APPENDIX A

The Peel Group Portfolio Survey Analysis

THE PEEL GROUP

The Peel Centre, Barnsley

Exit Survey Report 2012

Frederick Slemeck, Associate Consultant

Colin Chan, Project Manager

August 2012



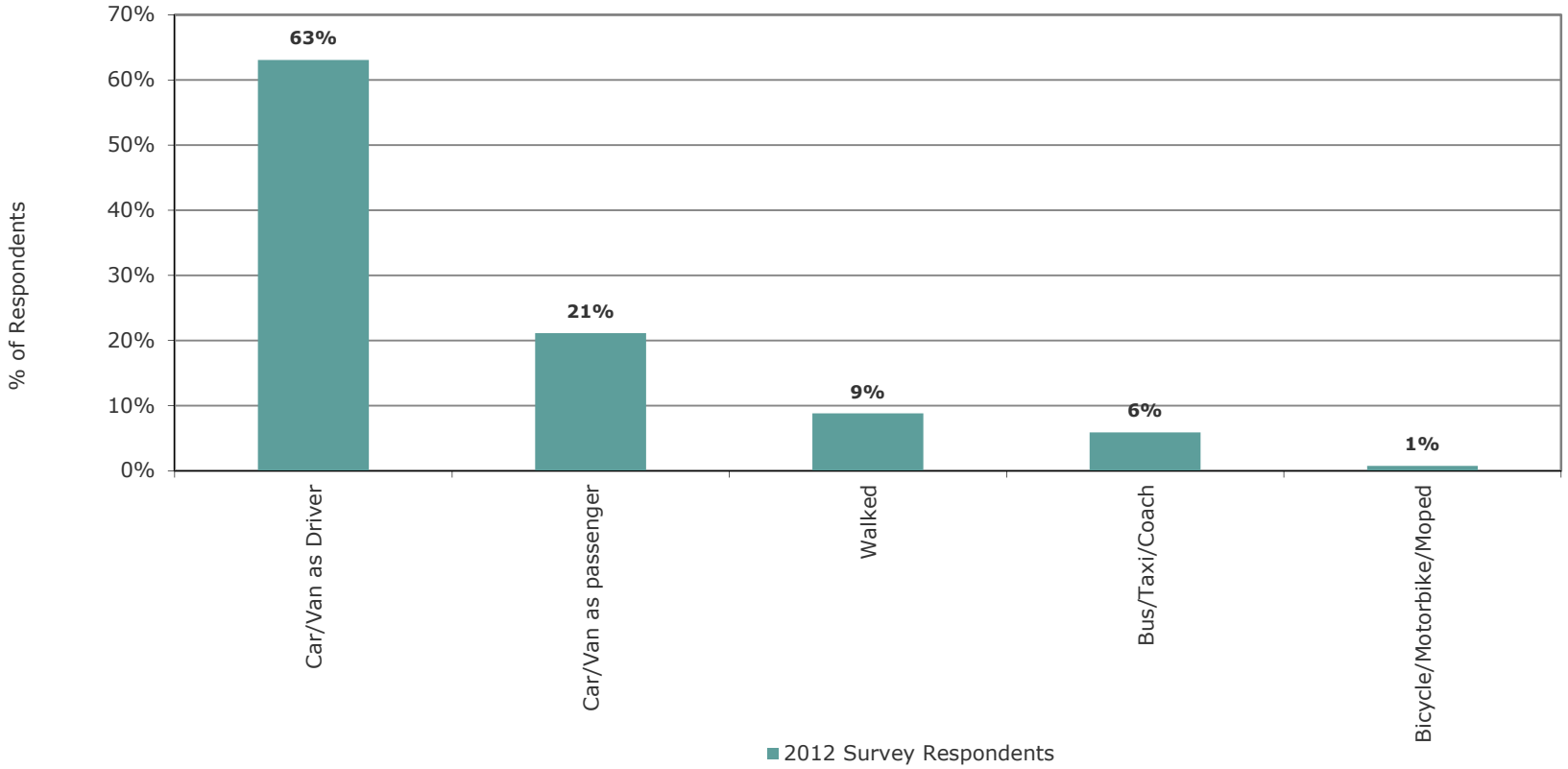
Survey summary

- Surveys were conducted between Monday 16th July and Sunday 22nd July 2012.
- 544 respondents were surveyed in the exit survey, 528 of which gave a valid UK postcode.
- Useable postcode rate: 97.1%

© CACI Ltd, 2012

Mode of Transport

Car is the dominant form of travel to the retail park

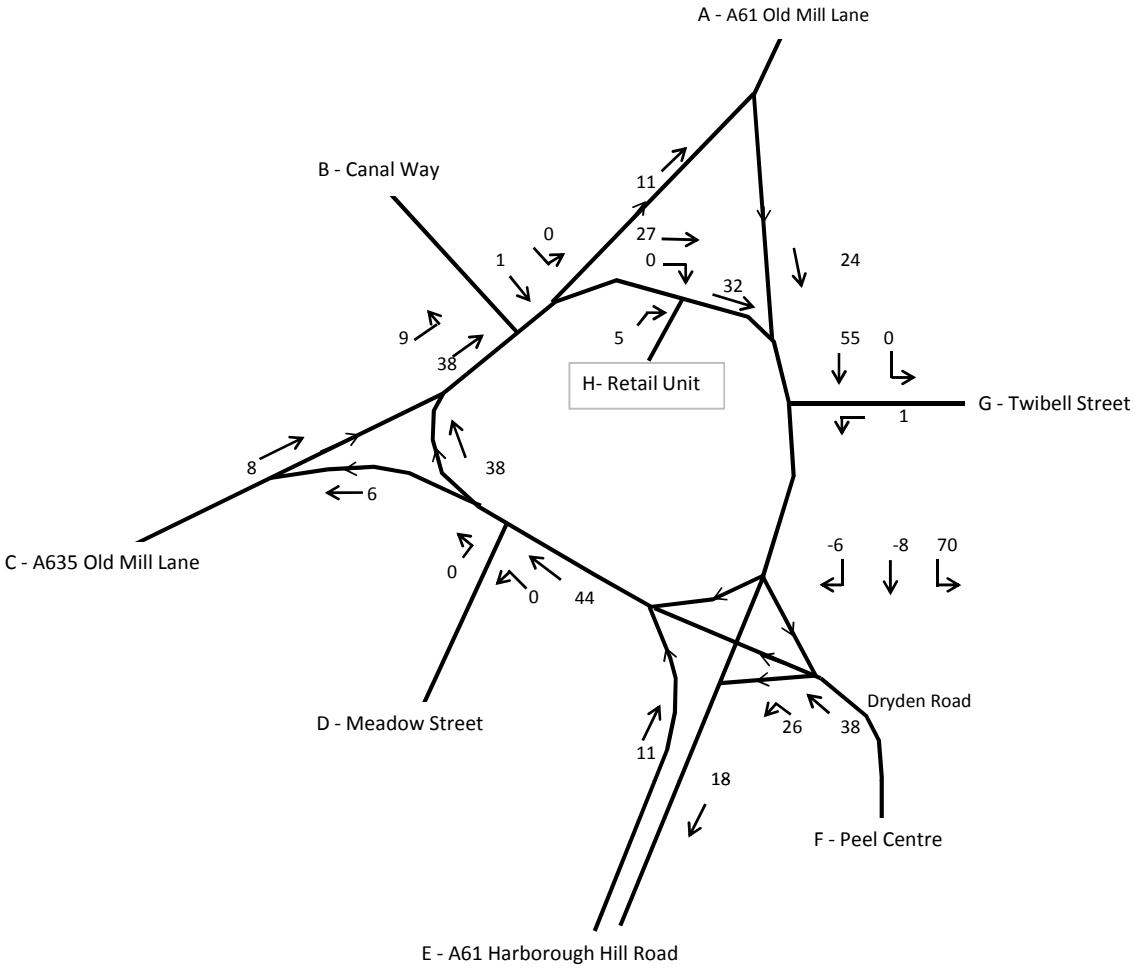


- Over 80% of shoppers accessed the park by car (84%). This is unsurprising due to the out of town location of the park.
- The low levels of people walking to the centre (9%) and arriving by public transport (6%) reflects the number of people arriving from outside the local catchment.

Source: Peel Group Survey Data 2012

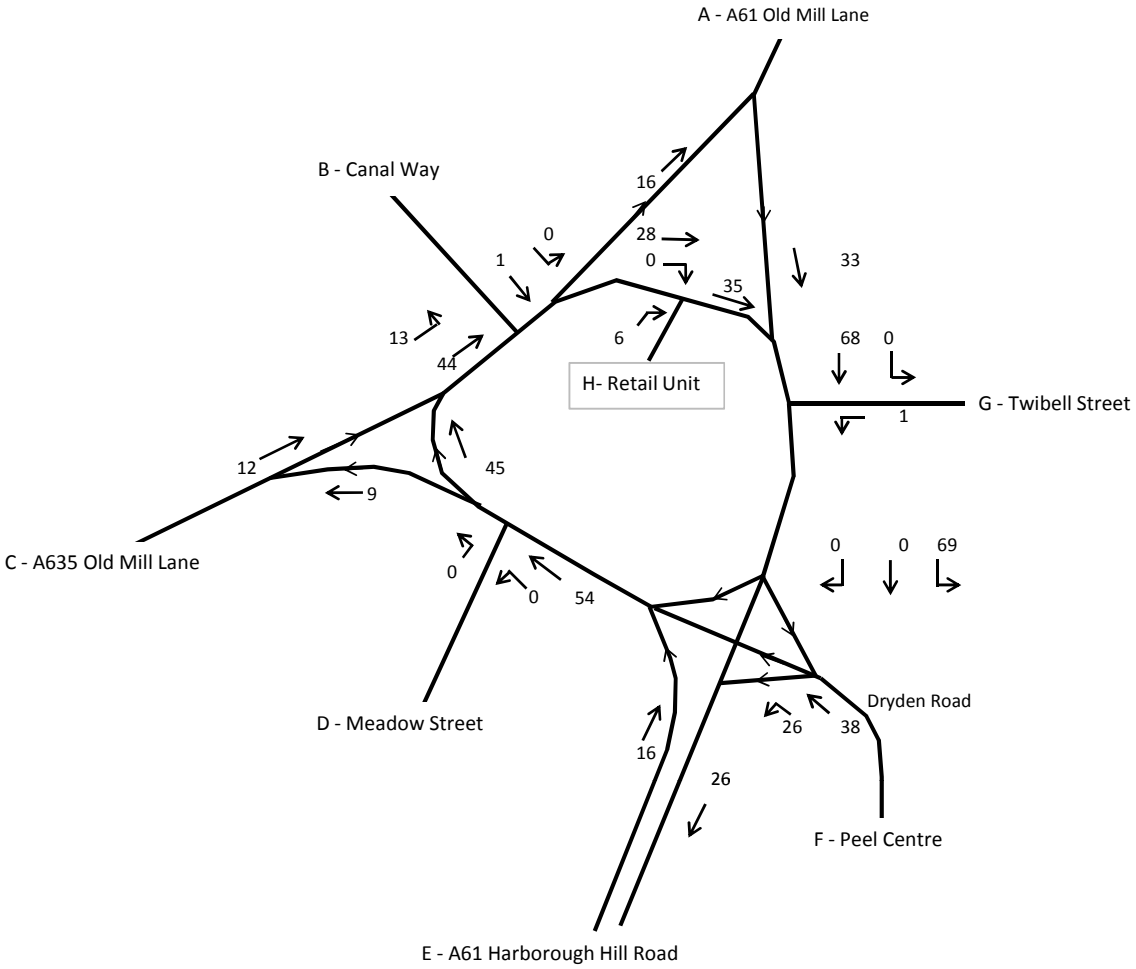
© CACI Ltd, 2012

APPENDIX B



	A	B	C	D	E	F	G	H	Total
A	0	0	-6	0	-7	37	0	0	24
B	0	0	0	0	0	1	0	0	1
C	-3	0	0	0	-1	13	0	0	8
D	0	0	0	0	0	0	0	0	0
E	-3	0	-1	0	0	15	0	0	11
F	17	9	12	0	26	0	0	0	64
G	0	0	0	0	0	1	0	0	1
H	0	0	0	0	0	5	0	0	5
Total	11	9	6	0	18	70	0	0	**113**

the Traffic, Transport & Highway Consultancy	Drawing Number M06011-E-003	Rev	**PEEL CENTRE, BARNSLEY**	
	Date JANUARY 2016	Rev Date	TA Proposed Saturday Peel Centre Peak Total Development Flows	
	Drawn by MB	Authorised MAW	SCALE NTS	**APPENDIX B1**



