Transport Assessment
Mixed-Use Development, Chipping

For SCPi

By Curtins
March 2014

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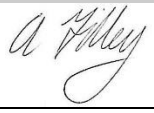
Control Sheet

Client:	SCPi
Project:	Proposed Mixed-Use Development, Chipping
Report Type:	Transport Assessment
Report Reference:	TPMA1001/D
Revision:	D
Report Status:	Final
Date:	March 2014

Report Author(s)	**Signature**	**Date**
Aaron Tilley Principal Transport Planner		4th March 2014

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For and on behalf of **Curtins**

Contents

1.0 Introduction

Introduction

1.1 Curtins has been appointed on behalf of SCPi to provide traffic and transportation advice in support of the proposals to develop a residential, hotel and leisure scheme in the village of Chipping, Lancashire.

1.2 The proposals will represent the redevelopment of a former furniture manufacturing mill with many of the buildings in need of demolition or substantial renovation.

1.3 A new trailhead centre will also be delivered to provide facilities for outdoor pursuits as well as significant car parking provision to alleviate localised parking issues within the village.

1.4 In order to facilitate the scheme it will be necessary to relocate the existing cricket ground and pavilion onto a new site to the south of the village.

Purpose of this Report

1.5 The purpose of this Transport Assessment (TA) is to inform Highways Officers at Lancashire County Council (LCC) of all of the associated traffic and transportation matters associated with the development.

Scope and Structure of the Report

1.6 The information presented in the TA has been prepared following consultation with Highways Officers at LCC. The content of the report is consistent with the guidance and recommendations set out within the Department for Transport publication "Guidance for Transport Assessment".

1.7 It was agreed that the report would take the following form following this introductory section:

Section 2: A review of the existing situation on the highway network surrounding the site;
Section 3: A summary of the development proposals;
Section 4: A review of the site's accessibility by sustainable modes of travel;
Section 5: A review of relevant local and national planning policy;
Section 6: An assessment of the highway impact of the development; and
Section 7: Summary and conclusions.

2.0 Existing Situation

Site Location

2.1 The sites on which the mix of uses are proposed are located in the village of Chipping, approximately 6.5km north-east of Longridge and 15km from Preston in Lancashire. They are situated in a largely rural area, predominantly at the northern edge of the village. The sites are split into three distinct plots to the east and west of the point where Church Raike forms a priority junction with Malt Kiln Brow.

2.2 The proposed relocated cricket club site is situated to the south of the village off Longridge Road.

2.3 The residential part of the development proposals lie on two parcels of land to the western side of the Church Raike/Malt Kiln Brow junction to the north and south of the Church Raike carriageway, and is situated to the north of the Kirkfield housing estate. The majority of the proposed dwellings lie south of Church Raike, with a small number proposed on a small section of land to the north of the carriageway.

2.4 The hotel and Trailhead element of the development proposals are situated predominantly on the eastern side of Malt Kiln Brow, and is bounded by open land and the Chipping Brook to the east and south, Church Raike, Malt Kiln Brow and open land to the west, and open fields to the north. The further element of the hotel aspect of the development lies to the west of Malt Kiln Brow, meaning that the hotel and leisure area of the development is bisected by the carriageway.

2.5 The site is shown from a regional perspective in Plan 001, and from a local perspective in Plan 002.

Existing Use

2.6 The residential element of the development proposals will be located on land to the north and south of Church Raike which comprise of open fields to the north of Church Raike and the current village cricket ground and pavilion to the south.

2.7 The hotel and Trailhead proposals will largely occupy redeveloped buildings located off Church Raike and Malt Kiln Brow which includes the former H.J. Berry & Sons Limited Kirk Mills site.

2.8 It is acknowledged that the former factory/mill uses are in a state of disrepair and are unlikely to be brought back into full operation. However, it should be recognised that the former uses generated staff traffic during the AM and PM peak hour periods as well as a number of heavy goods vehicle (HGV) movements throughout the day.

2.9 The proposed site of the relocated cricket ground and pavilion is currently an unoccupied open field which is bound to the west by Chipping Brook and open fields to the north, east and south.

2.0 Existing Situation

Existing Site Access

2.10 There is currently no physical access point into the proposed residential site to the north of Church Raike.

2.11 As described previously, there is an unnamed private access lane which bounds the proposed residential site to the south of Church Raike which currently provides access to the cricket ground and pavilion. This narrow access road form a priority controlled junction with Church Raike

2.12 The former HJ Berry factory was historically accessed via multiple access points off Malt Kiln Brow. The first access is located approximately 60m to the north of the Malt Kiln Brow/Church Raike junction and takes the form of a 4.7m wide bridge over Chipping Brook. This access is currently blocked by large concrete blocks to maintain site security. A second gated access is located a further 67m to the north along Malt Kiln Brow opposite Kirk Mill.

2.13 The Grade II listed Kirk Mill Building is accessed to the west of Malt Kiln Brow via an unmarked junction.

2.14 All access points associated with the former factory and mill buildings are currently gated to maintain site security.

2.15 The land identified for the relocated cricket ground and pavilion is currently accessed from Longridge Road via a 2.8m wide bridge over Chipping Brook.

Surrounding Highway Network

2.16 The surrounding highway network has been discussed in detail throughout the following paragraphs:

Church Raike

2.17 The residential and hotel sections of the development are bisected by Church Raike, which bounds the proposed residential development at its northern and eastern sides, and the proposed hotel and Trailhead development at its southern side. The road commences at a priority junction with Garstang Road and Talbot Street in the centre of Chipping and terminates at Fish House Lane approximately 1.3km to the north-west of the site. When travelling in a north-westerly direction from the centre of Chipping, Church Raike forks to the north along Malt Kiln Brow via a priority junction.

2.18 In the vicinity of the site Church Raike comprises a single-lane two-way carriageway approximately 5m in width. Adjacent to the junction with Malt Kiln Brow, there is a gravelled area used for off-street parking which has capacity for approximately 10 vehicles. Here the speed limit is increased from 30mph to the national

speed limit. There are limited footways provided in the vicinity of the site which is not uncommon for a rural village location. There is a bus shelter located at a priority junction with Kirklands approximately 150m south-east of the site.

Malt Kiln Brow

2.19 Malt Kiln Brow would provide access to the hotel element of the proposed development. From the priority junction with Church Raike, the road descends and continues northwards over Chipping Brook, running through to Fish House Lane in the north-west.

2.20 In the vicinity of the site Malt Kiln Brow comprises a single-lane two-way carriageway approximately 5-6m in width. Approximately 200m from the junction with Church Raike north of the mill building, the speed limit is increased from 30mph to the national speed limit. For the majority of the road on approach to the site, there is a low stone wall on both sides of the carriageway.

2.21 There are no footways provided on Malt Kiln Brow.

Garstang Road

2.22 Garstang Road is the main access to the centre of Chipping from the west. The road runs from a priority junction with Church Raike and Talbot Street in the centre of Chipping, through to Parsonage Lane which is approximately 1 km to the south-west of the site.

2.23 In the vicinity of the site Garstang Road comprises a two-way carriageway approximately 6.5m in width. Approximately 120m from the junction with Church Raike and Talbot Street, the speed limit changes from 30mph to the national speed limit. Adjacent to the junction, 'School – Keep – Clear' road markings indicate the presence of St Mary's Roman Catholic Primary School.

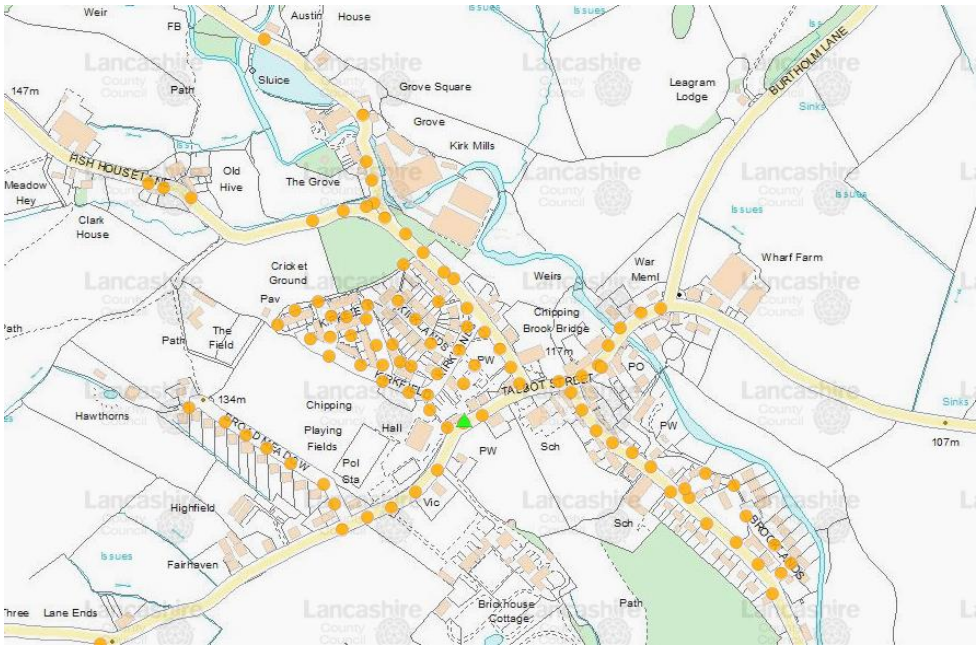
Talbot Street

2.24 Talbot Street is the main road through the centre of chipping from the east. The road runs east from a priority junction with Church Raike and Garstang Road for approximately 200m until the road name changes and continues eastwards out of Chipping along Green Lane.

2.25 Talbot Street comprises a two-way carriageway approximately 6.5m in width. For much of the carriageway there are double or single yellow lines to indicate parking and stopping restrictions. The road is subject to a 30mph speed limit.

2.26 Figure 1 illustrates the extent of street lighting provided in the vicinity of the site and throughout Chipping Village.

Figure 1: Extend of Street Lighting Throughout Chipping



Source: LCC Maps and Related Information Online (MARIO)

2.27 It is evident from Figure 1 that street lighting is currently provided along key routes between the proposed site and the centre of Chipping Village.

Highway Safety

2.28 Reference has been made to LCC's Maps and Related Information Online (MARIO) service which confirms that there have been no road collisions within Chipping between January 2008 and February 2013.

2.29 It can therefore be determined that there are no existing highway safety issues within the village of Chipping.

3.0 Development Proposals

Proposed Development

3.1 The proposed development comprises a mix of uses, including a residential and hotel development.

3.2 The hotel development comprises the following elements:

- Mill Hotel;
- Barn Cottages;
- New Hotel/Spa;
- Wedding Venue/Conferencing Facilities
- Trailhead Centre;
- Relocated Cricket Pavilion; and
- Kids Club.

3.3 The proposed scheme will bring together a quality hotel with associated cottages, gym and leisure facilities and family housing.

3.4 A new Trailhead centre will also provide facilities for outdoor pursuits.

3.5 Car parking provision will be provided at the site which will assist in alleviating on-street parking issues which is present within the village.

3.6 The Grade II listed Kirk Mill will be converted into a three storey, 18-room hotel with an ancillary fine dining restaurant and gastro pub.

3.7 The existing barn within the former HJ Berry factory site will be turned into seven cottages providing a total of 18 family-sized bedrooms.

3.8 A new 'barn style' building will provide 20 additional hotel rooms, a luxury gym and associated spa facilities. The buildings will cluster around an outdoor events area which could host events including regular farmers' markets promoting local produce.

3.9 The scheme will also offer wedding venue as well as conferencing and business facilities.

3.10 To complement the on-site facilities a new Kid's Club will be provided adjacent to the Barn Cottages with sufficient space for children to play safely outside.

3.11 The proposed Trailhead centre aims to attract some of the passing tourist trade by providing additional facilities including a café. Additional facilities to be provided will include dedicated off-road car parking, showers and changing facilities, boot and bike wash areas.

3.12 A total of 60 dwellings will be provided as part of the scheme to assist in meeting the wider Ribble Valley housing needs.

3.13 The houses will be a mix of market level and affordable homes to meet local needs. The housing plot to the north of Church Raike will accommodate five self-build plots to accommodate larger, four and five bedroom homes. 56 dwellings would be located on land to the south of Church Raike.

3.14 The scheme offers the opportunity to relocate the existing cricket pitch currently located on land to the south of Church Raike to a new purpose built facility at the southern edge of the village. The new club will include a new regulation sized pitch and a new club house with changing rooms and a kitchen.

Site Access

3.15 As the proposed development will be located across a number of separate parcels of land each element of the scheme will benefit from individual points of access off the local highway network.

3.16 The Kirk Mill building, to be converted into a hotel, will provide limited vehicle access from Malt Kiln Brow along the site frontage in the vicinity of the hotel reception. In order to a provide a safe and convenient access arrangement in the vicinity of the mill which maximises the achievable visibility splays it is proposed to deliver a new access feature which would require traffic to enter the site via a northern entry only access point and exit via a southern exit only point.

3.17 It is anticipated that customers/visitors would check-in from this location with the hotel offering a valet parking service.

3.18 Drawing TPMA1001-110 illustrates the proposed access arrangement for the converted mill building. Traffic flows are relatively light along this route and it is considered that the proposed layout would not create any delays on the highway network.

3.19 Given the level of traffic travelling along Malt Kiln Lane in the vicinity of the mill it is considered that the access proposals create an ideal opportunity to form a shared space environment which would provide a link between the hotel and leisure uses creating an environment where pedestrians and vehicles have equal priority. This could be explored further at detailed design stage.

3.20 The hotel and Trailhead element of the development, situated on the former HJ Berry factory site, will see the existing access points via Malt Kiln Brow retained, with an additional vehicular access road constructed off Church Raike to the south-east of the site. The proposed new access road is illustrated in drawing TPMA1001-106A. It can be seen from this drawing that visibility splays of 2.4m x 43m are achievable in both directions along Church Raike in accordance with Manual for Streets. The visibility splays to the left of the junction are shown to two points on the highway, the first to the edge of the carriageway which shows the splay crossing third party land which is currently unoccupied, the second to the centre of the Church Raike carriageway. Manual for Streets confirms that in some circumstances visibility splays can be taken to the centre of the carriageway particularly in situations when vehicles would be unlikely to be undertaking overtaking manoeuvres.

3.21 The drawing also shows that the gradient of the proposed access road over the first 15m would be 1 in 40 increasing to 1 in 13 as it enters the site. The access road would split to the left to create a new bridge access to the hotel and head off to the right providing access to the proposed car parking area and Trailhead centre.

3.22 A new access road will be delivered on Malt Kiln Brow approximately 50m to the north of the junction with Church Raike to provide access to the small residential site to the north of Church Raike. As the new junction would provide access to the proposed five no. self-build residential plots it was agreed during scoping discussions with the Local Highway Authority that a 4.2m access road would be provided with a 0.5m service strip along both sides of the carriageway. Drawing TPMA1001-107 illustrates the proposed junction and access road arrangement.

3.23 The drawing also illustrates visibility splays of 2.4m x 43m in both directions along Malt Kiln Brow. Curtins commissioned an independent traffic survey company to undertake a speed survey on Malt Kiln Brow in the vicinity of the proposed site access location. The full results of the survey are provided in Appendix A. The survey was undertaken for a 24 hour period with speeds measured for north and southbound movements. The results of the speed survey confirm an unadjusted 85th percentile speed of 25.3 mph in the northbound direction and 25.5 mph in the southbound direction.

3.24 The visibility splays of 2.4m x 43m shown in drawing TPMA1001-107 relate to vehicle speeds of 30mph. Given the lower vehicle speeds on Malt Kiln Brow and the low level of traffic flow along the road it was agreed with the Local Highway Authority that the visibility splay to the left of the proposed junction would be taken to the opposite side of the carriageway. Based on the volume of traffic and the nature of the route it is considered that there would be little or no opportunity for vehicle to overtake one another and as a result the visibility splays illustrated are considered appropriate.

3.25 Drawing TPMA1001-108 sets out the proposed access road and junction for the larger residential site to the south of Church Raike. The access will be positioned approximately 125m to the west of the Church Raike/Malt Kiln Brow junction.

3.26 The access road would be 5.5m wide with a 1.8m footway provided along both sides. It was agreed with the Local Highway Authority that the footways would taper along Church Raike and tie into the line of the 2.4m x 43m visibility splays in each direction.

3.27 In terms of carriageway gradient it has been agreed with the Local Highway Authority that over a distance of 15m from the Church Raike carriageway the gradient would be no more than 1 in 25. It would also be permissible to have a short length of carriageway at 1 in 12 before reducing to 1 in 20 as it forms an internal junction within the site. The full details of the internal site would be agreed at reserved matters stage.

3.28 Drawing TPMA1001-109A presents the proposed access arrangement for the future cricket ground site off Longridge Road. It can be seen that the existing bridge over Chipping Brook will be maintained and improved to provide access to the cricket pitch. Whilst the bridge would be unable to accommodate two-way vehicle movements it is envisaged that movement across the bridge will be undertaken on a give-way basis. Given that players and spectators would arrive and depart the cricket ground at similar times, and travel in the same direction, it is considered that the likelihood of two vehicles meeting on the bridge itself would be minimal.

3.29 It is recognised that the bridge may be of insufficient width for larger emergency service vehicles, namely fire service vehicles, to cross. The Building Regulations 2000 (B5) sets out in Section 17 the vehicle access requirements for fire appliances to small buildings (those of up to 2000sqm with a top storey up to 11m above ground level). The Regulations state that there should be vehicle access for a pump appliance to a small building within 45m of every point on the projects plan area of the building. The new club house on site has therefore been purposefully located within 45m of the bridge in order to accord with Building Regulations.

3.30 The proposed access arrangement will formalise the highway with a clear junction layout being provided which would also maintain access to the property immediately to the north of the access.

3.31 Visibility splays of 2.4m x 43m have also been identified at the junction.

Pedestrian and Cycle Access

3.32 There are limited dedicated pedestrian and cycle facilities in the vicinity of the proposed site which is typical of the local village environment with the majority of highways subject to 30mph speed restrictions and pedestrians/cyclists sharing the carriageway with vehicular traffic.

3.33 Pedestrian and cycle access can be achieved via each new vehicular access junctions proposed as part of the proposed scheme.

3.34 It is recognised however that the proposed access road from Church Raike into the hotel and Trailhead has a significant gradient which may not be suitable for all users. As noted previously the existing access points into the former HJ Berry factory site off Malt Kiln Brow will be maintained. These retained access points will provide more convenient pedestrian/cycle access into the site for vulnerable users.

3.35 The internal pedestrian and cycle routes provided within the residential developments will be delivered in accordance with the guidance and recommendations set out within Manual for Streets.

3.36 The residential proposals would also provide a natural extension to the established Kirklands residential estate and the potential to provide a pedestrian link from the proposed residential site to the south through the Kirklands estate will be explored as part of the detailed design stage.

Car Parking Provision

3.37 It is proposed that 100 car parking spaces will be provided to the south of the hotel site to cater for hotel guests and visitors to the Trailhead. Private residential car parking will be provided with the final numbers to be agreed at reserved matters as part of the internal design process.

3.38 Additional car parking will also be provided as part of the relocated cricket ground proposals.

3.39 Lancashire County Council's adopted car parking standards are set out within the Joint Lancashire Structure Plan 2001 to 2016 Parking Standards document (Adopted March 2005).

3.40 The document sets out the maximum car parking standards for each land use based on a defined parking hierarchy and level of accessibility determined by the completion of an accessibility questionnaire for residential and non-residential land uses.

3.41 Chipping, as a rural location, is classified as a Level 4 area within the car parking standards. A review of the accessibility questionnaires for residential and non-residential developments confirms that the proposed

development sites are located within an area of low accessibility. The completed questionnaires are provided in Appendix B.

3.42 Based on a Level 4 classification and a low accessibility score the maximum car parking requirements for each land use provided as part of the proposed development scheme have been summarised below.

- Hotel — 1 space per bedroom.
- Residential — 2 – 3 bedrooms, 2 spaces.
  4 + bedrooms, 3 spaces.
  Average space per dwelling should equal 1.5 per dwelling for proposals of 30 + dwellings.
- Outdoor pitches — 12 spaces per ha pitch area.
- Bicycle — 1 per 10 car spaces.
- Motorcycle — 1 per 25 car spaces.

3.43 Based on the above maximum requirements the proposed hotel/family cottages, which will provide 56 bedrooms in total, could provide up to 56 car parking spaces.

3.44 The proposed residential development (61 dwellings) would be required to provide up to 92 spaces based on an average of 1.5 spaces per dwelling. This will be accommodated as part of the detailed design of the residential sites.

3.45 The proposed cricket ground area off Longridge Road equates to approximately 1.47ha. Based on the adopted standards up to 18 spaces would be required to serve the proposed cricket ground. This level of car parking is considered sufficient to cater for players and spectators expected to travel to the proposed relocated cricket ground.

3.46 The adopted car parking standards do not provide any car parking requirements for the Trailhead element of the development proposals or the wedding venue.

3.47 In terms of the wedding venue element of the scheme it is considered that a number of guests would also be staying within the hotel and would therefore be accommodated within the hotel parking provision. The majority of additional guests are envisaged to arrive as part of shared vehicle trip, taxi, mini-bus or coach which would reduce the demand for significant additional car parking requirements.

3.48 The car parking requirements associated with the proposed Trailhead element of the scheme have been considered based on similar existing facility located in Llandegla, Wales.

3.49 Coed Llandegla Visitor Centre and Trail opened to the public in 2005 and is now a well-established leisure facility accommodating in excess of 100,000 visitors per year. The centre is open Tuesday to Sunday between 9am and 6pm (car park opened until 9pm) with facilities including a café, bike shop selling clothing, spare parts and bike rentals, a workshop offering repairs and upgrades and also a meeting room/classroom.

3.50 The centre offers four walking routes and four mountain bike trails ranging from family friendly trails to more technical challenging routes.

3.51 It is clear that the facilities on offer at the Coed Llandegla Visitor Centre would be greater than those currently being offered at the proposed Chipping Trailhead. However, in order to understand the traffic and car parking requirements of a trailhead scheme a traffic survey was undertaken at the access to the Coed Llandegla Visitor Centre on Tuesday 21st May 2013. The survey recorded the arrivals and departures from the centre between 7am and 7pm and also the vehicle occupants. The car parking occupancy of the centre has been derived based on the arrival and departure profile surveyed. The full survey data is provided within Appendix A with the results summarised in Table 3.1.

Table 3.1: Coed Llandegla Visitor Centre Car Parking Accumulation

Time Period	Arrivals	Departures	Car Park Accumulation
07:00	0	0	0
07:15	0	0	0
07:30	0	0	0
07:45	0	0	0
08:00	0	0	0
08:15	0	0	0
08:30	2	1	1
08:45	2	0	3
09:00	3	1	5
09:15	1	0	6
09:30	4	1	9
09:45	10	1	18
10:00	3	1	20
10:15	4	0	24
10:30	7	2	29
10:45	3	0	32
11:00	3	1	34
11:15	4	1	37
11:30	1	1	37
11:45	5	0	42

12:00	6	0	48
12:15	7	1	54
12:30	7	3	58
12:45	5	1	62
13:00	4	2	64
13:15	3	1	66
13:30	14	5	75
13:45	4	6	73
14:00	2	4	71
14:15	5	6	70
14:30	5	13	62
14:45	5	4	63
15:00	1	5	59
15:15	4	9	54
15:30	1	4	51
15:45	1	9	43
16:00	3	4	42
16:15	8	7	43
16:30	13	5	51
16:45	10	11	50
17:00	7	4	53
17:15	18	3	68
17:30	20	1	87
17:45	24	1	110
18:00	29	1	138
18:15	24	4	158
18:30	17	9	166
18:45	12	4	174

3.52 It can be seen from Table 3.1 that the car parking occupancy of the Coed Llandegla Visitor Centre remained level throughout the day at around 60 to 70 vehicles until approximately 17:30 (approaching centre closing time) where an increase in arrivals resulted in the car parking occupancy reaching 174 vehicles.

3.53 As noted previously, the proposed Trailhead at Chipping will not provide the same level of facilities as the Coed Llandegla Visitor Centre and is merely intended to accommodate passing tourist trade. Facilities in Chipping will be limited to a café, changing facilities and boot/bike wash areas. There will therefore be no bike retail or workshop elements to the scheme which would attract greater visitor numbers. On this basis it

is considered that the car parking accumulation evident at the Coed Llandegla Visitor Centre represents an extremely robust snapshot of what can be generated by a Trailhead facility, particularly post 17:30.

3.54 It is proposed that 100 parking spaces are provided as part of the proposed development on land off Church Raike which will serve the hotel, wedding venue and trail head facilities.

