flows for 80 private homes, taken from TA Addendum	Distribution has been estimated based on other Grimsargh developments
06/2018/1157	30	Land adjacent 329 Preston Road, Preston	Transport Statement only – no details of junction impacts	Distribution has been estimated based on other Grimsargh developments
06/2018/0711	70	Land south of Whittingham Lane, Grimsargh	Transport Statement only – no details of junction impacts	Distribution has been estimated based on other Grimsargh developments
06/2018/1042	52	20 Halfpenny Lane	Transport Statement only – no details of junction impacts	Distribution has been estimated based on other Longidge developments
06/2018/1180	34	Inglewhite Rd/Halfpenny Ln, Longridge	Transport Statement only – no details of junction impacts. Application reduced from 46 units	Distribution has been estimated based on other Longidge developments
3/2014/0764	363	Chipping Lane, Longridge	Traffic flows related to larger mixed use application	Distribution has been estimated based on other Longidge developments
3/2016/0580	34	Spout Farm, Preston Road, Longridge	Transport Statement only – no details of junction impacts	Distribution has been estimated based on development opposite application site
06/2014/0248		Inglewhite Road Preston	See 06/2017/0356	
06/2019/0050	50	55 Halfpenny Lane Longridge	Yet to be determined	
3/2015/0100	195	Land North of Dilworth Lane Longridge	Withdrawn	
3/2015/0393	305	Land west of Preston Road Longridge	Refused	
TOTAL UNITS	1805			

APPENDIX B QUEUE DATA

Preston, Lancashire
Queue Length Survey

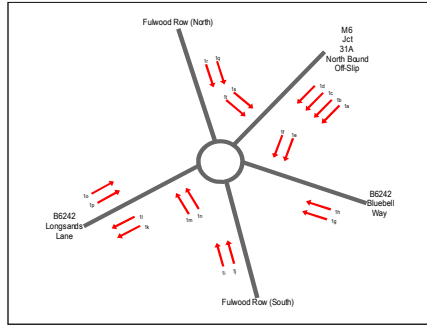
Site 1 of 3
M6 Jct 31A Northbound Off-Slip
B6242 Bluebell Way
Fulwood Row (South)
B6242 Longsands Lane
Fulwood Row (North)

Lat/Long
lat 53.786768° lon -2.664711°

Date
Tuesday 16 October 2018

Weather
Sunny Intervals
Temp: 14°C

0700 - 0900 (Weekday AM Peak)



TIME	1a	1b	1c	1d	1e	1f	1g	1h	1i	1j	1k	1l	1m	1n	1o	1p	1q	1r	1s	1t	
0700 - 0705	3	1	4	3	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	3	2
0705 - 0710	2	2	3	5	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	3	2
0710 - 0715	3	4	4	6	1	0	0	0	0	2	0	0	1	2	4	1	0	0	5	2	
0715 - 0720	2	2	7	8	1	0	2	0	1	0	0	0	0	0	1	4	0	0	4	3	
0720 - 0725	3	3	8	7	1	1	1	0	0	1	0	0	0	1	3	0	0	0	4	3	
0725 - 0730	4	2	8	7	1	0	4	0	0	0	0	0	0	0	0	0	0	0	5	4	
0730 - 0735	3	2	7	6	1	0	2	0	0	2	0	0	0	1	4	6	0	0	4	2	
0735 - 0740	1	3	5	9	2	1	0	0	0	2	0	0	1	1	16	4	0	0	5	2	
0740 - 0745	4	2	6	8	2	0	6	0	0	1	0	0	1	1	16	4	0	1	3	2	
0745 - 0750	3	3	6	7	2	0	2	1	1	1	3	3	1	1	14	3	0	0	5	4	
0750 - 0755	4	2	3	6	2	1	5	0	1	1	5	5	1	1	4	1	1	0	5	5	
0755 - 0800	5	1	7	8	5	5	3	1	2	7	7	7	1	0	18	4	0	0	5	1	
Hourly Average	3.08	2.25	5.67	6.67	1.48	0.67	2.25	0.17	0.33	1.08	1.25	1.25	0.67	0.67	5.63	2.25	0.08	0.08	4.25	2.67	
0800 - 0805	4	2	8	8	5	5	2	0	2	2	9	1	1	3	3	1	0	0	6	6	
0805 - 0810	5	2	7	8	5	5	6	0	2	1	6	6	2	1	6	7	1	0	5	3	
0810 - 0815	3	3	9	6	5	5	5	1	3	2	6	6	1	2	17	3	0	0	5	3	
0815 - 0820	6	2	10	6	4	4	3	1	0	0	7	7	1	2	19	2	1	0	5	5	
0820 - 0825	5	3	9	8	4	4	2	0	0	2	5	4	1	2	4	2	0	0	4	5	
0825 - 0830	2	3	7	8	4	2	0	0	1	2	5	5	1	0	4	0	0	1	4	2	
0830 - 0835	6	2	6	6	4	4	5	0	0	1	6	5	0	1	15	3	0	0	5	4	
0835 - 0840	7	3	8	6	4	5	6	0	0	2	6	6	1	2	3	5	0	1	6	4	
0840 - 0845	8	1	7	5	4	5	4	0	0	2	6	5	2	1	8	5	0	1	6	5	
0845 - 0850	9	3	9	6	4	4	4	0	1	0	5	5	1	2	3	4	0	0	6	3	
0850 - 0855	10	7	6	5	4	1	3	0	1	1	6	5	1	0	2	3	1	0	5	5	
0855 - 0900	8	6	7	7	5	0	3	0	0	2	7	4	1	1	9	1	0	0	5	3	
Hourly Average	6.08	3.08	7.75	6.58	4.25	3.83	3.67	0.17	0.83	1.42	6.17	5.58	1.08	1.25	7.75	3.17	0.17	0.25	5.17	4.00	
Session Total	4.58	2.67	6.71	6.63	2.92	2.25	2.96	0.17	0.58	1.25	3.71	3.42	0.88	0.96	7.29	2.71	0.13	0.17	4.71	3.33	

Date
Tuesday 16 October 2018

Weather
Cloudy
Temp: 13°C

1600 - 1800 (Weekday PM Peak)

TIME	1a	1b	1c	1d	1e	1f	1g	1h	1i	1j	1k	1l	1m	1n	1o	1p	1q	1r	1s	1t
1600 - 1605	5	6	3	2	1	0	2	1	0	0	0	0	0	1	3	1	0	0	5	3
1605 - 1610	4	6	4	4	3	1	8	3	0	0	0	0	3	1	7	2	0	0	6	3
1610 - 1615	4	3	3	4	2	0	5	2	0	0	0	0	0	1	8	3	0	0	6	2
1615 - 1620	6	6	4	6	1	2	2	0	0	2	0	0	0	1	11	2	0	0	6	3
1620 - 1625	5	7	3	5	4	1	4	0	0	0	0	0	1	1	20	3	0	0	5	5
1625 - 1630	4	3	4	6	1	0	0	0	0	0	0	0	0	1	4	0	0	0	6	4
1630 - 1635	6	3	3	5	2	0	3	1	1	0	3	3	0	0	8	0	0	0	5	4
1635 - 1640	5	3	6	5	1	0	4	0	0	1	3	0	0	2	5	1	0	0	6	2
1640 - 1645	6	5	5	6	2	0	0	0	0	1	5	0	0	1	5	1	1	0	5	4
1645 - 1650	5	3	4	3	1	1	1	0	0	1	0	0	1	1	17	5	0	0	6	2
1650 - 1655	7	2	3	2	2	0	5	0	0	1	0	0	1	0	7	3	0	0	6	2
1655 - 1700	7	3	2	4	1	1	2	0	1	1	0	0	1	1	19	2	0	0	5	2
Hourly Average	5.33	4.08	3.67	4.42	1.75	0.50	3.75	0.58	0.17	0.58	0.25	0.25	0.58	0.92	9.50	1.92	0.08	0.17	5.58	3.00
1700 - 1705	6	3	7	3	1	0	4	0	0	0	0	0	0	1	17	3	0	0	6	3
1705 - 1710	5	2	8	4	3	0	4	0	0	1	0	0	0	2	11	3	1	0	6	3
1710 - 1715	6	3	7	3	1	0	4	0	0	0	0	0	3	0	7	2	0	0	6	3
1715 - 1720	5	4	9	5	1	1	4	0	1	0	0	0	0	2	3	1	2	0	5	4
1720 - 1725	6	3	6	6	2	0	2	0	0	1	0	0	1	1	10	2	0	0	6	4
1725 - 1730	9	2	8	4	2	0	2	0	1	1	0	0	1	0	0	0	0	0	6	4
1730 - 1735	3	5	7	5	2	0	4	0	0	1	0	0	1	1	2	0	0	0	6	4
1735 - 1740	4	6	6	4	0	1	4	0	0	0	0	0	0	1	6	0	0	0	6	5
1740 - 1745	3	3	8	3	2	1	5	0	0	1	0	0	1	0	14	3	0	0	5	2
1745 - 1750	3	2	7	4	1	1	2	0	0	1	0	0	1	0	1	0	0	0	5	2
1750 - 1755	5	3	8	6	3	0	5	0	0	0	0	0	0	0	4	0	0	0	6	4
1755 - 1800	6	3	9	5	2	1	3	0	0	0	0	0	0	1	4	3	0	0	6	4
Hourly Average	5.08	3.25	7.50	4.33	1.67	0.50	3.50	0.00	0.17	0.50	0.00	0.00	0.92	0.58	6.08	1.42	0.25	0.17	5.75	3.50
Session Total	5.21	3.67	5.58	4.38	1.71	0.50	3.67	0.29	0.17	0.54	0.13	0.13	0.75	0.75	7.79	1.67	0.17	0.17	5.67	3.25

Preston, Lancashire
Queue Length Survey

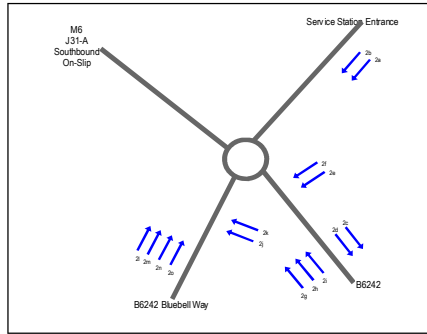
Site 2 of 3
Service Station Entrance
B6242
B6242 Bluebell Way
M6 J31A Southbound On-Slip

Lat/Long
lat 53.791678° lon -2.654530°

Date
Tuesday 16 October 2018

Weather
Sunny Intervals
Temp: 14°C

0700 - 0900 (Weekday AM Peak)



TIME	2a	2b	2c	2d	2e	2f	2g	2h	2i	2j	2k	2l	2m	2n	2o
0700 - 0705	1	1	0	0	1	2	3	13	1	2	0	4	2	7	6
0705 - 0710	1	1	0	0	1	2	3	16	3	3	0	5	2	8	8
0710 - 0715	2	0	0	0	0	1	5	14	3	3	0	4	2	8	4
0715 - 0720	3	1	0	0	0	3	1	18	6	4	0	7	1	8	4
0720 - 0725	2	0	0	0	2	2	5	22	5	3	0	9	1	8	10
0725 - 0730	1	1	0	0	1	2	3	22	2	3	0	12	1	7	8
0730 - 0735	2	1	0	0	1	3	3	13	2	3	0	10	2	6	7
0735 - 0740	4	3	0	0	1	3	2	20	2	2	1	11	1	12	5
0740 - 0745	1	2	0	0	0	2	4	20	4	5	0	10	3	14	10
0745 - 0750	2	1	0	0	0	3	6	20	4	5	0	11	3	14	10
0750 - 0755	2	2	0	0	1	6	4	20	3	5	0	9	0	10	5
0755 - 0800	2	0	0	0	1	5	4	21	4	5	0	11	2	13	9
Hourly Average	1.92	1.08	0.00	0.00	0.75	2.83	3.42	18.25	3.25	3.58	0.08	8.58	1.67	9.58	7.17
0800 - 0805	2	1	0	0	1	1	4	15	6	4	0	7	4	10	7
0805 - 0810	2	1	0	0	1	5	4	16	4	4	0	11	3	11	9
0810 - 0815	2	1	0	0	2	5	2	14	4	3	1	12	3	11	10
0815 - 0820	1	2	0	0	1	6	3	14	3	4	0	13	3	12	12
0820 - 0825	1	2	0	0	1	2	2	16	4	5	0	10	3	14	7
0825 - 0830	2	1	0	0	1	5	2	20	4	5	0	10	3	13	10
0830 - 0835	2	0	0	0	1	2	5	17	3	4	0	10	1	11	11
0835 - 0840	2	1	0	0	1	2	6	20	4	4	0	8	2	14	7
0840 - 0845	1	1	4	2	1	3	2	18	3	4	1	8	1	12	9
0845 - 0850	1	4	0	0	0	7	3	17	4	3	0	8	3	14	10
0850 - 0855	4	4	0	0	0	7	3	18	4	4	0	13	0	9	14
0855 - 0900	4	1	0	0	1	4	3	19	4	5	0	11	0	14	9
Hourly Average	2.00	1.33	0.33	0.17	0.92	3.58	3.25	17.00	3.92	4.08	0.17	10.08	2.17	12.08	9.58
Session Total	1.96	1.21	0.17	0.08	0.83	3.21	3.33	17.63	3.58	3.83	0.13	9.33	1.92	10.83	8.38

Date
Tuesday 16 October 2018

Weather
Cloudy
Temp: 13°C

1600 - 1800 (Weekday PM Peak)

TIME	2a	2b	2c	2d	2e	2f	2g	2h	2i	2j	2k	2l	2m	2n	2o
1600 - 1605	2	1	0	0	1	3	5	18	4	4	0	14	0	8	5
1605 - 1610	2	3	0	0	2	3	4	20	3	4	2	15	2	14	7
1610 - 1615	2	1	0	0	1	2	8	20	4	5	0	17	1	4	2
1615 - 1620	3	1	0	0	1	3	4	20	3	5	0	15	2	10	8
1620 - 1625	2	0	0	2	4	3	4	19	4	3	0	16	2	11	8
1625 - 1630	4	0	0	0	3	3	3	20	3	4	0	17	0	12	7
1630 - 1635	12	2	0	0	3	6	3	20	2	6	0	15	0	8	7
1635 - 1640	4	3	0	0	4	6	2	20	1	4	1	17	1	6	6
1640 - 1645	2	1	0	0	3	2	5	20	0	4	0	17	3	12	11
1645 - 1650	2	1	0	0	2	5	5	20	2	4	0	16	1	11	11
1650 - 1655	6	1	0	0	2	7	6	20	2	6	0	16	2	12	11
1655 - 1700	3	1	0	0	1	5	7	20	3	5	0	18	1	13	6
Hourly Average	3.67	1.25	0.00	0.17	2.25	4.00	4.67	19.75	2.58	4.50	0.25	16.08	1.25	10.08	7.42
1700 - 1705	3	0	0	0	3	1	5	20	2	6	0	15	0	14	8
1705 - 1710	6	3	0	0	4	7	8	20	1	6	0	17	3	12	9
1710 - 1715	3	4	0	0	1	7	5	20	4	5	0	18	1	10	4
1715 - 1720	2	1	0	0	1	3	4	20	2	6	0	17	1	8	4
1720 - 1725	1	1	0	0	1	2	7	20	2	5	0	15	1	7	5
1725 - 1730	1	2	0	0	1	2	4	20	4	3	1	16	1	9	5
1730 - 1735	2	0	0	0	1	3	9	20	2	3	2	17	1	12	4
1735 - 1740	2	0	0	0	3	3	4	20	3	3	0	15	2	6	5
1740 - 1745	0	2	0	0	3	4	8	20	3	4	0	13	3	12	9
1745 - 1750	2	1	0	0	1	3	2	20	2	3	0	15	2	7	6
1750 - 1755	2	1	0	0	3	2	5	20	2	4	0	15	2	9	6
1755 - 1800	1	1	0	0	3	2	2	11	3	3	0	12	1	3	2
Hourly Average	2.08	1.33	0.00	0.00	2.08	3.25	5.50	19.25	2.50	4.25	0.25	15.42	1.50	9.08	5.58
Session Total	2.88	1.29	0.00	0.08	2.17	3.63	5.08	19.50	2.54	4.38	0.25	15.75	1.38	9.58	6.50

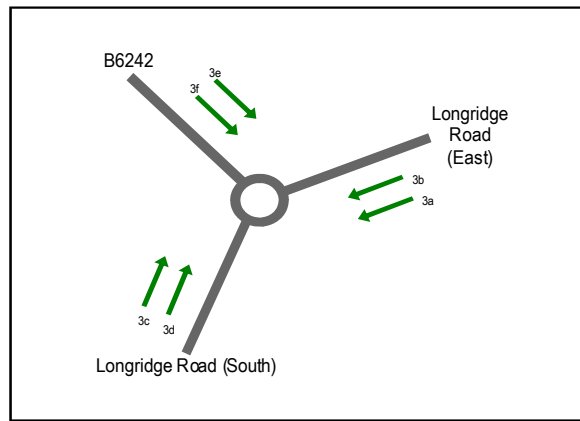
Preston, Lancashire
Queue Length Survey

Site 3 of 3
Longridge Road (East)
Longridge Road (West)
B6242

Lat/Long
lat 53.787543° lon -2.645927°

Date
Tuesday 16 October 2018

Weather
Sunny Intervals
Temp: 14°C



0700 - 0900 (Weekday AM Peak)

TIME	3a	3b	3c	3d	3e	3f
0700 - 0705	1	4	1	2	2	1
0705 - 0710	2	8	1	0	1	3
0710 - 0715	1	2	1	0	5	2
0715 - 0720	4	2	3	3	5	2
0720 - 0725	2	4	2	4	3	7
0725 - 0730	2	5	3	8	4	3
0730 - 0735	1	4	1	3	6	2
0735 - 0740	1	11	1	6	9	2
0740 - 0745	12	9	3	7	4	2
0745 - 0750	1	1	1	2	2	1
0750 - 0755	4	4	4	3	3	2
0755 - 0800	6	3	2	4	8	4
Hourly Average	3.08	4.75	1.92	3.50	4.33	2.58
0800 - 0805	4	4	1	2	5	2
0805 - 0810	3	6	0	2	6	2
0810 - 0815	2	4	1	5	5	3
0815 - 0820	6	12	8	7	8	6
0820 - 0825	3	1	4	8	15	6
0825 - 0830	3	6	2	3	16	6
0830 - 0835	6	5	1	5	5	15
0835 - 0840	0	1	2	4	4	2
0840 - 0845	3	2	2	3	4	3
0845 - 0850	3	3	2	3	5	2
0850 - 0855	2	2	2	1	5	2
0855 - 0900	6	3	2	1	3	2
Hourly Average	3.42	4.08	2.25	3.67	6.75	4.25

Session Total	3.25	4.42	2.08	3.58	5.54	3.42
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Date
Tuesday 16 October 2018

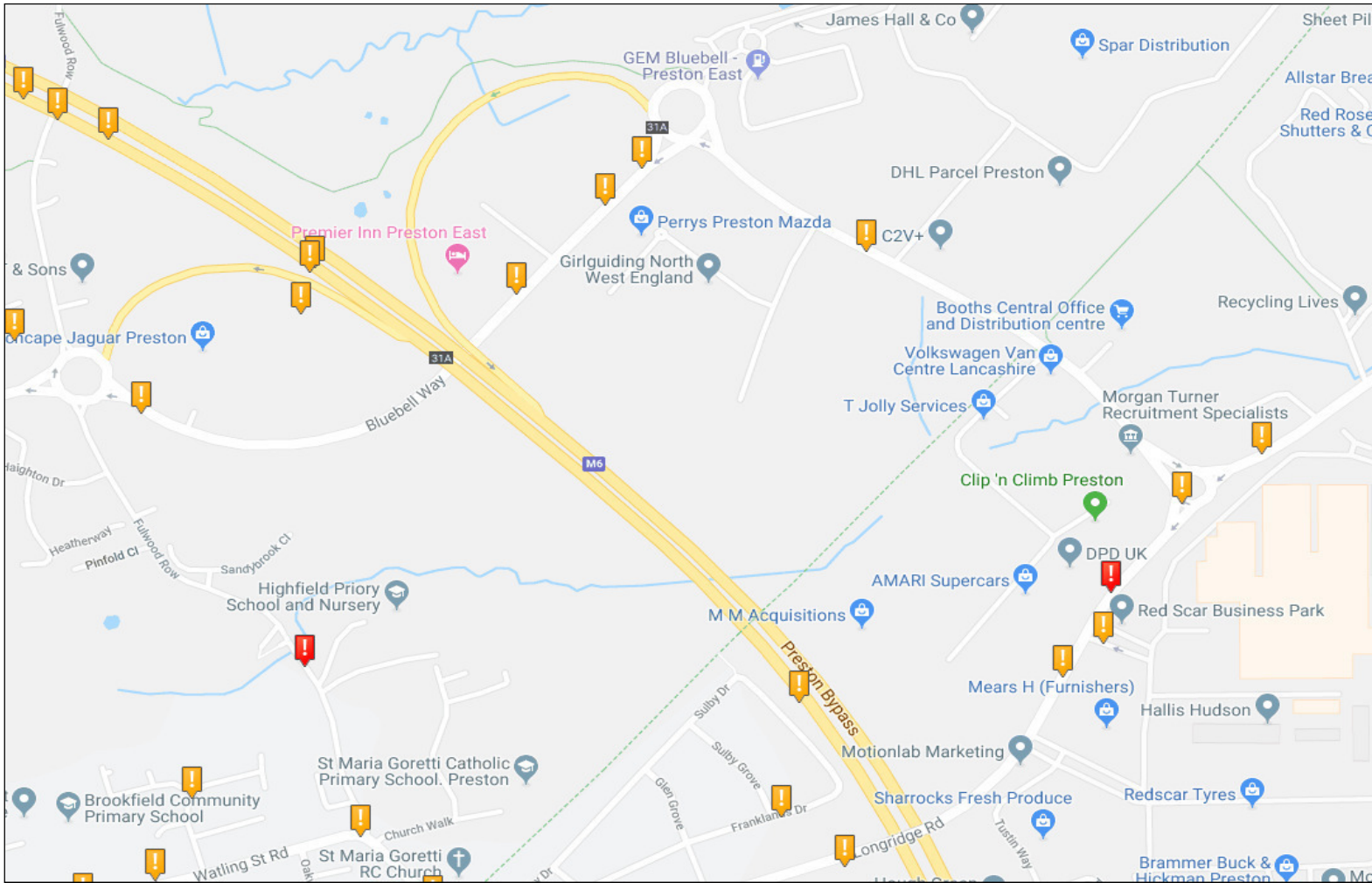
Weather
Cloudy
Temp: 13°C

1600 - 1800 (Weekday PM Peak)

TIME	3a	3b	3c	3d	3e	3f
1600 - 1605	5	1	1	4	1	1
1605 - 1610	2	2	4	5	9	3
1610 - 1615	1	3	3	4	4	2
1615 - 1620	2	7	15	9	8	2
1620 - 1625	2	5	9	6	6	2
1625 - 1630	2	2	3	5	4	3
1630 - 1635	2	12	15	10	10	2
1635 - 1640	9	13	20	8	3	1
1640 - 1645	13	12	6	5	3	1
1645 - 1650	2	12	15	8	9	3
1650 - 1655	4	10	14	8	2	2
1655 - 1700	5	11	2	8	7	3
Hourly Average	4.08	7.50	8.92	6.67	5.50	2.08
1700 - 1705	1	2	2	4	1	1
1705 - 1710	7	3	5	6	2	2
1710 - 1715	6	13	3	2	7	4
1715 - 1720	11	13	11	5	2	2
1720 - 1725	4	12	9	6	3	2
1725 - 1730	2	11	4	13	11	1
1730 - 1735	0	1	2	9	7	1
1735 - 1740	1	3	6	8	8	2
1740 - 1745	2	0	1	4	5	1
1745 - 1750	2	1	0	2	7	1
1750 - 1755	0	1	1	3	8	1
1755 - 1800	2	1	0	2	1	1
Hourly Average	3.17	5.08	3.67	5.33	5.17	1.58

Session Total	3.63	6.29	6.29	6.00	5.33	1.83
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APPENDIX C ACCIDENT DATA



Accident Analysis (2014 - 2018)



13 September 2019

Appendix C

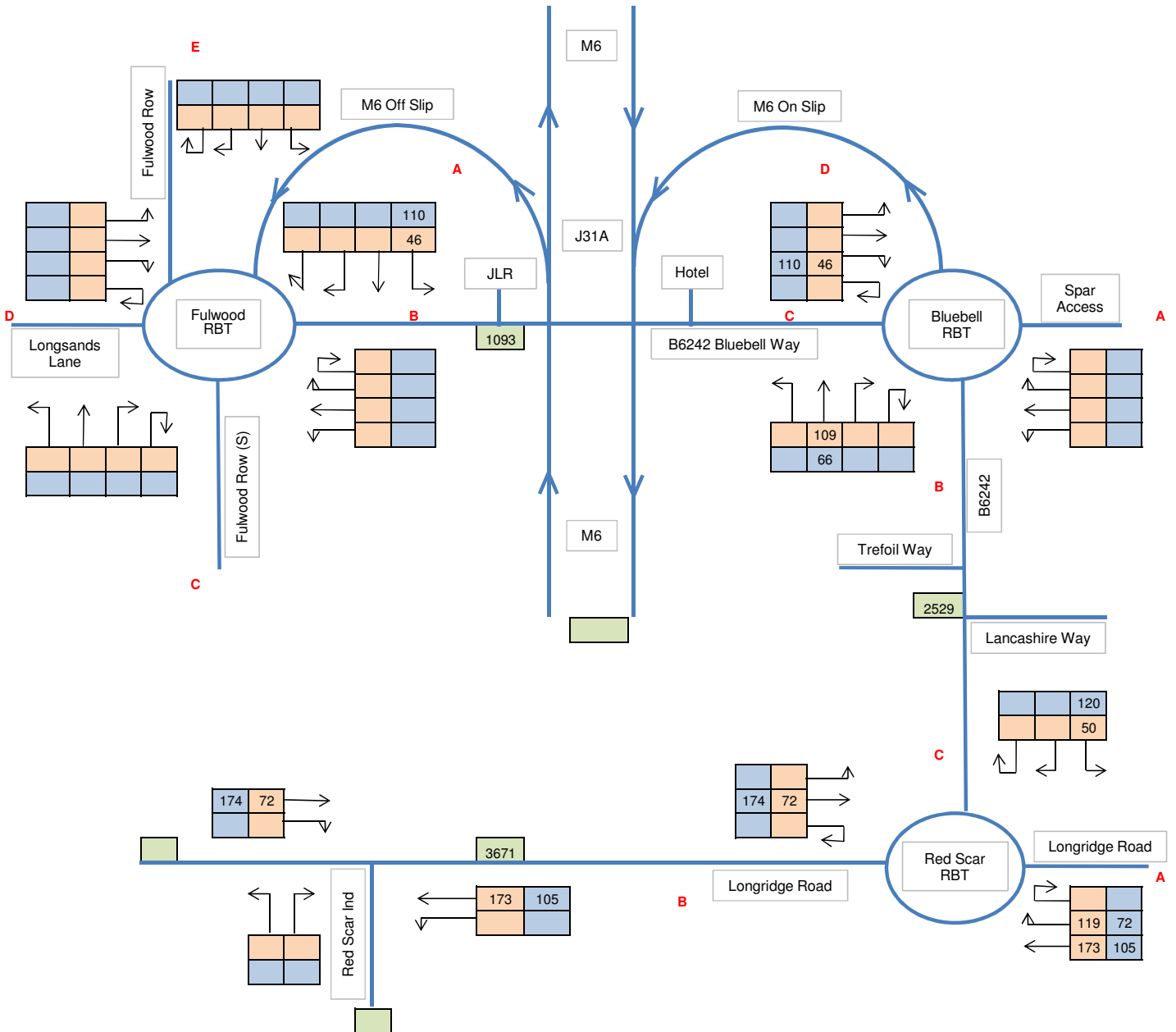
Project: 661304 - Longridge Road Energy Centre, Preston

