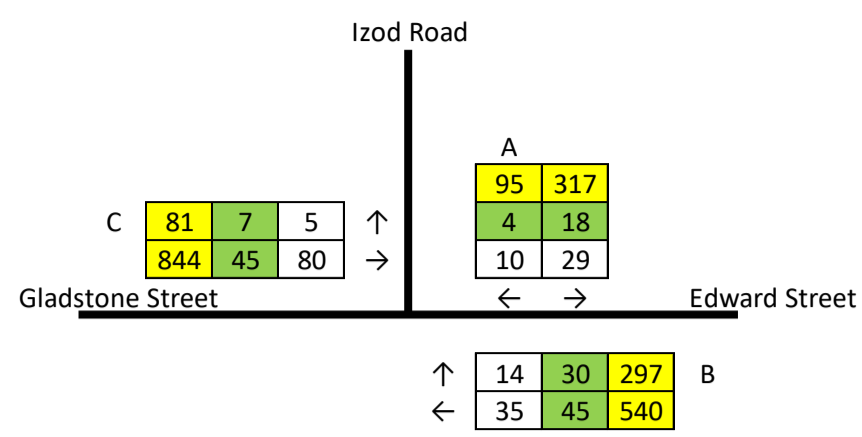
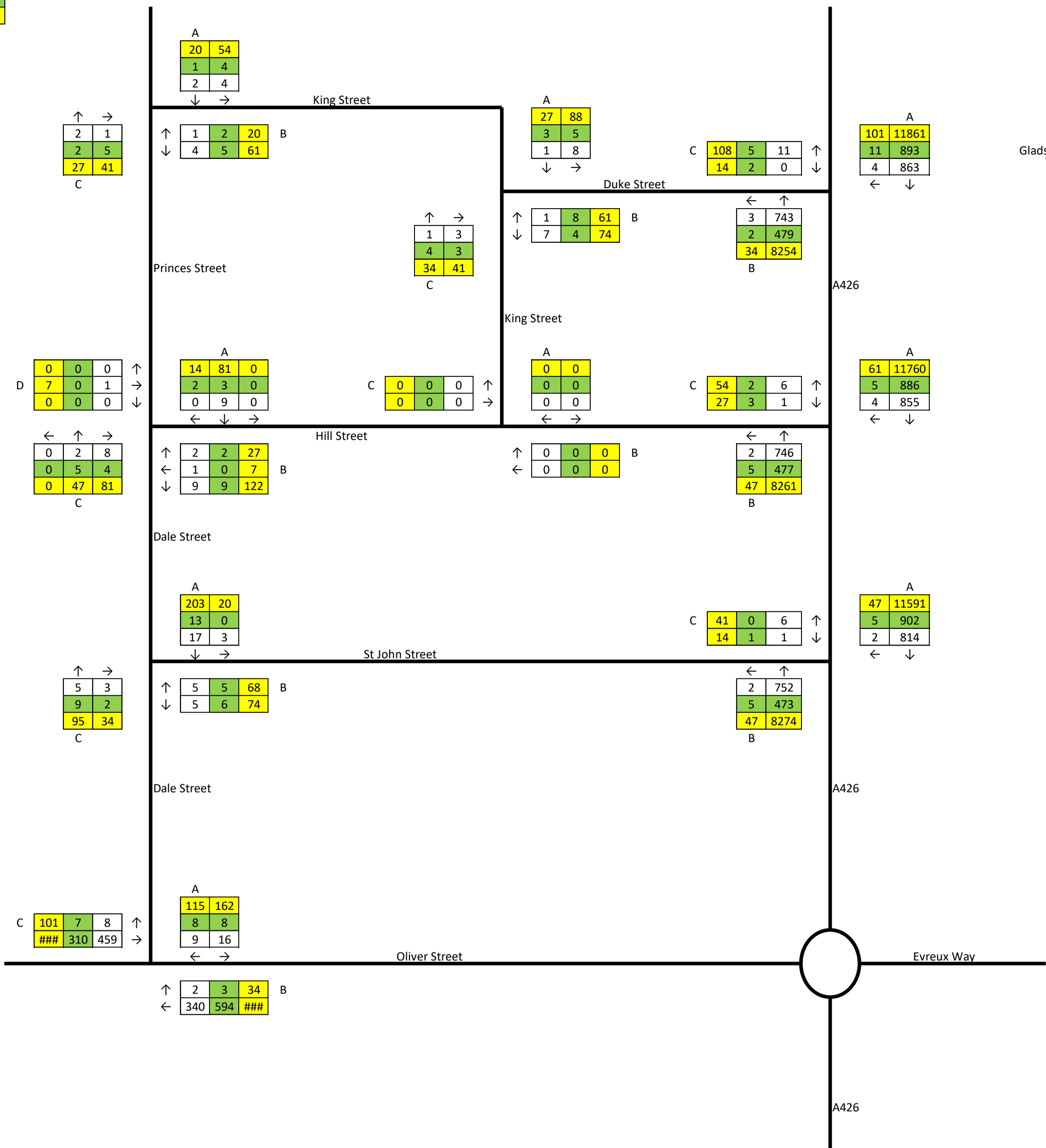




**Appendix G      Traffic Flow Diagram**

AM
PM
Daily





## Appendix H      Parking Beat Survey

This sheet provides a brief description of what information is held

#### RESULTS TAB

**Occupancy Vehicles by Link Table :-** This table shows the occupancy within the study area throughout the survey day. The graph below

#### PARKING TAB

**Vehicle Information :-** This tab contains all the VEHICLE information queried by using the filter option to select specific streets, timebins

#### CAPACITY

**Length of classifications (m) by link :-** This table shows the length of each restriction is taken from a site visit using GIS and measuring higher it is in the survey hierarchy. For example a Double Yellow line is classified as all these restrictions all

**Calculated capacity (spaces) by link :-** The table shows the number of methods. The first method is to count the actual number of physical spaces where the spaces are not individually marked or there is no restriction divide it by 5 m ( Standard car length) rounding the value "DOWN" often be less than the total length divided by 5m

**Road Width :-** The width of the road has been accurately measured suitable for parking on one side, and that side will have a capacity of "Unsuitable for Parking". If a street measures less than or equal to 2.5m are designated bays like disabled bays) and a note will be logged with which is 2.5m

#### LINKS CLASSIFIED

**Link Classification :-** This tab contains all the individual link ( Classified titled "Count of Vehicles" is the number of vehicles captured parking dividing the number of vehicles captured by the number of spaces

#### STRESS LEVEL

This table shows the capacity stress level ( Legally Parked Only) for vehicle are parking closer together and the number of vehicles recorded of  $29.2 \text{ m} / 5 \text{ m} = 5$  Vehicles. However, in practise it would be possible

1 within each tab of this document, and how the results were achieved.

ty per street / per beat. Therefore the maximum total value is the maximum number of vehicles present this table shows the "Accumulative" capacity - street by street stacked.

n data which has been linked spatially to its nearest classified link restriction. This information can be easily s, classification and much more. .

( Metres) of each classification within each street, that has been surveyed as part of the project. The length g the kerbside length. Only kerbside restrictions are captured, the more enforceable the restriction the ne is more enforceable than a dropped kerb. Where there is no kerbside restriction present this will be

r of spaces available within each individual network section ( No of Spaces). This is calculated by two al individual marked spaces within the section ( example 5 number Parallel Bays ). The second method is used tion present, to calculate the capacity using this method we would take each individual section length and at all calculations. As each restriction length is calculated individually, the combined value of capacity will

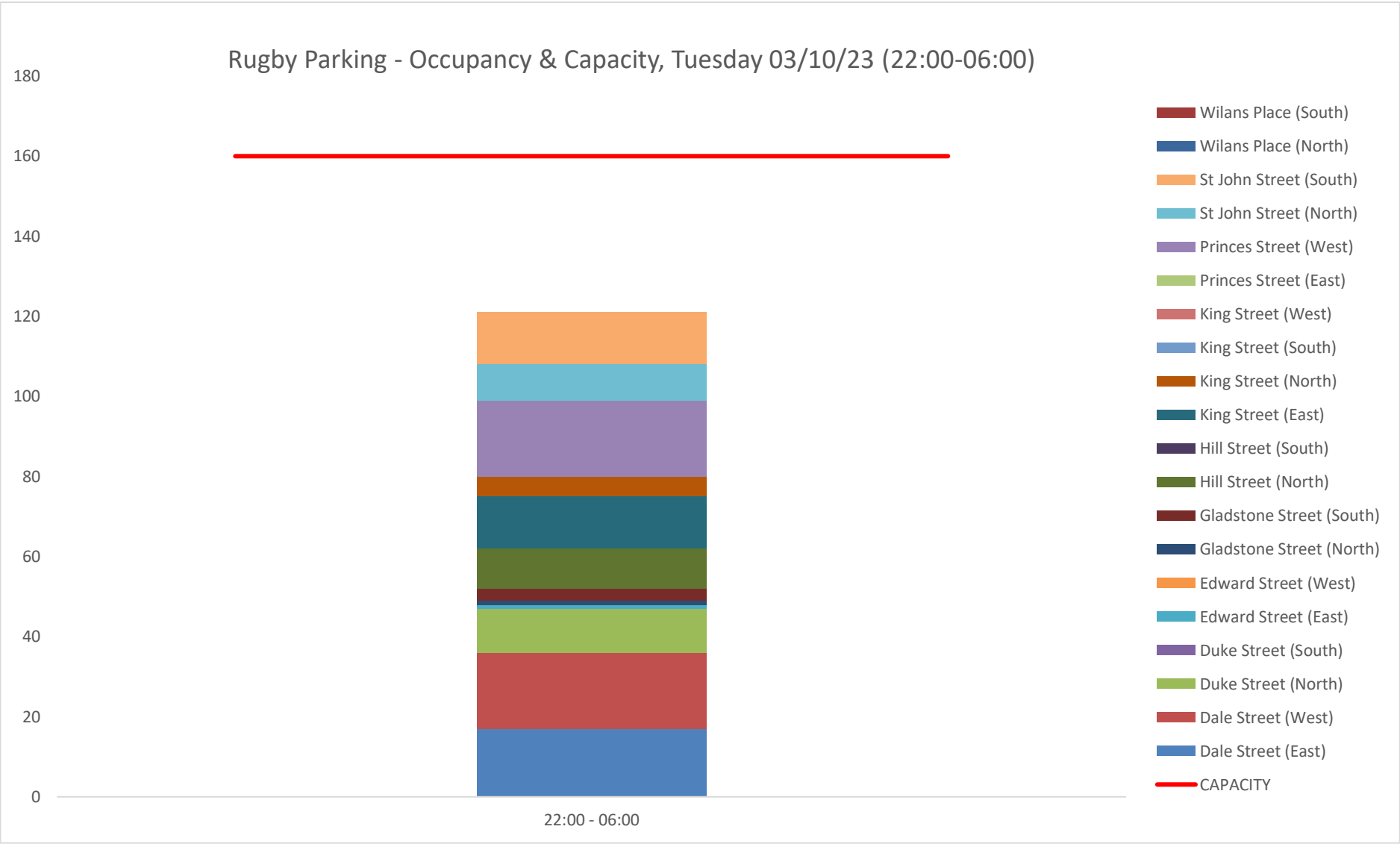
d on GIS using OS background mapping. If a street measures less than or equal to 7m in width, it is not of 0 (unless there are designated bays like disabled bays) and a note will be logged within the NOTES column 5m in width, it is not suitable for parking on both sides, and each side will have a capacity of 0 (unless there ithin the NOTES column "Unsuitable for Parking". These calculations are based on the average width of a car,

ied Restrictions) within the survey area providing details on the ID, Class, Length and Capacity. The column ng on the section throughout the survey period which is used to calculate the next column "Turnover" by available.

each street within the survey area for each beat conducted. It is possible for % capacity to exceed 100% if orded within a beat is greater than that of the Capacity Calculation detailed above ( Example. a section length ible to accommodate 6 vehicles).



Vehicle Occupancy by Link	
LINK \ TIME PERIOD	
LINK	22:00 - 06:00
Dale Street (East)	17
Dale Street (West)	19
Duke Street (North)	11
Duke Street (South)	0
Edward Street (East)	1
Edward Street (West)	0
Gladstone Street (North)	1
Gladstone Street (South)	3
Hill Street (North)	10
Hill Street (South)	0
King Street (East)	13
King Street (North)	5
King Street (South)	0
King Street (West)	0
Princes Street (East)	0
Princes Street (West)	19
St John Street (North)	9
St John Street (South)	13
Wilans Place (North)	0
Wilans Place (South)	0
OCCUPANCY	121
CAPACITY	160





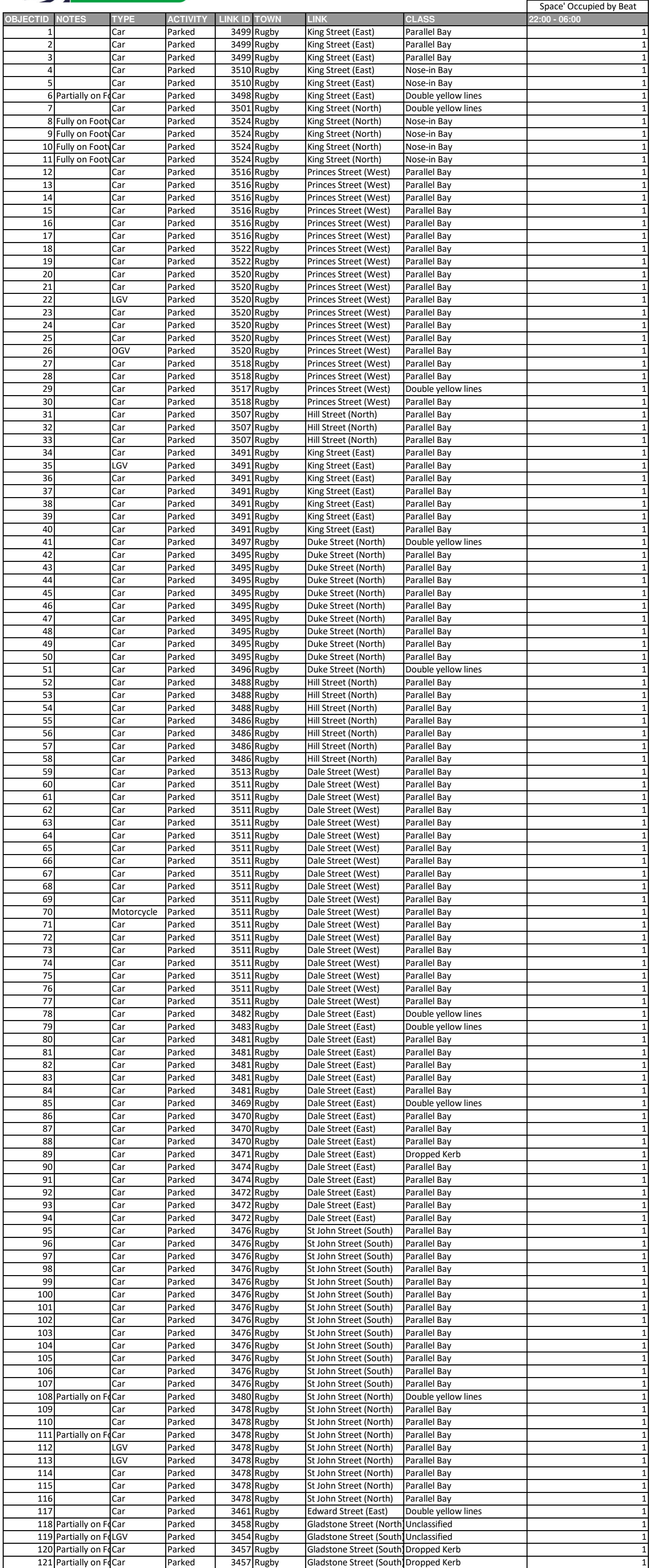
Length of Classifications by Link (Metres)							
Link	Double yellow	Dropped	Nose-in Bay	Parallel Bay	Single yellow line	Unclassified	Grand Total
Dale Street (East)	31.82	11.20	0.00	103.78	0.00	0.00	146.81
Dale Street (West)	16.48	3.83	0.00	131.42	0.00	0.00	151.73
Duke Street (North)	12.62	0.00	0.00	52.81	0.00	0.00	65.43
Duke Street (South)	65.99	0.00	0.00	0.00	0.00	0.00	65.99
Edward Street (East)	45.95	0.00	0.00	0.00	0.00	0.00	45.95
Edward Street (West)	27.59	11.31	0.00	0.00	0.00	24.52	63.42
Gladstone Street (North)	0.00	4.76	0.00	0.00	0.00	40.58	45.34
Gladstone Street (South)	0.00	11.10	0.00	0.00	0.00	26.20	37.30
Hill Street (North)	28.93	3.44	0.00	54.95	0.00	0.00	87.33
Hill Street (South)	96.05	0.00	0.00	0.00	0.00	0.00	96.05
King Street (East)	22.52	8.41	8.77	64.41	0.00	0.00	104.12
King Street (North)	31.49	0.00	13.09	0.00	0.00	0.00	44.58
King Street (South)	25.65	0.00	0.00	0.00	0.00	0.00	25.65
King Street (West)	45.18	0.00	30.37	0.00	53.23	0.00	128.78
Princes Street (East)	36.04	0.00	0.00	0.00	93.28	0.00	129.31
Princes Street (West)	13.95	16.52	0.00	117.42	0.00	0.00	147.90
St John Street (North)	22.57	0.00	0.00	67.26	0.00	0.00	89.83
St John Street (South)	6.11	0.00	0.00	82.20	0.00	0.00	88.31
Wilans Place (North)	0.00	3.01	0.00	0.00	0.00	32.42	35.43
Wilans Place (South)	0.00	2.82	0.00	0.00	0.00	21.28	24.10
Grand Total	528.95	76.41	52.23	674.26	146.51	145.00	1623.36

