Land East of Manor Trading Estate, Benfleet, Masterplan Development

Transport Assessment

on behalf of

The Smith Family

April 2021

INTERMODAL TRANSPORTATION
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IT1932

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1 INTRODUCTION

1.1 Intermodal Transportation Ltd (ITL) an independent Consultancy specialising in highway engineering and transport planning have been commissioned by Smart Planning Ltd on behalf of the Smith family, to produce a Transportation Assessment (TA) to support an outline planning application in conjunction with the provision of a mixed use development on land to the east of Manor Trading Estate in South Benfleet, Essex.

1.2 The proposal seeks to expand the existing employment provision at the Trading Estate and provide 68 residential dwellings. The site is currently an open space and is located to the east of the existing industrial estate.

1.3 In producing this report, ITL have held scoping discussions with Essex County Council (ECC), the Local Highway Authority (LHA). The scoping discussions were held on the assumption that separate planning applications would be submitted for the residential and commercial aspects of the proposal. However, it has subsequently been decided to submit one planning application for the comprehensive masterplan proposal. In the context of the defined study area the worst case agreed study area for the commercial and residential proposals in isolation has been adopted for this study. A copy of the scoping correspondence is contained at Appendix A of this report. As a result of the scoping discussions this Transport Assessment includes the following:

- Description of the site location and the characteristics of the local road network;
- Description of the development proposal;
- Consideration of the opportunities for accessing the site by alternative transport modes, i.e. by walking, cycling and public transport;
- Calculation of the likely level of traffic attracted to / generated by the proposed development with reference to the TRICS database;
- Assessment of the capacity of the following key junctions during the typical weekday road network peak hours;
    - Proposed Site Access / Church Road Priority Junction
    - Church Road / Armstrong Road Priority Junction
    - Church Road / Manor Road Signal Junction
    - London Road / Rushbottom Lane / High Road Signal Junction
- Assessment of the adequacy of the proposed residential access junction and service arrangements including undertaking Auto Track Swept Path analysis; and
- Consideration of the proposed car and cycle parking provisions at the development in relation to the local parking standards.

2 SITE LOCATION AND LOCAL ROAD NETWORK

Site Location

2.1 The site is located to the east of Manor Trading Estate in South Benfleet, within the Borough of Castle Point, Essex. The site is approximately 5km east of Basildon town centre with Canvey Island approximately 6km south of the site, whilst Southend-On-Sea is approximately 8km to the east. The location of the site in the local and wider context is shown on Drawing IT1932/TA/01 of this report.

2.2 Woodside open space bounds the site to the north, whilst Hesten Lodge, the Robert Drake Primary School and Church Road form the site's southern boundary. Existing built development on the Manor Trading Estate forms the site's western boundary, whilst Windermere Road and Keswick Road form the eastern boundary.

Local Road Network

2.3 Vehicular Access to the residential aspect of the site would be achieved off Church Road. Given that the existing access to Hesten Lodge is located nearby, it is considered that the vehicular access for the proposed development would incorporate the access to Hesten Lodge. The proposed access junction is discussed in detail in section 3 of this report, whilst Plates 1 and 2 show views of Church Road from the approximate location of the proposed site access.

Plate 1: View of Church Road Looking East

Plate 2: View of Church Road Looking West

2.4 The main portion of the commercial aspect of the scheme is located to the east of an existing single storey commercial building which fronts on to Brunel Road and would be accessed via the junction of Armstrong Road and Church Road. Plates 3 and 4 show views looking north and south on Brunel Road within the vicinity of the existing building.

Plate 3: View of Brunel Road Looking North	Plate 4: View of Brunel Road Looking South
	

2.5 Brunel Road runs in a north to south alignment within the vicinity of the application site turning through 90 degrees in the south before heading westwards and connecting with Armstrong Road. In the north the road again turns through 90 degrees, changes in name to Parsons Road and heads westwards towards Fulton Road. Fulton Road runs in a southern direction from that point and changes in name to Armstrong Road approximately 150m in the south. Armstrong Road runs westwards for a short distance from that point before heading southwards to its priority junction with Church Road.

2.6 Brunel Road is approximately 6.2m wide to the south of the site and supports footways of approximately 1.5m in width along its eastern and western kerb lines. Parsons Road has a carriageway and footways of a similar width to Brunel Road. Armstrong Road is approximately 7.6m wide with 2.2m and 2.3m footways to the western and eastern sides respectively within the vicinity of its junction with Church Road.

2.7 The Manor Trading estate roads essentially make up a circulatory road network and are aligned by various industrial/commercial properties. The roads contained within the estate up to and including Armstrong Road are private and are not part of the publicly adopted highway.

2.8 Church Road runs in an east to west alignment past the proposed residential site access and is approximately 7.5m wide and is subject to a speed limit of 30mph within the vicinity of the proposed access. The road has footways on both sides and the footway on the northern side is 2.2m and is separated from the main carriageway by a grass verge adjacent to the site. The footway on the southern side of the road is 2.5m wide with a grass verge adjacent. The vehicular access to Robert Drake Primary School is located to the east of the site frontage on Church Road and is located approximately opposite the junction of Church Road with Spencer Road, the latter running south from Church Road. Yellow zig – zag lines (school keep clear lines) are marked on the northern side of Church Road, within the vicinity of the vehicular access to the school and there is a

vehicular lay-by between the access to the school and the access to Hesten Lodge. To the east of Spencer Road, Church Road is restricted to access only for vehicles in excess of 7.5 tonnes.

2.9 Parking is currently restricted on Church Road to the west of the school access by double yellow lines which extend for 25m from the school access. A series of single and double yellow lines are marked on both sides of Church Road extending to Roseberry Avenue. There are no parking restrictions on Church Road to the east of the school access, with the exception of double yellow lines at the crossroads junction of Church Road / Stanley Road / Keswick Road.

2.10 Church Road westbound eventually leads to Rushbottom Lane with an intervening set of traffic lights at the junction with Manor Road. Rushbottom Lane leads south to the signal controlled junction at the A13 and High Road. This is the most direct route to the A13 westbound from the site access.

2.11 The signed route from the Manor Trading Estate to the principal road network for heavy goods vehicles is to turn right out of Armstrong Road into Church Road, left onto Rushbottom Lane as far as the junction with the A13, which is signal controlled.

3 PROPOSED DEVELOPMENT

3.1 The development proposal is to provide approximately 5,900 sq m of employment floor space and 68 residential dwellings on land to the east of Manor Trading Estate, Benfleet. A copy of the Architects masterplan of the proposed development layout is contained at Appendix B of this report.

3.2 The 68 residential dwellings would have a housing mix of 11 one bed units, 15 two bed units, 25 three bed units, 12 four bed units and 5 five bed units. The commercial scheme would consist of 2,250 sqm of Office, 1,008 sqm of industrial use and 2,616 sqm of warehouse use.

3.3 The residential dwellings and 3 office units with a total gross floor area (GFA) of 2,250 sq m would be provided on the eastern portion of the site and would be accessed off Church Road. The remainder of the commercial scheme would be provided on the western portion of the site and would be accessed from Brunel Road via the Armstrong Road / Church Road priority junction, which serves as the existing access to the estate.

3.4 The proposed vehicular access to the eastern part of the site, serving the residential scheme and the 3 office units, would take the form of a simple priority junction, which would be located in the approximate location of the existing access to Hesten Lodge. As part of the provision of the access junction for the scheme, it is proposed that the existing drop off / pick up lay–by in that location would be removed and replaced with a parking lay-by on the western side of the initial stretch of the proposed site access road.

3.5 The residential site access road would be 5.5m in width with 2m wide footways on either side. Drawing IT1932/TA/02 shows the proposed site access junction and confirms that visibility splays of 2.4m x 43m would be achievable from the access.

3.6 It is proposed that a one way system would be installed within the western portion of the site as part of the scheme. The existing access road at the north western corner of the wider site would be used as the point of egress and access would be provided separately at a point at the south western corner of the wider site. Drawing IT1932/TA/03 of this report shows the proposed access only junction.

3.7 The proposed access arrangements for the residential aspect of the masterplan proposal were discussed with ECC during the scoping stage of the project. ECC indicated that they would not object to the removal of the drop off / pick up lay-by but that as the lay–by is currently used by parents whilst dropping off / picking up their children from Robert Drake Primary School it is possible that the removal of the lay–by would result in parents / guardians parking on roads within the vicinity of the school, particularly those to the south

of Church Road. Consequently, ECC requested that this study include consideration of the provision of a pedestrian crossing on Church Road within the vicinity of the site. However, it should also be noted that a replacement parking lay-by is provided along the proposed access as shown in Drawing IT1932/TA/02 and could be utilised by parents whilst dropping off / picking up children.

3.8 Stanley Road, Spencer Road and Kents Hill Road North are residential roads which do not have parking restrictions in place on them and as such in the light of the comments of ECC ITL have focussed their investigations in relation to the feasibility of the provision of a pedestrian crossing to the stretch of Church Road within the vicinity of those roads. Within the vicinity of the site there are a number of vehicular crossovers providing access to the houses located to the south of Church Road and accesses to development to the north of Church Road. Taking the position of the crossovers and accesses in to consideration along with the location of the junctions on the local road network ITL has identified three possible locations for the proposed crossing. The possible locations are marked on drawing IT1932/TA/04 of this report and discussed in Table 3.1:

Table 3.1: Possible location for pedestrian crossing on Church Road

Crossing Location	Description	Advantages	Disadvantages
A	Adjacent to 263 Church Road	Good spacing from Kents Hill Road (30m). Southern footway on Church Road is relatively flat at this point.	Would be slightly distant from the school and only convenient when walking from Kents Hill Road North and other destinations to the west. Would require removal of tree on north side of Church Road. Would be located within close proximity of access to commercial properties on northern side of the road.
B	Adjacent to 268 Church Road	Within close proximity of the school. Convenient when walking from Spencer Road and Kents Hill Road North.	Would require amendment of the existing raised table. Would be located within close proximity of Spencer Road.
C	Adjacent to 290 Church Road	Southern footway on Church Road is relatively flat at this point.	Would be located within close proximity of Stanley Road and the site access. Would only be convenient when walking from Stanley Road. Would require that pedestrians using the crossing and accessing the school also cross the proposed site access road.

3.9 The developer has confirmed that they are prepared to fund the provision of a pedestrian crossing on Church Road within the vicinity of the site. As such it is proposed to discuss the above possible locations with ECC during the determination period of the planning application with a view to agreeing the preferred location. It is considered that a zebra crossing would represent the appropriate form of crossing.

3.10 The Auto Track swept path print outs at Appendix C of this report demonstrate that a large 4 axle refuse vehicle and a removals van, the largest service vehicles likely to visit the proposed residential units at the site would be able to acceptably access / egress the Church Road / site access junction. It is considered that the proposed office units that would be accessed from Church Road would be unlikely to be regularly serviced by larger vehicles than those shown on the swept path plots at Appendix C. Armstrong Road serves as the existing access to the Manor Trading Estate and therefore accommodates large commercial vehicles on a regular basis. As such, that road is considered as acceptable to serve the main portion of the commercial element of the masterplan proposal. However, swept path sketches showing that a max legal articulated HGV could acceptably access the site via the proposed new entry only junction on Brunel Road at the south west corner of the site are also contained at Appendix C.

3.11 The layout plan at Appendix B shows that 135 car parking spaces would be provided for the commercial scheme. The acceptability of the proposed parking spaces with regard to the Essex County Council parking standards is discussed in Chapter 7 of this report.

4 ALTERNATIVE TRANSPORT MODES

Walking

4.1 Walking and cycling are the two most sustainable modes of travel and can significantly contribute to improvements in health as well as promoting social inclusion within society. Government statistics indicate that 25% of all journeys by UK households are made on foot (source DFT LTN1/04) and the results of the 2018 National Travel Survey (NTS) indicate that 80% of trips less than 1 mile (or 1.6km) are undertaken on foot. It is therefore considered that this distance should be regarded as applicable in terms of defining the walking catchment of a new development.

4.2 As explained in Paragraphs 2.6 and 2.8 footways are provided on both sides of Armstrong Road and Church Road. This provides a safe environment for pedestrians while undertaking walking trips to / from the site.

4.3 Table 4.1 summarises some of the local facilities that would be available to residents of the proposed development site within a reasonable walking distance, i.e. 1.6km.

Table 4.1: Summary of Selected Local Facilities Within 1.6km from the Site

Facilities	Distance from site
Education	
Robert Drake Primary School	330m
Kingston Primary School	835m
Thundersley Primary School	1.40km
Holly Family Catholic Primary School	1.40km
Woodham Ley Primary School	1.60km
Kents Hill Junior School	1.65km
Health and Public Services	
Thundersley Clinic	1.10km
Rishi Pharmacy	1.40km
Hart Road Surgery	1.50km
Restaurant / Café / Pubs	
Zach Willsher Pub	760m
Maharaja Restaurant	1.00km
The Tandoori Parlour Restaurant	1.30km
The White Hart Pub	1.46km

Retail / Post Office	
Co–op Food Store	830m
Thundersley Post Office	1.00km
Aldi	1.65km
Sport and Leisure	
Benfleet Cricket Club	1.30km
Churches	
St Peters Church	690m
Thundersley Methodist Church	1.45km

4.4 From Table 4.1, it is clear to see that there are numerous local facilities, including local schooling, within an acceptable walking distance of the site and as such it can be seen that the residents at the site could access local facilities on foot.

4.5 In addition, examination of available internet based aerial mapping shows that the proposed development is located within walking distance (1.6km) of a large number of residential dwellings within South Benfleet and neighbouring Thundersley. As such, it is considered that the commercial aspect of the masterplan proposal would have the propensity to encourage walk to work trips.

Cycling

4.6 According to NTS: England 2015, "The average distance cycled per person per year has increased by 16% since 1995 / 1997." Despite this upward trend, cycling accounts for a small share of trips and distance travelled, 2% of trips and 1% of distance" (NTS: England 2015).

4.7 The former national planning guidance PPG13 paragraph 78 stated that "*Cycling also has potential to substitute for short car trips, particularly those less than 5 kilometres, and to form part of a longer journey by public transport*". Taking into account the 5km cycle distance, which equates to approximately 20 minutes cycling time examination of available internet based aerial mapping shows that the catchment area by cycle would cover the entire town of South Benfleet and parts of Basildon, Canvey Island, Hadleigh, Thundersley and Rayleigh.

Bus

4.8 Guidance generally indicates that walking distances to access bus services should lie between a desirable distance of 400m and acceptable distance of 800m. Furthermore, it is generally recognised that the maximum convenient walking distance in order to access urban bus services is around 500m. This walking distance to a bus stop has emerged

from theoretical studies and has been supported by research undertaken for the National Travel Survey (NTS).

4.9 The nearest bus stops to the development site, both eastbound and westbound are located within the vicinity of the junction of Hazelmere Road and Church Road, approximately 410m from the main body of the site via the proposed access on to Church Road. The above bus stops are served by bus services 21 and 822. A summary of buses services operating within the vicinity of the site are shown in Table 4.1.

Table 4.1: Summary of Bus Services Within the Vicinity of the Site

Service No.	Route Summary					
21	Canvey–South Benfleet–Thundersley–Hadleigh–Southend on Sea					
822*	Canvey–South Benfleet–Thundersley–Hadleigh–Southend on Sea					
Service No.	**Mon to Fri**		**Saturday**		**Sunday**	
	Operating Times	**Frequency**	**Operating Times**	**Frequency**	**Operating Times**	**Frequency**
21	05:39–23:16	30 Min	06:33–23:16	1 Hour	08:08–19:43	1 Hour
822	06:54–08:25	2 Buses	No Service	N/A	No Service	N/A

*Operates only on school days

4.10 Table 4.1 shows that the 21 service is available 7 days per week and runs at a minimum of an hourly frequency. As such, it is considered that residents and employees at the development would be able to utilise the bus for commuting to / from the site and in the context of the residents for other everyday journeys. It should also be recognised that, although further afield at around 1km walking distance from the main body of the site, residents and employees would be able to access the bus services calling at the stops on the A13 to the south.

Train

4.11 Benfleet railway station is the nearest railway station to the application site. It is about 4.1km walking distance from the site. Whilst the railway station is beyond the generally regarded reasonable walking threshold of 1km to access heavy rail services, it would be within cycling distance. In addition, bus service 21 calls at the railway station and operates with a frequency of 30 minutes. Hence, a multi–modal trip to / from the site incorporating train and bus would be possible.

4.12 Benfleet railway station is on the Essex Thameside railway line. Trains at Benfleet railway station are operated by Trenitalia C2C Ltd. Table 4.2 provides a summary of train services operating at Benfleet railway station.

Table 4.2: Summary of Train Services at Benfleet Railway Station

Destination	Monday–Friday			
	Operating Times	Average Journey Time	Trains per Hour	Changes
Basildon	05:20–23:54	7 Min	3 to 7	0
Southend Central	05:38–23:58	12 Min	5 to 9	0
Shoeburyness	05:42–01:38	21 Min	3 to 6	0
London Fenchurch Street	04:23–00:32	1 Hour	4 to 9	0

5 TRIP ATTRACTION AND DISTRIBUTION

5.1 The TRICS database was used in order to establish appropriate trip rates for calculating the likely level of traffic attracted to the development proposal. The TRICS good practice guidance of selecting sites of similar geographical characteristics was adopted.

5.2 The '*houses privately owned*' category of the TRICS database was interrogated in order to derive average residential trip rates. To ensure appropriateness of the sites within the TRICS database, sites in London, Northern Ireland and Ireland were excluded from the search. Additionally, only sites in *Edge of Town and Suburban Area locations* were included in the search. The start date for the search was set to 01/01/2010 and the end date was set to 16/09/2020.

5.3 The '*Business Park*' category within the '*Employment'* land use of the TRICS database was interrogated. Surveys of sites in London and Ireland were excluded. Sites in *'Edge of Town*' and 'Suburban Area' category were selected. A gross floor area range of 975 sqm to 5,000 sqm was selected, whilst the date range for the search was set to 01/01/2010 to 18/10/2018.

5.4 The *'Industrial Unit*' category within the '*Employment*' land use type of the TRICS database was interrogated. The selected geographical regions were the same as above. A gross floor area range of 150 sqm to 3,000 sqm was selected, whilst the date range for the search was 01/01/2010 to 04/09/2020.

5.5 Finally, the '*Warehouse*' category within the '*Employment*' land use category of the TRICS database was interrogated. The selected geographical regions were the same as above. A gross floor area range of 190 sqm to 5,000 sqm was selected, whilst the date range for the search was 01/01/2000 to 29/03/2019.

5.6 The weekday AM and PM peak hour trip rates for all aspects of the development extracted from the TRICS database are shown in Table 5.1. Copies of the TRICS print outs are contained at Appendix D.

Table 5.1: TRICS Weekday Trip Rates For The Proposed Development

Use	Parameter	AM Peak Hour (08:00–09:00)		PM Peak Hour (17:00–18:00)	
		Arrivals	Departures	Arrivals	Departures
Residential	Dwelling	0.148	0.382	0.334	0.163
Business Park	100 sq m	1.301	0.343	0.353	1.207
Industrial Unit	100 sq m	0.519	0.116	0.052	0.472
Warehouse	100 sq m	0.448	0.180	0.129	0.404

5.7 Application of the above TRICS trip rates to the eastern and western portions of the development results in the calculation of the likely number of vehicular trips attracted to the development. The calculated traffic flows are shown in Tables 5.2 and 5.3 respectively.

Table 5.2: Proposed Development Traffic Levels (Eastern Portion of Site)

Use	Calculation Parameter	AM Peak Hour (08:00–09:00)		PM Peak Hour (17:00–18:00)	
		Arrivals	Departures	Arrivals	Departures
Residential	68 dwellings	10	26	23	11
Office	2,250 Sq m	29	8	8	27
Total Arrivals & Departures		39	34	31	38
Total Two–way		73		69	

Table 5.3: Proposed Development Traffic Levels (Western Portion of Site)

Use	Calculation Parameter	AM Peak Hour (08:00–09:00)		PM Peak Hour (17:00–18:00)	
		Arrivals	Departures	Arrivals	Departures
Industrial Unit	1,008 sq m	5	2	1	5
Warehouse	2,616 sq m	12	5	3	12
Total Arrivals & Departures		17	7	4	17
Total Two–way		24		21	

Traffic Distribution

5.8 In order to determine the likely distribution of the traffic attracted to the commercial aspect of the scheme data from the *'Location of usual residence and place of work by method of travel'* (Nomis: WU03EW) from the 2011 Census for the area surrounding the site was downloaded from the Nomis website. The Castle Point District is divided in to 12 Mid–Layer Super Output Areas (MSOAs) and the '*place of work*' category was set to MSOA Castle Point 002: E02004474 which includes the application site. Additionally, only those respondents 'driving a car or van' were included in the '*method of travel to work'* category.

5.9 The adoption of the above search criteria resulted in analysis of 3,016 work trips from MSOA Castle Point 002. The majority of those trips were made from destinations within the Southend–on–Sea, Thurrock, Basildon, Rochford and Castle Point districts. However, a limited number of trips were made to places as far away as Middlesbrough and Leeds.

5.10 The distribution calculations identified that 42% of staff trips to / from the site are likely to arrive / depart via Church Road east with the remainder arriving from / departing to Church Road west. Table 5.4 summarises the distribution of the development traffic across the 6 routes. It should be noted that the distribution was only summarised up to the edges of the study area for this scheme and not beyond that point.

Table 5.4: Distribution of Commercial Development Trips

Route Number	Route Description	Trips	% Distribution
Route 1	Right out of the site–Church Road–Manor Road (Left Turn)	53	2%
Route 2	Right out of the site–Church Road–Manor Road (Right Turn)	53	2%
Route 3	Right out of the site–Church Road– Leaves After Manor Road Signals	25	1%
Route 4	Right out of the site–Church Road–Rushbottom Lane–London Road (Right Turn)	1439	48%
Route 5	Right out of the site–Church Road–Rushbottom Lane–High Road (Straight)	180	5%
Route 6	Left out of the site – Church Road – Kenneth Road / Hart Road	1266	42%

5.11 The calculated distribution was applied to the commercial development traffic levels calculated in Tables 5.2 and 5.3. Traffic Flow Diagrams showing the commercial movements distributed within the study area are contained at Appendix E.

5.12 In order to determine the likely distribution of the traffic generated by the residential aspect of the scheme data from the *'Location of usual residence and place of work by method of travel'* (Nomis: WU03EW) dataset from the 2011 Census for the area surrounding the site was downloaded from the Nomis website. The '*usual residence*' category was set to MSOA Castle Point 002: E02004474 which includes the site. Additionally, only those respondents *'driving a car or van'* were included in the '*method of travel to work'* category.

5.13 The adoption of the above search criteria resulted in analysis of 1859 work trips from MSOA Castle Point 002. The majority of those trips were made to destinations within the Southend–on–Sea, Basildon and Castle Point districts. However, a limited number of trips were made to places as far away as Newcastle and Carlisle.

5.14 Again 6 possible routes from the site were identified and with reference to available internet based route finder software the likely proportion of the development traffic assigned to each of those routes was subjectively calculated. Table 5.5 summarises the distribution of the development traffic across the 6 routes. It should be noted that the

distribution was only summarised up to the edges of the study area for this scheme and not beyond that point.

Table 5.5: Distribution of Residential Development Trips

Route Number	Route Description	Trips	% Distribution
Route 1	Right out of the site–Church Road–Manor Road (Left Turn)	17	1%
Route 2	Right out of the site–Church Road–Manor Road (Right Turn)	27	1%
Route 3	Right out of the site–Kents Hill Road	57	3%
Route 4	Right out of the site–Church Road–Rushbottom Lane–London Road (Right Turn)	1064	57%
Route 5	Right out of the site–Church Road–Rushbottom Lane–High Road (Straight)	61	3%
Route 6	Left out of the site – Church Road – Kenneth Road / Hart Road	634	34%

5.15 The calculated distribution was applied to the residential traffic levels calculated in Table 5.3. Traffic Flow Diagrams showing the residential movements distributed within the study area are contained at Appendix E.

6 NETWORK PERFORMANCE

Flow Derivation

6.1 In accordance with the scoping discussions for this project the performance of the following junctions would be assessed as part of this study:-

- Junction 1: London Road / Rushbottom Lane / High Road Signal Junction
- Junction 2: Church Road / Manor Road Signal Junction;
- Junction 3: Church Road / Armstrong Road Priority Junction;
- Junction 4: Proposed Site Access / Church Road Priority Junction

6.2 Accordingly manual classified turning counts were undertaken at the above junctions between 07:30 and 09:30 hours and again between 16:30 and 18:30 hours on Wednesday, 31st October 2018. The results of the surveys are contained in Appendix F.

6.3 The road network AM and PM peak hours were extracted from the manual classified counts. In that regard it was calculated that the AM peak hour was from 08:00 to 09:00 hours whilst the PM peak hour was from 16:30 to 17:30 hours. The road network peak hours and the development peak hours do not coincide during the PM peak period. However, for a robust assessment the traffic flows associated with the road network peak hour and the development peak hours were added in order to give the worst case assessment flow.

6.4 In order to raise the observed flows to the assumed opening year (2023) and the design year (2028) of the development, growth factors were calculated from the latest versions of the National Transport Model (NTM) 2015 and TEMPRO 7.2. The growth factors are shown in Table 6.1.

Table 6.1: NTM / TEMPRO Growth Factors

Growth Period	AM Peak	PM Peak
2018–2023	1.069	1.068
2018–2028	1.110	1.112

Network Assessment

6.5 The junction capacity assessments at each of the junctions listed at paragraph 6.1 are discussed separately below. Junctions 1 and 2 were assessed using the TRANSYT 15 software package, whilst Junctions 3 and 4 was assessed using the PICADY software package within the Junctions 8 software suite.

Junction 1: London Road / Rushbottom Lane / High Road Signal Junction

6.6 The signal controlled junction of London Road / Rushbottom Lane / High Road was analysed for the *2028 Base* scenario and then the *2028 Base plus Development* scenario using the TRANSYT 15 software package. The full print outs from those assessments are contained at Appendix G of this report and summarised in Table 6.2 for ease of reference. The junction was analysed on an optimised basis using a 120 second cycle time.

6.7 The TRANSYT assessment results summarised in Table 6.2 indicate that some approaches to the junction are predicted to operate in excess of capacity during the typical weekday AM peak hour but that the addition of the development traffic would not have a severe effect on the operation of the junction. In that regard, the worst case expected increase in queuing for any of the links / lanes at the junction during the weekday AM peak hour following the addition of the development traffic is 6 PCUs on Link 103. During the weekday PM peak hour the junction is predicted to operate within the limit of its practical reserve capacity following the addition of the development traffic.

Table 6.2: TRANSYT Assessment Results For Junction 1

Link	AM Peak Hour (08:00–09:00)		PM Peak Hour (16:30–17:30)	
	Degree of Saturation	Mean Max Q (PCU)	Degree of Saturation	Mean Max Q (PCU)
Base 2028				
101 – London Road W (Ahead)	62%	16	67%	19
102 – London Road W (Left)	50%	8	52%	9
103 – London Road E (Ahead)	96%	48	75%	21
104 – London Road E (Left)	16%	2	27%	3
105 – London Road (Right)	84%	16	81%	21
106 – High Road (Left)	102%	37	31%	5
107 – High Road (Ahead)	45%	5	49%	5
108 – High Road (Right)	40%	2	74%	3
109 – Rushbottom Lane (Ahead & Left)	14%	2	32%	5
110 – Rushbottom Lane (Right)	108%	29	84%	9

Base 2028 + Development				
101 – London Road W (Ahead)	62%	16	68%	20
102 – London Road W (Left)	53%	10	55%	10
103 – London Road E (Ahead)	99%	54	75%	21
104 – London Road E (Left)	16%	2	27%	3
105 – London Road (Right)	82%	15	83%	21
106 – High Road (Left)	104%	42	32%	5
107 – High Road (Ahead)	51%	5	49%	5
108 – High Road (Right)	46%	2	74%	3
109 – Rushbottom Lane (Ahead & Left)	15%	2	32%	5
110 – Rushbottom Lane (Right)	105%	28	88%	11

Junction 2: Church Road / Manor Road Signal Junction

6.8 The signal controlled junction of Church Road / Manor Road was assessed for the 2028 Base scenario and then the 2028 Base plus Development scenario using the TRANSYT 15 software package. The full print outs from those assessments are contained at Appendix G of this report and summarised in Table 6.3 for ease of reference. The junction was analysed on an optimised basis using a 105 second cycle time.

6.9 The TRANSYT assessment results summarised in Table 6.3 indicate that the Church Road west approach to the junction is predicted to operate approaching the limit of its practical reserve capacity during the typical weekday AM peak hour in the 2028 base scenario but that the addition of the development traffic would not have a severe effect on the operation of the junction. In that regard, the worst case expected increase in queuing for any of the links / lanes at the junction following the addition of the development traffic is 5 PCUs on Link 101. During the weekday PM peak hour again the addition of the development traffic is not predicted to have a severe impact on the operation of the junction.

Table 6.3: TRANSYT Assessment Results For Junction 2

Link	AM Peak Hour (08:00–09:00)		PM Peak Hour (16:30–17:30)	
	Degree of Saturation	Mean Max Q (PCU)	Degree of Saturation	Mean Max Q (PCU)
Base 2028				
101 – Church Road E	89%	17	86%	17
102 – Church Road W	93%	18	84%	13
103 – Manor Road S (Ahead & Left)	28%	2	41%	2
104 – Manor Road N (Ahead & Left)	88%	9	76%	5
105 – Manor Road S (Right)	64%	1	44%	1
106 – Manor Road N (Right)	19%	1	24%	1
Base 2028 + Development				
101 – Church Road E	96%	22	88%	19
102 – Church Road W	96%	21	92%	16
103 – Manor Road S (Ahead & Left)	29%	2	41%	2
104 – Manor Road N (Ahead & Left)	88%	9	76%	5
105 – Manor Road S (Right)	64%	1	44%	1
106 – Manor Road N (Right)	19%	1	24%	1

Junction 3: Church Road / Armstrong Road Priority Junction

6.10 The results of the AM and PM peak hour *2028 Base* and *2028 Base plus Development* PICADY assessments at the Church Road / Armstrong Road priority junction are summarised in Table 6.4. The full print outs from the PICADY assessments are contained at Appendix H of this report.

6.11 The assessment results summarised in Table 6.4 show that the addition of the development traffic would not significantly exacerbate the performance of the Church Road / Armstrong Road priority junction. Furthermore, the analyses show that as a worst case the junction would display an RFC of 0.72 and a corresponding queue of approximately 3 vehicles.

Table 6.4: PICADY Assessment Results For Junction 3

Stream	AM Peak Hour (08:00–09:00)		PM Peak Hour (16:30–17:30)	
	Max Queue	Max RFC	Max Queue	Max RFC
Base 2028				
Armstrong Road to Church Road	0.74	0.43	1.96	0.67
Church Road (East) to Armstrong Road	0.79	0.31	0.34	0.14
Base 2028 + Development				
Armstrong Road to Church Road	0.85	0.46	2.46	0.72
Church Road (East) to Armstrong Road	0.93	0.34	0.37	0.15

Junction 4: Proposed Site Access / Church Road Priority Junction

6.12 The results of the AM and PM peak hour *2028 Base* and *2028 Base plus Development* PICADY assessments at the Site Access / Church Road priority junction are summarised in Table 6.5. The full print outs from the PICADY assessments are contained at Appendix H of this report.

6.13 The assessment results summarised in Table 6.5 show that the Site Access / Church Road priority junction would operate with ample spare capacity during the typical weekday peak hours in 2028.

Table 6.5: PICADY Assessment Results For Junction 4

Stream	AM Peak Hour (08:00–09:00)		PM Peak Hour (16:30–17:30)	
	Max Queue	Max RFC	Max Queue	Max RFC
Base 2028				
Site Access to Church Road	0.00	0.00	0.03	0.03
Church Road (East) to Site Access	0.01	0.01	0.00	0.00
Base 2028 + Development				
Site Access to Church Road	0.12	0.11	0.19	0.16
Church Road (East) to Armstrong Road	0.11	0.07	0.04	0.03

7 CAR AND CYCLE PARKING

7.1 Table 7.1 sets out the car and cycle parking standards contained within the Essex Parking Standards: Design and Good Practice (September 2009) for the possible uses at the proposed development.

Table 7.1: Essex Parking Standards

Class of Use	Car (Maximum)	Cycle (Minimum)	Powered Two Wheeler (Minimum)	Disabled (Minimum)
1 Bedroom	1 space per dwelling*	1 secure covered space per dwelling. None if garage or secure area is provided within curtilage of dwelling	N/A	N/A if parking is in curtilage of dwelling, Otherwise as Visitor/ unallocated
2+ Bedroom	2 spaces per dwelling*			
B1 Business	1 Space per 30 sqm	1 space per 100 sqm for staff plus 1 space per 200 sqm for visitors	1 space, + 1 per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	**200 vehicle bays or less** = 2 bays or 5% of total capacity, whichever is greater, **Over 200 vehicle bays** = 6 bays plus 2% of total capacity
B8 Warehousing	1 space per 150 sqm	1 space per 500 sqm for staff plus 1 space per 1000 sqm for visitors		
B2 Industrial	1 space per 50 sqm	1 space per 250 sqm for staff plus 1 space per 500 sqm for visitors		

Source : Essex Parking Standards: Design and Good Practice (September 2009)

7.2 Based on the proposed development masterplan and the above parking standards, the permissible number of parking spaces that could be provided at the proposed development are shown in Table 7.2.

Table 7.2: Permissible Parking Provision For The Proposed Development.

Class of Use	Parameter	Car	Cycle (Minimum)	Powered Two Wheeler (Minimum)	Disabled (Minimum)
1 Bedroom	11 units	11	11	-	-
2+ Bedroom	57 units	114	57	-	-
B1 Office	2,250 sq m	75	34	5	4
B8 Warehousing	2,616 sq m	18	8	2	2
B2 Industrial	1,008 sq m	20	6	2	2

8 CONCLUSIONS

8.1 Intermodal Transportation Ltd (ITL) an independent Consultancy specialising in highway engineering and transport planning have been commissioned by Smart Planning Ltd on behalf of the Smith family, to produce a Transportation Assessment (TA) to support an outline planning application for construction of a mixed use development on land to the east of Manor Trading Estate in South Benfleet, Essex.

8.2 The development proposal is to provide approximately 5,900 sq m of employment floor space and 68 residential dwellings. The 68 residential dwellings would have a housing mix of 11 one bed units, 15 two bed units, 25 three bed units, 12 four bed units and 5 five bed units. The commercial scheme would consist of 2,250 sqm of Office, 1,008 sqm of industrial use and 2,616 sqm of warehouse use.

8.3 The site is located to the east of Manor Trading Estate in South Benfleet, within the Borough of Castle Point, Essex. The site is approximately 5km east of Basildon town centre.

8.4 Vehicular access to the eastern part of the site, serving the residential scheme and the three proposed office units would be achieved from Church Road in the form of a simple priority junction, which would be located in the approximate location of the existing access to Hesten Lodge. The remainder of the commercial scheme would be provided on the western part of the site and would be accessed from Brunel Road via the Armstrong Road / Church Road priority junction, which serves as the existing access to Manor Trading Estate.

8.5 It is demonstrated within this report that the proposed vehicular access arrangements for the development should be regarded as acceptable.

8.6 The site is located within walking distance of everyday facilities such that residents at the scheme could access the facilities on foot. In addition, a large number of residential dwellings within South Benfleet and neighbouring Thundersley would be located within walking distance and therefore the employment element of the proposal would have the propensity to encourage walk to work trips. The catchment area by cycle would cover the entire town of South Benfleet parts of Basildon, Canvey Island, Hadleigh, Thundersley and Rayleigh. The nearest railway station, Benfleet railway station is approximately 4.1km walking distance from the site. Whilst this is more than 1km, the generally regarded maximum threshold distance in order to access train services on foot, it could be accessed by bus service 21 or by cycle.

8.7 Using the TRICS database the likely levels of traffic attracted to the proposed development have been calculated for the typical weekday AM and PM peak hours and the development traffic has been distributed within the study area using census based distributions.

8.8 Manual classified turning counts were undertaken in October 2018 at the 4 key junctions within the vicinity of the site that were agreed to be assessed with ECC as part of the scoping discussions. The junction capacity assessments at the key junctions confirm that the addition of the development traffic associated with the masterplan proposal would not have a severe effect on the performance of the local road network.

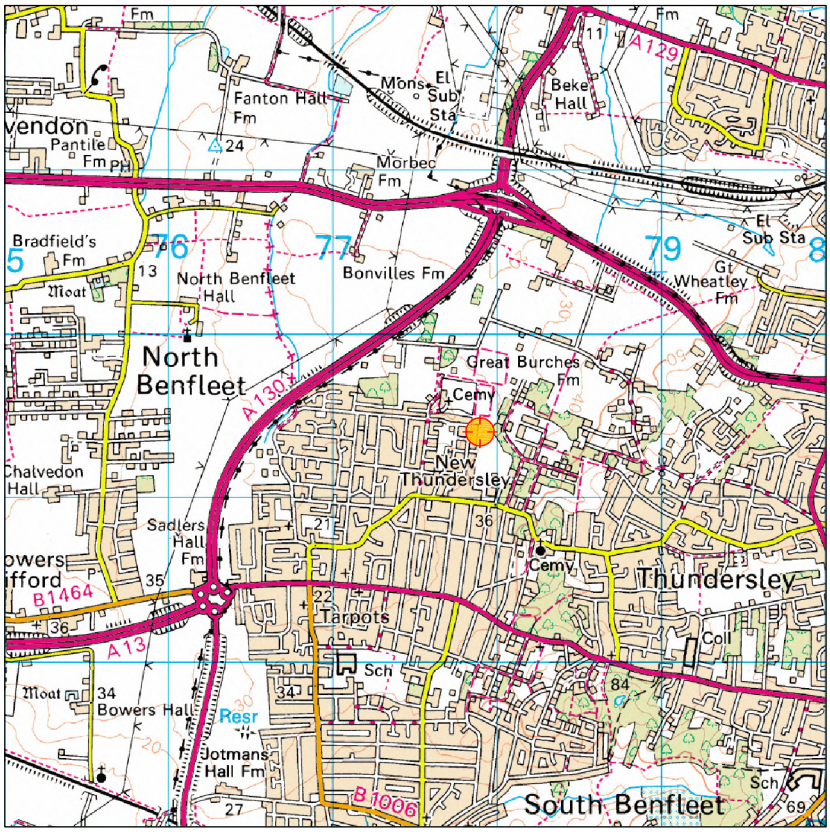
8.9 The level of parking that could be provided at the site in accordance with the Essex Parking Standards Design and Good Practice: September 2009 is confirmed within this report.

8.10 In the light of the investigations summarised within this report it is considered that the development proposal should be regarded as acceptable from a highways and transportation perspective. Furthermore, it is considered that in the context of paragraph 109 (page 32) of the National Planning Policy Framework 2018 (NPPF), which indicates that "*Development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.*", the development proposal should be considered as acceptable.

DRAWINGS

Local Context

Wider Context



SITE LOCATION

Rev	Description	Date

IT Project:
LAND EAST OF MANOR TRADING ESTATE, BENFLEET

Rev: -

Drawing Title:
SITE LOCATION, IN THE LOCAL AND WIDER CONTEXT

Sheet 1 of 1

Client:
THE SMITH FAMILY

Drawn By:	Approved By:	Drawing No:	CAD File:
SG	JB	IT1932/TA01	IT600_TA_01.dwg

A4

Notes:
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Date:	Scale:
JULY 2018	NTS

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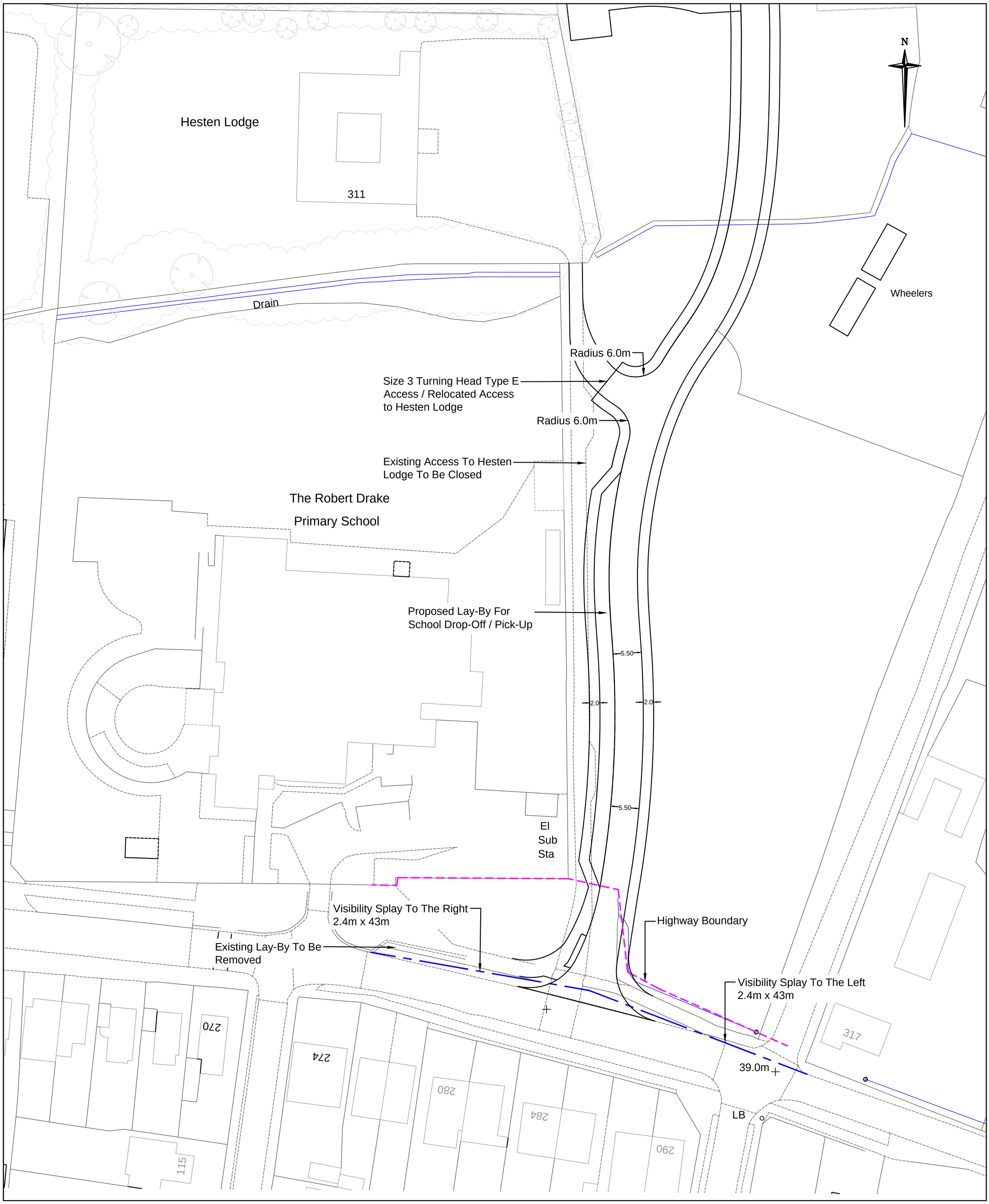

Drawing Title: PROPOSED RESIDENTIAL ACCESS/EGRESS JUNCTION	Rev: A		
		A	Site Access Amended — DS — 12.01.21
		Rev	Description — Reviewer — Date
IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	Sheet 1 of 1	Drawing No: IT1932/TA/02	CAD File: IT1932_TA_02
		Date: DEC 2020	Scale: 1:500
Client: THE SMITH FAMILY		Drawn by: DS	Approved by: JB
	A2	Notes: Dimensions should not be scaled from this drawing. The contents of this drawing are confidential, should you receive this drawing in error please return it to Intermodal Transportation at the address printed.	Reproduced from Ordnance Survey Superplan Data Crown copyright (2020) All rights reserved. License No: 100033662

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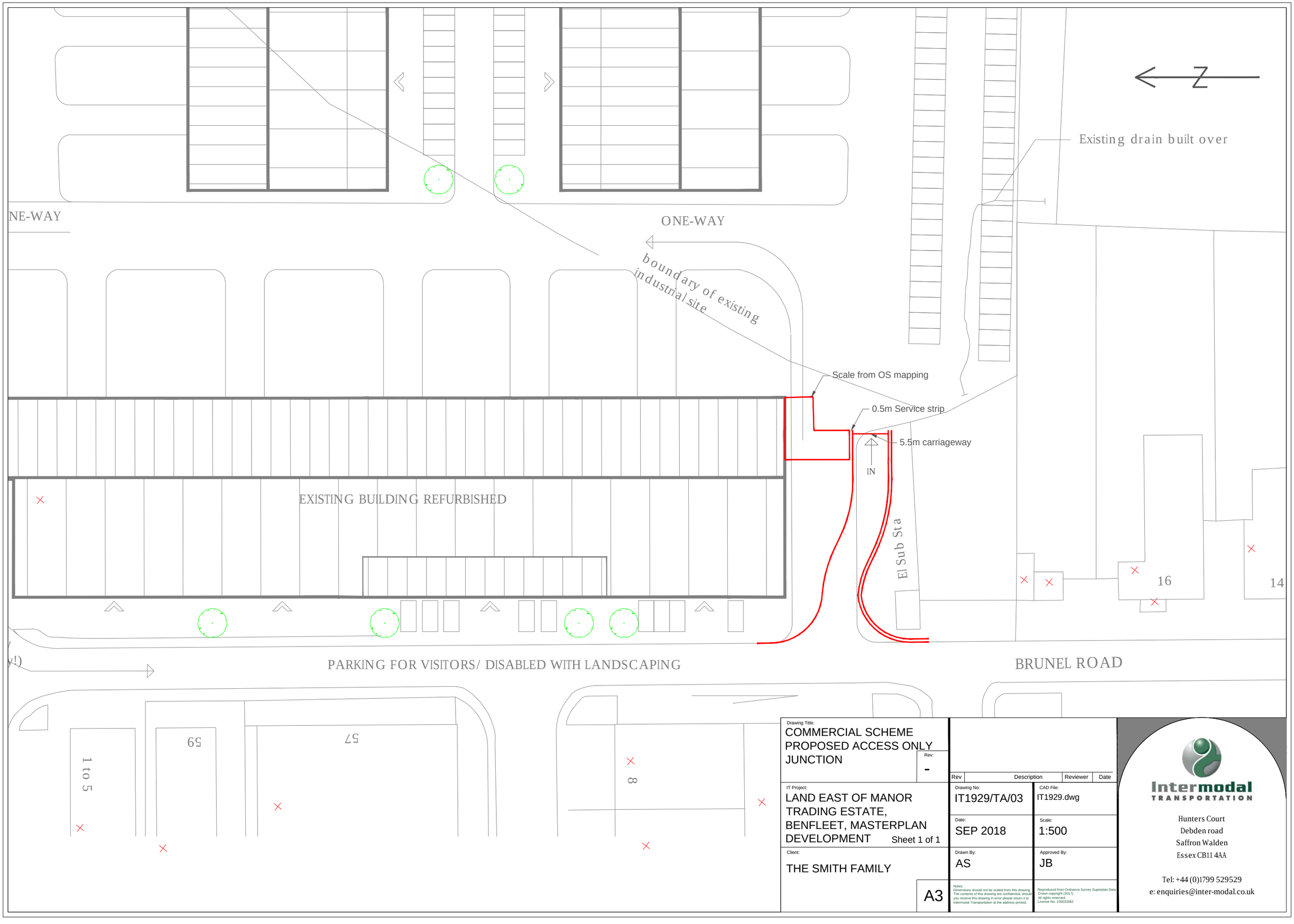

Drawing Title:
COMMERCIAL SCHEME
PROPOSED ACCESS ONLY
JUNCTION

Rev: -

Rev	Description	Reviewer	Date

IT Project:
LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT

Sheet 1 of 1

Client:
THE SMITH FAMILY

Drawing No:	CAD File:
IT1929/TA/03	IT1929.dwg
Date:	**Scale:**
SEP 2018	1:500
Drawn By:	**Approved By:**
AS	JB

A3

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Crossing Location	Description	Advantages	Disadvantages
A	Adjacent to 263 Church Road	Good spacing from Kents Hill Road (30m). Southern footway on Church Road is relatively flat at this point.	Would be slightly distant from the school and only convenient when walking from Kents Hill Road North and other destinations to the west. Would require removal of tree on north side of Church Road. Would be located within close proximity of access to commercial properties on northern side of the road.
B	Adjacent to 268 Church Road	Within close proximity of the school. Convenient when walking from Spencer Road and Kents Hill Road North.	Would require amendment of the existing raised table. Would be located within close proximity of Spencer Road.
C	Adjacent to 290 Church Road	Southern footway on Church Road is relatively flat at this point.	Would be located within close proximity of Stanley Road and the site access. Would only be convenient when walking from Stanley Road. Would require that pedestrians using the crossing and accessing the school also cross the proposed site access road.

Drawing Title:
PROPOSED PEDESTRIAN CROSSING LOCATION OPTIONS

Rev: -

IT Project:
LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT

Sheet 1 of 1

Client:
THE SMITH FAMILY

A3

Rev	Description	Reviewer	Date

Drawing No: IT1932/TA/04
CAD File: IT1932_ATR.dwg
Date: SEP 19
Scale: 1:500
Drawn By: MK
Approved By: PM

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APPENDIX A:

SCOPING CORRESPONDENCE

Devesh Shrivastava

From: Justin Bass <justin.bass@inter-modal.co.uk>
Sent: 13 April 2021 14:20
To: Devesh.Shrivastava@inter-modal.co.uk
Subject: FW: Land East of Manor Trading Estate, Benfleet, Commercial Proposal

---

From: Mark Lawrence, Strategic Development Engineer [mailto:Mark.Lawrence@essex.gov.uk]
Sent: 21 October 2018 20:38
To: Devesh Shrivastava <devesh.shrivastava@inter-modal.co.uk>
Cc: glennsmith@gandkgroundworks.ltd.uk; russell.forde@smartplanning.co.uk; thomas.sharman@smartplanning.co.uk; 'Justin Bass' <justin.bass@inter-modal.co.uk>; warrensmith@gandkgroundworks.ltd.uk
Subject: RE: Land East of Manor Trading Estate, Benfleet, Commercial Proposal

Devesh

Based on the level of information provided I can confirm a TA would be required in line with the scope set out below

- A description of the site location and the local road network;
- A description of the proposed development;
- Review of the accessibility of the site by non–car transport modes, i.e. walking, cycling and public transport;
- Assessment for application year plus 5years
- With reference to the TRICS database, calculation of the likely level of traffic attracted by the proposed development;
- Capacity Assessment of the following junctions:
    - Church Road / Armstrong Road priority junction
    - Church Road / Manor Road signal cross roads junction
    - Rushbottom Lane / A13 London Road signal junction
- Confirmation of the proposed vehicular access arrangements for the proposed development;
- Consideration of access for refuse / service vehicles including undertaking AutoTrack swept path assessments; and
- Consideration of the appropriate levels of car and cycle parking at the development proposal in the context of the relevant local standards.

In addition a Travel Plan would also be required and further details on the proposed access arrangement.

I shall be on leave this week returning to the office on Monday 29th October, happy to discuss proposals on my return.

Kind regards

Mark Lawrence BSc. (Hons) MSc. MCIHT
Strategic Development Engineer
Transportation and Smarter Travel

Essex County Council | **telephone: 03330 130 581** | **email:** Mark.Lawrence@essex.gov.uk

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http://www.essex.gov.uk/Environment%20Planning/Development-in-Essex/Pages/Developer-information.aspx

Please consider the environment before printing this e-mail

From: Devesh Shrivastava [mailto:devesh.shrivastava@inter-modal.co.uk]
Sent: 27 September 2018 14:14
To: Mark Lawrence, Strategic Development Engineer
Cc: glennsmith@gandkgroundworks.ltd.uk; russell.forde@smartplanning.co.uk; thomas.sharman@smartplanning.co.uk; 'Justin Bass'; warrensmith@gandkgroundworks.ltd.uk
Subject: Land East of Manor Trading Estate, Benfleet, Commercial Proposal

Dear Mark

We write in order to set out the proposed scope of the Transport Assessment (TA) report for the proposed commercial development on land to the east of Manor Trading Estate, South Benfleet. The proposal seeks to provide circa 6,900 sq m of commercial floor space on the land with vehicular access to the site via Armstrong Road, i.e. the existing Manor Trading Estate roads. It is proposed that the floorspace would be used for a mixture of B1, B2 and B8 units. For ease of reference we have attached a drawing showing the site location in the local and wider context.

We set out below the issues which we propose to examine within the TA report: -

- A description of the site location and the local road network;
- A description of the proposed development;
- Review of the accessibility of the site by non–car transport modes, i.e. walking, cycling and public transport;
- With reference to the TRICS database, calculation of the likely level of traffic attracted by the proposed development;
- Capacity Assessment of the following junctions:
    - Church Road / Armstrong Road priority junction
    - Church Road / Manor Road signal cross roads junction
- Confirmation of the proposed vehicular access arrangements for the proposed development;
- Consideration of access for refuse / service vehicles including undertaking AutoTrack swept path assessments; and
- Consideration of the appropriate levels of car and cycle parking at the development proposal in the context of the relevant local standards.

We trust that this message is sufficient for your needs and welcome your earliest confirmation as to whether you are in agreement with the proposed study scope. In the meantime, however, please do not hesitate to contact us should you have any queries or wish to discuss this matter further.

Regards

Devesh Shrivastava

Assistant Transport Planner on behalf of
Intermodal
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tel: 01799 529529
fax: 01799 529530
e: devesh.shrivastava@inter-modal.co.uk

Devesh Shrivastava

From: Justin Bass <justin.bass@inter-modal.co.uk>
Sent: 13 April 2021 14:19
To: Devesh.Shrivastava@inter-modal.co.uk
Subject: FW: LAND TO THE EAST OF MANOR TRADING ESTATE, RESIDENTIAL PROPOSAL

From: Mark Lawrence, Strategic Development Engineer [mailto:Mark.Lawrence@essex.gov.uk]
Sent: 21 October 2018 19:38
To: Justin Bass <justin.bass@inter-modal.co.uk>
Cc: glennsmith@gandkgroundworks.ltd.uk; 'Russell Forde' <russell.forde@smartplanning.co.uk>; 'Thomas Sharman' <thomas.sharman@smartplanning.co.uk>
Subject: RE: LAND TO THE EAST OF MANOR TRADING ESTATE, RESIDENTIAL PROPOSAL

Justin,

Following on from our recent conversation, I have the following observations / comments to make regarding your request for pre application advice in relation to the residential proposal of 90 dwellings to the land east of Manor trading estate. I can confirm the scope of the TA as set out below from your previous email with the exception of the access arrangement in acceptable:

- A description of the site location and the local road network;
- A description of the proposed development;
- Review of the accessibility of the site by non–car transport modes, i.e. walking, cycling and public transport;
- With reference to the TRICS database, calculation of the likely level of traffic generated by the proposed development;
- Capacity Assessment of the following junctions:
    - § Church Road / Armstrong Road priority junction
    - § Church Road / Manor Road signal cross roads junction
    - § Proposed site access junction;
- Consideration of access for refuse / service vehicles including undertaking AutoTrack swept path assessments; and
- Consideration of the appropriate levels of car and cycle parking at the development proposal in the context of the relevant local standards.

Essex County Council (ECC) would not support the access arrangement as shown on drawing IT1932/SK/003. The proposal would introduce conflict with the entrance of The Robert Drake School. The preference would be a standard priority junction, designed to relevant standards, removal of drop off / pick up layby facility, provision of kerb and verge with widened footway. I would require further detail on the access road arrangements, there may be an opportunity of re-provision of associated parking in this location for the benefit of the school. Layout should be designed in accordance with EDG. In addition further investigations would be welcomed on improved crossing facilities in the vicinity of the school.

