Application for Residential Development at
Mitton Road, Whalley

Transport Assessment

July 2012

Where quality lives

David Wilson Homes

TRANSPORT ASSESSMENT

PROPOSED RESIDENTIAL DEVELOPMENT
MITTON ROAD
WHALLEY

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MAY 2012

Document Control

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1.0 INTRODUCTION

1.1 SCP has been instructed to investigate and report upon the anticipated highway and transport aspects of the proposal to provide a residential development on land in Whalley, Lancashire.

1.2 The development site is located on Mitton Road, to the west of Whalley village centre, as shown on the plan below.

SCP1 – Wider Site Location

1.3 The development proposals for the site include provision for up to 137 residential dwellings and open space including associated car parking. Access into the site will be taken from Mitton Road and will be appropriate to the scale of the proposed residential development.

1.4 Discussions have been undertaken with the Highways Officer, Martin Nugent at Lancashire County Council in relation to the scoping of the Transport Assessment (TA). It has been confirmed that the report should review the accessibility of the site in proximity to local facilities and employment opportunities through walking and cycling, as well as evaluating public transport on offer near to the Application Site. It has been requested that the TA takes into consideration the approved residential development at Calderstones Park for 46 dwellings (ref: 3/2011/0837) as well as the committed residential development off Hayhurst Road for 80 dwellings (ref: 3/2010/0820).

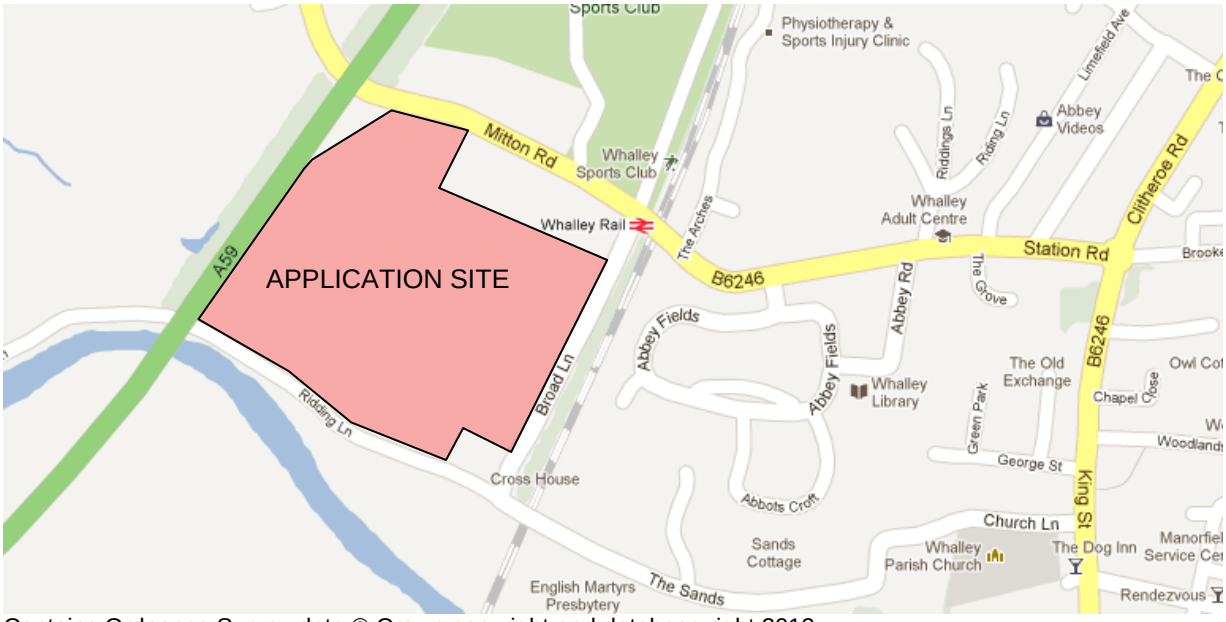
1.5 This report considers the traffic and transportation aspects of the proposed development in conjunction with the comments received from Lancashire County Council. The following sections of this report is sub-divided into the following:

- Section 2 sets out the existing context;
- Section 3 assesses the accessibility of the site;
- Section 4 provides details of the proposed development;
- Section 5 assesses the development related and its distribution on the highway network;
- Section 6 evaluates the impact on the highway network; and
- Section 7 provides our summary and conclusions.

2.0 EXISTING SITE CONTEXT

2.1 The Application Site is located in the village of Whalley, between Blackburn and Clitheroe, on Mitton Road. Appendix 1 illustrates the Application site in the context of Whalley. The Application Site is located within a rural setting and is bounded by residential dwellings to the north, Broad Lane to the east, the A59 to the west and the Ridding Lane to the south. The Application Site boundary is outlined below.

SCP2 – Site Boundary



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2.2 The Application Site is located to the south west of Whalley railway station and Whalley sports Club. Whalley primary school is located to the east of the Application Site together with Whalley parish church and Whalley Abbey. Local facilities are found along King Street which is around a 10 minute walk to the east of the Application Site.

Local Highway Network

2.3 The Application Site has highway frontage onto Mitton Road, running in an east-west direction past the site, which is a classified 'B' road (the B6246) and onto Broad Lane. Broad Lane is a single carriageway road running in a north-south direction along the eastern edge of the development site. Ridding Lane is located to the south of the Application Site and is a public footpath, listed as FP20.

2.4 Mitton Road runs in an east-west direction past the site and is subject to a mandatory 30 mph speed limit and it is lit. Mitton Road passes under a railway bridge and is then renamed Station Road. The railway bridge is height limited to 12' 6'' and tall sided vehicles are required to pass through the tallest part of the arch and straddle the centre line of the carriageway.

2.5 To the east of the railway bridge, within 25m of the Abbey Road / Station Road priority junction is a zebra crossing across Station Road. To the north, this crossing provides access towards Lancashire County Council's Area East depot and to the south, the zebra crossing assists in providing a quick and convenient connection to Whalley library and primary school as well as access towards the village centre. The zebra crossing is also conveniently located for access to bus stops within 50m.

2.6 Station Road forms a mini roundabout junction with King Street / Clitheroe Road (B6246) in the east. King Street passes through the centre of the village where the local facilities are located and to the south King Street forms a mini roundabout junction with Accrington Road.

2.7 To the west of the site Mitton Road passes under the bridge for the A59 and bends to the north. The road then serves Calderstones Hospital, off Chestnut Drive, and a large residential development at Calderstones Park which is virtually complete.

2.8 A traffic survey was carried out on Tuesday 20th February 2012 on Mitton Road, outside of the proposed site access, to record flows passing the development site. The peak hours have been confirmed as 08:00 – 09:00 and 16:30 – 17:30.

2.9 Additional traffic surveys were carried out at the junctions of Mitton Road with Chestnut Drive and Mitton Road with Pendle Drive on Tuesday 6th March 2012 to ascertain the traffic flows to the north west of the Application Site.

2.10 The traffic data is attached at Appendix 2 and the assessed peak hour flows are illustrated at Appendices 3 (AM peak) and 4 (PM peak).

2.11 In addition, a speed survey was carried out on Wednesday 14th March 2012 along Mitton Road to establish the appropriate design speed for the proposed site access. The data is attached at Appendix 5. The calculated 85th percentile wet weather speeds are 46 kph (28.6 mph) in the AM peak and 47 kph in the PM peak (29.2 mph) westbound towards Calderstones Hospital and 52 kph (32.3 mph) in the AM and PM peaks eastbound towards Whalley village.

2.12 Details concerning the road safety record along Mitton Road between Nethertown Close and King Street have been obtained over a 5 year period up to 31st December 2011. The locations of recorded accidents are shown at Appendix 6.

2.13 As the data shows, only 3 minor accidents have occurred along Mitton Road in the last 5 years. Two accidents have happened due to driver error which resulted in one vehicle colliding into the rear of another vehicle whilst stationery and the third accident occurred due to a motorcyclist loosing traction whilst driving in extremely heavy rainfall.

3.0 ACCESSIBILITY APPRAISAL

3.1 In line with requirements from the DfT document entitled Guidance on Transport Assessment (GoTA), an assessment of the accessibility of the Application Site has been undertaken.

Pedestrian Access

3.2 Whalley is a relatively compact village, with a comfortable walking environment due to its topography and the lack of through traffic. The village centre, which offers a range of everyday facilities, is within 800m of the Application Site, equivalent to a 10 minute walk.

3.3 Ridding Lane, located to the south of the Application Site, is a Public Right of Way (FP20) and, continuing as The Sands / Church Lane, provides an east-west link between King Street and the Application Site. To the west of the A59, FP20 links onto other footpaths FP14, 16, 17, 18 and 19. The existing footpath network around the Application Site is illustrated at Appendix 7. There is a short section of footpath FP23 found to the north of Mitton Road that runs between the entrance to the train station and the entrance to Whalley Sports Club.

3.4 The DfT recommended Accession software has been used to establish the probable catchment area that can be reached in a 2km walk distance for the site, which is shown below at **SCP2**.

SCP2 – Walk Accessibility

3.5 As the plan above shows, the majority of the centre of Whalley is available within an 800m walk distance from the Application Site. Bus stops and Whalley train station can also be accessed within a 400m walk distance, or less than 5 minutes, which can be easily utilised by residents living at the site.

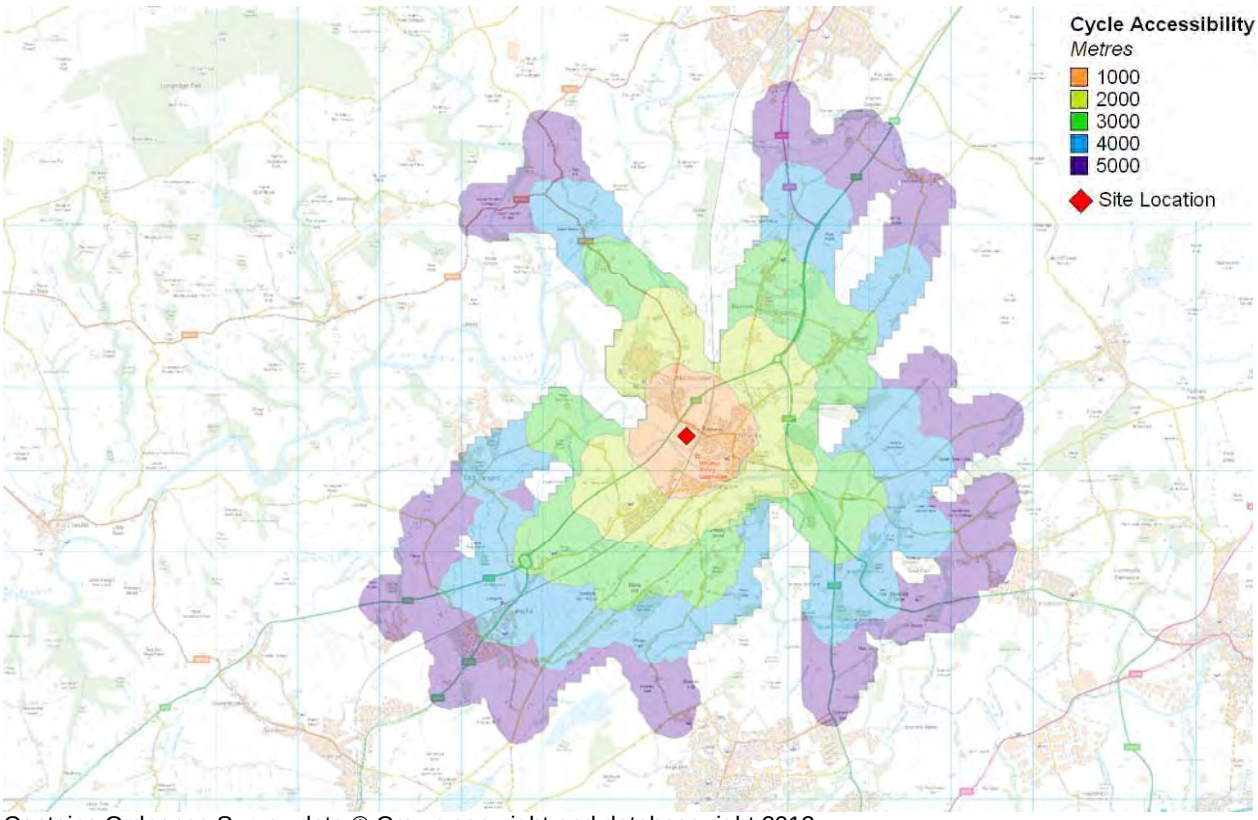
Cycle Access

3.6 Cycling within the local area is good for residents because Mitton Road and Clitheroe Road / King Street are designated as on-road cycle routes and are collectively known as Regional Route 90, which forms part of the National Cycle Network (NCN). Regional Route 90 forms part of the Lancashire Cycleway which is two circular routes (northern loop and southern loop) following minor roads and links together at Whalley.

3.7 Regional Route 90 assists with providing connections to other NCN designated routes within the area, notably linking to Regional Route 91 just to the south of Whalley in Billington. Further to this, a number of other local on-road cycle routes and traffic-free routes can be found in Whalley allowing for quick and easy connections into the village centre.

3.8 Accession software has been used to establish the area that can be reached within a 5km cycle distance, which is shown below at **SCP3**.

SCP3 – Cycle Accessibility



3.1 As the plan shows, the development site is within easy cycling distance of the whole of Whalley while Clitheroe and Great Haywood are slightly beyond 5km of the Application Site.

3.2 Overall, the cycle accessibility of the development provides a good opportunity for short trips to be made by cycle from the application site.

Public Transport - Bus

3.3 Appendix 8 illustrates an extract from the bus map for Whalley. Buses 5 and C25 pass along Mitton Road, each on a 2 hour frequency and collectively providing an hourly frequency. Bus stops are found within a 5 minute walk distance of the Application Site, next to Whalley railway station.

3.4 Other bus services are available at Whalley bus station, within a 10 minute walk of the Application Site. The bus station is located on King Street in the centre of the village and serves the following additional services: 225, 231, 241, 280 and X80. A summary of the bus services are highlighted below at Table 3.1.

Table 3.1 - Bus Route Summary

Number	Route Description	Maximum Frequency	
		Monday to Saturday	Sunday
5	Longridge – Ribchester – Hurst Green – Whalley - Clitheroe	Every 2 hours	No service
C25	Clitheroe – Whalley – Brockhall – Blackburn	Every 2 hours	No service
X80	Preston – Clitheroe – Gisburn – Skipton	Every 2 hours	Every 2 hours
225	Clitheroe – Whalley – Langho – Wilpshire – Blackburn	30 minutes	Hourly
231	Accrington – Whalley – Clitheroe	Every 2 hours	No service
241	Royal Blackburn Hospital – Accrington – Clitheroe	Every 2 hours	No service
280	Preston – Clitheroe – Gisburn – Barnoldswick – Skipton	Every 2 hours	No service

Source: Lancashire County Council

3.5 Each of the above services provide connections to Clitheroe, offering up to 5 buses per hour, while the 225 service offers 2 further buses per hour to Blackburn in addition to the C25 that passes the Application Site.

Public Transport – Train

3.6 The Application Site is located within 400m of Whalley train station which offers train services between Manchester Victoria (1 hour 10 minutes) and Clitheroe (13 minutes) with other stops including Bolton and Blackburn. There is one train in each direction per hour available.

3.7 The station is within a 5 minute walk from the Application Site and it is considered that the train offers a realistic option to use instead of the private car.

Local Facilities

3.8 An assessment of the area surrounding the Application Site indicates that there is a large range of facilities available within Whalley. The facilities are listed below:

- Spar shop – George Street
- Florist
- Ironmongers
- Post office
- Dentists
- Spa
- Sandwich shop
- Wine shop
- Takeaways – fish and chips, Chinese
- Barber
- Several Hairdressers
- Delicatessen
- Newsagent
- Several clothes shops including shoe shops
- Pharmacy
- Several opticians
- Bank (Barclays)
- Public Houses
- Butchers
- Health Centre
- Hospital
- Library
- Adult Learning Centre
- Whalley C of E Primary School
- The Sidings Business Park

3.9 It is considered that the Application Site is well served by buses and trains. Additionally, the existing pedestrian and cycle infrastructure provides well for walking and cycling trips to and from the site.

3.10 We have undertaken an assessment of the accessibility of the Application Site using the Lancashire County Council Accessibility Questionnaire, found in the 'Planning Obligations in Lancashire Policy' document. An accessibility score of 24 has been achieved which would place the Application site within a Medium Accessibility level. The questionnaire is attached at Appendix 9.

3.11 In summary, Whalley compares well with other large settlements in Ribble Valley such as Longridge and Clitheroe.

4.0 DEVELOPMENT PROPOSALS

4.1 The proposed development will provide 137 dwellings served from an access onto Mitton Road with associated car parking. The development proposals are shown on the masterplan at Appendix 10.

4.2 The site has been designed to maximise opportunities for future residents to walk and cycle with high quality routes permeating through the site. Links to the east, at the southern end of the site, provides connections to the primary school and village centre via The Sands, whilst links to the east at the northern edge of the site provides connections to Whalley train station, bus stops and the village centre along Mitton Road. The site also benefits from excellent links to the public footpath network for recreational use.

4.3 A new vehicular access will serve the development site, which will be provided from Mitton Road. The new access will have entry radii of 6m and a width of 5.5m along the length of the access road as well as 2m wide footways on either side. The design of the scheme will allow for refuse vehicles and emergency vehicles to safely access the development, which can be seen at Appendix 11.

4.4 A speed survey was undertaken along Mitton Road on Wednesday 14th March 2012 to determine the design speed of the access proposals. Details of the speed survey are enclosed at Appendix 5. The recorded 85th percentile wet weather speeds are 46 kph (28.6 mph) in the AM peak and 47 kph in the PM peak (29.2 mph) westbound towards Calderstones Hospital and 52 kph (32.3 mph) in the AM and PM peaks eastbound towards Whalley village. Based on this design speed, visibility splays of 2.4 x 45m will be required from the site access, which are achievable as demonstrated at Appendix 11.

4.5 The access scheme includes a ghost island right turning lane and includes a pedestrian island located to the east of the proposed access to allow pedestrians to cross Mitton Road. Mitton Road would be widened marginally to accommodate the ghost island right turning lane.

4.6 There will be no vehicle access on to Broad Lane or Ridding Lane. Pedestrian access will be available to Broad Lane and Ridding Lane. The proposals will provide new footpaths throughout the development which will link to existing routes located within the site boundary. Providing these links will be a benefit to residents because it will assist in providing an alternative route to the village centre, via The Sands, and primary school. Further to this, a play area will also be provided within the site for use by residents and the surrounding local community.

5.0 TRIP ASSESSMENT

5.1 The vehicular trips associated with the Application Site have been assessed to determine the potential impact on the local highway network.

Committed Developments

5.2 At the request of Lancashire County Council, several recently approved residential developments will be taken into consideration as part of the assessment for the site. To the north of the Application Site on Mitton Road is Calderstones Park, which has recently gained approval in February 2012 for 46 dwellings (ref: 3/2011/0837).

5.3 Furthermore, to the north-east of the Application Site is an approval for 80 dwellings on land off Hayhurst Road (ref: 3/2010/0820) which was submitted by Cooperative Estates. This site was originally refused planning permission in January 2011 but gained consent on appeal in September 2011.

Traffic Data

5.4 A traffic survey was undertaken on Mitton Road next to the proposed site access on 21st February 2012 to record current vehicle movements past the Application Site's access.

5.5 The local peak hours have been confirmed as 08:00 to 09:00 hours and 16:30 to 17:30 hours, as outlined at Appendices 3 and 4.

Proposed Trip Movements

5.6 The number of dwellings proposed at the site, totalling 137, has been used to generate predicted trip movements. Based on the examination of TRICS data at the public inquiry, the TRICS assessment for the Application Site use trip rates similar to the approved trip rates assessed in the report for Cooperative Estates. It should be noted that the TRICS data reflects the latest multi modal date set from TRICS2012 (a) v6.9.2

5.7 Table 5.1 summarises the resulting development traffic for 137 dwellings and the approved TRICS assessment is provided at Appendix 12.

Table 5.1 - Trip summary for 'privately owned houses'

Peak Hour	Trip Rates (per household)			Development Trips (137 households)		
	In	Out	Total	In	Out	Total
AM Peak (0800 - 0900)	0.163	0.417	0.580	22	58	80
PM Peak (1700 – 1800)	0.392	0.233	0.625	54	32	86

5.8 It can be seen that the development proposals are likely to result in less than 1.5 vehicles per minute on average entering the highway network in the AM and PM peak hours, which would not create a detrimental impact on the surrounding network.

