Waterman Moylan
Engineering Consultants

Traffic & Transport Assessment

Proposed Post Primary School Development at Lucan, Co. Dublin

May 2021

Waterman Moylan Consulting Engineers Limited
Block S, Eastpoint Business Park, Alfie Byrne Road, Dublin 3
www.watermangroup.com

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This document has been prepared and checked in accordance with
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Issue	Date	Prepared by	Checked by	Approved by
No. 1	May. '21	E Naicker/F Silva	B Gallagher	I Worrell

Comments

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Content

1. Introduction

Waterman Moylan Consulting Engineers have been appointed by the Department of Education to prepare a Traffic and Transport Assessment (TTA) for the proposed development of a 1000-pupil post primary school at Griffeen, Lucan, County Dublin. The development will consist of a three-storey 1000 pupil post primary school and 4 no. Special Needs Units, including all ancillary teacher and pupil facilities.

2. Objectives

The Traffic and Transport Assessment has been prepared to assess the impact of the proposed development on the surrounding road network.

The TTA will calculate the expected volume of traffic that will be generated by the proposed development and assess the impact that this traffic will have on the operation capacity of junctions in the vicinity of the development.

Furthermore, the TTA will highlight sustainable forms of transportation that access the subject site to assist with the reduction of traffic impact from the proposed site onto the surrounding road network.

In preparing this report, Waterman Moylan Consulting Engineers have made reference to;

- The Traffic Management Guidelines,
- Guidance on Transport Assessment,
- Design Manual for Urban Roads and Streets,
- South Dublin County Council Development Plan 2016-2022
- TII Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections October 2016
- Chartered Institute of Highways and Transportation "Traffic and Transportation Assessment Guidelines"

2.1 Scope

The purpose of this TTA is to quantify the existing transport environment and to detail the results of assessment work undertaken to identify the potential level of any transport impact generated as a result of the proposed development.

The scope of the assessment considers pedestrian, cycle, public transport, vehicular access and junctions' arrangements.

3. Proposed Development

3.1 Site Location

The site is located at Griffeen Avenue, adjacent to the existing Lucan East Educate Together National School, Lucan, County Dublin.

The site is bounded by green space, existing roads and residential areas to the North, East and West and the South.

The exact site location is shown in Waterman Moylan Drawing 19-037-21-P100

Figure 1: Site Location

3.2 Description of the Proposed Development

The proposed development is approximately 2.34ha and is located to the south of Griffeen Avenue, adjacent to the Lucan East Educate Together National School. The development will consist of the provision of a three storey 1000 pupil post-primary school including 4 no. Special Needs Units, including all ancillary teacher and pupil facilities.

The car – and cycle parking provision proposals have been detailed in line with the requirements of South Dublin County Council development plan 2016-2022. In this regard, it is proposed that 40 No. car parking

spaces for staff and visitors will be provided within the development, which includes 2 No. accessible spaces.

There will be 540 No. covered bicycle parking spaces provided. Cycle parking will be provided by means of secure and sheltered cycle stands located within the site. It is also proposed that 21 No. student drop-off spaces and a bus set down space be provided within the development.

3.3 Existing Land Use

The site falls from south to north ranging in level from between 58.62m and 54.75m OD Malin. The site currently comprises of greenfield lands.

4. Existing Traffic Conditions

4.1 Traffic Survey

As part of the proposed development traffic counts were undertaken at the following junctions as illustrated in Figure 2:

1. R136/Thomas Omer Way (Junction Site 1)
2. R136/Griffeen Avenue (Junction Site 2)
3. Griffeen Road/Griffeen Avenue (Junction Site 3)

The surveys were undertaken on Tuesday 25th February 2020 during the time period of 07:00-19:00. From the traffic surveys it was established that the AM peak hour occurred between 08h00—09h00.

Figure 2: Traffic Count Locations

The surveyed morning traffic levels for these junctions can be seen in Figure 3. The full traffic survey has been provided in Appendix A.

Figure 3: 2020 Surveyed Flows AM (08h00-09h00)

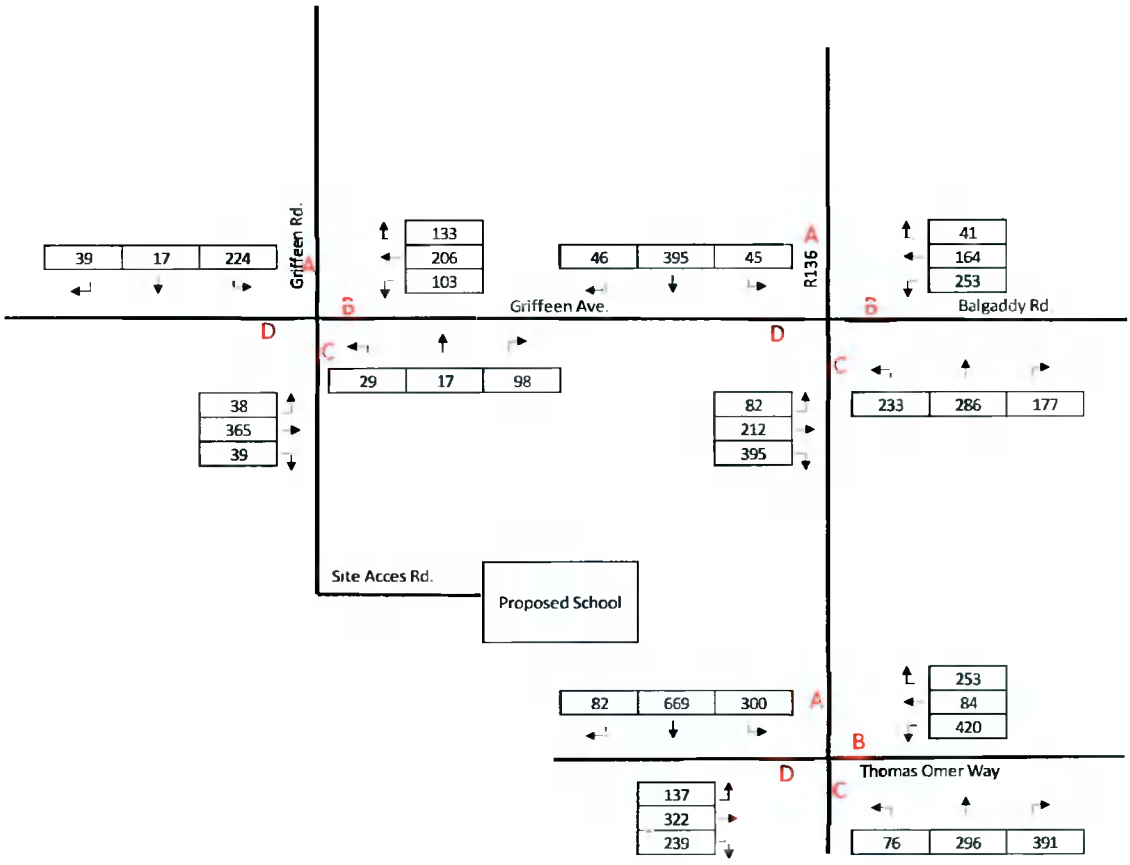


Figure 4: 2020 Survey Flows

The 2020 baseline flows were then expanded using the appropriate traffic growth factors as published in Table 6.1 of the TII Publications – Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections (May 2019). The traffic growth factors were applied to the surveyed peak hour traffic flows to estimate the base traffic volumes on the surrounding road network in the opening year 2023, the year 2028 and future year 2038, some 15 years after opening. A growth factor of 1.049 was applied to estimate the traffic volumes up to 2023 from 2020. A growth factor of 1.084 was applied to estimate the traffic volumes up to 2028 from 2023. A growth factor of 1.033 was applied to estimate the traffic volumes up to 2030 from 2028, with a growth factor of 1.074 per annum from 2030 to the future year 2038.

5. Trip Generation and Distribution

5.1 Trip Generation

The traffic generation for the proposed site has been derived from the Lucan East ETNS School Survey and Census data obtained from the Central Statistics Office for commuting patterns within the Lucan settlement area.

Table 2 - Percentage Breakdown of Census Data

	Lucan Areas
Means of Travel	Percentage
Private Car (Driver and Passenger)	43%
Pedestrian	30%
Bus, minibus or coach	18%
Cyclists	4%
Train, DART or LUAS	0%
Other	5%
Total	**100%**

A request to carry out modal split survey was sent to the principal of local School at Lucan East ETNS, Kishoge Cross off Griffeen Avenue, Lucan and the results are shown in the below table:

Table 1 : Percentage Breakdown of School Survey

	Lucan East ETNS School Survey	
Means of Travel	Number	Percentage
Private Car (Passenger)	201	46%
Pedestrian	131	30%
Bus (Private)	5	1%
Cyclists/scooter	101	23%
Train, DART or LUAS	0	0%
Other	0	0%
Total	**438**	**100%**

The above data from the Census and school survey are summarized below:

School Name	Response Type	Rail	Bus	Private car	Walking	Cycling/Scooter	Other
Lucan East ETNS	Survey Form	0%	1%	46%	30%	23%	0%
Census		11%	18%	43%	30%	4%	5%

Utilising this data, realistic target modal splits for the proposed development have been determined, and can be seen in Table 4 below:

Table 4: Opening Modal Split

Journey Type	Opening Modal Split	Target Modal Split
Private Car	45%	35%
Pedestrian	30%	33%
Bus	5%	7%
Cyclists	20%	25%

Given the quantum of public transport available in the surrounding area, as well as the pedestrian and cyclist accessibility, a target modal split of 35% is attainable. To further encourage a reduction in private car travel, 540 no. bicycle parking spaces have been provided on site.

The school population and associated target car modal shift year on year are set out below. In addition, the target occupancy (as a result of implementing a successful car-pooling strategy) is set out in order to reduce actual car trips. A reduction in peak drops off car trips to the school site as a result of the implementation of a successful park and stride strategy.

Table 5: Target Model Split Progression of Post-Primary School

Year	Pupils	% car	Average Occupancy	Total Car	% early drop off	Peak drop off trips to Post Primary School
1	200	45%	1.5	60	5.0%	57
2	306	44%	1.56	86	6.0%	81
3	412	43%	1.63	108	7.0%	100
4	518	41%	1.69	127	8.0%	116
5	624	40%	1.75	143	9.0%	130
6	730	39%	1.81	156	10.0%	140
7	836	38%	1.88	167	10.0%	150

8	942	36%	1.94	176	10.0%	159
9	1000	35%	2.00	175	10.0%	158

The usage of each drop-off space at the proposed school can be found in Table below. The proposed post-primary school will be attended by 1000 pupils; based on the current modal split given by the existing Lucan East ETNS, it is estimated that the number of cars trips will be 158.

It is proposed to provide 21 No. drop-off spaces within the northern portion of the site.

The proposal was discussed and agreed with South Dublin County Council Road Department during a pre-planning meeting. The below Table reflects the usage of the drop-off spaces:

Table 6: Post-Primary School Drop off Calculations

Drop-off trips	
No. of Pupils	1000
% by car	35%
Occupancy Rate	2.00
% utilising spaces	90%
No. drop-off trips	158
Usage/spaces	7.5 (In relation to 21 spaces on site)

Given that each space is to be used 7.5 times in the 30 minutes before the school opens, it is expected that a sufficient amount of drop off is provided.

Staff Trips

The proposed school is intended to have 67 No staff with trip rates as follows:

Staff = 67

Percentage by car = 60%

Occupancy = 1.1

Total Trips Generated = 44

There will be 44 No. trips generated by the staff, as the staff will remain at the school, these trips only apply one way during the AM peak. The total trips generated on site in the AM will therefore be 202 trips (158 Pupils and 44 Staff) travelling to the school and 158 trips from the school after drop-off.

Given the sufficient number of drop off spaces proposed for the development, it is expected that there is sufficient availability to facilitate drop offs for the 30 minutes before school opens.

5.2 Trip Distribution

The distribution for the AM peak hour generated traffic is detailed in Figure 4 and the corresponding AM peak period traffic flows, based on the assumed distribution, are shown in Figure 5.

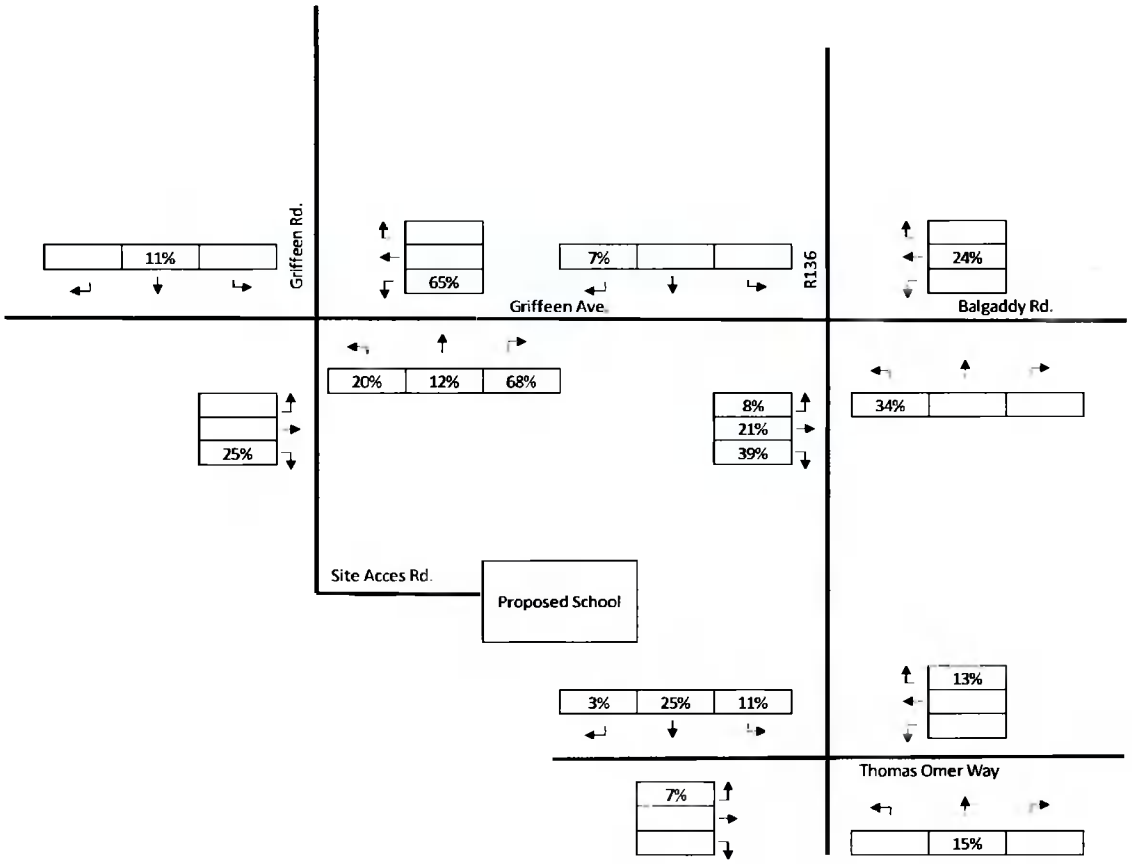


Figure 4: Trip Distribution

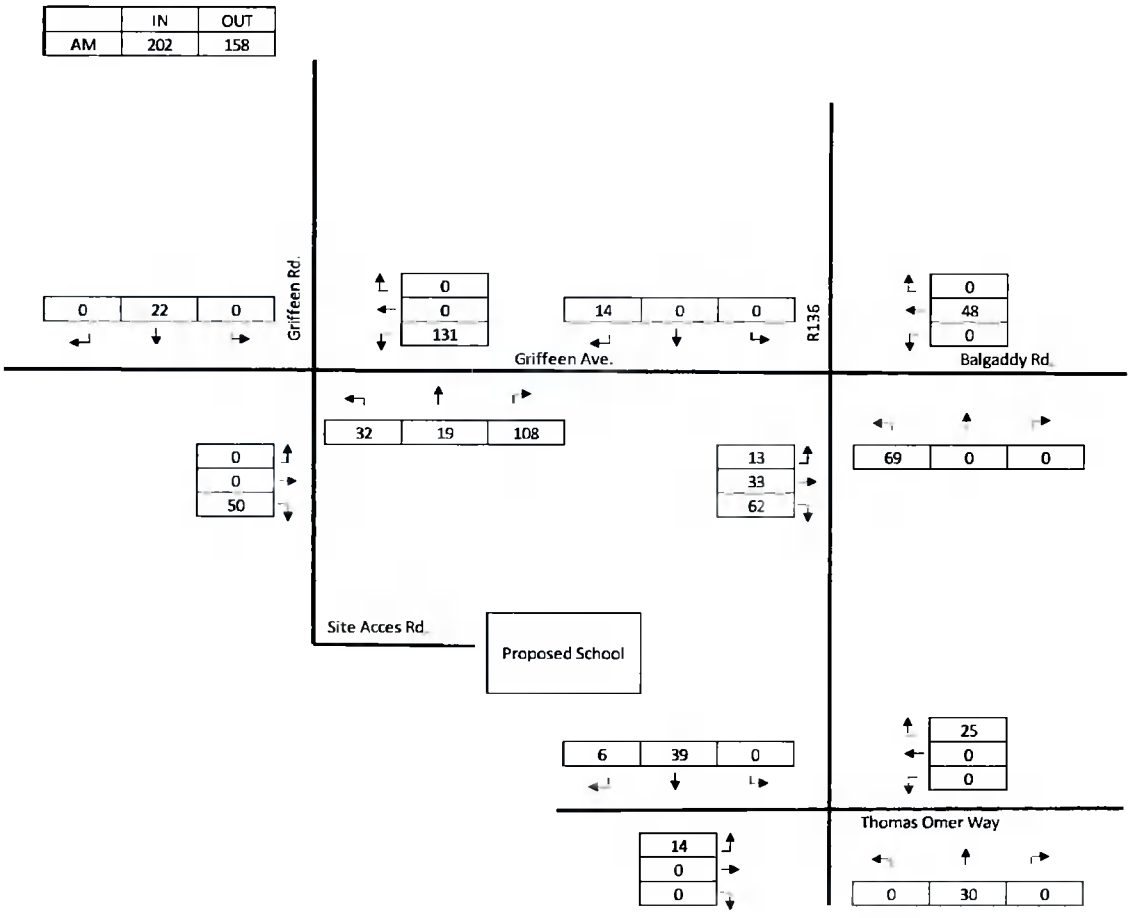


Figure 5: Trip Generation

5.3 Future Traffic

The future traffic with and without the impact of the proposed development can be seen in the following Figures. The traffic of the adjacent residential development has been included in these Figures.

Figures 6 and 7 show the traffic in the opening year (2023) without the impact of the proposed development and with the impact of the proposed development.

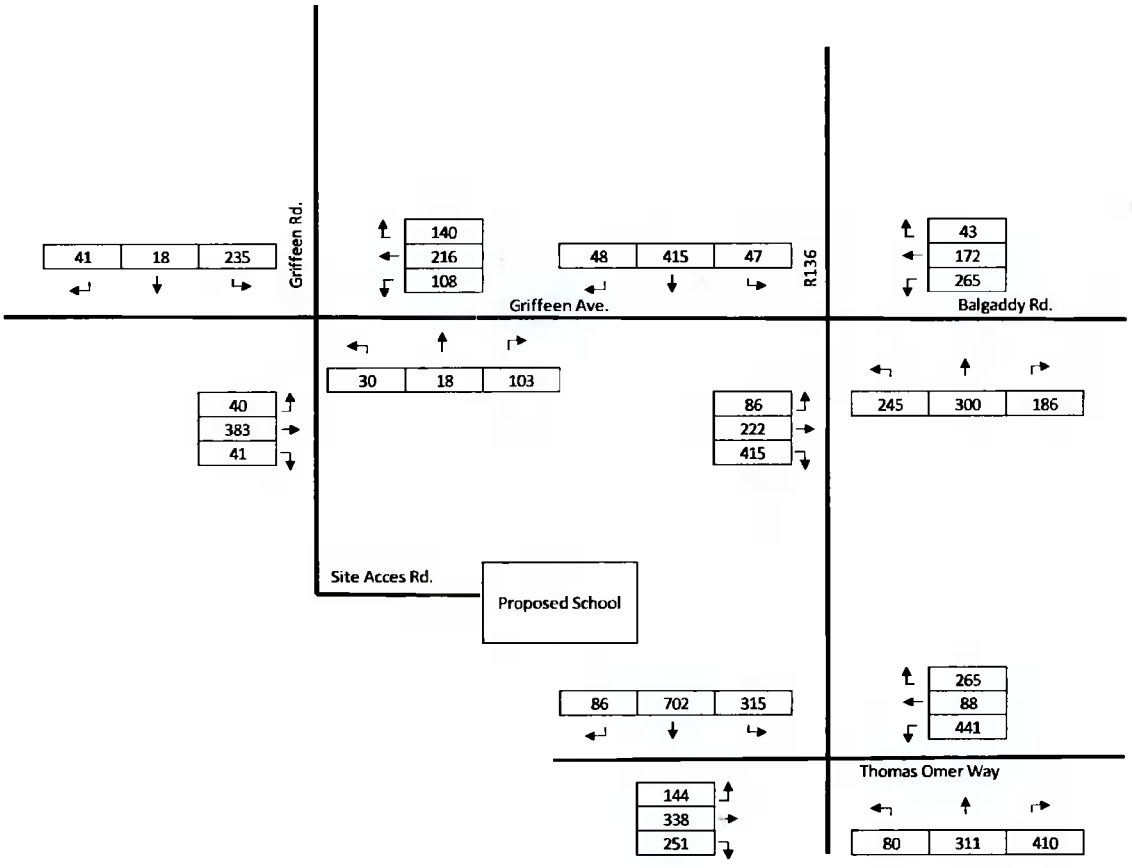


Figure 6: Opening Year Traffic without Development

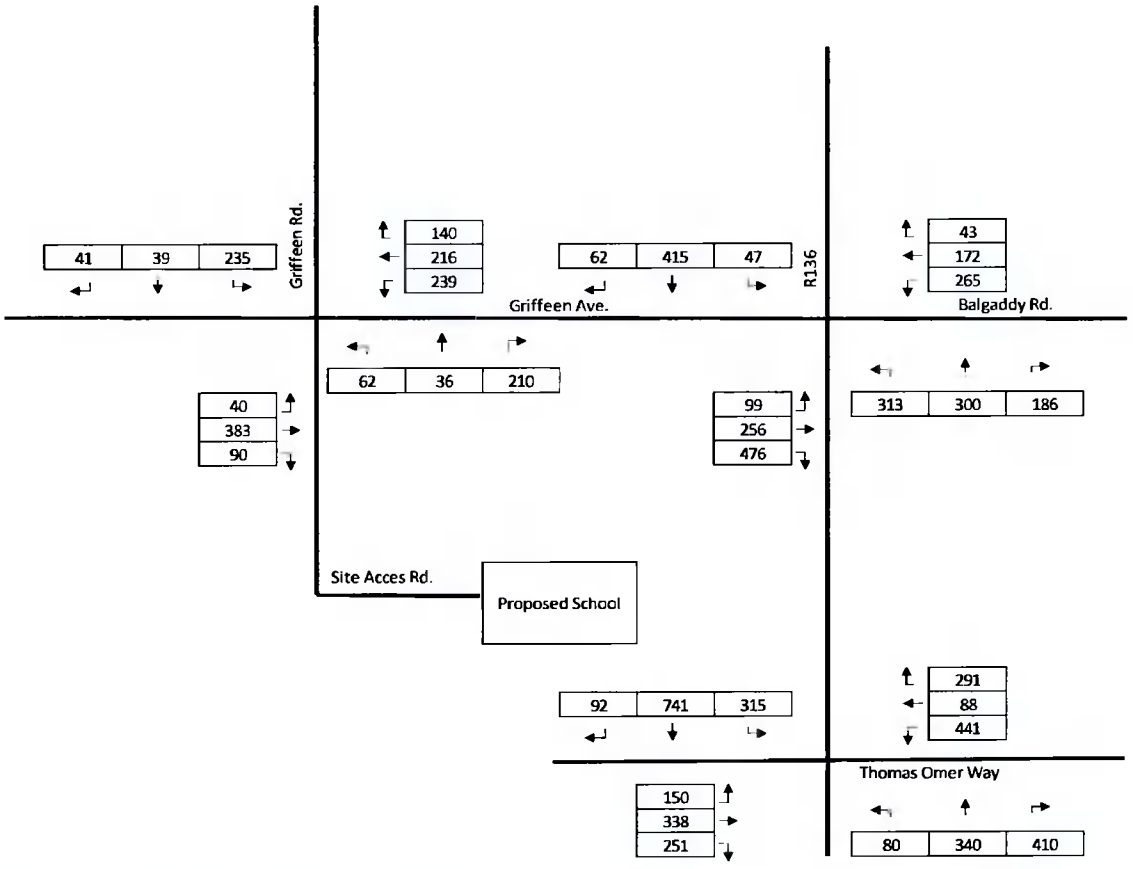


Figure 7: Opening Year Traffic with Development

The future traffic for the design year, 2038, with and without the development can be seen in Figures 8 and 9 below.

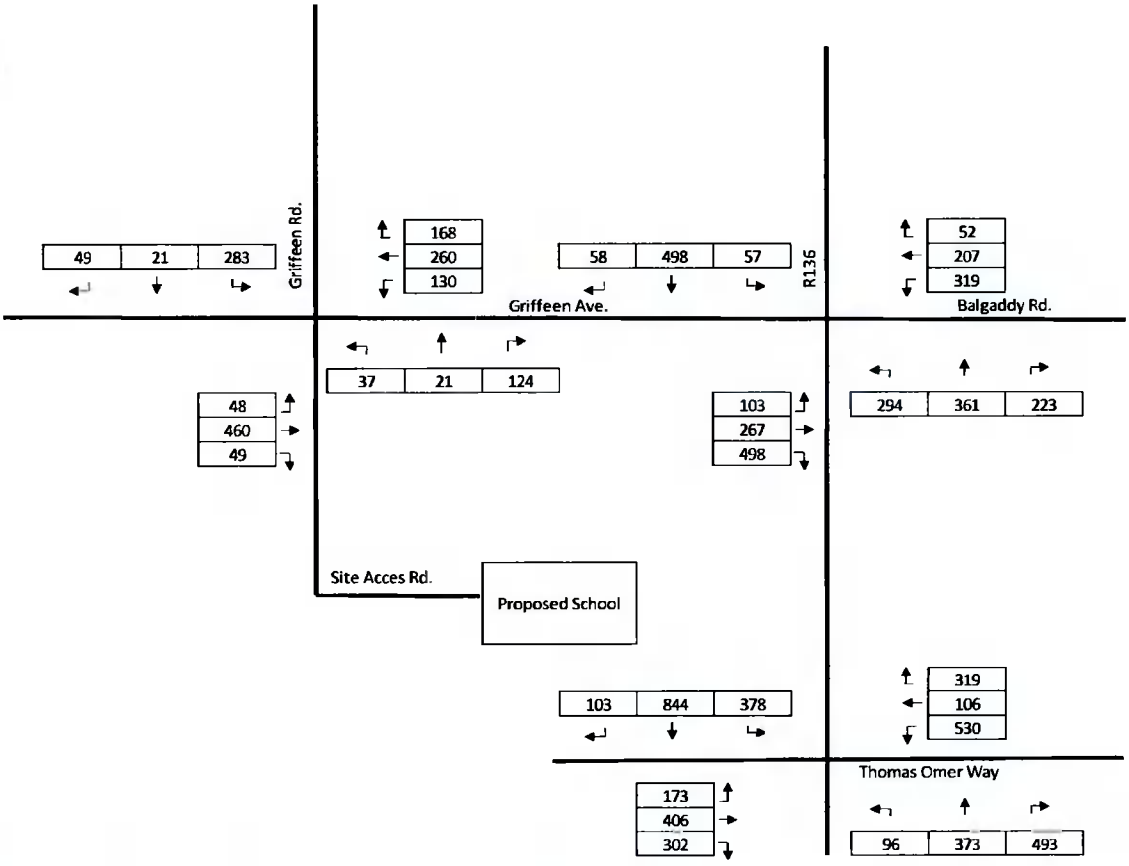


Figure 8: Design Year (2038) Traffic without Development

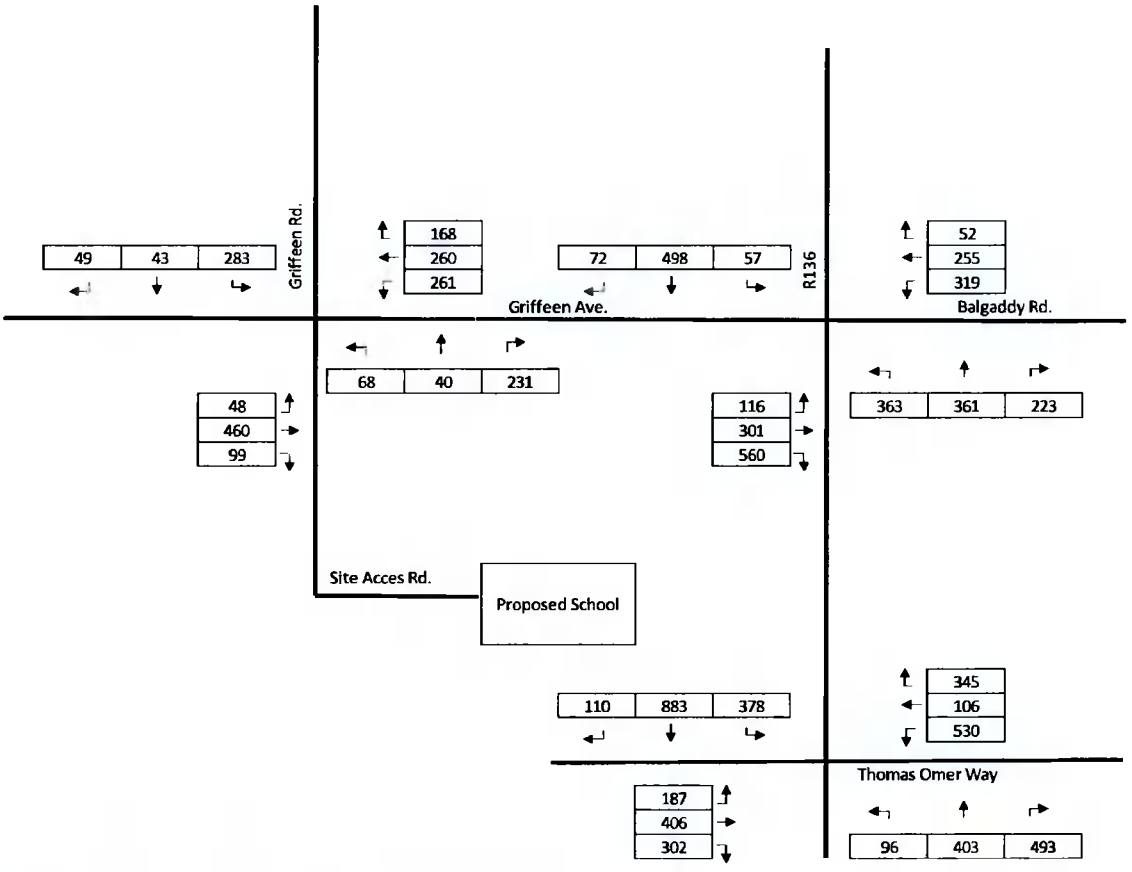


Figure 9: Design Year (2038) Traffic with Development

6. Road Impact

6.1 Junction Analysis

6.1.1 Introduction and Methodology

Based on this principle the traffic impact on the entrance junction located in Griffeen Road/Griffeen Road Roundabout has been assessed to determine the traffic impact requirements for this Traffic and Transportation Assessment. If the extent of traffic impact from the proposed school development exceeds 10% of traffic at the entrance junction located in Griffeen Avenue/Griffeen Road Roundabout, modelling will be required.