Calculated Capacity by Link (Official - No. of Spaces)							
Link	Double yellow	Dropped	Nose-in Bay	Parallel Bay	Single yellow line	Unclassified	Grand Total
Dale Street (East)	0	0	0	19	0	0	19
Dale Street (West)	0	0	0	25	0	0	25
Duke Street (North)	0	0	0	10	0	0	10
Duke Street (South)	0	0	0	0	0	0	0
Edward Street (East)	0	0	0	0	0	0	0
Edward Street (West)	0	0	0	0	0	4	4
Gladstone Street (North)	0	0	0	0	0	1	1
Gladstone Street (South)	0	0	0	0	0	5	5
Hill Street (North)	0	0	0	10	0	0	10
Hill Street (South)	0	0	0	0	0	0	0
King Street (East)	0	0	3	12	0	0	15
King Street (North)	0	0	5	0	0	0	5
King Street (South)	0	0	0	0	0	0	0
King Street (West)	0	0	12	0	0	0	12
Princes Street (East)	0	0	0	0	0	0	0
Princes Street (West)	0	0	0	22	0	0	22
St John Street (North)	0	0	0	13	0	0	13
St John Street (South)	0	0	0	16	0	0	16
Wilans Place (North)	0	0	0	0	0	0	0
Wilans Place (South)	0	0	0	0	0	3	3
Grand Total	0	0	20	127	0	13	160

Calculated Capacity by Link (Off Peak)							
Link	Double yellow	Dropped	Nose-in Bay	Parallel Bay	Single yellow line	Unclassified	Grand Total
Dale Street (East)	0	0	0	19	0	0	19
Dale Street (West)	0	0	0	25	0	0	25
Duke Street (North)	0	0	0	10	0	0	10
Duke Street (South)	0	0	0	0	0	0	0
Edward Street (East)	0	0	0	0	0	0	0
Edward Street (West)	0	0	0	0	0	4	4
Gladstone Street (North)	0	0	0	0	0	1	1
Gladstone Street (South)	0	0	0	0	0	5	5
Hill Street (North)	0	0	0	10	0	0	10
Hill Street (South)	0	0	0	0	0	0	0
King Street (East)	0	0	3	12	0	0	15
King Street (North)	0	0	5	0	0	0	5
King Street (South)	0	0	0	0	0	0	0
King Street (West)	0	0	12	0	0	0	12
Princes Street (East)	0	0	0	0	0	0	0
Princes Street (West)	0	0	0	22	0	0	22
St John Street (North)	0	0	0	13	0	0	13
St John Street (South)	0	0	0	16	0	0	16
Wilans Place (North)	0	0	0	0	0	0	0
Wilans Place (South)	0	0	0	0	0	3	3
Grand Total	0	0	20	127	0	13	160



OBJECTID	TOWN	LINK	CLASS	CAPACITY (Spaces)	Capacity Off-Peak(Spaces)	NOTES	RESTRICTIONS	LENGTH (M)
3450	Rugby	Edward Street (West)	Double yellow lines	0	0			27.591843
3451	Rugby	Edward Street (West)	Dropped Kerb	0	0			11.306476
3452	Rugby	Edward Street (West)	Unclassified	2	2		CALCULATED	10.986583
3454	Rugby	Gladstone Street (South)	Unclassified	5	5		CALCULATED	26.196847
3455	Rugby	Edward Street (West)	Unclassified	2	2		CALCULATED	13.53694
3456	Rugby	Gladstone Street (South)	Dropped Kerb	0	0			3.098632
3457	Rugby	Gladstone Street (South)	Dropped Kerb	0	0			8.00271
3458	Rugby	Gladstone Street (North)	Unclassified	0	0		UNSUITABLE FOR PARKING	34.216889
3459	Rugby	Gladstone Street (North)	Unclassified	1	1		CALCULATED	6.362993
3460	Rugby	Gladstone Street (North)	Dropped Kerb	0	0			4.756933
3461	Rugby	Edward Street (East)	Double yellow lines	0	0			45.948153
3462	Rugby	Wilans Place (North)	Unclassified	0	0		UNSUITABLE FOR PARKING	20.403387
3463	Rugby	Wilans Place (South)	Unclassified	2	2		CALCULATED	11.484904
3464	Rugby	Wilans Place (South)	Unclassified	1	1		CALCULATED	9.799196
3465	Rugby	Wilans Place (South)	Dropped Kerb	0	0			2.819946
3466	Rugby	Wilans Place (North)	Unclassified	0	0		UNSUITABLE FOR PARKING	12.014453
3467	Rugby	Wilans Place (North)	Dropped Kerb	0	0			3.01335
3468	Rugby	Dale Street (East)	Double yellow lines	0	0			14.501051
3469	Rugby	Dale Street (East)	Double yellow lines	0	0			8.159529
3470	Rugby	Dale Street (East)	Parallel Bay	5	5	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	26.436872
3471	Rugby	Dale Street (East)	Dropped Kerb	0	0			4.58394
3472	Rugby	Dale Street (East)	Parallel Bay	4	4	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	23.04415
3474	Rugby	Dale Street (East)	Parallel Bay	2	2	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	11.384232
3475	Rugby	Dale Street (East)	Dropped Kerb	0	0			6.619047
3476	Rugby	St John Street (South)	Parallel Bay	16	16	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	82.196286
3477	Rugby	St John Street (South)	Double yellow lines	0	0			6.112894
3478	Rugby	St John Street (North)	Parallel Bay	13	13	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	67.262213
3479	Rugby	St John Street (North)	Double yellow lines	0	0			6.603189
3480	Rugby	St John Street (North)	Double yellow lines	0	0			15.961817
3481	Rugby	Dale Street (East)	Parallel Bay	8	8	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	42.91654
3482	Rugby	Dale Street (East)	Double yellow lines	0	0			5.075583
3483	Rugby	Dale Street (East)	Double yellow lines	0	0			4.087183
3484	Rugby	Hill Street (South)	Double yellow lines	0	0			50.946511
3485	Rugby	Hill Street (South)	Double yellow lines	0	0			45.103462
3486	Rugby	Hill Street (North)	Parallel Bay	5	5	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	26.591906
3487	Rugby	Hill Street (North)	Double yellow lines	0	0			13.331383
3488	Rugby	Hill Street (North)	Parallel Bay	2	2	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	12.541019
3489	Rugby	Hill Street (North)	Dropped Kerb	0	0			3.44253
3490	Rugby	Hill Street (North)	Double yellow lines	0	0			3.916569
3491	Rugby	King Street (East)	Parallel Bay	9	9	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	46.110958
3492	Rugby	King Street (East)	Double yellow lines	0	0			2.494192
3493	Rugby	King Street (East)	Double yellow lines	0	0			1.446407
3494	Rugby	Duke Street (South)	Double yellow lines	0	0			65.992138
3495	Rugby	Duke Street (North)	Parallel Bay	10	10	mon-sat 8am-8pm r1 permits or 1hr	CALCULATED	52.810989
3496	Rugby	Duke Street (North)	Double yellow lines	0	0			4.659771
3497	Rugby	Duke Street (North)	Double yellow lines	0	0			7.963203
3498	Rugby	King Street (East)	Double yellow lines	0	0			18.583683
3499	Rugby	King Street (East)	Parallel Bay	3	3	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	18.302358
3500	Rugby	King Street (East)	Dropped Kerb	0	0			8.414145
3501	Rugby	King Street (North)	Double yellow lines	0	0			31.489573
3502	Rugby	Princes Street (East)	Single yellow line	0	0	mon-sat 8am-6pm	UNSUITABLE FOR PARKING	80.919702
3503	Rugby	Princes Street (East)	Double yellow lines	0	0			13.915794
3504	Rugby	King Street (West)	Double yellow lines	0	0			41.974737
3505	Rugby	King Street (West)	Single yellow line	0	0	mon-sat 8am-6pm	UNSUITABLE FOR PARKING	53.229729
3506	Rugby	Hill Street (North)	Double yellow lines	0	0			4.918798
3507	Rugby	Hill Street (North)	Parallel Bay	3	3	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	15.819846
3508	Rugby	Princes Street (East)	Double yellow lines	0	0			8.006614
3509	Rugby	King Street (West)	Nose-in Bay	12	12	residents	CALCULATED	30.371875
3510	Rugby	King Street (East)	Nose-in Bay	3	3	residents	CALCULATED	8.765639
3511	Rugby	Dale Street (West)	Parallel Bay	24	24	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	123.385696
3512	Rugby	Dale Street (West)	Double yellow lines	0	0			1.759369
3513	Rugby	Dale Street (West)	Parallel Bay	1	1	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	8.037692
3514	Rugby	Dale Street (West)	Dropped Kerb	0	0			3.830031
3515	Rugby	Dale Street (West)	Double yellow lines	0	0			14.716946
3516	Rugby	Princes Street (West)	Parallel Bay	6	6	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	33.281391
3517	Rugby	Princes Street (West)	Double yellow lines	0	0			13.954464
3518	Rugby	Princes Street (West)	Parallel Bay	5	5	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	25.462293
3519	Rugby	Princes Street (West)	Dropped Kerb	0	0			5.3893
3520	Rugby	Princes Street (West)	Parallel Bay	8	8	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	42.237493
3521	Rugby	Princes Street (West)	Dropped Kerb	0	0			7.412477
3522	Rugby	Princes Street (West)	Parallel Bay	3	3	mon-sat 8am-8pm r0 r1 permits or 1hr	CALCULATED	16.438723
3523	Rugby	Princes Street (West)	Dropped Kerb	0	0			3.719873
3524	Rugby	King Street (North)	Nose-in Bay	5	5	residents	CALCULATED	13.092174
3525	Rugby	Princes Street (East)	Double yellow lines	0	0			14.114222
3526	Rugby	Princes Street (East)	Single yellow line	0	0	m-sat 8-6pm	UNSUITABLE FOR PARKING	12.358284
3527	Rugby	Hill Street (North)	Double yellow lines	0	0			6.764425
3528	Rugby	King Street (West)	Double yellow lines	0	0			3.205413
3529	Rugby	King Street (South)	Double yellow lines	0	0			25.649421



NUMBER OF VEHICLES PARKED (AT)			
STREET NAME	00:30 - 05:30		
	CAP	TOT	%OCC
Dale Street (East)	19	17	89.5%
Dale Street (West)	25	19	76.0%
Duke Street (North)	10	11	110.0%
Duke Street (South)	0	0	N/A
Edward Street (East)	0	1	N/A
Edward Street (West)	4	0	0.0%
Gladstone Street (North)	1	1	100.0%
Gladstone Street (South)	5	3	60.0%
Hill Street (North)	10	10	100.0%
Hill Street (South)	0	0	N/A
King Street (East)	15	13	86.7%
King Street (North)	5	5	100.0%
King Street (South)	0	0	N/A
King Street (West)	12	0	0.0%
Princes Street (East)	0	0	N/A
Princes Street (West)	22	19	86.4%
St John Street (North)	13	9	69.2%
St John Street (South)	16	13	81.3%
Wilans Place (North)	0	0	N/A
Wilans Place (South)	3	0	0.0%
TOTAL	160	121	75.6%

This sheet provides a brief description of what information is held within each tab of this document, and how the results were achieved.

RESULTS TAB

<b>Occupancy Vehicles by Link Table :-</b> This table shows the occupancy per street / per beat. Therefore the maximum total value is the maximum number of vehicles present within the study area throughout the survey day. The graph below this table shows the "Accumulative" capacity - street by street stacked.
<b>Duration of stay (Hrs) by Arrival Time :-</b> This table presents the duration of stay ( In Hours) that a vehicle has stayed for relative to the time period that it arrived ( Example : 10 Vehicles arrived within beat 2 and stayed for 5 hours). The graph below this table shows the "Accumulative" number of vehicles by time period.
<b>Arrivals vs Departures by Survey Period :-</b> This table presents the number of vehicle that have arrived or departed within the survey. Note that a vehicle cannot depart in the 1st beat as the vehicle has to be active within the system to be departed. Generally the number of vehicles captured in the 1st beat represents the number of vehicles "In @ Start". The table to the right of table graphically shows the Arrival & Departure trend line.

PARKING TAB

<b>Vehicle Information</b> :- This tab contains all the VEHICLE information data which has been linked spatially to its nearest classified link restriction. This information can be easily queried by using the filter option to select specific streets, timebins, classification and much more. .
--

CAPACITY

<b>Length of classifications (m) by link :-</b> This table shows the length ( Metres) of each classification within each street, that has been surveyed as part of the project. The length of each restriction is taken from a site visit using GIS and measuring the kerbside length. Only kerbside restrictions are captured, the more enforceable the restriction the higher it is in the survey hierarchy. For example a Double Yellow line is more enforceable than a dropped kerb. Where there is no kerbside restriction present this will be classified as "Unrestricted".
<b>Calculated capacity (spaces) by link :-</b> The table shows the number of spaces available within each individual network section ( No of Spaces). This is calculated by two methods. The first method is to count the actual number of physical individual marked spaces within the section ( example 5 number Parallel Bays ). The second method is used where the spaces are not individually marked or there is no restriction present, to calculate the capacity using this method we would take each individual section length and divide it by 5 m ( Standard car length) rounding the value "DOWN" at all calculations. As each restriction length is calculated individually, the combined value of capacity will often be less than the total lenght divided by 5m.
<b>Road Width :-</b> The width of the road has been accurately measured on GIS using OS background mapping. If a street measures less than or equal to 7m in width, it is not suitable for parking on one side, and that side will have a capacity of 0 (unless there are designated bays like disabled bays) and a note will be logged within the NOTES column “Unsuitable for Parking”. If a street measures less than or equal to 5m in width, it is not suitable for parking on both sides, and each side will have a capacity of 0 (unless there are designated bays like disabled bays) and a note will be logged within the NOTES column “Unsuitable for Parking”. These calculations are based on the average width of a car, which is 2.5m.

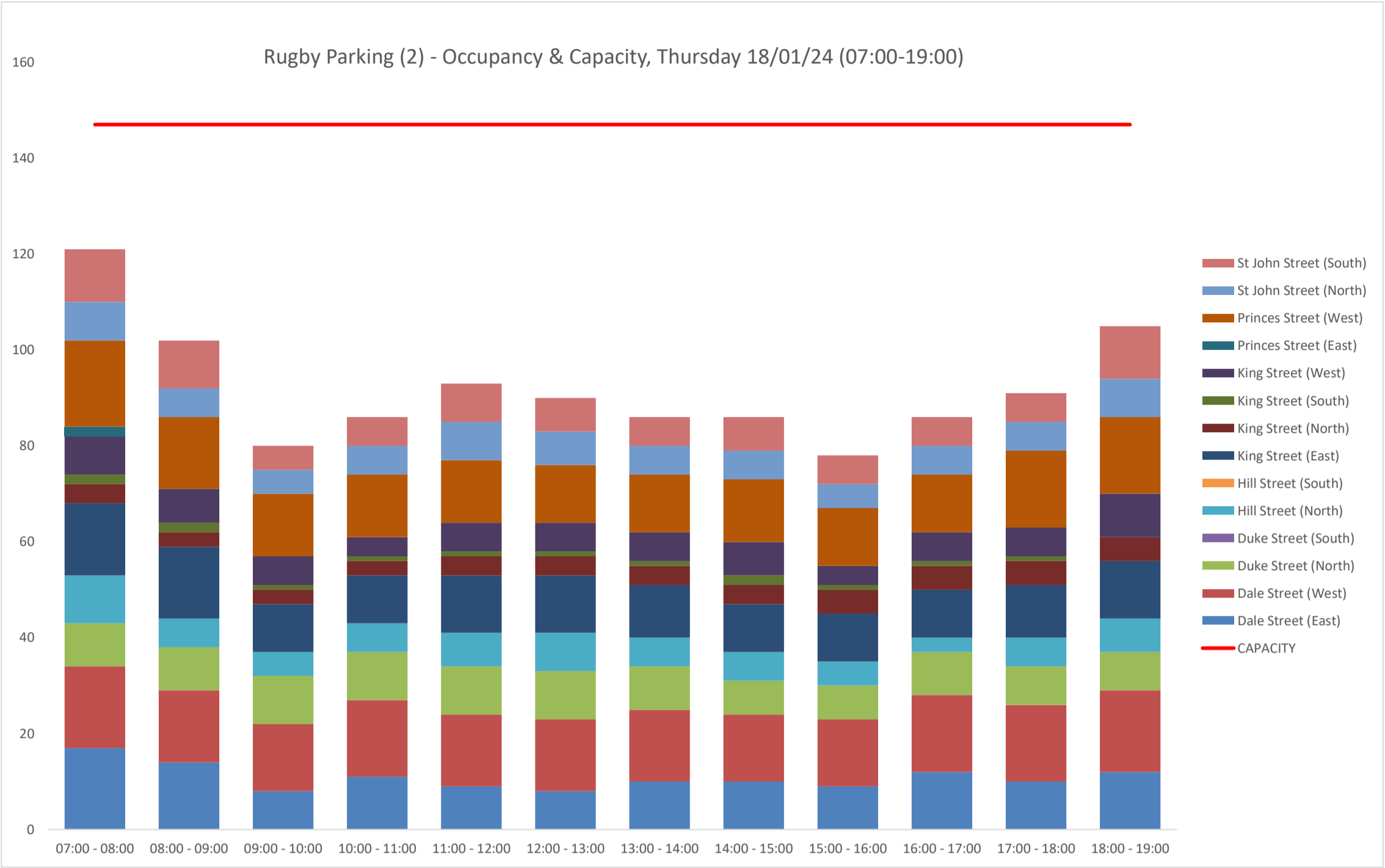
LINKS\_CLASSIFIED

Link Classification :- This tab contains all the individual link ( Classified Restrictions) within the survey area providing details on the ID, Class, Length and Capacity. The column titled "Count of Vehicles" is the number of vehicles captured parking on the section throughout the survey period which is used to calculate the next column "Turnover" by dividing the number of vehicles captured by the number of spaces available.
---