APPENDIX D

TRAFFIC FLOW DIAGRAMS

- AM Flows
- PM Flows
- AADT

AM Peak: 07.30 - 08.30
 PM Peak: 16.15 - 17.15



NB: ALL PEAK HOUR FLOWS ARE PCUS

Committed Development Flows



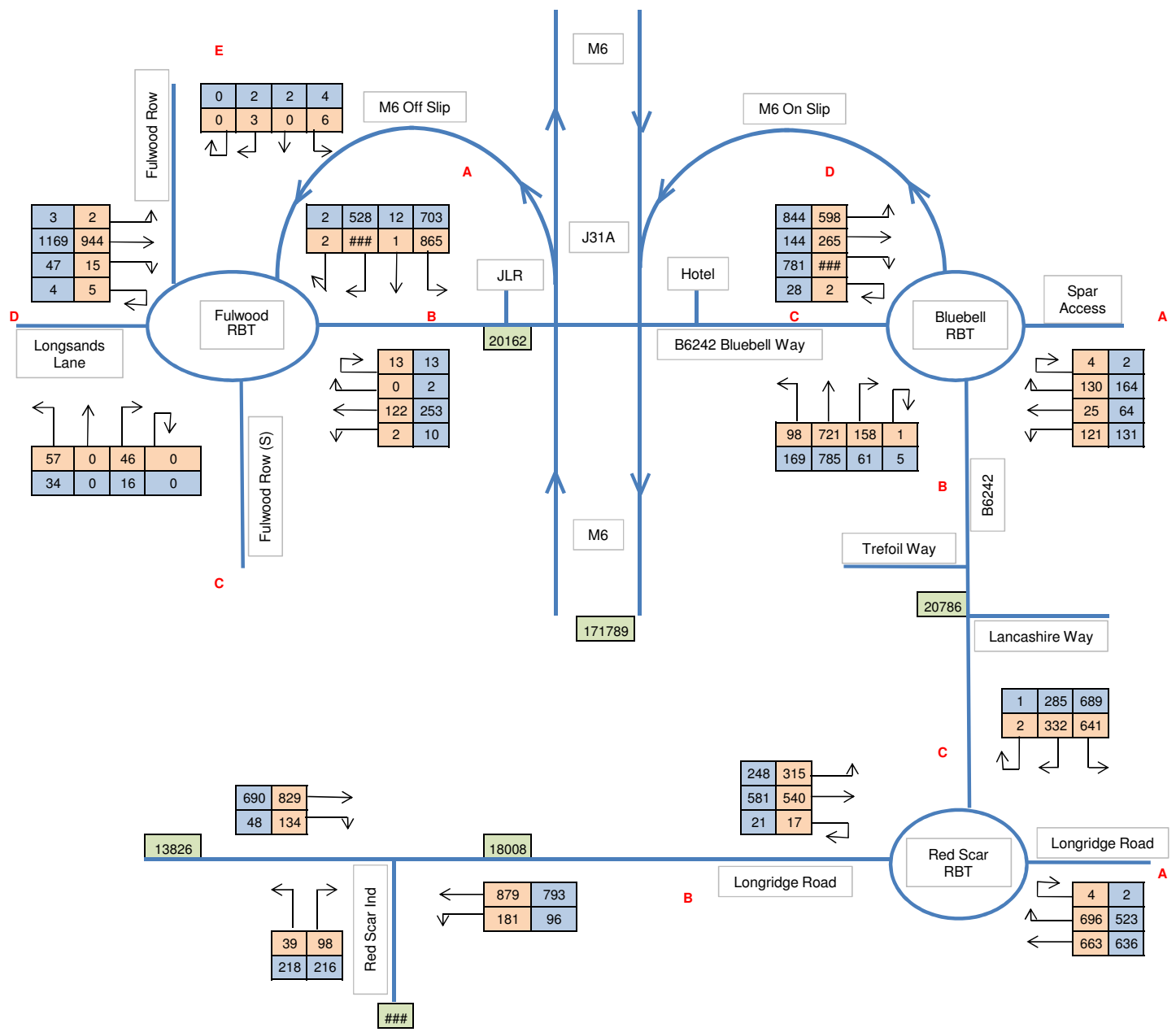
19 September 2019

Figure 006

Project: 661304 - Longridge Road Energy Centre, Preston

AM Flows
 PM Flows
 AADT

AM Peak: 07.30 - 08.30
 PM Peak: 16.15 - 17.15



NB: ALL PEAK HOUR FLOWS ARE PCUS

Base 2023 (Forecast 2023 + Committed development flows)

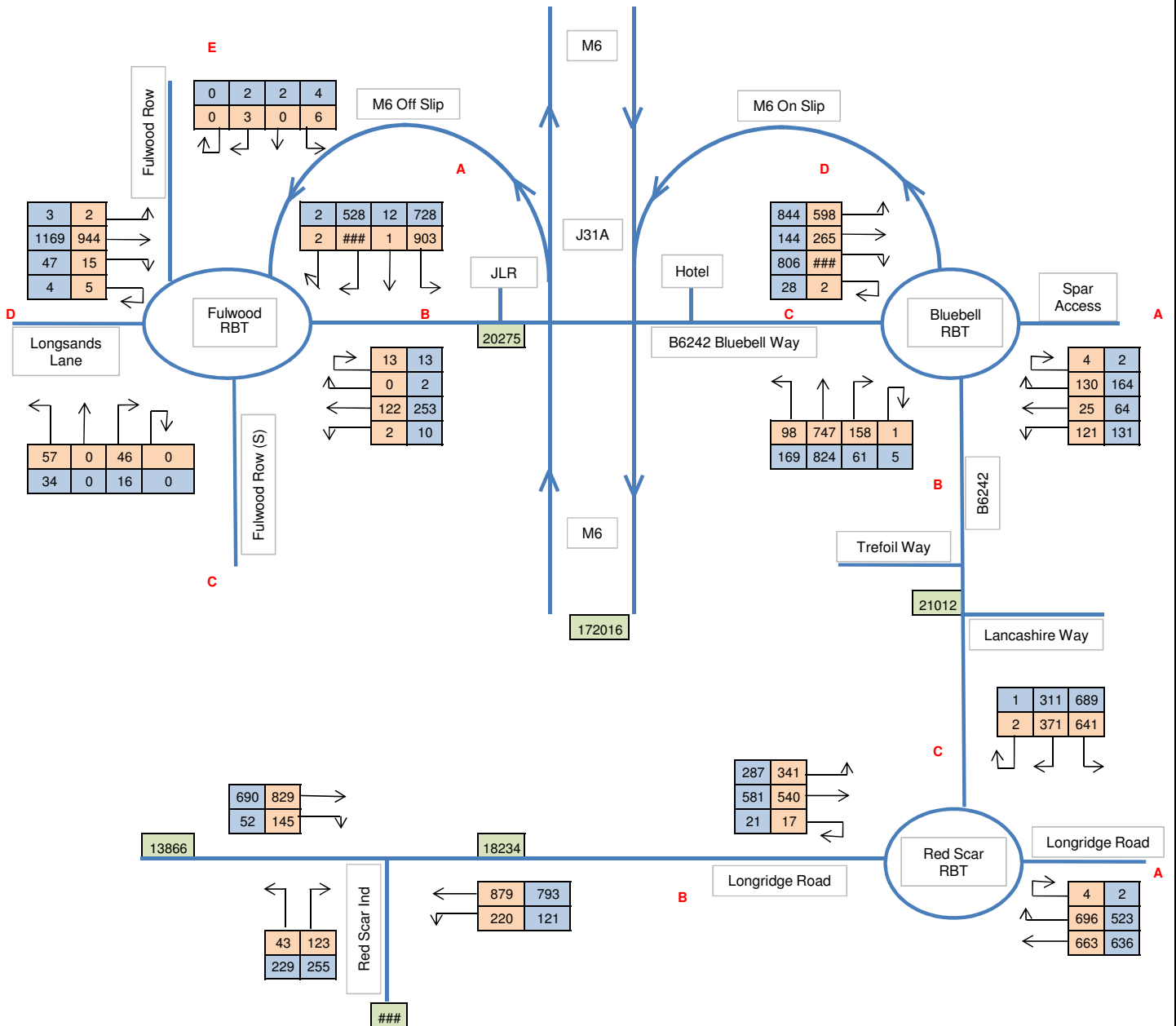


19 September 2019

Appendix 6.3

Project: 661304 - Longridge Road Energy Centre, Preston

AM Flows
 PM Flows
 AADT
 AM Peak: 07.30 - 08.30
 PM Peak: 16.15 - 17.15



NB: ALL PEAK HOUR FLOWS ARE PCUs

Base 2023 + Operational flows



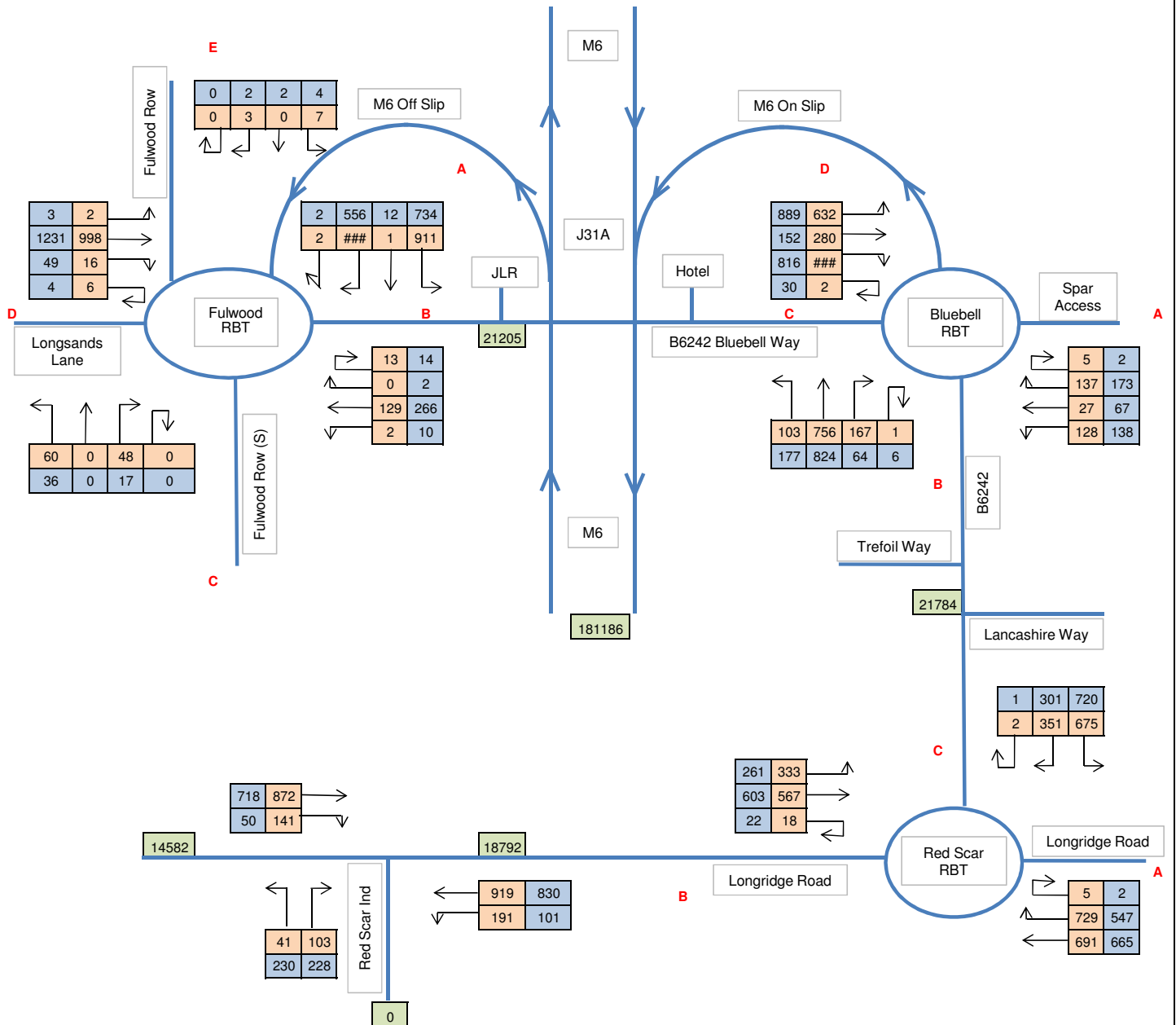
19 September 2019

Project: 661304 - Longridge Road Energy Centre, Preston

Appendix 6.4

AM Flows
 PM Flows
 AADT

AM Peak: 07.30 - 08.30
 PM Peak: 16.15 - 17.15



NB: ALL PEAK HOUR FLOWS ARE PCUs

Base 2029 (Forecast 2029 + Committed development flows)



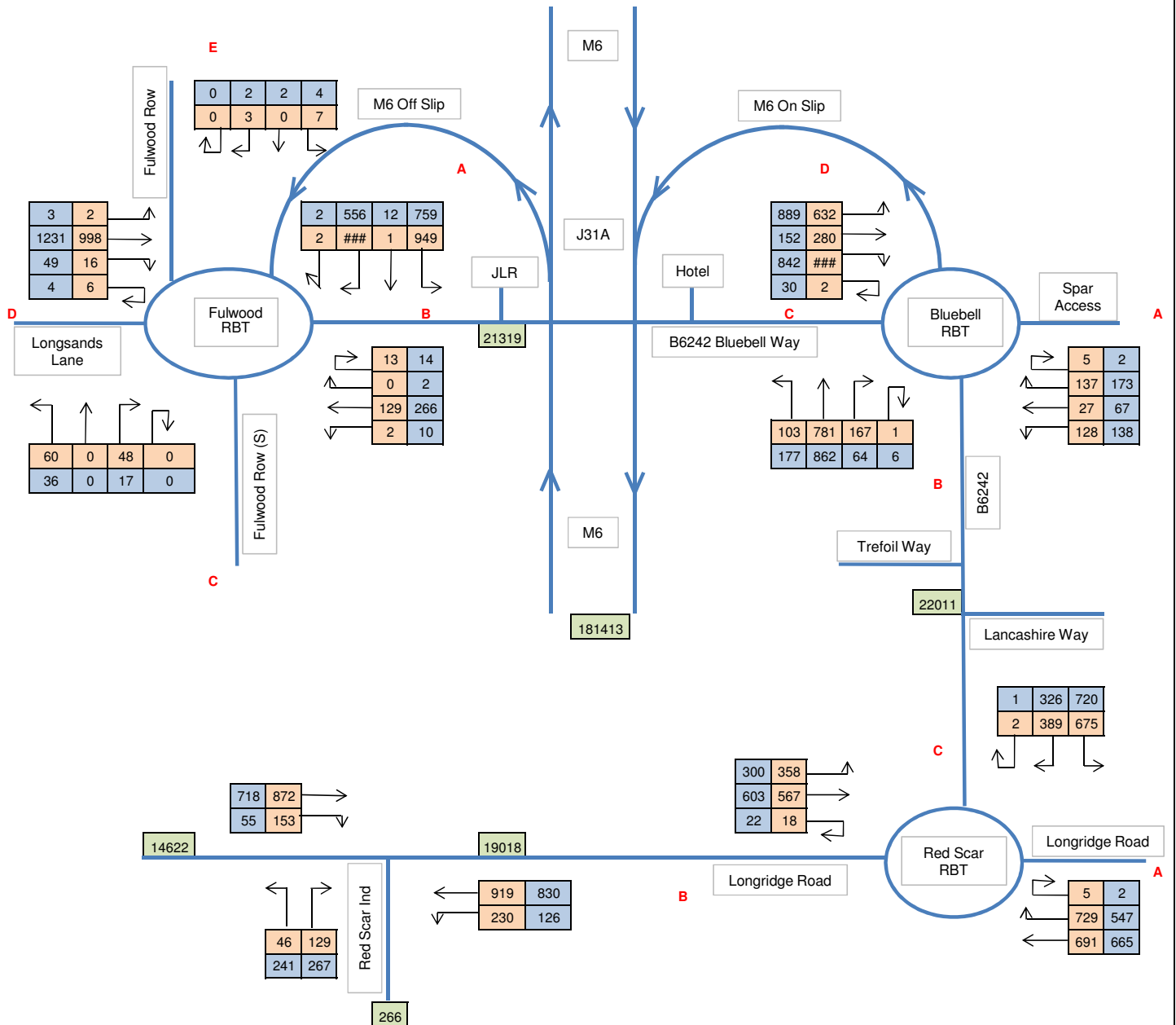
19 September 2019

Appendix 6.5

Project: 661304 - Longridge Road Energy Centre, Preston

AM Flows
 PM Flows
 AADT

AM Peak: 07.30 - 08.30
 PM Peak: 16.15 - 17.15



Base 2033 + Operational flows



19 September 2019

Project: 661304 - Longridge Road Energy Centre, Preston

Appendix 6.6

APPENDIX E
PICADY OUTPUT – RSIE SITE ACCESS

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]
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Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: <http://www.trlsoftware.co.uk>

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Filename: Longridge Road_Site Access junction v2.arc8

Path: P:\660000 EA Man\661304 - EfW, Hillhouse IBP\Red Scar Business Park\4. Data\b. Traffic modelling\PICADY

Report generation date: 19/09/2019 15:27:24

-
- » Existing junction - Existing 2019, AM
 - » Existing junction - Existing 2019, PM
 - » Existing junction - Baseline 2023 (Forecast 2023 + Committed), AM
 - » Existing junction - Baseline 2023 (Forecast 2023 + Committed), PM
 - » Existing junction - 'With development' 2023 (Baseline 2023 + Operational), AM
 - » Existing junction - 'With development' 2023 (Baseline 2023 + Operational), PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
Existing junction - Baseline 2023 (Forecast 2023 + Committed)								
Stream B-C	0.13	12.05	0.11	B	1.71	28.91	0.61	D
Stream B-A	1.64	62.31	0.61	F	6.29	112.29	0.88	F
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.43	11.67	0.28	B	0.11	8.36	0.09	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
Existing junction - Existing 2019								
Stream B-C	0.10	9.80	0.08	A	1.09	19.00	0.50	C
Stream B-A	0.71	27.80	0.40	D	2.06	36.79	0.66	E
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.34	9.71	0.24	A	0.10	7.68	0.08	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
Existing junction - 'With development' 2023 (Baseline 2023 + Operational)								
Stream B-C	0.16	13.47	0.13	B	2.04	32.72	0.66	D
Stream B-A	3.87	121.43	0.80	F	23.49	347.60	1.05	F
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.50	12.49	0.31	B	0.12	8.56	0.10	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2019, AM " model duration: 07:30 - 08:30

"D2 - Existing 2019, PM" model duration: 16:15 - 17:15

"D3 - Baseline 2023 (Forecast 2023 + Committed), AM" model duration: 07:30 - 08:30

"D4 - Baseline 2023 (Forecast 2023 + Committed), PM" model duration: 16:15 - 17:15

"D5 - 'With development' 2023 (Baseline 2023 + Operational), AM" model duration: 07:30 - 08:30

"D6 - 'With development' 2023 (Baseline 2023 + Operational), PM" model duration: 16:15 - 17:15

Run using Junctions 8.0.4.487 at 19/09/2019 15:27:22

File summary

Title	(untitled)
Location	
Site Number	
Date	30/01/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MQuental
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing junction - Existing 2019, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2019, AM	Existing 2019	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	16.27	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	844.00	100.000
B	FLAT	✓	130.00	100.000
C	FLAT	✓	848.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	172.000	672.000
	B	93.000	0.000	37.000
	C	721.000	127.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.72	0.00	0.28
	C	0.85	0.15	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.08	9.80	0.10	A
B-A	0.40	27.80	0.71	D
C-A	-	-	-	-
C-B	0.24	9.71	0.34	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	37.00	36.60	0.00	442.64	0.084	0.10	9.744	A
B-A	93.00	90.27	0.00	235.86	0.394	0.68	26.744	D
C-A	721.00	721.00	0.00	-	-	-	-	-
C-B	127.00	125.65	0.00	534.71	0.238	0.34	9.649	A
A-B	172.00	172.00	0.00	-	-	-	-	-
A-C	672.00	672.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	37.00	37.00	0.00	441.12	0.084	0.10	9.798	A
B-A	93.00	92.93	0.00	235.36	0.395	0.70	27.764	D
C-A	721.00	721.00	0.00	-	-	-	-	-
C-B	127.00	126.99	0.00	534.71	0.238	0.34	9.712	A
A-B	172.00	172.00	0.00	-	-	-	-	-
A-C	672.00	672.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	37.00	37.00	0.00	441.08	0.084	0.10	9.799	A
B-A	93.00	92.98	0.00	235.36	0.395	0.71	27.792	D
C-A	721.00	721.00	0.00	-	-	-	-	-
C-B	127.00	127.00	0.00	534.71	0.238	0.34	9.712	A
A-B	172.00	172.00	0.00	-	-	-	-	-
A-C	672.00	672.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	37.00	37.00	0.00	441.07	0.084	0.10	9.799	A
B-A	93.00	92.99	0.00	235.36	0.395	0.71	27.800	D
C-A	721.00	721.00	0.00	-	-	-	-	-
C-B	127.00	127.00	0.00	534.71	0.238	0.34	9.712	A
A-B	172.00	172.00	0.00	-	-	-	-	-
A-C	672.00	672.00	0.00	-	-	-	-	-

Existing junction - Existing 2019, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2019, PM	Existing 2019	PM		FLAT	16:15	17:15	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	25.86	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	750.00	100.000
B	FLAT	✓	415.00	100.000
C	FLAT	✓	539.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	92.000	658.000
	B	207.000	0.000	208.000
	C	493.000	46.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.50	0.00	0.50
	C	0.91	0.09	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.50	19.00	1.09	C
B-A	0.66	36.79	2.06	E
C-A	-	-	-	-
C-B	0.08	7.68	0.10	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	208.00	203.84	0.00	419.63	0.496	1.04	18.029	C
B-A	207.00	199.37	0.00	314.28	0.659	1.91	32.652	D
C-A	493.00	493.00	0.00	-	-	-	-	-
C-B	46.00	45.61	0.00	561.45	0.082	0.10	7.671	A
A-B	92.00	92.00	0.00	-	-	-	-	-
A-C	658.00	658.00	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	208.00	207.87	0.00	416.54	0.499	1.07	18.951	C
B-A	207.00	206.60	0.00	314.13	0.659	2.01	36.486	E
C-A	493.00	493.00	0.00	-	-	-	-	-
C-B	46.00	46.00	0.00	561.45	0.082	0.10	7.682	A
A-B	92.00	92.00	0.00	-	-	-	-	-
A-C	658.00	658.00	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	208.00	207.96	0.00	416.38	0.500	1.08	18.986	C
B-A	207.00	206.85	0.00	314.13	0.659	2.05	36.705	E
C-A	493.00	493.00	0.00	-	-	-	-	-
C-B	46.00	46.00	0.00	561.45	0.082	0.10	7.682	A
A-B	92.00	92.00	0.00	-	-	-	-	-
A-C	658.00	658.00	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	208.00	207.98	0.00	416.33	0.500	1.09	18.997	C
B-A	207.00	206.92	0.00	314.13	0.659	2.06	36.786	E
C-A	493.00	493.00	0.00	-	-	-	-	-
C-B	46.00	46.00	0.00	561.45	0.082	0.10	7.682	A
A-B	92.00	92.00	0.00	-	-	-	-	-
A-C	658.00	658.00	0.00	-	-	-	-	-

Existing junction - Baseline 2023 (Forecast 2023 + Committed), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Baseline 2023 (Forecast 2023 + Committed), AM	Baseline 2023 (Forecast 2023 + Committed)	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	30.04	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	1060.00	100.000
B	FLAT	✓	137.00	100.000
C	FLAT	✓	963.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	181.000	879.000
	B	98.000	0.000	39.000
	C	829.000	134.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.17	0.83
	B	0.72	0.00	0.28
	C	0.86	0.14	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.11	12.05	0.13	B
B-A	0.61	62.31	1.64	F
C-A	-	-	-	-
C-B	0.28	11.67	0.43	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	39.00	38.49	0.00	372.38	0.105	0.13	11.842	B
B-A	98.00	92.16	0.00	161.63	0.606	1.46	53.484	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	134.00	132.29	0.00	473.24	0.283	0.43	11.558	B
A-B	181.00	181.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	39.00	38.99	0.00	368.14	0.106	0.13	12.030	B
B-A	98.00	97.54	0.00	161.00	0.609	1.57	61.395	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	134.00	133.98	0.00	473.24	0.283	0.43	11.672	B
A-B	181.00	181.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	39.00	39.00	0.00	367.83	0.106	0.13	12.042	B
B-A	98.00	97.83	0.00	161.00	0.609	1.62	62.057	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	134.00	133.99	0.00	473.24	0.283	0.43	11.672	B
A-B	181.00	181.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	39.00	39.00	0.00	367.71	0.106	0.13	12.046	B
B-A	98.00	97.91	0.00	161.00	0.609	1.64	62.306	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	134.00	134.00	0.00	473.24	0.283	0.43	11.672	B
A-B	181.00	181.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Existing junction - Baseline 2023 (Forecast 2023 + Committed), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Baseline 2023 (Forecast 2023 + Committed), PM	Baseline 2023 (Forecast 2023 + Committed)	PM		FLAT	16:15	17:15	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	64.23	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	889.00	100.000
B	FLAT	✓	434.00	100.000
C	FLAT	✓	738.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	96.000	793.000
	B	216.000	0.000	218.000
	C	690.000	48.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.50	0.00	0.50
	C	0.93	0.07	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.61	28.91	1.71	D
B-A	0.88	112.29	6.29	F
C-A	-	-	-	-
C-B	0.09	8.36	0.11	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.00	211.94	0.00	365.90	0.596	1.51	24.857	C
B-A	216.00	198.03	0.00	246.51	0.876	4.49	67.482	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	48.00	47.56	0.00	521.90	0.092	0.11	8.341	A
A-B	96.00	96.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.00	217.50	0.00	357.29	0.610	1.64	28.131	D
B-A	216.00	212.13	0.00	246.35	0.877	5.46	99.200	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	48.00	48.00	0.00	521.90	0.092	0.11	8.355	A
A-B	96.00	96.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.00	217.82	0.00	355.45	0.613	1.68	28.658	D
B-A	216.00	213.96	0.00	246.35	0.877	5.97	107.621	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	48.00	48.00	0.00	521.90	0.092	0.11	8.355	A
A-B	96.00	96.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.00	217.90	0.00	354.48	0.615	1.71	28.909	D
B-A	216.00	214.71	0.00	246.35	0.877	6.29	112.287	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	48.00	48.00	0.00	521.90	0.092	0.11	8.355	A
A-B	96.00	96.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Existing junction - 'With development' 2023 (Baseline 2023 + Operational), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
'With development' 2023 (Baseline 2023 + Operational), AM	'With development' 2023 (Baseline 2023 + Operational)	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	55.71	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	1099.00	100.000
B	FLAT	✓	166.00	100.000
C	FLAT	✓	974.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	220.000	879.000
	B	123.000	0.000	43.000
	C	829.000	145.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.74	0.00	0.26
	C	0.85	0.15	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.13	13.47	0.16	B
B-A	0.80	121.43	3.87	F
C-A	-	-	-	-
C-B	0.31	12.49	0.50	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.00	42.39	0.00	348.00	0.124	0.15	12.928	B
B-A	123.00	111.39	0.00	153.62	0.801	2.90	80.388	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	145.00	143.03	0.00	462.15	0.314	0.49	12.336	B
A-B	220.00	220.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.00	42.98	0.00	339.33	0.127	0.16	13.362	B
B-A	123.00	120.80	0.00	152.89	0.804	3.45	111.124	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	145.00	144.98	0.00	462.15	0.314	0.50	12.483	B
A-B	220.00	220.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.00	42.99	0.00	337.76	0.127	0.16	13.433	B
B-A	123.00	121.94	0.00	152.89	0.805	3.72	117.991	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	145.00	144.99	0.00	462.15	0.314	0.50	12.485	B
A-B	220.00	220.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.00	43.00	0.00	337.00	0.128	0.16	13.468	B
B-A	123.00	122.37	0.00	152.88	0.805	3.87	121.433	F
C-A	829.00	829.00	0.00	-	-	-	-	-
C-B	145.00	145.00	0.00	462.15	0.314	0.50	12.485	B
A-B	220.00	220.00	0.00	-	-	-	-	-
A-C	879.00	879.00	0.00	-	-	-	-	-