3.55 Given that the hotel and wedding services would complement each other and that the peak operating times would fall outside of the Trailhead peak operating periods it is considered that the proposed car parking provision would be sufficient to cater for potential future demand.

3.56 In addition, there is a 50 space pay & display car park approximately 100m to the south of the site which is accessed via Garstang Road which offers an alternative parking location for visitors to the site.

Cycle Parking Provision

3.57 Bicycle and motorcycle car parking will be provided in accordance with the adopted parking standards with a minimum of 10 cycles and 4 motorcycle parking spaces provided to serve the hotel and Trailhead development.

3.58 The proposed residential properties would benefit from private cycle/motorcycle parking provision.

Servicing and Refuse Collection

3.59 The internal site layout will be designed such that properties can be accessed by delivery vehicles and refuse vehicles. A swept path analysis supporting this will be undertaken and submitted with the full planning application.

4.0 Access by Sustainable Modes of Transport

Introduction

4.1 A key element of national and local transport planning policy is to ensure that new developments are located in areas where alternative modes of travel are available. It is important to ensure that developments are not isolated but are located close to complementary land uses. This supports the aims of integrating planning and transport, providing more sustainable transport choices, and reducing overall travel and car use.

4.2 However, paragraph 29 of the National Planning Policy Framework (NPPF) states the following:

"...the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas."

4.3 As the site is in a rural area, required and expected levels of accessibility should be adjusted accordingly.

Pedestrian Accessibility

4.4 Research has indicated that acceptable walking distances depend on a number of factors, including the quality of the development, the type of amenity offered, the surrounding area, and other local facilities. The Chartered Institution for Highways and Transportation (CIHT) document entitled *'Providing for Journeys on Foot'* suggests walking distances which are relevant to this planning application. These are reproduced in Table 4.1.

Table 4.1: Suggested Acceptable Walking Distances

CIHT Terms	Town Centres (m)	Commuting/School / Sightseeing (m)	Elsewhere/Local Services (m)
Desirable	200	500	400
Acceptable	400	1000	800
Preferred Maximum	800	2000	1200

4.5 It is considered that the majority of trips for the residential development would be for commuting or school, and the majority of people using the hotel and leisure side of the development would be sight-seeing. Therefore, to assist in summarising the accessibility of the site by foot an indicative pedestrian catchment plan has been produced. Plan 003 shows distances of 500m, 1000m and 2000m which are termed *'Desirable'*, *'Acceptable'* and the *'Preferred Maximum'* by the CIHT.

4.6 There are a number of residential properties within a 500m walk of the site, principally off Kirklands to the south of the proposed development. In addition, there are facilities in the centre of Chipping available to

future residents and guests of the proposed development. Within the 500m pedestrian catchment, this includes St. Mary's Roman Catholic Primary School and the Parish Church of St. Bartholomew on Garstang Road. The Cobbled Corner Cafe and The Sun Inn are also within the 500m pedestrian catchment, located on Garstang Road and Talbot Road respectively.

4.7 Slightly further afield and within the 1000m pedestrian catchment, existing residences can be accessed primarily off Broad Meadow and Longridge Road. There is also an additional primary school and place of worship, with Brabin's Endowed Primary School and St Mary's Roman Catholic Church both lying on Longridge Road. Heading south-west along Garstang Road, Chipping Village Hall is situated on the northern side of the carriageway. On Talbot Street there is an additional Public House and a convenience store; The Tillotsons Arms and Brabin's Shop and Gallery respectively. Brabin's Shop and Gallery also provides Post Office services.

4.8 The 2000m pedestrian catchment incorporates the village of Chipping in its entirety, and includes some additional residential properties.

4.9 In conclusion, walking is considered to be a realistic alternative to private car use for future users and residents of the proposed development. There are local amenities and services in Chipping which could be utilised by future residents and users of the hotel.

Accessibility by Cycle

4.10 To assist in assessing the accessibility of the site by cycle, Plan 004 presents a 5km cycle catchment for the site. This distance equates to a journey time of around 25 minutes, if cycling at a leisurely speed of 12 kilometres per hour.

4.11 The 5km catchment encompasses all of chipping and a number of villages including Whitewell, Walker Fold and Hesketh Lane.

4.12 There is no cycle infrastructure in the vicinity of the site. However there are a number of roads with wide carriageways across Chipping, and as the centre of the village has a speed limit of 30mph, it is considered that the local highway network is conducive to cycling.

4.13 In conclusion, cycling is considered to be a potential alternative to private car use for future users and residents of the proposed development.

4.0 Access by Sustainable Modes of Transport

Public Transport

4.14 The closest bus stop lies on Church Raike, approximately 300m from either the centre of proposed hotel and leisure development or the centre of the proposed residential development. This stop lies within the 400m suggested walking distance from the site set out in the Chartered Institution of Highways and Transportation (CIHT) document 'Guidelines for Planning for Public Transport in Development'. There are 3 additional stops situated on Garstang Road, Talbot Road and Longridge Road which are slightly further than the recommended 400m. All the stops are frequented by the following 3 services detailed in Table 4.2.

Table 4.2: Summary of Bus Services within 400m Walk of the Proposed Developments

Bus Service	Journey	Peak Frequency (per hour)			
		Mon-Fri AM	Mon-Fri PM	Sat	Sun/Public Holidays
5	Clitheroe – Whalley – Ribchester – Longridge – Chipping (via Hurst Green – Knowle Green)	2 Morning Services	Every 2 Hours	Every 2 Hours	-
5A	Clitheroe –Longridge (via Hurst Green – Knowle Green)	-	1 Afternoon Service	1 Afternoon Service	-
35	Blackburn – Ribchester – Longridge – Chipping (via St Mary's College – Pleckgate – Wilpshire – Salesbury)	Every 2 Hours	Every 2 Hours	Every 2 Hours	-

4.15 The table above demonstrates that although the site is in a rural area, there are still relatively regular bus services on Mondays to Saturdays.

4.16 In conclusion, bus travel is considered to be a realistic alternative to private car use for future users and residents of the proposed development.

Summary

4.17 In summary it is considered that the site is relatively well connected for its rural location. There are existing pedestrian linkages providing access between the proposed sites and key facilities within the centre of Chipping Village, and complementary land uses and facilities local to the development. There are existing bus services close to the proposed development.

5.0 Transport Planning Policy

Introduction

5.1 In order to develop the scheme proposals, it is necessary to understand the national and local transport related planning policies. Therefore, the following section sets out key policies and how the proposals accord with these.

National Planning Policy Framework

5.2 The National Planning Policy Framework (NPPF) supports a presumption in favour of sustainable development and Section 4, Promoting Sustainable Transport, outlines the important role that transport policies have to play in facilitating this.

5.3 Paragraph 34 indicates that:

"Plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised. However this needs to take account of policies set out elsewhere in this Framework, particularly in rural areas."

5.4 The site has been shown to have local amenities complimentary to residential development within walking distance. Within the hotel, leisure and Trailhead development, there will be additional leisure facilities available for use.

5.5 In addition to this, paragraph 29 states that:

"…the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas."

5.6 It must be recognised that the location of the proposed development is a rural one, yet not an isolated one. Under the NPPF, the site should be considered as an opportunity in a rural location, and levels of accessibility should be adjusted accordingly. The development is therefore not considered contrary to any transport policies in the NPPF.

Local Policy

5.7 Local transportation planning policy relevant to the development includes the 'Core Strategy 2008 – 2028: A Local Plan for Ribble Valley' and the 'Lancashire Local Transport Plan (2011-2021)'.

Ribble Valley Core Strategy (2008 – 2028)

5.8 Following the last consultation stage, several changes were made to the strategy. These were formally agreed at a meeting of Ribble Valley Borough Council on 28th August 2012, and the Core Strategy was subsequently submitted to the Secretary of State. It contains the following statements and policies relevant to transport:

"KEY STATEMENT DMI2: TRANSPORT CONSIDERATIONS
New development should be located to minimise the need to travel. Also it should incorporate good access by foot and cycle and have convenient links to public transport to reduce the need for travel by private car."

And;

"POLICY DMG3: TRANSPORT AND MOBILITY
In making decisions on development proposals the local planning authority will, in addition to assessing proposals within the context of the development strategy, attach considerable weight to:

The availability and adequacy of public transport and associated infrastructure to serve those moving to and from the development –

- *The relationship of the site to the primary route network and the strategic road network.*
- *The provision made for access to the development by pedestrian, cyclists and those with reduced mobility.*
- *Proposals which promote development within existing developed areas or extensions to them at locations which are highly accessible by means other than the private car.*
- *Proposals which locate major generators of travel demand in existing centres which are highly accessible by means other than the private car.*
- *Proposals which strengthen existing town and village centres which offer a range of everyday community shopping and employment opportunities by protecting and enhancing their vitality and viability.*
- *Proposals which locate development in areas which maintain and improve choice for people to walk, cycle or catch public transport rather than drive between homes and facilities which they need to visit regularly.*
- *Proposals which limit parking provision for developments and other on or off street parking provision to discourage reliance on the car for work and other journeys where there are effective alternatives.*

All major proposals should offer opportunities for increased use of, or the improved provision of, bus and rail facilities. All development proposals will be required to provide adequate car parking and servicing space in line with currently approved standards.

The council will protect land currently identified on the proposals map from inappropriate development that may be required for the opening of stations at Gisburn and Chatburn. Any planning application relating to these sites will be assessed having regard to the likelihood of the sites being required and the amount of harm that will be caused to the possible implementation of schemes. The council will resist development that will result in the loss of opportunities to transport freight by rail."

5.9 Section 4 of this report shows how the area is well connected to Blackburn and Clitheroe by public transport considering its rural location. There are also plenty of services and facilities within walking distance of the site. The development is also a natural extension of a previously developed area. The proposed development is in compliance with transportation policies in the Ribble Valley Core Strategy.

Lancashire Local Transport Plan 3

5.10 The Lancashire Local Transport Plan 3 (LTP3) presents transportation priorities throughout for ten years from 2011 to 2021. It sets out a strategy which pledges to support the Lancashire economy, tackle deep-seated inequalities in people's life chances and to revitalise communities by providing safe high-quality neighbourhoods.

5.11 The LTP sets out the following 'Priorities and Activities':

- Improving Access into Areas of Economic Growth and Regeneration;
- Providing Better Access to Education and Employment;
- Improving People's Quality of Life and Wellbeing;
- Improving the Safety of our Streets for our most Vulnerable Residents;
- Providing Safe, Reliable, Convenient and Affordable Transport Alternatives to the Car;
- Maintaining our Assets; and
- Reducing Carbon Emissions and its Effects.

5.12 As described in Section 4 of this TA, the site is considered to be accessible by sustainable modes, including walking, cycling and public transport, and is therefore considered to be consistent with the priorities of the LTP.

5.0 Transport Planning Policy

Summary

5.13 In summary, it is considered that the proposed development conforms to local and national planning policy.

6.0 Traffic Forecasting and Development Impact

Introduction

6.1 This section of the report details the methodology used to predict the demand associated with the proposed development.

Scope of Assessment

6.2 Following discussions with Highways Officers at LCC it was agreed that the following junction would need to be considered as part of the Transport Assessment in detail:

- Talbot Street/Windy Street/Garstang Road/Church Raike

6.3 The layout of the junction effectively creates an extended priority controlled staggered crossroad junction.

Traffic Surveys

6.4 In order to obtain AM and PM peak hour traffic data for the above junction turning count surveys were commissioned by Curtins on Thursday 23rd May 2013. The full survey results are contained in Appendix A.

6.5 Following a detailed review of the traffic survey data the AM peak hour has been determined as 08:00 – 09:00, and the PM peak hour as 15:00 – 16:00. These peak periods have been used as the basis for this assessment.

6.6 The results of the full turning movement survey at the Talbot Street/Windy Street/Garstang Road/Church Raike junction have been summarised in Tables 6.1 and 6.2 for AM and PM peak periods respectively.

Table 6.1: 2013 AM Peak Baseline Turning Count Results

		To									
		Talbot Street		Windy Street		Garstang Road		Church Raike		**Total**	
		LGV	HGV	LGV	HGV	LGV	HGV	LGV	HGV	**LGV**	**HGV**
From	Talbot Street	-		20	1	12	0	12	2	**44**	**3**
	Windy Street	17	0	-		15	1	15	2	**47**	**3**
	Garstang Road	16	1	27	0	-		4	1	**47**	**2**
	Church Raike	22	0	29	5	4	1	-		**55**	**6**
	Total	**55**	**1**	**76**	**6**	**31**	**2**	**31**	**5**	**-**	

6.0 Traffic Forecasting and Development Impact

Table 6.2: 2013 PM Peak Baseline Turning Count

		To									
		Talbot Street		Windy Street		Garstang Road		Church Raike		Total	
		LGV	HGV	LGV	HGV	LGV	HGV	LGV	HGV	LGV	HGV
From	Talbot Street	-		21	0	16	2	13	2	**50**	**4**
	Windy Street	24	2	-		31	0	22	2	**77**	**4**
	Garstang Road	18	2	21	0	-		6	0	**45**	**2**
	Church Raike	11	1	7	0	7	0	-		**25**	**1**
	Total	**53**	**5**	**49**	**0**	**54**	**2**	**41**	**4**	**-**	

6.7 As demonstrated in the tables above, there are currently relatively low levels of traffic during the peak hour periods travelling through the Talbot Street/Windy Street/Garstang Road/Church Raike junction. Tables 6.1 and 6.2 confirm that 207 and 208 vehicles pass through the junction during the AM and PM peak hour periods respectively. This level of traffic equates to only 4 vehicles per minute passing through the junction during the peak hour periods.

6.8 In addition to the turning counts Curtins also commissioned a queue length survey, which was also carried out on Thursday 23rd May 2013. It returned results for 15 minute periods between 07:30 and 09:30 in the AM, and 15:00 to18:30 in the PM. Table 6.3 provides a summary of the survey results.

Table 6.3: Queue Length Survey Results

	Junction Arm			
Time	**Talbot Street**	**Windy Street**	**Garstang Road**	**Church Raike**
07:30	0	0	0	0
07:45	0	0	0	0
08:00	0	0	0	0
08:15	0	0	0	0
08:30	0	0	0	0
08:45	0	0	0	0
09:00	0	0	0	0
09:15	0	0	0	0
AM Average	**0**	**0**	**0**	**0**
15:00	0	0	0	0
15:15	0	0	0	0

15:30	0	0	0	0
15:45	0	0	0	0
16:00	0	0	0	0
16:15	0	0	0	0
16:30	0	0	0	0
16:45	0	0	0	0
17:00	0	0	0	0
17:15	0	0	0	0
17:30	0	0	0	0
17:45	0	0	0	0
18:00	0	0	0	0
18:15	0	0	0	0
PM Average	**0**	**0**	**0**	**0**
Day Average	**0**	**0**	**0**	**0**

6.9 It is evident from the queue survey that no congestion issues were identified at the junction during the survey period. Throughout the assessed AM and PM periods, there were no recorded queues.

6.10 In summary, it is considered that the Talbot Street/Windy Street/Garstang Road/Church Raike junction is operating within capacity.

Assessment Years & Traffic Growth

6.11 In accordance with DfT guidance, the impact of the development has been assessed for the year of application (2013) and the application year plus 5 years (2018). The observed traffic flows were factored to the assessment years by the following methods:

- Cars and Light Goods Vehicles (LGVs) by TEMPRO NTEM 6.2 dataset for the Ribble Valley (Rural) area; and
- Heavy Goods Vehicles (HGVs) and Buses by NTM 2009.

6.12 These growth factors are presented in Table 6.4.

Table 6.4: Background Traffic Growth Factors

Base Year	Forecast Year	Cars & LGVs		HGVs
		AM Peak	PM Peak	AM/PM Peak
2013	2018	1.0589	1.0613	1.0312

6.13 The growth factors shown above have been applied to the 2013 base traffic flows illustrated in Tables 6.1 and 6.2 to provide the 2018 AM and PM peak hour base traffic flows illustrated in Tables 6.5 and 6.6.

Table 6.5: 2018 Growthed Turning Counts (AM Peak)

Flows in PCUs		To				
		Talbot Street	Windy Street	Garstang Road	Church Raike	**Total**
From	Talbot Street	-	23	13	17	**53**
	Windy Street	18	-	18	20	**56**
	Garstang Road	19	29	-	6	**54**
	Church Raike	23	41	6	-	**70**
	Total	**60**	**92**	**37**	**43**	-

Table 6.6: 2018 Growthed Turning Counts (PM Peak)

Flows in PCUs		To				
		Talbot Street	Windy Street	Garstang Road	Church Raike	**Total**
From	Talbot Street	-	22	21	18	**61**
	Windy Street	29	-	33	27	**90**
	Garstang Road	23	22	-	6	**52**
	Church Raike	14	7	7	-	**29**
	Total	**66**	**52**	**61**	**52**	-

6.14 No committed development traffic has been explicitly modelled, however the planning assumptions in TEMPRO should provide a realistic, or arguably overoptimistic, estimate of such traffic for both household and employment future developments.

Development Traffic Generation

6.15 In order to determine the additional traffic generated by the development, trip rates have been derived where applicable and applied to the development proposals.

Residential Traffic Generation

6.16 As agreed during scoping discussions with LCC, in preference to utilising the TRICS national database to predict the traffic demand of the proposed residential development a local donor site has been surveyed to determine the traffic demand of a similar sized residential development in the local area.

6.17 An arrival and departure survey was commissioned at the Kirkfield housing estate and carried out on Thursday 23rd May 2013. As the Kirkfield estate is situated immediately adjacent to the south of the proposed site it was agreed with LCC that the trip generating characteristics would be consistent with the proposed residential uses. Of the residential properties accessed via Kirklands (i.e. excluding those fronting Church Raike), there are 72 dwellings. On this basis the site is considered to be a suitable donor site.

6.18 There is a sole vehicular access to the estate via Kirklands, ensuring no leakage of vehicles down alternative access roads and avoiding the survey point.

6.19 Following a detailed review of the survey results, it was determined that the AM and PM peak periods occurred between 07:30 and 08.30 and 17:15 to18:15 respectively. The arrival and departure counts for these periods are summarised in Table 6.7.

Table 6.7: Summary of Peak Arrival and Departure Counts for the Kirkfield Residential Estate

Peak Period	LGVs			LGVs			Total
	Arrivals	Departures	Total	Arrivals	Departures	Total	
AM	14	27	41	0	0	0	41
PM	27	15	42	0	0	0	42

6.20 Analysis of the results confirms that there are 14 vehicles which arrive into the estate during the AM peak and 27 departures. This equates to a total of 41 two-way movements during the AM peak hour. There are 27 vehicles which arrive at the estate during the PM peak, and 15 departures. This equates to a total of 42 two-way movements during the PM peak hour.

6.21 Based on these flows Table 6.8 provides the resultant trip rates which have been derived by dividing the arrivals and departures by the 72 dwellings served by Kirklands:

Table 6.8: Summary of Proposed Residential Trip Rates

Peak Period	Calculated Trip Rates		
	Arrivals	Departures	Total
AM	0.194	0.375	0.569
PM	0.375	0.208	0.583

6.22 The trip rates summarised in Table 6.8 have been applied to the proposed 61 dwelling residential development, with the resultant trip generations provided in Table 6.9.

Table 6.9: Summary of Proposed Residential Development Trips

Peak Period	Proposed Residential Development Trips		
	Arrivals	Departures	Total
AM	12	23	35
PM	23	13	36

6.23 Based on the trip rates derived from a donor site, as agreed with LCC, the proposed residential development is anticipated to generate in the order of 35 and 36 two-way trips during the AM and PM peak hour periods respectively.

Hotel Traffic Generation

6.24 In order to determine the hotel traffic generation associated with the proposed development, the TRICS database has been interrogated. This industry-standard database contains the trip rates associated with numerous sites of various land use types across the UK. The full TRICS outputs are presented in Appendix C.

6.25 The arrival and departure trip rates for AM and PM peak periods are summarised in Table 6.10.

Table 6.10: Summary of Proposed Hotel Trip Rates

Peak Period	TRICS Trip Rates		
	Arrivals	Departures	Total
AM	0.171	0.292	0.463
PM	0.237	0.153	0.390

6.26 The trip rates summarised in Table 6.10 have been applied to the proposed 56 hotel bedrooms to be delivered as part of the proposed development, with the resultant trip generations provided in Table 6.11.

Table 6.11: Summary of Proposed Hotel Development Trips

Peak Period	Proposed Hotel and Leisure Development Trips		
	Arrivals	Departures	Total
AM	10	16	26
PM	13	9	22

6.27 Based on the trip rates derived from TRICS, the proposed hotel development is anticipated to generate in the order of 26 and 22 two-way trips during the AM and PM peak hour periods respectively.

Trailhead Traffic Generation

6.28 In order to determine the traffic associated with the proposed Trailhead, for robustness reference has been made to the traffic survey undertaken at the Coed Llandegla Visitor Centre referenced in section 3 of this report.

6.29 Table 3.1confirms that between 08:00 and 09:00 the Coed Llandegla Visitor Centre generated 4 arrivals and 1 departure. Between 17:00 and 18:00 the visitor centre generated 69 arrivals and 9 departures.

6.30 As part of this assessment, the traffic generated by the Coed Llandegla Visitor Centre has been adopted to provide a robust assessment and the same volume of traffic will be assumed to be generated by the proposed Trailhead facility. As noted previously, it should be recognised that the proposed Trailhead would provide fewer services than the Coed Llandegla Visitor Centre and is intended to meet the needs of passing tourist trade and the actual level of trips which could be generated would be significantly less.

Total Proposed Development Impact

6.31 Table 6.12 provides a summary of the combined trip generating potential of the full proposed development scheme.

Table 6.12: Summary of Total Proposed Development Trips

Peak Period	Calculated Proposed Development Trips		
	Arrivals	Departures	Total
Residential Trip Generations			
AM	12	23	35
PM	23	13	36
Hotel Trip Generations			
AM	10	16	26
PM	13	9	22
Trailhead Trip Generations			
AM	4	1	5
PM	69	9	78
Combined Trip Generations			
AM	26	40	66
PM	105	31	136

6.32 Based on the trip rates derived from the Kirkfield housing estate donor site, the Coed Llandegla Visitor Centre and TRICS, the proposed development is anticipated to generate in the order of 66 and 136 two-way trips during the AM and PM peak hour periods respectively.

6.33 This increase in traffic equates to a little of 1 additional vehicle movement per minute during the AM peak hour period and a little over 2 vehicle movements per minute during the PM peak hour.

6.34 As noted previously, whilst the site is not currently operational, as a historical manufacturing use the former factory/mill generated staff vehicle movements during the AM and PM peak hour periods as well as HGV movements through the village.

6.35 The proposed hotel and leisure uses would be serviced by large goods vehicles, however, these vehicles are likely to be smaller than the HGVs utilised as part of the former site use, less frequent and programmed to access the site outside of peak traffic periods to avoid conflicts with commuter traffic.

6.36

Development Traffic Distribution

6.37 Based on the existing local highway network layout and the key routes into/out of Chipping it is considered that all development related traffic would travel southbound towards the Talbot Street/Windy Street/Garstang Road/Church Raike junction.

6.38 From this point the proposed development traffic would be distributed in accordance with the existing turning proportions identified at the junction by the traffic survey.

6.39 Tables 6.13 and 6.14 provide a summary of the proposed development turning proportions at the Talbot Street/Windy Street/Garstang Road/Church Raike junction based on the base survey results summarised in Tables 6.1 and 6.2.

Table 6.13: AM Peak Proposed Development Distribution

		To			
		Talbot Street	Windy Street	Garstang Road	Church Raike
From	Talbot Street	-	-	-	39%
	Windy Street	-	-	-	48%
	Garstang Road	-	-	-	13%
	Church Raike	40%	53%	7%	100%

Table 6.14: PM Peak Proposed Development Distribution

		To			
		Talbot Street	Windy Street	Garstang Road	Church Raike
From	Talbot Street	-	-	-	32%
	Windy Street	-	-	-	53%
	Garstang Road	-	-	-	15%
	Church Raike	44%	28%	28%	100%

6.40 Tables 6.15 and 6.16 provide a summary of the proposed development full trip generations summarised in Table 6.12 distributed at the Talbot Street/Windy Street/Garstang Road/Church Raike junction in line with the existing turning proportions.

Table 6.15: AM Peak Proposed Development Traffic Flows

		To			
		Talbot Street	Windy Street	Garstang Road	Church Raike
From	Talbot Street	-	-	-	10
	Windy Street	-	-	-	13
	Garstang Road	-	-	-	3
	Church Raike	16	21	3	-

Table 6.16: PM Peak Proposed Development Traffic Flows

		To			
		Talbot Street	Windy Street	Garstang Road	Church Raike
From	Talbot Street	-	-	-	34
	Windy Street	-	-	-	55
	Garstang Road	-	-	-	16
	Church Raike	14	9	9	-

Assessment Traffic Flows

6.41 The proposed development traffic flows summarised in Tables 6.15 and 6.16 have been combined with the 2018 forecast traffic flows set out in Tables 6.5 and 6.6 to provide the 2018 assessment traffic flow scenarios summarised in Table 6.17 and 6.18 for the AM and PM peak hour period respectively.