	A	B	C	D	E	F	G	H	Total
A	0	0	0	0	0	33	0	0	33
B	0	0	0	0	0	1	0	0	1
C	0	0	0	0	0	12	0	0	12
D	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	16	0	0	16
F	16	13	9	0	26	0	0	0	64
G	0	0	0	0	0	1	0	0	1
H	0	0	0	0	0	6	0	0	6
Total	16	13	9	0	26	69	0	0	**133**

the Traffic, Transport & Highway Consultancy	Drawing Number M06011-E-003	Rev	**PEEL CENTRE, BARNSLEY**	
	Date JANUARY 2016	Rev Date	Proposed Saturday Peel Centre Total Development Flows (100% New Trips)	
	Drawn by MB	Authorised MAW	SCALE NTS	**APPENDIX B2**

APPENDIX C

Calculation Reference: AUDIT-734101-160118-0135

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : C - DISCOUNT FOOD STORES
VEHICLES

Filtering Stage 2 selection:

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

Parameter:	Gross floor area
Actual Range:	1165 to 1900 (units: sqm)
Range Selected by User:	857 to 2703 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/00 to 17/06/14

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

Selected survey days:

Monday	1 days
Tuesday	2 days
Wednesday	2 days
Thursday	1 days

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

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

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

Selected Location Sub Categories:

Industrial Zone	1
Commercial Zone	1
Residential Zone	2
Built-Up Zone	1
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

A1	6 days

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

Population within 1 mile:

10,001 to 15,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	3 days

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

Population within 5 miles:

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

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	3 days

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

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	6 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

Not Known	1 days
No	5 days

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

LIST OF SITES relevant to selection parameters

1	DC-01-C-02	LIDL		DORSET
	POOLE ROAD			
	BRANKSOME			
	BOURNEMOUTH			
	Suburban Area (PPS6 Out of Centre)			
	Commercial Zone			
	Total Gross floor area:		1334 sqm	
	Survey date: TUESDAY		15/07/08	Survey Type: MANUAL
2	ES-01-C-01	ALDI		EAST SUSSEX
	LONDON ROAD			
	BEXHILL			
	Suburban Area (PPS6 Out of Centre)			
	Built-Up Zone			
	Total Gross floor area:		1222 sqm	
	Survey date: THURSDAY		04/10/01	Survey Type: MANUAL
3	MS-01-C-02	ALDI		MERSEYSIDE
	SMITHDOWN ROAD			
	WAVERTREE			
	LIVERPOOL			
	Neighbourhood Centre (PPS6 Local Centre)			
	Residential Zone			
	Total Gross floor area:		1200 sqm	
	Survey date: MONDAY		18/06/07	Survey Type: MANUAL
4	MS-01-C-03	ALDI		MERSEYSIDE
	LAUREL ROAD			
	ELM PARK			
	LIVERPOOL			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:		1165 sqm	
	Survey date: WEDNESDAY		20/06/07	Survey Type: MANUAL
5	NR-01-C-01	ALDI		NORTHAMPTONSHIRE
	DALTON ROAD			
	CORBY			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:		1345 sqm	
	Survey date: WEDNESDAY		19/11/08	Survey Type: MANUAL
6	SH-01-C-01	LIDL		SHROPSHIRE
	CASTLE STREET			
	HADLEY			
	TELFORD			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total Gross floor area:		1900 sqm	
	Survey date: TUESDAY		16/06/09	Survey Type: MANUAL

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

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	1478	0.248	3	1478	0.135	3	1478	0.383
08:00 - 09:00	5	1389	0.936	5	1389	0.590	5	1389	1.526
09:00 - 10:00	6	1361	3.478	6	1361	2.633	6	1361	6.111
10:00 - 11:00	6	1361	4.519	6	1361	4.274	6	1361	8.793
11:00 - 12:00	6	1361	4.580	6	1361	4.311	6	1361	8.891
12:00 - 13:00	6	1361	4.580	6	1361	4.776	6	1361	9.356
13:00 - 14:00	6	1361	4.249	6	1361	4.139	6	1361	8.388
14:00 - 15:00	6	1361	3.992	6	1361	3.845	6	1361	7.837
15:00 - 16:00	6	1361	3.992	6	1361	4.323	6	1361	8.315
16:00 - 17:00	6	1361	4.053	6	1361	3.931	6	1361	7.984
17:00 - 18:00	6	1361	3.270	6	1361	4.041	6	1361	7.311
18:00 - 19:00	6	1361	3.037	6	1361	3.257	6	1361	6.294
19:00 - 20:00	5	1389	1.123	5	1389	1.843	5	1389	2.966
20:00 - 21:00	1	1334	1.274	1	1334	1.649	1	1334	2.923
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			43.331			43.747			87.078

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

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

Parameter summary

Trip rate parameter range selected:	1165 - 1900 (units: sqm)
Survey date date range:	01/01/00 - 17/06/14
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TTHC OXFORD STREET MANCHESTER Licence No: 734101

RANK ORDER for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
VEHICLES

Ranking Type: TOTALS Time Range: 16:00-17:00
WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.
15th Percentile = No. 5 MS-01-C-03 Tot: 6.180
85th Percentile = No. 2 DC-01-C-02 Tot: 10.420

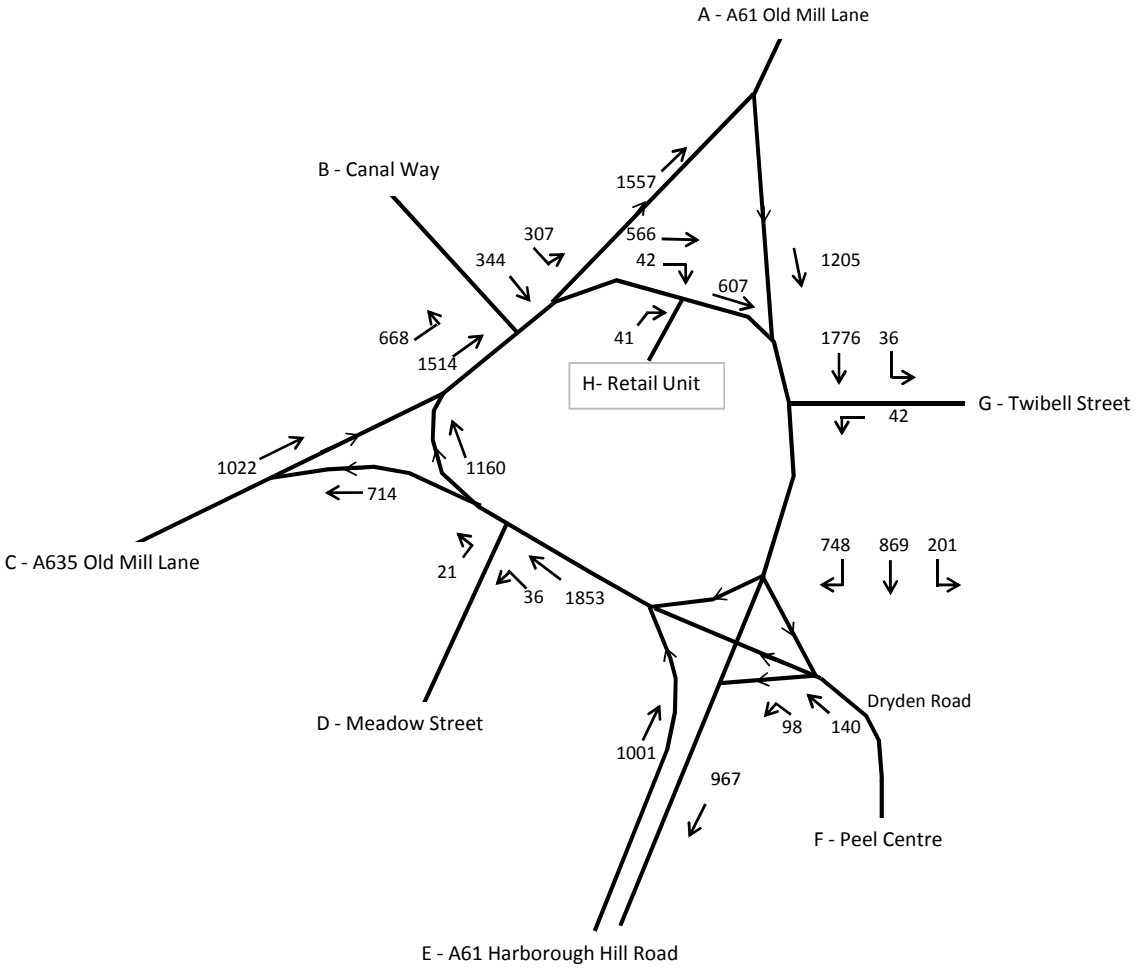
Median Values		Mean Values	
Arrivals:	3.911	Arrivals:	4.152
Departures:	3.994	Departures:	4.013
Totals:	7.905	Totals:	8.165

Rank	Site-Ref	Description	Town/City	Area	GFA	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	ES-01-C-01	ALDI	BEXHILL	EAST SUSSEX	1222	Thu	04/10/01	6.219	4.992	11.211
2	DC-01-C-02	LIDL	BOURNEMOUTH	DORSET	1334	Tue	15/07/08	5.547	4.873	10.420
3	NR-01-C-01	ALDI	CORBY	NORTHAMPTONSHIRE	1345	Wed	19/11/08	4.238	4.238	8.476
4	MS-01-C-02	ALDI	LIVERPOOL	MERSEYSIDE	1200	Mon	18/06/07	3.583	3.750	7.333
5	MS-01-C-03	ALDI	LIVERPOOL	MERSEYSIDE	1165	Wed	20/06/07	2.747	3.433	6.180
6	SH-01-C-01	LIDL	TELFORD	SHROPSHIRE	1900	Tue	16/06/09	2.579	2.789	5.368

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

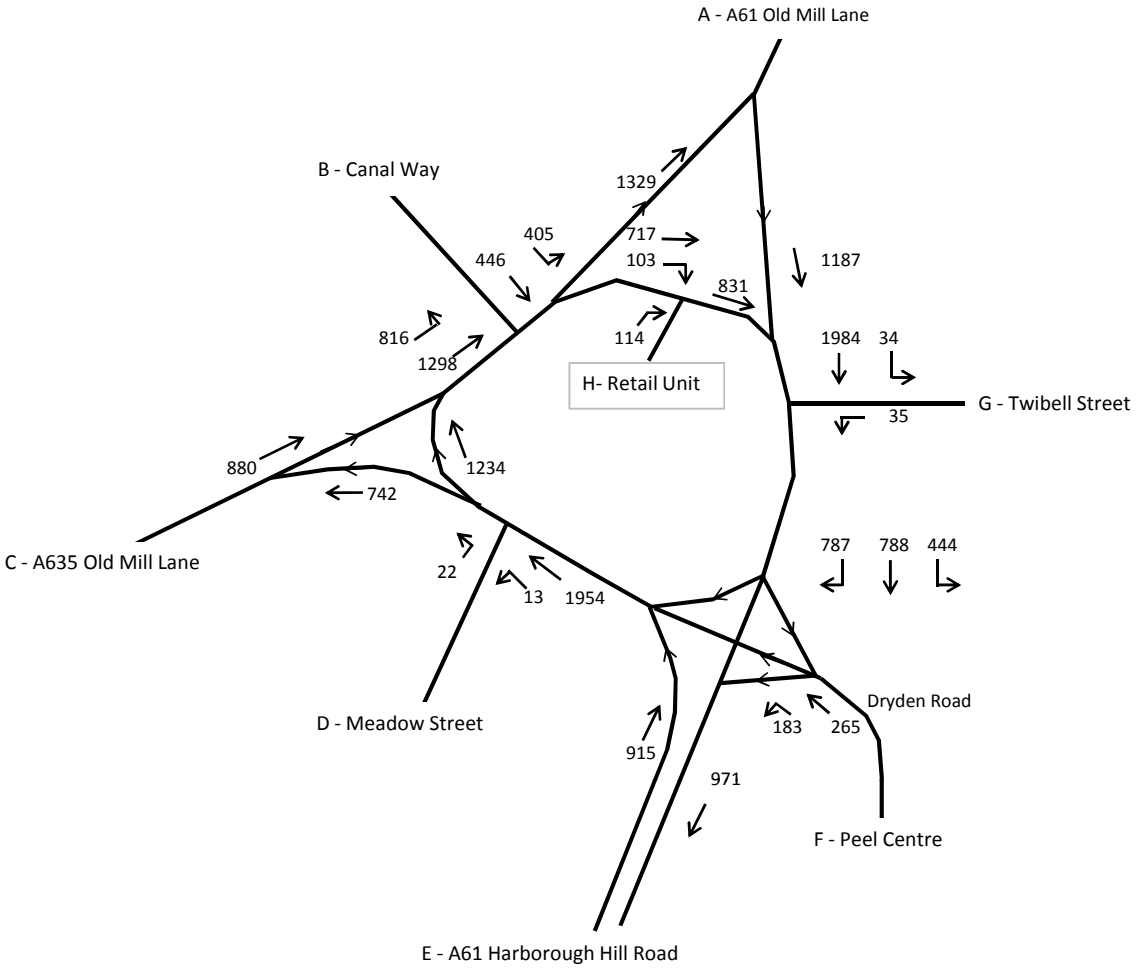
The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

