



**Transport Assessment**  
**For the Proposed Phase 1 Residential Development of**  
**Land off Cromer Road, Holt**

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822/07-TA

**Transport Assessment**  
**For the Proposed Phase 1 Residential Development of**  
**Land off Cromer Road, Holt**

**1 INTRODUCTION**

- 1.1 Michael Thomas Consultancy LLP has been asked to provide a Transport Assessment in respect to the residential development of the land off Cromer Road, Holt, on behalf of Greshams School.
- 1.2 This Transport Assessment is for the purposes of supporting a site specific allocation in the Local Development Framework Plan only, with a full detailed Transport Assessment to be submitted with a detailed application in the future.
- 1.3 Whilst there are three phases to Greshams Schools long term proposals, this Transport Assessment deals with the first phase only. Separate Transport Assessments will be submitted for the Phase 2 and Phase 3 developments in the future.

## 2 **SITE DESCRIPTION**

- 2.1 The site comprises the currently vacant land to the south of Cromer Road, on the eastern side of Holt, and occupies an area of approximately 6.4 Hectares.
- 2.2 To the north the site is bounded by Cromer Road, whilst to the south and east the site is bounded by the A148.
- 2.3 To the west the site is bounded by Grove Lane across which lie the school playing fields and some residential dwellings. Phase 2 and Phase 3 of the proposed development will take place immediately to the west of the site, on the land currently occupied by the playing fields.
- 2.4 Access to the site will be taken from a new junction with Cromer Road, which joins the A 148 approximately 0.3km east of the proposed access. This provides an excellent transport link to Norfolk's major road network, whilst the main centre of Holt lies approximately 2km west along Cromer Road.
- 2.5 Greshams School and Holt station, which is the terminus of the North Norfolk Steam Railway, both lie on the northern side of Cromer Road, in close proximity to the site.
- 2.6 There are bus routes and stops along Cromer Road in the vicinity of the school

### **3 EXISTING TRAFFIC FLOWS**

- 3.1 Five key junctions were identified as requiring analysis with regards the effects of the proposed development. These were: The A148/Cromer Road Junction; The eastern Cromer Road/Grove Lane Junction; The Cromer Road/Kelling Road Junction; The western Cromer Road/Grove Lane Junction; and the Grove Lane/Pearsons Road Junction.
- 3.2 To allow full analysis of the effects of the proposed developments traffic on these junctions a traffic count was carried out at each on Wednesday the 8 October 2008. Summaries of the existing AM and PM peak periods are included in Appendices 2 and 3.
- 3.3 One finding of the traffic count was that the existing PM peak hour of the network was between 1530 and 1630, as opposed to the usual 1700 to 1800. This is due to the school related traffic resulting from Greshams School, which is situated on the northern side of Cromer Road, slightly to the east of the site. The AM peak period, as expected, was between 0800 and 0900.
- 3.4 PICADY analysis of the existing situation at all five junctions has been carried out for both the AM and PM Peak Periods. All arms of all junctions currently operate at well below maximum capacity. No arm operates in excess of 45% its capacity at any point, with the majority of junction arms operating at below 20% capacity. The results of the junction analysis are discussed in more detail in comparison with the effects of the proposed development in section 6.

#### 4 PROPOSED DEVELOPMENT AND TRAFFIC GENERATION

- 4.1 The proposed development involves the erection of maximum of 200 houses on the Phase One site.
- 4.2 Due to junction spacing constraints, it will not be possible to provide two separate vehicular access points to the site. Access to the proposed development will therefore be taken from a wide access junction (7.3m wide road with a 3m footway/cycleway) with Cromer Road, which will then form a loop within the site, as shown indicatively in Appendix 4. Full design will take place when detailed proposals are submitted.
- 4.3 In addition to this, there will be a foot access link provided in the northwestern corner of the site, which will allow residents to have direct access to Greshams School. A footway/cycleway will also be provided running in an east-west direction through the development to its western border with Grove Lane. This will then be continued through the Phase Two and Phase Three Developments when these take place.
- 4.4 Traffic generation from the proposed development has been calculated using TRICS, with a copy of the data used included in Appendix 5. As the proposed development layout is currently unavailable, a calculation factor of 200 dwellings was used as this will be the maximum size of the development. Table 4.1 below contains a summary of the data obtained.

Proposed 200 houses	Arrivals	Departures	Totals
AM Peak Generation (0800-0900)	31	85	116
PM Peak Generation (1700-1800)	88	53	141
Existing PM Peak Generation (1530-1630)*	72	47	119

**Table 4.1: Summary of TRICS Data Obtained**

\*The mean value of 1500-1600 and 1600-1700 period data was used

- 4.5 From studying the TRICS data obtained it was found that although more development traffic is experienced between 1700-1800 than the 1530-1630, there was not a significant enough increase to alter the existing PM peak hour, as there will still be more traffic travelling through the local network between 1530-1630 than 1700-1800. The PM peak period to be analysed was therefore taken as 1530-1630 as this provides the worst case scenario.
- 4.6 For the purposes of capacity analysis and junction modelling, development generated traffic has been assigned flow routes through the system according to the proportion of vehicles entering and exiting the system at the counted junctions. Details of this are not included in this Assessment, but will be included in the full Transport Assessment to be submitted with the detailed application.

## 5 ASSESSMENT OF IMPACT ON ROAD CAPACITY

- 5.1 In terms of road capacity, Cromer Road is key to the proposed development. As all development traffic will use this road to travel either east towards the A148 or west towards the centre of Cromer.
- 5.2 In order to assess the effects of the proposed development on the capacity of Cromer Road. According to TA79/99 Cromer Road is classed as an either an Urban All Purpose Type 3 or Urban All Purpose Type 4 Road. To assess the worst case scenario, it has been assumed to be a Type 4 Road. At its narrowest stretch (between Kelling Road and Old Cromer Road), Cromer Road has a variable width in the region of 6.1 metres. TA79/99 therefore calculates the maximum hourly flow rate in the busiest direction as 750 vehicles per hour in the vicinity of the site.
- 5.3 At present, the maximum unidirectional flow along Cromer Road at any point on this stretch is 205 vehicles, travelling in a westerly direction during the AM Peak Period in the region of Kelling Road. With a capacity of 750 vehicles per hour, Cromer Road is therefore operating at a maximum of approximately 27% of its capacity.
- 5.4 Other sections of Cromer Road experiencing a greater level of traffic are a minimum of 7.3m wide, giving a capacity of 1140 vehicles per hour. With the greatest flow rate of 278 vehicles these sections run at below 25% capacity.
- 5.5 The Proposed Development would increase traffic through the narrowest section of Cromer Road to a maximum predicted flow of 247 vehicles. Cromer Road would therefore be running at just below one third of its capacity during the busiest period. This is an acceptable level, with two thirds of Cromer Roads capacity to remain free.

- 5.6 TEMPRO has predicted traffic growth factors of 2% by 2010 (the likely opening year of the development), and 6% for 2015. It is therefore not anticipated that the proposed development will have a detrimental effect on the local road network in either of these years.
- 5.7 Full details of development traffic trip allocation and effects on road capacity along with assessment of future impacts will be included in the full Transport Assessment to be submitted with detailed proposals.