Existing junction - 'With development' 2023 (Baseline 2023 + Operational), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing junction	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
'With development' 2023 (Baseline 2023 + Operational), PM	'With development' 2023 (Baseline 2023 + Operational)	PM		FLAT	16:15	17:15	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	180.18	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Longridge Road (East)		Major
B	B	Site access		Minor
C	C	Longridge Road (West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00	✓	3.60	170.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								215	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	589.630	0.102	0.257	0.162	0.368
1	B-C	674.299	0.098	0.248	-	-
1	C-B	774.866	0.285	0.285	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	914.00	100.000
B	FLAT	✓	484.00	100.000
C	FLAT	✓	742.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	121.000	793.000
	B	255.000	0.000	229.000
	C	690.000	52.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.53	0.00	0.47
	C	0.93	0.07	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.66	32.72	2.04	D
B-A	1.05	347.60	23.49	F
C-A	-	-	-	-
C-B	0.10	8.56	0.12	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	229.00	221.40	0.00	349.56	0.655	1.90	29.418	D
B-A	255.00	217.21	0.00	242.50	1.052	9.45	107.743	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	52.00	51.51	0.00	514.79	0.101	0.12	8.539	A
A-B	121.00	121.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	229.00	228.65	0.00	349.56	0.655	1.99	32.508	D
B-A	255.00	233.88	0.00	242.32	1.052	14.73	214.525	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	52.00	52.00	0.00	514.79	0.101	0.12	8.556	A
A-B	121.00	121.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	229.00	228.87	0.00	349.56	0.655	2.02	32.664	D
B-A	255.00	236.76	0.00	242.32	1.052	19.29	284.546	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	52.00	52.00	0.00	514.79	0.101	0.12	8.556	A
A-B	121.00	121.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	229.00	228.93	0.00	349.56	0.655	2.04	32.722	D
B-A	255.00	238.18	0.00	242.32	1.052	23.49	347.598	F
C-A	690.00	690.00	0.00	-	-	-	-	-
C-B	52.00	52.00	0.00	514.79	0.101	0.12	8.556	A
A-B	121.00	121.00	0.00	-	-	-	-	-
A-C	793.00	793.00	0.00	-	-	-	-	-

**APPENDIX F
ARCADY OUTPUT – LONGRIDGE ROAD
ROUNDBABOUT**

Junctions 8
ARCADY 8 - Roundabout Module
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2019
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Filename: Red Scar roundabout v2.arc8

Path: P:\660000 EA Man\661304 - EfW, Hillhouse IBP\Red Scar Business Park\4. Data\b. Traffic modelling\ARCADY

Report generation date: 19/09/2019 15:23:17

- » Existing layout - Existing 2019, AM
- » Existing layout - Existing 2019, PM
- » Existing layout - Baseline 2023 (Forecast 2023 + Committed), AM
- » Existing layout - Baseline 2023 (Forecast 2023 + Committed), PM
- » Existing layout - 'With development' 2023 (Baseline 2023 + Operational), AM
- » Existing layout - 'With development' 2023 (Baseline 2023 + Operational), PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
Existing layout - Baseline 2023 (Forecast 2023 + Committed)								
Arm 1	3.45	9.21	0.76	A	1.93	6.00	0.64	A
Arm 2	0.90	3.71	0.45	A	0.76	3.24	0.41	A
Arm 3	0.80	2.94	0.42	A	0.82	3.02	0.43	A
Existing layout - Existing 2019								
Arm 1	1.42	5.05	0.57	A	1.16	4.46	0.51	A
Arm 2	0.65	3.08	0.37	A	0.48	2.65	0.30	A
Arm 3	0.64	2.61	0.37	A	0.55	2.44	0.34	A
Existing layout - 'With development' 2023 (Baseline 2023 + Operational)								
Arm 1	3.66	9.77	0.77	A	1.98	6.16	0.64	A
Arm 2	0.95	3.80	0.46	A	0.83	3.35	0.43	A
Arm 3	0.85	3.03	0.44	A	0.86	3.08	0.44	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2019, AM" model duration: 07:30 - 08:30

"D2 - Existing 2019, PM" model duration: 16:15 - 17:15

"D3 - Baseline 2023 (Forecast 2023 + Committed), AM" model duration: 07:30 - 08:30

"D4 - Baseline 2023 (Forecast 2023 + Committed), PM" model duration: 16:15 - 17:15

"D5 - 'With development' 2023 (Baseline 2023 + Operational), AM" model duration: 07:30 - 08:30

"D6 - 'With development' 2023 (Baseline 2023 + Operational), PM" model duration: 16:15 - 17:15

Run using Junctions 8.0.4.487 at 19/09/2019 15:23:16

File summary

Title	(untitled)
Location	
Site Number	
Date	15/10/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MQuental
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing layout - Existing 2019, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Existing 2019, AM	Existing 2019	AM		FLAT	07:30	08:30	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				3.68	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1019.00	100.000
2	FLAT	✓	762.00	100.000
3	FLAT	✓	881.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	4.000	466.000	549.000
	2	446.000	16.000	300.000
	3	563.000	316.000	2.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.46	0.54
	2	0.59	0.02	0.39
	3	0.64	0.36	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.57	5.05	1.42	A	1019.00	1019.00	84.21	4.96	1.40	84.24	4.96
2	0.37	3.08	0.65	A	762.00	762.00	38.71	3.05	0.65	38.71	3.05
3	0.37	2.61	0.64	A	881.00	881.00	38.09	2.59	0.63	38.10	2.59

Main Results for each time segment

Main results: (07:30-07:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1019.00	254.75	1013.36	1009.84	333.03	0.00	1803.96	1560.24	0.565	0.00	1.41	4.975	A
2	762.00	190.50	759.41	794.45	551.93	0.00	2051.31	1830.12	0.371	0.00	0.65	3.058	A
3	881.00	220.25	878.45	846.94	464.41	0.00	2396.69	1878.07	0.368	0.00	0.64	2.603	A

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1019.00	254.75	1018.96	1012.99	334.00	0.00	1803.34	1560.24	0.565	1.41	1.42	5.048	A
2	762.00	190.50	761.99	797.98	554.98	0.00	2049.05	1830.12	0.372	0.65	0.65	3.076	A
3	881.00	220.25	880.99	850.97	465.99	0.00	2395.43	1878.07	0.368	0.64	0.64	2.614	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1019.00	254.75	1018.99	1013.00	334.00	0.00	1803.34	1560.24	0.565	1.42	1.42	5.048	A
2	762.00	190.50	762.00	797.99	554.99	0.00	2049.04	1830.12	0.372	0.65	0.65	3.076	A
3	881.00	220.25	881.00	850.99	466.00	0.00	2395.43	1878.07	0.368	0.64	0.64	2.614	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1019.00	254.75	1018.99	1013.00	334.00	0.00	1803.34	1560.24	0.565	1.42	1.42	5.048	A
2	762.00	190.50	762.00	798.00	555.00	0.00	2049.04	1830.12	0.372	0.65	0.65	3.076	A
3	881.00	220.25	881.00	851.00	466.00	0.00	2395.43	1878.07	0.368	0.64	0.64	2.614	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:30-07:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.29	1.35	4.975	A	A
2	9.49	0.63	3.058	A	A
3	9.36	0.62	2.603	A	A

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.24	1.42	5.048	A	A
2	9.72	0.65	3.076	A	A
3	9.56	0.64	2.614	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.32	1.42	5.048	A	A
2	9.74	0.65	3.076	A	A
3	9.58	0.64	2.614	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.36	1.42	5.048	A	A
2	9.75	0.65	3.076	A	A
3	9.59	0.64	2.614	A	A

Existing layout - Existing 2019, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Existing 2019, PM	Existing 2019	PM		FLAT	16:15	17:15	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				3.29	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	941.00	100.000
2	FLAT	✓	646.00	100.000
3	FLAT	✓	818.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	2.000	508.000	431.000
	2	389.000	20.000	237.000
	3	544.000	273.000	1.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.54	0.46
	2	0.60	0.03	0.37
	3	0.67	0.33	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.51	4.46	1.16	A	941.00	941.00	68.92	4.39	1.15	68.94	4.40
2	0.30	2.65	0.48	A	646.00	646.00	28.35	2.63	0.47	28.35	2.63
3	0.34	2.44	0.55	A	818.00	818.00	33.06	2.43	0.55	33.07	2.43

Main Results for each time segment

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	941.00	235.25	936.39	932.38	293.20	0.00	1829.28	1595.00	0.514	0.00	1.15	4.412	A
2	646.00	161.50	644.11	797.71	431.87	0.00	2140.11	1915.07	0.302	0.00	0.47	2.643	A
3	818.00	204.50	815.79	666.19	409.79	0.00	2440.19	1798.33	0.335	0.00	0.55	2.434	A

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	941.00	235.25	940.97	934.99	294.00	0.00	1828.77	1595.00	0.515	1.15	1.16	4.460	A
2	646.00	161.50	645.99	800.98	433.99	0.00	2138.54	1915.07	0.302	0.47	0.47	2.652	A
3	818.00	204.50	817.99	668.99	411.00	0.00	2439.23	1798.33	0.335	0.55	0.55	2.442	A

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	941.00	235.25	940.99	935.00	294.00	0.00	1828.77	1595.00	0.515	1.16	1.16	4.460	A
2	646.00	161.50	646.00	800.99	434.00	0.00	2138.54	1915.07	0.302	0.47	0.48	2.652	A
3	818.00	204.50	818.00	669.00	411.00	0.00	2439.22	1798.33	0.335	0.55	0.55	2.442	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	941.00	235.25	941.00	935.00	294.00	0.00	1828.77	1595.00	0.515	1.16	1.16	4.460	A
2	646.00	161.50	646.00	801.00	434.00	0.00	2138.54	1915.07	0.302	0.48	0.48	2.652	A
3	818.00	204.50	818.00	669.00	411.00	0.00	2439.22	1798.33	0.335	0.55	0.55	2.442	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:15-16:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.70	1.11	4.412	A	A
2	6.97	0.46	2.643	A	A
3	8.14	0.54	2.434	A	A

Queueing Delay results: (16:30-16:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.36	1.16	4.460	A	A
2	7.12	0.47	2.652	A	A
3	8.30	0.55	2.442	A	A

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.42	1.16	4.460	A	A
2	7.13	0.48	2.652	A	A
3	8.31	0.55	2.442	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.44	1.16	4.460	A	A
2	7.13	0.48	2.652	A	A
3	8.32	0.55	2.442	A	A

Existing layout - Baseline 2023 (Forecast 2023 + Committed), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rela
Baseline 2023 (Forecast 2023 + Committed), AM	Baseline 2023 (Forecast 2023 + Committed)	AM		FLAT	07:30	08:30	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				5.81	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1363.00	100.000
2	FLAT	✓	872.00	100.000
3	FLAT	✓	975.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	4.000	663.000	696.000
	2	540.000	17.000	315.000
	3	641.000	332.000	2.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.49	0.51
	2	0.62	0.02	0.36
	3	0.66	0.34	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		1	2	3
	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.76	9.21	3.45	A	1363.00	1363.00	199.95	8.80	3.33	200.15	8.81
2	0.45	3.71	0.90	A	872.00	872.00	53.16	3.66	0.89	53.17	3.66
3	0.42	2.94	0.80	A	975.00	975.00	47.40	2.92	0.79	47.40	2.92

Main Results for each time segment

Main results: (07:30-07:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1349.61	1180.68	349.85	0.00	1793.27	1596.00	0.760	0.00	3.35	8.683	A
2	872.00	218.00	868.45	1004.34	695.12	0.00	1945.40	1850.52	0.448	0.00	0.89	3.665	A
3	975.00	243.75	971.83	1004.88	558.69	0.00	2321.62	1821.54	0.420	0.00	0.79	2.928	A

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.72	1184.97	351.00	0.00	1792.54	1596.00	0.760	3.35	3.42	9.197	A
2	872.00	218.00	871.97	1011.86	701.85	0.00	1940.42	1850.52	0.449	0.89	0.89	3.705	A
3	975.00	243.75	974.99	1012.85	560.98	0.00	2319.80	1821.54	0.420	0.79	0.80	2.944	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.90	1184.99	351.00	0.00	1792.53	1596.00	0.760	3.42	3.44	9.208	A
2	872.00	218.00	871.99	1011.95	701.95	0.00	1940.35	1850.52	0.449	0.89	0.90	3.705	A
3	975.00	243.75	975.00	1012.95	561.00	0.00	2319.79	1821.54	0.420	0.80	0.80	2.944	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.95	1185.00	351.00	0.00	1792.53	1596.00	0.760	3.44	3.45	9.211	A
2	872.00	218.00	872.00	1011.98	701.97	0.00	1940.33	1850.52	0.449	0.90	0.90	3.705	A
3	975.00	243.75	975.00	1012.97	561.00	0.00	2319.78	1821.54	0.420	0.80	0.80	2.944	A

Queueing Delay Results for each time segment
Queueing Delay results: (07:30-07:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	45.93	3.06	8.683	A	A
2	12.94	0.86	3.665	A	A
3	11.61	0.77	2.928	A	A

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	50.84	3.39	9.197	A	A
2	13.37	0.89	3.705	A	A
3	11.91	0.79	2.944	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	51.46	3.43	9.208	A	A
2	13.42	0.89	3.705	A	A
3	11.93	0.80	2.944	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	51.72	3.45	9.211	A	A
2	13.43	0.90	3.705	A	A
3	11.94	0.80	2.944	A	A

Existing layout - Baseline 2023 (Forecast 2023 + Committed), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rela
Baseline 2023 (Forecast 2023 + Committed), FM	Baseline 2023 (Forecast 2023 + Committed)	FM		FLAT	16:15	17:15	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				4.24	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1161.00	100.000
2	FLAT	✓	850.00	100.000
3	FLAT	✓	975.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	2.000	636.000	523.000
	2	581.000	21.000	248.000
	3	689.000	285.000	1.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.55	0.45
	2	0.68	0.02	0.29
	3	0.71	0.29	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		1	2	3
	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.64	6.00	1.93	A	1161.00	1161.00	113.43	5.86	1.89	113.49	5.87
2	0.41	3.24	0.76	A	850.00	850.00	45.49	3.21	0.76	45.49	3.21
3	0.43	3.02	0.82	A	975.00	975.00	48.62	2.99	0.81	48.63	2.99

Main Results for each time segment

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1153.40	1267.61	305.97	0.00	1821.16	1670.12	0.638	0.00	1.90	5.866	A
2	850.00	212.50	846.96	936.81	522.56	0.00	2073.03	1899.66	0.410	0.00	0.76	3.221	A
3	975.00	243.75	971.75	767.69	601.83	0.00	2287.27	1692.89	0.426	0.00	0.81	3.002	A

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.93	1271.98	307.00	0.00	1820.51	1670.12	0.638	1.90	1.92	6.001	A
2	850.00	212.50	849.99	941.96	525.97	0.00	2070.51	1899.66	0.411	0.76	0.76	3.243	A
3	975.00	243.75	974.99	771.96	603.99	0.00	2285.55	1692.89	0.427	0.81	0.82	3.020	A

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.98	1271.99	307.00	0.00	1820.51	1670.12	0.638	1.92	1.92	6.003	A
2	850.00	212.50	850.00	941.99	525.99	0.00	2070.50	1899.66	0.411	0.76	0.76	3.243	A
3	975.00	243.75	975.00	771.99	604.00	0.00	2285.55	1692.89	0.427	0.82	0.82	3.020	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.99	1272.00	307.00	0.00	1820.51	1670.12	0.638	1.92	1.93	6.003	A
2	850.00	212.50	850.00	941.99	525.99	0.00	2070.49	1899.66	0.411	0.76	0.76	3.243	A
3	975.00	243.75	975.00	771.99	604.00	0.00	2285.54	1692.89	0.427	0.82	0.82	3.020	A

Queueing Delay Results for each time segment
Queueing Delay results: (16:15-16:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	27.04	1.80	5.866	A	A
2	11.12	0.74	3.221	A	A
3	11.91	0.79	3.002	A	A

Queueing Delay results: (16:30-16:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	28.67	1.91	6.001	A	A
2	11.43	0.76	3.243	A	A
3	12.22	0.81	3.020	A	A

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	28.83	1.92	6.003	A	A
2	11.46	0.76	3.243	A	A
3	12.24	0.82	3.020	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	28.89	1.93	6.003	A	A
2	11.47	0.76	3.243	A	A
3	12.25	0.82	3.020	A	A

Existing layout - 'With development' 2023 (Baseline 2023 + Operational), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
'With development' 2023 (Baseline 2023 + Operational), AM	'With development' 2023 (Baseline 2023 + Operational)	AM		FLAT	07:30	08:30	60	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				6.05	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1363.00	100.000
2	FLAT	✓	898.00	100.000
3	FLAT	✓	1014.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	4.000	663.000	696.000
	2	540.000	17.000	341.000
	3	641.000	371.000	2.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.49	0.51
	2	0.60	0.02	0.38
	3	0.63	0.37	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.77	9.77	3.66	A	1363.00	1363.00	211.36	9.30	3.52	211.59	9.31
2	0.46	3.80	0.95	A	898.00	898.00	56.08	3.75	0.93	56.09	3.75
3	0.44	3.03	0.85	A	1014.00	1014.00	50.74	3.00	0.85	50.75	3.00

Main Results for each time segment

Main results: (07:30-07:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1348.86	1180.56	388.68	0.00	1768.58	1562.36	0.771	0.00	3.54	9.151	A
2	898.00	224.50	894.26	1042.81	694.73	0.00	1945.69	1863.38	0.462	0.00	0.94	3.752	A
3	1014.00	253.50	1010.61	1030.35	558.64	0.00	2321.66	1842.52	0.437	0.00	0.85	3.013	A

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.67	1184.97	389.99	0.00	1767.74	1562.36	0.771	3.54	3.62	9.754	A
2	898.00	224.50	897.97	1050.83	701.83	0.00	1940.44	1863.38	0.463	0.94	0.94	3.797	A
3	1014.00	253.50	1013.99	1038.82	560.98	0.00	2319.80	1842.52	0.437	0.85	0.85	3.031	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.89	1184.99	390.00	0.00	1767.74	1562.36	0.771	3.62	3.65	9.770	A
2	898.00	224.50	897.99	1050.94	701.94	0.00	1940.36	1863.38	0.463	0.94	0.94	3.798	A
3	1014.00	253.50	1014.00	1038.94	561.00	0.00	2319.79	1842.52	0.437	0.85	0.85	3.031	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1363.00	340.75	1362.94	1185.00	390.00	0.00	1767.74	1562.36	0.771	3.65	3.66	9.774	A
2	898.00	224.50	898.00	1050.97	701.97	0.00	1940.33	1863.38	0.463	0.94	0.95	3.798	A
3	1014.00	253.50	1014.00	1038.97	561.00	0.00	2319.78	1842.52	0.437	0.85	0.85	3.031	A

Queueing Delay Results for each time segment
Queueing Delay results: (07:30-07:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	48.25	3.22	9.151	A	A
2	13.63	0.91	3.752	A	A
3	12.42	0.83	3.013	A	A

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	53.79	3.59	9.754	A	A
2	14.11	0.94	3.797	A	A
3	12.75	0.85	3.031	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	54.51	3.63	9.770	A	A
2	14.16	0.94	3.798	A	A
3	12.78	0.85	3.031	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	54.82	3.65	9.774	A	A
2	14.18	0.95	3.798	A	A
3	12.79	0.85	3.031	A	A

Existing layout - 'With development' 2023 (Baseline 2023 + Operational), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
'With development' 2023 (Baseline 2023 + Operational), RM	'With development' 2023 (Baseline 2023 + Operational)	RM		FLAT	16:15	17:15	60	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3				4.33	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Longridge Rd (East)	
2	2	B6242	
3	3	Longridge Rd (West)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.10	8.70	18.40	39.00	56.00	37.00	
2	4.00	9.50	30.00	71.00	56.00	15.00	
3	7.20	8.80	13.50	111.00	56.00	15.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.636	2015.692
2		(calculated)	(calculated)	0.740	2459.533
3		(calculated)	(calculated)	0.796	2766.490

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1161.00	100.000
2	FLAT	✓	889.00	100.000
3	FLAT	✓	1001.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	2.000	636.000	523.000
	2	581.000	21.000	287.000
	3	689.000	311.000	1.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.55	0.45
	2	0.65	0.02	0.32
	3	0.69	0.31	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		1	2	3
	1	10.0	10.0	10.0
	2	10.0	10.0	10.0
	3	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.64	6.16	1.98	A	1161.00	1161.00	116.25	6.01	1.94	116.31	6.01
2	0.43	3.35	0.83	A	889.00	889.00	49.11	3.31	0.82	49.12	3.32
3	0.44	3.08	0.86	A	1001.00	1001.00	50.91	3.05	0.85	50.92	3.05

Main Results for each time segment

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1153.21	1267.50	331.86	0.00	1804.70	1643.18	0.643	0.00	1.95	6.009	A
2	889.00	222.25	885.72	962.60	522.47	0.00	2073.10	1908.68	0.429	0.00	0.82	3.325	A
3	1001.00	250.25	997.60	806.43	601.76	0.00	2287.32	1735.07	0.438	0.00	0.85	3.063	A

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.92	1271.98	333.00	0.00	1803.98	1643.18	0.644	1.95	1.97	6.155	A
2	889.00	222.25	888.98	967.95	525.96	0.00	2070.51	1908.68	0.429	0.82	0.82	3.350	A
3	1001.00	250.25	1000.99	810.96	603.99	0.00	2285.55	1735.07	0.438	0.85	0.85	3.082	A

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.97	1271.99	333.00	0.00	1803.98	1643.18	0.644	1.97	1.97	6.158	A
2	889.00	222.25	889.00	967.98	525.99	0.00	2070.50	1908.68	0.429	0.82	0.83	3.350	A
3	1001.00	250.25	1001.00	810.99	604.00	0.00	2285.55	1735.07	0.438	0.85	0.86	3.082	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1161.00	290.25	1160.99	1272.00	333.00	0.00	1803.98	1643.18	0.644	1.97	1.98	6.158	A
2	889.00	222.25	889.00	967.99	525.99	0.00	2070.49	1908.68	0.429	0.83	0.83	3.350	A
3	1001.00	250.25	1001.00	810.99	604.00	0.00	2285.54	1735.07	0.438	0.86	0.86	3.082	A

Queueing Delay Results for each time segment
Queueing Delay results: (16:15-16:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	27.67	1.84	6.009	A	A
2	12.00	0.80	3.325	A	A
3	12.46	0.83	3.063	A	A

Queueing Delay results: (16:30-16:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	29.39	1.96	6.155	A	A
2	12.35	0.82	3.350	A	A
3	12.80	0.85	3.082	A	A

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	29.56	1.97	6.158	A	A
2	12.38	0.83	3.350	A	A
3	12.82	0.85	3.082	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	29.63	1.98	6.158	A	A
2	12.39	0.83	3.350	A	A
3	12.83	0.86	3.082	A	A



APPENDIX G
LINSIG OUTPUT – BLUEBELL ROUNDABOUT

User and Project Details

Project:	EfW Red Scar, Preston
Title:	Bluebell Way roundabout
Location:	M6 Jct 31A Southbound on slip junction
Additional detail:	
File name:	J2 - Bluebell roundabout.lsg3x
Author:	
Company:	RSK
Address:	

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		-9999	7
B	Traffic	1		-9999	7
C	Traffic	1		-9999	7
D	Traffic	1		-9999	7
E	Pedestrian	1		-9999	6

Phase Intergreens Matrix

		Starting Phase				
		A	B	C	D	E
Terminating Phase	A	5	-	-	-	-
	B	6	-	-	-	6
	C	-	-	-	6	-
	D	-	-	6	-	-
	E	-	10	-	-	-

Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	1	C	Losing	5	5

Prohibited Stage Change

Stage Stream: 1

		To Stage		
		1	2	3
From Stage	1	6	10	
	2	6	5	
	3	11	6	

Phases in Stage

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

Lane Input Data

Junction: Bluebell Roundabout												
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)
1/1 (Preston East Services Exit)	O		2	3	5.0	Geom	-	3.25	0.00	Y	Arm 10 Ahead	17.00
1/2 (Preston East Services Exit)	O		1	3	60.0	Geom	-	3.25	0.00	Y	Arm 10 Ahead	17.00
2/1 (B6242 southeast Entry)	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 7 Left	28.00
2/2 (B6242 southeast Entry)	U	B	2	3	24.5	Geom	-	3.50	0.00	Y	Arm 12 Ahead	28.00
2/3 (B6242 southeast Entry)	U	B	2	3	10.0	Geom	-	3.50	0.00	Y	Arm 12 Ahead	28.00
3/1 (Bluebell Way Entry)	U	D	2	3	60.0	Geom	-	3.20	0.00	Y	Arm 4 Left	44.00
3/2 (Bluebell Way Entry)	U	D	2	3	6.0	Geom	-	3.60	0.00	Y	Arm 8 Ahead	44.00
3/3 (Bluebell Way Entry)	U	D	2	3	28.3	Geom	-	3.70	0.00	Y	Arm 8 Ahead	44.00
3/4 (Bluebell Way Entry)	U	D	2	3	17.5	Geom	-	3.90	0.00	Y	Arm 8 Ahead	44.00
4/1 (M6 On Slip)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
5/1 (Preston East Services Entry)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
6/1 (B6242 southeast Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
6/2 (B6242 southeast Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
7/1 (Bluebell Way Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
8/1 (Gyratory (N))	U		1	3	14.3	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf

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8/2 (Gyratory (N))	U		2	3	14.3	Geom	-	3.25	0.00	Y	Arm 9 Right	Inf
8/3 (Gyratory (N))	U		2	3	14.3	Geom	-	3.25	0.00	Y	Arm 9 Right	Inf
9/1 (Gyratory (E))	U		1	3	3.7	Geom	-	3.25	0.00	Y	Arm 10 Right	Inf
9/2 (Gyratory (E))	U		1	3	3.7	Geom	-	3.25	0.00	Y	Arm 10 Right	Inf
10/1 (Gyratory (SE))	U		1	3	5.7	Geom	-	3.25	0.00	Y	Arm 6 Ahead	Inf
10/2 (Gyratory (SE))	U		2	3	5.7	Geom	-	3.25	0.00	Y	Arm 6 Ahead	Inf
10/3 (Gyratory (SE))	U		2	3	5.7	Geom	-	3.25	0.00	Y	Arm 11 Right	Inf
10/4 (Gyratory (SE))	U		1	3	5.7	Geom	-	3.25	0.00	Y	Arm 11 Right	Inf
11/1 (Gyratory (S))	U	A	1	3	4.0	Geom	-	3.90	0.00	Y	Arm 7 Ahead	Inf
11/2 (Gyratory (S))	U	A	2	3	4.0	Geom	-	4.60	0.00	Y	Arm 12 Right	Inf
12/1 (Gyratory (W))	U	C	1	3	5.2	Geom	-	3.25	0.00	Y	Arm 4 Left	Inf
12/2 (Gyratory (W))	U	C	2	3	5.2	Geom	-	3.25	0.00	Y	Arm 8 Right	Inf

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
3: 'Baseline 2023 (Forecast 2023 + Committed) AM'	07:30	08:30	01:00	

Traffic Flows, Desired

FG1: 'Existing 2019 AM'

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	4	115	24	124	267
	B	150	1	93	583	827
	C	252	991	2	569	1814
	D	0	0	0	0	0
	Tot.	406	1107	119	1276	2908

FG2: 'Existing 2019 PM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	2	125	61	157	345
	B	58	5	161	687	911
	C	138	641	27	807	1613
	D	0	0	0	0	0
	Tot.	198	771	249	1651	2869

FG3: 'Baseline 2023 (Forecast 2023 + Committed) AM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	4	121	25	130	280
	B	158	1	98	721	978
	C	265	1087	2	598	1952
	D	0	0	0	0	0
	Tot.	427	1209	125	1449	3210

FG4: 'Baseline 2023 (Forecast 2023 + Committed) PM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	2	131	64	164	361
	B	61	5	169	785	1020
	C	144	781	28	844	1797
	D	0	0	0	0	0
	Tot.	207	917	261	1793	3178

FG5: "With development" 2023 (Baseline 2023 + Operational) AM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	4	121	25	130	280
	B	158	1	98	747	1004
	C	265	1126	2	598	1991
	D	0	0	0	0	0
	Tot.	427	1248	125	1475	3275

FG6: "With development" 2023 (Baseline 2023 + Operational) PM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	2	131	64	164	361
	B	61	5	169	824	1059
	C	144	806	28	844	1822
	D	0	0	0	0	0
	Tot.	207	942	261	1832	3242

FG7: 'Baseline 2029 (Forecast 2029 + Committed) AM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	5	128	27	137	297
	B	167	1	103	756	1027
	C	280	1146	2	632	2060
	D	0	0	0	0	0
	Tot.	452	1275	132	1525	3384

FG8: 'Baseline 2029 (Forecast 2029 + Committed) PM'

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	2	138	67	173	380
	B	64	6	177	824	1071
	C	152	816	30	889	1887
	D	0	0	0	0	0
	Tot.	218	960	274	1886	3338

FG9: "With development" 2029 (Baseline 2029 + Operational) AM'