APPENDIX D



	A	B	C	D	E	F	G	H	Total
A	2	167	379	20	544	72	6	15	1205
B	307	0	129	0	198	15	1	1	651
C	641	247	0	6	58	57	3	10	1022
D	6	1	12	0	2	0	0	0	21
E	554	196	130	8	27	44	26	16	1001
F	36	53	51	0	98	0	0	0	238
G	11	0	7	2	17	5	0	0	42
H	0	4	6	0	23	8	0	0	41
Total	1557	668	714	36	967	201	36	42	4221

tthc the Traffic, Transport & Highway Consultancy	Drawing Number M06011-E-002	Rev	**PEEL CENTRE, BARNSLEY**	
	Date MAY 2015	Rev Date	PM PEAK - Existing 2014 (PCUs)	
	Drawn by Mwi	Authorised MAW	SCALE NTS	



	A	B	C	D	E	F	G	H	Total
A	0	166	365	0	433	215	8	0	1187
B	405	0	195	0	218	6	0	27	851
C	440	272	2	0	63	74	9	20	880
D	8	6	8	0	0	0	0	0	22
E	338	281	83	7	30	103	17	56	915
F	115	88	62	0	183	0	0	0	448
G	8	3	6	3	10	5	0	0	35
H	15	0	21	3	34	41	0	0	114
Total	1329	816	742	13	971	444	34	103	**4452**

the Traffic, Transport & Highway Consultancy	Drawing Number M06011-E-002	Rev	**PEEL CENTRE, BARNSLEY**	
	Date MAY 2015	Rev Date	SAT PEAK - Existing 2014 (PCUs)	
	Drawn by Mwi	Authorised MAW	SCALE NTS	

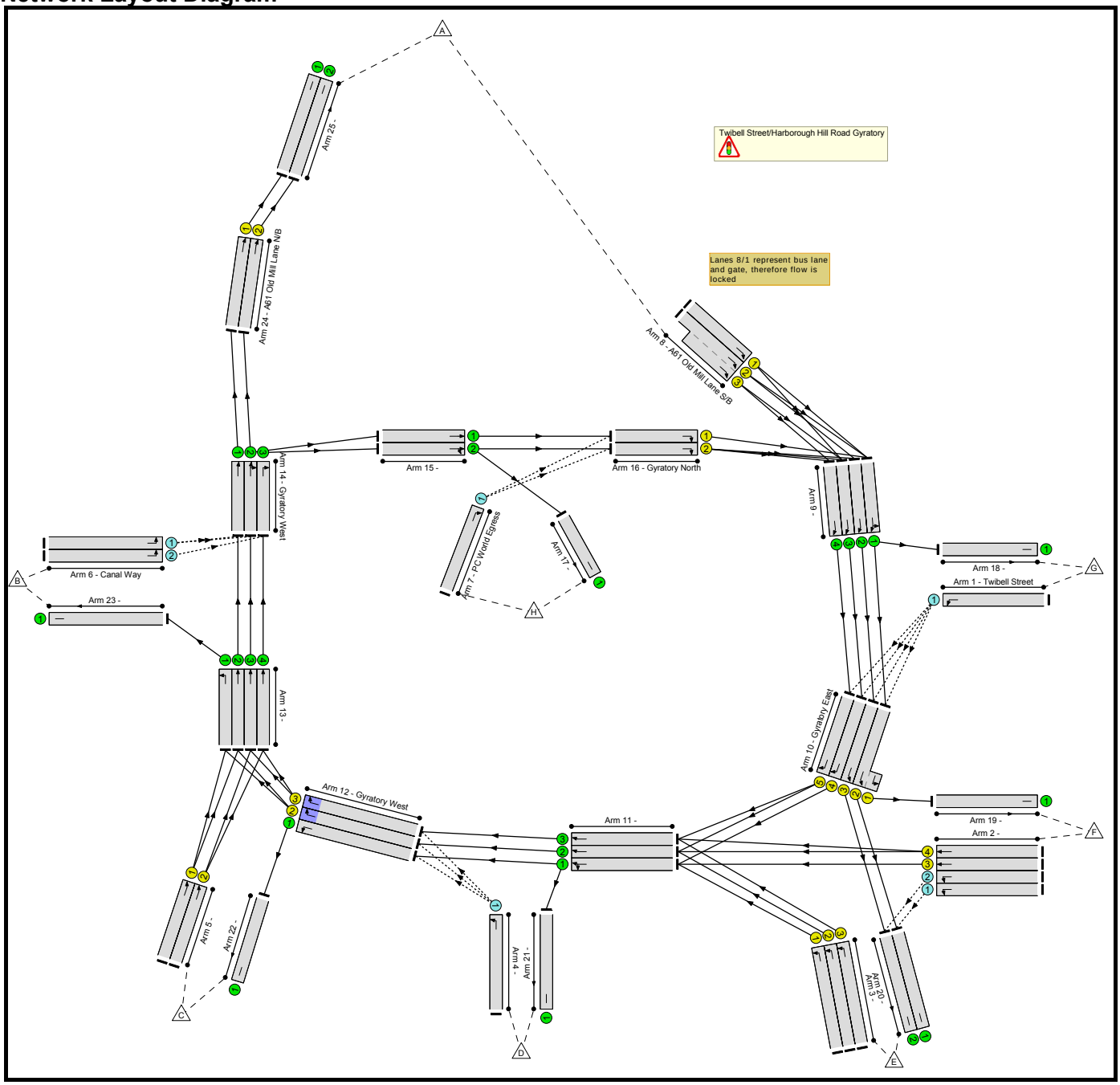
APPENDIX E

Full Input Data And Results

User and Project Details

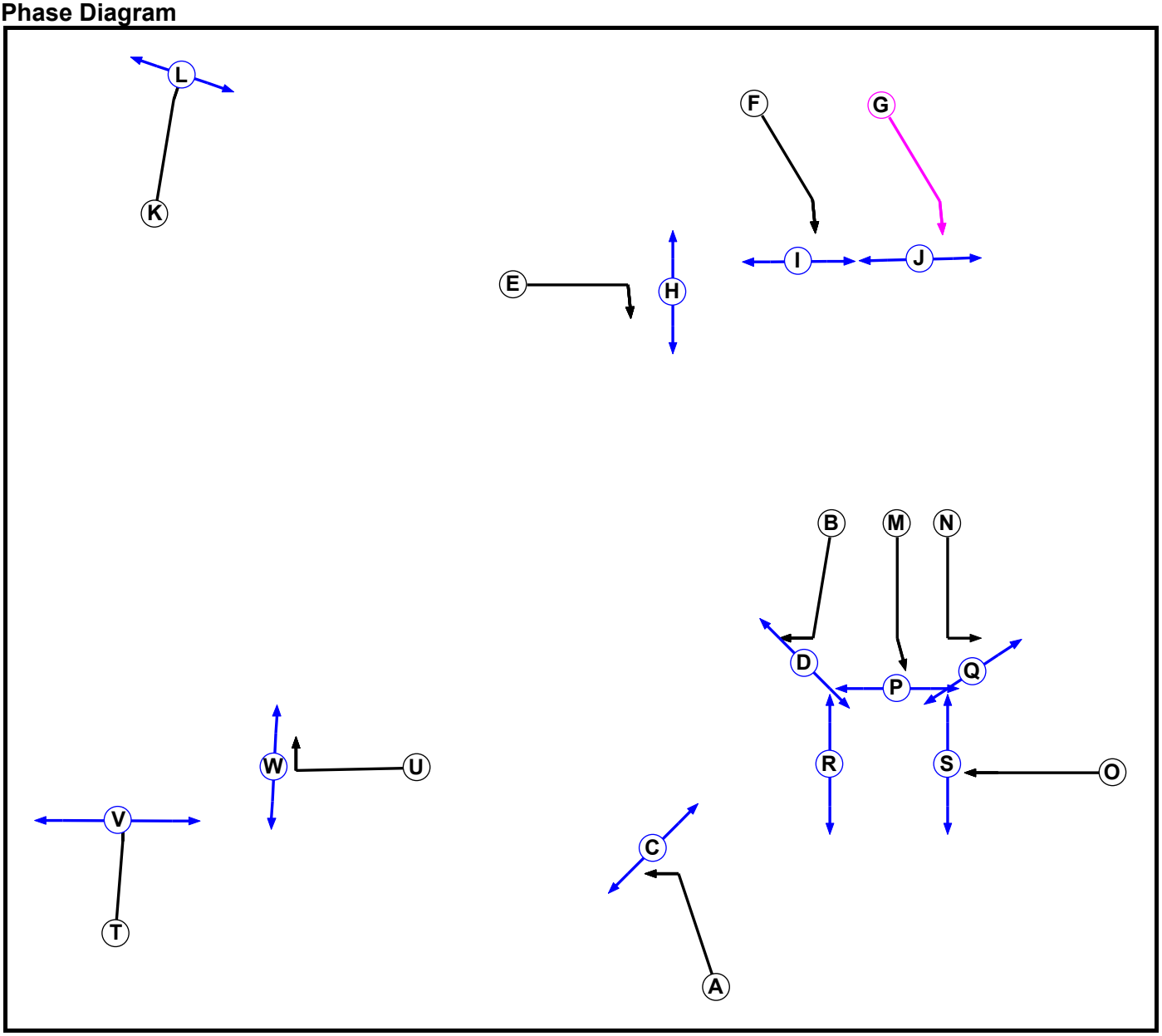
Project:	**M06011 Barnsley**
Title:	**A61 Harborough Hill Road Gyratory**
Location:	Barnsley
File name:	A61 Gyratory assessment M06011-06 TN.lsg3x
Author:	M Williamson
Company:	TTHC
Address:	Manchester
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Pedestrian	1		6	6
D	Pedestrian	1		5	5
E	Traffic	2		7	7
F	Traffic	2		7	7
G	Bus	2		5	5
H	Pedestrian	2		5	5
I	Pedestrian	2		5	5
J	Pedestrian	2		5	5
K	Traffic	3		7	7
L	Pedestrian	3		5	5
M	Traffic	1		7	7
N	Traffic	1		7	7
O	Traffic	1		7	7
P	Pedestrian	1		5	5
Q	Pedestrian	1		5	5
R	Pedestrian	1		5	5
S	Pedestrian	1		5	5
T	Traffic	4		7	4
U	Traffic	4		7	5
V	Pedestrian	4		5	5
W	Pedestrian	4		5	5