Trip Distribution

5.9 The trip distribution for the Application Site has been assessed based on the tidal flow of traffic along Mitton Road from the traffic survey excluding the traffic associated with Calderstone's Hospital. The development traffic has been assigned to these routes as follows:

- AM Peak: Mitton Road (eastbound): 74%
- AM Peak: Mitton Road (westbound): 26%
- PM Peak: Mitton Road (eastbound): 71%
- PM Peak: Mitton Road (westbound): 29%

5.10 As part of the Cooperative Estates report for 80 dwellings, traffic surveys were undertaken at the Station Road / King Street / Clitheroe Road roundabout junction and Clitheroe Road / Wiswell Lane priority junction to determine trip distribution.

5.11 The assumed assigned development traffic for morning and evening peak hours is illustrated on the local highway network at Appendix 13.

5.12 The anticipated level of movement by foot, cycle and public transport has also been assessed from the TRICS data at Appendix 12. The peak hour trip rates per dwelling are summarised below at Table 5.2.

Table 5.2 – Multi-modal Trip Rates

Trip Rates (per household) for 137 dwellings	AM Peak			PM Peak		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Cyclists	0.006	0.017	0.023	0.015	0.010	0.025
Pedestrians	0.046	0.186	0.232	0.077	0.056	0.133
Public Transport Users	0.006	0.025	0.031	0.018	0.005	0.023

5.13 The anticipated numbers of pedestrian, cycle and public transport movements associated with the Application Site are detailed at Table 5.3 below.

Table 5.3 – Multi-modal Trip Summary

Trips (per household) for 137 dwellings	AM Peak			PM Peak		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Cyclists	1	2	3	2	1	3
Pedestrians	6	25	32	11	8	18
Public Transport Users	1	3	4	2	1	3

5.14 It is anticipated that the level of movement by foot, cycle and public transport is likely to be higher than projected from the TRICS data because of the proximity of the rail station, bus services and local facilities within the village centre

6.0 TRAFFIC ASSESSMENT

6.1 This chapter provides an assessment of the proposed site access junction onto Mitton Road together with the local road network.

Committed Developments

6.2 As discussed in Section 5, at the request of Lancashire County Council, several recently approved residential developments will be taken into consideration as part of the assessment for the site, which are Calderstones Park for 46 dwellings and 80 dwellings on land off Hayhurst Road by Cooperative Estates.

6.3 Traffic flows have been extracted from the TA supporting the Cooperative Estates development. Traffic flows for Calderstones Park were only available as a total and have therefore been assigned using the same distribution as set out in Chapter 5.

6.4 Both committed development traffic flows are shown at Appendix 14.

Traffic Growth

6.5 The survey flows for the Cooperative Estates was recorded in 2010 and have been factored to the expected year of completion, this being 2013. In line with GoTA, a future year assessment should be considered, usually equivalent to 5 years post-opening year. However, Lancashire County Council has requested that future growth figures should be evaluated for 10 years up until 2023.

6.6 The growth factors have been calculated using TEMPRO, which equates to 1.007 for the AM peak from 2012 to 2013 and 1.009 for the PM peak. These growth factors have been used to growth the Application Site traffic counts as well as Cooperative Estates surveyed flows (which have also been factored from 2010 to 2012 to represent accurate traffic movements).

6.7 For the 2023 traffic movements, the AM peak from 2013 to 2023 is 1.048 and the PM peak is 1.060.

Development Flows

6.8 The assigned development traffic flows, as set out in Section 5, have been added to the base flows for the assessment year of 2013 including committed development flows to produce development scenarios. Also, an assessment year of 2023 has been requested by Lancashire County Council.

6.9 The flows associated with 2013 and 2023 scenarios, including committed development, are enclosed at Appendix 15.

Junction Capacity Tests

6.10 The site access / Mitton Road junction has been assessed using the PICADY computer software which models priority junctions in order to establish the operation of the proposed junction.

6.11 A detailed output from the PICADY assessment for the development scenario of 2013 with development flows, including committed development flows, is provided at Appendix 16, while Table 6.1 provides a summary of results.

Table 6.1 – Site Access/Mitton Road junction capacity summary 2013

Approach	2013 AM Peak		2013 PM Peak	
	Max. RFC	Max. Queue	Max. RFC	Max. Queue
Left Turn Out	0.033	0.03	0.015	0.02
Right Turn Out	0.140	0.16	0.052	0.06
Right Turn In	0.012	0.01	0.024	0.02

Note: RFC = Ratio of Flow to Capacity

6.12 The predicted maximum RFC values, for the AM and PM peak periods, are below the 0.85 threshold typically accepted as being representative of a junction at practical capacity.

6.13 The results of the assessment for future year 2023 are summarised in Table 6.2 while full detailed outputs are provided at Appendix 17.

Table 6.2 – Site Access/Mitton Road junction capacity summary 2023

Approach	2023 AM Peak		2023 PM Peak	
	Max. RFC	Max. Queue	Max. RFC	Max. Queue
Left Turn Out	0.033	0.03	0.019	0.02
Right Turn Out	0.144	0.17	0.071	0.08
Right Turn In	0.012	0.01	0.031	0.03

Note: RFC = Ratio of Flow to Capacity

6.14 The site access / Mitton Road junction is therefore expected to operate satisfactorily with the proposed development in place.

6.15 The anticipated impacts of the application proposals would be anticipated to dissipate onto the local highway network as illustrated at Appendix 13. Table 6.3 below illustrates the impact in terms of two way movement at peak times on the local highway network.

Table 6.3 – Total Two-Way Movements of Site Traffic

	Total Two-Way	
	AM Peak	**PM Peak**
Mitton Road / Station Road (east of site access)	60	61
Mitton Road (west of site access)	21	25
Clitheroe Road	18	17
King Street	41	44
Accrington Road	14	25

6.16 At worst the application proposals would be anticipated to add around 1 vehicle per minute on average to Mitton Road / Station Road during the highway peak hours

6.17 On Clitheroe Road the application proposals would be anticipated to add 1 vehicle every 3 minutes on average during the highway peak hours

6.18 On King Street the application proposals would be anticipated to add around 0.75 vehicles per minute during the highway peak hours which equates to an increase of around 3.3%

6.19 The anticipated level of increase associated with the application proposals is below the normally experienced level of day to day variation in traffic flow on a day to day basis and would therefore be unlikely to have any material impact upon the local highway network.

7.0 CONCLUSIONS

7.1 The Application Site is located in an accessible location and is within an easy walk distances of bus services, the rail station and the village centre.

7.2 There is therefore a realistic opportunity for use of modes of transport other then the private car

7.3 The anticipated traffic impact has been assessed at the site access onto Mitton Road and on the local highway network. It is considered that the anticipated traffic generation can be safely accommodated onto the local highway network.

7.4 It is considered that there can be no overriding highways objection to the application proposals.

S|C|P

APPENDIX 1

SCP

Transportation Planning : Infrastructure Design

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Project Title	PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY
Drawing Title	APPLICATION SITE LOCATION
Scale	NTS
By	NS
Date	20.03.2012
Checked	
Approved/Unapproved	
Status	PLANNING

Rev	Description	Date	By
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Drawing No.	SCP12036/AP01
Revision	

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APPENDIX 2

Mitton Road Next to A59 bridge

	Westbound		Eastbound		
Time	**Car/Lgv**	**Hgv**	**Car/Lgv**	**Hgv**	**Hrly Tots**
7.30	37	1	83	0	
7.45	95	3	88	0	
8.00	99	4	118	1	
8.15	75	1	116	4	**725**
8.30	87	1	140	5	
8.45	122	0	114	1	
9.00	109	0	57	1	
9.15	57	0	56	2	**752**
Totals	**681**	**10**	**772**	**14**	**1477**
16.00	85	2	97	1	
16.15	81	1	88	2	
16.30	68	1	112	3	
16.45	99	1	61	0	**702**
17.00	88	0	94	1	
17.15	91	0	95	0	
17.30	88	0	85	0	
17.45	78	2	65	1	**688**
Totals	**678**	**7**	**697**	**8**	**1390**

Mitton Road/Pendle Drive

Mitton Road (s)

	Left		St/on		
Time	**Car/Lgv**	**Hgv**	**Car/Lgv**	**Hgv**	**Hrly Tots**
7.30	3	0	27	1	
7.45	1	0	47	0	
8.00	7	0	59	3	
8.15	3	0	45	1	**197**
8.30	6	0	37	0	
8.45	4	0	42	0	
9.00	3	1	35	3	
9.15	8	0	24	0	**163**
Total	**35**	**1**	**316**	**8**	**360**
16.00	10	0	37	1	
16.15	8	0	28	0	
16.30	13	0	36	2	
16.45	10	0	42	1	**188**
17.00	9	0	39	0	
17.15	11	0	49	0	
17.30	15	0	39	0	
17.45	4	0	46	0	**212**
Total	**80**	**0**	**316**	**4**	**400**

Pendle Drive

	Left		Right		
Time	**Car/Lgv**	**Hgv**	**Car/Lgv**	**Hgv**	**Hrly Tots**
7.30	3	0	6	0	
7.45	3	0	12	0	
8.00	6	0	12	0	
8.15	1	0	2	0	**45**
8.30	6	0	14	0	
8.45	8	0	10	0	
9.00	1	0	4	2	
9.15	1	0	7	0	**53**
Total	**29**	**0**	**67**	**2**	**98**
16.00	3	2	4	0	
16.15	2	1	7	0	
16.30	4	0	7	0	
16.45	2	0	6	0	**38**
17.00	2	0	6	0	
17.15	1	0	6	0	
17.30	1	0	8	0	
17.45	3	1	3	0	**31**
Total	**18**	**4**	**47**	**0**	**69**

Mitton Road/Pendle Drive

Mitton Road (n)

	St/on		Right		
Time	**Car/Lgv**	**Hgv**	**Car/Lgv**	**Hgv**	**Hrly Tots**
7.30	23	0	0	0	
7.45	39	1	2	0	
8.00	46	12	1	0	
8.15	54	2	5	3	**188**
8.30	68	1	0	0	
8.45	35	2	2	0	
9.00	30	2	1	1	
9.15	30	3	1	0	**176**
Total	**325**	**23**	**12**	**4**	**364**
16.00	36	2	2	0	
16.15	47	0	3	1	
16.30	43	1	3	0	
16.45	44	1	0	0	**183**
17.00	44	1	3	0	
17.15	42	0	6	0	
17.30	36	1	3	0	
17.45	40	0	2	0	**178**
Total	**332**	**6**	**22**	**1**	**361**

Mitton Road/Chestnut Drive

Mitton Road (s)

	Left		St/on		
Time	**Car/Lgv**	**Hgv**	**Car/Lgv**	**Hgv**	**Hrly Tots**
7.30	17	0	35	1	
7.45	39	0	67	1	
8.00	21	0	70	3	
8.15	38	0	49	1	**342**
8.30	53	0	48	0	
8.45	52	0	60	2	
9.00	33	0	51	1	
9.15	20	0	40	0	**360**
Total	**273**	**0**	**420**	**9**	**702**
16.00	0	0	72	2	
16.15	8	0	48	2	
16.30	4	0	66	1	
16.45	8	0	68	1	**280**
17.00	2	0	88	0	
17.15	4	0	73	0	
17.30	1	0	88	0	
17.45	3	0	89	1	**349**
Total	**30**	**0**	**592**	**7**	**629**

Chestnut Drive

	Left		Right		
Time	**Car/Lgv**	**Hgv**	**Car/Lgv**	**Hgv**	**Hrly Tots**
7.30	1	0	9	0	
7.45	0	0	4	0	
8.00	0	0	3	0	
8.15	2	0	3	0	**22**
8.30	1	0	1	0	
8.45	2	0	2	0	
9.00	2	0	2	0	
9.15	1	0	7	0	**18**
Total	**9**	**0**	**31**	**0**	**40**
16.00	2	0	12	0	
16.15	6	0	34	1	
16.30	5	0	44	0	
16.45	3	0	23	0	**130**
17.00	4	0	54	0	
17.15	6	0	30	0	
17.30	2	0	31	0	
17.45	1	0	7	0	**135**
Total	**29**	**0**	**235**	**1**	**265**

Mitton Road/Chestnut Drive

Mitton Road (n)

	St/on		Right		
Time	**Car/Lgv**	**Hgv**	**Car/Lgv**	**Hgv**	**Hrly Tots**
7.30	83	1	4	0	
7.45	87	0	2	0	
8.00	108	1	1	0	
8.15	99	6	0	0	**392**
8.30	128	1	10	0	
8.45	79	2	10	0	
9.00	52	3	1	0	
9.15	57	3	5	0	**351**
Total	**693**	**17**	**33**	**0**	**743**
16.00	46	3	0	0	
16.15	61	2	2	0	
16.30	59	1	2	0	
16.45	64	1	3	0	**244**
17.00	60	1	0	0	
17.15	63	0	2	0	
17.30	56	1	2	0	
17.45	60	0	1	0	**246**
Total	**469**	**9**	**12**	**0**	**490**

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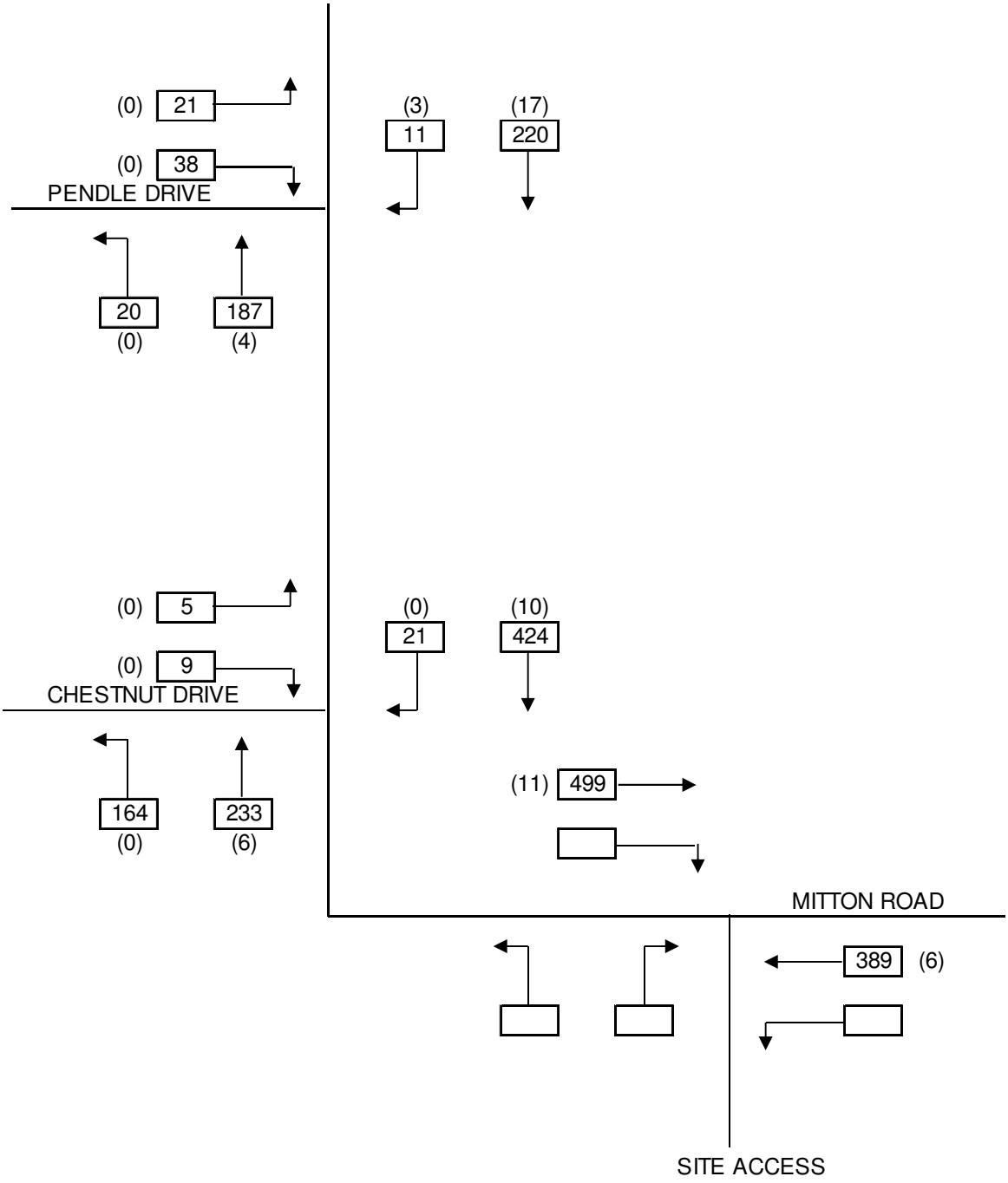
APPENDIX 3

AM PEAK

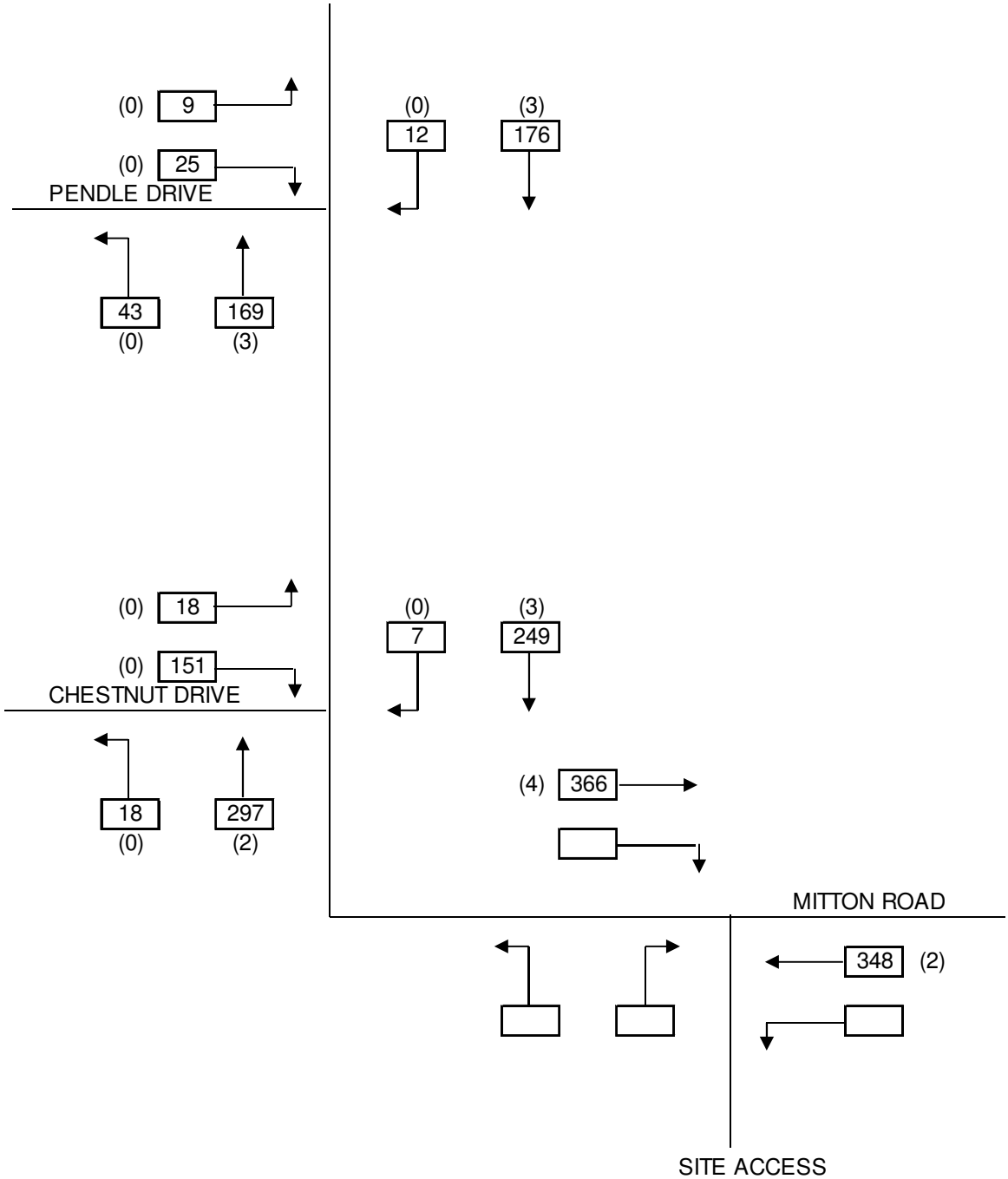


SCP Transportation Planning : Infrastructure Design www.scptransport.co.uk	Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: AM PEAK TRAFFIC FLOWS	Scale: NTS Date: 20.03.2012 Checked: NS	Drawing No.: SCP/12036/AP03 Revision:

S|C|P

APPENDIX 4

PM PEAK



SCP Transportation Planning : Infrastructure Design www.scptransport.co.uk	Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: PM PEAK TRAFFIC FLOWS	Scale: NTS Date: 20.03.2012 Checked: NS	Drawing No.: SCP/12036/AP04 Revision:

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APPENDIX 5

Mitton Road, Whalley
60 mtrs East of Proposed Access
Westbound AM

Sample	Speed	Sorted		Sample	Speed	Sorted	Sample	Speed	Sorted	Sample	Speed	Sorted
1	29	38		**26**	30	30	**51**	24	28	**76**	30	26
2	21	36		**27**	25	30	**52**	28	28	**77**	34	26
3	27	36		**28**	26	30	**53**	32	28	**78**	32	25
4	26	35		**29**	25	30	**54**	31	27	**79**	36	25
5	27	35		**30**	27	29	**55**	26	27	**80**	29	25
6	30	34		**31**	30	29	**56**	21	27	**81**	38	25
7	26	34		**32**	29	29	**57**	28	27	**82**	36	25
8	22	33		**33**	26	29	**58**	31	27	**83**	24	24
9	26	33		**34**	24	29	**59**	26	27	**84**	26	24
10	21	33		**35**	31	29	**60**	27	27	**85**	35	24
11	24	33		**36**	24	29	**61**	31	27	**86**	22	24
12	28	32		**37**	27	29	**62**	31	27	**87**	33	24
13	26	32		**38**	26	29	**63**	27	27	**88**	25	24
14	27	31		**39**	28	29	**64**	30	27	**89**	28	24
15	23	31	**85th %ile**	**40**	30	29	**65**	27	26	**90**	27	24
16	24	31		**41**	29	28	**66**	28	26	**91**	30	23
17	21	31		**42**	27	28	**67**	29	26	**92**	29	22
18	21	31		**43**	28	28	**68**	33	26	**93**	30	22
19	25	31		**44**	33	28	**69**	22	26	**94**	28	22
20	28	31		**45**	31	28	**70**	34	26	**95**	33	22
21	29	31		**46**	31	28	**71**	28	26	**96**	28	21
22	26	30		**47**	29	28	**72**	26	26	**97**	29	21
23	22	30		**48**	27	28	**73**	28	26	**98**	24	21
24	31	30		**49**	25	28	**74**	24	26	**99**	29	21
25	26	30		**50**	29	28	**75**	28	26	**100**	35	21

60 mtrs West of Proposed Access

Eastbound AM

Sample	Speed	Sorted		Sample	Speed	Sorted	Sample	Speed	Sorted	Sample	Speed	Sorted
1	34	42		**26**	33	33	**51**	36	31	**76**	27	29
2	32	39		**27**	29	33	**52**	35	31	**77**	33	29
3	33	38		**28**	30	33	**53**	28	31	**78**	31	29
4	36	36		**29**	29	33	**54**	31	31	**79**	31	29
5	28	36		**30**	27	33	**55**	33	31	**80**	29	29
6	29	36		**31**	27	32	**56**	30	31	**81**	30	28
7	32	36		**32**	32	32	**57**	22	30	**82**	32	28
8	28	36		**33**	31	32	**58**	30	30	**83**	27	28
9	31	36		**34**	30	32	**59**	30	30	**84**	31	28
10	28	36		**35**	33	32	**60**	33	30	**85**	26	28
11	34	35		**36**	28	32	**61**	28	30	**86**	33	28
12	30	35		**37**	31	32	**62**	28	30	**87**	29	28
13	30	35		**38**	30	32	**63**	32	30	**88**	31	28
14	36	35		**39**	28	32	**64**	35	30	**89**	28	28
15	35	35	**85th %ile**	**40**	32	32	**65**	31	30	**90**	39	27
16	42	34		**41**	30	32	**66**	32	30	**91**	36	27
17	27	34		**42**	26	31	**67**	29	30	**92**	30	27
18	27	33		**43**	31	31	**68**	32	30	**93**	33	27
19	30	33		**44**	33	31	**69**	33	30	**94**	32	27
20	31	33		**45**	33	31	**70**	31	30	**95**	31	27
21	29	33		**46**	32	31	**71**	38	30	**96**	35	27
22	32	33		**47**	31	31	**72**	30	29	**97**	36	26
23	30	33		**48**	36	31	**73**	36	29	**98**	31	26
24	33	33		**49**	29	31	**74**	29	29	**99**	30	25
25	35	33		**50**	25	31	**75**	27	29	**100**	33	22

Mitton Road, Whalley
60 mtrs East of Proposed Access
Westbound PM

Sample	Speed	Sorted		Sample	Speed	Sorted	Sample	Speed	Sorted	Sample	Speed	Sorted
1	24	40		**26**	27	30	**51**	28	28	**76**	24	26
2	30	39		**27**	25	30	**52**	26	28	**77**	30	26
3	29	37		**28**	24	30	**53**	28	28	**78**	32	26
4	36	36		**29**	28	30	**54**	31	28	**79**	29	26
5	30	35		**30**	32	30	**55**	25	28	**80**	23	26
6	34	34		**31**	26	30	**56**	27	28	**81**	27	26
7	30	34		**32**	30	30	**57**	29	28	**82**	26	26
8	27	34		**33**	28	30	**58**	27	27	**83**	28	26
9	30	33		**34**	26	30	**59**	30	27	**84**	27	25
10	29	33		**35**	27	29	**60**	32	27	**85**	24	25
11	26	33		**36**	25	29	**61**	30	27	**86**	37	25
12	27	33		**37**	25	29	**62**	30	27	**87**	29	25
13	34	32		**38**	26	29	**63**	40	27	**88**	33	25
14	30	32		**39**	22	29	**64**	25	27	**89**	24	25
15	32	32	**85th %ile**	**40**	24	29	**65**	27	27	**90**	27	25
16	31	32		**41**	27	29	**66**	35	27	**91**	26	24
17	29	32		**42**	27	29	**67**	29	27	**92**	28	24
18	28	32		**43**	25	29	**68**	28	27	**93**	26	24
19	26	31		**44**	26	29	**69**	26	27	**94**	25	24
20	33	31		**45**	27	28	**70**	33	27	**95**	24	24
21	29	30		**46**	28	28	**71**	32	27	**96**	33	24
22	28	30		**47**	24	28	**72**	39	26	**97**	27	24
23	28	30		**48**	26	28	**73**	30	26	**98**	28	24
24	30	30		**49**	28	28	**74**	30	26	**99**	32	23
25	29	30		**50**	30	28	**75**	29	26	**100**	34	22

60 mtrs West of Proposed Access

Eastbound PM

Sample	Speed	Sorted		Sample	Speed	Sorted	Sample	Speed	Sorted	Sample	Speed	Sorted
1	31	40		**26**	31	33	**51**	31	31	**76**	33	29
2	33	38		**27**	34	33	**52**	27	31	**77**	31	29
3	38	38		**28**	34	33	**53**	36	30	**78**	29	29
4	27	37		**29**	30	33	**54**	33	30	**79**	25	28
5	32	37		**30**	30	33	**55**	28	30	**80**	26	28
6	28	37		**31**	33	32	**56**	30	30	**81**	30	28
7	29	37		**32**	32	32	**57**	34	30	**82**	35	28
8	35	36		**33**	30	32	**58**	32	30	**83**	29	28
9	26	36		**34**	27	32	**59**	30	30	**84**	26	28
10	36	36		**35**	34	32	**60**	32	30	**85**	40	28
11	27	36		**36**	30	32	**61**	31	30	**86**	32	27
12	31	36		**37**	37	32	**62**	32	30	**87**	29	27
13	30	35		**38**	34	32	**63**	30	30	**88**	29	27
14	32	35		**39**	30	32	**64**	31	30	**89**	30	27
15	34	35	**85th %ile**	**40**	35	32	**65**	25	30	**90**	34	27
16	27	35		**41**	28	32	**66**	32	30	**91**	26	27
17	25	35		**42**	37	32	**67**	31	30	**92**	37	27
18	35	34		**43**	36	32	**68**	25	30	**93**	33	26
19	32	34		**44**	29	31	**69**	36	30	**94**	36	26
20	30	34		**45**	32	31	**70**	28	29	**95**	37	26
21	35	34		**46**	30	31	**71**	28	29	**96**	32	26
22	38	34		**47**	28	31	**72**	28	29	**97**	32	25
23	29	34		**48**	27	31	**73**	32	29	**98**	34	25
24	30	34		**49**	30	31	**74**	30	29	**99**	31	25
25	29	34		**50**	30	31	**75**	29	29	**100**	27	25

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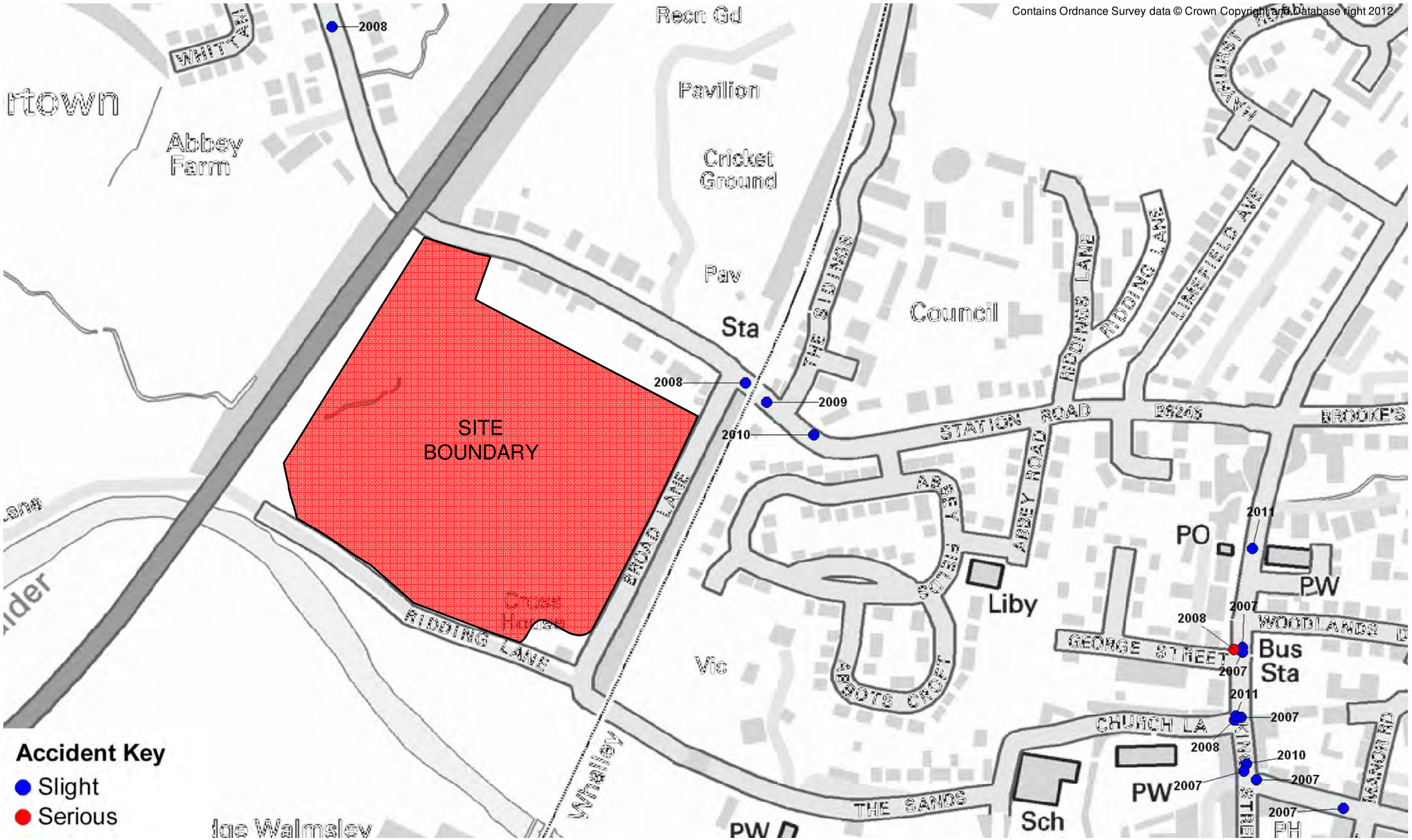
APPENDIX 6



S|C|P Transportation Planning : Infrastructure Design www.scptransport.co.uk	Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: ACCIDENT DATA	Scale: NTS	By: NS	Rev	Description	Date	By	Drawing No.: SCP12036/AP06
			Date: 20.03.2012	Checked	-	-	-	-	
			Approved/Unapproved	Status: PLANNING	-	-	-	-	Revision
					-	-	-	-	
					-	-	-	-	

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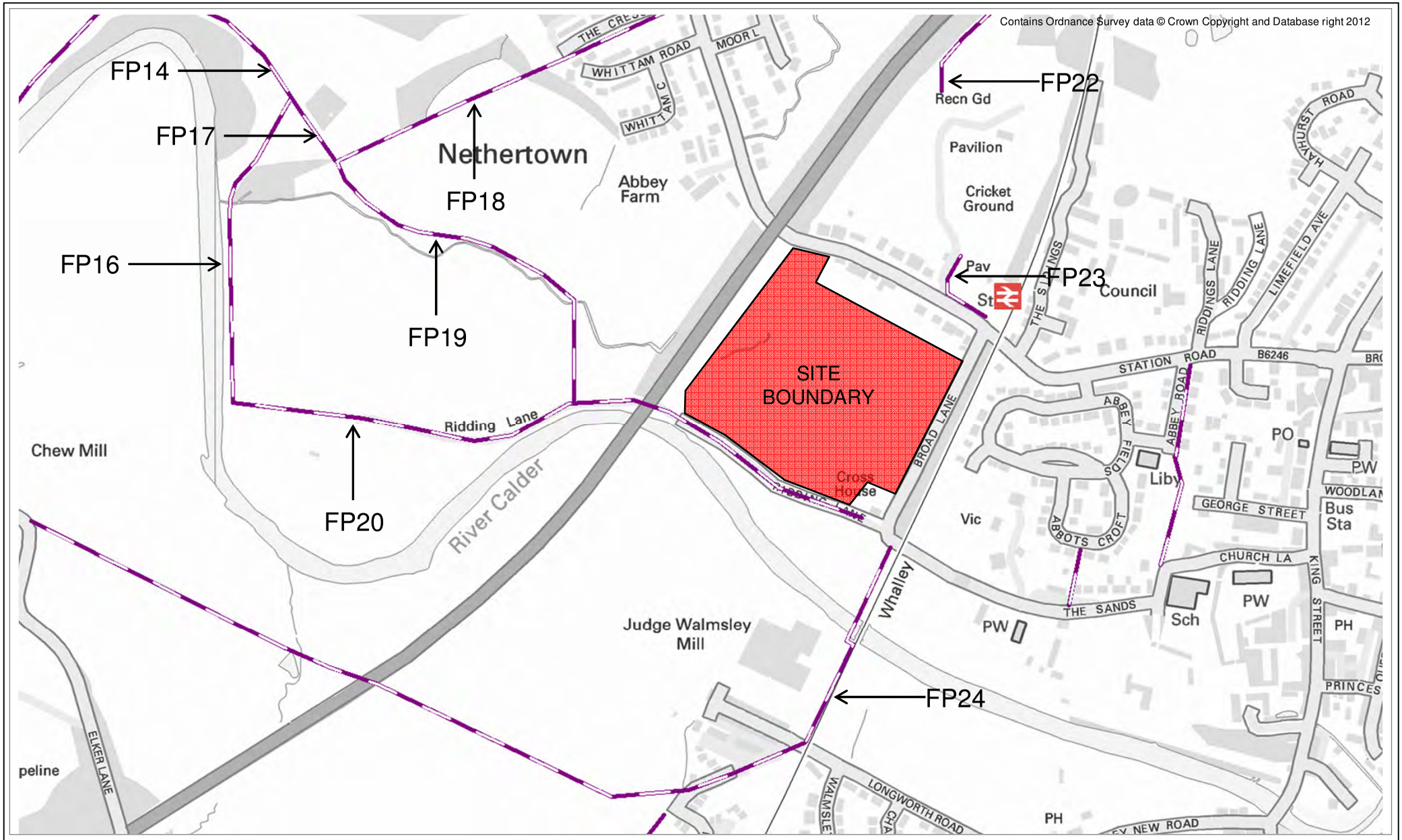
APPENDIX 7



S|C|P Transportation Planning : Infrastructure Design www.scptransport.co.uk	Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: PUBLIC RIGHTS OF WAY LOCATED NEAR APPLICATION SITE	Scale: NTS	By: NS	Rev	Description	Date	By	Drawing No.: SCP12036/AP07
			Date: 21.03.2012	Checked	-	-	-	-	
			Approved/Unapproved	Status: PLANNING	-	-	-	-	Revision
					-	-	-	-	
					-	-	-	-	

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APPENDIX 8

November 2010

MAP 3

bus map & guide

Your Guide to Services throughout

Clitheroe, Whalley & Longridge

YOUR BUS

Why not give it a try - you might love it!

traveline public transport info
www.traveline.info
0871 200 22 33
Calls cost 10p per minute plus network extras
open 8am to 8pm • 7 days a week

Lancashire County Council

YOUR BUS

Why not give it a try - you might love it!

FURTHER INFORMATION

This map has been produced by Lancashire County Council. It details all local bus services in the area and is accurate at the time of publication. However, changes to bus services do occur, therefore Lancashire County Council cannot accept responsibility for any inaccuracies and would recommend you contact Traveline or your local Information Centre for the latest information before travelling.

For further information about bus services in the area please call into your local Information Centre.