I shall be away on leave this week returning to the office on Monday 29th October. Happy to discuss on my return

Kind regards

Mark Lawrence BSc. (Hons) MSc. MCIHT
Strategic Development Engineer
Transportation and Smarter Travel

Essex County Council | **telephone: 03330 130 581** | **email:** Mark.Lawrence@essex.gov.uk

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http://www.essex.gov.uk/Environment%20Planning/Development-in-Essex/Pages/Developer-information.aspx

Please consider the environment before printing this e-mail

From: Justin Bass [mailto:justin.bass@inter-modal.co.uk]
Sent: 19 September 2018 12:09
To: Mark Lawrence, Strategic Development Engineer
Cc: glennsmith@gandkgroundworks.ltd.uk; 'Russell Forde'; 'Thomas Sharman'
Subject: LAND TO THE EAST OF MANOR TRADING ESTATE, RESIDENTIAL PROPOSAL

Dear Mark

We write in order to set out the proposed scope of the Transport Assessment (TA) report for the proposed residential development on land to the east of Manor Trading Estate, South Benfleet. The proposal seeks to provide 90 residential dwellings on the land, with vehicular access to the site via Church Road in the approximate location of the existing access to Heston Lodge. For ease of reference we have attached a drawing showing the site location in the local and wider context.

We set out below the issues that we propose to examine within the TA report: -

- A description of the site location and the local road network;
- A description of the proposed development;
- Review of the accessibility of the site by non–car transport modes, i.e. walking, cycling and public transport;
- With reference to the TRICS database, calculation of the likely level of traffic generated by the proposed development;
- Capacity Assessment of the following junctions:
    - Church Road / Armstrong Road priority junction
    - Church Road / Manor Road signal cross roads junction
    - Proposed site access junction;
- Confirmation of the proposed vehicular access arrangements for the proposed development. As shown on attached preliminary drawing IT1932/SK/003 it is proposed that in conjunction with the provision of the access junction the existing drop off / pick up lay-by would be closed off and replaced with a drop off / pick up area within the adopted highway land between Church Road and The Robert Drake primary school. As part of your response to this scoping email we would be grateful for your confirmation as to whether in principle Essex County Council (ECC) would support the access arrangements shown on drawing IT1932/SK/003;
- Consideration of access for refuse / service vehicles including undertaking AutoTrack swept path assessments; and
- Consideration of the appropriate levels of car and cycle parking at the development proposal in the context of the relevant local standards.

We trust that this message is sufficient for your needs and welcome your earliest confirmation as to whether you are in agreement with the proposed study scope. In the meantime, however, please do not hesitate to contact us should you have any queries or wish to discuss this matter further.

Regards

Justin

Justin Bass
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APPENDIX B:

ILLUSTRATIVE MASTERPLAN LAYOUT

N

0m 50m 100m

indicative arrangement for coordinated development of adjacent industrial estate

1308m2 B8

foul & surface water pumping station compound

existing industrial units

tanked surface water storage under parking and yard areas

3m wide footpath/cycleway link between resi. and commercial developments - electric tag to control use and/or parking controls on resi. estate roads (also provides emergency vehicle access)

0.31Ha @ 29dph:
9 UNITS

1308m2 B8

2.4m high acoustic wall/fence to commercial site boundary

development arranged to face onto woodland edge and set back from root protection zones. This provides space for the woodland, better security for the adjacent premises, passive surveillance into the woodland edge and avoids potential overshadowing problems for rear gardens.

1008/m2 B2

12m high acoustic barrier formed by (use class B2) building with connecting acoustic barrier wall

closest residential build line with 12m high acoustic barrier

existing scrap yard crusher/baler machine

1.02Ha @ 31dph:
32 UNITS

12m high acoustic barrier formed by a line of Commercial, Business and Service (2020 use class E) buildings with connecting acoustic barrier walls between (see conceptual illustration)

maintenance access corridor

existing 5m high concrete acoustic boundary wall with concrete slab overspill

0.61Ha @ 44dph:
27 UNITS

back gardens to this edge of the site as it borders adjacent rear gardens backing on to the site

300m2 building footprint (2 or 2.5 floors gives 600 or 750m2 unit)

Woodside

Keswick House

KESWICK ROAD

Offer for transfer of land to regularise Heston Lodge ownership

Hesten Lodge

Wheelers

new access arrangement for Heston Lodge

70m of parallel parking (11no 2.9m x 6m long spaces)

ownership boundary

The Robert Drake Primary School

existing school drop off to revert to grass verge accommodating visibility splay

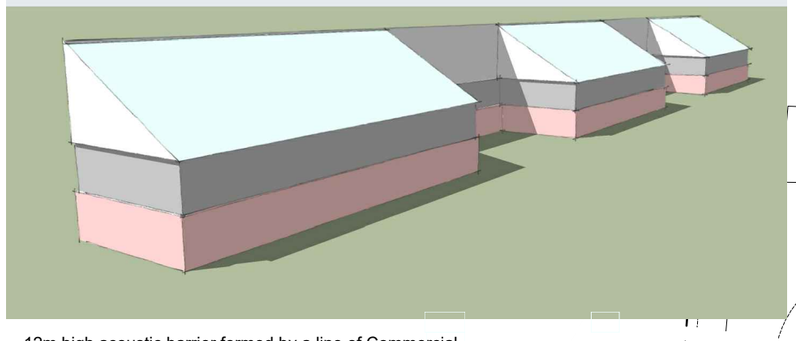
proposed pedestrian crossing enhancements

boundary of maintainable Highway

BRUNEL ROAD

Scrap Yard

CONCEPTUAL ILLUSTRATION OF PROPOSED ACOUSTIC BARRIER SOLUTION



12m high acoustic barrier formed by a line of Commercial, Business and Service (2020 use class E) buildings with connecting acoustic barrier walls between. The broken building line disguises the acoustic barrier.

This illustration shows the buildings with 2no. 3m high floors and a monopitch roof rising a further 6m to the rear. The two floors and roof cladding have contrasting material/colours forming a graduation of horizontal banding. Combined with the broken building line, this helps to reduce the appearance of mass and height.

KEY

- Residential frontage indicative graphic (higher density - small houses & flats)
- Residential frontage indicative graphic (medium density houses)
- Residential frontage indicative graphic (lower density - larger houses)
- Existing trees & vegetation retained (purple dash line is RPA)
- Removed trees
- Indication of potential for new tree planting

NOTE:

This development could deliver **68 dwellings** in the following indicative housing mix:

1 bed:	11 units	16%
2 bed:	15 units	22%
3 bed:	25 units	37%
4 bed:	12 units	18%
5 bed:	5 units	7%

Date Rev Rev/Author/Checked By

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client:
Glenn Smith

project:
Land East of Manor Trading Estate

drawing title:
DEVELOPMENT MASTERPLAN

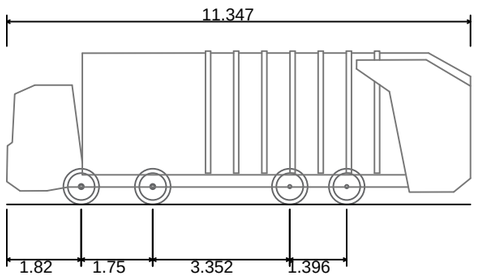
scale: 1:1000 @ A2
drawn by: NC
date: 11 January 2021
chkd by: -
drawing number: NC18.442-P203
revision: -

O:\NC PROJECT FILES\2018\18.442 MANOR TRADING ESTATE\07 NC PROJECT DRAWINGS\200 P_PLANNING DRAWINGS\18.442-P-203 & 204

APPENDIX C:

AUTOTRACK SWEPT PATHS

ATR001



Large Refuse Vehicle (4 axle)

Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	6.00s
Wall to Wall Turning Radius	11.330m

El Sub Sta

39.0m

LB

LARGE REFUSE VEHICLE (4-AXLE) ACCESSING SITE

NTS

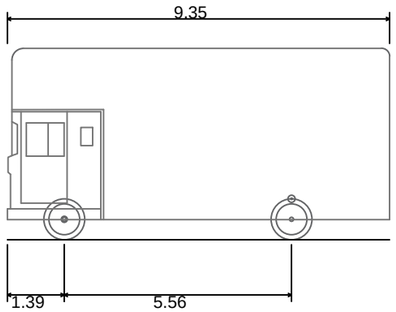
El Sub Sta

39.0m

LARGE REFUSE VEHICLE (4-AXLE) EGRESSING SITE

NTS

ATR002



Removals Van

Overall Length	9.350m
Overall Width	2.460m
Overall Body Height	4.680m
Min Body Ground Clearance	0.491m
Track Width	2.060m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	10.900m

El Sub Sta

Removals Van

Removals Van

39.0m

LB

REMOVALS VAN ACCESSING SITE
NTS

rake

ool

El Sub Sta

Removals Van

39.0m

REMOVALS VAN EGRESSING SITE
NTS

Scale from OS mapping

0.5m Service strip

5.5m carriageway

IN

EI Sub Sta

gal Length (UK) Articulated Vehicle (16.5m)

37

Scale from OS mapping

0.5m Service strip

5.5m carriageway

IN

EI Sub Sta

Max Legal Length (UK) Articulated Vehicle (16.5m)

37

APPENDIX D:

TRICS OUTPUT FILES

Calculation Reference: AUDIT-731001-210301-0335

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : B - BUSINESS PARK
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	2 days
	WG	WOKINGHAM	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
	GM	GREATER MANCHESTER	2 days
	LC	LANCASHIRE	1 days
09	NORTH		
	TW	TYNE & WEAR	1 days
10	WALES		
	CF	CARDIFF	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
Actual Range: 1500 to 5000 (units: sqm)
Range Selected by User: 975 to 5000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 18/10/18

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

Selected survey days:

Monday	2 days
Tuesday	2 days
Wednesday	1 days
Thursday	3 days
Friday	4 days

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

Selected survey types:

Manual count	12 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	9

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

Selected Location Sub Categories:

Industrial Zone	6
Commercial Zone	2
Development Zone	2
Residential Zone	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village,

Secondary Filtering selection:

Use Class:

B1	12 days

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

Filter by Use Class Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Population within 1 mile:

5,001 to 10,000	2 days
10,001 to 15,000	2 days
15,001 to 20,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	5 days

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

Population within 5 miles:

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

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

Car ownership within 5 miles:

0.6 to 1.0	7 days
1.1 to 1.5	5 days

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

Travel Plan:

Yes	1 days
No	11 days

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

PTAL Rating:

No PTAL Present	12 days

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

LIST OF SITES relevant to selection parameters

1 CF-02-B-06 BUSINESS PARK CARDIFF
MALTHOUSE AVENUE
CARDIFF
PONTPRENNAU
Edge of Town
No Sub Category
Total Gross floor area: 1642 sqm
Survey date: MONDAY *12/03/18* *Survey Type: MANUAL*

2 CH-02-B-01 BUSINESS PARK CHESHIRE
WINTERTON WAY
MACCLESFIELD

Edge of Town
Development Zone
Total Gross floor area: 2395 sqm
Survey date: MONDAY *19/09/16* *Survey Type: MANUAL*

3 DV-02-B-01 BUSINESS PARK DEVON
MANATON CLOSE
EXETER
MATFORD BUSINESS PARK
Edge of Town
Commercial Zone
Total Gross floor area: 1500 sqm
Survey date: WEDNESDAY *05/07/17* *Survey Type: MANUAL*

4 EX-02-B-01 BUSINESS PARK ESSEX
BRUNEL COURT
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 2900 sqm
Survey date: FRIDAY *18/05/18* *Survey Type: MANUAL*

5 EX-02-B-02 BUSINESS PARK ESSEX
WYNCOLLS ROAD
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 4083 sqm
Survey date: FRIDAY *18/05/18* *Survey Type: MANUAL*

6 GM-02-B-03 BUSINESS PARK GREATER MANCHESTER
CROSS STREET
SALE

Edge of Town
Industrial Zone
Total Gross floor area: 3985 sqm
Survey date: TUESDAY *18/10/11* *Survey Type: MANUAL*

7 GM-02-B-04 BUSINESS PARK GREATER MANCHESTER
SALMON FIELDS
OLDHAM

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 3300 sqm
Survey date: THURSDAY *22/10/15* *Survey Type: MANUAL*

8 LC-02-B-03 BUSINESS PARK LANCASHIRE
NAVIGATION WAY
PRESTON

Edge of Town
Commercial Zone
Total Gross floor area: 3450 sqm
Survey date: TUESDAY *18/10/11* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9	LN-02-B-02 CARDINAL CLOSE LINCOLN	BUSINESS PARK		LINCOLNSHIRE
	Edge of Town Industrial Zone Total Gross floor area:		5000 sqm	
	Survey date: THURSDAY		*25/06/15*	*Survey Type: MANUAL*
10	TW-02-B-06 JOICEY ROAD GATESHEAD	BUSINESS PARK		TYNE & WEAR
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area:		3712 sqm	
	Survey date: THURSDAY		*18/10/18*	*Survey Type: MANUAL*
11	WG-02-B-02 WHARFEDALE ROAD READING WINNERSH Edge of Town Development Zone Total Gross floor area:	BUSINESS PARK	4775 sqm	WOKINGHAM
	Survey date: FRIDAY		*20/11/15*	*Survey Type: MANUAL*
12	WY-02-B-01 ROSEVILLE ROAD LEEDS	BUSINESS PARK		WEST YORKSHIRE
	Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area:		4078 sqm	
	Survey date: FRIDAY		*20/09/13*	*Survey Type: MANUAL*

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	3402	0.162	12	3402	0.037	12	3402	0.199
07:30 - 08:00	12	3402	0.431	12	3402	0.127	12	3402	0.558
08:00 - 08:30	12	3402	0.551	12	3402	0.137	12	3402	0.688
08:30 - 09:00	12	3402	0.750	12	3402	0.206	12	3402	0.956
09:00 - 09:30	12	3402	0.522	12	3402	0.255	12	3402	0.777
09:30 - 10:00	12	3402	0.360	12	3402	0.230	12	3402	0.590
10:00 - 10:30	12	3402	0.316	12	3402	0.247	12	3402	0.563
10:30 - 11:00	12	3402	0.238	12	3402	0.216	12	3402	0.454
11:00 - 11:30	12	3402	0.206	12	3402	0.228	12	3402	0.434
11:30 - 12:00	12	3402	0.287	12	3402	0.230	12	3402	0.517
12:00 - 12:30	12	3402	0.255	12	3402	0.343	12	3402	0.598
12:30 - 13:00	12	3402	0.301	12	3402	0.338	12	3402	0.639
13:00 - 13:30	12	3402	0.279	12	3402	0.272	12	3402	0.551
13:30 - 14:00	12	3402	0.328	12	3402	0.296	12	3402	0.624
14:00 - 14:30	12	3402	0.279	12	3402	0.306	12	3402	0.585
14:30 - 15:00	12	3402	0.223	12	3402	0.321	12	3402	0.544
15:00 - 15:30	12	3402	0.218	12	3402	0.235	12	3402	0.453
15:30 - 16:00	12	3402	0.191	12	3402	0.255	12	3402	0.446
16:00 - 16:30	12	3402	0.233	12	3402	0.439	12	3402	0.672
16:30 - 17:00	12	3402	0.213	12	3402	0.505	12	3402	0.718
17:00 - 17:30	12	3402	0.223	12	3402	0.710	12	3402	0.933
17:30 - 18:00	12	3402	0.130	12	3402	0.497	12	3402	0.627
18:00 - 18:30	12	3402	0.100	12	3402	0.218	12	3402	0.318
18:30 - 19:00	12	3402	0.076	12	3402	0.181	12	3402	0.257
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			6.872			6.829			13.701

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

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

Parameter summary

Trip rate parameter range selected:	1500 - 5000 (units: sqm)
Survey date date range:	01/01/10 - 18/10/18
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	3402	0.007	12	3402	0.005	12	3402	0.012
07:30 - 08:00	12	3402	0.007	12	3402	0.005	12	3402	0.012
08:00 - 08:30	12	3402	0.005	12	3402	0.000	12	3402	0.005
08:30 - 09:00	12	3402	0.017	12	3402	0.015	12	3402	0.032
09:00 - 09:30	12	3402	0.017	12	3402	0.012	12	3402	0.029
09:30 - 10:00	12	3402	0.015	12	3402	0.010	12	3402	0.025
10:00 - 10:30	12	3402	0.007	12	3402	0.017	12	3402	0.024
10:30 - 11:00	12	3402	0.002	12	3402	0.005	12	3402	0.007
11:00 - 11:30	12	3402	0.002	12	3402	0.007	12	3402	0.009
11:30 - 12:00	12	3402	0.010	12	3402	0.012	12	3402	0.022
12:00 - 12:30	12	3402	0.012	12	3402	0.012	12	3402	0.024
12:30 - 13:00	12	3402	0.010	12	3402	0.007	12	3402	0.017
13:00 - 13:30	12	3402	0.005	12	3402	0.007	12	3402	0.012
13:30 - 14:00	12	3402	0.007	12	3402	0.007	12	3402	0.014
14:00 - 14:30	12	3402	0.002	12	3402	0.002	12	3402	0.004
14:30 - 15:00	12	3402	0.007	12	3402	0.007	12	3402	0.014
15:00 - 15:30	12	3402	0.022	12	3402	0.020	12	3402	0.042
15:30 - 16:00	12	3402	0.010	12	3402	0.010	12	3402	0.020
16:00 - 16:30	12	3402	0.022	12	3402	0.027	12	3402	0.049
16:30 - 17:00	12	3402	0.010	12	3402	0.012	12	3402	0.022
17:00 - 17:30	12	3402	0.000	12	3402	0.005	12	3402	0.005
17:30 - 18:00	12	3402	0.000	12	3402	0.000	12	3402	0.000
18:00 - 18:30	12	3402	0.000	12	3402	0.000	12	3402	0.000
18:30 - 19:00	12	3402	0.000	12	3402	0.000	12	3402	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.196			0.204			0.400

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	3402	0.002	12	3402	0.000	12	3402	0.002
07:30 - 08:00	12	3402	0.017	12	3402	0.000	12	3402	0.017
08:00 - 08:30	12	3402	0.024	12	3402	0.000	12	3402	0.024
08:30 - 09:00	12	3402	0.024	12	3402	0.002	12	3402	0.026
09:00 - 09:30	12	3402	0.005	12	3402	0.000	12	3402	0.005
09:30 - 10:00	12	3402	0.015	12	3402	0.002	12	3402	0.017
10:00 - 10:30	12	3402	0.002	12	3402	0.000	12	3402	0.002
10:30 - 11:00	12	3402	0.002	12	3402	0.002	12	3402	0.004
11:00 - 11:30	12	3402	0.005	12	3402	0.005	12	3402	0.010
11:30 - 12:00	12	3402	0.002	12	3402	0.005	12	3402	0.007
12:00 - 12:30	12	3402	0.002	12	3402	0.005	12	3402	0.007
12:30 - 13:00	12	3402	0.005	12	3402	0.007	12	3402	0.012
13:00 - 13:30	12	3402	0.000	12	3402	0.002	12	3402	0.002
13:30 - 14:00	12	3402	0.007	12	3402	0.005	12	3402	0.012
14:00 - 14:30	12	3402	0.002	12	3402	0.010	12	3402	0.012
14:30 - 15:00	12	3402	0.002	12	3402	0.007	12	3402	0.009
15:00 - 15:30	12	3402	0.002	12	3402	0.002	12	3402	0.004
15:30 - 16:00	12	3402	0.005	12	3402	0.024	12	3402	0.029
16:00 - 16:30	12	3402	0.002	12	3402	0.010	12	3402	0.012
16:30 - 17:00	12	3402	0.002	12	3402	0.007	12	3402	0.009
17:00 - 17:30	12	3402	0.000	12	3402	0.032	12	3402	0.032
17:30 - 18:00	12	3402	0.000	12	3402	0.005	12	3402	0.005
18:00 - 18:30	12	3402	0.000	12	3402	0.002	12	3402	0.002
18:30 - 19:00	12	3402	0.002	12	3402	0.002	12	3402	0.004
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.129			0.136			0.265

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

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

Calculation Reference: AUDIT-731001-210301-0334

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : C - INDUSTRIAL UNIT
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
	RE	READING	1 days
03	SOUTH WEST		
	BR	BRISTOL CITY	1 days
04	EAST ANGLIA		
	NF	NORFOLK	2 days
	SF	SUFFOLK	1 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
06	WEST MIDLANDS		
	HE	HEREFORDSHIRE	1 days
08	NORTH WEST		
	LC	LANCASHIRE	2 days
09	NORTH		
	TV	TEES VALLEY	1 days
	TW	TYNE & WEAR	1 days
11	SCOTLAND		
	SR	STIRLING	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
Actual Range: 150 to 3000 (units: sqm)
Range Selected by User: 150 to 3000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 04/09/20

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

Selected survey days:

Monday	1 days
Tuesday	3 days
Thursday	7 days
Friday	2 days

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

Selected survey types:

Manual count	13 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	8

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

Selected Location Sub Categories:

Industrial Zone	12
Commercial Zone	1

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

Secondary Filtering selection:

Use Class:

B1	9 days
B2	4 days

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

Filter by Use Class Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	3 days
15,001 to 20,000	1 days
20,001 to 25,000	4 days
25,001 to 50,000	3 days

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

Population within 5 miles:

50,001 to 75,000	1 days
75,001 to 100,000	2 days
100,001 to 125,000	2 days
125,001 to 250,000	5 days
250,001 to 500,000	3 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	5 days
1.1 to 1.5	7 days

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

Travel Plan:

No	13 days

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

PTAL Rating:

No PTAL Present	13 days

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

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

LIST OF SITES relevant to selection parameters

1 BR-02-C-02 STAINLESS FITTINGS BRISTOL CITY
SOUTH LIBERTY LANE
BRISTOL

Edge of Town
Industrial Zone
Total Gross floor area: 1475 sqm
Survey date: TUESDAY 22/09/15 Survey Type: MANUAL

2 DS-02-C-02 ENGINEERED PRODUCTS DERBYSHIRE
PONTEFRACT STREET
DERBY

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 2600 sqm
Survey date: THURSDAY 25/06/15 Survey Type: MANUAL

3 HC-02-C-01 ENGINEERING COMPANY HAMPSHIRE
JAYS CLOSE
BASINGSTOKE

Edge of Town
Industrial Zone
Total Gross floor area: 3000 sqm
Survey date: THURSDAY 16/06/16 Survey Type: MANUAL

4 HE-02-C-02 THERMAL PROCESSING HEREFORDSHIRE
COLLEGE ROAD
HEREFORD
BURCOTT
Edge of Town
Commercial Zone
Total Gross floor area: 1880 sqm
Survey date: TUESDAY 22/10/13 Survey Type: MANUAL

5 LC-02-C-03 TIMBER SUPPLIES LANCASHIRE
GOLDEN HILL LANE
LEYLAND

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 150 sqm
Survey date: TUESDAY 06/11/18 Survey Type: MANUAL

6 LC-02-C-04 POWDER COATINGS LANCASHIRE
CHORLEY ROAD
BLACKPOOL
LITTLE CARLETON
Edge of Town
Industrial Zone
Total Gross floor area: 1010 sqm
Survey date: THURSDAY 20/06/19 Survey Type: MANUAL

7 NF-02-C-03 SHEET METAL CONTRACTOR NORFOLK
ELVIN WAY
NORWICH
HELLESDON
Edge of Town
Industrial Zone
Total Gross floor area: 260 sqm
Survey date: THURSDAY 07/11/19 Survey Type: MANUAL

8 NF-02-C-04 EXHIBITION DESIGN & MANUF. NORFOLK
FLETCHER WAY
NORWICH
UPPER HELLESDON
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 690 sqm
Survey date: THURSDAY 14/11/19 Survey Type: MANUAL

9 RE-02-C-01 SHEET METAL FABRICATION READING
COMMERCIAL ROAD
READING

Edge of Town
Industrial Zone
Total Gross floor area: 645 sqm
Survey date: THURSDAY 22/11/12 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

10	SF-02-C-01	JOINERY	SUFFOLK
	ANSON ROAD		
	IPSWICH		
	MARTLESHAM HEATH		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	1100 sqm	
	Survey date: FRIDAY	*12/07/13*	*Survey Type: MANUAL*
11	SR-02-C-01	SPECIALIST MODEL MAKING	STIRLING
	BORROWMEADOW ROAD		
	STIRLING		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	2350 sqm	
	Survey date: MONDAY	*16/06/14*	*Survey Type: MANUAL*
12	TV-02-C-02	FLUID ENGINEERING	TEES VALLEY
	PARKVIEW ROAD WEST		
	HARTLEPOOL		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	1050 sqm	
	Survey date: FRIDAY	*04/09/20*	*Survey Type: MANUAL*
13	TW-02-C-01	INDUSTRIAL UNIT	TYNE & WEAR
	SHAFTESBURY AVENUE		
	JARROW		
	TYNE POINT IND. ESTATE		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	950 sqm	
	Survey date: THURSDAY	*15/11/12*	*Survey Type: MANUAL*

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00	1	2350	0.298	1	2350	0.043	1	2350	0.341
07:00 - 07:30	13	1320	0.181	13	1320	0.047	13	1320	0.228
07:30 - 08:00	13	1320	0.280	13	1320	0.029	13	1320	0.309
08:00 - 08:30	13	1320	0.245	13	1320	0.029	13	1320	0.274
08:30 - 09:00	13	1320	0.274	13	1320	0.087	13	1320	0.361
09:00 - 09:30	13	1320	0.175	13	1320	0.064	13	1320	0.239
09:30 - 10:00	13	1320	0.122	13	1320	0.082	13	1320	0.204
10:00 - 10:30	13	1320	0.146	13	1320	0.082	13	1320	0.228
10:30 - 11:00	13	1320	0.082	13	1320	0.111	13	1320	0.193
11:00 - 11:30	13	1320	0.093	13	1320	0.052	13	1320	0.145
11:30 - 12:00	13	1320	0.076	13	1320	0.093	13	1320	0.169
12:00 - 12:30	13	1320	0.105	13	1320	0.105	13	1320	0.210
12:30 - 13:00	13	1320	0.117	13	1320	0.111	13	1320	0.228
13:00 - 13:30	13	1320	0.163	13	1320	0.175	13	1320	0.338
13:30 - 14:00	13	1320	0.128	13	1320	0.128	13	1320	0.256
14:00 - 14:30	13	1320	0.105	13	1320	0.105	13	1320	0.210
14:30 - 15:00	13	1320	0.111	13	1320	0.140	13	1320	0.251
15:00 - 15:30	13	1320	0.093	13	1320	0.070	13	1320	0.163
15:30 - 16:00	13	1320	0.076	13	1320	0.204	13	1320	0.280
16:00 - 16:30	13	1320	0.064	13	1320	0.163	13	1320	0.227
16:30 - 17:00	13	1320	0.029	13	1320	0.245	13	1320	0.274
17:00 - 17:30	13	1320	0.029	13	1320	0.286	13	1320	0.315
17:30 - 18:00	13	1320	0.023	13	1320	0.186	13	1320	0.209
18:00 - 18:30	13	1320	0.017	13	1320	0.111	13	1320	0.128
18:30 - 19:00	12	1234	0.041	12	1234	0.074	12	1234	0.115
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			3.073			2.822			5.895

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

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

Parameter summary

Trip rate parameter range selected:	150 - 3000 (units: sqm)
Survey date date range:	01/01/10 - 04/09/20
Number of weekdays (Monday-Friday):	13
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
TAXIS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00	1	2350	0.000	1	2350	0.000	1	2350	0.000
07:00 - 07:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
07:30 - 08:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
08:00 - 08:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
08:30 - 09:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
09:00 - 09:30	13	1320	0.006	13	1320	0.006	13	1320	0.012
09:30 - 10:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
10:00 - 10:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
10:30 - 11:00	13	1320	0.006	13	1320	0.006	13	1320	0.012
11:00 - 11:30	13	1320	0.006	13	1320	0.006	13	1320	0.012
11:30 - 12:00	13	1320	0.006	13	1320	0.006	13	1320	0.012
12:00 - 12:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
12:30 - 13:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
13:00 - 13:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
13:30 - 14:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
14:00 - 14:30	13	1320	0.006	13	1320	0.006	13	1320	0.012
14:30 - 15:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
15:00 - 15:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
15:30 - 16:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
16:00 - 16:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
16:30 - 17:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
17:00 - 17:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
17:30 - 18:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
18:00 - 18:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
18:30 - 19:00	12	1234	0.007	12	1234	0.007	12	1234	0.014
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.037			0.037			0.074

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

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00	1	2350	0.000	1	2350	0.000	1	2350	0.000
07:00 - 07:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
07:30 - 08:00	13	1320	0.000	13	1320	0.006	13	1320	0.006
08:00 - 08:30	13	1320	0.006	13	1320	0.000	13	1320	0.006
08:30 - 09:00	13	1320	0.006	13	1320	0.006	13	1320	0.012
09:00 - 09:30	13	1320	0.000	13	1320	0.006	13	1320	0.006
09:30 - 10:00	13	1320	0.017	13	1320	0.012	13	1320	0.029
10:00 - 10:30	13	1320	0.035	13	1320	0.035	13	1320	0.070
10:30 - 11:00	13	1320	0.000	13	1320	0.012	13	1320	0.012
11:00 - 11:30	13	1320	0.006	13	1320	0.006	13	1320	0.012
11:30 - 12:00	13	1320	0.006	13	1320	0.006	13	1320	0.012
12:00 - 12:30	13	1320	0.006	13	1320	0.012	13	1320	0.018
12:30 - 13:00	13	1320	0.006	13	1320	0.006	13	1320	0.012
13:00 - 13:30	13	1320	0.006	13	1320	0.006	13	1320	0.012
13:30 - 14:00	13	1320	0.017	13	1320	0.006	13	1320	0.023
14:00 - 14:30	13	1320	0.006	13	1320	0.012	13	1320	0.018
14:30 - 15:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
15:00 - 15:30	13	1320	0.006	13	1320	0.006	13	1320	0.012
15:30 - 16:00	13	1320	0.006	13	1320	0.006	13	1320	0.012
16:00 - 16:30	13	1320	0.012	13	1320	0.006	13	1320	0.018
16:30 - 17:00	13	1320	0.000	13	1320	0.006	13	1320	0.006
17:00 - 17:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
17:30 - 18:00	13	1320	0.006	13	1320	0.006	13	1320	0.012
18:00 - 18:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
18:30 - 19:00	13	1320	0.006	13	1320	0.000	13	1320	0.006
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.153			0.161			0.314

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00	1	2350	0.000	1	2350	0.000	1	2350	0.000
07:00 - 07:30	13	1320	0.012	13	1320	0.000	13	1320	0.012
07:30 - 08:00	13	1320	0.047	13	1320	0.000	13	1320	0.047
08:00 - 08:30	13	1320	0.006	13	1320	0.000	13	1320	0.006
08:30 - 09:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
09:00 - 09:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
09:30 - 10:00	13	1320	0.006	13	1320	0.000	13	1320	0.006
10:00 - 10:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
10:30 - 11:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
11:00 - 11:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
11:30 - 12:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
12:00 - 12:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
12:30 - 13:00	13	1320	0.000	13	1320	0.006	13	1320	0.006
13:00 - 13:30	13	1320	0.012	13	1320	0.012	13	1320	0.024
13:30 - 14:00	13	1320	0.000	13	1320	0.000	13	1320	0.000
14:00 - 14:30	13	1320	0.000	13	1320	0.006	13	1320	0.006
14:30 - 15:00	13	1320	0.000	13	1320	0.012	13	1320	0.012
15:00 - 15:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
15:30 - 16:00	13	1320	0.000	13	1320	0.006	13	1320	0.006
16:00 - 16:30	13	1320	0.000	13	1320	0.006	13	1320	0.006
16:30 - 17:00	13	1320	0.000	13	1320	0.035	13	1320	0.035
17:00 - 17:30	13	1320	0.000	13	1320	0.006	13	1320	0.006
17:30 - 18:00	13	1320	0.006	13	1320	0.000	13	1320	0.006
18:00 - 18:30	13	1320	0.000	13	1320	0.000	13	1320	0.000
18:30 - 19:00	13	1320	0.000	13	1320	0.006	13	1320	0.006
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.089			0.095			0.184

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

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

Calculation Reference: AUDIT-731001-210301-0347

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	2 days
	EX	ESSEX	1 days
	HC	HAMPSHIRE	3 days
	KC	KENT	1 days
	SC	SURREY	1 days
	WS	WEST SUSSEX	2 days
03	SOUTH WEST		
	DC	DORSET	1 days
	DV	DEVON	2 days
	SM	SOMERSET	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	NF	NORFOLK	6 days
	SF	SUFFOLK	3 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WK	WARWICKSHIRE	4 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	6 days
	SY	SOUTH YORKSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	4 days
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	1 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	DH	DURHAM	2 days
	TW	TYNE & WEAR	1 days
10	WALES		
	PS	POWYS	1 days
	VG	VALE OF GLAMORGAN	1 days
11	SCOTLAND		
	AG	ANGUS	1 days
	FA	FALKIRK	1 days
	HI	HIGHLAND	1 days
	PK	PERTH & KINROSS	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 6 to 99 (units:)
Range Selected by User: 5 to 100 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 16/09/20

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

Selected survey days:

Monday	11 days
Tuesday	12 days
Wednesday	17 days
Thursday	11 days
Friday	6 days

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

Selected survey types:

Manual count	56 days
Directional ATC Count	1 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	29
Edge of Town	28

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

Selected Location Sub Categories:

Residential Zone	55
No Sub Category	2

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

Secondary Filtering selection:

Use Class:

C3	57 days

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

Population within 500m Range:
All Surveys Included
Population within 1 mile:

1,001 to 5,000	7 days
5,001 to 10,000	14 days
10,001 to 15,000	11 days
15,001 to 20,000	14 days
20,001 to 25,000	5 days
25,001 to 50,000	6 days

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

Secondary Filtering selection (Cont.):

Population within 5 miles:

5,001 to 25,000	5 days
25,001 to 50,000	7 days
50,001 to 75,000	7 days
75,001 to 100,000	12 days
100,001 to 125,000	2 days
125,001 to 250,000	15 days
250,001 to 500,000	8 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	16 days
1.1 to 1.5	41 days

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

Travel Plan:

Yes	11 days
No	46 days

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

PTAL Rating:

No PTAL Present	56 days
2 Poor	1 days

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

LIST OF SITES relevant to selection parameters

1 AG-03-A-01 BUNGALOWS/DET. ANGUS
KEPTIE ROAD
ARBROATH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 7
Survey date: TUESDAY *22/05/12* *Survey Type: MANUAL*

2 CA-03-A-04 DETACHED CAMBRIDGESHIRE

PETERBOROUGH
THORPE PARK ROAD
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 9
Survey date: TUESDAY *18/10/11* *Survey Type: MANUAL*

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY *17/10/16* *Survey Type: MANUAL*

4 CH-03-A-08 DETACHED CHESHIRE
WHITCHURCH ROAD
CHESTER
BOUGHTON HEATH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 11
Survey date: TUESDAY *22/05/12* *Survey Type: MANUAL*

5 CH-03-A-09 TERRACED HOUSES CHESHIRE
GREYSTOKE ROAD
MACCLESFIELD
HURDSFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 24
Survey date: MONDAY *24/11/14* *Survey Type: MANUAL*

6 CH-03-A-10 SEMI-DETACHED & TERRACED CHESHIRE
MEADOW DRIVE
NORTHWICH
BARNTON
Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: TUESDAY *04/06/19* *Survey Type: MANUAL*

7 CH-03-A-11 TOWN HOUSES CHESHIRE
LONDON ROAD
NORTHWICH
LEFTWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 24
Survey date: THURSDAY *06/06/19* *Survey Type: MANUAL*

8 DC-03-A-08 BUNGALOWS DORSET
HURSTDENE ROAD
BOURNEMOUTH
CASTLE LANE WEST
Edge of Town
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY *24/03/14* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 50
Survey date: TUESDAY *28/03/17* *Survey Type: MANUAL*

10 DH-03-A-03 SEMI-DETACHED & TERRACED DURHAM
PILGRIMS WAY
DURHAM

Edge of Town
Residential Zone
Total No of Dwellings: 57
Survey date: FRIDAY *19/10/18* *Survey Type: MANUAL*

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 37
Survey date: WEDNESDAY *30/09/15* *Survey Type: MANUAL*

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 70
Survey date: MONDAY *28/09/15* *Survey Type: MANUAL*

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

Edge of Town
Residential Zone
Total No of Dwellings: 37
Survey date: FRIDAY *18/11/11* *Survey Type: MANUAL*

14 ES-03-A-05 MIXED HOUSES & FLATS EAST SUSSEX
RATTLE ROAD
NEAR EASTBOURNE
STONE CROSS
Edge of Town
Residential Zone
Total No of Dwellings: 99
Survey date: WEDNESDAY *05/06/19* *Survey Type: MANUAL*

15 EX-03-A-02 DETACHED & SEMI-DETACHED ESSEX
MANOR ROAD
CHIGWELL
GRANGE HILL
Edge of Town
Residential Zone
Total No of Dwellings: 97
Survey date: MONDAY *27/11/17* *Survey Type: MANUAL*

16 FA-03-A-01 SEMI-DETACHED/TERRACED FALKIRK
MANDELA AVENUE
FALKIRK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 37
Survey date: THURSDAY *30/05/13* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

17 GM-03-A-10 DETACHED/SEMI GREATER MANCHESTER
BUTT HILL DRIVE
MANCHESTER
PRESTWICH
Edge of Town
Residential Zone
Total No of Dwellings: 29
Survey date: WEDNESDAY *12/10/11* *Survey Type: MANUAL*

18 HC-03-A-21 TERRACED & SEMI-DETACHED HAMPSHIRE
PRIESTLEY ROAD
BASINGSTOKE
HOUNDMILLS
Edge of Town
Residential Zone
Total No of Dwellings: 39
Survey date: TUESDAY *13/11/18* *Survey Type: MANUAL*

19 HC-03-A-22 MIXED HOUSES HAMPSHIRE
BOW LAKE GARDENS
NEAR EASTLEIGH
BISHOPSTOKE
Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: WEDNESDAY *31/10/18* *Survey Type: MANUAL*

20 HC-03-A-23 HOUSES & FLATS HAMPSHIRE
CANADA WAY
LIPHOOK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 62
Survey date: TUESDAY *19/11/19* *Survey Type: MANUAL*

21 HI-03-A-14 SEMI-DETACHED & TERRACED HIGHLAND
KING BRUDE ROAD
INVERNESS
SCORGUIE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 40
Survey date: WEDNESDAY *23/03/16* *Survey Type: MANUAL*

22 KC-03-A-03 MIXED HOUSES & FLATS KENT
HYTHE ROAD
ASHFORD
WILLESBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 51
Survey date: THURSDAY *14/07/16* *Survey Type: MANUAL*

23 LC-03-A-31 DETACHED HOUSES LANCASHIRE
GREENSIDE
PRESTON
COTTAM
Edge of Town
Residential Zone
Total No of Dwellings: 32
Survey date: FRIDAY *17/11/17* *Survey Type: MANUAL*

24 LN-03-A-03 SEMI DETACHED LINCOLNSHIRE
ROOKERY LANE
LINCOLN
BOULTHAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 22
Survey date: TUESDAY *18/09/12* *Survey Type: MANUAL*

25 MS-03-A-03 DETACHED MERSEYSIDE
BEMPTON ROAD
LIVERPOOL
OTTERSPOOL
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 15
Survey date: FRIDAY *21/06/13* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 27
Survey date: TUESDAY *16/10/12* *Survey Type: MANUAL*

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 98
Survey date: MONDAY *22/10/12* *Survey Type: MANUAL*

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

Edge of Town
Residential Zone
Total No of Dwellings: 10
Survey date: WEDNESDAY *16/09/15* *Survey Type: MANUAL*

29 NF-03-A-04 MIXED HOUSES NORFOLK
NORTH WALSHAM ROAD
NORTH WALSHAM

Edge of Town
Residential Zone
Total No of Dwellings: 70
Survey date: WEDNESDAY *18/09/19* *Survey Type: MANUAL*

30 NF-03-A-05 MIXED HOUSES NORFOLK
HEATH DRIVE
HOLT

Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: THURSDAY *19/09/19* *Survey Type: MANUAL*

31 NF-03-A-10 MIXED HOUSES & FLATS NORFOLK
HUNSTANTON ROAD
HUNSTANTON

Edge of Town
Residential Zone
Total No of Dwellings: 17
Survey date: WEDNESDAY *12/09/18* *Survey Type: DIRECTIONAL ATC COUNT*

32 NY-03-A-07 DETACHED & SEMI DET. NORTH YORKSHIRE
CRAVEN WAY
BOROUGHBRIDGE

Edge of Town
No Sub Category
Total No of Dwellings: 23
Survey date: TUESDAY *18/10/11* *Survey Type: MANUAL*

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 21
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 52
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

35 NY-03-A-10 HOUSES AND FLATS NORTH YORKSHIRE
BOROUGHBRIDGE ROAD
RIPON

Edge of Town
No Sub Category
Total No of Dwellings: 71
Survey date: TUESDAY *17/09/13* *Survey Type: MANUAL*

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

Edge of Town
Residential Zone
Total No of Dwellings: 23
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

37 NY-03-A-13 TERRACED HOUSES NORTH YORKSHIRE
CATTERICK ROAD
CATTERICK GARRISON
OLD HOSPITAL COMPOUND
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 10
Survey date: WEDNESDAY *10/05/17* *Survey Type: MANUAL*

38 PK-03-A-01 DETAC. & BUNGALOWS PERTH & KINROSS
TULLYLUMB TERRACE
PERTH
CORNHILL
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 36
Survey date: WEDNESDAY *11/05/11* *Survey Type: MANUAL*

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY *11/05/15* *Survey Type: MANUAL*

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

Edge of Town
Residential Zone
Total No of Dwellings: 71
Survey date: THURSDAY *23/01/14* *Survey Type: MANUAL*

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 7
Survey date: TUESDAY *23/10/12* *Survey Type: MANUAL*

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

Edge of Town
Residential Zone
Total No of Dwellings: 18
Survey date: WEDNESDAY *09/09/15* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

43 SF-03-A-07 MIXED HOUSES SUFFOLK
FOXHALL ROAD
IPSWICH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 73
Survey date: THURSDAY *09/05/19* *Survey Type: MANUAL*

44 SH-03-A-05 SEMI-DETACHED/TERRACED SHROPSHIRE
SANDCROFT
TELFORD
SUTTON HILL
Edge of Town
Residential Zone
Total No of Dwellings: 54
Survey date: THURSDAY *24/10/13* *Survey Type: MANUAL*

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

Edge of Town
Residential Zone
Total No of Dwellings: 16
Survey date: THURSDAY *22/05/14* *Survey Type: MANUAL*

46 SM-03-A-01 DETACHED & SEMI SOMERSET
WEMBDON ROAD
BRIDGWATER
NORTHFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 33
Survey date: THURSDAY *24/09/15* *Survey Type: MANUAL*

47 ST-03-A-08 DETACHED HOUSES STAFFORDSHIRE
SILKMORE CRESCENT
STAFFORD
MEADOWCROFT PARK
Edge of Town
Residential Zone
Total No of Dwellings: 26
Survey date: WEDNESDAY *22/11/17* *Survey Type: MANUAL*

48 SY-03-A-01 SEMI DETACHED HOUSES SOUTH YORKSHIRE
A19 BENTLEY ROAD
DONCASTER
BENTLEY RISE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 54
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 16
Survey date: MONDAY *07/10/13* *Survey Type: MANUAL*

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

Edge of Town
Residential Zone
Total No of Dwellings: 12
Survey date: MONDAY *08/05/17* *Survey Type: MANUAL*

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

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 6
Survey date: FRIDAY *21/10/11* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

52	WK-03-A-02	BUNGALOWS		WARWICKSHIRE
	NARBERTH WAY			
	COVENTRY			
	POTTERS GREEN			
	Edge of Town			
	Residential Zone			
	Total No of Dwellings:		17	
	Survey date: THURSDAY		*17/10/13*	*Survey Type: MANUAL*
53	WK-03-A-03	DETACHED HOUSES		WARWICKSHIRE
	BRESE AVENUE			
	WARWICK			
	GUYS CLIFFE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		23	
	Survey date: WEDNESDAY		*25/09/19*	*Survey Type: MANUAL*
54	WK-03-A-04	DETACHED HOUSES		WARWICKSHIRE
	DALEHOUSE LANE			
	KENILWORTH			
	Edge of Town			
	Residential Zone			
	Total No of Dwellings:		49	
	Survey date: FRIDAY		*27/09/19*	*Survey Type: MANUAL*
55	WL-03-A-02	SEMI DETACHED		WILTSHIRE
	HEADLANDS GROVE			
	SWINDON			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		27	
	Survey date: THURSDAY		*22/09/16*	*Survey Type: MANUAL*
56	WS-03-A-05	TERRACED & FLATS		WEST SUSSEX
	UPPER SHOREHAM ROAD			
	SHOREHAM BY SEA			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		48	
	Survey date: WEDNESDAY		*18/04/12*	*Survey Type: MANUAL*
57	WS-03-A-10	MIXED HOUSES		WEST SUSSEX
	TODDINGTON LANE			
	LITTLEHAMPTON			
	WICK			
	Edge of Town			
	Residential Zone			
	Total No of Dwellings:		79	
	Survey date: WEDNESDAY		*07/11/18*	*Survey Type: MANUAL*

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	57	38	0.076	57	38	0.303	57	38	0.379
08:00 - 09:00	57	38	0.148	57	38	0.382	57	38	0.530
09:00 - 10:00	57	38	0.147	57	38	0.186	57	38	0.333
10:00 - 11:00	57	38	0.133	57	38	0.159	57	38	0.292
11:00 - 12:00	57	38	0.155	57	38	0.163	57	38	0.318
12:00 - 13:00	57	38	0.165	57	38	0.157	57	38	0.322
13:00 - 14:00	57	38	0.170	57	38	0.172	57	38	0.342
14:00 - 15:00	57	38	0.161	57	38	0.195	57	38	0.356
15:00 - 16:00	57	38	0.259	57	38	0.184	57	38	0.443
16:00 - 17:00	57	38	0.299	57	38	0.170	57	38	0.469
17:00 - 18:00	57	38	0.334	57	38	0.163	57	38	0.497
18:00 - 19:00	57	38	0.250	57	38	0.145	57	38	0.395
19:00 - 20:00	1	97	0.062	1	97	0.052	1	97	0.114
20:00 - 21:00	1	97	0.031	1	97	0.021	1	97	0.052
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.390			2.452			4.842

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

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

Parameter summary

Trip rate parameter range selected:	6 - 99 (units:)
Survey date date range:	01/01/10 - 16/09/20
Number of weekdays (Monday-Friday):	57
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	4
Surveys manually removed from selection:	0

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

Calculation Reference: AUDIT-731001-210301-0358

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
	SC	SURREY	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	2 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
	WO	WORCESTERSHIRE	1 days
08	NORTH WEST		
	LC	LANCASHIRE	1 days
09	NORTH		
	CB	CUMBRIA	1 days
	TV	TEES VALLEY	1 days
10	WALES		
	BG	BRIDGEND	1 days
11	SCOTLAND		
	ML	MIDLOTHIAN	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
Actual Range: 190 to 4700 (units: sqm)
Range Selected by User: 190 to 5000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/00 to 29/03/19

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

Selected survey days:

Monday	2 days
Tuesday	4 days
Wednesday	2 days
Friday	4 days

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

Selected survey types:

Manual count	12 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	10

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

Selected Location Sub Categories:

Industrial Zone	9
Commercial Zone	1
Residential Zone	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village,

Secondary Filtering selection:

Use Class:

B8	12 days

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

Filter by Use Class Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	2 days
5,001 to 10,000	4 days
10,001 to 15,000	4 days
25,001 to 50,000	1 days

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

Population within 5 miles:

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

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	9 days

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

Travel Plan:

Not Known	2 days
No	10 days

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

PTAL Rating:

No PTAL Present	12 days

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

LIST OF SITES relevant to selection parameters

1 BG-02-F-01 LOGISTICS COMPANY BRIDGEND
PARC CRESCENT
BRIDGEND
WATERTON IND. EST.
Edge of Town
Industrial Zone
Total Gross floor area: 3050 sqm
Survey date: MONDAY 13/10/14 Survey Type: MANUAL

2 CB-02-F-01 DOMINO'S PIZZA CUMBRIA
COWPER ROAD
PENRITH
GILWILLY IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 2950 sqm
Survey date: TUESDAY 10/06/14 Survey Type: MANUAL

3 DV-02-F-01 OPTICS WAREHOUSE DEVON
ALDERS WAY
PAIGNTON

Edge of Town
Industrial Zone
Total Gross floor area: 190 sqm
Survey date: FRIDAY 29/03/19 Survey Type: MANUAL

4 HC-02-F-01 WAREHOUSING HAMPSHIRE
MAURETANIA ROAD
SOUTHAMPTON
NURSLING INDUSTRIAL ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 4000 sqm
Survey date: WEDNESDAY 21/11/07 Survey Type: MANUAL

5 LC-02-F-02 WAREHOUSING LANCASHIRE
CHORLEY ROAD
PRESTON
WALTON-LE-DALE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 1200 sqm
Survey date: FRIDAY 22/06/07 Survey Type: MANUAL

6 ML-02-F-01 WINDOWS MIDLOTHIAN
UNIT 53
DALKEITH
MAYFIELD IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 750 sqm
Survey date: WEDNESDAY 04/05/11 Survey Type: MANUAL

7 SC-02-F-04 WAREHOUSING SURREY
PRETORIA ROAD
CHERTSEY

Edge of Town
No Sub Category
Total Gross floor area: 4460 sqm
Survey date: TUESDAY 27/11/07 Survey Type: MANUAL

8 SF-02-F-01 PHARMACY DISTRIB. SUFFOLK
BURRELL WAY
THETFORD
BARROW HILL
Edge of Town
Industrial Zone
Total Gross floor area: 4550 sqm
Survey date: FRIDAY 27/09/02 Survey Type: MANUAL

9 SF-02-F-03 ROAD HAULAGE SUFFOLK
CENTRAL AVENUE
IPSWICH
WARREN HEATH
Edge of Town
Industrial Zone
Total Gross floor area: 4700 sqm
Survey date: FRIDAY 18/09/15 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

10	TV-02-F-03	ELECTRICAL COMPONENTS		TEES VALLEY
	UNIT 8,NAVIGATOR COURT			
	STOCKTON-ON-TEES			
	Suburban Area (PPS6 Out of Centre)			
	Industrial Zone			
	Total Gross floor area:		634 sqm	
	Survey date: TUESDAY		*28/06/11*	*Survey Type: MANUAL*
11	WM-02-F-02	LOGISTICS FIRM		WEST MIDLANDS
	SOVEREIGN ROAD			
	BIRMINGHAM			
	KINGS NORTON			
	Edge of Town			
	Commercial Zone			
	Total Gross floor area:		3625 sqm	
	Survey date: MONDAY		*09/11/15*	*Survey Type: MANUAL*
12	WO-02-F-02	DISTRIB. CENTRE		WORCESTERSHIRE
	COTSWOLD WAY			
	WORCESTER			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:		3824 sqm	
	Survey date: TUESDAY		*10/09/02*	*Survey Type: MANUAL*

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	2	1570	0.000	2	1570	0.000	2	1570	0.000
05:30 - 06:00	2	1570	0.096	2	1570	0.000	2	1570	0.096
06:00 - 06:30	2	1570	0.032	2	1570	0.000	2	1570	0.032
06:30 - 07:00	2	1570	0.096	2	1570	0.032	2	1570	0.128
07:00 - 07:30	11	3017	0.072	11	3017	0.045	11	3017	0.117
07:30 - 08:00	12	2828	0.168	12	2828	0.100	12	2828	0.268
08:00 - 08:30	12	2828	0.233	12	2828	0.083	12	2828	0.316
08:30 - 09:00	12	2828	0.215	12	2828	0.097	12	2828	0.312
09:00 - 09:30	12	2828	0.162	12	2828	0.106	12	2828	0.268
09:30 - 10:00	12	2828	0.115	12	2828	0.115	12	2828	0.230
10:00 - 10:30	12	2828	0.121	12	2828	0.127	12	2828	0.248
10:30 - 11:00	12	2828	0.121	12	2828	0.094	12	2828	0.215
11:00 - 11:30	12	2828	0.118	12	2828	0.115	12	2828	0.233
11:30 - 12:00	12	2828	0.091	12	2828	0.100	12	2828	0.191
12:00 - 12:30	12	2828	0.103	12	2828	0.094	12	2828	0.197
12:30 - 13:00	12	2828	0.115	12	2828	0.106	12	2828	0.221
13:00 - 13:30	12	2828	0.159	12	2828	0.215	12	2828	0.374
13:30 - 14:00	12	2828	0.180	12	2828	0.085	12	2828	0.265
14:00 - 14:30	12	2828	0.118	12	2828	0.118	12	2828	0.236
14:30 - 15:00	12	2828	0.121	12	2828	0.121	12	2828	0.242
15:00 - 15:30	12	2828	0.091	12	2828	0.144	12	2828	0.235
15:30 - 16:00	12	2828	0.091	12	2828	0.136	12	2828	0.227
16:00 - 16:30	12	2828	0.109	12	2828	0.136	12	2828	0.245
16:30 - 17:00	12	2828	0.068	12	2828	0.156	12	2828	0.224
17:00 - 17:30	12	2828	0.091	12	2828	0.242	12	2828	0.333
17:30 - 18:00	12	2828	0.038	12	2828	0.162	12	2828	0.200
18:00 - 18:30	12	2828	0.041	12	2828	0.127	12	2828	0.168
18:30 - 19:00	12	2828	0.032	12	2828	0.068	12	2828	0.100
19:00 - 19:30	2	1570	0.159	2	1570	0.096	2	1570	0.255
19:30 - 20:00	2	1570	0.032	2	1570	0.096	2	1570	0.128
20:00 - 20:30	2	1570	0.032	2	1570	0.032	2	1570	0.064
20:30 - 21:00	2	1570	0.064	2	1570	0.096	2	1570	0.160
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			3.284			3.244			6.528

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

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

Parameter summary

Trip rate parameter range selected:	190 - 4700 (units: sqm)
Survey date date range:	01/01/00 - 29/03/19
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	2	1570	0.000	2	1570	0.000	2	1570	0.000
05:30 - 06:00	2	1570	0.000	2	1570	0.000	2	1570	0.000
06:00 - 06:30	2	1570	0.032	2	1570	0.000	2	1570	0.032
06:30 - 07:00	2	1570	0.032	2	1570	0.000	2	1570	0.032
07:00 - 07:30	11	3017	0.015	11	3017	0.030	11	3017	0.045
07:30 - 08:00	12	2828	0.032	12	2828	0.053	12	2828	0.085
08:00 - 08:30	12	2828	0.041	12	2828	0.038	12	2828	0.079
08:30 - 09:00	12	2828	0.059	12	2828	0.044	12	2828	0.103
09:00 - 09:30	12	2828	0.047	12	2828	0.050	12	2828	0.097
09:30 - 10:00	12	2828	0.038	12	2828	0.047	12	2828	0.085
10:00 - 10:30	12	2828	0.032	12	2828	0.038	12	2828	0.070
10:30 - 11:00	12	2828	0.050	12	2828	0.038	12	2828	0.088
11:00 - 11:30	12	2828	0.071	12	2828	0.071	12	2828	0.142
11:30 - 12:00	12	2828	0.035	12	2828	0.035	12	2828	0.070
12:00 - 12:30	12	2828	0.038	12	2828	0.018	12	2828	0.056
12:30 - 13:00	12	2828	0.050	12	2828	0.032	12	2828	0.082
13:00 - 13:30	12	2828	0.059	12	2828	0.050	12	2828	0.109
13:30 - 14:00	12	2828	0.077	12	2828	0.027	12	2828	0.104
14:00 - 14:30	12	2828	0.044	12	2828	0.024	12	2828	0.068
14:30 - 15:00	12	2828	0.056	12	2828	0.024	12	2828	0.080
15:00 - 15:30	12	2828	0.062	12	2828	0.038	12	2828	0.100
15:30 - 16:00	12	2828	0.041	12	2828	0.041	12	2828	0.082
16:00 - 16:30	12	2828	0.050	12	2828	0.044	12	2828	0.094
16:30 - 17:00	12	2828	0.029	12	2828	0.012	12	2828	0.041
17:00 - 17:30	12	2828	0.029	12	2828	0.015	12	2828	0.044
17:30 - 18:00	12	2828	0.009	12	2828	0.024	12	2828	0.033
18:00 - 18:30	12	2828	0.012	12	2828	0.027	12	2828	0.039
18:30 - 19:00	12	2828	0.015	12	2828	0.021	12	2828	0.036
19:00 - 19:30	2	1570	0.000	2	1570	0.096	2	1570	0.096
19:30 - 20:00	2	1570	0.000	2	1570	0.096	2	1570	0.096
20:00 - 20:30	2	1570	0.000	2	1570	0.032	2	1570	0.032
20:30 - 21:00	2	1570	0.000	2	1570	0.064	2	1570	0.064
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			1.055			1.129			2.184