## 6 ASSESSMENT OF IMPACT ON JUNCTION CAPACITY

- 6.1 In addition to the impact on highway capacity, the impact of the proposed development on the surrounding network junctions has also been assessed using PICADY.
- 6.2 The analysis found that both the eastern junction between Cromer Road and Grove Lane and the junction between Grove Lane and Pearsons Road currently operate at below 10% capacity on all arms at all times.
- 6.3 The proposed development will not have any adverse impact on these junctions as it is not anticipated that any development traffic will use Grove Lane for two reasons. Firstly as Grove Lane is entirely residential and is not thought to have any attraction factor to development traffic. Secondly, Cromer Road provides the quickest route into Holt, and Grove Lane therefore does not provide any through route that may be used by development traffic.
- 6.4 The junction of the A148 and Cromer Road is at the busiest junction at present, however it operates at a maximum capacity of only 42.8%. Whilst the proposed development would increase this to 44.4%, an increase of 1.6% is considered to have negligible impact on the junction.
- 6.5 The junction of the Cromer Road and Kelling Road currently operates at a maximum capacity of only 24%. The proposed development would increase this to 24.7%. This increase of 0.7% is considered to have negligible impact on the junction.
- 6.6 The western junction of the Cromer Road and Grove Lane operates at a maximum capacity of only 32% at present. The proposed development would increase this to 32.8%. This increase of 0.8% is considered to have negligible impact on the junction.

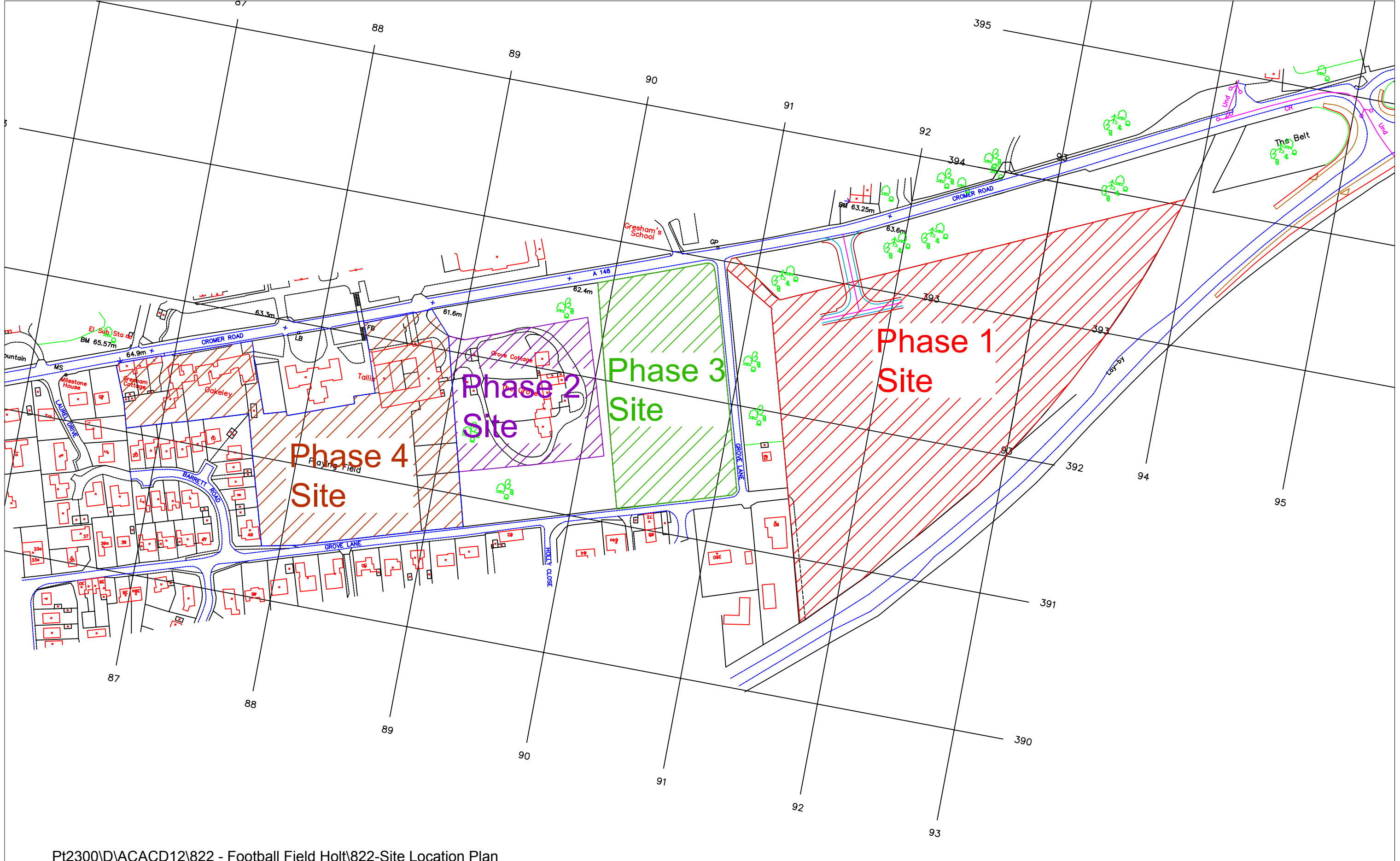
- 6.7 It is therefore not believed that any junction improvements would be required to accommodate the proposed development, and the development would not cause any detrimental effect to any junctions on the existing network.
- 6.8 The detailed Transport Assessment to be submitted with the full application will include copies of the PICADY reports, development traffic updated junction turning counts, and analysis of the junctions during both the proposed opening year of the development and 5 years after this.

## 7 CONCLUSIONS

- 7.1 Whilst traffic generation from the proposed development will increase flow throughout Holts road network, analysis has shown that all roads and junctions effected will remain well within capacity, and there will not be a detrimental effect on the network as a result of the proposed development.
- 7.2 Upgrading of existing roads and junctions has been shown not to be required should development of the proposed site take place.
- 7.3 With the close proximity of Greshams School and proposed foot access to the school from the development, it is likely that a significant proportion of the predicted development traffic during the AM and existing PM peak hour will be lost as parents will not need to pick up/drop off school children. This provides a significant benefit when compared to other proposed sites in the surrounding area where this will be necessary.
- 7.4 The proposed site has significant benefits over other potential development sites with regards to both obtaining site access and the effects of development traffic on the existing road network.
- 7.5 A full Transport Assessment including detailed analysis of the proposed opening year of the development and 5 years post opening will be submitted as part of any detailed proposals. In its current form however, this Transport Assessment provides sufficient evidence with regards all transport matters that the proposed site is suitable to obtain an allocation for development within the Local Development Framework Plan.
- 7.6 There are no transport related grounds on which to reject the application for an allocation for development.