ACCRINGTON LIBRARY & INFORMATION SERVICE St James Street	**LANCASTER** Stagecoach Travel Shop	**SKELMERSDALE LIBRARY & INFORMATION SERVICE** Southway
BURNLEY Bus Station	**LEYLAND LIBRARY & INFORMATION SERVICE** Lancastergate	For details about bus services in Blackburn please contact: **BLACKBURN with DARWEN BOROUGH COUNCIL** 50-54 Church Street
BURSCOUGH BRIDGE INTERCHANGE Liverpool Road	**MORECAMBE** Tourist Information Centre, Station Buildings, Marine Road	
CARNFORTH CONNECT Carnforth Station	**NELSON INTERCHANGE** Railway Street	
CHORLEY INTERCHANGE Clifford Street	**ORMSKIRK** Bus Station, 45 Moor St	For details about bus services in Blackpool please contact: **BLACKPOOL TRANSPORT TRAVEL OFFICES** Market Street, Blackpool and Rigby Road, Blackpool
CLITHEROE INTERCHANGE Railway View Road	**PRESTON** Bus Station	
FLEETWOOD LIBRARY & INFORMATION SERVICE North Albert Street	**RAWTENSTALL LIBRARY & INFORMATION SERVICE** Queen's Square, Haslingden Road	

For details of all other services in the area please contact

traveline public transport info
www.traveline.info
0871 200 22 33
Calls cost 10p per minute plus network extras
open 8am to 8pm • 7 days a week

or visit www.transportforlancashire.com

Lancashire County Council
Environment Directorate, PO Box 100
County Hall, Preston PR1 0LD

Ref: 02/10 3,000

index to routes

Service	Route	Operator	Leaflet
1	Longridge - Grimsargh - Preston	STG ■	222
3/3A	Longridge - Ribchester - Wilpshire - Blackburn - Royal Blackburn Hospital	SST ■	103
4	Chipping - Longridge - Whittingham - Royal Preston Hospital - Preston	STG ■	103
5	Longridge - Ribchester - Hurst Green - Whalley - Clitheroe	STG ■	101/103
MAINLINE	Clitheroe - Whalley - Sabden - Padiham - Burnley - Nelson - Colne - Barnoldswick	BPT	100
70/71	**Pendle Witch Hopper** *(Summer Sundays)* Burnley - Padiham - Sabden - Clitheroe - Waddington - West Bradford - Chatburn - Downham - Barley - Blacko - Nelson - Burnley	TYR ■	106
225	Clitheroe - Whalley - Langho - Wilpshire - Blackburn - Darwen - Bolton	LUL	110
231	Clitheroe - Whalley - Gt. Harwood - Accrington	MMC/PIL LUL ■	105
241	Clitheroe - Whalley - Gt. Harwood - Accrington - Oswaldtwistle - Royal Blackburn Hospital	PIL/ LUL ■	105
280/ X80	Preston - Mellor Brook - Whalley - Clitheroe - Gisburn - Barnoldswick *(Service 280 only)* - Skipton	LUL ■	109
B1	**Bowland Transit:** Slaidburn - Tosside - Settle	LRB ■	104
B10 B11	**Bowland Transit:** Clitheroe - Dunsop Bridge - Newton Slaidburn Circular	TYR ■	104
B12	**Bowland Transit:** Clitheroe - Chaigley - Chipping - Garstang *(Summer - Thursdays only)*	TFA	104
C1	Low Moor - Clitheroe - Peel Park	LUL/STG ■	101
C2	Low Moor - Clitheroe - Chatburn - Sawley - Grindleton	TYR ■	101
C4	Clitheroe - Peel Park Circular	TYR ■	101
C5/C15	Clitheroe - Waddington - West Bradford - Clitheroe	TYR ■	101
C25	Clitheroe - Roefield Leisure Centre - Calderstones Park - Whalley - Brockhall - Dinckley - Salesbury - Wilpshire - Blackburn	STG ■	101
P70 P71	**Pendle Witch Hopper** Clitheroe - Chatburn - Downham - Barley - Roughlee - Nelson	TYR ■	106
X40	Whalley - Gt. Harwood - Accrington - Manchester *(certain journeys only)*	LUL	102

■ Services are operated on behalf of Lancashire County Council

Bus Operators

BPT – Transdev Burnley & Pendle. Queensgate Bus Depot, Colne Road, Burnley BB10 1HH ☎ 0845 60 40 110

LRB – Little Red Bus, Unit 4 Saltergate Business Park Burley Bank Road, Killinghall, Harrogate HG3 2BX ☎ (01423) 724554

LUL – Transdev Lancashire United, Ainsworth Street, Blackburn BB1 6AD ☎ 0845 2 72 72 72

MMC – M&M Coaches, 11 Craven Street, Accrington, BB5 0SE ☎ (01254) 396901

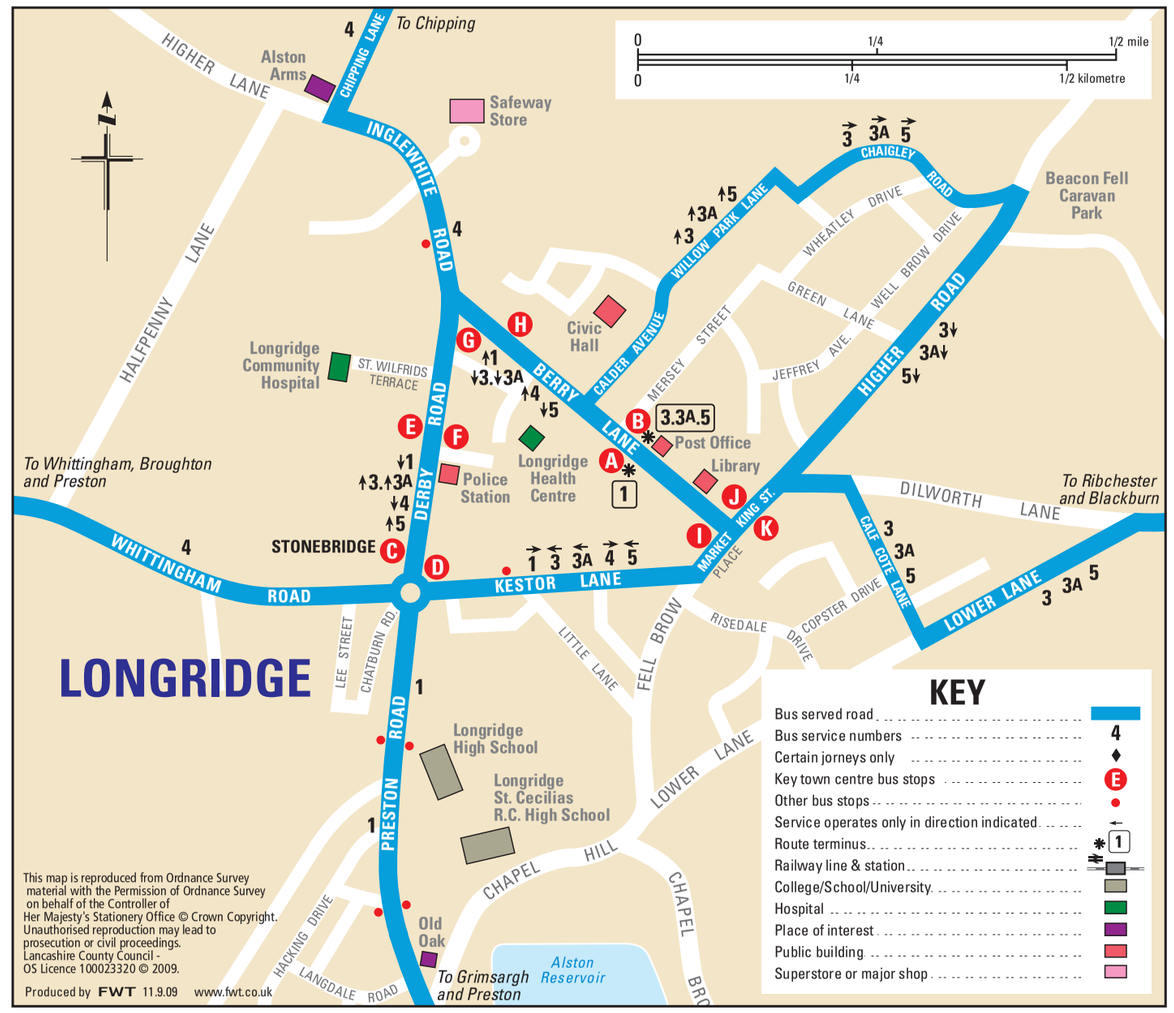
PIL – Pilkington Bus. 135, Blackburn Road, Accrington, BB5 0AA ☎ (01254) 237032

SST – SS Travel Services Ltd, 17-19, Dean Street, Darwen BB3 1HH ☎ (01254) 707594

STG – Stagecoach in Lancashire, 16-20 Lowther Street, Carlisle CA3 8DA ☎ (01772) 884484

TYR – Tyrer Bus Ltd, 16 Kirby Road, Lomeshaye Industrial Estate, Nelson BB9 6RS ☎ 08451 301716

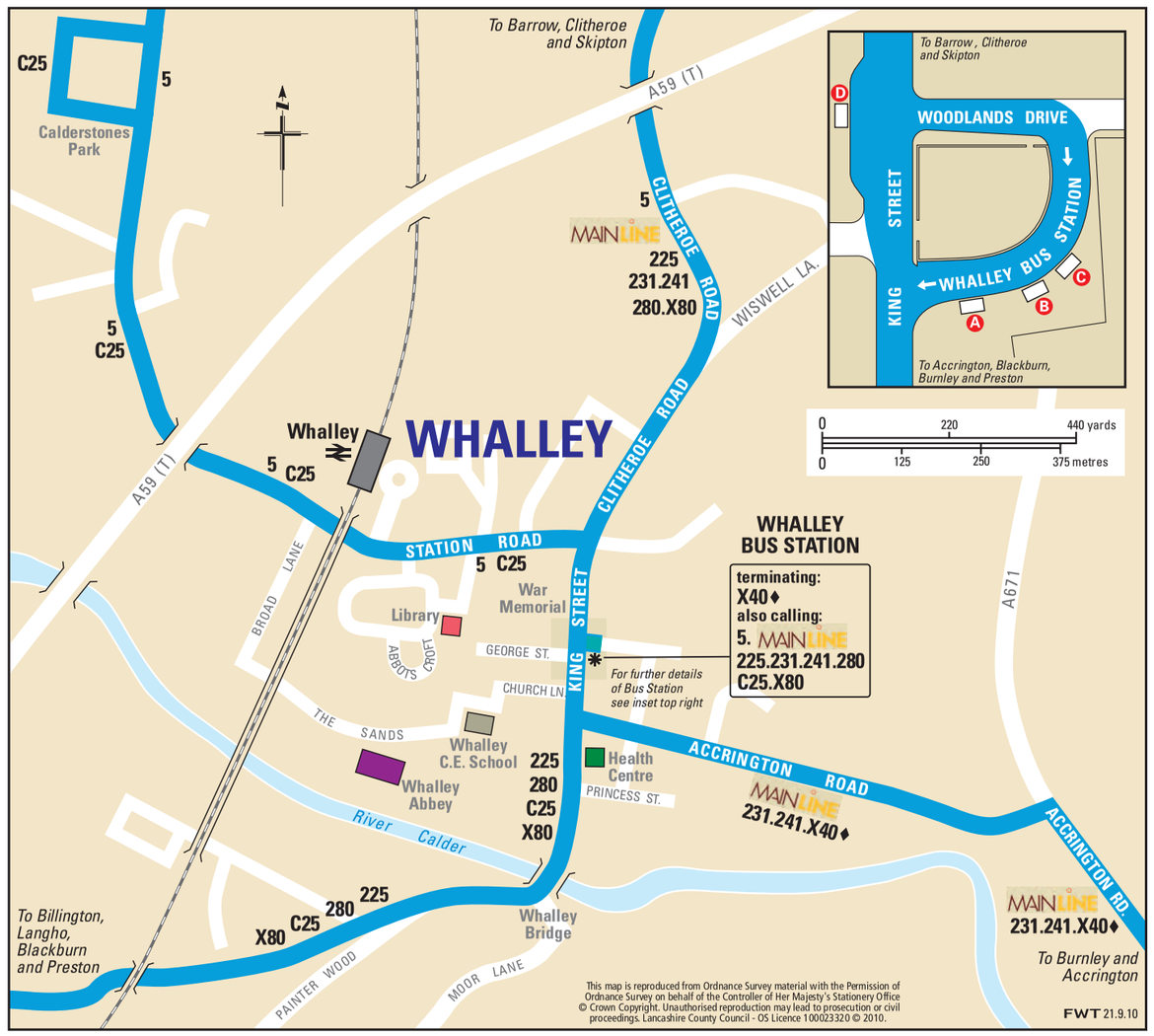
boarding your bus in longridge town centre



	Destination	Services	TC Stops
B	Blackburn	3, 3A	B, C, E, H, J
	Broughton	4	A, D, F, G, I
C	Chipping	4	A, I
	Clitheroe	5	B, C, E, H, J
G	Goosnargh	4	A, D, F, G, I
	Grimsargh	1	A, D, F, G, I
H	Hurst Green	5	B, C, E, H, J
K	Knowle Green	5	B, C, E, H, J
P	Preston	1	A, D, F, G, I
		4	A, D, F, G, I
R	Ribbleton	1	A, D, F, G, I
	Ribchester	3, 3A	B, C, E, H, J
		5	B, C, E, H, J
	Royal Blackburn Hospital	3, 3A	B, C, E, H, J
	Royal Preston Hospital	4	A, D, F, G, I
S	Salesbury	3, 3A	B, C, E, H, J
T	Thornley	4	A, I
W	Whalley	5	B, C, E, H, J
	Whittingham	4	A, D, F, G, I
	Wilpshire	3, 3A	B, C, E, H, J

YOUR BUS

boarding your bus in whalley town centre



	Destination	Services	TC Stops
A	Accrington	231, 241, X40	B
B	Barnoldswick	MAINLINE	C
		280	D
	Billington	225, 280, C25, X80	A
	Blackburn	225, C25	A
	Blackburn Royal Hospital	241	B
	Bolton	225	A
	Brockhall Village	C25	A
	Burnley	MAINLINE	C
C	Calderstones Park	C25	D
	Chatburn	280, X80	D
	Clayton-le-Dale	280, X80	A
		C25	A
	Clayton-le-Moors	231, 241, X40	B
	Clitheroe	5	C, D
		225, 231, 241, 280, C25, X80 MAINLINE	D
	Clitheroe Hospital	280, X80	D
	Colne	MAINLINE	C
D	Darwen	225	A
	Dinckley	C25	A
G	Gisburn	280, X80	D
	Gt. Harwood	221, 241, X40	B
H	Hurst Green	5	A, D
K	Knowle Green	5	A, D
L	Langho	225, 280, X80	A
	Longridge	5	A, D
	Low Moor	C25	D
M	Manchester	X40	B
	Mellor Brook	280, X80	A
	Mitton	5	C, D
		C25	D
N	Nelson	MAINLINE	C
P	Padiham	MAINLINE	C
	Preston	280, X80	A
R	Read	MAINLINE	C
	Ribchester	5	A, D
	Roefield Leisure Centre	C25	D
S	Simonstone	MAINLINE	C
	Skipton	280, X80	D
W	Wilpshire	225	A

S|C|P

APPENDIX 9

Accessibility questionnaire – residential development				
Application reference: ***Site description:*** *Proposed Residential Development, Mitton Road, Whalley for 150 dwellings*				
Access type	**Criteria**	**Criteria scores**		**Sub-score**
Walking distance from the centre of the site to facilities using a safe, direct route	Distance to nearest bus stop	<200m <400m <500m >500m	5 **3** 1 0	3
	Distance to nearest railway station	<400m <800m >800m	**3** 2 1	3
	Distance to nearest primary school	<200m <400m <600m >600m	5 3 1 **0**	0
	Distance to nearest food shop	<200m <400m <600m >600m	5 3 1 **0**	0
Cycling distance from the centre of the site	Distance to defined on- or off-road cycle route	<100m <500m <1km	3 **2** 1	2
	Distance to the nearest secondary school	<400m <600m <1km >1km	3 2 1 **0**	0
	Distance to the nearest town centre	<1km <3km <4km	**3** 2 1	3
	Distance to the nearest business park or employment concentration	<1km <3km <4km	**3** 2 1	3
Public transport	Bus frequency from the nearest bus stop (Monday to Saturday daytime)	**Urban/Suburban** 15 minutes or less 30 minutes or less >30 minutes ***Rural Areas including Villages*** Hourly or less 2-hourly or less 1 or more a day	 5 3 1 5 **3** 1	3
	Train frequency from nearest station (Mon-Sat daytime)	30 minutes or less 30 to 59 minutes Hourly	3 2 **1**	1
Other	Access to other basic services (GP, post office, library, bank and pub)	At least 3 within 400m At least 3 within 800m At least 3 within 1.5km	5 3 **1**	1
	Access to a play area or park	<200m <400m <600m	**5** 3 1	5
Total				**24**

Accessibility level

High: 35-48 **Medium:** 20-35 **Low:** less than 20

S|C|P

APPENDIX 10

N

0 5 10 15 25 50m

To Netherton

For details of junction arrangement see engineers drawing

Mitton Road

Existing Houses

A59

Existing heavily planted area alongside A59

Feature to be agreed

Balancing Facility to be agreed

Existing Gardens

Existing Houses

Emergency Access route

39-48 & 137 Bungalows

To Town Centre

Existing heavily planted area alongside A59

Footpath Route along River

Line of flood plain

LEAP

Ridding Lane

Sheltered Bungalows

93-102

Broad Lane

Whalley Viaduct

River Calder

Cross House

Decorative arches through viaduct form Focal Feature of Scheme

To Whalley Abbey, Town Centre and Conservation area on other side of viaduct

WHALLEY - House Mix
Sketch Scheme 2nd May 2012

HOUSE MIX
Private

House Type	No.	Sq. Ft.	Total
Vruby - EL	3	1252	3756
Vruby - ER	3	1189	3567
Vruby - I	6	1252	7512
B (Bungalow)	9	448	4032
B Corner (Bungalow)	2	538	1076
WARDEN OFFICE x 1	0	1432	1432
206	8	678	5424
35	1	1040	1040
231	8	704	5632
306	4	1006	4024
331	4	1024	4096
382	9	837	7533
421	3	1771	5313
431	6	1260	7560
436	3	1591	4773
452	1	1240	1240
455	10	1390	13900
469	4	1494	5976
497	1	1703	1703
500	3	1787	5361
533	2	2529	5058
536	3	2217	6651
577	3	1972	5916
Total	**96**		112575
Affordable			
SH27	16	731	11696
SH35	4	1040	4160
SH38	9	1019	9171
Walsham	2	732	1464
B (Bungalow)	8	448	3584
B Corner (Bungalow)	2	538	1076
WARDEN OFFICE x 1	0	1432	1432
Total	**41**		32583
Total No.	**137**		**145,158**

TOTAL NO. OF UNITS 137 dwellings
TOTAL AFFORDABLE (30%) 41 dwellings

TOTAL SQ. FT. 145,158
GROSS SITE AREA (t.b.c) ~ 15.15 acres
PUBLIC OPEN SPACES (t.b.c) ~ 5.84 acres
NETT DEVELOPABLE AREA (t.b.c) ~ 9.31 acres

SCHEME DENSITY ~ 14.7 dwellings / acre
SCHEME COVERAGE ~ 15,592 sq.ft / acre

Legend

Red line boundary

The Courtyard

Other shared surface squares

Lane - shared surface

Affordable units (various tenures)

Existing Trees retained (shown with tree protection zones)

Line of flood plain

Balancing facility

Amendments

Urban Design
Barratt Developments plc
Forest Business Park
Cartwright Way
Bardon Hill
Leicestershire
LE67 1UB
telephone 01530 276276

Project
land off Mitton Road
Whalley

Drawing Title
Planning Layout (presentation)

Scale *
1:500 @ A0

Date
23-05-2012

Drawn
PJL/SW

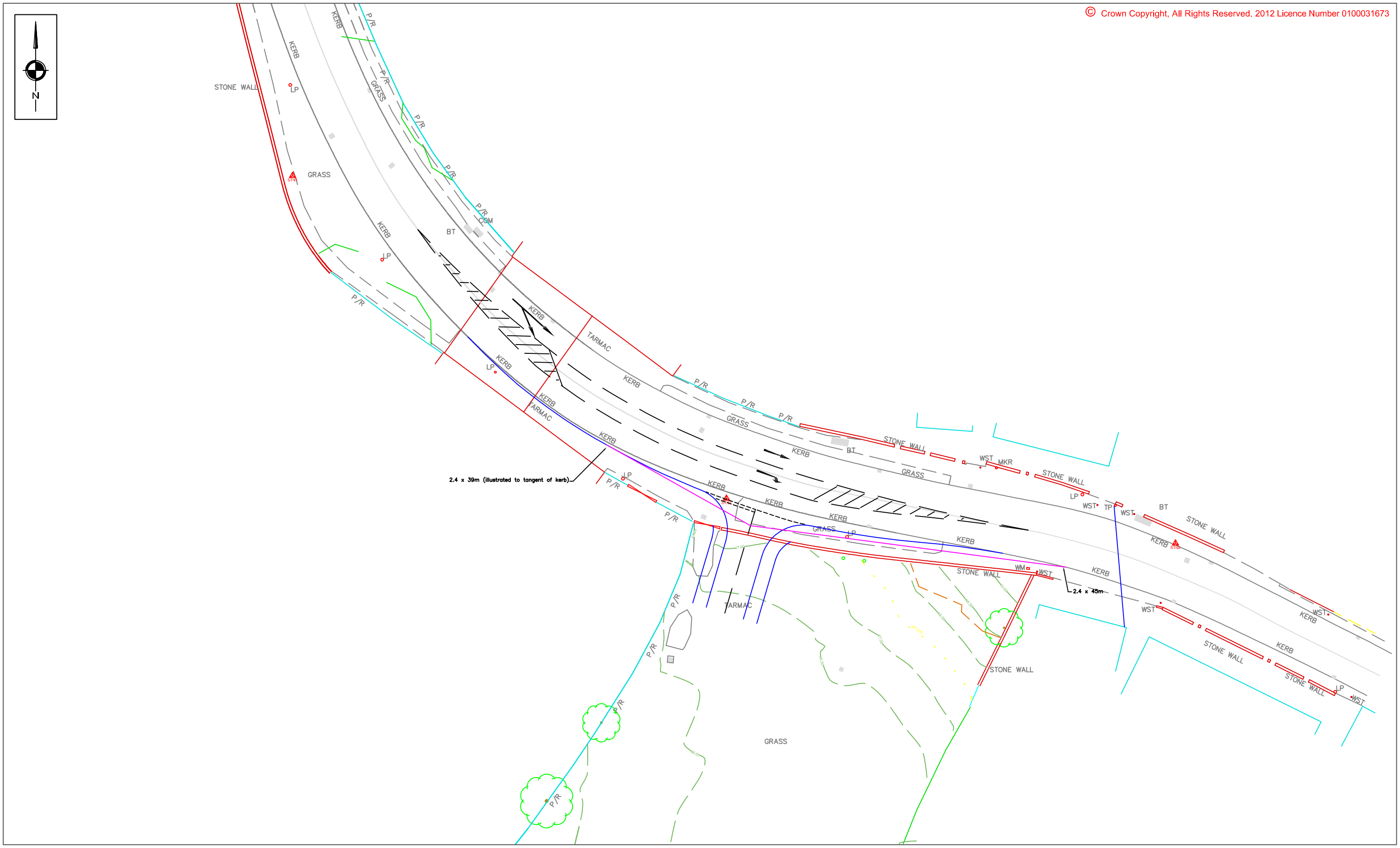
Drawing Ref
NW-09-06

David Wilson Homes
BARRATT HOMES

* When printing to scale, please ensure that your printer settings are set to 'Page Sizing = None'. Do not allow any 'fit to page' settings as this will alter the scale of the drawing. You can use the scale bar or grid to check the printed drawing.