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

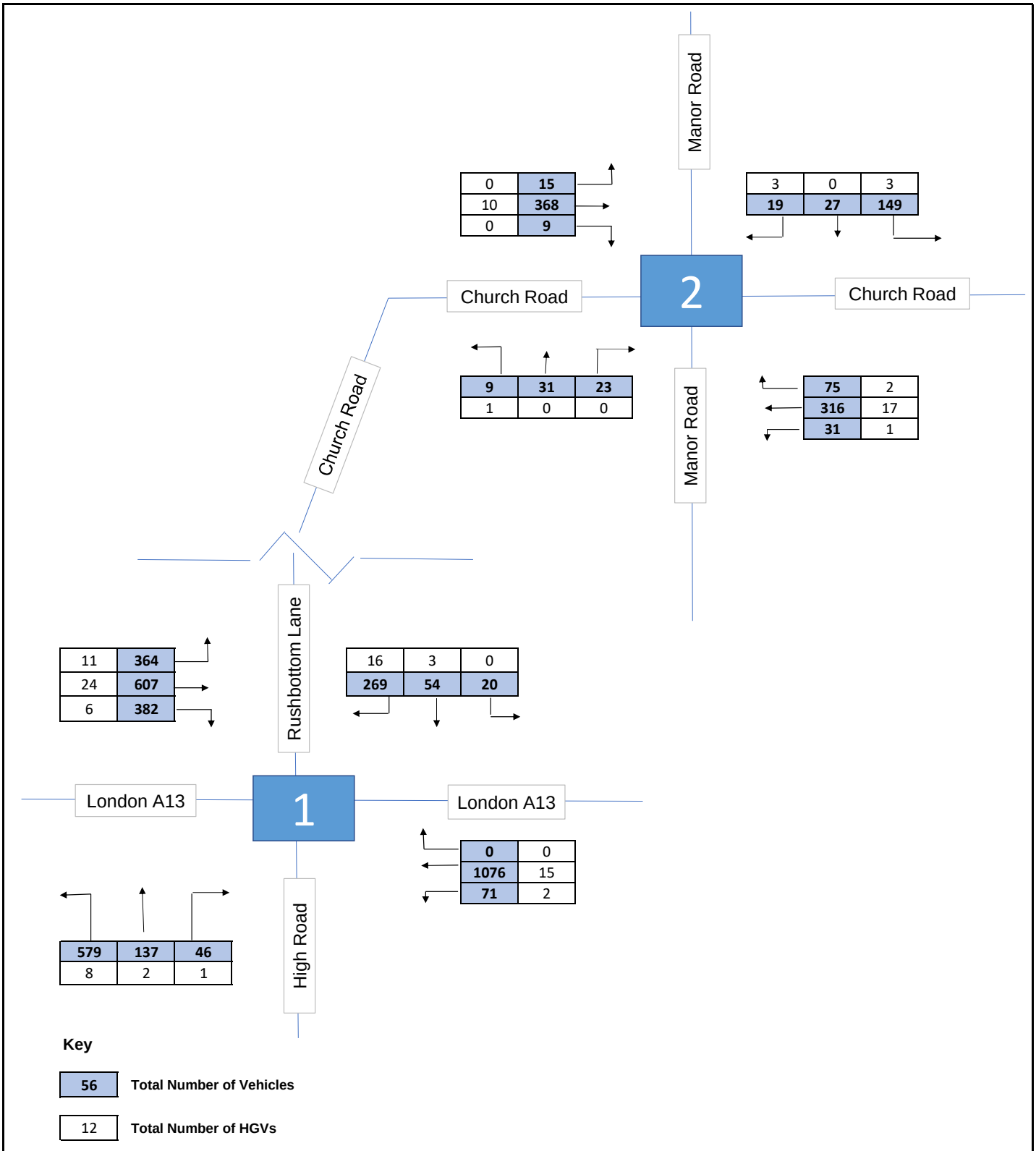
	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	2	1570	0.000	2	1570	0.000	2	1570	0.000
05:30 - 06:00	2	1570	0.000	2	1570	0.000	2	1570	0.000
06:00 - 06:30	2	1570	0.000	2	1570	0.000	2	1570	0.000
06:30 - 07:00	2	1570	0.032	2	1570	0.000	2	1570	0.032
07:00 - 07:30	11	3017	0.000	11	3017	0.000	11	3017	0.000
07:30 - 08:00	12	2828	0.006	12	2828	0.000	12	2828	0.006
08:00 - 08:30	12	2828	0.009	12	2828	0.000	12	2828	0.009
08:30 - 09:00	12	2828	0.003	12	2828	0.000	12	2828	0.003
09:00 - 09:30	12	2828	0.003	12	2828	0.000	12	2828	0.003
09:30 - 10:00	12	2828	0.000	12	2828	0.000	12	2828	0.000
10:00 - 10:30	12	2828	0.000	12	2828	0.000	12	2828	0.000
10:30 - 11:00	12	2828	0.000	12	2828	0.000	12	2828	0.000
11:00 - 11:30	12	2828	0.000	12	2828	0.000	12	2828	0.000
11:30 - 12:00	12	2828	0.000	12	2828	0.003	12	2828	0.003
12:00 - 12:30	12	2828	0.000	12	2828	0.000	12	2828	0.000
12:30 - 13:00	12	2828	0.003	12	2828	0.000	12	2828	0.003
13:00 - 13:30	12	2828	0.000	12	2828	0.003	12	2828	0.003
13:30 - 14:00	12	2828	0.003	12	2828	0.003	12	2828	0.006
14:00 - 14:30	12	2828	0.003	12	2828	0.000	12	2828	0.003
14:30 - 15:00	12	2828	0.000	12	2828	0.009	12	2828	0.009
15:00 - 15:30	12	2828	0.000	12	2828	0.015	12	2828	0.015
15:30 - 16:00	12	2828	0.000	12	2828	0.003	12	2828	0.003
16:00 - 16:30	12	2828	0.000	12	2828	0.000	12	2828	0.000
16:30 - 17:00	12	2828	0.000	12	2828	0.000	12	2828	0.000
17:00 - 17:30	12	2828	0.000	12	2828	0.012	12	2828	0.012
17:30 - 18:00	12	2828	0.000	12	2828	0.000	12	2828	0.000
18:00 - 18:30	12	2828	0.000	12	2828	0.000	12	2828	0.000
18:30 - 19:00	12	2828	0.000	12	2828	0.000	12	2828	0.000
19:00 - 19:30	2	1570	0.000	2	1570	0.000	2	1570	0.000
19:30 - 20:00	2	1570	0.000	2	1570	0.000	2	1570	0.000
20:00 - 20:30	2	1570	0.000	2	1570	0.000	2	1570	0.000
20:30 - 21:00	2	1570	0.000	2	1570	0.000	2	1570	0.000
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.062			0.048			0.110

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

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

APPENDIX E:

TRAFFIC FLOW DIAGRAMS



IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: OBSERVED TRAFFIC FLOWS 2018 (J1 & J2)	**Drawing No:** FIGURE 1	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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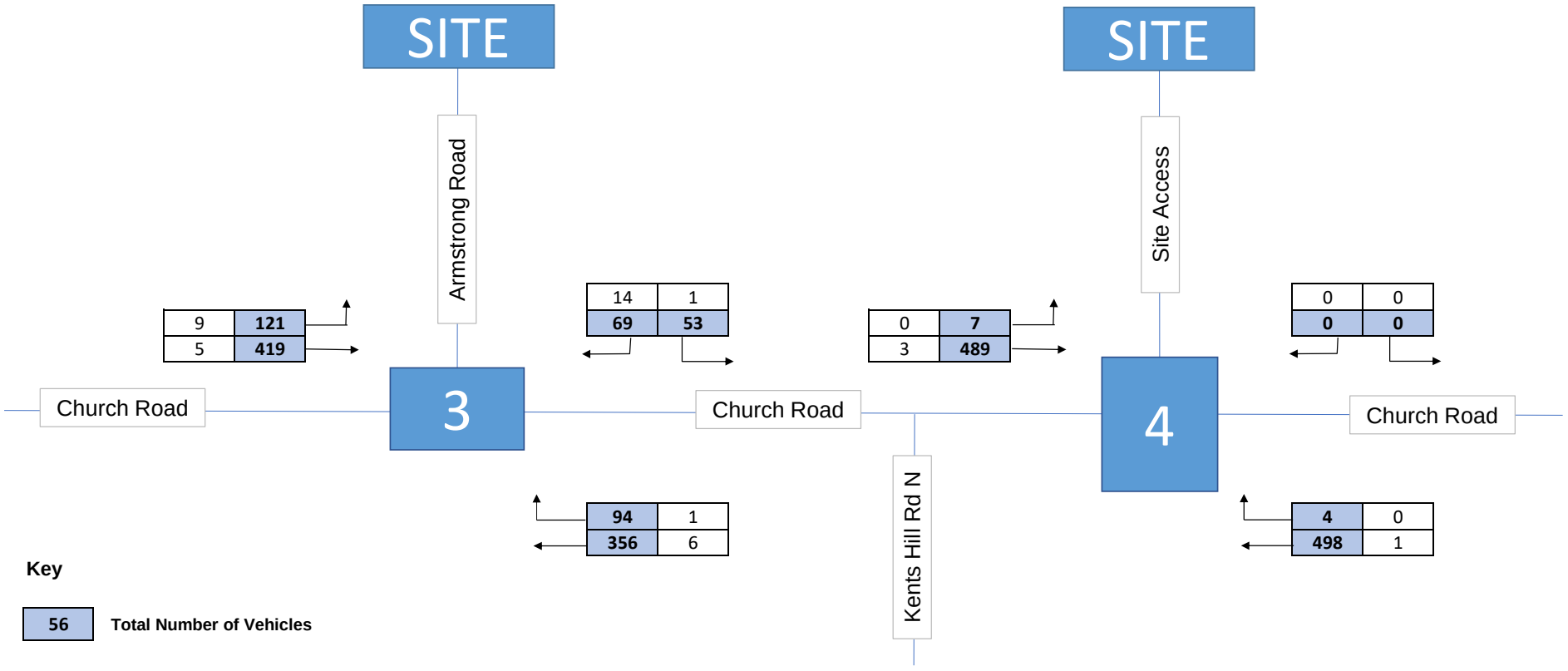

Key

56	**Total Number of Vehicles**
12	**Total Number of HGVs**

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: OBSERVED TRAFFIC FLOWS 2018 (J3 & J4)	**Drawing No:** FIGURE 2	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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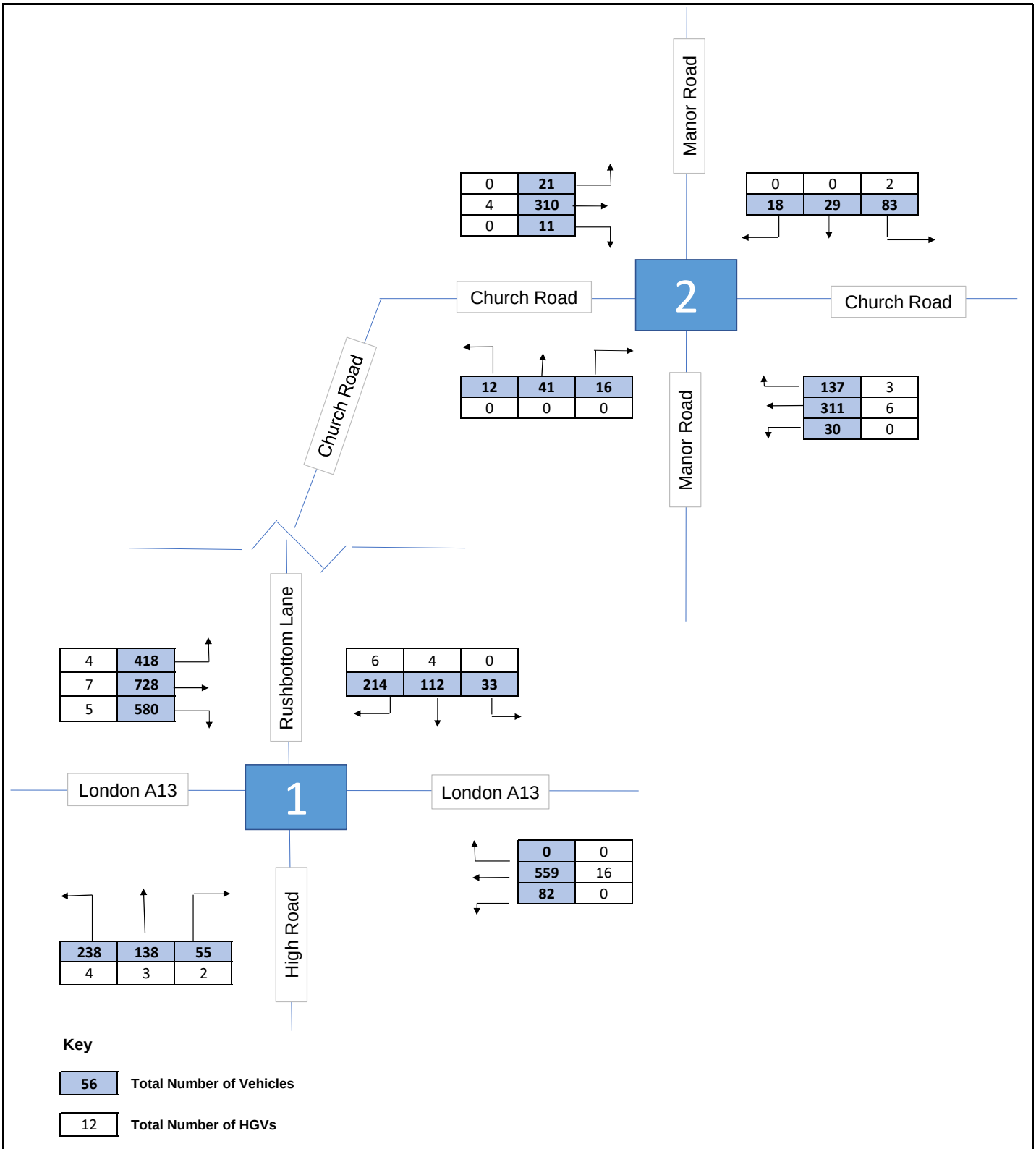

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: OBSERVED TRAFFIC FLOWS 2018 (J1 & J2)	**Drawing No:** FIGURE 3	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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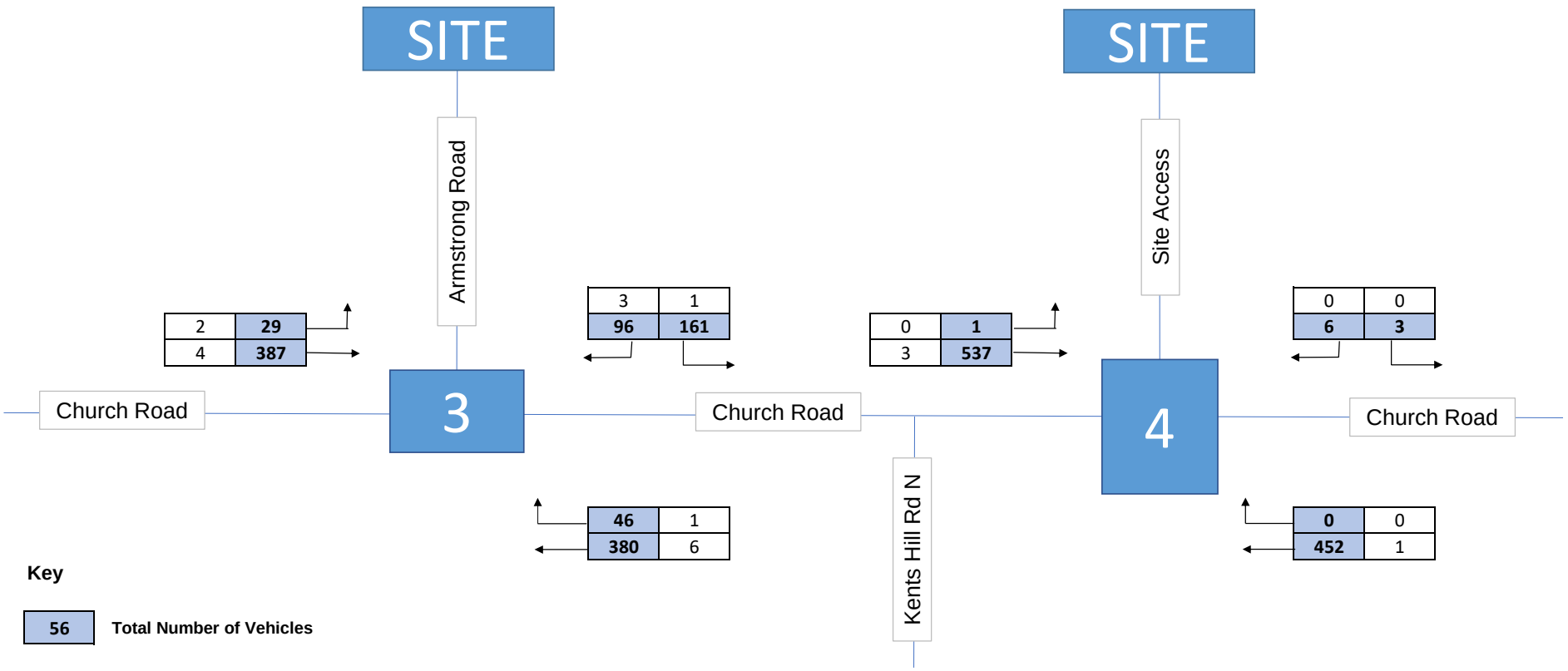

Key

56	**Total Number of Vehicles**
12	**Total Number of HGVs**

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: OBSERVED TRAFFIC FLOWS 2018 (J3 & J4)	**Drawing No:** FIGURE 4	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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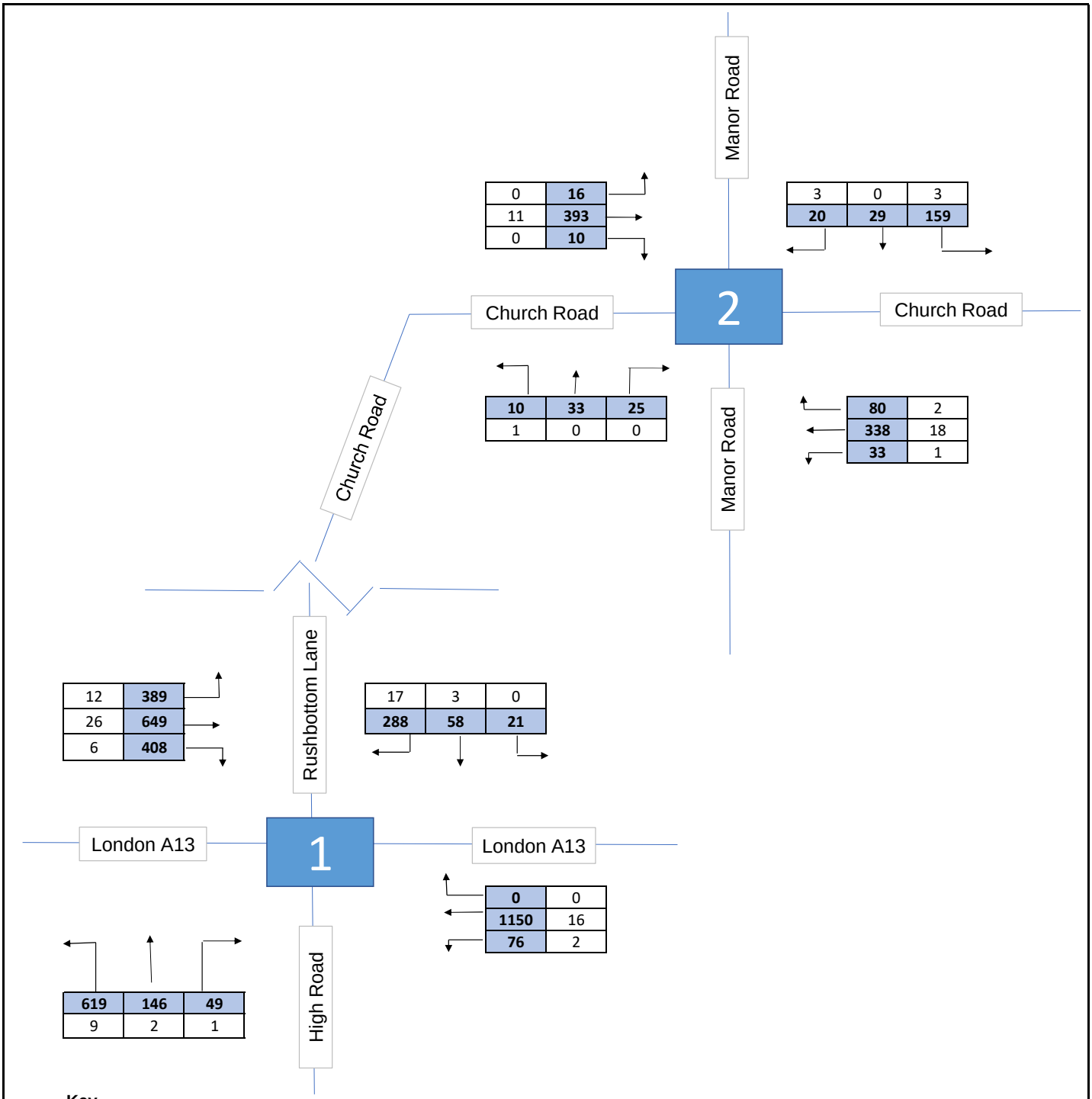

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: BASE TRAFFIC FLOWS 2023 (J1 & J2)	**Drawing No:** FIGURE 5	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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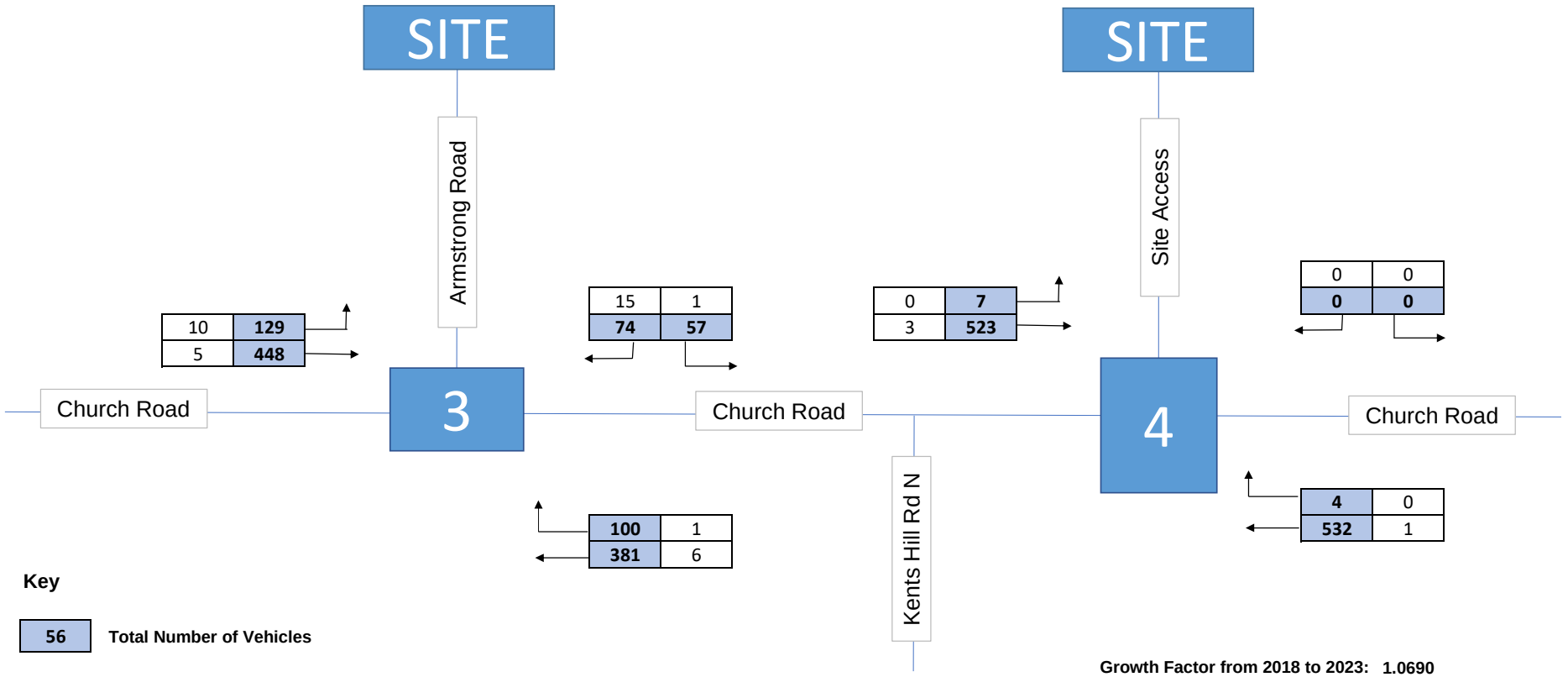

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: BASE TRAFFIC FLOWS 2023 (J3 & J4)	**Drawing No:** FIGURE 6	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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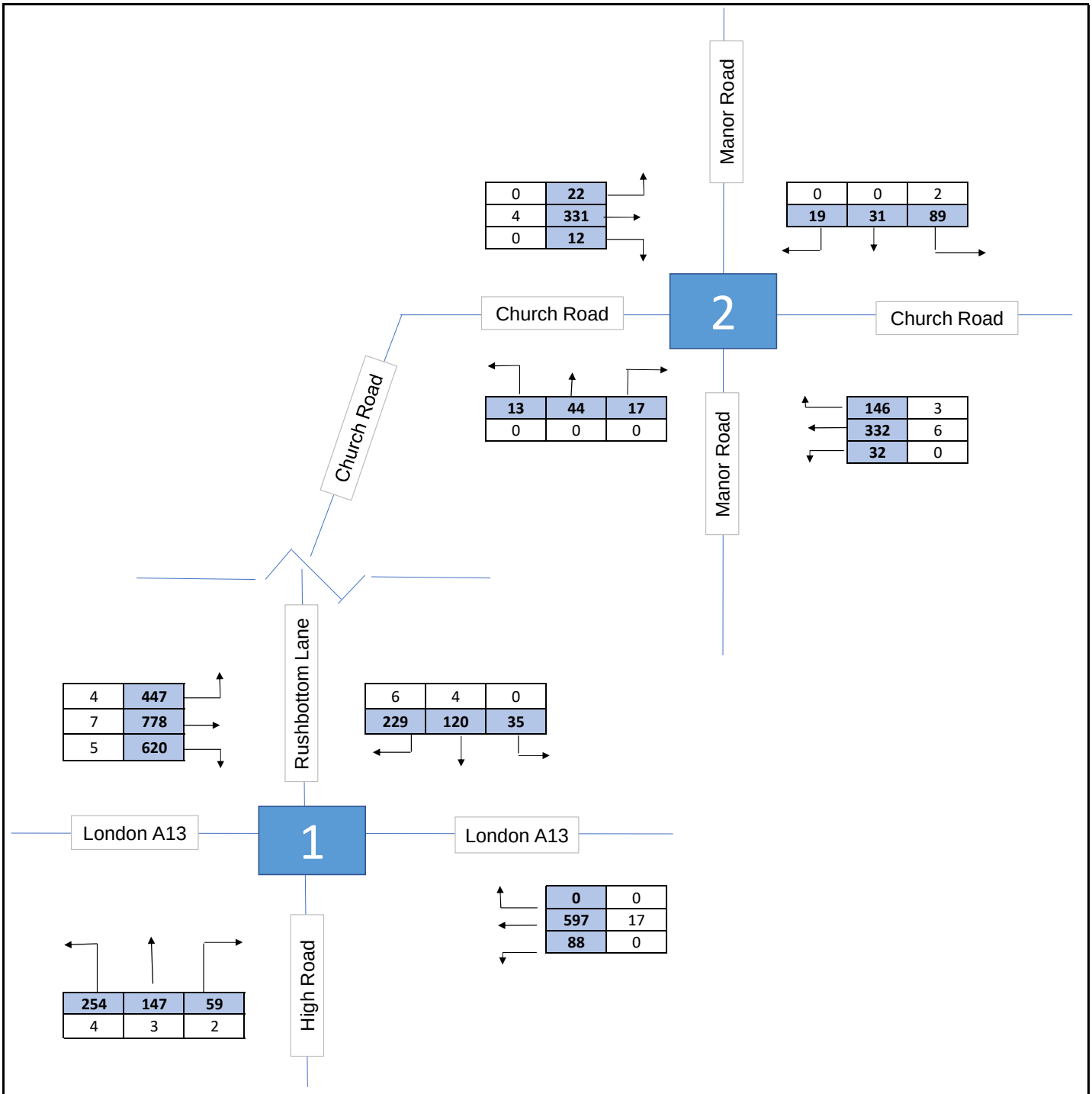

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: BASE TRAFFIC FLOWS 2023 (J1 & J2)	**Drawing No:** FIGURE 7	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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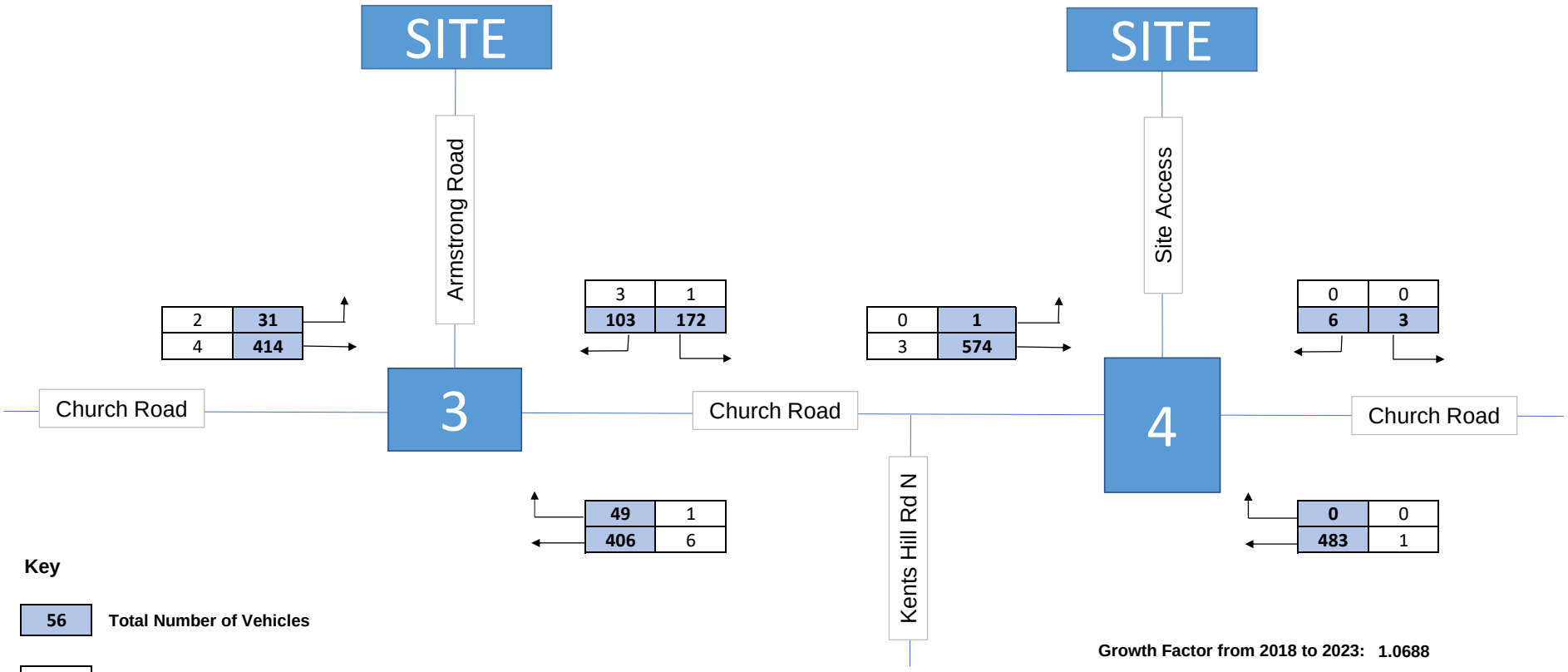

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: BASE TRAFFIC FLOWS 2023 (J3 & J4)	**Drawing No:** FIGURE 8	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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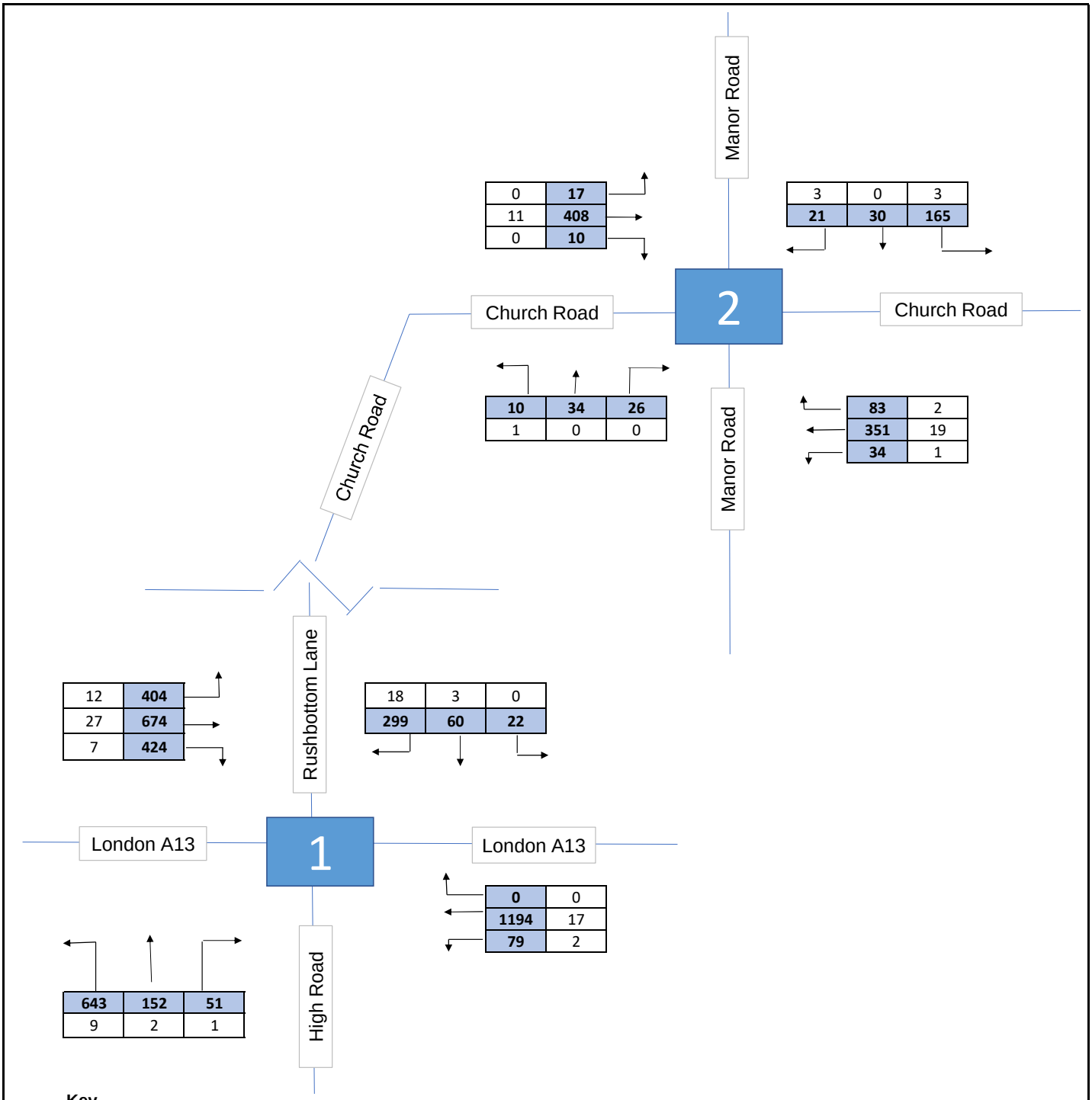

Key

56	**Total Number of Vehicles**
12	**Total Number of HGVs**

Growth Factor from 2018 to 2028: 1.110

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: BASE TRAFFIC FLOWS 2028 (J1 & J2)	**Drawing No:** FIGURE 9	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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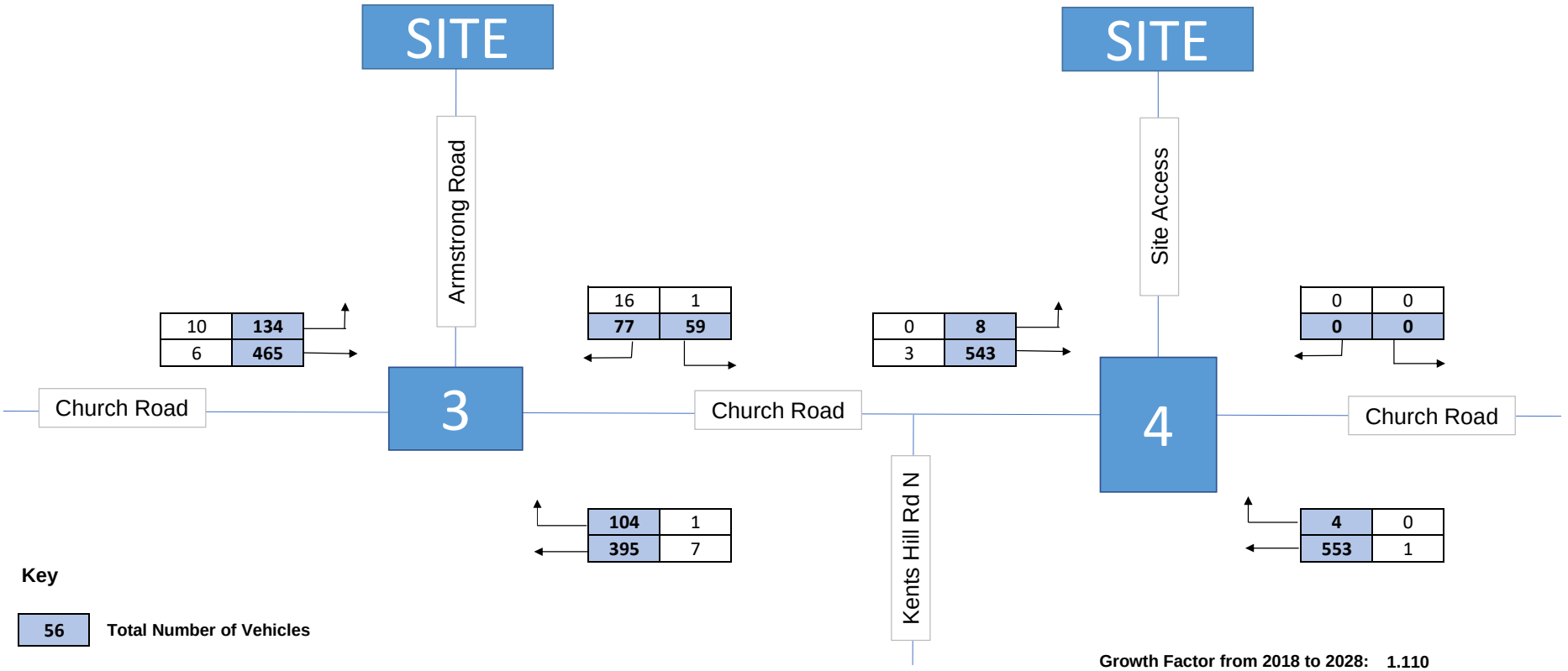

Key

56	**Total Number of Vehicles**
12	**Total Number of HGVs**

Growth Factor from 2018 to 2028: 1.110

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: BASE TRAFFIC FLOWS 2028 (J3 & J4)	**Drawing No:** FIGURE 10	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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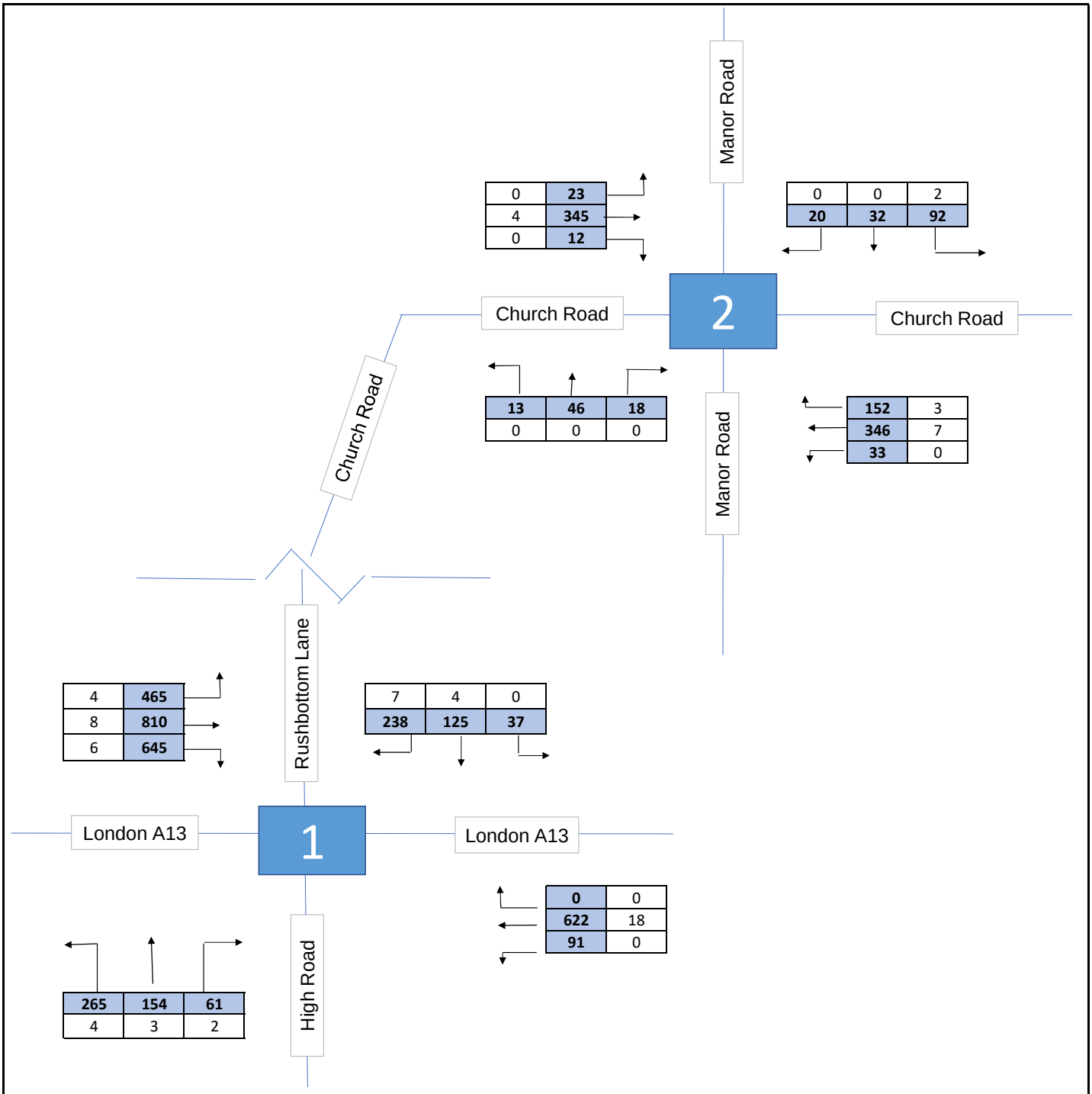

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: BASE TRAFFIC FLOWS 2028 (J1 & J2)	**Drawing No:** FIGURE 11	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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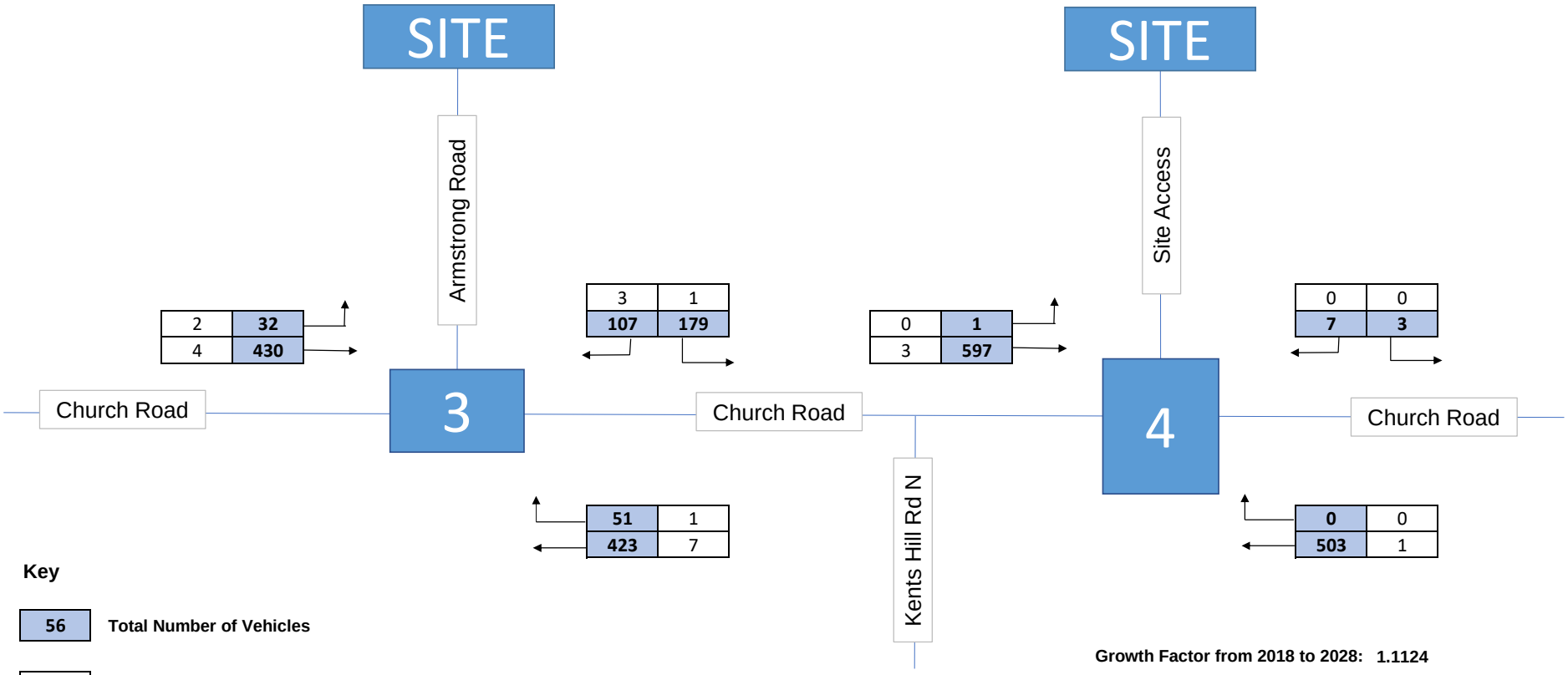

Key

56	**Total Number of Vehicles**
12	**Total Number of HGVs**

Growth Factor from 2018 to 2028: 1.1124

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: BASE TRAFFIC FLOWS 2028 (J3 & J4)	**Drawing No:** FIGURE 12	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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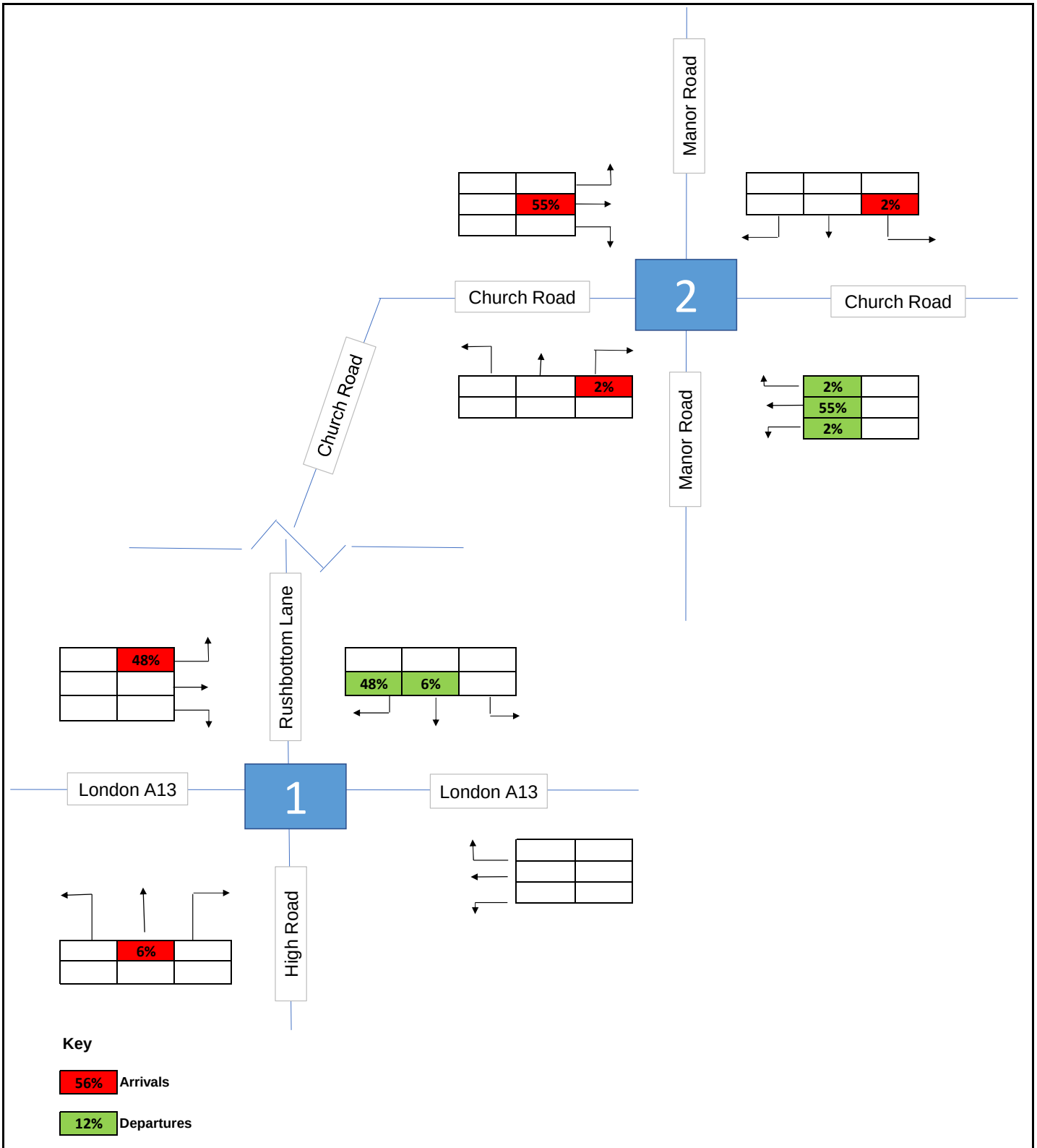

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	Rev / Description / Date	
Drawing Title: % DISTRIBUTION COMMERCIAL (J1 & J2)	**Drawing No:** FIGURE 13	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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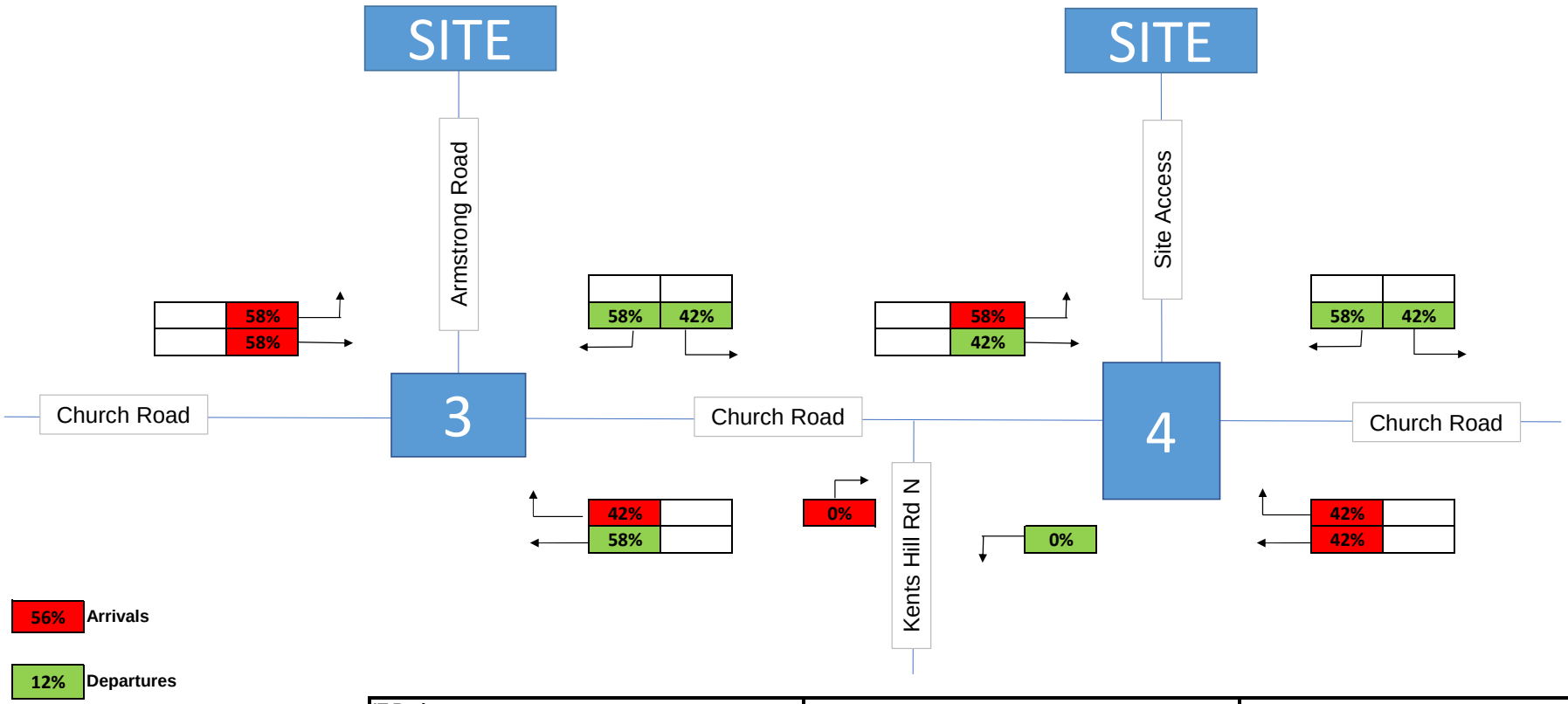

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	Rev	Description	Date
Drawing Title: % DISTRIBUTION COMMERCIAL (J3 & J4)	**Drawing No:** FIGURE 14		**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH		**Approved By :** JB

