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1.0 INTRODUCTION

- 1.1 Armstrong Stokes and Clayton were appointed by Peveril Homes Ltd to provide traffic and transportation advice in respect of proposals to redevelop land to the west of the A511 in Tutbury, Staffordshire. The proposals comprise a mixed use development primarily of residential dwellings and B1 office buildings. This assessment is to accompany a detailed planning application for the site.
- 1.2 The objective of this Transport Assessment is to assess the impact of the proposed development on the surrounding highway infrastructure and determine whether it could satisfactorily accommodate any increases in trips. It assesses the proposed use traffic generation and considers how the overall conditions could change as a result of the proposals. In keeping with current Government policy contained within PPG13: Transport [March 2001], the report also examines opportunities for travel to the site by sustainable modes of transport.
- 1.3 Prior to this Assessment being produced, discussions took place between Armstrong Stokes & Clayton and Staffordshire County Council, acting as the local highway authority. The purpose of these discussions was to agree on the scope and required content of the Transport Assessment. Given the proximity of the site to the border with Derbyshire, a representative from Derbyshire County Council's highways department was also present during these discussions. A Scoping Note was produced to guide the discussions at this meeting, a copy of which is contained at **Appendix A** along with a summary of the key points discussed. The approach taken within this assessment reflects the outcome of these discussions.
- 1.4 This report has been produced in accordance with the highway design requirements of the Design Manual for Roads and Bridges (Volume 6, TD42/95), and also takes into account previously adopted guidance contained within the Staffordshire Residential Design Guide (Staffordshire County Council, 2000). Furthermore, the Department for Transport documents 'Guidance on Transport Assessment' (March 2007) and 'Manual for Streets' (March 2007) have also been used for guidance in producing this assessment.

EXISTING CONDITIONS

General

- 2.1 The site is located on undeveloped land at the south-eastern edge of Tutbury and is bound by Iron Walls Lane and Burton Road to the north, the A511 to the east, undeveloped land to the south, and existing residential dwellings and Green Lane to the west. The site measures approximately 15 hectares in area and its location is shown in **Figure 1**.
- 2.2 The area surrounding the site comprises mainly residential developments within Tutbury immediately to the west and Hatton approximately 1.5 kilometres to the north. The areas to the east and south of the site mainly comprise fields and farmland. Within Tutbury there are a number of local amenities including a primary school, a post office, three churches, public houses, and various local shops. Further afield of the site, Burton on Trent is located approximately 5 kilometres southeast of the site and comprises a significant amount of residential, retail, and employment developments.

Highway layout

- 2.3 The A511 runs adjacent to the eastern edge of the site. As it passes the site, the carriageway measures approximately 10 metres wide, with one traffic lane in each direction separated by central ladder markings. To the south of the site the carriageway width reduces to approximately 8 metres with one traffic lane in each direction. To the north the northbound lane splits into two lanes on the approach to the A511/Burton Road/Rolleston Lane roundabout. The A511 is subject to a derestricted speed limit past the site. The site is served by a gated field access located at the A511, approximately 250 metres south of the A511/Burton Road/Rolleston Lane roundabout.
- 2.4 To the northeast of the site is the A511/Burton Road/Rolleston Lane four-arm roundabout. This roundabout provides access into Tutbury via Burton Road, whilst the A511 to the north it acts as a bypass for the village. Each arm of the roundabout has two lanes on the approach, with no directional markings.

Rolleston Lane is subject to a 7.5 tonnes weight restriction for vehicles, as indicated by a sign at the roundabout.

- 2.5 Burton Road measures approximately 7.5 metres wide past the northern edge of the site and is subject to a derestricted speed limit, which reduces to a 30 mph limit to the east of the junction with Iron Walls Lane. A dropped kerb field access into the site exists on Burton Road, approximately 50 metres to the northwest of the roundabout junction, which measures approximately 3.5 metres wide. Iron Walls Lane runs along the northern edge of the site and measures approximately 7.5 metres wide with a 30 mph speed restriction. Iron Walls Lane leads to Green Lane, which runs along the western edge of the site and measures approximately 6.4 metres wide with a 30 mph speed limit.
- 2.6 Further afield of the site, the A511 extends south towards Burton upon Trent, where two major junctions exist along the route. The first of these is the A511/Harehedge Lane/Beamhill Road signal controlled crossroads junction, which is located approximately 3 kilometres southeast of the site. The second major junction along the route is the A511/A5121 roundabout, which is located within the centre of Burton upon Trent, approximately 5 kilometres southeast of the site.
- 2.7 To the north of the site the A511 bypasses Tutbury and leads to the A511/Bridge Street roundabout, north of the village. This roundabout has recently been reconfigured to realign and improve the Tutbury Mill arm, which leads to a picnic area west of the junction. However, current Ordnance Survey mapping has not yet been updated to show these improvements. Details of the improved layout were therefore extracted from the internet to establish the new layout and its dimensions.
- 2.8 Beyond the roundabout with Bridge Street, the A511 extends through Hatton to a signal controlled T-junction with Uttoxeter Road/Derby Road. To the east of this junction, Derby Road passes through Hilton to two linked grade-separated roundabouts at junction 5 of the A50. These junctions also provide access to the A516 leading to Derby. The route through Hilton towards this junction is restricted to village traffic only, therefore vehicles travelling to the A50 or A516

are directed around Hilton via a new route which was introduced in 2004 to serve major residential and employment developments to the south of the village. To the east of the signal controlled T-junction, Uttoxeter Road leads to another set of linked grade separated roundabouts, which provide access to junction 6 of the A50.

Pedestrian travel

- 2.9 The Institution of Highways and Transportation [IHT] publication 'Guidelines for providing for journeys on foot' [2000] provides guidance on how to encourage pedestrian travel. The guidelines note that walking accounts for over one quarter of all journeys and four-fifths of journeys less than one mile (1.6 kilometres). Furthermore, walking is also an essential part of much car and almost all public transport travel. Promoting sustainable, integrated transport therefore involves providing good pedestrian links to public transport facilities.
- 2.10 The IHT guidelines describe 'acceptable' walking distances for pedestrians without impaired mobility. They suggest that for a commuting or school trip, up to 500 metres is the desirable distance, up to 1000 metres is an acceptable distance, and 2000 metres is the preferred maximum. Figure 2 shows a 2 kilometres pedestrian isochrone centred on the site, which demonstrates that all of Tutbury is within a reasonable walking distance, as well as the southernmost part of Hatton and a number of small farm developments to the east and south. All of the local amenities within Tutbury described above, such as the shops and the school, are therefore within a reasonable walking distance of the site, as well as all of the residential dwellings within this area.
- 2.11 A footway exists at the eastern edge of Burton Road to the north of the site, which measures between approximately 1.5 and 2 metres wide past the site with street lighting present. To the northwest of the site, past the T-junction with Iron Walls Lane, a footway is also present along the western edge of Burton Road, which measures approximately 2.8 metres wide. On Iron Walls Lane, which runs close to the northern edge of the site, footways with street lighting are present on both sides of the carriageway. These footways measure approximately 2.5 metres wide along the southern edge of the carriageway and approximately 2.

metres wide along the northern edge. Iron Walls Lane leads to Green Lane, which runs past the western edge of the site. Footways measuring approximately 2 metres wide continue on both sides of the carriageway along Green Lane for approximately the first 200 metres south of Iron Walls Lane, after which point they cease.

- 2.12 At the eastern edge of the site, a footway measuring approximately 2 metres wide runs along the eastern edge of the A511. Further afield of the site, this footway continues south towards the neighbouring villages. To the north of the A511/Burton Road/Rolleston Lane roundabout there are no footways on either side of the A511, nor are there footways on either side of Rolleston Lane to the east. Further afield within Tutbury, there is a comprehensive network of footways leading to and throughout the central residential and retail developments.
- 2.13 Designated pedestrian crossing facilities are included at the A511/Burton Road/Rolleston Lane roundabout. These comprise pedestrian refuge islands with dropped kerbs at the A511 (north) and Rolleston Lane arms of the roundabout. There are no designated crossing facilities on Burton Road, the A511, Iron Walls Lane or Green Lane. However, the lightly trafficked nature of Iron Walls Lane and Green Lane should be suitable to accommodate pedestrian crossing movements.

Cycle travel

2.14 PPG13 identifies cycling as having "the potential to substitute for short car trips, particularly those under 5 km, and to from part of longer journeys by public transport". **Figure 3** shows the site centred within a 5 kilometres catchment area. It demonstrates that surrounding areas including Tutbury, Hatton, Hilton, Church Broughton, Scopton, Rolleston-on-Dove, and Hanbury are all within a reasonable cycle distance. Inspection of the East Staffordshire and Derbyshire Cycle Route Maps reveal that there are a number of advisory cycle routes through Tutbury and Hatton, whilst to the south there is a comprehensive network of cycle routes within Burton upon Trent and the surrounding areas.

Travel by public transport

- 2.15 Details of local bus services are summarised in **Table 1** and shown in **Figure 4**. **Figure 4** shows that a total of 4 bus routes operate within a reasonable 400 metres walking distance of the northern site boundary. Three of these bus routes, numbers 1, 1a, and the 'Villager' (V1), operate from Monday to Saturday at a combined peak hour frequency of 3 services per hour in each direction, or approximately one service every 20 minutes to locations including Tutbury, Hatton, Burton upon Trent, Rolleston, and Uttoxeter. In addition, route numbers 1e and the 'Villager' (V1) run on Sundays at a combined frequency of 2 services every 2 hours.
- 2.16 The closest bus stops that serve the routes detailed above are located on Burton Road to the north of the site. A shelter with timetable information serving southbound services is located on the eastern edge of Burton Road, approximately 15 metres to the east of the junction with Iron Walls Lane, whilst a flag and pole arrangement with timetable information serving northbound services is located at the western edge of Burton Road, approximately 30 metres from the junction with Iron Walls Lane.
- 2.17 Tutbury and Hatton Train Station is located approximately 1.25 kilometres north of the site at the southern edge of Hatton. This station lies beyond the usual threshold for reasonable walking distances for public transport. However, it is served by regular trains between Derby and Crewe which run at a frequency of approximately one service every hour in each direction during weekday daytimes. Given the regular train services to areas that are not easily or often accessible by bus to the site, it is considered that the train station is suitably located to serve public transport journeys between the site and locations further afield of the local areas.

Summary

2.18 Overall, there are good opportunities to access the site by sustainable modes. All of Tutbury is within a reasonable walking distance of the site, with a number of pedestrian facilities within Tutbury, although there a currently no footways linking the site directly to the surrounding facilities. Many areas surrounding the site can be reached within a five kilometres cycle distance and there are advisory cycle routes to accommodate these journeys. There are regular bus services that travel to key local destinations that stop within 400 metres of the site's northern boundary, whilst Tutbury and Hatton Train Station is located approximately 1.25 kilometres north of the site and presents an opportunity to travel further afield.

Traffic flows

2.19 To ascertain existing traffic flows within the surrounding highway network during the weekday peak periods, full turning count traffic surveys were carried out by ANSA Traffic & Construction Ltd at the following junctions:

Wednesday 14 October 2009

- A511/Burton Road/Rolleston Lane roundabout
- A511/Bridge Street roundabout
- A511/Harehedge Lane/Beamhill Road signal controlled crossroads junction
 Thursday 22 October 2009
- Derby Road/Uttoxeter Road/Station Road/Malthouse Lane signal controlled crossroads junction
- Derby Road/Uttoxeter Road ghost island right turn lane T-junction
- A516/A5132 roundabout

The above surveys were all carried out during the morning and evening weekday peak traffic periods of 0730 to 0930 hours and 1630 to 1830 hours. Details of the resulting peak hour turning movements are summarised in **Figure 5**, with a full copy of the results included within **Appendix B**.

Accident study

2.20 To fully comply with the requirements of Guidance on Transport Assessment, an assessment of existing Personal Injury Accident records for the local area was carried out to ensure that there would be no highway safety issues that could be exacerbated by any increase in movements associated with the proposed development. Data for the surrounding area covering the last five years was therefore obtained from Staffordshire County Council and Derbyshire Police Authority.

- 2.21 The accident data shows that a total of 83 accidents have occurred in the vicinity of the site during the past five years. The locations of these accidents are shown in Figures 6 and 7, which cover the Staffordshire and Derbyshire areas, respectively, whilst a summary and full detail of the accidents are contained within Appendix C. Of the 83 accidents, two was classed as fatal, eight were classed as serious, and the remaining seventy three were classed as slight. Seven accidents also involved pedestrians and three involved cyclists. The remaining accidents all involved vehicle drivers and passengers.
- 2.22 **Figures 6 and 7** highlight nine areas where a significant cluster of three or more accidents was recorded during the study period (labelled as areas A to I). Each area was subsequently analysed in further detail to identify any trends in the types of accidents. The nine areas labelled on **Figures 6 and 7** are as follows:
 - Area A: A511/Burton Road/Rolleston Road roundabout junction
 - Area B: Tutbury Road/Anslow Lane/Longhedge Lane staggered T-junctions
 - Area C: Tutbury Road/Harehedge Lane/Beamhill Road signal-controlled crossroads junction
 - Area D: The level crossing on Station Road
 - Area E: Station Road/Yew Tree Road and Station Road/Rye Flatts Lane Tjunctions
 - Area F: Derby Road/Uttoxeter Road/Station Road/Malthouse Lane signal controlled crossroads junction
 - Area G: A5132/The Mease roundabout
 - Area H: The southern A50/A516 grade-separated roundabout
 - Area I: The A50 (past the A516)
- 2.23 Area A is located at A511/Burton Road/Rolleston Road roundabout junction, where a total of three accidents were recorded during the study period. All three of the accidents were classed as slight. Of the three accidents, one accident involved a car travelling north along the A511 towards the roundabout colliding with a pedestrian in the carriageway. One accident involved a vehicle travelling south towards the roundabout performing an overtaking manoeuvre and skidding. The final accident involved a Light Goods Vehicle travelling along Rolleston Lane away from the roundabout around a right hand bend and colliding with a car

travelling in the same direction. Two accidents occurred during weekday peak traffic periods and one occurred during wet conditions.

- 2.24 Area B comprises the Tutbury Road/Anslow Lane/Longhedge Lane staggered T-junction. In total six accidents were recorded within this area during the study period, one of which was classed as serious and five of which were classed as slight. Of these six accidents, four occurred as a result of rear end shunts at the junction. One accident involved a vehicle turning right onto Tutbury Road colliding with an oncoming vehicle. The final accident involved a motorcycle travelling northwest along Tutbury Road colliding with an animal in the carriageway. Four accidents occurred during weekday peak traffic periods.
- 2.25 Area C is located at the Tutbury Road/Harehedge Lane/Beamhill Road signal-controlled crossroads junction. In total, five accidents occurred in this area during the study period, all of which were classed as slight. Of these five accidents, one involved a pedestrian using the crossing at Tutbury Road and getting hit by a car travelling north through the junction. Of the remaining four accidents, three involved right turn collisions, one of which involved a cyclist attempting to undertake a turning car and the other involved a stolen vehicle. Another accident involved a vehicle colliding whilst overtaking moving vehicles along Tutbury Road. The final accident involved a rear end shunt as a vehicle waited at the junction to go ahead along Tutbury Road. Two accidents occurred during weekday peak traffic periods and one occurred in wet conditions.
- 2.26 Area D surrounds the level crossing on Station Road, where a total of three accidents were recorded during the study period. All three of these accidents were classed as slight. Of the three accidents, two involved vehicles colliding with pedestrians as they crossed the carriageway. The final accident involved a rear end shunt between two cars waiting to enter Station Road from Old Marston Lane. One of these accidents occurred during weekday peak traffic periods.
- 2.27 Area E is located around the Station Road/Yew Tree Road and Station Road/Rye Flatts Lane T-junctions, where a total of six accidents were recorded during the study period. Of these accidents, one was classed as serious and the remaining four were classed as slight. One of these accidents involved a vehicle colliding

with a pedestrian whilst overtaking a parked vehicle on Station Road. Two of the accidents occurred when a car turning right out of Yew Tree Road collided with a motorcycle travelling north along Station Road, one of which was classed as serious. One of the accidents occurred when a vehicle travelling straight ahead on Station Road skidded on a wet road. The final accident involved a car performing a u-turn manoeuvre on Station Road and colliding with two vehicles travelling along Station Road. Four of the accidents occurred during weekday peak traffic periods, and four occurred on a wet road surface.

- 2.28 Area F is located at the Derby Road/Uttoxeter Road/Station Road/Malthouse Lane signal-controlled crossroads junction, where a total of six accidents were recorded during the study period. Two of these accidents were classed as serious, whilst the remaining four accidents were classed as slight. Of the two serious accidents, one involved a vehicle travelling northbound towards the signal junction colliding with a pedestrian crossing the road, whilst the other involved a cyclist being hit by a vehicle at the junction. Of the four slight accidents, one involved a car turning right onto Uttoxeter Road from a service station colliding with a vehicle travelling westbound from the signal junction. Another accident comprised a rear end shunt involving two vehicles at the Derby Road arm of the signal junction, one accident involved a vehicle reversing from a private driveway on Station Road colliding with a motorcycle travelling northbound towards the signal junction. The final accident involved a 7.5 tonne goods vehicle turning right, colliding with a vehicle going straight ahead. Four of these accidents occurred during weekday peak traffic periods, whilst one occurred on a wet road surface.
- 2.29 Area G is located at the A5132/The Mease roundabout, where one accident was recorded during the study period. The accident was classed as slight, it involved vehicles colliding whilst turning onto/circulating the roundabout and occurred on an icy road surface.
- 2.30 Area H is located at the southernmost of the two A50/A516 Junction 5 grade-separated roundabouts, where a total of five accidents were recorded during the study period. All of these accidents were classed as slight. Of the five accidents, two involved vehicles turning right at the roundabout from the A516 to the A50

slip road colliding. One involved a vehicle turning right from the A5132 and colliding, whilst one involved vehicles travelling straight ahead on the A5132 to the A516 colliding. The final accident occurred when a motorcycle collided with the rear of a car turning right at the roundabout from the A516 onto the A50 slip road. None of these accidents occurred during weekday peak traffic periods.

- 2.31 Area I is located along a section of the A50, where a total of five accidents were recorded during the study period. All of these accidents were classed as slight. Of the five accidents, three comprised rear end shunts whilst vehicles travelled along the A50. Of the remaining two accidents, one involved two vehicles colliding whilst one was changing lanes and the final accident occurred when a car travelling west along the A50 lost control. This accident involved no other vehicles. Of the five accidents, two occurred during weekday peak traffic periods and two occurred on a wet road surface.
- 2.32 In summary, the Personal Injury Accident Data highlights nine areas in the vicinity of the site where significant clusters of three or more accidents have occurred during the last five years. These areas should therefore be considered in further detail when assessing the impact of any material traffic increases resulting from the proposed development.

3.0 PROPOSED DEVELOPMENT

3.1 The proposals comprise a mixed use development measuring approximately 15 hectares in site area. The development would consist of up to 224 residential dwellings, 1803 sqm of B1 employment use, a sports pitch with associated changing facilities, and open space including play areas, allotments, and National Forest planting. The main vehicular access to the residential dwellings and the employment area would be provided from Burton Road at the north of the site, and an access from the A511 to the east of the site. There is an additional access point proposed off Green Lane, which will serve six residential properties via a shared private driveway. For the purposes of this assessment, it has been assumed that the proposed development would have an opening year of 2013. A copy of the proposed site layout plan is contained at **Appendix D**.

4.0 TRAFFIC GENERATION

- 4.1 The TRICS database was examined to determine appropriate trip rates for both the proposed residential and employment uses. For the residential use, the category 'Residential - Houses Privately Owned' was interrogated, with the Greater London, Northern Ireland, and Republic of Ireland regions excluded, all sites with up to 491 dwellings selected, and all weekend surveys excluded. During preliminary discussions, the local highway authority indicated that they would require the traffic generation calculations to account for person trips as well as vehicle trips. In light of this, only surveys that included multi-modal data were included within the search. This search produced a total of 54 sites covering 54 survey days. Following an initial observation of the details of these sites, a residential development comprising 237 dwellings in Stanford-le-Hope, Essex (TRICS ref: EX-03-A-01) was considered a suitable comparison for the proposed residential development. The site is located in an edge of town residential zone, is served by a similar level of public transport services, and has a similar number of dwellings. The trip rates for the site can also be considered robust, given that they were only 3 places below the 85th percentile when ranked using the morning peak hour. Modal split details for the site confirm that the overall modal split is similar to the Tutbury area, based on National Statistics data described in more detail within Section 7 of this assessment. The site can therefore be considered an accurate representation of the overall split of person trips that would occur at the proposed residential development.
- 4.2 For the employment development, the category 'Employment Business Park' was interrogated, to reflect the fact that the offices are likely to be occupied by a number of individual tenants. Sites within Greater London, Northern Ireland, and Republic of Ireland regions were excluded, with all sites up to a gross floor area of 5000sqm selected, and all weekend surveys excluded. In line with the approach taken for the residential search, only multi-modal surveys were included. This search produced a total of 10 sites covering 10 survey days. Following an initial observation of the details of these sites, a business park development measuring 2600 sqm gross floor area in Wootton Bassett, Wiltshire (TRICS ref: WL-02-B-01) was considered a suitable comparison for the proposed employment development. The site is located in an edge of town residential

zone, is served by a similar level of public transport services, and has a similar gross floor area. Once again, the trip rates for the site can also be considered robust, given that they were ranked as the equivalent 85th percentile using the morning peak hour. Modal split details for the site again confirm that the overall modal split is similar to the Tutbury area.

4.3 Details of the TRICS output data are included in **Appendix E**, with the resulting morning and evening peak hour and daily trip rates as follows:

Residential development (per dwelling)

- morning peak (0800 to 0900 hours) 0.177 arrive 0.523 depart
- evening peak (1700 to 1800 hours) 0.439 arrive 0.274 depart
- daily total (0700 to 1900 hours) 2.976 arrive 2.932 depart

Employment development (per 100 sqm gross floor area)

- morning peak (0800 to 0900 hours) 2.423 arrive 0.384 depart
- evening peak (1700 to 1800 hours) 0.154 arrive 2.000 depart
- daily total (0700 to 1900 hours) 7.073 arrive 6.614 depart
- 4.4 Based on the above trip rates, the proposed development traffic generation would be as follows:

224 residential dwellings

- morning peak (0800 to 0900 hours) 40 arrive 117 depart 157 total
- evening peak (1700 to 1800 hours)98 arrive61 depart159 total
- daily total (0700 to 1900 hours) 666 arrive 657 depart 1323 total

Employment development (1803 sqm gross floor area)

- morning peak (0800 to 0900 hours)44 arrive7 depart51 total
- evening peak (1700 to 1800 hours)3 arrive36 depart39 total
- daily total (0700 to 1900 hours)
 128 arrive 119 depart 247 total

Total combined

- morning peak (0800 to 0900 hours)84 arrive 124 depart 208 total
- evening peak (1700 to 1800 hours) 101 arrive 97 depart 198 total
- daily total (0700 to 1900 hours)
 794 arrive 776 depart 1570 total
- 4.5 The proposed site layout plan also shows a sports pitch with associated changing facilities and car park, located at the south-western corner of the site. This use has not been included within the traffic generation calculations above; as it is

considered that a large proportion of trips to these facilities would come from within the development. In addition, the sports pitch is likely to generate the majority of its movements on evenings and weekends, during which time the employment development is likely to be unoccupied. Therefore the overall traffic generation for the site would not be likely to exceed the figures given above during any particular period over the course of the week. For these reasons it is considered that the sports pitch need not be included within the overall peak hour traffic generation calculations for the site.

5.0 DISTRIBUTION MODEL AND ASSIGNMENT

- 5.1 Traffic movements associated with the proposed development were assigned to the surrounding highway network in accordance with a gravity model that reflects the sites accessibility to the local and strategic highway network and proximity to adjacent towns and cities.
- 5.2 To create the gravity model, Microsoft Autoroute was used to determine a 30 minute drive-time isochrone for vehicle based trips to and from the site. The results of this exercise are shown in **Figure 8**, which demonstrates that a number of local and strategic destinations are within a 30-minute drive of the site, including:
 - Tutbury
 - Hatton
 - Burton upon Trent
 - Derby
 - Uttoxeter
 - Stafford
 - Stoke-on-Trent
- 5.3 Tempro 5.4 is then used to determine population statistics for all major locations within the isochrone for which data was available. The proportion of each location within the isochrone was then estimated and the resulting population incorporated within the P/T² calculation, where P is the population covered and T is the time taken to complete the journey. The results of the P/T² calculation for each location were then added together and adjusted so that the total equalled 100% and the individual areas proportioned accordingly.
- 5.4 The population details given in Tempro count Tutbury and Hatton as a single destination. Therefore, 50% of traffic associated with this area was assigned to Tutbury, whilst the remaining 50% was assigned to Hatton. In addition, to account more specifically for local trips to and from Burton upon Trent, the percentage of the distribution for Burton upon Trent was distributed based on the developments located within this area and the likely routes that would be taken by drivers. Six alternative routes to and from different areas in Burton upon Trent

were used as part of the distribution calculation process. These comprise all traffic heading south on the A511 and then 5% of traffic travelling along Harehedge Lane, 5% of traffic disbursing between Harehedge Lane and the underpass under the A38, 20% of traffic disbursing between the A38 underpass and the A511/A5121 roundabout, 10% of traffic travelling westbound on the A5121, 10% of traffic heading southbound on the A511, and 50% of traffic disbursing between the A511/A5121 roundabout and the A38 junction to the west.

5.5 Microsoft Autoroute was then used to determine the quickest route between the site and each of the remaining locations identified within the isochrone. Once each of the routes was identified, the sum of percentages on each link was calculated and a distribution model produced for the assignment of proposed development traffic. For traffic passing through junction 5 of the A50 to the northeast of the site, Microsoft Autoroute identified the quickest route as being through the village of Hilton. However, this is signed as a 'village only' route, with A516 and A50 traffic being guided through the new residential estate to the south of the village. It is also considered that some of the traffic assigned in this direction would be likely to be associated with both Hilton and the new residential/employment developments to the south of the village. Furthermore, given the longer route vehicles are encouraged to take to reach the A516 and A50 in this direction, which includes several roundabout junctions, it is anticipated that some of the vehicles travelling towards these roads may choose to travel via junction 6 of the A50 instead as a more straightforward route. Given all of the above, it has been assumed that the traffic associated with the A516 north and A50 east would be split up as follows:

•	to Hilton	-	15%
•	to new residential and employment		
	developments to south of Hilton	-	15%
•	through Hilton	-	15%
•	via bypass route to south of Hilton	-	40%
•	via A50 (junction 6)	_	15%

5.6 The results of the P/T² calculation are summarised within **Table 2**, whilst the resulting distribution model is shown within **Figure 9**. **Table 2** shows that over

20% of the proposed development traffic would comprise trips to and from Tutbury and Hatton, whilst approximately 25% of traffic would be associated with Derby and over 30% would travel to and from Burton upon Trent. The rest of the traffic would consist of small percentages of trips to and from a number of smaller or more distant areas.

- 5.7 To assess the accuracy of the distribution percentages described above, details of the distances people travel to work for the 'East Staffordshire 004D' and 'East Staffordshire 004E' lower super output areas were obtained from the National Statistics website, details of which are contained at **Appendix F**. These figures indicate that the percentages of people living within this area who travel certain distances to work correlates closely with the percentages of people travelling to the locations identified above. For example, the data shows that 20% of people travel less than 2 kilometres, which compares with approximately 20% of people associated with Tutbury and Hatton in the distribution model. In addition, the data shows that 38% of people travel between 5 and 10 kilometres, which is comparable to over 30% of movements in the model being associated with The percentages given in Table 2 can therefore be Burton upon Trent. considered a realistic representation of the likely distribution of traffic associated with the proposed development.
- The resulting distribution model shown in **Figure 9** demonstrates that the proposed development traffic would be relatively evenly distributed between routes to the north and south of the site, with a small percentage of traffic travelling into Tutbury and beyond to the west. This even distribution reflects the fact that the main draws for traffic travelling to/from the site are Burton upon Trent to the south along the A511, and Derby, Hatton and Hilton to the north along the A511 and A516. During preliminary discussions with Staffordshire County Council and Derbyshire County Council, the general principles of this model were agreed to be suitable for the purposes of this assessment.
- 5.9 Following completion of the distribution model, the proposed development traffic was subsequently assigned to the surrounding highway network in accordance with **Figure 9**. The resulting proposed development morning and evening peak hour traffic assignment is shown in **Figure 10**.

5.10 The observed network traffic flows were also adjusted to a local highway network Design Year scenario of 2018 (opening year 2013 + 5) using National Transport Model growth factors, adjusted by the TEMPRO 5.4 dataset for Tutbury and Hatton. The resulting 2018 Design Year 'without development' turning movements for the local highway network are summarised within **Figure 11**. The proposed development traffic assignment was subsequently added to the Design Year flows to give the 2018 Design Year 'with development' turning movements, which are shown within **Figure 12**.

6.0 HIGHWAY IMPACT

On-site issues

- 6.1 The proposed site layout plan indicates that the development would be served via an access at Burton Road, with an additional access from the A511, south of the A511/Burton Road/Rolleston Lane roundabout. During initial discussions with Staffordshire County Council, it was confirmed that the proposed access locations would be acceptable in principle. **Drawing Numbers F09049/05** and **F09049/06** therefore show proposed site access arrangements to serve the site based on the indicative access locations shown within the site layout plan.
- 6.2 **Drawing Number F09049/05** shows how the development would be served by a simple T-junction arrangement at Burton Road. Staffordshire County Council does not currently have an adopted highway design guide. However, to ensure that the junction would be suitable to serve the proposed development, the design standards set out with the local authority's previously adopted guidance, the Staffordshire Residential Design Guide, have been applied. **Drawing Number F09049/05** shows how the junction would comprise a 6.5 metres wide carriageway with 10 metres kerb radii. This carriageway width would ensure that the access road would be of sufficient width to accommodate any bus movements associated with the site.
- 6.3 Typically, the level of movements associated with the proposed development would trigger the requirement for a ghost island right turn lane to be included within the layout of the junction, in accordance with Figure 2/2 of the Design Manual for Roads and Bridges. However, during initial discussions with the local highway authority, it was indicated that a right turn lane should not be required, given that **Figure 10** shows there would be minimal demand for right turns into the site, particularly during peak hours. Visibility splays measuring 4.5 x 215 metres are shown in each direction from the junction, in accordance with the 60 mph speed limit along this section of Burton Road and the requirements of Table 7/1 of the Design Manual for Roads and Bridges.

- 6.4 **Drawing Number F09049/05** also shows how a 3 metres wide shared footway/cycleway could be provided along the northern edge of the access road, which would then extend to the north along Burton Road to tie in with the existing pedestrian facilities on Burton Road and Iron Walls Lane. The existing footway on the western edge of Burton Road to the north of Iron Walls Lane is of sufficient width to continue this shared pedestrian/cycle environment. No footway would be provided to the south of the junction, given that there is unlikely to be a significant demand for pedestrian movements along either the A511 or Rolleston Lane in this direction.
- 6.5 Drawing Number F09049/06 shows how the proposed development would also be accessed by a ghost island T-junction arrangement at the A511. arrangement would be situated at the location of an existing field access into the site, which is directly opposite another field access into land to the east of the A511. It is not considered that locating the proposed junction opposite this field access should cause any highway safety concerns, given that the field access is likely to be lightly trafficked. Drawing Number F09049/06 also shows how the junction would comprise a 7.3 metres wide carriageway with 10 metres kerb radii. The carriageway width would then reduce to 6.5m within the development and at the approximate location of plot 167 as illustrated on the site layout plan within **Appendix D.** This will then tie in with the carriageway width from the Burton Road access as illustrated within 6.2 of this assessment. The proposed ghost island right turn lane has been designed in accordance with the Design Manual for Roads and Bridges and to tie in with the existing road markings on the A511. It would comprise a 3.5 metres wide right turn lane and 3.25 metres wide through lanes. Visibility splays measuring 4.5 x 215 metres are shown in each direction from the junction, in accordance with the 60 mph speed limit along the A511 and the requirements of Table 7/1 of the Design Manual for Roads and Bridges.
- 6.6 Drawing Number F09049/06 also shows how 2 metres wide footways would be present on both sides of the access road, which would then extend from the site access junction along the A511 in both directions. These footways would lead to proposed pedestrian refuge islands to allow pedestrians to access the existing footway on the eastern edge of the carriageway.