S|C|P

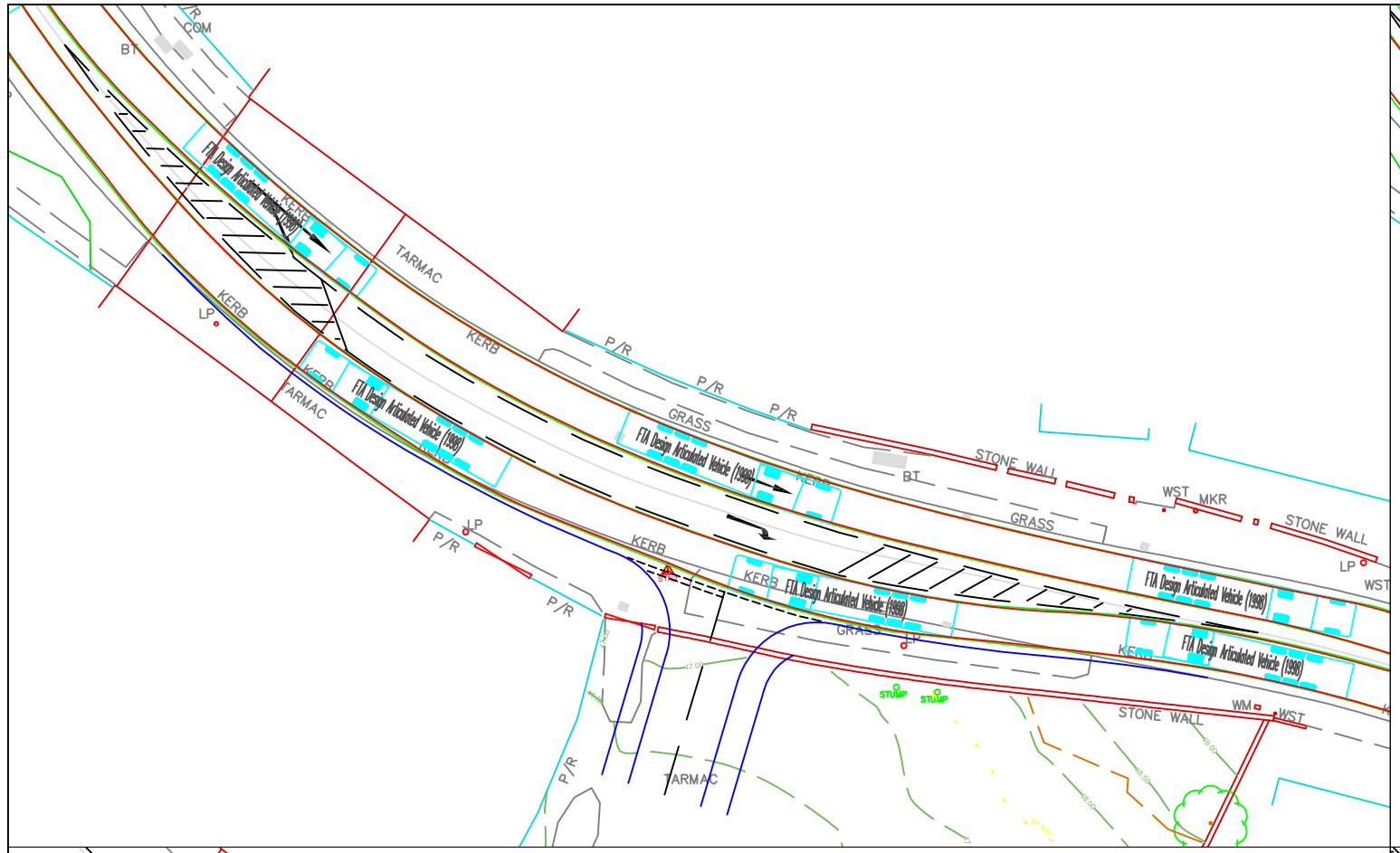
APPENDIX 11

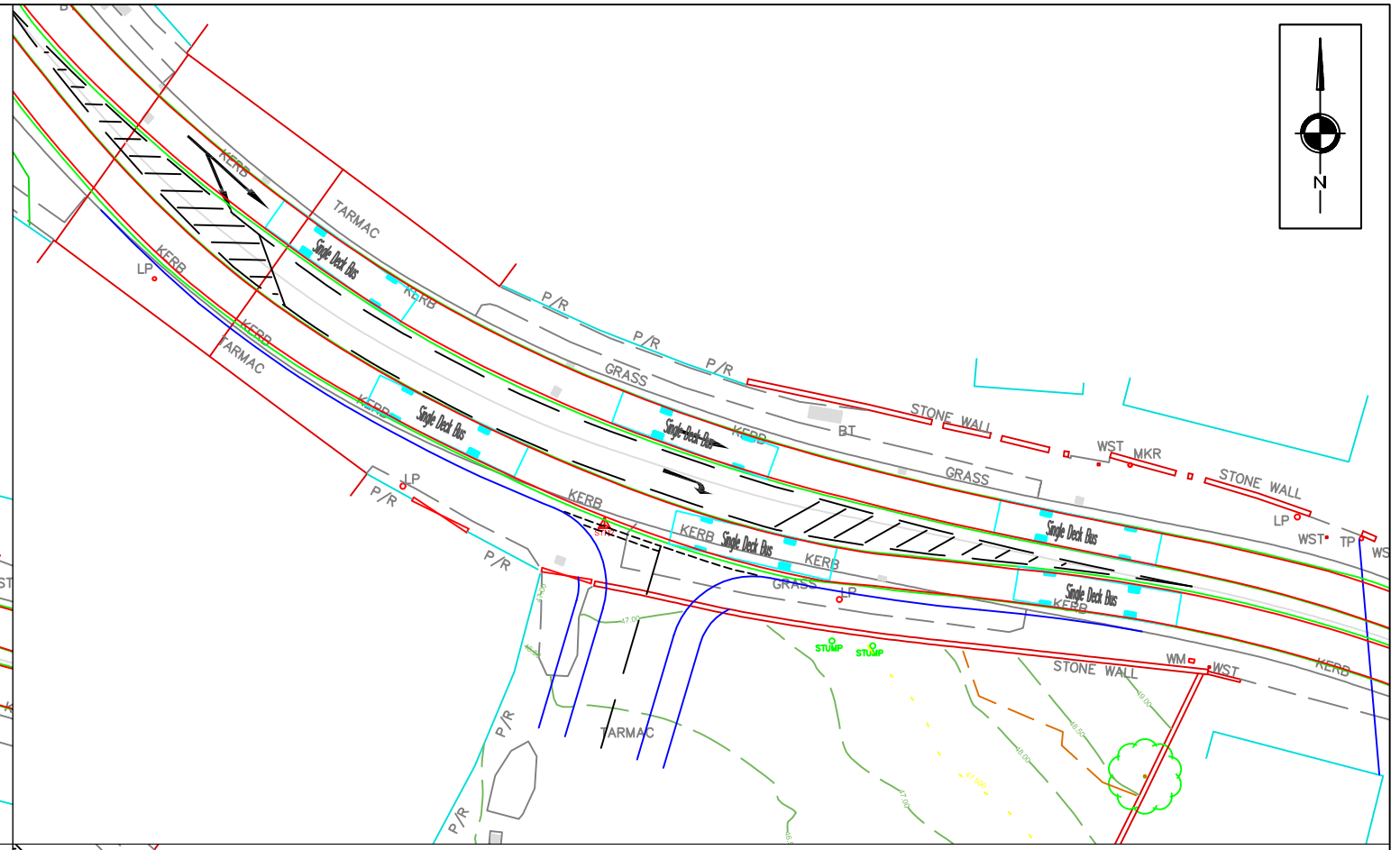


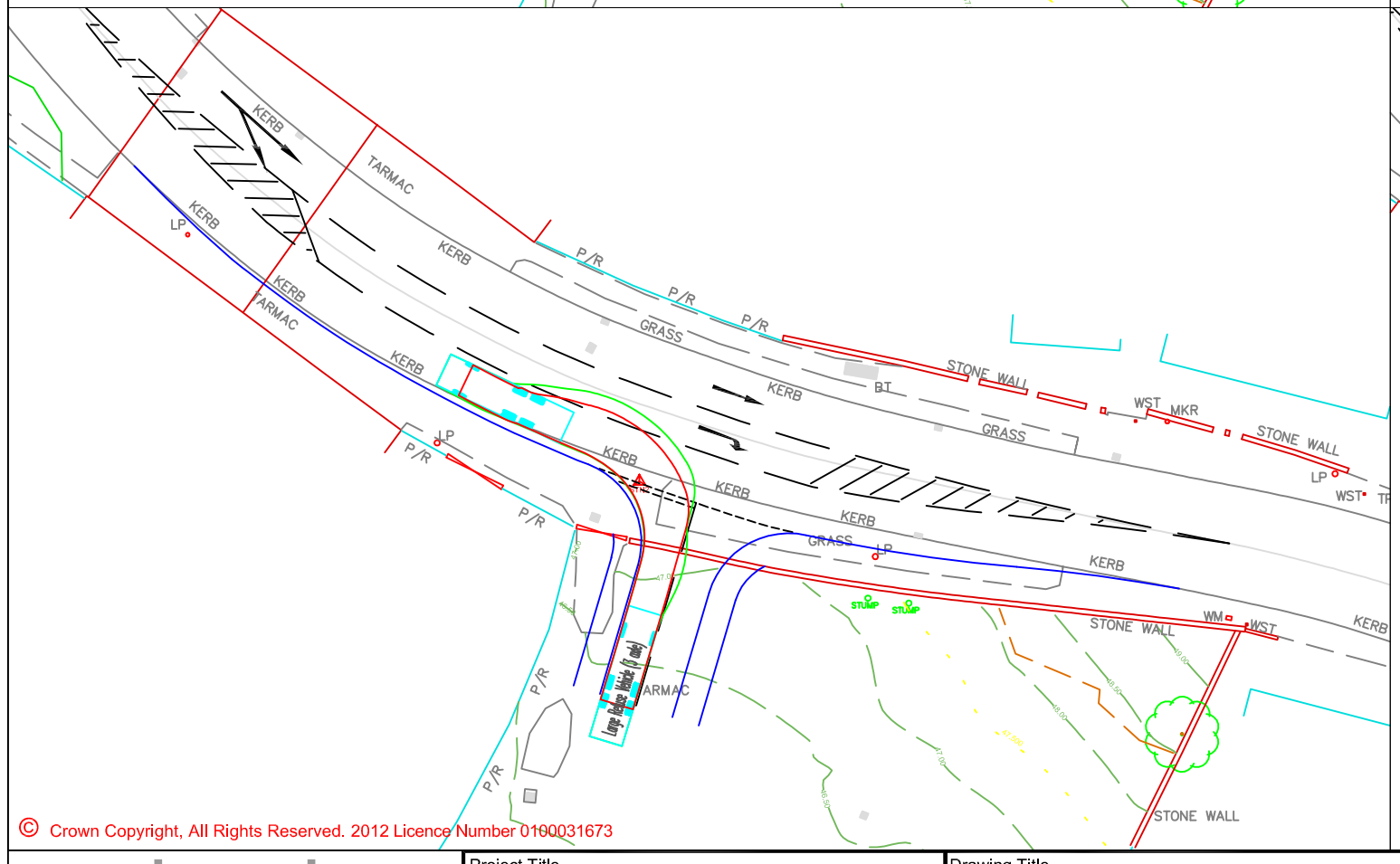
S C P
Transportation Planning : Infrastructure Design
2 Mount Street, Manchester, M2 5WQ, Tel 0161 832 4400, Fax 0161 832 5111
www.scptransport.co.uk, Email info@scptransport.co.uk

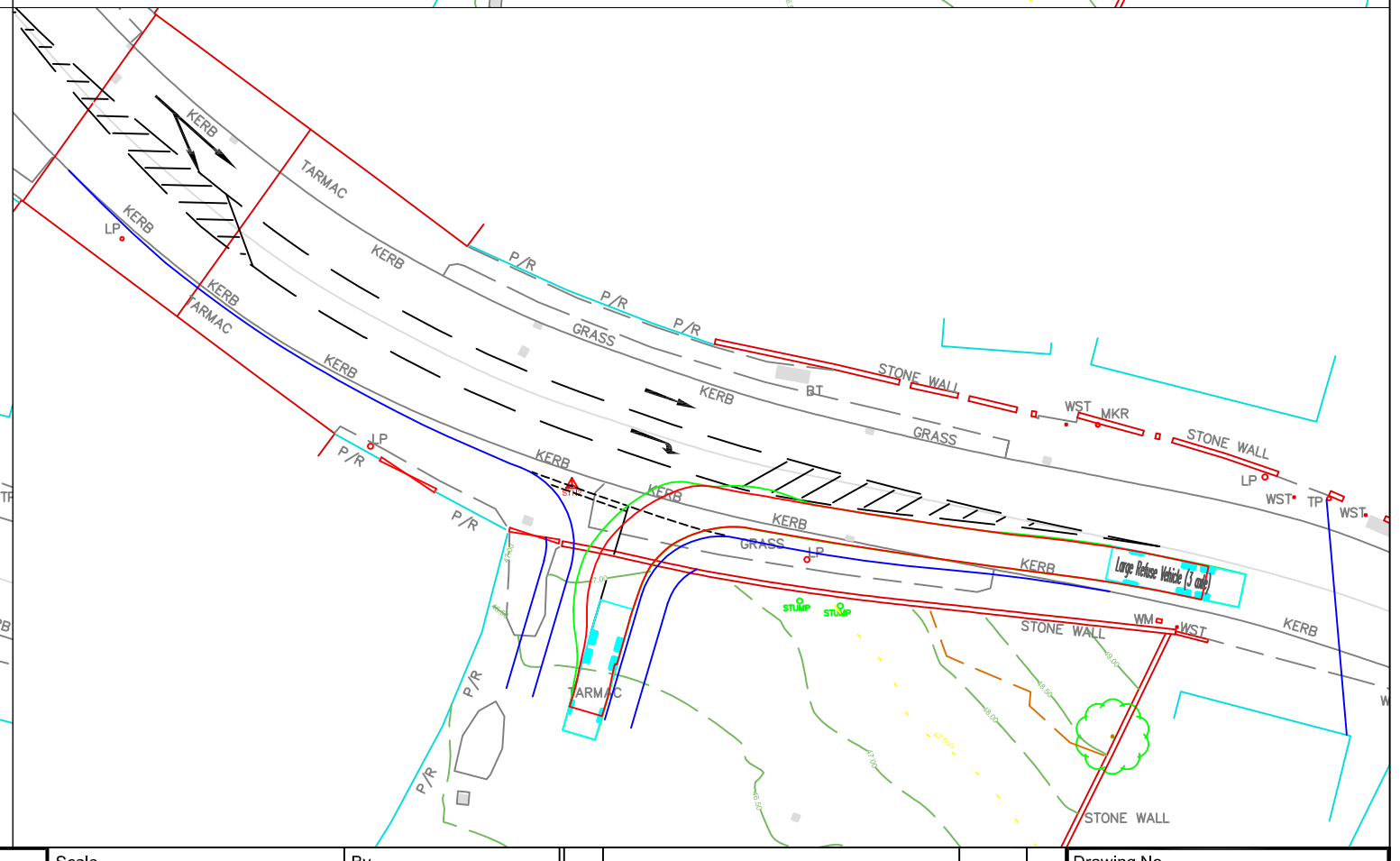
Project Title	PROPOSED RESIDENTIAL DEVELOPMENT, WHALLEY, LANCASHIRE
Drawing Title	PROPOSED SITE ACCESS ARRANGEMENT
Scale	1:500 @ A3
By	GMS
Date	13.03.2012
Checked	WB
Approved/ Unapproved	-
Status	PLANNING
Drawing No.	SCP/12036/SCP1
Revision	-

Rev	Description	Date	By
–	–	–	–
–	–	–	–
–	–	–	–
–	–	–	–









S C P
Transportation Planning : Infrastructure Design
2 Mount Street, Manchester, M2 5WQ, Tel 0161 832 4400, Fax 0161 832 5111
www.scptransport.co.uk, Email info@scptransport.co.uk

Project Title
PROPOSED RESIDENTIAL DEVELOPMENT, WHALLEY, LANCASHIRE

Drawing Title
PROPOSED SITE ACCESS ARRANGEMENT

Scale	1:500 @ A3
By	GMS
Date	16.03.2012
Checked	WB
Approved/ Unapproved	-
Status	PLANNING

Rev	Description	Date	By
–	–	–	–
–	–	–	–
–	–	–	–
–	–	–	–

Drawing No.
SCP/12036/SCP2

Revision
-

S|C|P

APPENDIX 12

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	2 days
	ES	EAST SUSSEX	1 days
	EX	ESSEX	1 days
03	SOUTH WEST		
	CW	CORNWALL	2 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	SF	SUFFOLK	3 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LE	LEICESTERSHIRE	1 days
	LN	LINCOLNSHIRE	2 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WM	WEST MIDLANDS	3 days
	WO	WORCESTERSHIRE	4 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	4 days
08	NORTH WEST		
	CH	CHESHIRE	2 days
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	2 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	CB	CUMBRIA	3 days
	TV	TEES VALLEY	1 days
10	WALES		
	CF	CARDIFF	2 days
	CP	CAERPHILLY	1 days
	WR	WREXHAM	1 days
11	SCOTLAND		
	EA	EAST AYRSHIRE	1 days
	FI	FIFE	2 days
	HI	HIGHLAND	3 days
	PK	PERTH & KINROSS	1 days
	SR	STIRLING	1 days

Filtering Stage 2 selection:

Parameter:	Number of dwellings
Actual Range:	9 to 372 (units:)
Range Selected by User:	9 to 491 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/04 to 18/11/11

Selected survey days:

Monday	14 days
Tuesday	12 days
Wednesday	6 days
Thursday	14 days
Friday	8 days

Selected survey types:

Manual count	54 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	23
Edge of Town	26
Neighbourhood Centre (PPS6 Local Centre)	2

Selected Location Sub Categories:

Residential Zone	42
Out of Town	1
No Sub Category	11

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	54	96	0.074	54	96	0.267	54	96	0.341
08:00 - 09:00	54	96	0.163	54	96	0.417	54	96	0.580
09:00 - 10:00	54	96	0.178	54	96	0.214	54	96	0.392
10:00 - 11:00	54	96	0.154	54	96	0.188	54	96	0.342
11:00 - 12:00	54	96	0.184	54	96	0.178	54	96	0.362
12:00 - 13:00	54	96	0.200	54	96	0.181	54	96	0.381
13:00 - 14:00	54	96	0.191	54	96	0.188	54	96	0.379
14:00 - 15:00	54	96	0.195	54	96	0.201	54	96	0.396
15:00 - 16:00	54	96	0.281	54	96	0.210	54	96	0.491
16:00 - 17:00	54	96	0.334	54	96	0.206	54	96	0.540
17:00 - 18:00	54	96	0.392	54	96	0.233	54	96	0.625
18:00 - 19:00	54	96	0.275	54	96	0.218	54	96	0.493
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			2.621			2.701			5.322

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 18/11/11
Number of weekdays (Monday-Friday):	54
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	54	96	0.006	54	96	0.013	54	96	0.019
08:00 - 09:00	54	96	0.006	54	96	0.017	54	96	0.023
09:00 - 10:00	54	96	0.003	54	96	0.004	54	96	0.007
10:00 - 11:00	54	96	0.003	54	96	0.004	54	96	0.007
11:00 - 12:00	54	96	0.004	54	96	0.003	54	96	0.007
12:00 - 13:00	54	96	0.005	54	96	0.004	54	96	0.009
13:00 - 14:00	54	96	0.004	54	96	0.004	54	96	0.008
14:00 - 15:00	54	96	0.005	54	96	0.003	54	96	0.008
15:00 - 16:00	54	96	0.013	54	96	0.008	54	96	0.021
16:00 - 17:00	54	96	0.014	54	96	0.012	54	96	0.026
17:00 - 18:00	54	96	0.015	54	96	0.010	54	96	0.025
18:00 - 19:00	54	96	0.011	54	96	0.007	54	96	0.018
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.089			0.089			0.178