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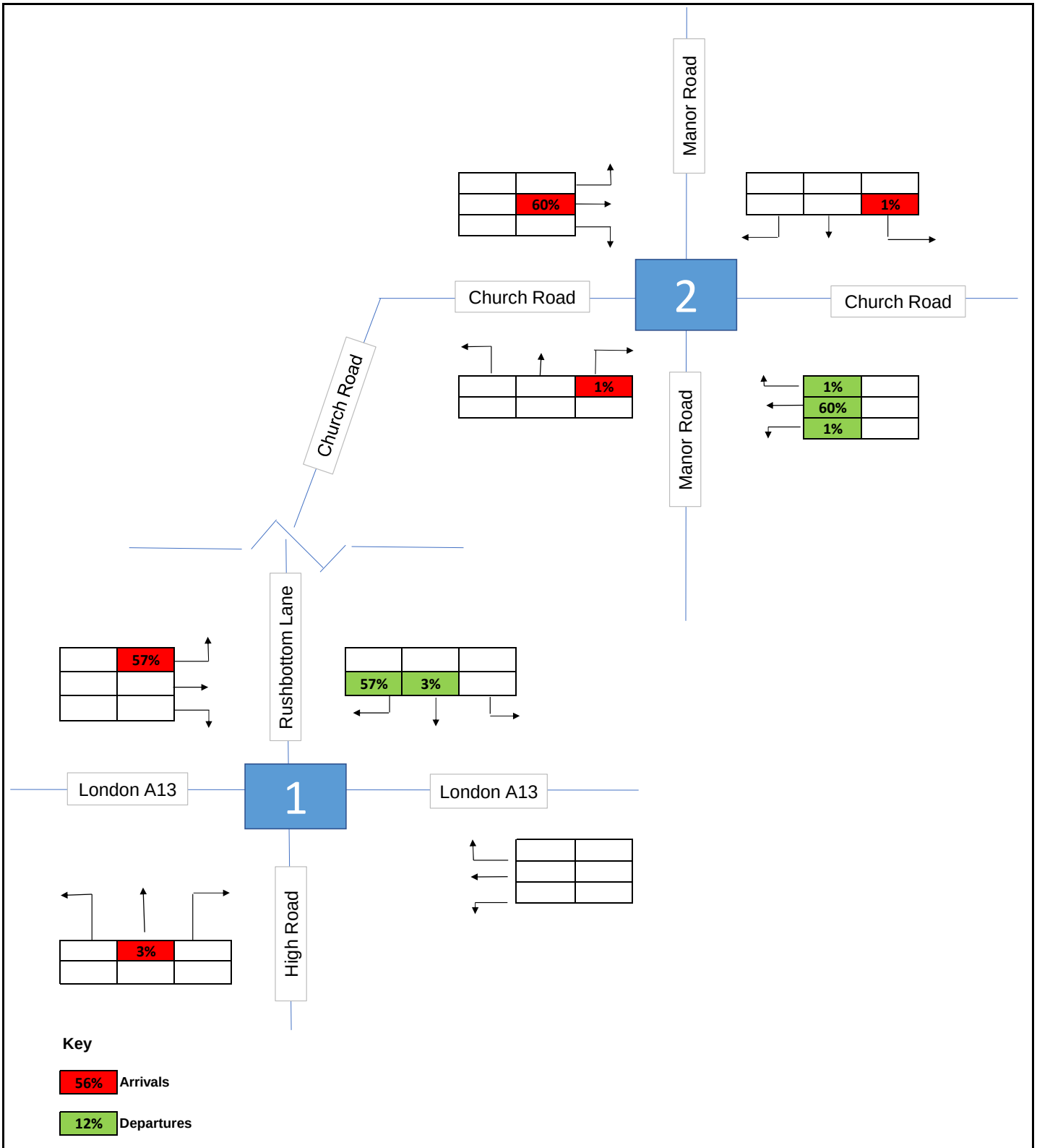

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	Rev / Description / Date	
Drawing Title: % DISTRIBUTION RESIENTIAL (J1 & J2)	**Drawing No:** FIGURE 15	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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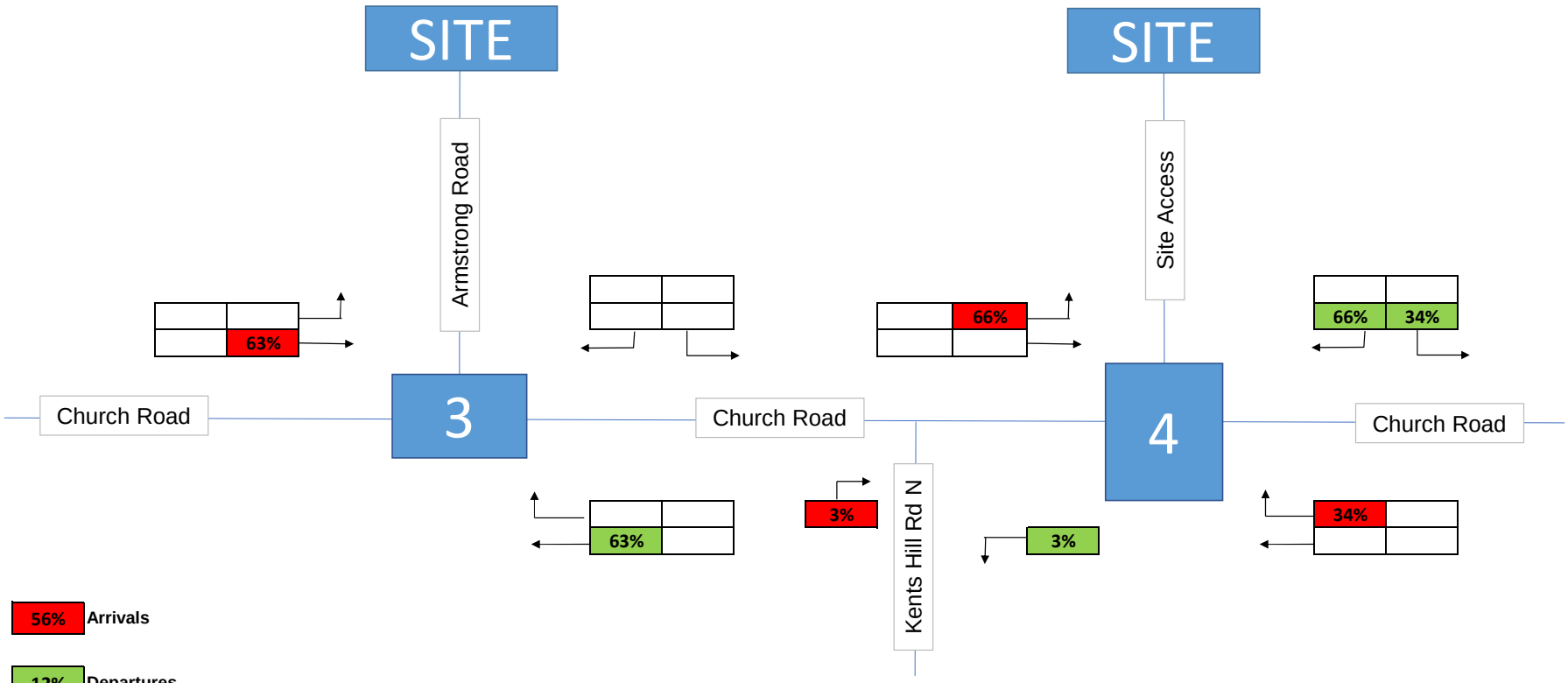

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	Rev / Description / Date	
Drawing Title: % DISTRIBUTION RESIDENTIAL (J3 & J4)	**Drawing No:** FIGURE 16	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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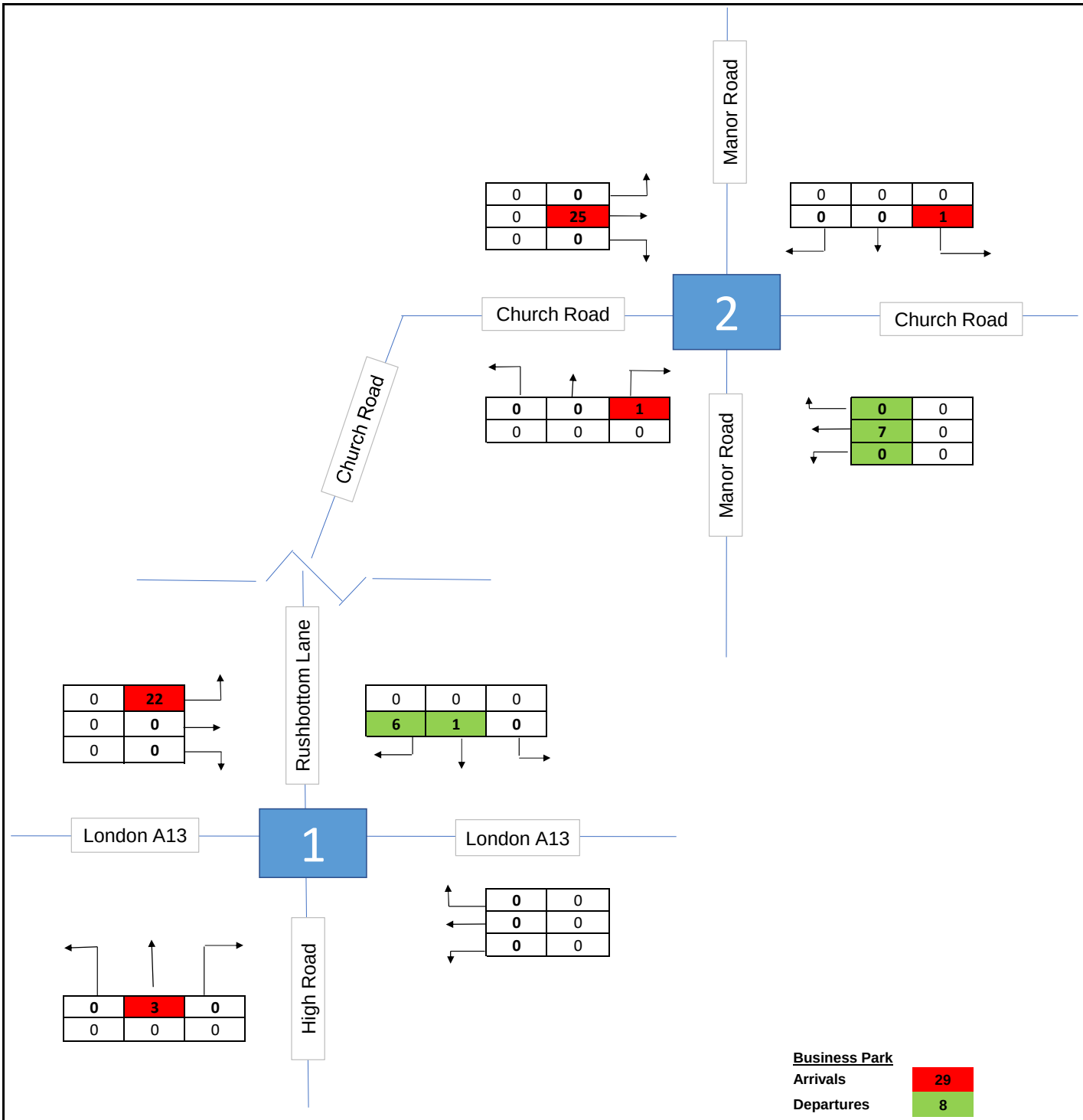

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: COMMERCIAL DEVELOPMENT TRAFFIC FLOWS (J1 & J2)	**Drawing No:** FIGURE 17	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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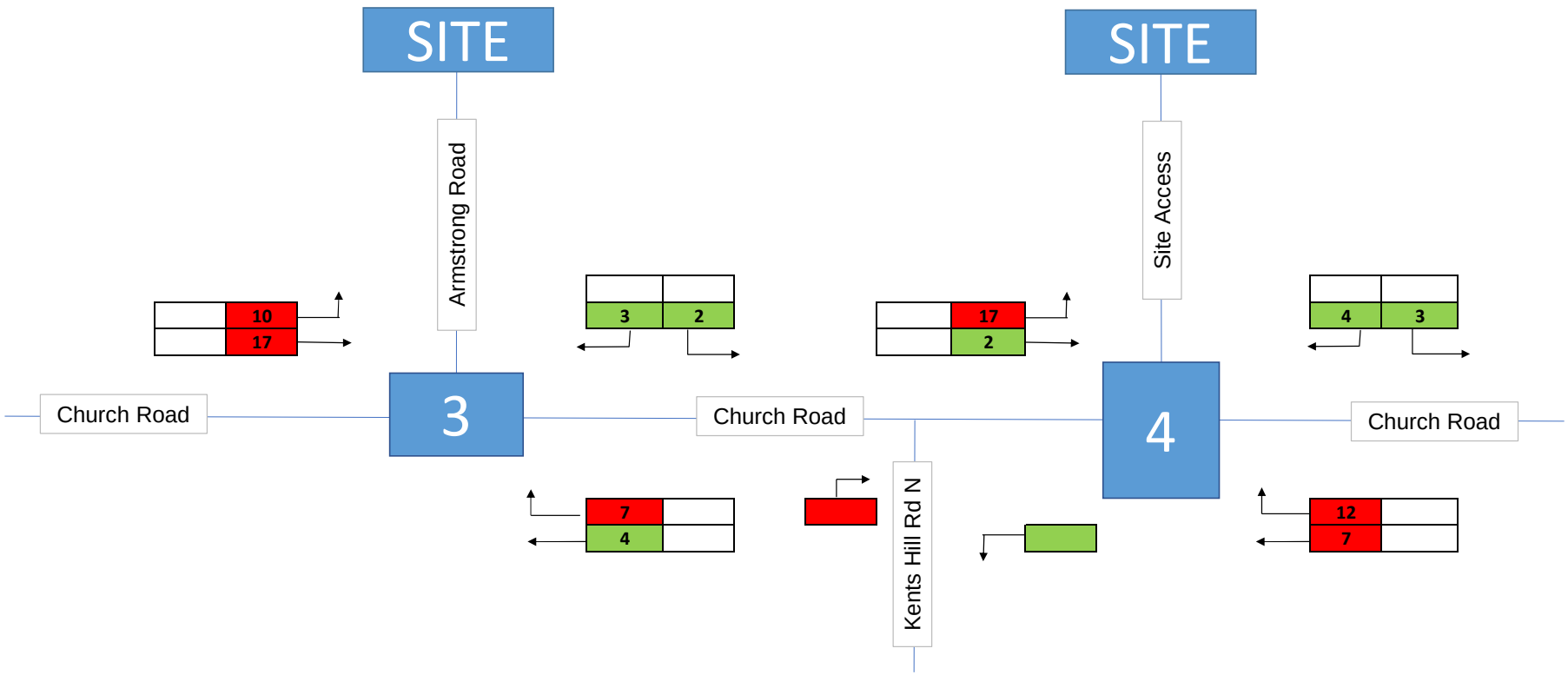

Business Park

Arrivals	29
Departures	8

Industrial Unit + Warehouse

Arrivals	17
Departures	6

IT Project:
LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT

AM PEAK HOUR 08:00-09:00

Rev	Description	Date

Drawing Title:
COMMERCIAL DEVELOPMENT TRAFFIC FLOWS (J3 & J4)

Drawing No:
FIGURE 18

Date
SEP 2018

Client:
THE SMITH FAMILY

Drawn By:
GH

Approved By :
JB

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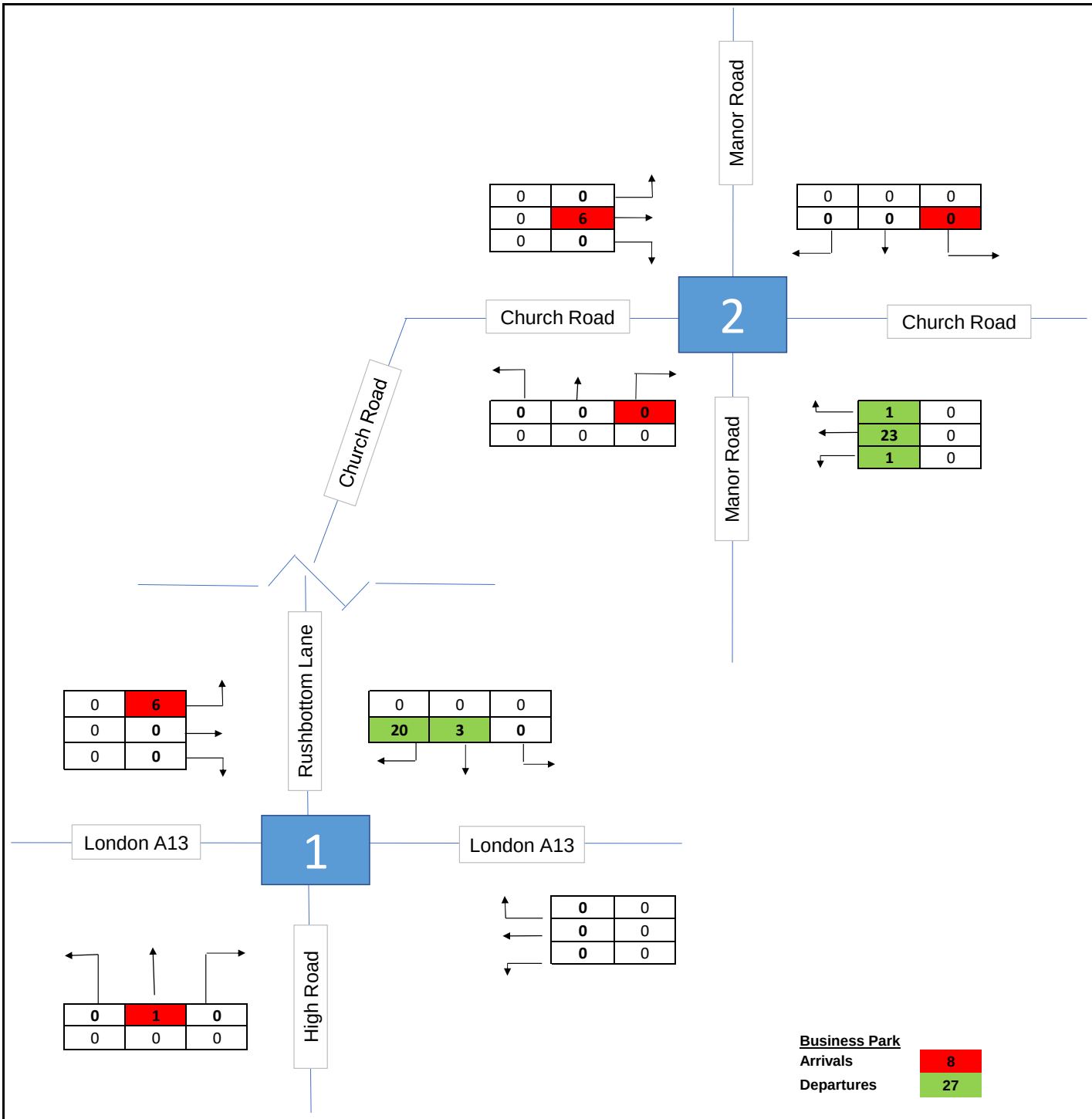

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: COMMERCIAL DEVELOPMENT TRAFFIC FLOWS (J1 & J2)	**Drawing No:** FIGURE 19	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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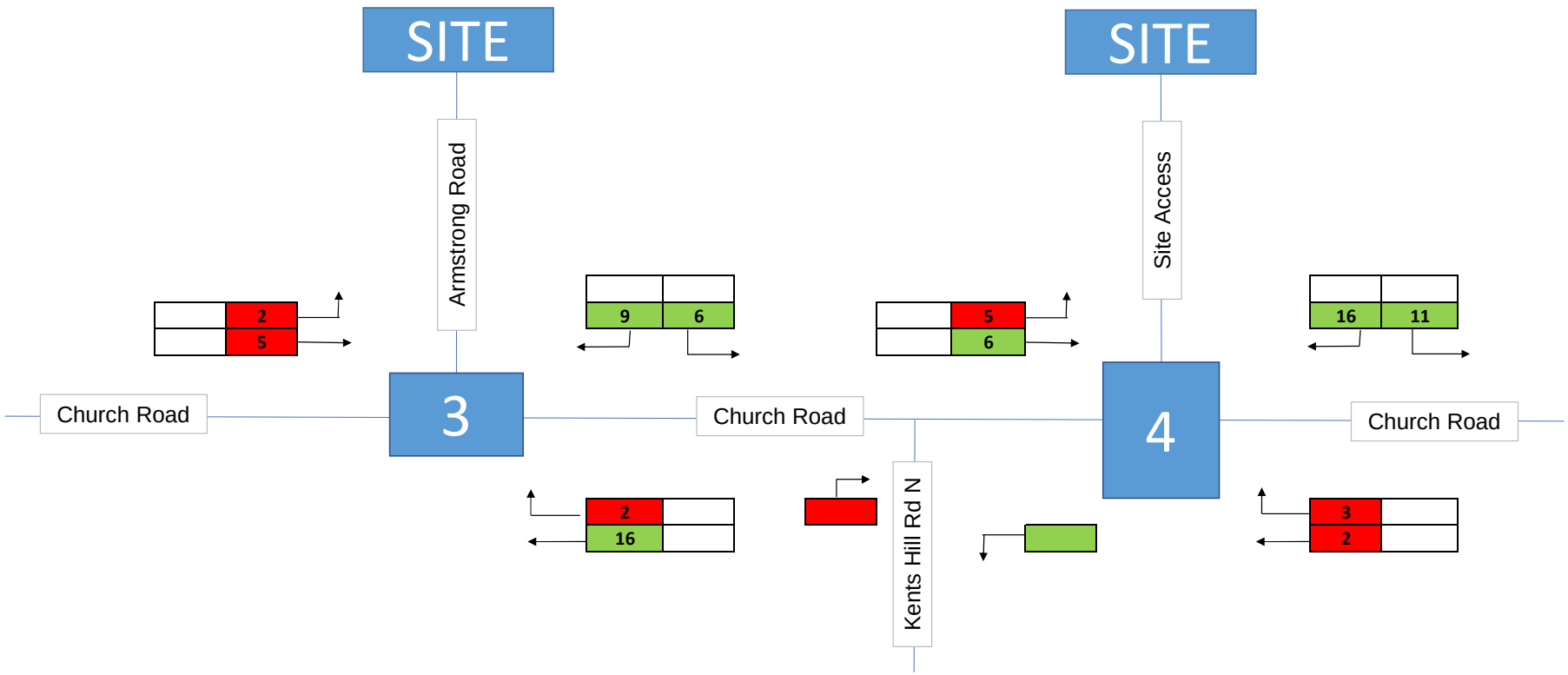

Business Park

Arrivals	8
Departures	27

Industrial Unit + Warehouse

Arrivals	4
Departures	15

IT Project:
LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT

PM PEAK HOUR 16:30-17:30

Rev	Description	Date

Drawing Title:
COMMERCIAL DEVELOPMENT TRAFFIC FLOWS (J3 & J4)

Drawing No:
FIGURE 20

Date
SEP 2018

Client:
THE SMITH FAMILY

Drawn By:
GH

Approved By :
JB

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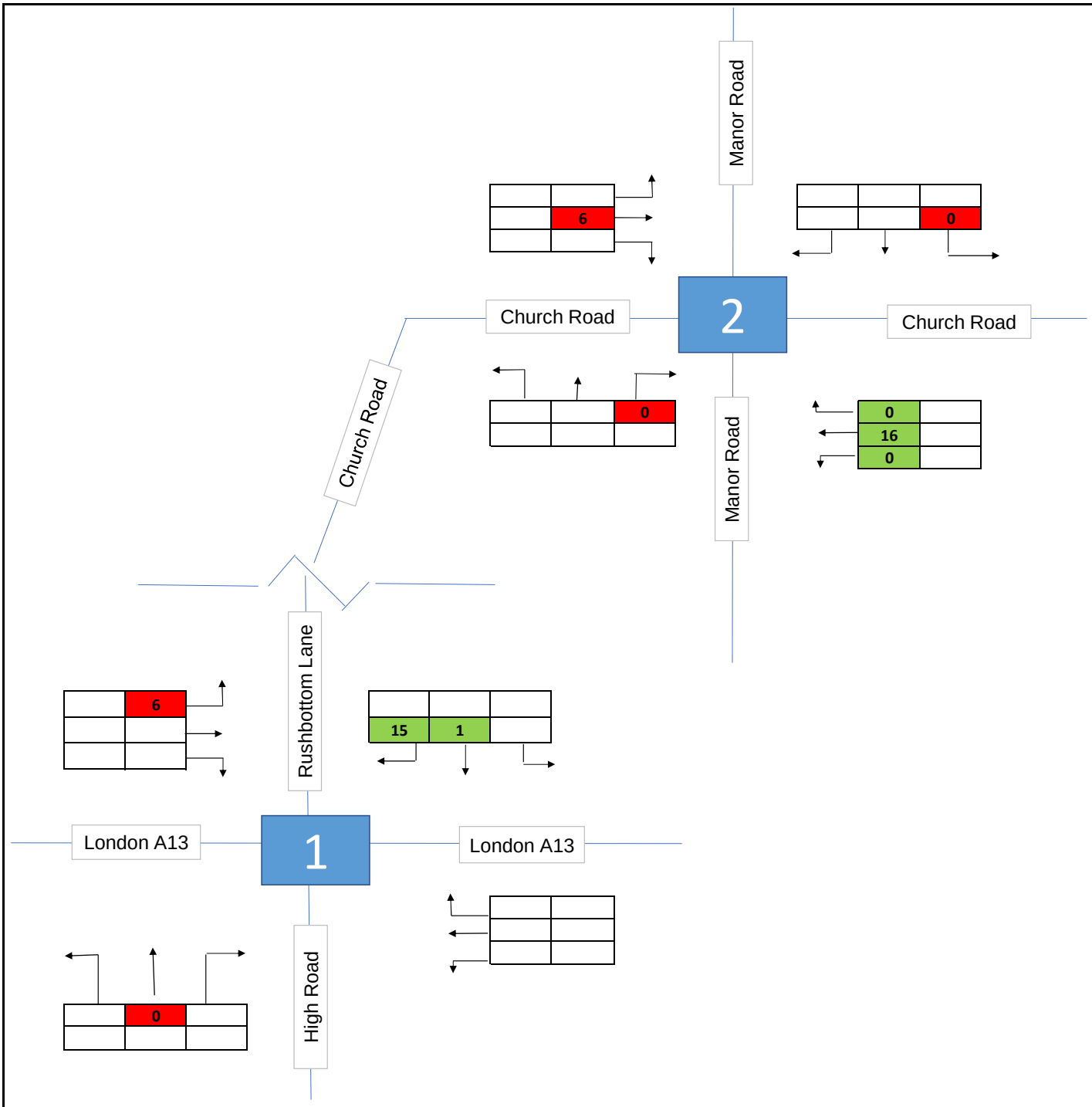

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: RESIDENTIAL DEVELOPMENT TRAFFIC FLOWS (J1 & J2)	**Drawing No:** FIGURE 21	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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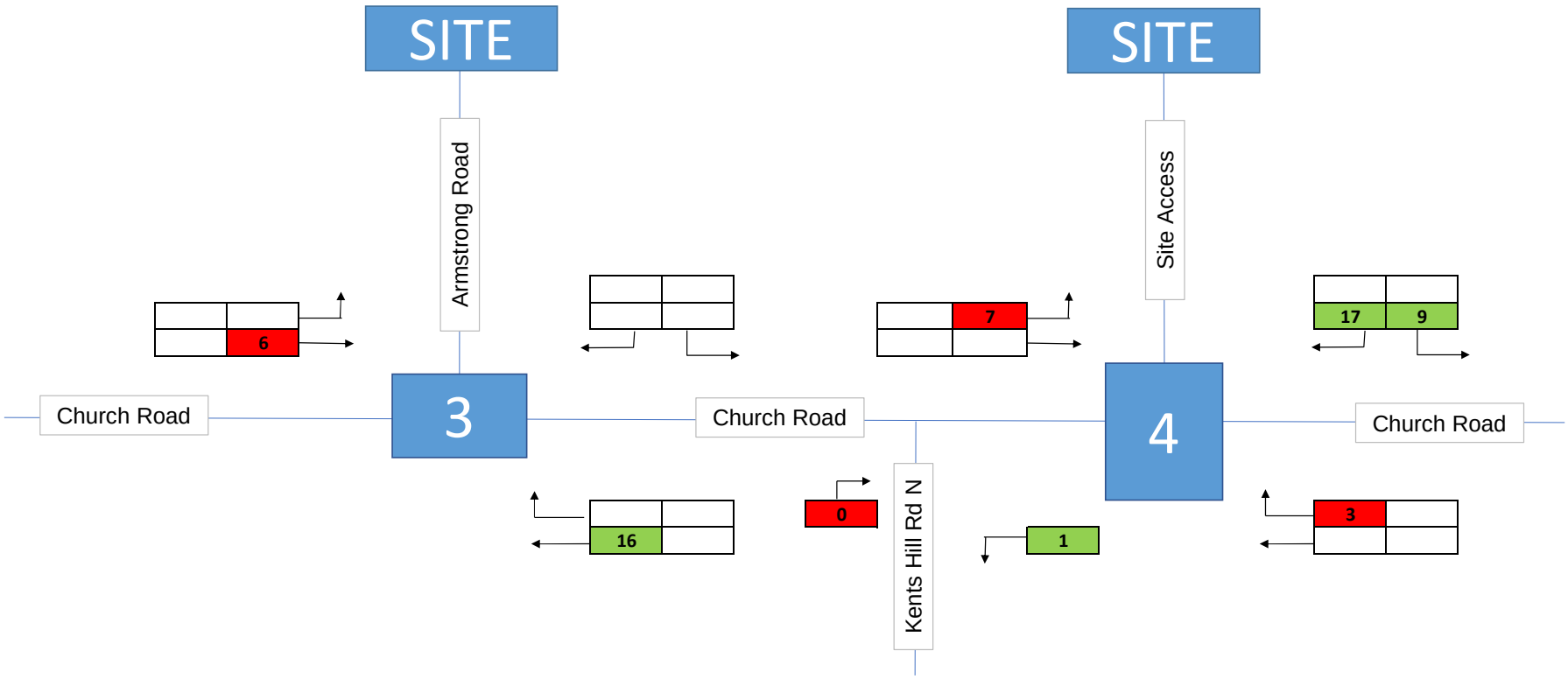

Residential

Arrivals	10
Departures	26

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: RESIDENTIAL DEVELOPMENT TRAFFIC FLOWS (J3 & J4)	**Drawing No:** FIGURE 22	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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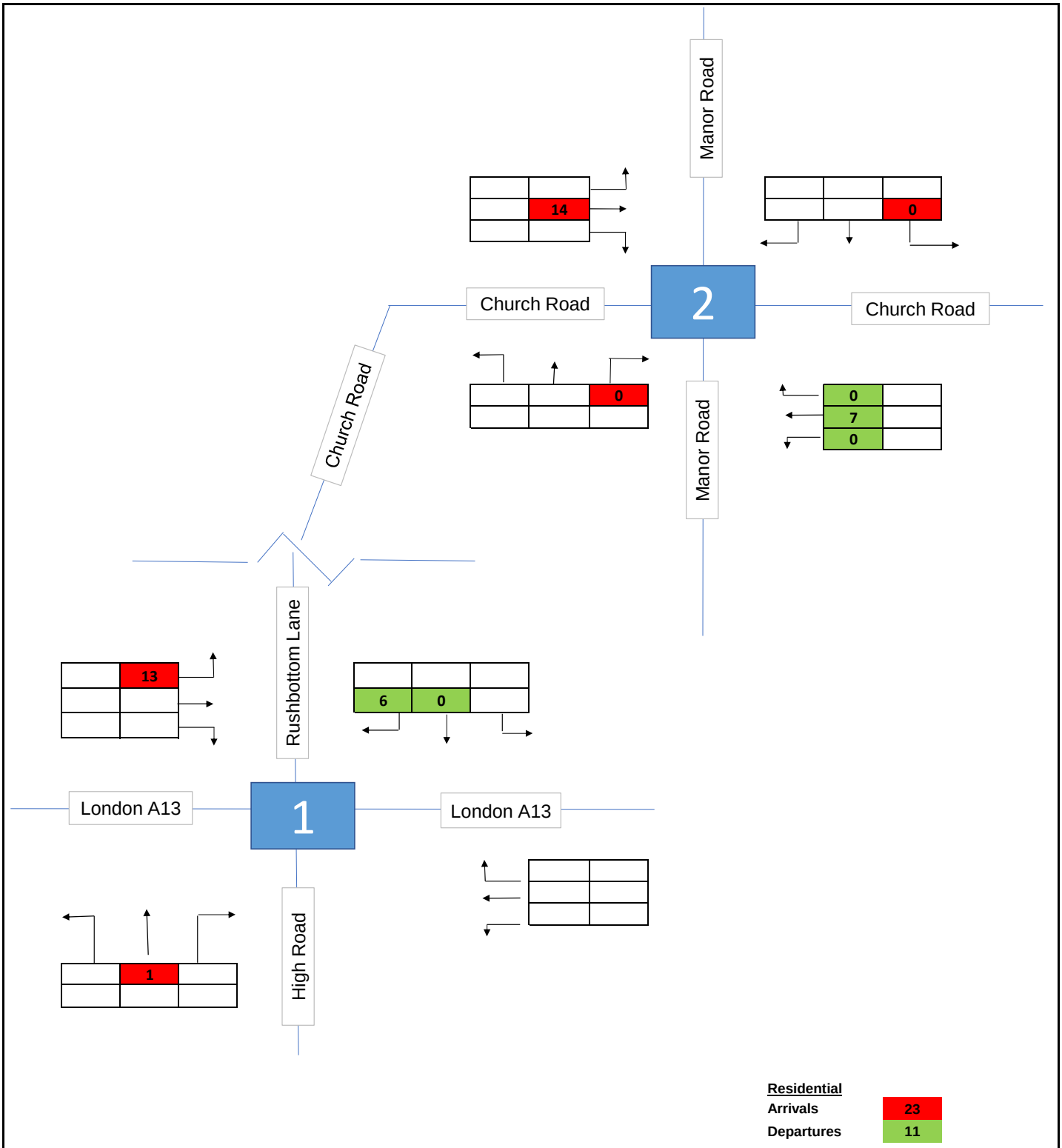

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: RESIDENTIAL DEVELOPMENT TRAFFIC FLOWS (J1 & J2)	**Drawing No:** FIGURE 23	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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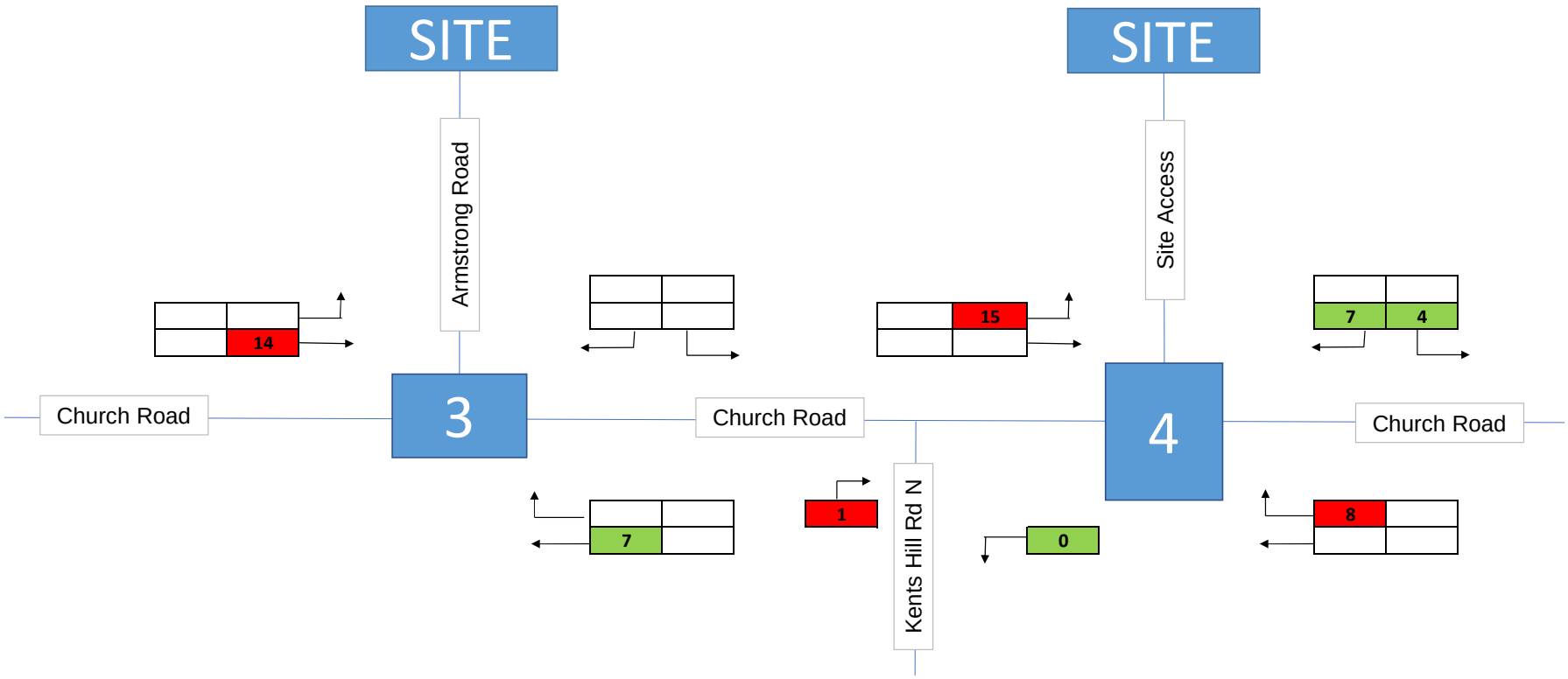

Residential

Arrivals	23
Departures	11

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: RESIDENTIAL DEVELOPMENT TRAFFIC FLOWS (J3 & J4)	**Drawing No:** FIGURE 24	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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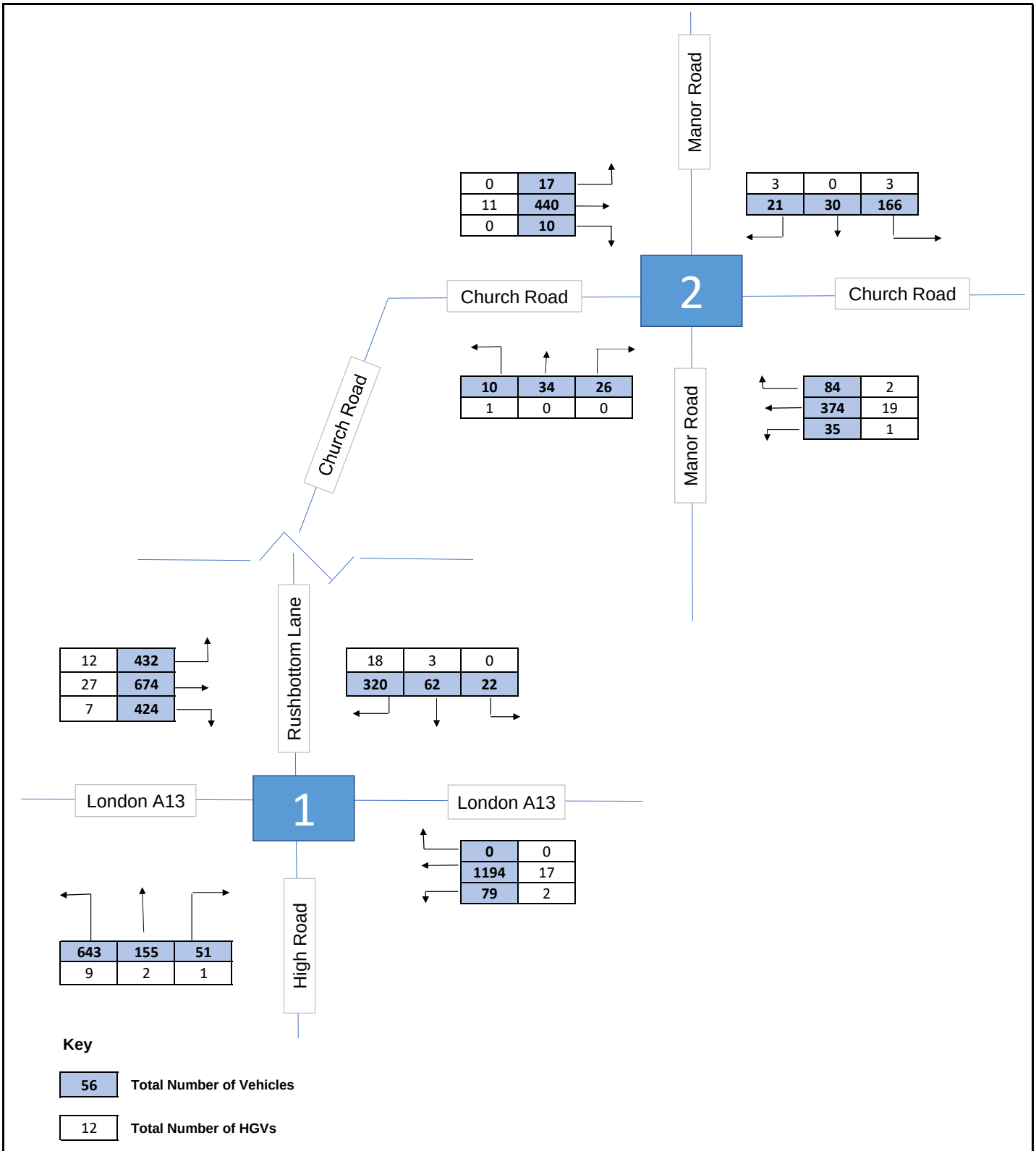

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: BASE 2028 + DEVELOPMENT TRAFFIC FLOWS (J1 & J2)	**Drawing No:** FIGURE 25	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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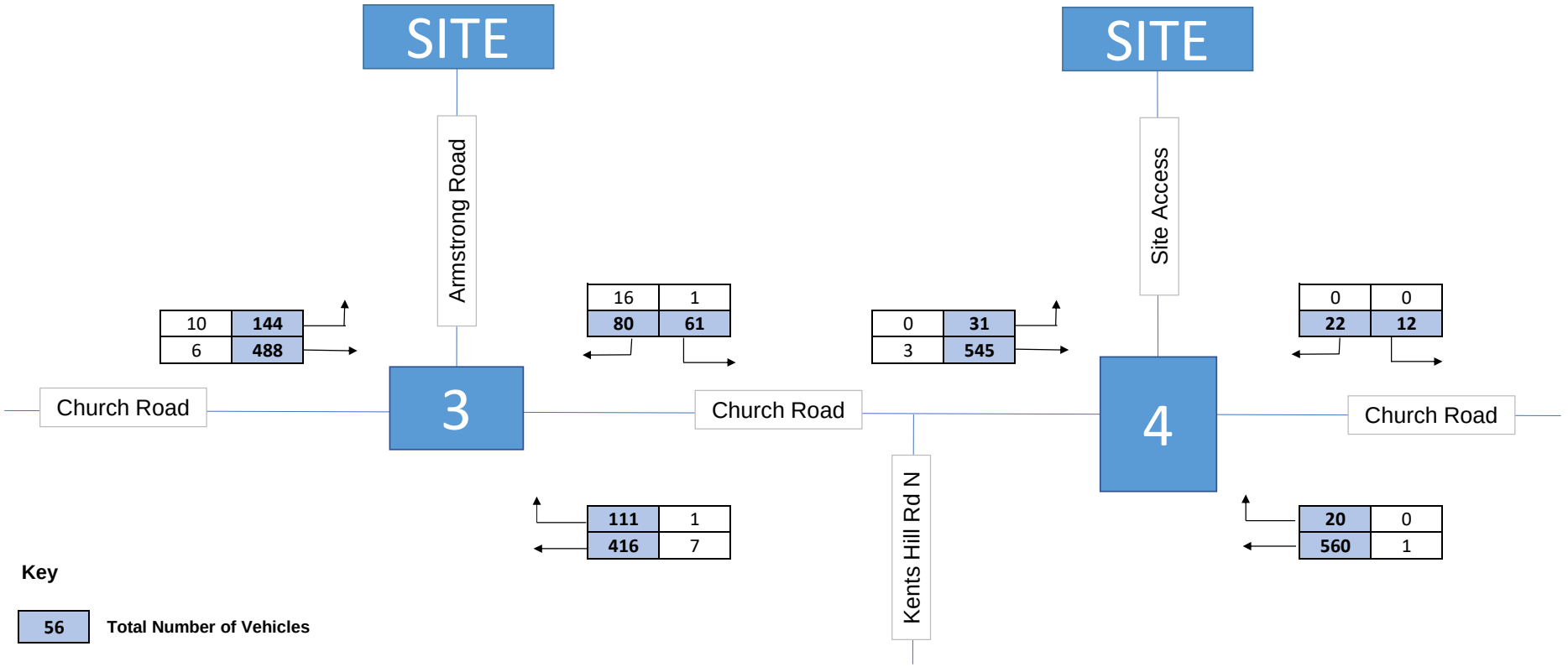

Key

56	**Total Number of Vehicles**
12	**Total Number of HGVs**

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	AM PEAK HOUR 08:00-09:00	
	Rev / Description / Date	
Drawing Title: BASE 2028 + DEVELOPMENT TRAFFIC FLOWS (J3 & J4)	**Drawing No:** FIGURE 26	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

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Fax: +44 (0)1799 529530
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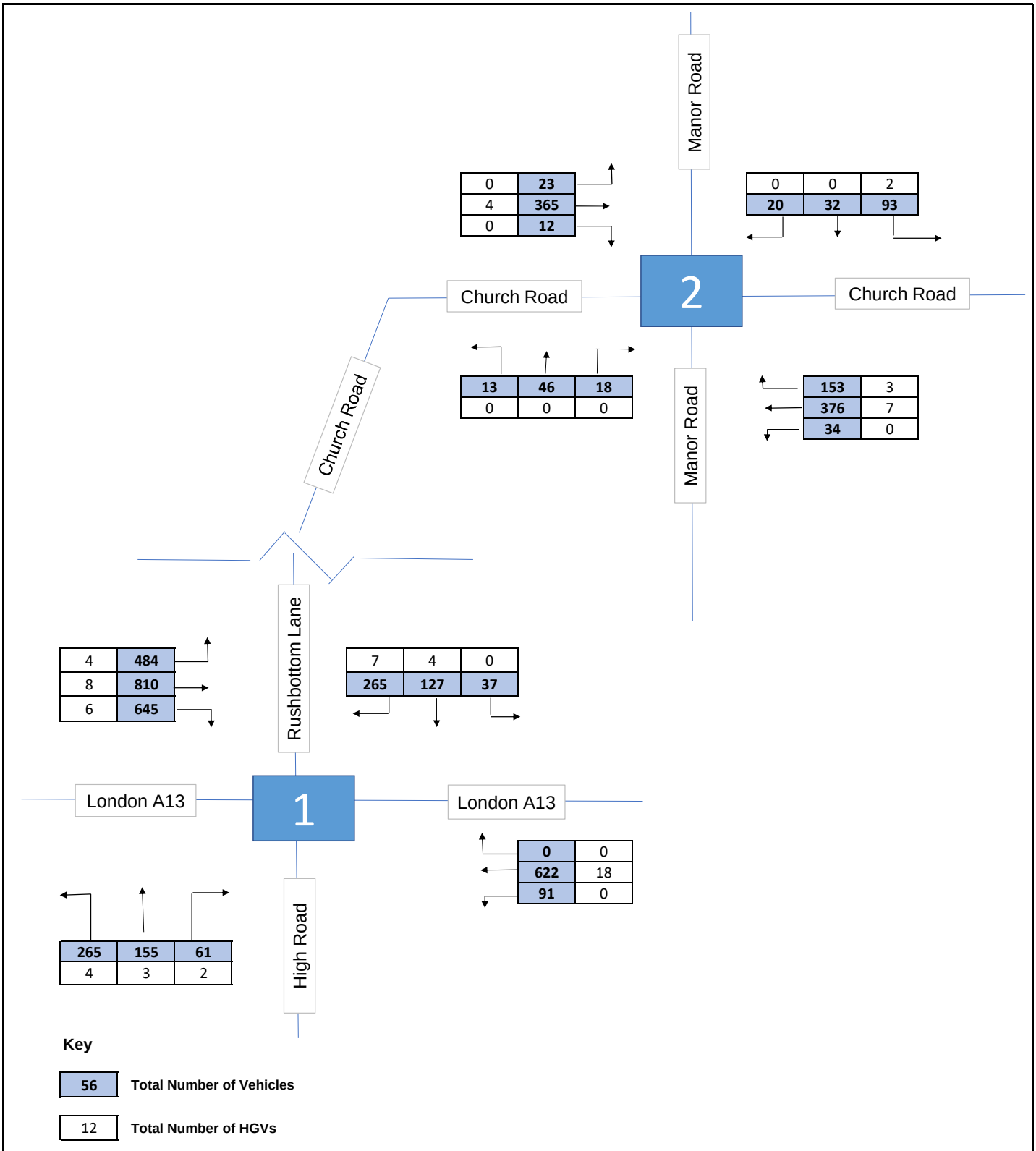
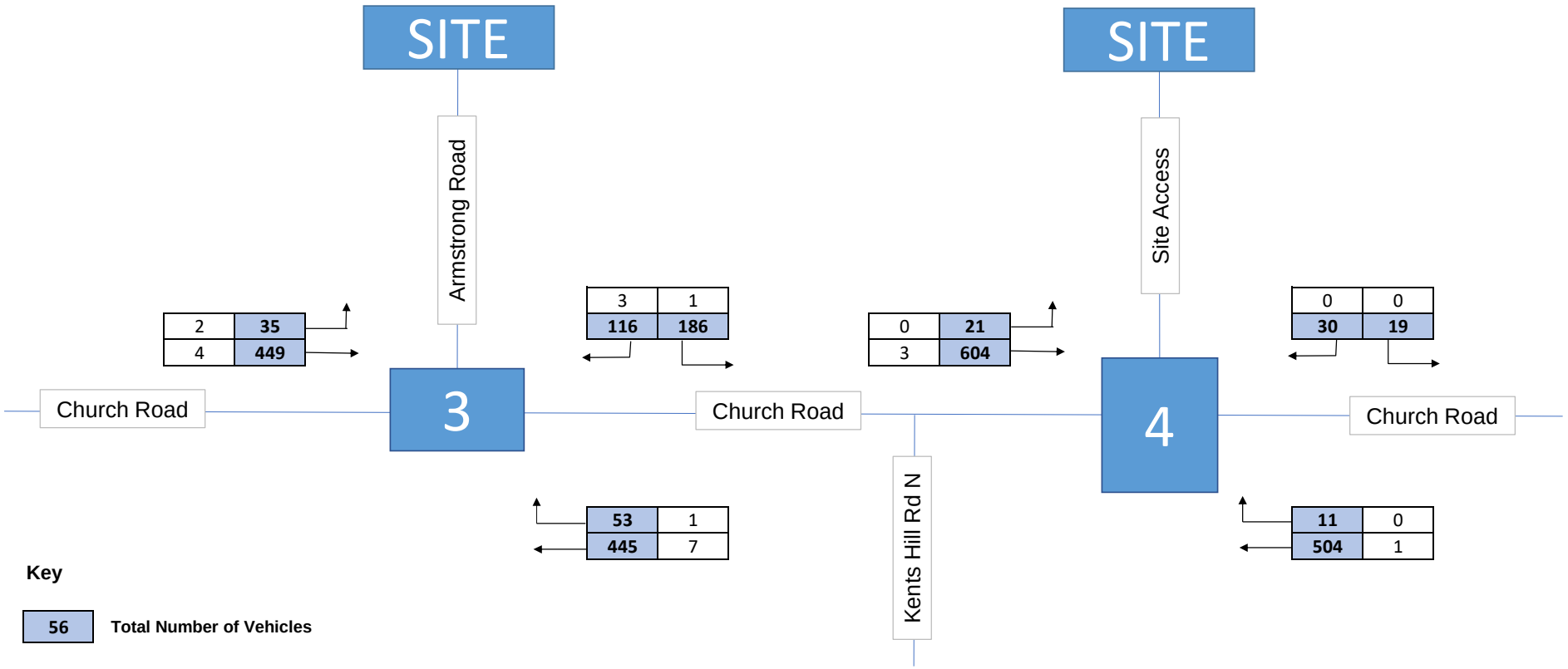


IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: BASE 2028 + DEVELOPMENT TRAFFIC FLOWS (J1 & J2)	**Drawing No:** FIGURE 27	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

Intermodal TRANSPORTATION
Debden Road
Saffron Walden
Essex CB11 4AA
Tel: +44 (0)1799 529529
Fax: +44 (0)1799 529530
e: enquiries@inter-modal.co.uk



Key

56	**Total Number of Vehicles**
12	**Total Number of HGVs**

IT Project: LAND EAST OF MANOR TRADING ESTATE, BENFLEET, MASTERPLAN DEVELOPMENT	PM PEAK HOUR 16:30-17:30	
	Rev / Description / Date	
Drawing Title: BASE 2028 + DEVELOPMENT TRAFFIC FLOWS (J3 & J4)	**Drawing No:** FIGURE 28	**Date** SEP 2018
Client: THE SMITH FAMILY	**Drawn By:** GH	**Approved By :** JB

Intermodal TRANSPORTATION
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APPENDIX F:

TRAFFIC COUNT DATA

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (1) Rushbottom Lane / A13 London Road / High Road

Approach: Rushbottom Lane

	Left to A13 London Road (East)								Ahead to High Road								Right to A13 London Road (West)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	0	1	0	0	0	0	**1**	0	0	5	1	0	0	0	**6**	0	1	82	10	2	0	0	**95**
0745 - 0800	0	0	1	0	0	0	0	**1**	0	0	5	3	0	0	0	**8**	0	0	52	13	4	0	0	**69**
Hourly Total	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**10**	**4**	**0**	**0**	**0**	**14**	**0**	**1**	**134**	**23**	**6**	**0**	**0**	**164**
0800 - 0815	0	0	1	0	0	0	0	**1**	0	0	4	1	0	0	1	**6**	0	1	61	13	2	1	0	**78**
0815 - 0830	0	0	5	1	0	0	0	**6**	0	0	14	1	0	0	1	**16**	0	2	45	13	2	3	0	**65**
0830 - 0845	0	0	4	0	0	0	0	**4**	0	0	16	2	0	0	0	**18**	0	1	46	17	1	2	0	**67**
0845 - 0900	0	0	8	1	0	0	0	**9**	0	0	13	0	0	0	1	**14**	0	0	46	8	3	2	0	**59**
Hourly Total	**0**	**0**	**18**	**2**	**0**	**0**	**0**	**20**	**0**	**0**	**47**	**4**	**0**	**0**	**3**	**54**	**0**	**4**	**198**	**51**	**8**	**8**	**0**	**269**
0900 - 0915	0	0	11	0	0	0	0	**11**	0	1	13	2	0	0	0	**16**	0	0	53	9	1	1	0	**64**
0915 - 0930	0	0	9	0	0	0	0	**9**	0	0	16	1	0	0	1	**18**	0	0	58	6	5	1	0	**70**
Hourly Total	**0**	**0**	**20**	**0**	**0**	**0**	**0**	**20**	**0**	**1**	**29**	**3**	**0**	**0**	**1**	**34**	**0**	**0**	**111**	**15**	**6**	**2**	**0**	**134**
Session Total	**0**	**0**	**40**	**2**	**0**	**0**	**0**	**42**	**0**	**1**	**86**	**11**	**0**	**0**	**4**	**102**	**0**	**5**	**443**	**89**	**20**	**10**	**0**	**567**
1630 - 1645	0	0	9	0	0	0	0	**9**	0	0	24	2	0	0	0	**26**	0	0	50	8	0	3	1	**62**
1645 - 1700	0	0	8	0	0	0	0	**8**	0	0	27	4	0	0	2	**33**	0	0	46	6	0	0	0	**52**
Hourly Total	**0**	**0**	**17**	**0**	**0**	**0**	**0**	**17**	**0**	**0**	**51**	**6**	**0**	**0**	**2**	**59**	**0**	**0**	**96**	**14**	**0**	**3**	**1**	**114**
1700 - 1715	0	0	4	1	0	0	0	**5**	0	0	34	1	0	0	1	**36**	0	0	45	3	0	1	1	**50**
1715 - 1730	0	0	10	1	0	0	0	**11**	0	0	16	0	0	0	1	**17**	0	0	41	9	0	0	0	**50**
1730 - 1745	0	0	8	1	0	0	0	**9**	0	0	23	4	0	0	0	**27**	0	0	49	10	0	1	0	**60**
1745 - 1800	0	0	8	2	0	0	0	**10**	0	0	27	2	0	0	1	**30**	0	0	42	3	0	0	0	**45**
Hourly Total	**0**	**0**	**30**	**5**	**0**	**0**	**0**	**35**	**0**	**0**	**100**	**7**	**0**	**0**	**3**	**110**	**0**	**0**	**177**	**25**	**0**	**2**	**1**	**205**
1800 - 1815	0	0	11	1	0	0	0	**12**	0	0	45	5	0	0	1	**51**	0	1	42	5	1	0	0	**49**
1815 - 1830	0	0	11	1	0	0	0	**12**	0	0	20	0	0	0	1	**21**	0	0	32	3	0	0	0	**35**
Hourly Total	**0**	**0**	**22**	**2**	**0**	**0**	**0**	**24**	**0**	**0**	**65**	**5**	**0**	**0**	**2**	**72**	**0**	**1**	**74**	**8**	**1**	**0**	**0**	**84**
Session Total	**0**	**0**	**69**	**7**	**0**	**0**	**0**	**76**	**0**	**0**	**216**	**18**	**0**	**0**	**7**	**241**	**0**	**1**	**347**	**47**	**1**	**5**	**2**	**403**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (1) Rushbottom Lane / A13 London Road / High Road

