

TRIP RATE for Land Use 01 - RETAIL/B - CASH AND CARRY - WHOLESALE AND CLUBS  
PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	24750	0.000	2	24750	0.000	2	24750	0.000
08:00 - 09:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
09:00 - 10:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
10:00 - 11:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
11:00 - 12:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
12:00 - 13:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
13:00 - 14:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
14:00 - 15:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
15:00 - 16:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
16:00 - 17:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
17:00 - 18:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
18:00 - 19:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
19:00 - 20:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
20:00 - 21:00	1	9500	0.000	1	9500	0.000	1	9500	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		0.000			0.000			0.000	

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: 9500 - 40000 (units: sqm)  
Survey date date range: 01/11/07 - 29/11/12  
Number of weekdays (Monday-Friday): 2  
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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 01 - RETAIL/B - CASH AND CARRY - WHOLESALE AND CLUBS  
CYCLISTS

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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	2	24750	0.000	2	24750	0.000	2	24750	0.000
08:00 - 09:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
09:00 - 10:00	2	24750	0.002	2	24750	0.000	2	24750	0.002
10:00 - 11:00	2	24750	0.002	2	24750	0.000	2	24750	0.002
11:00 - 12:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
12:00 - 13:00	2	24750	0.004	2	24750	0.000	2	24750	0.004
13:00 - 14:00	2	24750	0.000	2	24750	0.004	2	24750	0.004
14:00 - 15:00	2	24750	0.004	2	24750	0.000	2	24750	0.004
15:00 - 16:00	2	24750	0.000	2	24750	0.002	2	24750	0.002
16:00 - 17:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
17:00 - 18:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
18:00 - 19:00	2	24750	0.000	2	24750	0.000	2	24750	0.000
19:00 - 20:00	2	24750	0.000	2	24750	0.004	2	24750	0.004
20:00 - 21:00	1	9500	0.000	1	9500	0.000	1	9500	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.012			0.010			0.022

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 Number of Sundays: 0  
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Calculation Reference: AUDIT-109301-151109-1133

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL  
Category : H - GARDEN CENTRE  
VEHICLES

### Selected regions and areas:

02 SOUTH EAST  
HC HAMPSHIRE 1 days

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

### 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: 3700 to 3700 (units: sqm)  
Range Selected by User: 198 to 23465 (units: sqm)

### Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/11/07 to 08/06/13

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

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

### Selected survey types:

Manual count 1 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 undertaken using machines.

### Selected Locations:

Suburban Area (PPS6 Out of 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:

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 1 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®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

15,001 to 20,000 1 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

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

Car ownership within 5 miles:

1.1 to 1.5 1 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 1 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:

No 1 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	HC-01-H-03	GARDEN CENTRE	HAMPSHIRE
	ROMSEY ROAD		
	WINCHESTER		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	3700 sqm	
	Survey date: MONDAY	19/11/07	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/H - GARDEN CENTRE  
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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									
08:00 - 09:00	1	3700	0.351	1	3700	0.054	1	3700	0.405
09:00 - 10:00	1	3700	0.270	1	3700	0.270	1	3700	0.540
10:00 - 11:00	1	3700	0.757	1	3700	0.757	1	3700	1.514
11:00 - 12:00	1	3700	1.514	1	3700	1.595	1	3700	3.109
12:00 - 13:00	1	3700	0.838	1	3700	0.838	1	3700	1.676
13:00 - 14:00	1	3700	1.000	1	3700	0.865	1	3700	1.865
14:00 - 15:00	1	3700	1.405	1	3700	0.946	1	3700	2.351
15:00 - 16:00	1	3700	0.865	1	3700	1.243	1	3700	2.108
16:00 - 17:00	1	3700	0.351	1	3700	0.649	1	3700	1.000
17:00 - 18:00	1	3700	0.108	1	3700	0.270	1	3700	0.378
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			7.459			7.487			14.946

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#### Parameter summary

Trip rate parameter range selected: 3700 - 3700 (units: sqm)  
 Survey date range: 01/11/07 - 08/06/13  
 Number of weekdays (Monday-Friday): 1  
 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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 01 - RETAIL/H - GARDEN CENTRE

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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									
08:00 - 09:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
09:00 - 10:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
10:00 - 11:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
11:00 - 12:00	1	3700	0.027	1	3700	0.027	1	3700	0.054
12:00 - 13:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
13:00 - 14:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
14:00 - 15:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
15:00 - 16:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
16:00 - 17:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
17:00 - 18:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.027			0.027			0.054

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 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys manually removed from selection: 0

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TRIP RATE for Land Use 01 - RETAIL/H - GARDEN CENTRE

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
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03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
09:00 - 10:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
10:00 - 11:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
11:00 - 12:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
12:00 - 13:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
13:00 - 14:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
14:00 - 15:00	1	3700	0.027	1	3700	0.027	1	3700	0.054
15:00 - 16:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
16:00 - 17:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
17:00 - 18:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.027			0.027			0.054

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PSVS

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15:00 - 16:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
16:00 - 17:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
17:00 - 18:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
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21:00 - 22:00									
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TRIP RATE for Land Use 01 - RETAIL/H - GARDEN CENTRE  
CYCLISTS

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	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									
08:00 - 09:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
09:00 - 10:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
10:00 - 11:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
11:00 - 12:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
12:00 - 13:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
13:00 - 14:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
14:00 - 15:00	1	3700	0.027	1	3700	0.027	1	3700	0.054
15:00 - 16:00	1	3700	0.027	1	3700	0.027	1	3700	0.054
16:00 - 17:00	1	3700	0.027	1	3700	0.027	1	3700	0.054
17:00 - 18:00	1	3700	0.000	1	3700	0.000	1	3700	0.000
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.081			0.081			0.162

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: 3700 - 3700 (units: sqm)  
 Survey date range: 01/11/07 - 08/06/13  
 Number of weekdays (Monday-Friday): 1  
 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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL  
Category : H - GARDEN CENTRE  
VEHICLES

### Selected regions and areas:

01	GREATER LONDON	
	HA HARROW	1 days
05	EAST MIDLANDS	
	NR NORTHAMPTONSHIRE	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days

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

### 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: 1600 to 23465 (units: sqm)  
Range Selected by User: 55 to 23465 (units: sqm)

### Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/11/07 to 08/06/13

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:

Saturday 3 days

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

### Selected survey types:

Manual count 3 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 undertaken using machines.