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 18/11/11
Number of weekdays (Monday-Friday):	54
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	54	96	0.025	54	96	0.053	54	96	0.078
08:00 - 09:00	54	96	0.046	54	96	0.186	54	96	0.232
09:00 - 10:00	54	96	0.049	54	96	0.059	54	96	0.108
10:00 - 11:00	54	96	0.036	54	96	0.046	54	96	0.082
11:00 - 12:00	54	96	0.044	54	96	0.045	54	96	0.089
12:00 - 13:00	54	96	0.044	54	96	0.036	54	96	0.080
13:00 - 14:00	54	96	0.041	54	96	0.044	54	96	0.085
14:00 - 15:00	54	96	0.042	54	96	0.047	54	96	0.089
15:00 - 16:00	54	96	0.153	54	96	0.068	54	96	0.221
16:00 - 17:00	54	96	0.089	54	96	0.055	54	96	0.144
17:00 - 18:00	54	96	0.077	54	96	0.056	54	96	0.133
18:00 - 19:00	54	96	0.064	54	96	0.053	54	96	0.117
19:00 - 20:00	1	29	0.069	1	29	0.034	1	29	0.103
20:00 - 21:00	1	29	0.034	1	29	0.000	1	29	0.034
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.813			0.782			1.595

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 18/11/11
Number of weekdays (Monday-Friday):	54
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	54	96	0.002	54	96	0.012	54	96	0.014
08:00 - 09:00	54	96	0.006	54	96	0.025	54	96	0.031
09:00 - 10:00	54	96	0.005	54	96	0.008	54	96	0.013
10:00 - 11:00	54	96	0.004	54	96	0.007	54	96	0.011
11:00 - 12:00	54	96	0.005	54	96	0.008	54	96	0.013
12:00 - 13:00	54	96	0.006	54	96	0.008	54	96	0.014
13:00 - 14:00	54	96	0.008	54	96	0.006	54	96	0.014
14:00 - 15:00	54	96	0.008	54	96	0.005	54	96	0.013
15:00 - 16:00	54	96	0.014	54	96	0.008	54	96	0.022
16:00 - 17:00	54	96	0.015	54	96	0.006	54	96	0.021
17:00 - 18:00	54	96	0.018	54	96	0.005	54	96	0.023
18:00 - 19:00	54	96	0.008	54	96	0.003	54	96	0.011
19:00 - 20:00	1	73	0.000	1	73	0.000	1	73	0.000
20:00 - 21:00	1	73	0.000	1	73	0.000	1	73	0.000
21:00 - 22:00	1	73	0.000	1	73	0.000	1	73	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.099			0.101			0.200

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 18/11/11
Number of weekdays (Monday-Friday):	54
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

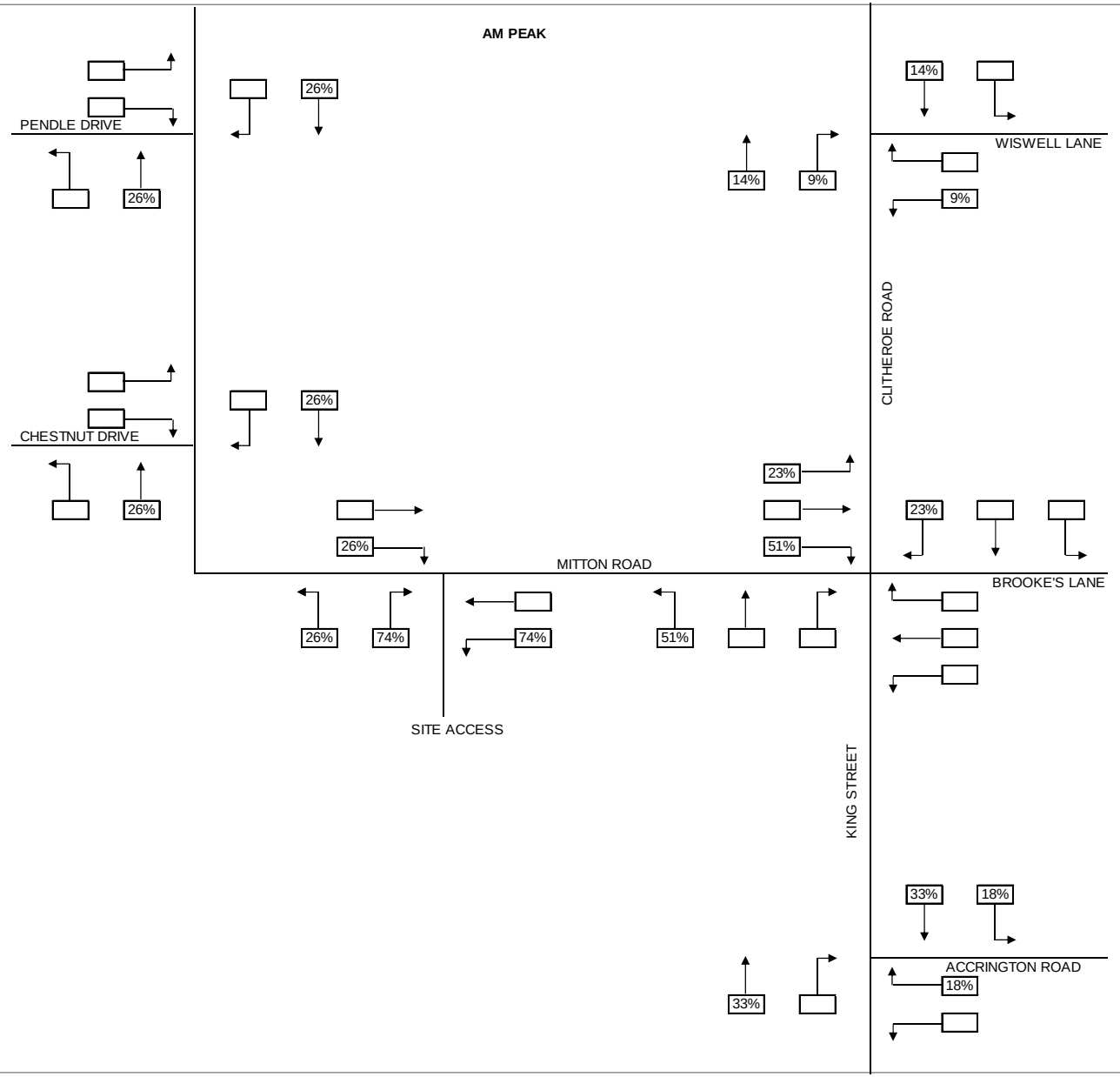
	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	54	96	0.115	54	96	0.397	54	96	0.512
08:00 - 09:00	54	96	0.256	54	96	0.848	54	96	1.104
09:00 - 10:00	54	96	0.267	54	96	0.344	54	96	0.611
10:00 - 11:00	54	96	0.236	54	96	0.303	54	96	0.539
11:00 - 12:00	54	96	0.281	54	96	0.279	54	96	0.560
12:00 - 13:00	54	96	0.302	54	96	0.284	54	96	0.586
13:00 - 14:00	54	96	0.294	54	96	0.295	54	96	0.589
14:00 - 15:00	54	96	0.308	54	96	0.311	54	96	0.619
15:00 - 16:00	54	96	0.611	54	96	0.369	54	96	0.980
16:00 - 17:00	54	96	0.576	54	96	0.369	54	96	0.945
17:00 - 18:00	54	96	0.627	54	96	0.391	54	96	1.018
18:00 - 19:00	54	96	0.448	54	96	0.376	54	96	0.824
19:00 - 20:00	2	51	0.020	2	51	0.010	2	51	0.030
20:00 - 21:00	2	51	0.010	2	51	0.000	2	51	0.010
21:00 - 22:00	1	73	0.000	1	73	0.000	1	73	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			4.351			4.576			8.927

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 18/11/11
Number of weekdays (Monday-Friday):	54
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

S|C|P

APPENDIX 13



S|C|P Transportation Planning : Infrastructure Design www.scptransport.co.uk	Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: TRIP DISTRIBUTION – AM PEAK	Scale: NTS	By: NS	Rev	Description	Date	By	Drawing No.: SCP/12036/AP13
			Date: 21.03.2012	Checked	-	-	-	-	Revision
			Approved/Unapproved	Status: PLANNING	-	-	-	-	
					-	-	-	-	
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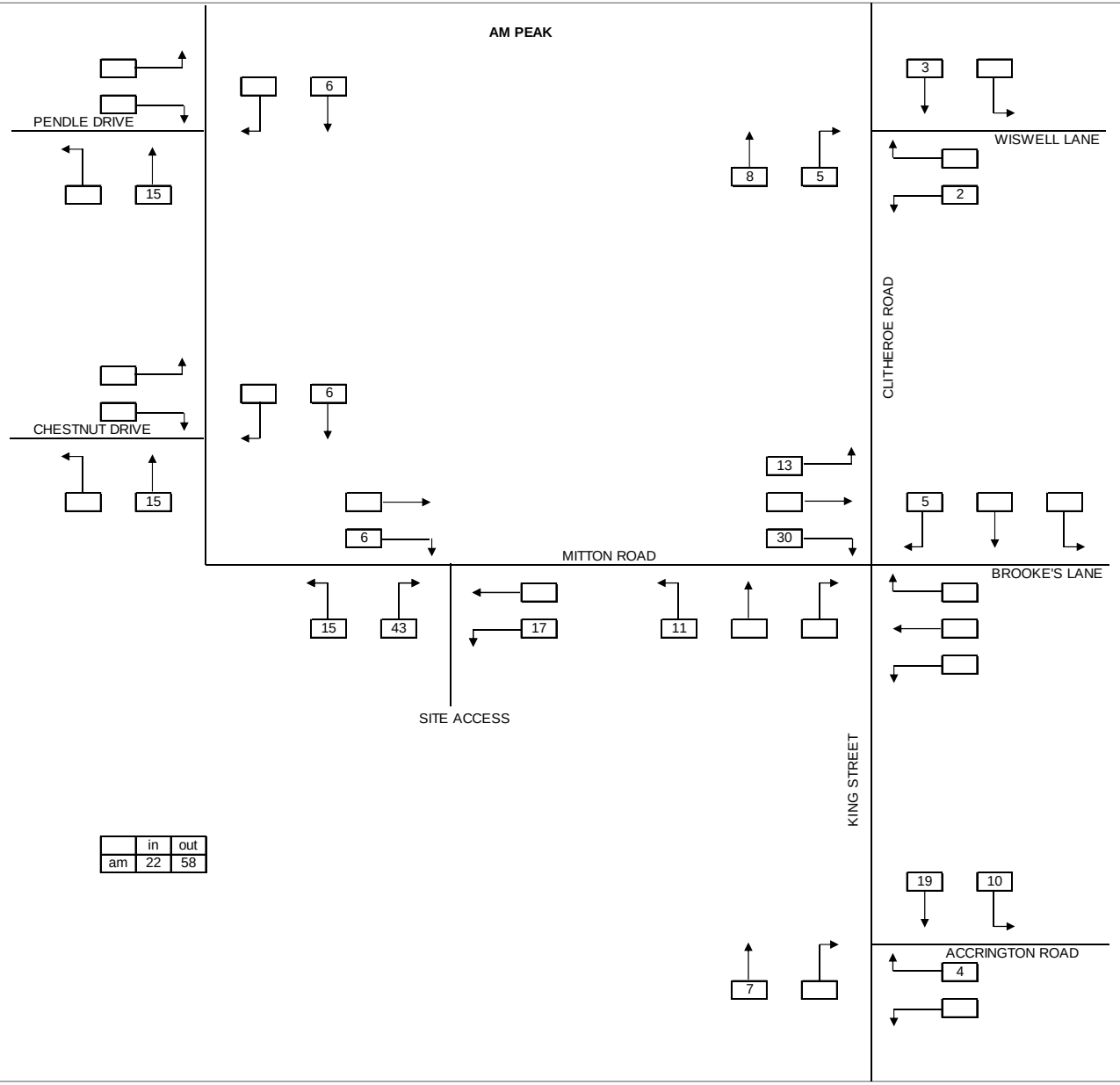


	in	out
am	22	58

SCP
Transportation Planning : Infrastructure Design
www.scptransport.co.uk

Project Title
PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY

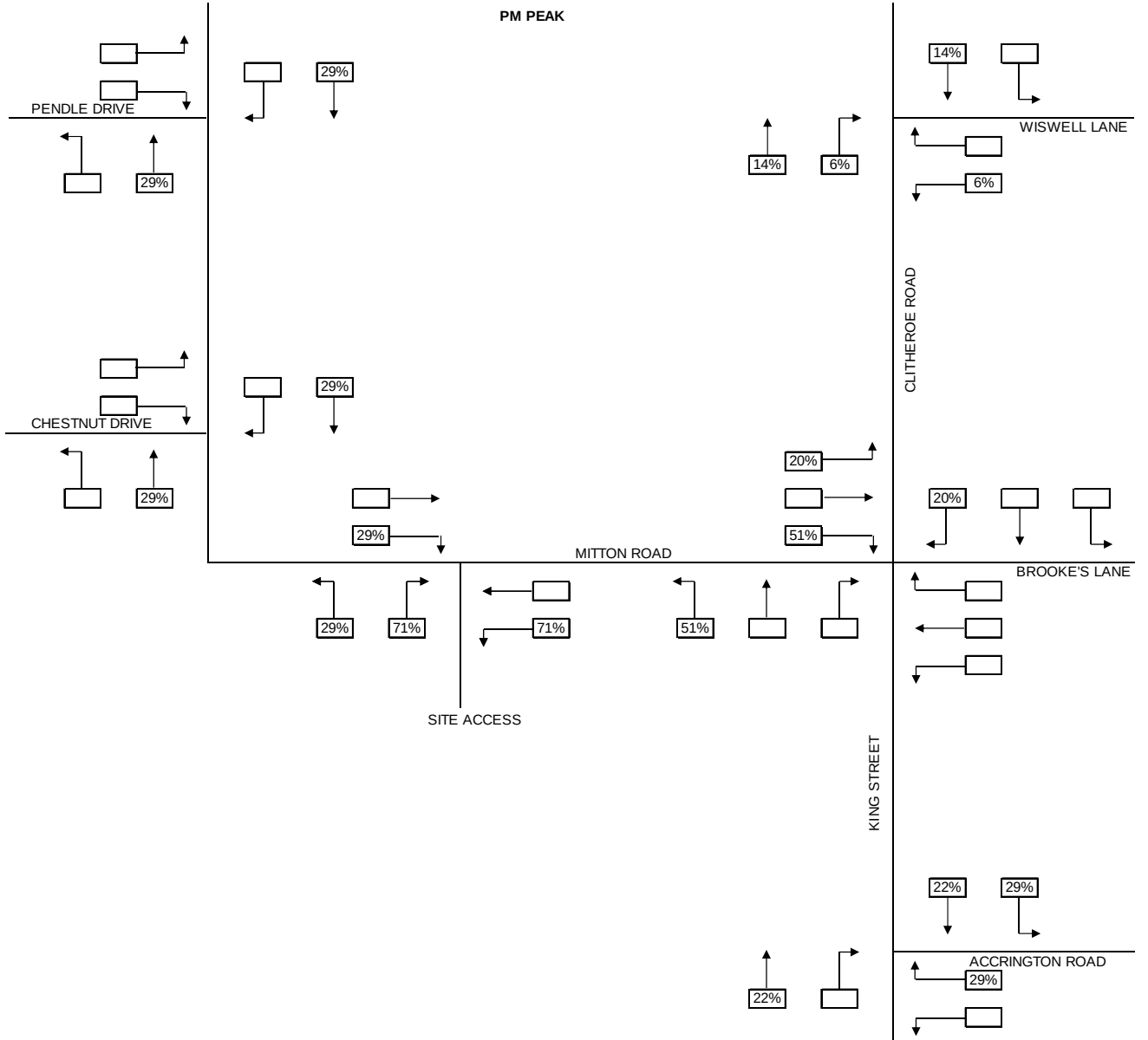
Drawing Title
TRIP DISTRIBUTION FLOWS – AM PEAK

Scale	By
NTS	NS
Date	Checked
28.05.2012	
Approved/Unapproved	Status
	PLANNING

Rev	Description	Date	By
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Drawing No.
SCP/12036/AP13

Revision

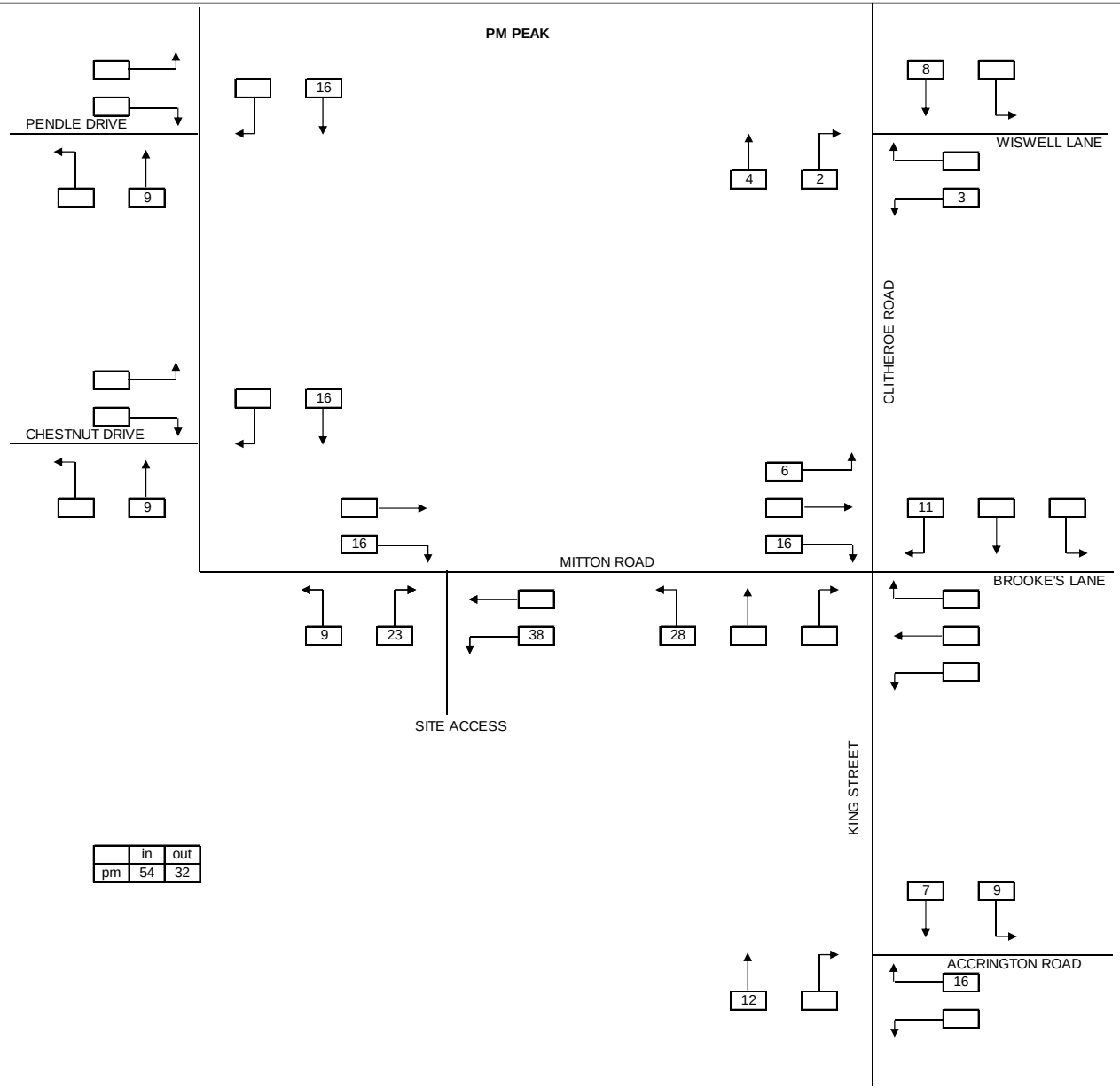


S C P
Transportation Planning : Infrastructure Design
www.scptransport.co.uk

Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: TRIP DISTRIBUTION – PM PEAK	Scale: NTS	By: NS	Rev	Description	Date	By
		Date: 21.03.2012	Checked	-	-	-	-
		Approved/Unapproved	Status: PLANNING	-	-	-	-
				-	-	-	-
				-	-	-	-