Approach: A13 London Road (East)

	Left to High Road								Ahead to A13 London Road (West)								Right to Rushbottom Lane							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	0	4	1	1	0	0	**6**	0	0	263	46	0	0	4	**313**	0	0	0	0	0	0	0	**0**
0745 - 0800	0	0	8	2	0	0	0	**10**	0	2	262	43	2	1	2	**312**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**12**	**3**	**1**	**0**	**0**	**16**	**0**	**2**	**525**	**89**	**2**	**1**	**6**	**625**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0800 - 0815	0	0	9	2	0	0	2	**13**	0	5	260	30	1	0	1	**297**	0	0	0	0	0	0	0	**0**
0815 - 0830	0	0	16	2	0	0	0	**18**	0	0	237	31	5	0	1	**274**	0	0	0	0	0	0	0	**0**
0830 - 0845	0	0	14	0	0	0	0	**14**	0	1	208	30	0	1	1	**241**	0	0	0	0	0	0	0	**0**
0845 - 0900	0	0	24	2	0	0	0	**26**	0	1	233	25	1	0	4	**264**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**63**	**6**	**0**	**0**	**2**	**71**	**0**	**7**	**938**	**116**	**7**	**1**	**7**	**1076**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0900 - 0915	0	0	17	6	0	0	0	**23**	0	0	233	30	5	0	3	**271**	0	0	0	0	0	0	0	**0**
0915 - 0930	0	0	26	4	0	0	0	**30**	0	0	190	28	7	2	1	**228**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**43**	**10**	**0**	**0**	**0**	**53**	**0**	**0**	**423**	**58**	**12**	**2**	**4**	**499**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Session Total	**0**	**0**	**118**	**19**	**1**	**0**	**2**	**140**	**0**	**9**	**1886**	**263**	**21**	**4**	**17**	**2200**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1630 - 1645	0	0	17	5	0	0	0	**22**	0	1	146	18	1	0	2	**168**	0	0	0	0	0	0	0	**0**
1645 - 1700	0	0	19	2	0	0	0	**21**	0	0	107	25	1	0	7	**140**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**36**	**7**	**0**	**0**	**0**	**43**	**0**	**1**	**253**	**43**	**2**	**0**	**9**	**308**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1700 - 1715	0	0	20	4	0	0	0	**24**	0	0	94	18	0	0	2	**114**	0	0	0	0	0	0	0	**0**
1715 - 1730	0	0	12	3	0	0	0	**15**	0	2	112	20	1	0	2	**137**	0	0	0	0	0	0	0	**0**
1730 - 1745	0	0	13	0	0	0	0	**13**	0	1	117	16	0	0	2	**136**	0	0	0	0	0	0	0	**0**
1745 - 1800	0	0	25	0	0	0	0	**25**	0	1	113	9	1	0	1	**125**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**70**	**7**	**0**	**0**	**0**	**77**	**0**	**4**	**436**	**63**	**2**	**0**	**7**	**512**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1800 - 1815	0	0	23	0	0	0	0	**23**	0	2	127	13	0	0	2	**144**	0	0	0	0	0	0	0	**0**
1815 - 1830	0	0	23	1	0	0	0	**24**	0	0	85	7	0	0	0	**92**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**46**	**1**	**0**	**0**	**0**	**47**	**0**	**2**	**212**	**20**	**0**	**0**	**2**	**236**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Session Total	**0**	**0**	**152**	**15**	**0**	**0**	**0**	**167**	**0**	**7**	**901**	**126**	**4**	**0**	**18**	**1056**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (1) Rushbottom Lane / A13 London Road / High Road

Approach: High Road

	Left to A13 London Road (West)								Ahead to Rushbottom Lane								Right to A13 London Road (East)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	0	104	16	1	1	0	**122**	0	0	15	4	0	0	2	**21**	0	0	7	4	0	0	0	**11**
0745 - 0800	0	1	117	18	1	0	1	**138**	0	0	23	2	0	0	1	**26**	0	0	6	1	0	0	0	**7**
Hourly Total	**0**	**1**	**221**	**34**	**2**	**1**	**1**	**260**	**0**	**0**	**38**	**6**	**0**	**0**	**3**	**47**	**0**	**0**	**13**	**5**	**0**	**0**	**0**	**18**
0800 - 0815	0	0	127	10	0	0	1	**138**	0	0	16	3	0	0	0	**19**	0	0	9	1	0	0	0	**10**
0815 - 0830	0	4	127	12	2	0	1	**146**	0	0	35	0	0	0	0	**35**	0	0	4	1	0	0	0	**5**
0830 - 0845	0	1	143	8	1	0	1	**154**	0	0	36	1	0	0	1	**38**	0	0	12	3	0	0	1	**16**
0845 - 0900	0	1	127	11	1	0	1	**141**	0	0	43	1	0	0	1	**45**	0	0	14	1	0	0	0	**15**
Hourly Total	**0**	**6**	**524**	**41**	**4**	**0**	**4**	**579**	**0**	**0**	**130**	**5**	**0**	**0**	**2**	**137**	**0**	**0**	**39**	**6**	**0**	**0**	**1**	**46**
0900 - 0915	0	0	113	15	0	1	1	**130**	0	0	41	3	0	0	0	**44**	0	0	17	3	0	0	0	**20**
0915 - 0930	0	1	80	7	1	0	2	**91**	0	0	41	2	0	0	1	**44**	0	0	16	1	0	0	0	**17**
Hourly Total	**0**	**1**	**193**	**22**	**1**	**1**	**3**	**221**	**0**	**0**	**82**	**5**	**0**	**0**	**1**	**88**	**0**	**0**	**33**	**4**	**0**	**0**	**0**	**37**
Session Total	**0**	**8**	**938**	**97**	**7**	**2**	**8**	**1060**	**0**	**0**	**250**	**16**	**0**	**0**	**6**	**272**	**0**	**0**	**85**	**15**	**0**	**0**	**1**	**101**
1630 - 1645	0	0	48	10	0	0	2	**60**	0	0	24	1	0	0	1	**26**	0	0	10	1	0	0	0	**11**
1645 - 1700	0	0	43	10	0	0	0	**53**	0	0	40	1	0	0	1	**42**	0	0	12	2	0	1	1	**16**
Hourly Total	**0**	**0**	**91**	**20**	**0**	**0**	**2**	**113**	**0**	**0**	**64**	**2**	**0**	**0**	**2**	**68**	**0**	**0**	**22**	**3**	**0**	**1**	**1**	**27**
1700 - 1715	0	0	61	6	1	0	0	**68**	0	0	33	4	0	0	0	**37**	0	0	16	1	0	0	0	**17**
1715 - 1730	0	0	44	12	0	0	1	**57**	0	0	30	2	0	0	1	**33**	0	0	10	1	0	0	0	**11**
1730 - 1745	0	0	55	10	0	0	1	**66**	0	0	25	3	0	0	0	**28**	0	0	19	1	0	0	0	**20**
1745 - 1800	0	0	58	6	0	1	0	**65**	0	0	38	1	0	0	0	**39**	0	0	14	1	0	0	0	**15**
Hourly Total	**0**	**0**	**218**	**34**	**1**	**1**	**2**	**256**	**0**	**0**	**126**	**10**	**0**	**0**	**1**	**137**	**0**	**0**	**59**	**4**	**0**	**0**	**0**	**63**
1800 - 1815	0	0	57	4	0	0	1	**62**	0	1	30	3	0	0	1	**35**	0	0	13	2	0	0	0	**15**
1815 - 1830	0	0	47	2	0	0	1	**50**	0	0	38	2	1	0	0	**41**	0	0	16	0	0	0	0	**16**
Hourly Total	**0**	**0**	**104**	**6**	**0**	**0**	**2**	**112**	**0**	**1**	**68**	**5**	**1**	**0**	**1**	**76**	**0**	**0**	**29**	**2**	**0**	**0**	**0**	**31**
Session Total	**0**	**0**	**413**	**60**	**1**	**1**	**6**	**481**	**0**	**1**	**258**	**17**	**1**	**0**	**4**	**281**	**0**	**0**	**110**	**9**	**0**	**1**	**1**	**121**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (1) Rushbottom Lane / A13 London Road / High Road

Approach: A13 London Road (West)

	Left to Rushbottom Lane								Ahead to A13 London Road (East)								Right to High Road							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	37	9	2	2	0	**50**	0	1	81	25	2	0	1	**110**	0	0	45	9	0	1	0	**55**
0745 - 0800	0	0	61	14	1	3	1	**80**	0	0	105	21	3	1	4	**134**	0	0	70	9	1	0	1	**81**
Hourly Total	**0**	**0**	**98**	**23**	**3**	**5**	**1**	**130**	**0**	**1**	**186**	**46**	**5**	**1**	**5**	**244**	**0**	**0**	**115**	**18**	**1**	**1**	**1**	**136**
0800 - 0815	0	1	71	15	1	0	0	**88**	0	1	156	13	3	1	0	**174**	0	0	78	12	0	0	1	**91**
0815 - 0830	0	0	63	11	2	2	0	**78**	0	0	124	16	4	1	3	**148**	0	1	89	6	1	0	1	**98**
0830 - 0845	0	0	83	11	2	1	0	**97**	0	1	144	16	1	2	5	**169**	0	0	107	11	0	0	0	**118**
0845 - 0900	0	0	86	12	1	2	0	**101**	0	0	95	17	2	0	2	**116**	0	0	63	9	2	0	1	**75**
Hourly Total	**0**	**1**	**303**	**49**	**6**	**5**	**0**	**364**	**0**	**2**	**519**	**62**	**10**	**4**	**10**	**607**	**0**	**1**	**337**	**38**	**3**	**0**	**3**	**382**
0900 - 0915	0	0	45	10	5	3	0	**63**	0	0	71	13	1	1	2	**88**	0	0	60	7	0	2	1	**70**
0915 - 0930	0	0	55	13	1	0	0	**69**	0	1	67	19	2	1	1	**91**	0	0	39	8	1	1	1	**50**
Hourly Total	**0**	**0**	**100**	**23**	**6**	**3**	**0**	**132**	**0**	**1**	**138**	**32**	**3**	**2**	**3**	**179**	**0**	**0**	**99**	**15**	**1**	**3**	**2**	**120**
Session Total	**0**	**1**	**501**	**95**	**15**	**13**	**1**	**626**	**0**	**4**	**843**	**140**	**18**	**7**	**18**	**1030**	**0**	**1**	**551**	**71**	**5**	**4**	**6**	**638**
1630 - 1645	0	0	80	20	0	1	0	**101**	0	2	159	30	0	0	1	**192**	0	2	122	25	1	1	0	**151**
1645 - 1700	0	0	105	10	1	0	0	**116**	0	1	168	25	0	2	2	**198**	0	2	120	19	0	0	1	**142**
Hourly Total	**0**	**0**	**185**	**30**	**1**	**1**	**0**	**217**	**0**	**3**	**327**	**55**	**0**	**2**	**3**	**390**	**0**	**4**	**242**	**44**	**1**	**1**	**1**	**293**
1700 - 1715	0	0	87	12	2	0	0	**101**	0	0	166	20	0	0	0	**186**	0	2	128	17	0	0	1	**148**
1715 - 1730	0	1	83	16	0	0	0	**100**	1	1	129	19	1	0	1	**152**	0	0	126	12	0	0	1	**139**
1730 - 1745	0	0	96	11	0	0	0	**107**	0	0	160	18	0	0	2	**180**	0	0	130	22	1	0	0	**153**
1745 - 1800	0	0	110	12	0	0	0	**122**	0	1	190	17	0	0	1	**209**	0	2	141	21	0	0	0	**164**
Hourly Total	**0**	**1**	**376**	**51**	**2**	**0**	**0**	**430**	**1**	**2**	**645**	**74**	**1**	**0**	**4**	**727**	**0**	**4**	**525**	**72**	**1**	**0**	**2**	**604**
1800 - 1815	0	1	101	12	2	0	0	**116**	0	0	189	23	0	0	1	**213**	0	1	130	16	0	0	2	**149**
1815 - 1830	0	0	105	11	0	0	0	**116**	0	2	170	13	0	1	1	**187**	0	1	157	22	0	0	2	**182**
Hourly Total	**0**	**1**	**206**	**23**	**2**	**0**	**0**	**232**	**0**	**2**	**359**	**36**	**0**	**1**	**2**	**400**	**0**	**2**	**287**	**38**	**0**	**0**	**4**	**331**
Session Total	**0**	**2**	**767**	**104**	**5**	**1**	**0**	**879**	**1**	**7**	**1331**	**165**	**1**	**3**	**9**	**1517**	**0**	**10**	**1054**	**154**	**2**	**1**	**7**	**1228**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (2) Manor Road / Church Road

Approach: Manor Road (North)

	Left to Church Road (East)								Ahead to Manor Road (South)								Right to Church Road (West)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	0	30	5	0	0	1	**36**	0	0	8	0	0	0	0	**8**	0	0	5	0	0	0	0	**5**
0745 - 0800	0	0	21	2	0	0	2	**25**	0	0	6	0	0	0	0	**6**	0	0	2	1	0	0	0	**3**
Hourly Total	**0**	**0**	**51**	**7**	**0**	**0**	**3**	**61**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**7**	**1**	**0**	**0**	**0**	**8**
0800 - 0815	0	0	28	4	0	0	1	**33**	0	0	7	2	0	0	0	**9**	0	0	4	0	0	0	1	**5**
0815 - 0830	0	0	47	5	0	0	0	**52**	0	0	6	0	0	0	0	**6**	0	0	2	1	0	0	0	**3**
0830 - 0845	0	1	30	1	0	0	1	**33**	0	0	8	0	0	0	0	**8**	0	0	4	2	1	0	0	**7**
0845 - 0900	0	0	29	1	0	0	1	**31**	0	0	4	0	0	0	0	**4**	0	0	3	0	1	0	0	**4**
Hourly Total	**0**	**1**	**134**	**11**	**0**	**0**	**3**	**149**	**0**	**0**	**25**	**2**	**0**	**0**	**0**	**27**	**0**	**0**	**13**	**3**	**2**	**0**	**1**	**19**
0900 - 0915	0	0	20	2	1	0	0	**23**	0	1	11	2	0	0	0	**14**	0	0	4	0	0	0	0	**4**
0915 - 0930	0	0	20	1	0	0	2	**23**	0	0	4	0	0	0	0	**4**	0	0	5	1	0	0	0	**6**
Hourly Total	**0**	**0**	**40**	**3**	**1**	**0**	**2**	**46**	**0**	**1**	**15**	**2**	**0**	**0**	**0**	**18**	**0**	**0**	**9**	**1**	**0**	**0**	**0**	**10**
Session Total	**0**	**1**	**225**	**21**	**1**	**0**	**8**	**256**	**0**	**1**	**54**	**4**	**0**	**0**	**0**	**59**	**0**	**0**	**29**	**5**	**2**	**0**	**1**	**37**
1630 - 1645	0	0	21	2	0	0	1	**24**	0	0	7	0	0	0	0	**7**	0	0	4	0	0	0	0	**4**
1645 - 1700	0	0	19	3	0	0	0	**22**	0	0	4	4	0	0	0	**8**	0	0	4	0	0	0	0	**4**
Hourly Total	**0**	**0**	**40**	**5**	**0**	**0**	**1**	**46**	**0**	**0**	**11**	**4**	**0**	**0**	**0**	**15**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**8**
1700 - 1715	0	0	20	4	0	0	0	**24**	0	0	7	0	0	0	0	**7**	0	0	5	0	0	0	0	**5**
1715 - 1730	0	0	11	1	0	0	1	**13**	0	0	7	0	0	0	0	**7**	0	0	5	0	0	0	0	**5**
1730 - 1745	0	0	19	2	0	0	0	**21**	0	0	8	0	0	0	0	**8**	0	0	5	0	0	0	0	**5**
1745 - 1800	0	0	9	1	0	0	0	**10**	0	0	9	0	0	0	0	**9**	0	0	3	1	0	0	0	**4**
Hourly Total	**0**	**0**	**59**	**8**	**0**	**0**	**1**	**68**	**0**	**0**	**31**	**0**	**0**	**0**	**0**	**31**	**0**	**0**	**18**	**1**	**0**	**0**	**0**	**19**
1800 - 1815	0	0	22	3	0	0	1	**26**	0	0	3	0	0	0	0	**3**	0	0	3	1	0	0	0	**4**
1815 - 1830	0	0	16	1	0	0	0	**17**	0	0	4	0	0	0	0	**4**	0	0	2	1	0	0	0	**3**
Hourly Total	**0**	**0**	**38**	**4**	**0**	**0**	**1**	**43**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**5**	**2**	**0**	**0**	**0**	**7**
Session Total	**0**	**0**	**137**	**17**	**0**	**0**	**3**	**157**	**0**	**0**	**49**	**4**	**0**	**0**	**0**	**53**	**0**	**0**	**31**	**3**	**0**	**0**	**0**	**34**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (2) Manor Road / Church Road

Approach: Church Road (East)

	Left to Manor Road (South)								Ahead to Church Road (West)								Right to Manor Road (North)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	1	2	5	0	0	0	**8**	0	1	55	15	4	0	0	**75**	0	0	4	2	0	0	0	**6**
0745 - 0800	0	0	6	2	0	0	0	**8**	0	0	71	11	2	0	0	**84**	1	0	13	2	0	0	1	**17**
Hourly Total	**0**	**1**	**8**	**7**	**0**	**0**	**0**	**16**	**0**	**1**	**126**	**26**	**6**	**0**	**0**	**159**	**1**	**0**	**17**	**4**	**0**	**0**	**1**	**23**
0800 - 0815	0	0	2	2	1	0	0	**5**	0	0	62	16	1	3	0	**82**	0	0	15	4	0	0	0	**19**
0815 - 0830	0	0	8	3	0	0	0	**11**	0	0	53	10	2	4	0	**69**	0	0	6	3	0	0	1	**10**
0830 - 0845	0	0	4	0	0	0	0	**4**	0	0	60	18	2	1	0	**81**	0	0	17	2	0	0	0	**19**
0845 - 0900	0	0	10	1	0	0	0	**11**	0	2	63	15	1	2	1	**84**	0	1	24	1	0	0	1	**27**
Hourly Total	**0**	**0**	**24**	**6**	**1**	**0**	**0**	**31**	**0**	**2**	**238**	**59**	**6**	**10**	**1**	**316**	**0**	**1**	**62**	**10**	**0**	**0**	**2**	**75**
0900 - 0915	0	0	7	1	1	0	0	**9**	0	1	62	12	3	1	1	**80**	0	0	22	4	0	0	0	**26**
0915 - 0930	0	0	4	3	0	0	0	**7**	0	0	44	9	3	1	0	**57**	0	0	16	2	0	0	1	**19**
Hourly Total	**0**	**0**	**11**	**4**	**1**	**0**	**0**	**16**	**0**	**1**	**106**	**21**	**6**	**2**	**1**	**137**	**0**	**0**	**38**	**6**	**0**	**0**	**1**	**45**
Session Total	**0**	**1**	**43**	**17**	**2**	**0**	**0**	**63**	**0**	**4**	**470**	**106**	**18**	**12**	**2**	**612**	**1**	**1**	**117**	**20**	**0**	**0**	**4**	**143**
1630 - 1645	0	0	3	0	0	0	0	**3**	0	0	67	8	0	2	0	**77**	0	0	40	4	0	0	1	**45**
1645 - 1700	0	0	10	1	0	0	0	**11**	0	1	62	10	1	1	2	**77**	0	0	27	2	0	0	2	**31**
Hourly Total	**0**	**0**	**13**	**1**	**0**	**0**	**0**	**14**	**0**	**1**	**129**	**18**	**1**	**3**	**2**	**154**	**0**	**0**	**67**	**6**	**0**	**0**	**3**	**76**
1700 - 1715	0	0	9	3	0	0	0	**12**	0	0	79	14	0	0	0	**93**	0	0	30	2	0	0	0	**32**
1715 - 1730	0	0	3	1	0	0	0	**4**	0	0	55	9	0	0	0	**64**	0	0	26	3	0	0	0	**29**
1730 - 1745	0	0	5	0	0	0	0	**5**	0	0	62	8	1	0	0	**71**	0	0	25	4	0	0	0	**29**
1745 - 1800	0	0	4	0	0	0	0	**4**	1	0	47	2	0	0	0	**50**	0	0	56	2	0	0	1	**59**
Hourly Total	**0**	**0**	**21**	**4**	**0**	**0**	**0**	**25**	**1**	**0**	**243**	**33**	**1**	**0**	**0**	**278**	**0**	**0**	**137**	**11**	**0**	**0**	**1**	**149**
1800 - 1815	0	0	9	0	0	0	0	**9**	0	2	44	8	0	0	0	**54**	0	0	28	1	0	0	1	**30**
1815 - 1830	0	0	2	0	0	0	0	**2**	0	0	41	6	0	0	0	**47**	0	0	27	4	0	0	1	**32**
Hourly Total	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**11**	**0**	**2**	**85**	**14**	**0**	**0**	**0**	**101**	**0**	**0**	**55**	**5**	**0**	**0**	**2**	**62**
Session Total	**0**	**0**	**45**	**5**	**0**	**0**	**0**	**50**	**1**	**3**	**457**	**65**	**2**	**3**	**2**	**533**	**0**	**0**	**259**	**22**	**0**	**0**	**6**	**287**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (2) Manor Road / Church Road

Approach: Manor Road (South)

	Left to Church Road (West)								Ahead to Manor Road (North)								Right to Church Road (East)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	0	0	1	0	0	0	**1**	0	0	2	1	0	0	0	**3**	0	0	1	0	0	0	0	**1**
0745 - 0800	0	0	0	1	0	0	0	**1**	0	0	4	2	0	0	0	**6**	0	0	0	2	0	0	0	**2**
Hourly Total	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**6**	**3**	**0**	**0**	**0**	**9**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**3**
0800 - 0815	0	0	0	0	0	0	0	**0**	0	0	5	1	0	0	0	**6**	0	1	4	1	0	0	0	**6**
0815 - 0830	0	0	6	0	1	0	0	**7**	0	0	3	2	0	0	0	**5**	0	0	5	1	0	0	0	**6**
0830 - 0845	0	0	1	1	0	0	0	**2**	0	0	5	1	0	0	0	**6**	0	0	4	0	0	0	0	**4**
0845 - 0900	0	0	0	0	0	0	0	**0**	0	0	14	0	0	0	0	**14**	0	0	6	1	0	0	0	**7**
Hourly Total	**0**	**0**	**7**	**1**	**1**	**0**	**0**	**9**	**0**	**0**	**27**	**4**	**0**	**0**	**0**	**31**	**0**	**1**	**19**	**3**	**0**	**0**	**0**	**23**
0900 - 0915	0	0	3	0	0	0	0	**3**	0	0	9	0	0	0	0	**9**	0	0	2	1	0	0	0	**3**
0915 - 0930	0	0	2	0	0	0	0	**2**	0	0	2	0	0	0	0	**2**	0	0	3	0	0	0	0	**3**
Hourly Total	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**6**
Session Total	**0**	**0**	**12**	**3**	**1**	**0**	**0**	**16**	**0**	**0**	**44**	**7**	**0**	**0**	**0**	**51**	**0**	**1**	**25**	**6**	**0**	**0**	**0**	**32**
1630 - 1645	0	0	3	0	0	0	0	**3**	1	0	7	1	0	0	0	**9**	0	0	4	2	0	0	0	**6**
1645 - 1700	0	0	3	0	0	0	0	**3**	0	0	7	2	0	0	0	**9**	0	0	3	1	0	0	0	**4**
Hourly Total	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**	**1**	**0**	**14**	**3**	**0**	**0**	**0**	**18**	**0**	**0**	**7**	**3**	**0**	**0**	**0**	**10**
1700 - 1715	0	0	3	2	0	0	0	**5**	0	0	18	2	0	0	0	**20**	0	0	2	1	0	0	0	**3**
1715 - 1730	0	0	1	0	0	0	0	**1**	0	0	2	1	0	0	0	**3**	0	0	3	0	0	0	0	**3**
1730 - 1745	0	0	5	0	0	0	0	**5**	0	0	8	0	0	0	0	**8**	0	0	2	0	1	0	0	**3**
1745 - 1800	0	0	1	1	0	0	0	**2**	0	0	17	3	0	0	0	**20**	0	0	4	0	0	0	0	**4**
Hourly Total	**0**	**0**	**10**	**3**	**0**	**0**	**0**	**13**	**0**	**0**	**45**	**6**	**0**	**0**	**0**	**51**	**0**	**0**	**11**	**1**	**1**	**0**	**0**	**13**
1800 - 1815	0	0	3	0	0	0	0	**3**	0	0	8	0	0	0	0	**8**	0	0	5	0	0	0	0	**5**
1815 - 1830	0	0	1	1	0	0	0	**2**	0	0	4	0	0	0	0	**4**	0	0	1	0	0	0	0	**1**
Hourly Total	**0**	**0**	**4**	**1**	**0**	**0**	**0**	**5**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**
Session Total	**0**	**0**	**20**	**4**	**0**	**0**	**0**	**24**	**1**	**0**	**71**	**9**	**0**	**0**	**0**	**81**	**0**	**0**	**24**	**4**	**1**	**0**	**0**	**29**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (2) Manor Road / Church Road

Approach: Church Road (West)

	Left to Manor Road (North)								Ahead to Church Road (East)								Right to Manor Road (South)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	0	2	1	0	0	0	**3**	1	0	52	22	2	2	1	**80**	0	0	4	0	0	0	0	**4**
0745 - 0800	0	0	3	0	0	0	0	**3**	0	0	64	18	1	1	0	**84**	0	0	4	0	0	0	0	**4**
Hourly Total	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**6**	**1**	**0**	**116**	**40**	**3**	**3**	**1**	**164**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**8**
0800 - 0815	0	0	2	0	0	0	0	**2**	0	2	79	19	1	1	0	**102**	0	0	2	0	0	0	0	**2**
0815 - 0830	0	0	1	0	0	0	0	**1**	0	0	83	11	1	4	0	**99**	0	0	0	0	0	0	0	**0**
0830 - 0845	0	0	6	0	0	0	0	**6**	0	0	82	13	0	1	0	**96**	0	0	4	2	0	0	0	**6**
0845 - 0900	0	0	5	1	0	0	0	**6**	0	0	58	11	1	1	0	**71**	0	0	1	0	0	0	0	**1**
Hourly Total	**0**	**0**	**14**	**1**	**0**	**0**	**0**	**15**	**0**	**2**	**302**	**54**	**3**	**7**	**0**	**368**	**0**	**0**	**7**	**2**	**0**	**0**	**0**	**9**
0900 - 0915	0	0	3	2	0	0	0	**5**	0	1	54	15	6	1	0	**77**	0	0	5	0	0	0	0	**5**
0915 - 0930	0	0	4	0	0	0	0	**4**	0	1	62	23	0	1	1	**88**	0	0	3	1	0	0	0	**4**
Hourly Total	**0**	**0**	**7**	**2**	**0**	**0**	**0**	**9**	**0**	**2**	**116**	**38**	**6**	**2**	**1**	**165**	**0**	**0**	**8**	**1**	**0**	**0**	**0**	**9**
Session Total	**0**	**0**	**26**	**4**	**0**	**0**	**0**	**30**	**1**	**4**	**534**	**132**	**12**	**12**	**2**	**697**	**0**	**0**	**23**	**3**	**0**	**0**	**0**	**26**
1630 - 1645	0	0	3	0	0	0	0	**3**	0	0	64	15	0	0	0	**79**	0	0	4	0	0	0	0	**4**
1645 - 1700	0	0	3	1	0	0	0	**4**	0	0	74	7	0	0	0	**81**	0	0	3	0	0	0	0	**3**
Hourly Total	**0**	**0**	**6**	**1**	**0**	**0**	**0**	**7**	**0**	**0**	**138**	**22**	**0**	**0**	**0**	**160**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**7**
1700 - 1715	0	0	3	0	0	0	0	**3**	0	0	64	5	2	1	0	**72**	0	1	2	0	0	0	0	**3**
1715 - 1730	0	0	9	2	0	0	0	**11**	0	0	63	14	1	0	0	**78**	0	0	1	0	0	0	0	**1**
1730 - 1745	0	0	5	0	0	0	0	**5**	0	0	83	9	0	0	1	**93**	0	0	7	0	0	0	0	**7**
1745 - 1800	0	0	10	1	0	0	0	**11**	0	0	73	12	0	0	0	**85**	0	0	7	0	0	0	0	**7**
Hourly Total	**0**	**0**	**27**	**3**	**0**	**0**	**0**	**30**	**0**	**0**	**283**	**40**	**3**	**1**	**1**	**328**	**0**	**1**	**17**	**0**	**0**	**0**	**0**	**18**
1800 - 1815	0	0	11	2	0	0	0	**13**	1	0	62	9	1	0	0	**73**	0	0	5	2	0	0	0	**7**
1815 - 1830	0	0	8	0	0	0	0	**8**	0	1	63	6	0	0	0	**70**	0	0	5	0	0	0	0	**5**
Hourly Total	**0**	**0**	**19**	**2**	**0**	**0**	**0**	**21**	**1**	**1**	**125**	**15**	**1**	**0**	**0**	**143**	**0**	**0**	**10**	**2**	**0**	**0**	**0**	**12**
Session Total	**0**	**0**	**52**	**6**	**0**	**0**	**0**	**58**	**1**	**1**	**546**	**77**	**4**	**1**	**1**	**631**	**0**	**1**	**34**	**2**	**0**	**0**	**0**	**37**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (3) Armstrong Road / Church Road

Approach: Armstrong Road

	Left to Church Road (East)								Right to Church Road (West)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	0	1	2	1	0	0	**4**	0	0	1	8	4	0	0	**13**
0745 - 0800	0	0	2	6	1	0	0	**9**	0	0	4	5	2	0	0	**11**
Hourly Total	**0**	**0**	**3**	**8**	**2**	**0**	**0**	**13**	**0**	**0**	**5**	**13**	**6**	**0**	**0**	**24**
0800 - 0815	0	0	3	7	0	0	0	**10**	0	0	4	11	2	2	0	**19**
0815 - 0830	0	0	5	8	0	0	0	**13**	0	0	5	9	3	3	0	**20**
0830 - 0845	0	0	9	7	1	0	0	**17**	0	0	6	8	0	1	0	**15**
0845 - 0900	0	0	7	6	0	0	0	**13**	0	0	6	6	1	2	0	**15**
Hourly Total	**0**	**0**	**24**	**28**	**1**	**0**	**0**	**53**	**0**	**0**	**21**	**34**	**6**	**8**	**0**	**69**
0900 - 0915	0	0	3	7	1	0	0	**11**	0	0	8	6	2	1	0	**17**
0915 - 0930	0	0	1	7	1	0	0	**9**	0	0	8	5	3	2	0	**18**
Hourly Total	**0**	**0**	**4**	**14**	**2**	**0**	**0**	**20**	**0**	**0**	**16**	**11**	**5**	**3**	**0**	**35**
Session Total	**0**	**0**	**31**	**50**	**5**	**0**	**0**	**86**	**0**	**0**	**42**	**58**	**17**	**11**	**0**	**128**
1630 - 1645	0	0	45	5	0	0	0	**50**	0	0	13	5	0	2	0	**20**
1645 - 1700	1	0	17	5	0	0	0	**23**	0	1	18	2	0	1	0	**22**
Hourly Total	**1**	**0**	**62**	**10**	**0**	**0**	**0**	**73**	**0**	**1**	**31**	**7**	**0**	**3**	**0**	**42**
1700 - 1715	0	0	61	10	0	0	0	**71**	0	0	31	4	0	0	0	**35**
1715 - 1730	0	0	11	5	1	0	0	**17**	0	0	13	6	0	0	0	**19**
1730 - 1745	1	0	28	3	0	0	0	**32**	0	0	14	4	0	0	0	**18**
1745 - 1800	0	0	12	3	0	0	0	**15**	0	0	7	1	0	0	0	**8**
Hourly Total	**1**	**0**	**112**	**21**	**1**	**0**	**0**	**135**	**0**	**0**	**65**	**15**	**0**	**0**	**0**	**80**
1800 - 1815	0	0	11	1	0	0	0	**12**	0	0	5	1	0	0	0	**6**
1815 - 1830	0	0	6	1	0	0	0	**7**	0	0	3	1	0	0	0	**4**
Hourly Total	**0**	**0**	**17**	**2**	**0**	**0**	**0**	**19**	**0**	**0**	**8**	**2**	**0**	**0**	**0**	**10**
Session Total	**2**	**0**	**191**	**33**	**1**	**0**	**0**	**227**	**0**	**1**	**104**	**24**	**0**	**3**	**0**	**132**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (3) Armstrong Road / Church Road

Approach: Church Road (East)

	Ahead to Church Road (West)								Right to Armstrong Road							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	2	61	11	0	0	0	**74**	0	0	17	12	0	0	0	**29**
0745 - 0800	1	0	87	11	0	0	1	**100**	0	1	39	7	1	0	0	**48**
Hourly Total	**1**	**2**	**148**	**22**	**0**	**0**	**1**	**174**	**0**	**1**	**56**	**19**	**1**	**0**	**0**	**77**
0800 - 0815	0	0	78	10	0	1	0	**89**	2	0	15	5	0	0	0	**22**
0815 - 0830	0	0	63	6	0	1	1	**71**	0	0	17	6	0	0	0	**23**
0830 - 0845	0	0	76	14	1	0	0	**91**	0	0	18	3	0	1	0	**22**
0845 - 0900	0	2	89	12	0	0	2	**105**	0	0	19	8	0	0	0	**27**
Hourly Total	**0**	**2**	**306**	**42**	**1**	**2**	**3**	**356**	**2**	**0**	**69**	**22**	**0**	**1**	**0**	**94**
0900 - 0915	0	1	83	10	2	0	1	**97**	1	0	15	4	0	0	0	**20**
0915 - 0930	0	0	57	10	0	0	1	**68**	0	0	12	2	0	0	0	**14**
Hourly Total	**0**	**1**	**140**	**20**	**2**	**0**	**2**	**165**	**1**	**0**	**27**	**6**	**0**	**0**	**0**	**34**
Session Total	**1**	**5**	**594**	**84**	**3**	**2**	**6**	**695**	**3**	**1**	**152**	**47**	**1**	**1**	**0**	**205**
1630 - 1645	0	0	95	9	0	0	1	**105**	0	0	7	5	0	0	0	**12**
1645 - 1700	0	1	80	8	1	0	3	**93**	0	0	13	0	1	0	0	**14**
Hourly Total	**0**	**1**	**175**	**17**	**1**	**0**	**4**	**198**	**0**	**0**	**20**	**5**	**1**	**0**	**0**	**26**
1700 - 1715	0	0	86	15	0	0	1	**102**	0	0	10	1	0	0	0	**11**
1715 - 1730	0	0	73	7	0	0	0	**80**	0	0	7	2	0	0	0	**9**
1730 - 1745	0	0	80	6	0	0	0	**86**	0	0	4	0	0	0	0	**4**
1745 - 1800	0	1	99	4	1	0	1	**106**	0	0	4	0	0	0	0	**4**
Hourly Total	**0**	**1**	**338**	**32**	**1**	**0**	**2**	**374**	**0**	**0**	**25**	**3**	**0**	**0**	**0**	**28**
1800 - 1815	0	1	76	7	0	0	1	**85**	0	0	3	0	0	0	0	**3**
1815 - 1830	0	0	68	10	0	0	1	**79**	0	0	3	0	0	0	0	**3**
Hourly Total	**0**	**1**	**144**	**17**	**0**	**0**	**2**	**164**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**
Session Total	**0**	**3**	**657**	**66**	**2**	**0**	**8**	**736**	**0**	**0**	**51**	**8**	**1**	**0**	**0**	**60**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (3) Armstrong Road / Church Road

Approach: Church Road (West)

	Left to Armstrong Road								Ahead to Church Road (East)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	1	0	14	9	2	2	0	**28**	0	0	70	20	0	0	2	**92**
0745 - 0800	0	0	28	11	1	1	0	**41**	0	0	59	10	0	0	2	**71**
Hourly Total	**1**	**0**	**42**	**20**	**3**	**3**	**0**	**69**	**0**	**0**	**129**	**30**	**0**	**0**	**4**	**163**
0800 - 0815	0	1	24	13	1	0	0	**39**	0	2	88	11	0	1	1	**103**
0815 - 0830	0	0	20	6	2	3	0	**31**	0	0	113	9	0	0	0	**122**
0830 - 0845	0	0	18	7	0	1	0	**26**	0	1	100	8	0	0	1	**110**
0845 - 0900	0	0	18	5	0	2	0	**25**	0	0	74	8	1	0	1	**84**
Hourly Total	**0**	**1**	**80**	**31**	**3**	**6**	**0**	**121**	**0**	**3**	**375**	**36**	**1**	**1**	**3**	**419**
0900 - 0915	0	0	13	9	3	1	0	**26**	0	1	68	8	2	0	0	**79**
0915 - 0930	0	0	12	10	1	1	0	**24**	0	1	69	13	0	0	1	**84**
Hourly Total	**0**	**0**	**25**	**19**	**4**	**2**	**0**	**50**	**0**	**2**	**137**	**21**	**2**	**0**	**1**	**163**
Session Total	**1**	**1**	**147**	**70**	**10**	**11**	**0**	**240**	**0**	**5**	**641**	**87**	**3**	**1**	**8**	**745**
1630 - 1645	0	0	2	5	0	0	0	**7**	0	0	86	12	0	0	1	**99**
1645 - 1700	0	0	9	1	0	0	0	**10**	0	0	93	9	0	0	0	**102**
Hourly Total	**0**	**0**	**11**	**6**	**0**	**0**	**0**	**17**	**0**	**0**	**179**	**21**	**0**	**0**	**1**	**201**
1700 - 1715	0	0	2	2	1	0	0	**5**	0	0	87	9	1	1	0	**98**
1715 - 1730	0	0	3	3	1	0	0	**7**	0	2	74	11	0	0	1	**88**
1730 - 1745	0	0	13	0	0	0	0	**13**	0	0	94	13	1	0	1	**109**
1745 - 1800	0	0	5	1	0	0	0	**6**	1	0	84	11	0	0	0	**96**
Hourly Total	**0**	**0**	**23**	**6**	**2**	**0**	**0**	**31**	**1**	**2**	**339**	**44**	**2**	**1**	**2**	**391**
1800 - 1815	0	0	2	2	0	0	0	**4**	0	1	83	10	1	0	1	**96**
1815 - 1830	0	0	4	1	0	0	0	**5**	0	1	78	6	0	0	0	**85**
Hourly Total	**0**	**0**	**6**	**3**	**0**	**0**	**0**	**9**	**0**	**2**	**161**	**16**	**1**	**0**	**1**	**181**
Session Total	**0**	**0**	**40**	**15**	**2**	**0**	**0**	**57**	**1**	**4**	**679**	**81**	**3**	**1**	**4**	**773**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (4) Heston Lodge / Church Road

Approach: Heston Lodge

	Left to Church Road (East)								Right to Church Road (West)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
0745 - 0800	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
0815 - 0830	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
0830 - 0845	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
0845 - 0900	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0900 - 0915	0	0	2	0	0	0	0	**2**	0	0	2	0	0	0	0	**2**
0915 - 0930	0	0	1	0	0	0	0	**1**	0	0	1	0	0	0	0	**1**
Hourly Total	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
Session Total	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1630 - 1645	0	0	3	0	0	0	0	**3**	0	0	5	0	0	0	0	**5**
1645 - 1700	0	0	0	0	0	0	0	**0**	0	0	1	0	0	0	0	**1**
Hourly Total	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**
1700 - 1715	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
1715 - 1730	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
1730 - 1745	0	0	0	0	0	0	0	**0**	0	0	1	0	0	0	0	**1**
1745 - 1800	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1800 - 1815	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
1815 - 1830	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Session Total	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**7**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (4) Heston Lodge / Church Road

Approach: Church Road (East)

	Ahead to Church Road (West)								Right to Heston Lodge							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	1	106	18	0	0	0	**125**	0	0	0	0	0	0	0	**0**
0745 - 0800	0	0	135	19	1	0	0	**155**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**1**	**241**	**37**	**1**	**0**	**0**	**280**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0800 - 0815	3	1	106	21	0	0	0	**131**	0	0	0	0	0	0	0	**0**
0815 - 0830	1	0	103	12	0	0	0	**116**	0	0	3	0	0	0	0	**3**
0830 - 0845	0	0	114	12	1	0	0	**127**	0	0	0	0	0	0	0	**0**
0845 - 0900	0	1	108	15	0	0	0	**124**	0	0	1	0	0	0	0	**1**
Hourly Total	**4**	**2**	**431**	**60**	**1**	**0**	**0**	**498**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**4**
0900 - 0915	1	1	114	8	0	0	0	**124**	0	0	1	0	0	0	0	**1**
0915 - 0930	0	0	73	6	0	0	0	**79**	0	0	0	0	0	0	0	**0**
Hourly Total	**1**	**1**	**187**	**14**	**0**	**0**	**0**	**203**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
Session Total	**5**	**4**	**859**	**111**	**2**	**0**	**0**	**981**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**
1630 - 1645	0	0	106	12	1	0	0	**119**	0	0	0	0	0	0	0	**0**
1645 - 1700	1	0	97	10	0	0	0	**108**	0	0	0	0	0	0	0	**0**
Hourly Total	**1**	**0**	**203**	**22**	**1**	**0**	**0**	**227**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1700 - 1715	0	0	101	13	0	0	0	**114**	0	0	0	0	0	0	0	**0**
1715 - 1730	0	0	99	12	0	0	0	**111**	0	0	0	0	0	0	0	**0**
1730 - 1745	1	0	97	10	0	0	0	**108**	0	0	0	0	0	0	0	**0**
1745 - 1800	1	0	97	4	0	0	0	**102**	0	0	0	0	0	0	0	**0**
Hourly Total	**2**	**0**	**394**	**39**	**0**	**0**	**0**	**435**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1800 - 1815	0	0	86	8	1	0	0	**95**	0	0	0	0	0	0	0	**0**
1815 - 1830	0	0	77	6	0	0	0	**83**	0	0	0	0	0	0	0	**0**
Hourly Total	**0**	**0**	**163**	**14**	**1**	**0**	**0**	**178**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Session Total	**3**	**0**	**760**	**75**	**2**	**0**	**0**	**840**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

South Benfleet - Manual Traffic Survey, Wednesday 31st October 2018

Junction: (4) Heston Lodge / Church Road

Approach: Church Road (West)

	Left to Heston Lodge								Ahead to Church Road (East)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	**TOTAL**
0730 - 0745	0	0	0	0	0	0	0	**0**	0	0	74	18	0	0	1	**93**
0745 - 0800	0	0	0	1	0	0	0	**1**	0	0	66	17	0	0	2	**85**
Hourly Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**140**	**35**	**0**	**0**	**3**	**178**
0800 - 0815	0	0	0	0	0	0	0	**0**	0	1	91	17	0	1	0	**110**
0815 - 0830	0	0	4	0	0	0	0	**4**	0	0	123	13	0	0	0	**136**
0830 - 0845	0	0	0	0	0	0	0	**0**	0	1	115	17	0	0	0	**133**
0845 - 0900	0	0	3	0	0	0	0	**3**	0	0	96	12	1	0	1	**110**
Hourly Total	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**7**	**0**	**2**	**425**	**59**	**1**	**1**	**1**	**489**
0900 - 0915	0	0	1	0	0	0	0	**1**	0	1	78	18	3	0	0	**100**
0915 - 0930	0	0	2	0	0	0	0	**2**	0	1	64	22	1	0	0	**88**
Hourly Total	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**0**	**2**	**142**	**40**	**4**	**0**	**0**	**188**
Session Total	**0**	**0**	**10**	**1**	**0**	**0**	**0**	**11**	**0**	**4**	**707**	**134**	**5**	**1**	**4**	**855**
1630 - 1645	0	0	1	0	0	0	0	**1**	0	0	118	18	0	0	0	**136**
1645 - 1700	0	0	0	0	0	0	0	**0**	0	0	116	13	0	0	0	**129**
Hourly Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**234**	**31**	**0**	**0**	**0**	**265**
1700 - 1715	0	0	0	0	0	0	0	**0**	2	0	142	17	0	1	0	**162**
1715 - 1730	0	0	0	0	0	0	0	**0**	1	1	88	18	2	0	0	**110**
1730 - 1745	0	0	0	0	0	0	0	**0**	0	0	117	13	1	0	0	**131**
1745 - 1800	0	0	0	0	0	0	0	**0**	1	0	101	13	0	0	0	**115**
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**1**	**448**	**61**	**3**	**1**	**0**	**518**
1800 - 1815	0	0	0	0	0	0	0	**0**	1	0	94	7	1	0	0	**103**
1815 - 1830	0	0	0	0	0	0	0	**0**	0	1	85	6	0	0	0	**92**
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**179**	**13**	**1**	**0**	**0**	**195**
Session Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**5**	**2**	**861**	**105**	**4**	**1**	**0**	**978**

APPENDIX G:

TRANSYT OUTPUTS

TRANSYT 15

Version: 15.5.3.7

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

Filename: Base 2028, AM.t15
Path: C:\ITL Jobs\IT1929 Manor Trading Estate, Commercial\TRANSYT\A13 - Rushbottom Lane\Base 2028
Report generation date: 04/02/2021 10:39:31

File summary

File description

File title	Church Road - Manor Road
Location	
Site number	
UTCRegion	
Driving side	Left
Date	13/06/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	INTER-MODAL\dshrivastava
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

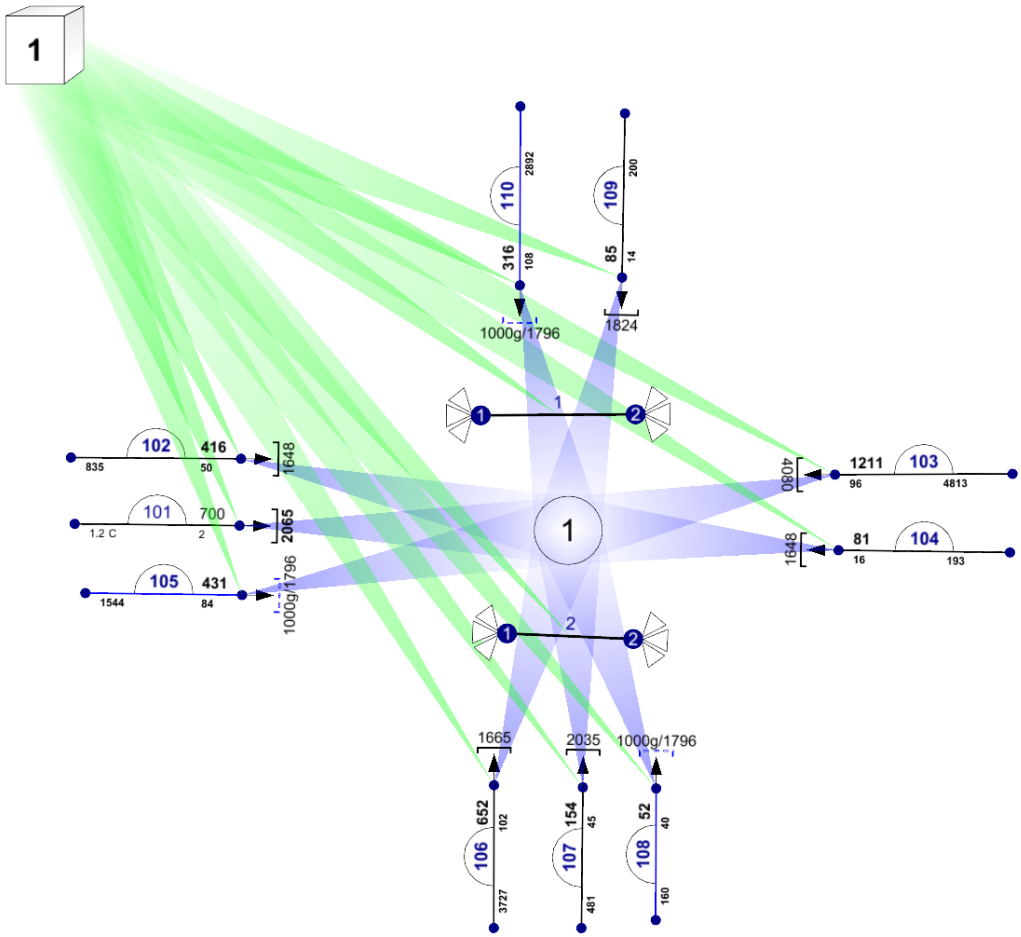
Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Network Diagrams



Church Road - Manor Road
Cycletime 0s / 120s , Timesteps 119 / 120
Diagram produced using TRANSYT 15.5.3.7

A1 - (untitled)
D1 - Base 2028, AM Peak*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	04/02/2021 10:39:23	04/02/2021 10:39:26	08:00	120	1296.03	87.05	107.97	110	3	21	110		11

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
(untitled)		D1	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
Base 2028, AM Peak				08:00	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
120		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
1	(untitled)	

Links

Links

Link	Name	Description	Traffic node	Length (m)	Has Saturation Flow	Use RR67	Saturation flow (PCU/hr)	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Is minor shared	Allow Nearside Turn On Red
101	(untitled)		1	100.00	✓	✓	2065		✓		Normal		
102	(untitled)		1	100.00	✓	✓	1648	1800	✓		Normal		
103	(untitled)		1	100.00	✓	✓	4080		✓		Normal		
104	(untitled)		1	100.00	✓	✓	1648	1800	✓		Normal		
105	(untitled)		1	100.00	✓	✓	1796		✓	✓	Normal		
106	(untitled)		1	100.00	✓	✓	1665		✓		Normal		
107	(untitled)		1	100.00	✓	✓	2035		✓		Normal		
108	(untitled)		1	100.00	✓	✓	1796	1800	✓	✓	Normal		
109	(untitled)		1	100.00	✓	✓	1824		✓		Normal		
110	(untitled)		1	100.00	✓	✓	1796	1800	✓	✓	Normal		

Modelling

Link	Traffic model	Stop weighting (%)	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
101	NetworkDefault	100	100	100		0.00		
102	Flare	100	100	100		0.00		
103	NetworkDefault	100	100	100		0.00		
104	Flare	100	100	100		0.00		
105	NetworkDefault	100	100	100		0.00		
106	NetworkDefault	100	100	100		0.00		
107	NetworkDefault	100	100	100		0.00		
108	Flare	100	100	100		0.00		
109	NetworkDefault	100	100	100		0.00		
110	Flare	100	100	100		0.00		

Modelling - Normal traffic - Advanced

Link	Dispersion type for Normal Traffic	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	NetworkDefault	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120

Flows

Link	Total flow (PCU/hr)	PCU Factor
101	700	1.00
102	416	1.00
103	1211	1.00
104	81	1.00
105	431	1.00
106	652	1.00
107	154	1.00
108	52	1.00
109	85	1.00
110	316	1.00

Flows - Advanced

Link	Detectors
(ALL)	

Signals

Link	Controller stream	Phase	Second phase enabled
101	1	A1	
102	1	A2	
103	1	B1	
104	1	B2	
105	1	C	
106	1	D	
107	1	E1	
108	1	E2	
109	1	F	
110	1	G	

Entry Sources

Link	Cruise time (seconds)	Cruise speed (kph)
(ALL)	12.00	30.00

Give way data

Link	Same as major link	Percentage opposed (%)	Opposed By Conflict 1 Only (%)	Max Flow (Opposed) (PCU/hr)	Max Flow (Unopposed) (PCU/hr)	Max congested capacity (PCU/hr)	Use Step-wise Opposed Turn Model	Visibility restricted
105	✓	100	0	1000	1796			
108	✓	100	0	1000	1796	0		
110	✓	100	0	1000	1796	0		

Give Way Data - Conflicts

Link	Conflict	Description	Controlling type	Controlling link	Percentage opposing (%)	Slope coefficient	Upstream signals visible	Conflict shift	Conflict duration
105	1		Link	103	100	0.50		0	0
	2		Link	104	100	0.50		0	0
108	1		Link	109	100	0.50		0	0
110	1		Link	107	100	0.50		0	0
	2		Link	106	100	0.50		0	0

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
(ALL)	(untitled)				Farside	3.00	2.00	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	H	
2	1	I	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Signal Timings

Network Default: 120s cycle time; 120 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	120

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	5	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Pedestrian	0
	I	(untitled)	7	300	0	0	Pedestrian	0
	A1	(untitled)	7	300	0	0	Traffic	
	B1	(untitled)	1	300	0	0	Traffic	
	E1	(untitled)	1	300	0	0	Traffic	
	A2	(untitled)	7	300	0	0	Traffic	
	B2	(untitled)	7	300	0	0	Traffic	
	E2	(untitled)	5	300	0	0	Traffic	

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	A1, A2, B1, B2, C, I	7
	2	A1, A2, C, D	1
	3	D, E1, E2, F, G	7
	4	F, G, I	1
	5	B1, B2, H	5

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4, 5	17, 51, 75, 94, 106

Intergreen Matrix for Controller Stream 1

		To											
		C	D	F	G	H	I	A1	B1	E1	A2	B2	E2
From	C			5	5					5			5
	D						5		5			5	
	F	7				5		7	7		7	7	
	G	7				5		7	5		7	5	
	H			5	5			0		5	5		5
	I		13							13			13
	A1			5	5	9				5			5
	B1		7	5	5					6			6
	E1	5				10	5	6	5		6	5	
	A2			5	5	9				5			5
	B2		7	5	5					6			6
	E2	5				10	5	6	5		6	5	

Banned Stage transitions for Controller Stream 1

		To				
		1	2	3	4	5
From	1					
	2					
	3					
	4					
	5					

Interstage Matrix for Controller Stream 1

		To				
		1	2	3	4	5
From	1	0	13	13	5	9
	2	5	0	5	5	9
	3	7	7	0	5	10
	4	7	13	13	0	7
	5	5	7	7	5	0

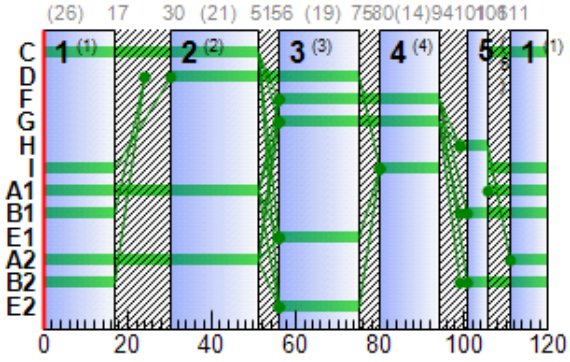
Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A1,A2,B1,B2,C,I	111	17	26	7	7
	2	✓	2	A1,A2,C,D	30	51	21	1	1
	3	✓	3	D,E1,E2,F,G	56	75	19	7	7
	4	✓	4	F,G,I	80	94	14	1	7
	5	✓	5	B1,B2,H	101	106	5	5	5