### Selected Locations:

Suburban Area (PPS6 Out of Centre) 1  
Edge of Town 2

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:

No Sub Category 3

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 3 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:

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

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

Population within 5 miles:

125,001 to 250,000 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 1 days  
1.1 to 1.5 2 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 3 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:

No 3 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	GM-01-H-06	GARDEN CENTRE	GREATER MANCHESTER
	CHURCH STREET		
	WESTHOUGHTON		
	BOLTON		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	1600 sqm	
	Survey date: SATURDAY	08/06/13	Survey Type: MANUAL
2	HA-01-H-01	GARDEN CENTRE	HARROW
	HEADSTONE LANE		
	HATCH END		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	4470 sqm	
	Survey date: SATURDAY	17/11/07	Survey Type: MANUAL
3	NR-01-H-01	GARDEN CENTRE	NORTHAMPTONSHIRE
	NEWPORT PAGNELL ROAD		
	HARDINGSTONE		
	NORTHAMPTON		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	23465 sqm	
	Survey date: SATURDAY	22/11/08	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/H - GARDEN CENTRE  
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	13968	0.029	2	13968	0.000	2	13968	0.029
08:00 - 09:00	3	9845	0.156	3	9845	0.051	3	9845	0.207
09:00 - 10:00	3	9845	0.372	3	9845	0.173	3	9845	0.545
10:00 - 11:00	3	9845	0.830	3	9845	0.471	3	9845	1.301
11:00 - 12:00	3	9845	0.796	3	9845	0.738	3	9845	1.534
12:00 - 13:00	3	9845	0.620	3	9845	0.911	3	9845	1.531
13:00 - 14:00	3	9845	0.826	3	9845	0.603	3	9845	1.429
14:00 - 15:00	3	9845	0.752	3	9845	0.880	3	9845	1.632
15:00 - 16:00	3	9845	0.691	3	9845	0.792	3	9845	1.483
16:00 - 17:00	3	9845	0.332	3	9845	0.593	3	9845	0.925
17:00 - 18:00	3	9845	0.135	3	9845	0.278	3	9845	0.413
18:00 - 19:00	2	13968	0.000	2	13968	0.050	2	13968	0.050
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			5.539			5.540			11.079

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: 1600 - 23465 (units: sqm)  
 Survey date range: 01/11/07 - 08/06/13  
 Number of weekdays (Monday-Friday): 0  
 Number of Saturdays: 3  
 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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 01 - RETAIL/H - GARDEN CENTRE

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	13968	0.000	2	13968	0.000	2	13968	0.000
08:00 - 09:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
09:00 - 10:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
10:00 - 11:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
11:00 - 12:00	3	9845	0.003	3	9845	0.003	3	9845	0.006
12:00 - 13:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
13:00 - 14:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
14:00 - 15:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
15:00 - 16:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
16:00 - 17:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
17:00 - 18:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
18:00 - 19:00	2	13968	0.000	2	13968	0.000	2	13968	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.003			0.003			0.006

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: 1600 - 23465 (units: sqm)  
 Survey date range: 01/11/07 - 08/06/13  
 Number of weekdays (Monday-Friday): 0  
 Number of Saturdays: 3  
 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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 01 - RETAIL/H - GARDEN CENTRE  
OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	13968	0.000	2	13968	0.000	2	13968	0.000
08:00 - 09:00	3	9845	0.003	3	9845	0.003	3	9845	0.006
09:00 - 10:00	3	9845	0.003	3	9845	0.000	3	9845	0.003
10:00 - 11:00	3	9845	0.000	3	9845	0.003	3	9845	0.003
11:00 - 12:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
12:00 - 13:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
13:00 - 14:00	3	9845	0.003	3	9845	0.000	3	9845	0.003
14:00 - 15:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
15:00 - 16:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
16:00 - 17:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
17:00 - 18:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
18:00 - 19:00	2	13968	0.000	2	13968	0.000	2	13968	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.009			0.006			0.015

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: 1600 - 23465 (units: sqm)  
 Survey date range: 01/11/07 - 08/06/13  
 Number of weekdays (Monday-Friday): 0  
 Number of Saturdays: 3  
 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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



TRIP RATE for Land Use 01 - RETAIL/H - GARDEN CENTRE  
PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	13968	0.000	2	13968	0.000	2	13968	0.000
08:00 - 09:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
09:00 - 10:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
10:00 - 11:00	3	9845	0.000	3	9845	0.003	3	9845	0.003
11:00 - 12:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
12:00 - 13:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
13:00 - 14:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
14:00 - 15:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
15:00 - 16:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
16:00 - 17:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
17:00 - 18:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
18:00 - 19:00	2	13968	0.000	2	13968	0.000	2	13968	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.003			0.003

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: 1600 - 23465 (units: sqm)  
 Survey date range: 01/11/07 - 08/06/13  
 Number of weekdays (Monday-Friday): 0  
 Number of Saturdays: 3  
 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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 01 - RETAIL/H - GARDEN CENTRE  
CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	13968	0.000	2	13968	0.000	2	13968	0.000
08:00 - 09:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
09:00 - 10:00	3	9845	0.007	3	9845	0.003	3	9845	0.010
10:00 - 11:00	3	9845	0.000	3	9845	0.000	3	9845	0.000
11:00 - 12:00	3	9845	0.003	3	9845	0.000	3	9845	0.003
12:00 - 13:00	3	9845	0.003	3	9845	0.003	3	9845	0.006
13:00 - 14:00	3	9845	0.000	3	9845	0.003	3	9845	0.003
14:00 - 15:00	3	9845	0.007	3	9845	0.000	3	9845	0.007
15:00 - 16:00	3	9845	0.010	3	9845	0.007	3	9845	0.017
16:00 - 17:00	3	9845	0.000	3	9845	0.010	3	9845	0.010
17:00 - 18:00	3	9845	0.000	3	9845	0.003	3	9845	0.003
18:00 - 19:00	2	13968	0.000	2	13968	0.000	2	13968	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.030			0.029			0.059

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.