Full Input Data And Results

Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
A		5	5	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-
B	7		-	5	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-
C	11	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	-	9	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	-	-	-	-		5	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	-	-	-	-	5		5	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G	-	-	-	-	5	5		-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
H	-	-	-	-	8	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I	-	-	-	-	-	7	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
J	-	-	-	-	-	-	6	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-
K	-	-	-	-	-	-	-	-	-	-		5	-	-	-	-	-	-	-	-	-	-	-
L	-	-	-	-	-	-	-	-	-	-	8		-	-	-	-	-	-	-	-	-	-	-
M	-	-	-	-	-	-	-	-	-	-	-	-		-	5	5	-	-	-	-	-	-	-
N	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	5	-	-	-	-	-	-
O	8	7	-	-	-	-	-	-	-	-	-	-	5	-		-	-	6	5	-	-	-	-
P	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-		-	-	-	-	-	-	-
Q	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-		-	-	-	-	-	-
R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-		-	-	-	-	-
S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-		-	-	-	-
T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5	5	-
U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5		-	5
V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-		-
W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	

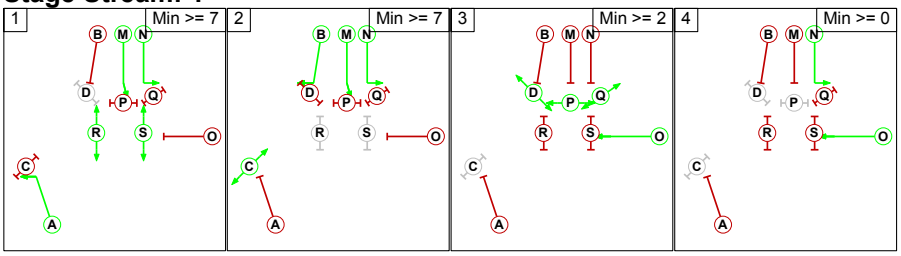
Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A M N R S
1	2	B C M N
1	3	D O P Q
1	4	N O
2	1	E I
2	2	G H
2	3	F J
3	1	K
3	2	L
4	1	T W
4	2	U V

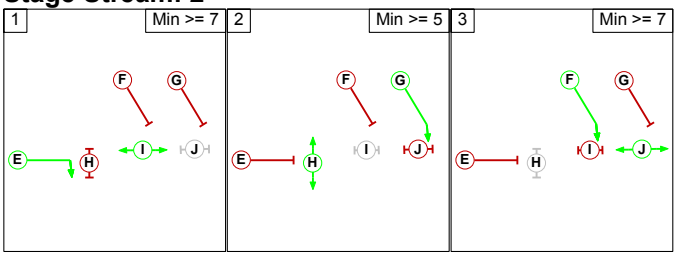
Full Input Data And Results

Stage Diagram

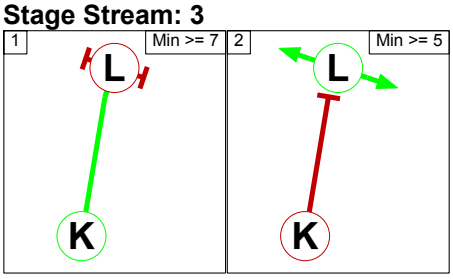
Stage Stream: 1



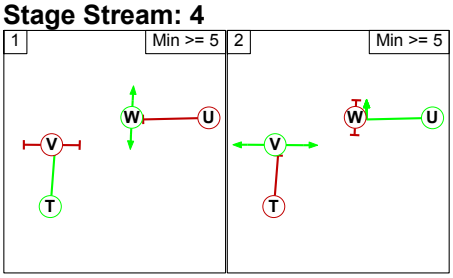
Stage Stream: 2



Stage Stream: 3



Stage Stream: 4



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Stage Stream: 3

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

Full Input Data And Results

Stage Stream: 4

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	T	Losing	3	3
2	1	U	Losing	2	2

Prohibited Stage Change

Stage Stream: 1

From Stage \ To Stage	1	2	3	4
1		5	8	8
2	11		5	5
3	8	9		6
4	8	7	5	

Stage Stream: 2

From Stage \ To Stage	1	2	3
1		5	7
2	8		5
3	5	6	

Stage Stream: 3

From Stage \ To Stage	1	2
1		5
2	8	

Stage Stream: 4

From Stage \ To Stage	1	2
1		8
2	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Twibell Street/Harborough Hill Road Gyratory

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (Twibell Street)	10/2 (Left)	1000	0	9/1	0.33	To 10/2 (Ahead)	-	-	-	-	-
	10/3 (Left)	1000	0	9/1	0.33	To 10/2 (Ahead)					
				9/2	0.33	All					
	10/4 (Left)	1000	0	9/1	0.33	To 10/2 (Ahead)					
				9/2	0.33	All					
				9/3	0.33	All					
	10/5 (Left)	1000	0	9/1	0.33	To 10/2 (Ahead)					
				9/2	1.09	All					
				9/3	1.09	All					
				9/4	1.09	All					
2/1	20/1 (Left)	715	0	10/2	0.22	All	-	-	-	-	-
2/2	20/2 (Left)	715	0	10/2	0.22	All	-	-	-	-	-
				10/3	0.22	All					
4/1	12/1 (Left)	1000	0	11/1	0.33	To 12/1 (Ahead)	-	-	-	-	-
	12/2 (Left)	1000	0	11/1	0.33	To 12/1 (Ahead)					
				11/2	0.33	All					
	12/3 (Left)	1000	0	11/1	0.33	To 12/1 (Ahead)					
				11/2	0.33	All					
				11/3	0.33	All					
6/1 (Canal Way)	14/1 (Left)	1000	0	13/2	0.33	All	-	-	-	-	-
	14/2 (Left)	1000	0	13/2	0.33	All					
				13/3	0.33	All					
6/2	14/3 (Left)	1000	0	13/2	0.33	All	-	-	-	-	-

Full Input Data And Results

(Canal Way)				13/3	0.33	All						
				13/4	0.33	All						
7/1 (PC World Egress)	16/1 (Right)	600	0	15/1	0.19	All	-	-	-	-	-
				15/2	0.19	All						
	16/2 (Right)	600	0	15/2	0.19	All						

Full Input Data And Results

Lane Input Data

Junction: Twibell Street/Harborough Hill Road Gyratory

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Twibell Street)	O		2	3	60.0	Geom	-	5.00	0.00	Y	Arm 10 Left	17.50
2/1	O		2	3	60.0	Geom	-	3.25	0.00	Y	Arm 20 Left	17.50
2/2	O		2	3	60.0	Geom	-	3.00	0.00	N	Arm 20 Left	20.00
2/3	U	O	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 11 Ahead	Inf
2/4	U	O	2	3	60.0	Geom	-	3.50	0.00	N	Arm 11 Ahead	Inf
3/1	U	A	2	3	60.0	Geom	-	3.90	0.00	Y	Arm 11 Left	65.00
3/2	U	A	2	3	60.0	Geom	-	3.90	0.00	N	Arm 11 Left	65.00
3/3	U	A	2	3	60.0	Geom	-	3.50	0.00	N	Arm 11 Left	65.00
4/1	O		2	3	60.0	Geom	-	3.37	0.00	Y	Arm 12 Left	15.00
5/1	U	T	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 13 Ahead	Inf
5/2	U	T	2	3	60.0	Geom	-	3.00	0.00	N	Arm 13 Ahead	Inf
6/1 (Canal Way)	O		2	3	60.0	Geom	-	3.50	0.00	Y	Arm 14 Left	15.00
6/2 (Canal Way)	O		2	3	60.0	Geom	-	3.50	0.00	N	Arm 14 Left	Inf
7/1 (PC World Egress)	O		2	3	60.0	Geom	-	4.00	0.00	Y	Arm 16 Right	17.50
8/1 (A61 Old Mill Lane S/B)	U	G	2	3	4.2	Geom	-	3.75	0.00	Y	Arm 9 Ahead	Inf
8/2 (A61 Old Mill Lane S/B)	U	F	2	3	60.0	Geom	-	3.50	0.00	N	Arm 9 Ahead	Inf
8/3 (A61 Old Mill Lane S/B)	U	F	2	3	9.0	Geom	-	3.00	0.00	N	Arm 9 Ahead	Inf
9/1	U		2	3	6.4	Geom	-	3.50	0.00	Y	Arm 10 Ahead Arm 18 Left	Inf 15.00
9/2	U		2	3	6.3	Geom	-	3.50	0.00	N	Arm 10 Ahead	Inf
9/3	U		2	3	6.1	Geom	-	3.00	0.00	N	Arm 10 Ahead	Inf

Full Input Data And Results

9/4	U		2	3	6.1	Geom	-	2.50	0.00	N	Arm 10 Ahead	Inf
10/1 (Gyratory East)	U	N	2	3	2.1	Geom	-	4.00	8.00	Y	Arm 19 Left	25.00
10/2 (Gyratory East)	U	M	2	3	14.1	Geom	-	3.25	8.00	Y	Arm 20 Ahead	Inf
10/3 (Gyratory East)	U	M	2	3	14.1	Geom	-	3.50	8.00	N	Arm 20 Ahead	Inf
10/4 (Gyratory East)	U	B	2	3	13.6	Geom	-	3.75	8.00	N	Arm 11 Right	20.00
10/5 (Gyratory East)	U	B	2	3	13.2	Geom	-	3.50	8.00	N	Arm 11 Right	20.00
11/1	U		2	3	15.4	Geom	-	3.50	0.00	Y	Arm 12 Ahead	Inf
											Arm 21 Left	12.50
11/2	U		2	3	15.3	Geom	-	4.00	0.00	N	Arm 12 Ahead	Inf
11/3	U		2	3	15.3	Geom	-	3.50	0.00	N	Arm 12 Ahead	Inf
12/1 (Gyratory West)	U		2	3	8.5	Geom	-	4.00	0.00	Y	Arm 22 Left	37.50
12/2 (Gyratory West)	U	U	2	3	9.3	Geom	-	3.50	0.00	N	Arm 13 Right	32.50
12/3 (Gyratory West)	U	U	2	3	8.3	Geom	-	3.50	0.00	N	Arm 13 Right	30.00
13/1	U		2	3	8.7	Geom	-	3.75	0.00	Y	Arm 23 Left	17.50
13/2	U		2	3	9.6	Geom	-	3.50	0.00	Y	Arm 14 Ahead	Inf
13/3	U		2	3	9.7	Geom	-	3.75	0.00	N	Arm 14 Ahead	Inf
13/4	U		2	3	9.7	Geom	-	3.50	0.00	N	Arm 14 Ahead	Inf
14/1 (Gyratory West)	U		2	3	5.0	Geom	-	3.75	0.00	Y	Arm 24 Ahead	Inf
14/2 (Gyratory West)	U		2	3	5.0	Geom	-	3.50	0.00	N	Arm 15 Right	20.00
											Arm 24 Ahead	Inf
14/3 (Gyratory West)	U		2	3	5.0	Geom	-	3.75	0.00	N	Arm 15 Right	20.00
15/1	U		2	3	4.0	Geom	-	3.75	0.00	Y	Arm 16 Ahead	Inf
15/2	U		2	3	3.3	Geom	-	3.50	0.00	N	Arm 16 Ahead	Inf

											Arm 17 Right	50.00
16/1 (Gyratory North)	U	E	2	3	4.9	Geom	-	3.50	0.00	Y	Arm 9 Right	30.00
16/2 (Gyratory North)	U	E	2	3	4.9	Geom	-	3.50	0.00	N	Arm 9 Right	20.00
17/1	U		2	3	60.0	Inf	-	-	-	-	-	-
18/1	U		2	3	60.0	Inf	-	-	-	-	-	-
19/1	U		2	3	60.0	Inf	-	-	-	-	-	-
20/1	U		2	3	60.0	Inf	-	-	-	-	-	-
20/2	U		2	3	60.0	Inf	-	-	-	-	-	-
21/1	U		2	3	60.0	Inf	-	-	-	-	-	-
22/1	U		2	3	60.0	Inf	-	-	-	-	-	-
23/1	U		2	3	60.0	Inf	-	-	-	-	-	-
24/1 (A61 Old Mill Lane N/B)	U	K	2	3	10.4	Geom	-	3.50	0.00	Y	Arm 25 Ahead	Inf
24/2 (A61 Old Mill Lane N/B)	U	K	2	3	10.6	Geom	-	3.50	0.00	N	Arm 25 Ahead	Inf
25/1	U		2	3	60.0	Inf	-	-	-	-	-	-
25/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Existing Saturday Peak'	13:45	14:45	01:00	
2: 'Existing PM Peak'	17:00	18:00	01:00	