STRESS LEVEL

This table shows the capacity stress level ( Legally Parked Only) for each street within the survey area for each beat conducted. It is possible for % capacity to exceed 100% if vehicle are parking closer together and the number of vehicles recorded within a beat is greater than that of the Capacity Calculation detailed above ( Example. a section length of 29.2 m / 5 m = 5 Vehicles. However, in practise it would be possible to accommodate 6 vehicles).
---

[illegible]





Length of Classifications by Link (Metres)						
Link	Double yellow lines	Dropped Kerb	Nose-in Bay	Parallel Bay	Single yellow line	Grand Total
Dale Street (East)	31.82	11.20	0.00	103.78	0.00	146.81
Dale Street (West)	16.48	3.83	0.00	131.42	0.00	151.73
Duke Street (North)	12.62	0.00	0.00	52.81	0.00	65.43
Duke Street (South)	65.99	0.00	0.00	0.00	0.00	65.99
Hill Street (North)	28.93	3.44	0.00	54.95	0.00	87.33
Hill Street (South)	96.05	0.00	0.00	0.00	0.00	96.05
King Street (East)	22.52	8.41	8.77	64.41	0.00	104.12
King Street (North)	31.49	0.00	13.09	0.00	0.00	44.58
King Street (South)	25.65	0.00	0.00	0.00	0.00	25.65
King Street (West)	45.18	0.00	30.37	0.00	53.23	128.78
Princes Street (East)	36.04	0.00	0.00	0.00	93.28	129.31
Princes Street (West)	13.95	16.52	0.00	117.42	0.00	147.90
St John Street (North)	22.57	0.00	0.00	67.26	0.00	89.83
St John Street (South)	6.11	0.00	0.00	82.20	0.00	88.31
Grand Total	455.41	43.41	52.23	674.26	146.51	1371.82

Calculated Capacity by Link (Official - No. of Spaces)						
Link	Double yellow lines	Dropped Kerb	Nose-in Bay	Parallel Bay	Single yellow line	Grand Total
Dale Street (East)	0	0	0	19	0	19
Dale Street (West)	0	0	0	25	0	25
Duke Street (North)	0	0	0	10	0	10
Duke Street (South)	0	0	0	0	0	0
Hill Street (North)	0	0	0	10	0	10
Hill Street (South)	0	0	0	0	0	0
King Street (East)	0	0	3	12	0	15
King Street (North)	0	0	5	0	0	5
King Street (South)	0	0	0	0	0	0
King Street (West)	0	0	12	0	0	12
Princes Street (East)	0	0	0	0	0	0
Princes Street (West)	0	0	0	22	0	22
St John Street (North)	0	0	0	13	0	13
St John Street (South)	0	0	0	16	0	16
Grand Total	0	0	20	127	0	147



OBJECTID	TOWN	LINK	CLASS	CAPACITY (Spaces)	NOTES	RESTRICTIONS	LENGTH (M)
3299	Rugby	Dale Street (East)	Double yellow lines	0			14.501051
3300	Rugby	King Street (West)	Nose-in Bay	12	CALCULATED	residents	30.371875
3305	Rugby	Dale Street (East)	Double yellow lines	0			8.159529
3306	Rugby	Dale Street (East)	Parallel Bay	5	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	26.436872
3307	Rugby	Dale Street (East)	Dropped Kerb	0			4.58394
3308	Rugby	King Street (East)	Nose-in Bay	3	CALCULATED	residents	8.765639
3309	Rugby	Dale Street (West)	Parallel Bay	24	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	123.385696
3310	Rugby	Dale Street (West)	Double yellow lines	0			1.759369
3311	Rugby	Dale Street (West)	Parallel Bay	1	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	8.037692
3312	Rugby	Dale Street (West)	Dropped Kerb	0			3.830031
3313	Rugby	Dale Street (West)	Double yellow lines	0			14.716946
3314	Rugby	Princes Street (West)	Parallel Bay	6	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	33.281391
3315	Rugby	Princes Street (West)	Double yellow lines	0			13.954464
3316	Rugby	Princes Street (West)	Parallel Bay	5	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	25.462293
3317	Rugby	Princes Street (West)	Dropped Kerb	0			5.3893
3318	Rugby	Princes Street (West)	Parallel Bay	8	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	42.237493
3319	Rugby	Princes Street (West)	Dropped Kerb	0			7.412477
3320	Rugby	Princes Street (West)	Parallel Bay	3	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	16.438723
3321	Rugby	Princes Street (West)	Dropped Kerb	0			3.719873
3322	Rugby	King Street (North)	Nose-in Bay	5	CALCULATED	residents	13.092174
3323	Rugby	Princes Street (East)	Double yellow lines	0			14.114222
3324	Rugby	Princes Street (East)	Single yellow line	0	UNSUITABLE FOR PARKING	m-sat 8-6pm	12.358284
3334	Rugby	Dale Street (East)	Parallel Bay	4	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	23.04415
3335	Rugby	Dale Street (East)	Parallel Bay	2	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	11.384232
3336	Rugby	Dale Street (East)	Dropped Kerb	0			6.619047
3337	Rugby	St John Street (South)	Parallel Bay	16	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	82.196286
3338	Rugby	St John Street (South)	Double yellow lines	0			6.112894
3339	Rugby	St John Street (North)	Parallel Bay	13	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	67.262213
3340	Rugby	St John Street (North)	Double yellow lines	0			6.603189
3341	Rugby	St John Street (North)	Double yellow lines	0			15.961817
3342	Rugby	Dale Street (East)	Parallel Bay	8	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	42.91654
3343	Rugby	Dale Street (East)	Double yellow lines	0			5.075583
3344	Rugby	Dale Street (East)	Double yellow lines	0			4.087183
3345	Rugby	Hill Street (South)	Double yellow lines	0			50.946511
3346	Rugby	Hill Street (South)	Double yellow lines	0			45.103462
3347	Rugby	Hill Street (North)	Parallel Bay	5	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	26.591906
3348	Rugby	Hill Street (North)	Double yellow lines	0			13.331383
3349	Rugby	Hill Street (North)	Parallel Bay	2	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	12.541019
3350	Rugby	Hill Street (North)	Dropped Kerb	0			3.44253
3351	Rugby	Hill Street (North)	Double yellow lines	0			3.916569
3352	Rugby	King Street (East)	Parallel Bay	9	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	46.110958
3353	Rugby	King Street (East)	Double yellow lines	0			2.494192
3354	Rugby	King Street (East)	Double yellow lines	0			1.446407
3355	Rugby	Duke Street (South)	Double yellow lines	0			65.992138
3356	Rugby	Duke Street (North)	Parallel Bay	10	CALCULATED	mon-sat 8am-8pm r1 permits or 1hr	52.810989
3357	Rugby	Duke Street (North)	Double yellow lines	0			4.659771
3358	Rugby	Duke Street (North)	Double yellow lines	0			7.963203
3359	Rugby	King Street (East)	Double yellow lines	0			18.583683
3360	Rugby	King Street (East)	Parallel Bay	3	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	18.302358
3361	Rugby	King Street (East)	Dropped Kerb	0			8.414145
3362	Rugby	King Street (North)	Double yellow lines	0			31.489573
3363	Rugby	Princes Street (East)	Single yellow line	0	UNSUITABLE FOR PARKING	mon-sat 8am-6pm	80.919702
3364	Rugby	Princes Street (East)	Double yellow lines	0			13.915794
3365	Rugby	King Street (West)	Double yellow lines	0			41.974737
3366	Rugby	King Street (West)	Single yellow line	0	UNSUITABLE FOR PARKING	mon-sat 8am-6pm	53.229729
3367	Rugby	Hill Street (North)	Double yellow lines	0			4.918798
3368	Rugby	Hill Street (North)	Parallel Bay	3	CALCULATED	mon-sat 8am-8pm r0 r1 permits or 1hr	15.819846
3369	Rugby	Princes Street (East)	Double yellow lines	0			8.006614
3370	Rugby	Hill Street (North)	Double yellow lines	0			6.764425
3371	Rugby	King Street (West)	Double yellow lines	0			3.205413
3372	Rugby	King Street (South)	Double yellow lines	0			25.649421

	COMMENTS	TYPE	ACTIVITY	ARRIBIN	DEPBIN	ST	LINK ID	TOWN	LINK	CLASS	07:00 - 08:00	08:00 - 09:00	09:00 - 10:00	10:00 - 11:00	11:00 - 12:00	12:00 - 13:00	13:00 - 14:00	14:00 - 15:00	15:00 - 16:00	16:00 - 17:00	17:00 - 18:00	18:00 - 19:00
1	Partially On Footway	Car	Parked	07:00 - 08:00	11:00 - 12:00	4	3335	Rugby	Dale Street (East)	Parallel Bay	1			1								
2	Partially On Footway	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3335	Rugby	Dale Street (East)	Parallel Bay				1	1			1	1	1	1	1
3	Partially On Footway	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3334	Rugby	Dale Street (East)	Parallel Bay	1		1									
4	Car	Parked	07:00 - 08:00	09:00 - 10:00	1	3306	Rugby	Dale Street (East)	Parallel Bay	1												
5	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3306	Rugby	Dale Street (East)	Parallel Bay	1												
6	Partially On Footway	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3306	Rugby	Dale Street (East)	Parallel Bay	1	1										
7	Car	Parked	07:00 - 08:00	08:00 - 09:00	1	3306	Rugby	Dale Street (East)	Parallel Bay	1												
8	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3207	Rugby	Dale Street (East)	Dropped Kerb	1		1										
9	Partially On Footway	Car	Parked	07:00 - 08:00	09:00 - 10:00	1	3344	Rugby	Dale Street (East)	Parallel Bay	1											
10	Partially On Footway	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3334	Rugby	Dale Street (East)	Parallel Bay	1	1		1	1			1	1			
11	Partially On Footway	Car	Parked	07:00 - 08:00	08:00 - 09:00	1	3334	Rugby	Dale Street (East)	Parallel Bay	1											
12	Partially On Footway	Car	Parked	07:00 - 08:00	11:00 - 12:00	4	3309	Rugby	Dale Street (West)	Parallel Bay	1	1	1									
13	Partially On Footway	Car	Parked	07:00 - 08:00	09:00 - 10:00	12	3309	Rugby	Dale Street (West)	Parallel Bay	1											
14	Partially On Footway	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3309	Rugby	Dale Street (West)	Parallel Bay	1			1	1			1	1	1	1	1
15	Partially On Footway	Car	Parked	07:00 - 08:00	11:00 - 12:00	4	3309	Rugby	Dale Street (West)	Parallel Bay	1	1	1									
16	Car	Parked	07:00 - 08:00	09:00 - 10:00	12	3309	Rugby	Dale Street (West)	Parallel Bay	1	1			1	1			1	1	1	1	1
17	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3209	Rugby	Dale Street (West)	Parallel Bay	1	1	1	1		1			1	1	1	1	1
18	Car	Parked	07:00 - 08:00	13:00 - 14:00	6	3329	Rugby	Dale Street (West)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
19	Partially On Footway	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3309	Rugby	Dale Street (West)	Parallel Bay	1	1	1		1			1	1	1	1	1
20	Partially On Footway	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3309	Rugby	Dale Street (West)	Parallel Bay	1	1	1		1	1		1	1	1	1	1
21	Partially On Footway	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3309	Rugby	Dale Street (West)	Parallel Bay	1	1	1		1	1		1	1	1	1	1
22	Car	Parked	07:00 - 08:00	08:00 - 09:00	1	3309	Rugby	Dale Street (West)	Parallel Bay	1												
23	Partially On Footway	Car	Parked	07:00 - 08:00	10:00 - 11:00	3	3309	Rugby	Dale Street (West)	Parallel Bay	1	1										
24	Partially On Footway	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3309	Rugby	Dale Street (West)	Parallel Bay	1	1		1	1			1	1	1	1	1
25	Partially On Footway	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3309	Rugby	Dale Street (West)	Parallel Bay	1	1	1		1			1	1	1	1	1
26	Partially On Footway	Car	Parked	07:00 - 08:00	09:00 - 10:00	12	3311	Rugby	Dale Street (West)	Parallel Bay	1	1	1		1			1	1	1	1	1
27	Partially On Footway	Car	Parked	07:00 - 08:00	09:00 - 10:00	12	3311	Rugby	Dale Street (West)	Parallel Bay	1	1	1		1			1	1	1	1	1
28	Partially On Footway	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3311	Rugby	Dale Street (West)	Parallel Bay	1	1	1		1			1	1	1	1	1
29	Partially On Footway	LGV	Parked	07:00 - 08:00	11:00 - 12:00	4	3342	Rugby	Dale Street (East)	Parallel Bay	1	1	1		1							
30	Partially On Footway	Car	Parked	07:00 - 08:00	11:00 - 12:00	4	3342	Rugby	Dale Street (East)	Parallel Bay	1	1	1		1							
31	Partially On Footway	Car	Parked	07:00 - 08:00	11:00 - 12:00	4	3342	Rugby	Dale Street (East)	Parallel Bay	1	1	1		1							
32	Partially On Footway	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3342	Rugby	Dale Street (East)	Parallel Bay	1	1										
33	Car	Parked	07:00 - 08:00	17:00 - 18:00	10	3342	Rugby	Dale Street (East)	Parallel Bay	1	1	1		1	1			1	1			
34	Car	Parked	07:00 - 08:00	12:00 - 13:00	5	3342	Rugby	Dale Street (East)	Parallel Bay	1	1	1		1	1			1	1			
35	Car	Parked	07:00 - 08:00	09:00 - 10:00	12	3316	Rugby	Princes Street (West)	Parallel Bay	1	1											
36	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3316	Rugby	Princes Street (West)	Parallel Bay	1	1											
37	Car	Parked	07:00 - 08:00	12:00 - 13:00	5	3316	Rugby	Princes Street (West)	Parallel Bay	1	1	1		1	1							
38	Partially On Footway	Car	Parked	07:00 - 08:00	08:00 - 09:00	1	3363	Rugby	Princes Street (East)	Single yellow line	1											
39	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3220	Rugby	Princes Street (West)	Parallel Bay	1	1											
40	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3320	Rugby	Princes Street (West)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
41	Car	Parked	07:00 - 08:00	08:00 - 09:00	1	3319	Rugby	Princes Street (West)	Dropped Kerb	1												
42	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3318	Rugby	Princes Street (West)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
43	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3318	Rugby	Princes Street (West)	Parallel Bay	1	1											
44	Car	Parked	07:00 - 08:00	09:00 - 10:00	1	3318	Rugby	Princes Street (West)	Parallel Bay	1												
45	Car	Parked	07:00 - 08:00	13:00 - 14:00	6	3318	Rugby	Princes Street (West)	Parallel Bay	1	1	1		1	1							
46	Car	Parked	07:00 - 08:00	10:00 - 11:00	3	3318	Rugby	Princes Street (West)	Parallel Bay	1	1	1										
47	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3318	Rugby	Princes Street (West)	Parallel Bay	1	1											
48	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3318	Rugby	Princes Street (West)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
49	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3318	Rugby	Princes Street (West)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
50	Partially On Footway	Car	Parked	07:00 - 08:00	08:00 - 09:00	1	3363	Rugby	Princes Street (East)	Single yellow line	1											
51	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3314	Rugby	Princes Street (West)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
52	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3314	Rugby	Princes Street (West)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
53	Car	Parked	07:00 - 08:00	11:00 - 12:00	4	3314	Rugby	Princes Street (West)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
54	Car	Parked	07:00 - 08:00	08:00 - 09:00	1	3314	Rugby	Princes Street (West)	Parallel Bay	1												
55	Partially On Footway	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3372	Rugby	King Street (South)	Double yellow lines	1	1										
56	Car	Parked	07:00 - 08:00	18:00 - 19:00	11	3372	Rugby	King Street (South)	Double yellow lines	1	1	1		1	1			1	1	1	1	1
57	Car	Parked	07:00 - 08:00	09:00 - 10:00	12	3322	Rugby	King Street (North)	Nose-in Bay	1												
58	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3322	Rugby	King Street (North)	Nose-in Bay	1	1		1	1	1			1	1	1	1	1
59	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3322	Rugby	King Street (North)	Nose-in Bay	1	1	1		1	1			1	1	1	1	1
60	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3322	Rugby	King Street (North)	Nose-in Bay	1	1	1		1	1			1	1	1	1	1
61	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3359	Rugby	King Street (East)	Double yellow lines	1	1	1		1	1			1	1	1	1	1
62	Car	Parked	07:00 - 08:00	14:00 - 15:00	7	3359	Rugby	King Street (East)	Double yellow lines	1	1	1		1	1			1	1	1	1	1
63	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3308	Rugby	King Street (East)	Nose-in Bay	1	1	1		1	1			1	1	1	1	1
64	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3308	Rugby	King Street (East)	Nose-in Bay	1	1											
65	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3300	Rugby	King Street (West)	Nose-in Bay	1	1											
66	Car	Parked	07:00 - 08:00	11:00 - 12:00	3	3300	Rugby	King Street (West)	Nose-in Bay	1	1											
67	Car	Parked	07:00 - 08:00	10:00 - 11:00	3	3300	Rugby	King Street (West)	Nose-in Bay	1	1											
68	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3300	Rugby	King Street (West)	Nose-in Bay	1	1	1		1	1			1	1	1	1	1
69	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3300	Rugby	King Street (West)	Nose-in Bay	1	1	1		1	1			1	1	1	1	1
70	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3260	Rugby	King Street (East)		1	1											
71	LGV	Parked	07:00 - 08:00	11:00 - 12:00	4	3360	Rugby	King Street (East)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
72	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3360	Rugby	King Street (East)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
73	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3352	Rugby	King Street (East)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
74	Car	Parked	07:00 - 08:00	19:00 - 20:00	12	3352	Rugby	King Street (East)	Parallel Bay	1	1	1		1	1			1	1	1	1	1
75	Car	Parked	07:00 - 08:00	09:00 - 10:00	2	3352	Rugby	King Street (East)	Parallel Bay	1	1											
76	Car	Parked																				

[illegible]