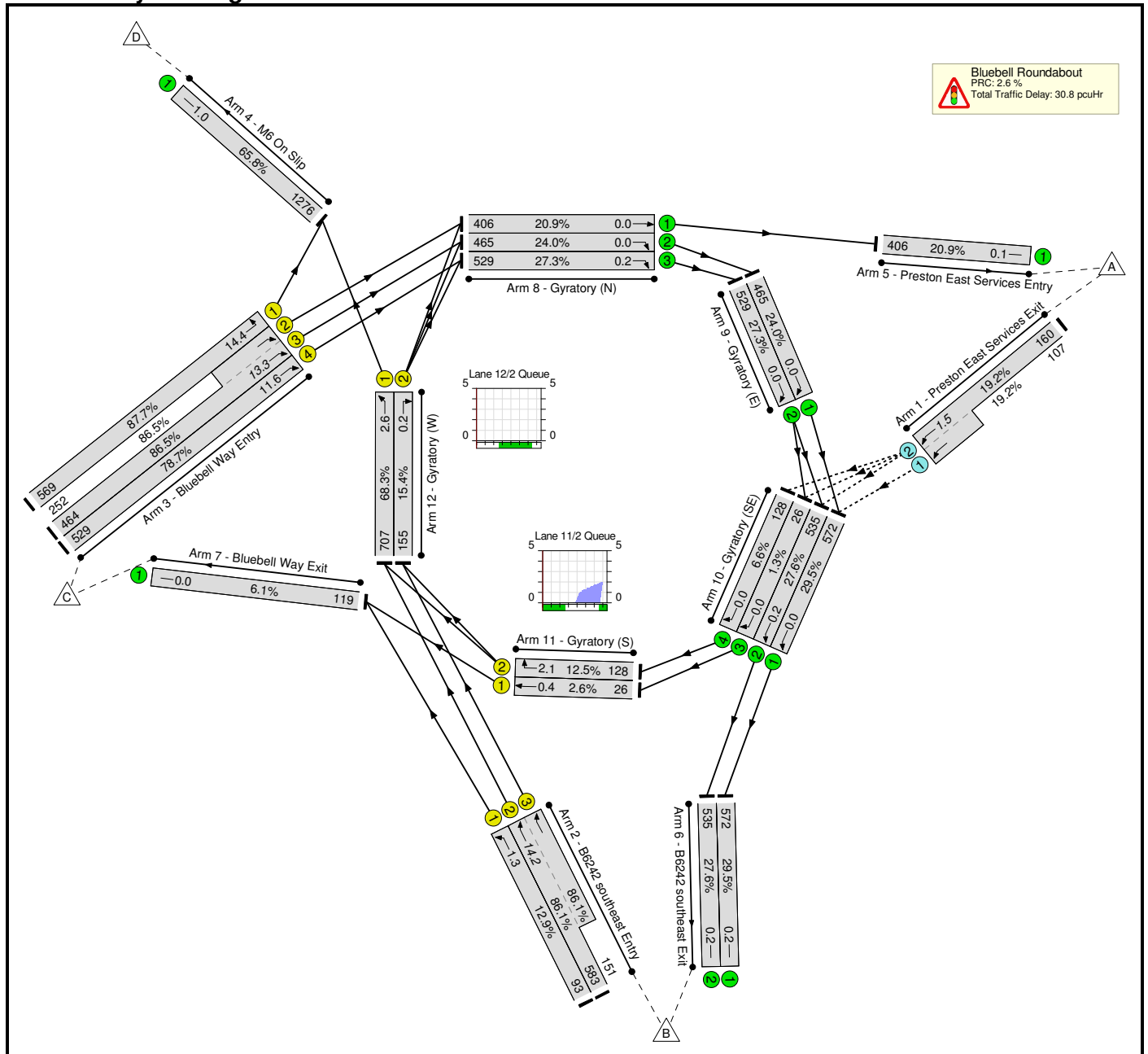
Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	5	128	27	137	297
	B	167	1	103	781	1052
	C	280	1184	2	632	2098
	D	0	0	0	0	0
	Tot.	452	1313	132	1550	3447

FG10: "With development" 2029 (Baseline 2029 + Operational) PM'
Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	2	138	67	173	380
	B	64	6	177	862	1109
	C	152	842	30	889	1913
	D	0	0	0	0	0
	Tot.	218	986	274	1924	3402

Scenario 1: 'Existing 2019 AM' (FG1: 'Existing 2019 AM', Plan 1: 'Network Control Plan 1')
Network Layout Diagram



Network Results

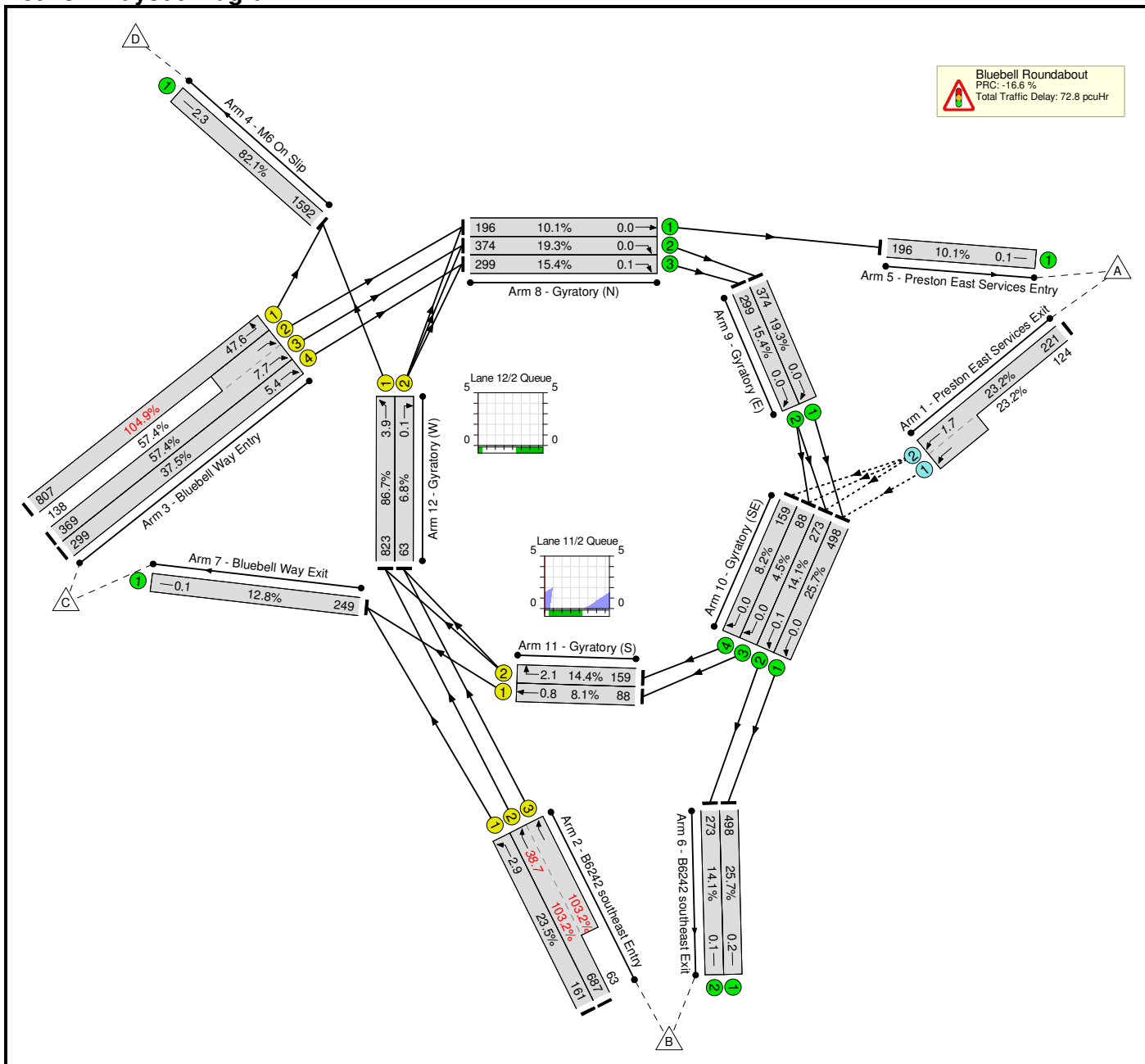
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	87.7%	17.5	13.4	30.8	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	87.7%	17.5	13.4	30.8	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	267	1783:1783	833+557	19.2 : 19.2%	0.4	0.1	0.5 (0.3+0.2)	6.7 (6.8:6.5)	1.3	0.1	1.5	-
2/1	B6242 southeast Entry Left	1	B	1	28	93	1865	721	12.9%	0.4	0.1	0.5	17.7	1.2	0.1	1.3	1.1
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	28	734	1865:1865	678+175	86.1 : 86.1%	4.0	2.9	6.9 (5.7+1.3)	33.9 (34.9:29.9)	11.2	2.9	14.2	7.1
3/1	Bluebell Way Entry Left	1	D	1	25	569	1871	649	87.7%	3.6	3.3	6.9	43.9	11.1	3.3	14.4	7.4
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	25	716	1920:1910	536+291	86.5 : 86.5%	4.1	3.0	7.2 (4.7+2.5)	36.1 (36.7:35.1)	10.3	3.0	13.3	6.1
3/4	Bluebell Way Entry Ahead	1	D	1	25	529	1939	672	78.7%	3.2	1.8	5.0	34.3	9.8	1.8	11.6	6.9
4/1	M6 On Slip	N/A	-	-	-	1276	1940	1940	65.8%	0.0	1.0	1.0	2.7	0.0	1.0	1.0	-
5/1	Preston East Services Entry	N/A	-	-	-	406	1940	1940	20.9%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	572	1940	1940	29.5%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	535	1940	1940	27.6%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
7/1	Bluebell Way Exit	N/A	-	-	-	119	1940	1940	6.1%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

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8/1	Gyratory (N) Ahead	N/A	-	-	-	406	1940	1940	20.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	465	1940	1940	24.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	529	1940	1940	27.3%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
9/1	Gyratory (E) Right	N/A	-	-	-	465	1940	1940	24.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	529	1940	1940	27.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	572	1940	1940	29.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	535	1940	1940	27.6%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
10/3	Gyratory (SE) Right	N/A	-	-	-	26	1940	1940	1.3%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	128	1940	1940	6.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	36	26	2005	1016	2.6%	0.1	0.0	0.1	15.0	0.4	0.0	0.4	0.4
11/2	Gyratory (S) Right	1	A	1	36	128	2075	1024	12.5%	0.5	0.1	0.6	17.3	2.0	0.1	2.1	1.8
12/1	Gyratory (W) Left	1	C	1	38	707	1940	1035	68.3%	1.0	0.0	1.0	5.3	2.6	0.0	2.6	2.6
12/2	Gyratory (W) Right	1	C	1	38	155	1940	1009	15.4%	0.0	0.1	0.1	2.9	0.1	0.1	0.2	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 2.6 Total Delay for Signalled Lanes (pcuHr): 28.42 Cycle Time (s): 75
 PRC Over All Lanes (%): 2.6 Total Delay Over All Lanes(pcuHr): 30.82

Network Layout Diagram



Network Results

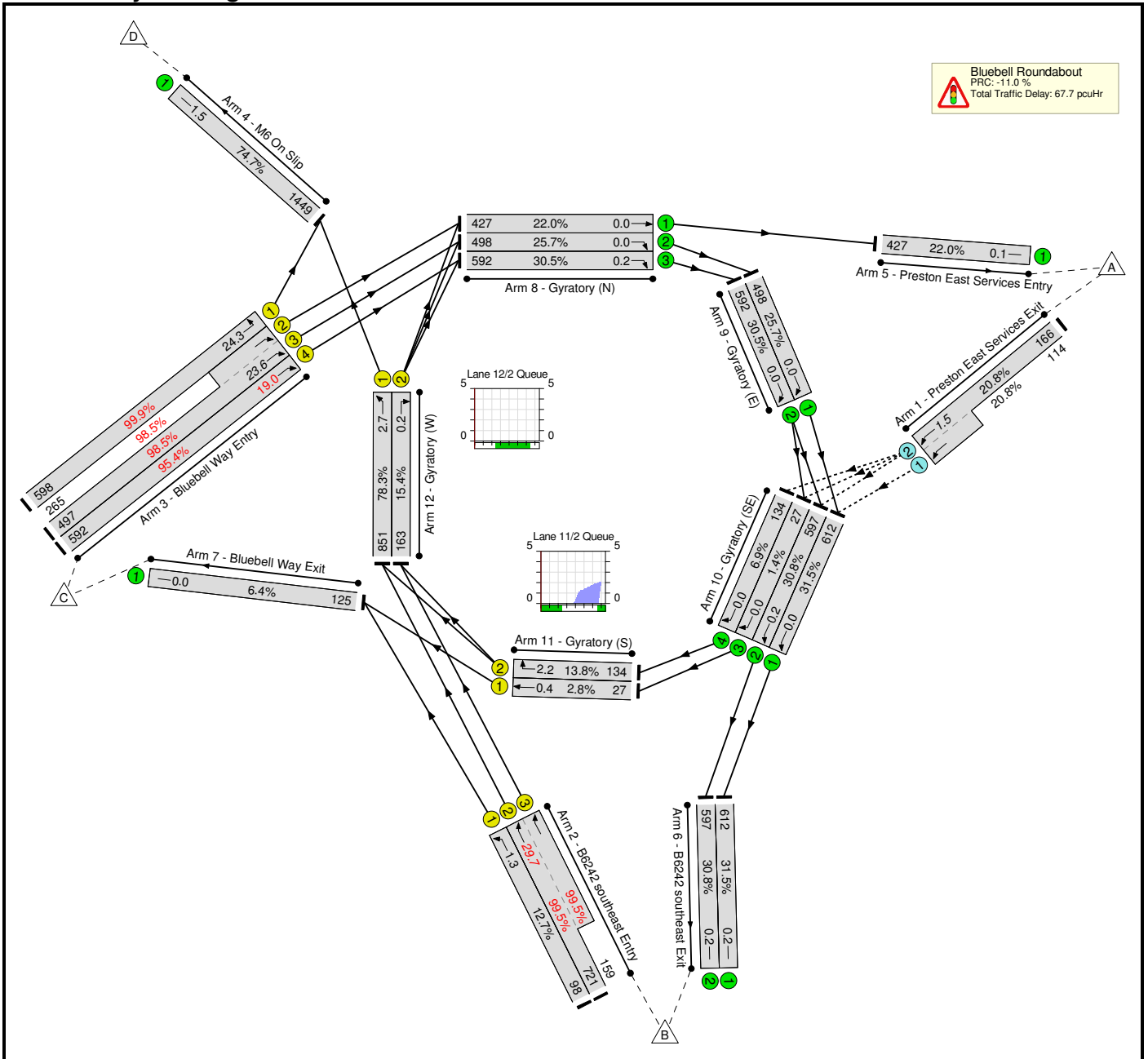
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	104.9%	21.3	51.5	72.8	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	104.9%	21.3	51.5	72.8	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	345	1783:1783	951+533	23.2 : 23.2%	0.2	0.2	0.4 (0.2+0.1)	3.8 (4.0:3.5)	1.5	0.2	1.7	-
2/1	B6242 southeast Entry Left	1	B	1	32	161	1865	684	23.5%	0.9	0.2	1.0	23.2	2.8	0.2	2.9	2.5
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	32	750	1865:1865	666+61	103.2 : 103.2%	6.5	20.7	27.1 (24.9+2.2)	130.2 (130.7:125.6)	18.0	20.7	38.7	11.1
3/1	Bluebell Way Entry Left	1	D	1	36	807	1871	769	104.9%	7.5	26.5	34.0	151.8	21.1	26.5	47.6	12.4
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	36	507	1920:1910	643+241	57.4 : 57.4%	2.6	0.7	3.3 (2.5+0.8)	23.5 (24.1:21.8)	7.0	0.7	7.7	5.2
3/4	Bluebell Way Entry Ahead	1	D	1	36	299	1939	797	37.5%	1.5	0.3	1.8	22.1	5.1	0.3	5.4	4.2
4/1	M6 On Slip	N/A	-	-	-	1651	1940	1940	82.1%	0.0	2.3	2.3	5.1	0.0	2.3	2.3	-
5/1	Preston East Services Entry	N/A	-	-	-	198	1940	1940	10.1%	0.0	0.1	0.1	1.0	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	498	1940	1940	25.7%	0.0	0.2	0.2	1.2	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	273	1940	1940	14.1%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
7/1	Bluebell Way Exit	N/A	-	-	-	249	1940	1940	12.8%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-

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8/1	Gyratory (N) Ahead	N/A	-	-	-	198	1940	1940	10.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	374	1940	1940	19.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	299	1940	1940	15.4%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
9/1	Gyratory (E) Right	N/A	-	-	-	374	1940	1940	19.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	299	1940	1940	15.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	498	1940	1940	25.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	273	1940	1940	14.1%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
10/3	Gyratory (SE) Right	N/A	-	-	-	88	1940	1940	4.5%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	159	1940	1940	8.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	47	88	2005	1092	8.1%	0.2	0.0	0.2	10.0	0.8	0.0	0.8	0.8
11/2	Gyratory (S) Right	1	A	1	47	159	2075	1107	14.4%	0.5	0.1	0.6	12.8	2.0	0.1	2.1	1.8
12/1	Gyratory (W) Left	1	C	1	42	844	1940	948	86.7%	1.4	0.0	1.4	6.0	3.9	0.0	3.9	3.3
12/2	Gyratory (W) Right	1	C	1	42	65	1940	927	6.8%	0.0	0.0	0.1	3.1	0.0	0.0	0.1	0.0

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -16.6 Total Delay for Signalled Lanes (pcuHr): 69.57 Cycle Time (s): 90
 PRC Over All Lanes (%): -16.6 Total Delay Over All Lanes(pcuHr): 72.77

Network Layout Diagram



Network Results

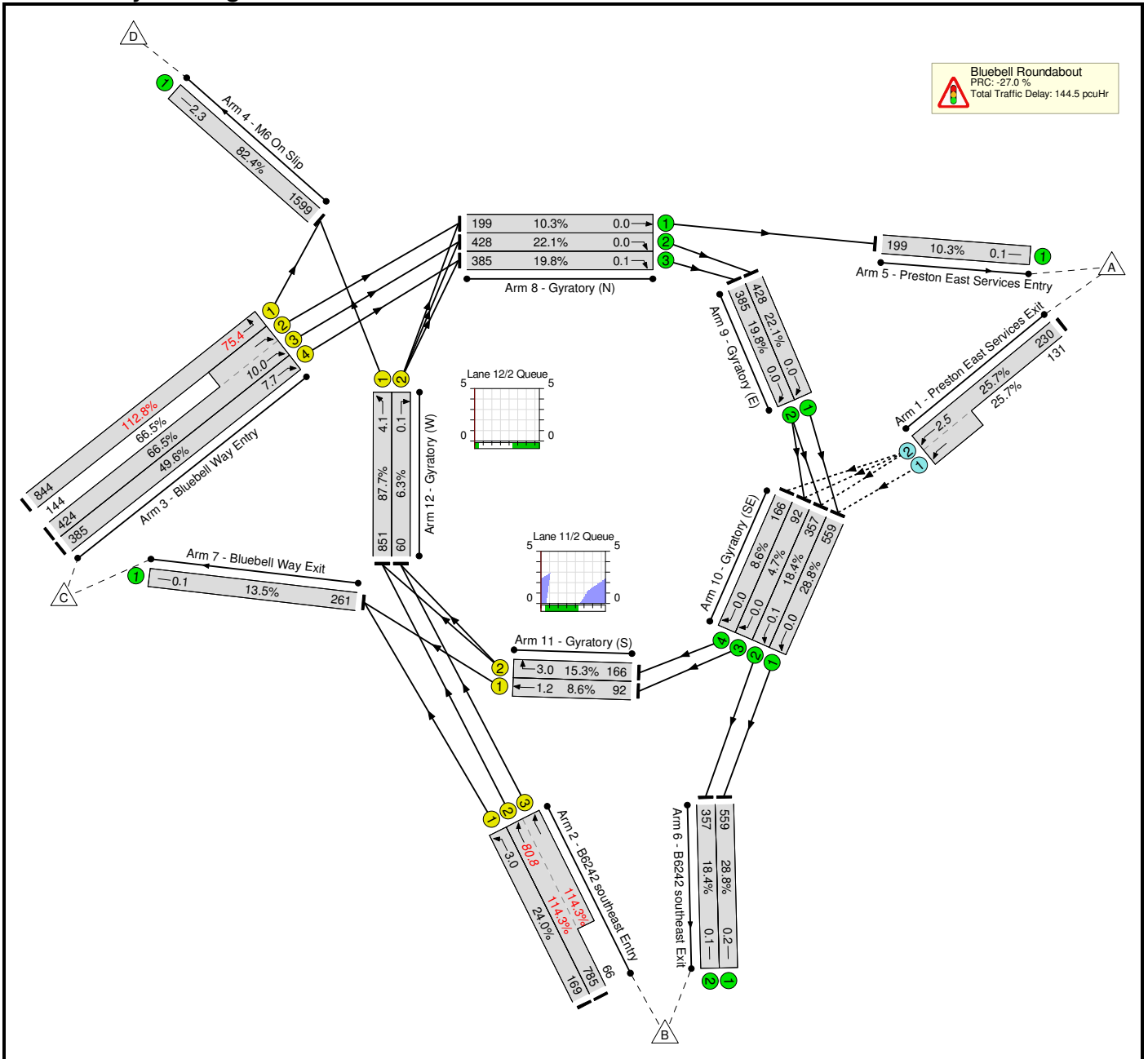
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	99.9%	20.8	46.9	67.7	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	99.9%	20.8	46.9	67.7	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	280	1783:1783	798+548	20.8 : 20.8%	0.4	0.1	0.5 (0.3+0.2)	7.0 (7.1:6.8)	1.4	0.1	1.5	-
2/1	B6242 southeast Entry Left	1	B	1	30	98	1865	771	12.7%	0.4	0.1	0.4	16.3	1.3	0.1	1.3	1.1
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	30	880	1865:1865	724+160	99.5 : 99.5%	5.0	13.8	18.8 (15.6+3.2)	76.8 (77.7:72.8)	15.9	13.8	29.7	8.4
3/1	Bluebell Way Entry Left	1	D	1	23	598	1871	599	99.9%	4.2	12.0	16.3	98.0	12.3	12.0	24.3	8.1
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	23	762	1920:1910	505+269	98.5 : 98.5%	5.0	11.2	16.1 (10.6+5.5)	76.3 (76.8:75.3)	12.5	11.2	23.6	7.2
3/4	Bluebell Way Entry Ahead	1	D	1	23	592	1939	620	95.4%	4.1	7.0	11.1	67.4	12.0	7.0	19.0	8.1
4/1	M6 On Slip	N/A	-	-	-	1449	1940	1940	74.7%	0.0	1.5	1.5	3.6	0.0	1.5	1.5	-
5/1	Preston East Services Entry	N/A	-	-	-	427	1940	1940	22.0%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	612	1940	1940	31.5%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	597	1940	1940	30.8%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
7/1	Bluebell Way Exit	N/A	-	-	-	125	1940	1940	6.4%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	427	1940	1940	22.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	498	1940	1940	25.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	592	1940	1940	30.5%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
9/1	Gyratory (E) Right	N/A	-	-	-	498	1940	1940	25.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	592	1940	1940	30.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	612	1940	1940	31.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	597	1940	1940	30.8%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
10/3	Gyratory (SE) Right	N/A	-	-	-	27	1940	1940	1.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	134	1940	1940	6.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	34	27	2005	962	2.8%	0.1	0.0	0.1	15.4	0.4	0.0	0.4	0.4
11/2	Gyratory (S) Right	1	A	1	34	134	2075	968	13.8%	0.6	0.1	0.6	17.3	2.1	0.1	2.2	1.9
12/1	Gyratory (W) Left	1	C	1	40	851	1940	1086	78.3%	1.0	0.0	1.0	4.4	2.7	0.0	2.7	2.7
12/2	Gyratory (W) Right	1	C	1	40	163	1940	1061	15.4%	0.0	0.1	0.1	2.7	0.1	0.1	0.2	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -11.0 Total Delay for Signalled Lanes (pcuHr): 64.66 Cycle Time (s): 75
 PRC Over All Lanes (%): -11.0 Total Delay Over All Lanes(pcuHr): 67.74

Network Layout Diagram



Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	114.3%	30.7	113.9	144.5	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	114.3%	30.7	113.9	144.5	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	361	1783:1783	895+510	25.7 : 25.7%	0.4	0.2	0.6 (0.4+0.2)	5.7 (6.1:5.0)	2.3	0.2	2.5	-
2/1	B6242 southeast Entry Left	1	B	1	33	169	1865	705	24.0%	0.9	0.2	1.1	22.5	2.9	0.2	3.0	2.5
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	33	851	1865:1865	687+58	114.3 : 114.3%	10.8	57.0	67.8 (62.6+5.2)	286.9 (287.2:282.7)	23.8	57.0	80.8	15.8
3/1	Bluebell Way Entry Left	1	D	1	35	844	1871	748	112.8%	10.3	51.9	62.2	265.2	23.5	51.9	75.4	14.6
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	35	568	1920:1910	638+217	66.5 : 66.5%	3.2	1.0	4.2 (3.2+1.0)	26.6 (27.1:25.1)	9.0	1.0	10.0	6.2
3/4	Bluebell Way Entry Ahead	1	D	1	35	385	1939	776	49.6%	2.2	0.5	2.7	24.8	7.2	0.5	7.7	5.6
4/1	M6 On Slip	N/A	-	-	-	1793	1940	1940	82.4%	0.0	2.3	2.3	5.2	0.0	2.3	2.3	-
5/1	Preston East Services Entry	N/A	-	-	-	207	1940	1940	10.3%	0.0	0.1	0.1	1.0	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	560	1940	1940	28.8%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	357	1940	1940	18.4%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
7/1	Bluebell Way Exit	N/A	-	-	-	261	1940	1940	13.5%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-

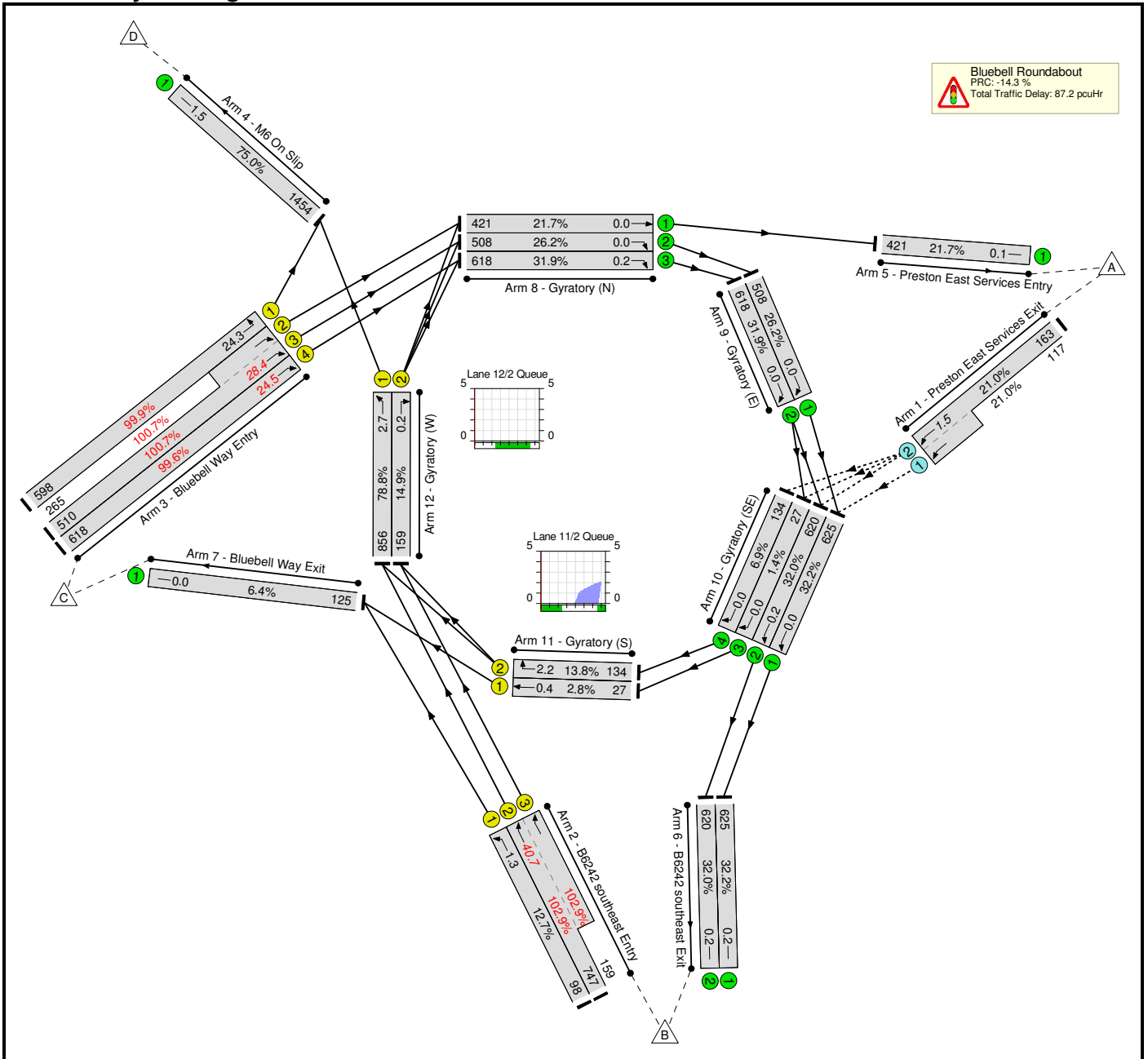
LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	207	1940	1940	10.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	429	1940	1940	22.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	385	1940	1940	19.8%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
9/1	Gyratory (E) Right	N/A	-	-	-	429	1940	1940	22.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	385	1940	1940	19.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	560	1940	1940	28.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	357	1940	1940	18.4%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
10/3	Gyratory (SE) Right	N/A	-	-	-	92	1940	1940	4.7%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	166	1940	1940	8.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	46	92	2005	1069	8.6%	0.3	0.0	0.4	14.7	1.1	0.0	1.2	1.1
11/2	Gyratory (S) Right	1	A	1	46	166	2075	1084	15.3%	0.8	0.1	0.9	20.3	2.9	0.1	3.0	2.6
12/1	Gyratory (W) Left	1	C	1	43	949	1940	970	87.7%	1.7	0.0	1.7	7.2	4.1	0.0	4.1	3.7
12/2	Gyratory (W) Right	1	C	1	43	68	1940	948	6.3%	0.0	0.0	0.1	3.2	0.0	0.0	0.1	0.0