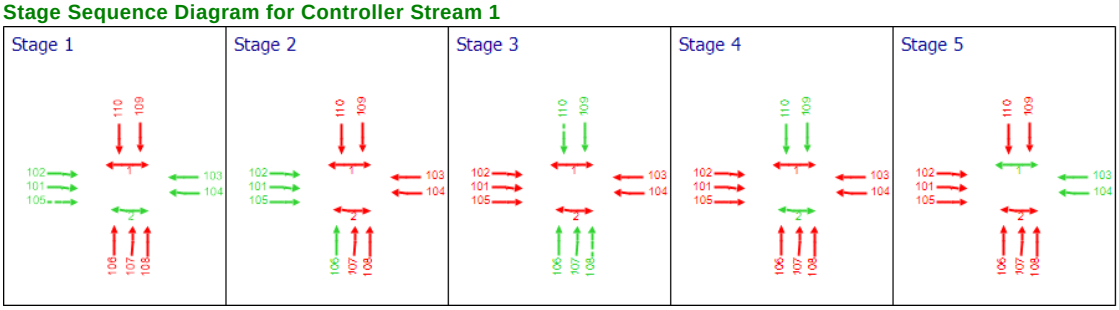
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	C	1	✓	106	51	65
	D	1	✓	30	75	45
	F	1	✓	56	94	38
	G	1	✓	56	94	38
	H	1	✓	99	106	7
	I	1	✓	80	94	14
		2	✓	106	17	31
	A1	1	✓	106	51	65
	B1	1	✓	101	17	36
	E1	1	✓	56	75	19
	A2	1	✓	111	51	60
	B2	1	✓	101	17	36
	E2	1	✓	56	75	19

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
08:00-09:00	1	0.00	0.00	0.00	0.00

Results - Link

Results - Link: Vehicle summary

Time Segment	Link	Name	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Calculated capacity (PCU/hr)	Degree of saturation (%)	Practical reserve capacity (%)	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	JourneyTime (s)
08:00-09:00	101	(untitled)	A1	700	2065	65	1136	62	46	20.92	16.24	83.67	32.92
	102	(untitled)	A2	416	1648	60	838	50	81	21.51	8.35	49.35	33.51
	103	(untitled)	B1	1211	4080	36	1258	96	-7	66.90	48.13	125.48	78.90
	104	(untitled)	B2	81	1648	36	508	16	465	30.88	1.93	11.39	42.88
	105	(untitled)	C	431	935	65	514	84	7	57.13	15.44	91.43	69.13
	106	(untitled)	D	652	1665	45	638	102	-12	125.52	37.27	238.12	137.52
	107	(untitled)	E1	154	2035	19	339	45	98	49.47	4.81	25.13	61.47
	108	(untitled)	E2	52	785	19	131	40	127	56.14	1.60	9.48	68.14
	109	(untitled)	F	85	1824	38	593	14	528	29.19	2.00	11.64	41.19
	110	(untitled)	G	293	901	38	293	108	-17	296.52	28.92	170.91	308.52

Results - Traffic Stream

Data Entry - Stage Start and End

Resultant Stage

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A1,A2,B1,B2,C,I	111	17	26	7	7
	2	✓	2	A1,A2,C,D	30	51	21	1	1
	3	✓	3	D,E1,E2,F,G	56	75	19	7	7
	4	✓	4	F,G,I	80	94	14	1	7
	5	✓	5	B1,B2,H	101	106	5	5	5

Data Entry - Phase

Phase

Controller Stream	Phase	Phase	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	C	C	7	300	0	0	Traffic
	D	D	7	300	0	0	Traffic
	F	F	5	300	0	0	Traffic
	G	G	7	300	0	0	Traffic
	H	H	7	300	0	0	Pedestrian
	I	I	7	300	0	0	Pedestrian
	A1	A1	7	300	0	0	Traffic
	B1	B1	1	300	0	0	Traffic
	E1	E1	1	300	0	0	Traffic
	A2	A2	7	300	0	0	Traffic
	B2	B2	7	300	0	0	Traffic
	E2	E2	5	300	0	0	Traffic

Data Entry - Traffic Stream

Data entry - Link

Link

Link	Link	Length (m)	Is minor shared	Traffic model	Max queue storage (PCU)	Traffic type	Has Saturation Flow	Is signal controlled	Is give way	Use RR67	Saturation flow (PCU/hr)	Stop weighting (%)	Delay weighting (%)
101	101	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	2065	100	100
102	102	100.00		Flare	0.00	Normal	✓	✓		✓	1648	100	100
103	103	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	4080	100	100
104	104	100.00		Flare	0.00	Normal	✓	✓		✓	1648	100	100
105	105	100.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1796	100	100
106	106	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1665	100	100
107	107	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	2035	100	100
108	108	100.00		Flare	0.00	Normal	✓	✓	✓	✓	1796	100	100
109	109	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1824	100	100
110	110	100.00		Flare	0.00	Normal	✓	✓	✓	✓	1796	100	100

Results - Pedestrian

Pedestrian Crossings: Pedestrian summary

Time Segment	Pedestrian crossing	Side	Calculated Flow Entering (Ped/hr)	Degree of saturation (%)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)
08:00-09:00	**1**	**1**	0	0	7	0.00	0.00
		2	0	0	7	0.00	0.00
	2	**1**	0	0	45	0.00	0.00
		2	0	0	45	0.00	0.00

Link Results

Link Results: Vehicle summary

Time Segment	Link	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	**101**	62	46	700	2065	65	20.92	16.24	83.67	57.75	5.98	63.73
	102	50	81	416	1648	60	21.51	8.35	49.35	35.30	3.14	38.44
	103	96	-7	1211	4080	36	66.90	48.13	125.48	319.54	17.74	337.28
	104	16	465	81	1648	36	30.88	1.93	11.39	9.86	0.73	10.59
	105	84	7	431	935	65	57.13	15.44	91.43	97.12	5.71	102.83
	106	102	-12	652	1665	45	125.52	37.27	238.12	322.82	13.03	335.85
	107	45	98	154	2035	19	49.47	4.81	25.13	30.05	1.78	31.83
	108	40	127	52	785	19	56.14	1.60	9.48	11.52	0.60	12.12
	109	14	528	85	1824	38	29.19	2.00	11.64	9.79	0.74	10.53
	110	108	-17	293	901	38	296.52	28.92	170.91	342.30	10.53	352.83

Link Results: Flows and signals

Time Segment	Link	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	101	700	700	0		2065	1136	62		46	0.00	65
	102	416	416	0		1648	838	50		81	0.00	60
	103	1211	1211	0		4080	1258	96	✓	-7	0.00	36
	104	81	81	0		1648	508	16		465	0.00	36
	105	431	431	0		935	514	84		7	0.00	65
	106	652	638	0		1665	638	102	✓	-12	0.00	45
	107	154	154	0		2035	339	45		98	0.00	19
	108	52	52	0		785	131	40		127	0.00	19
	109	85	85	0		1824	593	14		528	0.00	38
	110	293	293	23	✓	901	293	108	✓	-17	1.44	38

Link Results: Stops and delays

Time Segment	Link	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	101	12.00	20.92	4.07	57.75	68.08	476.56	5.98
	102	12.00	21.51	2.49	35.30	60.21	250.49	3.14
	103	12.00	66.90	22.50	319.54	116.86	1415.16	17.74
	104	12.00	30.88	0.69	9.86	71.39	57.83	0.73
	105	12.00	57.13	6.84	97.12	105.69	455.51	5.71
	106	12.00	125.52	22.73	322.82	162.83	1039.29	13.03
	107	12.00	49.47	2.12	30.05	92.42	142.32	1.78
	108	12.00	56.14	0.81	11.52	92.32	48.01	0.60
	109	12.00	29.19	0.69	9.79	69.44	59.02	0.74
	110	12.00	296.52	24.11	342.30	286.98	839.87	10.53

Link Results: Queues and blocking

Time Segment	Link	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
08:00-09:00	101	0.00	16.24	19.41	83.67	0.00	0.00	
	102	0.00	8.35	16.92	49.35	0.00	0.00	
	103	0.00	48.13	38.35	125.48	0.00	0.00	
	104	0.00	1.93	16.92	11.39	0.00	0.00	
	105	0.00	15.44	16.88	91.43	0.00	0.00	
	106	0.00	37.27	15.65	238.12	0.00	0.00	
	107	0.00	4.81	19.13	25.13	0.00	0.00	
	108	0.00	1.60	16.92	9.48	0.00	0.00	
	109	0.00	2.00	17.15	11.64	0.00	0.00	
	110	0.00	28.92	16.92	170.91	0.00	0.00	

Link Results: Advanced

Time Segment	Link	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	101	0.00	0.00	✓	16.24	0.49	10.99	1.00	0.00	63.73
	102	0.00	0.00	✓	8.35	0.24	7.63	1.00	0.00	38.44
	103	0.00	0.00	✓	49.41	10.05	37.97	1.00	0.00	337.28
	104	0.00	0.00	✓	1.93	0.02	1.91	1.00	0.00	10.59
	105	0.00	0.00	✓	15.50	2.09	8.56	1.00	0.00	102.83
	106	0.00	0.00	✓	46.80	25.70	38.82	1.00	0.00	335.85
	107	0.00	0.00	✓	4.81	0.19	4.47	1.00	0.00	31.83
	108	0.00	0.00	✓	1.60	0.13	1.59	1.00	0.00	12.12
	109	0.00	0.00	✓	2.00	0.01	1.92	1.00	0.00	10.53
	110	0.00	0.00	✓	41.27	28.45	39.94	1.00	0.00	352.83

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	1	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	0	0	11000	7	0.00	0.00	0.00	0.00
	2	1	0	0	11000	45	0.00	0.00	0.00	0.00
		2	0	0	11000	45	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	1	1	0	0	0		11000	642	0		Unrestricted	0.00	7
		2	0	0	0		11000	642	0		Unrestricted	0.00	7
	2	1	0	0	0		11000	4125	0		Unrestricted	0.00	45
		2	0	0	0		11000	4125	0		Unrestricted	0.00	45

Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
08:00-09:00	(ALL)	(ALL)	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
08:00-09:00	(ALL)	(ALL)	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	(ALL)	(ALL)	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	04/02/2021 10:39:23	04/02/2021 10:39:26	08:00	120	1296.03	87.05	107.97	110	3	21	110		11

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	108	-17	4075	421	76.91	1236.04	59.99	1296.03

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0	0	104	0.00	0.00	0.00

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
08:00-09:00	4075	4061	23	✓	108	✓	-17	525

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	12.00	76.91	87.05	1236.04	117.96	4784.05	59.99

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
08:00-09:00	238.12	0.00	0.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0.00	0.00	✓	1.00	0.00	0.00	1296.03

Final Prediction Table

Link Results

			SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEI
Link	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting (%)
101	(untitled)	1	1	A1	700	2065	65	0.00	62	46	32.92	20.92	68.08	16.24	100
102	(untitled)	1	1	A2	416	1648	60	0.00	50	81	33.51	21.51	60.21	8.35	100
103	(untitled)	1	1	B1	1211 <	4080	36	0.00	96	-7	78.90	66.90	116.86	48.13 +	100
104	(untitled)	1	1	B2	81	1648	36	0.00	16	465	42.88	30.88	71.39	1.93	100
105	(untitled)	1	1	C	431	935	65	0.00	84	7	69.13	57.13	105.69	15.44	100
106	(untitled)	1	1	D	652 <	1665	45	0.00	102	-12	137.52	125.52	162.83	37.27 +	100
107	(untitled)	1	1	E1	154	2035	19	0.00	45	98	61.47	49.47	92.42	4.81	100
108	(untitled)	1	1	E2	52	785	19	0.00	40	127	68.14	56.14	92.32	1.60	100
109	(untitled)	1	1	F	85	1824	38	0.00	14	528	41.19	29.19	69.44	2.00	100
110	(untitled)	1	1	G	293 <	901	38	0.00	108	-17	308.52	296.52	286.98	28.92 +	100

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	(
1	1	(untitled)		1	H	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	H	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
2	1	(untitled)		1	I	0	11000	45	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	I	0	11000	45	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	407.47	100.63	4.05	87.05	1236.04	59.99	0.00	1296.03
Bus								
Tram								
Pedestrians	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	407.47	100.63	4.05	87.05	1236.04	59.99	0.00	1296.03

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 15

Version: 15.5.3.7

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

Filename: Base 2028, PM.t15
Path: C:\ITL Jobs\IT1929 Manor Trading Estate, Commercial\TRANSYT\A13 - Rushbottom Lane\Base 2028
Report generation date: 04/02/2021 10:43:41

File summary

File description

File title	Church Road - Manor Road
Location	
Site number	
UTCRegion	
Driving side	Left
Date	13/06/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	INTER-MODAL\dshrivastava
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

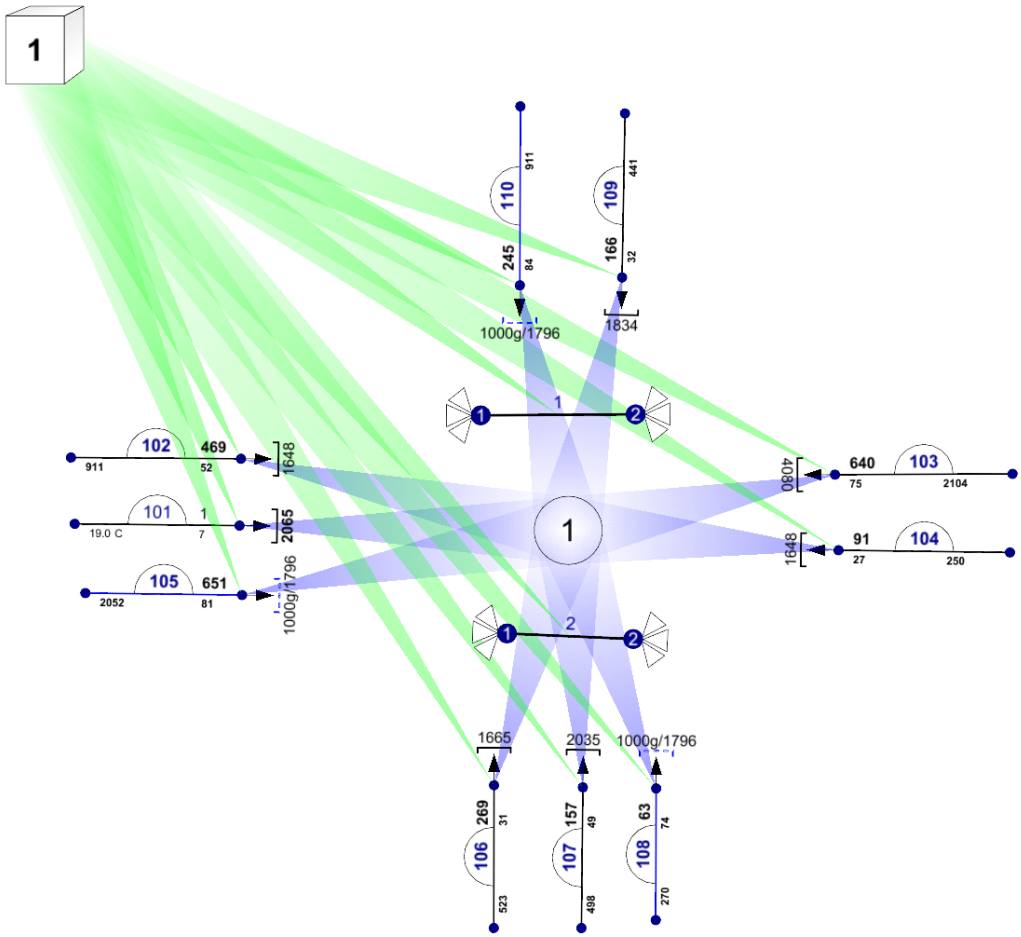
Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Network Diagrams



Church Road - Manor Road
Cycletime 0s / 120s , Timesteps 119 / 120
Diagram produced using TRANSYT 15.5.3.7

A1 - (untitled)
D1 - Base 2028, PM Peak*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	04/02/2021 10:43:32	04/02/2021 10:43:34	16:30	120	549.51	36.13	83.57	110	0	0	110		11

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
(untitled)		D1	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
Base 2028, PM Peak				16:30	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
120		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
1	(untitled)	

Links

Links

Link	Name	Description	Traffic node	Length (m)	Has Saturation Flow	Use RR67	Saturation flow (PCU/hr)	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Is minor shared	Allow Nearside Turn On Red
101	(untitled)		1	100.00	✓	✓	2065		✓		Normal		
102	(untitled)		1	100.00	✓	✓	1648	1800	✓		Normal		
103	(untitled)		1	100.00	✓	✓	4080		✓		Normal		
104	(untitled)		1	100.00	✓	✓	1648	1800	✓		Normal		
105	(untitled)		1	100.00	✓	✓	1796		✓	✓	Normal		
106	(untitled)		1	100.00	✓	✓	1665		✓		Normal		
107	(untitled)		1	100.00	✓	✓	2035		✓		Normal		
108	(untitled)		1	100.00	✓	✓	1796	1800	✓	✓	Normal		
109	(untitled)		1	100.00	✓	✓	1834		✓		Normal		
110	(untitled)		1	100.00	✓	✓	1796	1800	✓	✓	Normal		

Modelling

Link	Traffic model	Stop weighting (%)	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
101	NetworkDefault	100	100	100		0.00		
102	Flare	100	100	100		0.00		
103	NetworkDefault	100	100	100		0.00		
104	Flare	100	100	100		0.00		
105	NetworkDefault	100	100	100		0.00		
106	NetworkDefault	100	100	100		0.00		
107	NetworkDefault	100	100	100		0.00		
108	Flare	100	100	100		0.00		
109	NetworkDefault	100	100	100		0.00		
110	Flare	100	100	100		0.00		

Modelling - Normal traffic - Advanced

Link	Dispersion type for Normal Traffic	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	NetworkDefault	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120

Flows

Link	Total flow (PCU/hr)	PCU Factor
101	818	1.00
102	469	1.00
103	640	1.00
104	91	1.00
105	651	1.00
106	269	1.00
107	157	1.00
108	63	1.00
109	166	1.00
110	245	1.00

Flows - Advanced

Link	Detectors
(ALL)	

Signals

Link	Controller stream	Phase	Second phase enabled
101	1	A1	
102	1	A2	
103	1	B1	
104	1	B2	
105	1	C	
106	1	D	
107	1	E1	
108	1	E2	
109	1	F	
110	1	G	

Entry Sources

Link	Cruise time (seconds)	Cruise speed (kph)
(ALL)	12.00	30.00

Give way data

Link	Same as major link	Percentage opposed (%)	Opposed By Conflict 1 Only (%)	Max Flow (Opposed) (PCU/hr)	Max Flow (Unopposed) (PCU/hr)	Max congested capacity (PCU/hr)	Use Step-wise Opposed Turn Model	Visibility restricted
105	✓	100	0	1000	1796			
108	✓	100	0	1000	1796	0		
110	✓	100	0	1000	1796	0		

Give Way Data - Conflicts

Link	Conflict	Description	Controlling type	Controlling link	Percentage opposing (%)	Slope coefficient	Upstream signals visible	Conflict shift	Conflict duration
105	1		Link	103	100	0.50		0	0
	2		Link	104	100	0.50		0	0
108	1		Link	109	100	0.50		0	0
110	1		Link	107	100	0.50		0	0
	2		Link	106	100	0.50		0	0

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
(ALL)	(untitled)				Farside	3.00	2.00	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	H	
2	1	I	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Signal Timings

Network Default: 120s cycle time; 120 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	120

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	5	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Pedestrian	0
	I	(untitled)	7	300	0	0	Pedestrian	0
	A1	(untitled)	7	300	0	0	Traffic	
	B1	(untitled)	1	300	0	0	Traffic	
	E1	(untitled)	1	300	0	0	Traffic	
	A2	(untitled)	7	300	0	0	Traffic	
	B2	(untitled)	7	300	0	0	Traffic	
	E2	(untitled)	5	300	0	0	Traffic	

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	A1, A2, B1, B2, C, I	7
	2	A1, A2, C, D	1
	3	D, E1, E2, F, G	7
	4	F, G, I	1
	5	B1, B2, H	5

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4, 5	3, 54, 77, 92, 104

Intergreen Matrix for Controller Stream 1

		To											
		C	D	F	G	H	I	A1	B1	E1	A2	B2	E2
From	C			5	5					5			5
	D						5		5			5	
	F	7				5		7	7		7	7	
	G	7				5		7	5		7	5	
	H			5	5			0		5	5		5
	I		13							13			13
	A1			5	5	9				5			5
	B1		7	5	5					6			6
	E1	5				10	5	6	5		6	5	
	A2			5	5	9				5			5
	B2		7	5	5					6			6
	E2	5				10	5	6	5		6	5	

Banned Stage transitions for Controller Stream 1

		To				
		1	2	3	4	5
From	1					
	2					
	3					
	4					
	5					

Interstage Matrix for Controller Stream 1

		To				
		1	2	3	4	5
From	1	0	13	13	5	9
	2	5	0	5	5	9
	3	7	7	0	5	10
	4	7	13	13	0	7
	5	5	7	7	5	0

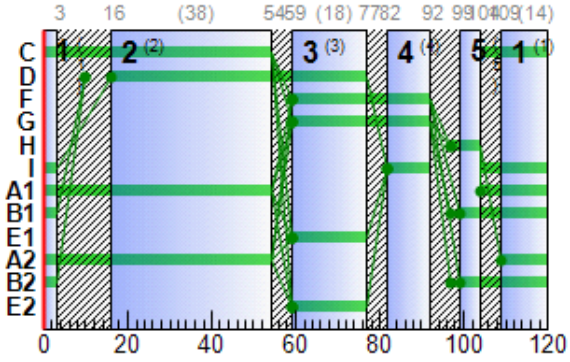
Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A1,A2,B1,B2,C,I	109	3	14	7	7
	2	✓	2	A1,A2,C,D	16	54	38	1	1
	3	✓	3	D,E1,E2,F,G	59	77	18	7	7
	4	✓	4	F,G,I	82	92	10	1	7
	5	✓	5	B1,B2,H	99	104	5	5	5

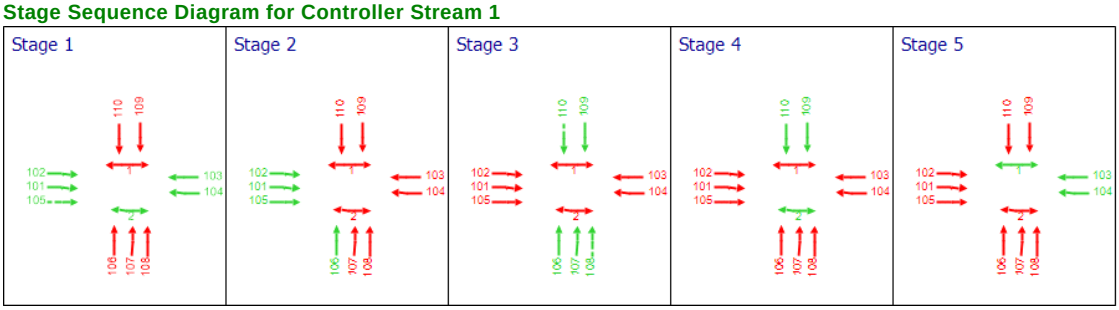
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	C	1	✓	104	54	70
	D	1	✓	16	77	61
	F	1	✓	59	92	33
	G	1	✓	59	92	33
	H	1	✓	97	104	7
	I	1	✓	82	92	10
		2	✓	104	3	19
	A1	1	✓	104	54	70
	B1	1	✓	99	3	24
	E1	1	✓	59	77	18
	A2	1	✓	109	54	65
	B2	1	✓	99	3	24
	E2	1	✓	59	77	18

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Results - Link

Results - Link: Vehicle summary

Time Segment	Link	Name	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Calculated capacity (PCU/hr)	Degree of saturation (%)	Practical reserve capacity (%)	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	JourneyTime (s)
16:30-17:30	101	(untitled)	A1	818	2065	70	1222	67	34	19.53	19.08	98.28	31.53
	102	(untitled)	A2	469	1648	65	906	52	74	19.11	9.11	53.83	31.11
	103	(untitled)	B1	640	4080	24	850	75	20	50.95	21.04	54.85	62.95
	104	(untitled)	B2	91	1648	24	343	27	240	41.71	2.50	14.77	53.71
	105	(untitled)	C	651	1353	70	800	81	11	38.28	20.52	121.55	50.28
	106	(untitled)	D	269	1665	61	860	31	188	17.67	5.23	33.39	29.67
	107	(untitled)	E1	157	2035	18	322	49	85	51.33	4.98	26.05	63.33
	108	(untitled)	E2	63	541	18	86	74	22	103.58	2.70	15.96	115.58
	109	(untitled)	F	166	1834	33	520	32	182	35.52	4.41	25.57	47.52
	110	(untitled)	G	245	1035	33	293	84	8	75.86	9.11	53.86	87.86

Results - Traffic Stream

Data Entry - Stage Start and End

Resultant Stage

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A1,A2,B1,B2,C,I	109	3	14	7	7
	2	✓	2	A1,A2,C,D	16	54	38	1	1
	3	✓	3	D,E1,E2,F,G	59	77	18	7	7
	4	✓	4	F,G,I	82	92	10	1	7
	5	✓	5	B1,B2,H	99	104	5	5	5

Data Entry - Phase

Phase

Controller Stream	Phase	Phase	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	C	C	7	300	0	0	Traffic
	D	D	7	300	0	0	Traffic
	F	F	5	300	0	0	Traffic
	G	G	7	300	0	0	Traffic
	H	H	7	300	0	0	Pedestrian
	I	I	7	300	0	0	Pedestrian
	A1	A1	7	300	0	0	Traffic
	B1	B1	1	300	0	0	Traffic
	E1	E1	1	300	0	0	Traffic
	A2	A2	7	300	0	0	Traffic
	B2	B2	7	300	0	0	Traffic
	E2	E2	5	300	0	0	Traffic

Data Entry - Traffic Stream

Data entry - Link

Link

Link	Link	Length (m)	Is minor shared	Traffic model	Max queue storage (PCU)	Traffic type	Has Saturation Flow	Is signal controlled	Is give way	Use RR67	Saturation flow (PCU/hr)	Stop weighting (%)	Delay weighting (%)
101	101	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	2065	100	100
102	102	100.00		Flare	0.00	Normal	✓	✓		✓	1648	100	100
103	103	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	4080	100	100
104	104	100.00		Flare	0.00	Normal	✓	✓		✓	1648	100	100
105	105	100.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1796	100	100
106	106	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1665	100	100
107	107	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	2035	100	100
108	108	100.00		Flare	0.00	Normal	✓	✓	✓	✓	1796	100	100
109	109	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1834	100	100
110	110	100.00		Flare	0.00	Normal	✓	✓	✓	✓	1796	100	100

Results - Pedestrian

Pedestrian Crossings: Pedestrian summary

Time Segment	Pedestrian crossing	Side	Calculated Flow Entering (Ped/hr)	Degree of saturation (%)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)
16:30-17:30	**1**	**1**	0	0	7	0.00	0.00
		2	0	0	7	0.00	0.00
	2	**1**	0	0	29	0.00	0.00
		2	0	0	29	0.00	0.00

Link Results

Link Results: Vehicle summary

Time Segment	Link	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
16:30-17:30	**101**	67	34	818	2065	70	19.53	19.08	98.28	63.02	6.95	69.97
	102	52	74	469	1648	65	19.11	9.11	53.83	35.35	3.40	38.74
	103	75	20	640	4080	24	50.95	21.04	54.85	128.61	7.82	136.43
	104	27	240	91	1648	24	41.71	2.50	14.77	14.97	0.94	15.91
	105	81	11	651	1353	70	38.28	20.52	121.55	98.31	7.55	105.86
	106	31	188	269	1665	61	17.67	5.23	33.39	18.75	1.92	20.67
	107	49	85	157	2035	18	51.33	4.98	26.05	31.79	1.85	33.64
	108	74	22	63	541	18	103.58	2.70	15.96	25.74	0.98	26.72
	109	32	182	166	1834	33	35.52	4.41	25.57	23.26	1.64	24.89
	110	84	8	245	1035	33	75.86	9.11	53.86	73.31	3.37	76.68

Link Results: Flows and signals

Time Segment	Link	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
16:30-17:30	101	818	818	0		2065	1222	67		34	0.00	70
	102	469	469	0		1648	906	52		74	0.00	65
	103	640	640	0		4080	850	75		20	0.00	24
	104	91	91	0		1648	343	27		240	0.00	24
	105	651	651	0		1353	800	81		11	0.00	70
	106	269	269	0		1665	860	31		188	0.00	61
	107	157	157	0		2035	322	49		85	0.00	18
	108	63	63	0		541	86	74		22	0.00	18
	109	166	166	0		1834	520	32		182	0.00	33
	110	245	245	0		1035	293	84		8	0.00	33

Link Results: Stops and delays

Time Segment	Link	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
16:30-17:30	101	12.00	19.53	4.44	63.02	67.72	553.93	6.95
	102	12.00	19.11	2.49	35.35	57.75	270.86	3.40
	103	12.00	50.95	9.06	128.61	97.44	623.62	7.82
	104	12.00	41.71	1.05	14.97	82.40	74.98	0.94
	105	12.00	38.28	6.92	98.31	92.53	602.39	7.55
	106	12.00	17.67	1.32	18.75	56.86	152.95	1.92
	107	12.00	51.33	2.24	31.79	94.13	147.79	1.85
	108	12.00	103.58	1.81	25.74	124.35	78.34	0.98
	109	12.00	35.52	1.64	23.26	78.65	130.56	1.64
	110	12.00	75.86	5.16	73.31	109.56	268.43	3.37

Link Results: Queues and blocking

Time Segment	Link	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
16:30-17:30	101	0.00	19.08	19.41	98.28	0.00	0.00	
	102	0.00	9.11	16.92	53.83	0.00	0.00	
	103	0.00	21.04	38.35	54.85	0.00	0.00	
	104	0.00	2.50	16.92	14.77	0.00	0.00	
	105	0.00	20.52	16.88	121.55	0.00	0.00	
	106	0.00	5.23	15.65	33.39	0.00	0.00	
	107	0.00	4.98	19.13	26.05	0.00	0.00	
	108	0.00	2.70	16.92	15.96	0.00	0.00	
	109	0.00	4.41	17.24	25.57	0.00	0.00	
	110	0.00	9.11	16.92	53.86	0.00	0.00	

Link Results: Advanced

Time Segment	Link	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	101	0.00	0.00	✓	19.08	0.68	11.81	1.00	0.00	69.97
	102	0.00	0.00	✓	9.11	0.28	7.96	1.00	0.00	38.74
	103	0.00	0.00	✓	21.05	1.14	18.03	1.00	0.00	136.43
	104	0.00	0.00	✓	2.50	0.05	2.47	1.00	0.00	15.91
	105	0.00	0.00	✓	20.55	1.74	10.60	1.00	0.00	105.86
	106	0.00	0.00	✓	5.23	0.07	4.40	1.00	0.00	20.67
	107	0.00	0.00	✓	4.98	0.23	4.64	1.00	0.00	33.64
	108	0.00	0.00	✓	2.76	0.95	2.73	1.00	0.00	26.72
	109	0.00	0.00	✓	4.41	0.07	4.04	1.00	0.00	24.89
	110	0.00	0.00	✓	9.21	2.01	8.13	1.00	0.00	76.68

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
16:30-17:30	1	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	0	0	11000	7	0.00	0.00	0.00	0.00
	2	1	0	0	11000	29	0.00	0.00	0.00	0.00
		2	0	0	11000	29	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
16:30-17:30	1	1	0	0	0		11000	642	0		Unrestricted	0.00	7
		2	0	0	0		11000	642	0		Unrestricted	0.00	7
	2	1	0	0	0		11000	2658	0		Unrestricted	0.00	29
		2	0	0	0		11000	2658	0		Unrestricted	0.00	29

Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
16:30-17:30	(ALL)	(ALL)	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
16:30-17:30	(ALL)	(ALL)	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	(ALL)	(ALL)	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	04/02/2021 10:43:32	04/02/2021 10:43:34	16:30	120	549.51	36.13	83.57	110	0	0	110		11

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
16:30-17:30	84	0	3569	416	36.45	513.10	36.41	549.51

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
16:30-17:30	0	0	72	0.00	0.00	0.00

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
16:30-17:30	3569	3569	0		84		8	488

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
16:30-17:30	12.00	36.45	36.13	513.10	81.36	2903.86	36.41

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
16:30-17:30	121.55	0.00	0.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	0.00	0.00	✓	1.00	0.00	0.00	549.51

Final Prediction Table

Link Results

			SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEI
Link	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting (%)
101	(untitled)	1	1	A1	818	2065	70	0.00	67	34	31.53	19.53	67.72	19.08	100
102	(untitled)	1	1	A2	469	1648	65	0.00	52	74	31.11	19.11	57.75	9.11	100
103	(untitled)	1	1	B1	640	4080	24	0.00	75	20	62.95	50.95	97.44	21.04	100
104	(untitled)	1	1	B2	91	1648	24	0.00	27	240	53.71	41.71	82.40	2.50	100
105	(untitled)	1	1	C	651 <	1353	70	0.00	81	11	50.28	38.28	92.53	20.52 +	100
106	(untitled)	1	1	D	269	1665	61	0.00	31	188	29.67	17.67	56.86	5.23	100
107	(untitled)	1	1	E1	157	2035	18	0.00	49	85	63.33	51.33	94.13	4.98	100
108	(untitled)	1	1	E2	63	541	18	0.00	74	22	115.58	103.58	124.35	2.70	100
109	(untitled)	1	1	F	166	1834	33	0.00	32	182	47.52	35.52	78.65	4.41	100
110	(untitled)	1	1	G	245	1035	33	0.00	84	8	87.86	75.86	109.56	9.11	100

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	(
1	1	(untitled)		1	H	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	H	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
2	1	(untitled)		1	I	0	11000	29	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	I	0	11000	29	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	356.90	48.03	7.43	36.13	513.10	36.41	0.00	549.51
Bus								
Tram								
Pedestrians	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	356.90	48.03	7.43	36.13	513.10	36.41	0.00	549.51

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 15

Version: 15.5.3.7

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

Filename: Base 2028 + Development, AM.t15
Path: C:\ITL Jobs\IT1929 Manor Trading Estate, Commercial\TRANSYT\A13 - Rushbottom Lane\Base 2028 + Development
Report generation date: 01/03/2021 15:51:40

File summary

File description

File title	Church Road - Manor Road
Location	
Site number	
UTCRegion	
Driving side	Left
Date	13/06/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	INTER-MODAL\dshrivastava
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

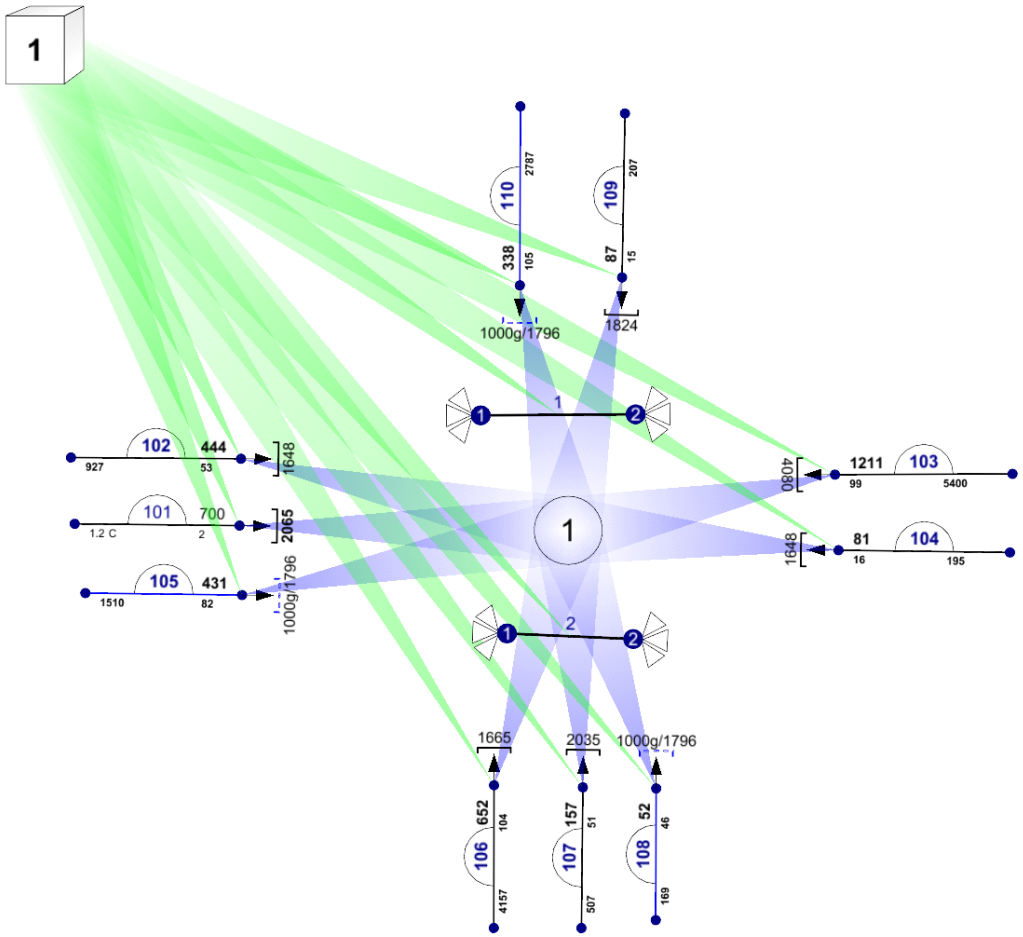
Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Network Diagrams



Church Road - Manor Road
Cycletime 0s / 120s , Timesteps 119 / 120
Diagram produced using TRANSYT 15.5.3.7

A1 - (untitled)
D1 - Base 2028 + Development, AM Peak*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	01/03/2021 15:51:31	01/03/2021 15:51:34	08:00	120	1426.73	96.04	105.30	110	3	21	110		11

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
(untitled)		D1	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
Base 2028 + Development, AM Peak				08:00	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
120		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
1	(untitled)	

Links

Links

Link	Name	Description	Traffic node	Length (m)	Has Saturation Flow	Use RR67	Saturation flow (PCU/hr)	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Is minor shared	Allow Nearside Turn On Red
101	(untitled)		1	100.00	✓	✓	2065		✓		Normal		
102	(untitled)		1	100.00	✓	✓	1648	1800	✓		Normal		
103	(untitled)		1	100.00	✓	✓	4080		✓		Normal		
104	(untitled)		1	100.00	✓	✓	1648	1800	✓		Normal		
105	(untitled)		1	100.00	✓	✓	1796		✓	✓	Normal		
106	(untitled)		1	100.00	✓	✓	1665		✓		Normal		
107	(untitled)		1	100.00	✓	✓	2035		✓		Normal		
108	(untitled)		1	100.00	✓	✓	1796	1800	✓	✓	Normal		
109	(untitled)		1	100.00	✓	✓	1824		✓		Normal		
110	(untitled)		1	100.00	✓	✓	1796	1800	✓	✓	Normal		

Modelling

Link	Traffic model	Stop weighting (%)	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
101	NetworkDefault	100	100	100		0.00		
102	Flare	100	100	100		0.00		
103	NetworkDefault	100	100	100		0.00		
104	Flare	100	100	100		0.00		
105	NetworkDefault	100	100	100		0.00		
106	NetworkDefault	100	100	100		0.00		
107	NetworkDefault	100	100	100		0.00		
108	Flare	100	100	100		0.00		
109	NetworkDefault	100	100	100		0.00		
110	Flare	100	100	100		0.00		

Modelling - Normal traffic - Advanced

Link	Dispersion type for Normal Traffic	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	NetworkDefault	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120

Flows

Link	Total flow (PCU/hr)	PCU Factor
101	700	1.00
102	444	1.00
103	1211	1.00
104	81	1.00
105	431	1.00
106	652	1.00
107	157	1.00
108	52	1.00
109	87	1.00
110	338	1.00

Flows - Advanced

Link	Detectors
(ALL)	

Signals

Link	Controller stream	Phase	Second phase enabled
101	1	A1	
102	1	A2	
103	1	B1	
104	1	B2	
105	1	C	
106	1	D	
107	1	E1	
108	1	E2	
109	1	F	
110	1	G	

Entry Sources

Link	Cruise time (seconds)	Cruise speed (kph)
(ALL)	12.00	30.00

Give way data

Link	Same as major link	Percentage opposed (%)	Opposed By Conflict 1 Only (%)	Max Flow (Opposed) (PCU/hr)	Max Flow (Unopposed) (PCU/hr)	Max congested capacity (PCU/hr)	Use Step-wise Opposed Turn Model	Visibility restricted
105	✓	100	0	1000	1796			
108	✓	100	0	1000	1796	0		
110	✓	100	0	1000	1796	0		

Give Way Data - Conflicts

Link	Conflict	Description	Controlling type	Controlling link	Percentage opposing (%)	Slope coefficient	Upstream signals visible	Conflict shift	Conflict duration
105	1		Link	103	100	0.50		0	0
	2		Link	104	100	0.50		0	0
108	1		Link	109	100	0.50		0	0
110	1		Link	107	100	0.50		0	0
	2		Link	106	100	0.50		0	0

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
(ALL)	(untitled)				Farside	3.00	2.00	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	H	
2	1	I	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Signal Timings

Network Default: 120s cycle time; 120 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	120

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	5	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Pedestrian	0
	I	(untitled)	7	300	0	0	Pedestrian	0
	A1	(untitled)	7	300	0	0	Traffic	
	B1	(untitled)	1	300	0	0	Traffic	
	E1	(untitled)	1	300	0	0	Traffic	
	A2	(untitled)	7	300	0	0	Traffic	
	B2	(untitled)	7	300	0	0	Traffic	
	E2	(untitled)	5	300	0	0	Traffic	

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	A1, A2, B1, B2, C, I	7
	2	A1, A2, C, D	1
	3	D, E1, E2, F, G	7
	4	F, G, I	1
	5	B1, B2, H	5

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4, 5	16, 51, 73, 94, 106

Intergreen Matrix for Controller Stream 1

		To											
		C	D	F	G	H	I	A1	B1	E1	A2	B2	E2
From	C			5	5					5			5
	D						5		5			5	
	F	7				5		7	7		7	7	
	G	7				5		7	5		7	5	
	H			5	5			0		5	5		5
	I		13							13			13
	A1			5	5	9				5			5
	B1		7	5	5					6			6
	E1	5				10	5	6	5		6	5	
	A2			5	5	9				5			5
	B2		7	5	5					6			6
	E2	5				10	5	6	5		6	5	

Banned Stage transitions for Controller Stream 1

		To				
		1	2	3	4	5
From	1					
	2					
	3					
	4					
	5					

Interstage Matrix for Controller Stream 1

		To				
		1	2	3	4	5
From	1	0	13	13	5	9
	2	5	0	5	5	9
	3	7	7	0	5	10
	4	7	13	13	0	7
	5	5	7	7	5	0

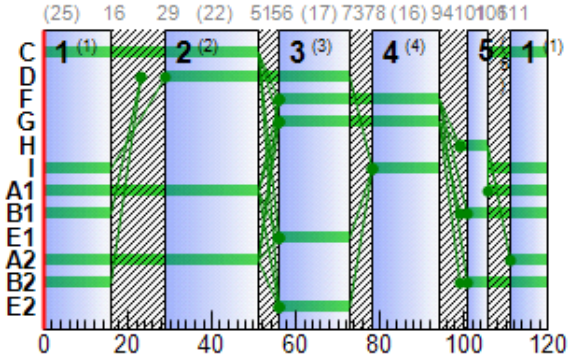
Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A1,A2,B1,B2,C,I	111	16	25	7	7
	2	✓	2	A1,A2,C,D	29	51	22	1	1
	3	✓	3	D,E1,E2,F,G	56	73	17	7	7
	4	✓	4	F,G,I	78	94	16	1	7
	5	✓	5	B1,B2,H	101	106	5	5	5

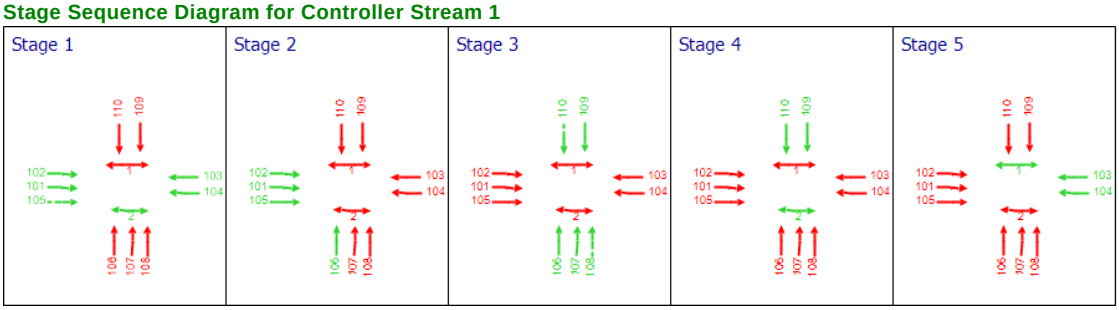
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	C	1	✓	106	51	65
	D	1	✓	29	73	44
	F	1	✓	56	94	38
	G	1	✓	56	94	38
	H	1	✓	99	106	7
	I	1	✓	78	94	16
		2	✓	106	16	30
	A1	1	✓	106	51	65
	B1	1	✓	101	16	35
	E1	1	✓	56	73	17
	A2	1	✓	111	51	60
	B2	1	✓	101	16	35
	E2	1	✓	56	73	17

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
08:00-09:00	1	0.00	0.00	0.00	0.00

Results - Link

Results - Link: Vehicle summary

Time Segment	Link	Name	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Calculated capacity (PCU/hr)	Degree of saturation (%)	Practical reserve capacity (%)	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	JourneyTime (s)
08:00-09:00	101	(untitled)	A1	700	2065	65	1136	62	46	20.92	16.24	83.67	32.92
	102	(untitled)	A2	444	1648	60	838	53	70	22.27	9.27	54.76	34.27
	103	(untitled)	B1	1211	4080	35	1224	99	-9	83.33	54.00	140.78	95.33
	104	(untitled)	B2	81	1648	35	494	16	449	31.65	1.95	11.53	43.65
	105	(untitled)	C	431	952	65	524	82	9	54.71	15.10	89.42	66.71
	106	(untitled)	D	652	1665	44	624	104	-14	151.49	41.57	265.60	163.49
	107	(untitled)	E1	157	2035	17	305	51	75	53.17	5.07	26.49	65.17
	108	(untitled)	E2	52	761	17	114	46	98	62.06	1.69	9.99	74.06
	109	(untitled)	F	87	1824	38	593	15	513	29.23	2.07	12.05	41.23
	110	(untitled)	G	321	988	38	321	105	-15	253.15	27.87	164.71	265.15

Results - Traffic Stream

Data Entry - Stage Start and End

Resultant Stage

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A1,A2,B1,B2,C,I	111	16	25	7	7
	2	✓	2	A1,A2,C,D	29	51	22	1	1
	3	✓	3	D,E1,E2,F,G	56	73	17	7	7
	4	✓	4	F,G,I	78	94	16	1	7
	5	✓	5	B1,B2,H	101	106	5	5	5

Data Entry - Phase

Phase

Controller Stream	Phase	Phase	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	C	C	7	300	0	0	Traffic
	D	D	7	300	0	0	Traffic
	F	F	5	300	0	0	Traffic
	G	G	7	300	0	0	Traffic
	H	H	7	300	0	0	Pedestrian
	I	I	7	300	0	0	Pedestrian
	A1	A1	7	300	0	0	Traffic
	B1	B1	1	300	0	0	Traffic
	E1	E1	1	300	0	0	Traffic
	A2	A2	7	300	0	0	Traffic
	B2	B2	7	300	0	0	Traffic
	E2	E2	5	300	0	0	Traffic

Data Entry - Traffic Stream

Data entry - Link

Link

Link	Link	Length (m)	Is minor shared	Traffic model	Max queue storage (PCU)	Traffic type	Has Saturation Flow	Is signal controlled	Is give way	Use RR67	Saturation flow (PCU/hr)	Stop weighting (%)	Delay weighting (%)
101	101	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	2065	100	100
102	102	100.00		Flare	0.00	Normal	✓	✓		✓	1648	100	100
103	103	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	4080	100	100
104	104	100.00		Flare	0.00	Normal	✓	✓		✓	1648	100	100
105	105	100.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1796	100	100
106	106	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1665	100	100
107	107	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	2035	100	100
108	108	100.00		Flare	0.00	Normal	✓	✓	✓	✓	1796	100	100
109	109	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1824	100	100
110	110	100.00		Flare	0.00	Normal	✓	✓	✓	✓	1796	100	100

Results - Pedestrian

Pedestrian Crossings: Pedestrian summary

Time Segment	Pedestrian crossing	Side	Calculated Flow Entering (Ped/hr)	Degree of saturation (%)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)
08:00-09:00	**1**	**1**	0	0	7	0.00	0.00
		2	0	0	7	0.00	0.00
	2	**1**	0	0	46	0.00	0.00
		2	0	0	46	0.00	0.00

Link Results

Link Results: Vehicle summary

Time Segment	Link	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	**101**	62	46	700	2065	65	20.92	16.24	83.67	57.75	5.98	63.73
	102	53	70	444	1648	60	22.27	9.27	54.76	39.00	3.47	42.47
	103	99	-9	1211	4080	35	83.33	54.00	140.78	398.06	19.65	417.71
	104	16	449	81	1648	35	31.65	1.95	11.53	10.11	0.73	10.85
	105	82	9	431	952	65	54.71	15.10	89.42	93.01	5.59	98.60
	106	104	-14	652	1665	44	151.49	41.57	265.60	389.60	14.07	403.67
	107	51	75	157	2035	17	53.17	5.07	26.49	32.92	1.88	34.81
	108	46	98	52	761	17	62.06	1.69	9.99	12.73	0.63	13.36
	109	15	513	87	1824	38	29.23	2.07	12.05	10.03	0.76	10.79
	110	105	-15	321	988	38	253.15	27.87	164.71	320.50	10.24	330.74

Link Results: Flows and signals

Time Segment	Link	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	101	700	700	0		2065	1136	62		46	0.00	65
	102	444	444	0		1648	838	53		70	0.00	60
	103	1211	1211	0		4080	1224	99	✓	-9	0.00	35
	104	81	81	0		1648	494	16		449	0.00	35
	105	431	431	0		952	524	82		9	0.00	65
	106	652	624	0		1665	624	104	✓	-14	0.00	44
	107	157	157	0		2035	305	51		75	0.00	17
	108	52	52	0		761	114	46		98	0.00	17
	109	87	87	0		1824	593	15		513	0.00	38
	110	321	321	17	✓	988	321	105	✓	-15	1.42	38

Link Results: Stops and delays

Time Segment	Link	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	101	12.00	20.92	4.07	57.75	68.08	476.56	5.98
	102	12.00	22.27	2.75	39.00	62.32	276.72	3.47
	103	12.00	83.33	28.03	398.06	129.42	1567.23	19.65
	104	12.00	31.65	0.71	10.11	72.26	58.53	0.73
	105	12.00	54.71	6.55	93.01	103.49	446.03	5.59
	106	12.00	151.49	27.44	389.60	179.68	1121.90	14.07
	107	12.00	53.17	2.32	32.92	95.74	150.31	1.88
	108	12.00	62.06	0.90	12.73	97.21	50.55	0.63
	109	12.00	29.23	0.71	10.03	69.92	60.83	0.76
	110	12.00	253.15	22.57	320.50	254.39	816.52	10.24

Link Results: Queues and blocking

Time Segment	Link	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
08:00-09:00	101	0.00	16.24	19.41	83.67	0.00	0.00	
	102	0.00	9.27	16.92	54.76	0.00	0.00	
	103	0.00	54.00	38.35	140.78	0.00	0.00	
	104	0.00	1.95	16.92	11.53	0.00	0.00	
	105	0.00	15.10	16.88	89.42	0.00	0.00	
	106	0.00	41.57	15.65	265.60	0.00	0.00	
	107	0.00	5.07	19.13	26.49	0.00	0.00	
	108	0.00	1.69	16.92	9.99	0.00	0.00	
	109	0.00	2.07	17.15	12.05	0.00	0.00	
	110	0.00	27.87	16.92	164.71	0.00	0.00	

Link Results: Advanced

Time Segment	Link	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	101	0.00	0.00	✓	16.24	0.49	10.99	1.00	0.00	63.73
	102	0.00	0.00	✓	9.27	0.30	8.19	1.00	0.00	42.47
	103	0.00	0.00	✓	58.49	18.46	46.72	1.00	0.00	417.71
	104	0.00	0.00	✓	1.95	0.02	1.93	1.00	0.00	10.85
	105	0.00	0.00	✓	15.15	1.86	8.32	1.00	0.00	98.60
	106	0.00	0.00	✓	56.69	36.05	49.06	1.00	0.00	403.67
	107	0.00	0.00	✓	5.07	0.27	4.72	1.00	0.00	34.81
	108	0.00	0.00	✓	1.69	0.19	1.68	1.00	0.00	13.36
	109	0.00	0.00	✓	2.07	0.01	1.97	1.00	0.00	10.79
	110	0.00	0.00	✓	37.53	23.63	36.14	1.00	0.00	330.74

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	1	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	0	0	11000	7	0.00	0.00	0.00	0.00
	2	1	0	0	11000	46	0.00	0.00	0.00	0.00
		2	0	0	11000	46	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	1	1	0	0	0		11000	642	0		Unrestricted	0.00	7
		2	0	0	0		11000	642	0		Unrestricted	0.00	7
	2	1	0	0	0		11000	4217	0		Unrestricted	0.00	46
		2	0	0	0		11000	4217	0		Unrestricted	0.00	46

Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
08:00-09:00	(ALL)	(ALL)	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
08:00-09:00	(ALL)	(ALL)	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	(ALL)	(ALL)	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	01/03/2021 15:51:31	01/03/2021 15:51:34	08:00	120	1426.73	96.04	105.30	110	3	21	110		11

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	105	-15	4136	414	83.59	1363.73	63.01	1426.73

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0	0	106	0.00	0.00	0.00

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
08:00-09:00	4136	4108	17	✓	105	✓	-15	520

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	12.00	83.59	96.04	1363.73	122.70	5025.18	63.01

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
08:00-09:00	265.60	0.00	0.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0.00	0.00	✓	1.00	0.00	0.00	1426.73

Final Prediction Table

Link Results

			SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEI
Link	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting (%)
101	(untitled)	1	1	A1	700	2065	65	0.00	62	46	32.92	20.92	68.08	16.24	100
102	(untitled)	1	1	A2	444	1648	60	0.00	53	70	34.27	22.27	62.32	9.27	100
103	(untitled)	1	1	B1	1211 <	4080	35	0.00	99	-9	95.33	83.33	129.42	54.00 +	100
104	(untitled)	1	1	B2	81	1648	35	0.00	16	449	43.65	31.65	72.26	1.95	100
105	(untitled)	1	1	C	431	952	65	0.00	82	9	66.71	54.71	103.49	15.10	100
106	(untitled)	1	1	D	652 <	1665	44	0.00	104	-14	163.49	151.49	179.68	41.57 +	100
107	(untitled)	1	1	E1	157	2035	17	0.00	51	75	65.17	53.17	95.74	5.07	100
108	(untitled)	1	1	E2	52	761	17	0.00	46	98	74.06	62.06	97.21	1.69	100
109	(untitled)	1	1	F	87	1824	38	0.00	15	513	41.23	29.23	69.92	2.07	100
110	(untitled)	1	1	G	321 <	988	38	0.00	105	-15	265.15	253.15	254.39	27.87 +	100

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	(
1	1	(untitled)		1	H	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	H	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
2	1	(untitled)		1	I	0	11000	46	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	I	0	11000	46	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	413.60	109.82	3.77	96.04	1363.73	63.01	0.00	1426.73
Bus								
Tram								
Pedestrians	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	413.60	109.82	3.77	96.04	1363.73	63.01	0.00	1426.73

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 15

Version: 15.5.3.7

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

Filename: Base 2028 + Development, PM.t15
Path: C:\ITL Jobs\IT1929 Manor Trading Estate, Commercial\TRANSYT\A13 - Rushbottom Lane\Base 2028 + Development
Report generation date: 01/03/2021 15:56:11

File summary

File description

File title	Church Road - Manor Road
Location	
Site number	
UTCRegion	
Driving side	Left
Date	13/06/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	INTER-MODAL\dshrivastava
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