- 6.7 East Staffordshire Borough Council's 'Supplementary Planning Guidance: Parking Standards' document contains parking standards for residential dwellings. It states that the maximum number of parking spaces for dwellings is dependent upon the number of bedrooms. The maximum parking standards for residential dwellings outside of the central retail areas of Burton and Uttoxeter are as follows:
 - 1 bed dwellings 1 space per dwelling plus 1 space per 3
 dwellings for visitors
 - 2/3 bed dwellings 2 spaces per unit
 - 4+ bed dwellings 3 spaces per unit

Based on the above standards, the proposed 224 dwelling residential development at the site would require a maximum parking provision of 552 spaces, based on the proposed residential development being made up of the following house types:

- 30 2 bed houses
- 54 3 bed houses
- 106 4 bed houses
- 22 5 bed houses.
- 6.8 The document 'Residential Car Parking Research' (Department for Communities and Local Government, May 2007) sets out levels of expected car parking demand for residential developments based on up to date research for existing developments. Table 4 of the document states that in a suburban area, 5 room owner occupied houses (equivalent to a 2 bed house) would generate an average parking demand for 1.7 spaces per dwelling, based on an average of one allocated space per dwelling, 6 room owner occupied houses (equivalent to a 3 bed house) would generate an average parking demand for 1.9 spaces, 7 room owner occupied houses (equivalent to a 4 bed house) would generate an average of 2.1 spaces and 8 room owner occupied houses (equivalent to a 5 bed house) would generate an average parking demand of 2.2 spaces. This would equate to an overall parking demand for 425 vehicles at the proposed 224 dwelling residential development. Taking the above figures into account, it is considered that parking provision at the proposed residential development should be somewhere in the region of 425 to 552 spaces.

- East Staffordshire Borough Council's parking standards guidance also states that B1 use employment developments larger than 235 sqm gross floor area should provide a maximum of 1 parking space per 30 sqm gross floor area. Based on these standards, the proposed employment development (1803 sqm gross floor area) at the site should provide a maximum of 60 spaces. **Table 3** shows a parking accumulation profile for the proposed employment development based on the TRICS based traffic generation details given in Section 4 of this assessment. It shows that the maximum parking accumulation at the site would be 67 vehicles between 0900 and 1100 hours. It is therefore proposed that a maximum of 67 parking spaces are provided.
- 6.10 The proposed site layout would need to accommodate typical service vehicle turning manoeuvres within both the residential and employment areas. 'Manual for Streets' states that refuse workers should not have to walk more than 25 metres from their vehicle, whilst residents/employees should have to walk no further than 30 metres from their property. The proposed site layout plan (Appendix D) shows that the residential site would include a number of locations for a service vehicle to turn, plus circuits that would eliminate the need for a turning manoeuvre within certain parts of the development. In addition, the site layout plan shows that the employment site would also include areas for a service vehicle to turn within. Provided these turning heads are of adequate size and would allow a refuse vehicle to get within the required distance of each bin store/location, the proposed layout should be generally acceptable in terms of servicing.

Off-site issues

6.11 The publication 'Guidance on Transport Assessment' (DfT, March 2007), suggests that a material traffic increase would occur at around 30 hourly two-way movements at any particular junction. This threshold was therefore adopted to determine the extent of local highway network that should be examined in further detail. However, it is important to note that Guidance on Transport Assessment merely recommends the 30 movements threshold as a starting point for assessment and larger increases may be acceptable where capacity or highway safety issues are unlikely.

- 6.12 **Figure 10** shows the proposed development traffic assignment for the weekday morning and evening peak hours. It demonstrates that increases of 30 or more two-way vehicle movements would occur at the following major junctions within the surrounding highway network:
 - Proposed Burton Road/residential site access T-junction
 - Proposed A511/employment site access ghost island T-junction
 - A511/Burton Road/Rolleston Lane roundabout
 - A511/Bridge Street roundabout
 - Derby Road/Uttoxeter Road/Station Road/Malthouse Lane signal controlled crossroads junction
 - Derby Road/Uttoxeter Road ghost island T-junction
 - The series of roundabouts along the bypass road that runs to the south of Hilton
 - A516/A5132 roundabout
 - Junction 5 at the A50 (2 linked grade separated roundabouts that link the A50 to the A516)
 - A511/Harehedge Lane/Beamhill Road signal controlled crossroads junction
 - A511/A5121 roundabout
- 6.13 Following discussion with both Staffordshire County Council and Derbyshire County Council, it was agreed that the following junctions could be discounted in terms of further detailed analysis based on the following reasons:
 - The series of roundabouts along bypass route to south of Hilton it should not
 be necessary to assess all of these junctions, as traffic increases associated
 with the adjacent residential and employment developments are unlikely to
 cause any significant conflict with the straight-on movements associated with
 the proposed development.
 - Junction 5 of the A50 (2 linked grade separated roundabouts) it is considered that minimal peak hour traffic increases of up to 41 two-way vehicle movements would be generated by the proposed development, which is equivalent to less than one vehicle per minute and should be satisfactorily accommodated within the existing layout of the two roundabouts. Hence, no further detailed assessment should be required.

- A511/A5121 roundabout discounted based on recent advice from Staffordshire County Council, where it was indicated that the local highway authority would not require any detailed assessment of this particular junction.
- Six number dwellings are be accessed via a new shared private driveway from Green Lane. The impact of this is considered insignificant and thus no further assessment of this access has been carried out.
- 6.14 Taking the above into account, the agreed study area or further detailed assessment is as follows:
 - Proposed Burton Road/residential site access T-junction
 - Proposed A511/employment site access ghost island T-junction
 - A511/Burton Road/Rolleston Lane roundabout
 - A511/Bridge Street roundabout
 - Derby Road/Uttoxeter Road/Station Road/Malthouse Lane signal controlled crossroads junction
 - Derby Road/Uttoxeter Road ghost island T-junction
 - A516/A5132 roundabout
 - A511/Harehedge Lane/Beamhill Road signal controlled crossroads junction
- 6.15 Each of the junctions listed above was subsequently tested at the 2018 Design Year using the 'with development' flows shown in **Figure 12**. The results of these capacity assessments are as follows, with the associated PICADY, ARCADY, and LinSig outputs contained within **Appendix G**.

Proposed Burton Road site access T-junction

6.16 The results of the PICADY assessment of the proposed Burton Road/residential site access T-junction are summarised in **Table 4** and indicate that the proposed junction (as shown in **Drawing Number F09049/05)** would operate satisfactorily in both the morning and evening peak hours. The site access arm would be at a maximum 9.1% capacity in the morning peak hour, with a maximum queue length of 0.1 vehicles and an average delay of 0.13 minutes per vehicle.

Proposed A511 site access ghost island T-junction

6.17 The results of the PICADY assessment of the proposed A511 site access ghost island T-junction are summarised in **Table 5** and indicate that the proposed junction (as shown in **Drawing Number F09049/06**) would operate satisfactorily in both the morning and evening peak hours. The site access arm would be at a maximum 21.90% capacity in the evening peak hour, with a maximum queue length of 0.3 vehicles and an average delay of 0.17 minutes per vehicle.

A511/Burton Road/Rolleston Lane roundabout

6.18 The results of the ARCADY assessment of the A511/Burton Road/Rolleston Lane roundabout are summarised in **Table 6** and indicate that the roundabout would operate satisfactorily in both the morning and evening peak hours. The A511 (south) arm would be at a maximum 41.6% capacity in the evening peak hour, with a maximum queue length of 0.7 vehicles and an average delay of 0.05 minutes per vehicle.

A511/Bridge Street roundabout

6.19 Given that this junction has recently been updated, a combination of the previous layout and an indicative drawing showing the new layout were used to ascertain the dimensions of the roundabout. The results of the ARCADY assessment of the A511/Bridge Street roundabout are summarised in **Table 7** and indicate that the roundabout would operate satisfactorily in both the morning and evening peak hours. The A511 (north) arm would be at a maximum 56.8% capacity in the morning peak hour, with a maximum queue length of 1.3 vehicles and an average delay of 0.08 minutes per vehicle.

Derby Road/Uttoxeter Road/Station Road/Malthouse Lane signal controlled crossroads junction

- 6.20 Derbyshire County Council were consulted to obtain details of the layout and signal timings for the Derby Road/Uttoxeter Road/Station Road/Malthouse Lane signal controlled crossroads junction. However, these discussions revealed that this junction was being refurbished at the time of the assessment; therefore preliminary details of the layout of the improved junction were obtained. Observations during the traffic survey at this junction indicated that the refurbishment works did not cause any significant delays, therefore the flows obtained during this survey can be used with confidence that they reflect atypical conditions.
- 6.21 Given that detailed timing information for the junction was not yet available at the time of writing this report, the cycle time and intergreens were calculated based on the layout of the junction. The adopted stage sequence allows for the all-red pedestrian stages to run once every three cycles. This should ensure a robust yet balanced representation of the potential demand for pedestrian crossing movements at the junction, given that there are unlikely to be many pedestrian movements from the north, east or west, based on the nature of the surrounding area. In addition, the Malthouse Lane stage of the junction was excluded from the model, given that only two movements occurred at this arm in the morning peak hour and one in the evening peak. Therefore if this stage was included the model would not realistically reflect how the junction would operate.
- 6.22 The junction was tested using the 2018 Design Year 'with development' turning movements shown in **Figure 12**, which were converted to pcus by applying a factor of 2.3 to the HGV movements, as shown in **Figure 13**. The results of the subsequent LinSig assessment are summarised in **Table 8** and show that the junction would continue to operate satisfactorily in the morning peak hours in all scenereos. In the evening peak hours the junction is only just in capacity without development flows, with development traffic the junction is over capacity. The worst degrees of saturation are Station Road link at 96.6% degree of saturation in the evening peak hour, with a mean maximum queue length of 28.1 pcus and an average pcu delay of 28.53 (pcu/Hr). There are some anomalies in the results,

which are associated with the Malthouse Lane arm; however this is simply due to the corresponding stage being excluded from the model.

Derby Road/Uttoxeter Road ghost island T-junction

6.23 The results of the PICADY assessment of the Derby Road/Uttoxeter Road ghost island T-junction are summarised in **Table 9** and indicate that it would operate satisfactorily in the morning peak hour but in the evening peak hour is overcapcity on the Uttoxeter Road arm. The Uttoxeter Road arm (right turn lane) would be at a maximum 96.30% capacity in the evening peak hour, with a maximum queue length of 10.9 vehicles and an average delay of 0.73 minutes per vehicle. This junction was reassessed in the evening peak hour only without the proposed development traffic and was found to be at a maximum 92.0% capacity in the evening peak hour, with a maximum queue length of 8.0 vehicles and an average delay of 0.59 minutes per vehicle.

A516/A5132 roundabout

6.24 The results of the ARCADY assessment of the A516/A5132 roundabout are summarised in **Table 10** and indicate that the roundabout would operate satisfactorily in the evening peak hour but in the morning peal hour is overcapacity on the A5132 arm. The A5132 arm would be at a maximum 93.4% capacity in the morning peak hour, with a maximum queue length of 11 vehicles and an average delay of 0.30 minutes per vehicle. This junction was reassessed in the evening peak hour only without the proposed development traffic and was found to at a maximum 93.2% capacity in the evening peak hour, with a maximum queue length of 10.7 vehicles and an average delay of 0.30 minutes per vehicle.

A511/Harehedge Lane/Beamhill Road signal controlled crossroads junction

6.25 Details of the current layout and signal timings for the A511/Harehedge Lane/Beamhill Road signal controlled crossroads junction were obtained from Staffordshire County Council. The results of the traffic count survey at this junction (see **Appendix B**) included details of how often the push button

pedestrian crossings were activated during the peak hours. These results show that the crossings were only activated twice during the morning peak hour and three times during the evening peak hour. The adopted stage sequence therefore only includes an all-red pedestrian phase every two cycles, to reflect the limited use of these crossings.

- 6.26 The junction was tested using the 2018 Design Year 'with development' turning movements shown in **Figure 12**, which were converted to pcus by applying a factor of 2.3 to the HGV movements, as shown in **Figure 14**. The results of the subsequent Linsig assessment are summarised in **Table 11** and show that the junction would continue to operate satisfactorily in the morning and evening peak hours with development traffic. The Harehedge Lane link would operate at a maximum 84.5% degree of saturation in the evening peak hour, with a mean maximum queue length of 6.5 pcus and an average pcu delay of 18.22 (pcu/Hr).
- 6.27 During preliminary discussions regarding the scope of the Transport Assessment, the local highway authority indicated that they would also require the proposed development traffic increases to be tested at the A511/Harehedge Lane/Beamhill Road T-junction using their own traffic model. Further negotiations will therefore be required with the local highway authority to confirm the results of this exercise. However, it is evident that the junction has sufficient spare capacity to accommodate further increases in traffic flow.

Summary

6.28 The above results demonstrate that traffic movements associated with the proposed development would not represent a detrimental impact at many of the major junctions within the surrounding highway network, both in the immediate vicinity of the site and also further afield at more strategic junctions. The Derby Road/Uttoxeter Road junction and the A516/A5132 roundabout are both over capacity with and without the proposed development and therefore the minor increase from the development traffic should be acceptable to the highway authority. It is therefore considered that no further detailed assessment of the off-site highway impact should be required.

Highway safety

6.29 The accident study showed that potential highway safety concerns exist at nine locations within the surrounding highway network (see **Figures 6 and 7**), which could in theory be exacerbated by the additional traffic movements resulting from the proposed development. However, it is not considered that the potential traffic increases would exacerbate the potential for accidents in any of these areas based on the following reasons (see **Figures 6 and 7** for locations of accident clusters described below):

Area A: Whilst two of the three accidents at this location occurred during weekday peak traffic periods, there is no correlation between the cause of the three accidents, which suggests that there is no single particular type of accident that could be exacerbated by the proposed development traffic increases.

Area B: Four of the these accidents occurred during weekday traffic periods, the majority of which comprised rear end shunts on the A511 caused by vehicles waiting to turn into minor roads. Given that the proposed development would not be likely to generate any turning movements at this junction, it is not considered that the existing accident concerns would be exacerbated.

Area C: Whilst five accidents were recorded at this location, there is no correlation between these accidents, with various causes including a rear end shunt, a cyclist performing an overtaking manoeuvre, and an accident involving a stolen vehicle. This suggests that there is no single particular type of accident that could be exacerbated by the proposed development traffic increases.

Area D: Three accidents were recorded at this location during the study period, only two of which were similar. These two accidents both involved pedestrians, however, the causes of these accidents were different, in that one occurred at the level crossing, whilst the other occurred to the north of the railway line and was associated with a vehicle turning out of a minor road. Also, taking into account the fact that both of these accidents occurred on a Saturday, where the proposed development would generate significantly fewer traffic movements, it is not considered that the proposed development would increase the chances of pedestrian accidents at this location.

Area E: Only two of the six accidents that were recorded at this location were of a similar type, which comprised vehicles turning right out of Yew Tree Road colliding with motorcycles travelling north on Station Road. However, one of

these accidents resulted from the motorcycle performing a dangerous overtaking manoeuvre, therefore this can be discounted. Therefore this suggests that there is no single particular type of accident that could be exacerbated by the proposed development traffic increases.

Area F: As described above, this signal controlled junction at the time of this assessment was being refurbished and improved to include, amongst other things, pedestrian crossing facilities. Given that these improvements should in theory improve highway safety, it is not considered that the existing accident history at this junction would be of any concern in line with the proposed development traffic increases. Notwithstanding this fact, none of the accidents that were recorded at this location had similar causes, indicating that there is no single existing accident problem that could be exacerbated by the proposed development.

Area G: One accident has occurred at this junction in the last five years, this occurred in 2005, there have been no recorded accidents since, which indicates that there have been no highway safety problems at this roundabout in the last three years. Hence, it is not considered that the proposed development traffic increases should cause any significant highway safety concerns at this junction.

Area H: Only two of the five accidents at this location were similar, which both involved heavy goods vehicles losing control as they turned. Given that the proposed development should not generate a significant amount of HGV movements, it is not considered that it would exacerbate this particular accident trend.

Area I: Three of the five accidents at this location were similar in that they comprised rear end shunts. However, the proposed development would only generate one or two movements along this section during peak hours, which given the overall traffic levels on the A50 could not be considered to have the potential to exacerbate any existing accident problem along this route.

6.30 The above details show that the proposed development traffic increases should not exacerbate any existing accident problems within the surrounding highway network. Hence, there should be no requirement for the developer to mitigate any of these problems as part of the proposed development.

7.0 OPPORTUNITIES TO ENCOURAGE NON-CAR TRAVEL

7.1 To address travel by all modes of transport, PPG13 requires an assessment of modal splits for new developments. Inspection of the National Statistics website shows the following average journey to work modal split for the 'East Staffordshire 004D' and 'East Staffordshire 004E' lower super output areas, which combine to include the site and the rest of Tutbury:

•	work mainly at or from home	9.86%
•	by underground, metro, light rail or train	0.00%
•	by train	0.91%
•	by bus	5.68%
•	by motorcycle/scooter/moped	1.29%
•	by car/van (as driver)	62.84%
•	by car/van (as passenger)	7.24%
•	by taxi or minicab	0.51%
•	on bicycle	2.11%
•	on foot	9.13%
•	other	0.43%

A copy of the output data from the website is contained at **Appendix H**.

7.2 The 'people who work mainly at or from home' category was removed and the remaining percentages adjusted accordingly, resulting in the following modal split:

• by underground, metro, light rail or train	0.00%
by train	1.01%
• by bus	6.30%
 by motorcycle/scooter/moped 	1.43%
by car/van (as driver)	69.71%
 by car/van (as passenger) 	8.03%
by taxi or minicab	0.57%
• on bicycle	2.34%
• on foot	10.13%
• other	0.48%

- 7.3 Based on the above details, the modal split for Tutbury is similar to the modal splits for the TRICS sites used to calculate the traffic generation for the proposed development (see **Appendix E**) in terms of the proportion of car versus non-car trips. For the Tutbury data, there are 78.31% of trips by car and 21.69% of trips by non-car modes, which closely compares to an average of 80.8% of trips by car and 19.2% of trips by non-car modes at the TRICS sites. The modal split for Tutbury can therefore be used with confidence that it accurately reflects the modal split of the TRICS sites used to calculate the number of vehicle movements at the site. It is considered that the figures for Tutbury should be used in this assessment rather than the TRICS based modal splits, given that they provide a more accurate breakdown of person trips and are more specific to the local area.
- 7.4 Based on the above, the Tutbury area modal split was therefore adopted for the purposes of this assessment. To calculate the hourly amount of person trips by each mode, the following approach was adopted:
 - 78.31% (69.71% + 8.03% + 0.57%) of vehicle occupants is equal to 208 total car movements during the morning peak hour
 - 208 / 78.31 equals the number of person trips per percent, or 2.66
 - The morning peak hour person trips can therefore be calculated by multiplying the modal percentage for each category by 2.66
- 7.5 Inspection of the traffic generation calculations for the proposed development show that approximately 13.2% of all daily vehicle movements would occur during the morning peak hour. This results in a conversion factor of 7.55 from peak hour to daily movements [1 / 0.132].
- 7.6 Using the above process, it was possible to calculate that the proposed development would generate the following total person trips:

	peal	k hour	daily
•	by underground, metro, light rail, or tram	0	0
•	by train	3	23
•	by bus	17	128
•	by motor cycle/scooter/moped	4	30
•	by car/van (as driver)	185	1397

•	by car/van (as passenger)	21	159
•	by taxi or minicab	2	15
•	by bicycle	6	45
•	on foot	27	204
•	other	1	8

Pedestrian travel

- 7.7 Based on the above results, the proposed development would generate a total increase of 204 daily pedestrian movements, including 27 movements during the morning peak hour. The proposed site layout plan (**Appendix D**) indicates that the on-site layout would include a comprehensive network of pedestrian routes to accommodate these increases, including pedestrian/cyclist links to Green Lane and Iron Walls Lane as well as Burton Road and the A511. The proposed pedestrian footways and crossings at the residential and employment access junctions should be satisfactory to accommodate the increases in pedestrian movements to/from the site.
- 7.8 Further afield of the site, the 2 kilometres pedestrian isochrone in **Figure 2** indicates that the main draw for pedestrian movements would be Tutbury. The main route into Tutbury would be via Burton Road and Burton Street, which include footways on both sides of the carriageway and should satisfactorily accommodate the increases in pedestrian movements associated with the proposed development.
- 7.9 Within the proposed site layout it is important that safe and convenient network pedestrian links are provided throughout both the employment and residential developments. It is recommended that on major routes through the site 3 metres wide segregated footway/cycleways are provided, with appropriate lighting, dropped kerbing, tactile paving, and signage. Beyond the major routes, it is important that all footways comprise a minimum width of 2 metres and include 2 x 2 metres pedestrian intervisibility splays at any vehicle crossing points.

Cycle travel

- 7.10 The person trip calculations show that the proposed development would generate 45 daily cycle movements, including 6 movements during the morning peak hour. It is considered that the presence of advisory cycle routes leading to areas within a 5 kilometres cycle distance, such as Rolleston and Anslow, as well as the fact that the topography of the surrounding roads is generally suitable for cycling, mean that the moderate increases in cyclist movements should be accommodated by the existing facilities surrounding the site. In addition, the Personal Injury Accident data does not show any significant clusters of cyclist related accidents on the surrounding routes that could be exacerbated by these increases in movements.
- 7.11 As recommended above, it is important that the proposed site layout includes a comprehensive network of designated cycleways. Consideration should be given to providing traffic-free routes along key desire lines.
- 7.12 Inspection of the local highway authority's adopted parking standards confirms that B1 use developments should provide a minimum of one 'stand' per 300 sqm gross floor area, whilst residential dwellings should provide a minimum of 1 space per unit. It is therefore recommended that the proposed development should provide a minimum of 6 stands within the employment development, located within safe, convenient, and well lit areas. To satisfy the minimum requirements for the residential dwellings it is recommended that consideration be given to providing internal cycle parking within each unit, such as cycle racks within garages or stands within the property boundary. Alternatively, communal cycle parking could be provided within any courtyard areas.

Bus travel

7.13 The proposed development would also generate a total increase of 128 daily bus passenger movements, with 17 during the peak hour. Detailed inspection of the timetables for the local bus routes that run in the vicinity of the site show that the timings of the services should be suitable to accommodate bus trips to and from the main employment and residential areas surrounding the site such as Burton

upon Trent and Derby. For example, the V1 (Villager) route provides a service departing Tutbury at 0815 hours that would allow people living at the proposed development to arrive in Burton by 0851 hours to start work at 0900 hours.

- 7.14 During preliminary discussions, the local highway authority stated that they would require each dwelling and office within the development to be served by bus stops that are within 400 metres walking distance. Currently, the closest bus stops that would serve the site are located on Burton Road to the north, which would be within the required distance of some of the proposed dwellings, however the majority of the dwellings and all of the office development would be beyond this walking distance.
- 7.15 Given the potential distances between the site and its nearest bus services, it is recommended that an existing route is diverted through the proposed residential site. Any subsequent bus stop facilities should be located along key pedestrian desire lines within the proposed site layout plan and comprise well lit shelters with timetable information to further encourage bus travel. The proposed site layout plan should also be designed to ensure that all major routes within the development measure at least 6.5 metres wide to safely accommodate two-way bus movements. Pedestrian links should also be provided between the proposed employment development and the bus stops within the site.
- 7.16 To establish how the existing bus services that run along Burton Road could be re-routed to serve bus stops within the site, initial 'in-principle' discussions were held with both of the local bus operators, Arriva Midlands and Trent Barton. However, it was indicated that the operators would require further details regarding the proposed development before the logistics and costs associated with extending/improving a route could be discussed in further detail. The local bus operators should therefore be further consulted following any 'in principle' agreement with the local highway authority.
- 7.17 Detailed timetable information for the existing local routes was examined to give an indication of how one of the services could be extended to serve the proposed development. The traffic distribution details given in Section 5 of this report indicate that Burton upon Trent and Derby would be the two main draws for traffic

further afield of the site; therefore it can be assumed that the highest demand for bus trips to/from the site would also be associated with these areas. It is therefore considered that it would be most beneficial to extend the existing V1 (Villager) route into the site, as this serves both Burton upon Trent and Derby. There should not be a requirement to increase the existing hourly frequency of this route, in line with best practice advice given by other local authorities.

- 7.18 Detailed timetable information for the V1 (Villager) route indicates that there is an overlap between when the service arrives at and departs Burton upon Trent, meaning that two separate buses are currently utilised as part of this route. If each of these buses is currently left unused for periods whilst they wait to travel along this route, there may be scope to extend these services into the site without the need to provide an extra bus. However, if the buses are utilised for another route during their 'downtime' then another bus may be required so that the route can be extended. If another bus is required, this may allow the frequency of the service to be increased to every 30 mins rather than every 1 hour.
- 7.19 As an alternative to re-routing a bus route through the site, bus stops could be provided on the A511 close to the proposed employment development access. Subject to adequate pedestrian links being provided within the site, these stops would ensure that all dwellings/offices would be within or just beyond a reasonable 400 metres walking distance. These stops would serve route number 1 on weekdays and Saturdays, which operates at an average frequency of one service per hour in each direction.

Train travel

7.20 The above details also show that the site would generate 23 daily train passenger movements, with 3 during the peak hour. Given that the Tutbury and Hatton Train Station is located only approximately 1.25 kilometres north of the site, it is considered that this facility should accommodate the increases in demand for travel by train. The increases in movements between the site and the Train Station would be likely to occur through Tutbury, where the existing pedestrian facilities should accommodate these increases.

Travel Plan

- 7.21 In line with the requirements of Guidance on Transport Assessment (DfT, March 2007) a travel plan would be required for the proposed residential development, whilst the proposed employment development would not trigger the threshold for a travel plan. However, during initial discussions with the local highway authority (see **Appendix A**), it was indicated that both developments would require travel plans to encourage the use of sustainable travel. The travel plans should encourage occupants of the site to take advantage of the surrounding sustainable travel opportunities and provide them with up to date information on upcoming schemes and initiatives, in order to minimise any demand for car travel.
- 7.22 Without prejudicing the final content of the subsequent documents, these travel plans could include measures such as the following:

Residential travel plan

- one 3-month bus pass for each dwelling
- a free bicycle for each dwelling
- sustainable travel information packs

Employment development travel plan

- car parking management plan
- car sharing scheme
- discounted public transport travel for staff

8.0 SUMMARY AND CONCLUSIONS

- 8.1 Armstrong Stokes and Clayton were appointed by Peveril Homes Ltd to provide traffic and transportation advice in respect of proposals to redevelop land to the west of the A511 in Tutbury, Staffordshire. The proposals comprise a mixed use development primarily of residential dwellings and B1 office buildings. This assessment is to accompany a detailed planning application for the site.
- 8.2 The proposed development would comprise a mixed use development consisting of up to 224 residential dwellings, 1803 sqm of B1 employment use, a sports pitch with associated changing facilities, and open space including play areas, allotments, and National Forest planting. The main vehicular access to the residential dwellings and the employment area would be provided from Burton Road at the north of the site, and an access from the A511 to the east of the site. There is an additional private driveway access proposed off Green Lane, which will serve six residential properties. This assessment, assumes the proposed development would have an opening year of 2013
- 8.3 The following trip rates were obtained from the TRICS database and deemed appropriate for the proposed development:

224 residential dwellings

- morning peak (0800 to 0900 hours)40 arrive 117 depart 157 total
- evening peak (1700 to 1800 hours)98 arrive61 depart159 total
- daily total (0700 to 1900 hours)666 arrive 657 depart 1323 total

Employment development (1803 sqm gross floor area)

- morning peak (0800 to 0900 hours)44 arrive7 depart51 total
- evening peak (1700 to 1800 hours)3 arrive36 depart39 total
- daily total (0700 to 1900 hours)
 128 arrive 119 depart 247 total

Total combined

- morning peak (0800 to 0900 hours)84 arrive 124 depart 208 total
- evening peak (1700 to 1800 hours)101 arrive 97 depart 198 total
- daily total (0700 to 1900 hours)
 794 arrive 776 depart 1570 total
- 8.4 The proposed development traffic generation was assigned to the highway network at a Design Year of 2018. The junctions where it was deemed that a

significant impact would occur were tested, with the results of the subsequent capacity assessments revealing that the highway network would continue to operate satisfactorily at the relevant Design Year. An accident study revealed that the additional traffic movements associated with the proposed development should not exacerbate any existing accident problems within the surrounding highway network.

- 8.5 **Drawing Number F09049/05** shows the proposed site access T-junction layout at Burton Road, which has been designed in accordance with Staffordshire County Council's previously adopted Highway Design Guide. The access junction would provide 4.5 x 215 metres visibility splays and a 3 metres wide shared footway/cycleway extending from the site to the north along Burton Road to tie in with the existing facilities.
- 8.6 **Drawing Number F08049/06** shows the proposed site access ghost island T-junction layout at the A511. The access junction would provide 4.5 x 215 metres visibility splays and includes footways extending from the site in both directions along the A511, as well as proposed pedestrian refuge islands to tie these footways in with the existing facilities on the opposite side of the carriageway.
- 8.7 The proposed development should provide adequate levels of parking within its layout. Based on both East Staffordshire parking standards and recent residential parking research, the site should provide between 425 and 552 spaces. In addition, based on the East Staffordshire parking standards, the proposed employment development should provide a maximum of 67 spaces. The trip generation calculations for the employment development show that it could generate a peak parking accumulation of 67 vehicles. Hence, the proposed employment development should provide 67 spaces initially, which could subsequently be reduced in line with a travel plan at the site. The site layout should also incorporate adequate turning heads for service vehicle manoeuvres.
- 8.8 Existing opportunities to access the site by sustainable modes are very good. There is a comprehensive network of footways surrounding the site within Tutbury, which would be accessible to/from the site once the proposed improvements to pedestrian facilities are included. All of Tutbury is within a

reasonable two kilometres walking distance of the site. Many areas surrounding Tutbury can be reached within a five kilometres cycle distance of the site and the advisory cycle routes in the local area, along with the general layout of the highway network in the vicinity of the site, should be adequate to accommodate cycle journeys. There are regular bus services which travel to key local destinations which stop within 400 metres of the northern site boundary, whilst Tutbury and Hatton Train Station is located approximately 1.25 kilometres from the site and presents an opportunity to travel further afield.