Table 6.17: AM Peak 2018 Assessment Traffic Flows

		To			
		Talbot Street	Windy Street	Garstang Road	Church Raike
From	Talbot Street	-	23	13	27
	Windy Street	18	-	18	33
	Garstang Road	19	29	-	9
	Church Raike	39	62	9	-

Table 6.18: PM Peak 2018 Assessment Traffic Flows

		To			
		Talbot Street	Windy Street	Garstang Road	Church Raike
From	Talbot Street	-	22	21	52
	Windy Street	29	-	33	82
	Garstang Road	23	22	-	22
	Church Raike	28	16	16	-

Proposed Development Impact

6.42 The proposed development traffic impact has been assessed at the Talbot Street/Windy Street/Garstang Road/Church Raike junction using the PICADY junction capacity assessment program.

6.43 PICADY is the industry recognised tool for assessing the operation and capacity of three and four arm priority controlled junctions.

6.44 PICADY results refer to the Ratio of Flow to Capacity (RFC) and queue length predicted on each arm of the junction. An RFC of 1.00 indicates that the arm in question is operating at its theoretical capacity, whilst an RFC of 0.85 or less indicates that the arm is operating within its practical capacity.

6.45 Table 6.19 and 6.20 provides a summary of the 2018 base and assessment traffic scenario PICADY results respectively with the full outputs presented in Appendix D.

Table 6.19 – 2018 PICADY Base Summary

Arm	AM Base 2018		PM Base 2018	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Windy Street	0.12	0	0.15	0
Talbot Street	0.07	0	0.07	0
Talbot Street	0.14	0	0.05	0
Garstang Road	0.13	0	0.05	0

Table 6.20 – 2018 PICADY Assessment Summary

Arm	AM 2018 Assessment		PM 2018 Assessment	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Windy Street	0.15	0	0.30	0
Talbot Street	0.11	0	0.24	0
Talbot Street	0.22	0	0.13	0
Garstang Road	0.18	0	0.07	0

6.46 It can be seen from Table 6.20 that the following the addition of the proposed development traffic the Talbot Street/Windy Street/Garstang Road/Church Raike junction would continue to operate well within capacity up to 2018.

6.47 The maximum RFC of 0.30 occurs during the PM peak hour period on the Windy Street approach arm with no queues identified.

6.48 The results of the assessments also confirm that there will be little or no impact on movements along Windy Street/Longridge Road when compared to the 2018 base situation. The additional traffic generated by the proposed development would not lead to any significant additional delays at the junction or approach roads during the AM and PM peak hour periods.

6.49 The proposed mixed use development is therefore considered to have no severe traffic impact on the local highway network.

7.0 Summary and Conclusions

Summary

7.1 Curtins has been appointed on behalf of SCPi to provide traffic and transportation advice in support of the proposals to develop a residential, hotel and leisure scheme in the village of Chipping, Lancashire.

7.2 The proposals will represent the redevelopment of a former furniture manufacturing mill with many of the buildings in need of demolition or substantial renovation.

7.3 It is proposed to deliver 60 new residential dwellings across two sites to the north of the villages as well as a hotel/leisure development comprising 56 rooms seven cottages providing 18 family-sized rooms.

7.4 The scheme will also offer wedding venue as well as conferencing and business facilities.

7.5 To complement the on-site facilities a new Kid's Club will be provided adjacent to the Barn Cottages with sufficient space for children to play safely outside.

7.6 A new trailhead centre will also be delivered to provide facilities for outdoor pursuits as well as significant car parking provision to alleviate localised parking issues within the village.

7.7 In order to facilitate the scheme it will be necessary to relocate the existing cricket ground and pavilion onto a new site to the south of the village off Longridge Road.

7.8 The sites on which the mix of uses are proposed are located in the village of Chipping, approximately 6.5km north-east of Longridge and 15km from Preston in Lancashire. They are situated in a largely rural area, predominantly at the northern edge of the village. The sites are split into three distinct plots to the east and west of the point where Church Raike forms a priority junction with Malt Kiln Brow.

7.9 The residential element of the development proposals will be located on land to the north and south of Church Raike which comprise of open fields to the north of Church Raike and the current village cricket ground and pavilion to the south.

7.10 The hotel and Trailhead proposals will largely occupy redeveloped buildings located off Church Raike and Malt Kiln Brow which includes the former H.J. Berry & Sons Limited Kirk Mills site.

7.11 The proposed site of the relocated cricket ground and pavilion is currently an unoccupied open field which is bound to the west by Chipping Brook and open fields to the north, east and south.

7.12 As the proposed development will be located across a number of separate parcels of land each element of the scheme will benefit from individual points of access off the local highway network. It has been demonstrated that each access can be delivered in accordance with current design standards and recommendations. The existing bridge over Chipping Brook will be maintained and improved to provide access to the new cricket pitch.

7.13 Sufficient car parking will also be provided across the site in accordance with Lancashire County Councils adopted maximum car parking standards.

7.14 A review of local and national transport planning policy has been undertaken and based on the accessibility of the site to local service on foot, by cycle and to surrounding areas by public transport it is considered that the proposed development conforms to local and national policy.

7.15 A detailed assessment of the trip generating characteristics of the mixed use site has been undertaken based on a mixture of conventional trip calculating methods and donor site analysis and it has been determined that the proposed scheme would not generate significant levels of additional traffic on the local highway network.

7.16 A further detailed capacity assessment has been undertaken of a key junction within the village centre for a future 2018 assessment year with the results confirming that the proposed development would have no severe impact on the operation of the Talbot Street/Windy Street/Garstang Road/Church Raike junction.

Conclusion

7.17 Based on the findings of this Transport Assessment, from a traffic and transportation perspective there are no reasons why the redevelopment proposals should not be granted planning approval.

PLANS

Drg No:	Rev:
TPMA1001_001	/

Project:	CHIPPING MIXED USE DEVELOPMENT
Drg Title:	REGIONAL SITE LOCATION PLAN
Drawn:	MF
Checked:	DJ
Scale:	NTS

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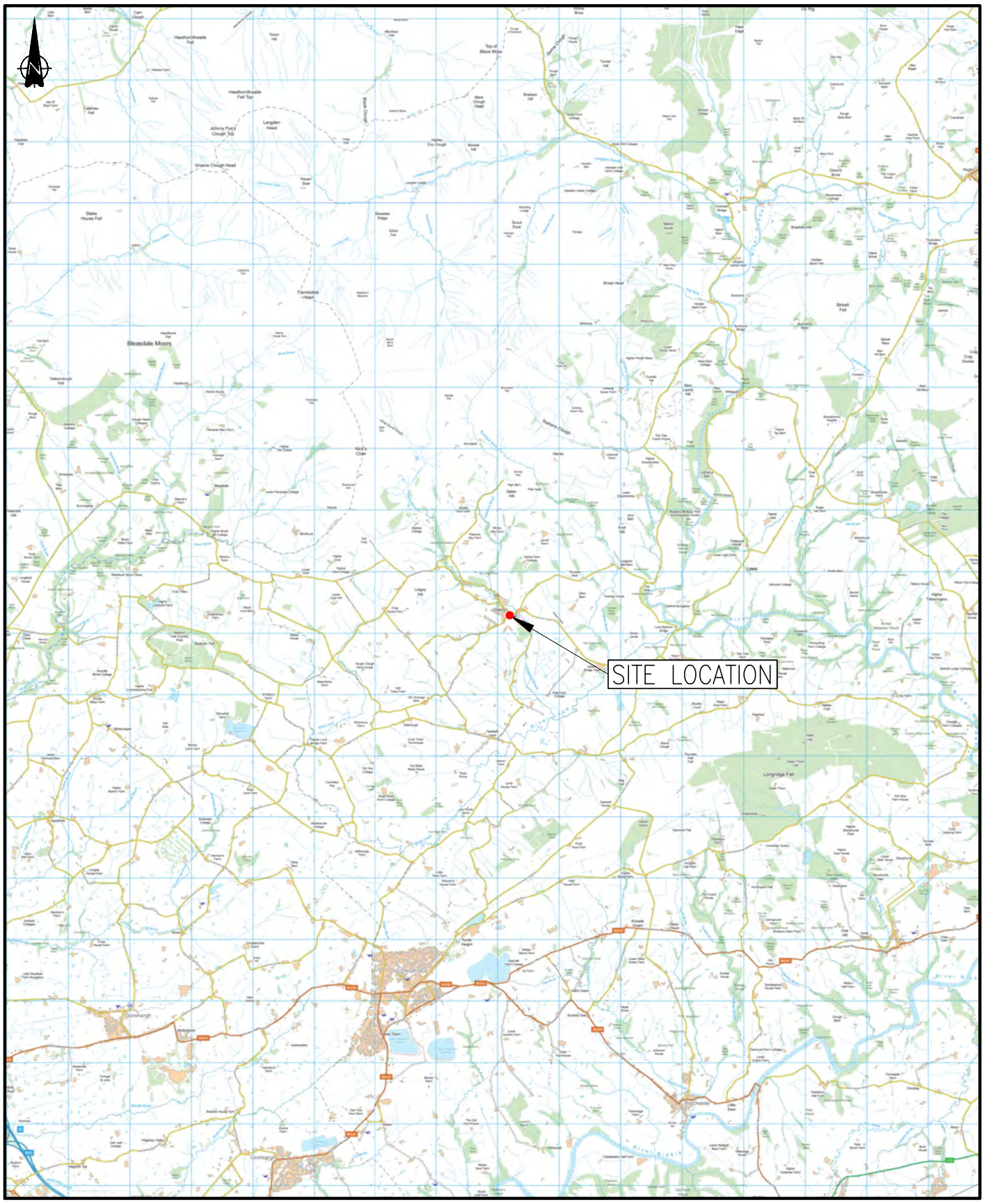

Drg No:	Rev:
TPMA1001_002	/

Project:	CHIPPING MIXED USE DEVELOPMENT
Drg Title:	LOCAL SITE LOCATION PLAN
Drawn:	MF
Checked:	DJ
Scale:	NTS

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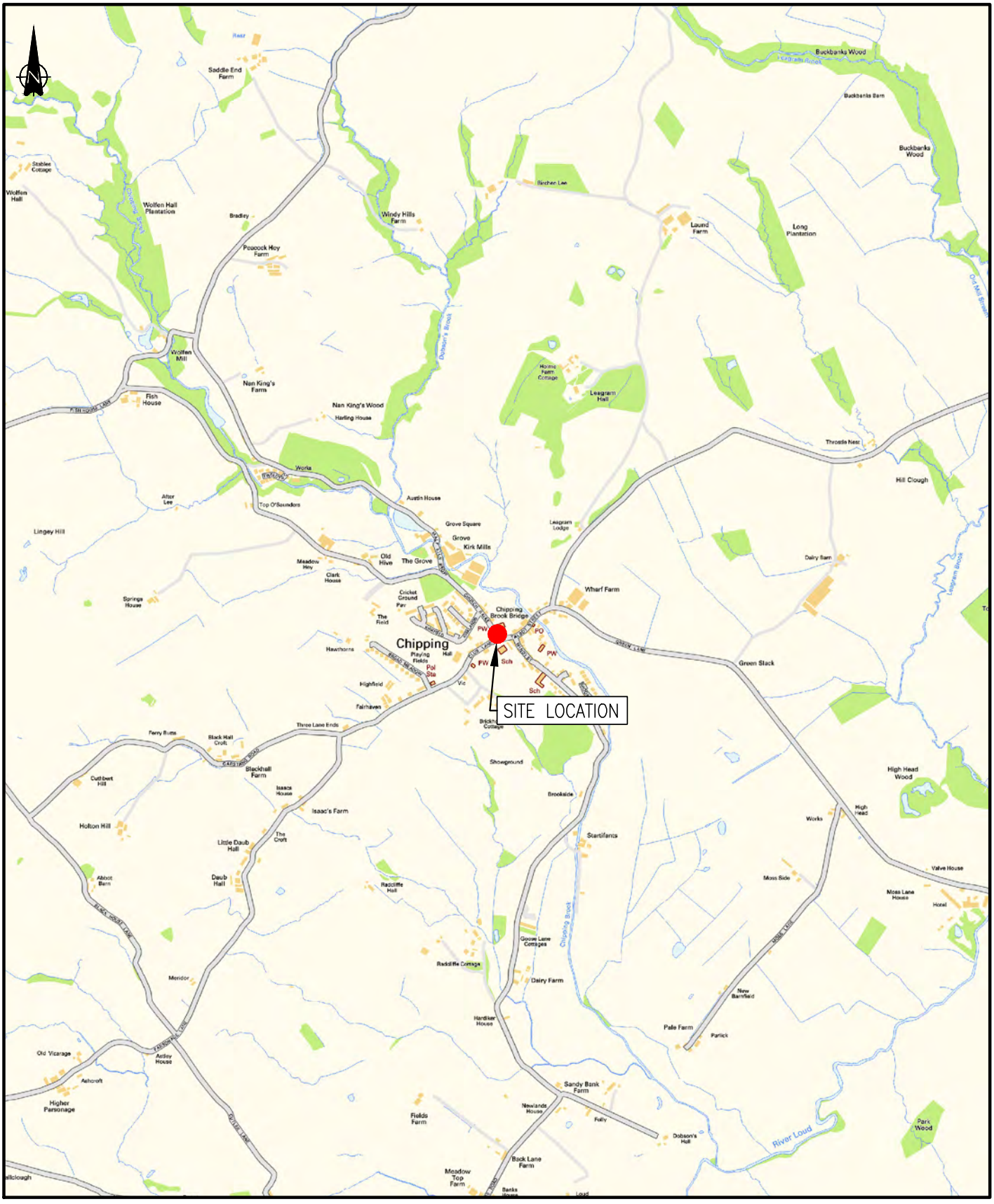

Drg No:	Rev:
TPMA1001_003	/

Project: CHIPPING MIXED USE DEVELOPMENT

Drg Title: PEDESTRIAN CATCHMENT PLAN

Drawn: MF

Checked: DJ

Scale: NTS

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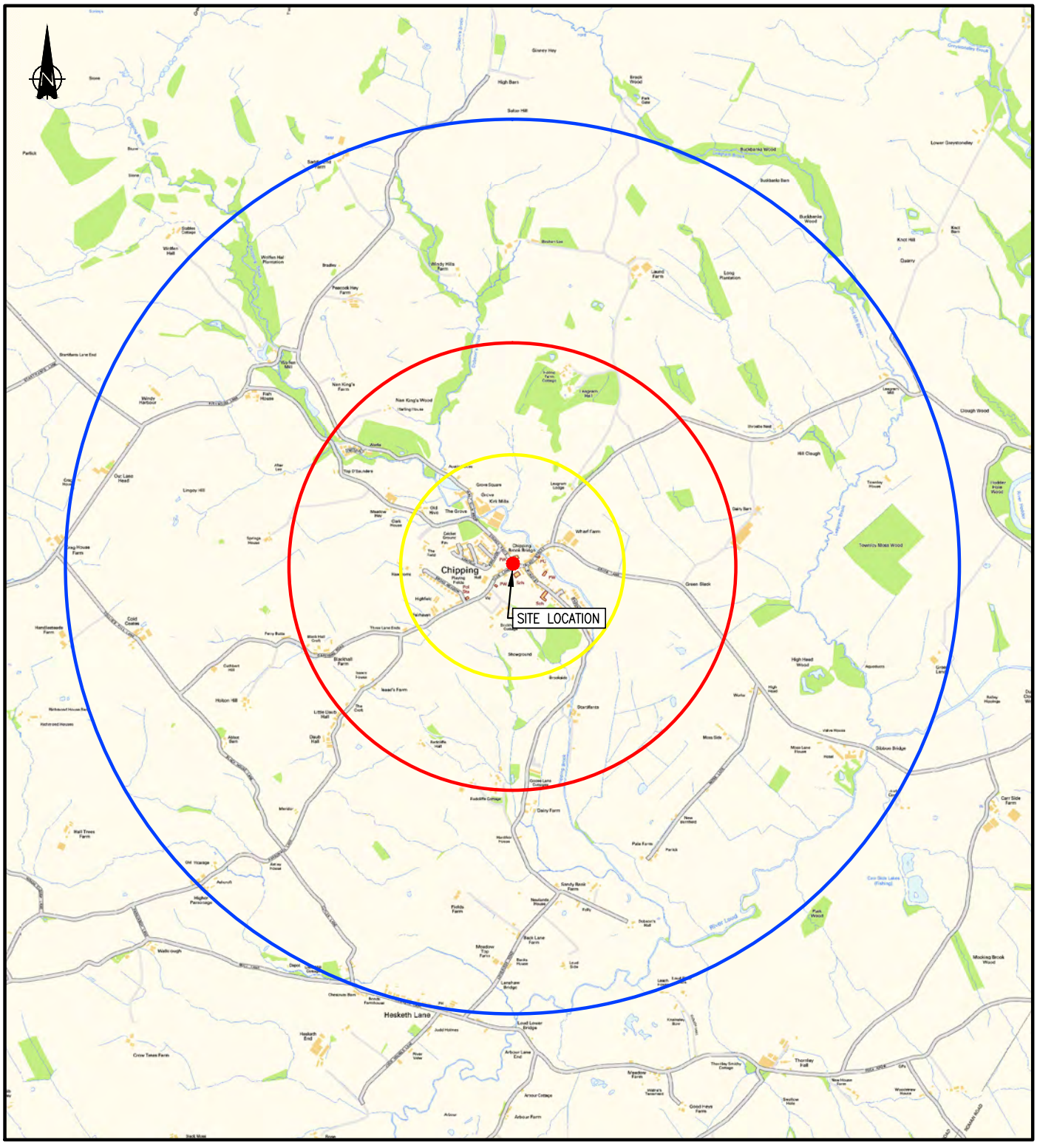

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0m–500m CATCHMENT

500m–1000m CATCHMENT

1000m–2000m CATCHMENT

Drg No:	Rev:
TPMA1001_004	/

Project:	CHIPPING MIXED USE DEVELOPMENT
Drg Title:	FIVE KILOMETER CYCLE CATCHMENT
Drawn:	MF
Checked:	DJ
Scale:	NTS

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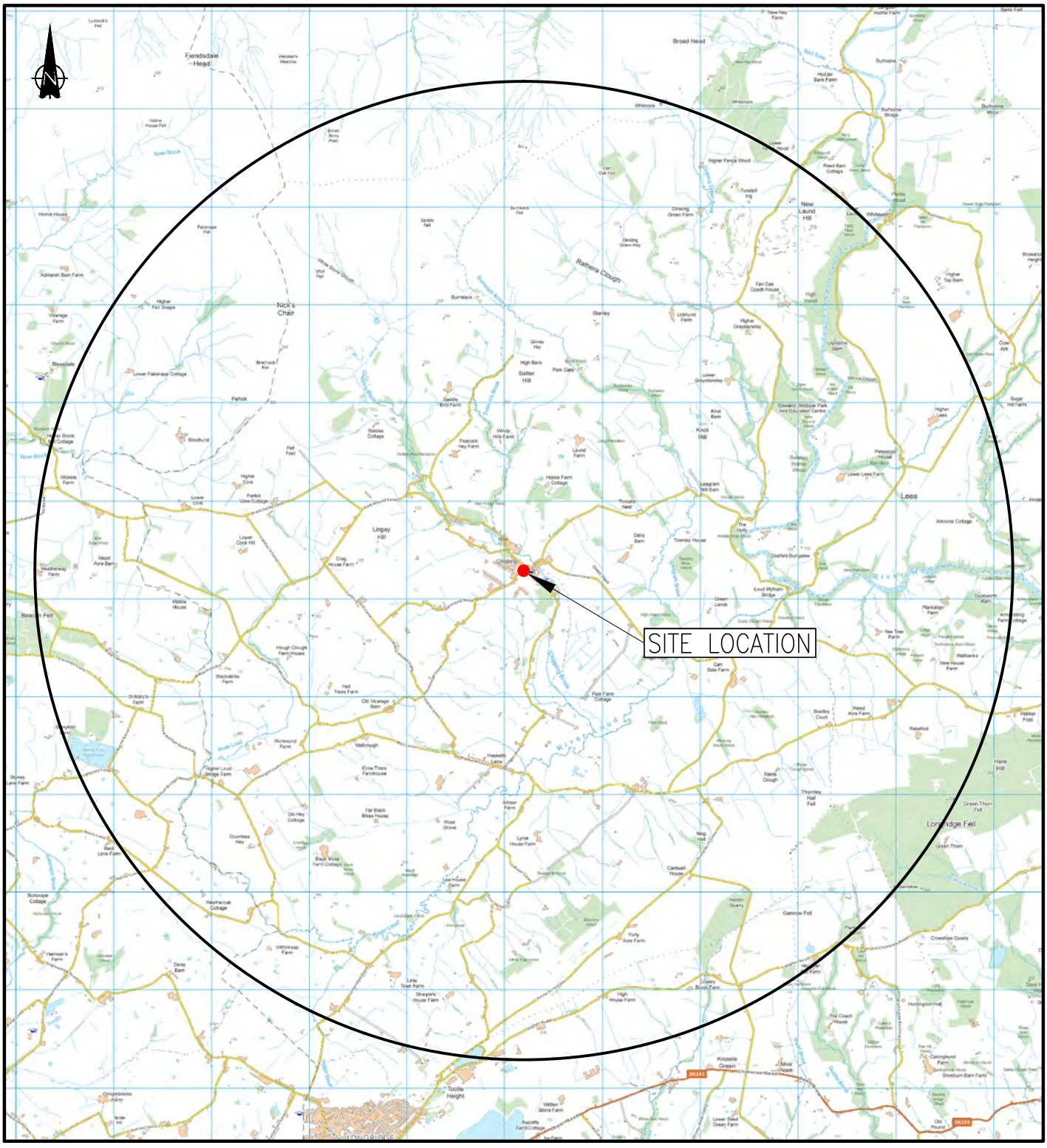

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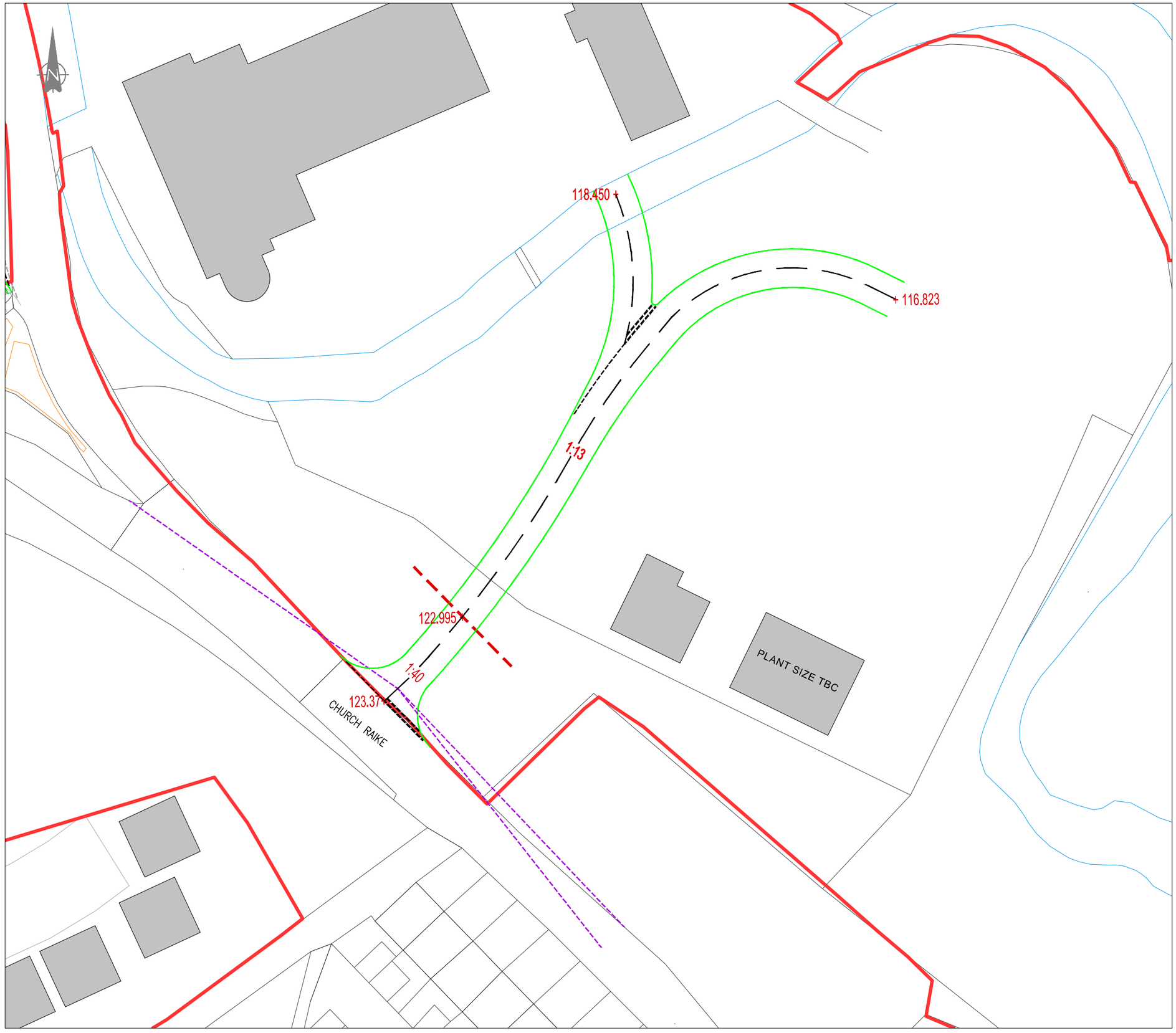
● SITE