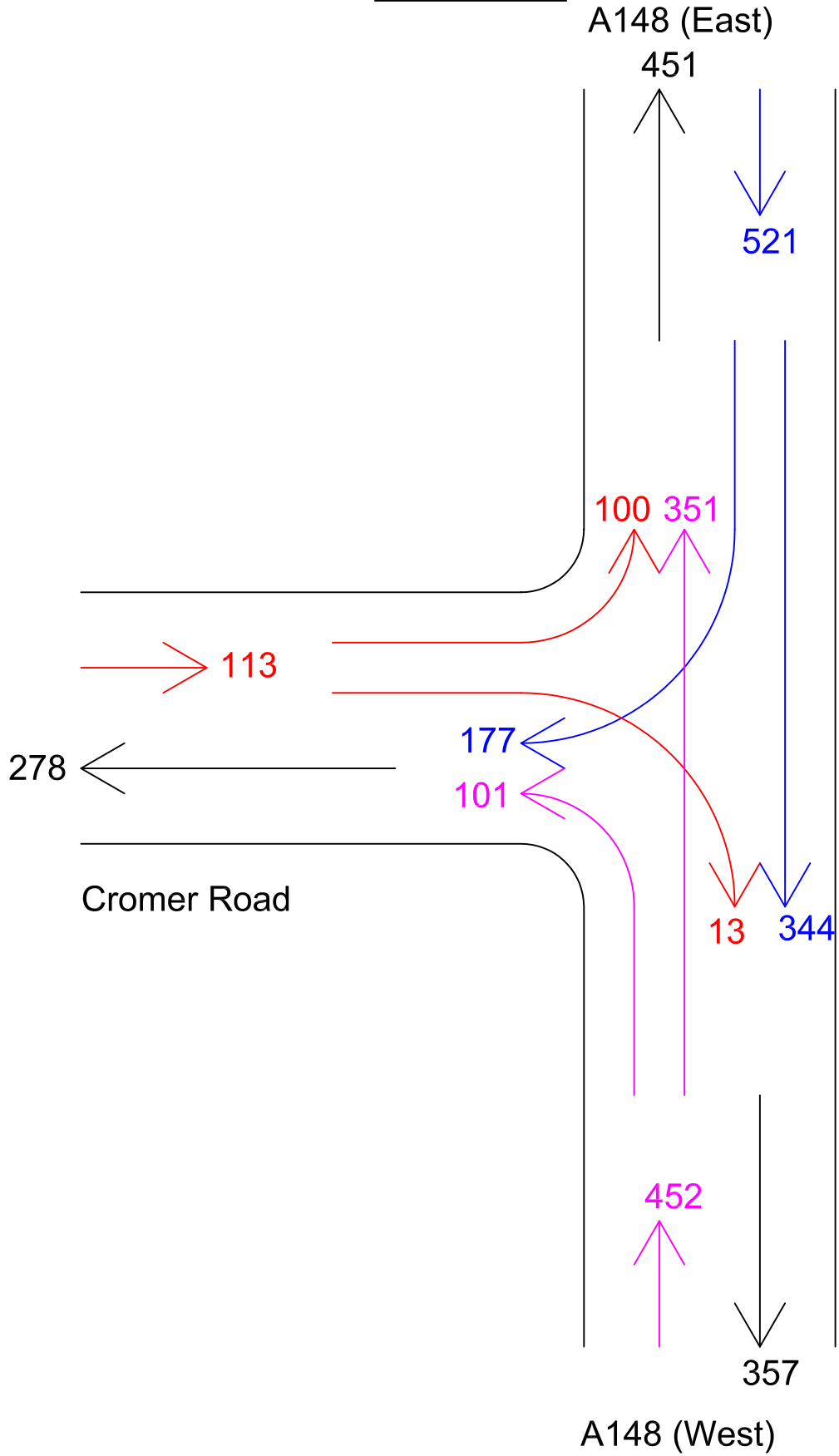
**APPENDIX 1**  
**SITE LOCATION PLAN**

# Site Location Plan: 1 to 2500 Scale

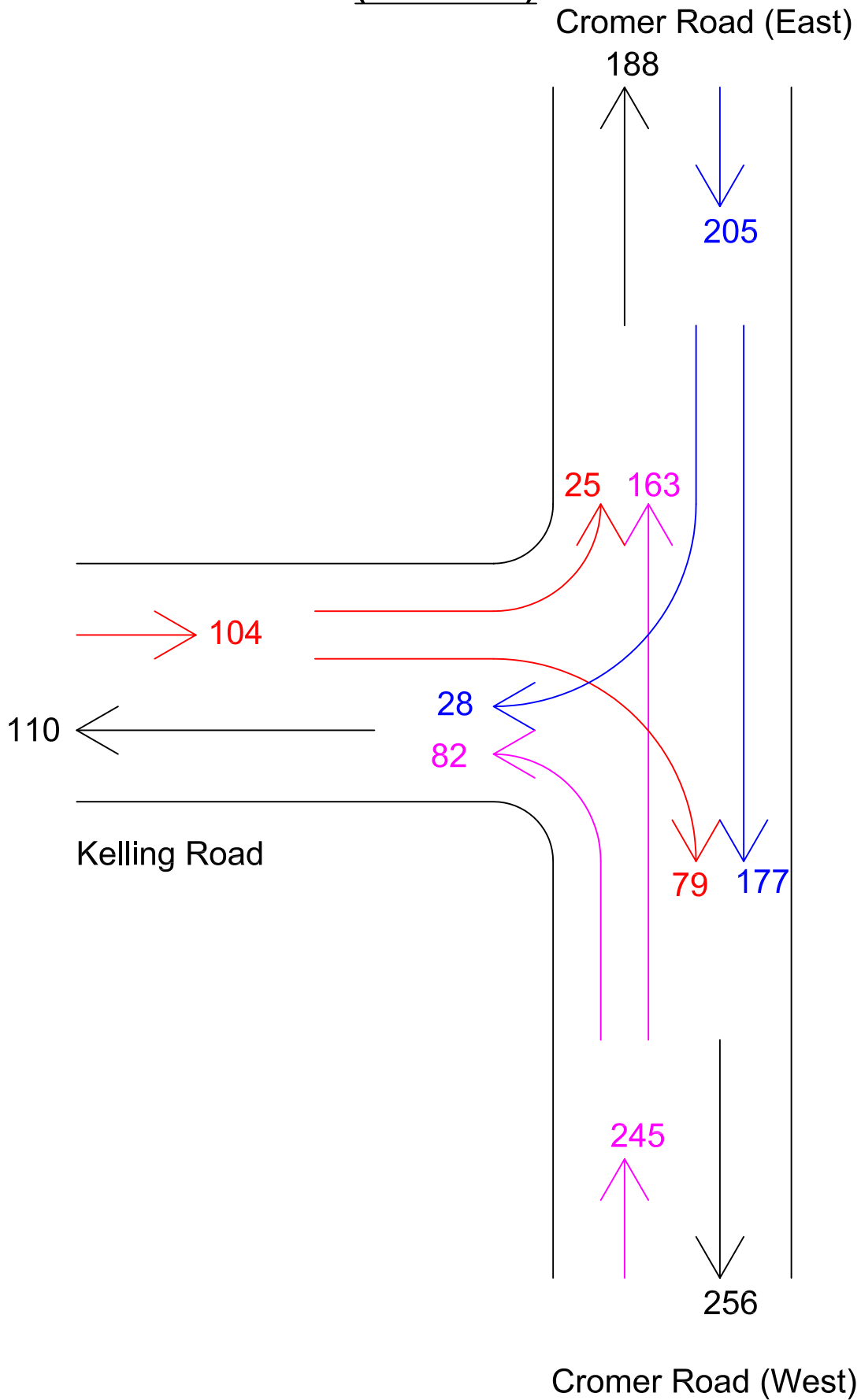


**APPENDIX 2**  
**EXISTING AM PEAK PERIOD SUMMARIES**