- 8.9 Modal split data for the Tutbury area has shown that the proposed development would increase daily pedestrian trips by 204 and daily cycle trips by 45. It is considered that the proposed improvements to pedestrian facilities, along with the existing infrastructure in the surrounding area, would satisfactorily accommodate these increases. However, to ensure that demand for pedestrian and cycle travel if fully accommodated, it is recommended that both the residential and employment site layouts are developed to include a network of segregated footway/cycleways along key desire lines. These routes should include appropriate street lighting and infrastructure.
- 8.10 Inspection of the local highway authority's adopted parking standards confirms that B1 use developments should provide a minimum of one 'stand' per 300 sqm gross floor area, whilst residential dwellings should provide a minimum of 1 space per unit. It is therefore recommended that the proposed development should provide a minimum of 6 stands within the employment development, located within safe, convenient, and well lit areas. To satisfy the minimum requirements for the residential dwellings it is recommended that consideration be given to providing internal cycle parking within each unit, such as cycle racks within garages or stands within the property boundary. Alternatively, communal cycle parking could be provided within any courtyard areas.
- 8.11 The modal split data also shows that the proposed development would increase daily bus trips by 128 and daily train journeys by 23. The local highway authority has indicated that all dwellings/offices within the proposed residential development should be located within 400 metres of a bus stop. It is therefore recommended the developer should liaise with the local bus operator to secure a

diversion of the V1 (Villager) service, at a minimum frequency of 1 bus per hour in each direction. Any diversion of services within the site should be supported by bus shelters that are conveniently located in key areas and accessible by good pedestrian and cycle links. Alternatively, bus stops could be provided on the A511 close to the employment development, which would be served by route number 1 on weekdays and Saturdays. The presence of Tutbury and Hatton Train Station to the north of the site should accommodate the moderate increases in travel by this mode.

8.12 In conclusion, the proposed development should not result in any detrimental impact on the surrounding highway network. The proposed site access junctions would comply with relevant design guidance and should be acceptable to the local highway authority. The surrounding infrastructure, along with recommended improvements, should also satisfactorily accommodate any increases in pedestrian, cycle and public transport trips resulting from the proposed development. Consequently, the proposed development would satisfy the requirements contained within PPG13: Transport and should be acceptable to the local highway authority.

				Frequency (services)	rvices)	
Route No.	Operator	Details	Weekdays	days		
			peak am + pm	off peak	saturday	Sunday
1	Arriva	Uttoxeter-Tutbury-Burton	60 mins	60 mins	60 mins	No service
1a	Arriva	Tutbury-Rolleston-Burton	60 mins	60 mins	60 mins	No service
1e	Arriva	Uttoxeter-Tutbury-Burton	No service	No service	No service	2 hours
Villager (V1)	Villager (V1) Trent Barton	Burton upon Trent-Tutbury-Derby	60 mins	60 mins	60 mins	2 hours

TABLE 1: DETAILS OF LOCAL BUS SERVICES

000 000 000 000 000 000 000 000 000 00				Percentage of			,	Percentage of
Secution	Location	Route from site	Population	area within	_	-	P/T^2	+0+2 D/T ²
Route 1				isochrone				נסנמו ביי
FOUCH FOUTE 1 FOUTE 2 FOUTE 3 FOUTE 3 FOUTE 3 FOUTE 3 FOUTE 3 FOUTE 3 FOUTE 4 FOUTE 3 FOUTE 3 FOUTE 4 FOUTE 3 FOUTE 4 FOUTE 3 FOUTE 4 FOUTE 3 FOUTE 4 FOUTE 3 FOUTE 3 FOUTE 4 FOUTE 3 FOUTE 4 FOUTE 3 FOUTE 3 FOUTE 3 FOUTE 4 FOUTE 3 FOUTE 3 FOUTE 3 FOUTE 4 FOUTE 3 FOUTE 5 FOUTE 6 FOUTE 3 FOUTE 6 FOUTE 6 FOUTE 6 FOUTE 7 FOUT	RIPLEY	Route 1	18,988	%06	17089	25	27.34	0.73%
COUCH Route 1 4,661 100% 238,284 100% 4661 20 COUCH Route 2 5,060 100% 238,284 100% 238,284 16 25 COUCH Route 3 47,148 100% 47148 25 Route 3 Route 3 6,413 100% 6413 22 Route 5 Route 5 5,098 100% 47148 22 Route 6 A2,287 100% 42287 16 7 Note 5 Route 6 23,592 100% 45456 12 Note 6 Route 7d 10% Route 7d 10% Route 7d 10,455 10 45456 10 FNNEDWOOD Fow Route 6 29,952 20% 5990 28 1 FNNEDWOOD Route 10 29,952 20% 5990 28 1 Route 2 Route 2 23,952 20% 5990 28 Route 2 Route 2 29,952 20%	BELPER	Route 1	22,646	100%	22646	27	31.06	0.83%
COUCH Route 2 5,060 100% 538,284 16 8 COUCH Route 3 5,060 100% 5060 19 5060 19 5060 19 5060 19 5060 19 5060 19 5060 19 5060 19 5060 10 5060 10 47148 25 24 47148 10 47148 25 24 47148 10 6413 22 24 24 100% 6413 22 24 22 24 22 24 22 24 22 24 22 24 22 22 22 22 22 22 22 22 23 23 24 23	DUFFIELD	Route 1	4,661	100%	4661	20	11.65	0.31%
COUCH Route 2 5,060 100% 5060 19 COUCH Route 3 47,148 100% 47148 25 ACTON Route 4 11,953 100% 47148 25 MGTON Route 5 6,413 100% 6413 22 Route 5 Route 5 5,098 100% 42287 16 Route 6 Route 7a, 10% Route 7b, 15% Route 7c, 100% 42,287 100% 42287 16 TON Route 7a, 10% Route 7b, 15% Route 7c, 100% 45,455 100% 45455 1 TON Fourte 7a, 10% Route 7b, 15% Route 9 3,185 100% 45455 1 Route 6 Route 6 4,132 100% 432 1 Route 10 29,952 20% 6341 30 Route 2 Route 2 236,666 100% 44241 30 Route 2 Route 2 236,653 40% 94421 30 Route 2 Route 2 73,152 100% <th>DERBY</th> <th>Route 1</th> <th>238,284</th> <th>100%</th> <th>238284</th> <th>16</th> <th>930.80</th> <th>24.85%</th>	DERBY	Route 1	238,284	100%	238284	16	930.80	24.85%
ZOUCH Route 3 47,148 100% 47148 25 AGTON Route 4 11,953 100% 47148 25 MGTON Route 5 6,413 100% 6413 24 Route 6 Route 7 42,287 100% 42287 16 Route 7a, 10% Route 7b, 15% Route 7c, 10% Route 7b, 15% Route 7c, 10% Route 7b, 15% Route 7c, 10% 45,455 100% 45,455 6 TON Sow Route 8, 50% Route 9 3,185 100% 4132 14 Route 10 Route 10 29,666 100% 4132 14 Route 2 3,185 100% 4132 14 Route 6 4,132 100% 29,666 29,666 Route 10 29,666 100% 10745 24 Route 2 100% 40,745 24 24 Route 2 100% 40,745 24 24 Route 2 100% 40,745 24 Route 2 100% 40,745 24 <th>ASHBOURNE</th> <th>Route 2</th> <th>2,060</th> <th>100%</th> <th>2060</th> <th>19</th> <th>14.02</th> <th>0.37%</th>	ASHBOURNE	Route 2	2,060	100%	2060	19	14.02	0.37%
ZOUCH Route 4 11,953 100% 11953 24 VGTON Route 3 6,413 100% 6413 22 Route 5 5,098 100% 6413 22 Route 6 Route 3 4,800 100% 42287 16 Route 7 Route 6 23,592 100% 45455 23 N TRENT Route 7d, 10% Route 7b, 15% Route 7f 45,455 100% 45455 6 11 TON Route 7d, 10% Route 8, 50% Route 9 3,185 100% 45455 6 11 ER-NEEDWOOD Route 6 4,132 100% 45,455 100% 4132 14 Route 6 4,132 100% 4132 10 634 24 10 Route 10 29,656 100% 634 24 24 24 24 24 24 24 24 24 24 24 24 24 24 24 24 24 24 24	LONG EATON	Route 3	47,148	100%	47148	25	75.44	2.01%
VGTON Route 3 6,413 100% 6413 22 Route 5 5,098 100% 5098 24 Route 6 Route 7a, 10% Route 7b, 15% Route 2b, 100% 45,455 100% 45,455 6 11 TON Route 7b, 15% Route 7b, 15% Route 7b, 15% Route 7b, 15% Route 2b, 100% Route 8b, 100% Route 8b, 100% Route 6b, 100% 45,455 100% 45,455 6 11 TON Route 10 29,666 100% 2966 20 <th>ASHBY-DE-LA-ZOUCH</th> <th>Route 4</th> <th>11,953</th> <th>100%</th> <th>11953</th> <th>24</th> <th>20.75</th> <th>0.55%</th>	ASHBY-DE-LA-ZOUCH	Route 4	11,953	100%	11953	24	20.75	0.55%
ENTENT Route 7a Goute 3 Route 7a Goute 3 Route 6 Route 7a Goute 3 Route 6 Route 7a Goute	CASTLE DONINGTON	Route 3	6,413	100%	6413	22	13.25	0.35%
ENDITION Route 7d, 10% Route 7d, 10% Route 7d, 10% Route 7d, 10% Route 6 42,287 (10% Route 7d, 10% Route 8, 50% Route 9 42,287 (10% Route 7d, 10% Route 7d, 10% Route 7d, 10% Route 7d, 10% Route 8, 50% Route 9 45,455 (100% Route 7d, 10% Route 9 45,455 (100% Route 7d, 10% Route 9) 45,455 (100% Route 10d, 100% Route 9) 46,132 (100% Route 1d, 10d, 100% Route 1d, 10d, 10d, 10d, 10d, 10d, 10d, 10d,	MEASHAM	Route 5	5,098	100%	2098	24	8.85	0.24%
TRENT Route 7a, 10% Route 7b, 15% Route 7c, remember 4,800 100% 4800 20 TTENT 5% Route 7a, 10% Route 7b, 15% Route 7c, remember 45,455 100% 45455 6 12 TON Route 7d, 10% Route 8 50% Route 8, 50% Route 9 3,185 100% 45455 6 12 TON Route 8 50% Route 9 3,185 100% 4132 14 7 ER-NEEDWOOD Route 10 29,952 20% 5990 28 7 Route 10 29,952 100% 2966 21 8 Route 2 63,412 100% 2966 24 Route 2 10,745 94421 28 1 Route 2 236,053 40% 94421 28 1 Route 10 73,152 25% 18288 27 Route 2 236,053 40% 94421 27 Route 3 73,152 25% 18288 27	SWADLINCOTE	Route 4	42,287	100%	42287	16	165.18	4.41%
TRENT Route 7a, 10% Route 7b, 15% Route 7c, 10% Route 7b, 15% Route 7c, 50% Route 7d, 10% Route 2 23,592 100% 23592 23 TON TON Route 2 100% Route 8, 50% Route 9 3,185 100% 45455 6 12 TON Fourte 2 3,185 100% 45455 6 14 FR-NEEDWOOD Route 8 50% Route 9 3,185 100% 4132 14 12 14 </th <th>MELBOURNE</th> <th>Route 3</th> <th>4,800</th> <th>100%</th> <th>4800</th> <th>20</th> <th>12.00</th> <th>0.32%</th>	MELBOURNE	Route 3	4,800	100%	4800	20	12.00	0.32%
FON TRENT 5% Route 7a, 10% Route 7b, 15% Route 7c, 10% Route 7d, 10% Route 7d, 10% Route 7d, 10% Route 2 45,455 100% 45455 6 12 FR 10% Route 7d, 10% Route 8 50% Route 9 3,185 100% 45455 6 14 HATTON Route 8 50% Route 9 3,185 100% 4132 14	RUGELEY	Route 6	23,592	100%	23592	23	44.60	1.19%
ER Route 2 12,548 100% 12548 14 HATTON 50% Route 8, 50% Route 9 3,185 100% 3185 2 7 INDER-NEEDWOOD Route 6 3,185 100% 4132 100% 4132 14 OD Route 10 29,952 20% 5990 28 Route 2 63,412 100% 2966 21 Route 2 63,412 100% 10745 24 Route 2 236,053 40% 94421 28 H Route 10 73,152 25% 1828 27 H Route 2 73,152 25% 1828 27	BURTON UPON TRENT	1% Route 7b, 1 0% Route 7e,	45,455	100%	45455	9	1262.64	33.71%
HATTON 50% Route 8, 50% Route 9 3,185 100% 3185 2 7 INDER-NEEDWOOD Route 6 4,132 100% 4132 14 14 OD Route 10 29,952 20% 5990 28 Route 2 Route 2 63,412 10% 2966 21 Route 2 63,412 10% 10745 24 Route 2 236,053 40% 94421 28 H Route 10 73,152 25% 1828s 27 H Totals 37 10tals 37	UTTOXETER		12,548	100%	12548	14	64.02	1.71%
INDER-NEEDWOOD Route 6 4,132 100% 4132 14 OD Route 10 29,952 20% 5990 28 O Route 2 29,666 100% 2966 21 Noute 2 63,412 10% 6341 30 Foute 2 Route 2 236,053 40% 94421 28 H Route 10 73,152 25% 1828 27 H Totals 37	TUTBURY/HATTON	50% Route 8, 50% Route 9	3,185	100%	3185	2	796.25	21.26%
OD Route 10 29,952 20% 5990 28 Coute 10 Route 2 63,412 10% 29,666 21 6 Route 2 63,412 10% 6341 30 24 Foute 2 10,745 10% 94421 24 7 Foute 10 73,152 25% 18288 27 37 H Totals 37 10tals 37	BARTON-UNDER-NEEDWOOD	Route 6	4,132	100%	4132	14	21.08	0.56%
Poute 10 29,666 100% 29666 21 6 Poute 2 63,412 10% 6341 30 Route 2 10,745 100% 10745 24 7 Foute 10 73,152 25% 18288 27 2 H Totals 17 100% 100% 100% 100% 100% Intent Route 10 73,152 25% 18288 27 2 Intents 100% 100% 100% 100% 100% 100% 100% Intents Intents <th>BURNTWOOD</th> <th>Route 10</th> <th>29,952</th> <th>20%</th> <th>2990</th> <th>28</th> <th>7.64</th> <th>0.20%</th>	BURNTWOOD	Route 10	29,952	20%	2990	28	7.64	0.20%
Coute 2 63,412 10% 6341 30 Route 2 10,745 100% 10745 24 7 Fronte 10 Route 10 73,152 25% 18288 27 2 H Totals 73,152 25% 18288 37	LICHFIELD	Route 10	29,666	100%	29666	21	67.27	1.80%
Route 2 10,745 100% 10745 24 1 1 1 1 1 1 1 1 1	STAFFORD	Route 2	63,412	10%	6341	30	7.05	0.19%
. Route 2 236,053 40% 94421 28 1	CHEADLE	Route 2	10,745	100%	10745	24	18.65	0.50%
Route 10 73,152 25% 18288 27	STOKE-ON-TRENT	Route 2	236,053	40%	94421	28	120.44	3.22%
_	ТАМWОКТН	Route 10	73,152	25%	18288	27	25.09	0.67%
						Totals	3745.07	100.00%

Route 1	A511(N) / A516(N)	Route 7c	Route 7c A511(S) / various routes between A38 and A5121
Route 2	A511(N) / A50(W)	Route 7d	A511(S) / A5121(N) / various routes
Route 3	A511(N) / A516 / A50(E)	Route 7e	A511(S) / various routes bewteen A5121 and A444
Route 4		Route 7f	A511(S) / A5121(S) / various routes between A511 and A38
Route 5	A511(S) / A444(S)	Route 8	Route 8 Burton Road / various routes within Tutbury
Route 6		Route 9	Route 9 A511(N) / various routes within Hatton
Route 7a	A511(S) / Harehedge Lane / various routes	Route 10	Route 10 A511(S) / A5121(S) / A38(S)
Route 7b	A511(S) / various routes between Harehedge		
	Lane and A38		

TABLE 2 - RESULTS OF TRAFFIC DISTRIBUTION CALCULATIONS

Time Period	Arrive	Depart	Total	Parking Accumulation
				2
0080 - 0020	12	2	14	12
0060 - 0080	44	7	51	49
0000 - 1000	19	~	20	29
1000 - 1100	10	10	20	29
1100 - 1200	10	16	26	61
1200 - 1300	တ	13	22	25
1300 - 1400	∞	4	12	61
1400 - 1500	က	_	4	63
1500 - 1600	9	8	14	61
1600 - 1700	4	17	21	48
1700 - 1800	က	36	39	15
1800 - 1900	2	4	6	13
Daily	141	132	273	

note: initial parking accumulation figures calculated relative to initial occupancy at TRICS sites

TABLE 3: PROPOSED EMPLOYMENT DEVELOPMENT TRAFFIC GENERATION AND PARKING ACCUMULATION PROFILE

		Site Access	Burton Road (north)
Traffic scenario		left/right	ahead/right
2018 Morning peak hour with development	RFC value	9.10%	2.4%
	max queue (vehs)	0.31	0.00%
	av. delay (mins/veh)	0.13	0.1
2018 Evening peak hour with development	RFC value	5.60%	2.70%
	max queue (vehs)	0.1	0
	av. delay (mins/veh)	0.13	0.11

TABLE 4: SUMMARY RESULTS OF THE PROPOSED BURTON ROAD/SITE ACCESS T-JUNCTION PICADY ASSESSMENT

		Site Access	A511 (Southbound)
Traffic scenario		left/right	right
2018 Morning peak hour with development	RFC value max queue (vehs)	21.90%	4.60%
	av. delay (mins/veh)	0.17	60.0
2018 Evening peak hour with development	RFC value	21.50%	4.30%
	max queue (vehs) av. delay (mins/veh)	0.3 0.18	0.1

TABLE 5: SUMMARY RESULTS OF THE PROPOSED A511/SITE ACCESS GHOST ISLAND T-JUNCTION PICADY ASSESSMENT

		Arm A	Arm B	Arm C	Arm D
Traffic scenario		A511 (North)	Rolleston Lane	A511 (South)	Burton Road
2018 AM peak hour with development	RFC value	28.70%	19.90%	26.80%	30.00%
	max queue (vehs)	0.4	0.2	0.3	0.4
	av. delay (mins/veh)	0.04	0.00	0.05	0.70
2018 PM peak hour with development	RFC value	24.30%	15.20%	41.60%	27.20%
	max queue (vehs)	0.3	0.2	7.0	0.4
	av. delay (mins/veh)	0.04	0.08	0.05	0.07

TABLE 6: SUMMARY RESULTS OF THE A511/BURTON ROAD/ROLLESTON LANE ROUNDABOUT ARCADY ASSESSMEN'

		Arm A	Arm B	Arm C	Arm D
Traffic scenario		A511 (North)	A511 (East)	Bridge Street	Tutbury Mill access
2018 AM peak hour with development	RFC value	26.80%	25.70%	21.80%	0.40%
	max queue (vehs)	1.3	0.3	0.3	0.0
	av. delay (mins/veh)	0.08	0.04	90.0	0.09
2018 PM peak hour with development	RFC value	53.80%	35.00%	26.00%	1.50%
	max queue (vehs)	1.2	0.5	0.4	0.0
	av. delay (mins/veh)	0.08	0.05	90:0	0.12

TABLE 7: SUMMARY RESULTS OF THE A511/BRIDGE STREET ROUNDABOUT ARCADY ASSESSMEN'

l ink		2018 AM Peal	2018 AM Peak Design Year 'With Development' Traffic	ment' Traffic
Number	Link Description	Degree of Saturation (%)	Mean Maximum Queue (PCU)	Total Delay (PCU/Hr)
1/1	1/1 Station Road - Left/Right/Ahead	87.4	25.1	25.1
2/1	Derby Road - Ahead/Left/Right	9.6	12.6	12.6
3/1	3/1 Malthouse Lane - Right/Ahead/Left	0.0	0.0	0.0
4/1 - 4/2	4/1 - 4/2 Uttoxeter Road - Ahead/Left/Right	82.4	9.6	9.6
		PRC (%)	Total Delay (pcu/hr)	Cycle Time
		3	19.67	270 secs

l ink		2018 PM Peak	2018 PM Peak Design Year 'With Development' Traffic	oment' Traffic
Number	Link Description	Degree of Saturation (%)	Mean Maximum Queue (PCU)	Total Delay (PCU/Hr)
1/1	1/1 Station Road - Left/Right/Ahead	9.96	28.1	13.4
2/1	Derby Road - Ahead/Left/Right	61.1	12.7	3.5
3/1	Malthouse Lane - Right/Ahead/Left	0.0	0.0	0.0
4/1 - 4/2	4/1 - 4/2 Uttoxeter Road - Ahead/Left/Right	95.4	10.0	11.7
		PRC (%)	Total Delay (pcu/hr)	Cycle Time
		4.7-	28.53	270 secs

ROAD/MALTHOUSE LANE SIGNAL CONTROLLED CROSSROADS JUNCTION LINSIG TABLE 8: SUMMARY RESULTS OF THE DERBY ROAD/UTTOXETER ROAD/STATION **ASSESSMENT**

		Uttoxeter Road	Uttoxeter Road	Derby Road (east)
Traffic scenario		left	right	right
2018 Morning peak hour with development	RFC value max queue (vehs) av. delay (mins/veh)	3.40% 0 0.15	59.80% 1.4 0.25	7.70% 0.1 0.11
2018 Evening peak hour with development	RFC value max queue (vehs) av. delay (mins/veh)	91.10% 3.2 1.08	96.30% 10.9 0.73	2.90% 0.1
2018 Evening peak hour with no development	RFC value max queue (vehs) av. delay (mins/veh)	46.10% 1.6 0.59	92.00% 8 0.59	2.80%

TABLE 9: SUMMARY RESULTS OF THE DERBY ROAD/UTTOXEXTER ROAD GHOST ISLAND T-JUNCTION PICADY ASSESSMENT

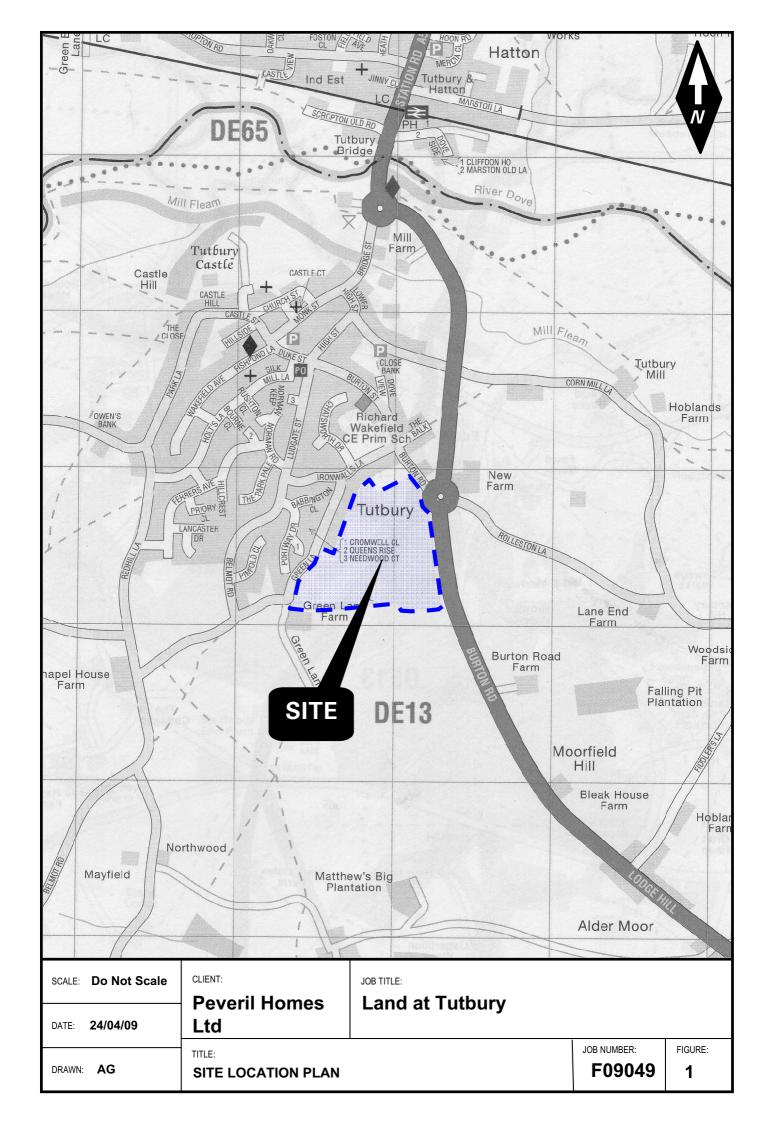
		Arm A	Arm B	Arm C
Traffic scenario		A516 (North)	A5132	A516 (West)
2018 AM peak hour with development	RFC value	32.20%	93.40%	69.00%
	av. delay (mins/veh)	90.0	08:0	0.13
2018 PM peak hour with development	RFC value max queue (vehs) av. delay (mins/veh)	80.00% 3.9 0.14	46.80% 0.9 0.09	27.00% 0.4 0.06
2018 AM peak hour no development	RFC value max queue (vehs) av. delay (mins/veh)	31.10% 0.4 0.06	93.20% 10.7 0.3	68.50% 2.1 0.13

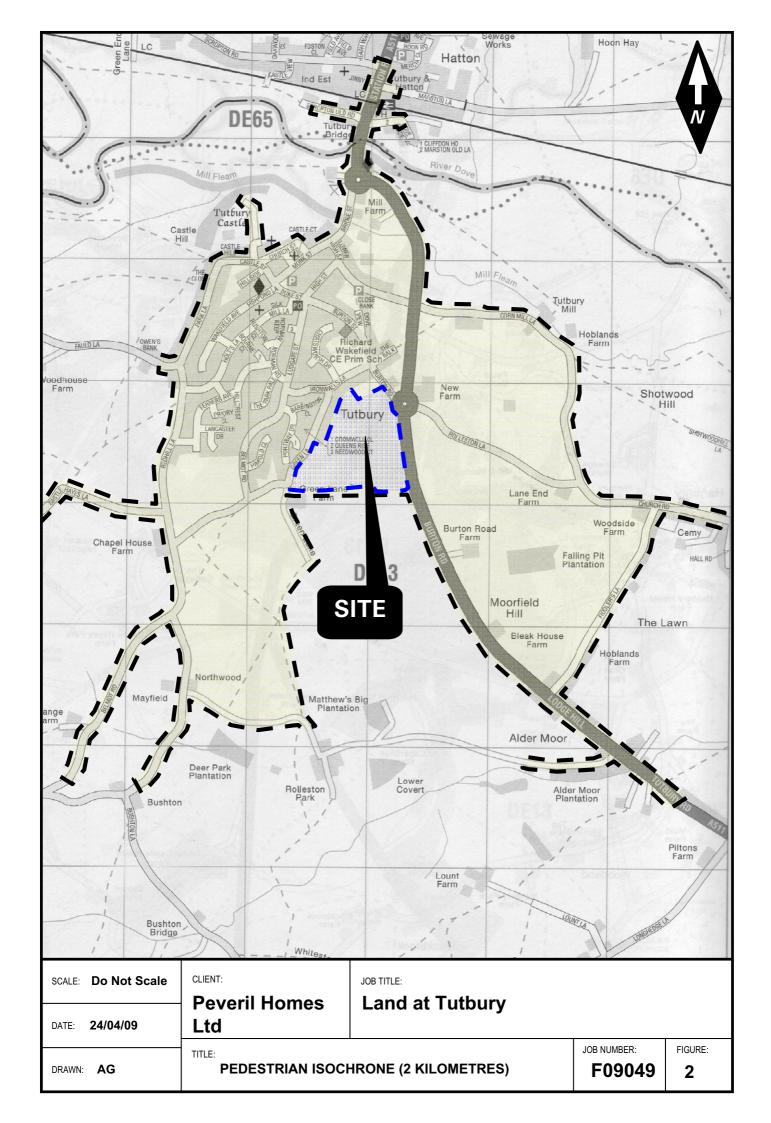
TABLE 10: SUMMARY RESULTS OF THE A516/A5132 ROUNDABOUT ARCADY ASSESSMENT

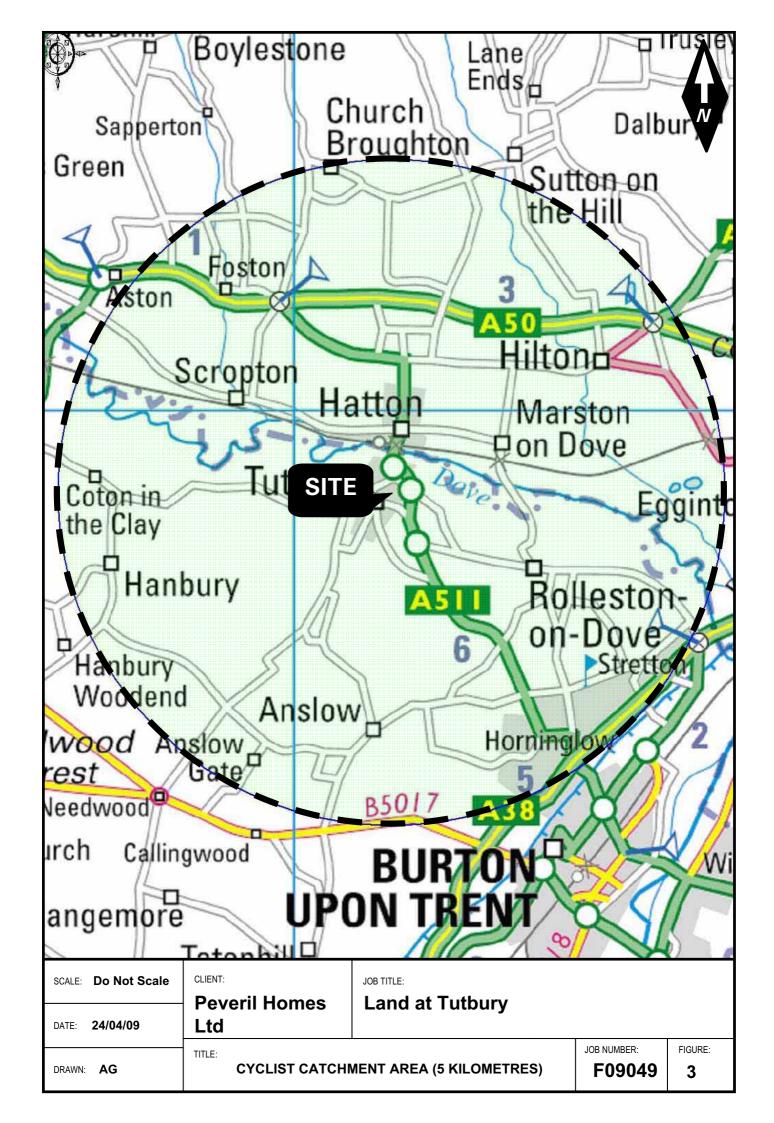
l ink		2018 AM Peak	2018 AM Peak Design Year 'With Development' Traffic	ment' Traffic
Number	Link Description	Degree of Saturation (%)	Mean Maximum Queue (PCU)	Total Delay (PCU/Hr)
1/1	1/1 A511 (North) - Left/Ahead/Right	72.1	21.1	4.9
2/1	Harehedge Lane - Right/Ahead/Left	67.3	7.7	3.4
3/1 - 3/2	3/1 - 3/2 A511 (South) - Ahead/Left/Right	56.8	12.6	3.9
4/1	4/1 Beamhill Road - Left/Right/Ahead	71.9	6.4	3.4
		PRC (%)	Total Delay (pcu/hr)	Cycle Time
		24.9	15.57	180 secs