There are various modelling software packages available to assess every type of junction. Waterman Moylan uses ARCADY and TRANSYT to priority junctions.

ARCADY is a software for modelling roundabout junctions and TRANSYT is a software for modelling signalised junctions.

6.1.2 Impact of development

The predicted trips from the proposed development are determined by the modal split.

Table 7: Predicted trips

	Total 2-Way
AM	360

The 2015 baseline flows were then expanded using the appropriate traffic growth factors as published in Table 6.1 of the TII Publications – Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections (May 2019). The traffic growth factors were applied to the surveyed peak hour traffic flows to estimate the base traffic volumes on the surrounding road network in the opening year 2023, the year 2028 and future year 2038, some 15 years after opening.

A growth factor of 1.119 was applied to estimate the traffic volumes up to 2022 from 2015. A growth factor of 1.049 was applied to estimate the traffic volumes up to 2023 from 2020. A growth factor of 1.084 was applied up to 2028 from 2023. A growth factor of 1.033 was applied up to 2030 from 2028, with a growth factor of 1.0743 per annum from 2030 to the future year 2038.

Details of AM predicted development traffic at the 3 junctions are shown below.

The percentage impact of the proposed development was estimated as follows:

Predicted Traffic/Existing Traffic = % Impact

A summary of the percentage impacts on these junctions are presented in Table 8 below. The impact is as follows:

Table 8: Percentage Impact on the junctions

Junction	Peak	Additional Two-Way Generated Traffic	2020 Baseline flows	Percentage Impact (%)
R136/Thomas Omer Way (Junction Site 1)	AM Peak	114	3269	3
R136/Griffeen Avenue (Junction Site 2)	AM Peak	238	2329	10
Griffeen Road/Griffeen Avenue (Junction Site 3)	AM Peak	360	1308	28

The Traffic Management Guidelines advise that generally an impact of less than 10%, or 5% in congested areas, is not significant and does not warrant capacity assessments to be undertaken.

6.1.3 Assessment Years

The performance of the analysed junctions has been assessed for the AM hour of 08h00 – 09h00, for the following scenarios:

- 2020 - Baseline Year
- 2023 - Opening Year (with and without the proposed development)
- 2028 - With and without the proposed development
- 2038 - 15-year scenario (with and without the proposed development).

6.1.4 Analysis Results

Site 2

Site 2 is a signal-controlled junction located to the east of the subject school site. This junction has been modelled based on its existing configuration and the TRANSYT analysis results are shown below.

Table 9: Site 2 - TRANSYT Analysis Results.

Arm	Movement	Queue (veh)	Delay (sec)	DOS (%)
2020 – SURVEYED				
Balgaddy Road (E)	S/L/R	16.31	52.29	78
R136 (S)	S	4.58	48.59	35
	L	5.02	21.22	24
	R	6.83	69.62	69
Griffeen Road (W)	S/L	9.27	43.33	53
	R	13.50	49.06	69
R136 (N)	S	6.79	54.66	53
	L	0.85	17.83	5
	R	1.52	53.79	19
2038 – DESIGN YEAR				
Balgaddy Road (E)	S/L/R	23.72	66.39	91
R136 (S)	S	6.19	54.93	51
	L	6.85	24.14	32
	R	10.26	94.68	87
Griffeen Road (W)	S/L	12.46	47.83	66
	R	19.75	64.63	87
R136 (N)	S	9.88	71.24	77
	L	1.09	17.95	6
	R	1.94	54.67	24
2038 – DESIGN YEAR + SCHOOL				
Balgaddy Road (E)	S/L/R	31.29	95.99	98
R136 (S)	S	6.39	58.65	56
	L	8.90	25.43	39
	R	10.26	94.68	87
Griffeen Road (W)	S/L	14.16	48.24	71
	R	24.47	76.05	93
R136 (N)	S	11.11	88.93	86
	L	1.13	19.04	6
	R	2.44	55.82	30

The TRANSYT analysis results as summarised above indicate that the Site 2 is currently operating within capacity during the AM peak hour and will continue to do so for the future assessment year of 2038 – DESIGN YEAR + SCHOOL with the highest DOS at 98% and a corresponding queue of 31.29 vehicles recorded on Balgaddy Road (E). Please refer to Appendix B for details.

Site 3

Site 3 is an existing roundabout located to the north of the subject school site. This junction has been modelled based on its existing configuration and the ARCADY analysis results are shown below. The arms of the junction were labelled as follows within the ARCADY model:

- Arm 1: Griffeen Avenue (E);
- Arm 2: School Access Road (S);
- Arm 3: Griffeen Avenue (W);
- Arm 4: Griffeen Road (N).

Table 10: Site 3 - ARCADY Analysis Results.

Arm	Queue (veh)	Delay (sec)	RFC
2020 – SURVEYED			
1	0.7	5.59	0.41
2	0.3	6.56	0.21
3	0.7	5.67	0.41
4	0.4	4.60	0.26
2038 – DESIGN YEAR			
1	1.1	6.97	0.52
2	0.4	7.80	0.28
3	1.1	7.41	0.54
4	0.6	5.71	0.36
2038 – DESIGN YEAR + SCHOOL			
1	1.9	10.06	0.66
2	1.1	11.76	0.53
3	1.6	9.64	0.62
4	0.7	6.95	0.42

The ARCADY analysis results as summarised above indicate that the Site 3 is currently operating well within capacity during the AM peak hour and will continue to do so for the future assessment year of 2038 – DESIGN YEAR + SCHOOL with the highest RFC at 0.66 and a corresponding queue of 1.9 vehicle recorded on Griffeen Avenue (E). Please refer to Appendix B for details.

7. Road Safety, Public Transport, Pedestrian and Cyclist Access

7.1 Road Network

The proposed school development will be accessed via the adjacent school's access road, west of the subject site.

7.2 Road Safety

Traffic collision data has been reviewed for the period 2005-2016 from the Road Safety Authority (RSA) traffic collision database. This review will assist to identify any potential safety concerns in relation to the existing road network. These incidents are categorised into a class of severity, which includes minor, serious, or fatal collisions. The analysis is shown in the Figure below.

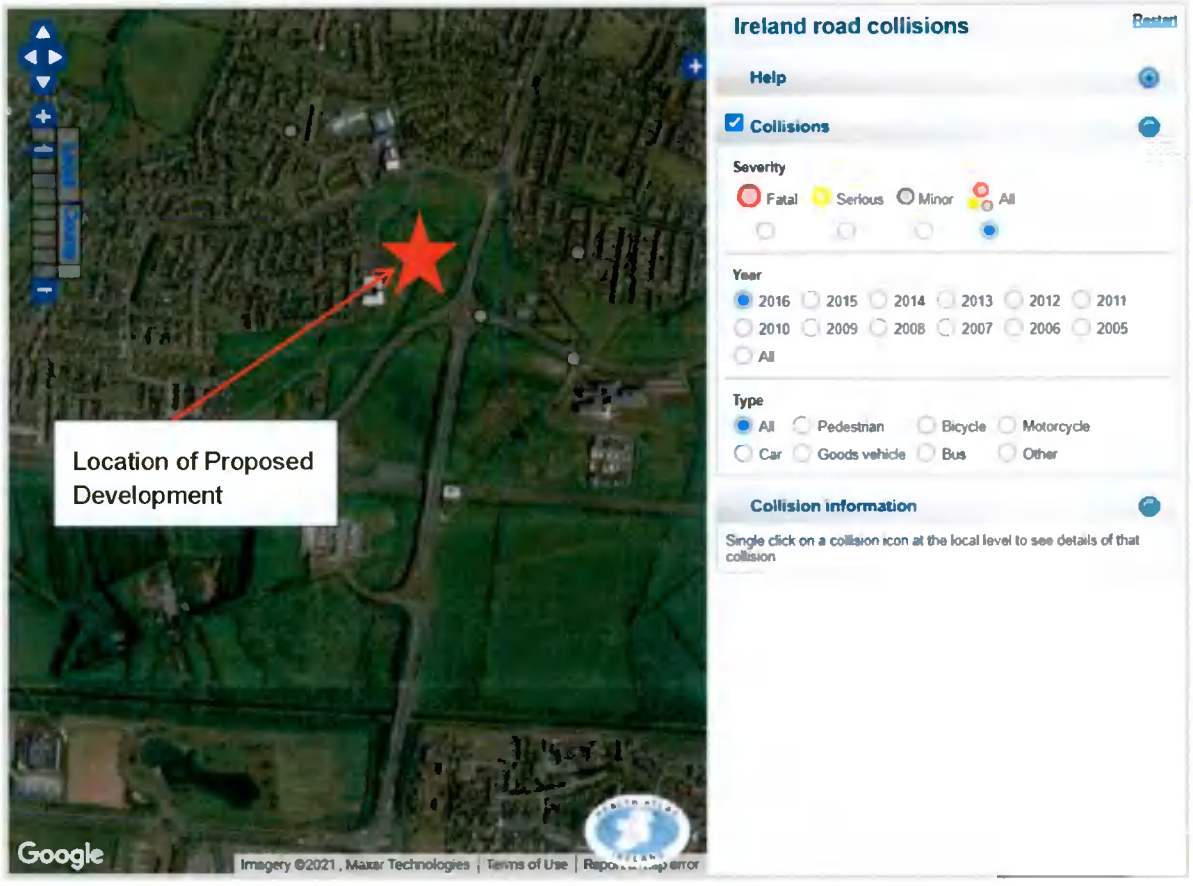


Figure 10: RSA Traffic Collision Data

From the information obtained from the RSA Traffic Collision Database, there has been one minor collision in the vicinity of the site. The risk is therefore considered low. Additionally, the proposed road and signage

upgrades forming part of the subject site entrance will further increase the road safety and decrease the likelihood of a collision.

7.3 Public/ Private Transport

7.3.1 Dublin Bus

There are currently 12 bus stops within 1.3km of the site, which are identified on the map of public transport locations in Figure 3.

Figure 3: Location of Bus Stops

A summary of these stops can be seen below in Table 2.

Table 2: Stops No. 7139,7140,4607,4606,7142,7386,4562 and 4561

Service	Service Route	Frequency
25B	Adamstown, Outside Train Sation	30 min
25A	Lucan Newcastle Road	30 min
151	East Wall, Bargy Road	10-15 min

7.3.2 Dublin BusConnects

The National Transport Authority is currently proposing to make numerous improvements to public transport within the Greater Dublin Area by means of Quality Bus Corridors (QBC).

The bus element, Bus Connects, includes infrastructures and bus priority measures, improvements to fares and ticketing and re-design of the bus network.

The same corridors that are important for buses are also the main cycling routes into the city centre. Bus Connects will see safe cycling facilities provided along each corridor, segregated as far as practicable from other traffic. The cycling infrastructure delivered under this programme will form the core of the region's cycling network and deliver a radical step-change in cycling facilities in Dublin.

As part of Bus Connects proposal, it is noted that the intention is to re-direct all services traveling to the same destination, to a single corridor, called Spine. These services will run together in the same spine and then branch to serve different destinations. It is noted that the proposal would deliver spines with high frequency, with a range of bus every 4 to 8 minutes at off peak times.

There are currently 16 No. proposed routes to be converted into QBC spines under the Bus Connects scheme:

Figure 4: Proposed Bus Connects Routes

Bus Connects Route 6 and 7, Lucan to City Centre and Liffey Valley to City Centre, proposes a spinal bus corridor, together with cycling facilities along this route, that will connect the Lucan area to the City Centre. As shown in the above Figure, this route is easily accessible from the proposed site.

In addition to the radial core bus corridors, there is also a plan for enhancement of the orbital bus corridors as part of Bus Connects Dublin. These proposals will form a separate plan which will be advanced at a future date. The proposed orbital routes are shown in the Figure below:

Figure 5: Future Orbital Routes

As seen in the Figure above there is a proposed orbital route running in close vicinity of the proposed site.

The objective of this scheme is to provide a continuous bus lane in each direction as well as maintaining two general traffic lanes. In addition, it is also proposed to provide a dedicated cycle track on each side of the road, providing safe cycling facilities, segregated from other vehicular traffic. The typical road layout also includes footpaths for pedestrians and supporting elements such as pedestrian crossings at all key road crossing points, and bus shelters for waiting passengers.

The below Figure details the branch routes connected to the major orbital and spine routes, forming part of the BusConnects scheme:

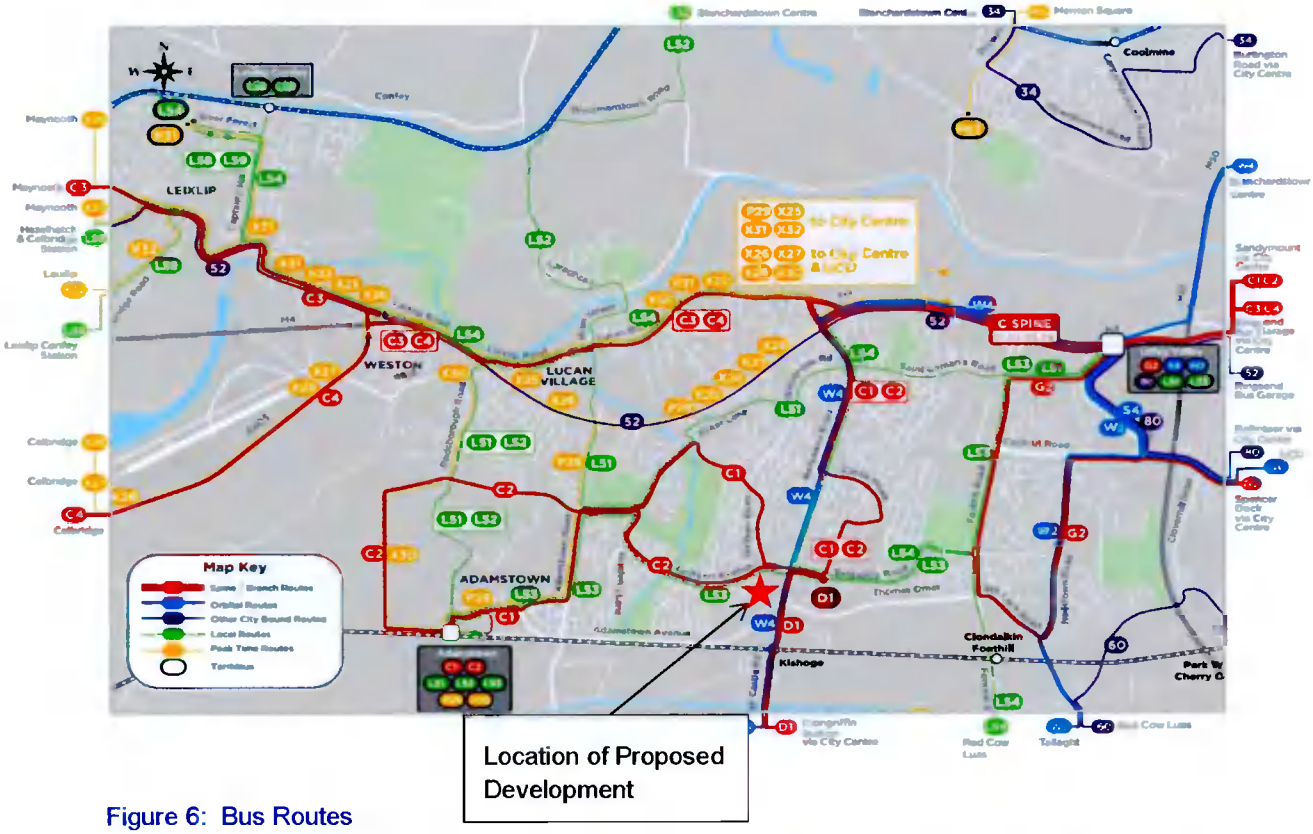


Figure 6: Bus Routes

The Dublin BusConnects will significantly improve the connectivity of the subject site with surrounding areas by means on public transport.

7.3.3 Luas Services

We would note that the National Transport Planning intends to develop an east-west Luas line, commencing in the residential areas of Lucan and connecting into Dublin City Centre. Details are shown in the Figure 7 below.

Figure 7: Planned Luas Upgrades

The proposed new Luas line will provide a further high capacity public transport link from Lucan to the City Centre.

7.4 Pedestrian Facilities

Griffeen Avenue has a footpath on both sides of the road for pedestrians. Figure 8 below shows the possible pedestrian access routes to the proposed school. The Red Route indicates the possible route to the main entrance of the school from Griffeen Avenue and Balgaddy Road which hosts a number of bus stops; the Yellow Route indicates the possible route to the main entrance of the school from residential developments through Griffeen Road, amongst other bus stops; the Blue Route indicates the possible route to the school entrance of the school from the R136, which also hosts a number of bus stops.

Figure 8: Pedestrian Access Routes

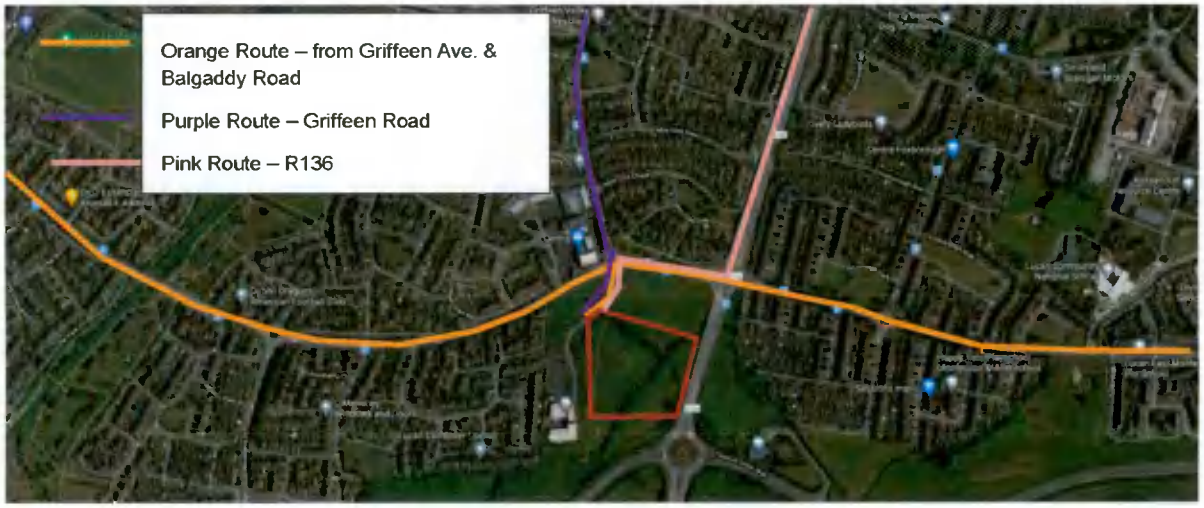
In addition to the analysis carried out for the pedestrian movements, Figure 9 shows the isochrones map indicating the walking distance (15min maximum) from the site.

Figure 9: Isochrone Map for 15 min Walking Distance (www.traveltime.com)

7.5 Cycle Facilities

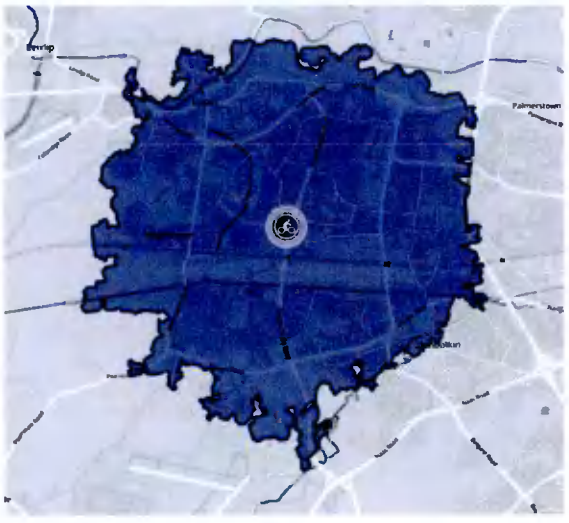
Griffeen Avenue has a cycle lanes on both sides of the road for cyclists. Figure 10 below shows the possible cycle access routes to the proposed school. The Orange Route indicates the possible route to the main entrance of the school from Griffeen Avenue and Balgaddy Road which hosts a number of bus stops; the Purple Route indicates the possible route to the main entrance of the school from residential developments through Griffeen Road, amongst other bus stops; the Pink Route indicates the possible route to the school entrance of the school from the R136, which also hosts a number of bus stops.

Figure 10: Cyclist Access Routes



In addition to the analysis carried out for the pedestrian movements, Figure 11 shows the isochrones map indicating the cycle distance (15min maximum) from the site.

Figure 11: Isochrone Map for Walking Distance (www.traveltime.com)



8. Conclusions and Recommendations

8.1 Conclusions

1. A modal split has been determined using the current school modal split as well as Census Data within the Lucan settlement area, and an opening modal split of 45% by car was determined.
2. Through the implementation of the School Travel Plan, the opening modal split of 45% private car usage can be reduced to 35% private car usage, this has formed the basis of the modelling for this report and is considered conservative.
3. The ARCADY and TRANSYT results for the existing priority junctions in the vicinity of the proposed development indicate that the junctions will operate within capacity for the design year of 2038 during the peak drop off period.
4. Consultation for the Road Safety Authority database has determined that there has been only one minor incident along the frontage of the site between the years of 2005-2016. In this regard, the risk is considered low.
5. The site has good accessibility to public transport with bus stops located nearby served by frequent services.
6. The site has good pedestrian and cycling facilities, which are due to be further upgraded as part of the Greater Dublin Cycle Strategy.
7. The site has good drop off provision as proposed in this planning application.
8. The site has an adequate car and cycle spaces in accordance with the agreement reached with South Dublin County Council during the pre-planning meeting.

8.2 Recommendations

1. This report should be read in conjunction with the School Travel Plan (STP). It is recommended that the measures within the STP are implemented during the school's operation.

APPENDICES

A. Traffic Counts

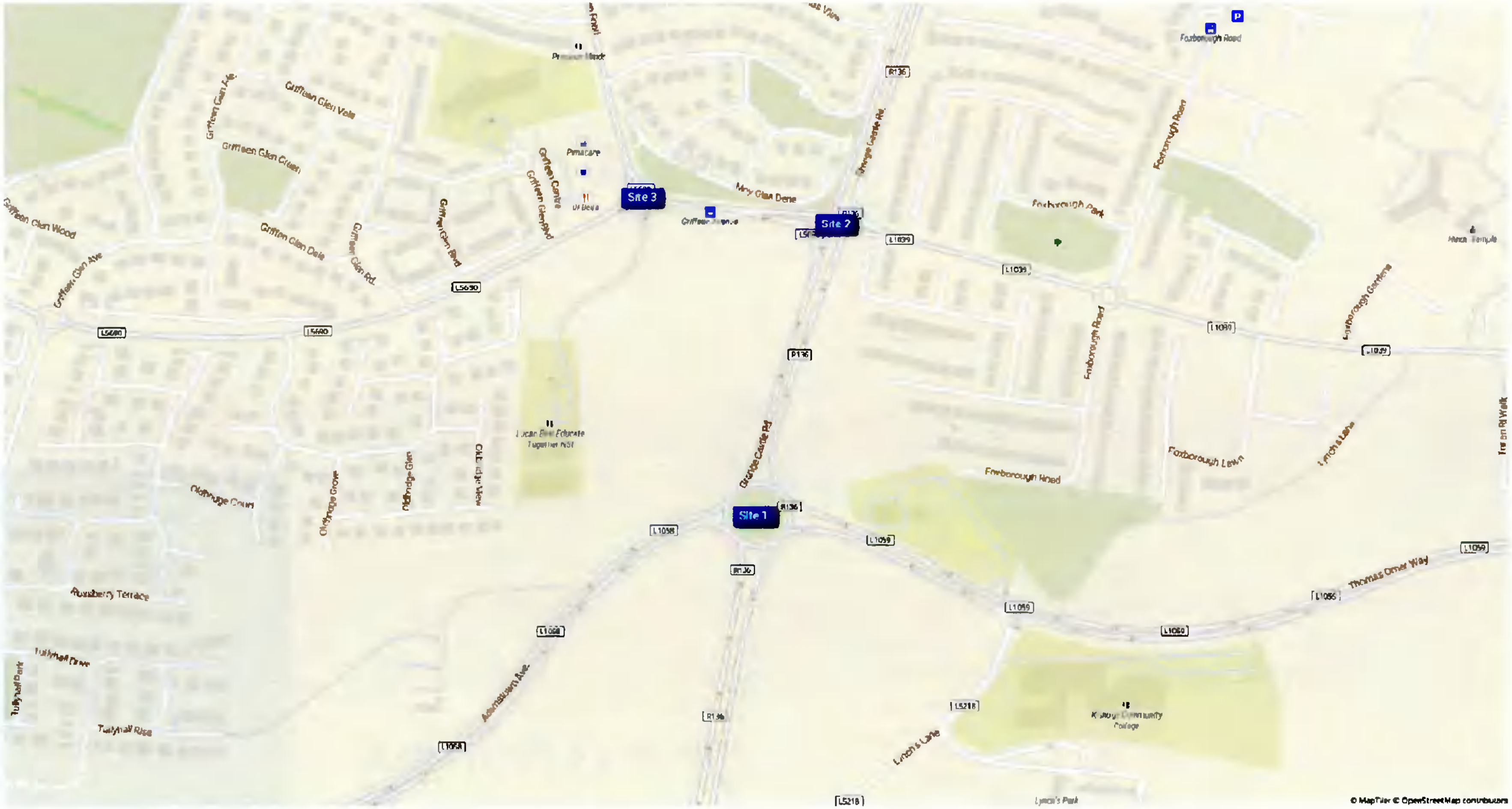
Data Analysis Services

034 20044 Lucan

with compliments

IDASO

Survey Name: 034 20044 Lucan
Date: Tue 25 Feb 2020



IDASO

Survey Name: 034 20044 Lucan
Site: Site 1
Location: R136 / Thomas Omer Way
Date: Tue 25-Feb-2020