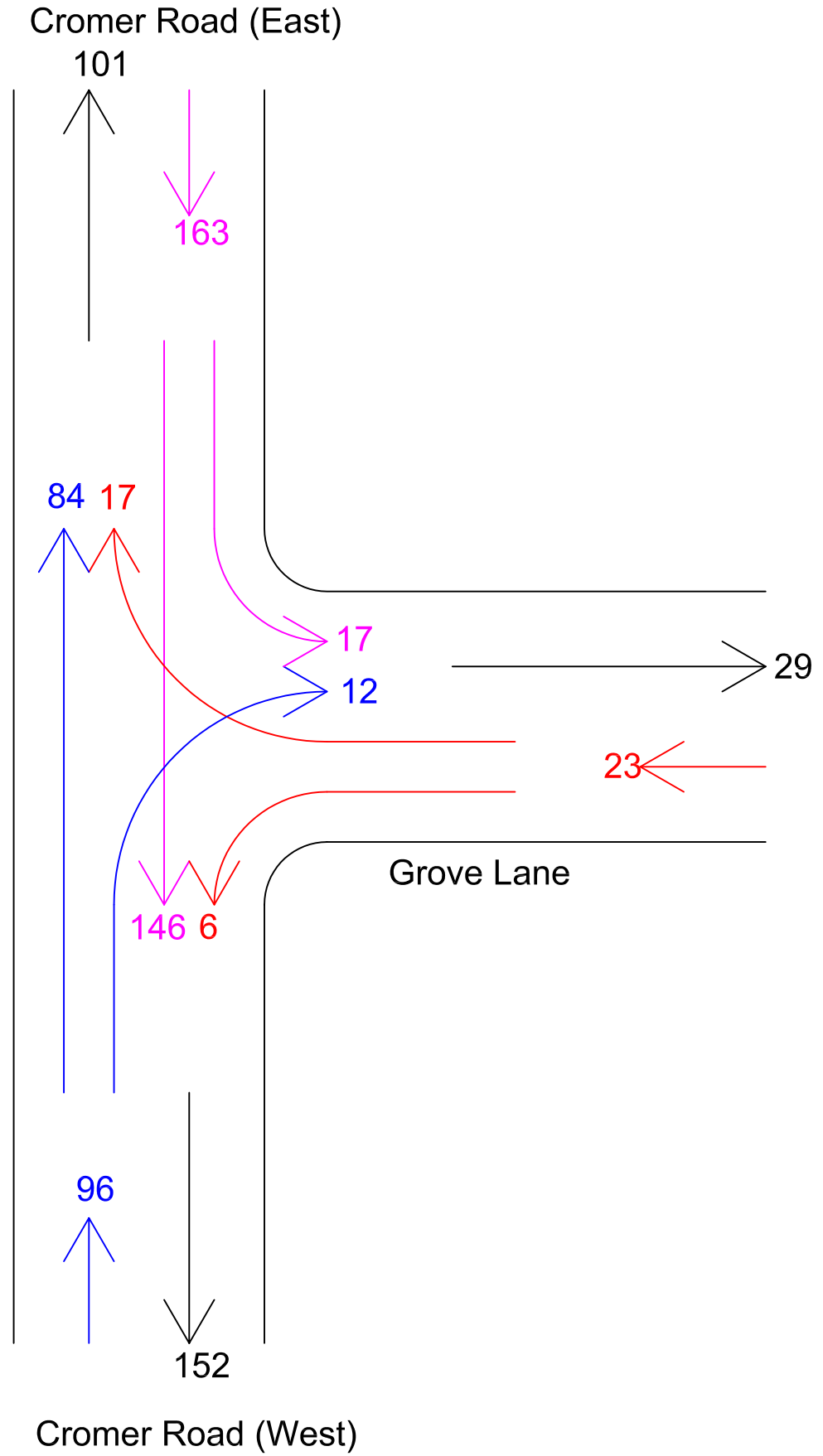
**Cromer Road/A148**  
**Existing AM Peak**  
**(0800-0900)**



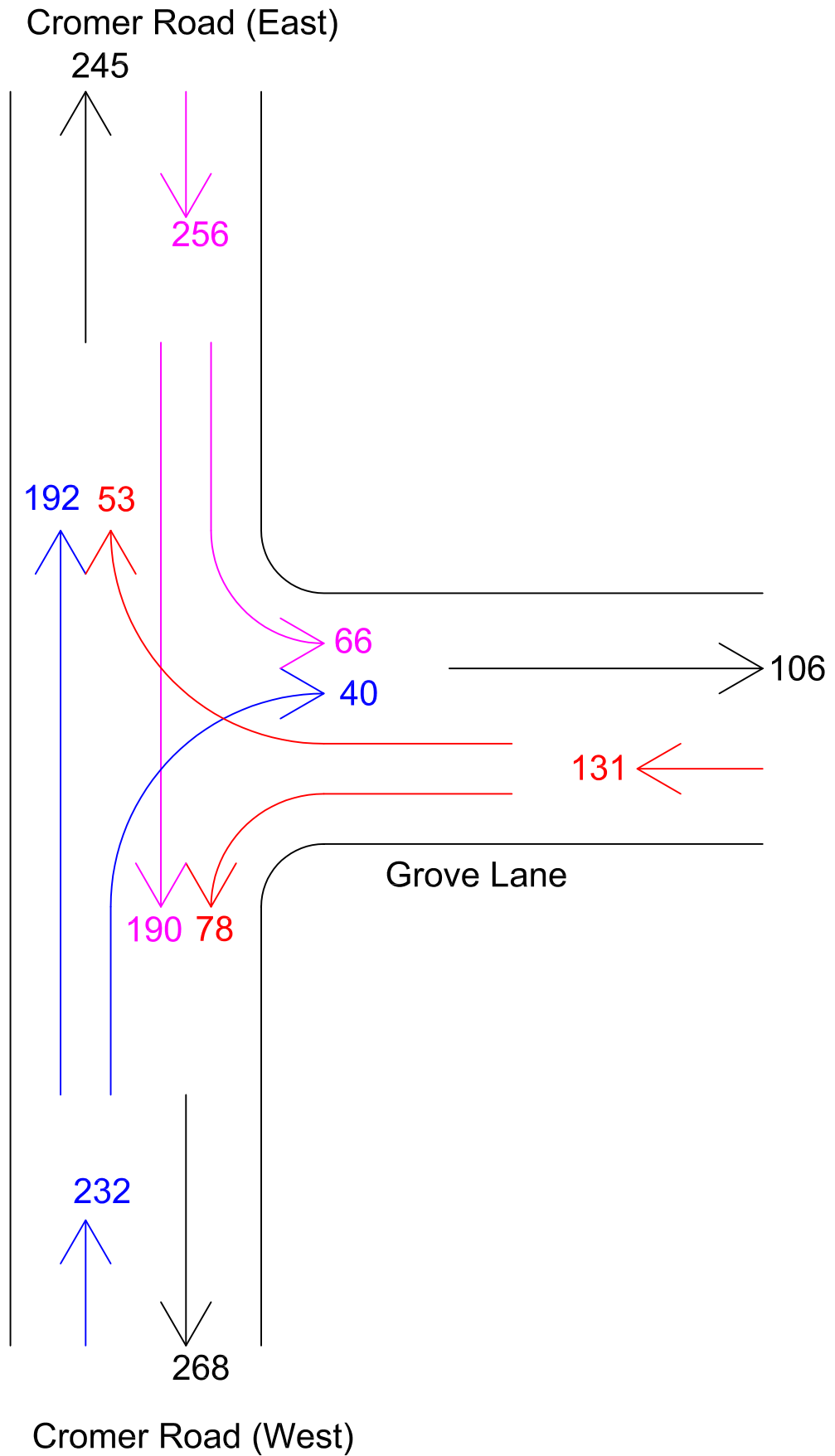
**Cromer Road/Kelling Road**  
**Existing AM Peak**  
**(0800-0900)**