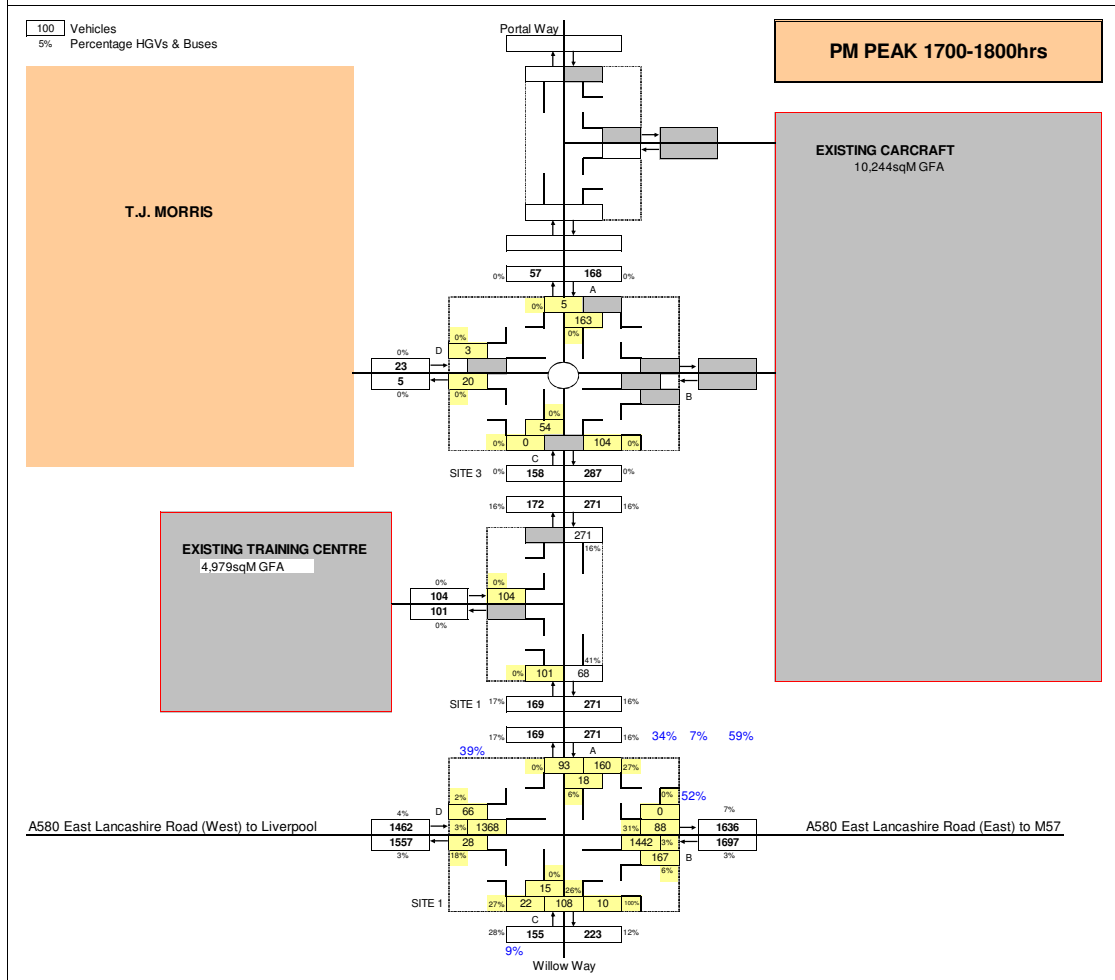
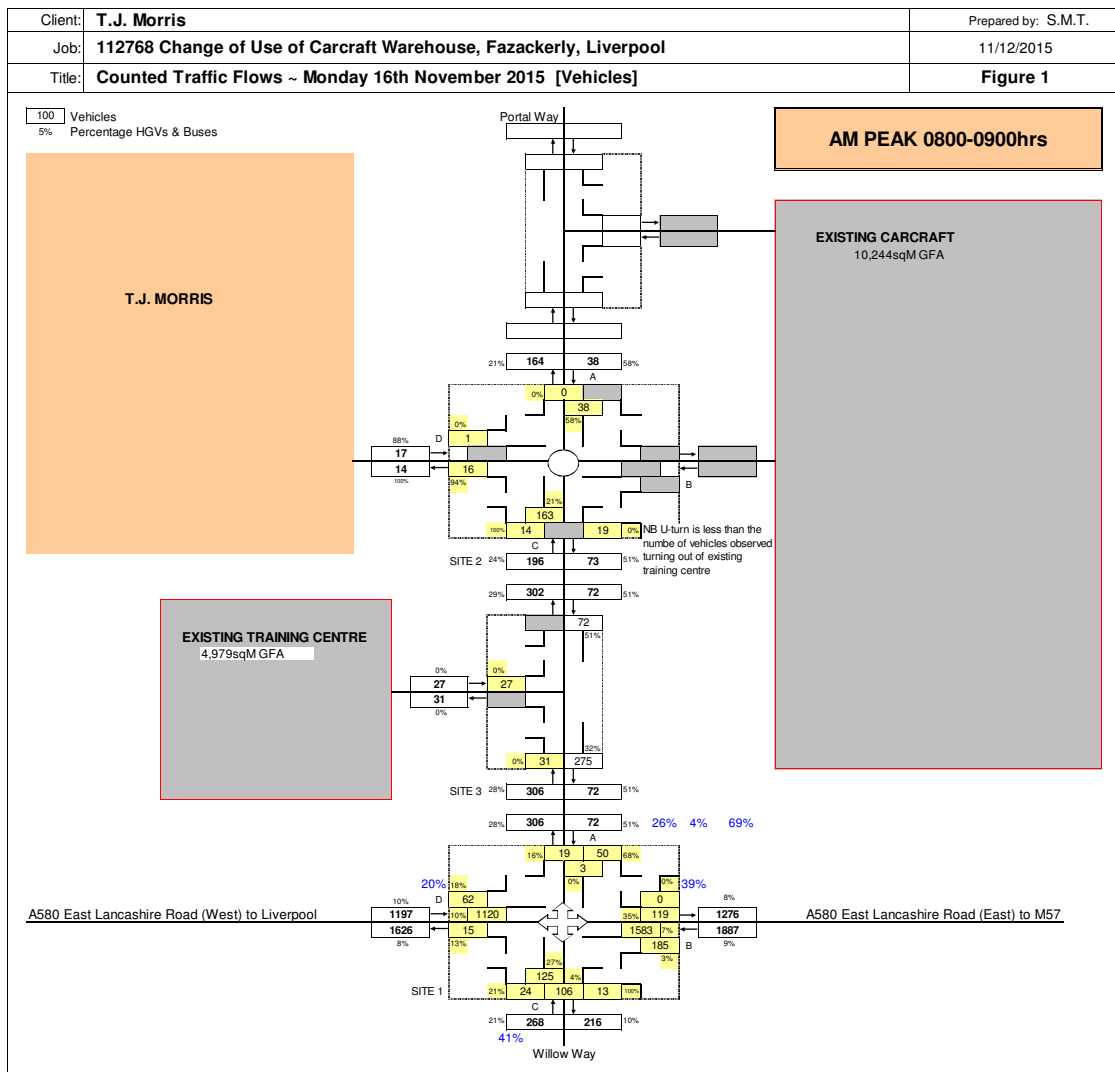
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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.