	A => A										A => B										A => C										A => D										B => A									
TIME	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	0	0	0	0	0	0	0	0	3	1	49	0	7	0	0	0	60	57	0	0	193	6	39	0	1	3	242	246.3	0	0	4	0	1	0	0	0	5	5	0	0	8	0	0	0	0	0	8	8
07:15	0	0	0	0	0	0	0	0	0	0	1	0	62	0	1	0	0	0	64	63.2	1	0	204	0	32	4	1	2	244	248.5	0	0	1	2	0	0	0	1	4	5	0	0	12	0	2	0	0	0	14	14
07:30	0	0	0	0	0	0	0	0	0	0	3	2	58	2	3	0	0	1	69	66.4	0	1	186	5	26	2	0	3	223	226.4	0	0	11	0	0	0	0	0	11	11	0	0	9	0	4	0	0	0	13	13
07:45	0	0	0	0	0	0	0	0	0	0	11	0	69	2	6	0	0	0	88	79.2	0	1	199	0	21	0	0	5	226	230.4	0	0	11	3	0	0	0	0	14	14	0	0	21	2	3	2	0	0	28	26
H/TOT	0	0	0	0	0	0	0	0	0	0	18	3	238	4	17	0	0	1	281	265.8	1	2	782	11	118	6	2	13	935	951.6	0	0	27	5	1	0	0	1	34	35	0	0	50	2	9	2	0	0	63	64
08:00	0	0	0	0	0	0	0	0	0	0	7	1	72	0	3	0	0	0	83	76.8	7	6	169	4	14	3	0	2	205	190.5	0	0	19	0	1	0	0	0	20	20	0	0	33	2	3	1	0	0	39	39.5
08:15	0	0	0	0	0	0	0	0	0	0	2	0	63	1	5	0	0	1	72	71.4	2	4	144	4	19	0	0	4	177	177	0	0	25	0	0	0	0	0	25	25	0	0	46	1	2	1	0	0	50	50.5
08:30	0	0	0	0	0	0	0	0	0	0	6	0	66	1	2	0	0	1	76	72.2	2	0	127	5	11	0	1	4	150	153.7	0	0	18	2	0	1	0	0	21	21.5	0	0	65	3	3	0	0	0	71	71
08:45	0	0	0	0	0	0	0	0	0	0	8	0	73	2	3	0	0	0	86	79.6	5	0	116	0	12	1	1	2	137	136.8	0	0	12	3	0	0	0	0	15	15	0	0	86	2	4	0	0	0	92	92
H/TOT	0	0	0	0	0	0	0	0	0	0	23	1	274	4	13	0	0	2	317	300	16	10	556	13	56	4	2	12	669	666.8	0	0	74	5	1	1	0	0	81	81.5	0	0	230	8	12	2	0	0	252	253
09:00	0	0	0	0	0	0	0	0	0	0	2	0	63	3	3	2	0	1	74	74.4	1	0	158	0	22	2	0	5	188	193.2	0	0	1	2	0	0	0	0	3	3	0	0	29	1	5	1	0	0	36	36.5
09:15	0	0	0	0	0	0	0	0	0	0	1	0	48	2	4	1	0	0	56	55.7	0	0	155	3	12	3	2	2	177	183.1	0	0	10	1	2	0	0	0	13	13	0	1	20	0	3	0	0	0	24	23.4
09:30	0	0	0	0	0	0	0	0	0	0	0	0	55	1	6	0	0	0	62	62	0	2	116	3	10	2	1	1	135	137.1	1	0	3	2	0	1	0	0	7	6.7	0	0	16	0	3	0	0	0	19	19
09:45	0	0	0	0	0	0	0	0	0	0	0	0	26	1	3	1	0	0	34	34.5	0	0	91	0	14	2	1	0	108	110.3	0	0	1	1	0	1	0	0	3	3.5	0	0	15	0	6	2	0	0	23	24
H/TOT	0	0	0	0	0	0	0	0	0	0	3	0	192	7	16	4	0	1	226	226.6	1	2	520	6	58	9	4	8	608	623.7	1	0	15	6	2	2	0	0	26	26.2	0	1	80	1	17	3	0	0	102	102.9
10:00	0	0	0	0	0	0	0	0	0	0	1	0	25	1	1	0	0	0	28	27.2	0	1	54	1	9	4	0	1	70	72.4	2	0	2	2	0	0	0	0	6	4.4	1	0	16	2	1	0	0	0	20	19.2
10:15	0	0	0	0	0	0	0	0	0	0	0	0	16	1	2	0	0	0	19	19	0	0	48	1	8	4	0	1	62	65	0	0	4	1	0	0	0	0	5	5	0	0	15	0	3	0	0	0	18	18
10:30	0	0	0	0	0	0	0	0	0	0	0	1	21	0	1	0	0	0	23	22.4	0	0	66	0	12	3	0	2	83	86.5	0	0	0	1	1	1	0	1	4	8.5	0	0	20	1	2	0	0	0	23	23
10:45	0	0	0	0	0	0	0	0	0	0	0	1	18	1	1	1	0	0	22	21.9	0	0	58	3	8	1	0	0	70	70.5	0	0	3	3	1	0	0	0	7	7	1	0	16	0	3	2	0	0	22	22.2
H/TOT	0	0	0	0	0	0	0	0	0	0	1	2	80	3	5	1	0	0	92	90.5	0	1	226	5	37	12	0	4	285	294.4	2	0	9	7	2	1	0	1	22	21.9	2	0	67	3	6	2	0	0	83	82.4
11:00	0	0	0	0	0	0	0	0	0	0	3	0	20	1	4	0	0	0	28	25.6	0	0	50	4	13	2	0	1	70	72	0	0	3	0	0	1	0	0	4	4.5	0	0	15	1	5	0	0	0	21	21
11:15	0	0	0	0	0	0	0	0	0	0	1	0	11	4	3	0	0	1	20	20.2	0	0	56	1	4	1	1	0	63	64.8	0	0	2	0	0	0	0	0	2	2	0	0	17	1	1	0	0	0	19	19
11:30	0	0	0	0	0	0	0	0	0	0	1	0	20	2	3	0	0	0	26	25.2	0	0	42	2	16	3	0	2	65	68.5	0	0	2	0	0	0	0	0	2	2	0	0	14	2	0	0	0	0	16	16
11:45	0	0	0	0	0	0	0	0	0	0	1	0	15	0	1	0	0	0	17	16.2	0	0	64	4	10	1	0	1	80	81.5	0	0	8	0	0	2	0	0	10	11	0	1	21	2	0	0	0	0	24	23.4
H/TOT	0	0	0	0	0	0	0	0	0	0	6	0	66	7	11	0	0	1	91	87.2	0	0	212	11	43	7	1	4	278	286.8	0	0	15	0	0	3	0	0	18	19.5	0	1	67	6	6	0	0	0	80	79.4
12:00	0	0	0	0	0	0	0	0	0	0	0	0	14	0	1	0	0	0	15	15	0	0	44	3	10	1	0	1	59	60.5	0	0	8	0	1	0	0	0	9	9	0	0	20	0	4	2	0	0	26	27
12:15	0	0	0	0	0	0	0	1	1	2	1	0	14	0	7	0	0	0	22	21.2	0	0	54	4	8	1	0	3	70	73.5	0	1	6	0	0	0	0	0	7	6.4	0	1	20	1	1	1	0	0	24	23.9
12:30	0	0	0	0	0	0	0	0	0	0	1	0	26	2	2	0	0	0	31	30.2	0	0	51	4	7	4	0	2	68	72	0	0	3	0	0	0	0	0	3	3	0	0	30	0	2	0	0	0	32	32
12:45	0	0	0	0	0	0	0	0	0	0	0	0	19	2	3	0	0	0	24	24	0	0	49	3	8	5	2	0	67	72.1	0	0	8	1	0	0	0	1	10	11	0	0	24	0	3	0	0	0	27	27
H/TOT	0	0	0	0	0	0	0	1	1	2	2	0	73	4	13	0	0	0	92	90.4	0	0	198	14	33	11	2	6	264	278.1	0	1	25	1	1	0	0	1	29	29.4	0	1	94	1	10	3	0	0	109	109.0
13:00	0	0	0	0	0	0	0	0	0	0	0	0	21	0	2	1	0	0	24	24.5	0	0	45	7	12	2	0	1	67	69	0	0	7	2	0	0	0	0	9	9	1	1	37	4	4	0	0	0	47	45.6
13:15	0	0	0	0	0	0	0	0	0	0	0	0	25	1	0	0	0	0	26	26	0	1	60	3	9	3	0	1	77	78.9	0	0	8	2	0	0	0	0	10	10	0	0	28	1	2	1	0	0	32	32.5
13:30	0	0	0	0	0	0	0	0	0	0	0	0	19	2	0	2	0	0	23	24	0	0	53	4	7	4	0	2	70	74	0	0	1	0	0	0	0	0	1	1	0	0	30	4	4	1	0	0	39	39.5
13:45	0	0	0	0	0	0	0	0	0	0	0	0	24	0	3	3	0	0	30	31.5	0	0	84	2	14	3	0	0	103	104.5	0	0	6	1	0	0	0	0	7	7	0	0	20	1	3	0	0	0	24	24
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	89	3	5	6	0	0	103	106	0	1	242	16	42	12	0	4	317	326.4	0	0	22	5	0	0	0	0	27	27	1	1	115	10	13	2	0	0	142	141.6
14:00	0	0	0	0	0	0	0	0	0	0	1	0	22	0	2	0	0	0	25	24.2	0	1	61	5	11	0	0	2	80	81.4	0	0	13	0	0	0	0	0	13	13	0	0	37	1	7	2	0	0	47	48
14:15	0	0	0	0	1	0	0	0	1	1	0	0	29	1	2	0	0	0	32	32	0	0	69	3	13	3	0	3	91	95.5	0	0	10	0	0	0	0	0	10	10	1	1	37	0	4	2	0	0	45	44.8
14:30	0	0	0	0	0	0	0	0	0	0	0	0	22	0	6	0	0	0	28	28	0	0	61	7	15	1	1	1	86	88.8	0	0	7	0	2	0	0	0	9	9	1	0	40	2	3	0	0	0	46	45.2
14:45	0	0	0	0	0	0	0	0	0	0	1	0	21	2	3	1	0	0	28	27.7	0	0	66	2	17	3	0	1	89	91.5	1	0	13	0	1	0	0	1	16	16.2	1	0	47	1	4	0	0	1	54	54.2
H/TOT	0	0	0	0	1	0	0	0	1	1	2	0	94	3	13	1	0	0	113	111.6	0	1	257	17	56	7	1	7	346	357.2	1	0	43	0	3	0	0	1	48	48.2	3	1	161	4	18	4	0	1	192	192
15:00	0	0	0	0	0	0	0	0	0	0	0	0	36	1	3	0	0	0	40	40	0	0	65	4	20	2	1	3	95	100.3	0	0	10	2	3	0	0	0	15	15	0	0	41	6	3	0	0	1	51	52
15:15	0	0	0	0	0	0	0	0	0	0	0	0	31	1	2	0	0	0	34	34	0	0	61	6	7	1	0	1	76	77.5	0	0	15	2	1	1	0	1	20	21.5	0	1	40	3	7	1	0	0	52	51.9
15:30	0	0	0	0	0	0	0	0	0	0	0	0	41	1	3	0	0	0	45	45	0	0	67	5	12	2	1	4	91	97.3	0	0	7	1	1	0	0	1	10	11	0	0	47	1	5	1	0	0	54	54.5
15:45	0	0	0	0	0	0	0	0	0	0	2	1	74	2	3	2	0	0	84	82.8	2	0	59	7	12	8	1	0	89	92.7	0	0	8	0	1	0	0	1	10	11	0	0	37	2	4	0	0	0	43	43
H/TOT	0	0	0	0	0	0	0	0	0	0	2	1	182	5	11	2	0	0	203	201.8	2	0	252	22	51	13	3	8	351	367.8	0	0	40	5	6	1	0	3	55	58.5	0	1	165	12	10	2	0	1	200	201.4
16:00	0	0	0	0	0	0	0	0	0	0	0	0	29	3	5	0	0	0	37	37	0	0	54	2	10	3	0	2	71	74.5	0	0	12	3	0	0	0	0	15	15	0	0	115	7	3	0	0	0	125	125
16:15	0	0	0	0	0	0	0	0	0	0	0	0	24	1	0	0	0	0	25	25	0	0	75	2	14	2	2	1	96	100.6	0	0	13	1	0	0	0	0	14	14	0	1	70	7	8	1	0	0	87	86.9
16:30	0	0	0	0	0	0	0	0	0	0	0	0	14	1	1	0	0	0	16	16	0	0	87	7	17	0	0	4	115	119	0	0	9	0	0	0	0	0	9	9	0	0	57	8	6	1	0	0	72	72.5
16:45	0	0	0	0	0	0	0	0	0	0	1	0	31	3	1	0	0	0	36	35.2	0	0	62	1	17	1	0	1	82	83.5	0	0	9	2	2	0	0	0	13	13	0	1	60	8	9	1	0	0	79	78.9
H/TOT	0	0	0	0	0	0	0	0	0	0	1	0	98	8	7	0	0	0	114	113.2	0	0	278	12	59	6	2	8	364	377.6	0	0	43	6	2	0	0	0	51	51	0	2	302	30	26	3	0	0	363	363.3
17:00	0	0	0	0	0	0	0	0	0	0	0	0	23	1	4	0	0	0	28	28	0	0	68	8	8	1	0	1	86	87.5	1	0	12	0	1	0	0	0	14	13.2	0	0	92	4	6	1	0	0	103	103.5
17:15	0	0	0	0	0	0	0	0	0	0	0	0	29	1	0	0	0	0	30	30	1	1	87	7	14	1	0	2	113	114.1	0	1	12	0	0	0	0	0	13	12.4	2	1	78	3	8	0	0	0	92	89.8
17:30	0	0	0	0	0	0	0	0	0	0	1	0	24	0	2	1	0	0	28	27.7	0	0	84	1	9	2	0	2	98	101	0	0	12	2	0	0	0	0	14	14	0	1	79	2	6	0	0	0	88	87.4
17:45	0	0	0	0	0	0	0	0	0	0	0	0	24	1	0	1	0	0	26	26.5	0	0	81	2	11	0	0	1	95	96	0	0	29	1	1	0	0	0	31	31	1	0	82	5	7	0	0	0	95	94.2
H/TOT	0	0	0	0	0	0	0	0	0	0	1	0	100	3	6	2	0	0	112	112.2	1	1	320	18	42	4	0	6	392	398.6	1	1	65	3	2	0	0	0	72	70.6	3	2	331	14	27	1	0	0	378	374.0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	20	2	2	1	0	0	25	25.5	1	1	84	4	12	1	0	2	105	106.1	0	0	10	0	0	0	0	0	10	10	0	0	69	2	10	1	0	0	82	82.5
18:15	0	0	0	0	0	0	0	0	0	0	0	0	16	0	2	0	0	0	18	18	0	0	98	2	7	1	0	2	110	112.5	1	0	8	0	2	1	0	0	12	11.7	1	1	58	2	8	0	0	0	70	68.6
18:30	0	0	0	0	0	0	0	0	0	0	0	0	29	0	1	0	0	0	30	30	0	0	107	1	6	0	0	4	119	122	1	1	13	0	1	0	0	0	16	14.6	1	1	47	3	3	0	1	0	56	55.9
18:45	0	0	0	0	0	0	0	0	0	0	0	1	21	0	0	0	0	0	22	21.4	1	0	79	2	10	0	0	1	93	93.2	0	0	26	0	0	0	0	0	26	26	0	0	41	0	2	0	0	0	43	43
H/TOT	0	0	0	0	0	0	0	0	0	0	0	1	86	2	5	1	0	0	95	94.9	2	1	368	9	35	2	0	9	426	433.8	2	1	57	0	3	1	0	0	64	62.3	2	2	215	7	23	1	1	0	251	250
12 TOT	0	0	0	0	1	0	0	1	2	3	59	8	1575	53	122	17	0	5	1839	1801	23	19	4211	154	629	93	17	80	5235	5383	7	3	435	43	23	9	0	7	527	531.1	11	12	1877	98	189	25	1	2	2215	2215

B => B										B => C										B => D										C => A										C => B									
P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
0	0	0	0	0	0	0	0	0	0	1	0	55	0	12	2	4	0	74	79.4	0	0	7	0	0	0	0	0	7	7	0	0	98	0	17	3	0	2	120	123.5	0	0	22	2	2	0	1	0	27	28 3
0	0	0	0	0	0	0	0	0	0	1	1	79	0	11	2	2	1	97	100.2	0	0	2	0	2	0	0	0	4	4	0	1	54	0	14	1	1	2	73	76.2	2	0	23	1	4	5	1	0	36	38.2
0	0	0	0	0	0	0	0	0	0	2	0	80	2	6	4	3	0	97	101.3	0	0	1	0	0	0	1	0	2	3.3	0	0	53	0	16	3	1	3	76	81.8	0	0	57	1	11	0	3	0	72	75.9
0	0	0	0	0	0	0	0	0	0	7	0	105	2	9	3	3	0	129	128.8	0	0	12	0	4	0	0	0	16	16	0	0	74	2	20	4	0	2	102	106	0	0	60	4	2	0	4	0	70	75.2
0	0	0	0	0	0	0	0	0	0	11	1	319	4	38	11	12	1	397	409.7	0	0	22	0	6	0	1	0	29	30.3	0	1	279	2	67	11	2	9	371	387.5	2	0	162	8	19	5	9	0	205	217.6
0	0	0	0	0	0	0	0	0	0	1	0	90	2	14	3	4	1	115	121.9	0	0	14	0	0	0	0	0	14	14	0	0	63	0	23	3	0	1	90	92.5	0	0	51	4	3	5	8	1	72	85.9
0	0	0	0	0	0	0	0	0	0	2	0	83	4	4	4	5	0	102	108.9	0	0	30	1	1	0	1	0	33	34.3	2	0	45	1	5	6	0	2	61	64.4	0	0	54	6	10	2	3	0	75	79.9
0	0	0	1	0	0	0	0	1	1	1	0	77	1	4	5	2	0	90	94.3	0	0	14	1	1	0	0	0	16	16	0	0	56	0	18	4	0	1	79	82	0	0	86	6	4	5	7	1	109	121 6
0	0	0	0	0	0	0	0	0	0	0	0	65	2	11	2	5	1	86	94.5	0	0	19	1	0	0	0	0	20	20	0	1	45	0	5	3	0	1	55	56.9	0	0	84	3	9	4	0	1	101	104
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C => C										C => D										D => A										D => B										D => C									
P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
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0	0	0	0	0	0	0	0	0	0	0	0	6	0	1	1	1	0	9	10.8	0	0	4	0	0	0	0	0	4	4	0	0	11	0	1	2	0	0	14	15	0	0	1	0	1	0	0	1	3	4
0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5	5	0	0	5	0	0	0	0	0	5	5	0	0	15	2	1	1	0	0	19	19.5	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	4	0	2	0	0	0	6	6	0	0	6	1	1	0	0	0	8	8	0	0	6	1	1	0	0	0	8	8	0	0	5	0	1	0	0	0	6	6
0	0	0	0	1	0	0	0	1	1	0	0	18	0	4	1	1	0	24	25.8	0	0	16	1	2	0	0	0	19	19	0	0	53	3	4	5	0	0	65	67.5	0	0	8	0	2	1	0	1	12	13.5
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0	0	0	0	0	1	0	0	1	1.5	0	0	8	1	1	0	1	0	11	12.3	0	0	6	1	1	0	0	0	8	8	0	1	14	0	1	0	0	0	16	15.4	0	0	4	0	2	0	0	0	6	6
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0	0	0	0	0	1	0	0	1	1.5	1	0	20	2	2	1	1	0	27	28	0	0	14	1	4	0	0	1	20	21	0	1	36	0	3	1	0	0	41	40.9	0	0	21	0	2	0	2	0	25	27.6
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0	0	0	0	0	0	0	0	0	0	1	0	16	1	8	0	0	0	26	25.2	0	0	18	4	2	0	0	0	24	24	0	0	48	2	3	0	0	0	53	53	0	0	23	1	5	0	1	0	30	31.3
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0	0	0	0	0	0	0	0	0	0	0	0	6	1	2	0	0	0	9	9	0	0	4	1	1	0	0	0	6	6	0	0	5	0	2	0	0	0	7	7	0	0	4	0	0	1	1	1	7	9.8
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0	0	0	0	0	0	0	0	0	0	3	0	47	1	2	0	3	0	56	57.5	0	0	67	6	4	0	0	2	79	81	0	0	70	7	4	0	0	0	81	81	0	0	59	5	4	2	1	0	71	73.3
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0	0	0	0	0	0	0	0	0	0	0	1	46	0	3	0	0	0	50	49.4	0	0	4	0	2	0	0	0	6	6	0	0	10	3	0	1	0	0	14	14.5	0	1	14	0	1	0	0	0	16	15.4
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0	0	0	0	0	0	0	0	0	0	2	0	26	0	0	0	0	0	28	26.4	1	0	7	0	1	0	0	1	10	10.2	0	0	4	2	1	0	0	0	7	7	0	0	19	0	2	0	0	0	21	21
0	0	0	0	0	0	0	0	0	0	2	1	123	1	8	0	0	0	135	132.8	1	0	25	1	5	0	0	1	33	33.2	0	0	43	8	4	1	1	0	57	58.8	0	1	46	1	3	0	0	0	51	50.4
0	0	0	0	0	0	0	0	0	0	1	0	19	0	1	0	0	0	21	20.2	0	0	4	0	1	0	0	1	6	7	0	0	9	1	0	1	0	0	11	11.5	0	0	2	0	3	0	0	0	5	5
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0	0	0	0	0	0	0	0	0	0	0	0	11	0	2	0	0	0	13	13	0	1	10	0	1	0	0	0	12	11.4	0	0	16	1	1	0	0	0	18	18	0	0	19	0	0	0	0	0	19	19
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0	0	0	0	0	0	0	0	0	0	1	0	63	0	4	0	0	0	68	67.2	0	1	34	0	2	0	0	1	38	38.4	0	0	64	3	1	1	0	0	69	69.5	0	0	33	0	5	0	0	0	38	38
0	0	0	0	1	1	0	0	2	2.5	8	2	502	9	51	12	15	0	599	616.9	6	1	457	23	31	8	0	9	535	542.6	5	3	1077	33	78	12	4	1	1213	1219	4	2	734	34	61	9	15	2	861	882.6

D => D									
P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	0	0	1	1.5
0	0	0	0	0	1	0	0	1	1.5
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1	1
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1	1
0	0	0	1	0	0	0	0	1	1
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0	1	1
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	[illegible]	[illegible]	0	[illegible]	0	0	[illegible]	3.5

IDASO

Survey Name: 034 20044 Lucan
Site: Site 2
Location: R136 / Griffeen Avenue
Date: Tue 25-Feb-2020

	A => A										A => B										A => C										A => D										B => A									
TIME	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2	1	0	137	3	19	0	1	2	163	165.5	0	0	5	0	0	0	0	0	5	5	0	0	3	0	0	0	0	0	3	3
07:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2	2	0	119	1	17	3	1	2	145	148.2	0	0	2	0	0	0	0	0	2	2	0	0	6	0	2	0	0	0	8	8
07:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	2	0	2	109	5	18	1	0	3	138	140.3	0	0	5	1	1	0	0	0	7	7	0	0	3	0	2	0	0	0	5	5
07:45	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	1	6	7	3	1	121	2	7	1	0	4	139	140.5	0	0	3	0	0	0	0	0	3	3	0	0	7	1	2	0	0	0	10	10
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	10	0	1	0	0	1	12	13	6	3	488	11	61	5	2	11	585	594.5	0	0	15	1	1	0	0	0	17	17	0	0	19	1	6	0	0	0	26	26
08:00	0	0	0	0	0	0	0	0	0	0	0	0	8	0	1	0	0	1	8	9	4	3	87	3	13	1	0	1	112	109.5	0	0	2	0	0	0	0	0	2	2	0	0	10	1	0	0	0	0	11	11
08:15	0	0	0	0	0	0	0	0	0	0	0	0	10	2	0	0	0	0	12	12	3	1	77	8	10	0	0	5	104	106	1	0	12	0	0	0	0	0	13	12.3	0	0	7	2	0	0	0	0	9	9
08:30	0	0	0	0	0	0	0	0	0	0	0	0	11	1	1	0	0	0	13	13	4	0	74	4	7	1	1	3	94	95.6	0	0	17	2	0	1	0	0	20	20.5	0	0	9	1	0	0	0	0	10	10
08:45	0	0	0	0	0	0	0	0	0	0	0	0	10	0	1	0	0	0	11	11	4	0	63	3	8	1	1	3	83	84.6	0	0	8	2	1	0	0	0	11	11	0	0	7	1	1	0	0	1	10	11
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	37	3	3	0	0	1	44	45	15	4	301	18	38	3	2	12	393	394.7	1	0	39	4	1	1	0	0	46	45.7	0	0	33	5	1	0	0	1	40	41
09:00	0	0	0	0	0	0	0	0	0	0	0	0	8	0	5	0	0	0	13	13	0	0	78	3	19	0	0	1	101	102	0	0	7	1	0	1	0	0	9	9.5	0	0	17	1	0	0	0	0	18	18
09:15	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	10	10	0	0	106	2	12	1	2	1	124	128.1	0	0	13	1	1	1	0	0	16	16.5	0	0	11	0	0	0	0	0	11	11
09:30	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5	5	0	0	77	3	9	1	1	0	91	92.8	0	0	12	2	0	0	0	0	14	14	0	0	8	0	0	0	0	0	8	8
09:45	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3	3	0	0	57	2	8	0	1	0	68	69.3	0	0	10	0	3	1	0	0	14	14.5	0	0	7	1	1	0	0	1	10	11
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	25	1	5	0	0	0	31	31	0	0	318	10	48	2	4	2	384	392.2	0	0	42	4	4	3	0	0	53	54.5	0	0	43	2	1	0	0	1	47	48
10:00	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	4	4	1	0	38	2	6	4	0	0	51	52.2	0	0	8	1	1	0	0	0	10	10	0	0	0	3	2	0	0	0	5	5
10:15	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	3	1	0	33	1	5	2	0	0	42	42.2	0	0	7	0	0	0	0	0	7	7	0	0	2	0	1	0	0	0	3	3
10:30	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	1	0	0	4	3.7	0	0	39	0	11	1	0	1	52	53.5	0	0	8	0	0	0	0	0	8	8	0	0	3	1	0	0	0	1	5	6
10:45	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	3	0	0	40	3	4	0	0	0	47	47	0	0	9	0	2	1	0	0	12	12.5	0	0	4	0	0	0	0	0	4	4
H/TOT	0	0	0	0	0	0	0	0	0	0	1	0	10	1	1	1	0	0	14	13.7	2	0	150	6	26	7	0	1	192	194.9	0	0	32	1	3	1	0	0	37	37.5	0	0	9	4	3	0	0	1	17	18
11:00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3	3	1	0	41	1	6	2	0	0	51	51.2	0	0	3	0	3	0	0	0	6	6	0	0	3	0	0	0	0	0	3	3
11:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	5	6	1	0	33	1	2	1	1	1	40	42	0	0	8	1	0	1	0	0	10	10.5	0	0	4	0	0	0	0	0	4	4
11:30	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	3	0	0	34	2	12	1	0	1	50	51.5	0	0	7	2	1	0	0	0	10	10	0	0	5	0	0	0	0	1	6	7
11:45	0	0	0	0	0	0	0	0	0	0	0	0	12	1	0	0	0	0	13	13	0	0	44	1	8	1	0	1	55	56.5	0	0	13	0	3	1	0	0	17	17.5	0	0	8	1	0	1	0	0	10	10.5
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	19	1	3	0	0	1	24	25	2	0	152	5	28	5	1	3	196	201.2	0	0	31	3	7	2	0	0	43	44	0	0	20	1	0	1	0	1	23	24.5
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H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	22	1	0	0	0	0	23	23	2	0	153	10	24	4	2	3	198	204	0	0	54	2	4	2	0	0	62	63	0	0	22	2	4	0	0	0	28	28
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H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	21	1	3	0	0	0	25	25	0	0	188	12	30	9	0	1	240	245.5	0	1	68	6	8	0	0	0	81	80.4	0	0	32	1	2	0	0	0	35	35
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H/TOT	0	0	1	0	0	0	0	0	1	1	0	0	23	0	7	0	0	0	30	30	1	1	174	8	42	6	1	5	238	245.9	0	0	70	6	11	0	0	0	87	87	0	0	41	5	1	0	0	0	47	47
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H/TOT	0	0	1	0	0	0	0	0	1	1	0	0	38	0	2	0	0	0	40	40	3	0	208	13	44	9	2	8	287	299.7	0	0	63	4	11	2	0	0	80	81	0	0	51	5	2	0	0	0	62	62
16:00	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9	9	0	0	34	7	5	0	0	1	47	48	1	0	19	1	1	0	0	0	22	21.2	2	0	8	1	0	0	0	0	11	9.4
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H/TOT	0	0	0	0	0	0	0	0	0	0	1	0	26	1	5	0	0	1	34	34.2	1	0	199	17	42	2	0	5	266	271.2	2	0	83	5	7	1	0	1	99	98.9	2	0	23	6	2	0	0	0	33	31.4
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H/TOT	0	0	0	0	0	0	0	0	0	0	0	1	29	1	4	0	0	0	35	34.4	1	2	252	10	28	5	0	3	301	304.5	1	3	72	2	11	0	0	0	89	86.4	0	0	22	1	1	0	0	0	24	24
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H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	37	1	1	0	0	0	39	39	2	1	253	7	19	3	0	6	291	296.3	1	1	116	2	11	0	0	1	132	131.6	0	0	33	1	3	1	0	0	38	38.5
12 TOT	0	0	2	0	0	0	0	0	2	2	2	1	297	11	35	1	0	4	351	353.3	35	11	2834	127	430	80	14	80	3571	3645	5	5	585	40	77	12	0	2	826	827	2	0	352	34	26	2	0	4	420	423.4

B => B										B => C										B => D										C => A										C => B									
P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
0	0	0	0	0	0	0	0	0	0	0	0	17	0	6	0	0	1	24	25	0	0	7	1	1	1	0	1	11	12.5	0	0	93	5	11	2	0	2	113	116	0	0	1	0	0	1	0	0	2	2.5
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C => C											C => D										D => A										D => B										D => C									
P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
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0	0	0	0	0	0	0	0	0	0	2	0	73	0	7	0	0	0	82	80.4	0	0	14	0	3	1	0	0	18	18.5	0	0	34	1	3	0	0	2	40	42	0	1	54	4	6	2	1	0	68	69.7
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0	0	0	0	0	0	0	0	0	0	5	2	385	2	28	2	0	0	424	419.8	3	0	58	2	3	0	0	0	66	63.6	0	0	126	3	10	0	0	4	145	149	0	1	181	4	14	0	0	0	200	199.4
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D => D									
P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
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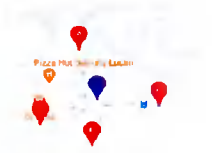