Scenario 1: 'Existing Saturday Peak' (FG1: 'Existing Saturday Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination								
		A	B	C	D	E	F	G	H	Tot.
Origin	A	0	166	365	0	433	215	8	0	1187
	B	405	0	195	0	218	6	0	27	851
	C	440	272	2	0	63	74	9	20	880
	D	8	6	8	0	0	0	0	0	22
	E	338	281	83	7	30	103	17	56	915
	F	115	88	62	0	183	0	0	0	448
	G	8	3	6	3	10	5	0	0	35
	H	15	0	21	3	34	41	0	0	114
	Tot.	1329	816	742	13	971	444	34	103	4452

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: Existing Saturday Peak
Junction: Twibell Street/Harborough Hill Road Gyratory	
1/1	35
2/1	91
2/2	92
2/3	62
2/4	203
3/1	90
3/2	413
3/3	412
4/1	22
5/1	440
5/2	440
6/1	426
6/2	425
7/1	114
8/1	46
8/2 (with short)	1141(In) 656(Out)
8/3 (short)	485
9/1	767
9/2	484
9/3	586
9/4	181
10/1 (short)	444
10/2 (with short)	743(In) 299(Out)
10/3	489
10/4	595
10/5	192
11/1	747
11/2	738
11/3	482
12/1	742
12/2	748
12/3	486
13/1	816
13/2	372
13/3	801
13/4	125
14/1	575
14/2	1024

Full Input Data And Results

14/3	550
15/1	270
15/2	550
16/1	328
16/2	503
17/1	103
18/1	34
19/1	444
20/1	390
20/2	581
21/1	13
22/1	742
23/1	816
24/1	575
24/2	754
25/1	575
25/2	754

Full Input Data And Results

Lane Saturation Flows

Junction: Twibell Street/Harborough Hill Road Gyratory								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Twibell Street)	5.00	0.00	Y	Arm 10 Left	17.50	100.0 %	1948	1948
2/1	3.25	0.00	Y	Arm 20 Left	17.50	100.0 %	1787	1787
2/2	3.00	0.00	N	Arm 20 Left	20.00	100.0 %	1912	1912
2/3	3.50	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1965	1965
2/4	3.50	0.00	N	Arm 11 Ahead	Inf	100.0 %	2105	2105
3/1	3.90	0.00	Y	Arm 11 Left	65.00	100.0 %	1960	1960
3/2	3.90	0.00	N	Arm 11 Left	65.00	100.0 %	2097	2097
3/3	3.50	0.00	N	Arm 11 Left	65.00	100.0 %	2058	2058
4/1	3.37	0.00	Y	Arm 12 Left	15.00	100.0 %	1775	1775
5/1	3.00	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1915	1915
5/2	3.00	0.00	N	Arm 13 Ahead	Inf	100.0 %	2055	2055
6/1 (Canal Way)	3.50	0.00	Y	Arm 14 Left	15.00	100.0 %	1786	1786
6/2 (Canal Way)	3.50	0.00	N	Arm 14 Left	Inf	100.0 %	2105	2105
7/1 (PC World Egress)	4.00	0.00	Y	Arm 16 Right	17.50	100.0 %	1856	1856
8/1 (A61 Old Mill Lane S/B)	3.75	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1990	1990
8/2 (A61 Old Mill Lane S/B)	3.50	0.00	N	Arm 9 Ahead	Inf	100.0 %	2105	2105
8/3 (A61 Old Mill Lane S/B)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
9/1	3.50	0.00	Y	Arm 10 Ahead	Inf	95.6 %	1956	1956
				Arm 18 Left	15.00	4.4 %		
9/2	3.50	0.00	N	Arm 10 Ahead	Inf	100.0 %	2105	2105
9/3	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
9/4	2.50	0.00	N	Arm 10 Ahead	Inf	100.0 %	2005	2005
10/1 (Gyratory East)	4.00	8.00	Y	Arm 19 Left	25.00	100.0 %	1584	1584
10/2 (Gyratory East)	3.25	8.00	Y	Arm 20 Ahead	Inf	100.0 %	1604	1604
10/3 (Gyratory East)	3.50	8.00	N	Arm 20 Ahead	Inf	100.0 %	1769	1769
10/4 (Gyratory East)	3.75	8.00	N	Arm 11 Right	20.00	100.0 %	1669	1669
10/5 (Gyratory East)	3.50	8.00	N	Arm 11 Right	20.00	100.0 %	1646	1646
11/1	3.50	0.00	Y	Arm 12 Ahead	Inf	98.3 %	1961	1961
				Arm 21 Left	12.50	1.7 %		
11/2	4.00	0.00	N	Arm 12 Ahead	Inf	100.0 %	2155	2155

Full Input Data And Results

11/3	3.50	0.00	N	Arm 12 Ahead	Inf	100.0 %	2105	2105
12/1 (Gyratory West)	4.00	0.00	Y	Arm 22 Left	37.50	100.0 %	1938	1938
12/2 (Gyratory West)	3.50	0.00	N	Arm 13 Right	32.50	100.0 %	2012	2012
12/3 (Gyratory West)	3.50	0.00	N	Arm 13 Right	30.00	100.0 %	2005	2005
13/1	3.75	0.00	Y	Arm 23 Left	17.50	100.0 %	1833	1833
13/2	3.50	0.00	Y	Arm 14 Ahead	Inf	100.0 %	1965	1965
13/3	3.75	0.00	N	Arm 14 Ahead	Inf	100.0 %	2130	2130
13/4	3.50	0.00	N	Arm 14 Ahead	Inf	100.0 %	2105	2105
14/1 (Gyratory West)	3.75	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1990	1990
14/2 (Gyratory West)	3.50	0.00	N	Arm 15 Right Arm 24 Ahead	20.00 Inf	26.4 % 73.6 %	2064	2064
14/3 (Gyratory West)	3.75	0.00	N	Arm 15 Right	20.00	100.0 %	1981	1981
15/1	3.75	0.00	Y	Arm 16 Ahead	Inf	100.0 %	1990	1990
15/2	3.50	0.00	N	Arm 16 Ahead Arm 17 Right	Inf 50.00	81.3 % 18.7 %	2093	2093
16/1 (Gyratory North)	3.50	0.00	Y	Arm 9 Right	30.00	100.0 %	1871	1871
16/2 (Gyratory North)	3.50	0.00	N	Arm 9 Right	20.00	100.0 %	1958	1958
17/1	Infinite Saturation Flow						Inf	Inf
18/1	Infinite Saturation Flow						Inf	Inf
19/1	Infinite Saturation Flow						Inf	Inf
20/1	Infinite Saturation Flow						Inf	Inf
20/2	Infinite Saturation Flow						Inf	Inf
21/1	Infinite Saturation Flow						Inf	Inf
22/1	Infinite Saturation Flow						Inf	Inf
23/1	Infinite Saturation Flow						Inf	Inf
24/1 (A61 Old Mill Lane N/B)	3.50	0.00	Y	Arm 25 Ahead	Inf	100.0 %	1965	1965
24/2 (A61 Old Mill Lane N/B)	3.50	0.00	N	Arm 25 Ahead	Inf	100.0 %	2105	2105
25/1	Infinite Saturation Flow						Inf	Inf
25/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

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

Traffic Flows, Desired

Desired Flow :

		Destination								
		A	B	C	D	E	F	G	H	Tot.
Origin	A	2	167	379	20	544	72	6	15	1205
	B	307	0	129	0	198	15	1	1	651
	C	641	247	0	6	58	57	3	10	1022
	D	6	1	12	0	2	0	0	0	21
	E	554	196	130	8	27	44	26	16	1001
	F	36	53	51	0	98	0	0	0	238
	G	11	0	7	2	17	5	0	0	42
	H	0	4	6	0	23	8	0	0	41
	Tot.	1557	668	714	36	967	201	36	42	4221

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: Existing PM Peak
Junction: Twibell Street/Harborough Hill Road Gyratory	
1/1	42
2/1	49
2/2	49
2/3	51
2/4	89
3/1	138
3/2	432
3/3	431
4/1	21
5/1	511
5/2	511
6/1	326
6/2	325
7/1	41
8/1	27
8/2 (with short)	1178(In) 621(Out)
8/3 (short)	557
9/1	562
9/2	522
9/3	540
9/4	188
10/1 (short)	201
10/2 (with short)	539(In) 338(Out)
10/3	531
10/4	549
10/5	199
11/1	738
11/2	680
11/3	471
12/1	714
12/2	684
12/3	476
13/1	668
13/2	527
13/3	896
13/4	91
14/1	681
14/2	1068

Full Input Data And Results

14/3	416
15/1	192
15/2	416
16/1	212
16/2	395
17/1	42
18/1	36
19/1	201
20/1	387
20/2	580
21/1	36
22/1	714
23/1	668
24/1	681
24/2	876
25/1	681
25/2	876

Full Input Data And Results

Lane Saturation Flows

Junction: Twibell Street/Harborough Hill Road Gyratory								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Twibell Street)	5.00	0.00	Y	Arm 10 Left	17.50	100.0 %	1948	1948
2/1	3.25	0.00	Y	Arm 20 Left	17.50	100.0 %	1787	1787
2/2	3.00	0.00	N	Arm 20 Left	20.00	100.0 %	1912	1912
2/3	3.50	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1965	1965
2/4	3.50	0.00	N	Arm 11 Ahead	Inf	100.0 %	2105	2105
3/1	3.90	0.00	Y	Arm 11 Left	65.00	100.0 %	1960	1960
3/2	3.90	0.00	N	Arm 11 Left	65.00	100.0 %	2097	2097
3/3	3.50	0.00	N	Arm 11 Left	65.00	100.0 %	2058	2058
4/1	3.37	0.00	Y	Arm 12 Left	15.00	100.0 %	1775	1775
5/1	3.00	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1915	1915
5/2	3.00	0.00	N	Arm 13 Ahead	Inf	100.0 %	2055	2055
6/1 (Canal Way)	3.50	0.00	Y	Arm 14 Left	15.00	100.0 %	1786	1786
6/2 (Canal Way)	3.50	0.00	N	Arm 14 Left	Inf	100.0 %	2105	2105
7/1 (PC World Egress)	4.00	0.00	Y	Arm 16 Right	17.50	100.0 %	1856	1856
8/1 (A61 Old Mill Lane S/B)	3.75	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1990	1990
8/2 (A61 Old Mill Lane S/B)	3.50	0.00	N	Arm 9 Ahead	Inf	100.0 %	2105	2105
8/3 (A61 Old Mill Lane S/B)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
9/1	3.50	0.00	Y	Arm 10 Ahead	Inf	93.6 %	1952	1952
				Arm 18 Left	15.00	6.4 %		
9/2	3.50	0.00	N	Arm 10 Ahead	Inf	100.0 %	2105	2105
9/3	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
9/4	2.50	0.00	N	Arm 10 Ahead	Inf	100.0 %	2005	2005
10/1 (Gyratory East)	4.00	8.00	Y	Arm 19 Left	25.00	100.0 %	1584	1584
10/2 (Gyratory East)	3.25	8.00	Y	Arm 20 Ahead	Inf	100.0 %	1604	1604
10/3 (Gyratory East)	3.50	8.00	N	Arm 20 Ahead	Inf	100.0 %	1769	1769
10/4 (Gyratory East)	3.75	8.00	N	Arm 11 Right	20.00	100.0 %	1669	1669
10/5 (Gyratory East)	3.50	8.00	N	Arm 11 Right	20.00	100.0 %	1646	1646
11/1	3.50	0.00	Y	Arm 12 Ahead	Inf	95.1 %	1954	1954
				Arm 21 Left	12.50	4.9 %		
11/2	4.00	0.00	N	Arm 12 Ahead	Inf	100.0 %	2155	2155