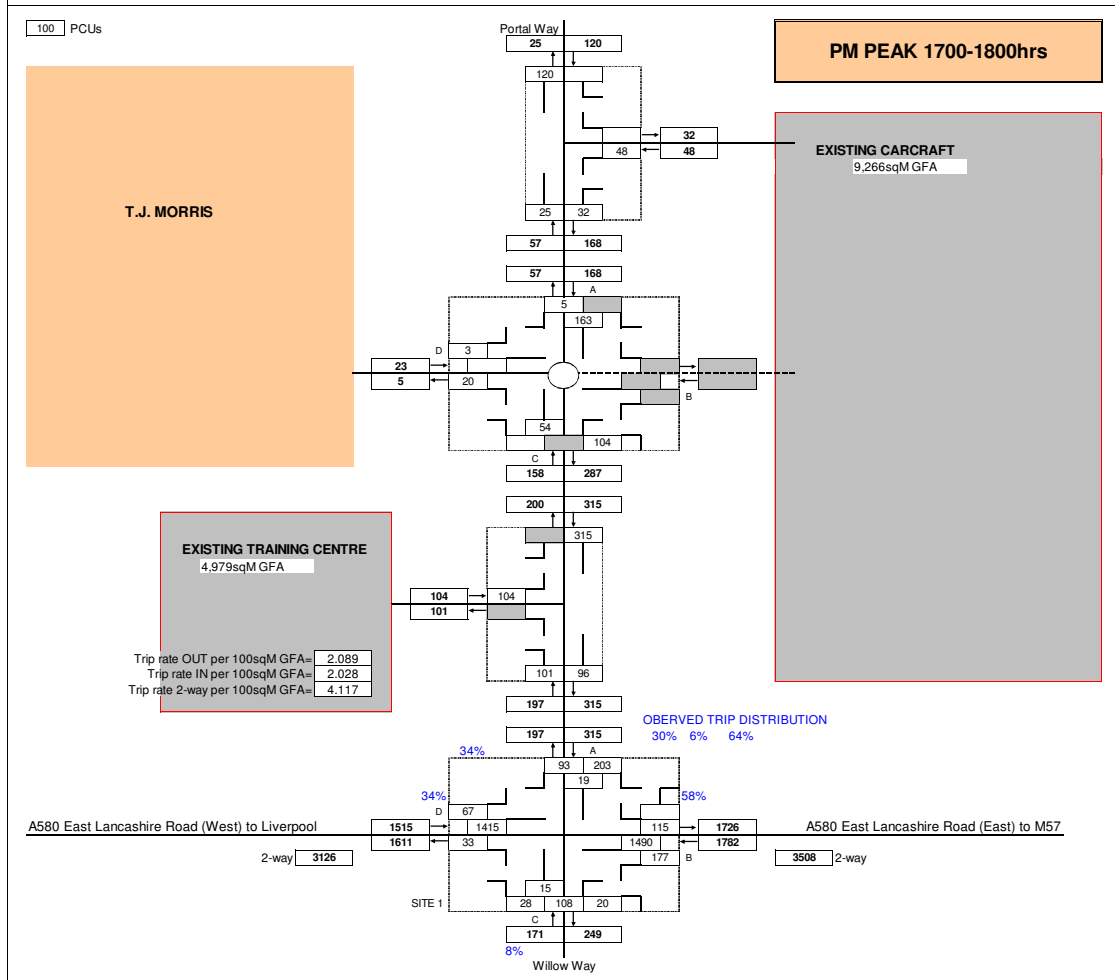
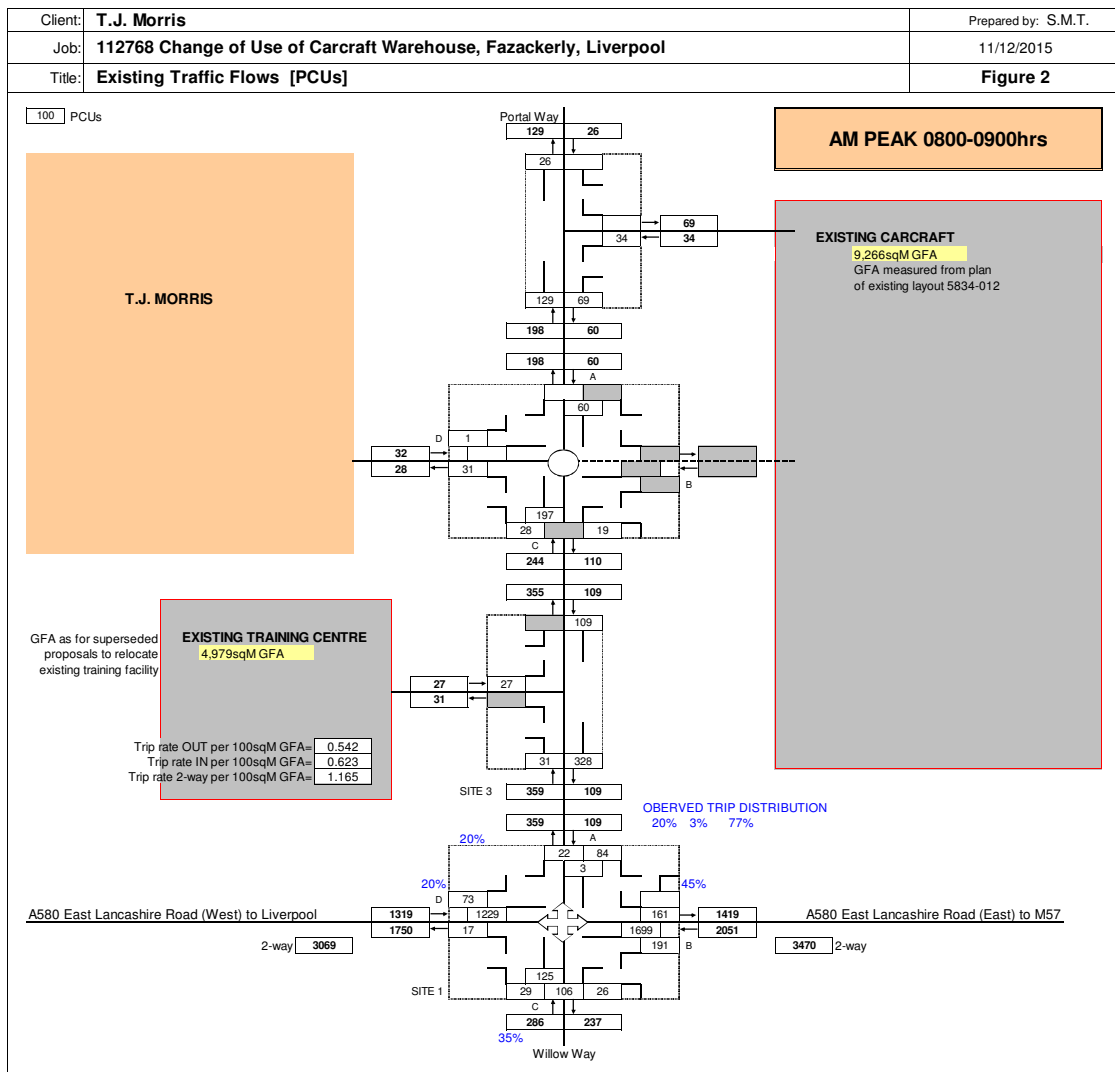
#### Parameter summary

Trip rate parameter range selected: 1600 - 23465 (units: sqm)  
 Survey date range: 01/11/07 - 08/06/13  
 Number of weekdays (Monday-Friday): 0  
 Number of Saturdays: 3  
 Number of Sundays: 0  
 Surveys manually removed from selection: 0