IDASO

Survey Name: 034 20044 Lucan
Site: Site 3
Location: Griffeen Rd / Griffeen Avenue
Date: Tue 25-Feb-2020

	A => A										A => B										A => C										A => D										B => A									
TIME	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	0	0	0	0	0	0	0	0	0	0	39	1	11	1	0	2	54	56.5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4	4	0	0	6	1	3	0	0	0	10	10
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07:45	0	0	0	0	1	0	0	0	1	1	4	0	55	2	5	0	0	2	88	86.8	0	0	0	0	0	0	0	0	0	0	1	0	8	0	0	0	0	0	9	8.2	0	0	11	2	0	0	0	1	14	15
H/TOT	0	0	1	0	1	0	0	0	2	2	7	1	197	3	27	1	0	7	243	244.3	0	0	1	0	0	0	0	0	1	1	1	0	22	0	3	0	0	0	26	25.2	0	0	31	3	4	0	0	2	40	42
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H/TOT	0	0	1	0	1	0	0	0	2	2	10	5	196	0	10	1	0	6	229	223.5	0	0	15	1	1	0	0	0	17	17	4	0	36	0	2	0	0	0	42	38.8	0	0	117	2	8	0	0	3	130	133
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H/TOT	0	0	0	0	0	0	0	0	0	0	2	1	178	4	13	3	0	4	205	208.3	0	0	0	0	0	0	0	0	0	0	0	0	56	3	6	1	0	0	66	66.5	0	0	65	4	7	0	0	1	77	78
10:00	0	0	0	0	0	0	0	0	0	0	0	0	12	1	1	1	0	1	16	17.5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	2	0	0	0	7	7	0	0	13	0	0	0	0	1	14	15
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H/TOT	0	0	0	0	0	0	0	0	0	0	1	0	80	1	3	5	0	2	72	75.7	0	0	3	0	0	0	0	0	3	3	0	0	33	0	4	0	0	0	37	37	0	0	48	2	1	1	0	2	54	56.5
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12 45	0	0	0	0	0	0	0	0	0	0	0	0	14	1	1	1	0	0	17	17.5	0	0	1	0	0	0	0	0	1	1	0	0	13	1	0	0	0	0	14	14	0	0	16	0	3	0	0	1	20	21
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	69	1	5	2	0	2	79	82	0	0	2	0	0	0	0	0	2	2	0	0	44	1	5	0	0	0	50	50	0	0	65	4	7	0	0	2	78	80
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13:45	0	0	0	0	0	0	0	0	0	0	0	0	27	0	2	3	0	0	32	33.5	0	0	0	0	0	0	0	0	0	0	0	0	16	0	1	0	0	0	17	17	1	0	25	0	4	0	0	1	31	31.2
H/TOT	0	0	1	1	0	0	0	0	2	2	1	1	86	1	3	4	0	2	98	100.6	0	0	5	1	0	0	0	0	6	6	0	0	58	0	5	1	0	0	64	64.5	3	1	111	3	9	3	0	2	132	132.5
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H/TOT	0	0	0	0	0	0	0	0	0	0	1	0	111	4	8	0	0	2	126	127.2	0	0	7	0	0	0	0	0	7	7	0	0	90	4	1	0	0	0	95	95	5	0	134	8	10	0	0	2	159	157
15:00	0	0	0	0	0	0	0	0	0	0	0	0	20	4	2	0	0	1	27	29	0	0	2	0	0	0	0	0	2	2	0	0	19	1	0	0	0	0	20	20	1	0	26	2	1	0	0	1	31	31.2
15:15	0	0	0	0	0	0	0	0	0	0	0	0	33	1	2	0	0	0	36	36	0	0	1	0	0	0	0	0	1	1	0	0	16	0	0	0	0	0	16	16	0	1	42	0	3	0	0	0	46	45.4
15:30	0	0	0	0	0	0	0	0	0	0	0	0	31	1	2	0	0	1	35	36	0	0	0	0	0	0	0	0	0	0	2	0	43	0	1	0	0	0	46	44.4	0	0	42	2	3	0	0	1	48	49
15:45	0	0	0	0	0	0	0	0	0	0	0	1	34	2	1	3	0	0	41	41.9	0	0	0	0	0	0	0	0	0	0	0	0	23	1	1	0	0	0	25	25	2	0	38	0	3	1	0	1	45	44.9
H/TOT	0	0	0	0	0	0	0	0	0	0	0	1	118	8	7	3	0	2	139	141.9	0	0	3	0	0	0	0	0	3	3	2	0	101	2	2	0	0	0	107	105.4	3	1	148	4	10	1	0	3	170	170.5
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H/TOT	0	0	1	0	0	0	0	0	1	1	1	0	98	5	3	0	0	4	101	104.2	0	0	1	0	0	0	0	0	1	1	2	0	82	2	6	1	0	0	93	91.9	4	0	240	6	16	1	0	3	270	270.3
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H/TOT	0	0	1	0	1	0	0	0	2	2	1	0	93	4	8	0	0	2	108	109.2	0	0	0	0	0	0	0	0	0	0	1	0	105	2	6	1	0	0	115	114.7	9	2	313	7	27	1	0	7	366	365.1
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H/TOT	0	0	0	0	0	0	0	0	0	0	0	1	97	2	5	0	0	2	107	108.4	0	0	0	0	0	0	0	0	0	0	0	0	115	2	5	0	0	0	122	122	6	3	200	3	16	0	0	7	235	235.4
12 TOT	0	0	5	1	3	0	0	0	9	9	26	11	1353	36	100	21	0	37	1584	1604	0	0	38	2	1	0	0	0	41	41	11	0	773	16	40	5	0	0	854	847.7	30	8	1518	48	124	10	0	37	1772	1785

B => B											B => C										B => D										C => A										C => B									
P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
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0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	2	1	134	5	17	0	0	2	161	160.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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C => C										C => D										D => A										D => B										D => C									
P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
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0	0	0	0	0	0	0	0	0	0	8	0	77	0	1	1	0	0	87	81.1	22	0	851	24	51	8	0	0	956	942.4	30	13	2951	196	326	45	2	42	3605	3640	1	0	81	0	3	1	0	0	86	85.7

D => D									
P/C	M/C	CAR	TAXI	LGV	OGV1	OGV2	PSV	TOT	PCU
0	0	1	0	1	0	0	0	2	2
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0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	1	0	1	0	0	0	2	2
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1	1
0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1	1
0	0	2	0	0	0	0	0	2	2
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0
0	0	4	1	0	0	0	0	5	5
0	0	0	0	0	0	0	0	0	0
0	0	4	1	0	0	0	0	5	5
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1	1
0	0	0	0	1	0	0	0	1	1
0	0	1	0	1	0	0	0	2	2
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	1	1
0	0	1	0	0	0	0	0	1	1
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	1	0	1	0	0	0	2	2
0	0	2	0	0	0	0	0	2	2
0	0	1	0	0	0	0	0	1	1
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	3	0	0	0	0	0	3	3
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1	1
0	0	1	0	0	0	0	0	1	1
0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1	1
0	0	1	0	0	0	0	0	1	1
0	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	2	2
0	0	0	0	0	0	0	0	0	0
0	0	3	0	0	0	0	0	3	3
0	0	3	0	0	0	0	0	3	3
0	0	1	0	0	0	0	0	1	1
0	0	7	0	0	0	0	0	7	7
0	0	22	1	3	0	0	0	26	26

B. Junctions Modelling

TRANSYT 16

Filename: Site 2.t16
Path: M:\Projects\19\19-037 - RBS Framework\21 - Griffeen Community College Lucan\Design\Civil\Traffic\MODELLING APRIL 2021\Site 2
Report generation date: 25/05/2021 16:07:27

»A1 - Site 2 : D1 - 2020 - SURVEYED FLOWS, AM :
»A2 - Site 2 [A2] : D2 - 2023 - OPENING YEAR, AM :
»A3 - Site 2 [A3] : D3 - 2023 OPENING YEAR + SCHOOL, AM :
»A4 - Site 2 [A4] : D4 - 2028 DESIGN YEAR, AM :
»A5 - Site 2 [A5] : D5 - 2028 DESIGN YEAR + SCHOOL, AM :
»A6 - Site 2 [A6] : D6 - 2038 DESIGN YEAR, AM :
»A7 - Site 2 [A7] : D7 - 2038 DESIGN YEAR + SCHOOL, AM :

Summary of network performance

	AM				
	Set ID	PI (£ per hr)	Total delay (Veh-hr/hr)	Highest DOS	Number oversaturated
	Site 2 - 2020 - SURVEYED FLOWS				
Network	A1 D1	691.85	46.88	78% (TS A/1)	0 (0%)

	AM				
	Set ID	PI (£ per hr)	Total delay (Veh-hr/hr)	Highest DOS	Number oversaturated
	Site 2 [A2] - 2023 - OPENING YEAR				
Network	A2 D2	729.61	49.42	81% (TS A/1)	0 (0%)

	AM				
	Set ID	PI (£ per hr)	Total delay (Veh-hr/hr)	Highest DOS	Number oversaturated
	Site 2 [A3] - 2023 OPENING YEAR + SCHOOL				
Network	A3 D3	778.35	52.68	83% (TS A/1)	0 (0%)

	AM				
	Set ID	PI (£ per hr)	Total delay (Veh-hr/hr)	Highest DOS	Number oversaturated
	Site 2 [A4] - 2028 DESIGN YEAR				
Network	A4 D4	807.63	54.67	86% (TS A/1)	0 (0%)

	AM				
	Set ID	PI (£ per hr)	Total delay (Veh-hr/hr)	Highest DOS	Number oversaturated
	Site 2 [A5] - 2028 DESIGN YEAR + SCHOOL				
Network	A5 D5	910.29	61.60	89% (TS A/1)	0 (0%)

	AM				
	Set ID	PI (£ per hr)	Total delay (Veh-hr/hr)	Highest DOS	Number oversaturated
	Site 2 [A6] - 2038 DESIGN YEAR				
Network	A6 D6	963.77	65.25	91% (TS A/1)	0 (0%)

	AM				
	Set ID	PI (£ per hr)	Total delay (Veh-hr/hr)	Highest DOS	Number oversaturated
	Site 2 [A7] - 2038 DESIGN YEAR + SCHOOL				
Network	A7 D7	1174.13	79.60	98% (TS A/1)	0 (0%)

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	06/12/2011
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DOMAIN\f.silva
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	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	c m
			✓			✓		✓	✓						

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	Veh	Veh	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	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

Network Diagrams

(untitled)
Diagram produced using TRANSYT 16.0.1.8473

A1 - Site 2
D1 - 2020 - SURVEYED FLOWS, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	25/05/2021 16:06:53	25/05/2021 16:06:59	6.65	08:00	130	691.85	46.88	77.53	A/1	0	0	A/1	9/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set(s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
Site 2			✓	D1	✓	D1	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2020 - SURVEYED FLOWS	AM	(untitled)			08:00		✓

Network Options

Network timings

Network cycle time (s)	Minimum possible cycle time (s)	Absolute minimum possible cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
130	53	53		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)	Missing stage transition options
10000.00	10000.00	10000.00	2	Assume banned

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 traffic model	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	100	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
Standard accuracy Hill Climb	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)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		1
Ax	(untitled)		
B	(untitled)		1
Bx	(untitled)		
C	(untitled)		1
Cx	(untitled)		
D	(untitled)		1
Dx	(untitled)		
9			1
10			1
11	(untitled)		1
12			1
13			1
14			1
15			1
16			1
17			1

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)		✓	62.69	✓	Sum of lanes	2021	✓		Normal	
Ax	1	(untitled)		✓	101.72						Normal	
B	1	(untitled)		✓	41.12	✓	Sum of lanes	2209	✓		Normal	
	2			✓	43.67	✓	Sum of lanes	2087	✓		Normal	
Bx	1	(untitled)		✓	106.07						Normal	
C	1	(untitled)		✓	41.11	✓	Sum of lanes	2019	✓		Normal	
	2			✓	42.15	✓	Sum of lanes	2059	✓		Normal	
Cx	1	(untitled)		✓	100.08						Normal	
D	2			✓	47.81	✓	Sum of lanes	2209	✓		Normal	
	3			✓	49.65	✓	Sum of lanes	2098	✓		Normal	
Dx	1	(untitled)		✓	94.15						Normal	
9	1			✓	37.29	✓	Sum of lanes	2059			Normal	
10	1			✓	16.69	✓	Sum of lanes	4268			Normal	
11	1	(untitled)		✓	31.47	✓	Sum of lanes	2050			Normal	
12	1			✓	17.13	✓	Sum of lanes	2059	✓		Normal	
13	1			✓	15.79	✓	Sum of lanes	1883	✓		Normal	
14	1			✓	31.14	✓	Sum of lanes	4268			Normal	
15	1			✓	26.01	✓	Sum of lanes	1945			Normal	
16	1			✓	14.65	✓	Sum of lanes	2059	✓		Normal	
17	1			✓	16.27	✓	Sum of lanes	2074	✓		Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	Clearly Good	0	3 50	✓	64	21 31	✓	2021
Ax	1	1	(untitled)											
B	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00		2209
	2	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	100	25 59		2087
Bx	1	1	(untitled)											
		2	(untitled)											
C	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	28	21 46	✓	2019
	2	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	100	20 56		2059
Cx	1	1	(untitled)											
D	2	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00		2209
	3	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	100	28 41		2098
Dx	1	1	(untitled)											
		2	(untitled)											
9	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
10	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999 00	✓	2059
11	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	19	68 07	✓	2050
12	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00	✓	2059
13	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	100	16 10	✓	1883
14	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
15	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	62	15 80	✓	1945
16	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999 00	✓	2059
17	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	100	23 04		2074

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0 00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0 00	NetworkDefault	Not-Included	NetworkDefault	0 50	✓	130

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	458	458
Ax	1	434	434
B	1	143	143
	2	177	177
Bx	1	1043	1043
C	1	294	294
	2	395	395
Cx	1	443	443
D	2	198	198
	3	46	46
Dx	1	409	409
9	1	689	689
10	1	486	486
11	1	243	243
12	1	198	198
13	1	45	45
14	1	696	696
15	1	376	376
16	1	143	143
17	1	233	233

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	G	
B	1	1	I	
	2	1	H	
C	1	1	B	
	2	1	A	
D	2	1	D	
	3	1	C	
12	1	1	D	
13	1	1	F	
16	1	1	I	
17	1	1	J	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	7.52	30.00
9	1	4.48	30.00
10	1	2.00	30.00
14	1	3.74	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ax	1	1	B/2	Ax/1	12.21	30.00	✓	Offside	25.59
B	1	1	14/1	B/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	14/1	B/2	5.24	30.00	✓	Straight	Straight Movement
Bx	1	1	A/1	Bx/1	12.73	30.00	✓	Nearside	22.78
C	1	1	9/1	C/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	9/1	C/2	5.06	30.00	✓	Straight	Straight Movement
Cx	1	1	17/1	Cx/1	12.01	30.00	✓	Nearside	23.04
D	2	1	10/1	D/2	5.74	30.00	✓	Straight	Straight Movement
	3	1	10/1	D/3	5.96	30.00	✓	Straight	Straight Movement
Dx	1	1	16/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
11	1	1	10/1	11/1	3.78	30.00	✓	Straight	Straight Movement
12	1	1	11/1	12/1	2.06	30.00	✓	Straight	Straight Movement
13	1	1	11/1	13/1	1.89	30.00	✓	Nearside	68.07
15	1	1	14/1	15/1	3.12	30.00	✓	Straight	Straight Movement
16	1	1	15/1	16/1	1.76	30.00	✓	Straight	Straight Movement
17	1	1	15/1	17/1	1.95	30.00	✓	Nearside	15.80
Ax	1	2	C/1	Ax/1	12.21	30.00	✓	Straight	Straight Movement
Bx	1	2	C/2	Bx/1	12.73	30.00	✓	Offside	20.56
Cx	1	2	A/1	Cx/1	12.01	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
Ax	1	3	13/1	Ax/1	12.21	30.00	✓	Nearside	16.10
Bx	1	3	D/2	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	12.01	30.00	✓	Offside	28.41
Dx	1	3	A/1	Dx/1	11.30	30.00	✓	Offside	21.31
Bx	1	4	12/1	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Dx	1	4	C/1	Dx/1	11.30	30.00	✓	Nearside	21.46

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	7.00	4.67	5.40
3	(untitled)		1		Farside	6.00	4.00	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40
5	(untitled)				Farside	8.00	5.33	5.40
6	(untitled)				Farside	3.00	2.00	5.40
7	(untitled)				Farside	3.00	2.00	5.40
8	(untitled)				Farside	8.00	5.33	5.40
9	(untitled)				Farside	3.00	2.00	5.40
10	(untitled)				Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	S	
2	1	L	
3	1	Q	
4	1	N	
5	1	O	
6	1	P	
7	1	R	
8	1	T	
9	1	K	
10	1	M	

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		

Pedestrian Crossing Connectors

Pedestrian Crossing Connectors

Pedestrian crossing connector	Pedestrian crossing1	Pedestrian crossing2	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	2:1	9:1	2.00	1.33	5.40
2	2:1	8:2	2.00	1.33	5.40
3	9:1	8:2	2.00	1.33	5.40
4	10:1	2:2	2.00	1.33	5.40
5	5:1	4:2	2.00	1.33	5.40
6	6:1	5:2	2.00	1.33	5.40
7	3:1	6:1	2.00	1.33	5.40
8	7:1	3:2	2.00	1.33	5.40
9	1:2	8:1	3.00	2.00	5.40

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	82	212	395	0	0	0	0
	2	46	0	45	395	0	0	0	0
	3	164	41	0	253	0	0	0	0
	4	233	286	177	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	50	50	50
	6	0	0	0	0	50	0	0	50
	7	0	0	0	0	50	0	0	50
	8	0	0	0	0	50	50	50	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	9/1	Cx/1	#0000FF
	2	(untitled)	10/1	Dx/1	#FF0000
	3	(untitled)	A/1	Ax/1	#00FF00
	4	(untitled)	14/1	Bx/1	#FFFF00
	5	(untitled)	1 1E, 7 2E	1:1X, 7 2X	#FF00FF
	6	(untitled)	9 2E	9:2X	#008000
	7	(untitled)	6:2E	6:2X	#FFA500
	8	(untitled)	4:1E, 10 2E	4:1X, 10 2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	7		4	1	14/1, 15/1, 17/1, Cx/1	Normal	233
	8		4	2	14/1, 15/1, 16/1, Dx/1	Normal	143
	9		4	2	14/1, B/1, Dx/1	Normal	143
	10		4	3	14/1, B/2, Ax/1	Normal	177
	11		3	4	A/1, Bx/1	Normal	253
	12		3	1	A/1, Cx/1	Normal	164
	13		3	2	A/1, Dx/1	Normal	41
	14		1	2	9/1, C/1, Dx/1	Normal	82
	15		1	3	9/1, C/1, Ax/1	Normal	212
	16		1	4	9/1, C/2, Bx/1	Normal	395
	17		2	4	10/1, D/2, Bx/1	Normal	198
	18		2	1	10/1, D/3, Cx/1	Normal	46
	19		2	4	10/1, 11/1, 12/1, Bx/1	Normal	198
	20		2	3	10/1, 11/1, 13/1, Ax/1	Normal	45

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	1		8	6	10.2E, 10.1X, 2.2E, 2.1X, 9.1E, 9.2X	Normal	50
	2		6	8	9.2E, 9.1X, 2.1E, 2.2X, 10.1E, 10.2X	Normal	50
	3		8	7	4.1E, 4.2X, 5.1E, 5.2X, 6.1E, 6.2X	Normal	50
	4		7	8	6.2E, 6.1X, 5.2E, 5.1X, 4.2E, 4.1X	Normal	50
	5		5	7	7.2E, 7.1X, 3.2E, 3.1X, 6.1E, 6.2X	Normal	50
	6		7	5	6.2E, 6.1X, 3.1E, 3.2X, 7.1E, 7.2X	Normal	50
	21		8	5	10.2E, 10.1X, 2.2E, 2.1X, 8.2E, 8.1X, 1.2E, 1.1X	Normal	50
	22		5	8	1.1E, 1.2X, 8.1E, 8.2X, 2.1E, 2.2X, 10.1E, 10.2X	Normal	50
	23		5	6	1.1E, 1.2X, 8.1E, 8.2X, 9.1E, 9.2X	Normal	50
	24		6	5	9.2E, 9.1X, 8.2E, 8.1X, 1.2E, 1.1X	Normal	50

Signal Timings

Network Default: 130s cycle time; 130 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		3	NetworkDefault	130	53

Controller Stream 1 - Properties

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

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	Street 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)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	7	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	
	I	(untitled)	7	300	0	0	Traffic	
	J	(untitled)	7	300	0	0	Traffic	
	K	(untitled)	5	300	0	0	Pedestrian	0
	L	(untitled)	5	300	0	0	Pedestrian	0
	M	(untitled)	5	300	0	0	Pedestrian	0
	N	(untitled)	5	300	0	0	Pedestrian	0
	O	(untitled)	5	300	0	0	Pedestrian	0
	P	(untitled)	5	300	0	0	Pedestrian	0
	Q	(untitled)	5	300	0	0	Pedestrian	0
	R	(untitled)	5	300	0	0	Pedestrian	0
	S	(untitled)	5	300	0	0	Pedestrian	0
	T	(untitled)	5	300	0	0	Pedestrian	0

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	C, H, M, N, P, R, S, K	1	1	100
	2	D, F, I, J, M, R	1	1	100
	3	A, B, J, L, O, P, R, T	1	1	100
	4	G, F, O, Q, T, K, M, O	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	17, 42, 66, 91	56	
	2	(untitled)	Single	1, 2, 4, 3	18, 44, 66, 93	56	
	3	(untitled)	Single	1, 3, 2, 4	31, 71, 99, 11	53	
	4	(untitled)	Single	1, 3, 4, 2	17, 41, 66, 91	59	
	5	(untitled)	Single	1, 4, 2, 3	17, 42, 68, 93	53	
	6	(untitled)	Single	1, 4, 3, 2	17, 41, 67, 91	58	

Intergreen Matrix for Controller Stream 1

		To																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
From	A			5	5	5		5	6	5				6						8	
	B			6	7	7	8	5	5	5				6	7			9			
	C	5	5					5		5	8		8			5					
	D	5	5			0		5	5							5				8	
	E	5	5		0			5	5							5				8	
	F		5						5								5				
	G	5	6	6	5	5			5	7	9		10		9				5	7	
	H	5	5		5	6	7	5										8			5
	I	5	6	5				5							9						5
	J			5				5				5									
	K										1										
	L			5				5													
	M	1	1																		
	N		4					4		4											
	O			1	1	1															
	P						1														
	Q		5						5												
	R							1													
	S	4			4	4		4													
	T								1	1											

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	8	8	8
	2	9	0	6	5
	3	8	8	0	9
	4	9	9	10	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	C,H,M,N,P,R,S,K	20	31	11	1	5
	2	✓	3	A,B,J,L,O,P,R,T	39	71	32	1	5
	3	✓	2	D,F,I,J,M,R	79	99	20	1	6
	4	✓	4	G,F,O,Q,T,K,M,O	104	11	37	1	7

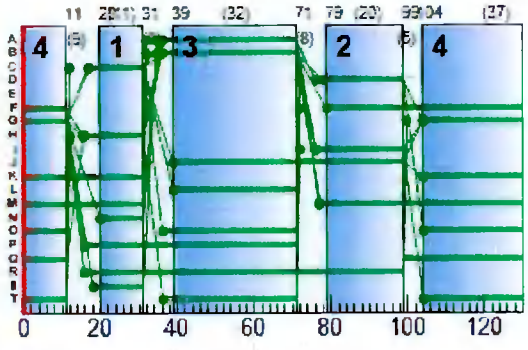
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	36	71	35
	B	1	✓	36	71	35
	C	1	✓	17	31	14
	D	1	✓	78	99	21
	F	1	✓	79	11	62
	G	1	✓	104	11	37
	H	1	✓	16	31	15
	I	1	✓	76	99	23
	J	1	✓	39	99	60
	K	1	✓	104	31	57
	L	1	✓	39	71	32
	M	1	✓	77	31	84
	N	1	✓	20	31	11
	O	1	✓	36	71	35
		2	✓	104	11	37
	P	1	✓	16	71	55
	Q	1	✓	99	11	42
	R	1	✓	16	99	83
	S	1	✓	18	31	13
	T	1	✓	36	71	35
		2	✓	104	11	37

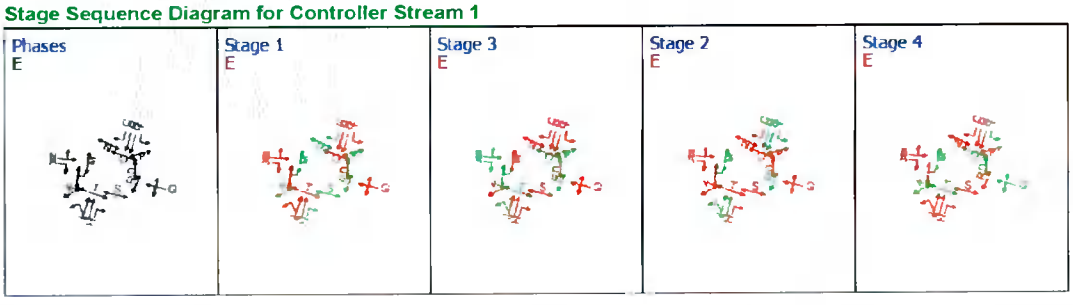
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	G	104	11	37
B	1	1	1	I	76	99	23
B	2	1	1	H	16	31	15
C	1	1	1	B	36	71	35
C	2	1	1	A	36	71	35
D	2	1	1	D	78	99	21
D	3	1	1	C	17	31	14
12	1	1	1	D	78	99	21
13	1	1	1	F	79	11	62
16	1	1	1	I	76	99	23
17	1	1	1	J	39	99	60

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

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/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 (Veh)
A	1	(untitled)	1	1	G	458 <	2021	37	0.00	78	29	59.81	52.29	97.40	16.31 +
Ax	1	(untitled)				434	Unrestricted	130	53.00	0	Unrestricted	12.21	0.00	0.00	0.00
B	1	(untitled)	1	1	I	143	2209	23	0.00	35	185	53.53	48.59	87.77	4.58
	2		1	1	H	177	2087	15	0.00	69	45	74.86	69.62	105.66	6.83
Bx	1	(untitled)				1044	Unrestricted	130	18.00	0	Unrestricted	12.73	0.00	0.00	0.00
C	1	(untitled)	1	1	B	294 <	2019	35	0.00	53	90	48.26	43.33	85.67	9.27 +
	2		1	1	A	395 <	2059	35	0.00	69	44	54.11	49.06	93.29	13.50 +
Cx	1	(untitled)				443	Unrestricted	130	7.00	0	Unrestricted	12.01	0.00	0.00	0.00
D	2		1	1	D	198	2209	21	0.00	53	89	60.40	54.66	93.93	6.79
	3		1	1	C	46	2098	14	12.00	19	426	59.75	53.79	90.42	1.52
Dx	1	(untitled)				409	Unrestricted	130	31.00	0	Unrestricted	11.30	0.00	0.00	0.00
9	1		1			689	2059	130	57.00	33	199	4.91	0.44	0.00	0.08
10	1		1			487	4268	130	0.00	11	776	2.06	0.05	0.00	0.01
11	1	(untitled)	1			243	2050	130	72.00	12	744	3.89	0.12	0.00	0.01
12	1		1	1	D	198 <	2059	21	0.00	57	76	58.41	56.36	95.66	6.91 +
13	1		1	1	F	45	1883	62	61.00	5	1928	19.72	17.83	51.48	0.85
14	1		1			696	4268	130	0.00	16	513	3.82	0.08	0.00	0.02
15	1		1			376	1945	130	70.00	19	417	3.34	0.22	0.00	0.02
16	1		1	1	I	143 <	2059	23	0.00	38	166	51.05	49.29	88.19	4.60 +
17	1		1	1	J	233 <	2074	60	0.00	24	318	23.17	21.22	58.73	5.02 +

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-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	403.45	44.86	8.99	27.25	4.16	446.05	26.11	0.00	472.16
Bus									
Tram									
Pedestrians	12.30	17.80	0.69	15.47	0.00	219.69	0.00	0.00	219.69
TOTAL	415.75	62.66	6.64	42.72	4.16	665.74	26.11	0.00	691.85

- *< = 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*

A2 - Site 2 [A2]
D2 - 2023 - OPENING YEAR, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	25/05/2021 16:06:59	25/05/2021 16:07:00	1.62	08:00	130	729.61	49.42	81.25	A/1	0	0	A/1	9/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set(s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
Site 2 [A2]			✓	D2	✓	D1	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2023 - OPENING YEAR	AM	(untitled)			08:00		✓

Network Options

Network timings

Network cycle time (s)	Minimum possible cycle time (s)	Absolute minimum possible cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
130	53	53		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)	Missing stage transition options
10000.00	10000.00	10000.00	2	Assume banned

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 traffic model	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	100	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
Standard accuracy Hill Climb	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)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		1
Ax	(untitled)		
B	(untitled)		1
Bx	(untitled)		
C	(untitled)		1
Cx	(untitled)		
D	(untitled)		1
Dx	(untitled)		
9			1
10			1
11	(untitled)		1
12			1
13			1
14			1
15			1
16			1
17			1