Full Input Data And Results

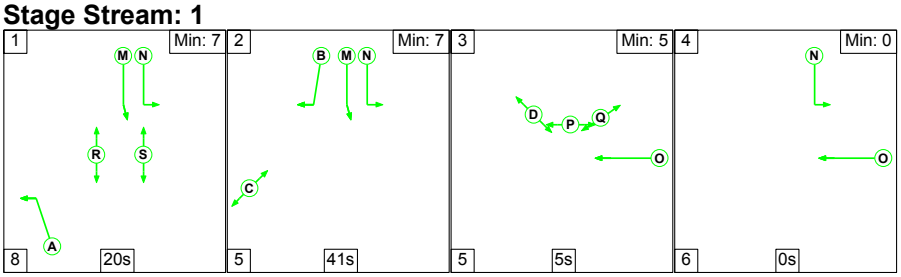
11/3	3.50	0.00	N	Arm 12 Ahead	Inf	100.0 %	2105	2105
12/1 (Gyratory West)	4.00	0.00	Y	Arm 22 Left	37.50	100.0 %	1938	1938
12/2 (Gyratory West)	3.50	0.00	N	Arm 13 Right	32.50	100.0 %	2012	2012
12/3 (Gyratory West)	3.50	0.00	N	Arm 13 Right	30.00	100.0 %	2005	2005
13/1	3.75	0.00	Y	Arm 23 Left	17.50	100.0 %	1833	1833
13/2	3.50	0.00	Y	Arm 14 Ahead	Inf	100.0 %	1965	1965
13/3	3.75	0.00	N	Arm 14 Ahead	Inf	100.0 %	2130	2130
13/4	3.50	0.00	N	Arm 14 Ahead	Inf	100.0 %	2105	2105
14/1 (Gyratory West)	3.75	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1990	1990
14/2 (Gyratory West)	3.50	0.00	N	Arm 15 Right Arm 24 Ahead	20.00 Inf	18.0 % 82.0 %	2077	2077
14/3 (Gyratory West)	3.75	0.00	N	Arm 15 Right	20.00	100.0 %	1981	1981
15/1	3.75	0.00	Y	Arm 16 Ahead	Inf	100.0 %	1990	1990
15/2	3.50	0.00	N	Arm 16 Ahead Arm 17 Right	Inf 50.00	89.9 % 10.1 %	2099	2099
16/1 (Gyratory North)	3.50	0.00	Y	Arm 9 Right	30.00	100.0 %	1871	1871
16/2 (Gyratory North)	3.50	0.00	N	Arm 9 Right	20.00	100.0 %	1958	1958
17/1	Infinite Saturation Flow						Inf	Inf
18/1	Infinite Saturation Flow						Inf	Inf
19/1	Infinite Saturation Flow						Inf	Inf
20/1	Infinite Saturation Flow						Inf	Inf
20/2	Infinite Saturation Flow						Inf	Inf
21/1	Infinite Saturation Flow						Inf	Inf
22/1	Infinite Saturation Flow						Inf	Inf
23/1	Infinite Saturation Flow						Inf	Inf
24/1 (A61 Old Mill Lane N/B)	3.50	0.00	Y	Arm 25 Ahead	Inf	100.0 %	1965	1965
24/2 (A61 Old Mill Lane N/B)	3.50	0.00	N	Arm 25 Ahead	Inf	100.0 %	2105	2105
25/1	Infinite Saturation Flow						Inf	Inf
25/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

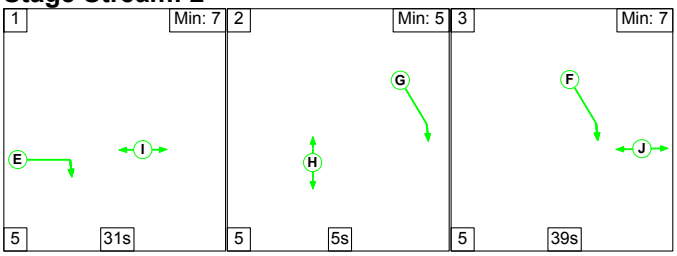
Scenario 1: 'Existing Saturday Peak' (FG1: 'Existing Saturday Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

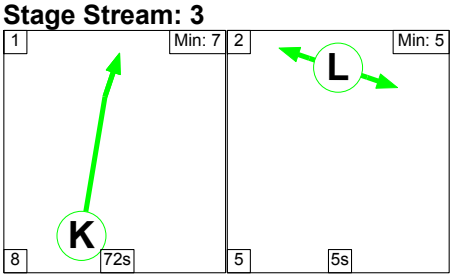
Stage Stream: 1



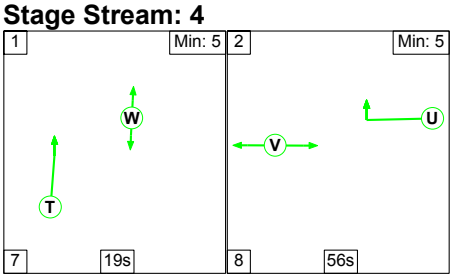
Stage Stream: 2



Stage Stream: 3



Stage Stream: 4



Stage Timings

Stage Stream: 1

Stage	1	2	3	4
Duration	20	41	5	0
Change Point	30	58	14	24

Stage Stream: 2

Stage	1	2	3
Duration	31	5	39
Change Point	2	38	48

Stage Stream: 3

Stage	1	2
Duration	72	5
Change Point	65	55

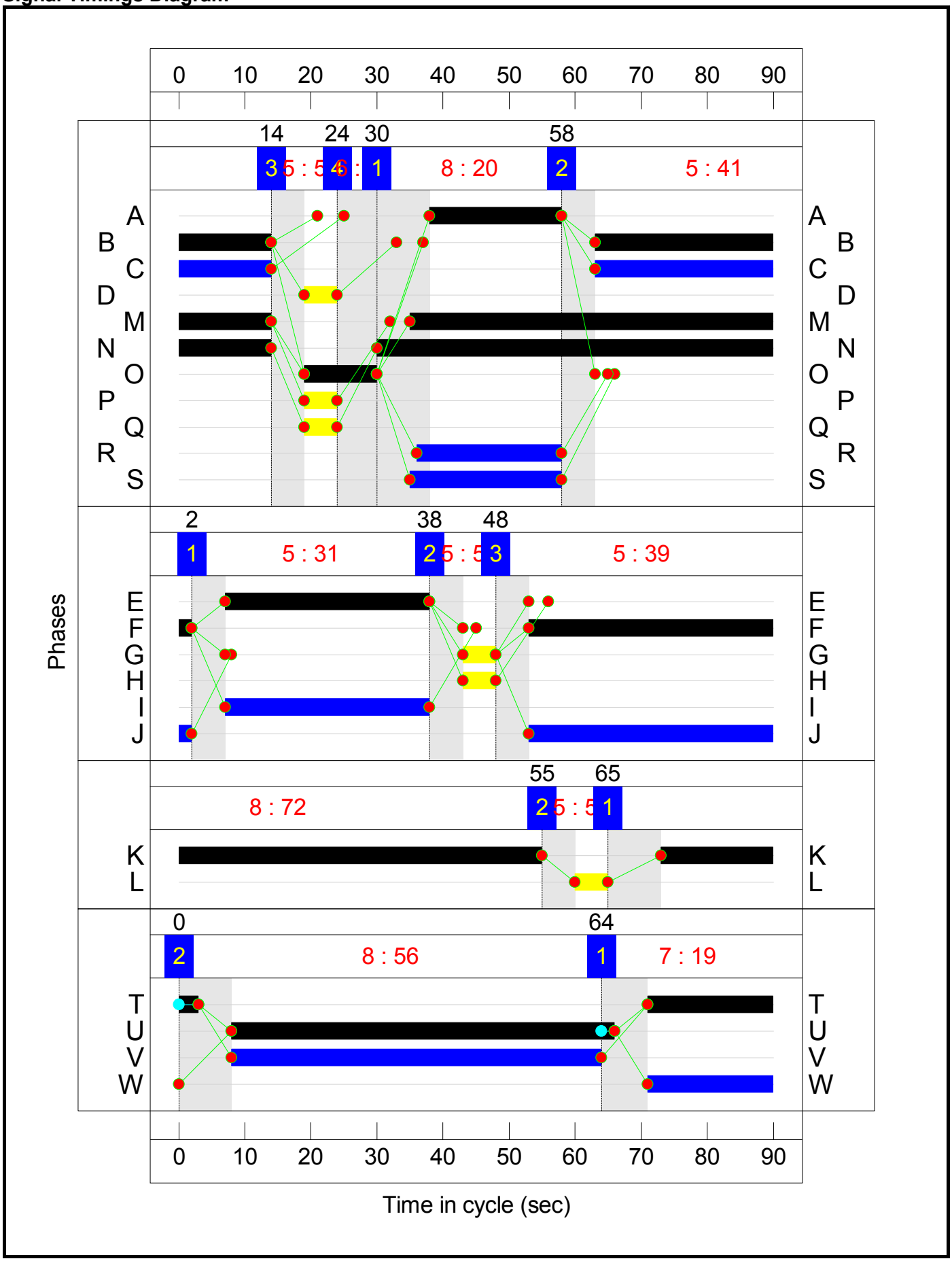
Full Input Data And Results

Stage Stream: 4

Stage	1	2
Duration	19	56
Change Point	64	0

Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A61 Harborough Hill Road Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**94.7%**
Twibell Street/Harborough Hill Road Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**94.7%**
1/1	Twibell Street Left	O	N/A	N/A	-		-	-	-	35	1948	235	14.9%
2/1	Left	O	N/A	N/A	-		-	-	-	91	1787	649	14.0%
2/2	Left	O	N/A	N/A	-		-	-	-	92	1912	542	17.0%
2/3	Ahead	U	1	N/A	O		1	11	-	62	1965	262	23.7%
2/4	Ahead	U	1	N/A	O		1	11	-	203	2105	281	72.3%
3/1	Left	U	1	N/A	A		1	20	-	90	1960	457	19.7%
3/2	Left	U	1	N/A	A		1	20	-	413	2097	489	84.4%
3/3	Left	U	1	N/A	A		1	20	-	412	2058	480	85.8%
4/1	Left	O	N/A	N/A	-		-	-	-	22	1775	485	4.5%
5/1	Ahead	U	4	N/A	T		1	22	-	440	1915	489	89.9%
5/2	Ahead	U	4	N/A	T		1	22	-	440	2055	525	83.8%
6/1	Canal Way Left	O	N/A	N/A	-		-	-	-	426	1786	684	62.3%
6/2	Canal Way Left	O	N/A	N/A	-		-	-	-	425	2105	571	74.4%
7/1	PC World Egress Right	O	N/A	N/A	-		-	-	-	114	1856	467	24.4%
8/1	A61 Old Mill Lane S/B Ahead	U	2	N/A	G		1	5	-	46	1990	133	34.7%
8/2+8/3	A61 Old Mill Lane S/B Ahead	U	2	N/A	F		1	39	-	1141	2105:2055	1205	94.7%
9/1	Ahead Left	U	N/A	N/A	-		-	-	-	767	1956	1956	39.2%
9/2	Ahead	U	N/A	N/A	-		-	-	-	484	2105	2105	23.0%
9/3	Ahead	U	N/A	N/A	-		-	-	-	586	2055	2055	28.5%
9/4	Ahead	U	N/A	N/A	-		-	-	-	181	2005	2005	9.0%
10/2+10/1	Gyratory East Left Ahead	U	1	N/A	M N		1	69:74	-	743	1604:1584	1372	54.2%
10/3	Gyratory East Ahead	U	1	N/A	M		1	69	-	489	1769	1376	35.5%
10/4	Gyratory East Right	U	1	N/A	B		1	41	-	595	1669	779	76.4%
10/5	Gyratory East Right	U	1	N/A	B		1	41	-	192	1646	768	25.0%
11/1	Ahead Left	U	N/A	N/A	-		-	-	-	747	1961	1961	38.1%
11/2	Ahead	U	N/A	N/A	-		-	-	-	738	2155	2155	34.2%