Drawing No.: SCP/12036/AP13

Revision



Transportation Planning : Infrastructure Design

www.scptransport.co.uk

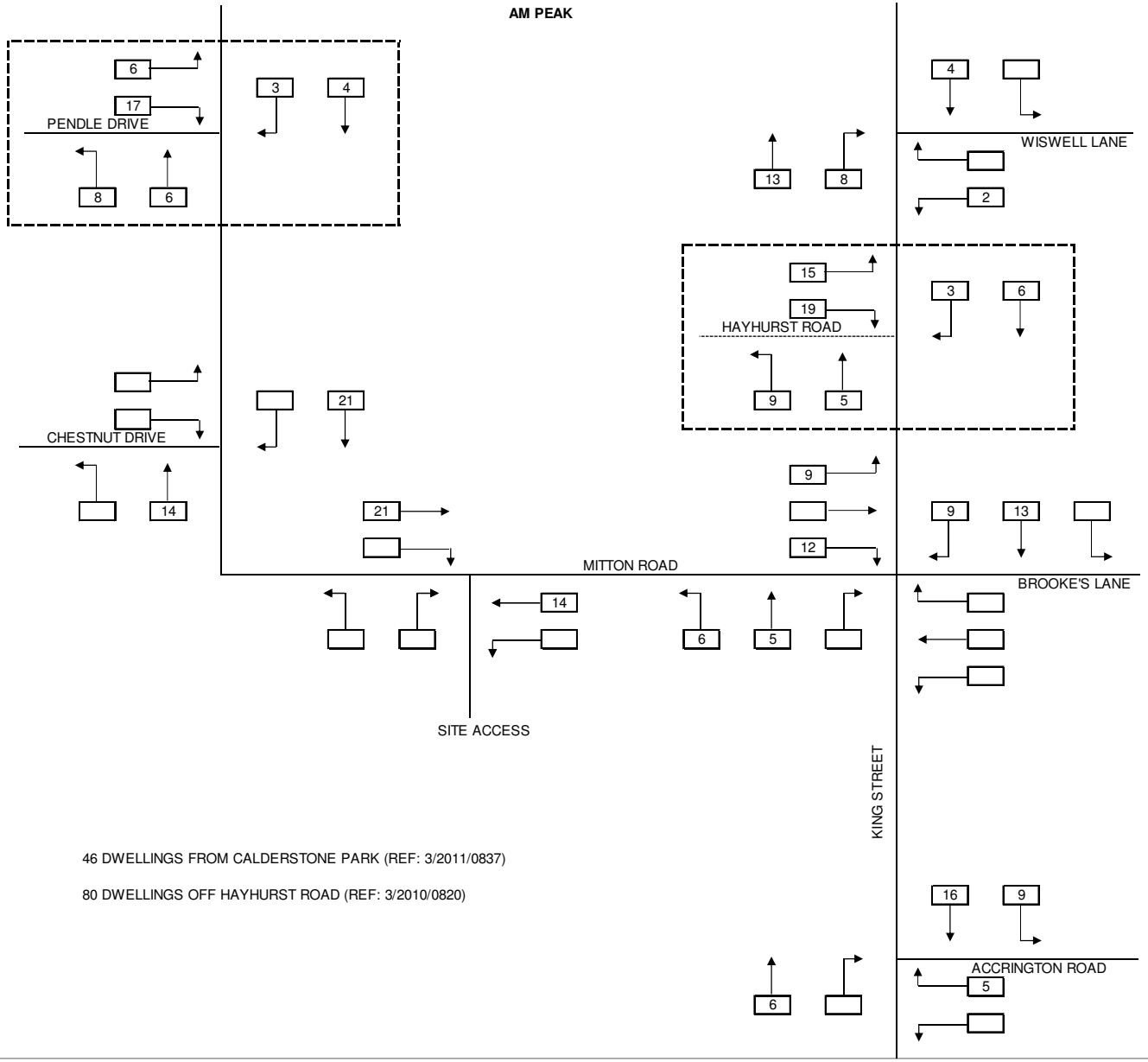
Project Title	PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY
Drawing Title	TRIP DISTRIBUTION FLOWS – PM PEAK
Scale	NTS
By	NS
Date	28.05.2012
Checked	
Approved/Unapproved	
Status	PLANNING

Rev	Description	Date	By
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

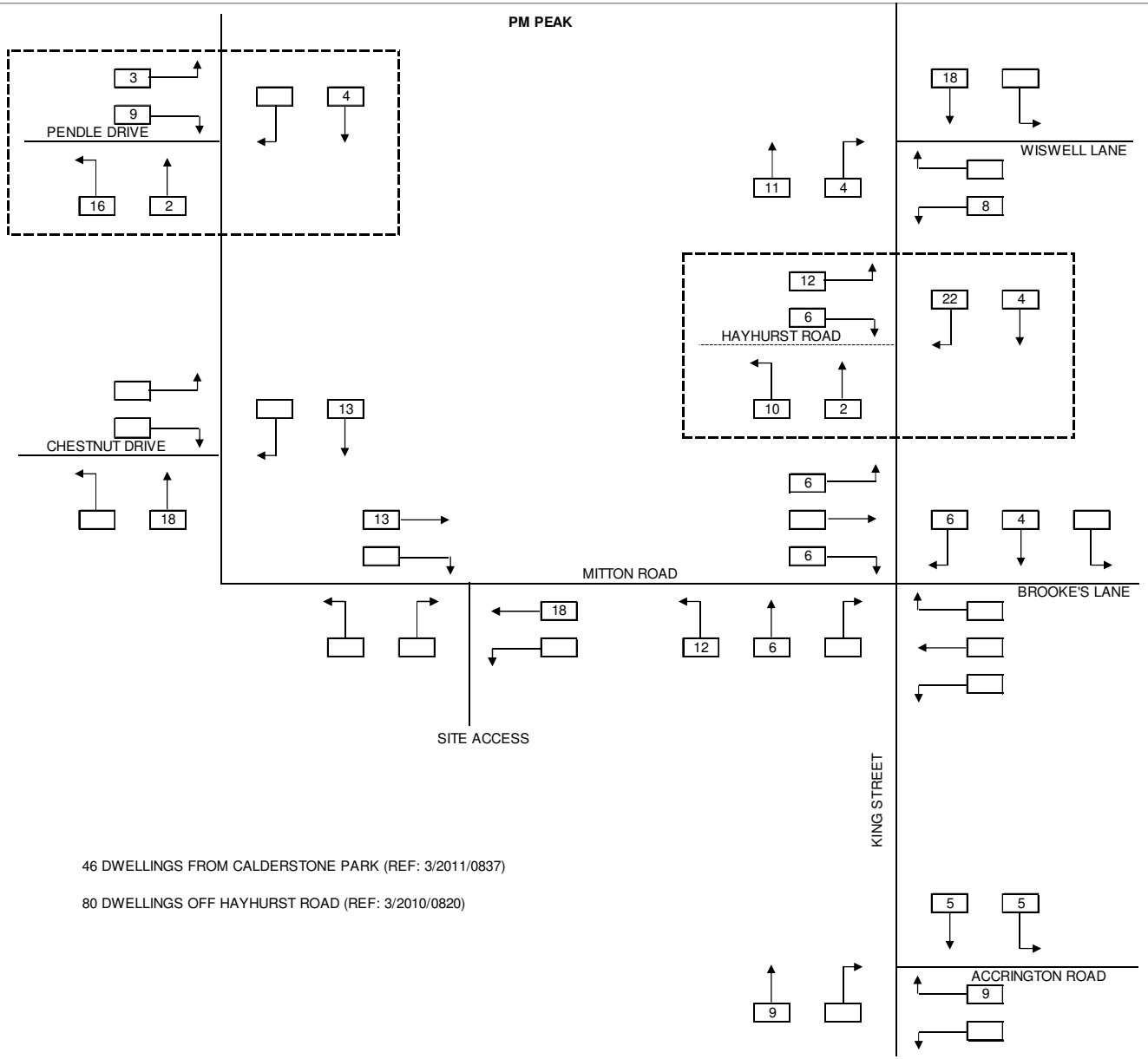
Drawing No.	SCP/12036/AP13
Revision	

S|C|P

APPENDIX 14



S|C|P Transportation Planning : Infrastructure Design www.scptransport.co.uk	Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: COMMITTED DEVELOPMENT FLOWS – AM PEAK	Scale: NTS	By: NS	Rev	Description	Date	By	Drawing No.: SCP/12036/AP14
			Date: 21.03.2012	Checked	-	-	-	-	
			Approved/Unapproved	Status: PLANNING	-	-	-	-	Revision
					-	-	-	-	
					-	-	-	-	



46 DWELLINGS FROM CALDERSTONE PARK (REF: 3/2011/0837)

80 DWELLINGS OFF HAYHURST ROAD (REF: 3/2010/0820)

SCP
Transportation Planning : Infrastructure Design
www.scptransport.co.uk

Project Title	PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY
Drawing Title	COMMITTED DEVELOPMENT FLOWS – PM PEAK
Scale	NTS
By	NS
Date	21.03.2012
Checked	
Approved/Unapproved	
Status	PLANNING

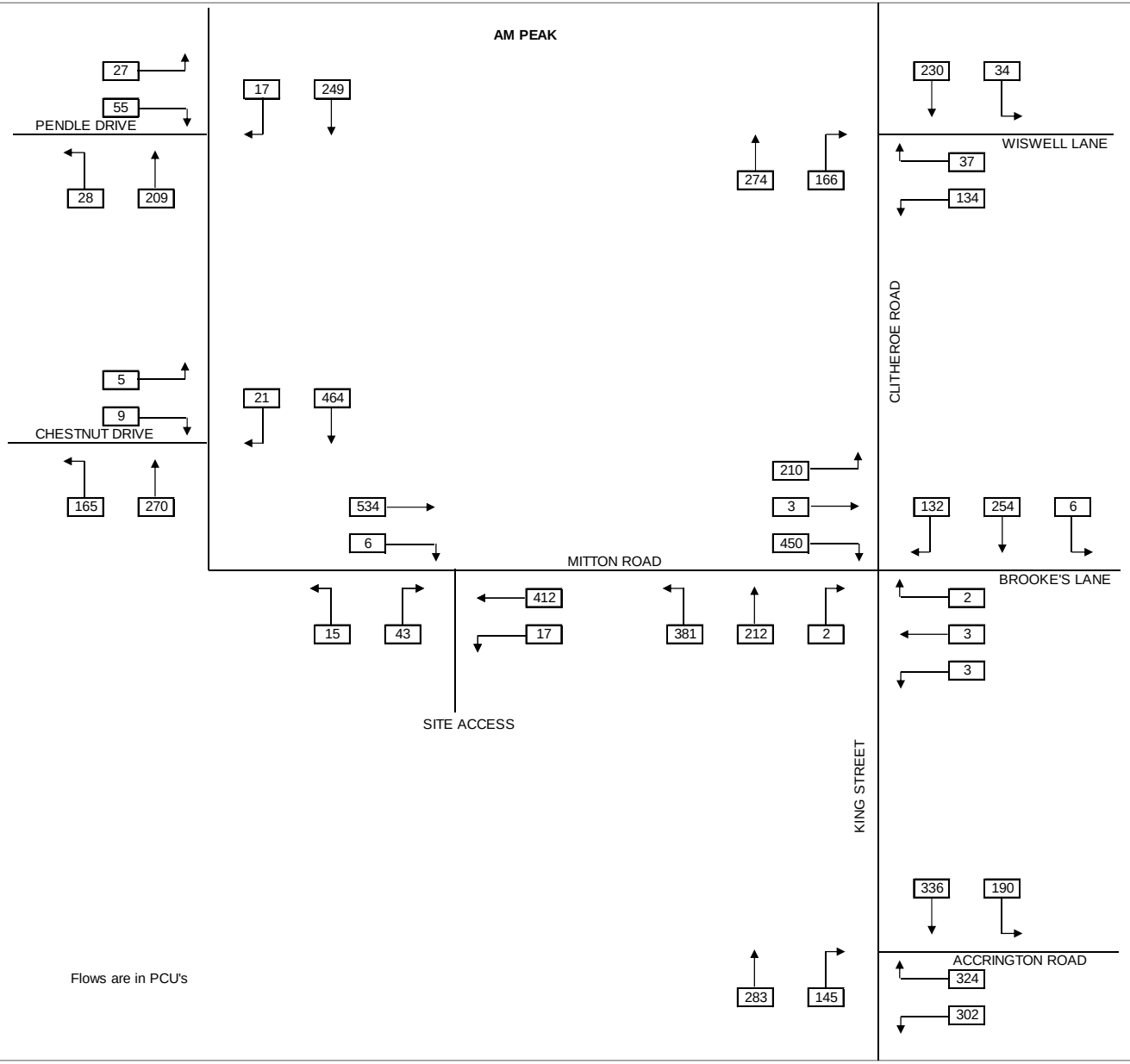
Rev	Description	Date	By
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Drawing No. SCP/12036/AP14