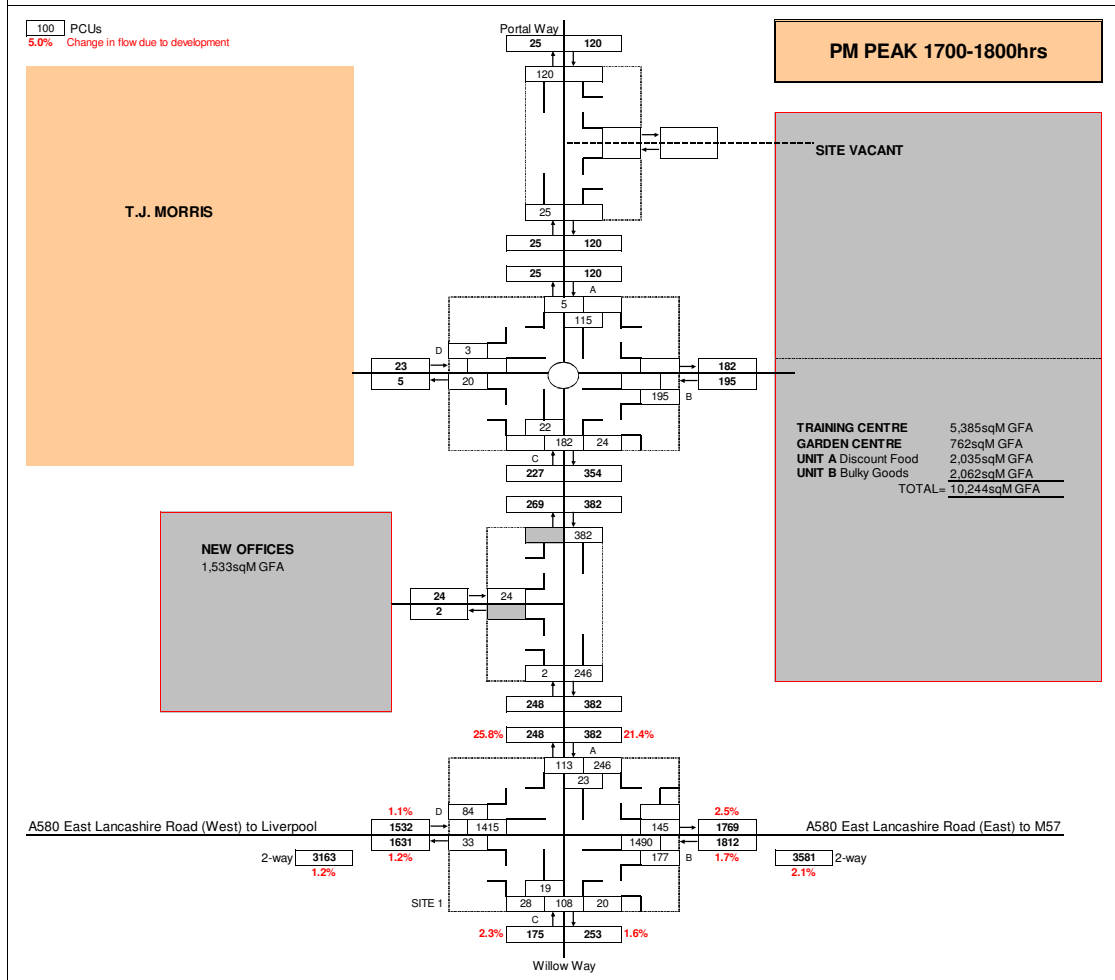
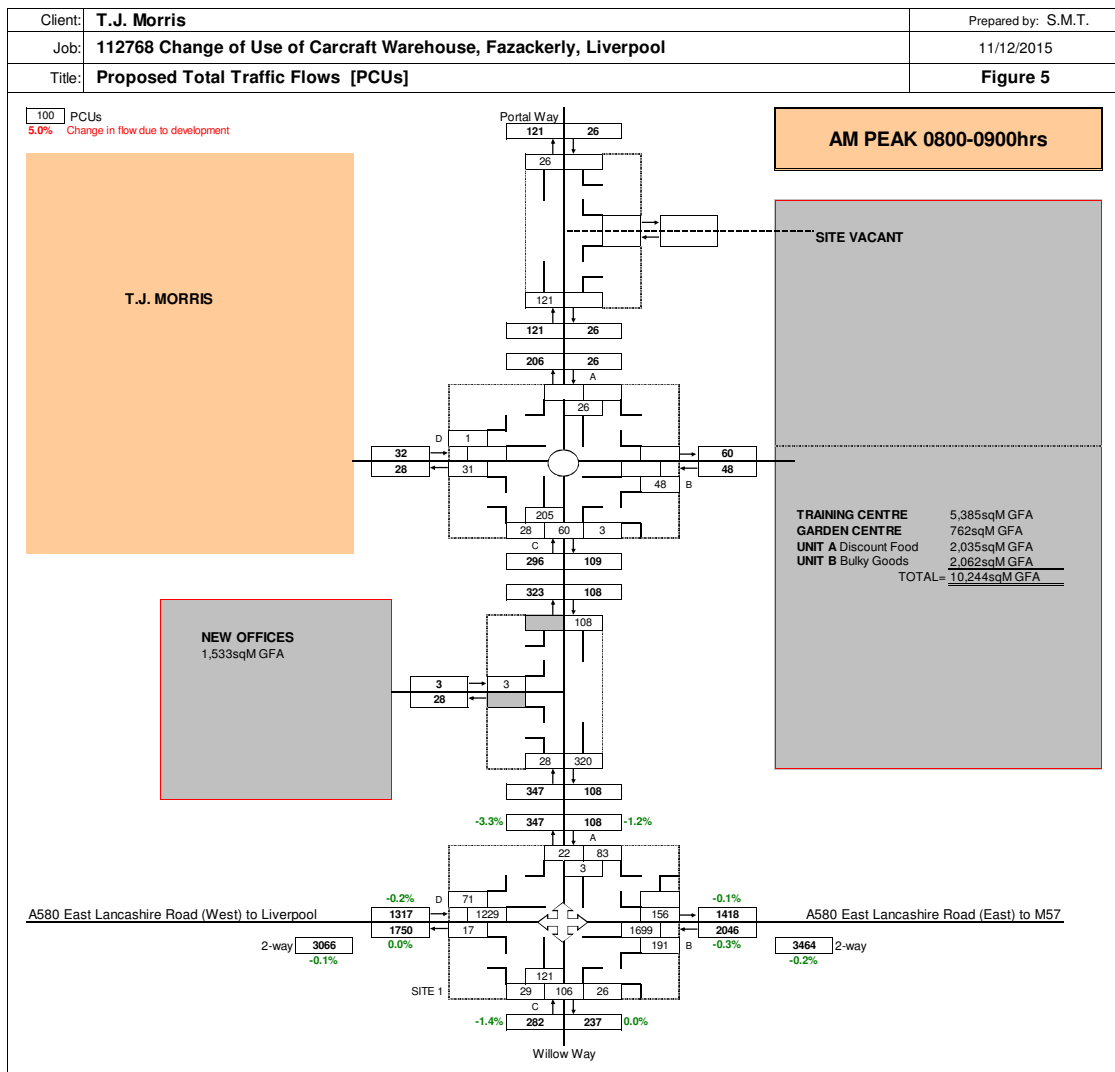
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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