Full Input Data And Results

11/3	Ahead	U	N/A	N/A	-		-	-	-	482	2105	2105	22.9%
12/1	Gyratory West Left	U	N/A	N/A	-		-	-	-	742	1938	1938	38.3%
12/2	Gyratory West Right	U	4	N/A	U		1	58	-	748	2012	1319	56.7%
12/3	Gyratory West Right	U	4	N/A	U		1	58	-	486	2005	1314	37.0%
13/1	Left	U	N/A	N/A	-		-	-	-	816	1833	1833	44.5%
13/2	Ahead	U	N/A	N/A	-		-	-	-	372	1965	1965	18.9%
13/3	Ahead	U	N/A	N/A	-		-	-	-	801	2130	2130	37.6%
13/4	Ahead	U	N/A	N/A	-		-	-	-	125	2105	2105	5.9%
14/1	Gyratory West Ahead	U	N/A	N/A	-		-	-	-	575	1990	1990	28.9%
14/2	Gyratory West Right Ahead	U	N/A	N/A	-		-	-	-	1024	2064	2064	49.6%
14/3	Gyratory West Right	U	N/A	N/A	-		-	-	-	550	1981	1981	27.8%
15/1	Ahead	U	N/A	N/A	-		-	-	-	270	1990	1990	13.6%
15/2	Ahead Right	U	N/A	N/A	-		-	-	-	550	2093	2093	26.3%
16/1	Gyratory North Right	U	2	N/A	E		1	31	-	328	1871	665	49.3%
16/2	Gyratory North Right	U	2	N/A	E		1	31	-	503	1958	696	72.3%
17/1		U	N/A	N/A	-		-	-	-	103	Inf	Inf	0.0%
18/1		U	N/A	N/A	-		-	-	-	34	Inf	Inf	0.0%
19/1		U	N/A	N/A	-		-	-	-	444	Inf	Inf	0.0%
20/1		U	N/A	N/A	-		-	-	-	390	Inf	Inf	0.0%
20/2		U	N/A	N/A	-		-	-	-	581	Inf	Inf	0.0%
21/1		U	N/A	N/A	-		-	-	-	13	Inf	Inf	0.0%
22/1		U	N/A	N/A	-		-	-	-	742	Inf	Inf	0.0%
23/1		U	N/A	N/A	-		-	-	-	816	Inf	Inf	0.0%
24/1	A61 Old Mill Lane N/B Ahead	U	3	N/A	K		1	72	-	575	1965	1594	36.1%
24/2	A61 Old Mill Lane N/B Ahead	U	3	N/A	K		1	72	-	754	2105	1707	44.2%
25/1		U	N/A	N/A	-		-	-	-	575	Inf	Inf	0.0%
25/2		U	N/A	N/A	-		-	-	-	754	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A61 Harborough Hill Road Gyratory	**-**	**-**	**1164**	**41**	**0**	**39.4**	**33.2**	**0.0**	**72.6**	**-**	**-**	**-**	**-**
Twibell Street/Harborough Hill Road Gyratory	**-**	**-**	**1164**	**41**	**0**	**39.4**	**33.2**	**0.0**	**72.6**	**-**	**-**	**-**	**-**
1/1	35	35	35	0	0	0.1	0.1	-	0.2	20.8	0.4	0.1	0.5
2/1	91	91	71	20	0	0.0	0.1	-	0.1	3.2	0.0	0.1	0.1
2/2	92	92	72	20	0	0.0	0.1	-	0.1	4.0	0.1	0.1	0.2
2/3	62	62	-	-	-	0.6	0.2	-	0.8	43.9	1.4	0.2	1.5
2/4	203	203	-	-	-	2.1	1.3	-	3.4	59.9	4.8	1.3	6.1
3/1	90	90	-	-	-	0.7	0.1	-	0.8	32.6	1.8	0.1	1.9
3/2	413	413	-	-	-	3.8	2.5	-	6.3	55.1	9.8	2.5	12.3
3/3	412	412	-	-	-	3.8	2.8	-	6.6	57.5	9.8	2.8	12.6
4/1	22	22	22	0	0	0.0	0.0	-	0.0	5.6	0.1	0.0	0.1
5/1	440	440	-	-	-	4.0	3.9	-	7.8	63.9	10.5	3.9	14.4
5/2	440	440	-	-	-	3.9	2.4	-	6.3	51.7	10.4	2.4	12.8
6/1	426	426	426	0	0	0.1	0.8	-	0.9	7.6	2.6	0.8	3.4
6/2	425	425	425	0	0	0.6	1.4	-	2.0	16.9	6.8	1.4	8.3
7/1	114	114	114	0	0	0.0	0.2	-	0.2	5.1	0.0	0.2	0.2
8/1	46	46	-	-	-	0.5	0.3	-	0.8	60.8	1.1	0.3	1.3
8/2+8/3	1141	1141	-	-	-	6.6	7.3	-	13.8	43.7	19.7	7.3	26.9
9/1	767	767	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
9/2	484	484	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
9/3	586	586	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
9/4	181	181	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
10/2+10/1	743	743	-	-	-	0.9	0.6	-	1.5	7.2	7.2	0.6	7.7
10/3	489	489	-	-	-	0.9	0.3	-	1.2	8.7	6.7	0.3	6.9
10/4	595	595	-	-	-	3.4	1.6	-	5.0	30.4	13.0	1.6	14.6
10/5	192	192	-	-	-	0.2	0.2	-	0.4	7.6	0.8	0.2	0.9
11/1	747	747	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
11/2	738	738	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
11/3	482	482	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
12/1	742	742	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
12/2	748	748	-	-	-	1.1	0.7	-	1.8	8.6	5.3	0.7	5.9

Full Input Data And Results

12/3	486	486	-	-	-	0.4	0.3	-	0.7	5.3	1.4	0.3	1.7
13/1	816	816	-	-	-	0.0	0.4	-	0.4	1.8	1.1	0.4	1.5
13/2	372	372	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
13/3	801	801	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3
13/4	125	125	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0
14/1	575	575	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
14/2	1024	1024	-	-	-	0.0	0.5	-	0.5	1.7	0.0	0.5	0.5
14/3	550	550	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
15/1	270	270	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
15/2	550	550	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
16/1	328	328	-	-	-	1.9	0.5	-	2.4	26.0	7.5	0.5	8.0
16/2	503	503	-	-	-	3.0	1.3	-	4.2	30.4	9.5	1.3	10.8
17/1	103	103	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
18/1	34	34	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
19/1	444	444	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
20/1	390	390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
20/2	581	581	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
21/1	13	13	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
22/1	742	742	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
23/1	816	816	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
24/1	575	575	-	-	-	0.3	0.3	-	0.6	3.9	4.4	0.3	4.7
24/2	754	754	-	-	-	0.5	0.4	-	0.9	4.4	6.5	0.4	6.9
25/1	575	575	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
25/2	754	754	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

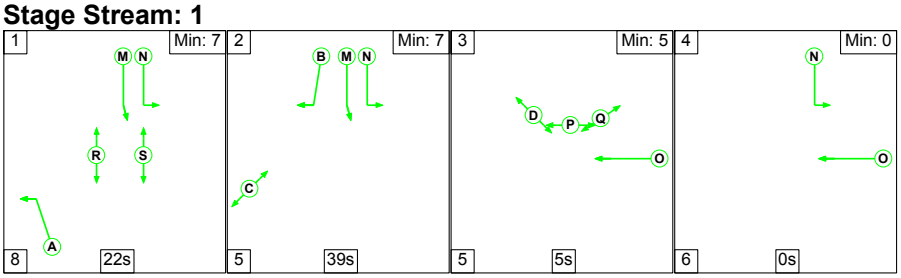
C1	Stream: 1	PRC for Signalled Lanes (%):	4.9	Total Delay for Signalled Lanes (pcuHr):	25.94	Cycle Time (s):	90
C1	Stream: 2	PRC for Signalled Lanes (%):	-5.2	Total Delay for Signalled Lanes (pcuHr):	21.23	Cycle Time (s):	90
C1	Stream: 3	PRC for Signalled Lanes (%):	103.8	Total Delay for Signalled Lanes (pcuHr):	1.55	Cycle Time (s):	90
C1	Stream: 4	PRC for Signalled Lanes (%):	0.1	Total Delay for Signalled Lanes (pcuHr):	16.64	Cycle Time (s):	90
		PRC Over All Lanes (%):	-5.2	Total Delay Over All Lanes(pcuHr):	72.58		

Full Input Data And Results

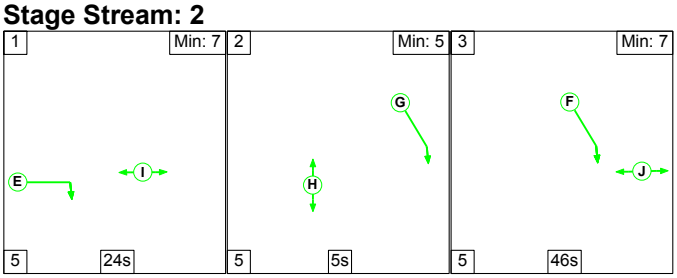
Scenario 2: 'Existing PM Peak' (FG2: 'Existing PM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