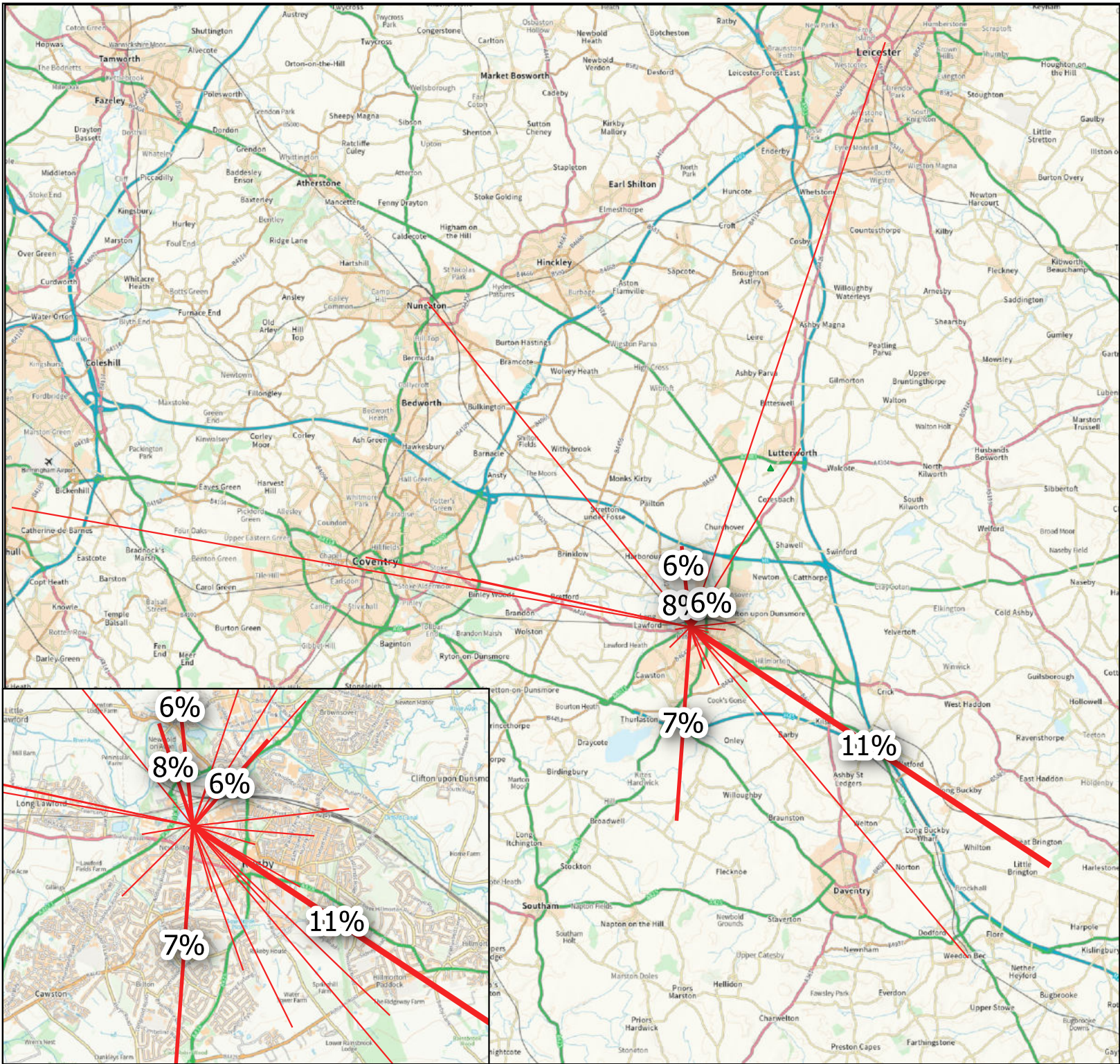
NUMBER OF VEHICLES PARKED (AT)																		
STREET NAME	07:00 - 08:00			08:00 - 09:00			09:00 - 10:00			10:00 - 11:00			11:00 - 12:00			12:00 - 13:00		
	CAP	TOT	%OCC	CAP	TOT	%OCC	CAP	TOT	%OCC	CAP	TOT	%OCC	CAP	TOT	%OCC	CAP	TOT	%OCC
Dale Street (East)	19	17	89.5%	19	14	73.7%	19	8	42.1%	19	11	57.9%	19	9	47.4%	19	8	42.1%
Dale Street (West)	25	17	68.0%	25	15	60.0%	25	14	56.0%	25	16	64.0%	25	15	60.0%	25	15	60.0%
Duke Street (North)	10	9	90.0%	10	9	90.0%	10	10	100.0%	10	10	100.0%	10	10	100.0%	10	10	100.0%
Duke Street (South)	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A
Hill Street (North)	10	10	100.0%	10	6	60.0%	10	5	50.0%	10	6	60.0%	10	7	70.0%	10	8	80.0%
Hill Street (South)	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A
King Street (East)	15	15	100.0%	15	15	100.0%	15	10	66.7%	15	10	66.7%	15	12	80.0%	15	12	80.0%
King Street (North)	5	4	80.0%	5	3	60.0%	5	3	60.0%	5	3	60.0%	5	4	80.0%	5	4	80.0%
King Street (South)	0	2	N/A	0	2	N/A	0	1	N/A	0	1	N/A	0	1	N/A	0	1	N/A
King Street (West)	12	8	66.7%	12	7	58.3%	12	6	50.0%	12	4	33.3%	12	6	50.0%	12	6	50.0%
Princes Street (East)	0	2	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A
Princes Street (West)	22	18	81.8%	22	15	68.2%	22	13	59.1%	22	13	59.1%	22	13	59.1%	22	12	54.5%
St John Street (North)	13	8	61.5%	13	6	46.2%	13	5	38.5%	13	6	46.2%	13	8	61.5%	13	7	53.8%
St John Street (South)	16	11	68.8%	16	10	62.5%	16	5	31.3%	16	6	37.5%	16	8	50.0%	16	7	43.8%
TOTAL	147	121	82.3%	147	102	69.4%	147	80	54.4%	147	86	58.5%	147	93	63.3%	147	90	61.2%

NUMBER OF VEHICLES PARKED (AT)																		
STREET NAME	13:00 - 14:00			14:00 - 15:00			15:00 - 16:00			16:00 - 17:00			17:00 - 18:00			18:00 - 19:00		
	CAP	TOT	%OCC	CAP	TOT	%OCC	CAP	TOT	%OCC	CAP	TOT	%OCC	CAP	TOT	%OCC	CAP	TOT	%OCC
Dale Street (East)	19	10	52.6%	19	10	52.6%	19	9	47.4%	19	12	63.2%	19	10	52.6%	19	12	63.2%
Dale Street (West)	25	15	60.0%	25	14	56.0%	25	14	56.0%	25	16	64.0%	25	16	64.0%	25	17	68.0%
Duke Street (North)	10	9	90.0%	10	7	70.0%	10	7	70.0%	10	9	90.0%	10	8	80.0%	10	8	80.0%
Duke Street (South)	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A
Hill Street (North)	10	6	60.0%	10	6	60.0%	10	5	50.0%	10	3	30.0%	10	6	60.0%	10	7	70.0%
Hill Street (South)	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A
King Street (East)	15	11	73.3%	15	10	66.7%	15	10	66.7%	15	10	66.7%	15	11	73.3%	15	12	80.0%
King Street (North)	5	4	80.0%	5	4	80.0%	5	5	100.0%	5	5	100.0%	5	5	100.0%	5	5	100.0%
King Street (South)	0	1	N/A	0	2	N/A	0	1	N/A	0	1	N/A	0	1	N/A	0	0	N/A
King Street (West)	12	6	50.0%	12	7	58.3%	12	4	33.3%	12	6	50.0%	12	6	50.0%	12	9	75.0%
Princes Street (East)	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A
Princes Street (West)	22	12	54.5%	22	13	59.1%	22	12	54.5%	22	12	54.5%	22	16	72.7%	22	16	72.7%
St John Street (North)	13	6	46.2%	13	6	46.2%	13	5	38.5%	13	6	46.2%	13	6	46.2%	13	8	61.5%
St John Street (South)	16	6	37.5%	16	7	43.8%	16	6	37.5%	16	6	37.5%	16	6	37.5%	16	11	68.8%
TOTAL	147	86	58.5%	147	86	58.5%	147	78	53.1%	147	86	58.5%	147	91	61.9%	147	105	71.4%

SUMMARY NOTES :	



**Appendix I      Distribution plots**



MND

Locations

AM

1 - 5

5 - 10

10 - 15

OS Basemaps

Road\_27700

Client:

PJA

Project:

006C Rugby Gardens

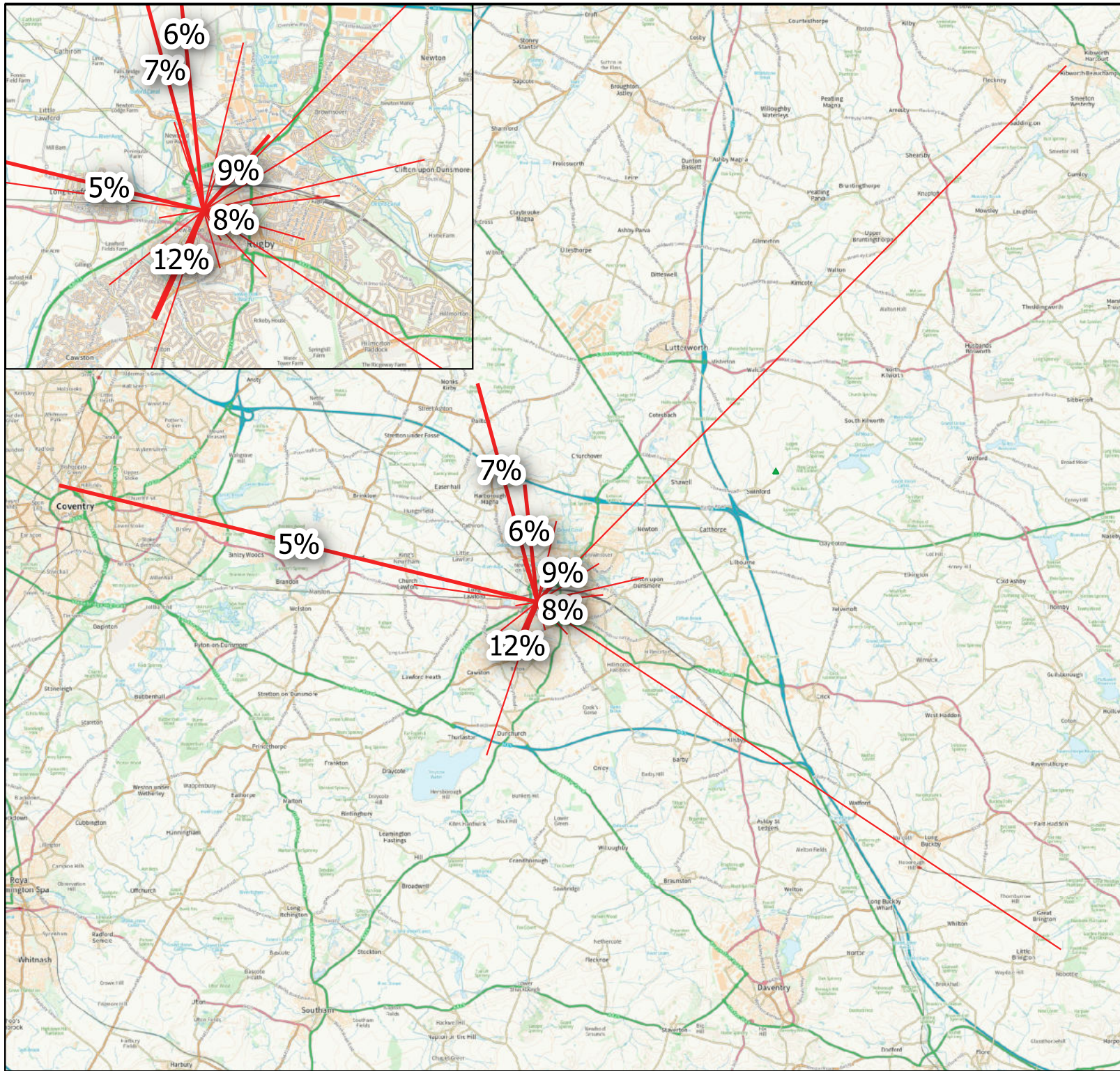
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Drawn: IM	Checked: PK	Date: 2023-12-11	Revision:
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TrafficModelling@warwickshire.gov.uk

References:  
Contains Mobile Network Data from 2022/23  
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Ordnance Survey 100019520



MND

Locations

PM

- 1 - 5
- 5 - 10
- 10 - 15

OS Basemaps

Road\_27700



Client:

PJA

Project:

006C Rugby Gardens

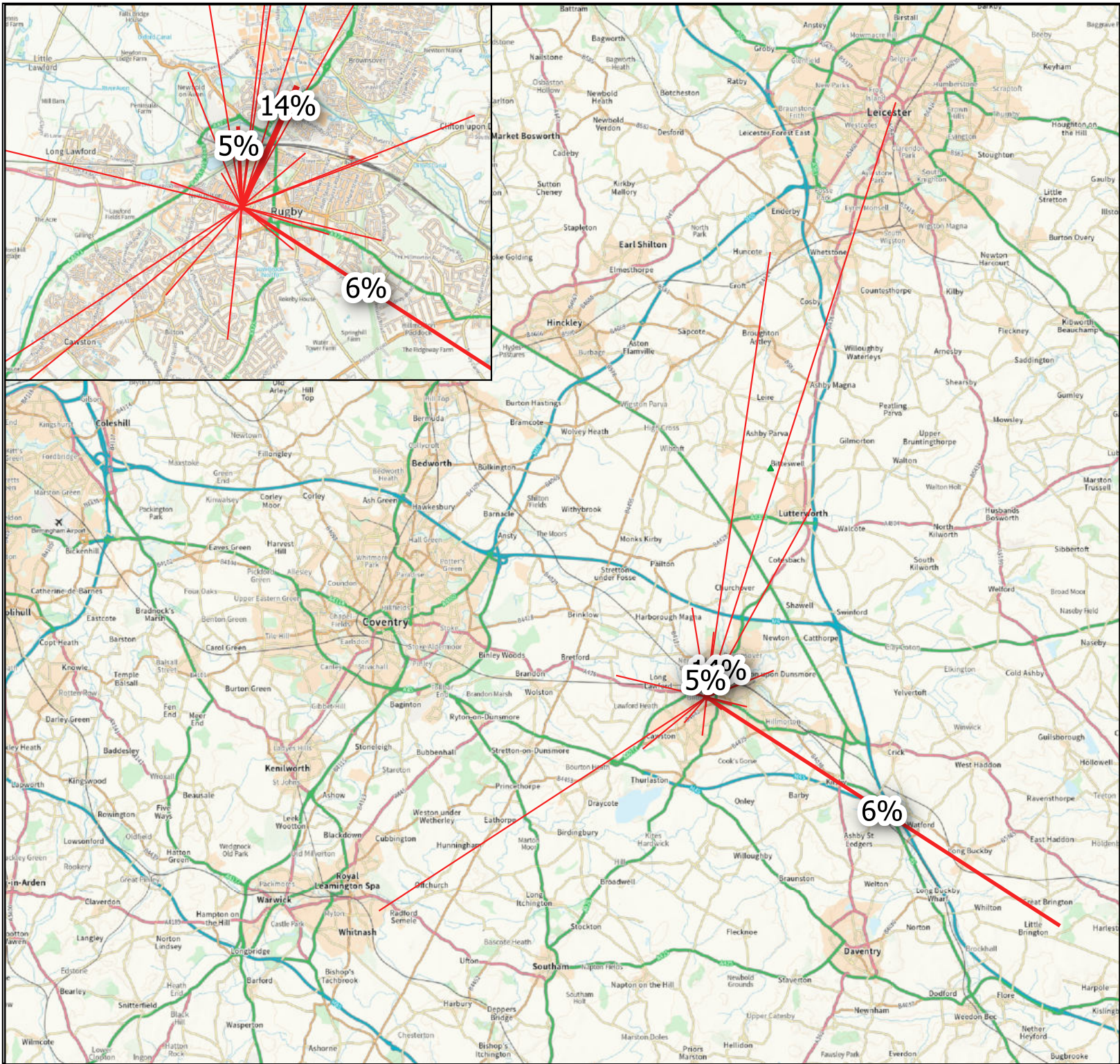
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Ordnance Survey 100019520



MND

Locations

AM

1 - 5

5 - 10

10 - 15

OS Basemaps

Road\_27700

Client:

PJA

Project:

006D Rugby Gardens

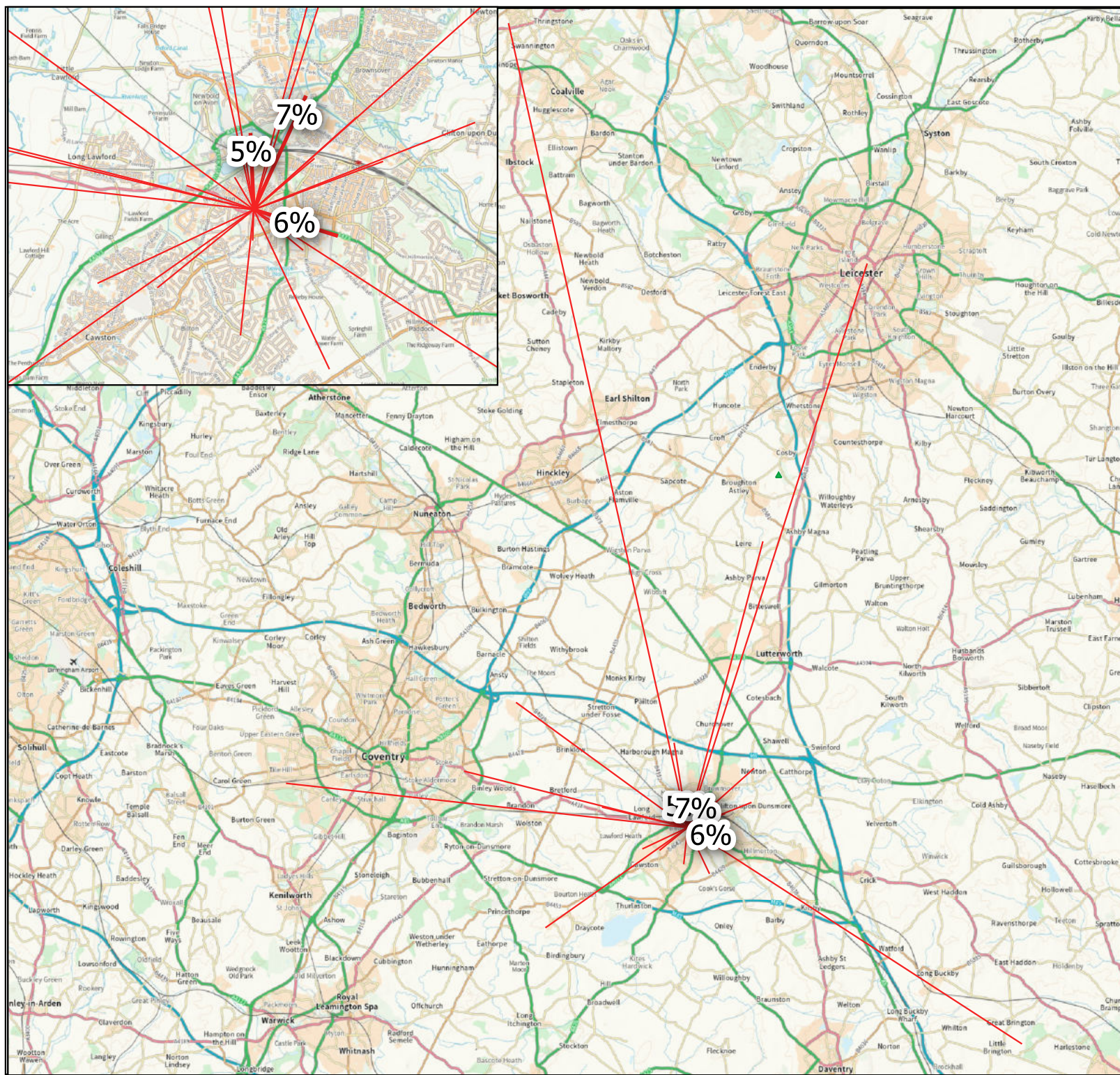
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MND

Locations

PM

1 - 5

5 - 10

OS Basemaps

Road\_27700



Client:

PJA

Project:

006D Rugby Gardens

Scale: 1:276,731.153229

Drawn: IM	Checked: PK	Date: 2023-12-11	Revision:
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## **Appendix J      SLR Technical Note of Base Model Reconfiguration**

## **PJA**

### **Rounds Gardens, Rugby Paramics Modelling**

SLR Project No.: 431.000204.0000

28 November 2023

Revision: 1

---

## **RE: TECHNICAL NOTE OF BASE MODEL RECONFIGURATION**

---

### **Introduction**

- 1.1 SLR have been commissioned by PJA for development impact testing. As part of this testing, it is pertinent to see what would happen as a result of reconfiguring the local road network.

### **Purpose of this Note**

- 1.2 To set out the amendments made to the base and the resulting calibration levels achieved such that the model can be used to inform the future stages of development assessment.

### **Objective**

- 1.3 Use MCC data given to SLR by PJA to update the network to reflect the local road network within the development area better than it is currently achieved within the base model.

### **Data**

- 1.4 PJA provided 8 MCC data for sites within the newly configured local road network, some were already included in the base model but have been assessed with the reconfiguration.

### **Coding**

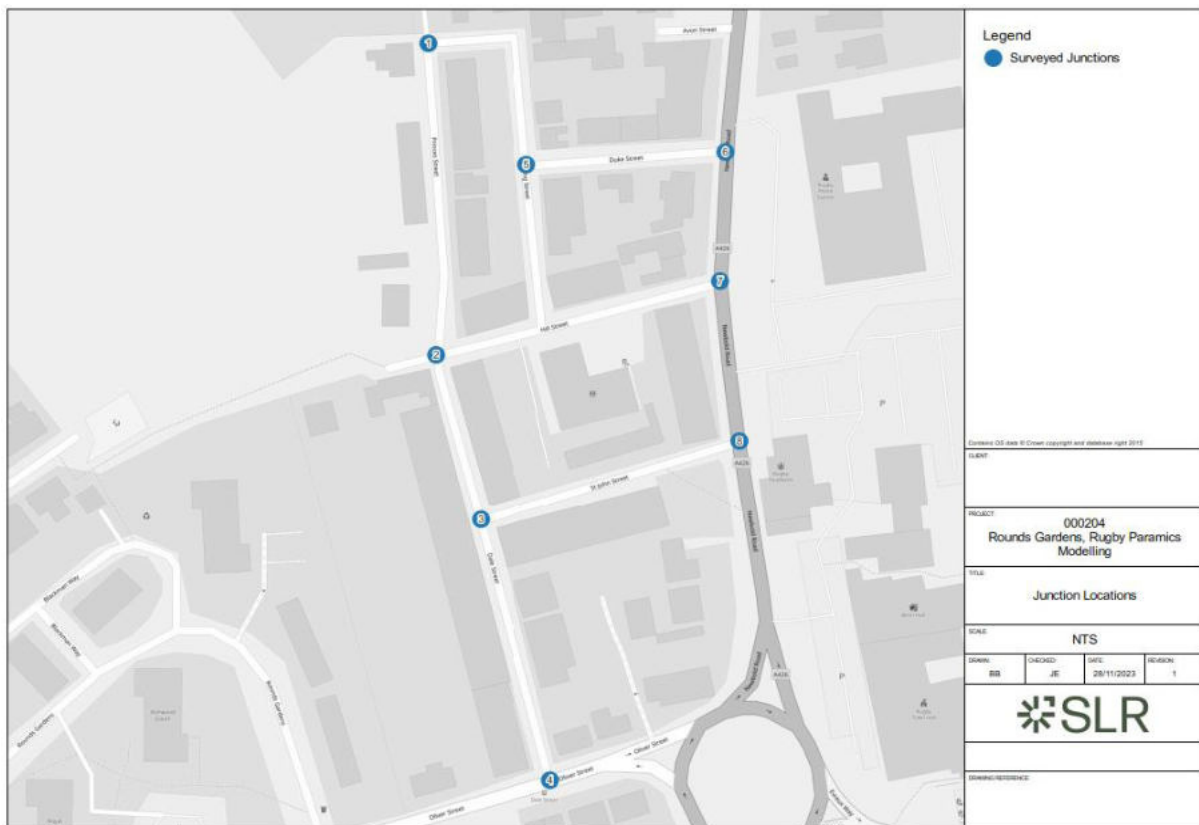
- 1.5 The original base model included an area northwest of Evreux Way/A426/Oliver Street roundabout, with connected roads linking Oliver Street and A426 via Dale Street, St John Street and Hill Street, and a stub connecting the A426 to Duke Street.
- 1.6 This was updated by-
- Adding King Street to link Hill Street to the south, Duke Street to the east and Princes Street to the west.
  - Princes Street was also extended to the north with a residential cul de sac to the east.

- An unnamed access road was added at the existing priority junction at Hill Street/Dale Street to reflect the associated MCC data location.
- All such links were added as category 9 (urban minor 20mph) link category.
- Priorities were assigned as observed on-street confirmed through the MCC data sites.
- Cost factor on the minor roads that connected to A426, and Oliver Street were changed from 1.0 to 1.2.

## Calibration

1.7 The locations which have been calibrated are shown below in **Figure 1-**

**Figure 1- Junction Locations**



1.8 In terms of calibration comparing turn flows, we can assess how well the all-vehicle flows modelled during hours 07:00-10:00 and 16:00-19:00 match the observed survey data during the same period shown in **Table 1.8**.

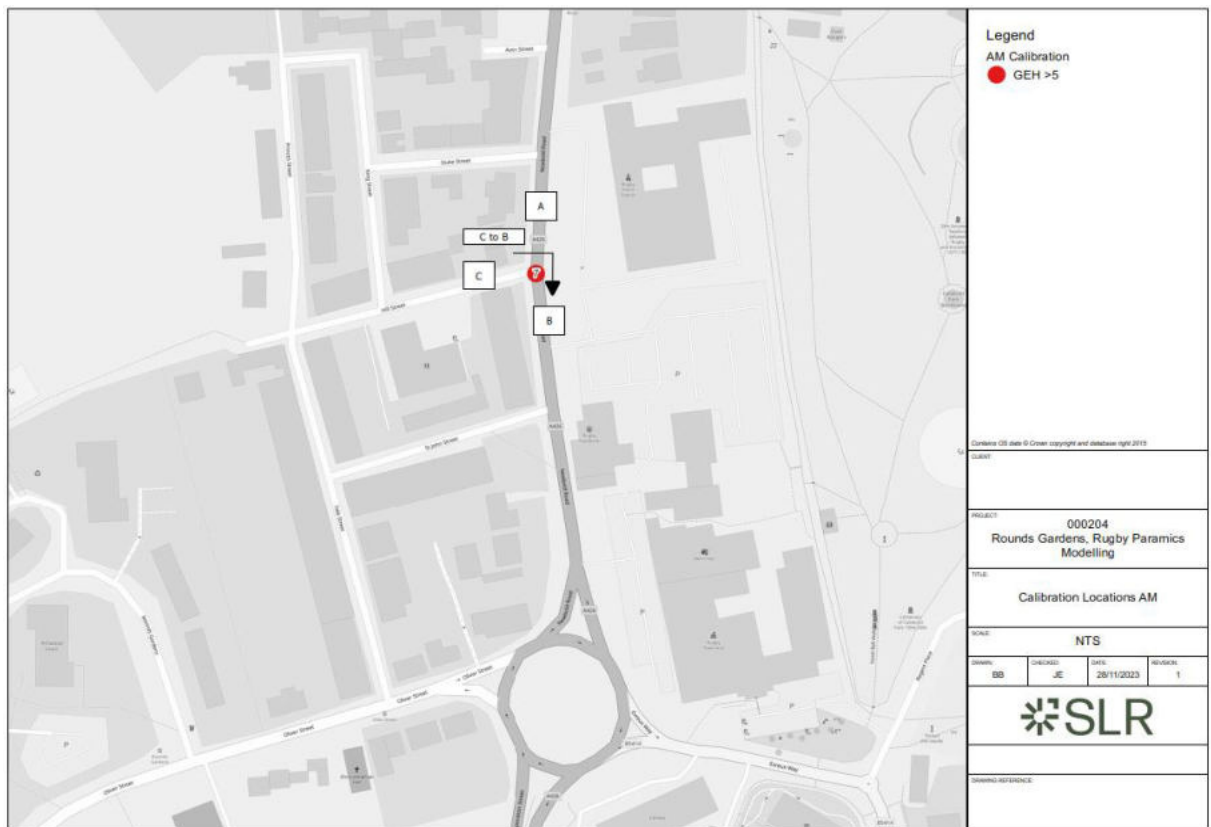


[illegible]

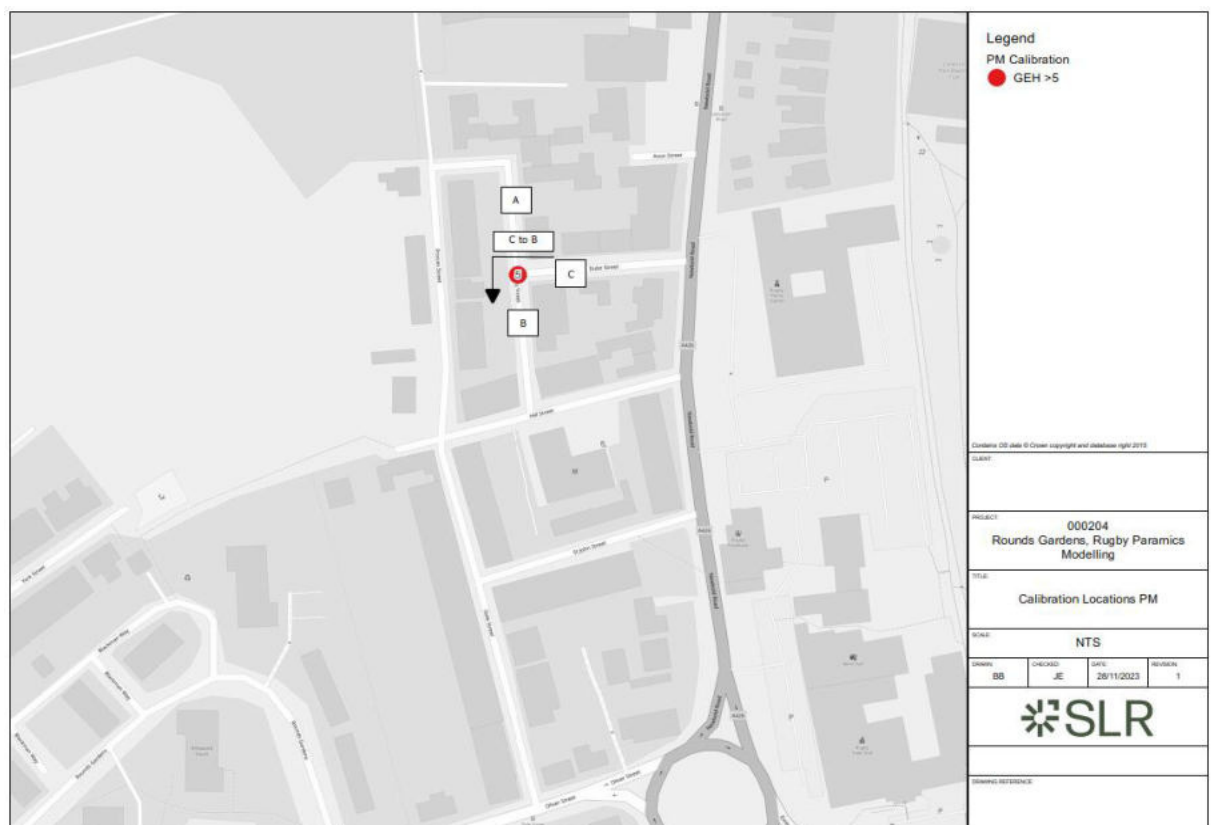
- 3



**Figure 2- AM GEH Plot**



**Figure 3- PM GEH Plot**



## Conclusion

- 1.9 As can be seen the vast majority of turning and internal movements are accurately calibrated in the model to the survey data.
- 1.10 It is our view that the base model reconfiguration is accurately calibrated and is suitable for future year development testing.





Making Sustainability Happen



Appendix K

SLR Technical Note of Modelling Assumptions

## **PJA**

### **Rounds Gardens, Rugby Paramics Modelling**

SLR Project No.: 431.000204.00001

19 January 2024

Revision: 2

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## **RE: TECHNICAL NOTE OF MODELLING ASSUMPTIONS**

---

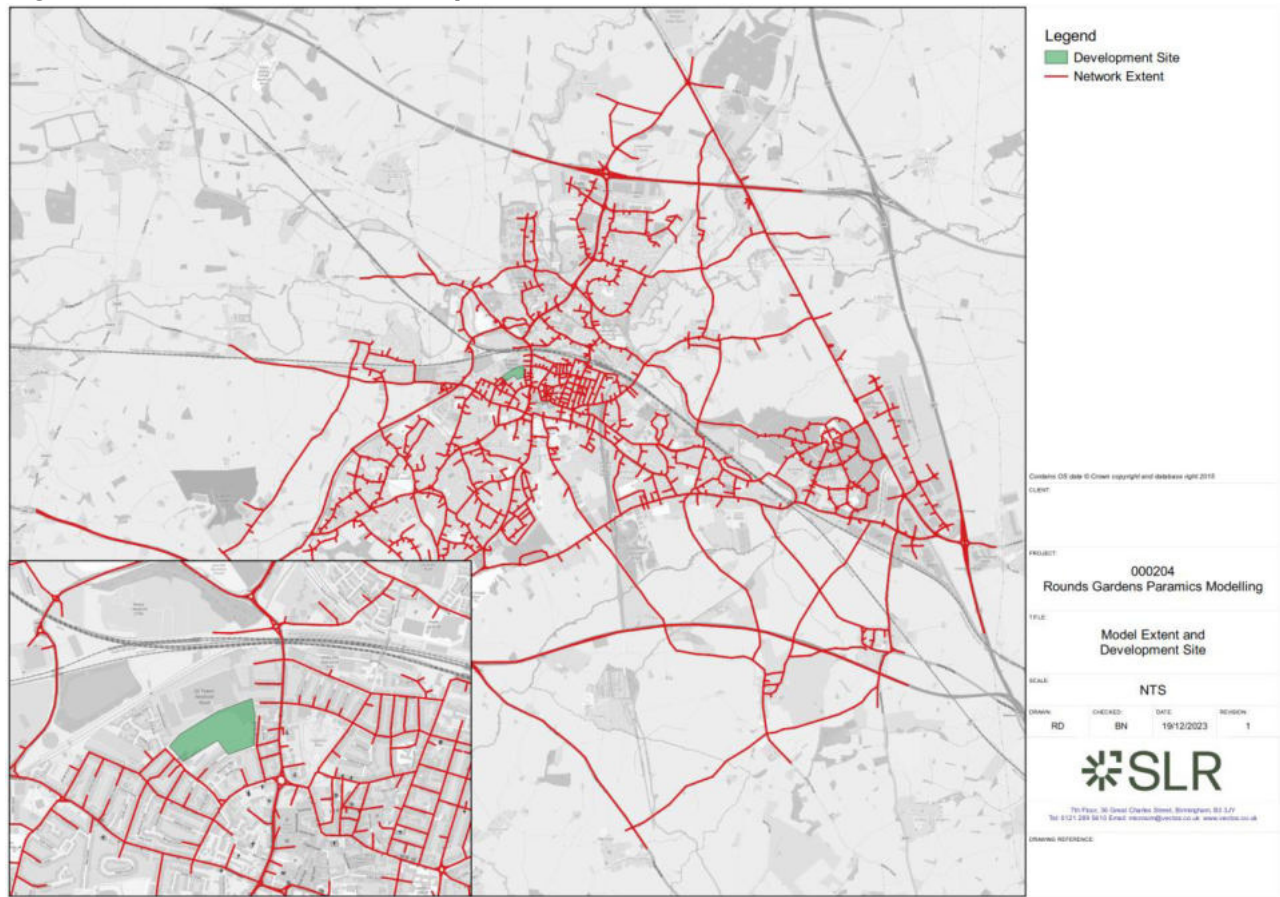
### **Introduction**

- 1.1 SLR has been commissioned by PJA on behalf of St Modwen Homes to undertake and assessment of a residential scheme within Central Rugby, using the Rugby Wide Area (RWA) future year scenarios.
- 1.2 This note sets out the assumptions pertaining to the inclusion of the proposed development into the RWA Paramics Model.