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)		✓	62.69	✓	Sum of lanes	2021	✓		Normal	
Ax	1	(untitled)		✓	101.72						Normal	
B	1	(untitled)		✓	41.12	✓	Sum of lanes	2209	✓		Normal	
	2			✓	43.67	✓	Sum of lanes	2087	✓		Normal	
Bx	1	(untitled)		✓	106.07						Normal	
C	1	(untitled)		✓	41.11	✓	Sum of lanes	2019	✓		Normal	
	2			✓	42.15	✓	Sum of lanes	2059	✓		Normal	
Cx	1	(untitled)		✓	100.08						Normal	
D	2			✓	47.81	✓	Sum of lanes	2209	✓		Normal	
	3			✓	49.65	✓	Sum of lanes	2098	✓		Normal	
Dx	1	(untitled)		✓	94.15						Normal	
9	1			✓	37.29	✓	Sum of lanes	2059			Normal	
10	1			✓	16.69	✓	Sum of lanes	4268			Normal	
11	1	(untitled)		✓	31.47	✓	Sum of lanes	2050			Normal	
12	1			✓	17.13	✓	Sum of lanes	2059	✓		Normal	
13	1			✓	15.79	✓	Sum of lanes	1883	✓		Normal	
14	1			✓	31.14	✓	Sum of lanes	4268			Normal	
15	1			✓	26.01	✓	Sum of lanes	1945			Normal	
16	1			✓	14.65	✓	Sum of lanes	2059	✓		Normal	
17	1			✓	16.27	✓	Sum of lanes	2074	✓		Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	Clearly Good	0	3.50	✓	64	21.31	✓	2021
Ax	1	1	(untitled)											
B	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	25.59		2087
Bx	1	1	(untitled)											
		2	(untitled)											
C	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	28	21.46	✓	2019
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	20.56		2059
Cx	1	1	(untitled)											
D	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	3	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	28.41		2098
Dx	1	1	(untitled)											
		2	(untitled)											
9	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
10	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
11	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	18	68.07	✓	2050
12	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
13	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	16.10	✓	1883
14	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
15	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	62	15.80	✓	1945
16	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
17	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	23.04		2074

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	130

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	480	480
Ax	1	455	455
B	1	150	150
	2	186	186
Bx	1	1095	1095
C	1	308	308
	2	415	415
Cx	1	465	465
D	2	208	208
	3	48	48
Dx	1	429	429
9	1	723	723
10	1	510	510
11	1	255	255
12	1	208	208
13	1	47	47
14	1	731	731
15	1	395	395
16	1	150	150
17	1	245	245

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	G	
B	1	1	I	
	2	1	H	
C	1	1	B	
	2	1	A	
D	2	1	D	
	3	1	C	
12	1	1	D	
13	1	1	F	
16	1	1	I	
17	1	1	J	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	7.52	30.00
9	1	4.48	30.00
10	1	2.00	30.00
14	1	3.74	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ax	1	1	B/2	Ax/1	12.21	30.00	✓	Offside	25.59
B	1	1	14/1	B/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	14/1	B/2	5.24	30.00	✓	Straight	Straight Movement
Bx	1	1	A/1	Bx/1	12.73	30.00	✓	Nearside	22.78
C	1	1	9/1	C/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	9/1	C/2	5.06	30.00	✓	Straight	Straight Movement
Cx	1	1	17/1	Cx/1	12.01	30.00	✓	Nearside	23.04
D	2	1	10/1	D/2	5.74	30.00	✓	Straight	Straight Movement
	3	1	10/1	D/3	5.96	30.00	✓	Straight	Straight Movement
Dx	1	1	16/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
11	1	1	10/1	11/1	3.78	30.00	✓	Straight	Straight Movement
12	1	1	11/1	12/1	2.06	30.00	✓	Straight	Straight Movement
13	1	1	11/1	13/1	1.89	30.00	✓	Nearside	68.07
15	1	1	14/1	15/1	3.12	30.00	✓	Straight	Straight Movement
16	1	1	15/1	16/1	1.76	30.00	✓	Straight	Straight Movement
17	1	1	15/1	17/1	1.95	30.00	✓	Nearside	15.80
Ax	1	2	C/1	Ax/1	12.21	30.00	✓	Straight	Straight Movement
Bx	1	2	C/2	Bx/1	12.73	30.00	✓	Offside	20.56
Cx	1	2	A/1	Cx/1	12.01	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
Ax	1	3	13/1	Ax/1	12.21	30.00	✓	Nearside	16.10
Bx	1	3	D/2	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	12.01	30.00	✓	Offside	28.41
Dx	1	3	A/1	Dx/1	11.30	30.00	✓	Offside	21.31
Bx	1	4	12/1	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Dx	1	4	C/1	Dx/1	11.30	30.00	✓	Nearside	21.46

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	7.00	4.67	5.40
3	(untitled)		1		Farside	6.00	4.00	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40
5	(untitled)				Farside	8.00	5.33	5.40
6	(untitled)				Farside	3.00	2.00	5.40
7	(untitled)				Farside	3.00	2.00	5.40
8	(untitled)				Farside	8.00	5.33	5.40
9	(untitled)				Farside	3.00	2.00	5.40
10	(untitled)				Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	S	
2	1	L	
3	1	Q	
4	1	N	
5	1	O	
6	1	P	
7	1	R	
8	1	T	
9	1	K	
10	1	M	

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		

Pedestrian Crossing Connectors

Pedestrian Crossing Connectors

Pedestrian crossing connector	Pedestrian crossing1	Pedestrian crossing2	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	2:1	9:1	2.00	1.33	5.40
2	2:1	8:2	2.00	1.33	5.40
3	9:1	8:2	2.00	1.33	5.40
4	10:1	2:2	2.00	1.33	5.40
5	5:1	4:2	2.00	1.33	5.40
6	6:1	5:2	2.00	1.33	5.40
7	3:1	6:1	2.00	1.33	5.40
8	7:1	3:2	2.00	1.33	5.40
9	1:2	8:1	3.00	2.00	5.40

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	86	222	415	0	0	0	0
	2	48	0	47	415	0	0	0	0
	3	172	43	0	265	0	0	0	0
	4	245	300	186	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	50	50	50
	6	0	0	0	0	50	0	0	50
	7	0	0	0	0	50	0	0	50
	8	0	0	0	0	50	50	50	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	9/1	Cx/1	#0000FF
	2	(untitled)	10/1	Dx/1	#FF0000
	3	(untitled)	A/1	Ax/1	#00FF00
	4	(untitled)	14/1	Bx/1	#FFFF00
	5	(untitled)	1:1E, 7:2E	1:1X, 7:2X	#FF00FF
	6	(untitled)	9:2E	9:2X	#008000
	7	(untitled)	6:2E	6:2X	#FFA500
	8	(untitled)	4:1E, 10:2E	4:1X, 10:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	7		4	1	14/1, 15/1, 17/1, Cx/1	Normal	245
	8		4	2	14/1, 15/1, 16/1, Dx/1	Normal	150
	9		4	2	14/1, B/1, Dx/1	Normal	150
	10		4	3	14/1, B/2, Ax/1	Normal	186
	11		3	4	A/1, Bx/1	Normal	265
	12		3	1	A/1, Cx/1	Normal	172
	13		3	2	A/1, Dx/1	Normal	43
	14		1	2	9/1, C/1, Dx/1	Normal	86
	15		1	3	9/1, C/1, Ax/1	Normal	222
	16		1	4	9/1, C/2, Bx/1	Normal	415
	17		2	4	10/1, D/2, Bx/1	Normal	208
	18		2	1	10/1, D/3, Cx/1	Normal	48
	19		2	4	10/1, 11/1, 12/1, Bx/1	Normal	208
	20		2	3	10/1, 11/1, 13/1, Ax/1	Normal	47

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	1		8	6	10:2E, 10:1X, 2:2E, 2:1X, 9:1E, 9:2X	Normal	50
	2		6	8	9:2E, 9:1X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	3		8	7	4:1E, 4:2X, 5:1E, 5:2X, 6:1E, 6:2X	Normal	50
	4		7	8	6:2E, 6:1X, 5:2E, 5:1X, 4:2E, 4:1X	Normal	50
	5		5	7	7:2E, 7:1X, 3:2E, 3:1X, 6:1E, 6:2X	Normal	50
	6		7	5	6:2E, 6:1X, 3:1E, 3:2X, 7:1E, 7:2X	Normal	50
	21		8	5	10:2E, 10:1X, 2:2E, 2:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50
	22		5	8	1:1E, 1:2X, 8:1E, 8:2X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	23		5	6	1:1E, 1:2X, 8:1E, 8:2X, 9:1E, 9:2X	Normal	50
	24		6	5	9:2E, 9:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50

Signal Timings

Network Default: 130s cycle time; 130 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		3	NetworkDefault	130	53

Controller Stream 1 - Properties

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

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	Street 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)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	7	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	
	I	(untitled)	7	300	0	0	Traffic	
	J	(untitled)	7	300	0	0	Traffic	
	K	(untitled)	5	300	0	0	Pedestrian	0
	L	(untitled)	5	300	0	0	Pedestrian	0
	M	(untitled)	5	300	0	0	Pedestrian	0
	N	(untitled)	5	300	0	0	Pedestrian	0
	O	(untitled)	5	300	0	0	Pedestrian	0
	P	(untitled)	5	300	0	0	Pedestrian	0
	Q	(untitled)	5	300	0	0	Pedestrian	0
	R	(untitled)	5	300	0	0	Pedestrian	0
	S	(untitled)	5	300	0	0	Pedestrian	0
	T	(untitled)	5	300	0	0	Pedestrian	0

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	C, H, M, N, P, R, S, K	1	1	100
	2	D, F, I, J, M, R	1	1	100
	3	A, B, J, L, O, P, R, T	1	1	100
	4	G, F, C, Q, T, K, M, O	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	17, 42, 66, 91	56	
	2	(untitled)	Single	1, 2, 4, 3	18, 44, 66, 93	56	
	3	(untitled)	Single	1, 3, 2, 4	30, 70, 98, 10	53	
	4	(untitled)	Single	1, 3, 4, 2	17, 41, 66, 91	59	
	5	(untitled)	Single	1, 4, 2, 3	17, 42, 68, 93	53	
	6	(untitled)	Single	1, 4, 3, 2	17, 41, 67, 91	58	

Intergreen Matrix for Controller Stream 1

		To																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
From	A			5	5	5		5	6	5				6						8	
	B			6	7	7	8	5	5	5				6	7			9			
	C	5	5					5		5	8		8			5					
	D	5	5			0		5	5							5				8	
	E	5	5		0			5	5							5				8	
	F		5						5								5				
	G	5	6	6	5	5			5	7	9		10		9				5	7	
	H	5	5		5	6	7	5										8			5
	I	5	6	5				5							9						5
	J			5				5				5									
	K										1										
	L			5				5													
	M	1	1																		
	N		4					4		4											
	O			1	1	1															
	P						1														
	Q		5						5												
	R							1													
	S	4			4	4		4													
	T								1	1											

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	8	8	8
	2	9	0	6	5
	3	8	8	0	9
	4	9	9	10	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	C,H,M,N,P,R,S,K	19	30	11	1	5
	2	✓	3	A,B,J,L,O,P,R,T	38	70	32	1	5
	3	✓	2	D,F,I,J,M,R	78	98	20	1	6
	4	✓	4	G,F,O,Q,T,K,M,O	103	10	37	1	7

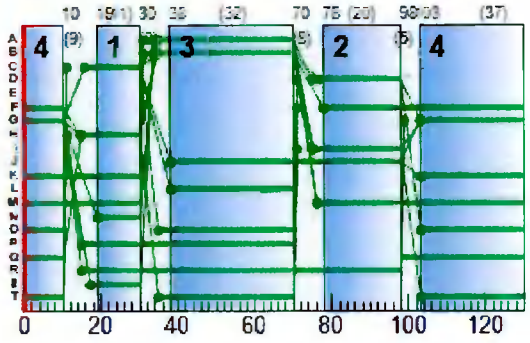
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	35	70	35
	B	1	✓	35	70	35
	C	1	✓	16	30	14
	D	1	✓	77	98	21
	F	1	✓	78	10	62
	G	1	✓	103	10	37
	H	1	✓	15	30	15
	I	1	✓	75	98	23
	J	1	✓	38	98	60
	K	1	✓	103	30	57
	L	1	✓	38	70	32
	M	1	✓	76	30	84
	N	1	✓	19	30	11
	O	1	✓	35	70	35
		2	✓	103	10	37
	P	1	✓	15	70	55
	Q	1	✓	98	10	42
	R	1	✓	15	98	83
	S	1	✓	17	30	13
	T	1	✓	35	70	35
		2	✓	103	10	37

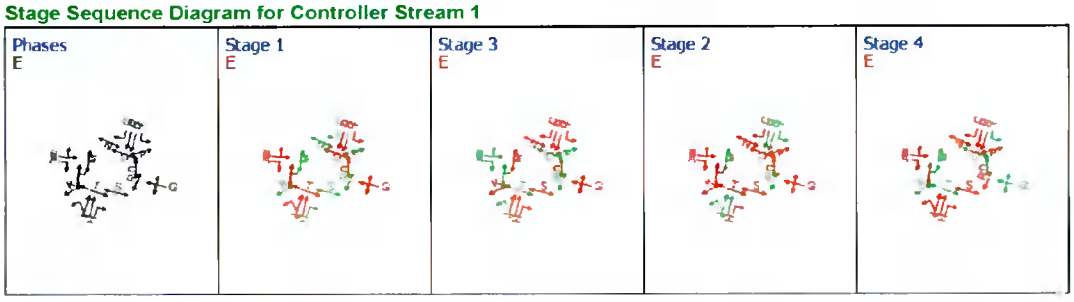
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	G	103	10	37
B	1	1	1	I	75	98	23
B	2	1	1	H	15	30	15
C	1	1	1	B	35	70	35
C	2	1	1	A	35	70	35
D	2	1	1	D	77	98	21
D	3	1	1	C	16	30	14
12	1	1	1	D	77	98	21
13	1	1	1	F	78	10	62
16	1	1	1	I	75	98	23
17	1	1	1	J	38	98	60

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

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/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 (Veh)
A	1	(untitled)	1	1	G	480 <	2021	37	0.00	81	23	62.86	55.33	100.62	17.68 +
Ax	1	(untitled)				455	Unrestricted	130	52.00	0	Unrestricted	12.21	0.00	0.00	0.00
B	1	(untitled)	1	1	I	150	2209	23	0.00	37	172	53.87	48.93	87.97	4.81
	2		1	1	H	186	2087	15	0.00	72	38	77.71	72.47	108.05	7.37
Bx	1	(untitled)				1096	Unrestricted	130	17.00	0	Unrestricted	12.73	0.00	0.00	0.00
C	1	(untitled)	1	1	B	308 <	2019	35	0.00	55	82	48.96	44.02	86.65	9.75 +
	2		1	1	A	415 <	2059	35	0.00	73	37	55.89	50.83	95.18	14.44 +
Cx	1	(untitled)				465	Unrestricted	130	6.00	0	Unrestricted	12.01	0.00	0.00	0.00
D	2		1	1	D	208	2209	21	0.00	56	80	61.24	55.51	94.96	7.22
	3		1	1	C	48	2098	14	12.00	20	404	59.88	53.93	90.50	1.58
Dx	1	(untitled)				429	Unrestricted	130	29.00	0	Unrestricted	11.30	0.00	0.00	0.00
9	1		1			723	2059	130	62.00	35	185	4.95	0.47	0.00	0.09
10	1		1			511	4268	130	0.00	12	735	2.06	0.06	0.00	0.01
11	1	(untitled)	1			255	2050	130	76.00	12	704	3.90	0.12	0.00	0.01
12	1		1	1	D	208 <	2059	21	0.00	60	68	59.50	57.45	96.79	7.37 +
13	1		1	1	F	47	1883	62	61.00	5	1842	19.74	17.85	51.48	0.89
14	1		1			731	4268	130	0.00	17	484	3.82	0.09	0.00	0.02
15	1		1			395	1945	130	74.00	20	392	3.36	0.24	0.00	0.03
16	1		1	1	I	150 <	2059	23	0.00	39	153	51.45	49.69	89.05	4.88 +
17	1		1	1	J	245 <	2074	60	0.00	25	297	23.34	21.39	59.32	5.35 +

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-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	423.37	48.06	8.81	28.83	5.12	482.04	27.88	0.00	509.92
Bus									
Tram									
Pedestrians	12.30	17.80	0.69	15.47	0.00	219.69	0.00	0.00	219.69
TOTAL	435.67	65.85	6.62	44.30	5.12	701.74	27.88	0.00	729.61

- *< = 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*

A3 - Site 2 [A3]
D3 - 2023 OPENING YEAR + SCHOOL, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
3	25/05/2021 16:07:00	25/05/2021 16:07:01	1.28	08:00	130	778.35	52.68	83.45	A/1	0	0	A/1	9/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set(s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
Site 2 [A3]			✓	D3	✓	D1	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2023 OPENING YEAR + SCHOOL	AM	(untitled)			08:00		✓

Network Options

Network timings

Network cycle time (s)	Minimum possible cycle time (s)	Absolute minimum possible cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
130	53	53		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)	Missing stage transition options
10000.00	10000.00	10000.00	2	Assume banned

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 traffic model	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	100	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
Standard accuracy Hill Climb	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)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		1
Ax	(untitled)		
B	(untitled)		1
Bx	(untitled)		
C	(untitled)		1
Cx	(untitled)		
D	(untitled)		1
Dx	(untitled)		
9			1
10			1
11	(untitled)		1
12			1
13			1
14			1
15			1
16			1
17			1

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)		✓	62.69	✓	Sum of lanes	2021	✓		Normal	
Ax	1	(untitled)		✓	101.72						Normal	
B	1	(untitled)		✓	41.12	✓	Sum of lanes	2209	✓		Normal	
	2			✓	43.67	✓	Sum of lanes	2087	✓		Normal	
Bx	1	(untitled)		✓	106.07						Normal	
C	1	(untitled)		✓	41.11	✓	Sum of lanes	2019	✓		Normal	
	2			✓	42.15	✓	Sum of lanes	2059	✓		Normal	
Cx	1	(untitled)		✓	100.08						Normal	
D	2			✓	47.81	✓	Sum of lanes	2209	✓		Normal	
	3			✓	49.65	✓	Sum of lanes	2098	✓		Normal	
Dx	1	(untitled)		✓	94.15						Normal	
9	1			✓	37.29	✓	Sum of lanes	2059			Normal	
10	1			✓	16.69	✓	Sum of lanes	4268			Normal	
11	1	(untitled)		✓	31.47	✓	Sum of lanes	2050			Normal	
12	1			✓	17.13	✓	Sum of lanes	2059	✓		Normal	
13	1			✓	15.79	✓	Sum of lanes	1883	✓		Normal	
14	1			✓	31.14	✓	Sum of lanes	4268			Normal	
15	1			✓	26.01	✓	Sum of lanes	1934			Normal	
16	1			✓	14.65	✓	Sum of lanes	2059	✓		Normal	
17	1			✓	16.27	✓	Sum of lanes	2074	✓		Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	Clearly Good	0	3 50	✓	64	21 31	✓	2021
Ax	1	1	(untitled)											
B	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00		2209
	2	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	100	25 59		2087
Bx	1	1	(untitled)											
		2	(untitled)											
C	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	28	21 46	✓	2019
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	20 56		2059
Cx	1	1	(untitled)											
D	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	3	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	28 41		2098
Dx	1	1	(untitled)											
		2	(untitled)											
9	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00	✓	2059
10	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00	✓	2059
11	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	18	68 07	✓	2050
12	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00	✓	2059
13	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	100	16 10	✓	1883
14	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00	✓	2059
15	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	68	15 80	✓	1934
16	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	0	99999 00	✓	2059
17	1	1	(untitled)		✓	N/A	Clearly Good	0	3 00	✓	100	23 04		2074

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0 00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0 00	NetworkDefault	Not-Included	NetworkDefault	0 50	✓	130

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	480	480
Ax	1	489	489
B	1	150	150
	2	186	186
Bx	1	1156	1156
C	1	355	355
	2	476	476
Cx	1	547	547
D	2	208	208
	3	62	62
Dx	1	442	442
9	1	831	831
10	1	524	524
11	1	255	255
12	1	208	208
13	1	47	47
14	1	799	799
15	1	463	463
16	1	150	150
17	1	313	313

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	G	
B	1	1	I	
	2	1	H	
C	1	1	B	
	2	1	A	
D	2	1	D	
	3	1	C	
12	1	1	D	
13	1	1	F	
16	1	1	I	
17	1	1	J	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	7.52	30.00
9	1	4.48	30.00
10	1	2.00	30.00
14	1	3.74	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ax	1	1	B/2	Ax/1	12.21	30.00	✓	Offside	25.59
B	1	1	14/1	B/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	14/1	B/2	5.24	30.00	✓	Straight	Straight Movement
Bx	1	1	A/1	Bx/1	12.73	30.00	✓	Nearside	22.78
C	1	1	9/1	C/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	9/1	C/2	5.06	30.00	✓	Straight	Straight Movement
Cx	1	1	17/1	Cx/1	12.01	30.00	✓	Nearside	23.04
D	2	1	10/1	D/2	5.74	30.00	✓	Straight	Straight Movement
	3	1	10/1	D/3	5.96	30.00	✓	Straight	Straight Movement
Dx	1	1	16/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
11	1	1	10/1	11/1	3.78	30.00	✓	Straight	Straight Movement
12	1	1	11/1	12/1	2.06	30.00	✓	Straight	Straight Movement
13	1	1	11/1	13/1	1.89	30.00	✓	Nearside	68.07
15	1	1	14/1	15/1	3.12	30.00	✓	Straight	Straight Movement
16	1	1	15/1	16/1	1.76	30.00	✓	Straight	Straight Movement
17	1	1	15/1	17/1	1.95	30.00	✓	Nearside	15.80
Ax	1	2	C/1	Ax/1	12.21	30.00	✓	Straight	Straight Movement
Bx	1	2	C/2	Bx/1	12.73	30.00	✓	Offside	20.56
Cx	1	2	A/1	Cx/1	12.01	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
Ax	1	3	13/1	Ax/1	12.21	30.00	✓	Nearside	16.10
Bx	1	3	D/2	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	12.01	30.00	✓	Offside	28.41
Dx	1	3	A/1	Dx/1	11.30	30.00	✓	Offside	21.31
Bx	1	4	12/1	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Dx	1	4	C/1	Dx/1	11.30	30.00	✓	Nearside	21.46

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	7.00	4.67	5.40
3	(untitled)		1		Farside	6.00	4.00	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40
5	(untitled)				Farside	8.00	5.33	5.40
6	(untitled)				Farside	3.00	2.00	5.40
7	(untitled)				Farside	3.00	2.00	5.40
8	(untitled)				Farside	8.00	5.33	5.40
9	(untitled)				Farside	3.00	2.00	5.40
10	(untitled)				Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	S	
2	1	L	
3	1	Q	
4	1	N	
5	1	O	
6	1	P	
7	1	R	
8	1	T	
9	1	K	
10	1	M	

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		

Pedestrian Crossing Connectors

Pedestrian Crossing Connectors

Pedestrian crossing connector	Pedestrian crossing1	Pedestrian crossing2	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	2:1	9:1	2.00	1.33	5.40
2	2:1	8:2	2.00	1.33	5.40
3	9:1	8:2	2.00	1.33	5.40
4	10:1	2:2	2.00	1.33	5.40
5	5:1	4:2	2.00	1.33	5.40
6	6:1	5:2	2.00	1.33	5.40
7	3:1	6:1	2.00	1.33	5.40
8	7:1	3:2	2.00	1.33	5.40
9	1:2	8:1	3.00	2.00	5.40

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	99	256	476	0	0	0	0
	2	62	0	47	415	0	0	0	0
	3	172	43	0	265	0	0	0	0
	4	313	300	186	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	50	50	50
	6	0	0	0	0	50	0	0	50
	7	0	0	0	0	50	0	0	50
	8	0	0	0	0	50	50	50	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	9/1	Cx/1	#0000FF
	2	(untitled)	10/1	Dx/1	#FF0000
	3	(untitled)	A/1	Ax/1	#00FF00
	4	(untitled)	14/1	Bx/1	#FFFF00
	5	(untitled)	1:1E, 7:2E	1:1X, 7:2X	#FF00FF
	6	(untitled)	9:2E	9:2X	#008000
	7	(untitled)	6:2E	6:2X	#FFA500
	8	(untitled)	4:1E, 10:2E	4:1X, 10:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	7		4	1	14/1, 15/1, 17/1, Cx/1	Normal	313
	8		4	2	14/1, 15/1, 16/1, Dx/1	Normal	150
	9		4	2	14/1, B/1, Dx/1	Normal	150
	10		4	3	14/1, B/2, Ax/1	Normal	186
	11		3	4	A/1, Bx/1	Normal	265
	12		3	1	A/1, Cx/1	Normal	172
	13		3	2	A/1, Dx/1	Normal	43
	14		1	2	9/1, C/1, Dx/1	Normal	99
	15		1	3	9/1, C/1, Ax/1	Normal	256
	16		1	4	9/1, C/2, Bx/1	Normal	476
	17		2	4	10/1, D/2, Bx/1	Normal	208
	18		2	1	10/1, D/3, Cx/1	Normal	62
	19		2	4	10/1, 11/1, 12/1, Bx/1	Normal	208
	20		2	3	10/1, 11/1, 13/1, Ax/1	Normal	47

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	1		8	6	10:2E, 10:1X, 2:2E, 2:1X, 9:1E, 9:2X	Normal	50
	2		6	8	9:2E, 9:1X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	3		8	7	4:1E, 4:2X, 5:1E, 5:2X, 6:1E, 6:2X	Normal	50
	4		7	8	6:2E, 6:1X, 5:2E, 5:1X, 4:2E, 4:1X	Normal	50
	5		5	7	7:2E, 7:1X, 3:2E, 3:1X, 6:1E, 6:2X	Normal	50
	6		7	5	6:2E, 6:1X, 3:1E, 3:2X, 7:1E, 7:2X	Normal	50
	21		8	5	10:2E, 10:1X, 2:2E, 2:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50
	22		5	8	1:1E, 1:2X, 8:1E, 8:2X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	23		5	6	1:1E, 1:2X, 8:1E, 8:2X, 9:1E, 9:2X	Normal	50
	24		6	5	9:2E, 9:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50

Signal Timings

Network Default: 130s cycle time; 130 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		3	NetworkDefault	130	53

Controller Stream 1 - Properties

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

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	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
	A	(untitled)	7	300	0	0	Traffic	
1	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	7	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	
	I	(untitled)	7	300	0	0	Traffic	
	J	(untitled)	7	300	0	0	Traffic	
	K	(untitled)	5	300	0	0	Pedestrian	0
	L	(untitled)	5	300	0	0	Pedestrian	0
	M	(untitled)	5	300	0	0	Pedestrian	0
	N	(untitled)	5	300	0	0	Pedestrian	0
	O	(untitled)	5	300	0	0	Pedestrian	0
	P	(untitled)	5	300	0	0	Pedestrian	0
	Q	(untitled)	5	300	0	0	Pedestrian	0
	R	(untitled)	5	300	0	0	Pedestrian	0
	S	(untitled)	5	300	0	0	Pedestrian	0
	T	(untitled)	5	300	0	0	Pedestrian	0

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	C, H, M, N, P, R, S, K	1	1	100
	2	D, F, I, J, M, R	1	1	100
	3	A, B, J, L, O, P, R, T	1	1	100
	4	G, F, O, Q, T, K, M, O	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	17, 42, 66, 91	56	
	2	(untitled)	Single	1, 2, 4, 3	18, 44, 66, 93	56	
	3	(untitled)	Single	1, 3, 2, 4	29, 73, 99, 10	53	
	4	(untitled)	Single	1, 3, 4, 2	17, 41, 66, 91	59	
	5	(untitled)	Single	1, 4, 2, 3	17, 42, 68, 93	53	
	6	(untitled)	Single	1, 4, 3, 2	17, 41, 67, 91	58	

Intergreen Matrix for Controller Stream 1

		To																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
From	A			5	5	5		5	6	5				6						8	
	B			6	7	7	8	5	5	5				6	7			9			
	C	5	5					5		5	8		8			5					
	D	5	5			0		5	5							5				8	
	E	5	5		0			5	5							5				8	
	F		5						5								5				
	G	5	6	6	5	5			5	7	9		10		9				5	7	
	H	5	5		5	6	7	5										8			5
	I	5	6	5				5							9						5
	J			5				5				5									
	K										1										
	L			5				5													
	M	1	1																		
	N		4					4		4											
	O			1	1	1															
	P						1														
	Q		5						5												
	R							1													
	S	4			4	4		4													
	T								1	1											

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	8	8	8
	2	9	0	6	5
	3	8	8	0	9
	4	9	9	10	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	C,H,M,N,P,R,S,K	19	29	10	1	5
	2	✓	3	A,B,J,L,O,P,R,T	37	73	36	1	5
	3	✓	2	D,F,I,J,M,R	81	99	18	1	6
	4	✓	4	G,F,O,Q,T,K,M,O	104	10	36	1	7