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -27.0 Total Delay for Signalled Lanes (pcuHr): 140.95 Cycle Time (s): 90
 PRC Over All Lanes (%): -27.0 Total Delay Over All Lanes(pcuHr): 144.55

Scenario 5: "With development" 2023 (Baseline 2023 + Operational) AM' (FG5: "With development" 2023 (Baseline 2023 + Operational) AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	102.9%	22.3	64.8	87.2	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	102.9%	22.3	64.8	87.2	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	280	1783:1783	774+556	21.0 : 21.0%	0.4	0.1	0.6 (0.3+0.2)	7.3 (7.4:7.1)	1.4	0.1	1.5	-
2/1	B6242 southeast Entry Left	1	B	1	30	98	1865	771	12.7%	0.4	0.1	0.4	16.3	1.3	0.1	1.3	1.1
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	30	906	1865:1865	726+155	102.9 : 102.9%	5.9	22.7	28.6 (23.8+4.8)	113.6 (114.5:109.6)	18.0	22.7	40.7	9.2
3/1	Bluebell Way Entry Left	1	D	1	23	598	1871	599	99.9%	4.2	12.0	16.3	98.0	12.3	12.0	24.3	8.1
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	23	775	1920:1910	507+263	100.7 : 100.7%	5.3	15.3	20.6 (13.6+7.0)	95.6 (96.1:94.6)	13.1	15.3	28.4	7.6
3/4	Bluebell Way Entry Ahead	1	D	1	23	618	1939	620	99.6%	4.4	11.8	16.2	94.3	12.7	11.8	24.5	8.4
4/1	M6 On Slip	N/A	-	-	-	1475	1940	1940	75.0%	0.0	1.5	1.5	3.7	0.0	1.5	1.5	-
5/1	Preston East Services Entry	N/A	-	-	-	427	1940	1940	21.7%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	628	1940	1940	32.2%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	620	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
7/1	Bluebell Way Exit	N/A	-	-	-	125	1940	1940	6.4%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

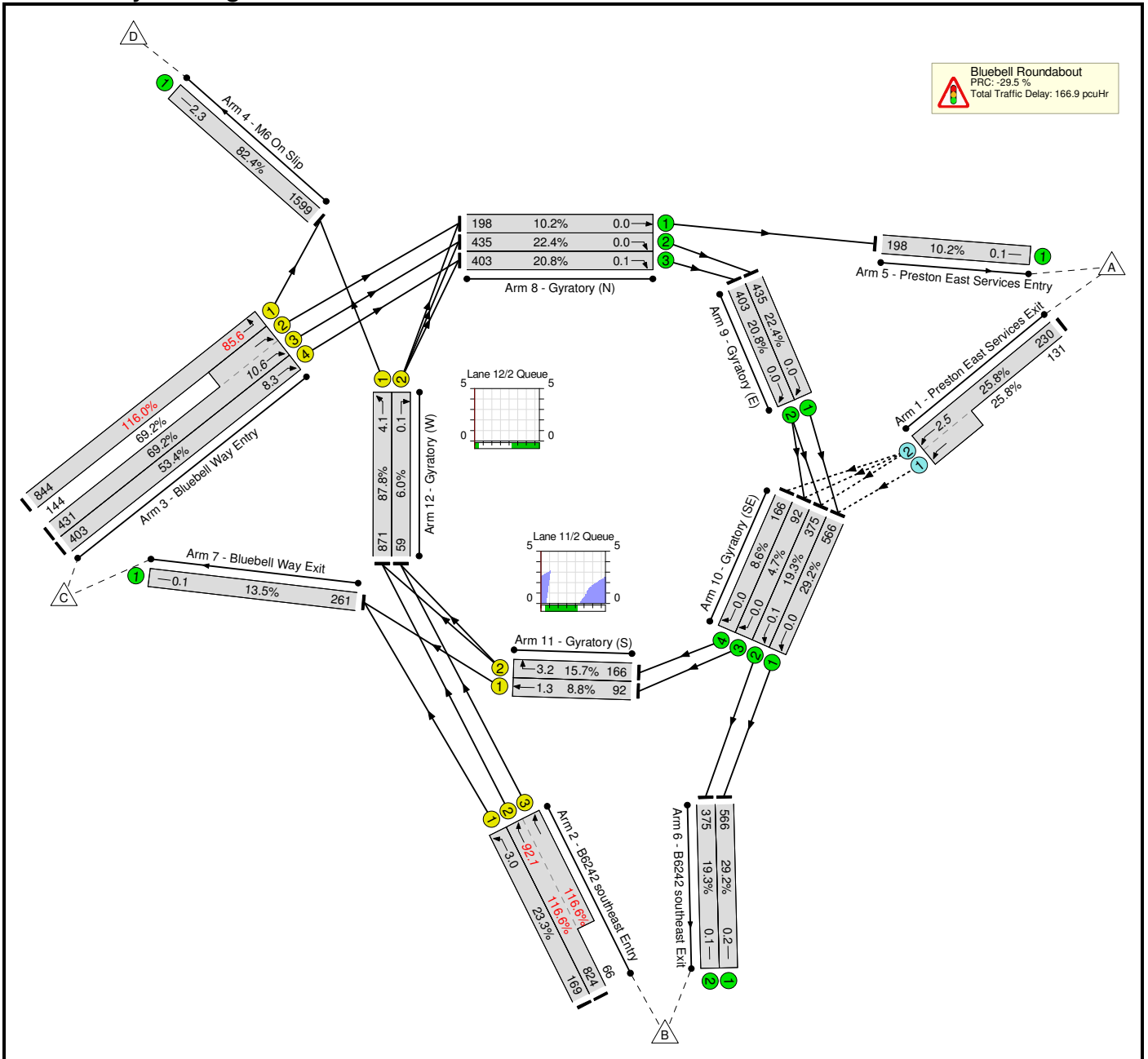
LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	427	1940	1940	21.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	511	1940	1940	26.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	618	1940	1940	31.9%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
9/1	Gyratory (E) Right	N/A	-	-	-	511	1940	1940	26.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	618	1940	1940	31.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	628	1940	1940	32.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	620	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
10/3	Gyratory (SE) Right	N/A	-	-	-	27	1940	1940	1.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	134	1940	1940	6.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	34	27	2005	962	2.8%	0.1	0.0	0.1	15.1	0.4	0.0	0.4	0.4
11/2	Gyratory (S) Right	1	A	1	34	134	2075	968	13.8%	0.6	0.1	0.6	17.0	2.1	0.1	2.2	1.9
12/1	Gyratory (W) Left	1	C	1	40	877	1940	1086	78.8%	1.0	0.0	1.0	4.4	2.7	0.0	2.7	2.7
12/2	Gyratory (W) Right	1	C	1	40	163	1940	1061	14.9%	0.0	0.1	0.1	2.7	0.1	0.1	0.2	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -14.3 Total Delay for Signalled Lanes (pcuHr): 84.00 Cycle Time (s): 75
 PRC Over All Lanes (%): -14.3 Total Delay Over All Lanes(pcuHr): 87.17

Scenario 6: "With development" 2023 (Baseline 2023 + Operational) PM' (FG6: "With development" 2023 (Baseline 2023 + Operational) PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



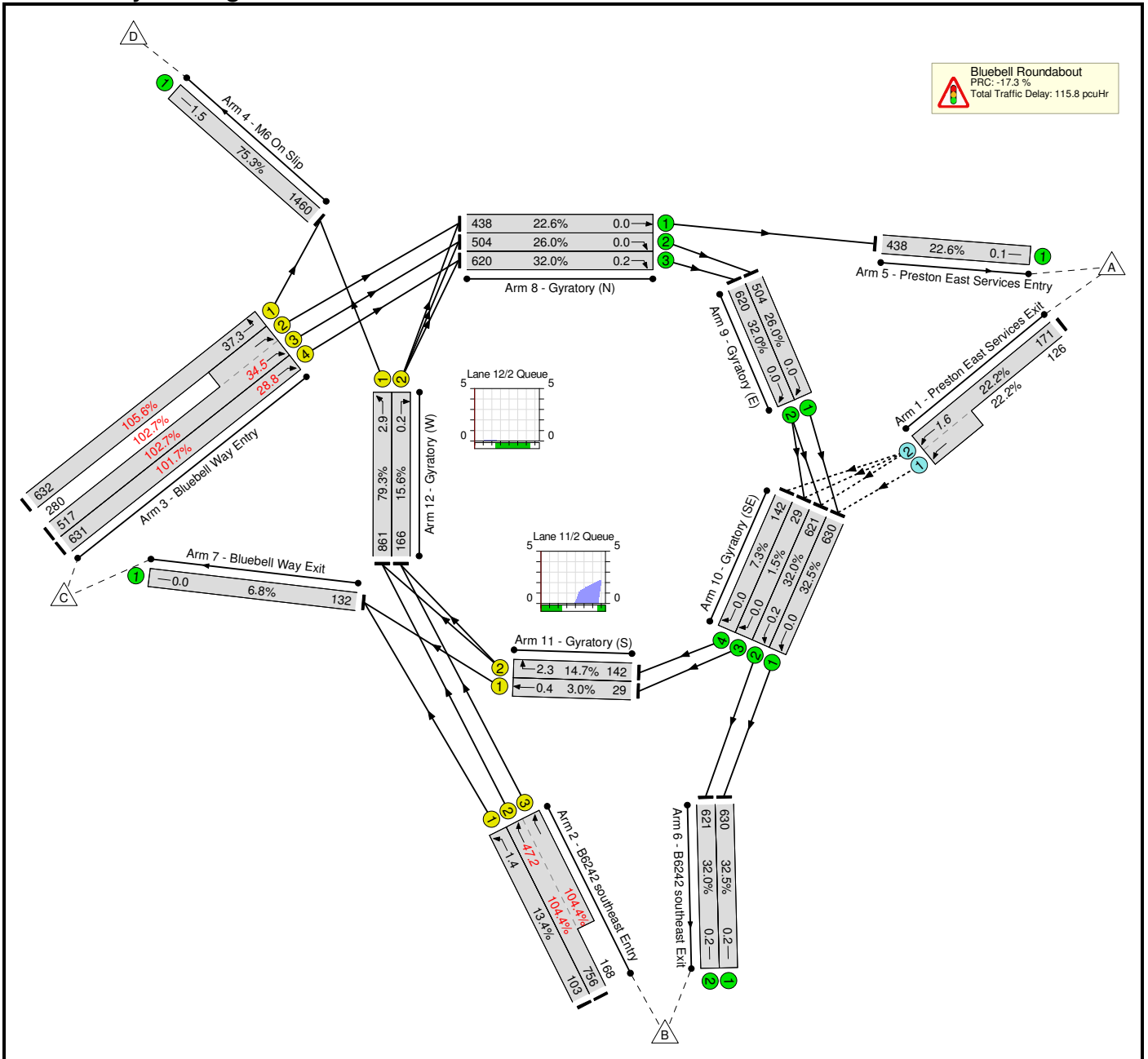
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	116.6%	33.5	133.4	166.9	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	116.6%	33.5	133.4	166.9	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	361	1783:1783	891+507	25.8 : 25.8%	0.4	0.2	0.6 (0.4+0.2)	6.2 (6.6:5.4)	2.3	0.2	2.5	-
2/1	B6242 southeast Entry Left	1	B	1	34	169	1865	725	23.3%	0.9	0.2	1.0	21.7	2.8	0.2	3.0	2.5
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	34	890	1865:1865	707+57	116.6 : 116.6%	12.0	66.5	78.6 (72.8+5.8)	317.8 (318.1:313.8)	25.5	66.5	92.1	17.1
3/1	Bluebell Way Entry Left	1	D	1	34	844	1871	728	116.0%	11.3	61.6	72.9	311.0	24.0	61.6	85.6	15.3
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	34	575	1920:1910	623+208	69.2 : 69.2%	3.4	1.1	4.5 (3.4+1.1)	28.3 (28.8:26.7)	9.5	1.1	10.6	6.5
3/4	Bluebell Way Entry Ahead	1	D	1	34	403	1939	754	53.4%	2.4	0.6	2.9	26.3	7.7	0.6	8.3	5.9
4/1	M6 On Slip	N/A	-	-	-	1832	1940	1940	82.4%	0.0	2.3	2.3	5.2	0.0	2.3	2.3	-
5/1	Preston East Services Entry	N/A	-	-	-	207	1940	1940	10.2%	0.0	0.1	0.1	1.0	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	567	1940	1940	29.2%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	375	1940	1940	19.3%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
7/1	Bluebell Way Exit	N/A	-	-	-	261	1940	1940	13.5%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-

LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	207	1940	1940	10.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	436	1940	1940	22.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	403	1940	1940	20.8%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
9/1	Gyratory (E) Right	N/A	-	-	-	436	1940	1940	22.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	403	1940	1940	20.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	567	1940	1940	29.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	375	1940	1940	19.3%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-
10/3	Gyratory (SE) Right	N/A	-	-	-	92	1940	1940	4.7%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	166	1940	1940	8.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	45	92	2005	1047	8.8%	0.4	0.0	0.4	16.1	1.2	0.0	1.3	1.2
11/2	Gyratory (S) Right	1	A	1	45	166	2075	1061	15.7%	0.9	0.1	1.0	22.4	3.1	0.1	3.2	2.8
12/1	Gyratory (W) Left	1	C	1	44	988	1940	992	87.8%	1.7	0.0	1.7	7.2	4.1	0.0	4.1	3.9
12/2	Gyratory (W) Right	1	C	1	44	68	1940	970	6.0%	0.0	0.0	0.1	3.2	0.0	0.0	0.1	0.0
C1 - M25 Junction 6 North							Stream: 1	PRC for Signalled Lanes (%):	-29.5	Total Delay for Signalled Lanes (pcuHr):	163.20	Cycle Time (s):	90				
								PRC Over All Lanes (%):	-29.5	Total Delay Over All Lanes(pcuHr):	166.86						

Network Layout Diagram



Network Results

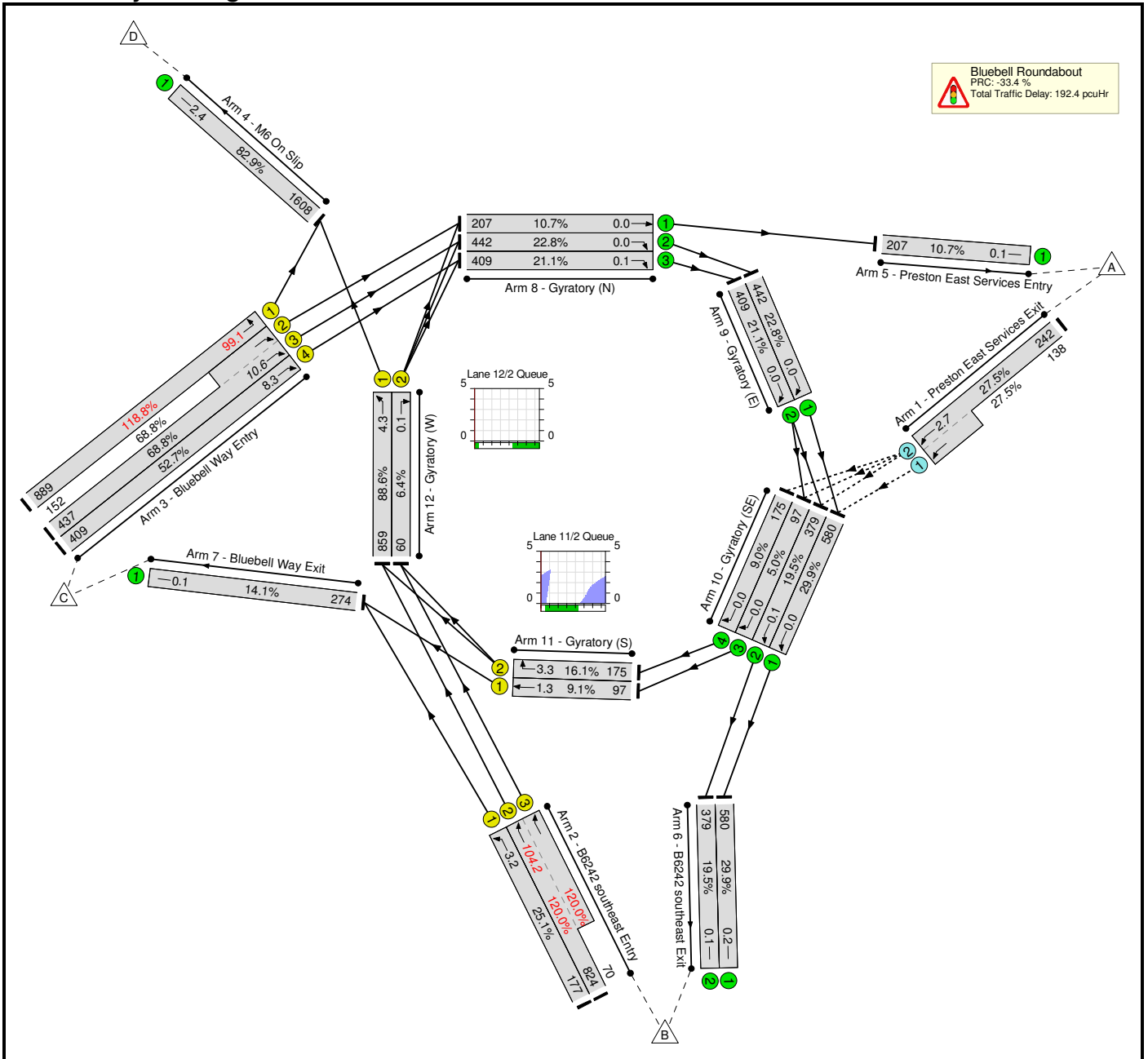
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	105.6%	25.8	90.0	115.8	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	105.6%	25.8	90.0	115.8	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	297	1783:1783	769+566	22.2 : 22.2%	0.5	0.1	0.6 (0.4+0.3)	7.4 (7.5:7.2)	1.5	0.1	1.6	-
2/1	B6242 southeast Entry Left	1	B	1	30	103	1865	771	13.4%	0.4	0.1	0.5	16.4	1.3	0.1	1.4	1.2
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	30	924	1865:1865	724+161	104.4 : 104.4%	6.4	27.8	34.2 (28.1+6.0)	133.1 (134.0:129.2)	19.4	27.8	47.2	9.5
3/1	Bluebell Way Entry Left	1	D	1	23	632	1871	599	105.6%	5.8	23.4	29.2	166.2	13.9	23.4	37.3	10.0
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	23	797	1920:1910	503+273	102.7 : 102.7%	6.1	20.3	26.3 (17.2+9.2)	118.9 (119.4:118.0)	14.2	20.3	34.5	8.5
3/4	Bluebell Way Entry Ahead	1	D	1	23	631	1939	620	101.7%	4.9	15.5	20.3	116.1	13.4	15.5	28.8	9.0
4/1	M6 On Slip	N/A	-	-	-	1525	1940	1940	75.3%	0.0	1.5	1.5	3.7	0.0	1.5	1.5	-
5/1	Preston East Services Entry	N/A	-	-	-	452	1940	1940	22.6%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	644	1940	1940	32.5%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	631	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
7/1	Bluebell Way Exit	N/A	-	-	-	132	1940	1940	6.8%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	452	1940	1940	22.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	518	1940	1940	26.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	631	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
9/1	Gyratory (E) Right	N/A	-	-	-	518	1940	1940	26.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	631	1940	1940	32.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	644	1940	1940	32.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	631	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
10/3	Gyratory (SE) Right	N/A	-	-	-	29	1940	1940	1.5%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	142	1940	1940	7.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	34	29	2005	962	3.0%	0.1	0.0	0.1	15.1	0.4	0.0	0.4	0.4
11/2	Gyratory (S) Right	1	A	1	34	142	2075	968	14.7%	0.6	0.1	0.7	17.0	2.2	0.1	2.3	2.0
12/1	Gyratory (W) Left	1	C	1	40	893	1940	1086	79.3%	1.1	0.0	1.1	4.6	2.9	0.0	2.9	2.9
12/2	Gyratory (W) Right	1	C	1	40	173	1940	1061	15.6%	0.0	0.1	0.1	2.9	0.1	0.1	0.2	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -17.3 Total Delay for Signalled Lanes (pcuHr): 112.51 Cycle Time (s): 75
 PRC Over All Lanes (%): -17.3 Total Delay Over All Lanes(pcuHr): 115.76

Network Layout Diagram



Network Results

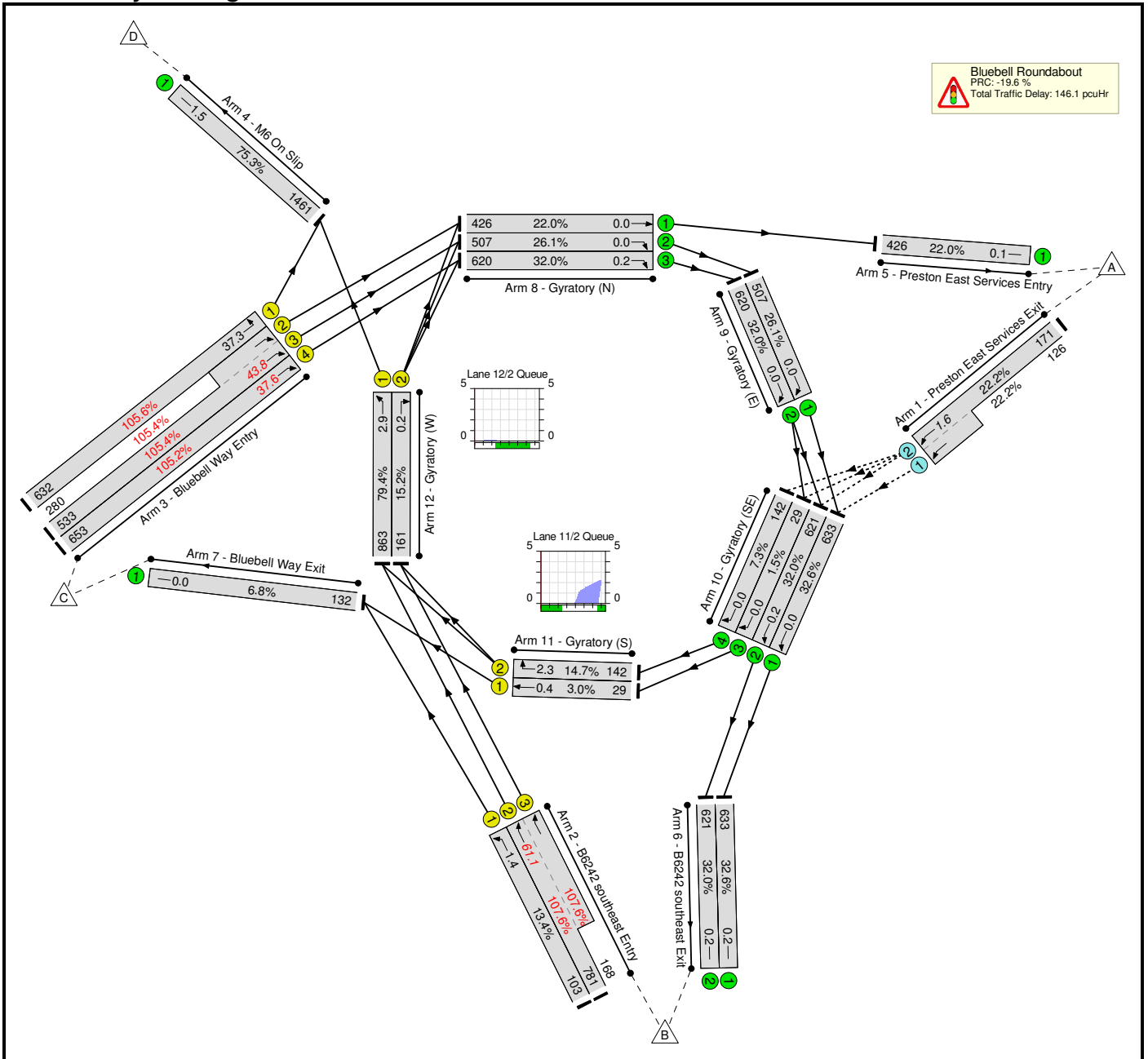
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	120.0%	36.2	156.1	192.4	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	120.0%	36.2	156.1	192.4	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	380	1783:1783	881+502	27.5 : 27.5%	0.5	0.2	0.7 (0.5+0.2)	6.5 (6.9:5.6)	2.6	0.2	2.7	-
2/1	B6242 southeast Entry Left	1	B	1	33	177	1865	705	25.1%	0.9	0.2	1.1	22.7	3.0	0.2	3.2	2.7
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	33	894	1865:1865	686+58	120.0 : 120.0%	13.4	77.5	90.9 (83.8+7.0)	365.9 (366.2:361.9)	26.7	77.5	104.2	18.5
3/1	Bluebell Way Entry Left	1	D	1	35	889	1871	748	118.8%	12.5	73.3	85.8	347.6	25.7	73.3	99.1	16.4
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	35	589	1920:1910	635+221	68.8 : 68.8%	3.4	1.1	4.5 (3.4+1.1)	27.3 (27.8:25.8)	9.5	1.1	10.6	6.4
3/4	Bluebell Way Entry Ahead	1	D	1	35	409	1939	776	52.7%	2.3	0.6	2.9	25.4	7.7	0.6	8.3	5.9
4/1	M6 On Slip	N/A	-	-	-	1886	1940	1940	82.9%	0.0	2.4	2.4	5.3	0.0	2.4	2.4	-
5/1	Preston East Services Entry	N/A	-	-	-	218	1940	1940	10.7%	0.0	0.1	0.1	1.0	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	581	1940	1940	29.9%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	379	1940	1940	19.5%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
7/1	Bluebell Way Exit	N/A	-	-	-	274	1940	1940	14.1%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-

LinSig V1 style report

8/1	Gyratory (N) Ahead	N/A	-	-	-	218	1940	1940	10.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
8/2	Gyratory (N) Right	N/A	-	-	-	443	1940	1940	22.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
8/3	Gyratory (N) Right	N/A	-	-	-	409	1940	1940	21.1%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-	
9/1	Gyratory (E) Right	N/A	-	-	-	443	1940	1940	22.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
9/2	Gyratory (E) Right	N/A	-	-	-	409	1940	1940	21.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
10/1	Gyratory (SE) Ahead	N/A	-	-	-	581	1940	1940	29.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
10/2	Gyratory (SE) Ahead	N/A	-	-	-	379	1940	1940	19.5%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-	
10/3	Gyratory (SE) Right	N/A	-	-	-	97	1940	1940	5.0%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-	
10/4	Gyratory (SE) Right	N/A	-	-	-	175	1940	1940	9.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
11/1	Gyratory (S) Ahead	1	A	1	46	97	2005	1069	9.1%	0.4	0.0	0.4	15.4	1.3	0.0	1.3	1.2	
11/2	Gyratory (S) Right	1	A	1	46	175	2075	1084	16.1%	0.9	0.1	1.0	21.5	3.2	0.1	3.3	2.9	
12/1	Gyratory (W) Left	1	C	1	43	997	1940	970	88.6%	1.9	0.0	1.9	7.8	4.3	0.0	4.3	4.0	
12/2	Gyratory (W) Right	1	C	1	43	72	1940	948	6.4%	0.0	0.0	0.1	3.3	0.0	0.0	0.1	0.0	
C1 - M25 Junction 6 North							Stream: 1		PRC for Signalled Lanes (%): -33.4		Total Delay for Signalled Lanes (pcuHr): 188.54		Cycle Time (s): 90					
									PRC Over All Lanes (%): -33.4		Total Delay Over All Lanes(pcuHr): 192.36							