### **Model Extent**

The extent of the RWA model and the location of the proposed development is illustrated within the figure below:

**Figure 1: Model Extent & Development Location**



## Access Strategy

- 1.3 It is anticipated that the development will be served via two access points, Wilians Place on the western side and Princes Street to the east configured as priority junctions. **Figure 2** overleaf outlines these arrangements.
- 1.4 In order to provide access to the eastern site area on Princes Street, a one-way system has been proposed to mitigate anticipated issues associated with on street parking. The one-way system aligns with the current refuse vehicle route as follows:
  - Hill Street Eastbound
  - Kings Street Southbound
  - Duke Street Two-way
  - Princes Street Northbound
  - Dale Street Northbound
  - St John Street Two-way
- 1.5 The proposed on-way system is presented in **Figure 3**.



**Figure 2: Rounds Gardens Site Layout and Access Arrangements**



**Figure 3: Proposed one-way System**



## Trip Generation

- 1.6 The following development Assumptions were assessed:
  - Western site (Wilians Place) – 53 dwellings
  - Eastern Side (Princes Street) – 89 dwellings
- 1.7 The trip rates, provided by PJA, were extracted from TRICS using the following criteria:
  - Land Use – 03/A Residential Houses Privately Owned;
  - Regions – All excluding Greater London, Ireland, Wales and Scotland;
  - Number of dwellings – 5 to 500
  - Location Types – Edge of Town Centre, Suburban Area and Edge of Town locations only.
  - Day of Week – Monday – Friday
- 1.8 The resultant trips rates which are presented in **Table 1** were used to derive the trip generation presented in **Tables 2** and **3** for the Western and Eastern sites respectively.



**Table 1: Trip Rates**

Time Period	Light Vehicles		
	ARR	DEP	TOTAL
<b>0700-0800</b>	0.077	0.290	<b>0.367</b>
<b>0800-0900</b>	0.130	0.437	<b>0.501</b>
<b>0900-1000</b>	0.131	0.161	<b>0.292</b>
<b>1600-1700</b>	0.264	0.163	<b>0.427</b>
<b>1700-1800</b>	0.347	0.154	<b>0.501</b>
<b>1800-1900</b>	0.274	0.152	<b>0.426</b>

**Table 2: Trip Generation: Western Site (Wilians Place) 53 units**

Time Period	Light Vehicles		
	ARR	DEP	TOTAL
<b>0700-0800</b>	4	15	<b>19</b>
<b>0800-0900</b>	7	23	<b>27</b>
<b>0900-1000</b>	7	9	<b>15</b>
<b>1600-1700</b>	14	9	<b>23</b>
<b>1700-1800</b>	18	8	<b>27</b>
<b>1800-1900</b>	15	8	<b>23</b>

**Table 3: Trip Generation: Eastern Site (Princes Street) 89 units**

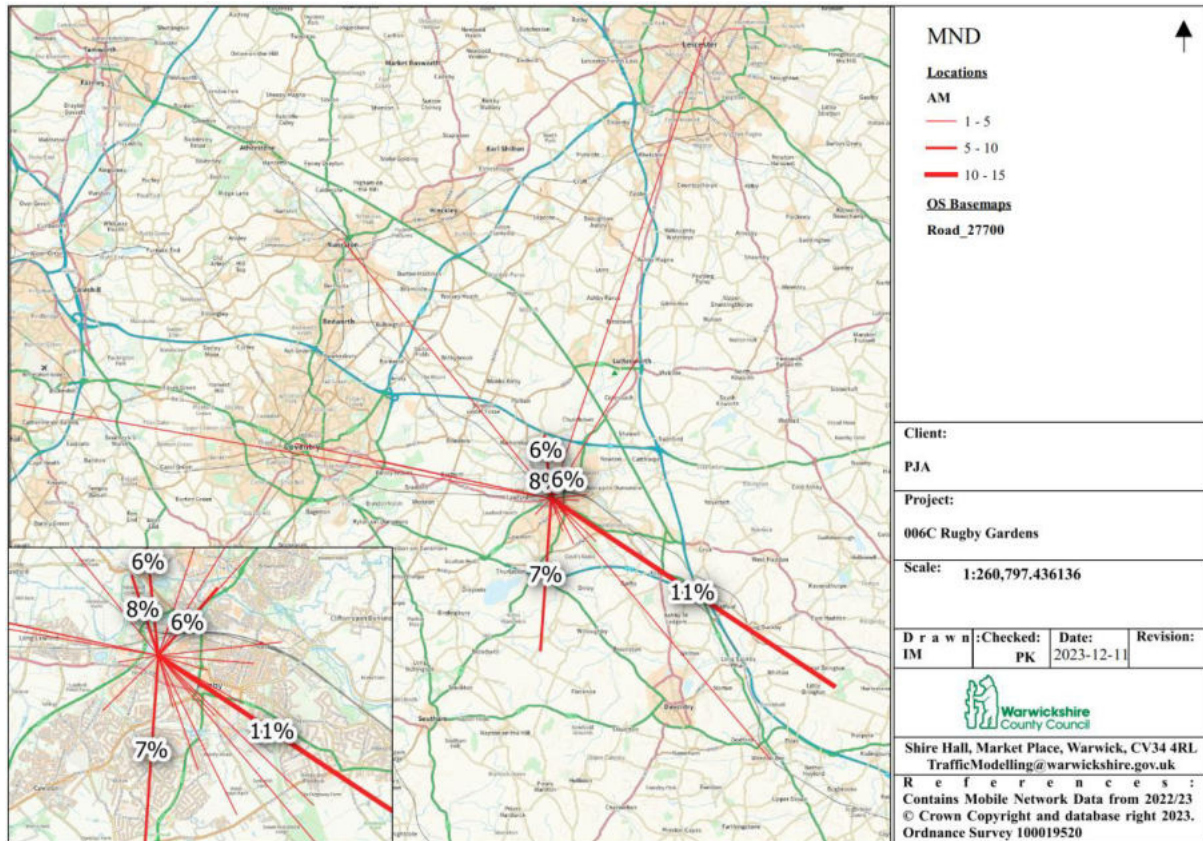
Time Period	Light Vehicles		
	ARR	DEP	TOTAL
<b>0700-0800</b>	7	26	<b>33</b>
<b>0800-0900</b>	12	39	<b>45</b>
<b>0900-1000</b>	12	14	<b>26</b>
<b>1600-1700</b>	23	15	<b>38</b>
<b>1700-1800</b>	31	14	<b>45</b>
<b>1800-1900</b>	24	14	<b>38</b>

## Distribution

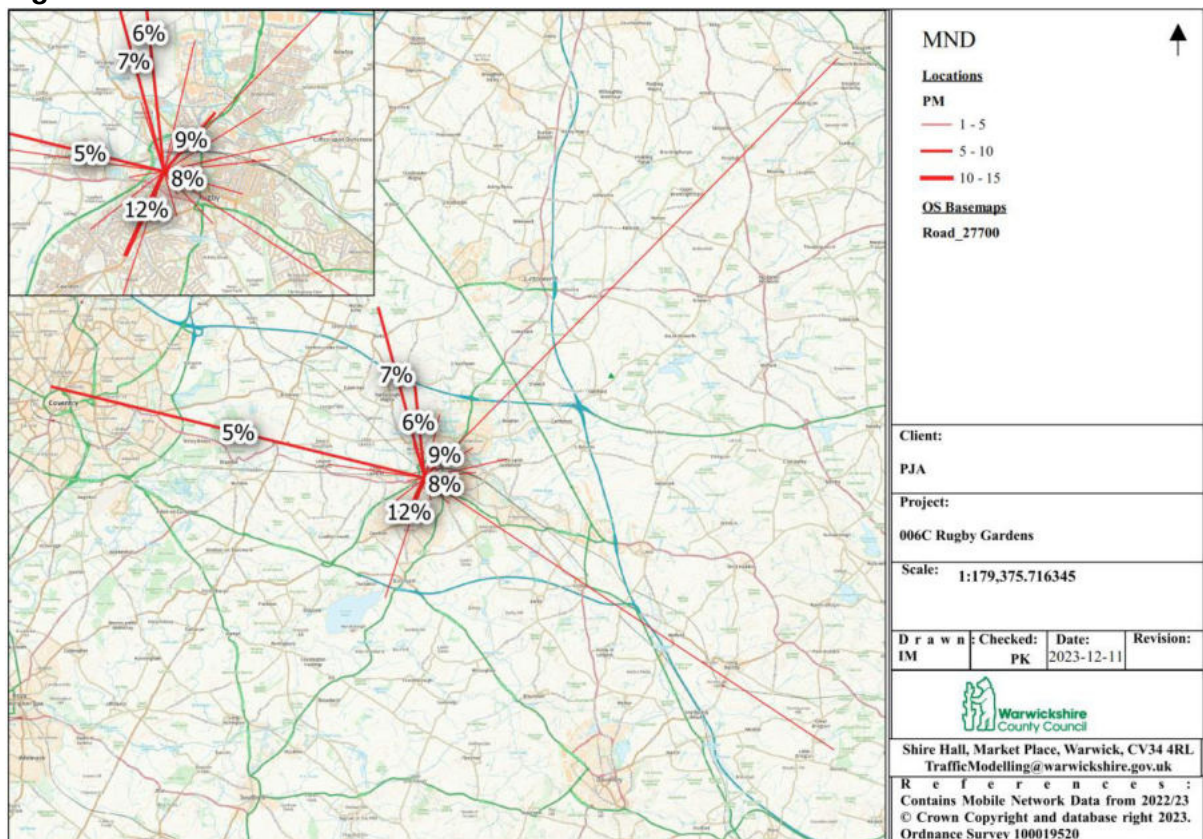
- 1.9 The trip distribution for the site was informed by Warwickshire County Council's Mobile Network Data (MND). The 2022/23 residential MND data was extracted using LSOA 006C and 006D for AM and PM distributions.
- 1.10 The MND data was provided by WCC as presented in the following **Figures 4-8** overleaf.



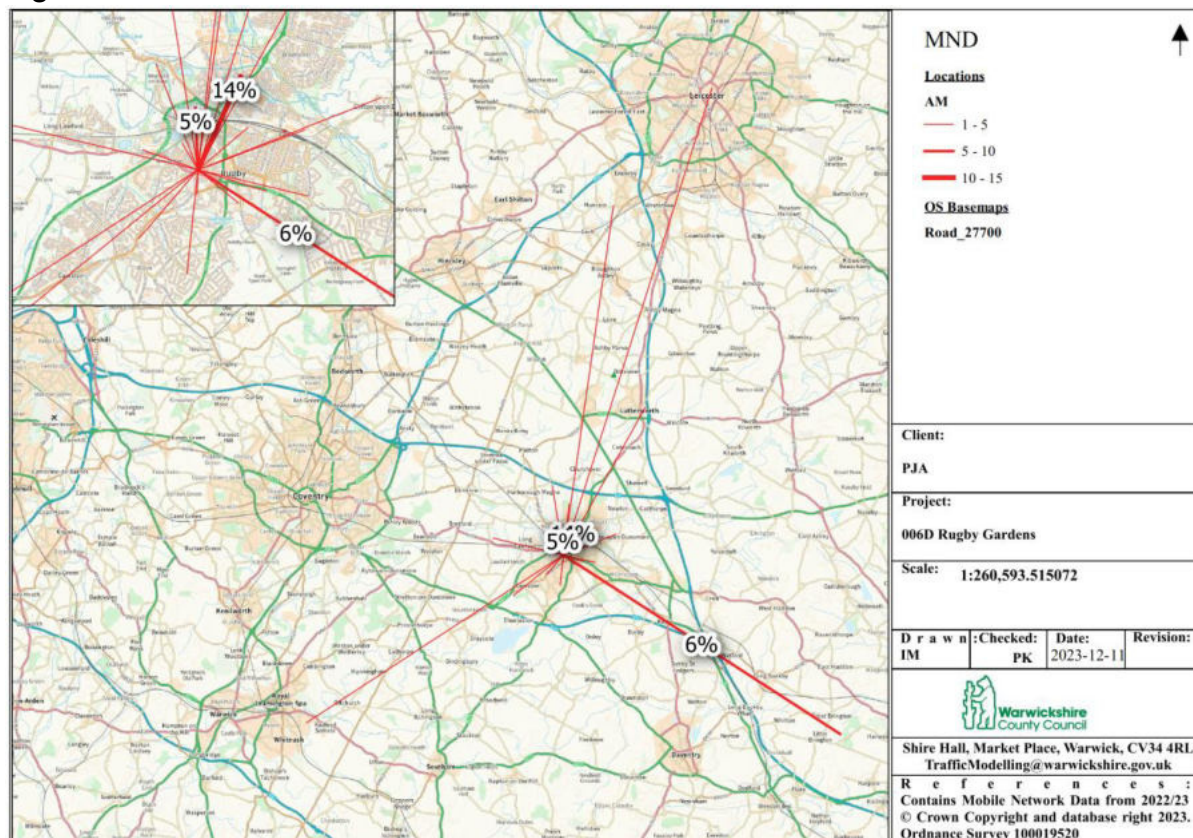
**Figure 4: LSOA 006C AM MND Distribution**



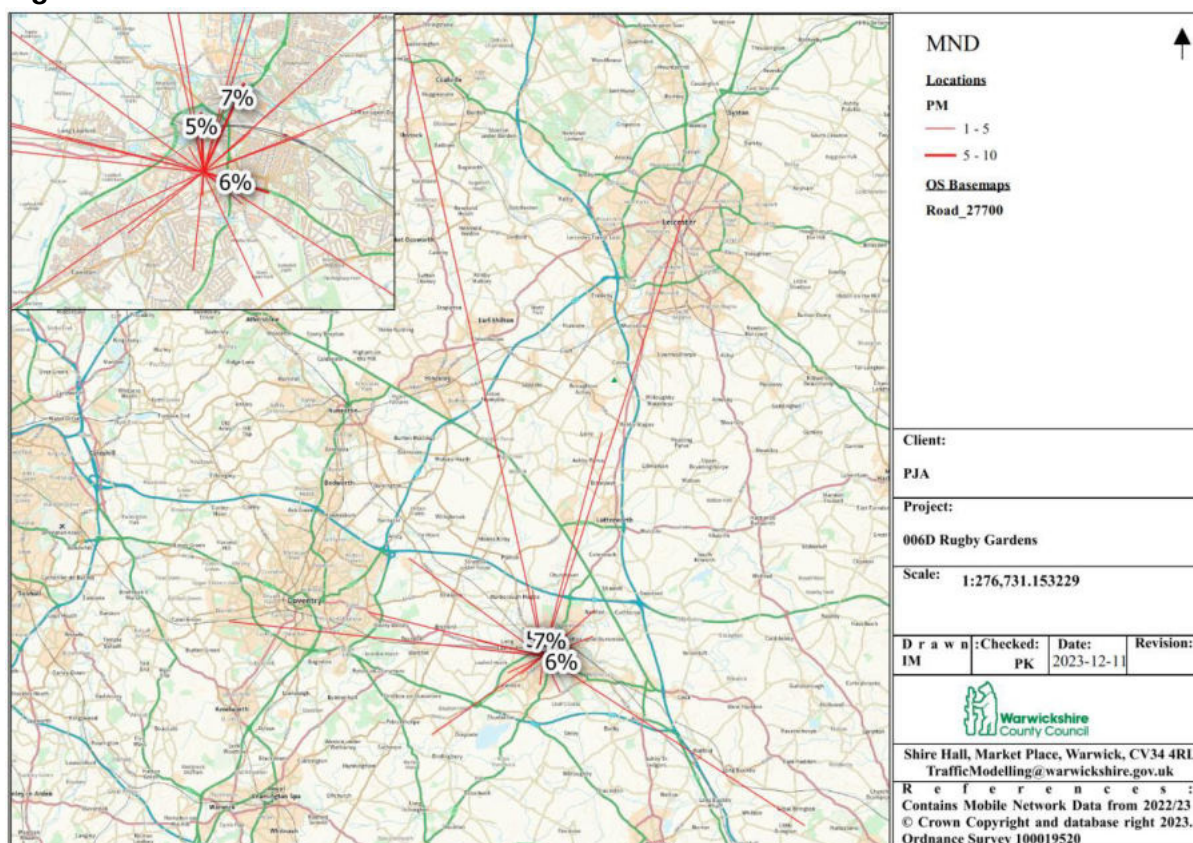
**Figure 4: LSOA 006C PM MND Distribution**



**Figure 4: LSOA 006D AM MND Distribution**



**Figure 4: LSOA 006D PM MND Distribution**



- 1.11 An average of the distributions for LSOA 006C and 006D were calculated and applied to the development trip generation to inform the discrete hourly demand assignment matrices.

## Trip Assignment and Profiling

- 1.12 The development trips, as described above, have been added to the model using one new distinct matrix level.
- 1.13 In the 2031 Reference Case scenario, Matrix Level 9 has been used for development vehicles. Newly created zones representing the development site have been added, with Zone 2000 for the Western Site and Zone 2001 for the Eastern site.
- 1.14 In the 2031 Local Plan assessment, Matrix Level 12 has been used for development vehicles. Zones 2000 and 2001 have been configured for the western and eastern sites, aligning with the Reference Case scenario.
- 1.15 The trip release profile, over each hourly period, has been based on an existing residential development profile within the RWA scenario.