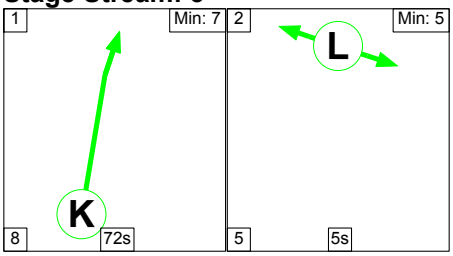
Stage Stream: 1



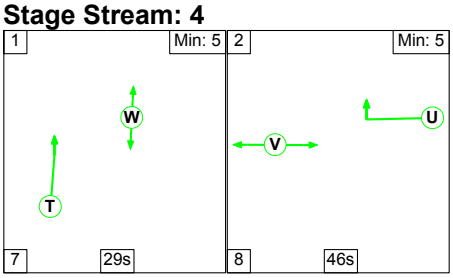
Stage Stream: 2



Stage Stream: 3



Stage Stream: 4



Stage Timings

Stage Stream: 1

Stage	1	2	3	4
Duration	22	39	5	0
Change Point	0	30	74	84

Stage Stream: 2

Stage	1	2	3
Duration	24	5	46
Change Point	70	9	19

Stage Stream: 3

Stage	1	2
Duration	72	5
Change Point	21	11

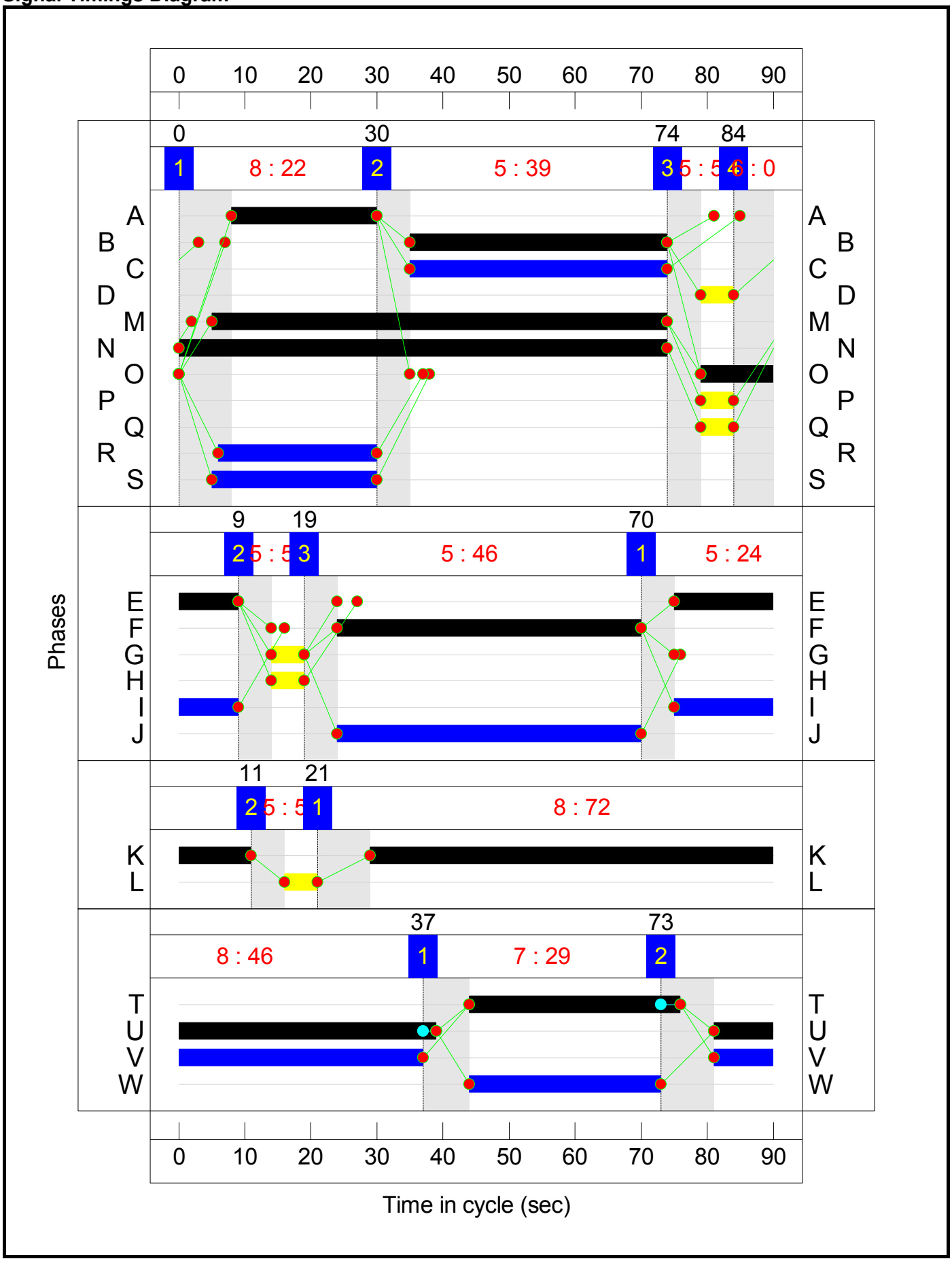
Full Input Data And Results

Stage Stream: 4

Stage	1	2
Duration	29	46
Change Point	37	73

Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A61 Harborough Hill Road Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**82.8%**
Twibell Street/Harborough Hill Road Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**82.8%**
1/1	Twibell Street Left	O	N/A	N/A	-		-	-	-	42	1948	230	18.2%
2/1	Left	O	N/A	N/A	-		-	-	-	49	1787	641	7.6%
2/2	Left	O	N/A	N/A	-		-	-	-	49	1912	525	9.3%
2/3	Ahead	U	1	N/A	O		1	11	-	51	1965	262	19.5%
2/4	Ahead	U	1	N/A	O		1	11	-	89	2105	281	31.7%
3/1	Left	U	1	N/A	A		1	22	-	138	1960	501	27.6%
3/2	Left	U	1	N/A	A		1	22	-	432	2097	536	80.6%
3/3	Left	U	1	N/A	A		1	22	-	431	2058	526	81.9%
4/1	Left	O	N/A	N/A	-		-	-	-	21	1775	540	3.9%
5/1	Ahead	U	4	N/A	T		1	32	-	511	1915	702	72.8%
5/2	Ahead	U	4	N/A	T		1	32	-	511	2055	753	67.8%
6/1	Canal Way Left	O	N/A	N/A	-		-	-	-	326	1786	585	55.8%
6/2	Canal Way Left	O	N/A	N/A	-		-	-	-	325	2105	501	64.8%
7/1	PC World Egress Right	O	N/A	N/A	-		-	-	-	41	1856	502	8.2%
8/1	A61 Old Mill Lane S/B Ahead	U	2	N/A	G		1	5	-	27	1990	133	20.4%
8/2+8/3	A61 Old Mill Lane S/B Ahead	U	2	N/A	F		1	46	-	1178	2105:2055	1423	82.8%
9/1	Ahead Left	U	N/A	N/A	-		-	-	-	562	1952	1952	28.8%
9/2	Ahead	U	N/A	N/A	-		-	-	-	522	2105	2105	24.8%
9/3	Ahead	U	N/A	N/A	-		-	-	-	540	2055	2055	26.3%
9/4	Ahead	U	N/A	N/A	-		-	-	-	188	2005	2005	9.4%
10/2+10/1	Gyratory East Left Ahead	U	1	N/A	M N		1	69:74	-	539	1604:1584	1304	41.3%
10/3	Gyratory East Ahead	U	1	N/A	M		1	69	-	531	1769	1376	38.6%
10/4	Gyratory East Right	U	1	N/A	B		1	39	-	549	1669	742	74.0%
10/5	Gyratory East Right	U	1	N/A	B		1	39	-	199	1646	732	27.2%
11/1	Ahead Left	U	N/A	N/A	-		-	-	-	738	1954	1954	37.8%
11/2	Ahead	U	N/A	N/A	-		-	-	-	680	2155	2155	31.6%

Full Input Data And Results

11/3	Ahead	U	N/A	N/A	-		-	-	-	471	2105	2105	22.4%
12/1	Gyratory West Left	U	N/A	N/A	-		-	-	-	714	1938	1938	36.8%
12/2	Gyratory West Right	U	4	N/A	U		1	48	-	684	2012	1095	62.4%
12/3	Gyratory West Right	U	4	N/A	U		1	48	-	476	2005	1092	43.6%
13/1	Left	U	N/A	N/A	-		-	-	-	668	1833	1833	36.4%
13/2	Ahead	U	N/A	N/A	-		-	-	-	527	1965	1965	26.8%
13/3	Ahead	U	N/A	N/A	-		-	-	-	896	2130	2130	42.1%
13/4	Ahead	U	N/A	N/A	-		-	-	-	91	2105	2105	4.3%
14/1	Gyratory West Ahead	U	N/A	N/A	-		-	-	-	681	1990	1990	34.2%
14/2	Gyratory West Right Ahead	U	N/A	N/A	-		-	-	-	1068	2077	2077	51.4%
14/3	Gyratory West Right	U	N/A	N/A	-		-	-	-	416	1981	1981	21.0%
15/1	Ahead	U	N/A	N/A	-		-	-	-	192	1990	1990	9.6%
15/2	Ahead Right	U	N/A	N/A	-		-	-	-	416	2099	2099	19.8%
16/1	Gyratory North Right	U	2	N/A	E		1	24	-	212	1871	520	40.8%
16/2	Gyratory North Right	U	2	N/A	E		1	24	-	395	1958	544	72.6%
17/1		U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%
18/1		U	N/A	N/A	-		-	-	-	36	Inf	Inf	0.0%
19/1		U	N/A	N/A	-		-	-	-	201	Inf	Inf	0.0%
20/1		U	N/A	N/A	-		-	-	-	387	Inf	Inf	0.0%
20/2		U	N/A	N/A	-		-	-	-	580	Inf	Inf	0.0%
21/1		U	N/A	N/A	-		-	-	-	36	Inf	Inf	0.0%
22/1		U	N/A	N/A	-		-	-	-	714	Inf	Inf	0.0%
23/1		U	N/A	N/A	-		-	-	-	668	Inf	Inf	0.0%
24/1	A61 Old Mill Lane N/B Ahead	U	3	N/A	K		1	72	-	681	1965	1594	42.7%
24/2	A61 Old Mill Lane N/B Ahead	U	3	N/A	K		1	72	-	876	2105	1707	51.3%
25/1		U	N/A	N/A	-		-	-	-	681	Inf	Inf	0.0%
25/2		U	N/A	N/A	-		-	-	-	876	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A61 Harborough Hill Road Gyratory	**-**	**-**	**831**	**22**	**0**	**33.0**	**20.9**	**0.0**	**53.9**	**-**	**-**	**-**	**-**
Twibell Street/Harborough Hill Road Gyratory	**-**	**-**	**831**	**22**	**0**	**33.0**	**20.9**	**0.0**	**53.9**	**-**	**-**	**-**	**-**
1/1	42	42	42	0	0	0.2	0.1	-	0.3	24.3	0.6	0.1	0.7
2/1	49	49	38	11	0	0.0	0.0	-	0.0	3.0	0.0	0.0	0.0
2/2	49	49	38	11	0	0.0	0.1	-	0.1	3.9	0.1	0.1	0.1
2/3	51	51	-	-	-	0.5	0.1	-	0.6	43.2	1.1	0.1	1.3
2/4	89	89	-	-	-	0.9	0.2	-	1.1	44.7	2.0	0.2	2.2
3/1	138	138	-	-	-	1.0	0.2	-	1.2	31.8	2.8	0.2	2.9
3/2	432	432	-	-	-	3.8	2.0	-	5.8	48.1	10.1	2.0	12.1
3/3	431	431	-	-	-	3.8	2.2	-	5.9	49.7	10.1	2.2	12.2
4/1	21	21	21	0	0	0.0	0.0	-	0.0	5.2	0.1	0.0	0.1
5/1	511	511	-	-	-	3.5	1.3	-	4.8	33.9	10.9	1.3	12.2
5/2	511	511	-	-	-	3.4	1.0	-	4.5	31.4	10.6	1.0	11.7
6/1	326	326	326	0	0	0.2	0.6	-	0.8	9.1	2.2	0.6	2.8
6/2	325	325	325	0	0	0.6	0.9	-	1.5	16.3	5.3	0.9	6.2
7/1	41	41	41	0	0	0.0	0.0	-	0.0	3.9	0.0	0.0	0.0
8/1	27	27	-	-	-	0.3	0.1	-	0.4	56.8	0.6	0.1	0.8
8/2+8/3	1178	1178	-	-	-	4.8	2.4	-	7.1	21.8	13.6	2.4	15.9
9/1	562	562	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
9/2	522	522	-	-	-	0.0	0.2	-	0.2	1.1	0.0	0.2	0.2
9/3	540	540	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
9/4	188	188	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
10/2+10/1	539	539	-	-	-	0.3	0.4	-	0.6	4.3	3.8	0.4	4.1
10/3	531	531	-	-	-	0.7	0.3	-	1.0	6.6	6.8	0.3	7.1
10/4	549	549	-	-	-	2.7	1.4	-	4.1	26.6	12.2	1.4	13.6
10/5	199	199	-	-	-	0.3	0.2	-	0.5	9.6	1.1	0.2	1.3
11/1	738	738	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
11/2	680	680	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
11/3	471	471	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
12/1	714	714	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
12/2	684	684	-	-	-	1.6	0.8	-	2.4	12.7	5.3	0.8	6.2

Full Input Data And Results

12/3	476	476	-	-	-	0.4	0.4	-	0.8	6.1	1.2	0.4	1.6
13/1	668	668	-	-	-	0.0	0.3	-	0.3	1.6	2.0	0.3	2.3
13/2	527	527	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
13/3	896	896	-	-	-	0.0	0.4	-	0.4	1.5	0.0	0.4	0.4
13/4	91	91	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0
14/1	681	681	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3
14/2	1068	1068	-	-	-	0.0	0.5	-	0.5	1.8	0.0	0.5	0.5
14/3	416	416	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
15/1	192	192	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
15/2	416	416	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
16/1	212	212	-	-	-	1.3	0.3	-	1.7	28.5	4.8	0.3	5.1
16/2	395	395	-	-	-	2.6	1.3	-	3.9	35.3	7.8	1.3	9.2
17/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
18/1	36	36	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
19/1	201	201	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
20/1	387	387	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
20/2	580	580	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
21/1	36	36	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
22/1	714	714	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
23/1	668	668	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
24/1	681	681	-	-	-	0.1	0.4	-	0.5	2.7	1.4	0.4	1.7
24/2	876	876	-	-	-	0.1	0.5	-	0.7	2.7	1.4	0.5	1.9
25/1	681	681	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
25/2	876	876	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1	PRC for Signalled Lanes (%):	9.8	Total Delay for Signalled Lanes (pcuHr):	20.86	Cycle Time (s):	90
C1	Stream: 2	PRC for Signalled Lanes (%):	8.7	Total Delay for Signalled Lanes (pcuHr):	13.11	Cycle Time (s):	90
C1	Stream: 3	PRC for Signalled Lanes (%):	75.4	Total Delay for Signalled Lanes (pcuHr):	1.17	Cycle Time (s):	90
C1	Stream: 4	PRC for Signalled Lanes (%):	23.7	Total Delay for Signalled Lanes (pcuHr):	12.49	Cycle Time (s):	90
		PRC Over All Lanes (%):	8.7	Total Delay Over All Lanes(pcuHr):	53.90		