— 5km CYCLE CATCHMENT

DRAWINGS



NOTES:

KEY:

- - - 2.4m x 43m VISIBILITY SPLAY

Rev:	Description:	Date:	By:	Chkd:
A	CARRIAGEWAY REALIGNED, NEW LEVEL ADDED	28.08.13	MF	AT

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Status: PRELIMINARY

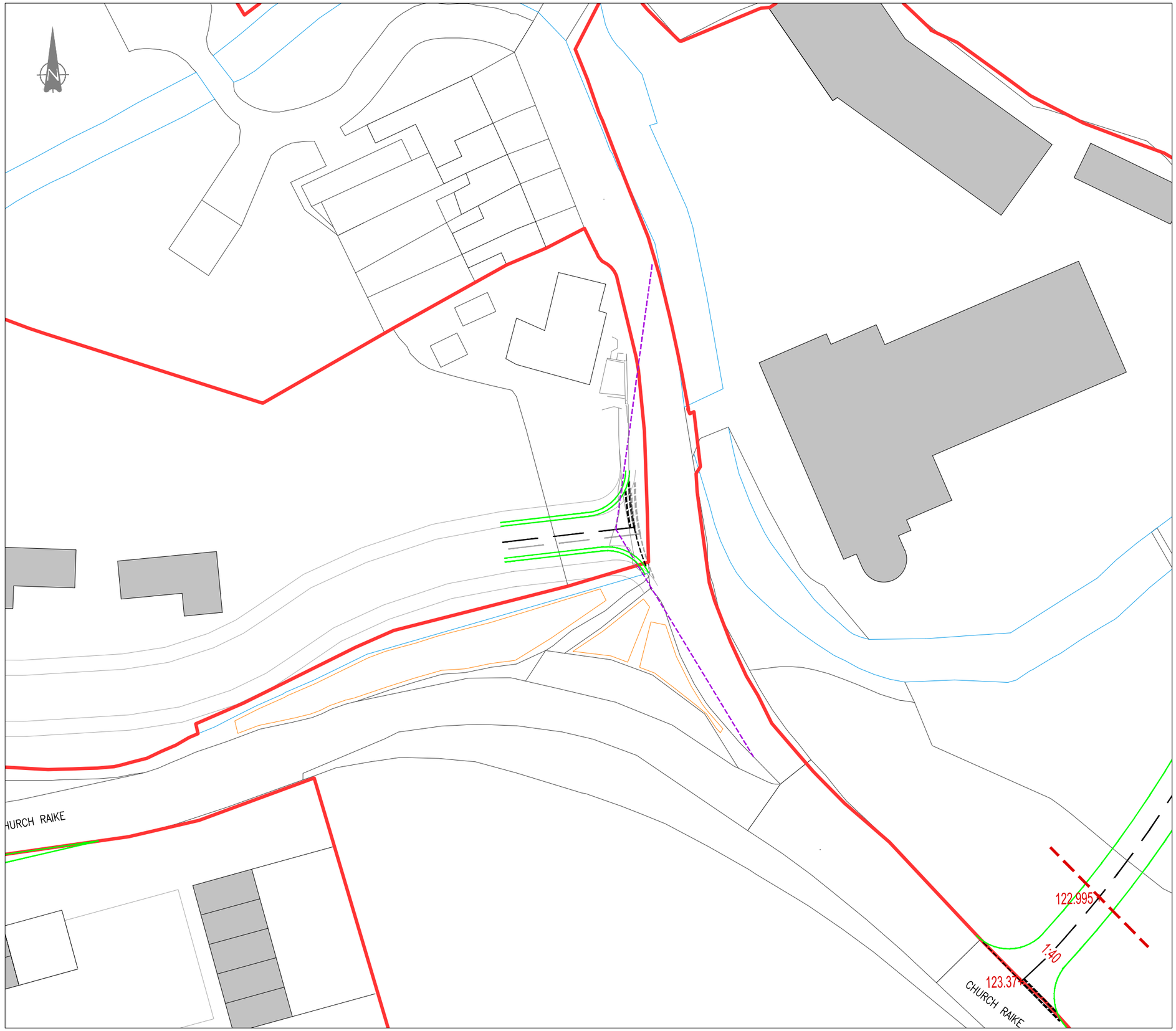
Project: CHIPPING

Drg Title: PROPOSED HOTEL / TRAIL HEAD ACCESS ROAD

Scale:	Size:	First Issue:	Drawn:	Checked:
1:500	A3	AUG 2013	MF	AT

Drg No: TPMA1001_106

Rev: A



NOTES:

KEY:

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Rev:	Description:	Date:	By:	Chkd:

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Status: PRELIMINARY

Project: CHIPPING

Drg Title: PROPOSED RESIDENTIAL ACCESS PLOT A

Scale:	Size:	First Issue:	Drawn:	Checked:
1:500	A3	AUG 2013	MF	AT

Drg No: TPMA1001_107

Rev:

NOTES:

KEY:

– – – 2.4m x 43m VISIBILITY SPLAY

Rev:	Description:	Date:	By:	Chkd:

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Status: PRELIMINARY

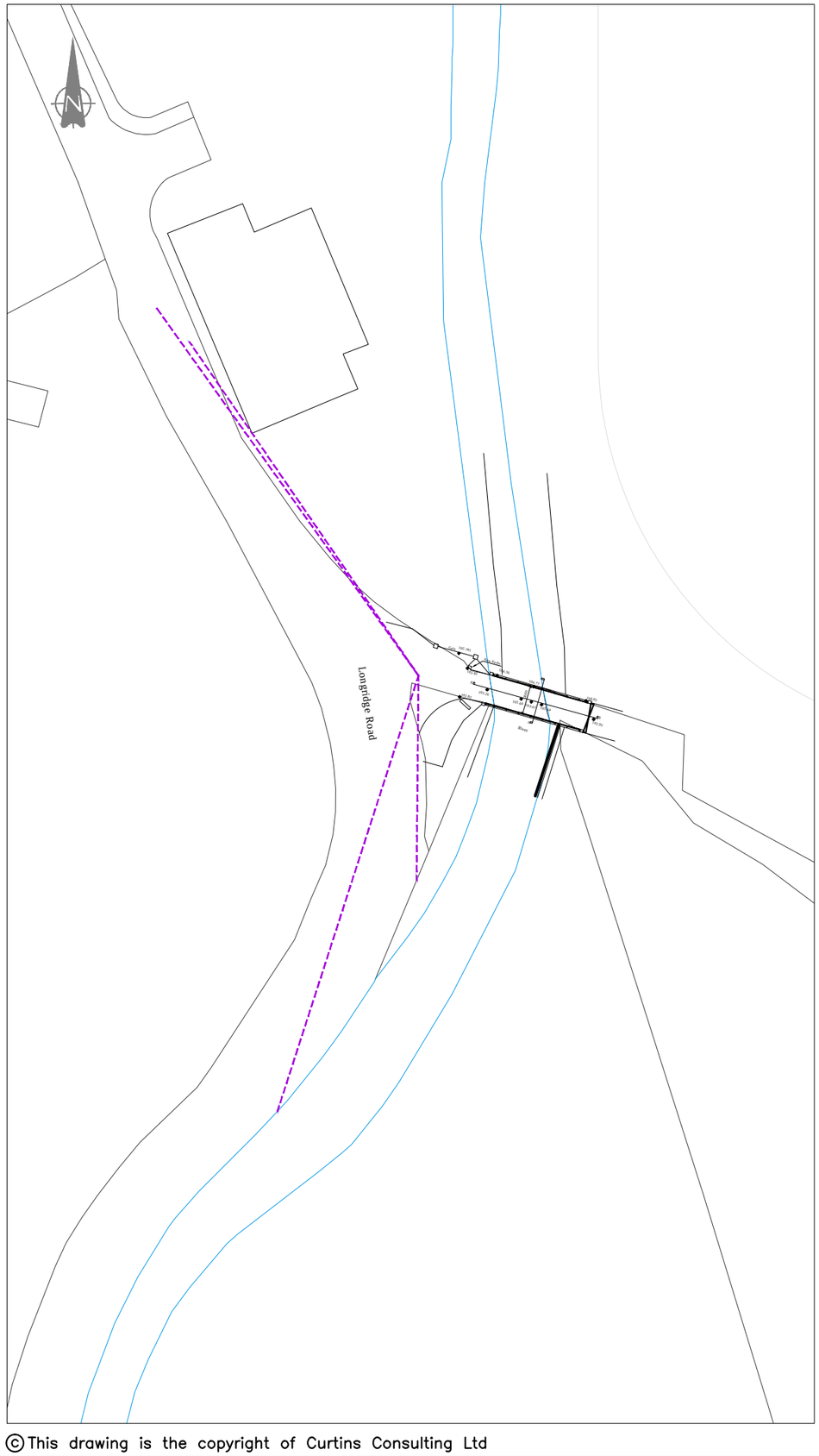
Project: CHIPPING

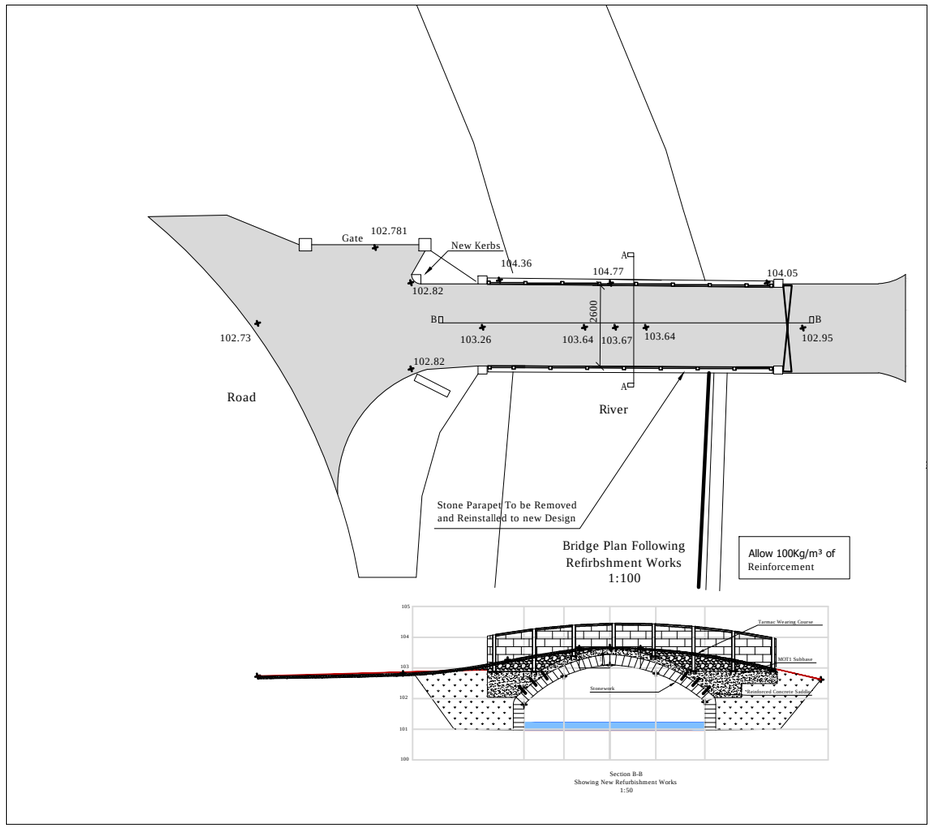
Drg Title: PROPOSED RESIDENTIAL ACCESS PLOT B

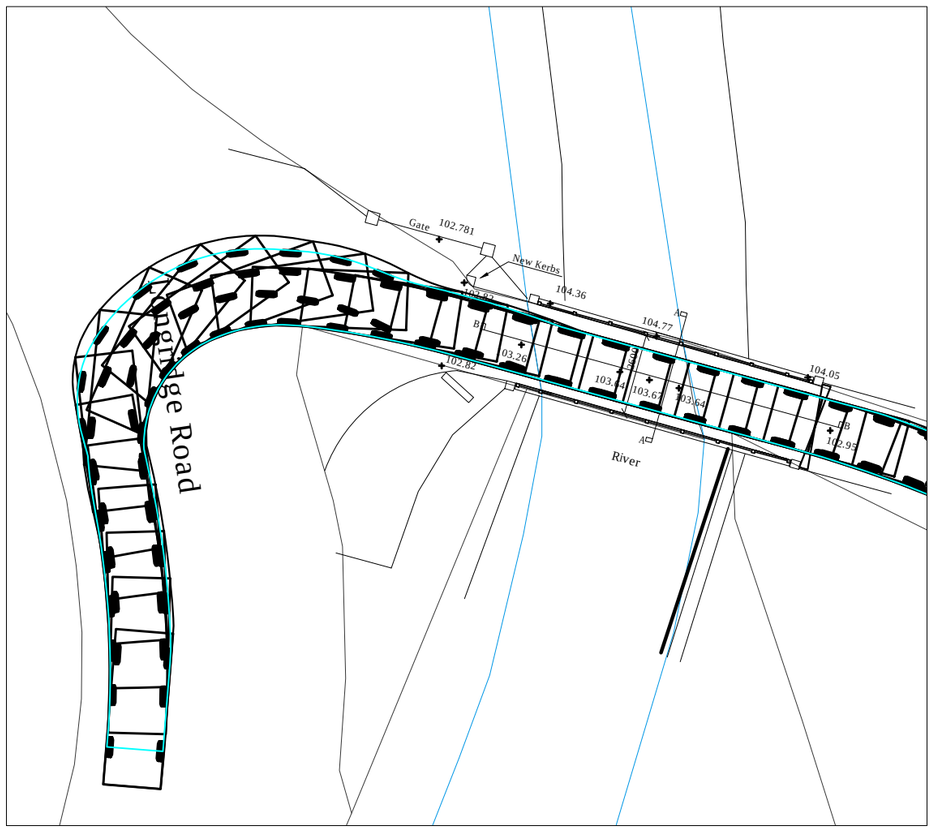
Scale:	Size:	First Issue:	Drawn:	Checked:
1:500	A3	AUG 2013	MF	AT

Drg No: TPMA1001_108

Rev:







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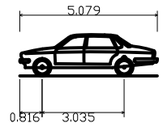

Large Car (2006)	
Overall Length	5.079m
Overall Width	1.872m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	5.900m

Rev:	Description:	Date:	By:	Chkd:
A	Amended Bridge Design	04.03.14	MF	AT

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Status: PRELIMINARY

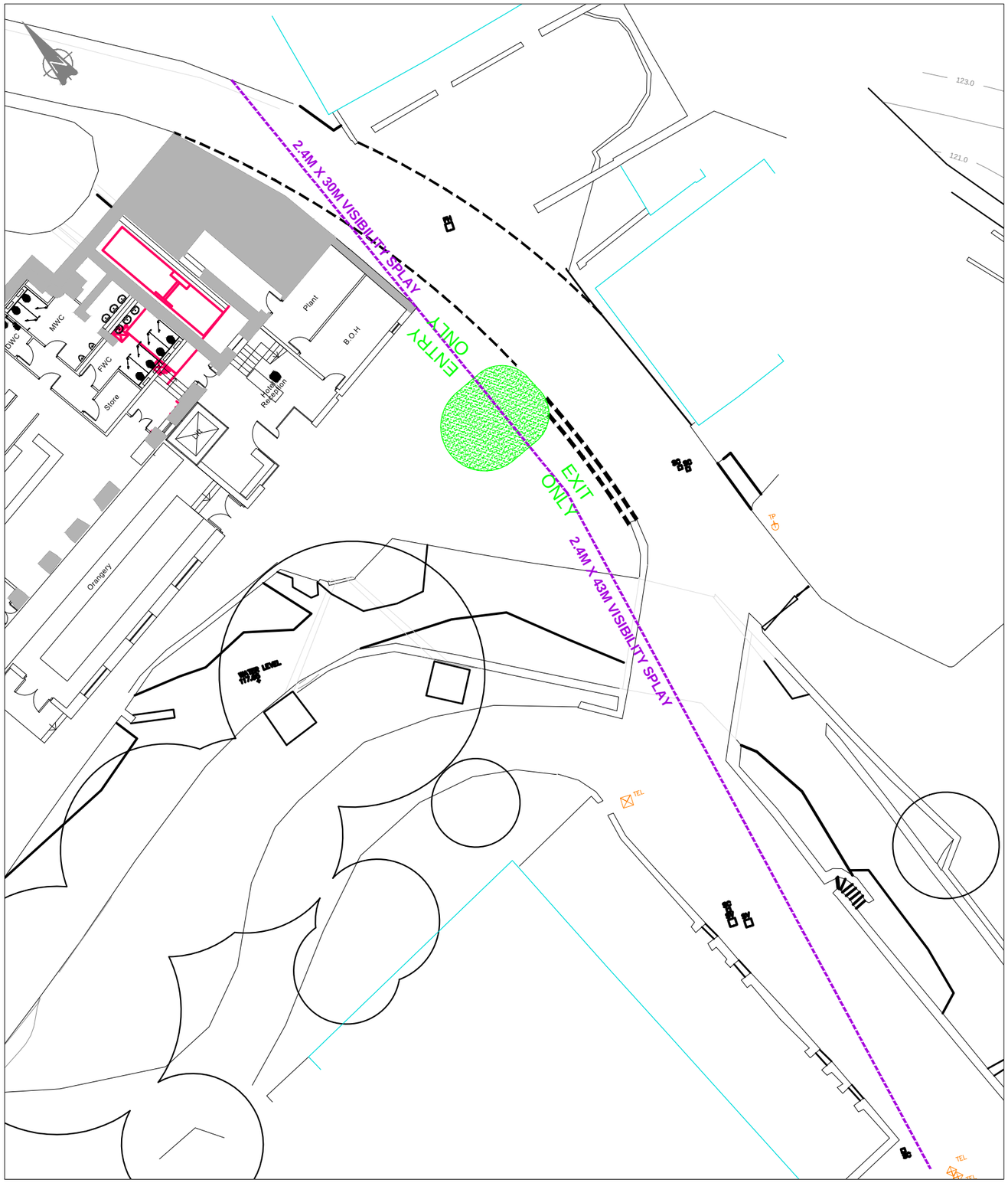
Project: CHIPPING

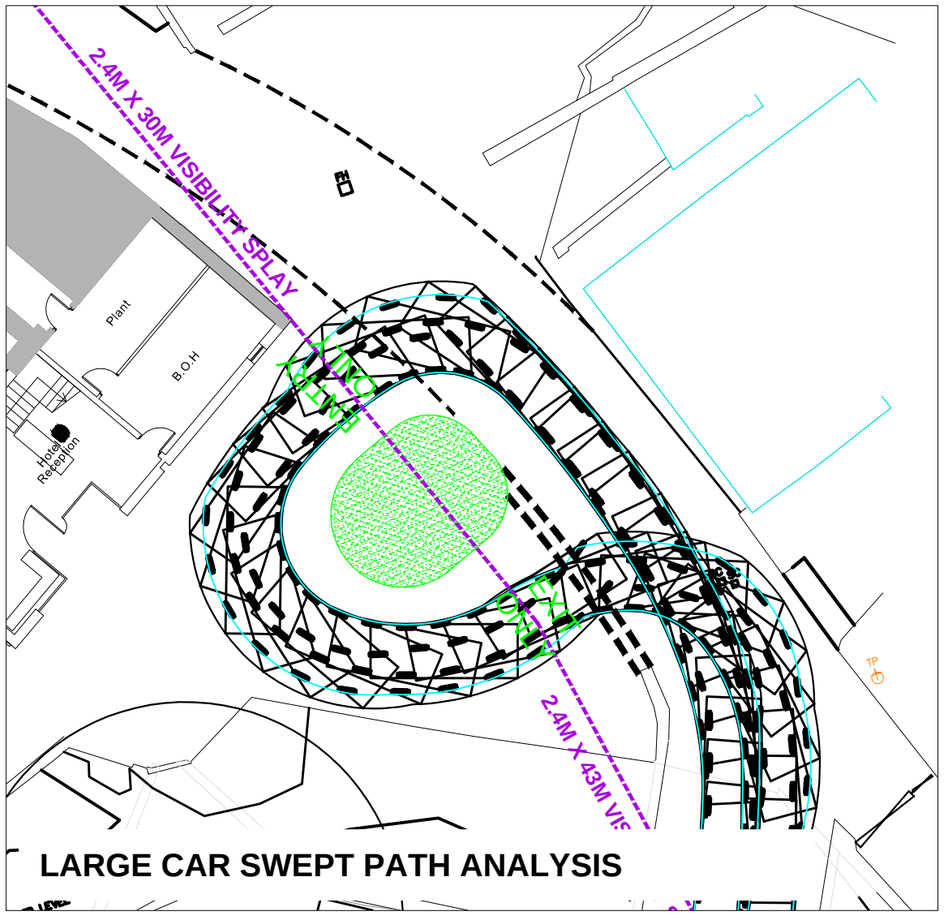
Drg Title: PROPOSED CRICKET CLUB ACCESS

Scale:	Size:	First Issue:	Drawn:	Checked:
1:500	A3	AUG 2013	MF	AT

Drg No: TPMA1001_109

Rev: A





LARGE CAR SWEPT PATH ANALYSIS

Rev:	Description:	Date:	By:	Chkd:

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Status: PRELIMINARY

Project: CHIPPING

Drg Title: PROPOSED KIRK MILL ACCESS

Scale:	Size:	First Issue:	Drawn:	Checked:
1:250	A3	SEPT 13	MF	AT

Drg No: TPMA1001-110

Rev: -

APPENDICES

APPENDIX A

TRAFFIC + TRANSPORTATION

THE DATA COLLECTION SPECIALISTS

Curtins Consulting

12661 – Chipping Traffic Counts

Thursday 23rd May 2013

Victoria Hindle

Contents

CTS Traffic & Transportation Ltd.
Unit 14 Aqueduct Mill, Aqueduct Street, Preston, PR1 7JN
Tel: (01772) 251 400 Fax: (01772) 252 900
E-mail: enquiries@ctstraffic.co.uk Web-site: www.ctstraffic.co.uk

Data Quality Assurance:

Data Revision: Rev. 1

Inputted by: Victoria Hindle
Date: 29/05/2013

Analysis and Report by: Victoria Hindle
Date: 30/05/2013

Approved by: Joe Maclaren
Date: 31/05/2013

Method of Survey:

VIDEO TURNING COUNTS:

Data was collected via high mast video units positioned at the following junction and analysed manually at a later date:

1. Church Raike/Talbot Street/Windy Street/Club Lane

All possible traffic movements were recorded in fifteen minute intervals, between the times of 07:30 – 09:30 and 15:00 – 18:30 on Thursday 23rd May 2013. The results are provided in an Excel spreadsheet.

The following classifications were used:

Light vehicles, which include:

– Two wheeled motor cycles;
– Cars: taxis, state cars, 'people carriers' and other passenger vehicles (for example, minibuses and camper vans) with a gross vehicle weight of less than 3.5 tonnes, normally ones which can accommodate not more than 15 seats. Three-wheeled cars, motor invalid carriages, Land Rovers, Range Rovers and Jeeps and smaller ambulances are included. Cars towing caravans or trailers are counted as one vehicle;
– Light Goods Vehicles. Includes all goods vehicles up to 3.5 tonnes gross vehicle weight (goods vehicles over 3.5 tonnes have sideguards fitted between axles), including those towing a trailer or caravan. This includes all car delivery vans and those of the next larger carrying capacity such as transit vans. Included here are small pickup vans, three-wheeled goods vehicles, milk floats and pedestrian controlled motor vehicles. Most of this group are delivery vans of one type or another;

Heavy vehicles, which include:

– Heavy Goods Vehicles. Includes all rigid vehicles over 3.5 tonnes gross vehicle weight with two or three axles. Includes larger ambulances, tractors (without trailers), road rollers for tarmac pressing, box vans and similar large vans. A two or three axle motor tractive without a trailer is also included.