## Trip Generation Checks

- 1.16 Total trip checks have been completed to confirm that the magnitude of trips associated with the development correlate with those predicted via the trip generation exercise, for both the Lights and HGV vehicle type.
- 1.17 A precise match is highly unlikely for the following reasons:
- The assignment matrices contain decimal trips which may not be released in every simulation.
  - The arrival totals are all released within the model hour, but time taken to travel through the network may delay the arrival of some trips to the proceeding hour.
  - Congestion on the model network may impeded arrivals such that the totals cannot be fully released within the simulation period (i.e., trips are caught up elsewhere on their way to the development).
- 1.18 The check has been carried out in the 2031 Reference Case assessment. The development demands are consistent across all assessment years, so a single check provides confidence the matrices are producing the correct level of development trips within the model.

Time	Light Vehicles			
	Arrivals		Departures	
	Assigned	Realised	Assigned	Realised
07:00 – 08:00	11	10	41	39
08:00 – 09:00	18	21	62	62
09:00 – 10:00	19	15	23	21
<b>AM</b>	<b>48</b>	<b>46</b>	<b>126</b>	<b>122</b>
16:00 – 17:00	37	42	23	26
17:00 – 18:00	49	44	22	19
18:00 – 19:00	39	38	22	17



<b>PM</b>	<b>126</b>	<b>124</b>	<b>67</b>	<b>62</b>
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## Network Revisions

- 1.19 Prior to the development testing, PJA provided 2023 survey data at 8 junctions local to the development site. Adjustments were made in the Base model to achieve calibration of the model against the recent surveys. These adjustments were then made in the forecast year models which became the new baseline scenarios. The reconfiguration process has been detailed in a separate technical note<sup>1</sup>.
- 1.20 Following the recalibration coding adjustments, only the site accesses have been included within the model scenarios. No additional highway mitigation has been included within the With Development scenarios.

## Conclusion

- 1.21 SLR has been commissioned by PJA on behalf St Modwen Homes to undertake and assessment of a residential scheme within Central Rugby, using the Rugby Wide Area (RWA) future year scenarios.
- 1.22 Development trips have been added to the Rugby Wide Area mode using 2031 Reference Case and Local Plan scenarios. Development demands have been informed by the trip rates and distribution information provided by PJA. The potential impacts have then been quantified and presented alongside the model outputs from the scenarios without the inclusion of the proposed development.

---

<sup>1</sup> 000204.TN001 Rounds Gardens Base Model Reconfiguration





Making Sustainability Happen



## Appendix L      SLR Results Summary

## **PJA**

### **Rounds Gardens, Rugby Paramics Modelling**

SLR Project No.: 431.000204.00001

19 January 2024

Revision: 2

---

## **RE: RESULTS SUMMARY**

---

### **Introduction**

- 1.1 SLR has been commissioned by PJA on behalf of St Modwen Homes to undertake and assessment of a residential scheme within Central Rugby, using the Rugby Wide Area (RWA) future year scenarios.
- 1.2 The proposal consists of delivering 142 dwellings off Rounds Gardens, located between Princes Street and Edward Street. The proposed development area is currently occupied, at least in part, by vacant social housing
- 1.3 The purpose of this assessment is therefore to assess the proposed development in the latest versions of the 2031 Rugby Wide Area (RWA) Paramics models, and to provide model outputs to support the impact assessment of the development.

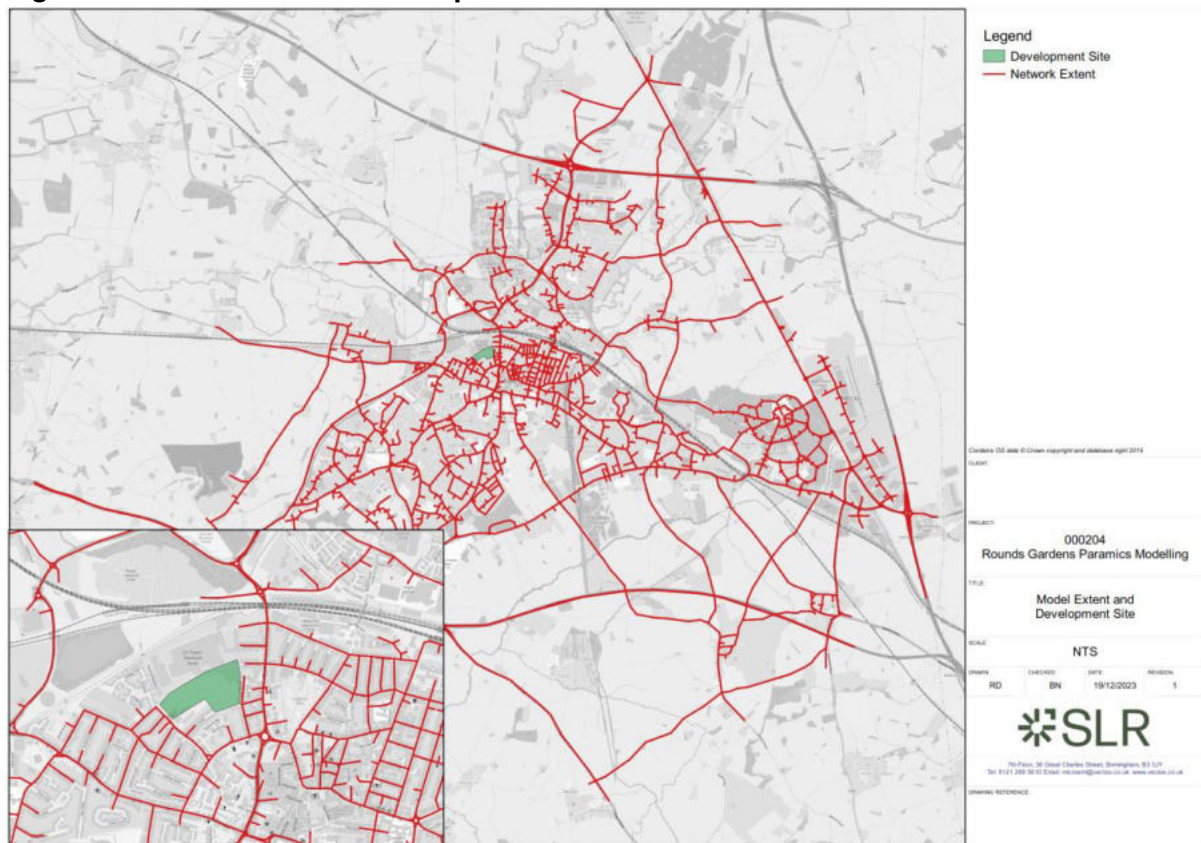
### **Objective**

- 1.4 The primary objective of this work is to use the existing RWA models to provide an indication of the likely impact of the development proposals, on the wider transport network.
- 1.5 The modelling will consider the impacts of delivering the development alongside both Reference Case conditions (Permitted/Consented development only) and the broader Local Plan proposals.

### **Model Extent**

The extent of the RWA model and the location of the proposed development is illustrated within the figure below:

**Figure 1: Model Extent & Development Location**



## Scenarios

1.6 The proposed development has been tested alongside Reference Case conditions (Permitted/Consented development only) and the broader Local Plan proposals in the Rugby Wide Area (RWA) model. A detailed overview of the modelling assumptions is provided in an accompanying technical note<sup>1</sup>. The scenarios tested are listed as follows:

- 2031 Reference Case
- 2031 Reference Case + Development
- 2031 Local Plan
- 2031 Local Plan + Development

## Model Results Analysis

1.7 The 2031 Reference Case and Local plan development testing results have been reported in detail within the following section. Initially the strategic level impact of delivering the development within the model has been reported, before detailed queue impacts and journey time impacts.

<sup>1</sup> 000204.TN002 - Rounds Gardens Rugby Modelling Assumptions



## Network Statistics

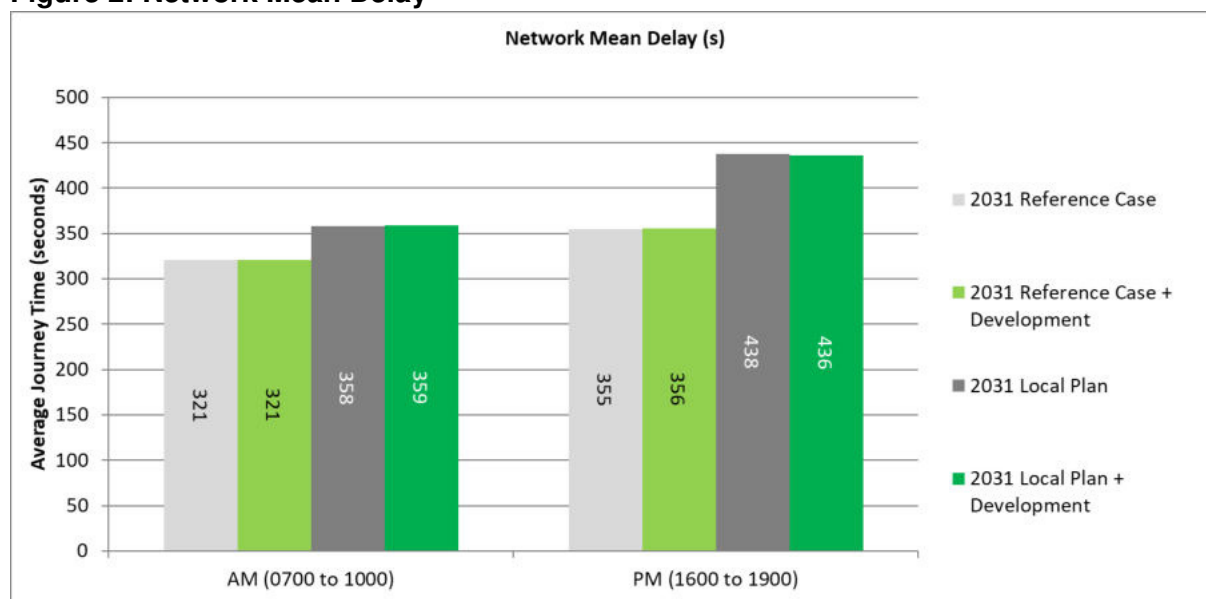
1.8 Two different network performance indicators are presented in this section. These comprise of:

- **Network Mean Delay** – The average time taken for vehicles to complete their assigned trip.
- **Network Mean Speed** – The average speed of all vehicles across all trips in the modelled period.

### Network Mean Delay

1.9 The results presented in Figure 2 show how the inclusion of the development proposals have impacted the network mean delay in the AM and PM modelled hours in the 2031 Reference Case and Local Plan scenarios.

**Figure 2: Network Mean Delay**



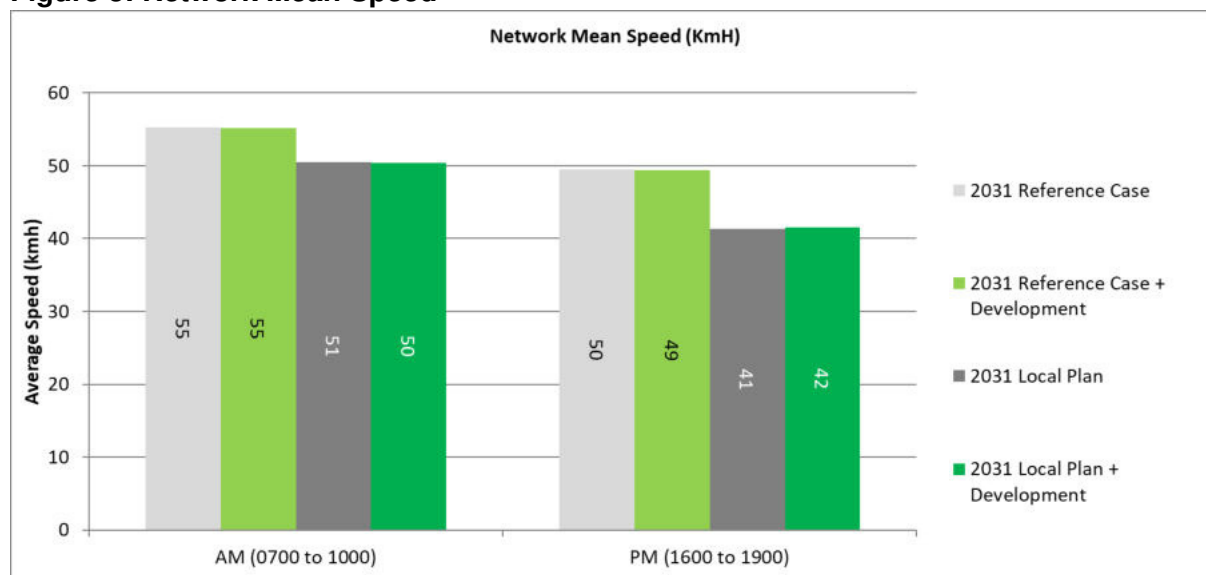
1.10 The average network delay results demonstrate that there is no significant impact with delivery of the development in both Reference Case and Local Plan scenarios.

### Network Mean Speed

1.11 The network mean speed results are presented in Figure 3.



**Figure 3: Network Mean Speed**



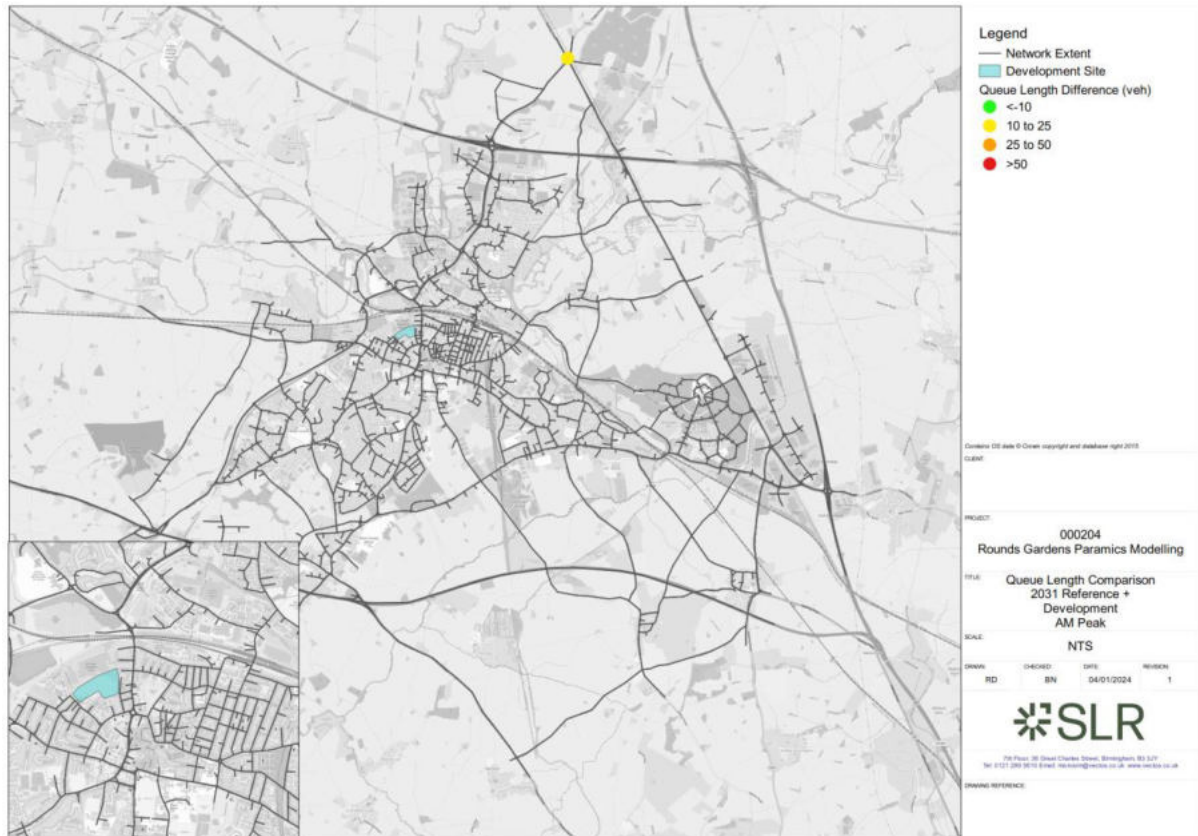
- 1.12 Figure 3 shows that there is no significant impact in network mean speed with delivery of the development in both Reference Case and Local Plan scenarios.