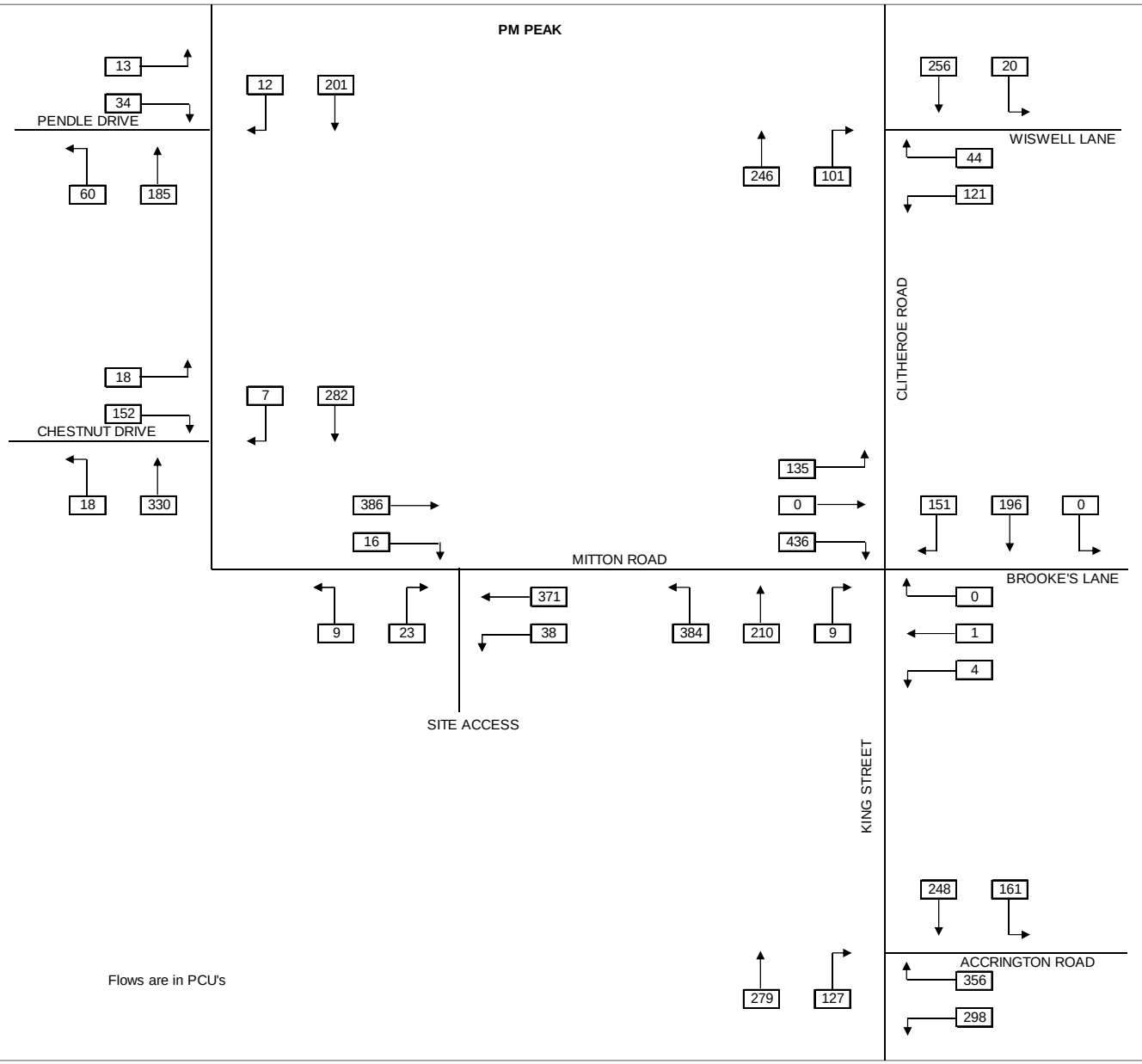
Revision

S|C|P

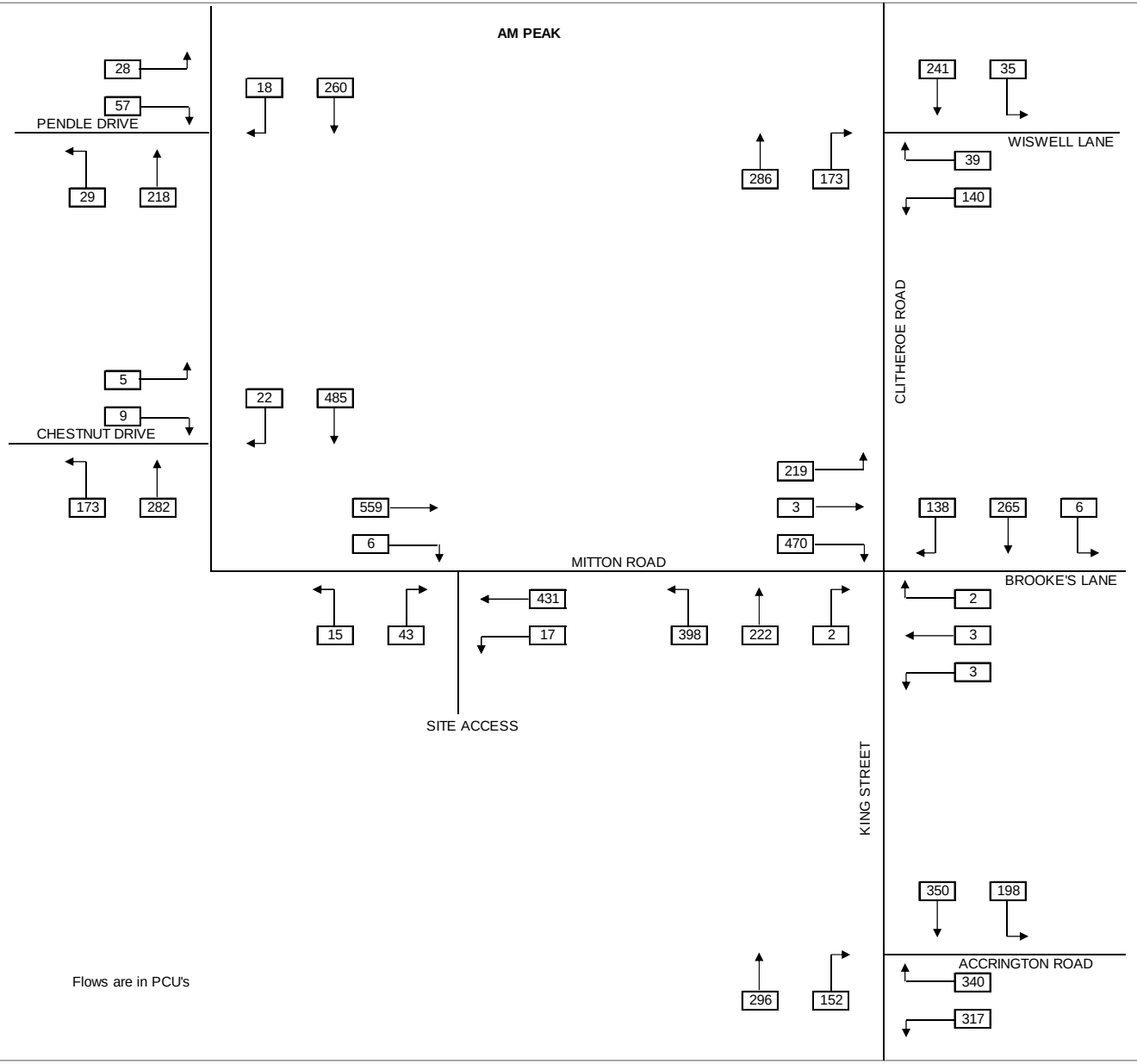
APPENDIX 15



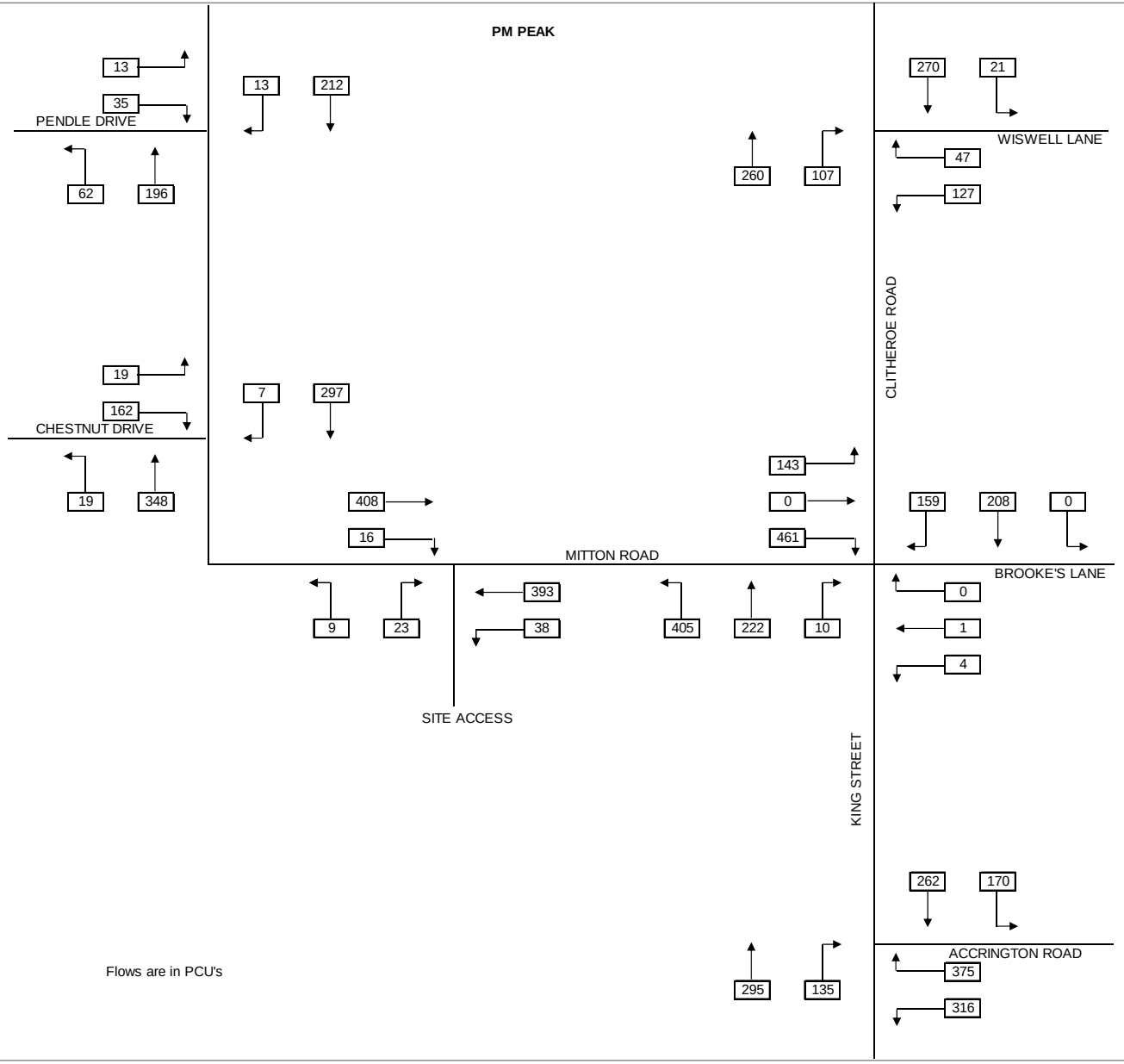
S|C|P Transportation Planning : Infrastructure Design www.scptransport.co.uk	Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: 2013 BASE YEAR TRAFFIC FLOWS – AM PEAK	Scale: NTS	By: NS	Rev	Description	Date	By	Drawing No.: SCP/12036/AP15
			Date: 28.05.2012	Checked	-	-	-	-	
			Approved/Unapproved	Status: PLANNING	-	-	-	-	Revision
					-	-	-	-	
					-	-	-	-	



S|C|P Transportation Planning : Infrastructure Design www.scptransport.co.uk	Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: 2013 BASE YEAR TRAFFIC FLOWS– PM PEAK	Scale: NTS	By: NS	Rev	Description	Date	By	Drawing No.: SCP/12036/AP15
			Date: 28.05.2012	Checked	-	-	-	-	
			Approved/Unapproved	Status: PLANNING	-	-	-	-	Revision
					-	-	-	-	
					-	-	-	-	



S|C|P Transportation Planning : Infrastructure Design www.scptransport.co.uk	Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: 2023 BASE YEAR TRAFFIC FLOWS – AM PEAK	Scale: NTS	By: NS	Rev / Description / Date / By: - / - / - / -		Drawing No.: SCP/12036/AP15	
			Date: 28.05.2012	Checked	- / - / - / -			
			Approved/Unapproved	Status: PLANNING	- / - / - / -		Revision	



S|C|P Transportation Planning : Infrastructure Design www.scptransport.co.uk	Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, MITTON ROAD, WHALLEY	Drawing Title: 2023 BASE YEAR TRAFFIC FLOWS– PM PEAK	Scale: NTS	By: NS	Rev	Description	Date	By	Drawing No.: SCP/12036/AP15
			Date: 28.05.2012	Checked	-	-	-	-	
			Approved/Unapproved	Status: PLANNING	-	-	-	-	Revision
					-	-	-	-	
					-	-	-	-	

S|C|P

APPENDIX 16

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

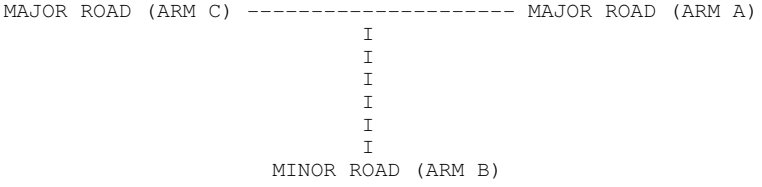
Run with file:-
"Z:\Job Library\2012\12036 - Mitton Road, Whalley\Traffic Data\Traffic Models\PICADY\
Site access-Mitton Road (2013).vpi"
(drive-on-the-left) at 16:21:01 on Wednesday, 30 May 2012

RUN INFORMATION

RUN TITLE	: Site Access / Mitton Road 2013 with development flows
LOCATION	: Whalley
DATE	: 30/05/12
CLIENT	:
ENUMERATOR	: Natalie Skuse [TRAFFIC12]
JOB NUMBER	: 12036
STATUS	: Draft 1
DESCRIPTION	:

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Mitton Road (E)
ARM B IS Site Access
ARM C IS Mitton Road (W)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 3.00 M.
- VISIBILITY	(VC-B)100.00 M.
- BLOCKS TRAFFIC	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 45.0 M.
- VISIBILITY TO RIGHT	(VB-A) 60.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	7.40 M.
WIDTH AT 5 M FROM JUNCTION	2.75 M.
WIDTH AT 10 M FROM JUNCTION	2.75 M.
WIDTH AT 15 M FROM JUNCTION	2.75 M.
WIDTH AT 20 M FROM JUNCTION	2.75 M.
- LENGTH OF FLARED SECTION	DERIVED: 0 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
686.89	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

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

Demand set: Site Access / Mitton Road 2013 with development flows

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.36	8.04	5.36
ARM B	15.00	45.00	75.00	0.73	1.09	0.73
ARM C	15.00	45.00	75.00	6.75	10.13	6.75

Demand set: Site Access / Mitton Road 2013 with development flows

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000	0.040	0.960
		0.0	17.0	412.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.741	0.000	0.259
		43.0	0.0	15.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.989	0.011	0.000
		534.0	6.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

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)
07.45-08.00									
B-C	0.19	8.98	0.021		0.00	0.02	0.3		0.11
B-A	0.54	6.65	0.081		0.00	0.09	1.3		0.16
C-A	6.70								
C-B	0.08	10.09	0.007		0.00	0.01	0.1		0.10
A-B	0.21								
A-C	5.17								

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									
B-C	0.22	8.70	0.026		0.02	0.03	0.4		0.12
B-A	0.64	6.22	0.104		0.09	0.11	1.7		0.18
C-A	8.00								
C-B	0.09	9.83	0.009		0.01	0.01	0.1		0.10
A-B	0.25								
A-C	6.17								

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									
B-C	0.28	8.31	0.033		0.03	0.03	0.5		0.12
B-A	0.79	5.62	0.140		0.11	0.16	2.3		0.21
C-A	9.80								
C-B	0.11	9.46	0.012		0.01	0.01	0.2		0.11
A-B	0.31								
A-C	7.56								

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									
B-C	0.28	8.30	0.033		0.03	0.03	0.5		0.12
B-A	0.79	5.62	0.140		0.16	0.16	2.4		0.21
C-A	9.80								
C-B	0.11	9.46	0.012		0.01	0.01	0.2		0.11
A-B	0.31								
A-C	7.56								

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									
B-C	0.22	8.70	0.026		0.03	0.03	0.4		0.12
B-A	0.64	6.21	0.104		0.16	0.12	1.8		0.18
C-A	8.00								
C-B	0.09	9.83	0.009		0.01	0.01	0.1		0.10
A-B	0.25								
A-C	6.17								

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									
B-C	0.19	8.98	0.021		0.03	0.02	0.3		0.11
B-A	0.54	6.65	0.081		0.12	0.09	1.4		0.16
C-A	6.70								
C-B	0.08	10.09	0.007		0.01	0.01	0.1		0.10
A-B	0.21								
A-C	5.17								

QUEUE FOR STREAM B-C

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 FOR STREAM B-A

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 FOR STREAM C-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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	20.6	13.8	2.4	0.12	2.4	0.12
B-A	59.2	39.5	10.9	0.18	10.9	0.18
C-A	735.0	490.0				
C-B	8.3	5.5	0.9	0.10	0.9	0.10
A-B	23.4	15.6				
A-C	567.1	378.1				
ALL	1413.6	942.4	14.2	0.01	14.2	0.01

* 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 RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
686.89	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

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

Demand set: Site Access / Mitton Road 2013 with development flows Demand Set

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.11	7.67	5.11
ARM B	15.00	45.00	75.00	0.40	0.60	0.40
ARM C	15.00	45.00	75.00	5.03	7.54	5.03

Demand set: Site Access / Mitton Road 2013 with development flows Demand Set

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.15 - 16.30	ARM A	0.000	0.093	0.907
		0.0	38.0	371.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.719	0.000	0.281
		23.0	0.0	9.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.960	0.040	0.000
		386.0	16.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

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)
16.15-16.30									
B-C	0.11	9.16	0.012		0.00	0.01	0.2		0.11
B-A	0.29	6.97	0.041		0.00	0.04	0.6		0.15
C-A	4.84								
C-B	0.20	10.15	0.020		0.00	0.02	0.3		0.10
A-B	0.48								
A-C	4.66								

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									
B-C	0.13	8.93	0.015		0.01	0.02	0.2		0.11
B-A	0.34	6.60	0.052		0.04	0.05	0.8		0.16
C-A	5.78								
C-B	0.24	9.90	0.024		0.02	0.02	0.4		0.10
A-B	0.57								
A-C	5.56								

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									
B-C	0.17	8.60	0.019		0.02	0.02	0.3		0.12
B-A	0.42	6.09	0.069		0.05	0.07	1.1		0.18
C-A	7.08								
C-B	0.29	9.56	0.031		0.02	0.03	0.5		0.11
A-B	0.70								
A-C	6.81								

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									
B-C	0.17	8.59	0.019		0.02	0.02	0.3		0.12
B-A	0.42	6.09	0.069		0.07	0.07	1.1		0.18
C-A	7.08								
C-B	0.29	9.56	0.031		0.03	0.03	0.5		0.11
A-B	0.70								
A-C	6.81								

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									
B-C	0.13	8.93	0.015		0.02	0.02	0.2		0.11
B-A	0.34	6.60	0.052		0.07	0.06	0.9		0.16
C-A	5.78								
C-B	0.24	9.90	0.024		0.03	0.02	0.4		0.10
A-B	0.57								
A-C	5.56								

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									
B-C	0.11	9.16	0.012		0.02	0.01	0.2		0.11
B-A	0.29	6.97	0.041		0.06	0.04	0.7		0.15
C-A	4.84								
C-B	0.20	10.15	0.020		0.02	0.02	0.3		0.10
A-B	0.48								
A-C	4.66								

QUEUE FOR STREAM B-C

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

QUEUE FOR STREAM B-A

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

QUEUE FOR STREAM C-B

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

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	12.4	8.3	1.4	0.11	1.4	0.11
B-A	31.7	21.1	5.1	0.16	5.1	0.16
C-A	531.3	354.2				
C-B	22.0	14.7	2.3	0.10	2.3	0.10
A-B	52.3	34.9				
A-C	510.7	340.4				
ALL	1160.3	773.6	8.8	0.01	8.8	0.01

* 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 RUN*******

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

Printed at 16:21:11 on 30/05/2012]

S|C|P

APPENDIX 17

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

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PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

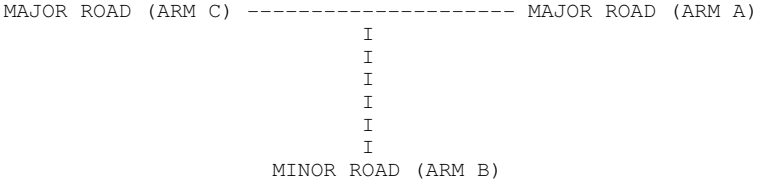
Run with file:-
"Z:\Job Library\2012\12036 - Mitton Road, Whalley\Traffic Data\Traffic Models\PICADY\
Site access-Mitton Road (2023).vpi"
(drive-on-the-left) at 16:23:58 on Wednesday, 30 May 2012

RUN INFORMATION

RUN TITLE	: Site Access / Mitton Road 2023 with development flows
LOCATION	: Whalley
DATE	: 30/05/12
CLIENT	:
ENUMERATOR	: Natalie Skuse [TRAFFIC12]
JOB NUMBER	: 12036
STATUS	: Draft 1
DESCRIPTION	:

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Mitton Road (E)
ARM B IS Site Access
ARM C IS Mitton Road (W)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 3.00 M.
- VISIBILITY	(VC-B)100.00 M.
- BLOCKS TRAFFIC	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 45.0 M.
- VISIBILITY TO RIGHT	(VB-A) 60.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	7.40 M.
WIDTH AT 5 M FROM JUNCTION	2.75 M.
WIDTH AT 10 M FROM JUNCTION	2.75 M.
WIDTH AT 15 M FROM JUNCTION	2.75 M.
WIDTH AT 20 M FROM JUNCTION	2.75 M.
- LENGTH OF FLARED SECTION	DERIVED: 0 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
686.89	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

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

Demand set: Site Access / Mitton Road 2013 with development flows

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.60	8.40	5.60
ARM B	15.00	45.00	75.00	0.73	1.09	0.73
ARM C	15.00	45.00	75.00	7.06	10.59	7.06

Demand set: Site Access / Mitton Road 2013 with development flows

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000	0.038	0.962
		0.0	17.0	431.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.741	0.000	0.259
		43.0	0.0	15.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.989	0.011	0.000
		559.0	6.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

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)
07.45-08.00									
B-C	0.19	8.92	0.021		0.00	0.02	0.3		0.11
B-A	0.54	6.55	0.082		0.00	0.09	1.3		0.17
C-A	7.01								
C-B	0.08	10.03	0.008		0.00	0.01	0.1		0.10
A-B	0.21								
A-C	5.41								

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									
B-C	0.22	8.63	0.026		0.02	0.03	0.4		0.12
B-A	0.64	6.09	0.106		0.09	0.12	1.7		0.18
C-A	8.38								
C-B	0.09	9.76	0.009		0.01	0.01	0.1		0.10
A-B	0.25								
A-C	6.46								

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									
B-C	0.28	8.22	0.033		0.03	0.03	0.5		0.13
B-A	0.79	5.47	0.144		0.12	0.17	2.4		0.21
C-A	10.26								
C-B	0.11	9.37	0.012		0.01	0.01	0.2		0.11
A-B	0.31								
A-C	7.91								

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									
B-C	0.28	8.22	0.033		0.03	0.03	0.5		0.13
B-A	0.79	5.47	0.144		0.17	0.17	2.5		0.21
C-A	10.26								
C-B	0.11	9.37	0.012		0.01	0.01	0.2		0.11
A-B	0.31								
A-C	7.91								

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									
B-C	0.22	8.63	0.026		0.03	0.03	0.4		0.12
B-A	0.64	6.09	0.106		0.17	0.12	1.9		0.18
C-A	8.38								
C-B	0.09	9.76	0.009		0.01	0.01	0.1		0.10
A-B	0.25								
A-C	6.46								

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									
B-C	0.19	8.92	0.021		0.03	0.02	0.3		0.11
B-A	0.54	6.55	0.082		0.12	0.09	1.4		0.17
C-A	7.01								
C-B	0.08	10.03	0.008		0.01	0.01	0.1		0.10
A-B	0.21								
A-C	5.41								

QUEUE FOR STREAM B-C

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 FOR STREAM B-A

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 FOR STREAM C-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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	20.6	13.8	2.5	0.12	2.5	0.12
B-A	59.2	39.5	11.1	0.19	11.1	0.19
C-A	769.4	512.9				
C-B	8.3	5.5	0.9	0.10	0.9	0.10
A-B	23.4	15.6				
A-C	593.2	395.5				
ALL	1474.2	982.8	14.5	0.01	14.5	0.01

* 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 RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
686.89	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

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

Demand set: Site Access / Mitton Road 2013 with development flows Demand Set

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.39	8.08	5.39
ARM B	15.00	45.00	75.00	0.40	0.60	0.40
ARM C	15.00	45.00	75.00	5.30	7.95	5.30

Demand set: Site Access / Mitton Road 2013 with development flows Demand Set

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.15 - 16.30	ARM A	0.000	0.088	0.912
		0.0	38.0	393.0
		(0.0)%	(0.0)%	(0.0)%
	ARM B	0.719	0.000	0.281
		23.0	0.0	9.0
		(0.0)%	(0.0)%	(0.0)%
	ARM C	0.962	0.038	0.000
		408.0	16.0	0.0
		(0.0)%	(0.0)%	(0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

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)
16.15-16.30									
B-C	0.11	9.10	0.012		0.00	0.01	0.2		0.11
B-A	0.29	6.87	0.042		0.00	0.04	0.6		0.15
C-A	5.12								
C-B	0.20	10.08	0.020		0.00	0.02	0.3		0.10
A-B	0.48								
A-C	4.93								

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									
B-C	0.13	8.85	0.015		0.01	0.02	0.2		0.11
B-A	0.34	6.48	0.053		0.04	0.06	0.8		0.16
C-A	6.11								
C-B	0.24	9.82	0.024		0.02	0.02	0.4		0.10
A-B	0.57								
A-C	5.89								

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									
B-C	0.17	8.50	0.019		0.02	0.02	0.3		0.12
B-A	0.42	5.94	0.071		0.06	0.08	1.1		0.18
C-A	7.49								
C-B	0.29	9.45	0.031		0.02	0.03	0.5		0.11
A-B	0.70								
A-C	7.21								

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									
B-C	0.17	8.50	0.019		0.02	0.02	0.3		0.12
B-A	0.42	5.94	0.071		0.08	0.08	1.1		0.18
C-A	7.49								
C-B	0.29	9.45	0.031		0.03	0.03	0.5		0.11
A-B	0.70								
A-C	7.21								

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									
B-C	0.13	8.85	0.015		0.02	0.02	0.2		0.11
B-A	0.34	6.48	0.053		0.08	0.06	0.9		0.16
C-A	6.11								
C-B	0.24	9.82	0.024		0.03	0.03	0.4		0.10
A-B	0.57								
A-C	5.89								

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									
B-C	0.11	9.10	0.012		0.02	0.01	0.2		0.11
B-A	0.29	6.87	0.042		0.06	0.04	0.7		0.15
C-A	5.12								
C-B	0.20	10.08	0.020		0.03	0.02	0.3		0.10
A-B	0.48								
A-C	4.93								

QUEUE FOR STREAM B-C

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

QUEUE FOR STREAM B-A

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

QUEUE FOR STREAM C-B

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

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	12.4	8.3	1.4	0.11	1.4	0.11
B-A	31.7	21.1	5.2	0.17	5.2	0.17
C-A	561.6	374.4				
C-B	22.0	14.7	2.3	0.10	2.3	0.10
A-B	52.3	34.9				
A-C	540.9	360.6				
ALL	1220.9	813.9	9.0	0.01	9.0	0.01

* 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 RUN*******

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