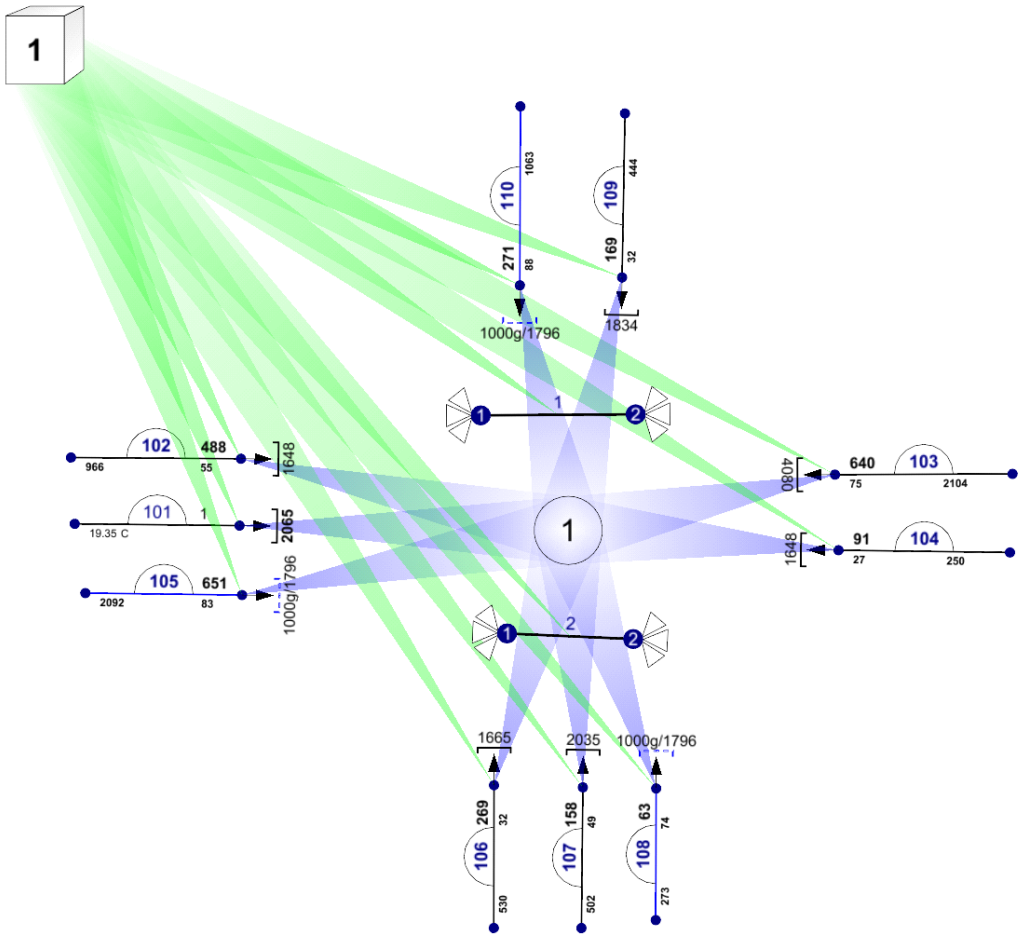
Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Network Diagrams



Church Road - Manor Road
Cycletime 0s / 120s , Timesteps 119 / 120
Diagram produced using TRANSYT 15.5.3.7

A1 - (untitled)
D1 - Base 2028 + Development, PM Peak*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	01/03/2021 15:56:03	01/03/2021 15:56:05	16:30	120	580.18	38.21	88.09	110	0	0	110		11

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
(untitled)		D1	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
Base 2028 + Development, PM Peak				16:30	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
120		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
1	(untitled)	

Links

Links

Link	Name	Description	Traffic node	Length (m)	Has Saturation Flow	Use RR67	Saturation flow (PCU/hr)	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Is minor shared	Allow Nearside Turn On Red
101	(untitled)		1	100.00	✓	✓	2065		✓		Normal		
102	(untitled)		1	100.00	✓	✓	1648	1800	✓		Normal		
103	(untitled)		1	100.00	✓	✓	4080		✓		Normal		
104	(untitled)		1	100.00	✓	✓	1648	1800	✓		Normal		
105	(untitled)		1	100.00	✓	✓	1796		✓	✓	Normal		
106	(untitled)		1	100.00	✓	✓	1665		✓		Normal		
107	(untitled)		1	100.00	✓	✓	2035		✓		Normal		
108	(untitled)		1	100.00	✓	✓	1796	1800	✓	✓	Normal		
109	(untitled)		1	100.00	✓	✓	1834		✓		Normal		
110	(untitled)		1	100.00	✓	✓	1796	1800	✓	✓	Normal		

Modelling

Link	Traffic model	Stop weighting (%)	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
101	NetworkDefault	100	100	100		0.00		
102	Flare	100	100	100		0.00		
103	NetworkDefault	100	100	100		0.00		
104	Flare	100	100	100		0.00		
105	NetworkDefault	100	100	100		0.00		
106	NetworkDefault	100	100	100		0.00		
107	NetworkDefault	100	100	100		0.00		
108	Flare	100	100	100		0.00		
109	NetworkDefault	100	100	100		0.00		
110	Flare	100	100	100		0.00		

Modelling - Normal traffic - Advanced

Link	Dispersion type for Normal Traffic	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	NetworkDefault	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120

Flows

Link	Total flow (PCU/hr)	PCU Factor
101	818	1.00
102	488	1.00
103	640	1.00
104	91	1.00
105	651	1.00
106	269	1.00
107	158	1.00
108	63	1.00
109	169	1.00
110	271	1.00

Flows - Advanced

Link	Detectors
(ALL)	

Signals

Link	Controller stream	Phase	Second phase enabled
101	1	A1	
102	1	A2	
103	1	B1	
104	1	B2	
105	1	C	
106	1	D	
107	1	E1	
108	1	E2	
109	1	F	
110	1	G	

Entry Sources

Link	Cruise time (seconds)	Cruise speed (kph)
(ALL)	12.00	30.00

Give way data

Link	Same as major link	Percentage opposed (%)	Opposed By Conflict 1 Only (%)	Max Flow (Opposed) (PCU/hr)	Max Flow (Unopposed) (PCU/hr)	Max congested capacity (PCU/hr)	Use Step-wise Opposed Turn Model	Visibility restricted
105	✓	100	0	1000	1796			
108	✓	100	0	1000	1796	0		
110	✓	100	0	1000	1796	0		

Give Way Data - Conflicts

Link	Conflict	Description	Controlling type	Controlling link	Percentage opposing (%)	Slope coefficient	Upstream signals visible	Conflict shift	Conflict duration
105	1		Link	103	100	0.50		0	0
	2		Link	104	100	0.50		0	0
108	1		Link	109	100	0.50		0	0
110	1		Link	107	100	0.50		0	0
	2		Link	106	100	0.50		0	0

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
(ALL)	(untitled)				Farside	3.00	2.00	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	H	
2	1	I	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Signal Timings

Network Default: 120s cycle time; 120 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	120

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	5	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Pedestrian	0
	I	(untitled)	7	300	0	0	Pedestrian	0
	A1	(untitled)	7	300	0	0	Traffic	
	B1	(untitled)	1	300	0	0	Traffic	
	E1	(untitled)	1	300	0	0	Traffic	
	A2	(untitled)	7	300	0	0	Traffic	
	B2	(untitled)	7	300	0	0	Traffic	
	E2	(untitled)	5	300	0	0	Traffic	

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	A1, A2, B1, B2, C, I	7
	2	A1, A2, C, D	1
	3	D, E1, E2, F, G	7
	4	F, G, I	1
	5	B1, B2, H	5

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4, 5	3, 53, 76, 92, 104

Intergreen Matrix for Controller Stream 1

		To											
		C	D	F	G	H	I	A1	B1	E1	A2	B2	E2
From	C			5	5					5			5
	D						5		5			5	
	F	7				5		7	7		7	7	
	G	7				5		7	5		7	5	
	H			5	5			0		5	5		5
	I		13							13			13
	A1			5	5	9				5			5
	B1		7	5	5					6			6
	E1	5				10	5	6	5		6	5	
	A2			5	5	9				5			5
	B2		7	5	5					6			6
	E2	5				10	5	6	5		6	5	

Banned Stage transitions for Controller Stream 1

		To				
		1	2	3	4	5
From	1					
	2					
	3					
	4					
	5					

Interstage Matrix for Controller Stream 1

		To				
		1	2	3	4	5
From	1	0	13	13	5	9
	2	5	0	5	5	9
	3	7	7	0	5	10
	4	7	13	13	0	7
	5	5	7	7	5	0

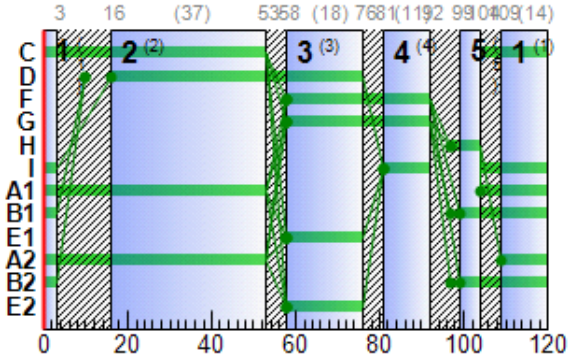
Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A1,A2,B1,B2,C,I	109	3	14	7	7
	2	✓	2	A1,A2,C,D	16	53	37	1	1
	3	✓	3	D,E1,E2,F,G	58	76	18	7	7
	4	✓	4	F,G,I	81	92	11	1	7
	5	✓	5	B1,B2,H	99	104	5	5	5

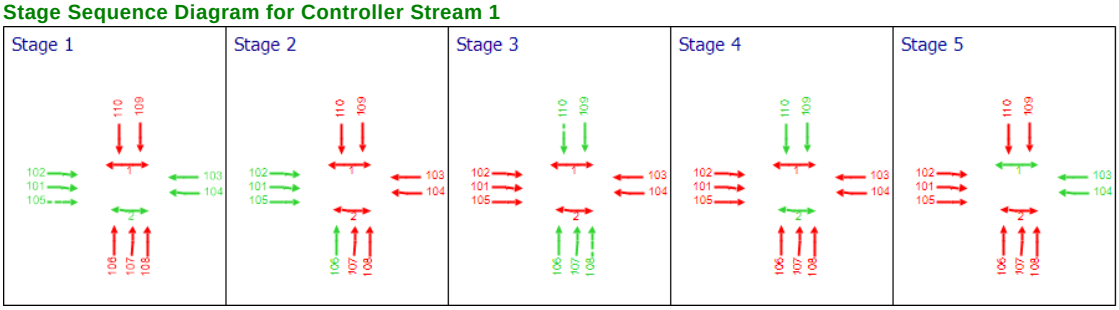
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	C	1	✓	104	53	69
	D	1	✓	16	76	60
	F	1	✓	58	92	34
	G	1	✓	58	92	34
	H	1	✓	97	104	7
	I	1	✓	81	92	11
		2	✓	104	3	19
	A1	1	✓	104	53	69
	B1	1	✓	99	3	24
	E1	1	✓	58	76	18
	A2	1	✓	109	53	64
	B2	1	✓	99	3	24
	E2	1	✓	58	76	18

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Results - Link

Results - Link: Vehicle summary

Time Segment	Link	Name	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Calculated capacity (PCU/hr)	Degree of saturation (%)	Practical reserve capacity (%)	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	JourneyTime (s)
16:30-17:30	101	(untitled)	A1	818	2065	69	1205	68	33	20.39	19.35	99.66	32.39
	102	(untitled)	A2	488	1648	64	893	55	65	20.33	9.66	57.07	32.33
	103	(untitled)	B1	640	4080	24	850	75	20	50.95	21.04	54.85	62.95
	104	(untitled)	B2	91	1648	24	343	27	240	41.71	2.50	14.77	53.71
	105	(untitled)	C	651	1346	69	785	83	9	40.34	20.92	123.89	52.34
	106	(untitled)	D	269	1665	60	846	32	183	18.29	5.30	33.89	30.29
	107	(untitled)	E1	158	2035	18	322	49	84	51.42	5.02	26.23	63.42
	108	(untitled)	E2	63	537	18	85	74	22	105.10	2.73	16.11	117.10
	109	(untitled)	F	169	1834	34	535	32	185	34.72	4.44	25.74	46.72
	110	(untitled)	G	271	1055	34	308	88	2	83.97	10.63	62.81	95.97

Results - Traffic Stream

Data Entry - Stage Start and End

Resultant Stage

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A1,A2,B1,B2,C,I	109	3	14	7	7
	2	✓	2	A1,A2,C,D	16	53	37	1	1
	3	✓	3	D,E1,E2,F,G	58	76	18	7	7
	4	✓	4	F,G,I	81	92	11	1	7
	5	✓	5	B1,B2,H	99	104	5	5	5

Data Entry - Phase

Phase

Controller Stream	Phase	Phase	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	C	C	7	300	0	0	Traffic
	D	D	7	300	0	0	Traffic
	F	F	5	300	0	0	Traffic
	G	G	7	300	0	0	Traffic
	H	H	7	300	0	0	Pedestrian
	I	I	7	300	0	0	Pedestrian
	A1	A1	7	300	0	0	Traffic
	B1	B1	1	300	0	0	Traffic
	E1	E1	1	300	0	0	Traffic
	A2	A2	7	300	0	0	Traffic
	B2	B2	7	300	0	0	Traffic
	E2	E2	5	300	0	0	Traffic

Data Entry - Traffic Stream

Data entry - Link

Link

Link	Link	Length (m)	Is minor shared	Traffic model	Max queue storage (PCU)	Traffic type	Has Saturation Flow	Is signal controlled	Is give way	Use RR67	Saturation flow (PCU/hr)	Stop weighting (%)	Delay weighting (%)
101	101	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	2065	100	100
102	102	100.00		Flare	0.00	Normal	✓	✓		✓	1648	100	100
103	103	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	4080	100	100
104	104	100.00		Flare	0.00	Normal	✓	✓		✓	1648	100	100
105	105	100.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1796	100	100
106	106	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1665	100	100
107	107	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	2035	100	100
108	108	100.00		Flare	0.00	Normal	✓	✓	✓	✓	1796	100	100
109	109	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1834	100	100
110	110	100.00		Flare	0.00	Normal	✓	✓	✓	✓	1796	100	100

Results - Pedestrian

Pedestrian Crossings: Pedestrian summary

Time Segment	Pedestrian crossing	Side	Calculated Flow Entering (Ped/hr)	Degree of saturation (%)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)
16:30-17:30	**1**	**1**	0	0	7	0.00	0.00
		2	0	0	7	0.00	0.00
	2	**1**	0	0	30	0.00	0.00
		2	0	0	30	0.00	0.00

Link Results

Link Results: Vehicle summary

Time Segment	Link	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
16:30-17:30	**101**	68	33	818	2065	69	20.39	19.35	99.66	65.79	7.11	72.90
	102	55	65	488	1648	64	20.33	9.66	57.07	39.13	3.63	42.76
	103	75	20	640	4080	24	50.95	21.04	54.85	128.61	7.82	136.43
	104	27	240	91	1648	24	41.71	2.50	14.77	14.97	0.94	15.91
	105	83	9	651	1346	69	40.34	20.92	123.89	103.59	7.73	111.32
	106	32	183	269	1665	60	18.29	5.30	33.89	19.41	1.95	21.36
	107	49	84	158	2035	18	51.42	5.02	26.23	32.05	1.87	33.91
	108	74	22	63	537	18	105.10	2.73	16.11	26.12	0.99	27.11
	109	32	185	169	1834	34	34.72	4.44	25.74	23.14	1.65	24.79
	110	88	2	271	1055	34	83.97	10.63	62.81	89.76	3.92	93.68

Link Results: Flows and signals

Time Segment	Link	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
16:30-17:30	101	818	818	0		2065	1205	68		33	0.00	69
	102	488	488	0		1648	893	55		65	0.00	64
	103	640	640	0		4080	850	75		20	0.00	24
	104	91	91	0		1648	343	27		240	0.00	24
	105	651	651	0		1346	785	83		9	0.00	69
	106	269	269	0		1665	846	32		183	0.00	60
	107	158	158	0		2035	322	49		84	0.00	18
	108	63	63	0		537	85	74		22	0.00	18
	109	169	169	0		1834	535	32		185	0.00	34
	110	271	271	0		1055	308	88		2	0.00	34

Link Results: Stops and delays

Time Segment	Link	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
16:30-17:30	101	12.00	20.39	4.63	65.79	69.28	566.72	7.11
	102	12.00	20.33	2.76	39.13	59.31	289.44	3.63
	103	12.00	50.95	9.06	128.61	97.44	623.62	7.82
	104	12.00	41.71	1.05	14.97	82.40	74.98	0.94
	105	12.00	40.34	7.30	103.59	94.71	616.55	7.73
	106	12.00	18.29	1.37	19.41	57.90	155.76	1.95
	107	12.00	51.42	2.26	32.05	94.21	148.84	1.87
	108	12.00	105.10	1.84	26.12	125.34	78.96	0.99
	109	12.00	34.72	1.63	23.14	77.77	131.44	1.65
	110	12.00	83.97	6.32	89.76	115.50	313.00	3.92

Link Results: Queues and blocking

Time Segment	Link	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
16:30-17:30	101	0.00	19.35	19.41	99.66	0.00	0.00	
	102	0.00	9.66	16.92	57.07	0.00	0.00	
	103	0.00	21.04	38.35	54.85	0.00	0.00	
	104	0.00	2.50	16.92	14.77	0.00	0.00	
	105	0.00	20.92	16.88	123.89	0.00	0.00	
	106	0.00	5.30	15.65	33.89	0.00	0.00	
	107	0.00	5.02	19.13	26.23	0.00	0.00	
	108	0.00	2.73	16.92	16.11	0.00	0.00	
	109	0.00	4.44	17.24	25.74	0.00	0.00	
	110	0.00	10.63	16.92	62.81	0.00	0.00	

Link Results: Advanced

Time Segment	Link	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	101	0.00	0.00	✓	19.35	0.72	12.08	1.00	0.00	72.90
	102	0.00	0.00	✓	9.66	0.33	8.46	1.00	0.00	42.76
	103	0.00	0.00	✓	21.05	1.14	18.03	1.00	0.00	136.43
	104	0.00	0.00	✓	2.50	0.05	2.47	1.00	0.00	15.91
	105	0.00	0.00	✓	20.95	1.97	11.01	1.00	0.00	111.32
	106	0.00	0.00	✓	5.30	0.07	4.48	1.00	0.00	21.36
	107	0.00	0.00	✓	5.02	0.23	4.67	1.00	0.00	33.91
	108	0.00	0.00	✓	2.79	0.98	2.76	1.00	0.00	27.11
	109	0.00	0.00	✓	4.44	0.07	4.06	1.00	0.00	24.79
	110	0.00	0.00	✓	10.86	2.95	9.65	1.00	0.00	93.68

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
16:30-17:30	1	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	0	0	11000	7	0.00	0.00	0.00	0.00
	2	1	0	0	11000	30	0.00	0.00	0.00	0.00
		2	0	0	11000	30	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
16:30-17:30	1	1	0	0	0		11000	642	0		Unrestricted	0.00	7
		2	0	0	0		11000	642	0		Unrestricted	0.00	7
	2	1	0	0	0		11000	2750	0		Unrestricted	0.00	30
		2	0	0	0		11000	2750	0		Unrestricted	0.00	30

Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
16:30-17:30	(ALL)	(ALL)	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
16:30-17:30	(ALL)	(ALL)	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	(ALL)	(ALL)	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	01/03/2021 15:56:03	01/03/2021 15:56:05	16:30	120	580.18	38.21	88.09	110	0	0	110		11

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
16:30-17:30	88	0	3618	414	38.02	542.57	37.61	580.18

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
16:30-17:30	0	0	74	0.00	0.00	0.00

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
16:30-17:30	3618	3618	0		88		2	488

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
16:30-17:30	12.00	38.02	38.21	542.57	82.90	2999.33	37.61

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
16:30-17:30	123.89	0.00	0.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	0.00	0.00	✓	1.00	0.00	0.00	580.18

Final Prediction Table

Link Results

			SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEI
Link	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting (%)
101	(untitled)	1	1	A1	818	2065	69	0.00	68	33	32.39	20.39	69.28	19.35	100
102	(untitled)	1	1	A2	488	1648	64	0.00	55	65	32.33	20.33	59.31	9.66	100
103	(untitled)	1	1	B1	640	4080	24	0.00	75	20	62.95	50.95	97.44	21.04	100
104	(untitled)	1	1	B2	91	1648	24	0.00	27	240	53.71	41.71	82.40	2.50	100
105	(untitled)	1	1	C	651 <	1346	69	0.00	83	9	52.34	40.34	94.71	20.92 +	100
106	(untitled)	1	1	D	269	1665	60	0.00	32	183	30.29	18.29	57.90	5.30	100
107	(untitled)	1	1	E1	158	2035	18	0.00	49	84	63.42	51.42	94.21	5.02	100
108	(untitled)	1	1	E2	63	537	18	0.00	74	22	117.10	105.10	125.34	2.73	100
109	(untitled)	1	1	F	169	1834	34	0.00	32	185	46.72	34.72	77.77	4.44	100
110	(untitled)	1	1	G	271	1055	34	0.00	88	2	95.97	83.97	115.50	10.63	100

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	(
1	1	(untitled)		1	H	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	H	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
2	1	(untitled)		1	I	0	11000	30	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	I	0	11000	30	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	361.80	50.27	7.20	38.21	542.57	37.61	0.00	580.18
Bus								
Tram								
Pedestrians	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	361.80	50.27	7.20	38.21	542.57	37.61	0.00	580.18

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 15

Version: 15.5.3.7

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

Filename: Base 2028, AM.t15
Path: C:\ITL Jobs\IT1929 Manor Trading Estate, Commercial\TRANSYT\Church Road - Manor Road\Base 2028
Report generation date: 03/03/2021 11:12:23

File summary

File description

File title	Church Road - Manor Road
Location	
Site number	
UTCRegion	
Driving side	Left
Date	13/11/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	INTER-MODAL\dshrivastava
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

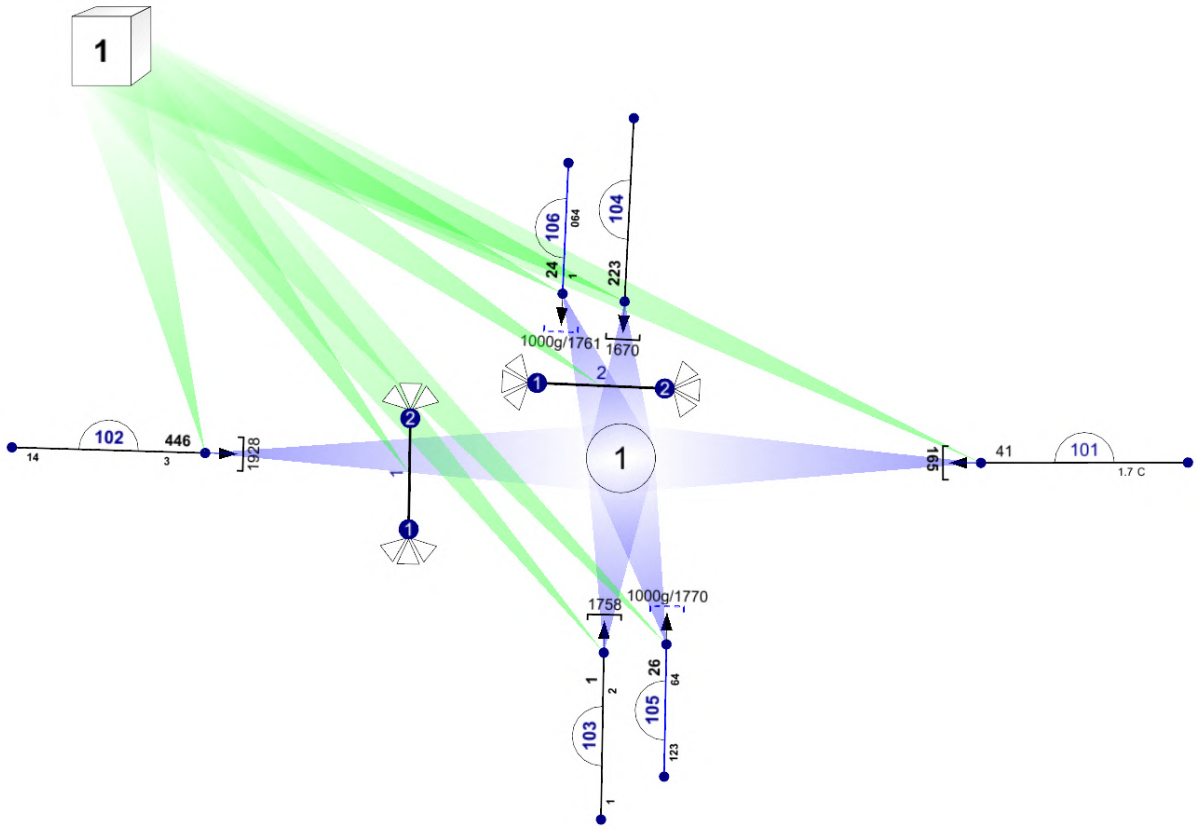
Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Network Diagrams



Church Road - Manor Road
Cycletime 0s / 105s , Timesteps 104 / 105
Diagram produced using TRANSYT 15.5.3.7

A1 - (untitled)
D1 - Base 2028, AM Peak*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	03/03/2021 11:12:16	03/03/2021 11:12:17	08:00	105	372.82	24.88	93.42	102	1	10	102		10

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
(untitled)		D1	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
Base 2028, AM Peak				08:00	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
105		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
1	(untitled)	

Links

Links

Link	Name	Description	Traffic node	Length (m)	Has Saturation Flow	Use RR67	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Is minor shared	Allow Nearside Turn On Red
101	(untitled)		1	100.00	✓	✓	1865	✓		Normal		
102	(untitled)		1	100.00	✓	✓	1928	✓		Normal		
103	(untitled)		1	100.00	✓	✓	1758	✓		Normal		
104	(untitled)		1	100.00	✓	✓	1670	✓		Normal		
105	(untitled)		1	10.00	✓	✓	1770	✓	✓	Normal		
106	(untitled)		1	18.00	✓	✓	1761	✓	✓	Normal		

Modelling

Link	Traffic model	Stop weighting (%)	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Normal traffic - Advanced

Link	Dispersion type for Normal Traffic	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	NetworkDefault	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	105

Flows

Link	Total flow (PCU/hr)	PCU Factor
101	491	1.00
102	446	1.00
103	71	1.00
104	223	1.00
105	26	1.00
106	24	1.00

Flows - Advanced

Link	Detectors
(ALL)	

Signals

Link	Controller stream	Phase	Second phase enabled
101	1	A	
102	1	B	
103	1	D	
104	1	E	
105	1	G	
106	1	H	

Entry Sources

Link	Cruise time (seconds)	Cruise speed (kph)
101	12.00	30.00
102	12.00	30.00
103	12.00	30.00
104	12.00	30.00
105	1.20	30.00
106	2.16	30.00

Give way data

Link	Same as major link	Percentage opposed (%)	Opposed By Conflict 1 Only (%)	Max Flow (Opposed) (PCU/hr)	Max Flow (Unopposed) (PCU/hr)	Use Step-wise Opposed Turn Model	Visibility restricted
105	✓	100	0	1000	1770		
106	✓	100	0	1000	1761		

Give Way Data - Conflicts

Link	Conflict	Description	Controlling type	Controlling link	Percentage opposing (%)	Slope coefficient	Upstream signals visible	Conflict shift	Conflict duration
105	1		LinkShare	104	100	0.50		0	0
106	1		LinkShare	103	100	0.50		0	0

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
(ALL)	(untitled)				Farside	3.00	2.00	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	C	
2	1	F	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Signal Timings

Network Default: 105s cycle time; 105 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	105

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	6	300	0	0	Pedestrian	0
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	6	300	0	0	Pedestrian	0
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	B	7
	2	A	7
	3	D, E, G, H	7
	4	C, F	6

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4	22, 57, 77, 93

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A		5	9	6	5	9	5	5
	B	5		8	7	5	8	5	5
	C	9	9		9	9		0	0
	D	5	5	10			10		
	E	5	5	10			10		
	F	9	9		9	9		0	9
	G	5	5	10			10		
	H	5	5	10			10		

Banned Stage transitions for Controller Stream 1

		To			
		1	2	3	4
From	1				
	2				
	3				
	4				

Interstage Matrix for Controller Stream 1

		To			
		1	2	3	4
From	1	0	5	7	8
	2	5	0	6	9
	3	5	5	0	10
	4	9	9	9	0

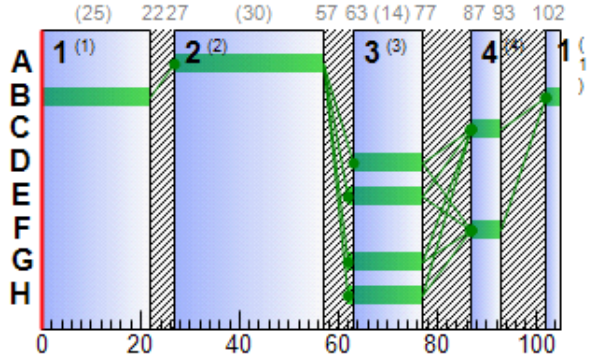
Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	B	102	22	25	7	7
	2	✓	2	A	27	57	30	7	7
	3	✓	3	D,E,G,H	63	77	14	7	7
	4	✓	4	C,F	87	93	6	6	6

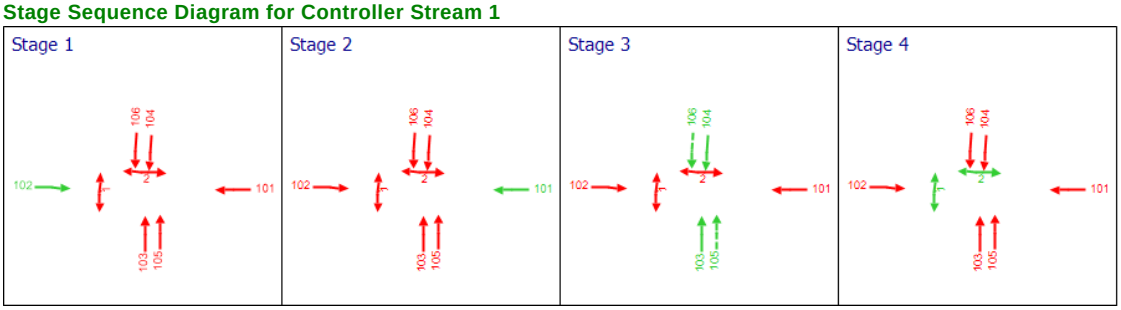
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	27	57	30
	B	1	✓	102	22	25
	C	1	✓	87	93	6
	D	1	✓	63	77	14
	E	1	✓	62	77	15
	F	1	✓	87	93	6
	G	1	✓	62	77	15
	H	1	✓	62	77	15

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
08:00-09:00	1	0.00	0.00	0.00	0.00

Results - Link

Results - Link: Vehicle summary

Time Segment	Link	Name	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Calculated capacity (PCU/hr)	Degree of saturation (%)	Practical reserve capacity (%)	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	JourneyTime (s)
08:00-09:00	101	(untitled)	A	491	1865	30	551	89	1	59.06	16.87	96.20	71.06
	102	(untitled)	B	446	1928	25	477	93	-4	77.81	17.49	96.48	89.81
	103	(untitled)	D	71	1758	14	251	28	218	43.03	1.89	11.43	55.03
	104	(untitled)	E	223	1670	15	254	88	3	84.71	8.87	56.49	96.71
	105	(untitled)	G	26	268	15	41	64	42	111.55	1.23	73.77	112.75
	106	(untitled)	H	24	815	15	124	19	365	42.01	0.64	21.58	44.17

Results - Traffic Stream

Data Entry - Stage Start and End

Resultant Stage

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	B	102	22	25	7	7
	2	✓	2	A	27	57	30	7	7
	3	✓	3	D,E,G,H	63	77	14	7	7
	4	✓	4	C,F	87	93	6	6	6

Data Entry - Phase

Phase

Controller Stream	Phase	Phase	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	A	A	7	300	0	0	Traffic
	B	B	7	300	0	0	Traffic
	C	C	6	300	0	0	Pedestrian
	D	D	7	300	0	0	Traffic
	E	E	7	300	0	0	Traffic
	F	F	6	300	0	0	Pedestrian
	G	G	7	300	0	0	Traffic
	H	H	7	300	0	0	Traffic

Data Entry - Traffic Stream

Data entry - Link

Link

Link	Link	Length (m)	Is minor shared	Traffic model	Max queue storage (PCU)	Traffic type	Has Saturation Flow	Is signal controlled	Is give way	Use RR67	Saturation flow (PCU/hr)	Stop weighting (%)	Delay weighting (%)
101	101	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1865	100	100
102	102	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1928	100	100
103	103	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1758	100	100
104	104	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1670	100	100
105	105	10.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1770	100	100
106	106	18.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1761	100	100

Results - Pedestrian

Pedestrian Crossings: Pedestrian summary

Time Segment	Pedestrian crossing	Side	Calculated Flow Entering (Ped/hr)	Degree of saturation (%)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)
08:00-09:00	(ALL)	(ALL)	0	0	6	0.00	0.00

Link Results

Link Results: Vehicle summary

Time Segment	Link	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	101	89	1	491	1865	30	59.06	16.87	96.20	114.38	7.07	121.45
	102	93	-4	446	1928	25	77.81	17.49	96.48	136.89	7.26	144.14
	103	28	218	71	1758	14	43.03	1.89	11.43	12.05	0.80	12.85
	104	88	3	223	1670	15	84.71	8.87	56.49	74.51	3.68	78.19
	105	64	42	26	268	15	111.55	1.23	73.77	11.44	0.49	11.93
	106	19	365	24	815	15	42.01	0.64	21.58	3.98	0.27	4.25

Link Results: Flows and signals

Time Segment	Link	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	101	491	491	0		1865	551	89		1	0.00	30
	102	446	446	0		1928	477	93	✓	-4	0.00	25
	103	71	71	0		1758	251	28		218	0.00	14
	104	223	223	0		1670	254	88		3	0.00	15
	105	26	26	0		268	41	64		42	0.00	15
	106	24	24	0		815	124	19		365	0.00	15

Link Results: Stops and delays

Time Segment	Link	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	101	12.00	59.06	8.05	114.38	114.90	564.14	7.07
	102	12.00	77.81	9.64	136.89	129.77	578.77	7.26
	103	12.00	43.03	0.85	12.05	90.11	63.98	0.80
	104	12.00	84.71	5.25	74.51	131.54	293.34	3.68
	105	1.20	111.55	0.81	11.44	151.54	39.40	0.49
	106	2.16	42.01	0.28	3.98	90.62	21.75	0.27

Link Results: Queues and blocking

Time Segment	Link	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
08:00-09:00	101	0.00	16.87	17.53	96.20	0.00	0.00	
	102	0.00	17.49	18.12	96.48	0.00	0.00	
	103	0.00	1.89	16.53	11.43	0.00	0.00	
	104	0.00	8.87	15.70	56.49	0.00	0.00	
	105	0.00	1.23	1.66	73.77	0.00	1.00	
	106	0.00	0.64	2.98	21.58	0.00	11.00	

Link Results: Advanced

Time Segment	Link	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	101	0.00	0.00	✓	17.06	3.42	13.52	1.00	0.00	121.45
	102	0.00	0.00	✓	18.14	5.51	15.29	1.00	0.00	144.14
	103	0.00	0.00	✓	1.89	0.06	1.83	1.00	0.00	12.85
	104	0.00	0.00	✓	9.10	2.78	8.29	1.00	0.00	78.19
	105	0.00	0.00	✓	1.26	0.52	1.16	1.00	0.00	11.93
	106	0.00	0.00	✓	0.64	0.02	0.62	1.00	0.00	4.25

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	(ALL)	(ALL)	0	0	11000	6	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	(ALL)	(ALL)	0	0	0		11000	629	0		Unrestricted	0.00	6

Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
08:00-09:00	(ALL)	(ALL)	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
08:00-09:00	(ALL)	(ALL)	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	(ALL)	(ALL)	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	03/03/2021 11:12:16	03/03/2021 11:12:17	08:00	105	372.82	24.88	93.42	102	1	10	102		10

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	93	-4	1281	114	69.91	353.24	19.58	372.82

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0	0	24	0.00	0.00	0.00

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
08:00-09:00	1281	1281	0		93	✓	-4	138

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	11.60	69.91	24.88	353.24	121.89	1561.37	19.58

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
08:00-09:00	96.48	0.00	12.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0.00	0.00	✓	1.00	0.00	0.00	372.82

Final Prediction Table

Link Results

			SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEI
Link	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting (%)
101	(untitled)	1	1	A	491	1865	30	0.00	89	1	71.06	59.06	114.90	16.87	100
102	(untitled)	1	1	B	446	1928	25	0.00	93	-4	89.81	77.81	129.77	17.49	100
103	(untitled)	1	1	D	71	1758	14	0.00	28	218	55.03	43.03	90.11	1.89	100
104	(untitled)	1	1	E	223	1670	15	0.00	88	3	96.71	84.71	131.54	8.87	100
105	(untitled)	1	1	G	26	268	15	1.00	64	42	112.75	111.55	151.54	1.23	100
106	(untitled)	1	1	H	24	815	15	11.00	19	365	44.17	42.01	90.62	0.64	100

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	(
1	1	(untitled)		1	C	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	C	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
2	1	(untitled)		1	F	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	F	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	123.79	29.00	4.27	24.88	353.24	19.58	0.00	372.82
Bus								
Tram								
Pedestrians	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	123.79	29.00	4.27	24.88	353.24	19.58	0.00	372.82

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 15

Version: 15.5.3.7

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

Filename: Base 2028, PM.t15
Path: C:\ITL Jobs\IT1929 Manor Trading Estate, Commercial\TRANSYT\Church Road - Manor Road\Base 2028
Report generation date: 03/03/2021 11:18:25

File summary

File description

File title	Church Road - Manor Road
Location	
Site number	
UTCRegion	
Driving side	Left
Date	13/11/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	INTER-MODAL\dshrivastava
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

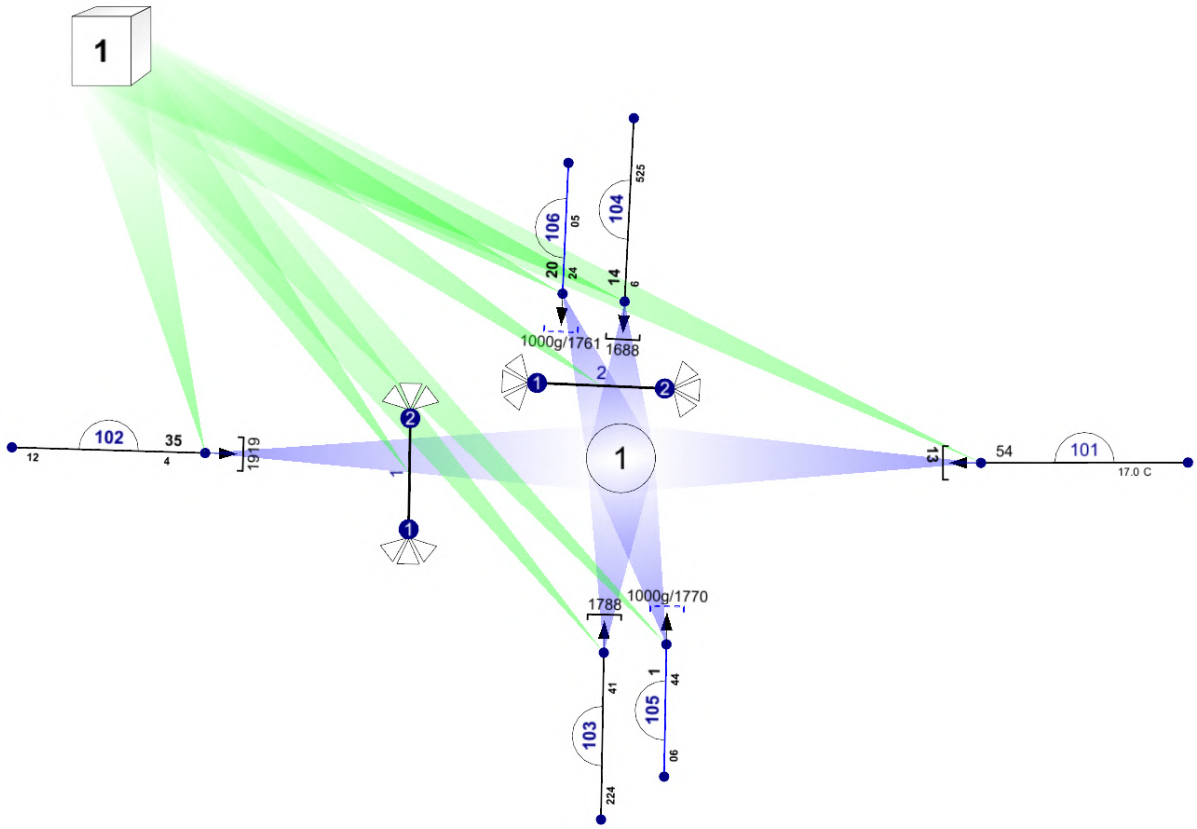
Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Network Diagrams



Church Road - Manor Road
Cycletime 0s / 105s , Timesteps 104 / 105
Diagram produced using TRANSYT 15.5.3.7

A1 - (untitled)
D1 - Base 2028, PM Peak*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	03/03/2021 11:18:17	03/03/2021 11:18:17	16:30	105	274.41	18.18	86.01	101	0	0	101		10

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
(untitled)		D1	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
Base 2028, PM Peak				16:30	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
105		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
1	(untitled)	

Links

Links

Link	Name	Description	Traffic node	Length (m)	Has Saturation Flow	Use RR67	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Is minor shared	Allow Nearside Turn On Red
101	(untitled)		1	100.00	✓	✓	1838	✓		Normal		
102	(untitled)		1	100.00	✓	✓	1919	✓		Normal		
103	(untitled)		1	100.00	✓	✓	1788	✓		Normal		
104	(untitled)		1	100.00	✓	✓	1688	✓		Normal		
105	(untitled)		1	10.00	✓	✓	1770	✓	✓	Normal		
106	(untitled)		1	18.00	✓	✓	1761	✓	✓	Normal		

Modelling

Link	Traffic model	Stop weighting (%)	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Normal traffic - Advanced

Link	Dispersion type for Normal Traffic	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	NetworkDefault	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	105

Flows

Link	Total flow (PCU/hr)	PCU Factor
101	542	1.00
102	385	1.00
103	77	1.00
104	147	1.00
105	18	1.00
106	20	1.00

Flows - Advanced

Link	Detectors
(ALL)	

Signals

Link	Controller stream	Phase	Second phase enabled
101	1	A	
102	1	B	
103	1	D	
104	1	E	
105	1	G	
106	1	H	

Entry Sources

Link	Cruise time (seconds)	Cruise speed (kph)
101	12.00	30.00
102	12.00	30.00
103	12.00	30.00
104	12.00	30.00
105	1.20	30.00
106	2.16	30.00

Give way data

Link	Same as major link	Percentage opposed (%)	Opposed By Conflict 1 Only (%)	Max Flow (Opposed) (PCU/hr)	Max Flow (Unopposed) (PCU/hr)	Use Step-wise Opposed Turn Model	Visibility restricted
105	✓	100	0	1000	1770		
106	✓	100	0	1000	1761		

Give Way Data - Conflicts

Link	Conflict	Description	Controlling type	Controlling link	Percentage opposing (%)	Slope coefficient	Upstream signals visible	Conflict shift	Conflict duration
105	1		LinkShare	104	100	0.50		0	0
106	1		LinkShare	103	100	0.50		0	0

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
(ALL)	(untitled)				Farside	3.00	2.00	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	C	
2	1	F	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Signal Timings

Network Default: 105s cycle time; 105 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	105

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	6	300	0	0	Pedestrian	0
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	6	300	0	0	Pedestrian	0
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	B	7
	2	A	7
	3	D, E, G, H	7
	4	C, F	6

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4	21, 61, 77, 93

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A		5	9	6	5	9	5	5
	B	5		8	7	5	8	5	5
	C	9	9		9	9		0	0
	D	5	5	10			10		
	E	5	5	10			10		
	F	9	9		9	9		0	9
	G	0	5	10			10		
	H	0	5	10			10		

Banned Stage transitions for Controller Stream 1

		To			
		1	2	3	4
From	1				
	2				
	3				
	4				

Interstage Matrix for Controller Stream 1

		To			
		1	2	3	4
From	1	0	5	7	8
	2	5	0	6	9
	3	5	5	0	10
	4	9	9	9	0

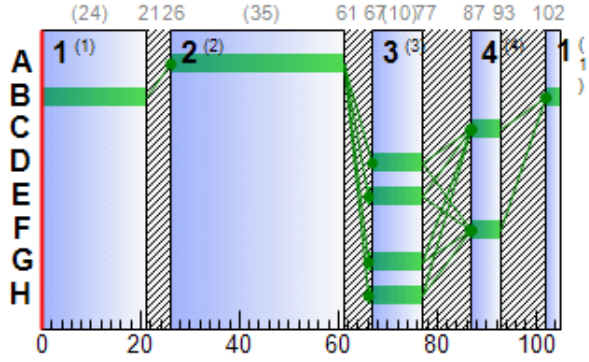
Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	B	102	21	24	7	7
	2	✓	2	A	26	61	35	7	7
	3	✓	3	D,E,G,H	67	77	10	7	7
	4	✓	4	C,F	87	93	6	6	6

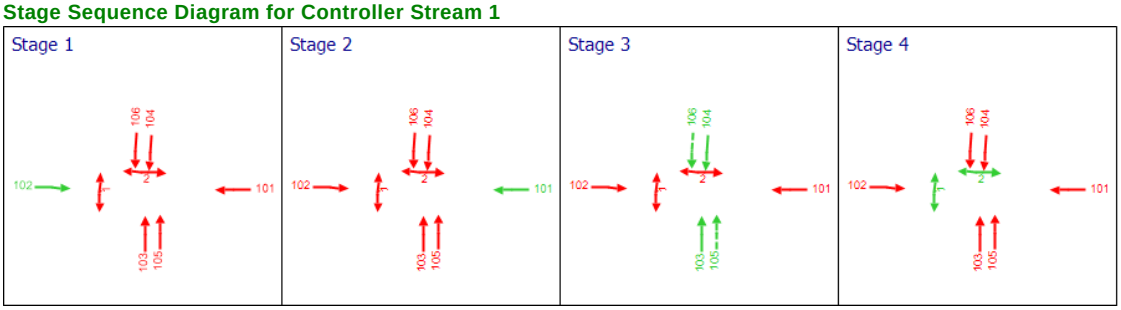
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	26	61	35
	B	1	✓	102	21	24
	C	1	✓	87	93	6
	D	1	✓	67	77	10
	E	1	✓	66	77	11
	F	1	✓	87	93	6
	G	1	✓	66	77	11
	H	1	✓	66	77	11

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Results - Link

Results - Link: Vehicle summary

Time Segment	Link	Name	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Calculated capacity (PCU/hr)	Degree of saturation (%)	Practical reserve capacity (%)	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	JourneyTime (s)
16:30-17:30	101	(untitled)	A	542	1838	35	630	86	5	48.48	17.06	98.75	60.48
	102	(untitled)	B	385	1919	24	457	84	7	57.63	12.78	70.85	69.63
	103	(untitled)	D	77	1788	10	187	41	119	50.63	2.24	13.32	62.63
	104	(untitled)	E	147	1688	11	193	76	18	72.73	5.25	33.09	84.73
	105	(untitled)	G	18	357	11	41	44	104	79.37	0.68	40.60	80.57
	106	(untitled)	H	20	727	11	83	24	274	48.52	0.57	18.98	50.68

Results - Traffic Stream

Data Entry - Stage Start and End

Resultant Stage

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	B	102	21	24	7	7
	2	✓	2	A	26	61	35	7	7
	3	✓	3	D,E,G,H	67	77	10	7	7
	4	✓	4	C,F	87	93	6	6	6

Data Entry - Phase

Phase

Controller Stream	Phase	Phase	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	A	A	7	300	0	0	Traffic
	B	B	7	300	0	0	Traffic
	C	C	6	300	0	0	Pedestrian
	D	D	7	300	0	0	Traffic
	E	E	7	300	0	0	Traffic
	F	F	6	300	0	0	Pedestrian
	G	G	7	300	0	0	Traffic
	H	H	7	300	0	0	Traffic

Data Entry - Traffic Stream

Data entry - Link

Link

Link	Link	Length (m)	Is minor shared	Traffic model	Max queue storage (PCU)	Traffic type	Has Saturation Flow	Is signal controlled	Is give way	Use RR67	Saturation flow (PCU/hr)	Stop weighting (%)	Delay weighting (%)
101	101	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1838	100	100
102	102	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1919	100	100
103	103	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1788	100	100
104	104	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1688	100	100
105	105	10.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1770	100	100
106	106	18.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1761	100	100

Results - Pedestrian

Pedestrian Crossings: Pedestrian summary

Time Segment	Pedestrian crossing	Side	Calculated Flow Entering (Ped/hr)	Degree of saturation (%)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)
16:30-17:30	(ALL)	(ALL)	0	0	6	0.00	0.00

Link Results

Link Results: Vehicle summary

Time Segment	Link	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
16:30-17:30	101	86	5	542	1838	35	48.48	17.06	98.75	103.66	7.19	110.85
	102	84	7	385	1919	24	57.63	12.78	70.85	87.52	5.36	92.88
	103	41	119	77	1788	10	50.63	2.24	13.32	15.38	0.95	16.33
	104	76	18	147	1688	11	72.73	5.25	33.09	42.17	2.21	44.38
	105	44	104	18	357	11	79.37	0.68	40.60	5.64	0.28	5.92
	106	24	274	20	727	11	48.52	0.57	18.98	3.83	0.24	4.07

Link Results: Flows and signals

Time Segment	Link	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
16:30-17:30	101	542	542	0		1838	630	86		5	0.00	35
	102	385	385	0		1919	457	84		7	0.00	24
	103	77	77	0		1788	187	41		119	0.00	10
	104	147	147	0		1688	193	76		18	0.00	11
	105	18	18	0		357	41	44		104	0.00	11
	106	20	20	0		727	83	24		274	0.00	11

Link Results: Stops and delays

Time Segment	Link	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
16:30-17:30	101	12.00	48.48	7.30	103.66	105.83	573.62	7.19
	102	12.00	57.63	6.16	87.52	110.96	427.19	5.36
	103	12.00	50.63	1.08	15.38	98.37	75.74	0.95
	104	12.00	72.73	2.97	42.17	119.70	175.96	2.21
	105	1.20	79.37	0.40	5.64	125.19	22.53	0.28
	106	2.16	48.52	0.27	3.83	95.37	19.07	0.24

Link Results: Queues and blocking

Time Segment	Link	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
16:30-17:30	101	0.00	17.06	17.28	98.75	0.00	0.00	
	102	0.00	12.78	18.04	70.85	0.00	0.00	
	103	0.00	2.24	16.81	13.32	0.00	0.00	
	104	0.00	5.25	15.87	33.09	0.00	0.00	
	105	0.00	0.68	1.66	40.60	0.00	2.00	
	106	0.00	0.57	2.98	18.98	0.00	10.00	

Link Results: Advanced

Time Segment	Link	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	101	0.00	0.00	✓	17.15	2.55	12.93	1.00	0.00	110.85
	102	0.00	0.00	✓	12.86	2.17	10.72	1.00	0.00	92.88
	103	0.00	0.00	✓	2.24	0.14	2.15	1.00	0.00	16.33
	104	0.00	0.00	✓	5.29	1.17	4.97	1.00	0.00	44.38
	105	0.00	0.00	✓	0.68	0.17	0.63	1.00	0.00	5.92
	106	0.00	0.00	✓	0.57	0.04	0.55	1.00	0.00	4.07

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
16:30-17:30	(ALL)	(ALL)	0	0	11000	6	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
16:30-17:30	(ALL)	(ALL)	0	0	0		11000	629	0		Unrestricted	0.00	6

Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
16:30-17:30	(ALL)	(ALL)	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
16:30-17:30	(ALL)	(ALL)	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	(ALL)	(ALL)	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	03/03/2021 11:18:17	03/03/2021 11:18:17	16:30	105	274.41	18.18	86.01	101	0	0	101		10

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
16:30-17:30	86	0	1189	102	55.05	258.19	16.23	274.41

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
16:30-17:30	0	0	24	0.00	0.00	0.00

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
16:30-17:30	1189	1189	0		86		5	126

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
16:30-17:30	11.67	55.05	18.18	258.19	108.84	1294.12	16.23

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
16:30-17:30	98.75	0.00	12.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	0.00	0.00	✓	1.00	0.00	0.00	274.41

Final Prediction Table

Link Results

			SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIG
Link	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting (%)
101	(untitled)	1	1	A	542	1838	35	0.00	86	5	60.48	48.48	105.83	17.06	100
102	(untitled)	1	1	B	385	1919	24	0.00	84	7	69.63	57.63	110.96	12.78	100
103	(untitled)	1	1	D	77	1788	10	0.00	41	119	62.63	50.63	98.37	2.24	100
104	(untitled)	1	1	E	147	1688	11	0.00	76	18	84.73	72.73	119.70	5.25	100
105	(untitled)	1	1	G	18	357	11	2.00	44	104	80.57	79.37	125.19	0.68	100
106	(untitled)	1	1	H	20	727	11	10.00	24	274	50.68	48.52	95.37	0.57	100

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	(
1	1	(untitled)		1	C	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	C	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
2	1	(untitled)		1	F	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	F	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	115.64	22.04	5.25	18.18	258.19	16.23	0.00	274.41
Bus								
Tram								
Pedestrians	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	115.64	22.04	5.25	18.18	258.19	16.23	0.00	274.41

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 15

Version: 15.5.3.7

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Filename: Base 2028 + Development, AM.t15
Path: C:\ITL Jobs\IT1929 Manor Trading Estate, Commercial\TRANSYT\Church Road - Manor Road\Base 2028 + Development
Report generation date: 03/03/2021 11:22:55

File summary

File description

File title	Church Road - Manor Road
Location	
Site number	
UTCRegion	
Driving side	Left
Date	13/11/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	INTER-MODAL\dshrivastava
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

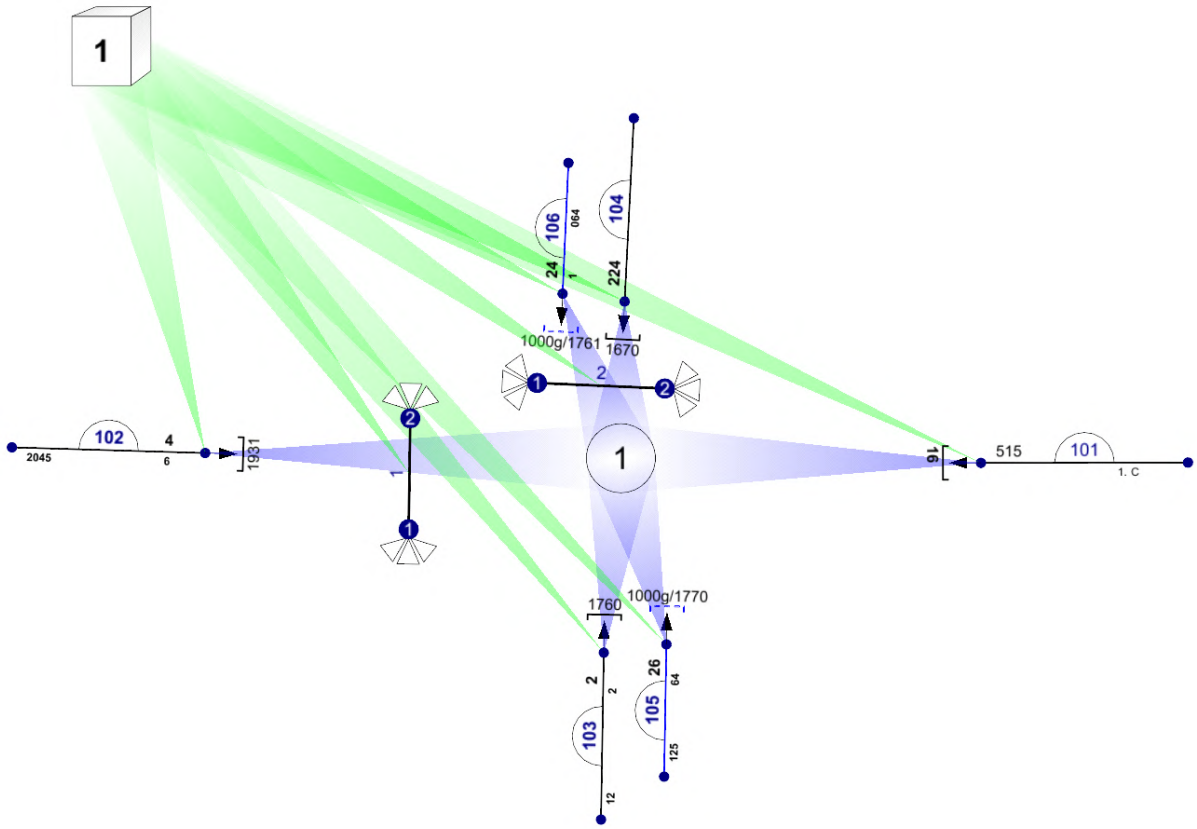
Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Network Diagrams