### Queue Length Impact Assessment

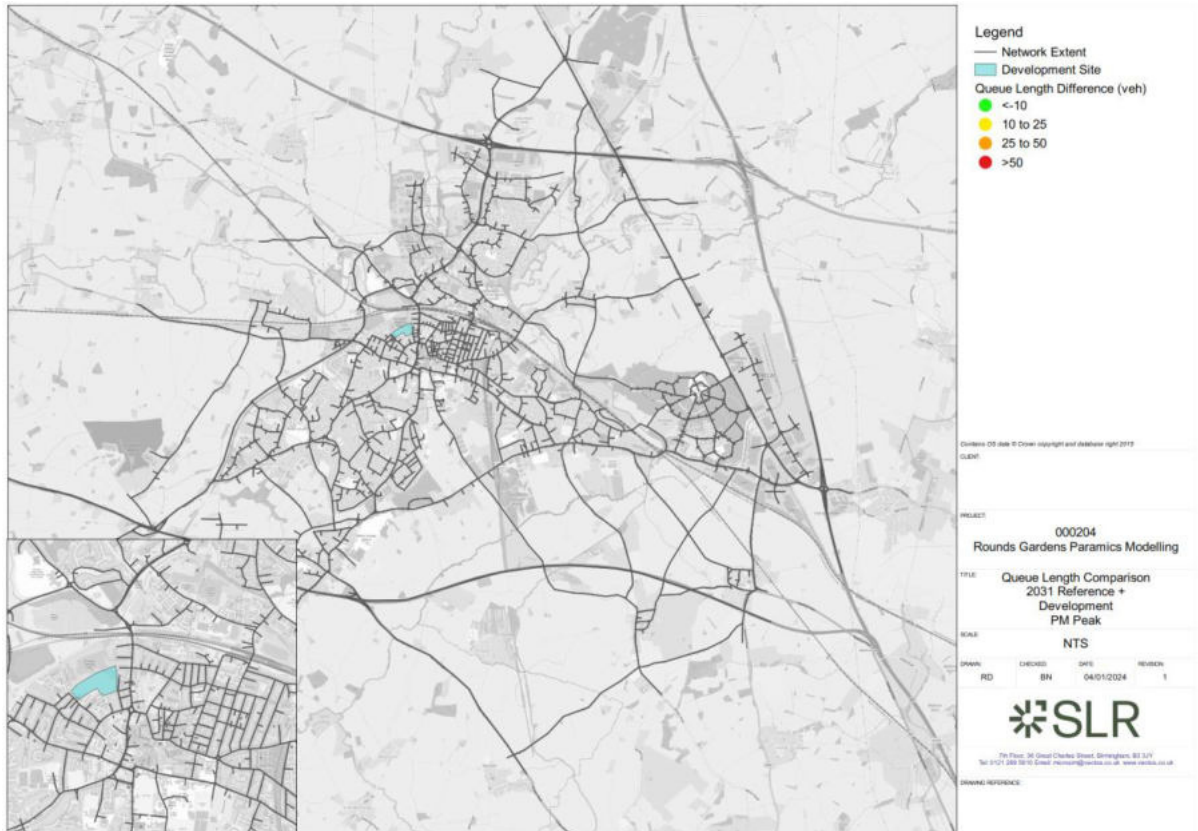
- 1.13 Queue length data has been collected at key junctions across the model network.
- 1.14 The queue impacts have been presented in the following Figures 4- 7 for AM and PM peak hours. When analysing queue lengths across the full network extent results have been summarised to compare the approach with the longest average maximum queue length for each junction.



**Figure 4: Queue Length Comparison 2031 Ref Case + Development – AM Peak**

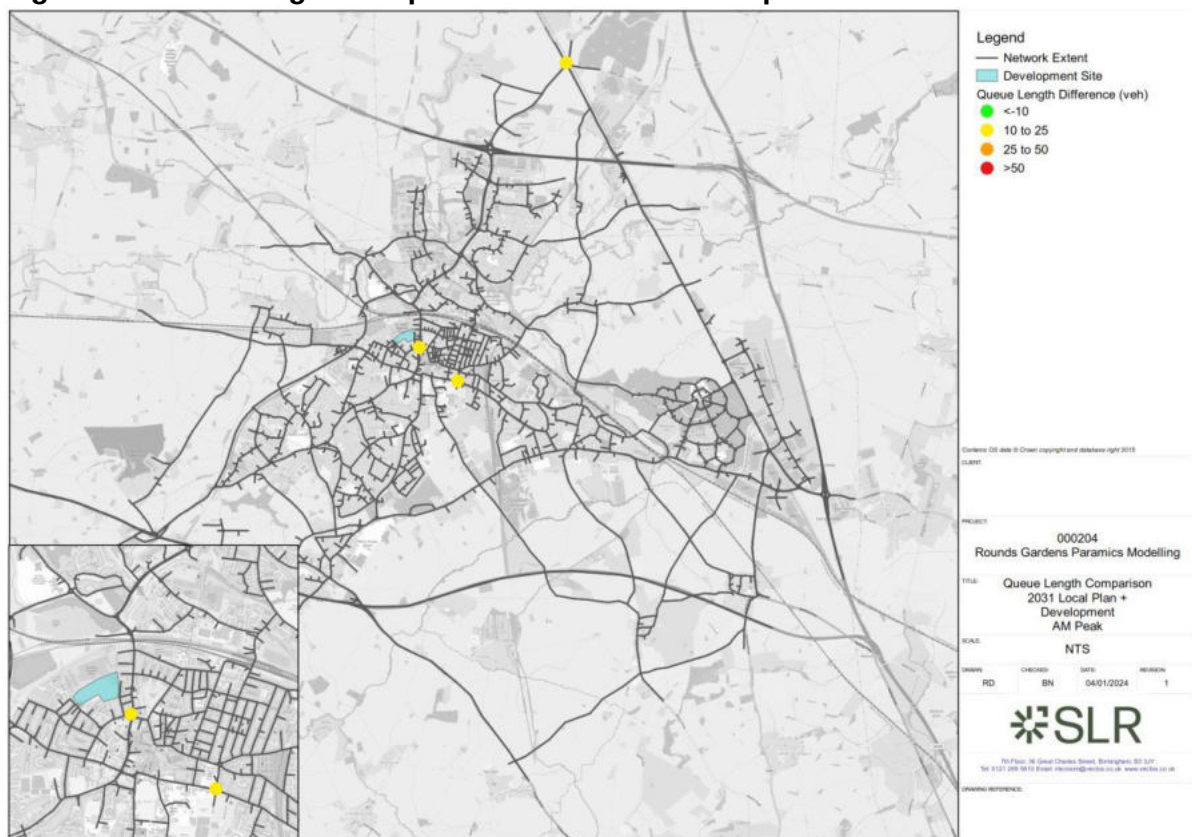


**Figure 5: Queue Length Comparison 2031 Ref Case + Development – PM Peak**



- 1.15 The queue impact results presented in Figures 4 and 5 demonstrate the predicted changed in modelled queue lengths following the delivery of the development in the 2031 Reference Case Scenario for AM and PM peak hours respectively.
- 1.16 The results indicate that the proposed development has minimal impact on queue length across the network extent in both AM and PM peak periods.
- 1.17 There is an increase in average maximum queue length observed on the A426/A4303 northbound in the peak AM hour which is likely a result of the distribution of trips exiting the network from the development toward Leicester. The queue increase is 11 vehicles (33 vehicles compared to 22 vehicles in the Reference Case without development) and is short lived, with no impact identified in the post-peak hour.

**Figure 6: Queue Length Comparison 2031 LP + Development – AM Peak**



**Figure 7: Queue Length Comparison 2031 LP + Development – PM Peak**



- 1.18 The queue impact results presented in Figures 6 and 7 show the predicted changed in modelled queue lengths following the delivery of the development in the 2031 Local Plan Case Scenario for AM and PM peak hours respectively.
- 1.19 The results indicate that the impact in queue length remains low in the Local Plan scenario however, compared to the Reference Case scenario, it is observed that the areas which are impacted are more localised to the proposed development. The network in the Local Plan is relatively more saturated with greater demand accessing the area.
- 1.20 In the AM peak period, an increase in average maximum queue length observed on the A426/A4303 northbound. a significant distribution of development vehicles exit the network in this location as informed by MND (mobile network data). As is also shown in the Reference Case scenario, the queue increase is short lived as the difference is insignificant in the post-peak AM hour.
- 1.21 Localised queue impacts are identified in the AM peak hour on Newbold Road southbound and Hillmorton Road westbound. The average maximum queue length increase does not exceed 15 vehicles in the peak hour and reduces back to Local Plan (no development) levels in the post-peak AM hour.
- 1.22 In the PM peak hour, there is a higher occurrence of significant change in queue length in contrast to AM peak hour. The impacts are confined local to the development site and do not exceed an increase of 18 vehicles in average maximum queue length.



- 1.23 Queue length is shown to increase on Russelheim Way northbound and eastbound due to increased demand on these routes predominantly inbound to the development site. Additionally, queues are increasing southbound to the junction on Corporation Street, likely a combined impact of trips exiting the development in addition to southbound traffic being opposed to increased demand inbound to the development site northbound and eastbound. This is also the case southeast of the site where increase in queuing is evident as traffic which interacts with the development site causes a slight increase in congestion in the surrounding area.
- 1.24 Reduction in average maximum queue length is observed northbound on the A426 east of the development. This can be attributed to increased throughput northbound A426/Newbold Road where higher traffic flows exiting southbound result in reduced give way for vehicles approaching from the A426 northbound.

### **Journey Time Assessment**

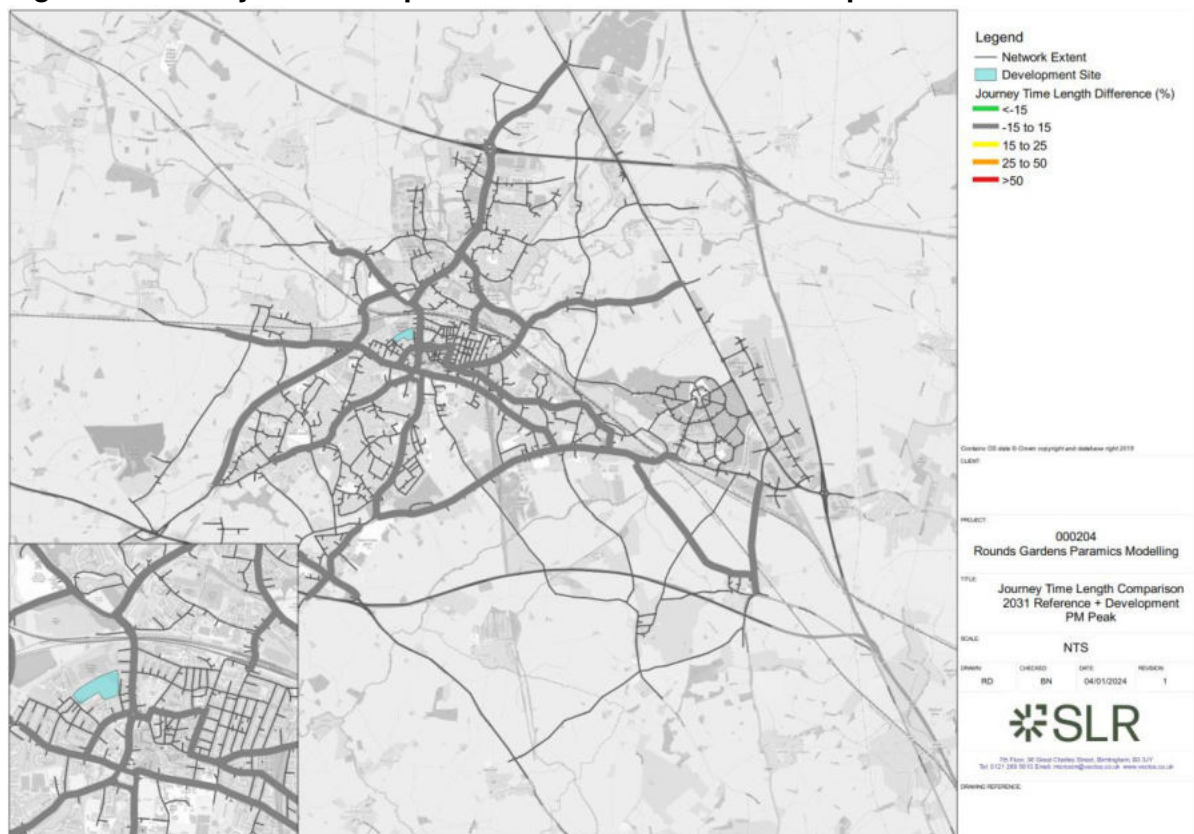
- 1.25 Journey time data has been recorded across key routes across the model network.
- 1.26 The journey time impacts have been presented in the following Figures 8- 11 for AM and PM peak hours. When analysing delay, a percentage difference in journey time is calculated from scenario with and without the development inclusions. Five criteria are given as a generic assessment of the change in journey time between the two scenarios:
- Criteria 1 – Journey time has decreased by more than 15%
  - Criteria 2 – Journey time has increased by between -15 and 15%
  - Criteria 3 – Journey time has increased by between 15 and 25%
  - Criteria 4 – Journey time has increased by between 25 and 50%
  - Criteria 5 – Journey time has increased by more than 50%



**Figure 8: Journey Time Comparison 2031 Ref Case + Development – AM Peak**



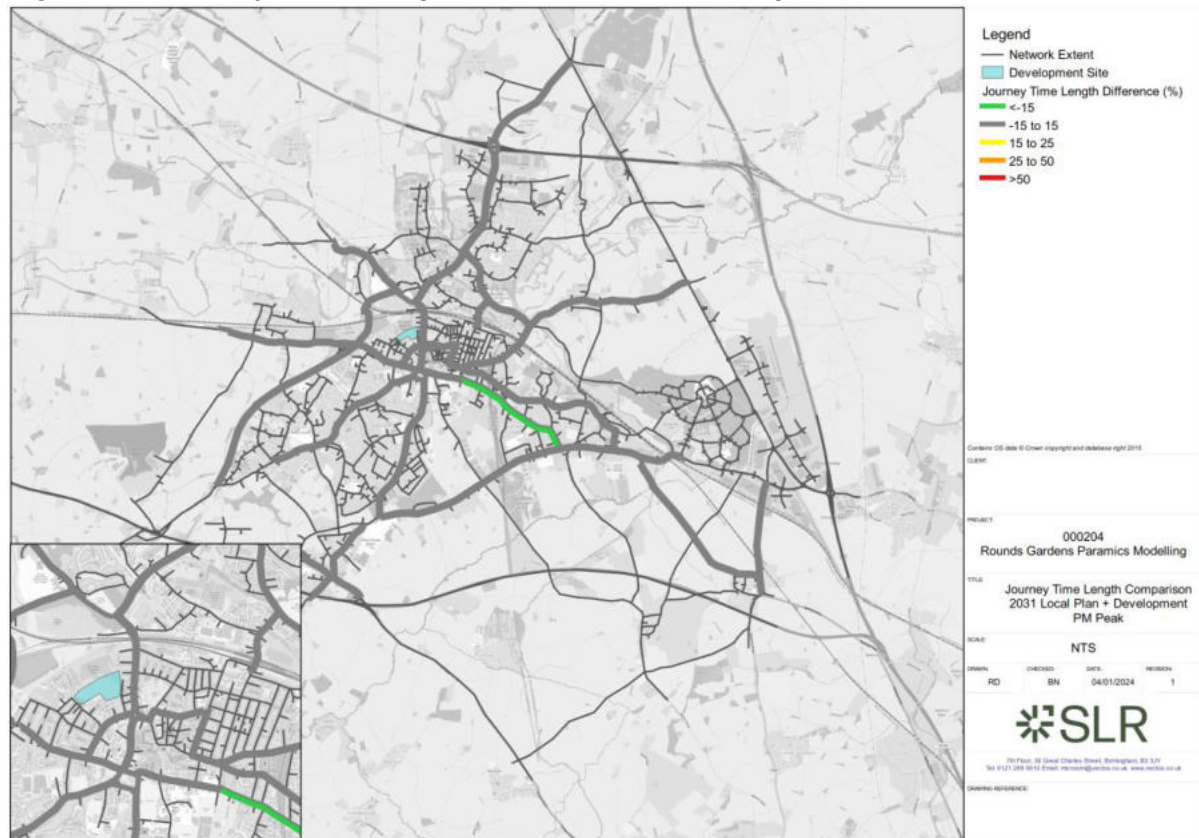
**Figure 9: Journey Time Comparison 2031 Ref Case + Development – PM Peak**



**Figure 10: Journey Time Comparison 2031 LP + Development – AM Peak**



**Figure 11: Journey Time Comparison 2031 LP + Development – PM Peak**



- 1.28 The journey time impact results presented in Figures 10 and 11 show the predicted changed in modelled delay following the delivery of the development in the 2031 Local Plan Scenario for AM and PM peak hours respectively.
- 1.29 In the AM peak hour, there is an increase in delay southbound along the A426 Newbold Road from 101 to 123 seconds (22 second increase) this is reflective of increased demand on this route where vehicles are predominantly exiting the development site in the AM period. The demand increase is also demonstrated in the queue results analysed in the previous section where queue length increases at Russelsheim Way. Alike the queue impact, the delay increase is short lived, reducing to no significant impact on this route in the post-peak hour.
- 1.30 In the PM peak hour, there is no significant increase in delay evident in response to delivery of the development in the Local Plan. A reduction in journey time is observed westbound along the A428, this does not exceed a difference of 20% and no further significant impact is identified in the post-peak hour.

## Summary

- 1.31 SLR has been commissioned by PJA on behalf of St Modwen Homes to undertake and assessment of a residential scheme within Central Rugby, using the Rugby Wide Area (RWA) future year scenarios.



- 1.32 The primary objective of this work is to use the existing RWA models to provide an indication of the likely impact of the development proposals, on the wider transport network.
- 1.33 The modelling considers the impacts of delivering the development alongside both Reference Case conditions (Permitted/Consented development only) and the broader Local Plan proposals.
- 1.34 The modelling results indicate minimal impact of the development proposals in the 2031 Reference Case scenario. There are no queueing and journey time impacts identified local to the development site in the peak hours.
- 1.35 The testing in the 2031 Local Plan scenario demonstrates impacts largely confined locally to the development site. In the AM peak hour, localised queue impacts are identified on Newbold Road southbound and Hillmorton Road westbound. The average maximum queue length increase does not exceed 15 vehicles in the peak hour and reduces back to Local Plan (no development) levels in the post-peak AM hour. In the PM peak hour, there is a higher occurrence of change in queue length in contrast to AM peak hour. The impacts are confined local to the development site and do not exceed an increase of 18 vehicles in average maximum queue length. Key junctions where impacts are identified include Russelheim Way, B5414/Whitehall Road, Hillmorton/Whitehall Road and A426/Newbold Road. Journey time impact is relatively minimal in both AM and PM peak hours. An increase in delay is observed in the AM peak hour southbound along the A426 Newbold Road from 101 to 123 seconds (22 second increase). This is reflective of increased demand on this route where vehicles are predominantly exiting the development site in the AM period. Similarly, to the queue impact on Russelsheim Way, the delay increase is short lived, reducing to no significant impact on this route in the post-peak hour.
- 1.36 Overall, testing the proposed development in the 2031 Reference Case and 2031 Local Plan scenarios demonstrates peak hour queueing and journey time impacts are largely confined locally to the development site and are predominantly short lived.





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