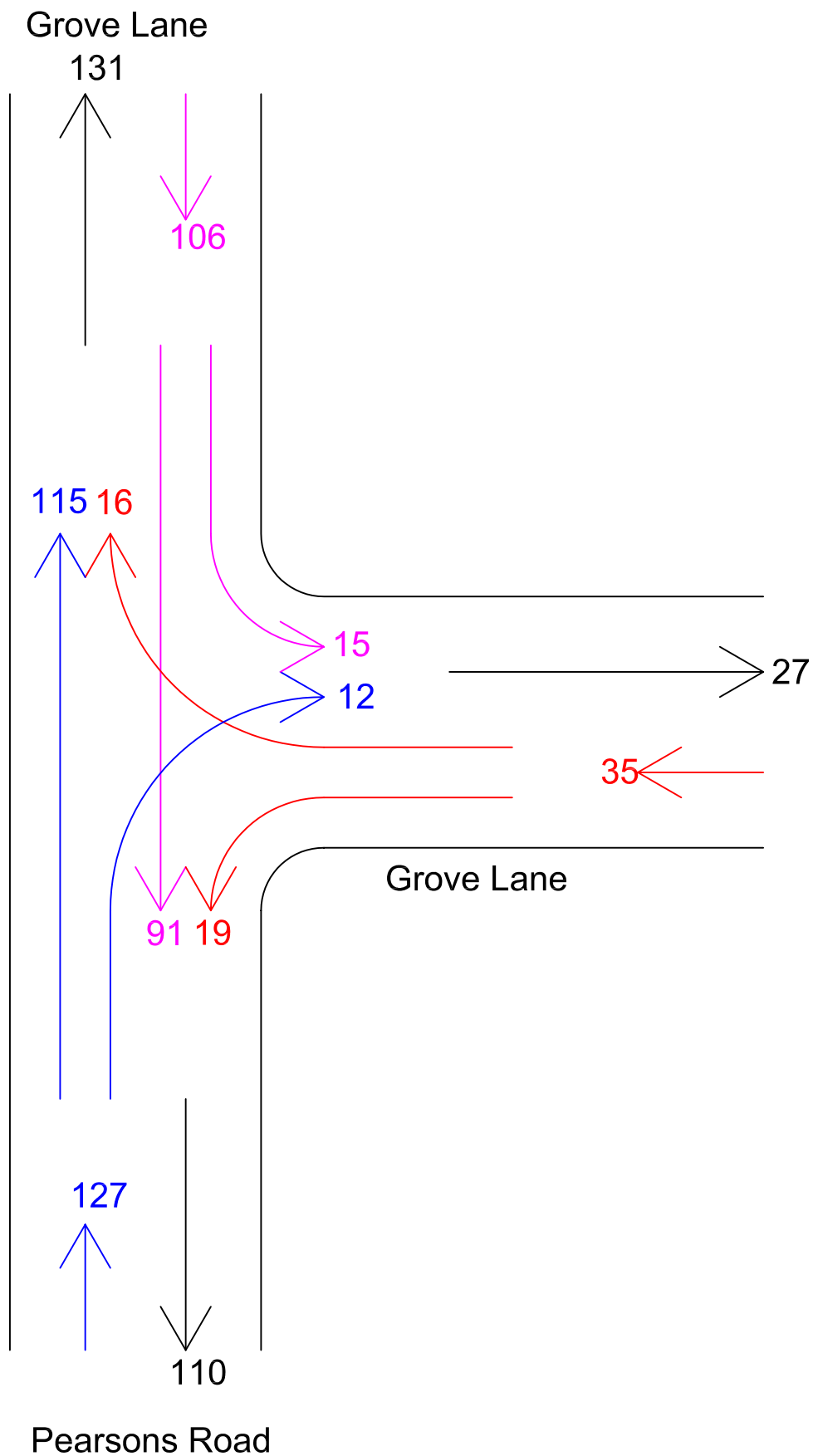
**Cromer Road/Grove Lane**  
**Existing AM Peak**  
**(0800-0900)**