ATC SURVEYS:

Classified volume and speed data was collected via ATC units positioned in Chipping. Data was collected on Thursday 23rd May 2013. Data is shown in hourly intervals and by direction.

The following point was surveyed:

1. Malt Kiln Brow, 50m from the junction with Church Raike.

The Vehicle Classifications used in this survey numbered in the data are as follows:

1. Pedal Cycles
2. Motorcycles
3. Passenger cars with or without trailers
4. LGVs with or without trailers
5. 2 axles rigid HGV
6. 3 axles rigid HGV
7. 4 axles rigid HGV
8. 3 axles articulated HGV

9. 4 axles articulated HGV
10. 5 or more axles articulated HGV
11. Buses and coaches

ENTRY/EXIT COUNT:

Our enumerator recorded the number of vehicles, pedestrians, and cyclists entering/exiting the designated survey areas:

- Kirklands Residential Estate

The survey was carried out between 07:00 – 19:00 on Thursday 23rd May 2013. The results are presented in an Excel spread sheet.

QUEUE LENGTH SURVEYS:

Enumerators recorded the length of queues at the designated junction, on the same day and time as the turning counts, every five minutes. Queue lengths were measured by number of vehicles in queue, where:

- motorbikes
- cars
- small and large vans
- mini buses
- small lorries

were counted as 1 vehicle, and

- HGVs
- full size buses/coaches

were counted as 2 vehicles.

Incidents Encountered During Surveys:

There were no significant events or unforeseen circumstances to affect the results of the surveys.

Weather Conditions:

Thursday 23rd May 2013 – Mild, overcast, with spells of rain.

Junction: J1 : Talbot Street/Windy Street/Clu
Arm: Talbot Street
Direction: Exiting Junction

Time	LIGHT	HEAVY	Total
07:30	12	0	12
07:45	8	1	9
08:00	21	0	21
08:15	9	0	9
08:30	13	0	13
08:45	12	1	13
09:00	8	0	8
09:15	13	3	16
AM	96	5	101
15:00	15	0	15
15:15	14	1	15
15:30	12	2	14
15:45	12	2	14
16:00	14	1	15
16:15	11	1	12
16:30	9	0	9
16:45	10	0	10
17:00	4	0	4
17:15	7	0	7
17:30	7	0	7
17:45	5	1	6
18:00	9	0	9
18:15	8	0	8
PM	137	8	145
Total	233	13	246

Junction: J1 : Talbot Street/Windy Street/Clu
Arm: Windy Street
Direction: Exiting Junction

Time	LIGHT	HEAVY	Total
07:30	16	1	17
07:45	12	1	13
08:00	18	2	20
08:15	15	2	17
08:30	17	2	19
08:45	26	0	26
09:00	18	1	19
09:15	10	1	11
AM	132	10	142
15:00	18	0	18
15:15	13	0	13
15:30	9	0	9
15:45	9	0	9
16:00	15	1	16
16:15	21	0	21
16:30	15	2	17
16:45	13	0	13
17:00	6	1	7
17:15	12	1	13
17:30	4	0	4
17:45	8	1	9
18:00	16	1	17
18:15	11	0	11
PM	170	7	177
Total	302	17	319

Junction: J1 : Talbot Street/Windy Street/Clu
Arm: Club Lane
Direction: Exiting Junction

Time	LIGHT	HEAVY	Total
07:30	0	0	0
07:45	6	0	6
08:00	2	1	3
08:15	11	0	11
08:30	6	0	6
08:45	12	1	13
09:00	4	0	4
09:15	9	0	9
AM	50	2	52
15:00	15	1	16
15:15	20	0	20
15:30	12	1	13
15:45	7	0	7
16:00	5	0	5
16:15	9	1	10
16:30	7	0	7
16:45	7	0	7
17:00	10	0	10
17:15	11	0	11
17:30	4	0	4
17:45	13	0	13
18:00	12	0	12
18:15	7	1	8
PM	139	4	143
Total	189	6	195

Junction: J1 : Talbot Street/Windy Street/Clu
Arm: Church Raike
Direction: Exiting Junction

Time	LIGHT	HEAVY	Total
07:30	5	1	6
07:45	7	1	8
08:00	7	1	8
08:15	5	2	7
08:30	7	1	8
08:45	12	1	13
09:00	9	0	9
09:15	3	2	5
AM	55	9	64
15:00	8	0	8
15:15	8	0	8
15:30	11	2	13
15:45	14	2	16
16:00	12	0	12
16:15	9	0	9
16:30	11	0	11
16:45	5	0	5
17:00	9	1	10
17:15	20	0	20
17:30	14	0	14
17:45	12	1	13
18:00	11	1	12
18:15	13	0	13
PM	157	7	164
Total	212	16	228

Junction: J1 : Talbot Street/Windy Street/Clu
Arm: Talbot Street
Direction: Entering Junction

Time	LIGHT	HEAVY	Total
07:30	7	0	7
07:45	6	1	7
08:00	8	0	8
08:15	17	2	19
08:30	9	1	10
08:45	10	0	10
09:00	9	1	10
09:15	10	1	11
AM	76	6	82
15:00	12	1	13
15:15	14	0	14
15:30	14	2	16
15:45	10	1	11
16:00	12	0	12
16:15	10	1	11
16:30	14	1	15
16:45	12	0	12
17:00	11	0	11
17:15	12	0	12
17:30	8	0	8
17:45	8	0	8
18:00	6	0	6
18:15	8	1	9
PM	151	7	158
Total	227	13	240

Junction: J1 : Talbot Street/Windy Street/Clu
Arm: Windy Street
Direction: Entering Junction

Time	LIGHT	HEAVY	Total
07:30	7	1	8
07:45	11	2	13
08:00	9	0	9
08:15	2	0	2
08:30	12	1	13
08:45	24	2	26
09:00	8	0	8
09:15	10	1	11
AM	83	7	90
15:00	20	0	20
15:15	19	0	19
15:30	16	2	18
15:45	22	2	24
16:00	11	0	11
16:15	14	0	14
16:30	11	0	11
16:45	14	0	14
17:00	9	1	10
17:15	25	0	25
17:30	14	0	14
17:45	14	1	15
18:00	18	1	19
18:15	14	0	14
PM	221	7	228
Total	304	14	318

Junction: J1 : Talbot Street/Windy Street/Clu
Arm: Club Lane
Direction: Entering Junction

Time	LIGHT	HEAVY	Total
07:30	9	0	9
07:45	7	0	7
08:00	11	1	12
08:15	5	0	5
08:30	14	0	14
08:45	17	1	18
09:00	11	0	11
09:15	5	3	8
AM	79	5	84
15:00	18	0	18
15:15	14	1	15
15:30	6	1	7
15:45	7	0	7
16:00	13	1	14
16:15	14	1	15
16:30	11	1	12
16:45	2	0	2
17:00	4	0	4
17:15	8	1	9
17:30	5	0	5
17:45	5	0	5
18:00	9	0	9
18:15	9	0	9
PM	125	6	131
Total	204	11	215

Junction: J1 : Talbot Street/Windy Street/Clu
Arm: Church Raike
Direction: Entering Junction

Time	LIGHT	HEAVY	Total
07:30	10	1	11
07:45	9	0	9
08:00	20	3	23
08:15	16	2	18
08:30	8	1	9
08:45	11	0	11
09:00	11	0	11
09:15	10	1	11
AM	95	8	103
15:00	6	0	6
15:15	8	0	8
15:30	8	0	8
15:45	3	1	4
16:00	10	1	11
16:15	12	0	12
16:30	6	0	6
16:45	7	0	7
17:00	5	1	6
17:15	5	0	5
17:30	2	0	2
17:45	11	2	13
18:00	15	1	16
18:15	8	0	8
PM	106	6	112
Total	201	14	215

Junction: J1 : Talbot Street/Windy Street/Clu
From: Talbot Street
To: Windy Street

Time	LIGHT	HEAVY	Total
07:30	5	0	5
07:45	2	1	3
08:00	6	0	6
08:15	5	0	5
08:30	5	1	6
08:45	4	0	4
09:00	4	1	5
09:15	5	0	5
AM	36	3	39
15:00	7	0	7
15:15	6	0	6
15:30	5	0	5
15:45	3	0	3
16:00	6	0	6
16:15	4	0	4
16:30	7	1	8
16:45	9	0	9
17:00	3	0	3
17:15	4	0	4
17:30	3	0	3
17:45	2	0	2
18:00	2	0	2
18:15	4	0	4
PM	65	1	66
Total	101	4	105

Junction: J1 : Talbot Street/Windy Street/Clu
From: Talbot Street
To: Club Lane

Time	LIGHT	HEAVY	Total
07:30	0	0	0
07:45	2	0	2
08:00	1	0	1
08:15	8	0	8
08:30	1	0	1
08:45	2	0	2
09:00	3	0	3
09:15	5	0	5
AM	22	0	22
15:00	3	1	4
15:15	7	0	7
15:30	3	1	4
15:45	3	0	3
16:00	4	0	4
16:15	2	1	3
16:30	5	0	5
16:45	2	0	2
17:00	4	0	4
17:15	4	0	4
17:30	2	0	2
17:45	3	0	3
18:00	3	0	3
18:15	3	1	4
PM	48	4	52
Total	70	4	74

Junction: J1 : Talbot Street/Windy Street/Clu
From: Talbot Street
To: Church Raike

Time	LIGHT	HEAVY	Total
07:30	2	0	2
07:45	2	0	2
08:00	1	0	1
08:15	4	2	6
08:30	3	0	3
08:45	4	0	4
09:00	2	0	2
09:15	0	1	1
AM	18	3	21
15:00	2	0	2
15:15	1	0	1
15:30	6	1	7
15:45	4	1	5
16:00	2	0	2
16:15	4	0	4
16:30	2	0	2
16:45	1	0	1
17:00	4	0	4
17:15	4	0	4
17:30	3	0	3
17:45	3	0	3
18:00	1	0	1
18:15	1	0	1
PM	38	2	40
Total	56	5	61

Junction: J1 : Talbot Street/Windy Street/Clu
From: Windy Street
To: Club Lane

Time	LIGHT	HEAVY	Total
07:30	0	0	0
07:45	4	0	4
08:00	0	0	0
08:15	0	0	0
08:30	5	0	5
08:45	10	1	11
09:00	1	0	1
09:15	1	0	1
AM	21	1	22
15:00	12	0	12
15:15	8	0	8
15:30	7	0	7
15:45	4	0	4
16:00	1	0	1
16:15	6	0	6
16:30	2	0	2
16:45	5	0	5
17:00	4	0	4
17:15	7	0	7
17:30	2	0	2
17:45	6	0	6
18:00	6	0	6
18:15	3	0	3
PM	73	0	73
Total	94	1	95

Junction: J1 : Talbot Street/Windy Street/Clu
From: Windy Street
To: Church Raike

Time	LIGHT	HEAVY	Total
07:30	1	1	2
07:45	4	1	5
08:00	4	0	4
08:15	0	0	0
08:30	3	1	4
08:45	8	1	9
09:00	6	0	6
09:15	2	1	3
AM	28	5	33
15:00	3	0	3
15:15	4	0	4
15:30	5	1	6
15:45	10	1	11
16:00	2	0	2
16:15	4	0	4
16:30	6	0	6
16:45	4	0	4
17:00	3	1	4
17:15	15	0	15
17:30	9	0	9
17:45	7	1	8
18:00	8	1	9
18:15	10	0	10
PM	90	5	95
Total	118	10	128

Junction: J1 : Talbot Street/Windy Street/Clu
From: Windy Street
To: Talbot Street

Time	LIGHT	HEAVY	Total
07:30	6	0	6
07:45	3	1	4
08:00	5	0	5
08:15	2	0	2
08:30	4	0	4
08:45	6	0	6
09:00	1	0	1
09:15	7	0	7
AM	34	1	35
15:00	5	0	5
15:15	7	0	7
15:30	4	1	5
15:45	8	1	9
16:00	8	0	8
16:15	4	0	4
16:30	3	0	3
16:45	5	0	5
17:00	2	0	2
17:15	3	0	3
17:30	3	0	3
17:45	1	0	1
18:00	4	0	4
18:15	1	0	1
PM	58	2	60
Total	92	3	95

Junction: J1 : Talbot Street/Windy Street/Clu
From: Club Lane
To: Church Raike

Time	LIGHT	HEAVY	Total
07:30	2	0	2
07:45	1	0	1
08:00	2	1	3
08:15	1	0	1
08:30	1	0	1
08:45	0	0	0
09:00	1	0	1
09:15	1	0	1
AM	9	1	10
15:00	3	0	3
15:15	3	0	3
15:30	0	0	0
15:45	0	0	0
16:00	8	0	8
16:15	1	0	1
16:30	3	0	3
16:45	0	0	0
17:00	2	0	2
17:15	1	0	1
17:30	2	0	2
17:45	2	0	2
18:00	2	0	2
18:15	2	0	2
PM	29	0	29
Total	38	1	39

Junction: J1 : Talbot Street/Windy Street/Clu
From: Club Lane
To: Talbot Street

Time	LIGHT	HEAVY	Total
07:30	4	0	4
07:45	3	0	3
08:00	6	0	6
08:15	3	0	3
08:30	4	0	4
08:45	3	1	4
09:00	3	0	3
09:15	3	3	6
AM	29	4	33
15:00	6	0	6
15:15	6	1	7
15:30	4	1	5
15:45	2	0	2
16:00	3	1	4
16:15	4	1	5
16:30	4	0	4
16:45	2	0	2
17:00	1	0	1
17:15	3	0	3
17:30	2	0	2
17:45	1	0	1
18:00	3	0	3
18:15	5	0	5
PM	46	4	50
Total	75	8	83

Junction: J1 : Talbot Street/Windy Street/Clu
From: Club Lane
To: Windy Street

Time	LIGHT	HEAVY	Total
07:30	3	0	3
07:45	3	0	3
08:00	3	0	3
08:15	1	0	1
08:30	9	0	9
08:45	14	0	14
09:00	7	0	7
09:15	1	0	1
AM	41	0	41
15:00	9	0	9
15:15	5	0	5
15:30	2	0	2
15:45	5	0	5
16:00	2	0	2
16:15	9	0	9
16:30	4	1	5
16:45	0	0	0
17:00	1	0	1
17:15	4	1	5
17:30	1	0	1
17:45	2	0	2
18:00	4	0	4
18:15	2	0	2
PM	50	2	52
Total	91	2	93

Junction: J1 : Talbot Street/Windy Street/Clu
From: Church Raike
To: Talbot Street

Time	LIGHT	HEAVY	Total
07:30	2	0	2
07:45	2	0	2
08:00	10	0	10
08:15	4	0	4
08:30	5	0	5
08:45	3	0	3
09:00	4	0	4
09:15	3	0	3
AM	33	0	33
15:00	4	0	4
15:15	1	0	1
15:30	4	0	4
15:45	2	1	3
16:00	3	0	3
16:15	3	0	3
16:30	2	0	2
16:45	3	0	3
17:00	1	0	1
17:15	1	0	1
17:30	2	0	2
17:45	3	1	4
18:00	2	0	2
18:15	2	0	2
PM	33	2	35
Total	66	2	68

Junction: J1 : Talbot Street/Windy Street/Clu
From: Church Raike
To: Windy Street

Time	LIGHT	HEAVY	Total
07:30	8	1	9
07:45	7	0	7
08:00	9	2	11
08:15	9	2	11
08:30	3	1	4
08:45	8	0	8
09:00	7	0	7
09:15	4	1	5
AM	55	7	62
15:00	2	0	2
15:15	2	0	2
15:30	2	0	2
15:45	1	0	1
16:00	7	1	8
16:15	8	0	8
16:30	4	0	4
16:45	4	0	4
17:00	2	1	3
17:15	4	0	4
17:30	0	0	0
17:45	4	1	5
18:00	10	1	11
18:15	5	0	5
PM	55	4	59
Total	110	11	121

Junction: J1 : Talbot Street/Windy Street/Clu
From: Church Raike
To: Club Lane

Time	LIGHT	HEAVY	Total
07:30	0	0	0
07:45	0	0	0
08:00	1	1	2
08:15	3	0	3
08:30	0	0	0
08:45	0	0	0
09:00	0	0	0
09:15	3	0	3
AM	7	1	8
15:00	0	0	0
15:15	5	0	5
15:30	2	0	2
15:45	0	0	0
16:00	0	0	0
16:15	1	0	1
16:30	0	0	0
16:45	0	0	0
17:00	2	0	2
17:15	0	0	0
17:30	0	0	0
17:45	4	0	4
18:00	3	0	3
18:15	1	0	1
PM	18	0	18
Total	25	1	26

Location: J1
Arm: Talbot Street
Date: 23/05/2013

Time	**Total**
07:30	**0**
07:45	**0**
08:00	**0**
08:15	**0**
08:30	**0**
08:45	**0**
09:00	**0**
09:15	**0**
AM Average	**0**
15:00	**0**
15:15	**0**
15:30	**0**
15:45	**0**
16:00	**0**
16:15	**0**
16:30	**0**
16:45	**0**
17:00	**0**
17:15	**0**
17:30	**0**
17:45	**0**
18:00	**0**
18:15	**0**
PM Average	**0**
Day Average	**0**

Location: J1
Arm: Windy Street
Date: 23/05/2013

Time	**Total**
07:30	**0**
07:45	**0**
08:00	**0**
08:15	**0**
08:30	**0**
08:45	**0**
09:00	**0**
09:15	**0**
AM Average	**0**
15:00	**0**
15:15	**0**
15:30	**0**
15:45	**0**
16:00	**0**
16:15	**0**
16:30	**0**
16:45	**0**
17:00	**0**
17:15	**0**
17:30	**0**
17:45	**0**
18:00	**0**
18:15	**0**
PM Average	**0**
Day Average	**0**

Location: J1
Arm: Club Lane
Date: 23/05/2013

Time	**Total**
07:30	**0**
07:45	**0**
08:00	**0**
08:15	**0**
08:30	**0**
08:45	**0**
09:00	**0**
09:15	**0**
AM Average	**0**
15:00	**0**
15:15	**0**
15:30	**0**
15:45	**0**
16:00	**0**
16:15	**0**
16:30	**0**
16:45	**0**
17:00	**0**
17:15	**0**
17:30	**0**
17:45	**0**
18:00	**0**
18:15	**0**
PM Average	**0**
Day Average	**0**

Location: J1
Arm: Church Raike
Date: 23/05/2013

Time	**Total**
07:30	**0**
07:45	**0**
08:00	**0**
08:15	**0**
08:30	**0**
08:45	**0**
09:00	**0**
09:15	**0**
AM Average	**0**
15:00	**0**
15:15	**0**
15:30	**0**
15:45	**0**
16:00	**0**
16:15	**0**
16:30	**0**
16:45	**0**
17:00	**0**
17:15	**0**
17:30	**0**
17:45	**0**
18:00	**0**
18:15	**0**
PM Average	**0**
Day Average	**0**

Thursday 23 May 2013												
	Total	Class										
Time	Volume	PC	MC	Car	LGV	2R HGV	3R HGV	4R HGV	3A HGV	4A HGV	5+A HGV	PSV
00:00	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	0	0	1	0	0	0	0	0	0	0	0
06:00	8	0	0	4	4	0	0	0	0	0	0	0
07:00	8	1	0	5	2	0	0	0	0	0	0	0
08:00	16	0	0	13	2	1	0	0	0	0	0	0
09:00	10	1	0	6	2	0	1	0	0	0	0	0
10:00	10	0	0	8	1	1	0	0	0	0	0	0
11:00	10	0	0	8	1	1	0	0	0	0	0	0
12:00	6	0	0	4	2	0	0	0	0	0	0	0
13:00	7	0	0	6	1	0	0	0	0	0	0	0
14:00	12	1	0	11	0	0	0	0	0	0	0	0
15:00	12	0	0	9	3	0	0	0	0	0	0	0
16:00	10	0	1	7	2	0	0	0	0	0	0	0
17:00	13	0	0	13	0	0	0	0	0	0	0	0
18:00	10	0	0	9	1	0	0	0	0	0	0	0
19:00	6	0	0	6	0	0	0	0	0	0	0	0
20:00	2	0	0	1	1	0	0	0	0	0	0	0
21:00	3	0	0	2	1	0	0	0	0	0	0	0
22:00	2	0	0	2	0	0	0	0	0	0	0	0
23:00	1	0	0	1	0	0	0	0	0	0	0	0
Total												
07-19	124	3	1	99	17	3	1	0	0	0	0	0
06-22	143	3	1	112	23	3	1	0	0	0	0	0
06-00	146	3	1	115	23	3	1	0	0	0	0	0
00-00	147	3	1	116	23	3	1	0	0	0	0	0
	08:00	07:00	00:00	08:00	06:00	08:00	09:00	00:00	00:00	00:00	00:00	00:00
AM Peak	16	1	0	13	4	1	1	0	0	0	0	0
	17:00	14:00	16:00	17:00	15:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00
PM Peak	13	1	1	13	3	0	0	0	0	0	0	0

Thursday 23 May 2013																			
Time	Total Volume	85th Percentile	Mean Average	Standard Deviation	5>=10	10>=15	15>=20	20>=25	25>=30	30>=35	35>=40	40>=45	45>=50	50>=55	55>=60	60>=65	65>=70	70>=75	75>=80
00:00	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	-	22.1	-	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
06:00	8	-	22.1	5.3	1	0	4	3	0	0	0	0	0	0	0	0	0	0	0
07:00	8	-	19.8	4.4	0	3	3	2	0	0	0	0	0	0	0	0	0	0	0
08:00	16	25.9	22.5	3.2	0	2	10	4	0	0	0	0	0	0	0	0	0	0	0
09:00	10	-	20.7	4.9	1	1	6	2	0	0	0	0	0	0	0	0	0	0	0
10:00	10	-	18.8	2.3	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0
11:00	10	-	18.8	2	0	4	6	0	0	0	0	0	0	0	0	0	0	0	0
12:00	6	-	17.4	3.1	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0
13:00	7	-	19	5.7	1	1	4	1	0	0	0	0	0	0	0	0	0	0	0
14:00	12	25.1	18.1	7.3	2	5	2	2	1	0	0	0	0	0	0	0	0	0	0
15:00	12	26.4	21.9	4.4	0	3	5	4	0	0	0	0	0	0	0	0	0	0	0
16:00	10	-	22.3	2.7	0	1	7	2	0	0	0	0	0	0	0	0	0	0	0
17:00	13	24.6	21.3	4.9	1	2	8	2	0	0	0	0	0	0	0	0	0	0	0
18:00	10	-	21	4	0	2	5	3	0	0	0	0	0	0	0	0	0	0	0
19:00	6	-	24.5	1.8	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0
20:00	2	-	18.4	4.6	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
21:00	3	-	22.4	1.4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
22:00	2	-	20.8	1.7	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
23:00	1	-	26.6	-	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Totals																			
07-19	124	25.5	20.1	4.1	5	33	63	22	1	0	0	0	0	0	0	0	0	0	0
06-22	143	25.5	20.6	3.9	6	34	75	27	1	0	0	0	0	0	0	0	0	0	0
06-00	146	25.5	20.9	3.7	6	34	77	28	1	0	0	0	0	0	0	0	0	0	0
00-00	147	25.5	21.0	3.7	6	34	78	28	1	0	0	0	0	0	0	0	0	0	0
	08:00	08:00	08:00	06:00	06:00	10:00	08:00	08:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
AM Peak	16	25.9	22.5	5.3	1	5	10	4	0	0	0	0	0	0	0	0	0	0	0
	17:00	15:00	23:00	14:00	14:00	14:00	17:00	15:00	14:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00
PM Peak	13	26.4	26.6	7.3	2	5	8	4	1	0	0	0	0	0	0	0	0	0	0