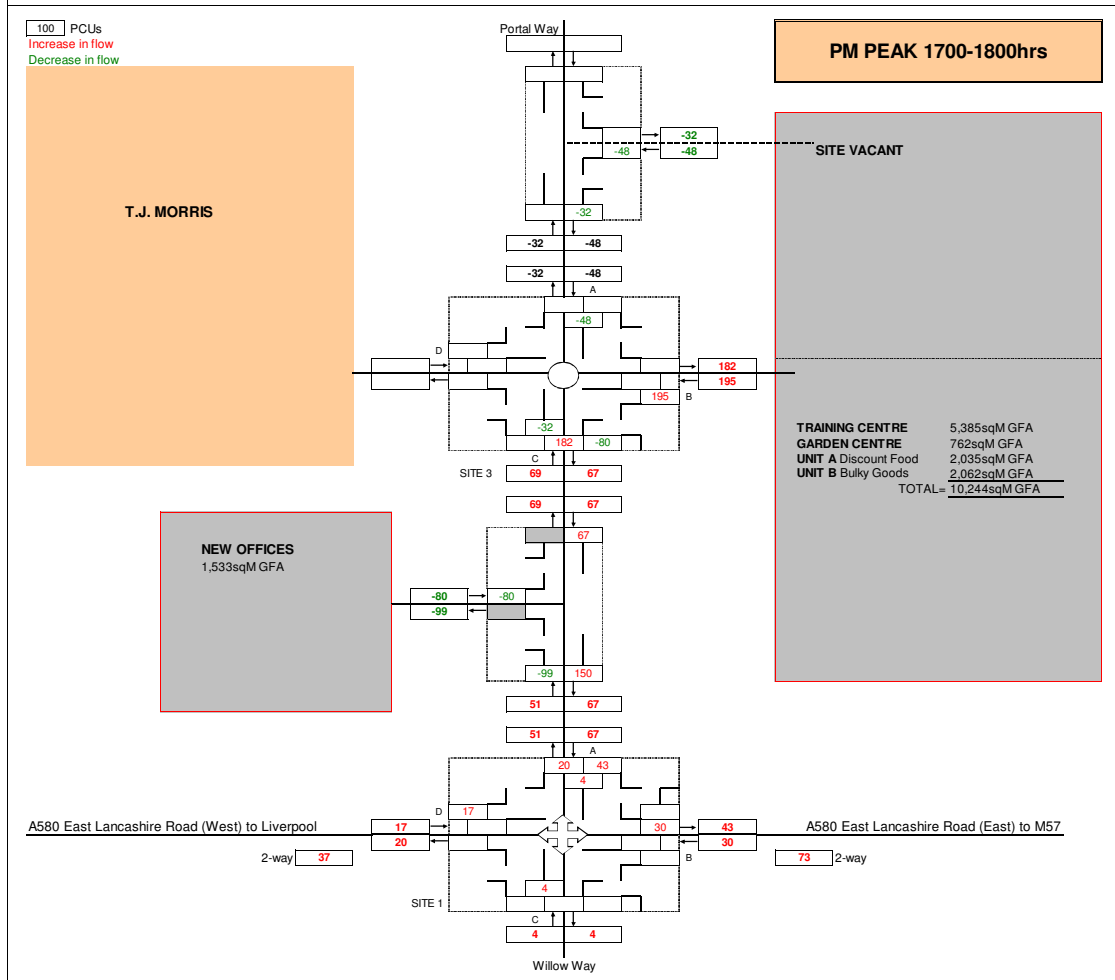
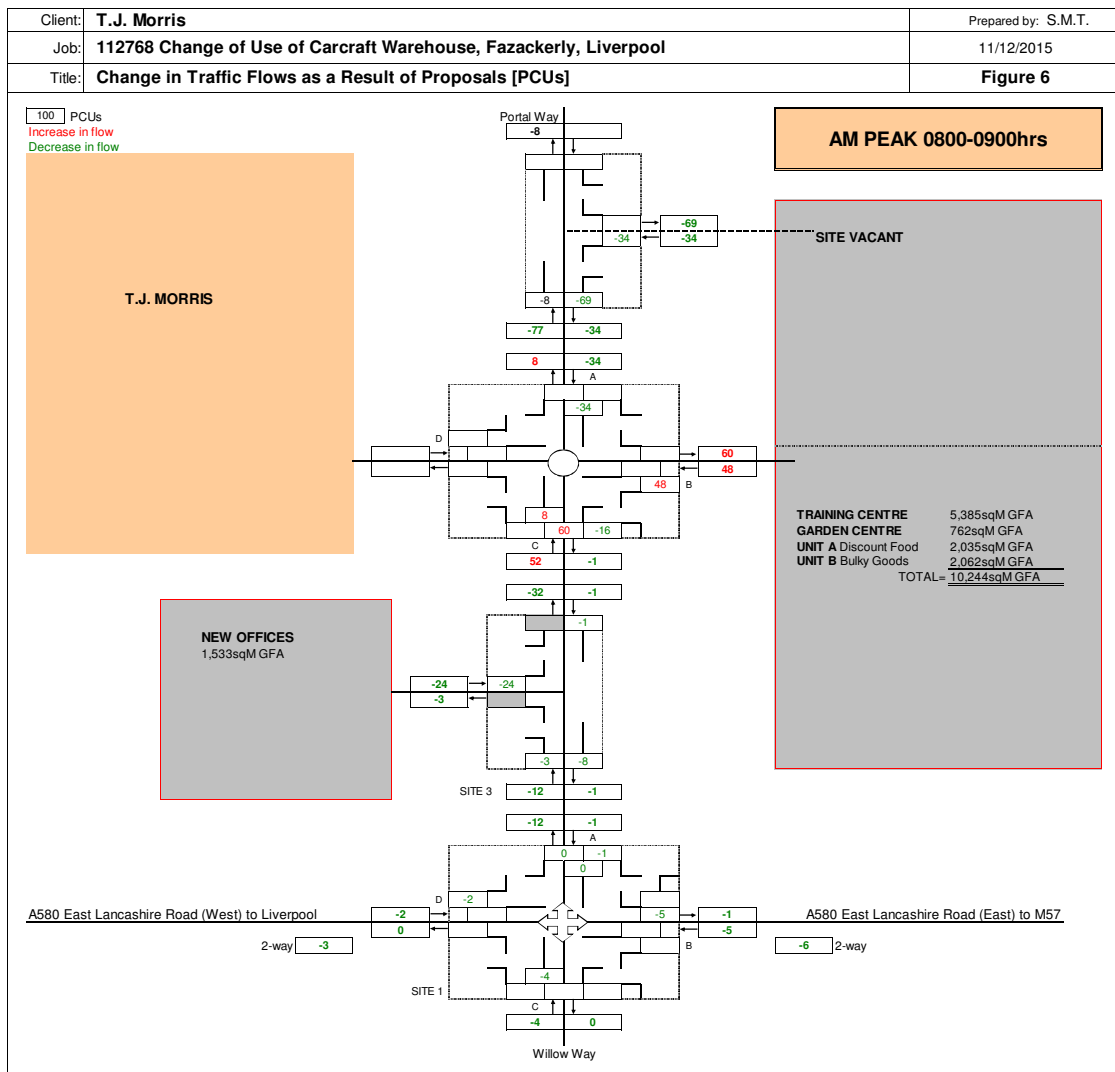
**APPENDIX G**  
**TRAFFIC FLOW DIAGRAMS**