Scenario 9: "With development" 2029 (Baseline 2029 + Operational) AM' (FG9: "With development" 2029 (Baseline 2029 + Operational) AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

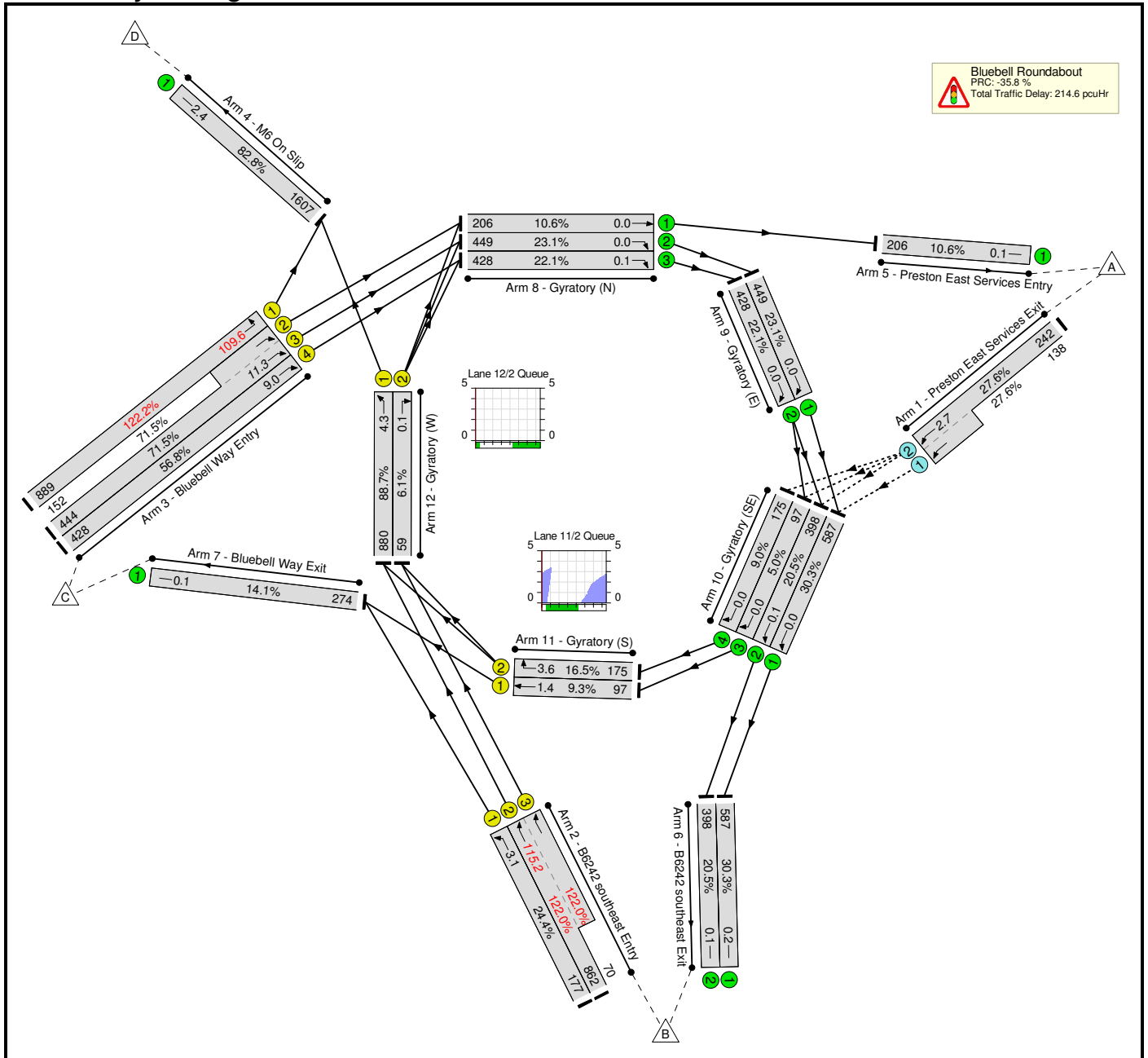
Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	107.6%	28.7	117.4	146.1	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	107.6%	28.7	117.4	146.1	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	297	1783:1783	769+566	22.2 : 22.2%	0.5	0.1	0.6 (0.4+0.3)	7.4 (7.5:7.2)	1.5	0.1	1.6	-
2/1	B6242 southeast Entry Left	1	B	1	30	103	1865	771	13.4%	0.4	0.1	0.5	16.4	1.3	0.1	1.4	1.2
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	30	949	1865:1865	726+156	107.6 : 107.6%	7.4	39.7	47.0 (38.9+8.1)	178.4 (179.2:174.6)	21.4	39.7	61.1	10.3
3/1	Bluebell Way Entry Left	1	D	1	23	632	1871	599	105.6%	5.8	23.4	29.2	166.2	13.9	23.4	37.3	10.0
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	23	813	1920:1910	506+266	105.4 : 105.4%	7.0	28.0	35.0 (23.0+12.0)	155.1 (155.6:154.1)	15.8	28.0	43.8	9.6
3/4	Bluebell Way Entry Ahead	1	D	1	23	653	1939	620	105.2%	5.9	23.3	29.2	160.9	14.3	23.3	37.6	10.2
4/1	M6 On Slip	N/A	-	-	-	1550	1940	1940	75.3%	0.0	1.5	1.5	3.7	0.0	1.5	1.5	-
5/1	Preston East Services Entry	N/A	-	-	-	452	1940	1940	22.0%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	660	1940	1940	32.6%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	653	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
7/1	Bluebell Way Exit	N/A	-	-	-	132	1940	1940	6.8%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

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8/1	Gyratory (N) Ahead	N/A	-	-	-	452	1940	1940	22.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	534	1940	1940	26.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	653	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
9/1	Gyratory (E) Right	N/A	-	-	-	534	1940	1940	26.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	653	1940	1940	32.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	660	1940	1940	32.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	653	1940	1940	32.0%	0.0	0.2	0.2	1.4	0.0	0.2	0.2	-
10/3	Gyratory (SE) Right	N/A	-	-	-	29	1940	1940	1.5%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	142	1940	1940	7.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	34	29	2005	962	3.0%	0.1	0.0	0.1	15.1	0.4	0.0	0.4	0.4
11/2	Gyratory (S) Right	1	A	1	34	142	2075	968	14.7%	0.6	0.1	0.7	17.0	2.2	0.1	2.3	2.0
12/1	Gyratory (W) Left	1	C	1	40	918	1940	1086	79.4%	1.1	0.0	1.1	4.6	2.9	0.0	2.9	2.9
12/2	Gyratory (W) Right	1	C	1	40	173	1940	1061	15.2%	0.0	0.1	0.1	2.9	0.1	0.1	0.2	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -19.6 Total Delay for Signalled Lanes (pcuHr): 142.89 Cycle Time (s): 75
 PRC Over All Lanes (%): -19.6 Total Delay Over All Lanes(pcuHr): 146.14

Network Layout Diagram



Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Bluebell Way roundabout	-	N/A	-	-	-	-	-	-	122.2%	39.0	175.6	214.6	-	-	-	-	-
Bluebell Roundabout	-	N/A	-	-	-	-	-	-	122.2%	39.0	175.6	214.6	-	-	-	-	-
1/2+1/1	Preston East Services Exit Ahead	N/A	-	-	-	380	1783:1783	878+501	27.6 : 27.6%	0.5	0.2	0.7 (0.5+0.2)	6.9 (7.4:6.1)	2.6	0.2	2.7	-
2/1	B6242 southeast Entry Left	1	B	1	34	177	1865	725	24.4%	0.9	0.2	1.1	21.9	3.0	0.2	3.1	2.6
2/2+2/3	B6242 southeast Entry Ahead	1	B	1	34	932	1865:1865	707+57	122.0 : 122.0%	14.5	86.7	101.2 (93.7+7.5)	390.9 (391.2:387.1)	28.6	86.7	115.2	19.8
3/1	Bluebell Way Entry Left	1	D	1	34	889	1871	728	122.2%	13.5	83.4	96.9	392.3	26.3	83.4	109.6	17.1
3/3+3/2	Bluebell Way Entry Ahead	1	D	1	34	596	1920:1910	621+213	71.5 : 71.5%	3.6	1.2	4.8 (3.6+1.2)	29.0 (29.6:27.6)	10.0	1.2	11.3	6.7
3/4	Bluebell Way Entry Ahead	1	D	1	34	428	1939	754	56.8%	2.6	0.7	3.2	27.1	8.3	0.7	9.0	6.3
4/1	M6 On Slip	N/A	-	-	-	1924	1940	1940	82.8%	0.0	2.4	2.4	5.3	0.0	2.4	2.4	-
5/1	Preston East Services Entry	N/A	-	-	-	218	1940	1940	10.6%	0.0	0.1	0.1	1.0	0.0	0.1	0.1	-
6/1	B6242 southeast Exit	N/A	-	-	-	588	1940	1940	30.3%	0.0	0.2	0.2	1.3	0.0	0.2	0.2	-
6/2	B6242 southeast Exit	N/A	-	-	-	398	1940	1940	20.5%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
7/1	Bluebell Way Exit	N/A	-	-	-	274	1940	1940	14.1%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	-

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8/1	Gyratory (N) Ahead	N/A	-	-	-	218	1940	1940	10.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/2	Gyratory (N) Right	N/A	-	-	-	450	1940	1940	23.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
8/3	Gyratory (N) Right	N/A	-	-	-	428	1940	1940	22.1%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
9/1	Gyratory (E) Right	N/A	-	-	-	450	1940	1940	23.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
9/2	Gyratory (E) Right	N/A	-	-	-	428	1940	1940	22.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/1	Gyratory (SE) Ahead	N/A	-	-	-	588	1940	1940	30.3%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Gyratory (SE) Ahead	N/A	-	-	-	398	1940	1940	20.5%	0.0	0.1	0.1	1.2	0.0	0.1	0.1	-
10/3	Gyratory (SE) Right	N/A	-	-	-	97	1940	1940	5.0%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
10/4	Gyratory (SE) Right	N/A	-	-	-	175	1940	1940	9.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	Gyratory (S) Ahead	1	A	1	45	97	2005	1047	9.3%	0.4	0.1	0.4	16.5	1.3	0.1	1.4	1.3
11/2	Gyratory (S) Right	1	A	1	45	175	2075	1061	16.5%	1.0	0.1	1.1	23.2	3.5	0.1	3.6	3.1
12/1	Gyratory (W) Left	1	C	1	44	1035	1940	992	88.7%	1.9	0.0	1.9	7.7	4.3	0.0	4.3	4.2
12/2	Gyratory (W) Right	1	C	1	44	72	1940	970	6.1%	0.0	0.0	0.1	3.3	0.1	0.0	0.1	0.1

C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): -35.8 Total Delay for Signalled Lanes (pcuHr): 210.68 Cycle Time (s): 90
 PRC Over All Lanes (%): -35.8 Total Delay Over All Lanes(pcuHr): 214.58

APPENDIX H
LINSIG OUTPUT – FULWOOD ROUNDABOUT

User and Project Details

Project:	EfW Red Scar, Preston
Title:	Fullwood roundabout
Location:	M6 Jct 31A Northbound off slip junction
Additional detail:	
File name:	J1 - Fulwood roundabout v2.lsg3x
Author:	
Company:	RSK
Address:	

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		-9999	7
B	Traffic	1		-9999	7
C	Traffic	1		-9999	7
D	Traffic	1		-9999	7
E	Traffic	1		-9999	7
F	Traffic	1		-9999	7
G	Traffic	1		-9999	7
H	Pedestrian	1		-9999	5

Phase Intergreens Matrix

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

Phase Delays

Stage Stream: 1

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

Prohibited Stage Change

Stage Stream: 1

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

Phases in Stage

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

Lane Input Data

Junction: Fulwood roundabout												
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)
1/1 (M6 Off Slip)	U	A	1	3	60.0	Geom	-	4.00	0.00	Y	Arm 6 Left	77.00
1/2 (M6 Off Slip)	U	A	2	3	12.7	Geom	-	4.00	0.00	N	Arm 6 Left	77.00
1/3 (M6 Off Slip)	U	B	1	3	50.0	Geom	-	3.80	0.00	Y	Arm 12 Ahead	77.00
1/4 (M6 Off Slip)	U	B	2	3	12.0	Geom	-	3.80	0.00	Y	Arm 12 Ahead	77.00
2/1 (B6242 Bluebell Way Entry)	U	D	1	3	60.0	Geom	-	3.90	0.00	Y	Arm 7 Left	26.00
											Arm 13 Ahead	Inf
2/2 (B6242 Bluebell Way Entry)	U	D	2	3	3.7	Geom	-	4.30	0.00	N	Arm 13 Ahead	26.00
3/1 (Fulwood Row (S) Entry)	O		1	3	60.0	Geom	-	4.60	0.00	Y	Arm 8 Left	38.00
											Arm 14 Ahead	38.00
4/1 (B6242 Longsands Ln Entry)	U	F	2	3	60.0	Geom	-	3.90	0.00	Y	Arm 9 Ahead	44.00
4/2 (B6242 Longsands Ln Entry)	U	F	2	3	2.7	Geom	-	3.50	0.00	N	Arm 10 Ahead	44.00
5/1 (Fulwood Row (N) Entry)	O		1	3	60.0	Geom	-	3.25	0.00	Y	Arm 11 Ahead	19.00
5/2 (Fulwood Row (N) Entry)	O		2	3	5.0	Geom	-	3.25	0.00	N	Arm 11 Ahead	19.00
6/1 (B6242 Bluebell Way Exit)	U		2	3	60.0	Geom	-	4.60	0.00	Y		
6/2 (B6242 Bluebell Way Exit)	U		2	3	60.0	Geom	-	4.60	0.00	Y		
7/1 (Fulwood Row (S) Exit)	U		2	3	60.0	Geom	-	3.50	0.00	Y		

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8/1 (B6242 Longsands Ln Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
8/2 (B6242 Longsands Ln Exit)	U		2	3	8.3	Geom	-	3.25	0.00	N		
9/1 (Fulwood Row (N) Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
10/1 (Fulwood Row (N) gyratory)	U		1	3	8.8	Geom	-	4.60	0.00	Y	Arm 11 Right	27.00
10/2 (Fulwood Row (N) gyratory)	U		2	3	8.8	Geom	-	4.60	0.00	N	Arm 11 Right	27.00
11/1 (M6 Off Slip gyratory)	U	C	1	3	4.5	Geom	-	4.60	0.00	Y	Arm 6 Ahead	27.00
11/2 (M6 Off Slip gyratory)	U	C	1	3	4.5	Geom	-	4.60	0.00	N	Arm 6 Ahead	27.00
											Arm 12 Right	27.00
12/1 (B6242 Bluebell Way gyratory)	U	E	1	3	7.5	Geom	-	4.60	0.00	Y	Arm 7 Ahead	27.00
											Arm 13 Right	Inf
12/2 (B6242 Bluebell Way gyratory)	U	E	1	3	7.5	Geom	-	4.60	0.00	N	Arm 13 Right	27.00
13/1 (Fulwood Row (S) gyratory)	U		2	3	6.2	Geom	-	4.60	0.00	Y	Arm 8 Ahead	Inf
13/2 (Fulwood Row (S) gyratory)	U		1	3	6.2	Geom	-	4.60	0.00	Y	Arm 8 Ahead	Inf
											Arm 14 Right	27.00
14/1 (B6242 Longsands Ln gyratory)	U	G	1	3	5.3	Geom	-	4.60	0.00	Y	Arm 9 Ahead	27.00
14/2 (B6242 Longsands Ln gyratory)	U	G	1	3	5.3	Geom	-	4.60	0.00	N	Arm 10 Right	27.00

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Existing 2019 AM'	07:30	08:30	01:00	
2: 'Existing 2019 PM'	16:15	17:15	01:00	
3: 'Baseline 2023 (Forecast 2023 + Committed) AM'	07:30	08:30	01:00	
4: 'Baseline 2023 (Forecast 2023 + Committed) PM'	16:15	17:15	01:00	
5: "With development" 2023 (Baseline 2023 + Operational) AM'	07:30	08:30	01:00	
6: "With development" 2023 (Baseline 2023 + Operational) PM'	16:15	17:15	01:00	
7: 'Baseline 2029 (Forecast 2029 + Committed) AM'	07:30	08:30	01:00	
8: 'Baseline 2029 (Forecast 2029 + Committed) PM'	16:15	17:15	01:00	
9: "With development" 2029 (Baseline 2029 + Operational) AM'	07:30	08:30	01:00	
10: "With development" 2029 (Baseline 2029 + Operational) PM'	16:15	17:15	01:00	

Traffic Flows, Desired

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

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	779	1	969	2	1751
	B	0	12	2	116	0	130
	C	0	44	0	54	0	98
	D	0	899	14	5	2	920
	E	0	6	0	3	0	9
	Tot.	0	1740	17	1147	4	2908

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

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	566	11	504	2	1083
	B	0	13	9	241	2	265
	C	0	15	0	32	0	47
	D	0	1117	45	4	3	1169
	E	0	4	2	2	0	8
	Tot.	0	1715	67	783	7	2572

Scenario 3: 'Baseline 2023 (Forecast 2023 + Committed) AM' (FG3: 'Baseline 2023 (Forecast 2023 + Committed) AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	865	1	1018	2	1886
	B	0	13	2	122	0	137
	C	0	46	0	57	0	103
	D	0	944	15	5	2	966
	E	0	6	0	3	0	9
	Tot.	0	1874	18	1205	4	3101

Scenario 4: 'Baseline 2023 (Forecast 2023 + Committed) PM' (FG4: 'Baseline 2023 (Forecast 2023 + Committed) PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	703	12	528	2	1245
	B	0	13	10	253	2	278
	C	0	16	0	34	0	50
	D	0	1169	47	4	3	1223
	E	0	4	2	2	0	8
	Tot.	0	1905	71	821	7	2804

Scenario 5: 'With development' 2023 (Baseline 2023 + Operational) AM' (FG5: 'With development' 2023 (Baseline 2023 + Operational) AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	903	1	1018	2	1924
	B	0	13	2	122	0	137
	C	0	46	0	57	0	103
	D	0	944	15	5	2	966
	E	0	6	0	3	0	9
	Tot.	0	1912	18	1205	4	3139

Scenario 6: "With development' 2023 (Baseline 2023 + Operational) PM' (FG6: "With development' 2023 (Baseline 2023 + Operational) PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	728	12	528	2	1270
	B	0	13	10	253	2	278
	C	0	16	0	34	0	50
	D	0	1169	47	4	3	1223
	E	0	4	2	2	0	8
	Tot.	0	1930	71	821	7	2829

Scenario 7: 'Baseline 2029 (Forecast 2029 + Committed) AM' (FG7: 'Baseline 2029 (Forecast 2029 + Committed) AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	911	1	1075	2	1989
	B	0	13	2	129	0	144
	C	0	48	0	60	0	108
	D	0	998	16	6	2	1022
	E	0	7	0	3	0	10
	Tot.	0	1977	19	1273	4	3273

Scenario 8: 'Baseline 2029 (Forecast 2029 + Committed) PM' (FG8: 'Baseline 2029 (Forecast 2029 + Committed) PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	734	12	556	2	1304
	B	0	14	10	266	2	292
	C	0	17	0	36	0	53
	D	0	1231	49	4	3	1287
	E	0	4	2	2	0	8
	Tot.	0	2000	73	864	7	2944

Scenario 9: "With development' 2029 (Baseline 2029 + Operational) AM' (FG9: "With development' 2029 (Baseline 2029 + Operational) AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	949	1	1075	2	2027
	B	0	13	2	129	0	144
	C	0	48	0	60	0	108
	D	0	998	16	6	2	1022
	E	0	7	0	3	0	10
	Tot.	0	2015	19	1273	4	3311

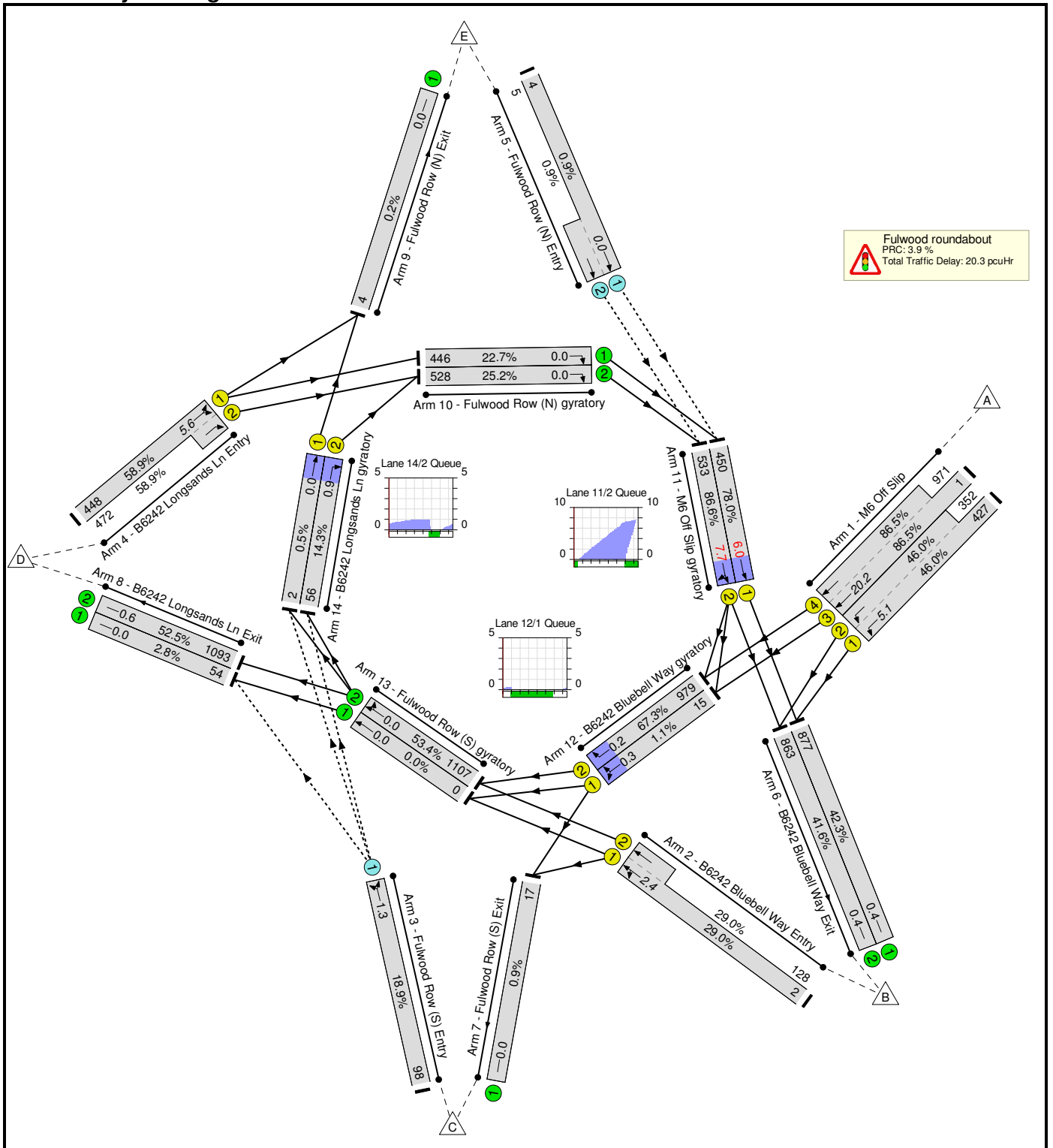
Scenario 10: "With development' 2029 (Baseline 2029 + Operational) PM' (FG10: "With development' 2029 (Baseline 2029 + Operational) PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	759	12	556	2	1329
	B	0	14	10	266	2	292
	C	0	17	0	36	0	53
	D	0	1231	49	4	3	1287
	E	0	4	2	2	0	8
	Tot.	0	2025	73	864	7	2969

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

Network Layout Diagram



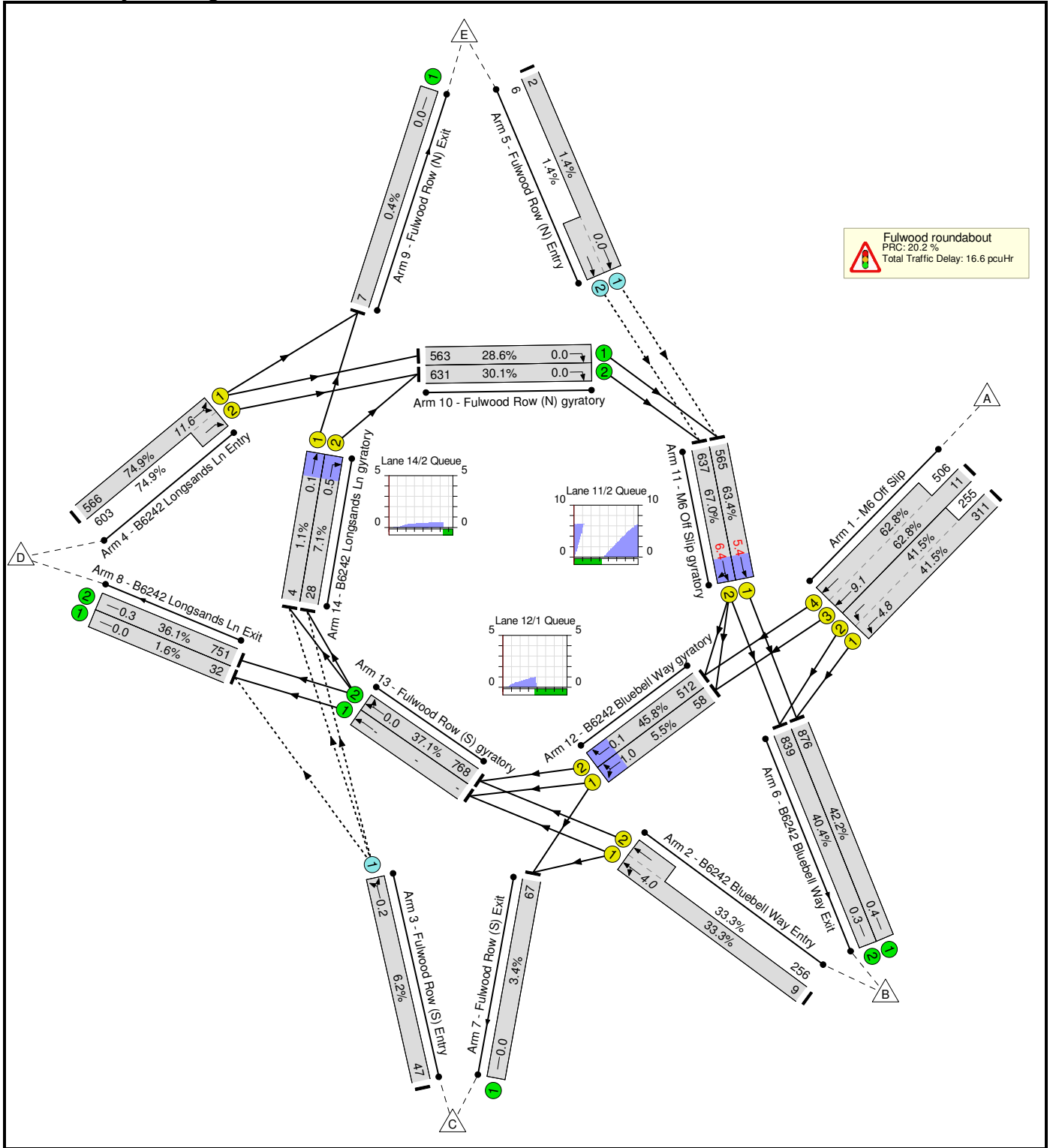
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	86.6%	14.4	5.8	20.3	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	86.6%	14.4	5.8	20.3	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	42	779	1976:2114	929+765	46.0 : 46.0%	1.8	0.4	2.2 (1.2+1.0)	10.2 (10.1:10.2)	4.6	0.4	5.1	3.6
1/3+1/4	M6 Off Slip Ahead	1	B	1	42	972	1957:1957	1+1122	86.5 : 86.5%	3.7	3.1	6.7 (0.0+6.7)	25.0 (19.3:25.0)	17.1	3.1	20.2	8.1
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	15	130	1896:2066	7+441	29.0 : 29.0%	0.9	0.2	1.1 (0.0+1.1)	30.4 (28.5:30.4)	2.2	0.2	2.4	2.0
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	98	1996	517	18.9%	0.3	0.1	0.4	14.1	1.1	0.1	1.3	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	920	1939:2036	761+802	58.9 : 58.9%	1.0	0.7	1.7 (0.8+0.9)	6.7 (6.7:6.7)	4.8	0.7	5.6	2.5
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	9	1798:1928	453+567	0.9 : 0.9%	0.0	0.0	0.0 (0.0+0.0)	2.7 (2.7:2.7)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	877	2075	2075	42.3%	0.0	0.4	0.4	1.5	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	863	2075	2075	41.6%	0.0	0.4	0.4	1.5	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	17	1965	1965	0.9%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	54	1940	1940	2.8%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	1093	2080	2080	52.5%	0.0	0.6	0.6	1.8	0.0	0.6	0.6	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	4	1940	1940	0.2%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	446	1966	1966	22.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	528	2098	2098	25.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	20	450	1966	577	78.0%	2.9	0.0	2.9	23.2	6.0	0.0	6.0	6.0
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	20	533	2098	615	86.6%	3.3	0.0	3.3	22.1	7.7	0.0	7.7	7.1
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	50	15	1966	1363	1.1%	0.0	0.0	0.0	11.0	0.3	0.0	0.3	0.3
12/2	B6242 Bluebell Way gyratory Right	1	E	1	50	979	2098	1455	67.3%	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	2075	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	1107	2074	2074	53.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	2	1966	367	0.5%	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	56	2098	392	14.3%	0.6	0.0	0.6	38.8	0.9	0.0	0.9	0.9
C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 3.9 Total Delay for Signalled Lanes (pcuHr): 18.61 Cycle Time (s): 75 PRC Over All Lanes (%): 3.9 Total Delay Over All Lanes(pcuHr): 20.29																	