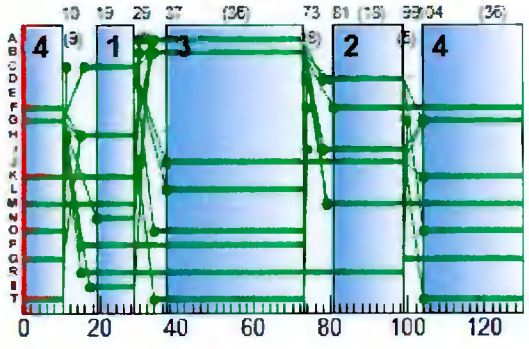
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	34	73	39
	B	1	✓	34	73	39
	C	1	✓	16	29	13
	D	1	✓	80	99	19
	F	1	✓	81	10	59
	G	1	✓	104	10	36
	H	1	✓	15	29	14
	I	1	✓	78	99	21
	J	1	✓	37	99	62
	K	1	✓	104	29	55
	L	1	✓	37	73	36
	M	1	✓	79	29	80
	N	1	✓	19	29	10
	O	1	✓	34	73	39
		2	✓	104	10	36
	P	1	✓	15	73	58
	Q	1	✓	99	10	41
	R	1	✓	15	99	84
	S	1	✓	17	29	12
	T	1	✓	34	73	39
		2	✓	104	10	36

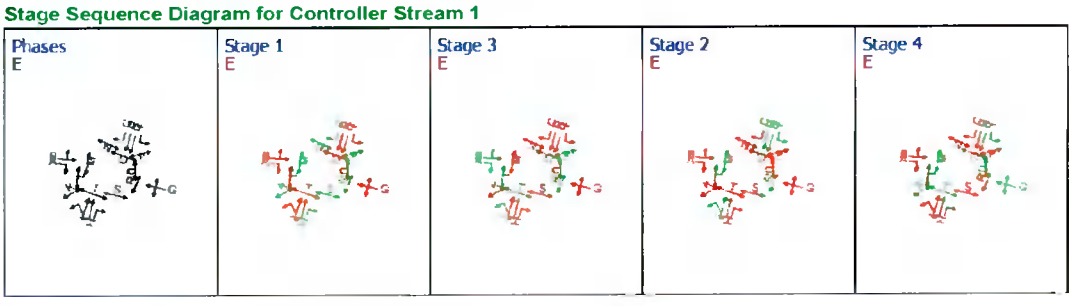
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	G	104	10	36
B	1	1	1	I	78	99	21
B	2	1	1	H	15	29	14
C	1	1	1	B	34	73	39
C	2	1	1	A	34	73	39
D	2	1	1	D	80	99	19
D	3	1	1	C	16	29	13
12	1	1	1	D	80	99	19
13	1	1	1	F	81	10	59
16	1	1	1	I	78	99	21
17	1	1	1	J	37	99	62

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

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/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 (Veh)
A	1	(untitled)	1	1	G	480 <	2021	36	0.00	83	20	66.05	58.52	103.14	18.12 +
Ax	1	(untitled)				489	Unrestricted	130	49.00	0	Unrestricted	12.21	0.00	0.00	0.00
B	1	(untitled)	1	1	I	150	2209	21	0.00	40	149	56.28	51.35	90.01	4.93
	2		1	1	H	186 <	2087	14	0.00	77	29	84.74	79.50	113.23	7.73 +
Bx	1	(untitled)				1157	Unrestricted	130	16.00	0	Unrestricted	12.73	0.00	0.00	0.00
C	1	(untitled)	1	1	B	355 <	2019	39	0.00	57	75	46.57	41.64	85.45	11.13 +
	2		1	1	A	476 <	2059	39	0.00	75	33	53.97	48.91	94.62	16.58 +
Cx	1	(untitled)				547	Unrestricted	130	4.00	0	Unrestricted	12.01	0.00	0.00	0.00
D	2		1	1	D	208	2209	19	0.00	61	63	65.34	59.61	98.31	7.47
	3		1	1	C	62	2098	13	0.00	27	264	62.32	56.36	92.92	2.10
Dx	1	(untitled)				442	Unrestricted	130	27.00	0	Unrestricted	11.30	0.00	0.00	0.00
9	1		1			831	2059	130	70.00	40	148	5.07	0.59	0.00	0.14
10	1		1			525	4268	130	0.00	12	713	2.06	0.06	0.00	0.01
11	1	(untitled)	1			255	2050	130	82.00	12	704	3.90	0.12	0.00	0.01
12	1		1	1	D	208 <	2059	19	0.00	66	52	64.45	62.39	100.81	7.66 +
13	1		1	1	F	47	1883	59	58.00	5	1749	21.37	19.47	53.80	0.93
14	1		1			799	4268	130	3.00	19	434	3.83	0.10	0.00	0.02
15	1		1			463	1934	130	85.00	24	318	3.41	0.29	0.00	0.04
16	1		1	1	I	150 <	2059	21	0.00	43	132	54.04	52.28	91.26	5.00 +
17	1		1	1	J	313 <	2074	62	0.00	31	221	23.10	21.14	59.66	6.85 +

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-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	457.19	52.37	8.73	30.71	6.42	527.20	30.28	0.00	557.48
Bus									
Tram									
Pedestrians	12.30	17.88	0.69	15.55	0.00	220.87	0.00	0.00	220.87
TOTAL	469.49	70.24	6.68	46.27	6.42	748.07	30.28	0.00	778.35

- *< = 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*

A4 - Site 2 [A4]
D4 - 2028 DESIGN YEAR, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
4	25/05/2021 16:07:01	25/05/2021 16:07:01	0.89	08:00	130	807.63	54.67	85.93	A/1	0	0	A/1	9/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set(s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
Site 2 [A4]			✓	D4	✓	D1	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 DESIGN YEAR	AM	(untitled)			08:00		✓

Network Options

Network timings

Network cycle time (s)	Minimum possible cycle time (s)	Absolute minimum possible cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
130	53	53		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)	Missing stage transition options
10000.00	10000.00	10000.00	2	Assume banned

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 traffic model	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	100	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
Standard accuracy Hill Climb	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)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		1
Ax	(untitled)		
B	(untitled)		1
Bx	(untitled)		
C	(untitled)		1
Cx	(untitled)		
D	(untitled)		1
Dx	(untitled)		
9			1
10			1
11	(untitled)		1
12			1
13			1
14			1
15			1
16			1
17			1

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)		✓	62.69	✓	Sum of lanes	2021	✓		Normal	
Ax	1	(untitled)		✓	101.72						Normal	
B	1	(untitled)		✓	41.12	✓	Sum of lanes	2209	✓		Normal	
	2			✓	43.67	✓	Sum of lanes	2087	✓		Normal	
Bx	1	(untitled)		✓	106.07						Normal	
C	1	(untitled)		✓	41.11	✓	Sum of lanes	2019	✓		Normal	
	2			✓	42.15	✓	Sum of lanes	2059	✓		Normal	
Cx	1	(untitled)		✓	100.08						Normal	
D	2			✓	47.81	✓	Sum of lanes	2209	✓		Normal	
	3			✓	49.65	✓	Sum of lanes	2098	✓		Normal	
Dx	1	(untitled)		✓	94.15						Normal	
9	1			✓	37.29	✓	Sum of lanes	2059			Normal	
10	1			✓	16.69	✓	Sum of lanes	4268			Normal	
11	1	(untitled)		✓	31.47	✓	Sum of lanes	2050			Normal	
12	1			✓	17.13	✓	Sum of lanes	2059	✓		Normal	
13	1			✓	15.79	✓	Sum of lanes	1883	✓		Normal	
14	1			✓	31.14	✓	Sum of lanes	4268			Normal	
15	1			✓	26.01	✓	Sum of lanes	1945			Normal	
16	1			✓	14.65	✓	Sum of lanes	2059	✓		Normal	
17	1			✓	16.27	✓	Sum of lanes	2074	✓		Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	Clearly Good	0	3.50	✓	64	21.31	✓	2021
Ax	1	1	(untitled)											
B	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	25.59		2087
Bx	1	1	(untitled)											
		2	(untitled)											
C	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	28	21.46	✓	2019
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	20.56		2059
Cx	1	1	(untitled)											
D	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	3	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	28.41		2098
Dx	1	1	(untitled)											
		2	(untitled)											
9	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
10	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
11	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	19	68.07	✓	2050
12	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
13	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	16.10	✓	1883
14	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
15	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	62	15.80	✓	1945
16	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
17	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	23.04		2074

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	130

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	521	521
Ax	1	493	493
B	1	163	163
	2	201	201
Bx	1	1186	1186
C	1	334	334
	2	449	449
Cx	1	503	503
D	2	225	225
	3	52	52
Dx	1	465	465
9	1	783	783
10	1	552	552
11	1	276	276
12	1	225	225
13	1	51	51
14	1	791	791
15	1	428	428
16	1	163	163
17	1	265	265

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	G	
B	1	1	I	
	2	1	H	
C	1	1	B	
	2	1	A	
D	2	1	D	
	3	1	C	
12	1	1	D	
13	1	1	F	
16	1	1	I	
17	1	1	J	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	7.52	30.00
9	1	4.48	30.00
10	1	2.00	30.00
14	1	3.74	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ax	1	1	B/2	Ax/1	12.21	30.00	✓	Offside	25.59
B	1	1	14/1	B/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	14/1	B/2	5.24	30.00	✓	Straight	Straight Movement
Bx	1	1	A/1	Bx/1	12.73	30.00	✓	Nearside	22.78
C	1	1	9/1	C/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	9/1	C/2	5.06	30.00	✓	Straight	Straight Movement
Cx	1	1	17/1	Cx/1	12.01	30.00	✓	Nearside	23.04
D	2	1	10/1	D/2	5.74	30.00	✓	Straight	Straight Movement
	3	1	10/1	D/3	5.96	30.00	✓	Straight	Straight Movement
Dx	1	1	16/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
11	1	1	10/1	11/1	3.78	30.00	✓	Straight	Straight Movement
12	1	1	11/1	12/1	2.06	30.00	✓	Straight	Straight Movement
13	1	1	11/1	13/1	1.89	30.00	✓	Nearside	68.07
15	1	1	14/1	15/1	3.12	30.00	✓	Straight	Straight Movement
16	1	1	15/1	16/1	1.76	30.00	✓	Straight	Straight Movement
17	1	1	15/1	17/1	1.95	30.00	✓	Nearside	15.80
Ax	1	2	C/1	Ax/1	12.21	30.00	✓	Straight	Straight Movement
Bx	1	2	C/2	Bx/1	12.73	30.00	✓	Offside	20.56
Cx	1	2	A/1	Cx/1	12.01	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
Ax	1	3	13/1	Ax/1	12.21	30.00	✓	Nearside	16.10
Bx	1	3	D/2	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	12.01	30.00	✓	Offside	28.41
Dx	1	3	A/1	Dx/1	11.30	30.00	✓	Offside	21.31
Bx	1	4	12/1	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Dx	1	4	C/1	Dx/1	11.30	30.00	✓	Nearside	21.46

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	7.00	4.67	5.40
3	(untitled)		1		Farside	6.00	4.00	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40
5	(untitled)				Farside	8.00	5.33	5.40
6	(untitled)				Farside	3.00	2.00	5.40
7	(untitled)				Farside	3.00	2.00	5.40
8	(untitled)				Farside	8.00	5.33	5.40
9	(untitled)				Farside	3.00	2.00	5.40
10	(untitled)				Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	S	
2	1	L	
3	1	Q	
4	1	N	
5	1	O	
6	1	P	
7	1	R	
8	1	T	
9	1	K	
10	1	M	

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		

Pedestrian Crossing Connectors

Pedestrian Crossing Connectors

Pedestrian crossing connector	Pedestrian crossing1	Pedestrian crossing2	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	2:1	9:1	2.00	1.33	5.40
2	2:1	8:2	2.00	1.33	5.40
3	9:1	8:2	2.00	1.33	5.40
4	10:1	2:2	2.00	1.33	5.40
5	5:1	4:2	2.00	1.33	5.40
6	6:1	5:2	2.00	1.33	5.40
7	3:1	6:1	2.00	1.33	5.40
8	7:1	3:2	2.00	1.33	5.40
9	1:2	8:1	3.00	2.00	5.40

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	93	241	449	0	0	0	0
	2	52	0	51	449	0	0	0	0
	3	186	47	0	288	0	0	0	0
	4	265	325	201	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	50	50	50
	6	0	0	0	0	50	0	0	50
	7	0	0	0	0	50	0	0	50
	8	0	0	0	0	50	50	50	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	9/1	Cx/1	#0000FF
	2	(untitled)	10/1	Dx/1	#FF0000
	3	(untitled)	A/1	Ax/1	#00FF00
	4	(untitled)	14/1	Bx/1	#FFFF00
	5	(untitled)	1 1E, 7 2E	1 1X, 7 2X	#FF00FF
	6	(untitled)	9 2E	9 2X	#008000
	7	(untitled)	6 2E	6 2X	#FFA500
	8	(untitled)	4 1E, 10 2E	4 1X, 10 2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	7		4	1	14/1, 15/1, 17/1, Cx/1	Normal	265
	8		4	2	14/1, 15/1, 16/1, Dx/1	Normal	163
	9		4	2	14/1, B/1, Dx/1	Normal	163
	10		4	3	14/1, B/2, Ax/1	Normal	201
	11		3	4	A/1, Bx/1	Normal	288
	12		3	1	A/1, Cx/1	Normal	186
	13		3	2	A/1, Dx/1	Normal	47
	14		1	2	9/1, C/1, Dx/1	Normal	93
	15		1	3	9/1, C/1, Ax/1	Normal	241
	16		1	4	9/1, C/2, Bx/1	Normal	449
	17		2	4	10/1, D/2, Bx/1	Normal	225
	18		2	1	10/1, D/3, Cx/1	Normal	52
	19		2	4	10/1, 11/1, 12/1, Bx/1	Normal	225
	20		2	3	10/1, 11/1, 13/1, Ax/1	Normal	51

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	1		8	6	10:2E, 10:1X, 2:2E, 2:1X, 9:1E, 9:2X	Normal	50
	2		6	8	9:2E, 9:1X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	3		8	7	4:1E, 4:2X, 5:1E, 5:2X, 6:1E, 6:2X	Normal	50
	4		7	8	6:2E, 6:1X, 5:2E, 5:1X, 4:2E, 4:1X	Normal	50
	5		5	7	7:2E, 7:1X, 3:2E, 3:1X, 6:1E, 6:2X	Normal	50
	6		7	5	6:2E, 6:1X, 3:1E, 3:2X, 7:1E, 7:2X	Normal	50
	21		8	5	10:2E, 10:1X, 2:2E, 2:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50
	22		5	8	1:1E, 1:2X, 8:1E, 8:2X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	23		5	6	1:1E, 1:2X, 8:1E, 8:2X, 9:1E, 9:2X	Normal	50
	24		6	5	9:2E, 9:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50

Signal Timings

Network Default: 130s cycle time; 130 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		3	NetworkDefault	130	53

Controller Stream 1 - Properties

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

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	Street 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)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	7	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	
	I	(untitled)	7	300	0	0	Traffic	
	J	(untitled)	7	300	0	0	Traffic	
	K	(untitled)	5	300	0	0	Pedestrian	0
	L	(untitled)	5	300	0	0	Pedestrian	0
	M	(untitled)	5	300	0	0	Pedestrian	0
	N	(untitled)	5	300	0	0	Pedestrian	0
	O	(untitled)	5	300	0	0	Pedestrian	0
	P	(untitled)	5	300	0	0	Pedestrian	0
	Q	(untitled)	5	300	0	0	Pedestrian	0
	R	(untitled)	5	300	0	0	Pedestrian	0
	S	(untitled)	5	300	0	0	Pedestrian	0
	T	(untitled)	5	300	0	0	Pedestrian	0

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	C, H, M, N, P, R, S, K	1	1	100
	2	D, F, I, J, M, R	1	1	100
	3	A, B, J, L, O, P, R, T	1	1	100
	4	G, F, O, Q, T, K, M, O	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	17, 42, 66, 91	56	
	2	(untitled)	Single	1, 2, 4, 3	18, 44, 66, 93	56	
	3	(untitled)	Single	1, 3, 2, 4	31, 71, 98, 11	53	
	4	(untitled)	Single	1, 3, 4, 2	17, 41, 66, 91	59	
	5	(untitled)	Single	1, 4, 2, 3	17, 42, 68, 93	53	
	6	(untitled)	Single	1, 4, 3, 2	17, 41, 67, 91	58	

Intergreen Matrix for Controller Stream 1

		To																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
From	A			5	5	5		5	6	5				6						8	
	B			6	7	7	8	5	5	5				6	7			9			
	C	5	5					5		5	8		8			5					
	D	5	5			0		5	5							5				8	
	E	5	5		0			5	5							5				8	
	F		5						5								5				
	G	5	6	6	5	5			5	7	9		10		9				5	7	
	H	5	5		5	6	7	5										8			5
	I	5	6	5				5							9						5
	J			5				5				5									
	K										1										
	L			5				5													
	M	1	1																		
	N		4					4		4											
	O			1	1	1															
	P						1														
	Q		5						5												
	R							1													
	S	4			4	4		4													
	T								1	1											

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	8	8	8
	2	9	0	6	5
	3	8	8	0	9
	4	9	9	10	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	C,H,M,N,P,R,S,K	20	31	11	1	5
	2	✓	3	A,B,J,L,O,P,R,T	39	71	32	1	5
	3	✓	2	D,F,I,J,M,R	79	98	19	1	6
	4	✓	4	G,F,O,Q,T,K,M,O	103	11	38	1	7

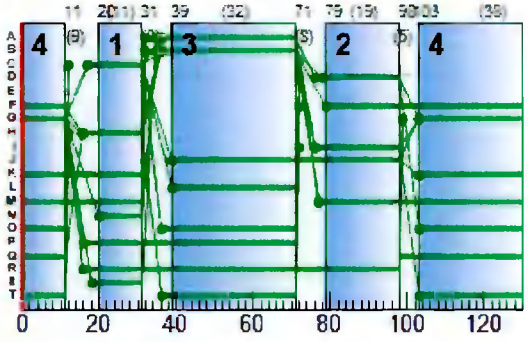
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	36	71	35
	B	1	✓	36	71	35
	C	1	✓	17	31	14
	D	1	✓	78	98	20
	F	1	✓	79	11	62
	G	1	✓	103	11	38
	H	1	✓	16	31	15
	I	1	✓	76	98	22
	J	1	✓	39	98	59
	K	1	✓	103	31	58
	L	1	✓	39	71	32
	M	1	✓	77	31	84
	N	1	✓	20	31	11
	O	1	✓	36	71	35
		2	✓	103	11	38
	P	1	✓	16	71	55
	Q	1	✓	98	11	43
	R	1	✓	16	98	82
	S	1	✓	18	31	13
	T	1	✓	36	71	35
		2	✓	103	11	38

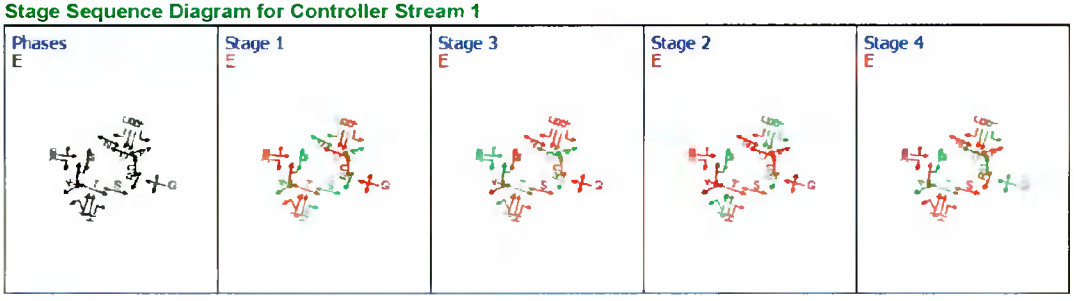
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	G	103	11	38
B	1	1	1	I	76	98	22
B	2	1	1	H	16	31	15
C	1	1	1	B	36	71	35
C	2	1	1	A	36	71	35
D	2	1	1	D	78	98	20
D	3	1	1	C	17	31	14
12	1	1	1	D	78	98	20
13	1	1	1	F	79	11	62
16	1	1	1	I	76	98	22
17	1	1	1	J	39	98	59

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

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/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 (Veh)
A	1	(untitled)	1	1	G	521 <	2021	38	0.00	86	16	67.27	59.75	105.14	20.09 +
Ax	1	(untitled)				493	Unrestricted	130	51.00	0	Unrestricted	12.21	0.00	0.00	0.00
B	1	(untitled)	1	1	I	163	2209	22	0.00	42	140	55.77	50.83	90.04	5.36
	2		1	1	H	201 <	2087	15	0.00	78	28	84.02	78.78	112.97	8.34 +
Bx	1	(untitled)				1187	Unrestricted	130	17.00	0	Unrestricted	12.73	0.00	0.00	0.00
C	1	(untitled)	1	1	B	334 <	2019	35	0.00	60	67	50.39	45.46	88.71	10.83 +
	2		1	1	A	449 <	2059	35	0.00	79	27	59.81	54.75	99.37	16.37 +
Cx	1	(untitled)				503	Unrestricted	130	6.00	0	Unrestricted	12.01	0.00	0.00	0.00
D	2		1	1	D	225	2209	20	0.00	63	59	65.08	59.35	98.44	8.09
	3		1	1	C	52	2098	14	12.00	21	366	60.16	54.20	90.64	1.72
Dx	1	(untitled)				466	Unrestricted	130	27.00	0	Unrestricted	11.30	0.00	0.00	0.00
9	1		1			783	2059	130	73.00	38	163	5.01	0.54	0.00	0.12
10	1		1			553	4268	130	0.00	13	672	2.07	0.06	0.00	0.01
11	1	(untitled)	1			276	2050	130	86.00	13	643	3.91	0.14	0.00	0.01
12	1		1	1	D	225 <	2059	20	0.00	68	48	64.40	62.35	101.11	8.31 +
13	1		1	1	F	51	1883	62	61.00	6	1689	19.77	17.88	51.49	0.96
14	1		1			792	4268	130	14.00	19	439	3.83	0.10	0.00	0.02
15	1		1			428	1945	130	79.00	22	354	3.38	0.26	0.00	0.03
16	1		1	1	I	163 <	2059	22	0.00	45	123	53.56	51.80	91.16	5.43 +
17	1		1	1	J	265 <	2074	59	0.00	28	261	24.28	22.33	60.92	5.94 +

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-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	458.68	54.50	8.42	31.80	7.41	556.83	31.30	0.00	588.14
Bus									
Tram									
Pedestrians	12.30	17.78	0.69	15.46	0.00	219.49	0.00	0.00	219.49
TOTAL	470.98	72.28	6.52	47.26	7.41	776.33	31.30	0.00	807.63

- *< = 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***

A5 - Site 2 [A5]
D5 - 2028 DESIGN YEAR + SCHOOL, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
5	25/05/2021 16:07:02	25/05/2021 16:07:02	0.51	08:00	130	910.29	61.60	89.07	A/1	0	0	A/1	9/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set(s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
Site 2 [A5]			✓	D5	✓	D1	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 DESIGN YEAR + SCHOOL	AM	(untitled)			08:00		✓

Network Options

Network timings

Network cycle time (s)	Minimum possible cycle time (s)	Absolute minimum possible cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
130	53	53		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)	Missing stage transition options
10000.00	10000.00	10000.00	2	Assume banned

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 traffic model	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	100	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
Standard accuracy Hill Climb	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)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		1
Ax	(untitled)		
B	(untitled)		1
Bx	(untitled)		
C	(untitled)		1
Cx	(untitled)		
D	(untitled)		1
Dx	(untitled)		
9			1
10			1
11	(untitled)		1
12			1
13			1
14			1
15			1
16			1
17			1

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)		✓	62.69	✓	Sum of lanes	2029	✓		Normal	
Ax	1	(untitled)		✓	101.72						Normal	
B	1	(untitled)		✓	41.12	✓	Sum of lanes	2209	✓		Normal	
	2			✓	43.67	✓	Sum of lanes	2087	✓		Normal	
Bx	1	(untitled)		✓	106.07						Normal	
C	1	(untitled)		✓	41.11	✓	Sum of lanes	2019	✓		Normal	
	2			✓	42.15	✓	Sum of lanes	2059	✓		Normal	
Cx	1	(untitled)		✓	100.08						Normal	
D	2			✓	47.81	✓	Sum of lanes	2209	✓		Normal	
	3			✓	49.65	✓	Sum of lanes	2098	✓		Normal	
Dx	1	(untitled)		✓	94.15						Normal	
9	1			✓	37.29	✓	Sum of lanes	2059			Normal	
10	1			✓	16.69	✓	Sum of lanes	4268			Normal	
11	1	(untitled)		✓	31.47	✓	Sum of lanes	2050			Normal	
12	1			✓	17.13	✓	Sum of lanes	2059	✓		Normal	
13	1			✓	15.79	✓	Sum of lanes	1883	✓		Normal	
14	1			✓	31.14	✓	Sum of lanes	4268			Normal	
15	1			✓	26.01	✓	Sum of lanes	1935			Normal	
16	1			✓	14.65	✓	Sum of lanes	2059	✓		Normal	
17	1			✓	16.27	✓	Sum of lanes	2074	✓		Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	Clearly Good	0	3.50	✓	59	21.31	✓	2029
Ax	1	1	(untitled)											
B	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	25.59		2087
Bx	1	1	(untitled)											
		2	(untitled)											
C	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	28	21.46	✓	2019
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	20.56		2059
Cx	1	1	(untitled)											
D	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	3	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	28.41		2098
Dx	1	1	(untitled)											
		2	(untitled)											
9	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
10	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
11	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	19	68.07	✓	2050
12	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
13	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	16.10	✓	1883
14	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
15	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	67	15.80	✓	1935
16	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
17	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	23.04		2074

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	130

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	570	570
Ax	1	526	526
B	1	163	163
	2	201	201
Bx	1	1248	1248
C	1	380	380
	2	511	511
Cx	1	635	635
D	2	225	225
	3	66	66
Dx	1	478	478
9	1	891	891
10	1	566	566
11	1	276	276
12	1	225	225
13	1	51	51
14	1	860	860
15	1	497	497
16	1	163	163
17	1	334	334

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	G	
B	1	1	I	
	2	1	H	
C	1	1	B	
	2	1	A	
D	2	1	D	
	3	1	C	
12	1	1	D	
13	1	1	F	
16	1	1	I	
17	1	1	J	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	7 52	30 00
9	1	4 48	30 00
10	1	2 00	30 00
14	1	3 74	30 00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ax	1	1	B/2	Ax/1	12.21	30.00	✓	Offside	25.59
B	1	1	14/1	B/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	14/1	B/2	5.24	30.00	✓	Straight	Straight Movement
Bx	1	1	A/1	Bx/1	12.73	30.00	✓	Nearside	22.78
C	1	1	9/1	C/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	9/1	C/2	5.06	30.00	✓	Straight	Straight Movement
Cx	1	1	17/1	Cx/1	12.01	30.00	✓	Nearside	23.04
D	2	1	10/1	D/2	5.74	30.00	✓	Straight	Straight Movement
	3	1	10/1	D/3	5.96	30.00	✓	Straight	Straight Movement
Dx	1	1	16/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
11	1	1	10/1	11/1	3.78	30.00	✓	Straight	Straight Movement
12	1	1	11/1	12/1	2.06	30.00	✓	Straight	Straight Movement
13	1	1	11/1	13/1	1.89	30.00	✓	Nearside	68.07
15	1	1	14/1	15/1	3.12	30.00	✓	Straight	Straight Movement
16	1	1	15/1	16/1	1.76	30.00	✓	Straight	Straight Movement
17	1	1	15/1	17/1	1.95	30.00	✓	Nearside	15.80
Ax	1	2	C/1	Ax/1	12.21	30.00	✓	Straight	Straight Movement
Bx	1	2	C/2	Bx/1	12.73	30.00	✓	Offside	20.56
Cx	1	2	A/1	Cx/1	12.01	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
Ax	1	3	13/1	Ax/1	12.21	30.00	✓	Nearside	16.10
Bx	1	3	D/2	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	12.01	30.00	✓	Offside	28.41
Dx	1	3	A/1	Dx/1	11.30	30.00	✓	Offside	21.31
Bx	1	4	12/1	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Dx	1	4	C/1	Dx/1	11.30	30.00	✓	Nearside	21.46

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	7.00	4.67	5.40
3	(untitled)		1		Farside	6.00	4.00	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40
5	(untitled)				Farside	8.00	5.33	5.40
6	(untitled)				Farside	3.00	2.00	5.40
7	(untitled)				Farside	3.00	2.00	5.40
8	(untitled)				Farside	8.00	5.33	5.40
9	(untitled)				Farside	3.00	2.00	5.40
10	(untitled)				Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	S	
2	1	L	
3	1	Q	
4	1	N	
5	1	O	
6	1	P	
7	1	R	
8	1	T	
9	1	K	
10	1	M	

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		

Pedestrian Crossing Connectors

Pedestrian Crossing Connectors

Pedestrian crossing connector	Pedestrian crossing1	Pedestrian crossing2	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	2:1	9:1	2.00	1.33	5.40
2	2:1	8:2	2.00	1.33	5.40
3	9:1	8:2	2.00	1.33	5.40
4	10:1	2:2	2.00	1.33	5.40
5	5:1	4:2	2.00	1.33	5.40
6	6:1	5:2	2.00	1.33	5.40
7	3:1	6:1	2.00	1.33	5.40
8	7:1	3:2	2.00	1.33	5.40
9	1:2	8:1	3.00	2.00	5.40