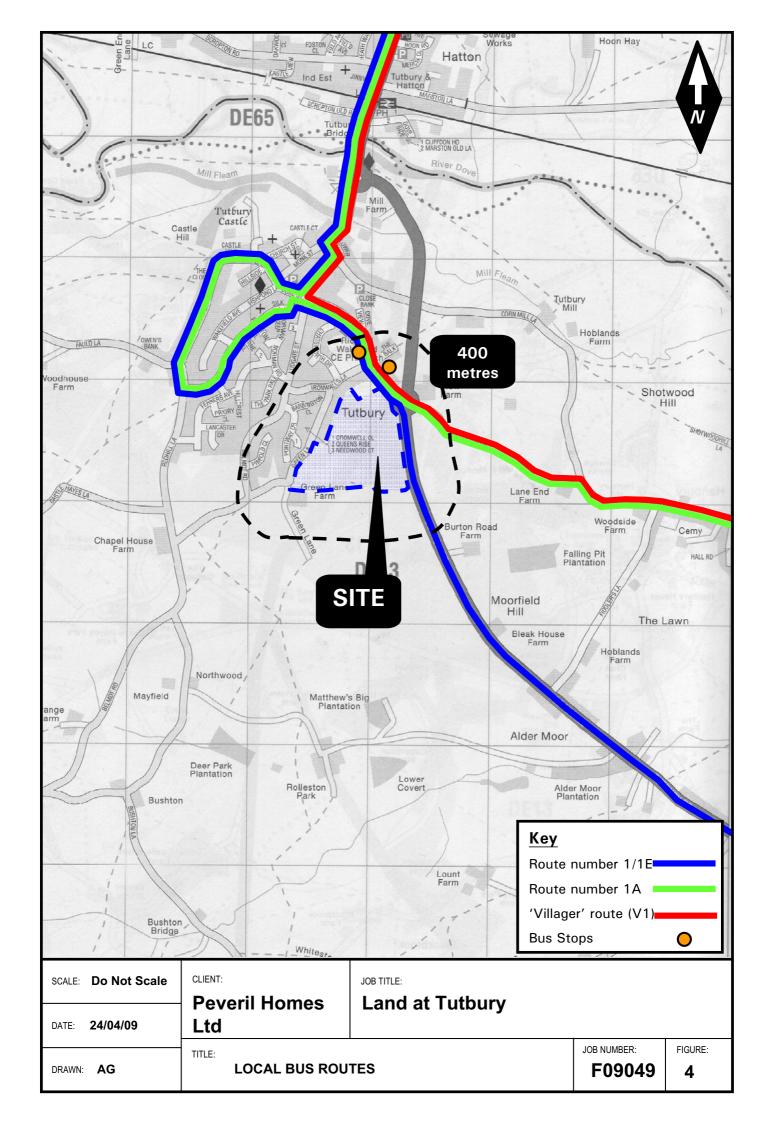
i.		2018 PM Peal	2018 PM Peak Design Year 'With Development' Traffic	ment' Traffic
Number	Link Description	Degree of Saturation (%)	Mean Maximum Queue (PCU)	Total Delay (PCU/Hr)
1/1	1/1 A511 (North) - Left/Ahead/Right	44.4	7.7	2.1
2/1	Harehedge Lane - Right/Ahead/Left	84.5	9.1	5.7
3/1 - 3/2	3/1 - 3/2 A511 (South) - Ahead/Left/Right	84.1	18.7	6.7
4/1	4/1 Beamhill Road - Left/Right/Ahead	75.6	5.9	3.7
		PRC (%)	Total Delay (pcu/hr)	Cycle Time
		6.5	18.22	180 secs

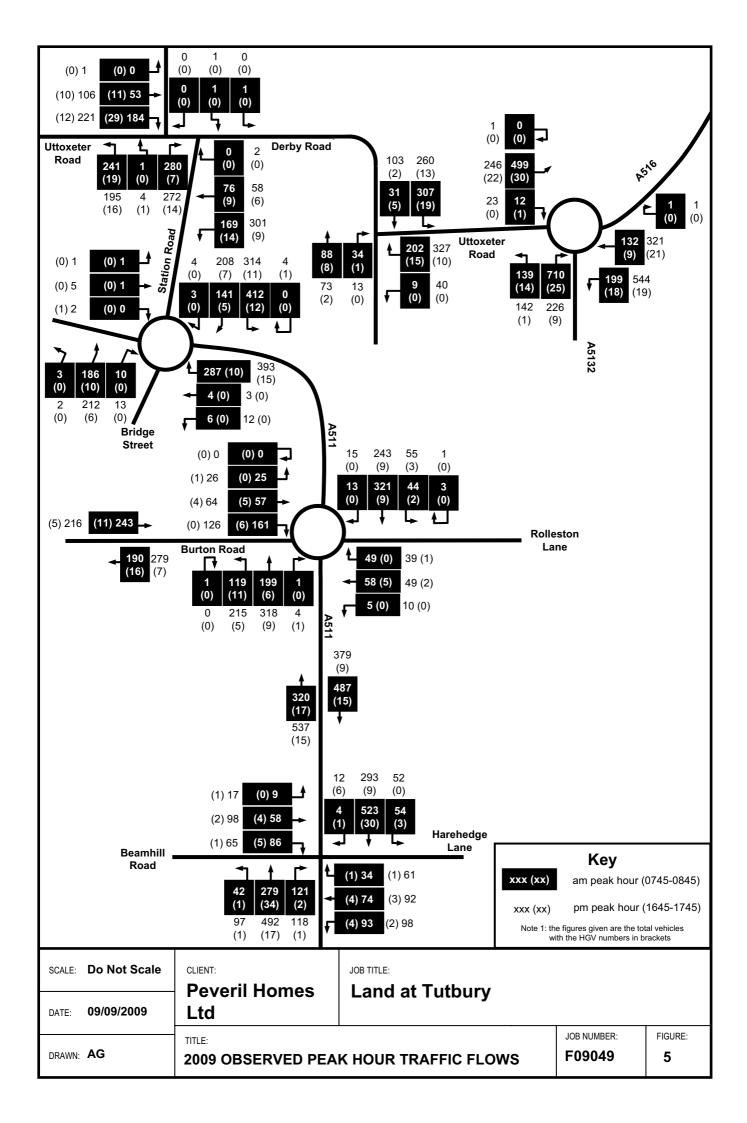
TABLE 11: SUMMARY RESULTS OF THE A511/HAREHEDGE LANE/BEAMHILL ROAD SIGNAL CONTROLLED CROSSROADS JUNCTION LINSIG ASSESSMENT

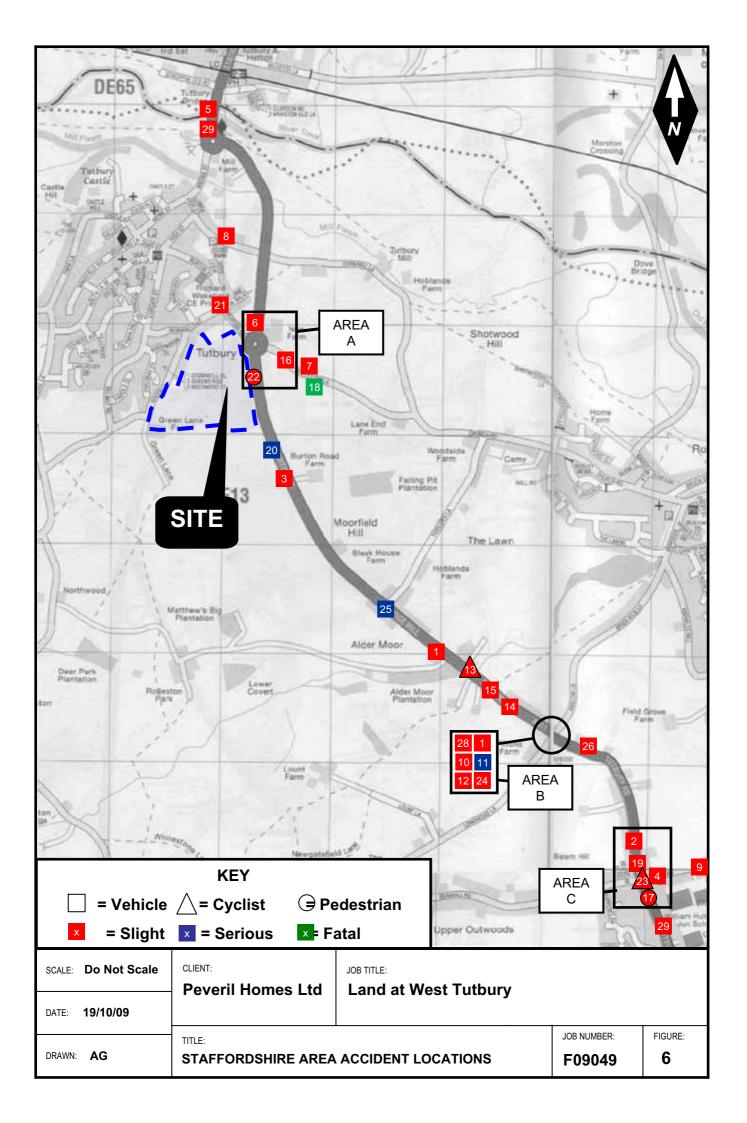


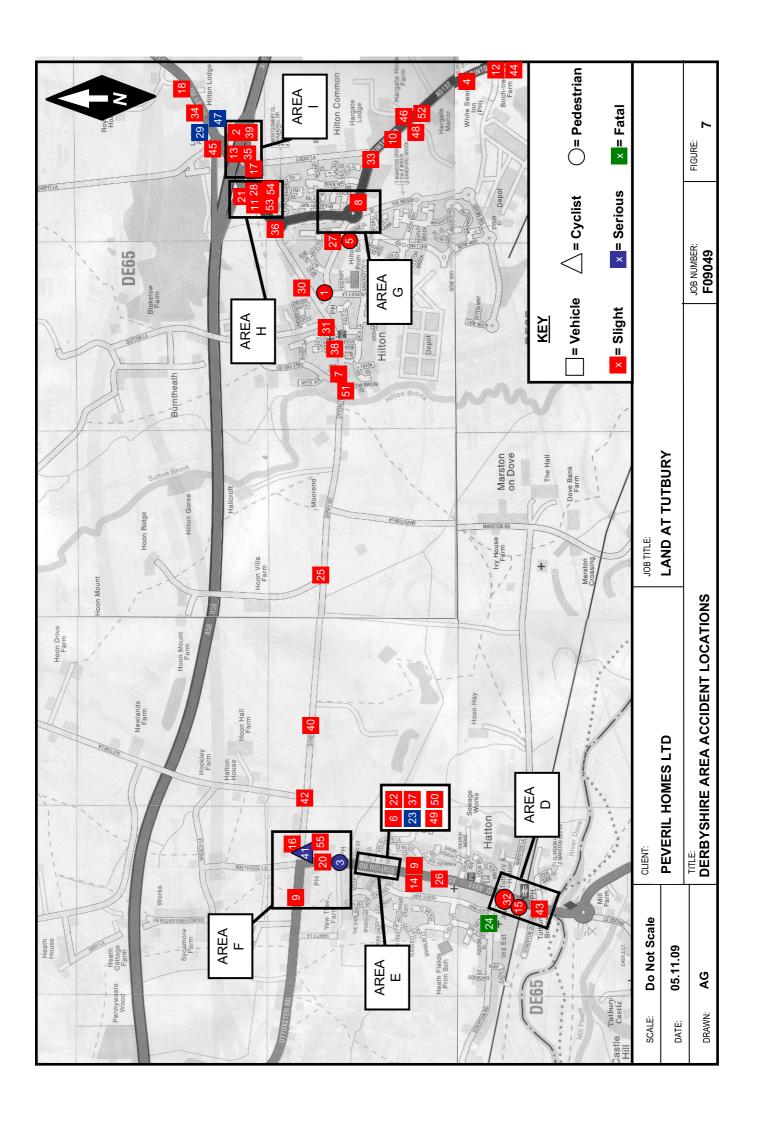


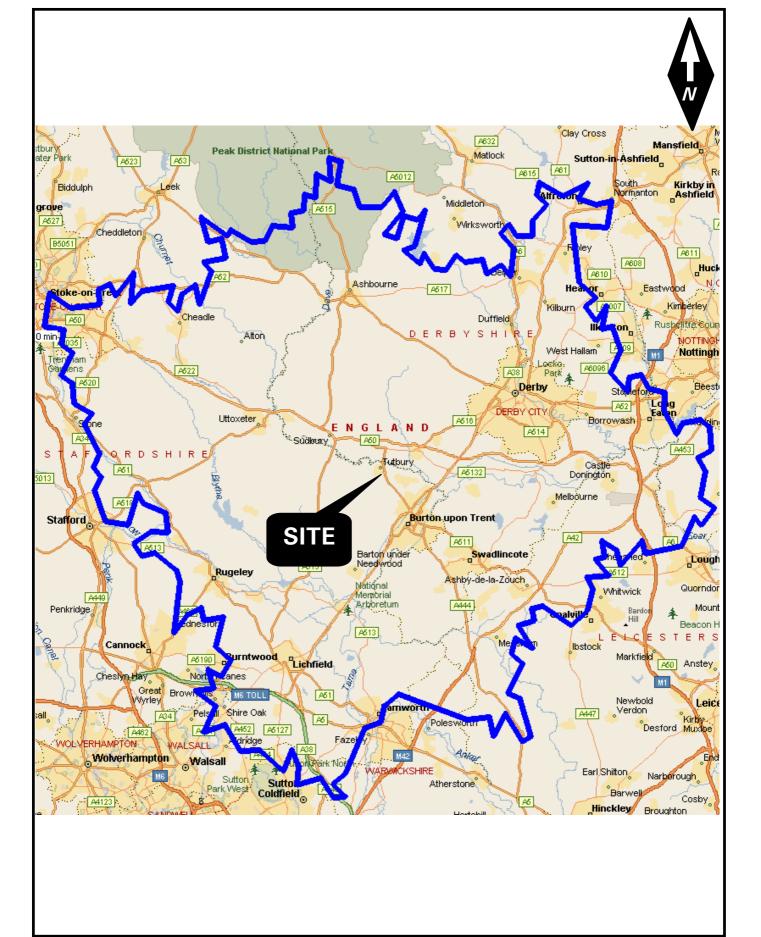




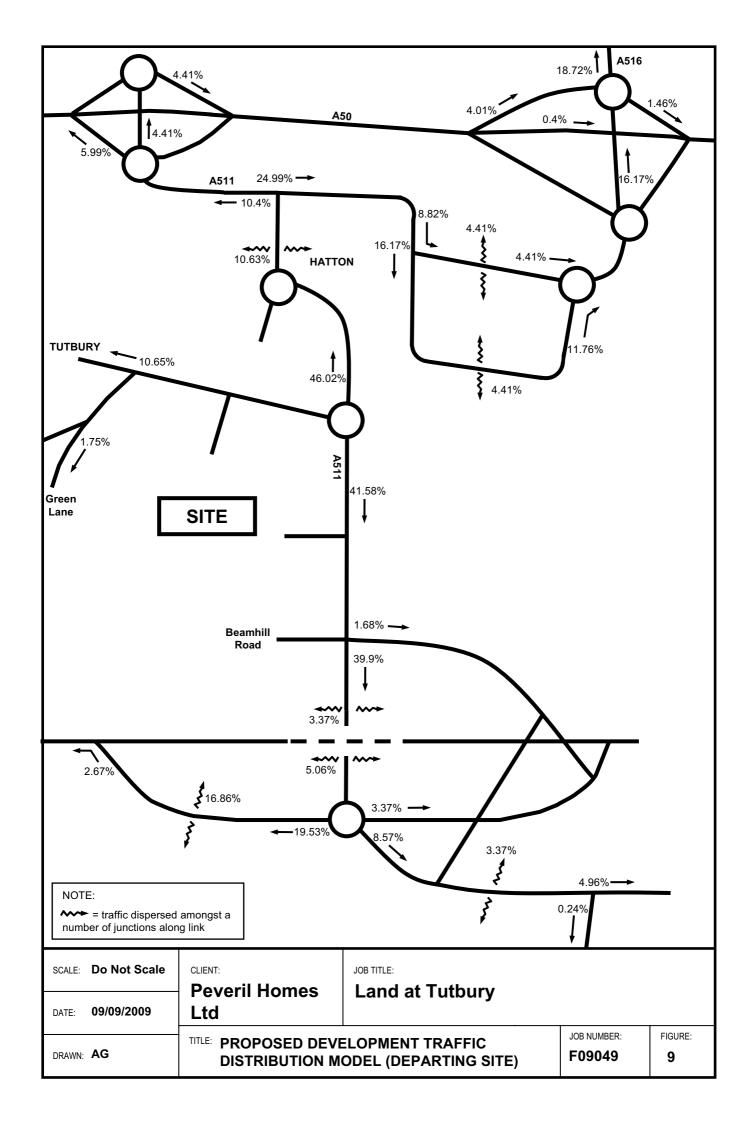


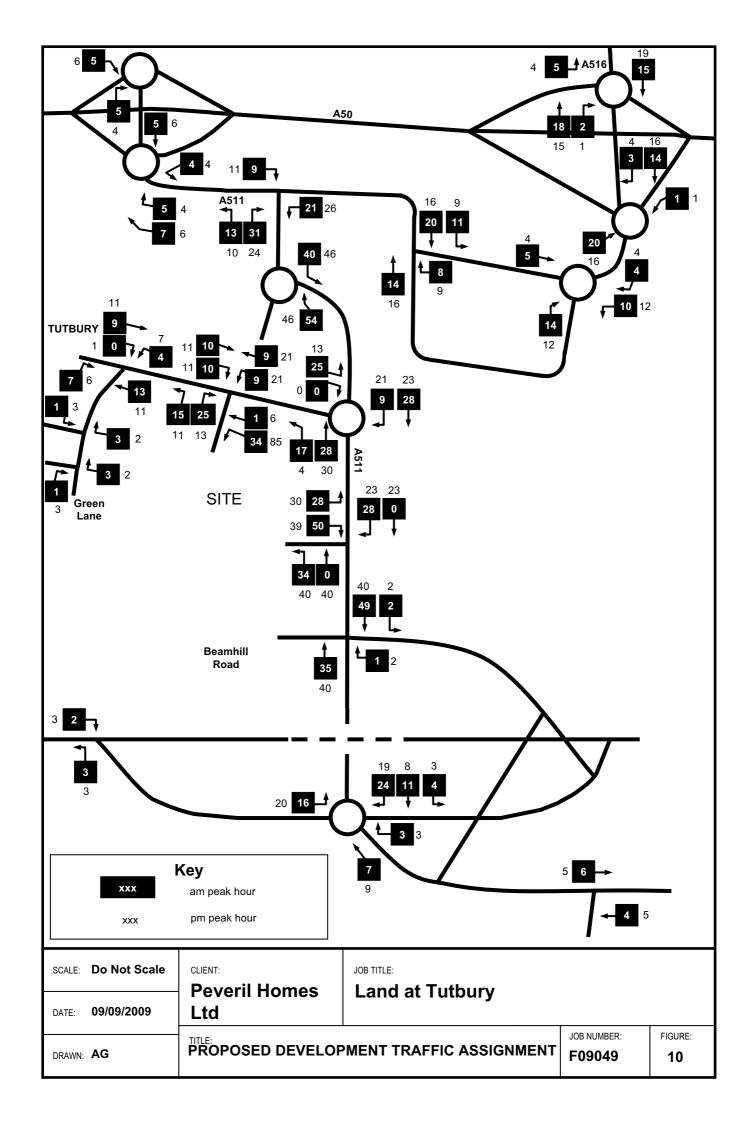


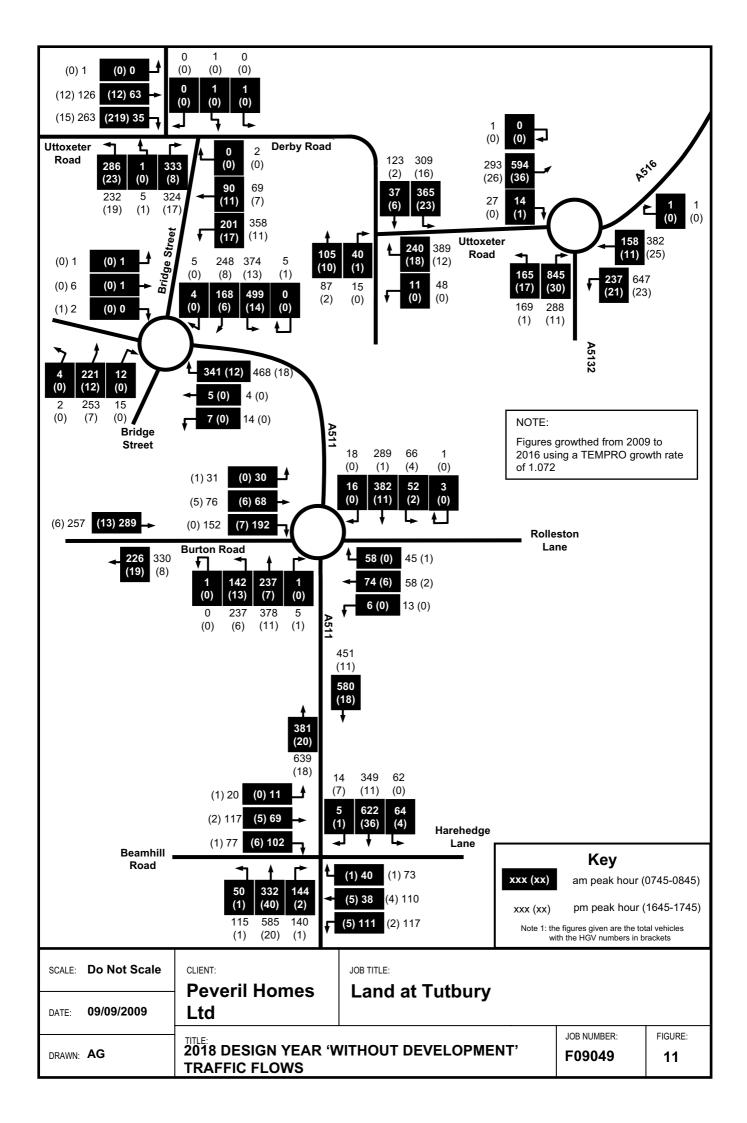


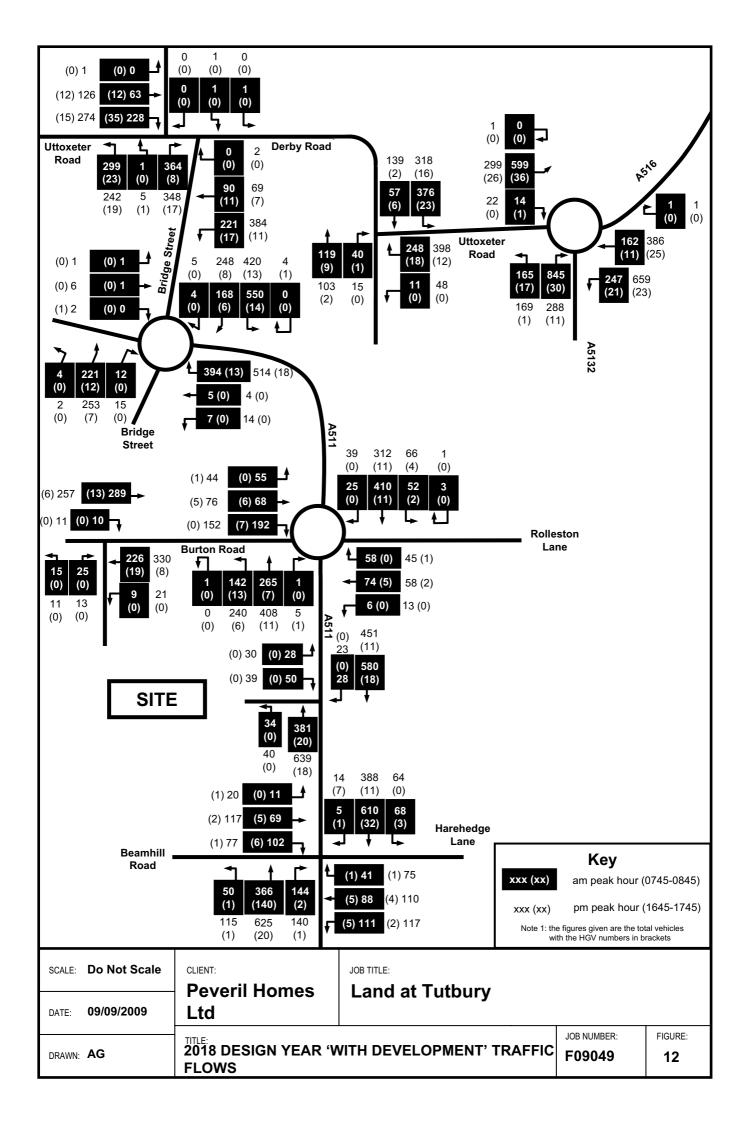


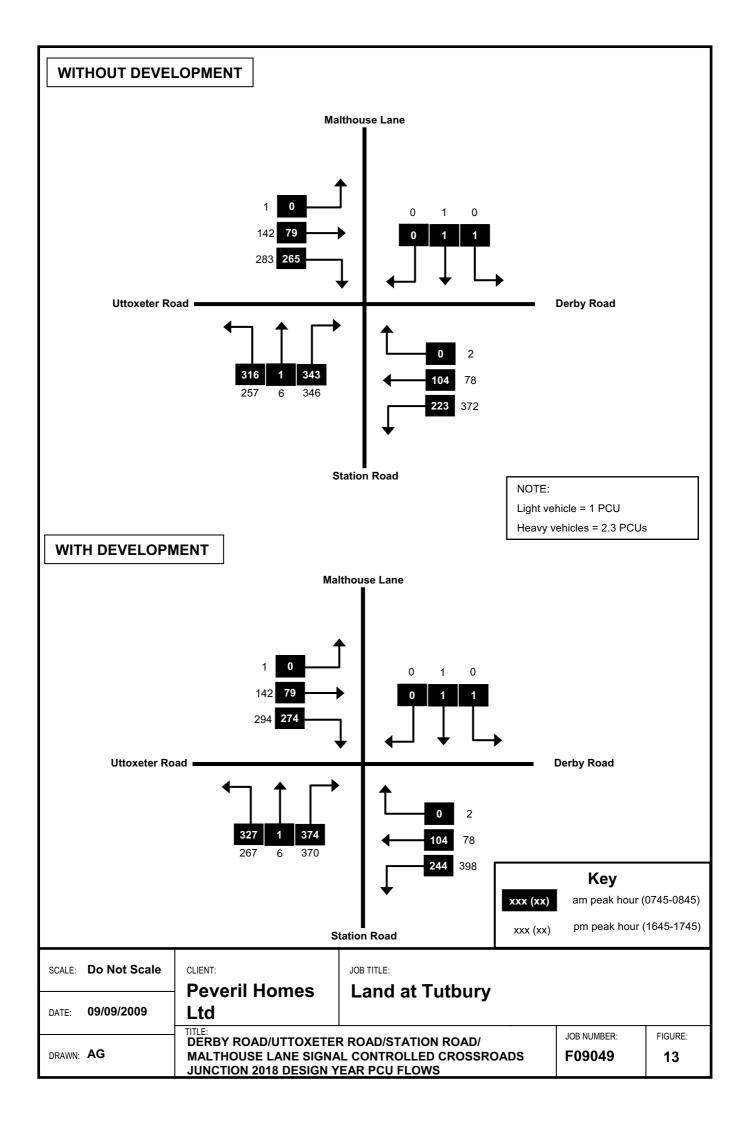
SCALE: Do Not Scale	CLIENT: Peveril Homes	JOB TITLE: Land at Tutbury		
DATE: 24/04/09	Ltd	Land at Tutbury	·	
DRAWN: AG	TITLE: 30 MINUTE DRIVETIME	ISOCHRONE FROM SITE	JOB NUMBER: F09049	FIGURE:

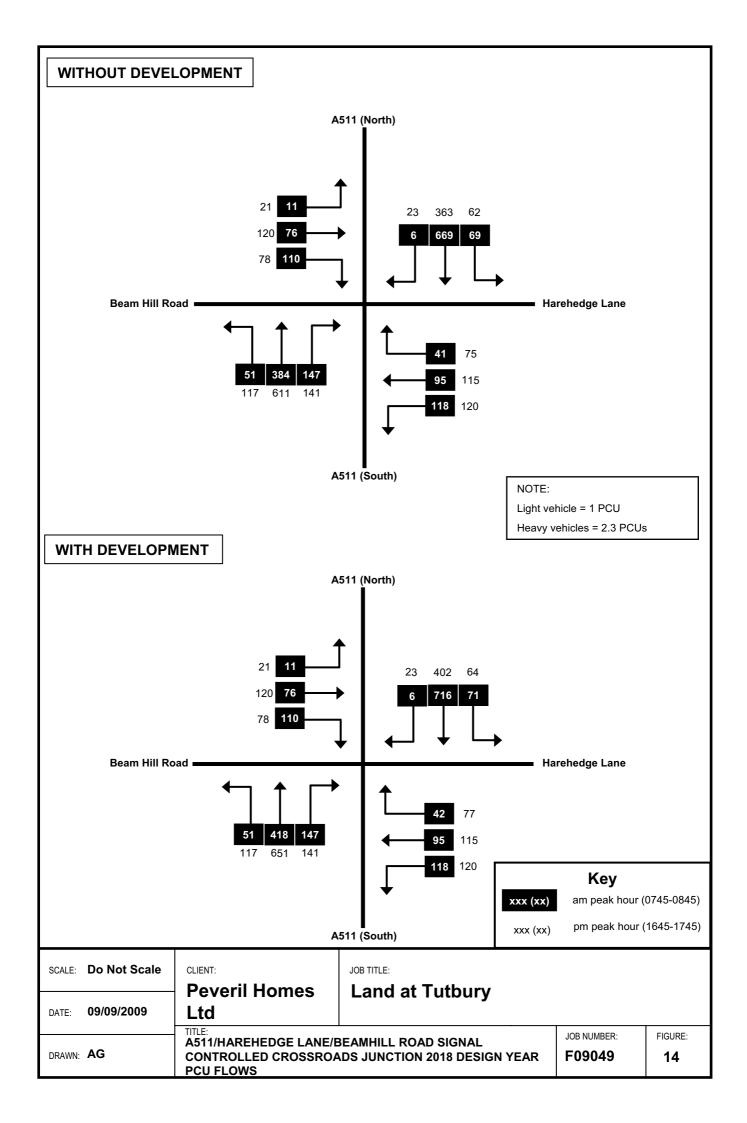


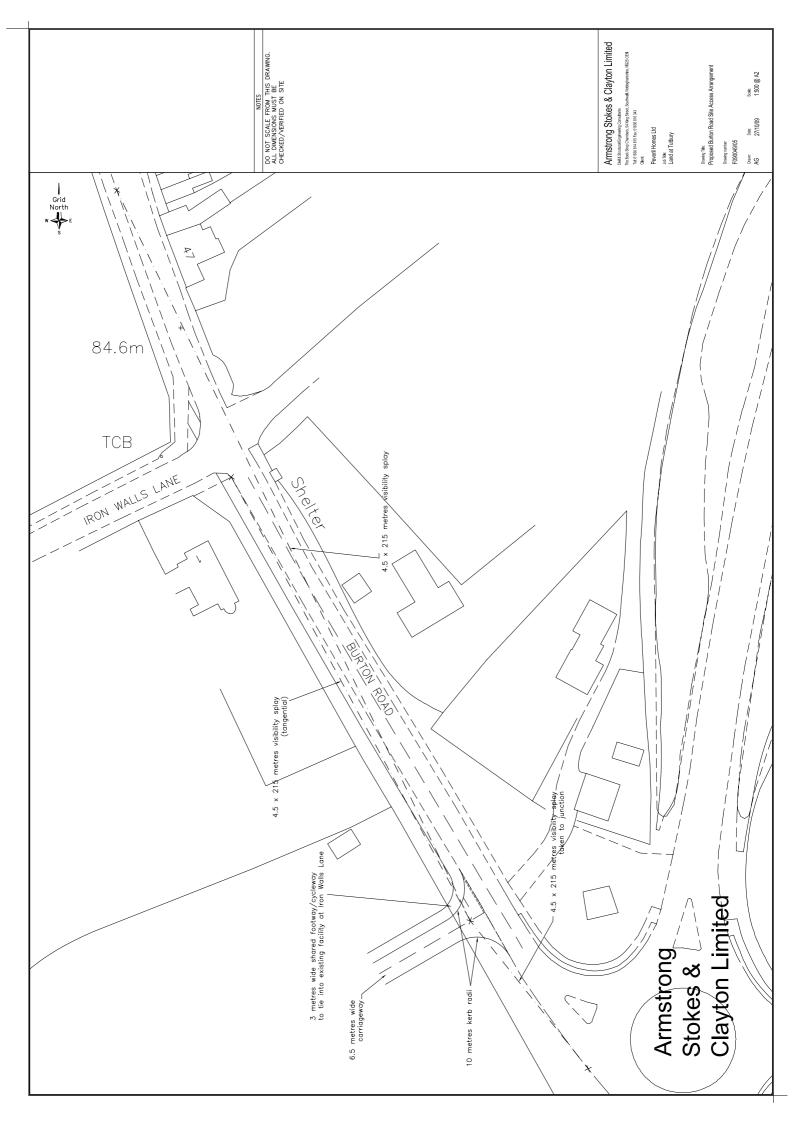


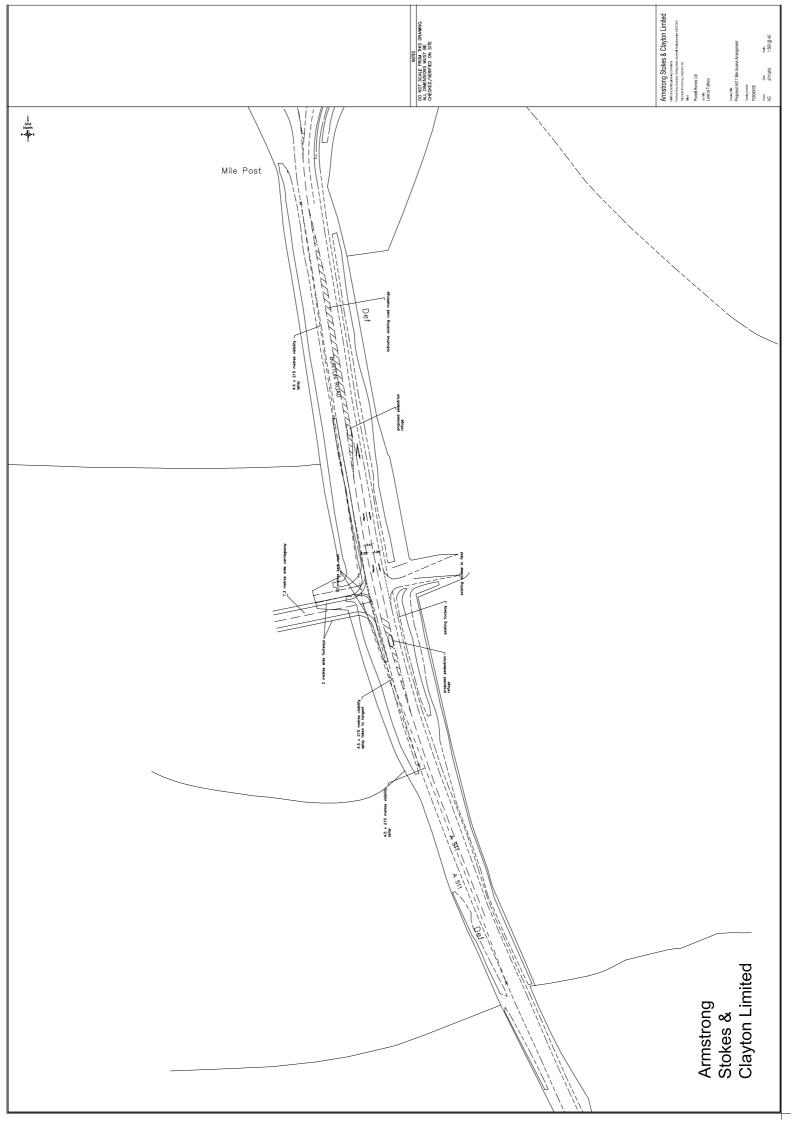












APPENDIX A – SCOPING NOTE AND DETAILS OF PRELIMINARY DISCUSSIONS WITH STAFFORDSHIRE COUNTY COUNCIL

PROPOSED RESIDENTIAL/EMPLOYMENT DEVELOPMENT ON LAND AT TUTBURY, STAFFORDSHIRE

SCOPING NOTE (OCTOBER 2009)

Introduction

1.1 Armstrong Stokes & Clayton have been appointed by Peveril Homes Ltd to provide traffic and transportation advice in respect of a proposed mixed residential and B1 office development on land at eastern edge of Tutbury. This Scoping Note has been produced to assist with initial discussions with the local highway authority in respect of the scheme, prior to a full Transport Assessment being completed for the site. The purpose of this Scoping Note is primarily to assess the extent to which the site will impact on the surrounding highway network and, hence, identify a suitable study area for further detailed analysis within the Transport Assessment. This Scoping Note will also provide a brief overview of the other transport issues that have been considered in respect of the proposed development, including parking, servicing, and opportunities for access by non-car modes.

Proposed development details

1.2 The proposed development would be located on an area of undeveloped land at the eastern edge of Tutbury, which is bound by Iron Walls Lane and Burton Road to the north, the A511 to the east, undeveloped land to the south and existing residential dwellings and Green Lane to the west. The site measures approximately 15 hectares in area. The development proposals comprise 200 residential dwellings served via an access at Burton Road and a B1 office development measuring 2000 sqm gross floor area, which would be served via the A511 (Tutbury Road). Also included within the site would be a sports pitch with associated changing facilities. It has been assumed for the purposes of this assessment that the development would have an opening year of 2012.

Traffic generation and distribution

1.3 The TRICS database was searched to identify suitable trip rates for the residential and employment aspects of the proposed development, which are as follows:

Residential development (per dwelling)

- morning peak (0800 to 0900 hours) 0.165 arrive 0.638 depart
- evening peak (1700 to 1800 hours) 0.531 arrive 0.335 depart
- daily total (0700 to 1900 hours) 2.767 arrive 3.072 depart

Employment development (per 100 sqm gross floor area)

- morning peak (0800 to 0900 hours) 0.300 arrive 0.333 depart
- evening peak (1700 to 1800 hours) 0.792 arrive 1.708 depart
- daily total (0700 to 1900 hours) 14.166 arrive 10.001 depart
- 1.4 The above trips rates were subsequently used to calculate the following peak hour and daily vehicle movements for the proposed development:

200 residential dwellings

- morning peak (0800 to 0900 hours)33 arrive 128 depart 161 total
- evening peak (1700 to 1800 hours)107 arrive 67 depart 174 total
- daily total (0700 to 1900 hours)
 553 arrive 614 depart 1167 total

Employment development (2000 sgm gross floor area)

morning peak (0800 to 0900 hours)
 evening peak (1700 to 1800 hours)
 daily total (0700 to 1900 hours)
 283 arrive 200 depart 483 total

Total combined

- morning peak (0800 to 0900 hours) 93 arrive 135 depart 228 total
- evening peak (1700 to 1800 hours)123 arrive 101 depart 224 total
- daily total (0700 to 1900 hours) 836 arrive 814 depart 1650 total
- 1.5 A PT² gravity model was then created to identify a suitable distribution model with which the above movements could be assigned to the surrounding highway network. The PT² calculations are shown within **Table 1**, which are based on local population data and a 30 minute drivetime from the site. The following method was subsequently used to create the final distribution model:
 - The results of the PT² model were used to create an initial distribution model for vehicle movements to/from the site

- This model was then adjusted to account for the following factors:
 - Trips to Burton upon Trent were distributed based on the key areas of development within that area and the key routes drivers would be likely to take
 - Given that Tutbury and Hatton are counted as one area in terms of population data, 50% of the traffic associated with these areas was assigned to Tutbury and 50% to Hatton
 - Given that 'village only' traffic is permitted to travel through Hilton, the traffic associated with Hilton, the A50 and beyond was redistributed based on the following assumptions:
 - 15% of traffic travelling to/from Hilton
 - 15% of traffic travelling to/from the new residential/employment developments to the south of Hilton
 - 15% of traffic travelling to the A50 and A516 through Hilton
 - 40% of traffic travelling to the A50 and A516 via the bypass route to the south of Hilton
 - 15% of traffic accessing the A50 via junctions 6 rather than junction 5 (as an alternative to the detour around Hilton)
- 1.6 The resulting final traffic distribution model for the site is shown in **Figure 1**, which demonstrates that the main attractors/generators of traffic to/from the site would be Derby to the north-east and Burton upon Trent to the south. For simplicity, the model shows the distribution for vehicles departing the site, which would be reversed for vehicles arriving at the site. In addition, a significant amount of trips would also be associated with Tutbury and Hatton.
- 1.7 The peak hour traffic movements calculated for the proposed development were then assigned to the surrounding highway network in accordance with the distribution model shown in **Figure 1**. The results of this assignment are shown in **Figure 2**. This assignment reflects the fact that the traffic movements associated with the residential development would use the proposed junction at Burton Road, whilst vehicles associated with the employment use would use the proposed access at the A511.

- 1.8 Guidance on Transport Assessment advises a threshold of 30 two-way vehicle movements when considering where a development could have a significant traffic impact and, hence, the parts of the road network that require further detailed analysis. Figure 2 demonstrates that peak hour increases of over 30 two-way movements would occur at the following key junctions within the surrounding highway network:
 - proposed Burton Road/residential site access T-junction
 - proposed A511/employment site access ghost island T-junction
 - A511/Burton Road/Rolleston Lane roundabout
 - A511/Bridge Street roundabout
 - Derby Road/Uttoxeter Road/Station Road/Malthouse Lane signal controlled staggered T-junctions
 - Derby Road/Uttoxeter Road ghost island T-junction
 - series of roundabouts along bypass route to south of Hilton
 - A516/A5132 roundabout
 - Junction 5 at the A50 (2 linked grade separated roundabouts)
 - A511/Harehedge Lane/Beamhill Road signal controlled T-junction
 - A511/A5121 roundabout

For ease of reference, these junctions are highlighted within **Figure 3**, along with an indication of the peak hour traffic increases that would occur.

- 1.9 Some of the above junctions can be discounted in terms of further detailed analysis based on the following reasons:
 - series of roundabouts along bypass route to south of Hilton it should not be
 necessary to assess all of these junctions, given that there would not be a
 significant amount of movements coming from the residential and employment
 developments that would cause any significant conflict with the straight on
 movements associated with the proposed development.
 - Junction 5 at the A50 (2 linked grade separated roundabouts) it is not considered that these two roundabouts should require further detailed assessment, given that the traffic increases of up to 45 movements would not significantly exceed the 30 movements threshold and would be less than 1 vehicle per minute, which is unlikely to have a detrimental impact at a major strategic junction such as this.

- A511/A5121 roundabout discounted based on recent advice from Staffordshire County Council, where it was indicated that the local highway authority would not require any detailed assessment of this particular junction.
- 1.10 Based on the above details, the key junctions within the surrounding highway network that would require further detailed analysis as part of the Transport Assessment are as follows:
 - proposed Burton Road/residential site access T-junction
 - proposed A511/employment site access ghost island T-junction
 - A511/Burton Road/Rolleston Lane roundabout
 - A511/Bridge Street roundabout
 - Derby Road/Uttoxeter Road/Station Road/Malthouse Lane signal controlled staggered T-junctions
 - Derby Road/Uttoxeter Road ghost island T-junction
 - A516/A5132 roundabout
 - A511/Harehedge Lane/Beamhill Road signal controlled T-junction

The above list of junctions therefore represents the study area that will be considered within the Transport Assessment.

Other transport considerations

- 1.11 To accommodate pedestrian movements associated with the site, the proposed site access junctions will include pedestrian footways that will tie into the existing facilities on the A511 and on Burton Road. In addition, pedestrian refuge islands would be included as part of the proposed site access arrangement at the A511. A number of the surrounding local areas are also within a reasonable 5 km cycle distance of the site. Cycle trips associated with the proposed development should be accommodated by the existing facilities including a number of advisory cycle routes through Tutbury and Hatton and a comprehensive network of cycle routes within Burton upon Trent and the surrounding areas.
- 1.12 Bus stops are currently located within a reasonable 400 metres walking distance of the site on Burton Road to the north, which serve route number 1, 1a, 1e and the 'Villager'. These routes currently run at a combined weekday peak hour frequency of approximately 3 services per hour in each direction, or one service every 20

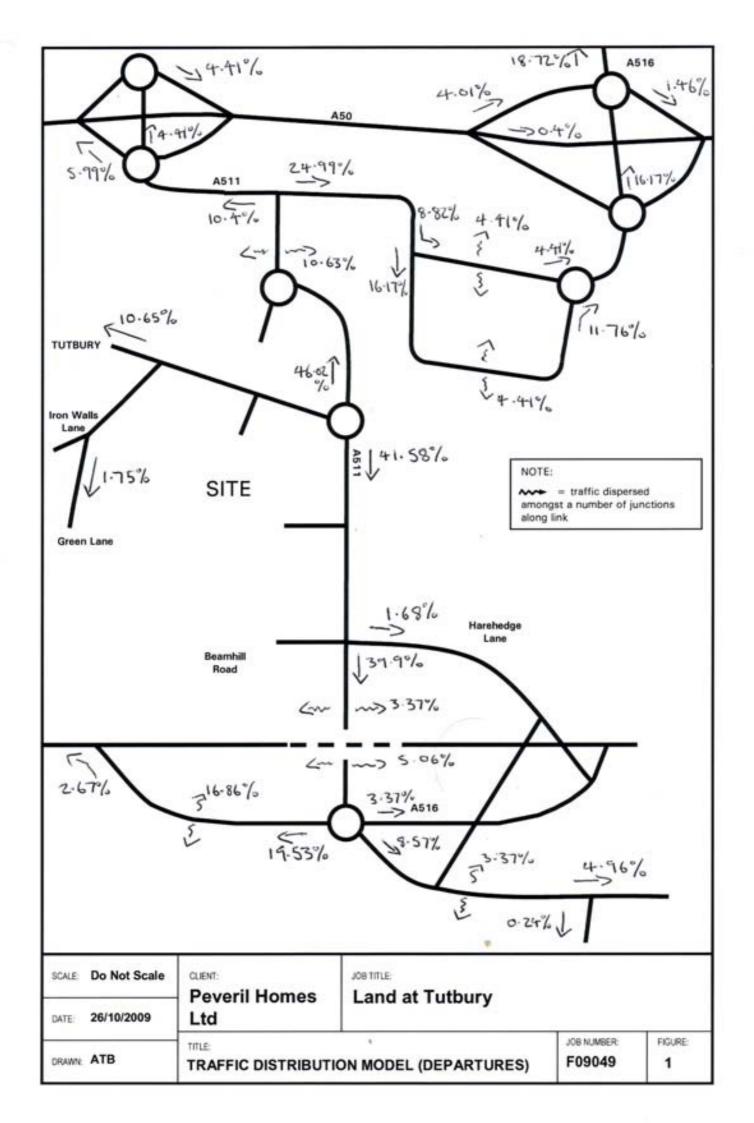
minutes on average. These routes serve a number of local and strategic areas including Tutbury, Hatton, Burton upon Trent and Uttoxeter. Strictly speaking, the proximity and frequency of these bus routes should be satisfactory to serve the proposed development. However, given the size and scale of the development, the Transport Assessment will investigate opportunities to provide improved access to public transport by possibly extending one or more of these routes into the site and providing suitable bus stops facilities within the site. As an alternative, the feasibility of providing stops on the A511 outside the site frontage will also be investigated.

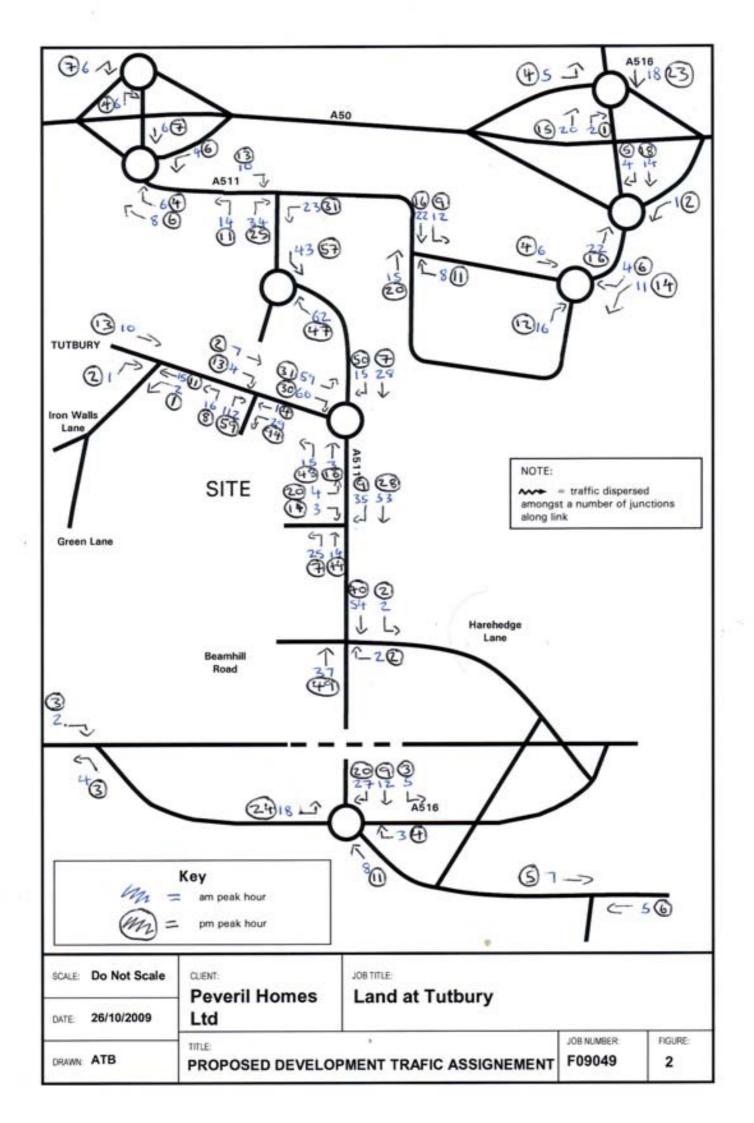
1.13 The Transport Assessment will also recommend a suitable parking and servicing strategy for the proposed development. Based on local standards and also the latest residential parking research, it will be recommended that the residential development should provide between 340 and 400 spaces in total to serve 200 dwellings. Based on local standards, the employment use should provide a maximum of 67 parking spaces. The proposed site masterplan should also include adequate turning facilities to ensure that typical service vehicles could manoeuvre within the site.

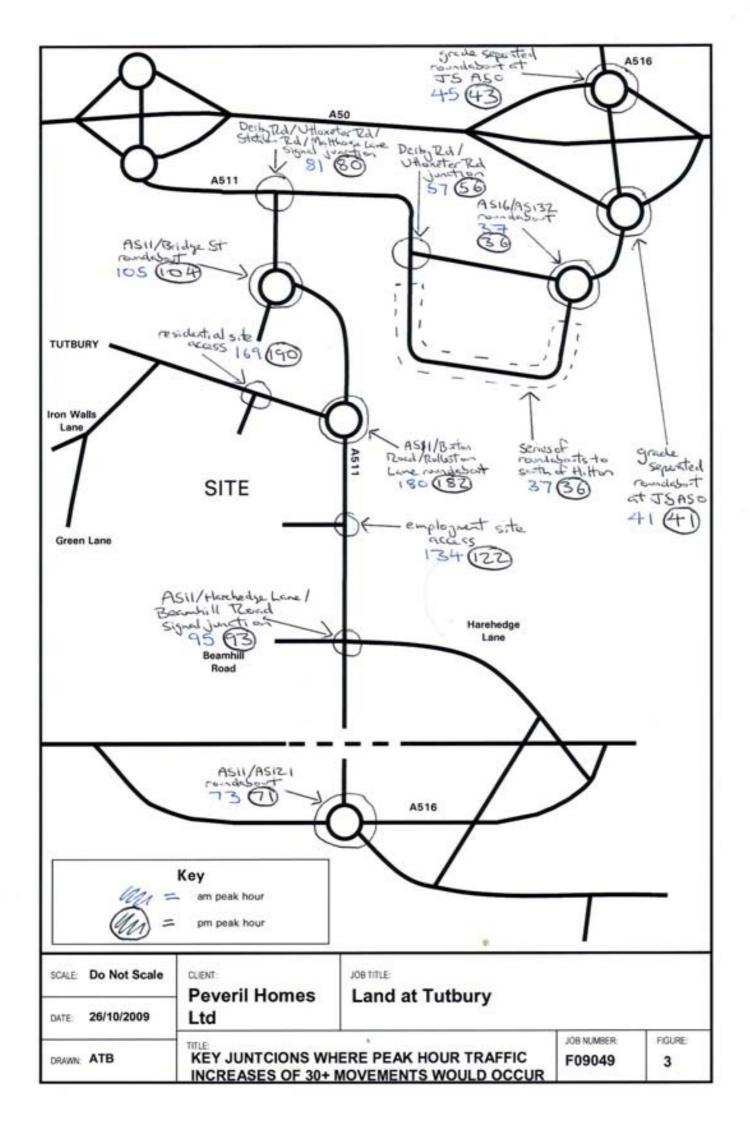
			Percentage of				Percentage of
Location	Route from site	Population	area within	Δ.	-	P/T ²	0 2621112212
			isochrone				total P/T ²
RIPLEY	Route 1	18,988	%06	17089	25	27.34	0.73%
BELPER	Route 1	22,646	100%	22646	27	31.06	0.83%
DUFFIELD	Route 1	4,661	100%	4661	20	11.65	0.31%
DERBY	Route 1	238,284	100%	238284	16	930.80	24.85%
ASHBOURNE	Route 2	5,060	100%	2060	19	14.02	0.37%
LONG EATON	Route 3	47,148	100%	47148	25	75.44	2.01%
ASHBY-DE-LA-ZOUCH	Route 4	11,953	100%	11953	24	20.75	0.55%
CASTLE DONINGTON	Route 3	6,413	100%	6413	22	13.25	0.35%
MEASHAM	Route 5	5,098	100%	2008	24	8.85	0.24%
SWADLINCOTE	Route 4	42,287	100%	42287	16	165.18	4.41%
MELBOURNE	Route 3	4,800	100%	4800	20	12.00	0.32%
RUGELEY	Route 6	23,592	100%	23592	23	44.60	1.19%
BURTON UPON TRENT	5% Route 7a, 10% Route 7b, 15% Route 7c, 10% Route 7d, 10% Route 7f	45,455	100%	45455	9	1262.64	33.71%
UTTOXETER	Route 2	12,548	100%	12548	14	64.02	1.71%
TUTBURY/HATTON	50% Route 8, 50% Route 9	3,185	100%	3185	2	796.25	21.26%
BARTON-UNDER-NEEDWOOD	Route 6	4,132	100%	4132	14	21.08	0.56%
BURNTWOOD	Route 10	29,952	20%	2990	28	7.64	0.20%
LICHFIELD	Route 10	29,666	100%	29666	21	67.27	1.80%
STAFFORD	Route 2	63,412	10%	6341	30	7.05	0.19%
CHEADLE	Route 2	10,745	100%	10745	24	18.65	0.50%
STOKE-ON-TRENT	Route 2	236,053	40%	94421	28	120.44	3.22%
TAMWORTH	Route 10	73,152	25%	18288	27	25.09	0.67%
					Totals	3745.07	100.00%

Route 1	A511(N) / A516(N)	Route 7c	Route 7c A511(S) / various routes between A38 and A5121
Route 2	A511(N) / A50(W)	Route 7d	Route 7d A511(S) / A5121(N) / various routes
Route 3	A511(N) / A516 / A50(E)	Route 7e	A511(S) / various routes bewteen A5121 and A444
Route 4	A511 (S) (through burton and beyond)	Route 7f	A511(S) / A5121(S) / various routes between A511 and A38
Route 5	A511(S) / A444(S)	Route 8	Route 8 Burton Road / various routes within Tutbury
Route 6	Burton Road / Iron Walls Lane / Belmot Road	Route 9	Route 9 A511(N) / various routes within Hatton
Route 7a	A511(S) / Harehedge Lane / various routes	Route 10	Route 10 A511(S) / A5121(S) / A38(S)
Route 7b	A511(S) / various routes between Harehedge		
	Lane and A38		

TABLE 1 - RESULTS OF TRAFFIC DISTRIBUTION CALCULATIONS







PROPOSED RESIDENTIAL/EMPLOYMENT DEVELOPMENT ON LAND AT TUTBURY, STAFFORDSHIRE

SUMMARY OF POINTS DISCUSSED AT MEETING AT STAFFORDSHIRE COUNTY COUNCIL OFFICES ON FRIDAY 30 OCTOBER 2009

Introduction

This note provides a brief bulletpoint summary of the main points discussed at the above meeting:

1) Proposed vehicular access arrangements

- The two access locations shown on the latest site masterplan were agreed by the local highway authority to be suitable to serve the proposed development. These comprise access to the residential dwelling from Burton Road and access to the employment development from the A511.
- It was agreed that an access directly via a fifth arm the A511/Burton Road/Rolleston
 Lane roundabout would not be suitable to serve the development, given the
 potential accident risk that could be generated and the difficulties with achieving the
 required design criteria.
- It was agreed that a residential development of up to 220 dwellings could be served via a single point of access, as long as the internal site layout provides sufficient space to minimise the risk of a blockage preventing access by emergency vehicles.
- Given the above, there would be no requirement for a vehicular link between the residential and employment developments.
- Given the minimal right turn movements that would occur at the proposed residential site access at Burton Road, it was agreed that no right turn lane would be required.
- It was agreed that a right turn lane would be provided for the employment access at the A511

2) Study area

 Staffordshire County Council confirmed their agreement with the junctions identified within the scoping note for the study area.

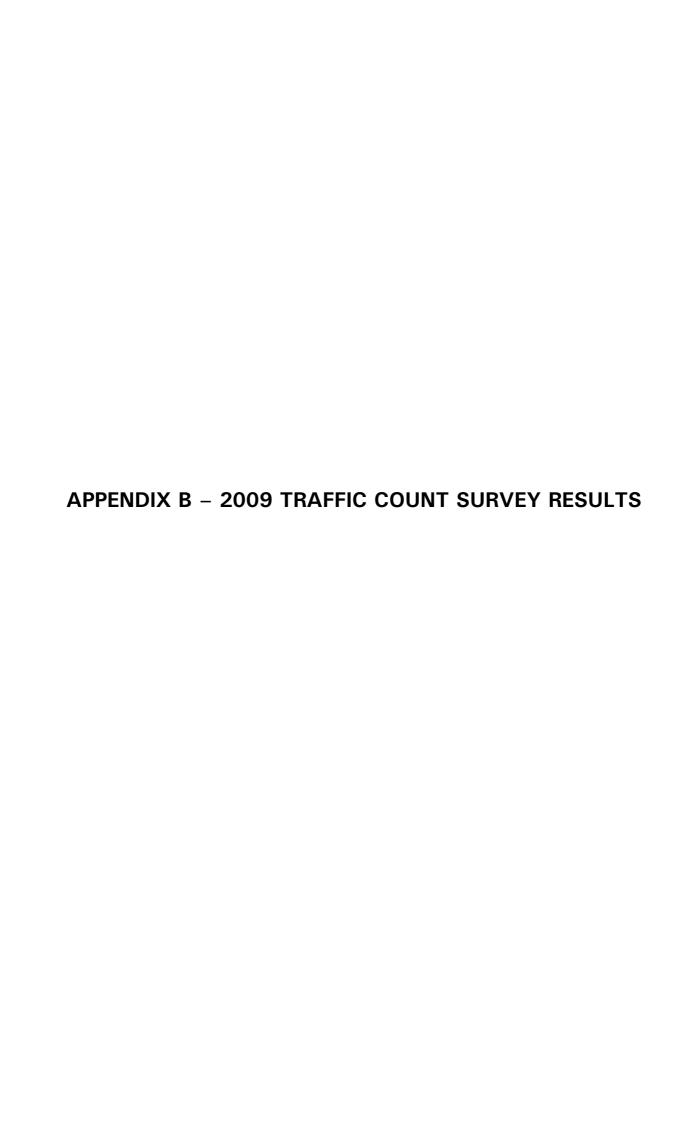
- Staffordshire County Council indicated that they would require the proposed development traffic increases at the A511/Harehedge Lane/Beamhill Road signal controlled crossroads junction to be tested using their model of this junction.
- Derbyshire County Council initially identified some alternative junctions that they
 may require testing as part of the assessment, however following more detailed
 discussions it was agreed that the junctions identified within the scoping note would
 be sufficient.

3) Proposed development traffic generation

 Staffordshire County Council noted that they would require the traffic generation calculations to take person trips into consideration as well as vehicle trips. It was also noted that the residential trip rate contained within the scoping note was very robust and could be reconsidered.

4) Access by sustainable modes

- Staffordshire County Council confirmed that agreed travel plans for both the residential and employment uses would be required as part of the planning application.
- It was also confirmed that all dwellings and offices within the development would need to be within 350 to 400 metres of a bus stop.



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08:25	90	0	0	20	0 0	0 40	0 25	15	5 0	25	0	0	17:25	10	0	0	35	0	0	65	0	0	0	40	0	0
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08:40	90	0	0	30	0 0	0 25	5 0	5	9	15	0	0	17:40	30	0	0	20	0	0	25	0	0	0	25	0	0
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08:55	85	0	0	09	0 0	0 15	5 0		0 0	15	0	0	17:55	10	0	0	25	0	0	25	0	0	0		0	0
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9:02	40	0	0	45	20 0	0 20	20 0	0	0 0	25	0	0	18:05	50	0	1	30	0	0	20	0	0	0		0	1
09:10	35	0	0	20		0 5	0 9	0	0 0	10	0	0	18:10	50	0	1	20	0	0	60	0	0	0		0	0
09:15	32	0	0	10	0 0	0 10	10 0	0	0 0	10	0	0	18:15	80	0	0	20	0	0	5	0	0	0		0	0
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Arrow denotes approach lane / distance represents length of queue left at lights following each phase.