Church Road - Manor Road
Cycletime 0s / 105s , Timesteps 104 / 105
Diagram produced using TRANSYT 15.5.3.7

A1 - (untitled)
D1 - Base 2028 + Development, AM Peak*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	03/03/2021 11:22:49	03/03/2021 11:22:50	08:00	105	471.48	31.61	96.49	101	2	20	101		10

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
(untitled)		D1	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
Base 2028 + Development, AM Peak				08:00	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
105		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
1	(untitled)	

Links

Links

Link	Name	Description	Traffic node	Length (m)	Has Saturation Flow	Use RR67	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Is minor shared	Allow Nearside Turn On Red
101	(untitled)		1	100.00	✓	✓	1868	✓		Normal		
102	(untitled)		1	100.00	✓	✓	1931	✓		Normal		
103	(untitled)		1	100.00	✓	✓	1760	✓		Normal		
104	(untitled)		1	100.00	✓	✓	1670	✓		Normal		
105	(untitled)		1	10.00	✓	✓	1770	✓	✓	Normal		
106	(untitled)		1	18.00	✓	✓	1761	✓	✓	Normal		

Modelling

Link	Traffic model	Stop weighting (%)	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Normal traffic - Advanced

Link	Dispersion type for Normal Traffic	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	NetworkDefault	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	105

Flows

Link	Total flow (PCU/hr)	PCU Factor
101	515	1.00
102	478	1.00
103	72	1.00
104	224	1.00
105	26	1.00
106	24	1.00

Flows - Advanced

Link	Detectors
(ALL)	

Signals

Link	Controller stream	Phase	Second phase enabled
101	1	A	
102	1	B	
103	1	D	
104	1	E	
105	1	G	
106	1	H	

Entry Sources

Link	Cruise time (seconds)	Cruise speed (kph)
101	12.00	30.00
102	12.00	30.00
103	12.00	30.00
104	12.00	30.00
105	1.20	30.00
106	2.16	30.00

Give way data

Link	Same as major link	Percentage opposed (%)	Opposed By Conflict 1 Only (%)	Max Flow (Opposed) (PCU/hr)	Max Flow (Unopposed) (PCU/hr)	Use Step-wise Opposed Turn Model	Visibility restricted
105	✓	100	0	1000	1770		
106	✓	100	0	1000	1761		

Give Way Data - Conflicts

Link	Conflict	Description	Controlling type	Controlling link	Percentage opposing (%)	Slope coefficient	Upstream signals visible	Conflict shift	Conflict duration
105	1		LinkShare	104	100	0.50		0	0
106	1		LinkShare	103	100	0.50		0	0

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
(ALL)	(untitled)				Farside	3.00	2.00	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	C	
2	1	F	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Signal Timings

Network Default: 105s cycle time; 105 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	105

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	6	300	0	0	Pedestrian	0
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	6	300	0	0	Pedestrian	0
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	B	7
	2	A	7
	3	D, E, G, H	7
	4	C, F	6

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4	23, 57, 77, 93

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A		5	9	6	5	9	5	5
	B	5		8	7	5	8	5	5
	C	9	9		9	9		0	0
	D	5	5	10			10		
	E	5	5	10			10		
	F	9	9		9	9		0	9
	G	5	5	10			10		
	H	5	5	10			10		

Banned Stage transitions for Controller Stream 1

		To			
		1	2	3	4
From	1				
	2				
	3				
	4				

Interstage Matrix for Controller Stream 1

		To			
		1	2	3	4
From	1	0	5	7	8
	2	5	0	6	9
	3	5	5	0	10
	4	9	9	9	0

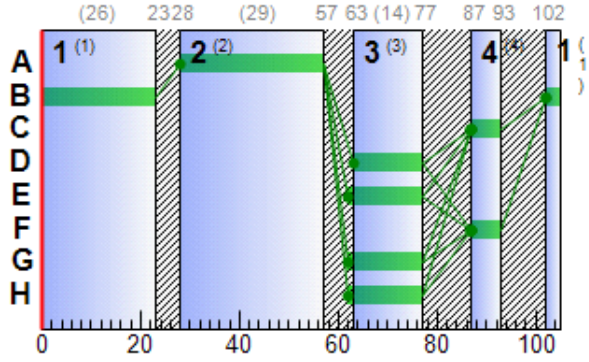
Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	B	102	23	26	7	7
	2	✓	2	A	28	57	29	7	7
	3	✓	3	D,E,G,H	63	77	14	7	7
	4	✓	4	C,F	87	93	6	6	6

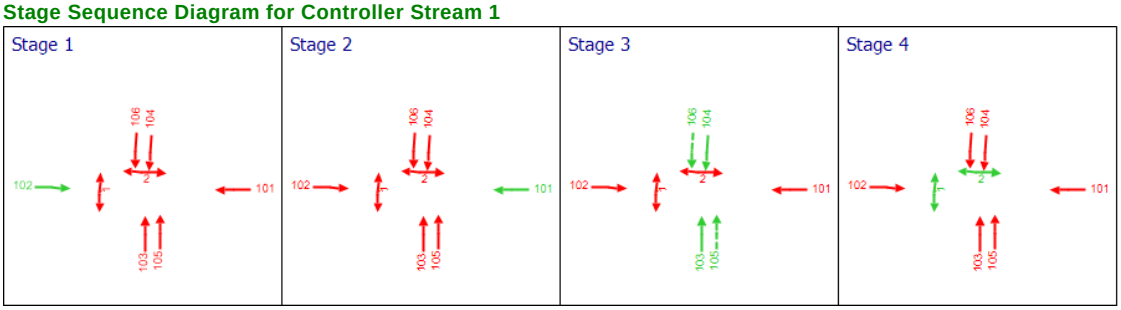
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	28	57	29
	B	1	✓	102	23	26
	C	1	✓	87	93	6
	D	1	✓	63	77	14
	E	1	✓	62	77	15
	F	1	✓	87	93	6
	G	1	✓	62	77	15
	H	1	✓	62	77	15

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
08:00-09:00	1	0.00	0.00	0.00	0.00

Results - Link

Results - Link: Vehicle summary

Time Segment	Link	Name	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Calculated capacity (PCU/hr)	Degree of saturation (%)	Practical reserve capacity (%)	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	JourneyTime (s)
08:00-09:00	101	(untitled)	A	515	1868	29	534	96	-7	86.80	21.86	124.49	98.80
	102	(untitled)	B	478	1931	26	497	96	-7	89.50	20.45	112.64	101.50
	103	(untitled)	D	72	1760	14	251	29	214	43.09	1.92	11.59	55.09
	104	(untitled)	E	224	1670	15	254	88	2	85.84	8.98	57.18	97.84
	105	(untitled)	G	26	265	15	40	64	40	114.22	1.25	74.92	115.42
	106	(untitled)	H	24	811	15	124	19	364	42.04	0.64	21.59	44.20

Results - Traffic Stream

Data Entry - Stage Start and End

Resultant Stage

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	B	102	23	26	7	7
	2	✓	2	A	28	57	29	7	7
	3	✓	3	D,E,G,H	63	77	14	7	7
	4	✓	4	C,F	87	93	6	6	6

Data Entry - Phase

Phase

Controller Stream	Phase	Phase	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	A	A	7	300	0	0	Traffic
	B	B	7	300	0	0	Traffic
	C	C	6	300	0	0	Pedestrian
	D	D	7	300	0	0	Traffic
	E	E	7	300	0	0	Traffic
	F	F	6	300	0	0	Pedestrian
	G	G	7	300	0	0	Traffic
	H	H	7	300	0	0	Traffic

Data Entry - Traffic Stream

Data entry - Link

Link

Link	Link	Length (m)	Is minor shared	Traffic model	Max queue storage (PCU)	Traffic type	Has Saturation Flow	Is signal controlled	Is give way	Use RR67	Saturation flow (PCU/hr)	Stop weighting (%)	Delay weighting (%)
101	101	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1868	100	100
102	102	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1931	100	100
103	103	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1760	100	100
104	104	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1670	100	100
105	105	10.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1770	100	100
106	106	18.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1761	100	100

Results - Pedestrian

Pedestrian Crossings: Pedestrian summary

Time Segment	Pedestrian crossing	Side	Calculated Flow Entering (Ped/hr)	Degree of saturation (%)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)
08:00-09:00	(ALL)	(ALL)	0	0	6	0.00	0.00

Link Results

Link Results: Vehicle summary

Time Segment	Link	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	101	96	-7	515	1868	29	86.80	21.86	124.49	176.32	8.96	185.27
	102	96	-7	478	1931	26	89.50	20.45	112.64	168.74	8.38	177.12
	103	29	214	72	1760	14	43.09	1.92	11.59	12.24	0.81	13.05
	104	88	2	224	1670	15	85.84	8.98	57.18	75.85	3.72	79.57
	105	64	40	26	265	15	114.22	1.25	74.92	11.71	0.50	12.21
	106	19	364	24	811	15	42.04	0.64	21.59	3.98	0.27	4.25

Link Results: Flows and signals

Time Segment	Link	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	101	515	515	0		1868	534	96	✓	-7	0.00	29
	102	478	478	0		1931	497	96	✓	-7	0.00	26
	103	72	72	0		1760	251	29		214	0.00	14
	104	224	224	0		1670	254	88		2	0.00	15
	105	26	26	0		265	40	64		40	0.00	15
	106	24	24	0		811	124	19		364	0.00	15

Link Results: Stops and delays

Time Segment	Link	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	101	12.00	86.80	12.42	176.32	138.71	714.33	8.96
	102	12.00	89.50	11.88	168.74	139.74	667.96	8.38
	103	12.00	43.09	0.86	12.24	90.15	64.91	0.81
	104	12.00	85.84	5.34	75.85	132.42	296.62	3.72
	105	1.20	114.22	0.82	11.71	153.39	39.88	0.50
	106	2.16	42.04	0.28	3.98	90.66	21.76	0.27

Link Results: Queues and blocking

Time Segment	Link	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
08:00-09:00	101	0.00	21.86	17.56	124.49	0.00	0.00	
	102	0.00	20.45	18.15	112.64	0.00	0.00	
	103	0.00	1.92	16.55	11.59	0.00	0.00	
	104	0.00	8.98	15.70	57.18	0.00	0.00	
	105	0.00	1.25	1.66	74.92	0.00	1.00	
	106	0.00	0.64	2.98	21.59	0.00	11.00	

Link Results: Advanced

Time Segment	Link	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	101	0.00	0.00	✓	23.48	8.74	19.47	1.00	0.00	185.27
	102	0.00	0.00	✓	21.96	8.28	18.64	1.00	0.00	177.12
	103	0.00	0.00	✓	1.92	0.06	1.86	1.00	0.00	13.05
	104	0.00	0.00	✓	9.23	2.88	8.42	1.00	0.00	79.57
	105	0.00	0.00	✓	1.28	0.54	1.18	1.00	0.00	12.21
	106	0.00	0.00	✓	0.64	0.02	0.62	1.00	0.00	4.25

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	(ALL)	(ALL)	0	0	11000	6	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	(ALL)	(ALL)	0	0	0		11000	629	0		Unrestricted	0.00	6

Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
08:00-09:00	(ALL)	(ALL)	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
08:00-09:00	(ALL)	(ALL)	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	(ALL)	(ALL)	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	03/03/2021 11:22:49	03/03/2021 11:22:50	08:00	105	471.48	31.61	96.49	101	2	20	101		10

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	96	-7	1339	114	84.98	448.84	22.64	471.48

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0	0	24	0.00	0.00	0.00

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
08:00-09:00	1339	1339	0		96	✓	-7	138

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	11.61	84.98	31.61	448.84	134.84	1805.46	22.64

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
08:00-09:00	124.49	0.00	12.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0.00	0.00	✓	1.00	0.00	0.00	471.48

Final Prediction Table

Link Results

			SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEI
Link	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting (%)
101	(untitled)	1	1	A	515 <	1868	29	0.00	96	-7	98.80	86.80	138.71	21.86 +	100
102	(untitled)	1	1	B	478 <	1931	26	0.00	96	-7	101.50	89.50	139.74	20.45 +	100
103	(untitled)	1	1	D	72	1760	14	0.00	29	214	55.09	43.09	90.15	1.92	100
104	(untitled)	1	1	E	224	1670	15	0.00	88	2	97.84	85.84	132.42	8.98	100
105	(untitled)	1	1	G	26	265	15	1.00	64	40	115.42	114.22	153.39	1.25	100
106	(untitled)	1	1	H	24	811	15	11.00	19	364	44.20	42.04	90.66	0.64	100

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	(
1	1	(untitled)		1	C	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	C	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
2	1	(untitled)		1	F	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	F	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	129.59	35.93	3.61	31.61	448.84	22.64	0.00	471.48
Bus								
Tram								
Pedestrians	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	129.59	35.93	3.61	31.61	448.84	22.64	0.00	471.48

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 15

Version: 15.5.3.7

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

Filename: Base 2028 + Development, PM.t15
Path: C:\ITL Jobs\IT1929 Manor Trading Estate, Commercial\TRANSYT\Church Road - Manor Road\Base 2028 + Development
Report generation date: 03/03/2021 11:27:28

File summary

File description

File title	Church Road - Manor Road
Location	
Site number	
UTCRegion	
Driving side	Left
Date	13/11/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	INTER-MODAL\dshrivastava
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

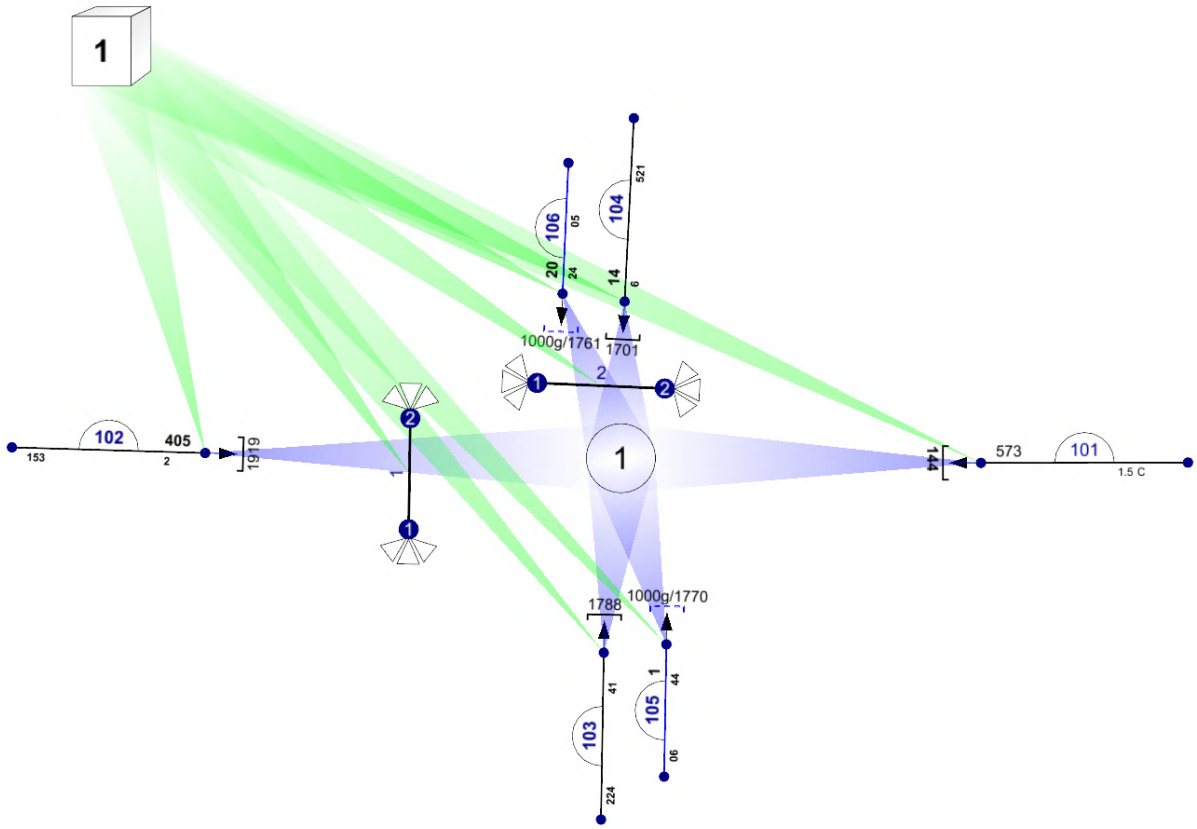
Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Network Diagrams



Church Road - Manor Road
Cycletime 0s / 105s , Timesteps 104 / 105
Diagram produced using TRANSYT 15.5.3.7

A1 - (untitled)
D1 - Base 2028 + Development, PM Peak*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	03/03/2021 11:27:22	03/03/2021 11:27:22	16:30	105	322.77	21.46	92.33	102	1	10	102		10

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
(untitled)		D1	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
Base 2028 + Development, PM Peak				16:30	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
105		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
1	(untitled)	

Links

Links

Link	Name	Description	Traffic node	Length (m)	Has Saturation Flow	Use RR67	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Is minor shared	Allow Nearside Turn On Red
101	(untitled)		1	100.00	✓	✓	1844	✓		Normal		
102	(untitled)		1	100.00	✓	✓	1919	✓		Normal		
103	(untitled)		1	100.00	✓	✓	1788	✓		Normal		
104	(untitled)		1	100.00	✓	✓	1701	✓		Normal		
105	(untitled)		1	10.00	✓	✓	1770	✓	✓	Normal		
106	(untitled)		1	18.00	✓	✓	1761	✓	✓	Normal		

Modelling

Link	Traffic model	Stop weighting (%)	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Normal traffic - Advanced

Link	Dispersion type for Normal Traffic	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	NetworkDefault	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	105

Flows

Link	Total flow (PCU/hr)	PCU Factor
101	573	1.00
102	405	1.00
103	77	1.00
104	147	1.00
105	18	1.00
106	20	1.00

Flows - Advanced

Link	Detectors
(ALL)	

Signals

Link	Controller stream	Phase	Second phase enabled
101	1	A	
102	1	B	
103	1	D	
104	1	E	
105	1	G	
106	1	H	

Entry Sources

Link	Cruise time (seconds)	Cruise speed (kph)
101	12.00	30.00
102	12.00	30.00
103	12.00	30.00
104	12.00	30.00
105	1.20	30.00
106	2.16	30.00

Give way data

Link	Same as major link	Percentage opposed (%)	Opposed By Conflict 1 Only (%)	Max Flow (Opposed) (PCU/hr)	Max Flow (Unopposed) (PCU/hr)	Use Step-wise Opposed Turn Model	Visibility restricted
105	✓	100	0	1000	1770		
106	✓	100	0	1000	1761		

Give Way Data - Conflicts

Link	Conflict	Description	Controlling type	Controlling link	Percentage opposing (%)	Slope coefficient	Upstream signals visible	Conflict shift	Conflict duration
105	1		LinkShare	104	100	0.50		0	0
106	1		LinkShare	103	100	0.50		0	0

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
(ALL)	(untitled)				Farside	3.00	2.00	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	C	
2	1	F	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Signal Timings

Network Default: 105s cycle time; 105 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	105

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	6	300	0	0	Pedestrian	0
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	6	300	0	0	Pedestrian	0
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	B	7
	2	A	7
	3	D, E, G, H	7
	4	C, F	6

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4	20, 61, 77, 93

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A		5	9	6	5	9	5	5
	B	5		8	7	5	8	5	5
	C	9	9		9	9		0	0
	D	5	5	10			10		
	E	5	5	10			10		
	F	9	9		9	9		0	9
	G	5	5	10			10		
	H	5	5	10			10		

Banned Stage transitions for Controller Stream 1

		To			
		1	2	3	4
From	1				
	2				
	3				
	4				

Interstage Matrix for Controller Stream 1

		To			
		1	2	3	4
From	1	0	5	7	8
	2	5	0	6	9
	3	5	5	0	10
	4	9	9	9	0

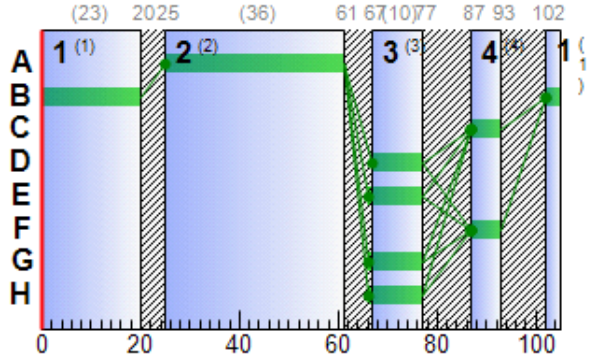
Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	B	102	20	23	7	7
	2	✓	2	A	25	61	36	7	7
	3	✓	3	D,E,G,H	67	77	10	7	7
	4	✓	4	C,F	87	93	6	6	6

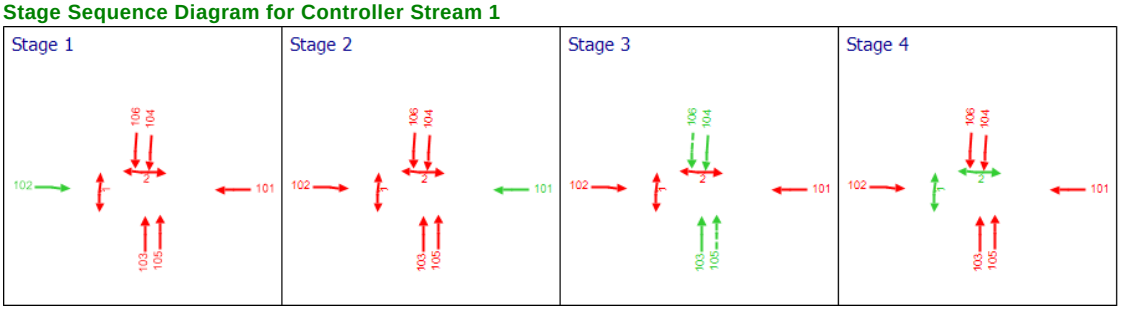
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	25	61	36
	B	1	✓	102	20	23
	C	1	✓	87	93	6
	D	1	✓	67	77	10
	E	1	✓	66	77	11
	F	1	✓	87	93	6
	G	1	✓	66	77	11
	H	1	✓	66	77	11

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Results - Link

Results - Link: Vehicle summary

Time Segment	Link	Name	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Calculated capacity (PCU/hr)	Degree of saturation (%)	Practical reserve capacity (%)	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	JourneyTime (s)
16:30-17:30	101	(untitled)	A	573	1844	36	650	88	2	50.73	18.59	107.23	62.73
	102	(untitled)	B	405	1919	23	439	92	-3	77.41	15.73	87.18	89.41
	103	(untitled)	D	77	1788	10	187	41	119	50.63	2.24	13.32	62.63
	104	(untitled)	E	147	1701	11	194	76	19	71.74	5.21	32.60	83.74
	105	(untitled)	G	18	357	11	41	44	104	79.50	0.68	40.60	80.70
	106	(untitled)	H	20	727	11	83	24	274	48.52	0.57	18.98	50.68

Results - Traffic Stream

Data Entry - Stage Start and End

Resultant Stage

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	B	102	20	23	7	7
	2	✓	2	A	25	61	36	7	7
	3	✓	3	D,E,G,H	67	77	10	7	7
	4	✓	4	C,F	87	93	6	6	6

Data Entry - Phase

Phase

Controller Stream	Phase	Phase	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	A	A	7	300	0	0	Traffic
	B	B	7	300	0	0	Traffic
	C	C	6	300	0	0	Pedestrian
	D	D	7	300	0	0	Traffic
	E	E	7	300	0	0	Traffic
	F	F	6	300	0	0	Pedestrian
	G	G	7	300	0	0	Traffic
	H	H	7	300	0	0	Traffic

Data Entry - Traffic Stream

Data entry - Link

Link

Link	Link	Length (m)	Is minor shared	Traffic model	Max queue storage (PCU)	Traffic type	Has Saturation Flow	Is signal controlled	Is give way	Use RR67	Saturation flow (PCU/hr)	Stop weighting (%)	Delay weighting (%)
101	101	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1844	100	100
102	102	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1919	100	100
103	103	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1788	100	100
104	104	100.00		NetworkDefault	0.00	Normal	✓	✓		✓	1701	100	100
105	105	10.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1770	100	100
106	106	18.00		NetworkDefault	0.00	Normal	✓	✓	✓	✓	1761	100	100

Results - Pedestrian

Pedestrian Crossings: Pedestrian summary

Time Segment	Pedestrian crossing	Side	Calculated Flow Entering (Ped/hr)	Degree of saturation (%)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)
16:30-17:30	(ALL)	(ALL)	0	0	6	0.00	0.00

Link Results

Link Results: Vehicle summary

Time Segment	Link	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
16:30-17:30	101	88	2	573	1844	36	50.73	18.59	107.23	114.65	7.82	122.47
	102	92	-3	405	1919	23	77.41	15.73	87.18	123.66	6.54	130.20
	103	41	119	77	1788	10	50.63	2.24	13.32	15.38	0.95	16.33
	104	76	19	147	1701	11	71.74	5.21	32.60	41.60	2.19	43.79
	105	44	104	18	357	11	79.50	0.68	40.60	5.64	0.28	5.93
	106	24	274	20	727	11	48.52	0.57	18.98	3.83	0.24	4.07

Link Results: Flows and signals

Time Segment	Link	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
16:30-17:30	101	573	573	0		1844	650	88		2	0.00	36
	102	405	405	0		1919	439	92	✓	-3	0.00	23
	103	77	77	0		1788	187	41		119	0.00	10
	104	147	147	0		1701	194	76		19	0.00	11
	105	18	18	0		357	41	44		104	0.00	11
	106	20	20	0		727	83	24		274	0.00	11

Link Results: Stops and delays

Time Segment	Link	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
16:30-17:30	101	12.00	50.73	8.07	114.65	108.78	623.28	7.82
	102	12.00	77.41	8.71	123.66	128.71	521.26	6.54
	103	12.00	50.63	1.08	15.38	98.37	75.74	0.95
	104	12.00	71.74	2.93	41.60	118.90	174.78	2.19
	105	1.20	79.50	0.40	5.64	125.19	22.53	0.28
	106	2.16	48.52	0.27	3.83	95.37	19.07	0.24

Link Results: Queues and blocking

Time Segment	Link	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
16:30-17:30	101	0.00	18.59	17.33	107.23	0.00	0.00	
	102	0.00	15.73	18.04	87.18	0.00	0.00	
	103	0.00	2.24	16.81	13.32	0.00	0.00	
	104	0.00	5.21	15.99	32.60	0.00	0.00	
	105	0.00	0.68	1.66	40.60	0.00	2.00	
	106	0.00	0.57	2.98	18.98	0.00	10.00	

Link Results: Advanced

Time Segment	Link	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	101	0.00	0.00	✓	18.73	3.13	13.95	1.00	0.00	122.47
	102	0.00	0.00	✓	16.23	4.76	13.87	1.00	0.00	130.20
	103	0.00	0.00	✓	2.24	0.14	2.15	1.00	0.00	16.33
	104	0.00	0.00	✓	5.25	1.13	4.93	1.00	0.00	43.79
	105	0.00	0.00	✓	0.68	0.17	0.63	1.00	0.00	5.93
	106	0.00	0.00	✓	0.57	0.04	0.55	1.00	0.00	4.07

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
16:30-17:30	(ALL)	(ALL)	0	0	11000	6	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
16:30-17:30	(ALL)	(ALL)	0	0	0		11000	629	0		Unrestricted	0.00	6

Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
16:30-17:30	(ALL)	(ALL)	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
16:30-17:30	(ALL)	(ALL)	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	(ALL)	(ALL)	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	03/03/2021 11:27:22	03/03/2021 11:27:22	16:30	105	322.77	21.46	92.33	102	1	10	102		10

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
16:30-17:30	92	-3	1240	102	62.31	304.76	18.01	322.77

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
16:30-17:30	0	0	24	0.00	0.00	0.00

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
16:30-17:30	1240	1240	0		92	✓	-3	126

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
16:30-17:30	11.68	62.31	21.46	304.76	115.86	1436.68	18.01

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
16:30-17:30	107.23	0.00	12.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
16:30-17:30	0.00	0.00	✓	1.00	0.00	0.00	322.77

Final Prediction Table

Link Results

			SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIG
Link	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting (%)
101	(untitled)	1	1	A	573 <	1844	36	0.00	88	2	62.73	50.73	108.78	18.59 +	100
102	(untitled)	1	1	B	405	1919	23	0.00	92	-3	89.41	77.41	128.71	15.73	100
103	(untitled)	1	1	D	77	1788	10	0.00	41	119	62.63	50.63	98.37	2.24	100
104	(untitled)	1	1	E	147	1701	11	0.00	76	19	83.74	71.74	118.90	5.21	100
105	(untitled)	1	1	G	18	357	11	2.00	44	104	80.70	79.50	125.19	0.68	100
106	(untitled)	1	1	H	20	727	11	10.00	24	274	50.68	48.52	95.37	0.57	100

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	(
1	1	(untitled)		1	C	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	C	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
2	1	(untitled)		1	F	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	F	0	11000	6	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	120.74	25.49	4.74	21.46	304.76	18.01	0.00	322.77
Bus								
Tram								
Pedestrians	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	120.74	25.49	4.74	21.46	304.76	18.01	0.00	322.77

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

APPENDIX H:

PICADY OUTPUT FILES

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: Armstrong Road - Church Road.arc8
Path: C:\ITL Jobs\IT1929 Manor Trading Estate, Commercial\PICADY\Junction 3
Report generation date: 01/03/2021 15:22:17

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	A1 - 2028 Base							
Stream B-AC	0.74	18.17	0.43	C	1.96	23.14	0.67	C
Stream C-AB	0.79	6.54	0.31	A	0.34	5.06	0.14	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2028 Base + Development							
Stream B-AC	0.85	19.99	0.46	C	2.46	27.68	0.72	D
Stream C-AB	0.93	6.77	0.34	A	0.37	5.04	0.15	A
Stream C-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 - 2028 Base, AM " model duration: 07:45 - 09:15
"D2 - 2028 Base, PM" model duration: 16:15 - 17:45
"D3 - 2028 Base + Development, AM" model duration: 07:45 - 09:15
"D4 - 2028 Base + Development, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.6.541 at 01/03/2021 15:22:15

File summary

Title	Land East of Manor Trading Estate, Residential Development
Location	South Benfleet
Site Number	
Date	13/11/2018
Version	
Status	(new file)
Identifier	
Client	GKP Developments
Jobnumber	IT1932
Enumerator	DS
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	Veh	Veh	perHour	s	-Min	perMin

(Default Analysis Set) - 2028 Base, 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
(Default Analysis Set)	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
2028 Base, AM	2028 Base	AM		ONE HOUR	07:45	09:15	90	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	11.52	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Church Road (West)		Major
B	B	Armstrong Road		Minor
C	C	Church Road (East)		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		2.20	143.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	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	One lane	4.20										106	27

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	588.271	0.102	0.257	0.161	0.367
1	B-C	717.936	0.104	0.264	-	-
1	C-B	656.776	0.241	0.241	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	599.00	100.000
B	ONE HOUR	✓	136.00	100.000
C	ONE HOUR	✓	499.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	134.000	465.000
	B	77.000	0.000	59.000
	C	395.000	104.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.22	0.78
	B	0.57	0.00	0.43
	C	0.79	0.21	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.075	1.013
	B	1.200	1.000	1.017
	C	1.018	1.010	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	7.5	1.3
	B	20.0	0.0	1.7
	C	1.8	1.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.43	18.17	0.74	C
C-AB	0.31	6.54	0.79	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	102.39	101.12	0.00	419.57	0.244	0.32	11.252	B
C-AB	129.40	128.09	0.00	745.50	0.174	0.33	5.828	A
C-A	246.27	246.27	0.00	-	-	-	-	-
A-B	100.88	100.88	0.00	-	-	-	-	-
A-C	350.08	350.08	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	122.26	121.74	0.00	389.78	0.314	0.45	13.403	B
C-AB	172.58	172.00	0.00	768.00	0.225	0.47	6.046	A
C-A	276.01	276.01	0.00	-	-	-	-	-
A-B	120.46	120.46	0.00	-	-	-	-	-
A-C	418.03	418.03	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	149.74	148.61	0.00	347.91	0.430	0.73	17.958	C
C-AB	249.79	248.56	0.00	803.04	0.311	0.78	6.505	A
C-A	299.62	299.62	0.00	-	-	-	-	-
A-B	147.54	147.54	0.00	-	-	-	-	-
A-C	511.97	511.97	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	149.74	149.69	0.00	347.69	0.431	0.74	18.170	C
C-AB	250.34	250.30	0.00	803.62	0.312	0.79	6.536	A
C-A	299.07	299.07	0.00	-	-	-	-	-
A-B	147.54	147.54	0.00	-	-	-	-	-
A-C	511.97	511.97	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	122.26	123.37	0.00	389.46	0.314	0.47	13.583	B
C-AB	173.18	174.37	0.00	768.81	0.225	0.49	6.088	A
C-A	275.41	275.41	0.00	-	-	-	-	-
A-B	120.46	120.46	0.00	-	-	-	-	-
A-C	418.03	418.03	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	102.39	102.94	0.00	419.18	0.244	0.33	11.405	B
C-AB	130.12	130.73	0.00	746.10	0.174	0.34	5.868	A
C-A	245.55	245.55	0.00	-	-	-	-	-
A-B	100.88	100.88	0.00	-	-	-	-	-
A-C	350.08	350.08	0.00	-	-	-	-	-

(Default Analysis Set) - 2028 Base, 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
(Default Analysis Set)	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
2028 Base, PM	2028 Base	PM		ONE HOUR	16:15	17:45	90	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	18.48	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Church Road (West)		Major
B	B	Armstrong Road		Minor
C	C	Church Road (East)		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		2.20	143.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	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	One lane	4.20										106	27

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	588.271	0.102	0.257	0.161	0.367
1	B-C	717.936	0.104	0.264	-	-
1	C-B	656.776	0.241	0.241	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	462.00	100.000
B	ONE HOUR	✓	286.00	100.000
C	ONE HOUR	✓	474.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	32.000	430.000
	B	107.000	0.000	179.000
	C	423.000	51.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.07	0.93
	B	0.37	0.00	0.63
	C	0.89	0.11	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.063	1.010
	B	1.030	1.000	1.006
	C	1.017	1.020	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	6.3	1.0
	B	3.0	0.0	0.6
	C	1.7	2.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.67	23.14	1.96	C
C-AB	0.14	5.06	0.34	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	215.32	212.64	0.00	530.06	0.406	0.67	11.246	B
C-AB	64.53	63.91	0.00	777.08	0.083	0.16	5.047	A
C-A	292.32	292.32	0.00	-	-	-	-	-
A-B	24.09	24.09	0.00	-	-	-	-	-
A-C	323.73	323.73	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	257.11	255.76	0.00	505.00	0.509	1.01	14.362	B
C-AB	85.89	85.62	0.00	805.77	0.107	0.22	5.002	A
C-A	340.23	340.23	0.00	-	-	-	-	-
A-B	28.77	28.77	0.00	-	-	-	-	-
A-C	386.56	386.56	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	314.89	311.32	0.00	469.58	0.671	1.90	22.241	C
C-AB	121.81	121.36	0.00	846.20	0.144	0.34	4.974	A
C-A	400.07	400.07	0.00	-	-	-	-	-
A-B	35.23	35.23	0.00	-	-	-	-	-
A-C	473.44	473.44	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	314.89	314.64	0.00	469.52	0.671	1.96	23.140	C
C-AB	121.99	121.98	0.00	846.40	0.144	0.34	4.978	A
C-A	399.89	399.89	0.00	-	-	-	-	-
A-B	35.23	35.23	0.00	-	-	-	-	-
A-C	473.44	473.44	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	257.11	260.68	0.00	504.89	0.509	1.07	14.945	B
C-AB	86.12	86.56	0.00	806.10	0.107	0.23	5.013	A
C-A	340.00	340.00	0.00	-	-	-	-	-
A-B	28.77	28.77	0.00	-	-	-	-	-
A-C	386.56	386.56	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	215.32	216.80	0.00	529.91	0.406	0.70	11.553	B
C-AB	64.87	65.15	0.00	777.38	0.083	0.16	5.061	A
C-A	291.98	291.98	0.00	-	-	-	-	-
A-B	24.09	24.09	0.00	-	-	-	-	-
A-C	323.73	323.73	0.00	-	-	-	-	-

(Default Analysis Set) - 2028 Base + Development, 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
(Default Analysis Set)	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
2028 Base + Development, AM	2028 Base + Development	AM		ONE HOUR	07:45	09:15	90	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	12.21	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Church Road (West)		Major
B	B	Armstrong Road		Minor
C	C	Church Road (East)		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		2.20	143.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	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	One lane	4.20										106	27

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	588.271	0.102	0.257	0.161	0.367
1	B-C	717.936	0.104	0.264	-	-
1	C-B	656.776	0.241	0.241	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	632.00	100.000
B	ONE HOUR	✓	141.00	100.000
C	ONE HOUR	✓	527.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	144.000	488.000
	B	80.000	0.000	61.000
	C	416.000	111.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.23	0.77
	B	0.57	0.00	0.43
	C	0.79	0.21	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.067	1.012
	B	1.200	1.000	1.016
	C	1.017	1.008	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	6.7	1.2
	B	20.0	0.0	1.6
	C	1.7	0.8	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.46	19.99	0.85	C
C-AB	0.34	6.77	0.93	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	106.15	104.79	0.00	411.44	0.258	0.34	11.690	B
C-AB	142.04	140.57	0.00	752.48	0.189	0.37	5.880	A
C-A	254.72	254.72	0.00	-	-	-	-	-
A-B	108.41	108.41	0.00	-	-	-	-	-
A-C	367.39	367.39	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	126.76	126.16	0.00	379.86	0.334	0.49	14.155	B
C-AB	190.67	189.98	0.00	776.47	0.246	0.54	6.146	A
C-A	283.09	283.09	0.00	-	-	-	-	-
A-B	129.45	129.45	0.00	-	-	-	-	-
A-C	438.70	438.70	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	155.24	153.88	0.00	335.38	0.463	0.83	19.683	C
C-AB	279.14	277.64	0.00	814.17	0.343	0.91	6.726	A
C-A	301.10	301.10	0.00	-	-	-	-	-
A-B	158.55	158.55	0.00	-	-	-	-	-
A-C	537.30	537.30	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	155.24	155.18	0.00	335.11	0.463	0.85	19.987	C
C-AB	279.85	279.80	0.00	814.90	0.343	0.93	6.766	A
C-A	300.38	300.38	0.00	-	-	-	-	-
A-B	158.55	158.55	0.00	-	-	-	-	-
A-C	537.30	537.30	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	126.76	128.09	0.00	379.47	0.334	0.51	14.396	B
C-AB	191.42	192.89	0.00	777.48	0.246	0.56	6.197	A
C-A	282.34	282.34	0.00	-	-	-	-	-
A-B	129.45	129.45	0.00	-	-	-	-	-
A-C	438.70	438.70	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	106.15	106.79	0.00	410.99	0.258	0.35	11.860	B
C-AB	142.89	143.61	0.00	753.19	0.190	0.38	5.925	A
C-A	253.87	253.87	0.00	-	-	-	-	-
A-B	108.41	108.41	0.00	-	-	-	-	-
A-C	367.39	367.39	0.00	-	-	-	-	-

(Default Analysis Set) - 2028 Base + Development, 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
(Default Analysis Set)	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
2028 Base + Development, PM	2028 Base + Development	PM		ONE HOUR	16:15	17:45	90	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	21.73	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Church Road (West)		Major
B	B	Armstrong Road		Minor
C	C	Church Road (East)		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		2.20	143.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	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	One lane	4.20										106	27

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	588.271	0.102	0.257	0.161	0.367
1	B-C	717.936	0.104	0.264	-	-
1	C-B	656.776	0.241	0.241	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	484.00	100.000
B	ONE HOUR	✓	302.00	100.000
C	ONE HOUR	✓	498.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	35.000	449.000
	B	116.000	0.000	186.000
	C	445.000	53.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.07	0.93
	B	0.38	0.00	0.62
	C	0.89	0.11	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.051	1.009
	B	1.018	1.000	1.005
	C	1.018	1.020	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	5.1	0.9
	B	1.8	0.0	0.5
	C	1.8	2.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.72	27.68	2.46	D
C-AB	0.15	5.04	0.37	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	227.36	224.38	0.00	525.37	0.433	0.75	11.848	B
C-AB	68.94	68.26	0.00	784.99	0.088	0.17	5.023	A
C-A	305.98	305.98	0.00	-	-	-	-	-
A-B	26.35	26.35	0.00	-	-	-	-	-
A-C	338.03	338.03	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	271.49	269.86	0.00	498.76	0.544	1.15	15.610	C
C-AB	92.29	92.00	0.00	815.41	0.113	0.24	4.982	A
C-A	355.40	355.40	0.00	-	-	-	-	-
A-B	31.46	31.46	0.00	-	-	-	-	-
A-C	403.64	403.64	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	332.51	327.71	0.00	461.09	0.721	2.35	26.073	D
C-AB	131.89	131.38	0.00	858.22	0.154	0.37	4.959	A
C-A	416.41	416.41	0.00	-	-	-	-	-
A-B	38.54	38.54	0.00	-	-	-	-	-
A-C	494.36	494.36	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	332.51	332.09	0.00	461.01	0.721	2.46	27.681	D
C-AB	132.10	132.09	0.00	858.45	0.154	0.37	4.966	A
C-A	416.21	416.21	0.00	-	-	-	-	-
A-B	38.54	38.54	0.00	-	-	-	-	-
A-C	494.36	494.36	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	271.49	276.37	0.00	498.65	0.544	1.24	16.528	C
C-AB	92.55	93.05	0.00	815.79	0.113	0.25	4.992	A
C-A	355.14	355.14	0.00	-	-	-	-	-
A-B	31.46	31.46	0.00	-	-	-	-	-
A-C	403.64	403.64	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	227.36	229.19	0.00	525.20	0.433	0.78	12.237	B
C-AB	69.33	69.63	0.00	785.33	0.088	0.18	5.035	A
C-A	305.59	305.59	0.00	-	-	-	-	-
A-B	26.35	26.35	0.00	-	-	-	-	-
A-C	338.03	338.03	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]

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Filename: Site Access - Church Road.arc8
Path: C:\ITL Jobs\IT1929 Manor Trading Estate, Commercial\PICADY\Junction 4
Report generation date: 01/03/2021 15:37:43

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	A1 - 2028 Base							
Stream B-AC	0.00	0.00	0.00	A	0.03	11.08	0.03	B
Stream C-AB	0.01	4.39	0.01	A	0.00	0.00	0.00	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2028 Base + Development							
Stream B-AC	0.12	11.86	0.11	B	0.19	12.44	0.16	B
Stream C-AB	0.11	4.52	0.07	A	0.04	4.64	0.03	A
Stream C-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 - 2028 Base, AM " model duration: 07:45 - 09:15
"D2 - 2028 Base, PM" model duration: 16:15 - 17:45
"D3 - 2028 Base + Development, AM" model duration: 07:45 - 09:15
"D4 - 2028 Base + Development, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.6.541 at 01/03/2021 15:37:41

File summary

Title	Land East of Manor Trading Estate, Residential Development
Location	South Benfleet
Site Number	
Date	13/11/2018
Version	
Status	(new file)
Identifier	
Client	GKP Developments
Jobnumber	IT1932
Enumerator	DS
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	Veh	Veh	perHour	s	-Min	perMin

(Default Analysis Set) - 2028 Base, 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
(Default Analysis Set)	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
2028 Base, AM	2028 Base	AM		ONE HOUR	07:45	09:15	90	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	4.39	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Church Road (West)		Major
B	B	Site Access		Minor
C	C	Church Road (East)		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	7.15		0.00		2.20	125.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	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	One lane	3.42										18	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	524.326	0.091	0.229	0.144	0.328
1	B-C	676.413	0.098	0.249	-	-
1	C-B	646.352	0.238	0.238	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	551.00	100.000
B	ONE HOUR	✓	0.00	100.000
C	ONE HOUR	✓	557.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	8.000	543.000
	B	0.000	0.000	0.000
	C	553.000	4.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.33	0.33	0.33
	C	0.99	0.01	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.006
	B	1.000	1.000	1.000
	C	1.002	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.6
	B	0.0	0.0	0.0
	C	0.2	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.00	0.00	0.00	A
C-AB	0.01	4.39	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	0.00	0.00	0.00	448.59	0.000	0.00	0.000	A
C-AB	5.59	5.56	0.00	824.62	0.007	0.01	4.395	A
C-A	413.75	413.75	0.00	-	-	-	-	-
A-B	6.02	6.02	0.00	-	-	-	-	-
A-C	408.80	408.80	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	0.00	0.00	0.00	419.78	0.000	0.00	0.000	A
C-AB	7.49	7.48	0.00	859.14	0.009	0.01	4.226	A
C-A	493.24	493.24	0.00	-	-	-	-	-
A-B	7.19	7.19	0.00	-	-	-	-	-
A-C	488.15	488.15	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	0.00	0.00	0.00	378.98	0.000	0.00	0.000	A
C-AB	10.68	10.66	0.00	905.64	0.012	0.01	4.022	A
C-A	602.59	602.59	0.00	-	-	-	-	-
A-B	8.81	8.81	0.00	-	-	-	-	-
A-C	597.85	597.85	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	0.00	0.00	0.00	378.98	0.000	0.00	0.000	A
C-AB	10.68	10.68	0.00	905.64	0.012	0.01	4.023	A
C-A	602.58	602.58	0.00	-	-	-	-	-
A-B	8.81	8.81	0.00	-	-	-	-	-
A-C	597.85	597.85	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	0.00	0.00	0.00	419.77	0.000	0.00	0.000	A
C-AB	7.50	7.51	0.00	859.15	0.009	0.01	4.228	A
C-A	493.24	493.24	0.00	-	-	-	-	-
A-B	7.19	7.19	0.00	-	-	-	-	-
A-C	488.15	488.15	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	0.00	0.00	0.00	448.58	0.000	0.00	0.000	A
C-AB	5.61	5.62	0.00	824.63	0.007	0.01	4.395	A
C-A	413.73	413.73	0.00	-	-	-	-	-
A-B	6.02	6.02	0.00	-	-	-	-	-
A-C	408.80	408.80	0.00	-	-	-	-	-

(Default Analysis Set) - 2028 Base, 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
(Default Analysis Set)	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
2028 Base, PM	2028 Base	PM		ONE HOUR	16:15	17:45	90	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	11.08	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Church Road (West)		Major
B	B	Site Access		Minor
C	C	Church Road (East)		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	7.15		0.00		2.20	125.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	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	One lane	3.42										18	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	524.326	0.091	0.229	0.144	0.328
1	B-C	676.413	0.098	0.249	-	-
1	C-B	646.352	0.238	0.238	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	598.00	100.000
B	ONE HOUR	✓	10.00	100.000
C	ONE HOUR	✓	503.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	1.000	597.000
	B	7.000	0.000	3.000
	C	503.000	0.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.70	0.00	0.30
	C	1.00	0.00	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.005
	B	1.000	1.000	1.000
	C	1.002	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.5
	B	0.0	0.0	0.0
	C	0.2	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.03	11.08	0.03	B
C-AB	0.00	0.00	0.00	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	7.53	7.45	0.00	409.01	0.018	0.02	8.964	A
C-AB	0.00	0.00	0.00	538.17	0.000	0.00	0.000	A
C-A	378.68	378.68	0.00	-	-	-	-	-
A-B	0.75	0.75	0.00	-	-	-	-	-
A-C	449.45	449.45	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	8.99	8.97	0.00	378.53	0.024	0.02	9.741	A
C-AB	0.00	0.00	0.00	517.30	0.000	0.00	0.000	A
C-A	452.19	452.19	0.00	-	-	-	-	-
A-B	0.90	0.90	0.00	-	-	-	-	-
A-C	536.69	536.69	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	11.01	10.97	0.00	335.83	0.033	0.03	11.080	B
C-AB	0.00	0.00	0.00	488.45	0.000	0.00	0.000	A
C-A	553.81	553.81	0.00	-	-	-	-	-
A-B	1.10	1.10	0.00	-	-	-	-	-
A-C	657.31	657.31	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	11.01	11.01	0.00	335.83	0.033	0.03	11.082	B
C-AB	0.00	0.00	0.00	488.45	0.000	0.00	0.000	A
C-A	553.81	553.81	0.00	-	-	-	-	-
A-B	1.10	1.10	0.00	-	-	-	-	-
A-C	657.31	657.31	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	8.99	9.03	0.00	378.53	0.024	0.02	9.745	A
C-AB	0.00	0.00	0.00	517.30	0.000	0.00	0.000	A
C-A	452.19	452.19	0.00	-	-	-	-	-
A-B	0.90	0.90	0.00	-	-	-	-	-
A-C	536.69	536.69	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	7.53	7.55	0.00	409.01	0.018	0.02	8.969	A
C-AB	0.00	0.00	0.00	538.17	0.000	0.00	0.000	A
C-A	378.68	378.68	0.00	-	-	-	-	-
A-B	0.75	0.75	0.00	-	-	-	-	-
A-C	449.45	449.45	0.00	-	-	-	-	-

(Default Analysis Set) - 2028 Base + Development, 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
(Default Analysis Set)	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
2028 Base + Development, AM	2028 Base + Development	AM		ONE HOUR	07:45	09:15	90	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	7.64	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Church Road (West)		Major
B	B	Site Access		Minor
C	C	Church Road (East)		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	7.15		0.00		2.20	125.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	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	One lane	3.42										18	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	524.326	0.091	0.229	0.144	0.328
1	B-C	676.413	0.098	0.249	-	-
1	C-B	646.352	0.238	0.238	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	576.00	100.000
B	ONE HOUR	✓	34.00	100.000
C	ONE HOUR	✓	580.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	31.000	545.000
	B	22.000	0.000	12.000
	C	560.000	20.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.65	0.00	0.35
	C	0.97	0.03	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.006
	B	1.000	1.000	1.000
	C	1.002	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.6
	B	0.0	0.0	0.0
	C	0.2	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.11	11.86	0.12	B
C-AB	0.07	4.52	0.11	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	25.60	25.34	0.00	415.55	0.062	0.06	9.220	A
C-AB	28.24	28.06	0.00	824.37	0.034	0.05	4.521	A
C-A	408.41	408.41	0.00	-	-	-	-	-
A-B	23.34	23.34	0.00	-	-	-	-	-
A-C	410.30	410.30	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	30.57	30.48	0.00	384.53	0.079	0.09	10.165	B
C-AB	37.95	37.87	0.00	858.98	0.044	0.06	4.384	A
C-A	483.46	483.46	0.00	-	-	-	-	-
A-B	27.87	27.87	0.00	-	-	-	-	-
A-C	489.94	489.94	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	37.43	37.29	0.00	340.86	0.110	0.12	11.854	B
C-AB	60.66	60.48	0.00	929.55	0.065	0.11	4.142	A
C-A	577.93	577.93	0.00	-	-	-	-	-
A-B	34.13	34.13	0.00	-	-	-	-	-
A-C	600.06	600.06	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	37.43	37.43	0.00	340.83	0.110	0.12	11.864	B
C-AB	60.73	60.73	0.00	929.64	0.065	0.11	4.144	A
C-A	577.86	577.86	0.00	-	-	-	-	-
A-B	34.13	34.13	0.00	-	-	-	-	-
A-C	600.06	600.06	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	30.57	30.71	0.00	384.49	0.080	0.09	10.181	B
C-AB	38.02	38.19	0.00	859.09	0.044	0.07	4.389	A
C-A	483.39	483.39	0.00	-	-	-	-	-
A-B	27.87	27.87	0.00	-	-	-	-	-
A-C	489.94	489.94	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	25.60	25.68	0.00	415.50	0.062	0.07	9.238	A
C-AB	28.35	28.42	0.00	824.45	0.034	0.05	4.523	A
C-A	408.30	408.30	0.00	-	-	-	-	-
A-B	23.34	23.34	0.00	-	-	-	-	-
A-C	410.30	410.30	0.00	-	-	-	-	-

(Default Analysis Set) - 2028 Base + Development, 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
(Default Analysis Set)	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
2028 Base + Development, PM	2028 Base + Development	PM		ONE HOUR	16:15	17:45	90	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	9.95	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Church Road (West)		Major
B	B	Site Access		Minor
C	C	Church Road (East)		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	7.15		0.00		2.20	125.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	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	One lane	3.42										18	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	524.326	0.091	0.229	0.144	0.328
1	B-C	676.413	0.098	0.249	-	-
1	C-B	646.352	0.238	0.238	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	625.00	100.000
B	ONE HOUR	✓	49.00	100.000
C	ONE HOUR	✓	515.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	21.000	604.000
	B	30.000	0.000	19.000
	C	504.000	11.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.03	0.97
	B	0.61	0.00	0.39
	C	0.98	0.02	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.005
	B	1.000	1.000	1.000
	C	1.002	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.5
	B	0.0	0.0	0.0
	C	0.2	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.16	12.44	0.19	B
C-AB	0.03	4.64	0.04	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	36.89	36.51	0.00	418.55	0.088	0.10	9.413	A
C-AB	14.86	14.77	0.00	791.10	0.019	0.02	4.637	A
C-A	372.86	372.86	0.00	-	-	-	-	-
A-B	15.81	15.81	0.00	-	-	-	-	-
A-C	454.72	454.72	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	44.05	43.93	0.00	387.25	0.114	0.13	10.482	B
C-AB	19.89	19.86	0.00	820.38	0.024	0.03	4.496	A
C-A	443.09	443.09	0.00	-	-	-	-	-
A-B	18.88	18.88	0.00	-	-	-	-	-
A-C	542.98	542.98	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	53.95	53.72	0.00	343.21	0.157	0.18	12.425	B
C-AB	28.39	28.33	0.00	860.41	0.033	0.04	4.326	A
C-A	538.64	538.64	0.00	-	-	-	-	-
A-B	23.12	23.12	0.00	-	-	-	-	-
A-C	665.02	665.02	0.00	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	53.95	53.94	0.00	343.20	0.157	0.19	12.445	B
C-AB	28.41	28.40	0.00	860.44	0.033	0.04	4.328	A
C-A	538.62	538.62	0.00	-	-	-	-	-
A-B	23.12	23.12	0.00	-	-	-	-	-
A-C	665.02	665.02	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	44.05	44.27	0.00	387.24	0.114	0.13	10.502	B
C-AB	19.91	19.97	0.00	820.41	0.024	0.03	4.499	A
C-A	443.06	443.06	0.00	-	-	-	-	-
A-B	18.88	18.88	0.00	-	-	-	-	-
A-C	542.98	542.98	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
B-AC	36.89	37.02	0.00	418.52	0.088	0.10	9.439	A
C-AB	14.91	14.94	0.00	791.14	0.019	0.02	4.640	A
C-A	372.81	372.81	0.00	-	-	-	-	-
A-B	15.81	15.81	0.00	-	-	-	-	-
A-C	454.72	454.72	0.00	-	-	-	-	-