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	106	274	511	0	0	0	0
	2	66	0	51	449	0	0	0	0
	3	235	47	0	288	0	0	0	0
	4	334	325	201	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	50	50	50
	6	0	0	0	0	50	0	0	50
	7	0	0	0	0	50	0	0	50
	8	0	0	0	0	50	50	50	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	9/1	Cx/1	#0000FF
	2	(untitled)	10/1	Dx/1	#FF0000
	3	(untitled)	A/1	Ax/1	#00FF00
	4	(untitled)	14/1	Bx/1	#FFFF00
	5	(untitled)	1.1E, 7.2E	1.1X, 7.2X	#FF00FF
	6	(untitled)	9.2E	9.2X	#008000
	7	(untitled)	6.2E	6.2X	#FFA500
	8	(untitled)	4.1E, 10.2E	4.1X, 10.2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	7		4	1	14/1, 15/1, 17/1, Cx/1	Normal	334
	8		4	2	14/1, 15/1, 16/1, Dx/1	Normal	163
	9		4	2	14/1, B/1, Dx/1	Normal	163
	10		4	3	14/1, B/2, Ax/1	Normal	201
	11		3	4	A/1, Bx/1	Normal	288
	12		3	1	A/1, Cx/1	Normal	235
	13		3	2	A/1, Dx/1	Normal	47
	14		1	2	9/1, C/1, Dx/1	Normal	106
	15		1	3	9/1, C/1, Ax/1	Normal	274
	16		1	4	9/1, C/2, Bx/1	Normal	511
	17		2	4	10/1, D/2, Bx/1	Normal	225
	18		2	1	10/1, D/3, Cx/1	Normal	66
	19		2	4	10/1, 11/1, 12/1, Bx/1	Normal	225
	20		2	3	10/1, 11/1, 13/1, Ax/1	Normal	51

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	1		8	6	10:2E, 10:1X, 2:2E, 2:1X, 9:1E, 9:2X	Normal	50
	2		6	8	9:2E, 9:1X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	3		8	7	4:1E, 4:2X, 5:1E, 5:2X, 6:1E, 6:2X	Normal	50
	4		7	8	6:2E, 6:1X, 5:2E, 5:1X, 4:2E, 4:1X	Normal	50
	5		5	7	7:2E, 7:1X, 3:2E, 3:1X, 6:1E, 6:2X	Normal	50
	6		7	5	6:2E, 6:1X, 3:1E, 3:2X, 7:1E, 7:2X	Normal	50
	21		8	5	10:2E, 10:1X, 2:2E, 2:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50
	22		5	8	1:1E, 1:2X, 8:1E, 8:2X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	23		5	6	1:1E, 1:2X, 8:1E, 8:2X, 9:1E, 9:2X	Normal	50
	24		6	5	9:2E, 9:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50

Signal Timings

Network Default: 130s cycle time; 130 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		3	NetworkDefault	130	53

Controller Stream 1 - Properties

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

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	Street 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)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	7	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	
	I	(untitled)	7	300	0	0	Traffic	
	J	(untitled)	7	300	0	0	Traffic	
	K	(untitled)	5	300	0	0	Pedestrian	0
	L	(untitled)	5	300	0	0	Pedestrian	0
	M	(untitled)	5	300	0	0	Pedestrian	0
	N	(untitled)	5	300	0	0	Pedestrian	0
	O	(untitled)	5	300	0	0	Pedestrian	0
	P	(untitled)	5	300	0	0	Pedestrian	0
	Q	(untitled)	5	300	0	0	Pedestrian	0
	R	(untitled)	5	300	0	0	Pedestrian	0
	S	(untitled)	5	300	0	0	Pedestrian	0
	T	(untitled)	5	300	0	0	Pedestrian	0

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	C, H, M, N, P, R, S, K	1	1	100
	2	D, F, I, J, M, R	1	1	100
	3	A, B, J, L, O, P, R, T	1	1	100
	4	G, F, O, Q, T, K, M, O	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	17, 42, 66, 91	56	
	2	(untitled)	Single	1, 2, 4, 3	18, 44, 66, 93	56	
	3	(untitled)	Single	1, 3, 2, 4	31, 73, 97, 12	53	
	4	(untitled)	Single	1, 3, 4, 2	17, 41, 66, 91	59	
	5	(untitled)	Single	1, 4, 2, 3	17, 42, 68, 93	53	
	6	(untitled)	Single	1, 4, 3, 2	17, 41, 67, 91	58	

Intergreen Matrix for Controller Stream 1

		To																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
From	A			5	5	5		5	6	5				6						8	
	B			6	7	7	8	5	5	5				6	7			9			
	C	5	5					5		5	8		8			5					
	D	5	5			0		5	5							5				8	
	E	5	5		0			5	5							5				8	
	F		5						5								5				
	G	5	6	6	5	5			5	7	9		10		9				5	7	
	H	5	5		5	6	7	5										8			5
	I	5	6	5				5							9						5
	J			5				5				5									
	K										1										
	L			5				5													
	M	1	1																		
	N		4					4		4											
	O			1	1	1															
	P						1														
	Q		5						5												
	R							1													
	S	4			4	4		4													
	T								1	1											

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	8	8	8
	2	9	0	6	5
	3	8	8	0	9
	4	9	9	10	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	C,H,M,N,P,R,S,K	21	31	10	1	5
	2	✓	3	A,B,J,L,O,P,R,T	39	73	34	1	5
	3	✓	2	D,F,I,J,M,R	81	97	16	1	6
	4	✓	4	G,F,O,Q,T,K,M,O	102	12	40	1	7

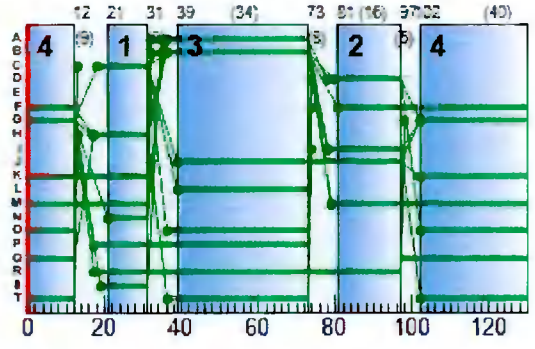
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	36	73	37
	B	1	✓	36	73	37
	C	1	✓	18	31	13
	D	1	✓	80	97	17
	F	1	✓	81	12	61
	G	1	✓	102	12	40
	H	1	✓	17	31	14
	I	1	✓	78	97	19
	J	1	✓	39	97	58
	K	1	✓	102	31	59
	L	1	✓	39	73	34
	M	1	✓	79	31	82
	N	1	✓	21	31	10
	O	1	✓	36	73	37
		2	✓	102	12	40
	P	1	✓	17	73	56
	Q	1	✓	97	12	45
	R	1	✓	17	97	80
	S	1	✓	19	31	12
	T	1	✓	36	73	37
		2	✓	102	12	40

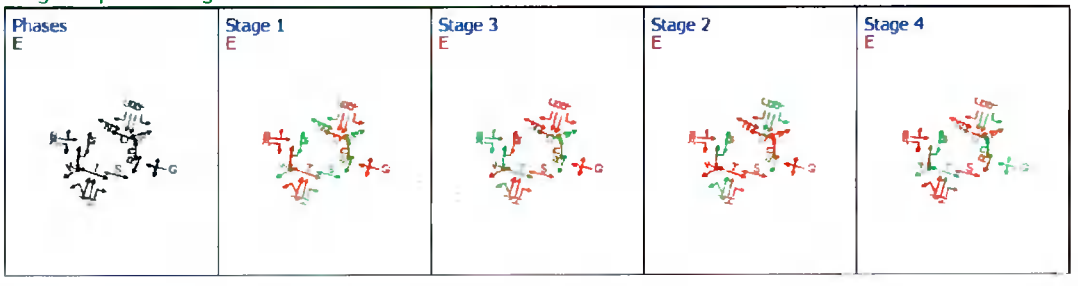
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	G	102	12	40
B	1	1	1	I	78	97	19
B	2	1	1	H	17	31	14
C	1	1	1	B	36	73	37
C	2	1	1	A	36	73	37
D	2	1	1	D	80	97	17
D	3	1	1	C	18	31	13
12	1	1	1	D	80	97	17
13	1	1	1	F	81	12	61
16	1	1	1	I	78	97	19
17	1	1	1	J	39	97	58

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

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/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 (Veh)
A	1	(untitled)	1	1	G	570 <	2029	40	0.00	89	12	70.40	62.88	108.56	22.72 +
Ax	1	(untitled)				526	Unrestricted	130	49.00	0	Unrestricted	12.21	0.00	0.00	0.00
B	1	(untitled)	1	1	I	163	2209	19	0.00	48	108	60.03	55.10	93.55	5.56
	2		1	1	H	201 <	2087	14	0.00	83	20	94.79	89.55	120.61	8.95 +
Bx	1	(untitled)				1249	Unrestricted	130	15.00	0	Unrestricted	12.73	0.00	0.00	0.00
C	1	(untitled)	1	1	B	380 <	2019	37	0.00	64	55	50.49	45.56	89.83	12.50 +
	2		1	1	A	511 <	2059	37	0.00	85	18	64.11	59.05	104.26	19.55 +
Cx	1	(untitled)				635	Unrestricted	130	4.00	0	Unrestricted	12.01	0.00	0.00	0.00
D	2		1	1	D	225 <	2209	17	0.00	74	36	75.17	69.43	106.17	8.73 +
	3		1	1	C	66	2098	13	0.00	29	242	62.69	56.73	93.13	2.24
Dx	1	(untitled)				479	Unrestricted	130	25.00	0	Unrestricted	11.30	0.00	0.00	0.00
9	1		1			891	2059	130	87.00	43	131	5.14	0.67	0.00	0.16
10	1		1			567	4268	130	7.00	13	653	2.07	0.06	0.00	0.01
11	1	(untitled)	1			276	2050	130	100.00	13	643	3.91	0.14	0.00	0.01
12	1		1	1	D	225 <	2059	17	0.00	79	27	78.28	76.22	111.48	9.19 +
13	1		1	1	F	51	1883	61	60.00	6	1661	20.31	18.41	52.26	0.98
14	1		1			861	4268	130	25.00	20	396	3.84	0.11	0.00	0.03
15	1		1			497	1935	130	90.00	26	289	3.44	0.32	0.00	0.04
16	1		1	1	I	163 <	2059	19	0.00	51	94	58.27	56.51	95.12	5.66 +
17	1		1	1	J	334 <	2074	58	0.00	35	182	26.12	24.17	64.38	7.89 +

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-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	500.65	62.79	7.97	34.92	11.18	654.65	35.56	0.00	690.21
Bus									
Tram									
Pedestrians	12.30	17.82	0.69	15.50	0.00	220.08	0.00	0.00	220.08
TOTAL	512.95	80.61	6.36	50.42	11.18	874.73	35.56	0.00	910.29

- *< = 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*

A6 - Site 2 [A6]
D6 - 2038 DESIGN YEAR, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
6	25/05/2021 16:07:02	25/05/2021 16:07:03	1.43	08:00	130	963.77	65.25	90.68	A/1	0	0	A/1	9/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set(s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
Site 2 [A6]			✓	D6	✓	D1	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2038 DESIGN YEAR	AM	(untitled)			08:00		✓

Network Options

Network timings

Network cycle time (s)	Minimum possible cycle time (s)	Absolute minimum possible cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
130	53	53		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)	Missing stage transition options
10000.00	10000.00	10000.00	2	Assume banned

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 traffic model	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	100	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
Standard accuracy Hill Climb	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)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		1
Ax	(untitled)		
B	(untitled)		1
Bx	(untitled)		
C	(untitled)		1
Cx	(untitled)		
D	(untitled)		1
Dx	(untitled)		
9			1
10			1
11	(untitled)		1
12			1
13			1
14			1
15			1
16			1
17			1

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)		✓	62.69	✓	Sum of lanes	2021	✓		Normal	
Ax	1	(untitled)		✓	101.72						Normal	
B	1	(untitled)		✓	41.12	✓	Sum of lanes	2209	✓		Normal	
	2			✓	43.67	✓	Sum of lanes	2087	✓		Normal	
Bx	1	(untitled)		✓	106.07						Normal	
C	1	(untitled)		✓	41.11	✓	Sum of lanes	2019	✓		Normal	
	2			✓	42.15	✓	Sum of lanes	2059	✓		Normal	
Cx	1	(untitled)		✓	100.08						Normal	
D	2			✓	47.81	✓	Sum of lanes	2209	✓		Normal	
	3			✓	49.65	✓	Sum of lanes	2098	✓		Normal	
Dx	1	(untitled)		✓	94.15						Normal	
9	1			✓	37.29	✓	Sum of lanes	2059			Normal	
10	1			✓	16.69	✓	Sum of lanes	4268			Normal	
11	1	(untitled)		✓	31.47	✓	Sum of lanes	2050			Normal	
12	1			✓	17.13	✓	Sum of lanes	2059	✓		Normal	
13	1			✓	15.79	✓	Sum of lanes	1883	✓		Normal	
14	1			✓	31.14	✓	Sum of lanes	4268			Normal	
15	1			✓	26.01	✓	Sum of lanes	1945			Normal	
16	1			✓	14.65	✓	Sum of lanes	2059	✓		Normal	
17	1			✓	16.27	✓	Sum of lanes	2074	✓		Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	Clearly Good	0	3.50	✓	64	21.31	✓	2021
Ax	1	1	(untitled)											
B	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	25.59		2087
Bx	1	1	(untitled)											
		2	(untitled)											
C	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	28	21.46	✓	2019
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	20.56		2059
Cx	1	1	(untitled)											
D	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	3	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	28.41		2098
Dx	1	1	(untitled)											
		2	(untitled)											
9	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
10	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
11	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	19	68.07	✓	2050
12	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
13	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	16.10	✓	1883
14	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
15	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	62	15.80	✓	1945
16	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
17	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	23.04		2074

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	130

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	578	578
Ax	1	547	547
B	1	181	181
	2	223	223
Bx	1	1315	1315
C	1	370	370
	2	498	498
Cx	1	559	559
D	2	249	249
	3	58	58
Dx	1	516	516
9	1	868	868
10	1	613	613
11	1	306	306
12	1	249	249
13	1	57	57
14	1	878	878
15	1	475	475
16	1	181	181
17	1	294	294

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	G	
B	1	1	I	
	2	1	H	
C	1	1	B	
	2	1	A	
D	2	1	D	
	3	1	C	
12	1	1	D	
13	1	1	F	
16	1	1	I	
17	1	1	J	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	7.52	30.00
9	1	4.48	30.00
10	1	2.00	30.00
14	1	3.74	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ax	1	1	B/2	Ax/1	12.21	30.00	✓	Offside	25.59
B	1	1	14/1	B/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	14/1	B/2	5.24	30.00	✓	Straight	Straight Movement
Bx	1	1	A/1	Bx/1	12.73	30.00	✓	Nearside	22.78
C	1	1	9/1	C/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	9/1	C/2	5.06	30.00	✓	Straight	Straight Movement
Cx	1	1	17/1	Cx/1	12.01	30.00	✓	Nearside	23.04
D	2	1	10/1	D/2	5.74	30.00	✓	Straight	Straight Movement
	3	1	10/1	D/3	5.96	30.00	✓	Straight	Straight Movement
Dx	1	1	16/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
11	1	1	10/1	11/1	3.78	30.00	✓	Straight	Straight Movement
12	1	1	11/1	12/1	2.06	30.00	✓	Straight	Straight Movement
13	1	1	11/1	13/1	1.89	30.00	✓	Nearside	68.07
15	1	1	14/1	15/1	3.12	30.00	✓	Straight	Straight Movement
16	1	1	15/1	16/1	1.76	30.00	✓	Straight	Straight Movement
17	1	1	15/1	17/1	1.95	30.00	✓	Nearside	15.80
Ax	1	2	C/1	Ax/1	12.21	30.00	✓	Straight	Straight Movement
Bx	1	2	C/2	Bx/1	12.73	30.00	✓	Offside	20.56
Cx	1	2	A/1	Cx/1	12.01	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
Ax	1	3	13/1	Ax/1	12.21	30.00	✓	Nearside	16.10
Bx	1	3	D/2	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	12.01	30.00	✓	Offside	28.41
Dx	1	3	A/1	Dx/1	11.30	30.00	✓	Offside	21.31
Bx	1	4	12/1	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Dx	1	4	C/1	Dx/1	11.30	30.00	✓	Nearside	21.46

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	7.00	4.67	5.40
3	(untitled)		1		Farside	6.00	4.00	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40
5	(untitled)				Farside	8.00	5.33	5.40
6	(untitled)				Farside	3.00	2.00	5.40
7	(untitled)				Farside	3.00	2.00	5.40
8	(untitled)				Farside	8.00	5.33	5.40
9	(untitled)				Farside	3.00	2.00	5.40
10	(untitled)				Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	S	
2	1	L	
3	1	Q	
4	1	N	
5	1	O	
6	1	P	
7	1	R	
8	1	T	
9	1	K	
10	1	M	

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		

Pedestrian Crossing Connectors

Pedestrian Crossing Connectors

Pedestrian crossing connector	Pedestrian crossing1	Pedestrian crossing2	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	2:1	9:1	2.00	1.33	5.40
2	2:1	8:2	2.00	1.33	5.40
3	9:1	8:2	2.00	1.33	5.40
4	10:1	2:2	2.00	1.33	5.40
5	5:1	4:2	2.00	1.33	5.40
6	6:1	5:2	2.00	1.33	5.40
7	3:1	6:1	2.00	1.33	5.40
8	7:1	3:2	2.00	1.33	5.40
9	1:2	8:1	3.00	2.00	5.40

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	103	267	498	0	0	0	0
	2	58	0	57	498	0	0	0	0
	3	207	52	0	319	0	0	0	0
	4	294	361	223	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	50	50	50
	6	0	0	0	0	50	0	0	50
	7	0	0	0	0	50	0	0	50
	8	0	0	0	0	50	50	50	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	9/1	Cx/1	#0000FF
	2	(untitled)	10/1	Dx/1	#FF0000
	3	(untitled)	A/1	Ax/1	#00FF00
	4	(untitled)	14/1	Bx/1	#FFFF00
	5	(untitled)	1:1E, 7:2E	1:1X, 7:2X	#FF00FF
	6	(untitled)	9:2E	9:2X	#008000
	7	(untitled)	6:2E	6:2X	#FFA500
	8	(untitled)	4:1E, 10:2E	4:1X, 10:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	7		4	1	14/1, 15/1, 17/1, Cx/1	Normal	294
	8		4	2	14/1, 15/1, 16/1, Dx/1	Normal	181
	9		4	2	14/1, B/1, Dx/1	Normal	181
	10		4	3	14/1, B/2, Ax/1	Normal	223
	11		3	4	A/1, Bx/1	Normal	319
	12		3	1	A/1, Cx/1	Normal	207
	13		3	2	A/1, Dx/1	Normal	52
	14		1	2	9/1, C/1, Dx/1	Normal	103
	15		1	3	9/1, C/1, Ax/1	Normal	267
	16		1	4	9/1, C/2, Bx/1	Normal	498
	17		2	4	10/1, D/2, Bx/1	Normal	249
	19		2	4	10/1, 11/1, 12/1, Bx/1	Normal	249
	20		2	3	10/1, 11/1, 13/1, Ax/1	Normal	57

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	1		8	6	10:2E, 10:1X, 2:2E, 2:1X, 9:1E, 9:2X	Normal	50
	2		6	8	9:2E, 9:1X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	3		8	7	4:1E, 4:2X, 5:1E, 5:2X, 6:1E, 6:2X	Normal	50
	4		7	8	6:2E, 6:1X, 5:2E, 5:1X, 4:2E, 4:1X	Normal	50
	5		5	7	7:2E, 7:1X, 3:2E, 3:1X, 6:1E, 6:2X	Normal	50
	6		7	5	6:2E, 6:1X, 3:1E, 3:2X, 7:1E, 7:2X	Normal	50
	21		8	5	10:2E, 10:1X, 2:2E, 2:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50
	22		5	8	1:1E, 1:2X, 8:1E, 8:2X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	23		5	6	1:1E, 1:2X, 8:1E, 8:2X, 9:1E, 9:2X	Normal	50
	24		6	5	9:2E, 9:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50

Signal Timings

Network Default: 130s cycle time; 130 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		3	NetworkDefault	130	53

Controller Stream 1 - Properties

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

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	Street 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)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	7	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	
	I	(untitled)	7	300	0	0	Traffic	
	J	(untitled)	7	300	0	0	Traffic	
	K	(untitled)	5	300	0	0	Pedestrian	0
	L	(untitled)	5	300	0	0	Pedestrian	0
	M	(untitled)	5	300	0	0	Pedestrian	0
	N	(untitled)	5	300	0	0	Pedestrian	0
	O	(untitled)	5	300	0	0	Pedestrian	0
	P	(untitled)	5	300	0	0	Pedestrian	0
	Q	(untitled)	5	300	0	0	Pedestrian	0
	R	(untitled)	5	300	0	0	Pedestrian	0
	S	(untitled)	5	300	0	0	Pedestrian	0
	T	(untitled)	5	300	0	0	Pedestrian	0

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	C, H, M, N, P, R, S, K	1	1	100
	2	D, F, I, J, M, R	1	1	100
	3	A, B, J, L, O, P, R, T	1	1	100
	4	G, F, O, Q, T, K, M, O	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	17, 42, 66, 91	56	
	2	(untitled)	Single	1, 2, 4, 3	18, 44, 66, 93	56	
	3	(untitled)	Single	1, 3, 2, 4	31, 71, 96, 11	53	
	4	(untitled)	Single	1, 3, 4, 2	17, 41, 66, 91	59	
	5	(untitled)	Single	1, 4, 2, 3	17, 42, 68, 93	53	
	6	(untitled)	Single	1, 4, 3, 2	17, 41, 67, 91	58	

Intergreen Matrix for Controller Stream 1

		To																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
From	A			5	5	5		5	6	5				6						8	
	B			6	7	7	8	5	5	5				6	7			9			
	C	5	5					5		5	8		8			5					
	D	5	5			0		5	5							5				8	
	E	5	5		0			5	5							5				8	
	F		5						5								5				
	G	5	6	6	5	5			5	7	9		10		9				5	7	
	H	5	5		5	6	7	5										8			5
	I	5	6	5				5							9						5
	J			5				5				5									
	K										1										
	L			5				5													
	M	1	1																		
	N		4					4		4											
	O			1	1	1															
	P						1														
	Q		5						5												
	R							1													
	S	4			4	4		4													
	T								1	1											

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	8	8	8
	2	9	0	6	5
	3	8	8	0	9
	4	9	9	10	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	C,H,M,N,P,R,S,K	20	31	11	1	5
	2	✓	3	A,B,J,L,O,P,R,T	39	71	32	1	5
	3	✓	2	D,F,I,J,M,R	79	96	17	1	6
	4	✓	4	G,F,O,Q,T,K,M,O	101	11	40	1	7

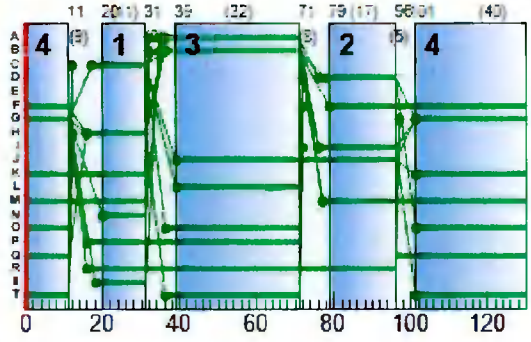
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	36	71	35
	B	1	✓	36	71	35
	C	1	✓	17	31	14
	D	1	✓	78	96	18
	F	1	✓	79	11	62
	G	1	✓	101	11	40
	H	1	✓	16	31	15
	I	1	✓	76	96	20
	J	1	✓	39	96	57
	K	1	✓	101	31	60
	L	1	✓	39	71	32
	M	1	✓	77	31	84
	N	1	✓	20	31	11
	O	1	✓	36	71	35
		2	✓	101	11	40
	P	1	✓	16	71	55
	Q	1	✓	96	11	45
	R	1	✓	16	96	80
	S	1	✓	18	31	13
	T	1	✓	36	71	35
		2	✓	101	11	40

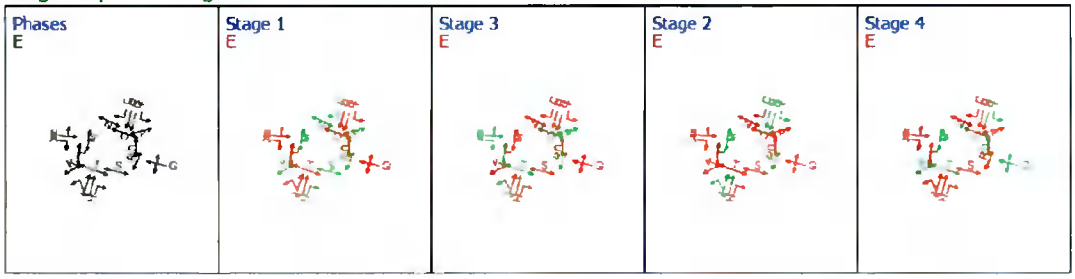
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	G	101	11	40
B	1	1	1	I	76	96	20
B	2	1	1	H	16	31	15
C	1	1	1	B	36	71	35
C	2	1	1	A	36	71	35
D	2	1	1	D	78	96	18
D	3	1	1	C	17	31	14
12	1	1	1	D	78	96	18
13	1	1	1	F	79	11	62
16	1	1	1	I	76	96	20
17	1	1	1	J	39	96	57

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

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/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 (Veh)
A	1	(untitled)	1	1	G	578 <	2021	40	0.00	91	10	73.91	66.39	111.54	23.72 +
Ax	1	(untitled)				547	Unrestricted	130	45.00	0	Unrestricted	12.21	0.00	0.00	0.00
B	1	(untitled)	1	1	I	181	2209	20	0.00	51	97	59.86	54.93	93.78	6.19
	2		1	1	H	223 <	2087	15	0.00	87	15	99.92	94.68	124.40	10.26 +
Bx	1	(untitled)				1315	Unrestricted	130	16.00	0	Unrestricted	12.73	0.00	0.00	0.00
C	1	(untitled)	1	1	B	370 <	2019	35	0.00	66	51	52.76	47.83	91.62	12.46 +
	2		1	1	A	498 <	2059	35	0.00	87	14	69.68	64.63	108.21	19.75 +
Cx	1	(untitled)				559	Unrestricted	130	5.00	0	Unrestricted	12.01	0.00	0.00	0.00
D	2		1	1	D	249 <	2209	18	0.00	77	30	76.98	71.24	108.07	9.88 +
	3		1	1	C	58	2098	14	11.00	24	317	60.63	54.67	91.65	1.94
Dx	1	(untitled)				517	Unrestricted	130	25.00	0	Unrestricted	11.30	0.00	0.00	0.00
9	1		1			868	2059	130	90.00	42	137	5.11	0.64	0.00	0.15
10	1		1			613	4268	130	23.00	14	596	2.07	0.07	0.00	0.01
11	1	(untitled)	1			306	2050	130	109.00	15	570	3.93	0.15	0.00	0.01
12	1		1	1	D	249 <	2059	18	0.00	83	21	82.02	79.96	114.85	10.52 +
13	1		1	1	F	57	1883	62	60.00	6	1501	19.84	17.95	52.12	1.09
14	1		1			879	4268	130	44.00	21	386	3.85	0.11	0.00	0.03
15	1		1			475	1945	130	86.00	24	309	3.42	0.30	0.00	0.04
16	1		1	1	I	181 <	2059	20	0.00	54	84	58.26	56.50	95.43	6.30 +
17	1		1	1	J	294 <	2074	57	0.00	32	215	26.09	24.14	63.59	6.85 +

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-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	508.71	66.78	7.62	36.26	13.56	707.46	37.21	0.00	744.67
Bus									
Tram									
Pedestrians	12.30	17.75	0.69	15.43	0.00	219.10	0.00	0.00	219.10
TOTAL	521.01	84.53	6.16	51.69	13.56	926.56	37.21	0.00	963.77

- *< = 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***

A7 - Site 2 [A7]
D7 - 2038 DESIGN YEAR + SCHOOL, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
7	25/05/2021 16:07:03	25/05/2021 16:07:04	1.03	08:00	130	1174.13	79.60	97.83	A/1	0	0	A/1	9/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set(s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
Site 2 [A7]			✓	D7	✓	D1	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2038 DESIGN YEAR + SCHOOL	AM	(untitled)			08:00		✓

Network Options

Network timings

Network cycle time (s)	Minimum possible cycle time (s)	Absolute minimum possible cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
130	53	53		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)	Missing stage transition options
10000.00	10000.00	10000.00	2	Assume banned

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 traffic model	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	100	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
Standard accuracy Hill Climb	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)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		1
Ax	(untitled)		
B	(untitled)		1
Bx	(untitled)		
C	(untitled)		1
Cx	(untitled)		
D	(untitled)		1
Dx	(untitled)		
9			1
10			1
11	(untitled)		1
12			1
13			1
14			1
15			1
16			1
17			1