Place: Date:		itbury 8/10/2009				ic enterin		Sunny / Ov Burton Roa	d Northbo	ound	Surv	rey Ref. No: nt:		09049								•	Pa	of: 4
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m)	Uttoxeter Road	4	10	5	5	5	0	10	5	5	5	5	5	10	15	5	5	10	5	5	5	5	0	5	20	10	5
Queue lengths (m)		Q	0	0	0	0	0	0	0	30	0	0	15	0	15	0	10	15	0	0	0	0	5	0	2	20	0
el ener	beoЯ noitst2	4	10	15	85	130	20	80	80	120	120	20	30	85	08	70	80	40	40	20	55	9	110	70	25	20	10
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Q Distance represents length of queue left at lights following each phase

Arrow denotes approach lane

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bnuodtse3	4	0	15	25	25	70	25	2	5	25	70	30	30	25	08	52	10	10	15	0	0	0	0	15	0	0
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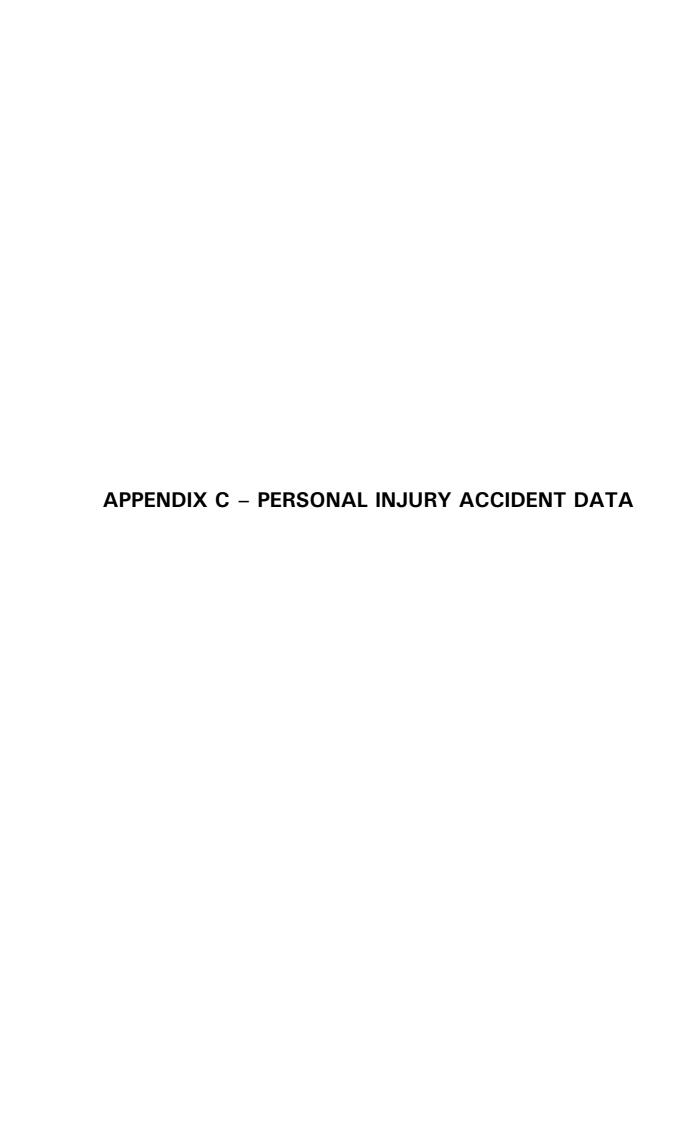
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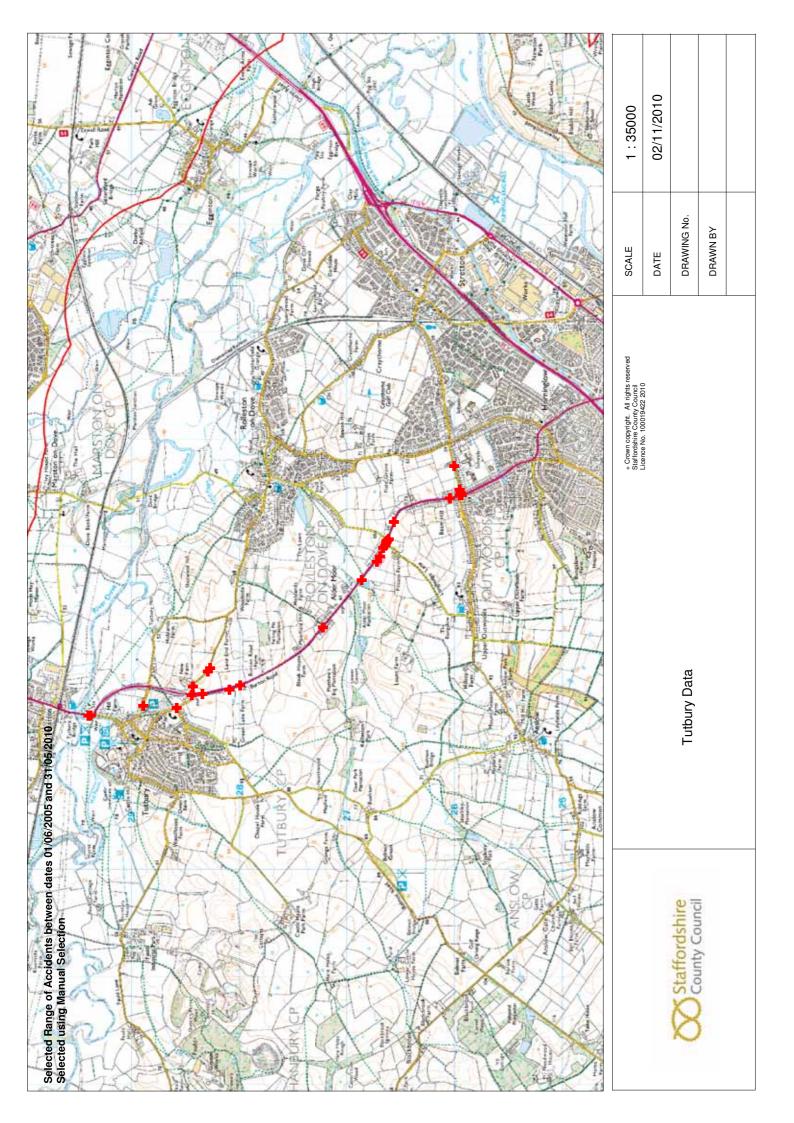
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Arrow denotes approach lane

Q Distance represents length of queue left at lights following each phase







Run on 02/11/2010

AccsMap - Accident Analysis System

Accidents between dates 01/06/2005 and 31/05/2010 (60) months

Selection: Notes:

Selected using Manual Selection

Acc. Ref. No: 05423099 **Road:** A 511 **Grid Reference:** 423010 326640

District Council:East StaffordshireTime:1700Friday08-July-2005

Lighting: Daylight: no street lighting Weather: Fine without high winds Speed limit: 50

Severity: SLIGHT Road surface Dry

Location: TUTBURY RD BURTON J/W LONGHEDGE LANE

The accident occured at a T or staggered junction on the A511, a single carriageway at its junction with the Unclassified22 controlled by a

give way or uncontrolled..

Special conditions and hazards: None

Vehicle 1 Car, travelling from S to N was turning right on the main carriageway. The vehicle was entering main road and collided with vehicle 2.

The male driver aged 29 lived in DE14.

Vehicle 2 Car, travelling from E to W was going ahead other on the main carriageway. The vehicle was approaching junction or waiting/parked at

junction approach and skidded and collided with vehicle 1. The male driver aged 30 lived in DE14.

Casualty 1 (Vehicle 2) A male driver aged 30 suffered a slight injury.

Contributory Factors

Vehicle 1 Road layout (eg bend, hill crest)

Acc. Ref. No: 05423534 **Road:** A 511 **Grid Reference:** 423450 326040

District Council: East Staffordshire Time: 1925 Monday 11-July-2005

Lighting: Daylight:street lights present **Weather:** Fine without high winds **Speed limit:** 30

Severity: SLIGHT Road surface Dry

Location: TUTBURY RD APPROX 100MTS N/TH J/W BEAMHILL RD

The accident occured on the A511, a single carriageway.

Special conditions and hazards: None

Vehicle 1 Car, travelling from S to NE was changing lane to right on the main carriageway. The vehicle was not at, or within 20M of a junction and

collided with vehicle 2. The male driver aged 28 lived in NE7.

Vehicle 2 Car, travelling from S to N was overtaking a moving vehicle on the offside on the main carriageway. The vehicle was not at, or within

20M of a junction and collided with vehicle 1.

The female driver of an unknown age lived in DE15 had regularly travelled through the site before.

Vehicle 3 Car, travelling from S to N was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction. The

female driver of an unknown age .

Vehicle 4 Car, travelling from S to N was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction. The

untraced driver of an unknown age .

Casualty 1 (Vehicle 2) A female driver age unknown suffered a slight injury.

Contributory Factors

Vehicle 1 Following too close

Vehicle 1 Aggressive driving

Vehicle 1 Careless/Reckless/In a hurry

Vehicle 3 Inexperienced or learner driver/rider

 Acc. Ref. No:
 05424406
 Road:
 A 511
 Grid Reference:
 421710
 327990

District Council:East StaffordshireTime:2051Tuesday19-July-2005Lighting:Daylight: no street lightingWeather:Fine without high windsSpeed limit:

Lighting: Daylight: no street lighting Weather: Fine without high winds Speed limit: 60

Severity: SLIGHT Road surface Dry

Location: BURTON RD TUTBURY APPROX 440 MTRS STH J\W ROLLESTON LANE

The accident occured on the A511, a single carriageway.

Special conditions and hazards: None

Vehicle 1 Car, travelling from S to N was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction and

skidded and overturned. The male driver aged 40.

Casualty 1 (Vehicle 1) A male driver aged 40 suffered a slight injury.

Contributory Factors

Vehicle 1 Exceeding speed limit

Vehicle 1 Loss of control

Vehicle 1 Impaired by alcohol

Vehicle 1 Careless/Reckless/In a hurry



Run on 02/11/2010

AccsMap - Accident Analysis System

Accidents between dates 01/06/2005 and 31/05/2010 (60) months

Selection: Notes:

Selected using Manual Selection

 Acc. Ref. No:
 06408420
 Road:
 C 58
 Grid Reference:
 423500
 325940

 District Council:
 East Staffordshire
 Time:
 1313
 Wednesday
 15-March-2006

Lighting: Daylight:street lights present Weather: Fine without high winds Speed limit: 30

Severity: SLIGHT Road surface Dry

Location: HAREHEDGE LANE APPROX 15MTS EAST OF TUTBURY RD BURTON ON TRENT

The accident occured at a T or staggered junction on the C58, a single carriageway at its junction with the A511 controlled by automatic traffic signal(s)..

Special conditions and hazards: None

Vehicle 1 Car, travelling from SE to NE was turning right on the main carriageway. The vehicle was leaving main road and skidded and collided

with vehicle 2. The male driver aged 27.

Vehicle 2 Car, travelling from NE to SW was going ahead other on the main carriageway. The vehicle cleared junction or waiting/parked at

junction exit and collided with vehicle 1. The female driver aged 43.

Vehicle 3 Car, travelling from SE to NE was turning right on the main carriageway. The vehicle was approaching junction or waiting/parked at

junction approach. The male driver aged 28 lived in ST18 had occasionally travelled through the site before.

Casualty 1 (Vehicle 1) A female pedestrian aged 18 suffered a slight injury0.

Casualty 2 (Vehicle 1) A male pedestrian aged 0 suffered a slight injury0.

Contributory Factors

Vehicle 1 Exceeding speed limit
Vehicle 1 Careless/Reckless/In a hurry

Vehicle 1 Stolen vehicle
Vehicle 1 Aggressive driving

Acc. Ref. No: 06411175 **Road:** A 511 **Grid Reference:** 421430 329400

District Council:East StaffordshireTime:0740Thursday13-April-2006

Lighting: Daylight:street lights present **Weather:** Fine without high winds **Speed limit:** 30

Severity: SLIGHT Road surface Dry

Location: BRIDGE ST BY FIRE STATION TUTBURY

The accident occured on the A511, a single carriageway.

Special conditions and hazards: None

Vehicle 1 Car, travelling from S to N was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction and

collided with vehicle 2. The male driver aged 71 lived in DE13 had regularly travelled through the site before.

Vehicle 2 Car, travelling from N to S was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction and

collided with vehicle 1. The male driver aged 78 lived in DE65 had regularly travelled through the site before.

Casualty 1 (Vehicle 2) A male driver aged 78 suffered a slight injury

Contributory Factors

Vehicle 1 Other

 Acc. Ref. No:
 06413173
 Road:
 A 511
 Grid Reference:
 421620
 328440

 District Council:
 East Staffordshire
 Time:
 0718
 Tuesday
 02-May-2006

Lighting: Daylight:street lights present Weather: Fine without high winds Speed limit: 60

Severity: SLIGHT Road surface Dry

Location: TUTBURY BY PASS J/W ROLLESTON LANE TUTBURY

The accident occured at a roundabout on the A511, at its junction with the Unclassified446 controlled by a give way or uncontrolled...

Special conditions and hazards: None

Vehicle 1 Car, travelling from N to SE was overtaking a moving vehicle on the offside on the main carriageway. The vehicle was entering

roundabout and skidded. The male driver aged 30 lived in DE13 had regularly travelled through the site before.

Casualty 1 (Vehicle 1) A male driver aged 30 suffered a slight injury.

Contributory Factors

Vehicle 1 Travelling too fast for conditions



Run on 02/11/2010

AccsMap - Accident Analysis System

Accidents between dates 01/06/2005 and 31/05/2010 (60) months

Selection: Notes:

Selected using Manual Selection

Acc. Ref. No: 07000402 Road: D 446 Grid Reference: 421870 328270 **District Council:** Time: 0031 Wednesday

03-January-2007 East Staffordshire Weather: Speed limit: Lighting: Darkness: no street lighting Other

Severity: SLIGHT Road surface Wet/Damp

Location: ROLLESTON LN APPROX 280 MTS S/TH R/BOUT J/W BURTON RD TUTBURY

The accident occured on the D446, a single carriageway .

Special conditions and hazards:

Vehicle 1 Car, travelling from SE to NW was going ahead on a right bend on the main carriageway. The vehicle was not at, or within 20M of a

junction and skidded. The female driver aged 42 lived in DE13.

(Vehicle 1) A female driver aged 42 suffered a slight injury. Casualty 1

Contributory Factors

Slippery road (due to weather) Vehicle 1

Vehicle 1 Loss of control

Acc. Ref. No: 07004967 Road: C 91 Grid Reference: 421520 328890 District Council: East Staffordshire Time: 1000 Sunday 18-February-2007

Speed limit: Lighting: Daylight: street lighting unknown Weather: Fine without high winds

Severity: Road surface SLIGHT Dry

Location: **CORNMILL LANE TUTBURY O/S24**

The accident occured on the C91, a single carriageway.

Special conditions and hazards: None

Car, travelling from W to E was reversing on the main carriageway. The vehicle was not at, or within 20M of a junction and collided with Vehicle 1

vehicle 2. The male driver aged 18 lived in DE65 had regularly travelled through the site before.

Car, travelling from NW to SE was stopping on the main carriageway. The vehicle was not at, or within 20M of a junction and collided with vehicle 1. The female driver aged 50 lived in DE13 had regularly travelled through the site before. Vehicle 2

Vehicle 3 Car, was going ahead but held up on the main carriageway. The vehicle was not at, or within 20M of a junction and collided with

vehicle 1. The untraced driver of an unknown age

Car, was going ahead but held up on the main carriageway. The vehicle was not at, or within 20M of a junction and collided with Vehicle 4

vehicle 1. The untraced driver of an unknown age

(Vehicle 2) A female driver aged 50 suffered a slight injury. Casualty 1

Contributory Factors

Vehicle 1 Travelling too fast for conditions

Vehicle 1 Impaired by alcohol Failed to look properly Vehicle 1

Acc. Ref. No: Road: C 58 Grid Reference: 07007383 423750 326000 District Council: East Staffordshire 0840 Tuesday 13-March-2007 Daylight:street lights present Weather: Fine without high winds Speed limit: Liahtina:

Severity: Road surface Drv

Location: HAREHEDGE LN ADJ NAJELUEM BARN B.O.T

The accident occured on the C58, a single carriageway.

Special conditions and hazards:

Vehicle 1 Car, travelling from W to E was overtaking a static vehicle on the offside on the main carriageway. The vehicle was not at, or within

20M of a junction. The male driver aged 46 lived in DE13.

Vehicle 2 Bus or coach, on the main carriageway. The vehicle was not at, or within 20M of a junction. The male driver aged 23 lived in DE14.

(Vehicle 1) A female pedestrian aged 13 suffered a slight injury9. Casualty 1

Contributory Factors

Casualty 1 Crossed road masked by stationary veh

Careless/Reckless/In a hurry Casualty 1



Run on 02/11/2010

AccsMap - Accident Analysis System

Accidents between dates 01/06/2005 and 31/05/2010 (60) months

Selection: Notes:

Selected using Manual Selection

Acc. Ref. No: 07007286 Road: Grid Reference: 423040 A 511 326630 **District Council:** Time: 0840 Tuesday 13-March-2007

East Staffordshire Speed limit: Lighting: Daylight: street lighting unknown Weather: Fine without high winds 50

Severity: SLIGHT Road surface Dry

Location: TUTBURY RD J/W ANSLOW LANE BOT

The accident occured at a T or staggered junction on the A511, a single carriageway at its junction with the Unclassified452 controlled by a

give way or uncontrolled...

Special conditions and hazards: None

Goods over 3.5 tonnes and under 7.5 tonnes mgw, travelling from SE to NW was going ahead other on the main carriageway. The Vehicle 1

vehicle was approaching junction or waiting/parked at junction approach and collided with vehicle 2.

The male driver aged 51 lived in TS9

Car, travelling from SE to NE was waiting to turn right on the main carriageway. The vehicle was approaching junction or waiting/parked Vehicle 2

at junction approach and collided with vehicle 1.

The female driver aged 39 lived in DE13 had regularly travelled through the site before.

Casualty 1 (Vehicle 2) A female driver aged 39 suffered a slight injury.

A male vehicle or pillion passenger aged 7 suffered a slight injury. Casualty 2 (Vehicle 2)

Contributory Factors

Vehicle 1 Failed to judge other persons path or speed

Acc. Ref. No: 07009838 Road: A 511 **Grid Reference:** 423050 326630 District Council: East Staffordshire Time: 1035 Sunday 15-April-2007

Lighting: Weather: Speed limit: Daylight:street lights present Fine without high winds 30

Severity: **SERIOUS** Road surface Dry

Location: TUTBURY RD ROLLESTON J/W ANDLOW LANE

The accident occured at a T or staggered junction on the A511, a single carriageway at its junction with the Unclassified452 controlled by a

give way or uncontrolled..

Special conditions and hazards: None

Vehicle 1 Car, travelling from SE to NW was going ahead other on the main carriageway. The vehicle was mid junction - on roundabout or main

road and skidded and collided with vehicle 3. The male driver of an unknown age . Vehicle 2

Motorcycle over 500cc, travelling from NW to SE was going ahead other on the main carriageway. The vehicle was approaching junction or waiting/parked at junction approach and collided with vehicle 1. The male driver aged 46 lived in WA3

Car, travelling from SE to NW was waiting to turn right on the main carriageway. The vehicle was mid junction - on roundabout or main Vehicle 3

road and collided with vehicle 1. The female driver aged 55 lived in DE13.

A male rider aged 46 suffered a slight injury. Casualty 1 (Vehicle 2) (Vehicle 2) A female vehicle or pillion passenger aged 36 suffered a serious injury. Casualty 2

Contributory Factors

Vehicle 1 Travelling too fast for conditions Vehicle 1 Careless/Reckless/In a hurry

Acc. Ref. No: Road: Grid Reference: 07010294 A 511 423070 326610

District Council: Time: East Staffordshire 1610 Friday 20-April-2007 Lighting: Weather: Fine without high winds Speed limit: Daylight: no street lighting

Severity: Road surface

TUTBURY RD APPROX 30 MTRS E J/W ANSLOW LANE Location:

The accident occured on the A511, a dual carriageway.

Special conditions and hazards: Any animal in carriageway (except ridden horse)

Motorcycle 50cc and under, travelling from SE to NW was going ahead other on the main carriageway. The vehicle was not at, or within Vehicle 1

20M of a junction. The male driver aged 16 lived in DE13 had occasionally travelled through the site before.

Casualty 1 A male rider aged 16 suffered a slight injury.

Contributory Factors

Vehicle 1 Animal or object in carriageway



Run on 02/11/2010

AccsMap - Accident Analysis System

Accidents between dates 01/06/2005 and 31/05/2010 (60) months

Selection: Notes:

Selected using Manual Selection

Grid Reference: Acc. Ref. No: 07017572 Road: 422690 A 511 326860

District Council: East Staffordshire Time: 02-July-2007 1620 Monday

Lighting: Daylight: no street lighting Weather: Fine without high winds Speed limit:

Severity: SLIGHT Road surface Drv

Location: TUTBURY RD J/W DRIVEWAY TO WYNDALE TUTBURY

The accident occured at a private drive on the A511, a single carriageway at its junction with the Unclassified0 controlled by a give way or

Special conditions and hazards: None

Vehicle 1 Car, travelling from NW to SE was going ahead other on footway. The vehicle was entering main road and collided with vehicle 2. The

male driver aged 35.

Vehicle 2 Pedal Cycle, travelling from SW to NE was going ahead other on footway. The vehicle was mid junction - on roundabout or main road

and skidded and collided with vehicle 1

The male driver aged 17 lived in DE13 had regularly travelled through the site before.

A male rider aged 17 suffered a slight injury. (Vehicle 2) Casualty 1

Acc. Ref. No: 07020054 Road: Grid Reference: 422860 326720

District Council: East Staffordshire Time: 1625 Monday 30-July-2007 Lighting: Weather: Fine without high winds

Daylight:street lights present Speed limit:

Severity: SLIGHT Road surface Drv

Location: TUTBURY RD 200 MTS N/TH J/W ANSLOW LN TUTBURY

The accident occured on the A511, a single carriageway

Special conditions and hazards: None

Vehicle 1 Car, travelling from N to SE was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction and

collided with vehicle 2. The male driver aged 26 lived in ST14 had regularly travelled through the site before.

Minibus, on the main carriageway. The vehicle was not at, or within 20M of a junction and collided with vehicle 1. The male driver aged Vehicle 2

60 lived in DE14 had regularly travelled through the site before.

A male driver aged 26 suffered a slight injury. Casualty 1

A female vehicle or pillion passenger aged 44 suffered a slight injury. Casualty 2 (Vehicle 2)

Contributory Factors

Vehicle 1 Failed to look properly

Vehicle 1 Careless/Reckless/In a hurry

Dazzling sun Vehicle 1

Acc. Ref. No: **Grid Reference:** 07020444 Road: A 511 422910 326690 District Council: East Staffordshire 1200 Sunday 05-August-2007

Lighting: Daylight: no street lighting Weather: Fine without high winds Speed limit:

Severity: Road surface

Location: TUTBURY RD APPROX 100MTS N/TH LONGHRDGE LN

The accident occured on the A511, a single carriageway.

Special conditions and hazards:

Vehicle 1 Car, travelling from NW to SE was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction and

collided with vehicle 2. The male driver aged 58 lived in DE13 had regularly travelled through the site before.

Motorcycle over 500cc, travelling from NW to SE was going ahead other on the main carriageway. The vehicle was not at, or within

20M of a junction and collided with vehicle 1.

The male driver aged 42 lived in DE13 had regularly travelled through the site before.

Casualty 1 (Vehicle 2) A male rider aged 42 suffered a slight injury. **Contributory Factors**

Vehicle 2

Vehicle 1 Aggressive driving

Vehicle 1 Illness or disability, mental or physical 50



Run on 02/11/2010

AccsMap - Accident Analysis System

Accidents between dates 01/06/2005 and 31/05/2010 (60) months

Selection: Notes:

Selected using Manual Selection

Acc. Ref. No: 07024121 Road: D 446 Grid Reference: 421700 328430 District Council: East Staffordshire Time: 1820 17-September-2007 Speed limit: Lighting: Daylight: no street lighting Weather: Fine without high winds

Severity: SLIGHT Road surface Wet/Damp

Location: ROLLESTON LN APPROX 60MTS EAST R/B J/W LODGE HILL TUTBURY

The accident occured on the D446, a single carriageway .

Special conditions and hazards:

Goods over 3.5 tonnes and under 7.5 tonnes mgw, travelling from W to SE was going ahead on a right bend on the main carriageway. Vehicle 1

The vehicle was not at, or within 20M of a junction and collided with vehicle 2. The male driver aged 25 lived in ST14

Vehicle 2 Car, travelling from SE to W was going ahead on a left bend on the main carriageway. The vehicle was not at, or within 20M of a

junction and collided with vehicle 1. The female driver aged 40 lived in DE15.

(Vehicle 2) A female driver aged 40 suffered a slight injury. Casualty 1

Contributory Factors

Vehicle 1 Inexperience of driving on the left

Vehicle 1 Other

Acc. Ref. No: Grid Reference: 08000615 Road: A 511 423480 325930 District Council: East Staffordshire Time: 1630 Friday 04-January-2008 Weather: Raining without high winds Speed limit: Lighting: Darkness: street lights present and lit 30

Severity: Road surface Wet/Damp SLIGHT

TUTBURY RD J/W HAREHEDGE LA ROLLESTON ON DOVE Location:

The accident occured at a T or staggered junction on the A511, a single carriageway at its junction with the C58 controlled by automatic traffic signal(s). There was a pedestrian phase at the traffic signal junction.

Special conditions and hazards: None

Car, travelling from S to N was going ahead other on the main carriageway. The vehicle was mid junction - on roundabout or main road. Vehicle 1

The female driver aged 58 lived in DE65 had regularly travelled through the site before.

Casualty 1 (Vehicle 1) A male pedestrian aged 45 suffered a slight injury9.

Contributory Factors

Casualty 1 Failed to look properly

Casualty 1 Wrong use of pedestrian crossing facility

D 446 Grid Reference: Acc. Ref. No: 08002585 Road: 421840 328290 **District Council:** Time: Saturday 26-January-2008 East Staffordshire 2037 Lighting: Weather: Fine without high winds Speed limit: Darkness: no street lighting 60

Severity: Road surface **FATAL** Wet/Damp

Location: ROLLESTON LN APPROX 250MTS S/TH BURTON RD TUTBURY

The accident occured on the D446, a single carriageway.

Special conditions and hazards: None

Car, travelling from SE to NW was going ahead on a right bend on the main carriageway. The vehicle was not at, or within 20M of a Vehicle 1

junction and collided with vehicle 2

The female driver aged 43 lived in DE13 had regularly travelled through the site before.

Car, travelling from NW to SE was going ahead on a left bend on the main carriageway. The vehicle was not at, or within 20M of a junction and collided with vehicle 1. The male driver aged 49 lived in DE65 had regularly travelled through the site before.

A female driver aged 43 suffered a fatal injury. Casualty 1

A female vehicle or pillion passenger aged 45 suffered a slight injury. Casualty 2 (Vehicle 2)

Casualty 3 (Vehicle 2) A male driver aged 49 suffered a slight injury.

Contributory Factors

Vehicle 2

Vehicle 1 Careless/Reckless/In a hurry



Run on 02/11/2010

AccsMap - Accident Analysis System

Accidents between dates 01/06/2005 and 31/05/2010 (60) months

Selection: Notes:

Selected using Manual Selection

Acc. Ref. No: 08003199 Road: Grid Reference: 423480 A 511 325950 **District Council:** Time: East Staffordshire 1115 Tuesday 29-January-2008 Speed limit: 30

Lighting: Daylight:street lights present Weather: Fine without high winds Severity:

Dry SLIGHT Road surface

Location: TUTBURY RD BURTON APPROX 6 MTRS NTH J/W HAREHEDGE LANE

The accident occured at a crossroads on the A511, a single carriageway at its junction with the C58 controlled by automatic traffic

signal(s). There was a pelican/puffin/toucan within 50 metres...

Special conditions and hazards: Road works

Vehicle 1 Car, travelling from N to S was going ahead other on the main carriageway. The vehicle was approaching junction or waiting/parked at

junction approach and collided with vehicle 2. The male driver of an unknown age lived in DE65.

Vehicle 2 Car, travelling from N to S was going ahead but held up on the main carriageway. The vehicle was approaching junction or

waiting/parked at junction approach and collided with vehicle 1. The male driver of an unknown age lived in DE15 had occasionally travelled through the site before.

(Vehicle 2) A male vehicle or pillion passenger aged 51 suffered a slight injury. Casualty 1

Contributory Factors

Vehicle 1 Failed to look properly Vehicle 1 Sudden braking

Acc. Ref. No: 08011221 Road: A 511 Grid Reference: 421670 328090

District Council: Wednesday East Staffordshire Time: 1330 28-May-2008

Speed limit: Lighting: Weather: Fine without high winds Daylight: no street lighting

Severity: Road surface **SERIOUS** Wet/Damp

LODGE HILL 320MTS SOUTH OF ROLLESTON LANE TUTBURY Location:

The accident occured on the A511, a dual carriageway.

Special conditions and hazards: None

Car, travelling from NW to SE was changing lane to right on the main carriageway. The vehicle was not at, or within 20M of a junction and skidded and collided with vehicle 2. The male driver aged 29 lived in DE15. Vehicle 1

Vehicle 2 Car, travelling from SE to NW was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction and

collided with vehicle 1. The female driver aged 36 lived in DE13 had regularly travelled through the site before.

Casualty 1 (Vehicle 2) A female driver aged 36 suffered a slight injury.

Casualty 2 (Vehicle 2) A female vehicle or pillion passenger aged 12 suffered a slight injury. Casualty 3 (Vehicle 2) A male vehicle or pillion passenger aged 14 suffered a slight injury. (Vehicle 2) A male vehicle or pillion passenger aged 23 suffered a slight injury. Casualty 4

Casualty 5 (Vehicle 1) A male driver aged 29 suffered a serious injury.

Contributory Factors

Vehicle 1 Travelling too fast for conditions

Vehicle 1 Impaired by alcohol

Vehicle 1 Impaired by drugs (illicit or medicinal) Vehicle 1 Illness or disability, mental or physical

Acc. Ref. No: 08015307 Road: D 446 Grid Reference: 421500 328580 District Council: East Staffordshire Time: 12-September-2008 0727 Friday

Weather: Fine without high winds Liahtina: Darkness: street lighting unknown Severity: Road surface SLIGHT Drv

Location: BURTON RD J/W IRONWALLS LN TUTBURY

The accident occured at a T or staggered junction on the D446, a single carriageway at its junction with the Unclassified344 controlled by a

give way or uncontrolled.

Vehicle 3

Special conditions and hazards: None

Motor Cycle over 125 cc and up to 500cc, travelling from SE to SW was overtaking a moving vehicle on the offside on the main Vehicle 1

carriageway. The vehicle was approaching junction or waiting/parked at junction approach and collided with vehicle 2. The male driver aged 19 lived in DE11 had regularly travelled through the site before.

Car, travelling from SW to SE was turning right on the main carriageway. The vehicle was entering main road and collided with vehicle 1. The female driver aged 60 lived in DE13 had regularly travelled through the site before. Vehicle 2

Other motor vehicle, travelling from SE to NW was going ahead other on the main carriageway. The vehicle was approaching junction or waiting/parked at junction approach.

The male driver aged 30 lived in DE14 had regularly travelled through the site before.

Casualty 1 (Vehicle 1) A male rider aged 19 suffered a slight injury. Speed limit:



Run on 02/11/2010

AccsMap - Accident Analysis System

Accidents between dates 01/06/2005 and 31/05/2010 (60) months

Selection: Notes:

Selected using Manual Selection

Acc. Ref. No: 08018754 Road: Grid Reference: 328340 A 511 421630 East Staffordshire **District Council:** Time: 19-December-2008 1830 Friday Speed limit: 60

Lighting: Darkness: no street lighting Weather: Fine without high winds

Severity: SLIGHT Road surface Drv

Location: LODGE HILL APPROX 70MTS SOUTH OF BURTON ROAD TUTBURY

The accident occured on the A511, a single carriageway .

Special conditions and hazards:

Vehicle 1 Car, travelling from S to N was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction. The

untraced driver of an unknown age .