**Cromer Road/Grove Road**  
**Existing AM Peak**  
**(0800-0900)**

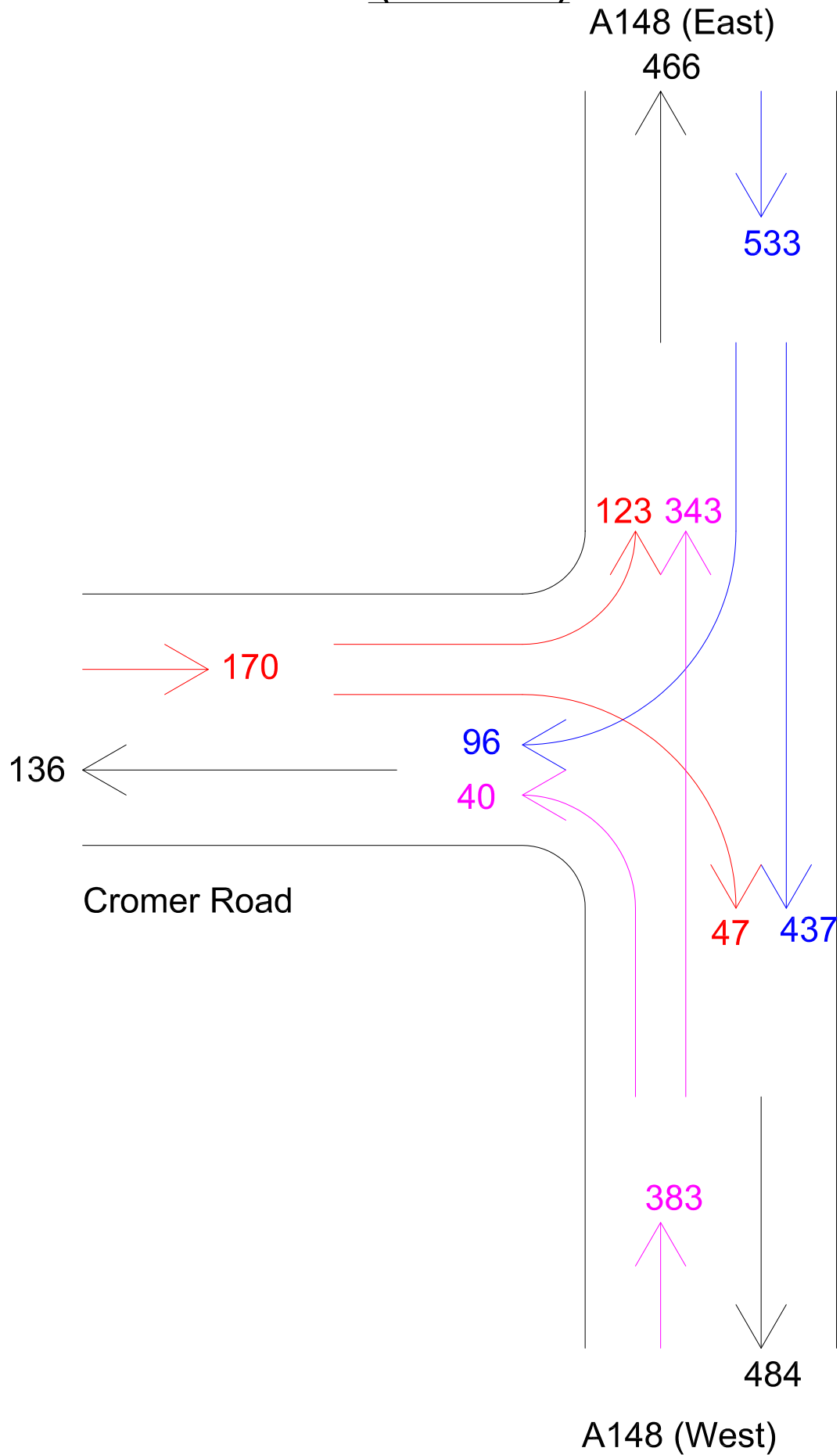


**Grove Road/Pearsons Road**  
**Existing AM Peak**  
**(0800-0900)**

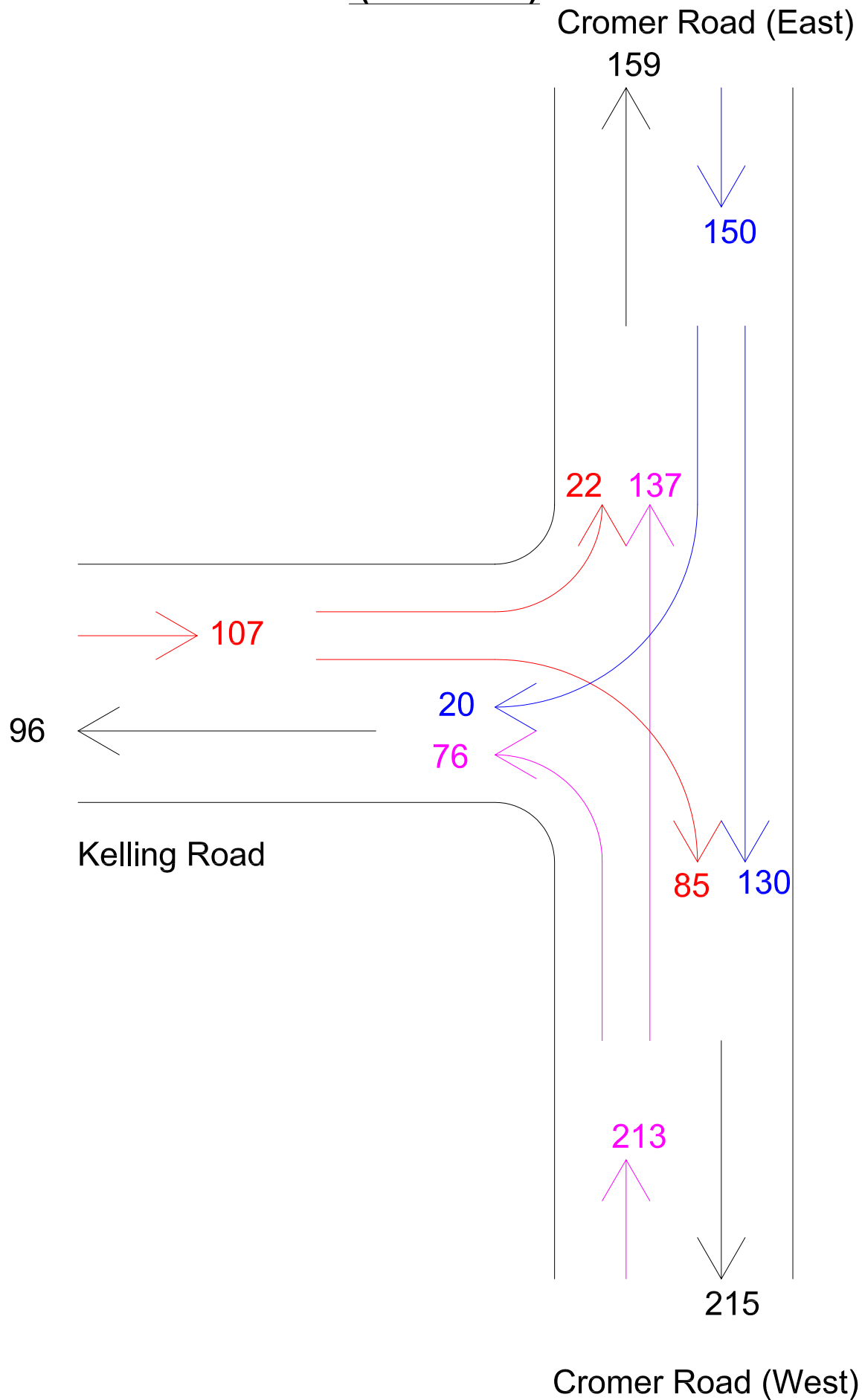


**APPENDIX 3**  
**EXISTING PM PEAK PERIOD SUMMARIES**

**Cromer Road/A148**  
**Existing PM Peak**  
**(1530-1630)**



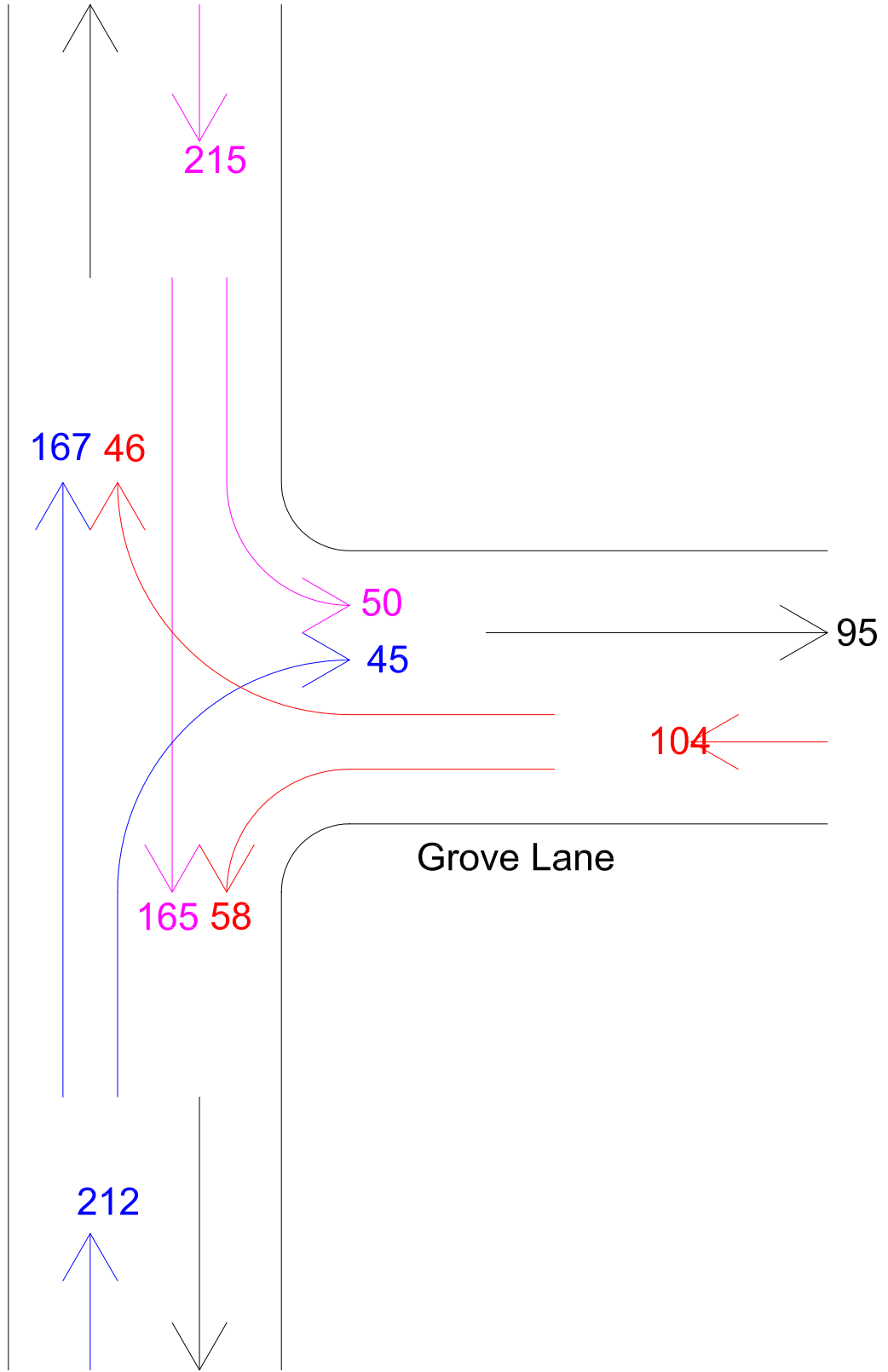
**Cromer Road/Kelling Road**  
**Existing PM Peak**  
**(1530-1630)**