Network Layout Diagram



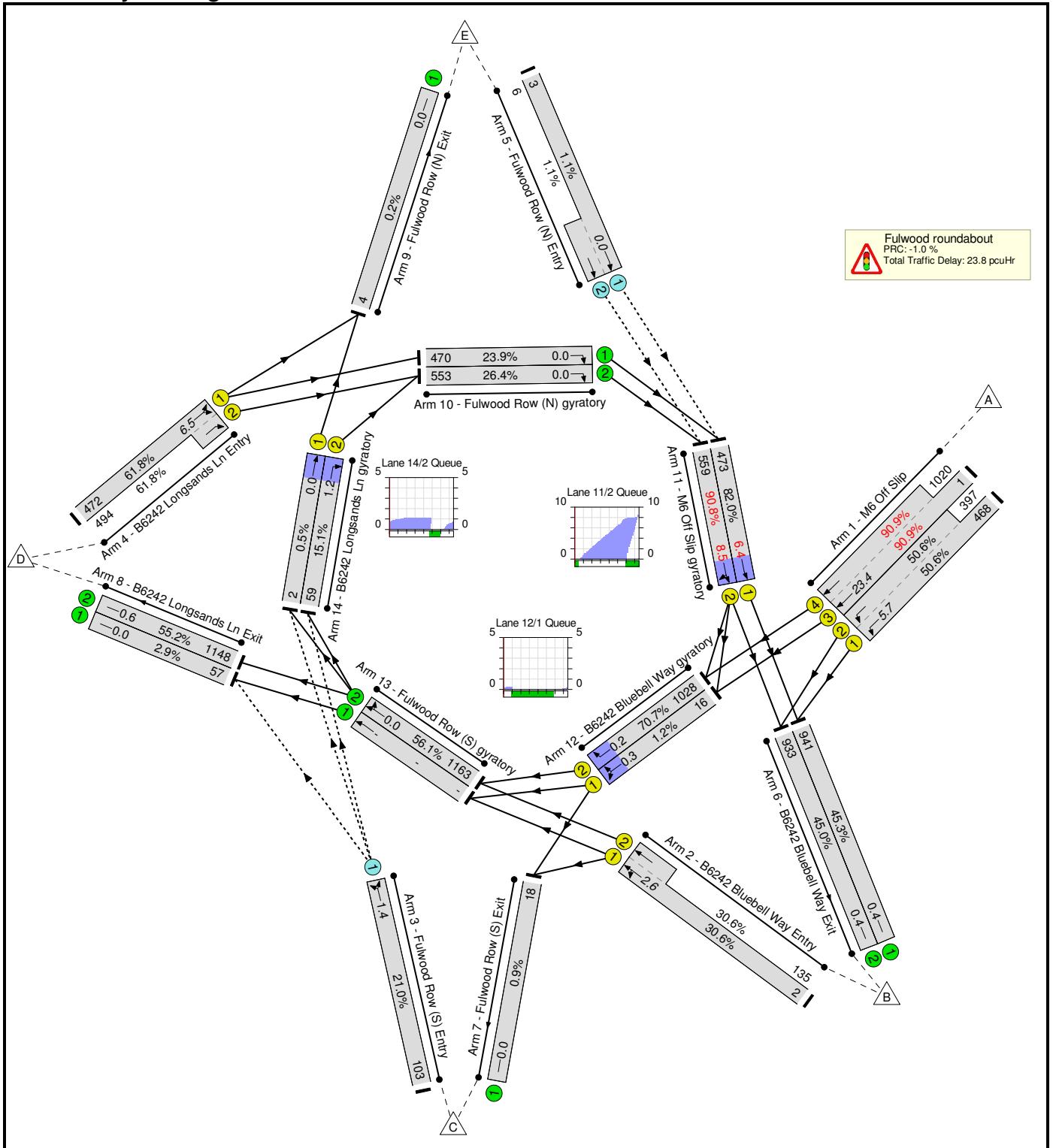
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	74.9%	12.6	4.0	16.6	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	74.9%	12.6	4.0	16.6	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	30	566	1976:2114	750+615	41.5 : 41.5%	2.3	0.4	2.7 (1.5+1.2)	16.9 (16.9:16.9)	4.4	0.4	4.8	3.6
1/3+1/4	M6 Off Slip Ahead	1	B	1	30	517	1957:1957	18+806	62.8 : 62.8%	2.5	0.8	3.3 (0.1+3.3)	23.2 (18.5:23.3)	8.3	0.8	9.1	5.9
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	27	265	1896:2066	27+769	33.3 : 33.3%	1.2	0.2	1.5 (0.0+1.4)	20.1 (17.8:20.2)	3.8	0.2	4.0	3.2
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	47	1996	762	6.2%	0.0	0.0	0.1	4.5	0.2	0.0	0.2	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1169	1939:2036	756+805	74.9 : 74.9%	1.5	1.5	3.0 (1.5+1.6)	9.3 (9.3:9.3)	10.1	1.5	11.6	3.6
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	8	1798:1928	140+419	1.4 : 1.4%	0.0	0.0	0.0 (0.0+0.0)	6.5 (6.3:6.5)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	876	2075	2075	42.2%	0.0	0.4	0.4	1.5	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	839	2075	2075	40.4%	0.0	0.3	0.3	1.5	0.0	0.3	0.3	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	67	1965	1965	3.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	32	1940	1940	1.6%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	751	2080	2080	36.1%	0.0	0.3	0.3	1.4	0.0	0.3	0.3	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	7	1940	1940	0.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	563	1966	1966	28.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	631	2098	2098	30.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	32	565	1966	891	63.4%	2.1	0.0	2.1	13.3	5.4	0.0	5.4	5.4
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	32	637	2098	951	67.0%	2.4	0.0	2.4	13.4	6.4	0.0	6.4	6.3
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	38	58	1966	1049	5.5%	0.3	0.0	0.3	16.2	1.0	0.0	1.0	0.9
12/2	B6242 Bluebell Way gyratory Right	1	E	1	38	512	2098	1119	45.8%	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	768	2072	2072	37.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	4	1966	367	1.1%	0.0	0.0	0.0	26.3	0.1	0.0	0.1	0.1
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	28	2098	392	7.1%	0.3	0.0	0.3	33.6	0.5	0.0	0.5	0.5
C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 20.2 Total Delay for Signalled Lanes (pcuHr): 15.52 Cycle Time (s): 75 PRC Over All Lanes (%): 20.2 Total Delay Over All Lanes(pcuHr): 16.61																	

Network Layout Diagram



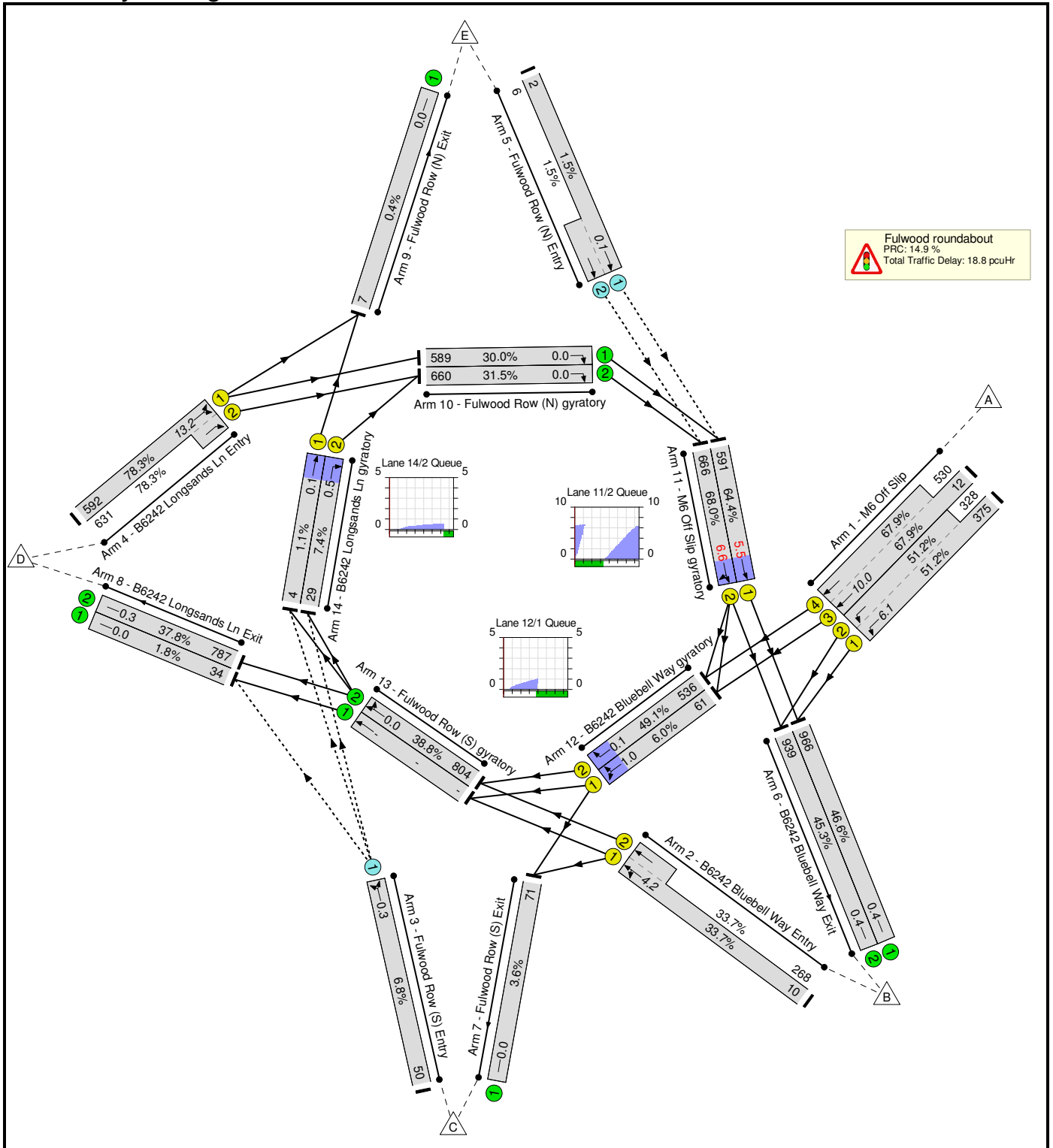
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	90.9%	16.0	7.7	23.8	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	90.9%	16.0	7.7	23.8	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	42	865	1976:2114	925+784	50.6 : 50.6%	2.0	0.5	2.5 (1.4+1.2)	10.5 (10.5:10.5)	5.2	0.5	5.7	3.9
1/3+1/4	M6 Off Slip Ahead	1	B	1	42	1021	1957:1957	1+1122	90.9 : 90.9%	4.0	4.6	8.6 (0.0+8.6)	30.4 (24.7:30.4)	18.8	4.6	23.4	8.5
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	15	137	1896:2066	7+441	30.6 : 30.6%	0.9	0.2	1.2 (0.0+1.1)	30.6 (28.6:30.6)	2.4	0.2	2.6	2.1
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	103	1996	490	21.0%	0.3	0.1	0.5	16.2	1.3	0.1	1.4	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	966	1939:2036	764+799	61.8 : 61.8%	1.1	0.8	1.9 (0.9+1.0)	7.0 (7.0:7.0)	5.7	0.8	6.5	2.6
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	9	1798:1928	265+529	1.1 : 1.1%	0.0	0.0	0.0 (0.0+0.0)	3.3 (3.3:3.3)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	941	2075	2075	45.3%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	933	2075	2075	45.0%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	18	1965	1965	0.9%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	57	1940	1940	2.9%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	1148	2080	2080	55.2%	0.0	0.6	0.6	1.9	0.0	0.6	0.6	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	4	1940	1940	0.2%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	470	1966	1966	23.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	553	2098	2098	26.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	20	473	1966	577	82.0%	3.2	0.0	3.2	24.1	6.4	0.0	6.4	6.4
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	20	559	2098	615	90.8%	3.6	0.0	3.6	23.1	8.5	0.0	8.5	7.8
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	50	16	1966	1363	1.2%	0.0	0.0	0.0	10.9	0.3	0.0	0.3	0.3
12/2	B6242 Bluebell Way gyratory Right	1	E	1	50	1028	2098	1455	70.7%	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	1163	2074	2074	56.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	2	1966	367	0.5%	0.0	0.0	0.0	11.4	0.0	0.0	0.0	0.0
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	59	2098	392	15.1%	0.8	0.0	0.8	46.8	1.2	0.0	1.2	1.2
C1 - M25 Junction 6 North			Stream: 1			PRC for Signalled Lanes (%): -1.0		PRC Over All Lanes (%): -1.0		Total Delay for Signalled Lanes (pcuHr): 21.82			Total Delay Over All Lanes(pcuHr): 23.75		Cycle Time (s): 75		

Network Layout Diagram



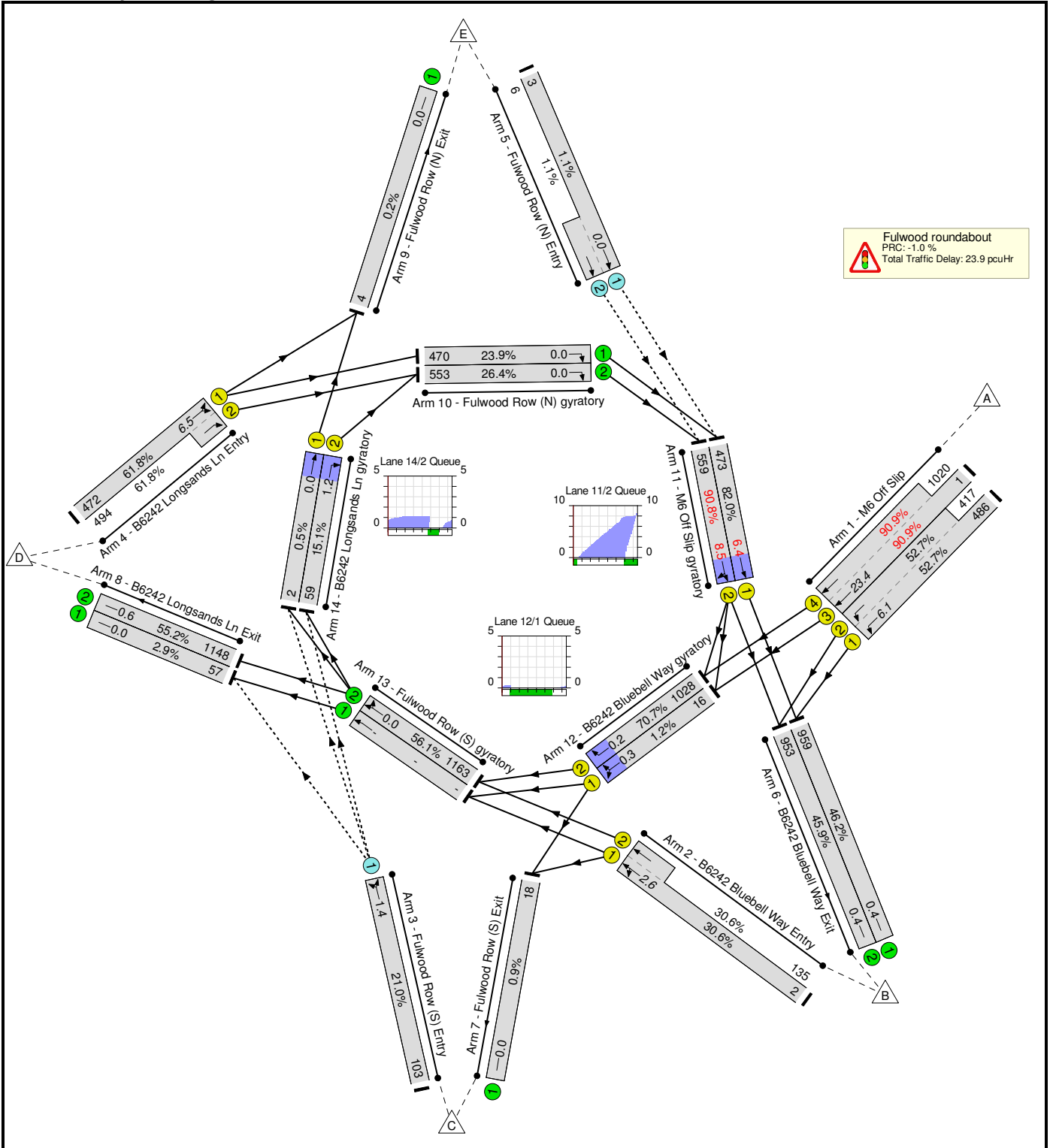
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	78.3%	14.0	4.8	18.8	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	78.3%	14.0	4.8	18.8	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	29	703	1976:2114	732+640	51.2 : 51.2%	3.1	0.5	3.6 (1.9+1.7)	18.6 (18.6:18.7)	5.6	0.5	6.1	4.5
1/3+1/4	M6 Off Slip Ahead	1	B	1	29	542	1957:1957	18+780	67.9 : 67.9%	2.8	1.1	3.8 (0.1+3.8)	25.4 (20.2:25.5)	9.0	1.1	10.0	6.3
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	28	278	1896:2066	30+795	33.7 : 33.7%	1.2	0.3	1.5 (0.0+1.5)	19.4 (17.1:19.5)	3.9	0.3	4.2	3.3
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	50	1996	739	6.8%	0.0	0.0	0.1	4.9	0.2	0.0	0.3	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1223	1939:2036	756+806	78.3 : 78.3%	1.7	1.8	3.5 (1.7+1.8)	10.3 (10.3:10.3)	11.4	1.8	13.2	3.9
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	8	1798:1928	129+387	1.5 : 1.5%	0.0	0.0	0.0 (0.0+0.0)	7.9 (7.7:8.0)	0.0	0.0	0.1	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	966	2075	2075	46.6%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	939	2075	2075	45.3%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	71	1965	1965	3.6%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	34	1940	1940	1.8%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	787	2080	2080	37.8%	0.0	0.3	0.3	1.4	0.0	0.3	0.3	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	7	1940	1940	0.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	589	1966	1966	30.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	660	2098	2098	31.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	33	591	1966	917	64.4%	2.1	0.0	2.1	12.9	5.5	0.0	5.5	5.5
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	33	666	2098	979	68.0%	2.4	0.0	2.4	13.0	6.6	0.0	6.6	6.4
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	37	61	1966	1022	6.0%	0.3	0.0	0.3	16.4	1.0	0.0	1.0	1.0
12/2	B6242 Bluebell Way gyratory Right	1	E	1	37	536	2098	1091	49.1%	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	804	2073	2073	38.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	4	1966	367	1.1%	0.0	0.0	0.0	25.6	0.1	0.0	0.1	0.1
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	29	2098	392	7.4%	0.3	0.0	0.3	33.1	0.5	0.0	0.5	0.5
C1 - M25 Junction 6 North			Stream: 1 PRC for Signalled Lanes (%): 14.9				Total Delay for Signalled Lanes (pcuHr): 17.58				Cycle Time (s): 75						
			PRC Over All Lanes (%): 14.9				Total Delay Over All Lanes(pcuHr): 18.85										

Network Layout Diagram



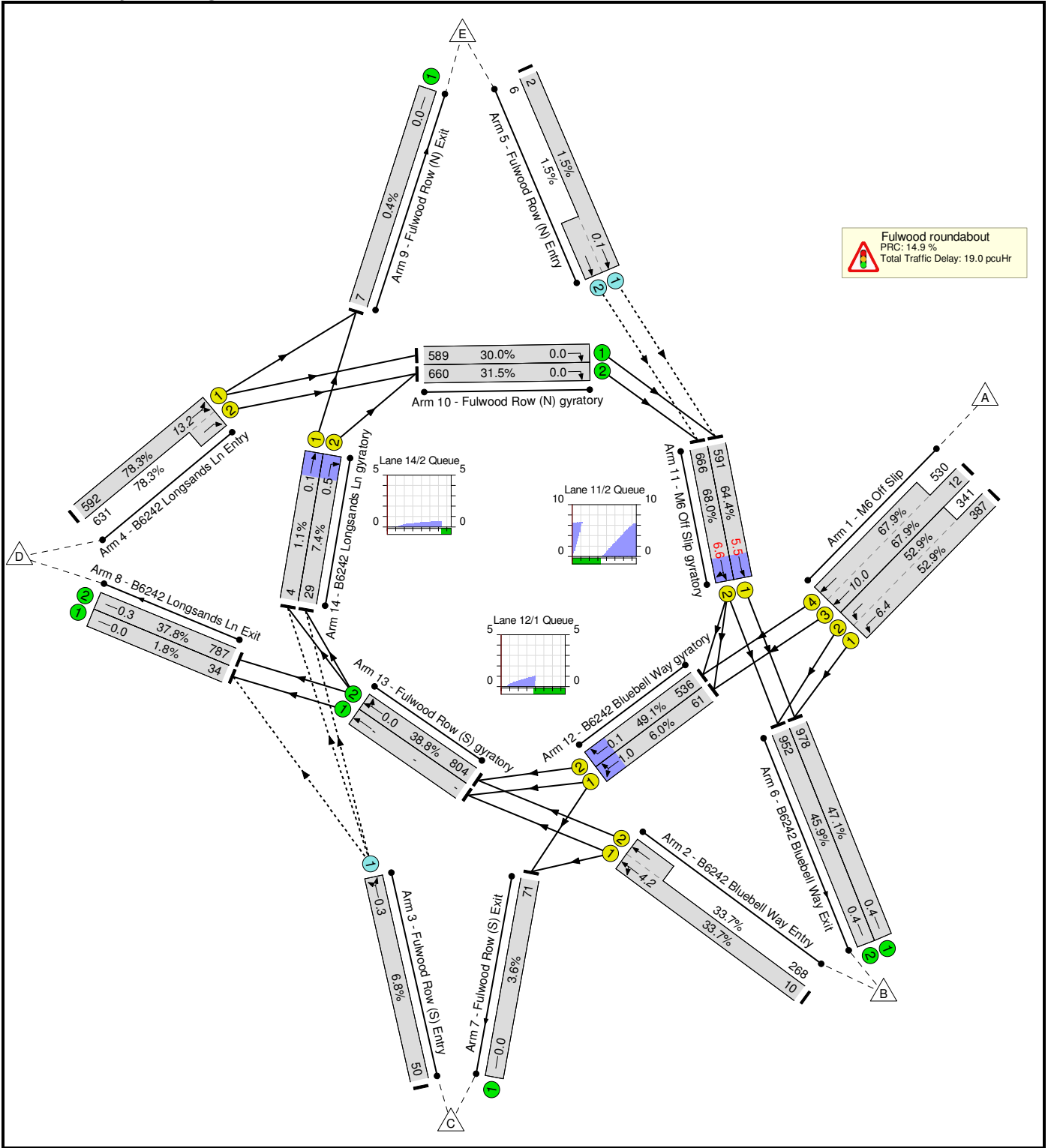
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	90.9%	16.1	7.8	23.9	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	90.9%	16.1	7.8	23.9	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	42	903	1976:2114	923+792	52.7 : 52.7%	2.1	0.6	2.7 (1.4+1.2)	10.7 (10.7:10.7)	5.5	0.6	6.1	4.0
1/3+1/4	M6 Off Slip Ahead	1	B	1	42	1021	1957:1957	1+1122	90.9 : 90.9%	4.0	4.6	8.6 (0.0+8.6)	30.4 (24.7:30.4)	18.8	4.6	23.4	8.5
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	15	137	1896:2066	7+441	30.6 : 30.6%	0.9	0.2	1.2 (0.0+1.1)	30.6 (28.6:30.6)	2.4	0.2	2.6	2.1
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	103	1996	490	21.0%	0.3	0.1	0.5	16.2	1.3	0.1	1.4	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	966	1939:2036	764+799	61.8 : 61.8%	1.1	0.8	1.9 (0.9+1.0)	7.0 (7.0:7.0)	5.7	0.8	6.5	2.6
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	9	1798:1928	265+529	1.1 : 1.1%	0.0	0.0	0.0 (0.0+0.0)	3.3 (3.3:3.3)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	959	2075	2075	46.2%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	953	2075	2075	45.9%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	18	1965	1965	0.9%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	57	1940	1940	2.9%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	1148	2080	2080	55.2%	0.0	0.6	0.6	1.9	0.0	0.6	0.6	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	4	1940	1940	0.2%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	470	1966	1966	23.9%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	553	2098	2098	26.4%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	20	473	1966	577	82.0%	3.2	0.0	3.2	24.1	6.4	0.0	6.4	6.4
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	20	559	2098	615	90.8%	3.6	0.0	3.6	23.1	8.5	0.0	8.5	7.8
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	50	16	1966	1363	1.2%	0.0	0.0	0.0	10.9	0.3	0.0	0.3	0.3
12/2	B6242 Bluebell Way gyratory Right	1	E	1	50	1028	2098	1455	70.7%	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	1163	2074	2074	56.1%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	2	1966	367	0.5%	0.0	0.0	0.0	11.4	0.0	0.0	0.0	0.0
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	59	2098	392	15.1%	0.8	0.0	0.8	46.8	1.2	0.0	1.2	1.2
C1 - M25 Junction 6 North			Stream: 1			PRC for Signalled Lanes (%): -1.0		PRC Over All Lanes (%): -1.0		Total Delay for Signalled Lanes (pcuHr): 21.98			Total Delay Over All Lanes(pcuHr): 23.94		Cycle Time (s): 75		