**APPENDIX H**  
**ARCADY OUTPUT**

## A R C A D Y 6

## ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 3.0 (JUNE 2005)

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Nine Mile Ride	Email: softwarebureau@trl.co.uk
Wokingham, Berks.	Web: www.trlsoftware.co.uk
RG40 3GA, UK	

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS  
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-

"l:\Projects\110000 -\112768 Carcraft, Liverpool\Junctions\  
112768 Portal Way 4-arm roundabout - 2015 +Development AM Rev1.vai"  
(drive-on-the-left ) at 11:02:10 on Monday, 7 December 2015

## FILE PROPERTIES

\*\*\*\*\*

RUN TITLE: 112768 Portal Way 4-arm roundabout - 2015+Development AM Rev1

LOCATION: Fazackerly, Liverpool

DATE: 07/12/2015

CLIENT:

ENUMERATOR: sue [HUDSON]

JOB NUMBER: 112768

STATUS: Preliminary

DESCRIPTION:

## INPUT DATA

\*\*\*\*\*

ARM A - Portal Way (N)

ARM B - New Access

ARM C - Portal Way (S)

ARM D - T.J. Morris

## GEOMETRIC DATA

-----

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	6.40	I	7.80	I	10.00	I	40.00	I	44.00	I	10.0	I	0.805	I	40.694	I
I	ARM B	I	3.50	I	5.00	I	5.00	I	15.00	I	44.00	I	14.0	I	0.573	I	22.385	I
I	ARM C	I	6.90	I	7.90	I	7.00	I	20.00	I	44.00	I	22.0	I	0.769	I	39.374	I
I	ARM D	I	6.80	I	6.80	I	0.00	I	14.00	I	44.00	I	22.0	I	0.707	I	34.574	I

V = approach half-width

L = effective flare length

D = inscribed circle diameter

E = entry width

R = entry radius

PHI = entry angle

## TRAFFIC DEMAND DATA

-----

(Only sets included in the current run are shown)

I	ARM	I	FLOW SCALE (%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I
I	D	I	100	I

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MINUTES.  
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 112768 Portal Way 3-arm roundabout - 2015 Existing Situation

I	ARM	I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	I	TOP OF PEAK IS REACHED	I	FLOW STOPS IF FALLING	I	RATE OF FLOW (VEH/MIN) BEFORE PEAK	I	AT TOP OF PEAK	I	AFTER PEAK	I
I	ARM A	I	15.00	I	45.00	I	75.00	I	0.32	I	0.49	I	0.32	I
I	ARM B	I	15.00	I	45.00	I	75.00	I	0.60	I	0.90	I	0.60	I
I	ARM C	I	15.00	I	45.00	I	75.00	I	3.66	I	5.49	I	3.66	I
I	ARM D	I	15.00	I	45.00	I	75.00	I	0.40	I	0.60	I	0.40	I

DEMAND SET TITLE: 112768 Portal Way 3-arm roundabout - 2015 Existing Situation

I	TIME	I	FROM/TO	I	ARM A	I	ARM B	I	ARM C	I	ARM D	I
I	07.45 - 09.15	I	ARM A	I	0.000	I	0.000	I	1.000	I	0.000	I
I		I		I	0.0	I	0.0	I	26.0	I	0.0	I
I		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I
I		I	ARM B	I	0.000	I	0.000	I	1.000	I	0.000	I
I		I		I	0.0	I	0.0	I	48.0	I	0.0	I
I		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I
I		I	ARM C	I	0.700	I	0.205	I	0.000	I	0.096	I
I		I		I	205.0	I	60.0	I	0.0	I	28.0	I
I		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I
I		I	ARM D	I	0.031	I	0.000	I	0.969	I	0.000	I
I		I		I	1.0	I	0.0	I	31.0	I	0.0	I
I		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I
I		I		I		I		I		I		I

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	TIME	I	DEMAND (VEH/MIN)	I	CAPACITY (VEH/MIN)	I	DEMAND/CAPACITY (RFC)	I	PEDESTRIAN FLOW (PEDS/MIN)	I	START QUEUE (VEHS)	I	END QUEUE (VEHS)	I	DELAY (VEH.MIN/ TIME SEGMENT)	I	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	07.45-08.00	I	ARM A	I	0.32	I	39.78	I	0.008	I	0.0	I	0.0	I	0.1	I		I	0.03	I
I		I	ARM B	I	0.60	I	21.98	I	0.027	I	0.0	I	0.0	I	0.4	I		I	0.05	I
I		I	ARM C	I	3.66	I	39.37	I	0.093	I	0.0	I	0.1	I	1.5	I		I	0.03	I
I		I	ARM D	I	0.40	I	32.23	I	0.012	I	0.0	I	0.0	I	0.2	I		I	0.03	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	0.39	39.60	0.010		0.0	0.0	0.1		0.03
ARM B	0.72	21.90	0.033		0.0	0.0	0.5		0.05
ARM C	4.37	39.37	0.111		0.1	0.1	1.9		0.03
ARM D	0.48	31.77	0.015		0.0	0.0	0.2		0.03

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	0.48	39.35	0.012		0.0	0.0	0.2		0.03
ARM B	0.88	21.79	0.040		0.0	0.0	0.6		0.05
ARM C	5.36	39.37	0.136		0.1	0.2	2.3		0.03
ARM D	0.58	31.15	0.019		0.0	0.0	0.3		0.03

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	0.48	39.35	0.012		0.0	0.0	0.2		0.03
ARM B	0.88	21.79	0.040		0.0	0.0	0.6		0.05
ARM C	5.36	39.37	0.136		0.2	0.2	2.4		0.03
ARM D	0.58	31.14	0.019		0.0	0.0	0.3		0.03

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	0.39	39.60	0.010		0.0	0.0	0.1		0.03
ARM B	0.72	21.90	0.033		0.0	0.0	0.5		0.05
ARM C	4.37	39.37	0.111		0.2	0.1	1.9		0.03
ARM D	0.48	31.77	0.015		0.0	0.0	0.2		0.03

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
ARM A	0.32	39.78	0.008		0.0	0.0	0.1		0.03
ARM B	0.60	21.98	0.027		0.0	0.0	0.4		0.05
ARM C	3.66	39.37	0.093		0.1	0.1	1.6		0.03
ARM D	0.40	32.23	0.012		0.0	0.0	0.2		0.03

# QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
A	35.7	0.9	0.03
B	65.8	3.1	0.05
C	401.8	11.5	0.03
D	43.9	1.4	0.03
ALL	547.1	16.9	0.03

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

===== end of file =====

## A R C A D Y 6

## ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 3.0 (JUNE 2005)

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Wokingham, Berks.	Web: www.trlsoftware.co.uk
RG40 3GA, UK	

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-  
"l:\Projects\110000 -\112768 Carcraft, Liverpool\Junctions\  
112768 Portal Way 4-arm roundabout - 2015 +Development PM Rev1.vai"  
(drive-on-the-left ) at 11:01:48 on Monday, 7 December 2015

FILE PROPERTIES  
\*\*\*\*\*

RUN TITLE: 112768 Portal Way 4-arm roundabout - 2015+Development PM Rev1  
LOCATION: Fazackerly, Liverpool  
DATE: 07/12/2015  
CLIENT:  
ENUMERATOR: sue [HUDSON]  
JOB NUMBER: 112768  
STATUS: Preliminary  
DESCRIPTION:

INPUT DATA  
\*\*\*\*\*

ARM A - Portal Way (N)  
ARM B - New Access  
ARM C - Portal Way (S)  
ARM D - T.J. Morris

GEOMETRIC DATA  
-----

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	6.40	I	7.80	I	10.00	I	40.00	I	44.00	I	10.0	I	0.805	I	40.694	I
I	ARM B	I	3.50	I	5.00	I	5.00	I	15.00	I	44.00	I	14.0	I	0.573	I	22.385	I
I	ARM C	I	6.90	I	7.90	I	7.00	I	20.00	I	44.00	I	22.0	I	0.769	I	39.374	I
I	ARM D	I	6.80	I	6.80	I	0.00	I	14.00	I	44.00	I	22.0	I	0.707	I	34.574	I

V = approach half-width	L = effective flare length	D = inscribed circle diameter
E = entry width	R = entry radius	PHI = entry angle

TRAFFIC DEMAND DATA  
-----

(Only sets included in the current run are shown)

I	ARM	I	FLOW SCALE (%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I
I	D	I	100	I

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 112768 Portal Way 3-arm roundabout - 2015 Existing Situation

I	ARM	I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	I	TOP OF PEAK IS REACHED	I	FLOW STOPS IF FALLING	I	RATE OF FLOW (VEH/MIN) BEFORE PEAK	I	AT TOP OF PEAK	I	AFTER PEAK	I
I	ARM A	I	15.00	I	45.00	I	75.00	I	1.50	I	2.25	I	1.50	I
I	ARM B	I	15.00	I	45.00	I	75.00	I	2.44	I	3.66	I	2.44	I
I	ARM C	I	15.00	I	45.00	I	75.00	I	3.34	I	5.01	I	3.34	I
I	ARM D	I	15.00	I	45.00	I	75.00	I	0.29	I	0.43	I	0.29	I

DEMAND SET TITLE: 112768 Portal Way 3-arm roundabout - 2015 Existing Situation

I	TIME	I	FROM/TO	I	ARM A	I	ARM B	I	ARM C	I	ARM D	I
I	16.15 - 17.45	I	ARM A	I	0.000	I	0.000	I	0.958	I	0.042	I
I		I		I	0.0	I	0.0	I	115.0	I	5.0	I
I		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I
I		I	ARM B	I	0.000	I	0.000	I	1.000	I	0.000	I
I		I		I	0.0	I	0.0	I	195.0	I	0.0	I
I		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I
I		I	ARM C	I	0.082	I	0.682	I	0.000	I	0.236	I
I		I		I	22.0	I	182.0	I	0.0	I	63.0	I
I		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I
I		I	ARM D	I	0.130	I	0.000	I	0.870	I	0.000	I
I		I		I	3.0	I	0.0	I	20.0	I	0.0	I
I		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I
I		I		I		I		I		I		I

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	TIME	I	DEMAND (VEH/MIN)	I	CAPACITY (VEH/MIN)	I	DEMAND/CAPACITY (RFC)	I	PEDESTRIAN FLOW (PEDS/MIN)	I	START QUEUE (VEHS)	I	END QUEUE (VEHS)	I	DELAY (VEH.MIN/ TIME SEGMENT)	I	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	16.15-16.30	I	ARM A	I	1.50	I	38.66	I	0.039	I	0.0	I	0.0	I	0.6	I		I	0.03	I
I		I	ARM B	I	2.44	I	21.38	I	0.114	I	0.0	I	0.1	I	1.9	I		I	0.05	I
I		I	ARM C	I	3.34	I	39.33	I	0.085	I	0.0	I	0.1	I	1.4	I		I	0.03	I
I		I	ARM D	I	0.29	I	32.77	I	0.009	I	0.0	I	0.0	I	0.1	I		I	0.03	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
ARM A	1.79	38.26	0.047		0.0	0.0	0.7		0.03
ARM B	2.91	21.19	0.137		0.1	0.2	2.4		0.05
ARM C	3.99	39.32	0.101		0.1	0.1	1.7		0.03
ARM D	0.34	32.42	0.011		0.0	0.0	0.2		0.03

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
ARM A	2.19	37.72	0.058		0.0	0.1	0.9		0.03
ARM B	3.56	20.92	0.170		0.2	0.2	3.0		0.06
ARM C	4.88	39.30	0.124		0.1	0.1	2.1		0.03
ARM D	0.42	31.93	0.013		0.0	0.0	0.2		0.03

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	2.19	37.72	0.058		0.1	0.1	0.9		0.03
ARM B	3.56	20.92	0.170		0.2	0.2	3.1		0.06
ARM C	4.88	39.30	0.124		0.1	0.1	2.1		0.03
ARM D	0.42	31.93	0.013		0.0	0.0	0.2		0.03

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	1.79	38.26	0.047		0.1	0.0	0.7		0.03
ARM B	2.91	21.19	0.137		0.2	0.2	2.4		0.05
ARM C	3.99	39.32	0.101		0.1	0.1	1.7		0.03
ARM D	0.34	32.42	0.011		0.0	0.0	0.2		0.03

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
ARM A	1.50	38.66	0.039		0.0	0.0	0.6		0.03
ARM B	2.44	21.38	0.114		0.2	0.1	2.0		0.05
ARM C	3.34	39.33	0.085		0.1	0.1	1.4		0.03
ARM D	0.29	32.77	0.009		0.0	0.0	0.1		0.03

# QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.0
16.45	0.0
17.00	0.1
17.15	0.1
17.30	0.0
17.45	0.0



QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.2
17.00	0.2
17.15	0.2
17.30	0.2
17.45	0.1

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
A	164.5	4.5	0.03
B	267.4	14.7	0.06
C	366.1	10.4	0.03
D	31.5	1.0	0.03
ALL	829.6	30.6	0.04

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

===== end of file =====

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