**Cromer Road/Grove Road  
Existing PM Peak  
(1530-1630)**

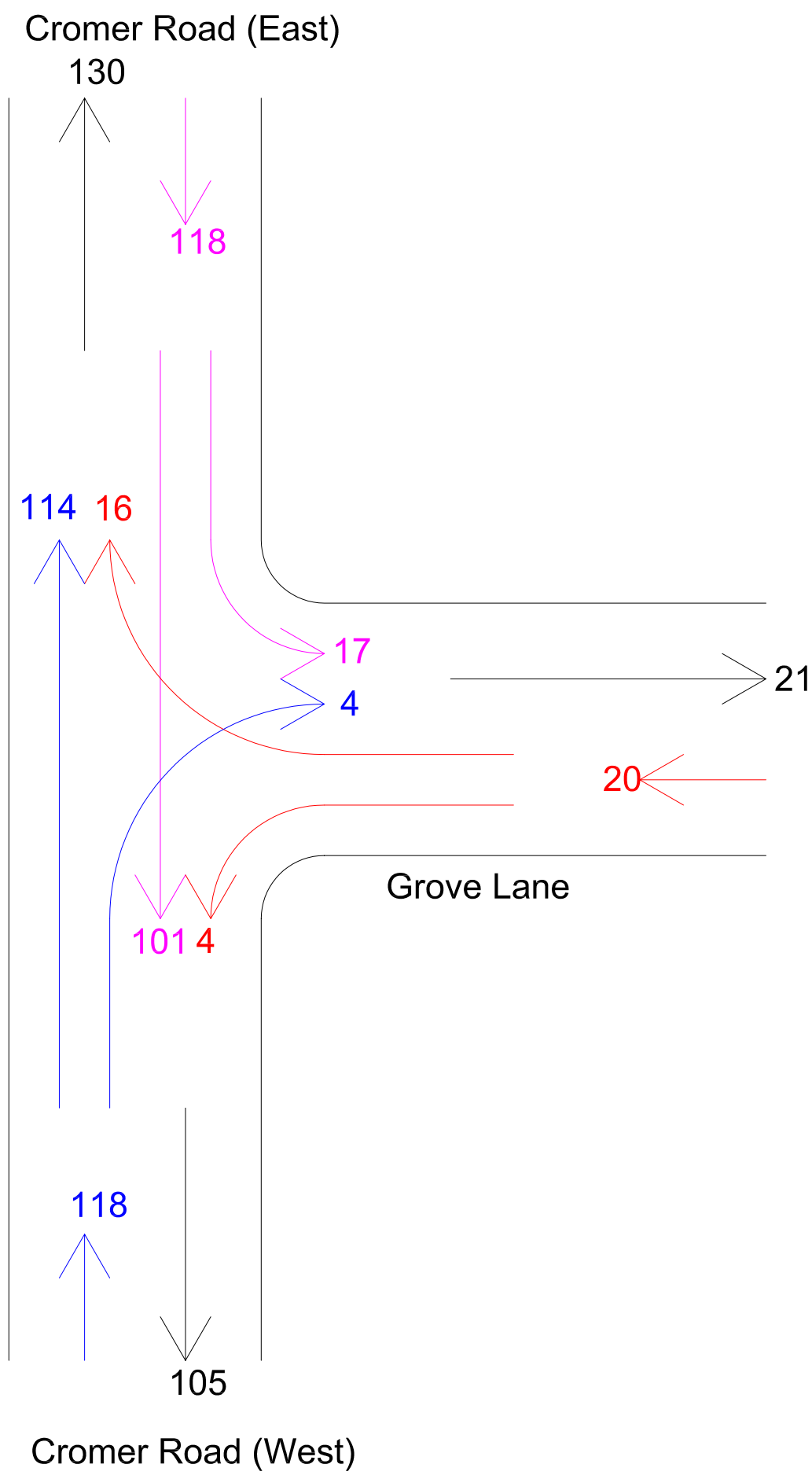
Cromer Road (East)

213

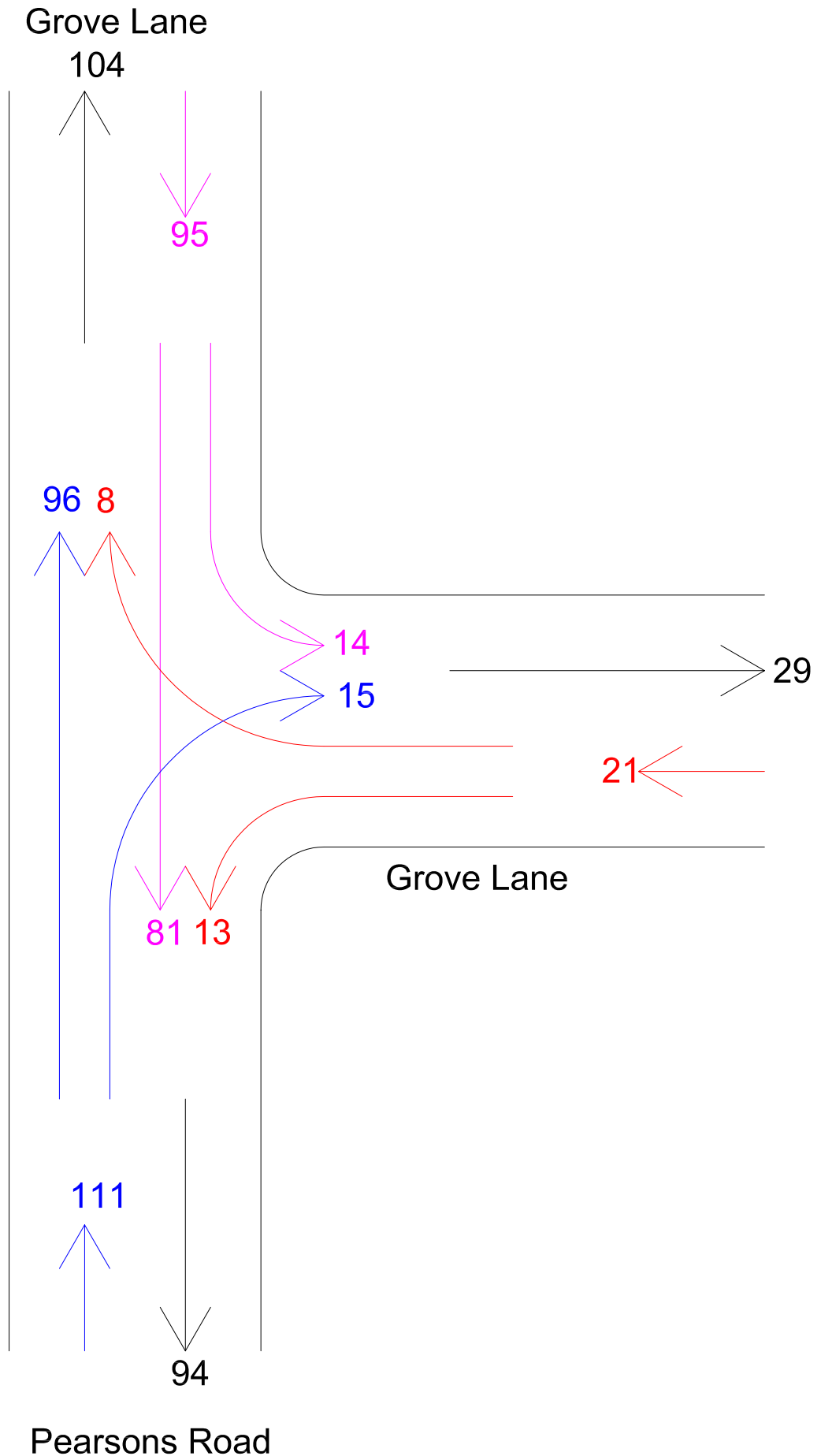


Cromer Road (West)