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)		✓	62.69	✓	Sum of lanes	2029	✓		Normal	
Ax	1	(untitled)		✓	101.72						Normal	
B	1	(untitled)		✓	41.12	✓	Sum of lanes	2209	✓		Normal	
	2			✓	43.67	✓	Sum of lanes	2087	✓		Normal	
Bx	1	(untitled)		✓	106.07						Normal	
C	1	(untitled)		✓	41.11	✓	Sum of lanes	2019	✓		Normal	
	2			✓	42.15	✓	Sum of lanes	2059	✓		Normal	
Cx	1	(untitled)		✓	100.08						Normal	
D	2			✓	47.81	✓	Sum of lanes	2209	✓		Normal	
	3			✓	49.65	✓	Sum of lanes	2098	✓		Normal	
Dx	1	(untitled)		✓	94.15						Normal	
9	1			✓	37.29	✓	Sum of lanes	2059			Normal	
10	1			✓	16.69	✓	Sum of lanes	4268			Normal	
11	1	(untitled)		✓	31.47	✓	Sum of lanes	2050			Normal	
12	1			✓	17.13	✓	Sum of lanes	2059	✓		Normal	
13	1			✓	15.79	✓	Sum of lanes	1883	✓		Normal	
14	1			✓	31.14	✓	Sum of lanes	4268			Normal	
15	1			✓	26.01	✓	Sum of lanes	1935			Normal	
16	1			✓	14.65	✓	Sum of lanes	2059	✓		Normal	
17	1			✓	16.27	✓	Sum of lanes	2074	✓		Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	Clearly Good	0	3.50	✓	59	21.31	✓	2029
Ax	1	1	(untitled)											
B	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	25.59		2087
Bx	1	1	(untitled)											
		2	(untitled)											
C	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	28	21.46	✓	2019
	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	20.56		2059
Cx	1	1	(untitled)											
D	2	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
	3	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	28.41		2098
Dx	1	1	(untitled)											
		2	(untitled)											
9	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
10	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
11	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	19	68.07	✓	2050
12	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
13	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	16.10	✓	1883
14	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00		2209
		2	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
15	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	67	15.80	✓	1935
16	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	0	99999.00	✓	2059
17	1	1	(untitled)		✓	N/A	Clearly Good	0	3.00	✓	100	23.04		2074

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	130

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	626	626
Ax	1	581	581
B	1	181	181
	2	223	223
Bx	1	1377	1377
C	1	417	417
	2	560	560
Cx	1	690	690
D	2	249	249
	3	72	72
Dx	1	529	529
9	1	977	977
10	1	627	627
11	1	306	306
12	1	249	249
13	1	57	57
14	1	947	947
15	1	544	544
16	1	181	181
17	1	363	363

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	G	
B	1	1	I	
	2	1	H	
C	1	1	B	
	2	1	A	
D	2	1	D	
	3	1	C	
12	1	1	D	
13	1	1	F	
16	1	1	I	
17	1	1	J	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	7.52	30.00
9	1	4.48	30.00
10	1	2.00	30.00
14	1	3.74	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ax	1	1	B/2	Ax/1	12.21	30.00	✓	Offside	25.59
B	1	1	14/1	B/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	14/1	B/2	5.24	30.00	✓	Straight	Straight Movement
Bx	1	1	A/1	Bx/1	12.73	30.00	✓	Nearside	22.78
C	1	1	9/1	C/1	4.93	30.00	✓	Straight	Straight Movement
	2	1	9/1	C/2	5.06	30.00	✓	Straight	Straight Movement
Cx	1	1	17/1	Cx/1	12.01	30.00	✓	Nearside	23.04
D	2	1	10/1	D/2	5.74	30.00	✓	Straight	Straight Movement
	3	1	10/1	D/3	5.96	30.00	✓	Straight	Straight Movement
Dx	1	1	16/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
11	1	1	10/1	11/1	3.78	30.00	✓	Straight	Straight Movement
12	1	1	11/1	12/1	2.06	30.00	✓	Straight	Straight Movement
13	1	1	11/1	13/1	1.89	30.00	✓	Nearside	68.07
15	1	1	14/1	15/1	3.12	30.00	✓	Straight	Straight Movement
16	1	1	15/1	16/1	1.76	30.00	✓	Straight	Straight Movement
17	1	1	15/1	17/1	1.95	30.00	✓	Nearside	15.80
Ax	1	2	C/1	Ax/1	12.21	30.00	✓	Straight	Straight Movement
Bx	1	2	C/2	Bx/1	12.73	30.00	✓	Offside	20.56
Cx	1	2	A/1	Cx/1	12.01	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	11.30	30.00	✓	Straight	Straight Movement
Ax	1	3	13/1	Ax/1	12.21	30.00	✓	Nearside	16.10
Bx	1	3	D/2	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	12.01	30.00	✓	Offside	28.41
Dx	1	3	A/1	Dx/1	11.30	30.00	✓	Offside	21.31
Bx	1	4	12/1	Bx/1	12.73	30.00	✓	Straight	Straight Movement
Dx	1	4	C/1	Dx/1	11.30	30.00	✓	Nearside	21.46

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	7.00	4.67	5.40
3	(untitled)		1		Farside	6.00	4.00	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40
5	(untitled)				Farside	8.00	5.33	5.40
6	(untitled)				Farside	3.00	2.00	5.40
7	(untitled)				Farside	3.00	2.00	5.40
8	(untitled)				Farside	8.00	5.33	5.40
9	(untitled)				Farside	3.00	2.00	5.40
10	(untitled)				Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	S	
2	1	L	
3	1	Q	
4	1	N	
5	1	O	
6	1	P	
7	1	R	
8	1	T	
9	1	K	
10	1	M	

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		

Pedestrian Crossing Connectors

Pedestrian Crossing Connectors

Pedestrian crossing connector	Pedestrian crossing1	Pedestrian crossing2	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	2:1	9:1	2.00	1.33	5.40
2	2:1	8:2	2.00	1.33	5.40
3	9:1	8:2	2.00	1.33	5.40
4	10:1	2:2	2.00	1.33	5.40
5	5:1	4:2	2.00	1.33	5.40
6	6:1	5:2	2.00	1.33	5.40
7	3:1	6:1	2.00	1.33	5.40
8	7:1	3:2	2.00	1.33	5.40
9	1:2	8:1	3.00	2.00	5.40

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	116	301	560	0	0	0	0
	2	72	0	57	498	0	0	0	0
	3	255	52	0	319	0	0	0	0
	4	363	361	223	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	50	50	50
	6	0	0	0	0	50	0	0	50
	7	0	0	0	0	50	0	0	50
	8	0	0	0	0	50	50	50	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	9/1	Cx/1	#0000FF
	2	(untitled)	10/1	Dx/1	#FF0000
	3	(untitled)	A/1	Ax/1	#00FF00
	4	(untitled)	14/1	Bx/1	#FFFF00
	5	(untitled)	1:1E, 7:2E	1:1X, 7:2X	#FF00FF
	6	(untitled)	9:2E	9:2X	#008000
	7	(untitled)	6:2E	6:2X	#FFA500
	8	(untitled)	4:1E, 10:2E	4:1X, 10:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	7		4	1	14/1, 15/1, 17/1, Cx/1	Normal	363
	8		4	2	14/1, 15/1, 16/1, Dx/1	Normal	181
	9		4	2	14/1, B/1, Dx/1	Normal	181
	10		4	3	14/1, B/2, Ax/1	Normal	223
	11		3	4	A/1, Bx/1	Normal	319
	12		3	1	A/1, Cx/1	Normal	255
	13		3	2	A/1, Dx/1	Normal	52
	14		1	2	9/1, C/1, Dx/1	Normal	116
	15		1	3	9/1, C/1, Ax/1	Normal	301
	16		1	4	9/1, C/2, Bx/1	Normal	560
	17		2	4	10/1, D/2, Bx/1	Normal	249
	18		2	1	10/1, D/3, Cx/1	Normal	72
	19		2	4	10/1, 11/1, 12/1, Bx/1	Normal	249
	20		2	3	10/1, 11/1, 13/1, Ax/1	Normal	57

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	1		8	6	10:2E, 10:1X, 2:2E, 2:1X, 9:1E, 9:2X	Normal	50
	2		6	8	9:2E, 9:1X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	3		8	7	4:1E, 4:2X, 5:1E, 5:2X, 6:1E, 6:2X	Normal	50
	4		7	8	6:2E, 6:1X, 5:2E, 5:1X, 4:2E, 4:1X	Normal	50
	5		5	7	7:2E, 7:1X, 3:2E, 3:1X, 6:1E, 6:2X	Normal	50
	6		7	5	6:2E, 6:1X, 3:1E, 3:2X, 7:1E, 7:2X	Normal	50
	21		8	5	10:2E, 10:1X, 2:2E, 2:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50
	22		5	8	1:1E, 1:2X, 8:1E, 8:2X, 2:1E, 2:2X, 10:1E, 10:2X	Normal	50
	23		5	6	1:1E, 1:2X, 8:1E, 8:2X, 9:1E, 9:2X	Normal	50
	24		6	5	9:2E, 9:1X, 8:2E, 8:1X, 1:2E, 1:1X	Normal	50

Signal Timings

Network Default: 130s cycle time; 130 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		3	NetworkDefault	130	53

Controller Stream 1 - Properties

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

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	Street 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)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Traffic	
	F	(untitled)	7	300	0	0	Traffic	
	G	(untitled)	7	300	0	0	Traffic	
	H	(untitled)	7	300	0	0	Traffic	
	I	(untitled)	7	300	0	0	Traffic	
	J	(untitled)	7	300	0	0	Traffic	
	K	(untitled)	5	300	0	0	Pedestrian	0
	L	(untitled)	5	300	0	0	Pedestrian	0
	M	(untitled)	5	300	0	0	Pedestrian	0
	N	(untitled)	5	300	0	0	Pedestrian	0
	O	(untitled)	5	300	0	0	Pedestrian	0
	P	(untitled)	5	300	0	0	Pedestrian	0
	Q	(untitled)	5	300	0	0	Pedestrian	0
	R	(untitled)	5	300	0	0	Pedestrian	0
	S	(untitled)	5	300	0	0	Pedestrian	0
	T	(untitled)	5	300	0	0	Pedestrian	0

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	C, H, M, N, P, R, S, K	1	1	100
	2	D, F, I, J, M, R	1	1	100
	3	A, B, J, L, O, P, R, T	1	1	100
	4	G, F, O, Q, T, K, M, O	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	17, 42, 66, 91	56	
	2	(untitled)	Single	1, 2, 4, 3	18, 44, 66, 93	56	
	3	(untitled)	Single	1, 3, 2, 4	31, 73, 96, 11	53	
	4	(untitled)	Single	1, 3, 4, 2	17, 41, 66, 91	59	
	5	(untitled)	Single	1, 4, 2, 3	17, 42, 68, 93	53	
	6	(untitled)	Single	1, 4, 3, 2	17, 41, 67, 91	58	

Intergreen Matrix for Controller Stream 1

		To																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
From	A			5	5	5		5	6	5				6						8	
	B			6	7	7	8	5	5	5				6	7			9			
	C	5	5					5		5	8		8			5					
	D	5	5			0		5	5							5				8	
	E	5	5		0			5	5							5				8	
	F		5						5								5				
	G	5	6	6	5	5			5	7	9		10		9				5	7	
	H	5	5		5	6	7	5										8			5
	I	5	6	5				5							9						5
	J			5				5				5									
	K										1										
	L			5				5													
	M	1	1																		
	N		4					4		4											
	O			1	1	1															
	P						1														
	Q		5						5												
	R							1													
	S	4			4	4		4													
	T								1	1											

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	8	8	8
	2	9	0	6	5
	3	8	8	0	9
	4	9	9	10	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	C,H,M,N,P,R,S,K	20	31	11	1	5
	2	✓	3	A,B,J,L,O,P,R,T	39	73	34	1	5
	3	✓	2	D,F,I,J,M,R	81	96	15	1	6
	4	✓	4	G,F,O,Q,T,K,M,O	101	11	40	1	7

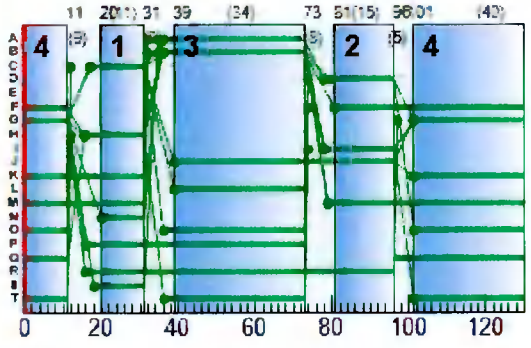
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	36	73	37
	B	1	✓	36	73	37
	C	1	✓	17	31	14
	D	1	✓	80	96	16
	F	1	✓	81	11	60
	G	1	✓	101	11	40
	H	1	✓	16	31	15
	I	1	✓	78	96	18
	J	1	✓	39	96	57
	K	1	✓	101	31	60
	L	1	✓	39	73	34
	M	1	✓	79	31	82
	N	1	✓	20	31	11
	O	1	✓	36	73	37
		2	✓	101	11	40
	P	1	✓	16	73	57
	Q	1	✓	96	11	45
	R	1	✓	16	96	80
	S	1	✓	18	31	13
	T	1	✓	36	73	37
		2	✓	101	11	40

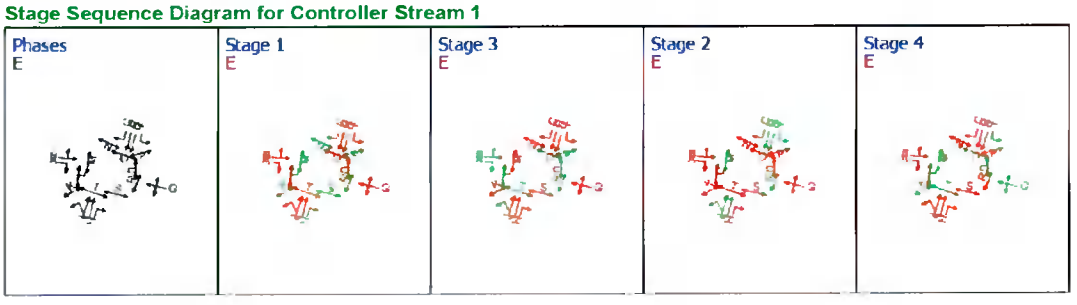
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	G	101	11	40
B	1	1	1	I	78	96	18
B	2	1	1	H	16	31	15
C	1	1	1	B	36	73	37
C	2	1	1	A	36	73	37
D	2	1	1	D	80	96	16
D	3	1	1	C	17	31	14
12	1	1	1	D	80	96	16
13	1	1	1	F	81	11	60
16	1	1	1	I	78	96	18
17	1	1	1	J	39	96	57

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

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/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 (Veh)
A	1	(untitled)	1	1	G	626 <	2029	40	0.00	98	2	103.52	95.99	133.36	31.29 +
Ax	1	(untitled)				581	Unrestricted	130	43.00	0	Unrestricted	12.21	0.00	0.00	0.00
B	1	(untitled)	1	1	I	181	2209	18	0.00	56	78	63.58	58.65	96.73	6.39
	2		1	1	H	223 <	2087	15	0.00	87	15	99.92	94.68	124.40	10.26 +
Bx	1	(untitled)				1377	Unrestricted	130	14.00	0	Unrestricted	12.73	0.00	0.00	0.00
C	1	(untitled)	1	1	B	417 <	2019	37	0.00	71	42	53.18	48.24	92.91	14.16 +
	2		1	1	A	560 <	2059	37	0.00	93	7	81.11	76.05	118.23	24.47 +
Cx	1	(untitled)				690	Unrestricted	130	4.00	0	Unrestricted	12.01	0.00	0.00	0.00
D	2		1	1	D	249 <	2209	16	0.00	86	16	94.66	88.93	120.85	11.11 +
	3		1	1	C	72	2098	14	0.00	30	236	61.77	55.82	92.84	2.44
Dx	1	(untitled)				530	Unrestricted	130	24.00	0	Unrestricted	11.30	0.00	0.00	0.00
9	1		1			977	2059	130	111.00	47	111	5.26	0.79	0.00	0.21
10	1		1			627	4268	130	41.00	15	581	2.08	0.07	0.00	0.01
11	1	(untitled)	1			306	2050	130	130.00	15	570	3.93	0.15	0.00	0.01
12	1		1	1	D	249 <	2059	16	0.00	92	8	113.79	111.73	136.12	12.72 +
13	1		1	1	F	57	1883	60	58.00	6	1450	20.93	19.04	53.76	1.13
14	1		1			948	4268	130	44.00	22	350	3.86	0.12	0.00	0.03
15	1		1			544	1935	130	95.00	28	256	3.49	0.36	0.00	0.05
16	1		1	1	I	181 <	2059	18	0.00	60	66	62.60	60.84	98.87	6.53 +
17	1		1	1	J	363 <	2074	57	0.00	39	155	27.38	25.43	66.63	8.90 +

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-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	550.69	82.53	6.67	39.53	24.64	911.21	43.82	0.00	955.03
Bus									
Tram									
Pedestrians	12.30	17.75	0.69	15.43	0.00	219.10	0.00	0.00	219.10
TOTAL	562.99	100.28	5.61	54.96	24.64	1130.30	43.82	0.00	1174.13

- *< = 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***

Junctions 9

ARCADY 9 - Roundabout Module

Filename: Site 3.j9
Path: M:\Projects\19\19-037 - RBS Framework\21 - Griffeen Community College Lucan\Design\Civil\Traffic\MODELLING APRIL 2021\Site 3
Report generation date: 25/05/2021 16:01:56

Summary of junction performance

	AM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
Site 3 - 2020 - SURVEYED FLOWS					
Arm 1	D1	0.7	5.59	0.41	A
Arm 2		0.3	6.56	0.21	A
Arm 3		0.7	5.67	0.41	A
Arm 4		0.4	4.60	0.26	A
Site 3 - 2023 - OPENING YEAR					
Arm 1	D2	0.7	5.81	0.43	A
Arm 2		0.3	6.76	0.22	A
Arm 3		0.8	5.94	0.43	A
Arm 4		0.4	4.78	0.28	A
Site 3 - 2023 - OPENING YEAR + SCHOOL					
Arm 1	D3	1.3	7.78	0.56	A
Arm 2		0.8	9.56	0.45	A
Arm 3		1.0	7.27	0.51	A
Arm 4		0.5	5.60	0.33	A
Site 3 - 2028 - DESIGN YEAR					
Arm 1	D4	0.9	6.22	0.47	A
Arm 2		0.3	7.14	0.24	A
Arm 3		0.9	6.46	0.47	A
Arm 4		0.5	5.12	0.31	A
Site 3 - 2028 - DESIGN YEAR + SCHOOL					
Arm 1	D5	1.5	8.57	0.60	A
Arm 2		0.9	10.38	0.48	B
Arm 3		1.2	8.10	0.56	A
Arm 4		0.6	6.10	0.37	A
Site 3 - 2038 - DESIGN YEAR					
Arm 1	D6	1.1	6.97	0.52	A
Arm 2		0.4	7.80	0.28	A
Arm 3		1.1	7.41	0.54	A
Arm 4		0.6	5.71	0.36	A
Site 3 - 2038 - DESIGN YEAR + SCHOOL					
Arm 1	D7	1.9	10.06	0.66	B
Arm 2		1.1	11.76	0.53	B
Arm 3		1.6	9.64	0.62	A
Arm 4		0.7	6.95	0.42	A

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

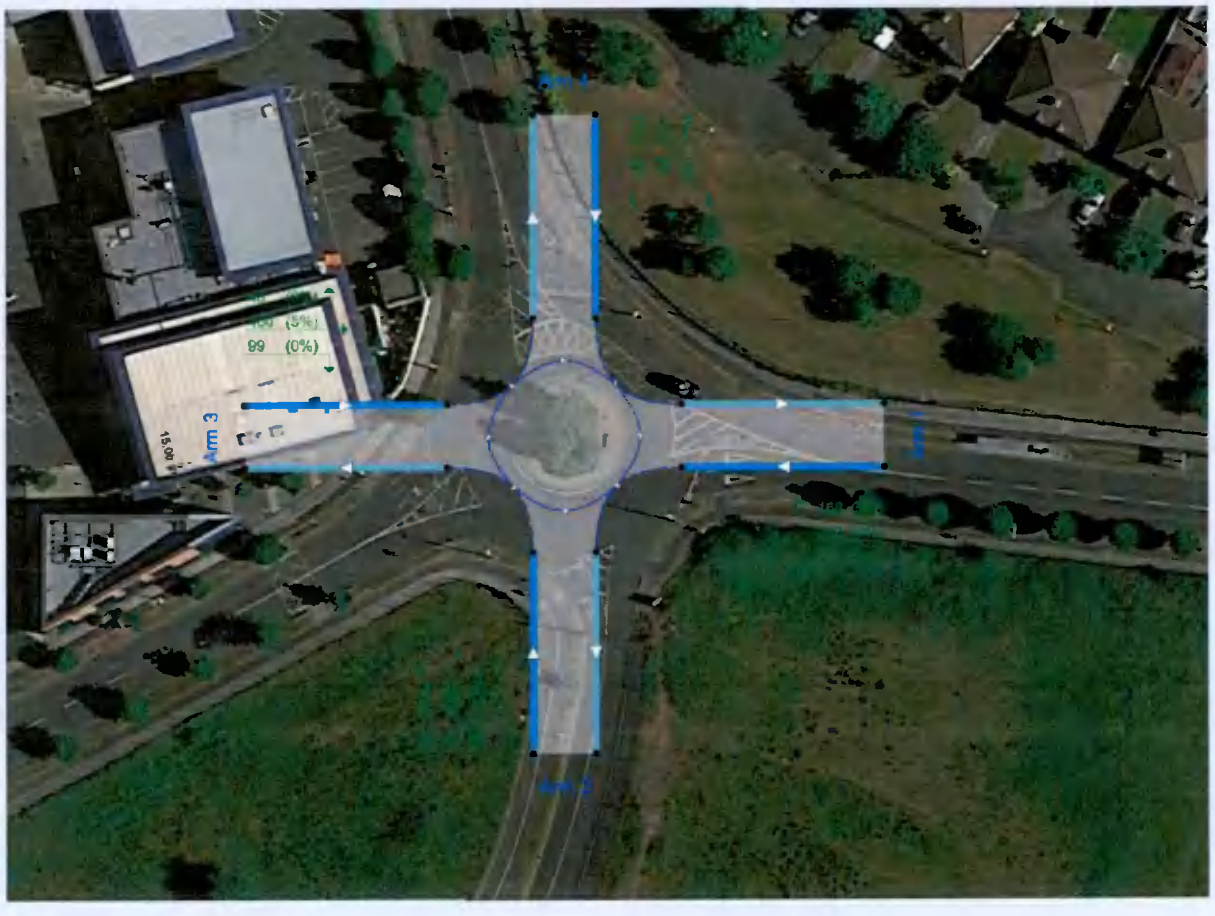
File summary

File Description

Title	
Location	
Site number	
Date	16/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DOMAIN\f silva
Description	

Units

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



Flows show original traffic demand (Veh/hr).

The junction diagram reflects the last run of Junctions

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Single time segment only
D1	2020 - SURVEYED FLOWS	AM	FLAT	08:00	09:00	60	✓
D2	2023 - OPENING YEAR	AM	FLAT	08:00	09:00	60	✓
D3	2023 - OPENING YEAR + SCHOOL	AM	FLAT	08:00	09:00	60	✓
D4	2028 - DESIGN YEAR	AM	FLAT	08:00	09:00	60	✓
D5	2028 - DESIGN YEAR + SCHOOL	AM	FLAT	08:00	09:00	60	✓
D6	2038 - DESIGN YEAR	AM	FLAT	08:00	09:00	60	✓
D7	2038 - DESIGN YEAR + SCHOOL	AM	FLAT	08:00	09:00	60	✓

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Site 3	100.000

Site 3 - 2020 - SURVEYED FLOWS, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	5.51	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Griffeen Avenue (E)	
2	School Access Road (S)	
3	Griffeen Avenue (W)	
4	Griffeen Road (N)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	3.00	5.35	6.7	11.4	30.0	34.9	
2	2.30	4.42	3.2	17.0	30.0	34.5	
3	3.30	5.56	7.0	27.8	30.0	50.6	
4	3.51	4.90	10.2	48.4	30.0	23.6	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.534	1177
2	0.483	883
3	0.550	1259
4	0.617	1426

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Single time segment only
D1	2020 - SURVEYED FLOWS	AM	FLAT	08:00	09:00	60	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	442	100.000
2		✓	144	100.000
3		✓	442	100.000
4		✓	280	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	103	206	133
	2	98	0	29	17
	3	365	39	0	38
	4	224	17	39	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	5	5
	2	0	0	0	0
	3	5	0	0	0
	4	5	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.41	5.59	0.7	A
2	0.21	6.56	0.3	A
3	0.41	5.67	0.7	A
4	0.26	4.60	0.4	A

Main Results for each time segment

08:00 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	442	95	1085	0.407	441	0.7	5.587	A
2	144	377	692	0.208	144	0.3	6.558	A
3	442	248	1075	0.411	441	0.7	5.673	A
4	280	501	1062	0.264	280	0.4	4.597	A

Site 3 - 2023 - OPENING YEAR, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	5.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Single time segment only
D2	2023 - OPENING YEAR	AM	FLAT	08:00	09:00	60	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	464	100.000
2		✓	151	100.000
3		✓	464	100.000
4		✓	294	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	108	216	140
	2	103	0	30	18
	3	383	41	0	40
	4	235	18	41	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	5	5
	2	0	0	0	0
	3	5	0	0	0
	4	5	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.43	5.81	0.7	A
2	0.22	6.76	0.3	A
3	0.43	5.94	0.8	A
4	0.28	4.78	0.4	A

Main Results for each time segment

08:00 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	464	100	1082	0.429	463	0.7	5.807	A
2	151	396	683	0.221	151	0.3	6.762	A
3	464	261	1068	0.434	463	0.8	5.943	A
4	294	526	1047	0.281	294	0.4	4.776	A

Site 3 - 2023 - OPENING YEAR + SCHOOL, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	7.53	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Single time segment only
D3	2023 - OPENING YEAR + SCHOOL	AM	FLAT	08:00	09:00	60	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	595	100.000
2		✓	308	100.000
3		✓	513	100.000
4		✓	315	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	239	216	140
	2	210	0	62	36
	3	383	90	0	40
	4	235	39	41	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	5	5
	2	0	0	0	0
	3	5	0	0	0
	4	5	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.56	7.78	1.3	A
2	0.45	9.56	0.8	A
3	0.51	7.27	1.0	A
4	0.33	5.60	0.5	A

Main Results for each time segment

08:00 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	595	170	1055	0.564	594	1.3	7.783	A
2	308	396	683	0.451	307	0.8	9.558	A
3	513	385	1006	0.510	512	1.0	7.267	A
4	315	681	957	0.329	315	0.5	5.597	A

Site 3 - 2028 - DESIGN YEAR, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	6.16	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Single time segment only
D4	2028 - DESIGN YEAR	AM	FLAT	08:00	09:00	60	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	502	100.000
2		✓	163	100.000
3		✓	502	100.000
4		✓	318	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	117	234	151
	2	111	0	33	19
	3	415	44	0	43
	4	255	19	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	5	5
	2	0	0	0	0
	3	5	0	0	0
	4	5	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.47	6.22	0.9	A
2	0.24	7.14	0.3	A
3	0.47	6.46	0.9	A
4	0.31	5.12	0.5	A

Main Results for each time segment

08:00 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	502	107	1079	0.465	501	0.9	6.223	A
2	163	428	667	0.244	163	0.3	7.136	A
3	502	280	1057	0.475	501	0.9	6.461	A
4	318	569	1021	0.312	318	0.5	5.117	A

Site 3 - 2028 - DESIGN YEAR + SCHOOL, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	8.28	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Single time segment only
D5	2028 - DESIGN YEAR + SCHOOL	AM	FLAT	08:00	09:00	60	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	633	100.000
2		✓	322	100.000
3		✓	552	100.000
4		✓	340	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	248	234	151
	2	219	0	65	38
	3	415	94	0	43
	4	255	41	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	5	5
	2	0	0	0	0
	3	5	0	0	0
	4	5	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.60	8.57	1.5	A
2	0.48	10.38	0.9	B
3	0.56	8.10	1.2	A
4	0.37	6.10	0.6	A

Main Results for each time segment

08:00 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	633	179	1050	0.603	631	1.5	8.575	A
2	322	428	667	0.483	321	0.9	10.382	B
3	552	407	994	0.555	551	1.2	8.096	A
4	340	726	930	0.366	339	0.6	6.096	A

Site 3 - 2038 - DESIGN YEAR, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	6.94	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Single time segment only
D6	2038 - DESIGN YEAR	AM	FLAT	08:00	09:00	60	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	558	100.000
2		✓	182	100.000
3		✓	557	100.000
4		✓	353	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	130	260	168
	2	124	0	37	21
	3	460	49	0	48
	4	283	21	49	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	5	5
	2	0	0	0	0
	3	5	0	0	0
	4	5	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.52	6.97	1.1	A
2	0.28	7.80	0.4	A
3	0.54	7.41	1.1	A
4	0.36	5.71	0.6	A

Main Results for each time segment

08:00 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	558	119	1073	0.520	557	1.1	6.967	A
2	182	476	643	0.283	182	0.4	7.803	A
3	557	312	1040	0.536	556	1.1	7.415	A
4	353	632	982	0.359	352	0.6	5.713	A

Site 3 - 2038 - DESIGN YEAR + SCHOOL, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	9.63	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Single time segment only
D7	2038 - DESIGN YEAR + SCHOOL	AM	FLAT	08:00	09:00	60	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	689	100.000
2		✓	339	100.000
3		✓	607	100.000
4		✓	375	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	261	260	168
	2	231	0	68	40
	3	460	99	0	48
	4	283	43	49	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	5	5
	2	0	0	0	0
	3	5	0	0	0
	4	5	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.66	10.06	1.9	B
2	0.53	11.76	1.1	B
3	0.62	9.64	1.6	A
4	0.42	6.95	0.7	A

Main Results for each time segment

08:00 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	689	191	1043	0.661	687	1.9	10.061	B
2	339	476	643	0.527	338	1.1	11.765	B
3	607	438	977	0.621	605	1.6	9.641	A
4	375	788	891	0.421	374	0.7	6.951	A

UK and Ireland Office Locations