Thursday 23 May 2013												
	Total	Class										
Time	Volume	PC	MC	Car	LGV	2R HGV	3R HGV	4R HGV	3A HGV	4A HGV	5+A HGV	PSV
00:00	2	0	0	2	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0
05:00	2	0	0	2	0	0	0	0	0	0	0	0
06:00	1	0	0	1	0	0	0	0	0	0	0	0
07:00	7	0	0	3	3	0	1	0	0	0	0	0
08:00	6	0	0	5	1	0	0	0	0	0	0	0
09:00	12	0	0	9	1	0	2	0	0	0	0	0
10:00	9	0	0	6	3	0	0	0	0	0	0	0
11:00	7	0	0	4	2	1	0	0	0	0	0	0
12:00	8	0	0	6	2	0	0	0	0	0	0	0
13:00	7	0	0	5	2	0	0	0	0	0	0	0
14:00	9	0	0	8	1	0	0	0	0	0	0	0
15:00	12	0	1	8	3	0	0	0	0	0	0	0
16:00	15	0	0	13	2	0	0	0	0	0	0	0
17:00	13	1	0	11	1	0	0	0	0	0	0	0
18:00	17	1	0	14	2	0	0	0	0	0	0	0
19:00	4	0	0	4	0	0	0	0	0	0	0	0
20:00	12	0	1	8	2	0	0	1	0	0	0	0
21:00	6	0	0	2	4	0	0	0	0	0	0	0
22:00	1	0	0	0	1	0	0	0	0	0	0	0
23:00	2	0	0	2	0	0	0	0	0	0	0	0
Total												
07-19	122	2	1	92	23	1	3	0	0	0	0	0
06-22	145	2	2	107	29	1	3	1	0	0	0	0
06-00	148	2	2	109	30	1	3	1	0	0	0	0
00-00	152	2	2	113	30	1	3	1	0	0	0	0
	09:00	00:00	00:00	09:00	07:00	11:00	09:00	00:00	00:00	00:00	00:00	00:00
AM Peak	12	0	0	9	3	1	2	0	0	0	0	0
	18:00	17:00	15:00	18:00	21:00	12:00	12:00	20:00	12:00	12:00	12:00	12:00
PM Peak	17	1	1	14	4	0	0	1	0	0	0	0

Thursday 23 May 2013																			
Time	Total Volume	85th Percentile	Mean Average	Standard Deviation	5>=10	10>=15	15>=20	20>=25	25>=30	30>=35	35>=40	40>=45	45>=50	50>=55	55>=60	60>=65	65>=70	70>=75	75>=80
00:00	2	-	23.2	5.7	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
01:00	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	2	-	23.4	1.1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	-	27.2	-	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07:00	7	-	20	5.8	1	2	3	1	0	0	0	0	0	0	0	0	0	0	0
08:00	6	-	20.4	2.7	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0
09:00	12	22.1	19	4.8	1	4	7	0	0	0	0	0	0	0	0	0	0	0	0
10:00	9	-	20.6	2.6	0	2	6	1	0	0	0	0	0	0	0	0	0	0	0
11:00	7	-	20	3.6	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0
12:00	8	-	21.2	4.6	0	2	4	2	0	0	0	0	0	0	0	0	0	0	0
13:00	7	-	22.6	4.5	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0
14:00	9	-	17.2	4.9	1	5	3	0	0	0	0	0	0	0	0	0	0	0	0
15:00	12	23.7	21.3	3.8	0	3	7	2	0	0	0	0	0	0	0	0	0	0	0
16:00	15	25.3	22.7	2.6	0	1	11	3	0	0	0	0	0	0	0	0	0	0	0
17:00	13	28.2	22.3	5.6	0	3	6	3	1	0	0	0	0	0	0	0	0	0	0
18:00	17	25.9	22.3	3.5	0	4	9	4	0	0	0	0	0	0	0	0	0	0	0
19:00	4	-	21.7	4.7	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0
20:00	12	26.6	23	3.8	0	2	7	3	0	0	0	0	0	0	0	0	0	0	0
21:00	6	-	23.4	5.4	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0
22:00	1	-	25.8	-	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
23:00	2	-	21.1	3.8	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Totals																			
07-19	122	25.0	20.8	4.1	3	30	71	16	2	0	0	0	0	0	0	0	0	0	0
06-22	145	25.3	21.6	4.2	3	36	81	23	2	0	0	0	0	0	0	0	0	0	0
06-00	148	25.3	21.8	4.2	3	37	82	24	2	0	0	0	0	0	0	0	0	0	0
00-00	152	25.3	21.9	4.1	3	37	85	25	2	0	0	0	0	0	0	0	0	0	0
	09:00	09:00	06:00	07:00	07:00	09:00	09:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
AM Peak	12	22.1	27.2	5.8	1	4	7	1	0	0	0	0	0	0	0	0	0	0	0
	18:00	17:00	22:00	17:00	14:00	14:00	16:00	18:00	13:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00
PM Peak	17	28.2	25.8	5.6	1	5	11	4	1	0	0	0	0	0	0	0	0	0	0

Location: Kirkfield Estate, Chipping
Date: 23/05/2013
Direction: Inbound

Time Period	Light Vehicles	Heavy Vehicles	Pedestrians (School)	Pedestrians (General)	Cyclists (School)	Cyclists (General)	Total
07:00	0	0	0	0	0	0	0
07:15	1	0	0	0	0	0	1
07:30	3	0	0	2	0	0	5
07:45	4	0	2	2	0	0	8
08:00	4	0	0	0	0	0	4
08:15	3	0	1	1	0	0	5
08:30	4	0	0	0	0	0	4
08:45	0	0	0	5	0	0	5
09:00	3	0	0	1	0	0	4
09:15	2	0	1	0	0	0	3
09:30	2	0	0	0	0	0	2
09:45	2	0	0	2	0	0	4
10:00	1	0	0	1	0	0	2
10:15	1	0	0	1	0	0	2
10:30	5	0	0	3	0	0	8
10:45	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0
11:15	1	0	0	4	0	0	5
11:30	1	0	0	1	0	0	2
11:45	1	1	0	2	0	0	4
12:00	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0
12:30	0	0	0	2	0	0	2
12:45	2	0	0	1	0	0	3
13:00	1	0	0	2	0	0	3
13:15	0	0	0	1	0	0	1
13:30	4	0	0	1	0	0	5
13:45	1	0	0	0	0	0	1
14:00	0	0	0	0	0	0	0
14:15	2	0	0	0	0	0	2
14:30	3	0	0	1	0	0	4
14:45	5	0	0	1	0	0	6
15:00	2	0	0	2	0	0	4
15:15	2	0	2	4	0	0	8
15:30	5	0	7	1	0	0	13
15:45	5	0	2	7	0	0	14
16:00	7	0	0	1	0	0	8
16:15	0	0	2	7	0	0	9
16:30	2	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0
17:00	3	0	0	1	0	0	4
17:15	8	0	0	1	0	0	9
17:30	9	0	0	1	0	0	10
17:45	5	0	0	3	0	0	8
18:00	5	0	0	5	0	1	11
18:15	4	0	0	1	0	0	5
18:30	3	0	0	1	0	0	4
18:45	5	0	0	3	0	0	8
Total	121	1	17	72	0	1	212

Time Period	Light Vehicles	Heavy Vehicles	Pedestrians (School)	Pedestrians (General)	Cyclists (School)	Cyclists (General)	Total
07:00	8	0	2	4	0	0	14
07:15	12	0	2	4	0	0	18
07:30	14	0	3	5	0	0	22
07:45	15	0	3	3	0	0	21
08:00	11	0	1	6	0	0	18
08:15	10	0	1	7	0	0	18
08:30	9	0	1	6	0	0	16
08:45	7	0	1	6	0	0	14
09:00	9	0	1	3	0	0	13
09:15	7	0	1	3	0	0	11
09:30	6	0	0	4	0	0	10
09:45	9	0	0	7	0	0	16
10:00	7	0	0	5	0	0	12
10:15	6	0	0	4	0	0	10
10:30	6	0	0	7	0	0	13
10:45	2	0	0	5	0	0	7
11:00	3	1	0	7	0	0	11
11:15	3	1	0	7	0	0	11
11:30	2	1	0	3	0	0	6
11:45	1	1	0	4	0	0	6
12:00	2	0	0	3	0	0	5
12:15	3	0	0	5	0	0	8
12:30	3	0	0	6	0	0	9
12:45	7	0	0	5	0	0	12
13:00	6	0	0	4	0	0	10
13:15	5	0	0	2	0	0	7
13:30	7	0	0	1	0	0	8
13:45	6	0	0	1	0	0	7
14:00	10	0	0	2	0	0	12
14:15	12	0	0	4	0	0	16
14:30	12	0	2	8	0	0	22
14:45	14	0	9	8	0	0	31
15:00	14	0	11	14	0	0	39
15:15	19	0	11	13	0	0	43
15:30	17	0	11	16	0	0	44
15:45	14	0	4	15	0	0	33
16:00	9	0	2	8	0	0	19
16:15	5	0	2	8	0	0	15
16:30	13	0	0	2	0	0	15
16:45	20	0	0	3	0	0	23
17:00	25	0	0	6	0	0	31
17:15	27	0	0	10	0	1	38
17:30	23	0	0	10	0	1	34
17:45	17	0	0	10	0	1	28
18:00	17	0	0	10	0	1	28
18:15							
18:30							
18:45							
Total							

Location: Kirkfield Estate, Chipping
Date: 23/05/2013
Direction: Outbound

Time Period	Light Vehicles	Heavy Vehicles	Pedestrians (School)	Pedestrians (General)	Cyclists (School)	Cyclists (General)	Total
07:00	5	0	0	0	0	0	5
07:15	6	0	0	1	0	0	7
07:30	5	0	0	1	0	0	6
07:45	4	0	3	1	0	0	8
08:00	9	0	2	0	0	0	11
08:15	9	0	7	2	0	0	18
08:30	2	0	2	2	0	0	6
08:45	4	0	2	4	0	0	10
09:00	3	0	0	5	0	0	8
09:15	6	0	0	2	0	0	8
09:30	0	0	0	2	0	0	2
09:45	3	0	0	1	0	0	4
10:00	2	0	0	1	0	0	3
10:15	1	0	0	1	0	0	2
10:30	0	0	0	0	0	0	0
10:45	3	0	0	0	0	0	3
11:00	2	0	0	0	0	0	2
11:15	3	0	0	3	0	0	6
11:30	3	0	0	0	0	0	3
11:45	1	0	0	0	0	0	1
12:00	1	1	0	2	0	0	4
12:15	0	0	0	0	0	0	0
12:30	0	0	0	1	0	0	1
12:45	1	0	0	0	0	0	1
13:00	5	0	0	0	0	0	5
13:15	1	0	0	0	0	0	1
13:30	3	0	0	0	0	0	3
13:45	0	0	0	0	0	0	0
14:00	2	0	0	0	0	0	2
14:15	0	0	0	0	0	0	0
14:30	2	0	0	0	0	0	2
14:45	1	0	0	1	0	0	2
15:00	0	0	0	3	0	0	3
15:15	1	0	0	1	0	0	2
15:30	1	0	1	0	0	0	2
15:45	1	0	0	1	0	0	2
16:00	5	0	0	0	0	0	5
16:15	6	0	0	3	0	0	9
16:30	2	0	0	3	0	0	5
16:45	2	0	0	0	0	0	2
17:00	2	0	0	1	0	0	3
17:15	1	0	0	0	0	0	1
17:30	3	0	0	1	0	0	4
17:45	2	0	0	1	0	0	3
18:00	9	0	0	6	0	1	16
18:15	3	0	0	3	0	0	6
18:30	2	0	0	0	0	0	2
18:45	5	0	0	2	0	0	7
Total	132	1	17	55	0	1	206

Time Period	Light Vehicles	Heavy Vehicles	Pedestrians (School)	Pedestrians (General)	Cyclists (School)	Cyclists (General)	Total
07:00	20	0	3	3	0	0	26
07:15	24	0	5	3	0	0	32
07:30	27	0	12	4	0	0	43
07:45	24	0	14	5	0	0	43
08:00	24	0	13	8	0	0	45
08:15	18	0	11	13	0	0	42
08:30	15	0	4	13	0	0	32
08:45	13	0	2	13	0	0	28
09:00	12	0	0	10	0	0	22
09:15	11	0	0	6	0	0	17
09:30	6	0	0	5	0	0	11
09:45	6	0	0	3	0	0	9
10:00	6	0	0	2	0	0	8
10:15	6	0	0	1	0	0	7
10:30	8	0	0	3	0	0	11
10:45	11	0	0	3	0	0	14
11:00	9	0	0	3	0	0	12
11:15	8	1	0	5	0	0	14
11:30	5	1	0	2	0	0	8
11:45	2	1	0	3	0	0	6
12:00	2	1	0	3	0	0	6
12:15	6	0	0	1	0	0	7
12:30	7	0	0	1	0	0	8
12:45	10	0	0	0	0	0	10
13:00	9	0	0	0	0	0	9
13:15	6	0	0	0	0	0	6
13:30	5	0	0	0	0	0	5
13:45	4	0	0	0	0	0	4
14:00	5	0	0	1	0	0	6
14:15	3	0	0	4	0	0	7
14:30	4	0	0	5	0	0	9
14:45	3	0	1	5	0	0	9
15:00	3	0	1	5	0	0	9
15:15	8	0	1	2	0	0	11
15:30	13	0	1	4	0	0	18
15:45	14	0	0	7	0	0	21
16:00	15	0	0	6	0	0	21
16:15	12	0	0	7	0	0	19
16:30	7	0	0	4	0	0	11
16:45	8	0	0	2	0	0	10
17:00	8	0	0	3	0	0	11
17:15	15	0	0	8	0	1	24
17:30	17	0	0	11	0	1	29
17:45	16	0	0	10	0	1	27
18:00	19	0	0	11	0	1	31
18:15							
18:30							
18:45							
Total							

TRAFFIC + TRANSPORTATION

THE DATA COLLECTION SPECIALISTS

Curtins Consulting

12672 – Llandegla Vehicle Occupancy Survey

Wednesday 22nd May 2013

Victoria Hindle

Contents

CTS Traffic & Transportation Ltd.
Unit 14 Aqueduct Mill, Aqueduct Street, Preston, PR1 7JN
Tel: (01772) 251 400 Fax: (01772) 252 900
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Data Quality Assurance:

Data Revision: Rev. 1

Inputted by: Victoria Hindle
Date: 24/05/2013

Analysis and Report by: Victoria Hindle
Date: 24/05/2013

Approved by: Joe Maclaren
Date: 24/05/13

Method of Survey:

VEHICLE OCCUPANCY SURVEY

Counts of vehicles, and the number of occupants in each vehicle; were recorded entering and exiting the designated survey area.

Data was collected manually on-site by enumerators positioned at the following survey area:

- Entrance to the Coed LLandegla Visitors Centre

All possible movements were recorded in 15 minute intervals, between the times of 07:00 – 19:00 on Wednesday 22nd May 2013. The results are provided in an Excel spread sheet.

Incidents Encountered During Surveys:

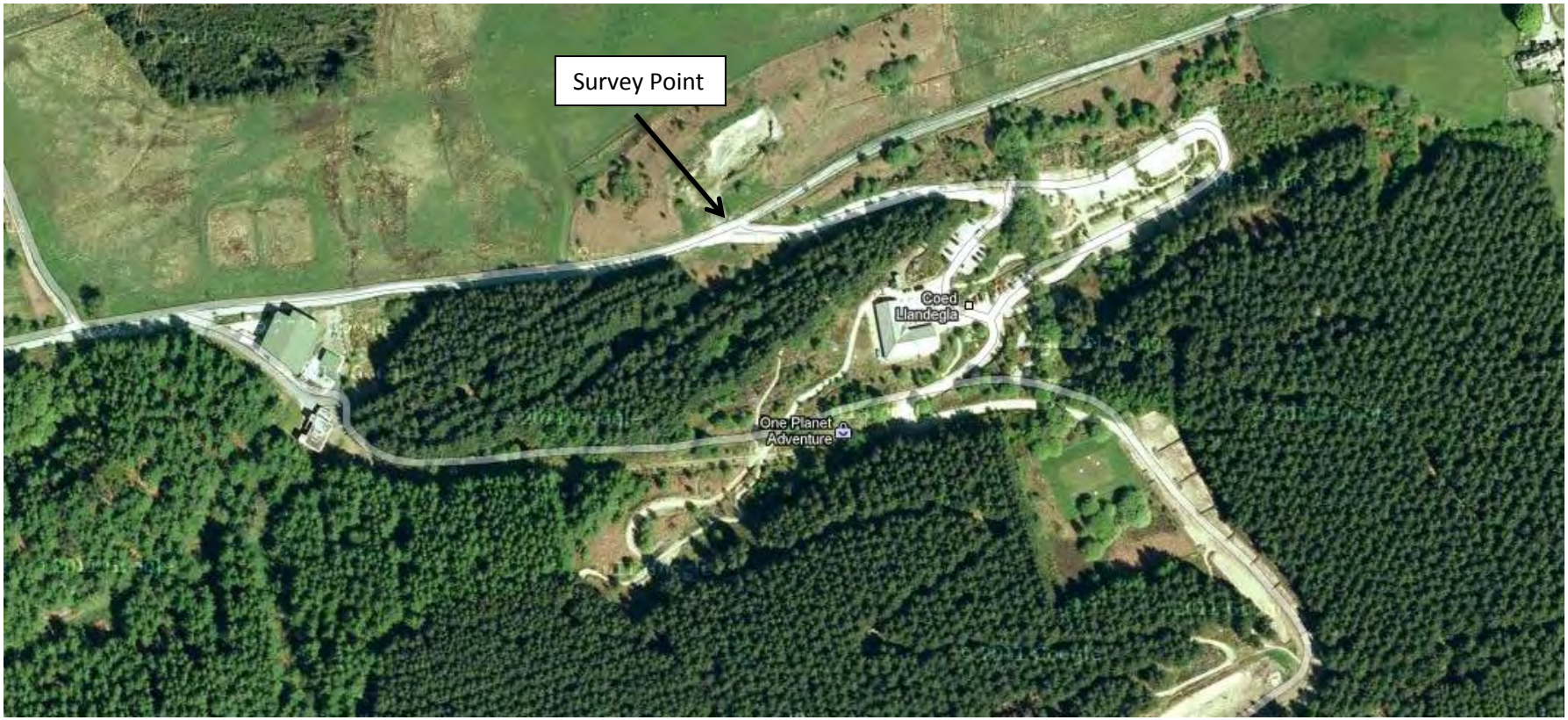
The Coed LLandegla Visitors Centre is open until 21:00 on Wednesdays, including the date of the survey. There were a number of vehicles still on site once the survey had finished.

Weather Conditions:

Wednesday 22nd May 2013 – Cool and cloudy, with a spell of light rain in the morning.

12672 – Curtins Consulting – Llandegla Vehicle Occupancy Survey

Site Map



Location: Llandegla Visitors Centre
Date: Tuesday 21st May 2013
Direction: Inbound

Time Period	Bicycles	Light Vehicle 1 Occupant	Light Vehicle 2 Occupants	Light Vehicle 3 Occupants	Light Vehicle 4 Occupants	Light Vehicle 5 Occupants	Light Vehicle 6 Occupants	Light Vehicle 6+ Occupants	Heavy Vehicle 1 Occupant	Heavy Vehicle 2 Occupants	Heavy Vehicle 2+ Occupants	Total
07:00	2	0	0	0	0	0	0	0	0	0	0	2
07:15	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	2	0	0	0	0	0	0	0	0	0	2
08:45	1	1	1	0	0	0	0	0	0	0	0	3
09:00	0	2	1	0	0	0	0	0	0	0	0	3
09:15	0	1	0	0	0	0	0	0	0	0	0	1
09:30	1	3	1	0	0	0	0	0	0	0	0	5
09:45	0	5	4	0	0	0	0	0	0	1	0	10
10:00	0	1	2	0	0	0	0	0	0	0	0	3
10:15	0	1	2	1	0	0	0	0	0	0	0	4
10:30	1	3	4	0	0	0	0	0	0	0	0	8
10:45	0	1	2	0	0	0	0	0	0	0	0	3
11:00	0	2	1	0	0	0	0	0	0	0	0	3
11:15	0	2	2	0	0	0	0	0	0	0	0	4
11:30	0	1	0	0	0	0	0	0	0	0	0	1
11:45	1	3	1	1	0	0	0	0	0	0	0	6
12:00	0	2	4	0	0	0	0	0	0	0	0	6
12:15	0	3	3	1	0	0	0	0	0	0	0	7
12:30	0	5	2	0	0	0	0	0	0	0	0	7
12:45	0	2	2	0	0	1	0	0	0	0	0	5
13:00	0	2	1	1	0	0	0	0	0	0	0	4
13:15	0	2	1	0	0	0	0	0	0	0	0	3
13:30	2	12	1	1	0	0	0	0	0	0	0	16
13:45	1	3	1	0	0	0	0	0	0	0	0	5
14:00	0	1	1	0	0	0	0	0	0	0	0	2
14:15	0	3	1	0	0	0	0	0	1	0	0	5
14:30	0	2	2	0	0	0	0	0	1	0	0	5
14:45	0	5	0	0	0	0	0	0	0	0	0	5
15:00	0	1	0	0	0	0	0	0	0	0	0	1
15:15	0	3	1	0	0	0	0	0	0	0	0	4
15:30	0	1	0	0	0	0	0	0	0	0	0	1
15:45	1	1	0	0	0	0	0	0	0	0	0	2
16:00	0	3	0	0	0	0	0	0	0	0	0	3
16:15	1	6	2	0	0	0	0	0	0	0	0	9
16:30	0	11	2	0	0	0	0	0	0	0	0	13
16:45	0	9	1	0	0	0	0	0	0	0	0	10
17:00	1	6	0	1	0	0	0	0	0	0	0	8
17:15	5	14	2	2	0	0	0	0	0	0	0	23
17:30	0	15	4	1	0	0	0	0	0	0	0	20
17:45	0	14	9	1	0	0	0	0	0	0	0	24
18:00	3	20	8	1	0	0	0	0	0	0	0	32
18:15	5	12	6	5	1	0	0	0	0	0	0	29
18:30	11	13	2	0	0	0	0	0	0	1	1	28
18:45	1	7	4	1	0	0	0	0	0	0	0	13
Total	37	206	81	17	1	1	0	0	2	2	1	348

Location: Llandegla Visitors Centre
Date: Tuesday 21st May 2013
Direction: Outbound

Time Period	Bicycles	Light Vehicle 1 Occupant	Light Vehicle 2 Occupants	Light Vehicle 3 Occupants	Light Vehicle 4 Occupants	Light Vehicle 5 Occupants	Light Vehicle 6 Occupants	Light Vehicle 6+ Occupants	Heavy Vehicle 1 Occupant	Heavy Vehicle 2 Occupants	Heavy Vehicle 2+ Occupants	Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	1	0	0	0	0	0	0	0	0	0	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	1	0	0	0	0	0	0	0	0	1
09:15	2	0	0	0	0	0	0	0	0	0	0	2
09:30	0	1	0	0	0	0	0	0	0	0	0	1
09:45	0	0	0	0	0	0	0	0	0	1	0	1
10:00	0	1	0	0	0	0	0	0	0	0	0	1
10:15	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	2	0	0	0	0	0	0	0	0	0	2
10:45	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	1	0	0	0	0	0	0	0	0	0	1
11:15	0	0	1	0	0	0	0	0	0	0	0	1
11:30	0	1	0	0	0	0	0	0	0	0	0	1
11:45	0	0	0	0	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	1	0	0	0	0	0	0	0	0	1
12:30	0	1	2	0	0	0	0	0	0	0	0	3
12:45	0	1	0	0	0	0	0	0	0	0	0	1
13:00	2	2	0	0	0	0	0	0	0	0	0	4
13:15	0	1	0	0	0	0	0	0	0	0	0	1
13:30	0	1	4	0	0	0	0	0	0	0	0	5
13:45	0	2	3	1	0	0	0	0	0	0	0	6
14:00	0	4	0	0	0	0	0	0	0	0	0	4
14:15	0	2	3	1	0	0	0	0	0	0	0	6
14:30	2	6	5	0	0	1	0	0	1	0	0	15
14:45	1	2	1	0	0	0	0	0	1	0	0	5
15:00	0	5	0	0	0	0	0	0	0	0	0	5
15:15	0	6	3	0	0	0	0	0	0	0	0	9
15:30	1	3	0	1	0	0	0	0	0	0	0	5
15:45	0	7	2	0	0	0	0	0	0	0	0	9
16:00	0	3	1	0	0	0	0	0	0	0	0	4
16:15	1	2	4	1	0	0	0	0	0	0	0	8
16:30	0	5	0	0	0	0	0	0	0	0	0	5
16:45	0	9	2	0	0	0	0	0	0	0	0	11
17:00	1	4	0	0	0	0	0	0	0	0	0	5
17:15	0	2	1	0	0	0	0	0	0	0	0	3
17:30	1	1	0	0	0	0	0	0	0	0	0	2
17:45	0	1	0	0	0	0	0	0	0	0	0	1
18:00	0	1	0	0	0	0	0	0	0	0	0	1
18:15	2	1	3	0	0	0	0	0	0	0	0	6
18:30	0	5	4	0	0	0	0	0	0	0	0	9
18:45	0	4	0	0	0	0	0	0	0	0	0	4
Total	13	88	41	4	0	1	0	0	2	1	0	150