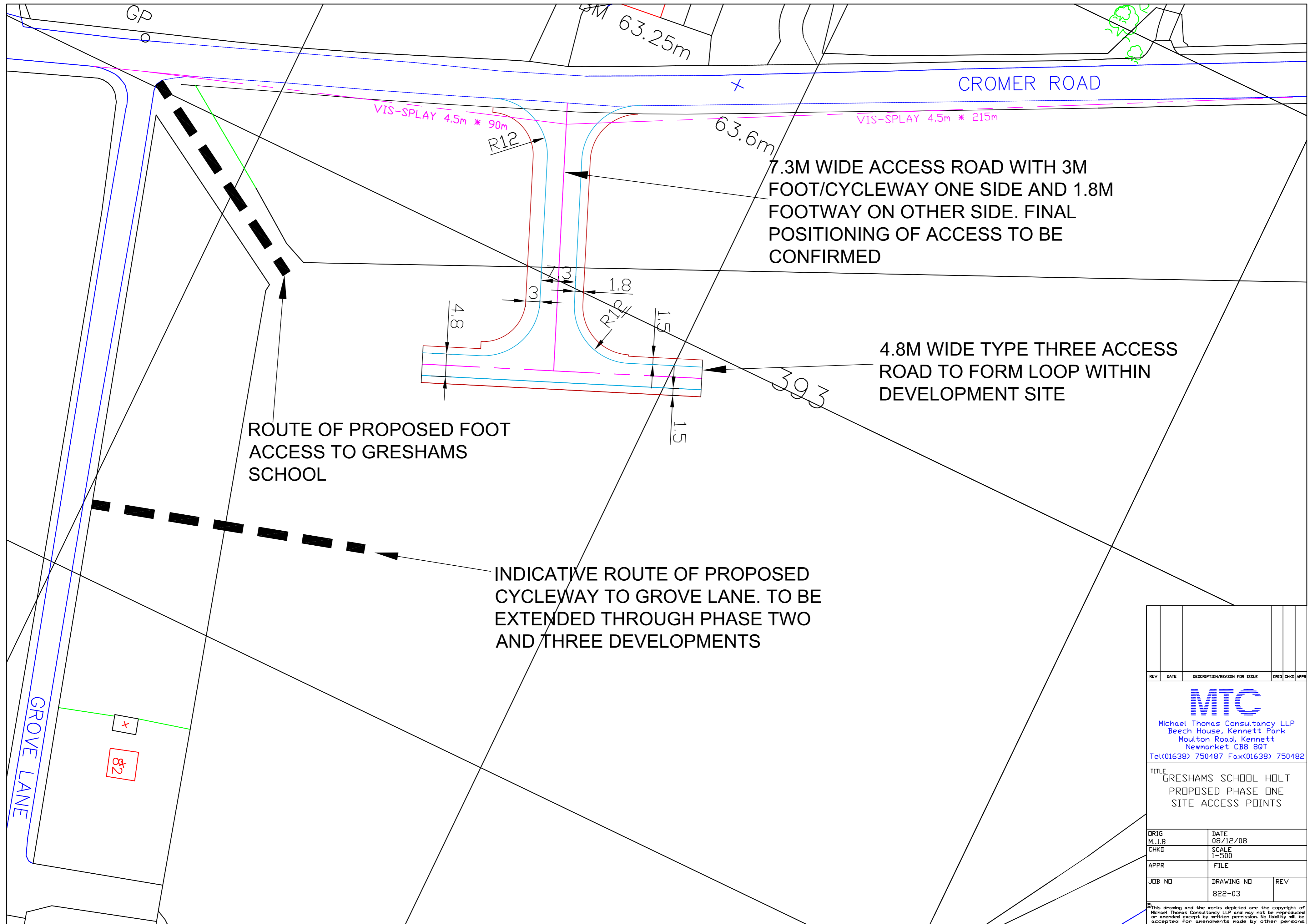
**Cromer Road/Grove Lane**  
**Existing PM Peak**  
**(1530-1630)**




**Grove Road/Pearsons Road**  
**Existing PM Peak**  
**(1530-1630)**



**APPENDIX 4**  
**PROPOSED SITE ACCESS DETAILS**



REV	DATE	DESCRIPTION/REASON FOR ISSUE	DRG	CHKD	APPR
 <b>MTC</b> Michael Thomas Consultancy LLP Beech House, Kennett Park Moulton Road, Kennett Newmarket CB8 8QT Tel(01638) 750487 Fax(01638) 750482					
TITLE GRESHAMS SCHOOL HOLT PROPOSED PHASE ONE SITE ACCESS POINTS					
DRIG	M.J.B	DATE	08/12/08		
CHKD		SCALE	1-500		
APPR		FILE			
JOB NO		DRAWING NO	822-03	REV	

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**APPENDIX 5**  
**PROPOSED SITE TRICS DATA**

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
	NT NOTTINGHAMSHIRE	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
	LC LANCASHIRE	1 days
10	WALES	
	CF CARDIFF	1 days
11	SCOTLAND	
	AS ABERDEENSHIRE	1 days
	FI FIFE	1 days
12	NORTHERN IRELAND	
	DE DERRY	1 days
	FE FERMANAGH	1 days

Main parameter selection:

Parameter: Number of households  
 Range: 100 to 300 (units: )

Date Range: 01/01/00 to 13/05/08

Selected survey days:

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

Selected survey types:

Manual count	9 days
Directional ATC Count	3 days

Selected Locations:

Edge of Town	12
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Selected Location Sub Categories:

Residential Zone	12
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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
 VEHICLES

Calculation factor: 1 HHOLDS

Estimated TRIP rate value per 200 HHOLDS shown in shaded columns

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. HHOLDS	Trip Rate	Estimated Trip Rate	No. Days	Ave. HHOLDS	Trip Rate	Estimated Trip Rate	No. Days	Ave. HHOLDS	Trip Rate	Estimated Trip Rate
00:00 - 01:00	3	114	0.015	2.924	3	114	0.012	2.339	3	114	0.027	5.263
01:00 - 02:00	3	114	0.020	4.094	3	114	0.018	3.509	3	114	0.038	7.603
02:00 - 03:00	3	114	0.000	0.000	3	114	0.000	0.000	3	114	0.000	0.000
03:00 - 04:00	3	114	0.012	2.339	3	114	0.012	2.339	3	114	0.024	4.678
04:00 - 05:00	3	114	0.006	1.170	3	114	0.006	1.170	3	114	0.012	2.340
05:00 - 06:00	3	114	0.012	2.339	3	114	0.047	9.357	3	114	0.059	11.696
06:00 - 07:00	3	114	0.061	12.281	3	114	0.184	36.842	3	114	0.245	49.123
07:00 - 08:00	12	169	0.093	18.602	12	169	0.363	72.638	12	169	0.456	91.240
08:00 - 09:00	12	169	0.158	31.594	12	169	0.424	84.744	12	169	0.582	116.338
09:00 - 10:00	12	169	0.161	32.283	12	169	0.208	41.634	12	169	0.369	73.917
10:00 - 11:00	12	169	0.156	31.201	12	169	0.206	41.240	12	169	0.362	72.441
11:00 - 12:00	12	169	0.205	40.945	12	169	0.191	38.189	12	169	0.396	79.134
12:00 - 13:00	12	169	0.211	42.224	12	169	0.204	40.846	12	169	0.415	83.070
13:00 - 14:00	12	169	0.206	41.240	12	169	0.199	39.862	12	169	0.405	81.102
14:00 - 15:00	12	169	0.205	41.043	12	169	0.191	38.189	12	169	0.396	79.232
15:00 - 16:00	12	169	0.340	68.012	12	169	0.233	46.654	12	169	0.573	114.666
16:00 - 17:00	12	169	0.379	75.787	12	169	0.235	46.949	12	169	0.614	122.736
17:00 - 18:00	12	169	0.441	88.287	12	169	0.263	52.657	12	169	0.704	140.944
18:00 - 19:00	12	169	0.322	64.370	12	169	0.273	54.626	12	169	0.595	118.996
19:00 - 20:00	3	114	0.275	54.971	3	114	0.249	49.708	3	114	0.524	104.679
20:00 - 21:00	3	114	0.219	43.860	3	114	0.152	30.409	3	114	0.371	74.269
21:00 - 22:00	3	114	0.158	31.579	3	114	0.135	26.901	3	114	0.293	58.480
22:00 - 23:00	3	114	0.114	22.807	3	114	0.088	17.544	3	114	0.202	40.351
23:00 - 24:00	3	114	0.085	16.959	3	114	0.044	8.772	3	114	0.129	25.731
<b>Total Rates:</b>			3.854	770.911			3.937	787.118			7.791	1558.029

Parameter summary

Trip rate parameter range selected: 100 - 300 (units: )  
 Survey date date range: 01/01/00 - 13/05/08  
 Number of weekdays (Monday-Friday): 16  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Optional parameters used in selection: NO  
 Surveys manually removed from selection: 0