(Vehicle 1) A male pedestrian aged 32 suffered a slight injury in carr back to traffic1. Casualty 1

Contributory Factors

Vehicle 1 Failed to judge other persons path or speed

Careless/Reckless/In a hurry Casualty 1

Casualty 1 Pedestrian wearing dark clothing at night

Acc. Ref. No: 09003414 Road: A 511 Grid Reference: 423480 325940

District Council: 14-April-2009 East Staffordshire Time: 0946 Tuesday

Lighting: Weather: Fine without high winds Speed limit: Daylight:street lights present 30

Severity: SLIGHT Road surface Dry

Location: TUTBURY RD.J/W HAREHEDGE LN .BURTON

The accident occured at a crossroads on the A511, a single carriageway at its junction with the C58 controlled by automatic traffic

signal(s). There was a pedestrian phase at the traffic signal junction.

Special conditions and hazards: None

Vehicle 1 Car, travelling from NW to E was turning left on the main carriageway. The vehicle was leaving main road and collided with vehicle 2.

The untraced driver of an unknown age.

Pedal Cycle, travelling from NW to SE was overtaking on the nearside on the main carriageway. The vehicle was mid junction - on roundabout or main road and collided with vehicle 1. The male driver aged 60 lived in DE. Vehicle 2

(Vehicle 2) A male rider aged 60 suffered a slight injury. Casualty 1

Contributory Factors

Vehicle 1 Failed to look properly

Grid Reference: Acc. Ref. No: 09003603 Road: A 511 423060 326620

District Council: East Staffordshire Time: 1636 Tuesday 28-April-2009 Lighting: Weather: Fine without high winds Speed limit: 40 Daylight: no street lighting

Severity: Road surface SLIGHT Drv

Location: TUTBURY RD APPROX 10MTRS SE J/W ANSLOW LANE

The accident occured at a T or staggered junction on the A511, a single carriageway at its junction with the Unclassified452 controlled by a

give way or uncontrolled.

Special conditions and hazards: None

Car, travelling from SE to NW was going ahead other on the main carriageway. The vehicle was approaching junction or waiting/parked Vehicle 1

at junction approach and collided with vehicle 2.

The male driver aged 20 lived in DE65 had regularly travelled through the site before. Car, travelling from SE to NE was stopping on the main carriageway. The vehicle was approaching junction or waiting/parked at junction approach and collided with vehicle 1. The female driver aged 40 lived in DE13. Vehicle 2

(Vehicle 2) A female driver aged 40 suffered a slight injury. Casualty 1

Contributory Factors

Vehicle 1 Failed to look properly



Run on 02/11/2010

AccsMap - Accident Analysis System

Accidents between dates 01/06/2005 and 31/05/2010 (60) months

Selection: Notes:

Selected using Manual Selection

Grid Reference: Acc. Ref. No: 09005158 Road: 422990 A 511 326660 **District Council:** Time: 29-June-2009 1205 Monday

East Staffordshire Weather: Speed limit: Lighting: Daylight: no street lighting Fine without high winds

Severity: SLIGHT Road surface Dry

Location: TUTBURY ROAD APPROX 16MTS NW J/W LONGHEDGE LANE BURTON

The accident occured at a private drive on the A511, a single carriageway at its junction with the Unclassified0 controlled by a give way or

Special conditions and hazards: None

Car, travelling from SE to NW was going ahead other on the main carriageway. The vehicle was approaching junction or waiting/parked Vehicle 1

at junction approach and collided with vehicle 2.

The male driver aged 27 lived in DE11 had regularly travelled through the site before.

Vehicle 2 Car, travelling from SE to NW was stopping on the main carriageway. The vehicle was approaching junction or waiting/parked at

junction approach and collided with vehicle 1. The male driver aged 38 lived in WS13.

Car, travelling from SE to NW was stopping on the main carriageway. The vehicle was approaching junction or waiting/parked at Vehicle 3

junction approach and collided with vehicle 2. The female driver aged 45 lived in DE65.
Car, travelling from SE to NW was stopping on the main carriageway. The vehicle was approaching junction or waiting/parked at Vehicle 4 junction approach and collided with vehicle 3. The female driver aged 27 lived in DE14.

Car, travelling from SE to NW was stopping on the main carriageway. The vehicle was approaching junction or waiting/parked at Vehicle 5

junction approach and collided with vehicle 4. The female driver aged 18 lived in DE11.

Car, travelling from SE to NE was turning right on the main carriageway. The vehicle was leaving main road. The untraced driver of an Vehicle 6

unknown age

(Vehicle 3) A female driver aged 45 suffered a slight injury. Casualty 1

Contributory Factors

Vehicle 1 Following too close Vehicle 2 Following too close Vehicle 3 Following too close Following too close Vehicle 4 Vehicle 5 Following too close

Acc. Ref. No: 09008291 Road: C 58 Grid Reference: 423530 325950 **District Council:** East Staffordshire Time: 1545 Thursday 05-November-2009 Lighting: Weather: Fine without high winds Speed limit: 30 Daylight:street lights present

Severity: SLIGHT Road surface

HAREHEDGE LANE APPROX 40MTS EAST OF TUTBURY ROAD BURTON Location:

The accident occured on the C58, a single carriageway There was a pedestrian phase at the traffic signal junction.

Special conditions and hazards: None

Vehicle 1 Car, travelling from SW to NE was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction. The

male driver aged 73 lived in DE17 had regularly travelled through the site before.

Casualty 1 (Vehicle 1) A male pedestrian aged 12 suffered a slight injury crossing from driver's offside masked1.

Contributory Factors

Casualty 1 Crossed road masked by stationary veh

Casualty 1 Careless/Reckless/In a hurry

Casualty 1 Failed to look properly



Run on 02/11/2010

AccsMap - Accident Analysis System

Accidents between dates 01/06/2005 and 31/05/2010 (60) months

Selection: Notes:

Selected using Manual Selection

Acc. Ref. No: 09008909 Road: Grid Reference: 422250 A 511 327220 East Staffordshire **District Council:** Time: 27-November-2009 2045 Speed limit: 50 Lighting: Darkness: no street lighting Weather: Fine without high winds

Severity: SERIOUS Road surface Dry

Location: LODGE HILL TUTBURY J/W SERVICE RD ENT OPP FIDDLERS LANE

The accident occured at a private drive on the A511, a single carriageway at its junction with the Unclassified0 controlled by a give way or

uncontrolled..

Special conditions and hazards: None

Vehicle 1 Car, travelling from NW to NW was performing a U-turn on the main carriageway. The vehicle was leaving main road and collided with

vehicle 2. The male driver aged 38 lived in LS12 had not travelled through the site before.

Vehicle 2 Motorcycle over 500cc, travelling from SE to NW was going ahead other on the main carriageway. The vehicle was mid junction - on

roundabout or main road and collided with vehicle 1.

The male driver aged 29 had regularly travelled through the site before.

Casualty 1 (Vehicle 2) A male rider aged 29 suffered a serious injury.

Contributory Factors

Vehicle 1 Junction overshoot
Vehicle 1 Poor turn or manoevre
Vehicle 1 Failed to look properly
Vehicle 1 Careless/Reckless/In a hurry

Acc. Ref. No: 10000214 Road: A 511 Grid Reference: 423230 326560 District Council: East Staffordshire Time: 0500 Saturday 09-January-2010 Lighting: Daylight:street lights present Weather: Other Speed limit: 50

Severity: SLIGHT Road surface Frost/Ice

Location: TUTBURY RD BURTON APPROX 182MTS SE J/W ANSLOW LANE

The accident occured on the A511, a single carriageway.

Special conditions and hazards: None

Vehicle 1 Car, travelling from NW to SE was going ahead other on the main carriageway. The vehicle was not at, or within 20M of a junction and

skidded. The male driver aged 22 lived in DE15.

Casualty 1 (Vehicle 1) A male driver aged 22 suffered a slight injury.

Contributory Factors

Vehicle 1 Slippery road (due to weather)
Vehicle 1 Travelling too fast for conditions

Vehicle 1 Impaired by alcohol

Acc. Ref. No: Grid Reference: 10002864 Road: A 511 421430 329380 **District Council:** East Staffordshire Time: 22-April-2010 1140 Thursday Weather: Fine without high winds Lighting: Speed limit: Daylight:street lights present 30

Severity: SLIGHT Road surface Dry

Location: BRIDGE ST.R/B J/W TUTBURY BYPASS TUTBURY.

The accident occured at a roundabout on the A511, a single carriageway at its junction with the A5011 controlled by a give way or

uncontrolled..

Special conditions and hazards: None

Vehicle 1 Car, travelling from N to S was overtaking a moving vehicle on the offside on the main carriageway. The vehicle was approaching

junction or waiting/parked at junction approach and collided with vehicle 2.

The male driver of an unknown age lived in DE15.

Vehicle 2 Pedal Cycle, travelling from N to S was going ahead other on the main carriageway. The vehicle was approaching junction or

waiting/parked at junction approach and collided with vehicle 1. The male driver aged 57 lived in DE3

Casualty 1 (Vehicle 2) A male rider aged 57 suffered a slight injury.



Jon Stokes Armstrong Stokes & Clayton Limited The Book Shop Chambers 54 King Street Southwell Nottinghamshire **NG25 0EN**

Derbyshire Constabulary

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Ask For: Our Ref.

Mrs Alison Morse (GEA)/HQI/IM/AM

Your Ref.

15th November 2010

Dear Jon

PERSONAL INJURY ACCIDENT DATA IN DERBYSHIRE

In reply to your recent request for personal injury accident data in Derbyshire, I am enclosing the data for the periods 01/08/2005 to 31/07/2010. The map shows the location and the text provides details of the accidents.

Thank you for the cheque for £120.00.

If you have any queries please do not hesitate to contact me.

Yours sincerely

Alison Morse

Planning and Performance Section





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Produced by the Information Management Section, Force Headquarters, Butterley Hall, Ripley, Derbyshire DE5 3RS

Severity Stant		00 3170772010	
Severity Slight Time 1200 Pirst Rd A5132 30 mph Northing 330682	****************	********	*******
Day	PEACROFT LANE	•	Easting 424749
Veh	Severity Slight Time 1200 Day Thu Weather FINE		Northina 330682
CAS	Date 04/08/2005 Surface DRY	Lighting DAY-LIGHTS	<u> </u>
1 CAR Overtaking on nearside E W 1 PEDESTRIAN N 16 S11 2 PSV Waitingt to go ahead E W 2 Cas			·
Reference D00063/05 Loc HillTon A50 WESTBOUND CARRIAGEWAY	1 CAR Overtaking on nearside E W	1 PRIFECTRIAN N 16 SIG	
Reference D00063/05 Loc HillTon A50 WESTBOUND CARRIAGEWAY	2 PSV Waiting to go ahead E W	*********	******
Severity Sight	Reference D000603/05 Loc - HILTON A50 WESTB	OUND CARRIAGEWAY	
Day		First Rd A50 70 mph	Easting 425552
Cas	Day Sun Weather FINE	Second Rd mph	
CAR	Date 21/08/2005 Surface DRY	Lighting DAY-NO LIGHTS	
2 CAR	Veh		
Reference D000756/05 Loc - HATTON A511 200 MTRS SOUTH J/W			
Reference D000756/05 Loc HATTON ASI1 200 MTRS SOUTH J/W	3 CAR Going ahead other E W	1 DRIVER 23 Sli	
DERBY ROAD Time	**************************************	*************************	******
Veh	~~~~~~~~~~~~~~~~~~~ DERBY ROAD		Easting 421701
Veh	Severity Serious Time 1550	First Rd A511 40 mph	220000
Veh	Date 16/10/2005 Surface DRY	secona ka	Northing 330649
CAR			
Reference	CAR Going ahead other S N	1 DEDECTRIAN 44 Cox	
Severity Slight Time 0830 First Rd A5132 60 mph Northing 329945	************	*********	******
Severity Slight Slight Surface DRY Surface DRY	Reference DUUU8UU/U5 Loc - HILTON A5132 EGG	INTON ROAD O/S	Easting 425877
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Cas	Day Sat Weather FINE Date 29/10/2005 Surface DRY	Second Rd 30 mph	Northing 329945
CAR			
Reference D000809/05		Cas 1 nprupp 26 cli	
EAST J/W WITHAM CLOSE	**********************************	*********	*******
Cas	Reference D000809/05 Loc - HILTON A5132 EGG	INTON ROAD 5 MTRS	Facting 425020
Cas	Severity Slight Time 1545	First Rd A5132 30 mph	Easting 425050
Cas	Day Mon Weather FINE	Second Rd U 30 mph	Northing 330603
CAR O/Take stry Veh on O/S SE NW 1 PEDESTRIAN N 14 Sli	Date 31/10/2003 Sullace DA1	Lighting DAI-LIGHTS	
Reference D000817/05 Loc - HATTON A511 STATION ROAD J/W DRIVEWAY TO NUMBER 170 Severity Slight Time 0800 First Rd A511 30 mph Day Wed Weather FINE Second Rd U 30 mph Northing 330370 Date 02/11/2005 Surface WET Lighting DAY-LIGHTS Veh Cas 1 CAR Turning Right E S 2 Going ahead other N S 1 DRIVER 32 Sli Reference D000887/05 Loc - HILTON MAIN STREET J/W MILL LANE Severity Slight Time 0900 First Rd C366 30 mph Day Tue Weather FINE Second Rd U 30 mph Northing 330634 Date 22/11/2005 Surface WET Lighting DAY-LIGHTS Veh Cas 1 CAR Turning Right E Second Rd U 30 mph Northing 330634 Date 22/11/2005 Surface WET Lighting DAY-LIGHTS Veh Cas 1 CAR Turning Right W S 1 DRIVER 24 Sli 2 CAR Going ahead other E W 3 CAR Waiting to turn Left S W	Veh	Cas	
Reference D000817/05	2 PSV Parked PKK PKK	I PEDESTRIAN N 14 511	
DRIVEWAY TO NUMBER 170 Easting 421657	**************	*****	*****
Severity Slight Time 0800 First Rd A511 30 mph Day Wed Weather FINE Second Rd U 30 mph Northing 330370 Date 02/11/2005 Surface WET Lighting DAY-LIGHTS Veh Cas 1 CAR Turning Right E S 2 Going ahead other N S 1 DRIVER 32 Sli ***********************************	DRIVEWAY TO NUMBE	R 170	Easting 421657
Veh Cas 1 CAR Turning Right E S 2 Going ahead other N S 1 DRIVER 32 Sli ***********************************	Severity Slight Time 0800	First Rd A511 30 mph	
Veh Cas 1 CAR Turning Right E S 2 Going ahead other N S 1 DRIVER 32 Sli ***********************************	Date 02/11/2005 Surface WET	Second Rd U 30 mph Liahtina DAY-LIGHTS	Northing 330370
CAR Turning Right E S Going ahead other N S 1 DRIVER 32 Sli ***********************************		~	
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3 CAR waiting to turn Left S w		1 DRIVER 24 Sli	
	2 CAR Going ahead other E W		

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Date	Slight Mon 28/11/2005		Surface	ICE		DAY-LIG	HTS	Northing	
Veh 1 CAR 2 CAR	Going ahead Going ahead	other other		E W N S	Cas 1 DRIVE	R	51 Sli		
	*********** D000213/06							*****	*****
~~~~~~~~	~~~~~~~~		SPOT SEI	RVICE STAT	TION			Easting	421581
Date	Slight Fri 17/03/2006		Surface	DRY	Lighting	DAY-LIG	HTS		
Veh 1 CAR 2 CAR	Turning Rig Going ahead	ht other		S E E W	Cas 1 DRIVE	R	20 Sli		
	**************************************							*****	*****
~~~~~~~~	~~~~~~~~							Easting	
Date	Slight Tue 23/05/2006		Surface	DRY	Lighting	DAY-NO	LIGHTS		
Veh	Going ahead				Cas				
Reference	D000494/06	Loc -	HILTON	A5132 DEF	RBY ROAD J/	W A50			
Severity Day	Slight Sun		T/I Time Weather	2000 UNKNOWN	First Rd Second Rd	A5132 A50	60 mph 30 mph	Easting Northing	
Date	02/07/2006		Surface	DRY	Lighting	DAY-UNK	NOWN		
Veh	T. 1775				Cas		· · · · · · · · · · · · · · · · · · ·		
1 CAR 2 M<125	O/Take move	Veh O	/s	NE NE NE SW	Cas 1 DRIVE	R	nk Sli	****	****
1 CAR 2 M<125 ********** Reference	O/Take move ************************************	Veh 0 *****	/S *******	NE NE NE SW *******	Cas 1 DRIVE ************************************	R *******	*****		
1 CAR 2 M<125 ********** Reference	O/Take move ************************************	Veh 0 *****	/S *******	NE NE NE SW *******	Cas 1 DRIVE ************************************	R *******	*****	******** Easting	
1 CAR 2 M<125 ******* Reference ~~~~~~ Severity Day Date	O/Take move ************** D000516/06 ~~~~~~~ Slight Sat 15/07/2006	Veh O ***** Loc -	/S ****** HILTON TO RAIL Time Weather Surface	NE NE NE SW ********* A5132 EG( NAY X/ING 1045 FINE DRY	Cas  1 DRIVE  **********  GINTON ROAD  First Rd  Second Rd  Lighting	R ******* PRIOR A5132 DAY-NO	**********  60 mph  mph  LIGHTS	Easting	426067 329584
1 CAR 2 M<125 ******* Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	O/Take move ******** D000516/06  Slight Sat 15/07/2006  Waiting to Going ahead	Veh O ***** Loc -  go ahe	/S ****** HILTON TO RAILUTIME Weather Surface	NE NE NE SW ********* A5132 EGG WAY X/ING 1045 FINE DRY  NW S NW S	Cas  1 DRIVE  **********  GINTON ROAD  First Rd  Second Rd  Lighting  Cas  1 PASSE	R ******* PRIOR A5132 DAY-NO	60 mph mph LIGHTS	Easting Northing	426067 329584
1 CAR 2 M<125 ******* Reference ~~~~~~~~~~~ Severity Day Date Veh 1 CAR 2 CAR ********	O/Take move ******** D000516/06 Slight Sat 15/07/2006 Waiting to Going ahead *******	Veh 0 ***** Loc -  go ahe R/H b *****	/S ****** HILTON TO RAIL Time Weather Surface ad end ******	NE NE NE SW ********* A5132 EG( NAY X/ING 1045 FINE DRY  NW S NW S ********	Cas  1 DRIVE  **********  GINTON ROAD  First Rd  Second Rd  Lighting  Cas  1 PASSE	R ******* PRIOR A5132 DAY-NO	60 mph mph LIGHTS	Easting Northing	426067 329584
1 CAR 2 M<125 ******* Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	O/Take move ********* D000516/06 Slight Sat 15/07/2006 Waiting to Going ahead ******** D000572/06	Veh 0 ***** Loc -  go ahe R/H b ****** Loc -	/S ****** HILTON TO RAILUTIME Weather Surface ad end ******** HILTON	NE NE SW ********* A5132 EGG WAY X/ING 1045 FINE DRY  NW S NW S *********	Cas  1 DRIVE  ***********  GINTON ROAD  First Rd  Second Rd  Lighting  Cas  1 PASSE	R ******* PRIOR A5132 DAY-NO NGER ******	**********  60 mph mph LIGHTS  6 Sli ********	Easting Northing	426067 329584 
1 CAR 2 M<125 ******* Reference ****** Severity Day Date	O/Take move ******** D000516/06 Slight Sat 15/07/2006 Waiting to Going ahead ******* D000572/06	Veh 0 ***** Loc -  go ahe R/H b ***** Loc -	/S ****** HILTON TO RAIL! Time Weather Surface ad end ******* HILTON	NE NE NE NE SW ***********************************	Cas  1 DRIVE  **********  GINTON ROAD  First Rd  Second Rd  Lighting  Cas  1 PASSE  ***********  First Rd	R ******* PRIOR A5132 DAY-NO NGER ******	60 mph mph LIGHTS 6 Sli ***********************************	Easting Northing  ********** Easting	426067 329584 
1 CAR 2 M<125 ******* Reference ****** Severity Day Date	O/Take move ******** D000516/06 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Veh O ***** Loc -  go ahe R/H b ***** Loc -	/S ****** HILTON TO RAIL! Time Weather Surface ad end ****** HILTON Time Weather Surface	NE NE NE SW ******** A5132 EGG WAY X/ING 1045 FINE DRY  NW S NW S ******* A50 (W) 1030 FINE DRY	Cas  1 DRIVE  **********  GINTON ROAD  First Rd Second Rd Lighting  Cas 1 PASSE  ********  First Rd Second Rd Lighting  Cas 1 DRIVE	PRIOR A5132 DAY-NO NGER ******* A50 DAY-NO	60 mph mph LIGHTS 6 Sli ********* 70 mph mph LIGHTS	Easting Northing  ***** Easting Northing	426067 329584 
1 CAR 2 M<125 ******** Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	O/Take move ******** D000516/06 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Veh 0 ***** Loc -  go ahe R/H b **** Loc -  other	/S ****** HILTON TO RAIL! Time Weather Surface ad end ******* HILTON Time Weather Surface	NE NE NE SW ********** A5132 EGG WAY X/ING 1045 FINE DRY  NW S NW S ******** A50 (W)  1030 FINE DRY  SE NW SE NW SE NW *********	Cas  1 DRIVE  ***********  GINTON ROAD  First Rd Second Rd Lighting  Cas 1 PASSE  ********  First Rd Second Rd Lighting  Cas 1 DRIVE	R ******* PRIOR A5132 DAY-NO NGER ******* A50 DAY-NO CR *********	60 mph mph LIGHTS 6 Sli ********* 70 mph mph LIGHTS 41 Sli ********	Easting Northing  ********  Easting Northing	426067 329584 
1 CAR 2 M<125 ******** Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	O/Take move ******** D000516/06 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Veh 0 ***** Loc -  go ahe R/H b **** Loc -  other	/S ****** HILTON TO RAIL! Time Weather Surface ad end ******* HILTON Time Weather Surface	NE NE NE SW ********** A5132 EGG WAY X/ING 1045 FINE DRY  NW S NW S ******** A50 (W)  1030 FINE DRY  SE NW SE NW SE NW *********	Cas  1 DRIVE  ***********  GINTON ROAD  First Rd Second Rd Lighting  Cas 1 PASSE  ********  First Rd Second Rd Lighting  Cas 1 DRIVE	R ******* PRIOR A5132 DAY-NO NGER ******* A50 DAY-NO CR *********	60 mph mph LIGHTS 6 Sli ********* 70 mph mph LIGHTS 41 Sli ********	Easting Northing  ********  Easting Northing	426067 329584 
1 CAR 2 M<125 ******** Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	O/Take move ********* D000516/06	Veh 0 ***** Loc -  other ***** Loc -	/S ****** HILTON TO RAILUTIME Weather Surface ad end ******* HILTON Time Weather Surface ******* HATTON HASSALL Time Weather	NE NE NE SW ********* A5132 EGG WAY X/ING 1045 FINE DRY  NW S NW S ******** A50 (W)  1030 FINE DRY  SE NW SE NW SE NW ******** A511 STA' ROAD 2025 FINE	Cas  1 DRIVE  ***********  First Rd Second Rd Lighting  Cas 1 PASSE  ********  First Rd Second Rd Lighting  Cas 1 DRIVE  *********  TION ROAD J  First Rd Second Rd	R ******* PRIOR A5132 DAY-NO NGER ******* A50 DAY-NO CR ********  A511 U	60 mph mph LIGHTS 6 Sli ********* 70 mph mph LIGHTS 41 Sli ********** 30 mph 30 mph	Easting Northing  ********  Easting Northing  *********  Easting Northing	426067 329584 
1 CAR 2 M<125 ******** Reference	O/Take move ********* D000516/06	Veh 0 ***** Loc -  go ahe R/H b **** Loc -  other  ***** Loc -	/S ****** HILTON TO RAILUTIME Weather Surface ad end ******* HILTON Time Weather Surface ******* HATTON HASSALL Time Weather Surface	NE NE NE SW ********* A5132 EGG WAY X/ING 1045 FINE DRY  NW S ******* A50 (W)  1030 FINE DRY  SE NW SE NW ******* A511 STA' ROAD 2025 FINE DRY	Cas  1 DRIVE  ***********  First Rd Second Rd Lighting  Cas 1 PASSE  ********  First Rd Second Rd Lighting  Cas 1 DRIVE  *********  TION ROAD J  First Rd Second Rd	R ******* PRIOR A5132 DAY-NO NGER ******* A50 DAY-NO CR ********  A511 U	60 mph mph LIGHTS 6 Sli ********* 70 mph mph LIGHTS 41 Sli ********** 30 mph 30 mph	Easting Northing  ********  Easting Northing  *********  Easting Northing	426067 329584 
1 CAR 2 M<125 ******** Reference ****** Severity Day Date	O/Take move ********* D000516/06	Veh O ***** Loc -  go ahe R/H b **** Loc -  other  the	/S ****** HILTON TO RAIL! Time Weather Surface ad end ******* HILTON Time Weather Surface ******* HATTON HASSALL Time Weather Surface	NE NE NE SW ********* A5132 EGG WAY X/ING 1045 FINE DRY  NW S ******* A50 (W) 1030 FINE DRY  SE NW SE NW ******* A511 STA' ROAD 2025 FINE DRY  E N	Cas  1 DRIVE **********  First Rd Second Rd Lighting  Cas 1 PASSE  ********  First Rd Second Rd Lighting  Cas 1 DRIVE  ********  TION ROAD J  First Rd Second Rd Lighting  Cas 1 DRIVE	R ******* PRIOR A5132 DAY-NO NGER *******  A50 DAY-NO CR *******  A511 U DARK-UN CNGER	60 mph mph LIGHTS 6 Sli ********* 70 mph mph LIGHTS 41 Sli ********* 30 mph 30 mph 30 mph 31 MNOWN	Easting Northing  *******  Easting Northing  ********  Easting Northing	426067 329584 