APPENDIX B

Table C: Accessibility Questionnaire - Non-Residential Development

Site Description:

Application Reference:

Access Type	Criteria	Criteria Scores	Score	Sub-Score
Walking	Distance to nearest bus stop from main entrance to building (via direct, safe route)	<200m <300m <500m >500m	5 3 1 0	**3**
	Distance to nearest railway station from main entrance to building	<400m <1km >1km	3 2 0	**0**
Cycling	Proximity to defined cycle routes	<100m <500m <1km	3 2 1	**0**
Public Transport	Bus frequency of principal service from nearest bus stop during operational hours of the development	**Urban/ Suburban** 15 minutes or less 30 minutes or less >30 minutes **Villages and Rural** Hourly or less 2 Hourly or less 1 or more per day	 5 3 1 5 2 1	**2**
	Number of bus services serving different localities stopping within 200 metres of main entrance	4 or more localities served 3 2 1	5 3 2 1	**3**
	Train frequency from nearest station (Mon-Sat daytime)	30 minutes or less 30-59 minutes Hourly or less frequent	3 2 1	**0**
	Drive to nearest station	10 minutes or less 15 minutes or less	2 1	**0**
Other	Travel reduction opportunities	Facilities on site or within 100 metres that reduce the need to travel: * food shop/cafe * newsagent * crèche * other	 1 1 1 1	**2**
Total Aggregate Score				**10**

Accessibility Level

High: 24-30 Medium: 16-23 Low: 15 or less

Table G - Accessibility Questionnaire (Residential)

Site description:
Application reference:

Access type	Criteria	Criteria scores		Sub score
Walking distance from centre of 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-1000m >1km	3 2 1 0	**0**
	Distance to nearest Primary School	<200m <400m <600m >600m	5 3 1 0	**3**
	Distance to nearest Food shop	<200m <400m <600m >600m	5 3 1 0	**1**
Cycling distance from centre of site	Proximity to defined on or off-road cycle route	<100m <500m >1km	3 2 1	**0**
	Distance to nearest Secondary School	<400m <600m <1km >1km	3 2 1 0	**0**
	Distance to nearest town centre	<1km <3km <4km	3 2 1	**0**
	Distance to nearest business park or employment concentration	<1km <3km <4km	3 2 1	**0**
Public transport	Bus frequency from nearest bus stop (Mon-Sat daytime)	**Urban/suburban** 15 minutes or less 30 minutes or less >30 minutes **Rural including villages** Hourly or less 2 hourly or less 1 or more per day	 5 3 1 5 3 1	**3**
	Train frequency from nearest station (Mon-Sat daytime)	30 minutes or less 30-59 minutes Hourly or less frequent	3 2 1	
Accessibility to other basic services	Accessibility 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 1.5 km	5 3 1	**3**
	Accessibility to Play Area or Park	<200m <400m <600m >600m	5 3 1 0	**3**
TOTAL AGGREGATE SCORE				**16**

Accessibility level High 35-48 Medium 20-35 Low Less than 20

APPENDIX C

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : A - HOTELS
MULTI-MODAL VEHICLES

Selected regions and areas:

04	EAST ANGLIA		
	NF	NORFOLK	1 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
10	WALES		
	WR	WREXHAM	1 days
11	SCOTLAND		
	AG	ANGUS	1 days
	HI	HIGHLAND	1 days

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

Filtering Stage 2 selection:

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

Parameter: Number of bedrooms
Actual Range: 4 to 126 (units:)
Range Selected by User: 4 to 213 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/05 to 16/07/12

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

Selected survey days:

Tuesday	1 days
Wednesday	1 days
Thursday	3 days

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

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	3
Neighbourhood Centre (PPS6 Local Centre)	1
Free Standing (PPS6 Out of Town)	1

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

Selected Location Sub Categories:

Commercial Zone	1
Residential Zone	1
Village	1
Out of Town	1
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

C1	5 days

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

Population within 1 mile:

1,000 or Less	1 days
5,001 to 10,000	2 days
10,001 to 15,000	2 days

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

Population within 5 miles:

25,001 to 50,000	2 days
75,001 to 100,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	1 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
1.1 to 1.5	4 days

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

Travel Plan:

No	5 days

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

LIST OF SITES relevant to selection parameters

1	AG-06-A-01	BOUTIQUE B&B		ANGUS
	CLIFFBURN ROAD			
	HAYSHEAD			
	ARBROATH			
	Edge of Town			
	Residential Zone			
	Total Number of bedrooms:		4	
	Survey date: TUESDAY		22/05/12	Survey Type: MANUAL
2	CH-06-A-01	RAMADA JARVIS		CHESHIRE
	WHITCHURCH ROAD			
	CHRISTLETON			
	CHESTER			
	Neighbourhood Centre (PPS6 Local Centre)			
	Village			
	Total Number of bedrooms:		126	
	Survey date: WEDNESDAY		15/10/08	Survey Type: MANUAL
3	HI-06-A-03	EXPRESS BY HOL.INN		HIGHLAND
	A96			
	STONEYFIELD BUSINESS PK			
	INVERNESS			
	Edge of Town			
	Commercial Zone			
	Total Number of bedrooms:		94	
	Survey date: THURSDAY		25/05/06	Survey Type: MANUAL
4	NF-06-A-02	HOLIDAY INN		NORFOLK
	IPSWICH ROAD			
	HARFORD PARK			
	NORWICH			
	Edge of Town			
	No Sub Category			
	Total Number of bedrooms:		119	
	Survey date: THURSDAY		30/09/10	Survey Type: MANUAL
5	WR-06-A-02	HOTEL		WREXHAM
	WREXHAM ROAD			
	HOLT			
	NEAR WREXHAM			
	Free Standing (PPS6 Out of Town)			
	Out of Town			
	Total Number of bedrooms:		37	
	Survey date: THURSDAY		06/10/11	Survey Type: MANUAL

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL VEHICLES
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.084	5	76	0.137	5	76	0.221
08:00 - 09:00	5	76	0.171	5	76	0.292	5	76	0.463
09:00 - 10:00	5	76	0.208	5	76	0.205	5	76	0.413
10:00 - 11:00	5	76	0.124	5	76	0.153	5	76	0.277
11:00 - 12:00	5	76	0.097	5	76	0.134	5	76	0.231
12:00 - 13:00	5	76	0.087	5	76	0.087	5	76	0.174
13:00 - 14:00	5	76	0.113	5	76	0.111	5	76	0.224
14:00 - 15:00	5	76	0.132	5	76	0.179	5	76	0.311
15:00 - 16:00	5	76	0.139	5	76	0.145	5	76	0.284
16:00 - 17:00	5	76	0.166	5	76	0.142	5	76	0.308
17:00 - 18:00	5	76	0.237	5	76	0.153	5	76	0.390
18:00 - 19:00	5	76	0.137	5	76	0.092	5	76	0.229
19:00 - 20:00	5	76	0.124	5	76	0.068	5	76	0.192
20:00 - 21:00	5	76	0.071	5	76	0.045	5	76	0.116
21:00 - 22:00	4	72	0.017	4	72	0.066	4	72	0.083
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.907			2.009			3.916

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL TAXIS
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.005	5	76	0.005	5	76	0.010
08:00 - 09:00	5	76	0.021	5	76	0.021	5	76	0.042
09:00 - 10:00	5	76	0.011	5	76	0.011	5	76	0.022
10:00 - 11:00	5	76	0.008	5	76	0.008	5	76	0.016
11:00 - 12:00	5	76	0.008	5	76	0.005	5	76	0.013
12:00 - 13:00	5	76	0.003	5	76	0.005	5	76	0.008
13:00 - 14:00	5	76	0.003	5	76	0.003	5	76	0.006
14:00 - 15:00	5	76	0.008	5	76	0.008	5	76	0.016
15:00 - 16:00	5	76	0.008	5	76	0.003	5	76	0.011
16:00 - 17:00	5	76	0.013	5	76	0.018	5	76	0.031
17:00 - 18:00	5	76	0.016	5	76	0.016	5	76	0.032
18:00 - 19:00	5	76	0.016	5	76	0.013	5	76	0.029
19:00 - 20:00	5	76	0.003	5	76	0.005	5	76	0.008
20:00 - 21:00	5	76	0.003	5	76	0.003	5	76	0.006
21:00 - 22:00	4	72	0.000	4	72	0.000	4	72	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.126			0.124			0.250

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL OGVS
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.005	5	76	0.005	5	76	0.010
08:00 - 09:00	5	76	0.003	5	76	0.003	5	76	0.006
09:00 - 10:00	5	76	0.011	5	76	0.005	5	76	0.016
10:00 - 11:00	5	76	0.008	5	76	0.011	5	76	0.019
11:00 - 12:00	5	76	0.003	5	76	0.005	5	76	0.008
12:00 - 13:00	5	76	0.005	5	76	0.005	5	76	0.010
13:00 - 14:00	5	76	0.000	5	76	0.000	5	76	0.000
14:00 - 15:00	5	76	0.000	5	76	0.000	5	76	0.000
15:00 - 16:00	5	76	0.000	5	76	0.000	5	76	0.000
16:00 - 17:00	5	76	0.000	5	76	0.000	5	76	0.000
17:00 - 18:00	5	76	0.003	5	76	0.003	5	76	0.006
18:00 - 19:00	5	76	0.000	5	76	0.000	5	76	0.000
19:00 - 20:00	5	76	0.000	5	76	0.000	5	76	0.000
20:00 - 21:00	5	76	0.000	5	76	0.000	5	76	0.000
21:00 - 22:00	4	72	0.000	4	72	0.000	4	72	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.038			0.037			0.075

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL PSVS
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.000	5	76	0.000	5	76	0.000
08:00 - 09:00	5	76	0.003	5	76	0.003	5	76	0.006
09:00 - 10:00	5	76	0.000	5	76	0.005	5	76	0.005
10:00 - 11:00	5	76	0.000	5	76	0.000	5	76	0.000
11:00 - 12:00	5	76	0.000	5	76	0.000	5	76	0.000
12:00 - 13:00	5	76	0.000	5	76	0.000	5	76	0.000
13:00 - 14:00	5	76	0.000	5	76	0.000	5	76	0.000
14:00 - 15:00	5	76	0.003	5	76	0.000	5	76	0.003
15:00 - 16:00	5	76	0.000	5	76	0.003	5	76	0.003
16:00 - 17:00	5	76	0.003	5	76	0.000	5	76	0.003
17:00 - 18:00	5	76	0.003	5	76	0.000	5	76	0.003
18:00 - 19:00	5	76	0.003	5	76	0.003	5	76	0.006
19:00 - 20:00	5	76	0.000	5	76	0.000	5	76	0.000
20:00 - 21:00	5	76	0.000	5	76	0.000	5	76	0.000
21:00 - 22:00	4	72	0.000	4	72	0.000	4	72	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.015			0.014			0.029

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL CYCLISTS
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.008	5	76	0.000	5	76	0.008
08:00 - 09:00	5	76	0.005	5	76	0.003	5	76	0.008
09:00 - 10:00	5	76	0.013	5	76	0.000	5	76	0.013
10:00 - 11:00	5	76	0.003	5	76	0.008	5	76	0.011
11:00 - 12:00	5	76	0.000	5	76	0.003	5	76	0.003
12:00 - 13:00	5	76	0.000	5	76	0.003	5	76	0.003
13:00 - 14:00	5	76	0.005	5	76	0.000	5	76	0.005
14:00 - 15:00	5	76	0.003	5	76	0.018	5	76	0.021
15:00 - 16:00	5	76	0.003	5	76	0.008	5	76	0.011
16:00 - 17:00	5	76	0.003	5	76	0.005	5	76	0.008
17:00 - 18:00	5	76	0.011	5	76	0.000	5	76	0.011
18:00 - 19:00	5	76	0.008	5	76	0.021	5	76	0.029
19:00 - 20:00	5	76	0.000	5	76	0.000	5	76	0.000
20:00 - 21:00	5	76	0.000	5	76	0.000	5	76	0.000
21:00 - 22:00	4	72	0.000	4	72	0.000	4	72	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.062			0.069			0.131

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.097	5	76	0.184	5	76	0.281
08:00 - 09:00	5	76	0.168	5	76	0.363	5	76	0.531
09:00 - 10:00	5	76	0.250	5	76	0.284	5	76	0.534
10:00 - 11:00	5	76	0.134	5	76	0.208	5	76	0.342
11:00 - 12:00	5	76	0.116	5	76	0.171	5	76	0.287
12:00 - 13:00	5	76	0.113	5	76	0.116	5	76	0.229
13:00 - 14:00	5	76	0.158	5	76	0.142	5	76	0.300
14:00 - 15:00	5	76	0.166	5	76	0.266	5	76	0.432
15:00 - 16:00	5	76	0.176	5	76	0.176	5	76	0.352
16:00 - 17:00	5	76	0.261	5	76	0.187	5	76	0.448
17:00 - 18:00	5	76	0.339	5	76	0.232	5	76	0.571
18:00 - 19:00	5	76	0.189	5	76	0.103	5	76	0.292
19:00 - 20:00	5	76	0.145	5	76	0.089	5	76	0.234
20:00 - 21:00	5	76	0.087	5	76	0.053	5	76	0.140
21:00 - 22:00	4	72	0.021	4	72	0.070	4	72	0.091
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.420			2.644			5.064

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.018	5	76	0.000	5	76	0.018
08:00 - 09:00	5	76	0.008	5	76	0.000	5	76	0.008
09:00 - 10:00	5	76	0.003	5	76	0.000	5	76	0.003
10:00 - 11:00	5	76	0.003	5	76	0.000	5	76	0.003
11:00 - 12:00	5	76	0.000	5	76	0.005	5	76	0.005
12:00 - 13:00	5	76	0.000	5	76	0.016	5	76	0.016
13:00 - 14:00	5	76	0.011	5	76	0.018	5	76	0.029
14:00 - 15:00	5	76	0.011	5	76	0.016	5	76	0.027
15:00 - 16:00	5	76	0.011	5	76	0.013	5	76	0.024
16:00 - 17:00	5	76	0.008	5	76	0.008	5	76	0.016
17:00 - 18:00	5	76	0.026	5	76	0.008	5	76	0.034
18:00 - 19:00	5	76	0.013	5	76	0.011	5	76	0.024
19:00 - 20:00	5	76	0.005	5	76	0.029	5	76	0.034
20:00 - 21:00	5	76	0.000	5	76	0.026	5	76	0.026
21:00 - 22:00	4	72	0.007	4	72	0.000	4	72	0.007
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.124			0.150			0.274

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.011	5	76	0.011	5	76	0.022
08:00 - 09:00	5	76	0.005	5	76	0.008	5	76	0.013
09:00 - 10:00	5	76	0.003	5	76	0.000	5	76	0.003
10:00 - 11:00	5	76	0.000	5	76	0.005	5	76	0.005
11:00 - 12:00	5	76	0.000	5	76	0.000	5	76	0.000
12:00 - 13:00	5	76	0.000	5	76	0.003	5	76	0.003
13:00 - 14:00	5	76	0.008	5	76	0.000	5	76	0.008
14:00 - 15:00	5	76	0.000	5	76	0.005	5	76	0.005
15:00 - 16:00	5	76	0.000	5	76	0.003	5	76	0.003
16:00 - 17:00	5	76	0.000	5	76	0.003	5	76	0.003
17:00 - 18:00	5	76	0.000	5	76	0.000	5	76	0.000
18:00 - 19:00	5	76	0.000	5	76	0.000	5	76	0.000
19:00 - 20:00	5	76	0.000	5	76	0.000	5	76	0.000
20:00 - 21:00	5	76	0.000	5	76	0.000	5	76	0.000
21:00 - 22:00	4	72	0.003	4	72	0.000	4	72	0.003
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.030			0.038			0.068

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL TRAIN PASSENGERS
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.000	5	76	0.000	5	76	0.000
08:00 - 09:00	5	76	0.000	5	76	0.000	5	76	0.000
09:00 - 10:00	5	76	0.000	5	76	0.000	5	76	0.000
10:00 - 11:00	5	76	0.000	5	76	0.000	5	76	0.000
11:00 - 12:00	5	76	0.000	5	76	0.000	5	76	0.000
12:00 - 13:00	5	76	0.000	5	76	0.000	5	76	0.000
13:00 - 14:00	5	76	0.000	5	76	0.000	5	76	0.000
14:00 - 15:00	5	76	0.000	5	76	0.000	5	76	0.000
15:00 - 16:00	5	76	0.000	5	76	0.000	5	76	0.000
16:00 - 17:00	5	76	0.000	5	76	0.000	5	76	0.000
17:00 - 18:00	5	76	0.000	5	76	0.000	5	76	0.000
18:00 - 19:00	5	76	0.000	5	76	0.000	5	76	0.000
19:00 - 20:00	5	76	0.000	5	76	0.000	5	76	0.000
20:00 - 21:00	5	76	0.000	5	76	0.000	5	76	0.000
21:00 - 22:00	4	72	0.000	4	72	0.000	4	72	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL COACH PASSENGERS
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.000	5	76	0.000	5	76	0.000
08:00 - 09:00	5	76	0.000	5	76	0.000	5	76	0.000
09:00 - 10:00	5	76	0.000	5	76	0.103	5	76	0.103
10:00 - 11:00	5	76	0.000	5	76	0.000	5	76	0.000
11:00 - 12:00	5	76	0.000	5	76	0.000	5	76	0.000
12:00 - 13:00	5	76	0.000	5	76	0.000	5	76	0.000
13:00 - 14:00	5	76	0.000	5	76	0.000	5	76	0.000
14:00 - 15:00	5	76	0.003	5	76	0.000	5	76	0.003
15:00 - 16:00	5	76	0.000	5	76	0.003	5	76	0.003
16:00 - 17:00	5	76	0.003	5	76	0.000	5	76	0.003
17:00 - 18:00	5	76	0.000	5	76	0.000	5	76	0.000
18:00 - 19:00	5	76	0.100	5	76	0.000	5	76	0.100
19:00 - 20:00	5	76	0.000	5	76	0.000	5	76	0.000
20:00 - 21:00	5	76	0.000	5	76	0.000	5	76	0.000
21:00 - 22:00	4	72	0.000	4	72	0.000	4	72	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.106			0.106			0.212

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.011	5	76	0.011	5	76	0.022
08:00 - 09:00	5	76	0.005	5	76	0.008	5	76	0.013
09:00 - 10:00	5	76	0.003	5	76	0.103	5	76	0.106
10:00 - 11:00	5	76	0.000	5	76	0.005	5	76	0.005
11:00 - 12:00	5	76	0.000	5	76	0.000	5	76	0.000
12:00 - 13:00	5	76	0.000	5	76	0.003	5	76	0.003
13:00 - 14:00	5	76	0.008	5	76	0.000	5	76	0.008
14:00 - 15:00	5	76	0.003	5	76	0.005	5	76	0.008
15:00 - 16:00	5	76	0.000	5	76	0.005	5	76	0.005
16:00 - 17:00	5	76	0.003	5	76	0.003	5	76	0.006
17:00 - 18:00	5	76	0.000	5	76	0.000	5	76	0.000
18:00 - 19:00	5	76	0.100	5	76	0.000	5	76	0.100
19:00 - 20:00	5	76	0.000	5	76	0.000	5	76	0.000
20:00 - 21:00	5	76	0.000	5	76	0.000	5	76	0.000
21:00 - 22:00	4	72	0.003	4	72	0.000	4	72	0.003
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.136			0.143			0.279

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 BEDRMS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	76	0.134	5	76	0.195	5	76	0.329
08:00 - 09:00	5	76	0.187	5	76	0.374	5	76	0.561
09:00 - 10:00	5	76	0.268	5	76	0.387	5	76	0.655
10:00 - 11:00	5	76	0.139	5	76	0.221	5	76	0.360
11:00 - 12:00	5	76	0.116	5	76	0.179	5	76	0.295
12:00 - 13:00	5	76	0.113	5	76	0.137	5	76	0.250
13:00 - 14:00	5	76	0.182	5	76	0.161	5	76	0.343
14:00 - 15:00	5	76	0.182	5	76	0.305	5	76	0.487
15:00 - 16:00	5	76	0.189	5	76	0.203	5	76	0.392
16:00 - 17:00	5	76	0.274	5	76	0.203	5	76	0.477
17:00 - 18:00	5	76	0.376	5	76	0.239	5	76	0.615
18:00 - 19:00	5	76	0.311	5	76	0.134	5	76	0.445
19:00 - 20:00	5	76	0.150	5	76	0.118	5	76	0.268
20:00 - 21:00	5	76	0.087	5	76	0.079	5	76	0.166
21:00 - 22:00	4	72	0.031	4	72	0.070	4	72	0.101
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.739			3.005			5.744

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

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

Parameter summary

Trip rate parameter range selected:	4 - 126 (units:)
Survey date date range:	01/01/05 - 16/07/12
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

APPENDIX D

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

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 5.0 (JUNE 2010) (Patch 15 Apr 2011)

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

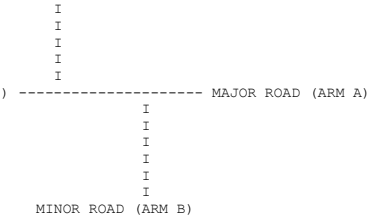
Run with file:-
"L:\TP Projects\TP Manchester\TPMA1001 Chipping\I -Calculations\Modelling\PICADY\Garstang Road Crossroads.vpi"
(drive-on-the-left) at 17:08:43 on Wednesday, 11 September 2013

.RUN INFORMATION

RUN TITLE	: Garston Road Crossroads
LOCATION	: Chipping
DATE	: 11/09/13
CLIENT	:
ENUMERATOR	: T Nichol
JOB NUMBER	: 1001
STATUS	:
DESCRIPTION	: Existing Layout

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Talbot Street
ARM B IS Windy Street
ARM C IS Garstang Road
ARM D IS Church Raike

.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	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.50 M.	(W) 13.45 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 50.00 M.	(VA-D)100.00 M.
- BLOCKS TRAFFIC (SPACES)	YES (0)	YES (1)
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 18.0 M.	(VD-A) 18.0 M.
- VISIBILITY TO RIGHT	(VB-A) 15.0 M.	(VD-C) 18.0 M.
- LANE 1 WIDTH	(WB-C) 2.20 M.	(WD-A) 2.20 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 0.00 M.

WARNING RIGHT TURN TRAFFIC INTO ARM D IS UNLIKELY TO CAUSE BLOCKING OF THE MAJOR CARRIAGEWAY
OF WIDTH 13.45 METRES.