Network Layout Diagram



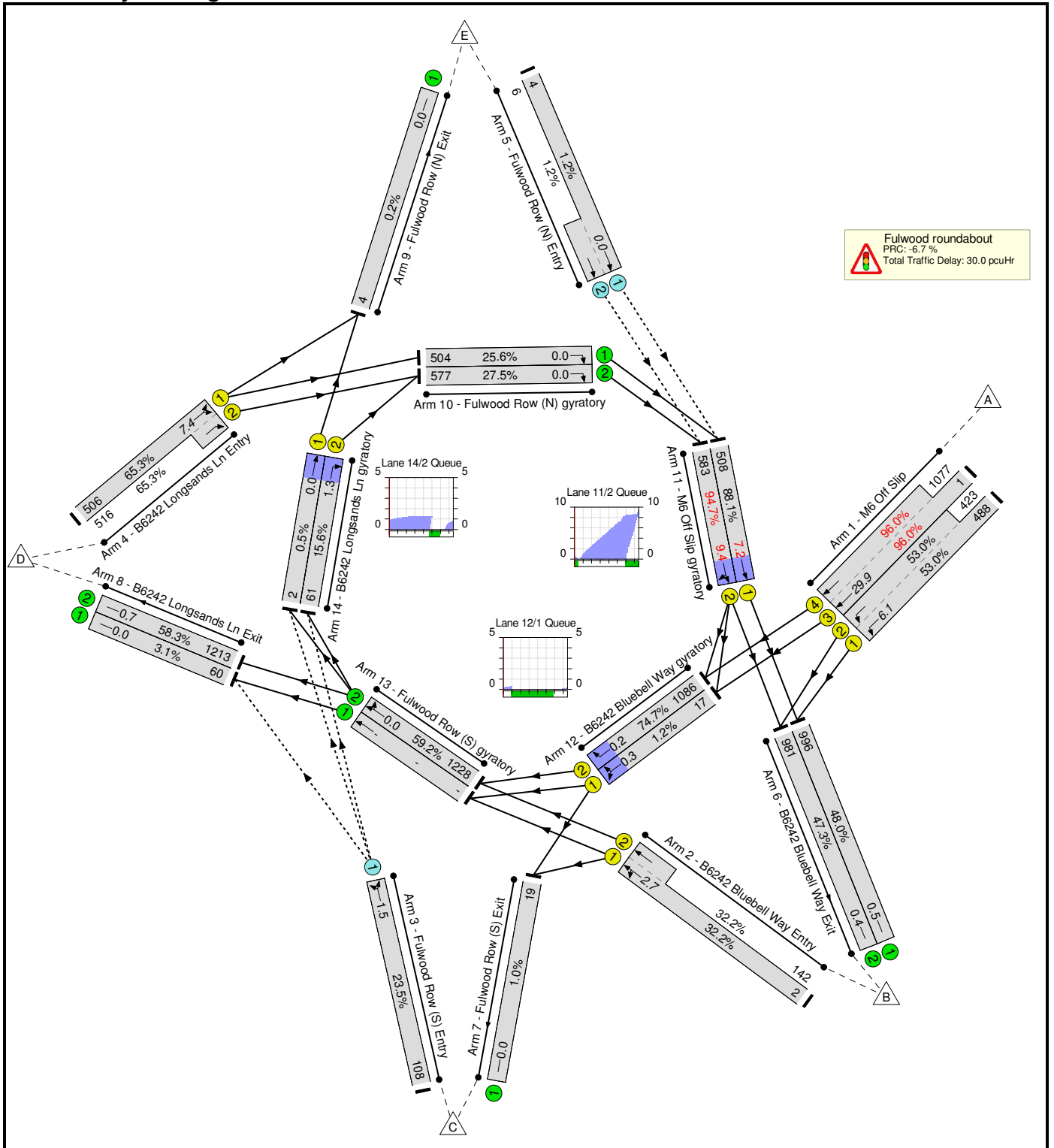
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	78.3%	14.1	4.9	19.0	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	78.3%	14.1	4.9	19.0	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	29	728	1976:2114	732+645	52.9 : 52.9%	3.3	0.6	3.8 (2.0+1.8)	18.9 (18.8:18.9)	5.8	0.6	6.4	4.6
1/3+1/4	M6 Off Slip Ahead	1	B	1	29	542	1957:1957	18+780	67.9 : 67.9%	2.8	1.1	3.8 (0.1+3.8)	25.4 (20.2:25.5)	9.0	1.1	10.0	6.3
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	28	278	1896:2066	30+795	33.7 : 33.7%	1.2	0.3	1.5 (0.0+1.5)	19.4 (17.1:19.5)	3.9	0.3	4.2	3.3
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	50	1996	739	6.8%	0.0	0.0	0.1	4.9	0.2	0.0	0.3	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1223	1939:2036	756+806	78.3 : 78.3%	1.7	1.8	3.5 (1.7+1.8)	10.3 (10.3:10.3)	11.4	1.8	13.2	3.9
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	8	1798:1928	129+387	1.5 : 1.5%	0.0	0.0	0.0 (0.0+0.0)	7.9 (7.7:8.0)	0.0	0.0	0.1	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	978	2075	2075	47.1%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	952	2075	2075	45.9%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	71	1965	1965	3.6%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	34	1940	1940	1.8%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	787	2080	2080	37.8%	0.0	0.3	0.3	1.4	0.0	0.3	0.3	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	7	1940	1940	0.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	589	1966	1966	30.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	660	2098	2098	31.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	33	591	1966	917	64.4%	2.1	0.0	2.1	12.9	5.5	0.0	5.5	5.5
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	33	666	2098	979	68.0%	2.4	0.0	2.4	13.0	6.6	0.0	6.6	6.4
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	37	61	1966	1022	6.0%	0.3	0.0	0.3	16.4	1.0	0.0	1.0	1.0
12/2	B6242 Bluebell Way gyratory Right	1	E	1	37	536	2098	1091	49.1%	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	804	2073	2073	38.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	4	1966	367	1.1%	0.0	0.0	0.0	25.6	0.1	0.0	0.1	0.1
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	29	2098	392	7.4%	0.3	0.0	0.3	33.1	0.5	0.0	0.5	0.5
C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 14.9 Total Delay for Signalled Lanes (pcuHr): 17.75 Cycle Time (s): 75 PRC Over All Lanes (%): 14.9 Total Delay Over All Lanes(pcuHr): 19.04																	

Network Layout Diagram



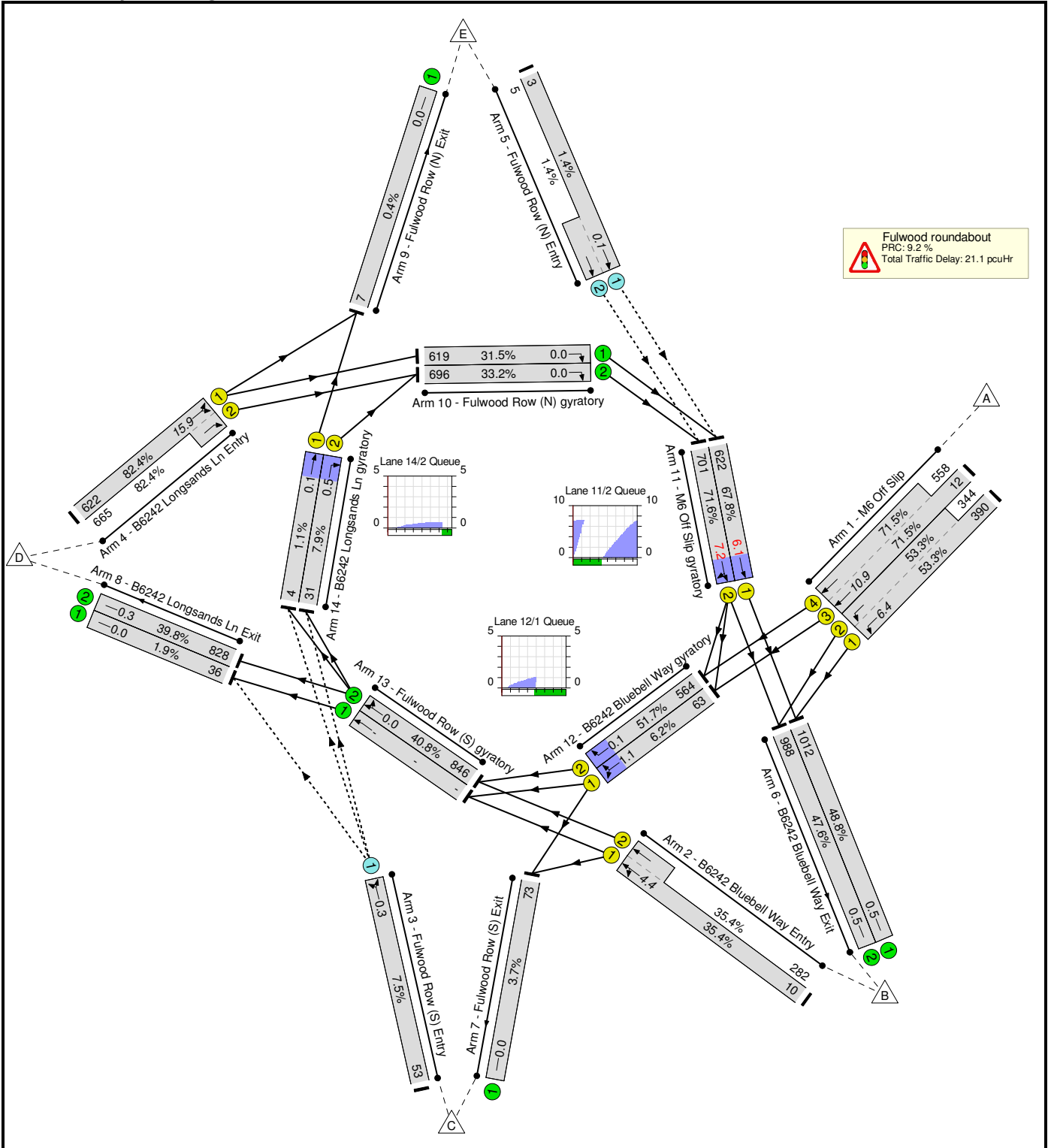
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	96.0%	17.8	12.2	30.0	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	96.0%	17.8	12.2	30.0	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	42	911	1976:2114	922+799	53.0 : 53.0%	2.2	0.6	2.7 (1.5+1.3)	10.7 (10.7:10.8)	5.6	0.6	6.1	4.1
1/3+1/4	M6 Off Slip Ahead	1	B	1	42	1078	1957:1957	1+1122	96.0 : 96.0%	4.5	8.6	13.2 (0.0+13.2)	44.0 (38.3:44.1)	21.2	8.6	29.9	9.0
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	15	144	1896:2066	6+441	32.2 : 32.2%	1.0	0.2	1.2 (0.0+1.2)	30.8 (28.7:30.9)	2.5	0.2	2.7	2.2
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	108	1996	460	23.5%	0.4	0.2	0.5	18.0	1.3	0.2	1.5	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1022	1939:2036	774+790	65.3 : 65.3%	1.2	0.9	2.1 (1.1+1.1)	7.5 (7.5:7.5)	6.4	0.9	7.4	2.8
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	10	1798:1928	324+486	1.2 : 1.2%	0.0	0.0	0.0 (0.0+0.0)	3.7 (3.7:3.7)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	996	2075	2075	48.0%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	981	2075	2075	47.3%	0.0	0.4	0.4	1.6	0.0	0.4	0.4	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	19	1965	1965	1.0%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	60	1940	1940	3.1%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	1213	2080	2080	58.3%	0.0	0.7	0.7	2.1	0.0	0.7	0.7	-	
9/1	Fulwood Row (N) Exit	N/A	-	-	-	4	1940	1940	0.2%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-	
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	504	1966	1966	25.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	577	2098	2098	27.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
11/1	M6 Off Slip gyratory Ahead	1	C	1	20	508	1966	577	88.1%	3.6	0.0	3.6	25.5	7.2	0.0	7.2	7.1	
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	20	583	2098	615	94.7%	4.0	0.0	4.0	24.6	9.4	0.0	9.4	8.3	
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	50	17	1966	1363	1.2%	0.1	0.0	0.1	10.7	0.3	0.0	0.3	0.3	
12/2	B6242 Bluebell Way gyratory Right	1	E	1	50	1086	2098	1455	74.7%	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2	
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-	
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	1228	2074	2074	59.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	2	1966	367	0.5%	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0	
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	61	2098	392	15.6%	0.8	0.0	0.8	49.9	1.3	0.0	1.3	1.3	
C1 - M25 Junction 6 North			Stream: 1 PRC for Signalled Lanes (%): -6.7				Total Delay for Signalled Lanes (pcuHr): 27.77				Cycle Time (s): 75		PRC Over All Lanes (%): -6.7				Total Delay Over All Lanes(pcuHr): 29.95	

Network Layout Diagram



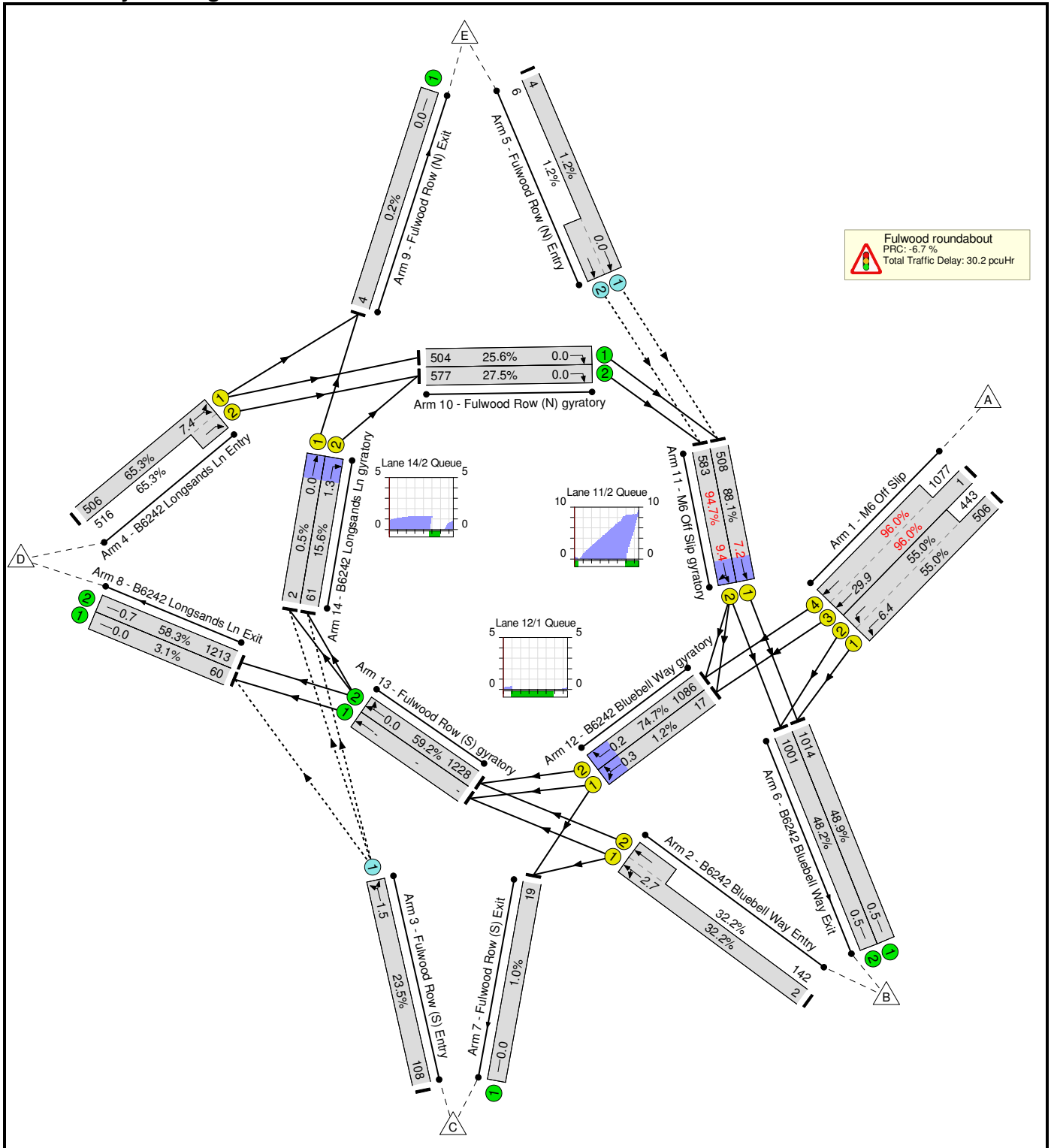
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	82.4%	15.4	5.7	21.1	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	82.4%	15.4	5.7	21.1	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	29	734	1976:2114	731+645	53.3 : 53.3%	3.3	0.6	3.9 (2.0+1.8)	18.9 (18.9:18.9)	5.8	0.6	6.4	4.7
1/3+1/4	M6 Off Slip Ahead	1	B	1	29	570	1957:1957	17+780	71.5 : 71.5%	3.0	1.2	4.2 (0.1+4.1)	26.6 (21.0:26.7)	9.6	1.2	10.9	6.7
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	28	292	1896:2066	28+796	35.4 : 35.4%	1.3	0.3	1.6 (0.0+1.5)	19.6 (17.3:19.7)	4.2	0.3	4.4	3.4
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	53	1996	707	7.5%	0.0	0.0	0.1	5.5	0.3	0.0	0.3	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1287	1939:2036	754+807	82.4 : 82.4%	1.9	2.3	4.2 (2.0+2.2)	11.9 (11.8:11.9)	13.6	2.3	15.9	4.3
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	8	1798:1928	213+355	1.4 : 1.4%	0.0	0.0	0.0 (0.0+0.0)	10.5 (10.2:10.7)	0.1	0.0	0.1	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	1012	2075	2075	48.8%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	988	2075	2075	47.6%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	73	1965	1965	3.7%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	36	1940	1940	1.9%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	828	2080	2080	39.8%	0.0	0.3	0.3	1.4	0.0	0.3	0.3	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	7	1940	1940	0.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	619	1966	1966	31.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	696	2098	2098	33.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	33	622	1966	917	67.8%	2.4	0.0	2.4	14.0	6.1	0.0	6.1	6.1
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	33	701	2098	979	71.6%	2.7	0.0	2.7	14.0	7.2	0.0	7.2	7.0
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	37	63	1966	1022	6.2%	0.3	0.0	0.3	16.5	1.1	0.0	1.1	1.0
12/2	B6242 Bluebell Way gyratory Right	1	E	1	37	564	2098	1091	51.7%	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	846	2073	2073	40.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	4	1966	367	1.1%	0.0	0.0	0.0	25.4	0.1	0.0	0.1	0.1
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	31	2098	392	7.9%	0.3	0.0	0.3	33.1	0.5	0.0	0.5	0.5
C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 9.2 Total Delay for Signalled Lanes (pcuHr): 19.69 Cycle Time (s): 75 PRC Over All Lanes (%): 9.2 Total Delay Over All Lanes(pcuHr): 21.09																	

Network Layout Diagram



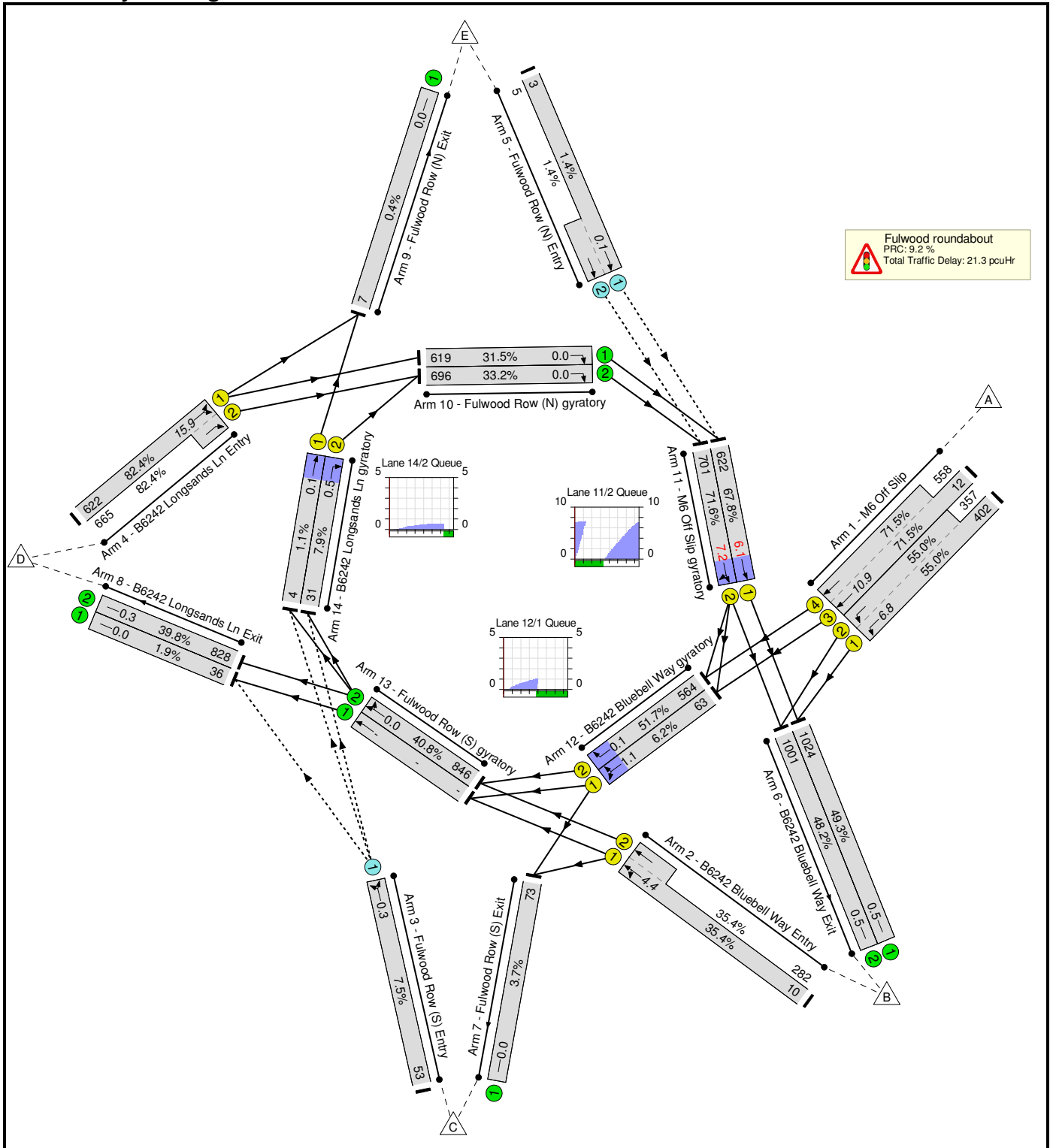
Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red(pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	96.0%	17.9	12.3	30.2	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	96.0%	17.9	12.3	30.2	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	42	949	1976:2114	920+806	55.0 : 55.0%	2.3	0.6	2.9 (1.5+1.3)	10.9 (10.9:11.0)	5.8	0.6	6.4	4.2
1/3+1/4	M6 Off Slip Ahead	1	B	1	42	1078	1957:1957	1+1122	96.0 : 96.0%	4.5	8.6	13.2 (0.0+13.2)	44.0 (38.3:44.1)	21.2	8.6	29.9	9.0
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	15	144	1896:2066	6+441	32.2 : 32.2%	1.0	0.2	1.2 (0.0+1.2)	30.8 (28.7:30.9)	2.5	0.2	2.7	2.2
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	108	1996	460	23.5%	0.4	0.2	0.5	18.0	1.3	0.2	1.5	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1022	1939:2036	774+790	65.3 : 65.3%	1.2	0.9	2.1 (1.1+1.1)	7.5 (7.5:7.5)	6.4	0.9	7.4	2.8
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	10	1798:1928	324+486	1.2 : 1.2%	0.0	0.0	0.0 (0.0+0.0)	3.7 (3.7:3.7)	0.0	0.0	0.0	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	1014	2075	2075	48.9%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	1001	2075	2075	48.2%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	19	1965	1965	1.0%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	60	1940	1940	3.1%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	1213	2080	2080	58.3%	0.0	0.7	0.7	2.1	0.0	0.7	0.7	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	4	1940	1940	0.2%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	504	1966	1966	25.6%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	577	2098	2098	27.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	20	508	1966	577	88.1%	3.6	0.0	3.6	25.5	7.2	0.0	7.2	7.1
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	20	583	2098	615	94.7%	4.0	0.0	4.0	24.6	9.4	0.0	9.4	8.3
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	50	17	1966	1363	1.2%	0.1	0.0	0.1	10.7	0.3	0.0	0.3	0.3
12/2	B6242 Bluebell Way gyratory Right	1	E	1	50	1086	2098	1455	74.7%	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	1228	2074	2074	59.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	2	1966	367	0.5%	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	61	2098	392	15.6%	0.8	0.0	0.8	49.9	1.3	0.0	1.3	1.3
C1 - M25 Junction 6 North			Stream: 1 PRC for Signalled Lanes (%): -6.7				Total Delay for Signalled Lanes (pcuHr): 27.94				Cycle Time (s): 75						
			PRC Over All Lanes (%): -6.7				Total Delay Over All Lanes(pcuHr): 30.15										

Network Layout Diagram



Network Results

Item	Lane Description	Controller Stream	Full Phase	Num Greens	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	Back of Uniform Q At End of Red (pcu)
Network: Fullwood roundabout	-	N/A	-	-	-	-	-	-	82.4%	15.5	5.8	21.3	-	-	-	-	-
Fulwood roundabout	-	N/A	-	-	-	-	-	-	82.4%	15.5	5.8	21.3	-	-	-	-	-
1/1+1/2	M6 Off Slip Left	1	A	1	29	759	1976:2114	731+649	55.0 : 55.0%	3.4	0.6	4.0 (2.1+1.9)	19.1 (19.1:19.1)	6.1	0.6	6.8	4.8
1/3+1/4	M6 Off Slip Ahead	1	B	1	29	570	1957:1957	17+780	71.5 : 71.5%	3.0	1.2	4.2 (0.1+4.1)	26.6 (21.0:26.7)	9.6	1.2	10.9	6.7
2/1+2/2	B6242 Bluebell Way Entry Left Ahead	1	D	1	28	292	1896:2066	28+796	35.4 : 35.4%	1.3	0.3	1.6 (0.0+1.5)	19.6 (17.3:19.7)	4.2	0.3	4.4	3.4
3/1	Fulwood Row (S) Entry Left Ahead	N/A	-	-	-	53	1996	707	7.5%	0.0	0.0	0.1	5.5	0.3	0.0	0.3	-
4/1+4/2	B6242 Longsands Ln Entry Ahead Ahead2	1	F	1	53	1287	1939:2036	754+807	82.4 : 82.4%	1.9	2.3	4.2 (2.0+2.2)	11.9 (11.8:11.9)	13.6	2.3	15.9	4.3
5/1+5/2	Fulwood Row (N) Entry Ahead	N/A	-	-	-	8	1798:1928	213+355	1.4 : 1.4%	0.0	0.0	0.0 (0.0+0.0)	10.5 (10.2:10.7)	0.1	0.0	0.1	-
6/1	B6242 Bluebell Way Exit	N/A	-	-	-	1024	2075	2075	49.3%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
6/2	B6242 Bluebell Way Exit	N/A	-	-	-	1001	2075	2075	48.2%	0.0	0.5	0.5	1.7	0.0	0.5	0.5	-
7/1	Fulwood Row (S) Exit	N/A	-	-	-	73	1965	1965	3.7%	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-
8/1	B6242 Longsands Ln Exit	N/A	-	-	-	36	1940	1940	1.9%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-

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8/2	B6242 Longsands Ln Exit	N/A	-	-	-	828	2080	2080	39.8%	0.0	0.3	0.3	1.4	0.0	0.3	0.3	-
9/1	Fulwood Row (N) Exit	N/A	-	-	-	7	1940	1940	0.4%	0.0	0.0	0.0	0.9	0.0	0.0	0.0	-
10/1	Fulwood Row (N) gyratory Right	N/A	-	-	-	619	1966	1966	31.5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10/2	Fulwood Row (N) gyratory Right	N/A	-	-	-	696	2098	2098	33.2%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
11/1	M6 Off Slip gyratory Ahead	1	C	1	33	622	1966	917	67.8%	2.4	0.0	2.4	14.0	6.1	0.0	6.1	6.1
11/2	M6 Off Slip gyratory Ahead Right	1	C	1	33	701	2098	979	71.6%	2.7	0.0	2.7	14.0	7.2	0.0	7.2	7.0
12/1	B6242 Bluebell Way gyratory Ahead Right	1	E	1	37	63	1966	1022	6.2%	0.3	0.0	0.3	16.5	1.1	0.0	1.1	1.0
12/2	B6242 Bluebell Way gyratory Right	1	E	1	37	564	2098	1091	51.7%	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1
13/1	Fulwood Row (S) gyratory Ahead	N/A	-	-	-	0	2075	-	-	-	-	-	-	-	-	-	-
13/2	Fulwood Row (S) gyratory Ahead Right	N/A	-	-	-	846	2073	2073	40.8%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
14/1	B6242 Longsands Ln gyratory Ahead	1	G	1	12	4	1966	367	1.1%	0.0	0.0	0.0	25.4	0.1	0.0	0.1	0.1
14/2	B6242 Longsands Ln gyratory Right	1	G	1	12	31	2098	392	7.9%	0.3	0.0	0.3	33.1	0.5	0.0	0.5	0.5
C1 - M25 Junction 6 North Stream: 1 PRC for Signalled Lanes (%): 9.2 Total Delay for Signalled Lanes (pcuHr): 19.87 Cycle Time (s): 75 PRC Over All Lanes (%): 9.2 Total Delay Over All Lanes(pcuHr): 21.29																	

Technical Note



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Date: 30 July 2019

This Technical Note has been prepared as an addendum to the Transport Assessment 661304-TA (02), dated 29 May 2019. The Transport Assessment is contained at appendix 9.1 to the Environmental Statement for the proposed Energy Recovery Facility on Land at Red Scar Industrial Estate.

The following table should replace 'Table 6.2 Operational traffic generation – 2023' as found on page 30 of the transport assessment detailed above.

Time period	Cars/LGVs		HGVs	
	Arr	Dep	Arr	Dep
AM peak flows	30	10	10	10
PM peak flows	10	30	10	10
Daily flows	40	40	93	93

Supporting analysis, including junction modelling and environmental assessment has used the above flows to calculate the impact of the proposed development and so are not affected by this error.