.SLOPES AND INTERCEPT

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

STREAM B-A

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A
451.53	0.19	0.19	0.08	0.12

	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing

I	STREAM D-A	STREAM C-B	STREAM D-B	I
I	0.12	0.28	0.28	I

STREAM D-C

I Intercept For STREAM D-C	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing STREAM A-C	I
I 452.87	0.14	0.14	0.06	0.09	I

I	Slope For Opposing STREAM B-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM B-D	Slope For Opposing	I
I	0.09	0.20	0.20		I

STREAM CD-B

I Intercept For STREAM CD-B	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing	I
I 631.87	0.22	0.22	0.19		I

STREAM AB-D

I Intercept For STREAM AB-D	Slope For Opposing STREAM C-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing	I
I 631.87	0.17	0.17	0.14		I

STREAM B-CD

I Intercept For STREAM B-CD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing	I
I 582.65	0.21	0.21	0.08		I

STREAM D-AB

I Intercept For STREAM D-AB	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing	I
I 584.39	0.15	0.15	0.08		I

.TRAFFIC DEMAND DATA

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

.Demand set: AM Base 2018

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

I ARM	I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS I TO RISE	I TOP OF PEAK I IS REACHED	I FLOW STOPS I FALLING	I	RATE OF FLOW (VEH/MIN) BEFORE PEAK	I	AT TOP	I	AFTER PEAK	I
I ARM A	I	15.00	I 45.00	I 75.00	I	0.66	I	0.99	I	0.66	I
I ARM B	I	15.00	I 45.00	I 75.00	I	0.70	I	1.05	I	0.70	I
I ARM C	I	15.00	I 45.00	I 75.00	I	0.68	I	1.01	I	0.68	I
I ARM D	I	15.00	I 45.00	I 75.00	I	0.88	I	1.31	I	0.88	I

.Demand set: AM Base 2018

I TIME	I FROM/TO	I ARM A	I ARM B	I ARM C	I ARM D	I
I 07.45 - 09.15	I	I	I	I	I	I
I	I ARM A	I 0.000	I 0.434	I 0.245	I 0.321	I
I	I	I 0.0	I 23.0	I 13.0	I 17.0	I
I	I	I (0.0)	I (0.0)	I (0.0)	I (0.0)	I
I	I	I	I	I	I	I
I	I ARM B	I 0.321	I 0.000	I 0.321	I 0.357	I
I	I	I 18.0	I 0.0	I 18.0	I 20.0	I
I	I	I (0.0)	I (0.0)	I (0.0)	I (0.0)	I
I	I	I	I	I	I	I
I	I ARM C	I 0.352	I 0.537	I 0.000	I 0.111	I
I	I	I 19.0	I 29.0	I 0.0	I 6.0	I
I	I	I (0.0)	I (0.0)	I (0.0)	I (0.0)	I
I	I	I	I	I	I	I

	ARM D	0.329	0.586	0.086	0.000	
		23.0	41.0	6.0	0.0	
		(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 DEMAND SET AM Base 2018
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-ACD	0.70	8.64	0.081		0.00	0.09	1.3		0.13
A-B	0.29								
A-C	0.16								
A-D	0.21								
AB-CD	(0.46)	10.42	0.044		0.00	0.04	0.7		0.10
AB-C	(0.39)								
D-ABC	0.88	9.39	0.094		0.00	0.10	1.5		0.12
C-D	0.08								
C-A	0.24								
C-B	0.36								
CD-AB	(0.92)	10.25	0.090		0.00	0.10	1.5		0.11
CD-A	(0.48)								

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-ACD	0.84	8.59	0.098		0.09	0.11	1.6		0.13
A-B	0.34								
A-C	0.19								
A-D	0.25								
AB-CD	(0.55)	10.40	0.053		0.04	0.05	0.8		0.10
AB-C	(0.46)								
D-ABC	1.05	9.37	0.112		0.10	0.13	1.8		0.12
C-D	0.09								
C-A	0.28								
C-B	0.43								
CD-AB	(1.12)	10.30	0.108		0.10	0.13	1.9		0.11
CD-A	(0.56)								

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)
08.15-08.30									
B-ACD	1.03	8.52	0.121		0.11	0.14	2.0		0.13
A-B	0.42								
A-C	0.24								
A-D	0.31								
AB-CD	(0.68)	10.37	0.065		0.05	0.07	1.0		0.10
AB-C	(0.57)								
D-ABC	1.28	9.34	0.138		0.13	0.16	2.3		0.12
C-D	0.11								
C-A	0.35								
C-B	0.53								
CD-AB	(1.39)	10.35	0.134		0.13	0.17	2.5		0.11
CD-A	(0.67)								

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-ACD	1.03	8.52	0.121		0.14	0.14	2.0		0.13
A-B	0.42								
A-C	0.24								
A-D	0.31								
AB-CD	(0.68)	10.37	0.065		0.07	0.07	1.0		0.10
AB-C	(0.57)								
D-ABC	1.28	9.34	0.138		0.16	0.16	2.4		0.12
C-D	0.11								
C-A	0.35								
C-B	0.53								
CD-AB	(1.39)	10.35	0.134		0.17	0.17	2.5		0.11
CD-A	(0.67)								

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-ACD	0.84	8.59	0.098		0.14	0.11	1.7		0.13
A-B	0.34								
A-C	0.19								
A-D	0.25								
AB-CD	(0.56)	10.40	0.053		0.07	0.05	0.8		0.10
AB-C	(0.47)								
D-ABC	1.05	9.37	0.112		0.16	0.13	1.9		0.12
C-D	0.09								
C-A	0.28								
C-B	0.43								
CD-AB	(1.12)	10.30	0.109		0.17	0.13	2.0		0.11
CD-A	(0.56)								

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)
09.00-09.15									
B-ACD	0.70	8.64	0.081		0.11	0.09	1.4		0.13
A-B	0.29								
A-C	0.16								
A-D	0.21								
AB-CD	(0.46)	10.42	0.045		0.05	0.04	0.7		0.10
AB-C	(0.39)								
D-ABC	0.88	9.39	0.094		0.13	0.10	1.6		0.12
C-D	0.08								
C-A	0.24								
C-B	0.36								
CD-AB	(0.93)	10.26	0.090		0.13	0.11	1.6		0.11
CD-A	(0.48)								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

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

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

QUEUE FOR STREAM D-ABC

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 CD-AB

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

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-ACD	77.1	51.4	9.9	0.13	9.9	0.13
A-B	31.7	21.1				
A-C	17.9	11.9				
A-D	23.4	15.6				
AB-CD	(50.9)	(33.9)	4.9	0.10	4.9	0.10
AB-C	(42.6)	(28.4)				
D-ABC	96.3	64.2	11.6	0.12	11.6	0.12
C-D	8.3	5.5				
C-A	26.2	17.4				
C-B	39.9	26.6				
CD-AB	(102.8)	(68.5)	12.0	0.12	12.0	0.12
CD-A	(51.3)	(34.2)				
ALL	320.7	213.8	38.4	0.12	38.4	0.12

* 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*******

WARNING RIGHT TURN TRAFFIC INTO ARM D IS UNLIKELY TO CAUSE BLOCKING OF THE MAJOR CARRIAGEWAY
OF WIDTH 13.45 METRES.

.SLOPES AND INTERCEPT

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

STREAM B-A

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

I 451.53	0.19	0.19	0.08	0.12	I

I Slope For Opposing STREAM D-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM D-B	Slope For Opposing	I
I 0.12	0.28	0.28		I

STREAM D-C

I Intercept For STREAM D-C	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing STREAM A-C	I
I 452.87	0.14	0.14	0.06	0.09	I

I Slope For Opposing STREAM B-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM B-D	Slope For Opposing	I
I 0.09	0.20	0.20		I

STREAM CD-B

I Intercept For STREAM CD-B	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing	I
I 631.87	0.22	0.22	0.19		I

STREAM AB-D

I Intercept For STREAM AB-D	Slope For Opposing STREAM C-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing	I
I 631.87	0.17	0.17	0.14		I

STREAM B-CD

I Intercept For STREAM B-CD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing	I
I 582.65	0.21	0.21	0.08		I

STREAM D-AB

I Intercept For STREAM D-AB	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing	I
I 584.39	0.15	0.15	0.08		I

.TRAFFIC DEMAND DATA

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

.Demand set: PM Base 2018

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM	I FLOW STARTS TO RISE	I NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	I FLOW STOPS FALLING	I RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	I AFTER PEAK	I
I ARM A	I 15.00	I 45.00	I 75.00	I 0.76	I 1.14	I 0.76	I
I ARM B	I 15.00	I 45.00	I 75.00	I 1.11	I 1.67	I 1.11	I
I ARM C	I 15.00	I 45.00	I 75.00	I 0.64	I 0.96	I 0.64	I
I ARM D	I 15.00	I 45.00	I 75.00	I 0.35	I 0.52	I 0.35	I

.Demand set: PM Base 2018

I TIME	I TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S) FROM/TO	I ARM A	I ARM B	I ARM C	I ARM D	I
I 16.45 - 18.15	I	I	I	I	I	I
I	I ARM A	I 0.000	I 0.361	I 0.344	I 0.295	I
I	I	I 0.0	I 22.0	I 21.0	I 18.0	I
I	I	I (0.0)	I (0.0)	I (0.0)	I (0.0)	I
I	I	I	I	I	I	I
I	I ARM B	I 0.326	I 0.000	I 0.371	I 0.303	I
I	I	I 29.0	I 0.0	I 33.0	I 27.0	I

```
I                   I         I (  0.0)I (  0.0)I (  0.0)I (  0.0)I
I                   I         I        I        I        I        I
I                   I ARM  C  I  0.451 I  0.431 I  0.000 I  0.118 I
I                   I         I   23.0 I   22.0 I    0.0 I    6.0 I
I                   I         I (  0.0)I (  0.0)I (  0.0)I (  0.0)I
I                   I         I        I        I        I        I
I                   I ARM  D  I  0.500 I  0.250 I  0.250 I  0.000 I
I                   I         I   14.0 I    7.0 I    7.0 I    0.0 I
I                   I         I (  0.0)I (  0.0)I (  0.0)I (  0.0)I
I                   I         I        I        I        I        I
-------------------------------------------------------------------
TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

.              QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
               ---------------------------------------------------------
                FOR DEMAND SET         PM Base 2018
                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)
16.45-17.00									
B-ACD	1.12	8.68	0.129		0.00	0.15	2.1		0.13
A-B	0.28								
A-C	0.26								
A-D	0.23								
AB-CD	(0.56)	10.43	0.054		0.00	0.05	0.8		0.10
AB-C	(0.67)								
D-ABC	0.35	8.93	0.039		0.00	0.04	0.6		0.12
C-D	0.08								
C-A	0.29								
C-B	0.28								
CD-AB	(0.38)	10.19	0.037		0.00	0.04	0.6		0.10
CD-A	(0.45)								

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-ACD	1.33	8.64	0.154		0.15	0.18	2.7		0.14
A-B	0.33								
A-C	0.31								
A-D	0.27								
AB-CD	(0.67)	10.40	0.065		0.05	0.06	1.0		0.10
AB-C	(0.81)								
D-ABC	0.42	8.90	0.047		0.04	0.05	0.7		0.12
C-D	0.09								
C-A	0.34								
C-B	0.33								
CD-AB	(0.46)	10.22	0.045		0.04	0.05	0.8		0.10
CD-A	(0.53)								

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-ACD	1.63	8.58	0.190		0.18	0.23	3.4		0.14
A-B	0.40								
A-C	0.39								
A-D	0.33								
AB-CD	(0.82)	10.38	0.079		0.06	0.08	1.2		0.10
AB-C	(0.99)								
D-ABC	0.51	8.85	0.058		0.05	0.06	0.9		0.12
C-D	0.11								
C-A	0.42								
C-B	0.40								
CD-AB	(0.57)	10.26	0.055		0.05	0.06	1.0		0.10
CD-A	(0.64)								

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-ACD	1.63	8.58	0.190		0.23	0.23	3.5		0.14
A-B	0.40								
A-C	0.39								
A-D	0.33								
AB-CD	(0.83)	10.38	0.080		0.08	0.08	1.2		0.10
AB-C	(0.99)								
D-ABC	0.51	8.85	0.058		0.06	0.06	0.9		0.12
C-D	0.11								
C-A	0.42								
C-B	0.40								
CD-AB	(0.57)	10.26	0.056		0.06	0.06	1.0		0.10
CD-A	(0.64)								

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)
17.45-18.00									
B-ACD	1.33	8.64	0.154		0.23	0.18	2.8		0.14
A-B	0.33								
A-C	0.31								
A-D	0.27								
AB-CD	(0.68)	10.40	0.065		0.08	0.07	1.0		0.10
AB-C	(0.81)								
D-ABC	0.42	8.90	0.047		0.06	0.05	0.8		0.12
C-D	0.09								
C-A	0.34								
C-B	0.33								

I CD-AB (0.46)	10.22	0.045		0.06	0.05	0.8		0.10 I
I CD-A (0.53)								I
I								I

I TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN) I
I 18.00-18.15									I
I B-ACD	1.12	8.67	0.129		0.18	0.15	2.3		0.13 I
I A-B	0.28								I
I A-C	0.26								I
I A-D	0.23								I
I AB-CD (0.57)	10.43	0.054			0.07	0.05	0.8		0.10 I
I AB-C (0.68)									I
I D-ABC	0.35	8.93	0.039		0.05	0.04	0.6		0.12 I
I C-D	0.08								I
I C-A	0.29								I
I C-B	0.28								I
I CD-AB (0.38)	10.19	0.037			0.05	0.04	0.6		0.10 I
I CD-A (0.45)									I
I									I

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.2
17.45	0.2
18.00	0.2
18.15	0.1

.

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

.

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

.

QUEUE FOR STREAM CD-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I STREAM I	TOTAL DEMAND (VEH)	(VEH/H) I	* QUEUEING * DELAY * (MIN)	(MIN/VEH) I	* INCLUSIVE QUEUEING * DELAY * (MIN)	(MIN/VEH) I
I B-ACD I	122.5 I	81.7 I	16.8 I	0.14 I	16.8 I	0.14 I
I A-B I	30.3 I	20.2 I	I	I	I	I
I A-C I	28.9 I	19.3 I	I	I	I	I
I A-D I	24.8 I	16.5 I	I	I	I	I
I AB-CD I(	61.9)I(	41.3)I	5.9 I	0.10 I	5.9 I	0.10 I
I AB-C I(	74.3)I(	49.5)I	I	I	I	I
I D-ABC I	38.5 I	25.7 I	4.5 I	0.12 I	4.5 I	0.12 I
I C-D I	8.3 I	5.5 I	I	I	I	I
I C-A I	31.7 I	21.1 I	I	I	I	I
I C-B I	30.3 I	20.2 I	I	I	I	I
I CD-AB I(	42.3)I(	28.2)I	4.7 I	0.11 I	4.7 I	0.11 I
I CD-A I(	48.5)I(	32.4)I	I	I	I	I
I ALL I	315.2 I	210.1 I	32.0 I	0.10 I	32.0 I	0.10 I

* 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*******

WARNING RIGHT TURN TRAFFIC INTO ARM D IS UNLIKELY TO CAUSE BLOCKING OF THE MAJOR CARRIAGEWAY
OF WIDTH 13.45 METRES.

.SLOPES AND INTERCEPT

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

STREAM B-A

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A
451.53	0.19	0.19	0.08	0.12

Slope For Opposing STREAM D-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM D-B	Slope For Opposing
0.12	0.28	0.28	

STREAM D-C

Intercept For STREAM D-C	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing STREAM A-C
452.87	0.14	0.14	0.06	0.09

Slope For Opposing STREAM B-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM B-D	Slope For Opposing
0.09	0.20	0.20	

STREAM CD-B

Intercept For STREAM CD-B	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing
631.87	0.22	0.22	0.19	

STREAM AB-D

Intercept For STREAM AB-D	Slope For Opposing STREAM C-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing
631.87	0.17	0.17	0.14	

STREAM B-CD

Intercept For STREAM B-CD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing
582.65	0.21	0.21	0.08	

STREAM D-AB

Intercept For STREAM D-AB	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing
584.39	0.15	0.15	0.08	

.TRAFFIC DEMAND DATA

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

.Demand set: AM Base 2018+Dev

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	FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN 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	0.79	1.18	0.79
ARM B	15.00	45.00	75.00	0.86	1.29	0.86
ARM C	15.00	45.00	75.00	0.71	1.07	0.71
ARM D	15.00	45.00	75.00	1.38	2.06	1.38

.Demand set: AM Base 2018+Dev

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

TIME	FROM/TO ARM A	ARM B	ARM C	ARM D
07.45 - 09.15				

	ARM A	0.000	0.365	0.206	0.429
		0.0	23.0	13.0	27.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.261	0.000	0.261	0.478
		18.0	0.0	18.0	33.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.333	0.509	0.000	0.158
		19.0	29.0	0.0	9.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.355	0.564	0.082	0.000
		39.0	62.0	9.0	0.0
		(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 DEMAND SET AM Base 2018+Dev
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-ACD	0.87	8.74	0.099		0.00	0.11	1.6		0.13
A-B	0.29								
A-C	0.16								
A-D	0.34								
AB-CD	(0.75)	10.41	0.072		0.00	0.07	1.1		0.10
AB-C	(0.39)								
D-ABC	1.38	9.39	0.147		0.00	0.17	2.5		0.12
C-D	0.11								
C-A	0.24								
C-B	0.36								
CD-AB	(1.22)	10.36	0.118		0.00	0.14	2.1		0.11
CD-A	(0.64)								

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-ACD	1.03	8.68	0.119		0.11	0.13	2.0		0.13
A-B	0.34								
A-C	0.19								
A-D	0.40								
AB-CD	(0.90)	10.39	0.086		0.07	0.09	1.3		0.11
AB-C	(0.46)								
D-ABC	1.65	9.37	0.176		0.17	0.21	3.1		0.13
C-D	0.13								
C-A	0.28								
C-B	0.43								
CD-AB	(1.48)	10.43	0.142		0.14	0.18	2.7		0.11
CD-A	(0.75)								

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-ACD	1.27	8.60	0.147		0.13	0.17	2.5		0.14
A-B	0.42								
A-C	0.24								
A-D	0.50								
AB-CD	(1.10)	10.36	0.106		0.09	0.11	1.6		0.11
AB-C	(0.57)								
D-ABC	2.02	9.33	0.216		0.21	0.27	4.0		0.14
C-D	0.17								
C-A	0.35								
C-B	0.53								
CD-AB	(1.85)	10.51	0.176		0.18	0.23	3.5		0.12
CD-A	(0.88)								

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-ACD	1.27	8.60	0.147		0.17	0.17	2.6		0.14
A-B	0.42								
A-C	0.24								
A-D	0.50								
AB-CD	(1.10)	10.36	0.106		0.11	0.11	1.6		0.11
AB-C	(0.57)								
D-ABC	2.02	9.33	0.216		0.27	0.27	4.1		0.14
C-D	0.17								
C-A	0.35								
C-B	0.53								
CD-AB	(1.86)	10.51	0.177		0.23	0.23	3.5		0.12
CD-A	(0.88)								

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-ACD	1.03	8.68	0.119		0.17	0.14	2.1		0.13
A-B	0.34								
A-C	0.19								
A-D	0.40								

I AB-CD (0.90)	10.39	0.087	0.11	0.09	1.3		0.11	I
I AB-C (0.47)								I
I D-ABC 1.65	9.37	0.176	0.27	0.22	3.3		0.13	I
I C-D 0.13								I
I C-A 0.28								I
I C-B 0.43								I
I CD-AB (1.49)	10.43	0.143	0.23	0.18	2.7		0.11	I
I CD-A (0.75)								I
I								I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-ACD	0.87	8.74	0.099		0.14	0.11	1.7		0.13
A-B	0.29								
A-C	0.16								
A-D	0.34								
AB-CD (0.75)	10.41	0.072			0.09	0.07	1.1		0.10
AB-C (0.39)									
D-ABC	1.38	9.39	0.147		0.22	0.17	2.7		0.12
C-D	0.11								
C-A	0.24								
C-B	0.36								
CD-AB (1.23)	10.36	0.119			0.18	0.15	2.2		0.11
CD-A (0.64)									

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

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 AB-CD

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

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUE FOR STREAM CD-AB

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

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-ACD	95.0	63.3	12.4	0.13	12.4	0.13
A-B	31.7	21.1				
A-C	17.9	11.9				
A-D	37.2	24.8				
AB-CD	(82.5)	(55.0)	7.9	0.10	7.9	0.10
AB-C	(42.6)	(28.4)				
D-ABC	151.4	100.9	19.7	0.13	19.7	0.13
C-D	12.4	8.3				
C-A	26.2	17.4				
C-B	39.9	26.6				
CD-AB	(137.0)	(91.3)	16.8	0.12	16.8	0.12
CD-A	(68.0)	(45.3)				
ALL	411.6	274.4	56.8	0.14	56.8	0.14

* 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*******

WARNING RIGHT TURN TRAFFIC INTO ARM D IS UNLIKELY TO CAUSE BLOCKING OF THE MAJOR CARRIAGEWAY
OF WIDTH 13.45 METRES.

.SLOPES AND INTERCEPT

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

STREAM B-A

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A
451.53	0.19	0.19	0.08	0.12

Slope For Opposing STREAM D-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM D-B
0.12	0.28	0.28

STREAM D-C

Intercept For STREAM D-C	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing STREAM A-C
452.87	0.14	0.14	0.06	0.09

Slope For Opposing STREAM B-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM B-D
0.09	0.20	0.20

STREAM CD-B

Intercept For STREAM CD-B	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D
631.87	0.22	0.22	0.19

STREAM AB-D

Intercept For STREAM AB-D	Slope For Opposing STREAM C-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
631.87	0.17	0.17	0.14

STREAM B-CD

Intercept For STREAM B-CD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B
582.65	0.21	0.21	0.08

STREAM D-AB

Intercept For STREAM D-AB	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D
584.39	0.15	0.15	0.08

.TRAFFIC DEMAND DATA

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

.Demand set: PM Base 2018+Dev

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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	1.19	1.78	1.19
ARM B	15.00	45.00	75.00	1.80	2.70	1.80
ARM C	15.00	45.00	75.00	0.84	1.26	0.84
ARM D	15.00	45.00	75.00	0.75	1.13	0.75

.Demand set: PM Base 2018+Dev

TURNING PROPORTIONS

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15					
	ARM A	0.000	0.232	0.221	0.547
		0.0	22.0	21.0	52.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.201	0.000	0.229	0.569
		29.0	0.0	33.0	82.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.343	0.328	0.000	0.328
		23.0	22.0	0.0	22.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.467	0.267	0.267	0.000
		28.0	16.0	16.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

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 DEMAND SET PM Base 2018+Dev
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)
16.45-17.00									
B-ACD	1.81	8.90	0.203		0.00	0.25	3.6		0.14
A-B	0.28								
A-C	0.26								
A-D	0.65								
AB-CD	(1.67)	10.39	0.161		0.00	0.16	2.4		0.11
AB-C	(0.67)								
D-ABC	0.75	8.78	0.086		0.00	0.09	1.3		0.12
C-D	0.28								
C-A	0.29								
C-B	0.28								
CD-AB	(0.51)	10.22	0.050		0.00	0.06	0.8		0.10
CD-A	(0.61)								

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-ACD	2.16	8.84	0.244		0.25	0.32	4.7		0.15
A-B	0.33								
A-C	0.31								
A-D	0.78								
AB-CD	(2.01)	10.37	0.193		0.16	0.19	2.9		0.12
AB-C	(0.81)								
D-ABC	0.90	8.73	0.103		0.09	0.11	1.7		0.13
C-D	0.33								
C-A	0.34								
C-B	0.33								
CD-AB	(0.61)	10.25	0.060		0.06	0.07	1.1		0.10
CD-A	(0.72)								

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-ACD	2.64	8.76	0.301		0.32	0.43	6.2		0.16
A-B	0.40								
A-C	0.39								
A-D	0.95								
AB-CD	(2.45)	10.33	0.238		0.19	0.24	3.6		0.13
AB-C	(0.99)								
D-ABC	1.10	8.65	0.127		0.11	0.14	2.1		0.13
C-D	0.40								
C-A	0.42								
C-B	0.40								
CD-AB	(0.77)	10.30	0.074		0.07	0.09	1.4		0.10
CD-A	(0.87)								

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-ACD	2.64	8.76	0.301		0.43	0.43	6.4		0.16
A-B	0.40								
A-C	0.39								
A-D	0.95								
AB-CD	(2.46)	10.33	0.238		0.24	0.24	3.6		0.13
AB-C	(0.99)								
D-ABC	1.10	8.65	0.127		0.14	0.15	2.2		0.13
C-D	0.40								
C-A	0.42								
C-B	0.40								
CD-AB	(0.77)	10.30	0.074		0.09	0.09	1.4		0.10
CD-A	(0.87)								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)	
17.45-18.00									
B-ACD	2.16	8.84	0.244	0.43	0.33	5.0		0.15	
A-B	0.33								
A-C	0.31								
A-D	0.78								
AB-CD	(2.01)	10.37	0.194	0.24	0.20	2.9		0.12	
AB-C	(0.81)								
D-ABC	0.90	8.73	0.103	0.15	0.12	1.8		0.13	
C-D	0.33								
C-A	0.34								
C-B	0.33								
CD-AB	(0.62)	10.25	0.060	0.09	0.07	1.1		0.10	
CD-A	(0.72)								

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)
18.00-18.15									
B-ACD	1.81	8.89	0.203		0.33	0.26	4.0		0.14
A-B	0.28								
A-C	0.26								
A-D	0.65								
AB-CD	(1.68)	10.39	0.162		0.20	0.16	2.4		0.11
AB-C	(0.68)								
D-ABC	0.75	8.78	0.086		0.12	0.09	1.4		0.12
C-D	0.28								
C-A	0.29								
C-B	0.28								
CD-AB	(0.51)	10.22	0.050		0.07	0.06	0.9		0.10
CD-A	(0.61)								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.3
17.15	0.3
17.30	0.4
17.45	0.4
18.00	0.3
18.15	0.3

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.2
17.30	0.2
17.45	0.2
18.00	0.2
18.15	0.2

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM CD-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-ACD	198.2	132.1	29.9	0.15	29.9	0.15
A-B	30.3	20.2				
A-C	28.9	19.3				
A-D	71.6	47.7				
AB-CD	(184.3)	(122.9)	17.8	0.10	17.8	0.10
AB-C	(74.3)	(49.5)				
D-ABC	82.6	55.1	10.5	0.13	10.5	0.13
C-D	30.3	20.2				
C-A	31.7	21.1				
C-B	30.3	20.2				
CD-AB	(56.7)	(37.8)	6.6	0.12	6.6	0.12
CD-A	(65.8)	(43.9)				
ALL	503.8	335.8	64.8	0.13	64.8	0.13

* 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*******