					**********			*****	******
~~~~~~~~	D000205/07		BRIDGE					Easting	421493
Severity Day	Slight Sat 17/03/2007		Time Weather	1300 FINE	First Rd Second Rd	A511	30 mph mph	Northing	329679
pate	1//03/200/		Surrace			DAY-LIGF	115		
Veh 1 CAR	Going ahead	other		S N	Cas 1 PEDES:		20 Sli	******	*****
Reference	0000282/07	Loc -	НАТТОМ	DERBY ROZ	an app 19 M	TRS EAST			
Severity	Slight		FROM J/V	STATION	ROAD O/S TH	HE SALT	40 mph	Easting	421725
Day Date	Slight Sat 14/04/2007		Weather Surface	FINE DRY	Second Rd Lighting	A511 DAY-LIGH	30 mph 3TS	Northing	330848
1 CAR 2 CAR	Waiting to Going ahead	go ahea other	ad	E W E W	1 DRIVE	R	31 Sli		
*****	**************************************	****	*****		* * * * * * * * * * * * * * * * * * * *		*****	*****	******
~~~~~~~	~~~~~~~	200	TRAFFIC	ISLAND			<b></b>	Easting	425349
Severity Day Date	Slight Tue 01/05/2007		Time Weather Surface	1805 FINE DRY	First Rd Second Rd Lighting	A50 A516 DAY-LIGH	60 mpn 30 mph HTS	Northing	331112
		*** *** *** *** *** ***							
Veh 1 CAR	Waiting to	turn Le	eft	SE SW	Cas				
2 CAR	Starting ********	*****	*****	SE SW	1 DRIVE	R ******	44 Sli *****	*****	*****
Reference	D000373/07	Loc -	HILTON	A516 DER	BY ROAD J/W	LAYBY		Easting	
Severity Day	Slight Tue 15/05/2007		Time Weather	0930 RAIN	First Rd Second Rd	A516 U	60 mph 30 mph	Northing	331473
Date	15/05/200/		Suriace	MET.	erduting	DAI-NU J	FIGHI2		
Veh									
	Coing shood	other		NIE SW	Cas				
1 G<3.5	Going ahead Going ahead	other other		NE SW SW NE					
1 G<3.5 2 G<3.5 3 CAR	Going ahead	other other		SW NE SW NE	Cas				
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5	Going ahead Going ahead Waiting to	other other turn R	ight	SW NE SW NE NE NW	Cas	R	32 Sli		
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5	Going ahead Going ahead Waiting to	other other turn R:	ight ******	SW NE SW NE NE NW	Cas 1 DRIVE	R *****	32 Sli	*****	*****
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5	Going ahead Going ahead Waiting to	other other turn R:	ight ******** HATTON HASSALI.	SW NE SW NE NE NW  *********  A511 STA	Cas  1 DRIVE  ************* TION ROAD J	R ***********/W	32 Sli ******	******* Easting	
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5 ************************************	Going ahead Going ahead Waiting to  *********  D000375/07  Slight	other other turn R: ****** Loc -	ight ******* HATTON HASSALL Time	SW NE SW NE NE NW  ******* A511 STA' ROAD 1235	Cas  1 DRIVE  ********* TION ROAD J  First Rd	R ******* /W A511	32 Sli *********	Easting	421643
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5 ************************************	Going ahead Going ahead Waiting to  *********  D000375/07  Slight Tue 15/05/2007	other other turn R: ****** Loc -	ight ******* HATTON HASSALL Time Weather	SW NE SW NE NE NW  ******** A511 STA' ROAD 1235 FINE WETT	Cas  1 DRIVE  ********  TION ROAD J  First Rd Second Rd Lighting	*******/W  A511 U DAY-LIG	32 Sli ********  30 mph 30 mph	Easting Northing	421643 330276
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5 ************************************	Going ahead Going ahead Waiting to  *********  D000375/07  ~~~~~~~  Slight Tue  15/05/2007	other other turn R:	ight  *******  HATTON  HASSALL  Time  Weather  Surface	SW NE SW NE NE NW  ********  A511 STA' ROAD 1235 FINE WET	Cas  1 DRIVE  ********  TION ROAD J  First Rd Second Rd Lighting	*******/W  A511 U DAY-LIG	32 Sli ********  30 mph 30 mph	Easting Northing	421643 330276
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5 ************************************	Going ahead Going ahead Waiting to  *********  D000375/07  Slight Tue 15/05/2007	other other turn R:	ight  *******  HATTON  HASSALL  Time  Weather  Surface	SW NE SW NE NE NW  ********  A511 STA  ROAD 1235 FINE WET	Cas  1 DRIVE  ********  TION ROAD J  First Rd Second Rd Lighting  Cas	*******/ /W A511 U DAY-LIG	32 Sli ********  30 mph 30 mph HTS	Easting Northing	421643 330276
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5 ************************************	Going ahead Going ahead Waiting to  *********  D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to  *********	other other turn R: ***** Loc -  other turn R: *****	ight  *******  HATTON  HASSALL  Time  Weather  Surface   ight  *******	SW NE SW NE NE NW  *********  A511 STA' ROAD 1235 FINE WET  S N S E  ********	Cas  1 DRIVE  ***********  TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE  *********	**************************************	32 Sli ********  30 mph 30 mph HTS	Easting Northing	421643 330276
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5 ************************************	Going ahead Going ahead Waiting to  ********* D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to  ********* D000480/07	other other turn R:  ***** Loc -  other turn R:  ***** Loc -	ight  *******  HATTON  HASSALL  Time  Weather  Surface   ight  *********	SW NE SW NE NE NW  ********  A511 STA' ROAD 1235 FINE WET  S N S E  *********  A511 STA'	Cas  1 DRIVE  ********* TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE	********  A51.1  U  DAY-LIG!   R  ********	32 Sli *********  30 mph 30 mph HTS 37 Sli ********	Easting Northing	421643 330276 
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5 ************************************	Going ahead Going ahead Waiting to  ********* D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to ******** D000480/07	other other turn R:  ***** Loc -  other turn R:  ***** Loc -	ight ******* HATTON HASSALL Time Weather Surface ight ******* HATTON DRIVEWA	SW NE SW NE NE NW  ******** A511 STA' ROAD 1235 FINE WET  S N S E ******* A511 STA' Y TO NO. 0817	Cas  1 DRIVE  *********  TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE  *********  TION ROAD J  199 First Rd	******** /W  A511 U DAY-LIGH R ******** /W	32 Sli *********  30 mph 30 mph HTS 37 Sli *********	Easting Northing ********** Easting	421643 330276  *******************************
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5  ******** Reference Severity Day Date Veh 1 G>7.5 2 CAR ******* Reference Severity Day	Going ahead Going ahead Waiting to  ********** D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to  ******** D000480/07  Slight Mon 11/06/2007	other turn R:  ***** Loc -  other turn R:  **** Loc -	ight ******* HATTON HASSALL Time Weather Surface ight ******* HATTON DRIVEWA Time Weather Surface	SW NE SW NE NE NW  ******** A511 STA' ROAD 1235 FINE WET  S N S E ****** A511 STA' Y TO NO. 0817 FINE DBY	Cas  1 DRIVE  ********* TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE  ********* TION ROAD J 199 First Rd Second Rd Lighting	******** /W  A511 U DAY-LIGH R ******* /W  A511 U DAY-LIGH	32 Sli  ********  30 mph 30 mph HTS  37 Sli  ********  40 mph mph HTS	Easting Northing  ****** Easting Northing	421643 330276  ************* 421709 330801
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5  ******** Reference	Going ahead Going ahead Waiting to  ********* D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to ******** D000480/07	other turn R:  ***** Loc -  other turn R:  **** Loc -	ight ******* HATTON HASSALL Time Weather Surface ight ******* HATTON DRIVEWA Time Weather Surface	SW NE SW NE NE NW  ******** A511 STA' ROAD 1235 FINE WET  S N S E ****** A511 STA' Y TO NO. 0817 FINE DBY	Cas  1 DRIVE  *********  TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE  *********  TION ROAD J  199 First Rd Second Rd Lighting	******** /W  A511 U DAY-LIGH R ******* /W  A511 U DAY-LIGH	32 Sli  ********  30 mph 30 mph HTS  37 Sli  ********  40 mph mph HTS	Easting Northing  ****** Easting Northing	421643 330276  ************* 421709 330801
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5 ************************************	Going ahead Going ahead Waiting to  ************ D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to  ********* D000480/07  Slight Mon 11/06/2007	other other turn R: ***** Loc -  other turn R: ***** Loc -	ight ****** HATTON HASSALL Time Weather Surface  ight ****** HATTON DRIVEWA Time Weather Surface	SW NE SW NE NE NW  ********  A511 STA' ROAD 1235 FINE WET  S N S E *******  A511 STA' Y TO NO. 0817 FINE DRY  W E	Cas  1 DRIVE  ********* TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE  ********* TION ROAD J 199 First Rd Second Rd Lighting  Cas  Lighting  Cas	******** /W  A511 U DAY-LIGH	32 Sli *********  30 mph 30 mph HTS  37 Sli *********  40 mph mph HTS	Easting Northing  ******* Easting Northing	421643 330276  ************ 421709 330801
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5 ************************************	Going ahead Going ahead Waiting to  ************ D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to  ********* D000480/07  Slight Mon 11/06/2007	other other turn R: ***** Loc -  other turn R: ***** Loc -	ight ****** HATTON HASSALL Time Weather Surface  ight ****** HATTON DRIVEWA Time Weather Surface	SW NE SW NE NE NW  ********  A511 STA' ROAD 1235 FINE WET  S N S E *******  A511 STA' Y TO NO. 0817 FINE DRY  W E	Cas  1 DRIVE  ********* TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE  ********* TION ROAD J 199 First Rd Second Rd Lighting  Cas  Lighting  Cas	******** /W  A511 U DAY-LIGH	32 Sli *********  30 mph 30 mph HTS  37 Sli *********  40 mph mph HTS	Easting Northing  ******* Easting Northing	421643 330276  ************ 421709 330801
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5  ******** Reference	Going ahead Going ahead Waiting to  ********** D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to  ******** D000480/07  Slight Mon 11/06/2007  Reversing Waiting to  ******** D000656/07	other other turn R:  ***** Loc -  other turn R: ***** Loc -	ight  *******  HATTON  HASSALL  Time  Weather  Surface  ight  *******  HATTON  DRIVEWA  Time  Weather  Surface  ad  ********	SW NE SW NE NE NW  ********  A511 STA' ROAD 1235 FINE WET  S N S E *******  A511 STA' Y TO NO. 0817 FINE DRY  W E S N *******  A516 T/I	Cas  1 DRIVE  *********** TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE  ********** TION ROAD J 199 First Rd Second Rd Lighting  Cas  1 DRIVE	********  A511 U DAY-LIGH  R ********  DAY-LIGH  R ********	32 Sli  *********  30 mph 30 mph HTS  37 Sli  *********  40 mph mph HTS  16 Sli  *********	Easting Northing  ******* Easting Northing  ********	421643 330276  ******************************
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5  ******** Reference	Going ahead Going ahead Waiting to  ********** D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to  ******** D000480/07  Slight Mon 11/06/2007  Reversing Waiting to  ******** D000656/07	other other turn R:  ***** Loc -  other turn R: ***** Loc -	ight  *******  HATTON  HASSALL  Time  Weather  Surface  ight  *******  HATTON  DRIVEWA  Time  Weather  Surface  ad  ********	SW NE SW NE NE NW  ********  A511 STA' ROAD 1235 FINE WET  S N S E *******  A511 STA' Y TO NO. 0817 FINE DRY  W E S N *******  A516 T/I	Cas  1 DRIVE  *********** TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE  ********** TION ROAD J 199 First Rd Second Rd Lighting  Cas  1 DRIVE	********  A511 U DAY-LIGH  R ********  DAY-LIGH  R ********	32 Sli  *********  30 mph 30 mph HTS  37 Sli  *********  40 mph mph HTS  16 Sli  *********	Easting Northing  ******* Easting Northing  ********	421643 330276  ******************************
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5  ******** Reference	Going ahead Going ahead Waiting to  ********** D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to  ******** D000480/07  Reversing Waiting to  ******** D000656/07  Slight Mon 20/08/2007	other other turn R: ***** Loc -  other turn R ***** Loc -	ight ******* HATTON HASSALL Time Weather Surface  ight ******* HATTON DRIVEWA Time Weather Surface  ad ******* HILTON ROAD Time Weather Surface	SW NE SW NE NE NW  ********  A511 STA' ROAD 1235 FINE WET  S N S E *******  A511 STA' Y TO NO. 0817 FINE DRY  W E S N ******  A516 T/I  0544 FINE DRY	Cas  1 DRIVE  *********  TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE  ********  TION ROAD J  199 First Rd Second Rd Lighting  Cas  1 DRIVE  *******  JW A50 (W  First Rd Second Rd Lighting	R  ******  A511 U DAY-LIGI  R  ******  A511 U DAY-LIGI  A511 U DAY-LIGI  A511 U DAY-LIGI  A516 A50 DAY-LIG	32 Sli  ********  30 mph 30 mph HTS  37 Sli  ********  40 mph mph HTS  16 Sli  *********  60 mph 30 mph HTS	Easting Northing  ******* Easting Northing  ******** Easting Northing	421643 330276 ************************************
1 G<3.5 2 G<3.5 3 CAR 4 G<3.5 ******** Reference ******* ****** ****** Reference ******* ***** ****** Reference ******* ***** ****** ***** ***** ***** ****	Going ahead Going ahead Waiting to  *********  D000375/07  Slight Tue 15/05/2007  Going ahead Waiting to  ********  D000480/07  Slight Mon 11/06/2007  Reversing Waiting to  *******  D000656/07  Slight Mon Slight Mon	other other turn R:  ***** Loc -  other turn R:  ***** Loc -	ight ******* HATTON HASSALL Time Weather Surface  HATTON DRIVEWA Time Weather Surface  ad ****** HILTON ROAD Time Weather Surface	SW NE SW NE NE NW  *******  A511 STA' ROAD 1235 FINE WET  S N S E *******  A511 STA' Y TO NO. 0817 FINE DRY  W E S N *******  A516 T/I 0544 FINE DRY	Cas  1 DRIVE  ********** TION ROAD J  First Rd Second Rd Lighting  Cas  1 DRIVE  ********* TION ROAD J  199 First Rd Second Rd Lighting  Cas  1 DRIVE  *********  J/W A50 (W  First Rd Second Rd Lighting  Cas  1 DRIVE	******** /W  A511 U DAY-LIGH	32 Sli  ********  30 mph 30 mph HTS  37 Sli  ********  40 mph mph HTS  16 Sli  *********  60 mph 30 mph HTS	Easting Northing  ******* Easting Northing  ******** Easting Northing	421643 330276 ************************************

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	D000697/07						*****	******	*****
Severity	Cliaht		TREE ROA		First Rd	n G 1 1	30 mph	Easting	421658
Day	Tue 04/09/2007		Weather	FINE	Second Rd	U	30 mph	Northing	330378
Date	04/09/2007		Surface	DRY	Lighting	DAY-LIG	HTS		
Veh					Cas				
1 M<125 2 CAR	O/Take stry	Veh oi	n O/S	S N	1 DRIVE	R	27 Sli		
3 OMV	Turning Right Waiting to	go ahea	ad	S N					
*****	************* D000739/07	****	*****	******			*****	*******	*****
~~~~~~~			TREE ROA	AD.				Easting	
Severity Day	Serious Tue		Time	1540 ETME	First Rd Second Rd	A511	30 mph	Northina	330370
Date	18/09/2007		Surface	DRY	Lighting	DAY-LIG	HTS		
Veh					Cas				
	Waiting to	turn R	ight	W S	Cas				
2 M>125	Waiting to to Going ahead	other	*****	S N	1 DRIVE	R *****	72 Ser	******	*****
Reference	D000791/07	Loc -	HATTON -	- SCROPTON	ROAD O/S				
Savarity	ratal		METHODIS	ST CHURCH	First Dd	C36	30 mph	Easting	421392
Day	Fatal Wed		Weather	FINE	First Rd Second Rd	C36	nqm oc	Northing	329842
Date	03/10/2007		Surface	DRY	Lighting	DAY-LIG	HTS		
Veh					Cas				
1 G<3.5	Going ahead	other		E W	יינט דרות 1	D	CO Dat		
Z OMV	Going ahead Going ahead	*****	*****	**********	******** T DKTAD	X ******	00 rac ******	*****	*****
Reference	D000850/07	Loc -	HOON DI	ERBY ROAD	NEAR HOON	LANE			400050
Severity	Slight Sat		Time	0715	First Rd Second Rd	C366	60 mph	Easting	
Day	Sat 27/10/2007		Weather	RAIN	Second Rd	DADK IIN	mph	Northing	330733
							 mr 1		
Veh 1 CAR	Olmaka atru	Vob o	0/0	P W	Cas				
2 CAR	Coing aboad	ven or	1 0/3						
	GOING anead	other		WE	1 DRIVE	R	37 Sli		
3 PSV	Parked			E W W E PKK PKK			.	****	****
3 PSV		*****	*****	PKK PKK	******	******	.	*****	*****
3 PSV ******* Reference	Parked ********** D000932/07	****** Loc -	******** HATTON - DRIVEWAY	PKK PKK ********* - A511 STA Y TO NO 75	**************************************	****** J/W	*****	Easting	
3 PSV ******* Reference ~~~~~ Severity	Parked ************************************	****** Loc -	******** HATTON - DRIVEWAY	PKK PKK ********* - A511 STA / TO NO 75 0630	*********** ATION ROAD First Rd	******* J/W A511	**************************************	Easting	421622
3 PSV ******* Reference ~~~~~~ Severity Day	Parked ************************************	****** Loc -	********* HATTON - DRIVEWAY Time Weather	PKK PKK ********** - A511 STA / TO NO 75 0630 RAIN	********** ATION ROAD First Rd Second Rd	******* J/W A511	********* 30 mph 30 mph	Easting Northing	421622 330133
3 PSV ******* Reference ~~~~~~ Severity Day	Parked ************************************	****** Loc -	********* HATTON - DRIVEWAY Time Weather	PKK PKK ********** - A511 STA / TO NO 75 0630 RAIN WET	********** ATION ROAD First Rd Second Rd	******* J/W A511	********* 30 mph 30 mph	Easting Northing	421622 330133
3 PSV ******* Reference ~~~~~~ Severity Day Date ———— Veh 1 CAR	Parked ********** D000932/07 Slight Tue 13/11/2007 Starting	c -	HATTON - DRIVEWAY Time Weather Surface	PKK PKK ******** - A511 STA / TO NO 75 0630 RAIN WET	First Rd Second Rd Lighting	******* J/W A511 DARK-LI	********** 30 mph 30 mph T	Easting Northing	421622 330133
3 PSV ******** Reference ~~~~~~~ Severity Day Date Veh 1 CAR 2 CAR	Parked ************* D000932/07 Slight Tue 13/11/2007	Loc -	HATTON - DRIVEWAY Time Weather Surface	PKK PKK ******** - A511 STA / TO NO 75 0630 RAIN WET W E S N	First Rd Second Rd Lighting Cas 1 PASSE	******* J/W A511 DARK-LI	********* 30 mph 30 mph T	Easting Northing	421622 330133
3 PSV ******* Reference Severity Day Date Veh 1 CAR 2 CAR *******	Parked ************************************	other	HATTON - DRIVEWAY Time Weather Surface	PKK PKK ******** - A511 STA / TO NO 75 0630 RAIN WET	TION ROAD First Rd Second Rd Lighting Cas 1 PASSE	****** J/W A511 DARK-LI NGER ******	********* 30 mph 30 mph T	Easting Northing	421622 330133
3 PSV ******* Reference Severity Day Date Veh 1 CAR 2 CAR *******	Parked ************************************	other	HATTON - DRIVEWAY Time Weather Surface	PKK PKK ******** - A511 STA / TO NO 75 0630 RAIN WET	TION ROAD First Rd Second Rd Lighting Cas 1 PASSE	****** J/W A511 DARK-LI NGER ******	********* 30 mph 30 mph T	Easting Northing ********* Easting	421622 330133 *********** 425021
3 PSV ******* Reference Severity Day Date	Parked ************* D000932/07 Slight Tue 13/11/2007 Starting Going ahead ********** D000167/08 Slight Thu	other	HATTON - DRIVEWAY Time Weather Surface HILTON WITHAM (Time Weather	PKK PKK ******** - A511 STA / TO NO 75 0630 RAIN WET W E S N ******* A5132 EGG CLOSE 0815 FINE	First Rd Second Rd Lighting Cas 1 PASSE EXAMPLE ROAD First Rd Second Rd A Lighting	******* J/W A511 DARK-LI NGER ****** J/W A5132 U	********* 30 mph 30 mph T 28 Sli ********* 30 mph 30 mph	Easting Northing ******* Easting Northing	421622 330133
3 PSV ******* Reference Severity Day Date	Parked ********** D000932/07 Slight Tue 13/11/2007 Starting Going ahead *********	other	HATTON - DRIVEWAY Time Weather Surface HILTON WITHAM (Time Weather	PKK PKK ******** - A511 STA / TO NO 75 0630 RAIN WET W E S N ******* A5132 EGG CLOSE 0815 FINE	First Rd Second Rd Lighting Cas 1 PASSE EXAMPLE ROAD First Rd Second Rd A Lighting	******* J/W A511 DARK-LI NGER ****** J/W A5132 U	********* 30 mph 30 mph T 28 Sli ********* 30 mph 30 mph	Easting Northing ******* Easting Northing	421622 330133
3 PSV ******* Reference Severity Day Date	Parked ************************************	other	HATTON - DRIVEWAY Time Weather Surface HILTON WITHAM (Time Weather Surface	PKK PKK ******** - A511 STA / TO NO 75 0630 RAIN WET	First Rd Second Rd Lighting Cas 1 PASSE EXAMPLE ROAD First Rd Second Rd A Lighting	******* J/W A511 DARK-LI NGER ****** J/W A5132 U	********* 30 mph 30 mph T 28 Sli ********* 30 mph 30 mph	Easting Northing ******* Easting Northing	421622 330133
3 PSV ******* Reference Severity Day Date	Parked ************************************	other	HATTON - DRIVEWAY Time Weather Surface	PKK PKK ******** - A511 STA / TO NO 75 0630 RAIN WET	First Rd Second Rd Lighting Cas 1 PASSE *********** FINTON ROAD First Rd Second Rd Lighting Cas	******* J/W A511 DARK-LI NGER ****** J/W A5132 U DAY-LIG	30 mph 30 mph T 28 Sli ************************************	Easting Northing ******* Easting Northing	421622 330133 ************ 425021 330606
3 PSV ******* Reference Severity Day Date	Parked ***********************************	other Loc - other ther ther ther ther ther ther ther	HATTON - DRIVEWAY Time Weather Surface HILTON WITHAM (Time Weather Surface	PKK PKK ********* - A511 STA / TO NO 75 0630 RAIN WET	First Rd Second Rd Lighting Cas 1 PASSE ***********************************	******* J/W A511 DARK-LI NGER ****** J/W A5132 U DAY-LIG	30 mph 30 mph T 28 Sli ************************************	Easting Northing ******** Easting Northing	421622 330133 ************ 425021 330606
3 PSV ******* Reference Severity Day Date	Parked ************************************	other Loc -	HATTON - DRIVEWAY Time Weather Surface	PKK PKK ********* - A511 STA Y TO NO 75 0630 RAIN WET	First Rd Second Rd Lighting Cas 1 PASSE *********** GINTON ROAD First Rd Second Rd Lighting Cas 1 DRIVE ********** J/W A516	****** J/W A511 DARK-LI DARK-LI NGER ******* J/W A5132 U DAY-LIG R ******	******** 30 mph 30 mph T 28 Sli ******** 30 mph 30 mph HTS 90 Sli ********	Easting Northing ******* Easting Northing *********	421622 330133 *****************************
3 PSV ******** Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Parked ************************************	other Loc -	HATTON - DRIVEWAY Time Weather Surface	PKK PKK ********* - A511 STA Y TO NO 75 0630 RAIN WET	First Rd Second Rd Lighting Cas 1 PASSE *********** GINTON ROAD First Rd Second Rd Lighting Cas 1 DRIVE ********** J/W A516	****** J/W A511 DARK-LI DARK-LI NGER ******* J/W A5132 U DAY-LIG CAN COMMON	******** 30 mph 30 mph T 28 Sli ******** 30 mph 30 mph HTS 90 Sli ********	Easting Northing ******* Easting Northing *********	421622 330133 *****************************
3 PSV ******** Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Parked ********** D000932/07 Slight Tue 13/11/2007 Starting Going ahead ******** D000167/08 Slight Thu 28/02/2008 Going ahead Turning Right ******** D000244/08 Slight Mon	other ther other ther ther ther ther ther ther ther	HATTON - DRIVEWAY Time Weather Surface	PKK PKK ********* - A511 STA Y TO NO 75 0630 RAIN WET	Tirst Rd Second Rd Lighting Cas 1 PASSE *********** GINTON ROAD First Rd Second Rd Lighting Cas 1 DRIVE ********* J/W A516 First Rd Second Rd	****** J/W A511 DARK-LI NGER ****** J/W A5132 U DAY-LIG R ******* A516 A516	******** 30 mph 30 mph T 28 Sli ******** 30 mph 30 mph HTS 90 Sli ********* 60 mph mph	Easting Northing ******* Easting Northing ******** Easting	421622 330133 *****************************
3 PSV ******** Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Parked ************************************	other ther other ther ther ther ther ther ther ther	HATTON - DRIVEWAY Time Weather Surface	PKK PKK ********* - A511 STA Y TO NO 75 0630 RAIN WET	Tirst Rd Second Rd Lighting Cas 1 PASSE *********** GINTON ROAD First Rd Second Rd Lighting Cas 1 DRIVE ********* J/W A516 First Rd Second Rd	****** J/W A511 DARK-LI NGER ****** J/W A5132 U DAY-LIG R ******* A516 A516	******** 30 mph 30 mph T 28 Sli ******** 30 mph 30 mph HTS 90 Sli ********* 60 mph mph	Easting Northing ******* Easting Northing ******** Easting Northing	421622 330133 *****************************
3 PSV ******* Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Parked ********** D000932/07 Slight Tue 13/11/2007 Starting Going ahead ******** D000167/08 Slight Thu 28/02/2008 Going ahead Turning Right ******** D000244/08 Slight Mon	other ther ther ther ther ther ther ther	HATTON - DRIVEWAY Time Weather Surface ******* HILTON WITHAM Time Weather Surface ******* HILTON Time Weather Surface	PKK PKK ******** - A511 STA / TO NO 75 0630 RAIN WET	Tirst Rd Second Rd Lighting Cas 1 PASSE THE RD FIRST RD Cas 1 PASSE THE RD FIRST RD SECOND ROAD FIRST RD SECOND ROAD FIRST RD F	******* J/W A511 DARK-LI DARK-LI NGER ****** J/W A5132 U DAY-LIG R ******* A516 A516 DAY-LIG	30 mph 30 mph T 28 Sli ************************************	Easting Northing ******* Easting Northing ******** Easting Northing	421622 330133 ********************************

	**************************************					******	******	*****	******
~~~~~~~	~~~~~~~~~					7516	CO	Easting	425703
	Tue 15/04/2008		Surface	WET		DAY-NO	LIGHTS	Northing	331350
Veh 1 CAR 2 MOPED	Parked Going ahead	other		PKK PKK SW NE	Cas 1 DRIVE	R	16 Ser	****	*****
	D000557/08	Loc -	HILTON	DERBY ROA	AD LOC N/V			Easting	424759
Severity Day	Slight Sat 31/05/2008		Surface					Northing	330793
Veh 1 CAR 2 CAR ********	O/Take move Going ahead	Veh O	/s	NE SW NE SW	Cas 1 DRIVE: 2 DRIVE:	R	28 Sli 28 Sli *******	****	****
	D000455/08	Loc -	HILTON	MAIN STRE	CET J/W MAI	N STREET	n	Easting	101500
Severity Day	Slight				First Rd Second Rd Lighting				
Veh					Cas				
2 CAR	Turning Rig! Going ahead	L/H b	end	N W W NE			57 Sli	****	*****
Reference	D000672/08	Loc -	HATTON						
Severity Day	Slight Sat		Time Weather	1609 FINE	First Rd Second Rd	A511 U	30 mph 30 mph	Easting Northing	
	23/08/2008								
Veh 1 CAR ******	Turning Rig	ht ****	******	W S		TRIAN W		*****	*****
~~~~~~~~	D000734/08		THEAS TO	ANE LOC NA	/V			Easting	425467
Severity Day Date	Slight Tue 16/09/2008		Time Weather Surface	1649 FINE DRY	First Rd Second Rd Lighting	A5132 C246 DAY-LIG	60 mph 30 mph SHTS	Northing	330447
Veh					Cas				
1 G<3.5	Turning Rig	other		SE NW	1 DRIVE		17 Sli	. It is to sto the its about a sto the store	also affective the site who site who site of
Reference	D000805/08 Slight	Loc -	HILTON	A516DERBY	ROAD BTWN	HILTON		Easting	
Severity Day Date	Slight Sat 04/10/2008		Time Weather Surface	0805 FINE DRY	First Rd Second Rd Lighting	A516 DAY-NO	60 mph mph LIGHTS	Northing	331377
Veh 1 CAR 2 CAR	Going ahead Going ahead	other		NE SW	Cas 1 DRIVE 2 DRIVE	R R	20 Sli 45 Sli		
Reference	D000820/08	Loc -	HILTON	A50 W/B 0	C/WAY J/W A	516			
Day	Slight Tue 07/10/2008		Weather	FINE	Second Rd	A516	mph	Easting Northing	331112
Veh 1 CAR	Going ahead Changing La	other	Left	E W	Cas 1 DRIVE		32 Sli		

Reference	D000879/08		HILTON		BY ROAD J/	W A5132	30 mph	Easting	425090
Day	Wed 22/10/2008		Weather Surface	FINE	Second Rd Lighting	A5132	mph	Northing	330946
/eh					Cas				
P/C	Turning Left Going ahead	other		NE S NE SW	1 DRIVE		30 Sli		
	D000989/08						*****	*******	*****
~~~~~~		1100 -	NORTH YE	EW TREE RO	AD		30 mmh	Easting	421663
.,	Mon 24/11/2008				First Rd Second Rd Lighting		mph	Northing	330409
/eh					Cas				<b></b>
2 3 car	U Turn Going ahead Going ahead	other		S N	1 DRIVE		40 Sli	***	****
Reference	D001015/08								
~~~~~~ Severity Day Date	Slight Sun 30/11/2008		Time Weather Surface	FINE	First Rd Second Rd Lighting		30 mph mph HTS	Easting Northing	424508 330672
2 CAR 3 CAR	Parked Parked O/Take stry	Veh or	n 0/s	PKK PKK PKK PKK E W	Cas 1 DRIVE		38 Sli		
Reference	D001074/08						*****		
	Slight		Time	1750	First Rd	A50	70 mph	Easting	425550
Day Date	Thu 18/12/2008		Weather Surface	WET	Second Rd Lighting	DARK-NO	mph LIGHTS	Northing	331121
Veh l CAR	Going ahead	other		E W	Cas 1 DRIVE	R	19 Sli	****	* * * * * * * * * * * * * * * * * * *
Reference	D001085/08		HOON DI	ERBY ROAD	APP 400 MT		. , . ,		
Severity Day	Slight Sat 20/12/2008		Time Weather	1130 RAIN	CATION N/V First Rd Second Rd Lighting		60 mph mph HTS	Easting Northing	422445 330793
	, _,								
1 CAR 2 CAR	Going ahead Stopping			W E	1 DRIVE	R ******	21 Sli *****	******	****
Reference	D000096/09							Easting	
Severity Day	Serious Fri 06/02/2009		Weather	FINE	First Rd Second Rd Lighting	A511	30 mph	Northing	330848
Veh 1 CAR	Going ahead			W E	Cas 1 DRIVE				
	*****		******	*****	******	******	******	******	******
~~~~~~~	D000170/09							Easting	422037
Severity Day Date			Weather	FINE	First Rd Second Rd Lighting	C79	mph	Northing	330825
	Waiting to Going ahead				0				and and the saw man that saw we

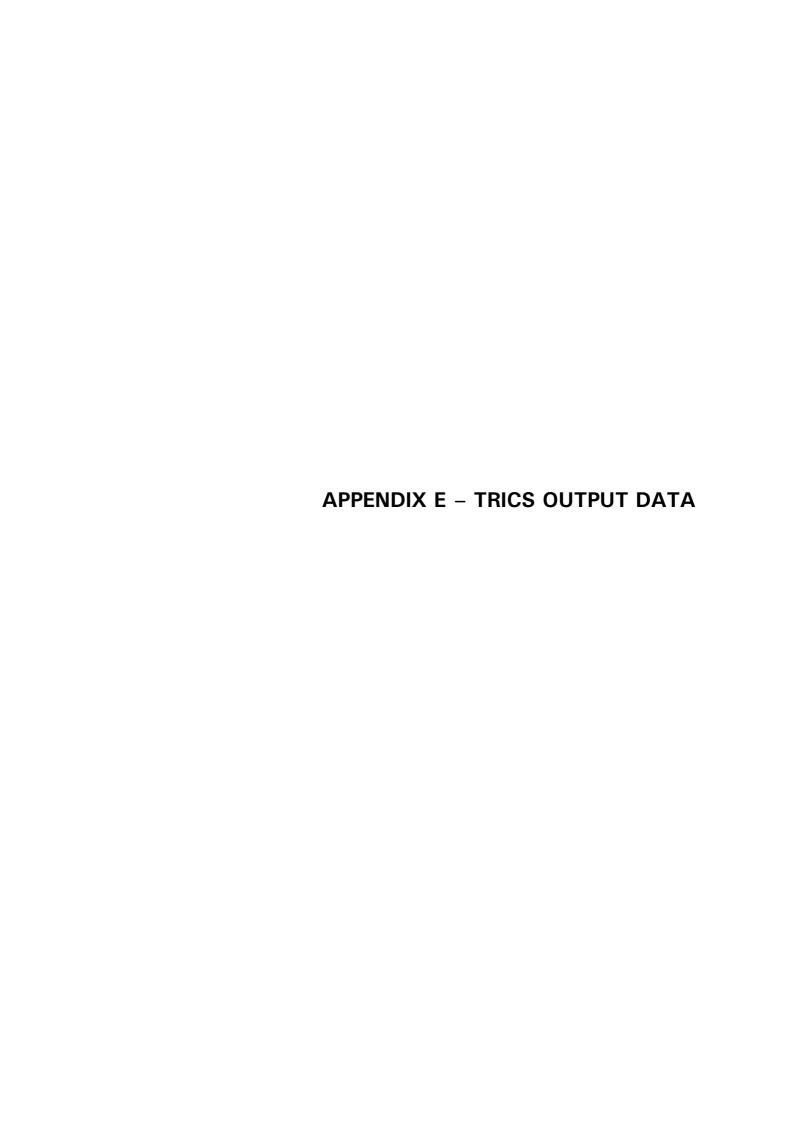
Date		· •								
Severity   Slight   Time   1654									******	*****
Day Mon Weather FINE Second Rd A511 mph Northing 329604 Date 04/05/2009 Surface DRY Lighting DAY-NO LIGHTS  Veh 1 CAR Waiting to turn Left E S 1 PASSENGER 32 S1: 2 CAR Stopping E W 1 Lighting DAY-NO LIGHTS  Reference D000445/03 Loc - HILTON ECGINGTON RCAD ON A BEND NR THE RIVING TOWN THE ACTION TOWN TOWN THE ACTION TOWN THE ACTION TOWN TOWN TOWN THE ACTION TOWN TOWN TOWN TOWN TOWN TOWN TOWN TO	~~~~~~	~~~~~~~							Easting	421468
Ver	Day	Mon		Weather	FINE	Second Rd	A511	mph	Northing	329604
Veh	Date	04/05/2009		Surface	DRY	Lighting	DAY-NO	LIGHTS		
Reference D000445/99	Veh					Cas				
Reference D000445/09 Loc - HILTON EGGINGTON ROAD ON A BEND NR THE ARLHAMY LINE - LOCATION N/V Severity Serious Time 1423 First Rd A5132 40 mph Northing 329587 Day Sat Weather FINE Second Rd mph Northing 329587 Date 13/06/2009 Surface DRY Lighting DAY-NO LIGHTS  Ven Coing shead L/H bend S NW 1 DRIVER 20 Ser 2 CAR Going shead R/H bend NW S 3 Maiting tog shead S NW 2 PASSENGER 62 S1:  Reference D000597/09 Loc - HILTON A516/A50 T/I Severity Slight Time 1556 First Rd A516 40 mph Northing 331206 Date 30/07/2009 Surface DRY Lighting DAY-LIGHTS  Ven Northing 331206 Date 30/07/2009 Surface DRY Lighting DAY-LIGHTS  Ven Cas	2 CAR	Stopping			E W					
THE RAILMAY LINE - LOCATION N/V   Easting 426067									*****	*****
Date   13/06/2009   Surface DRY   Lighting   DAY-NO LIGHTS	Reference	D000443703	TOC -	THE RAI	LWAY LINE	- LOCATION	N/V	40	Easting	426067
Cas	Day	Sat		Time Weather	1423 FINE	Second Rd	A0132	40 mpn mph	Northing	329587
Coing ahead L/H bend	Date	13/06/2009		Surface	DRY	Lighting	DAY-NO	LIGHTS		
2 CAR	Veh		_ ,,_ ,				_			
Reference D000597/09	1 2 CAR	Going ahead	L/H be	end end	S NW NW S	1 DRIVE	R	20 Ser		
Reference   D000587/09   Loc - HILTON   A516/A50 T/T   Easting   425513	3	Waiting to	go ahea	ad	s nw	2 PASSE	NGER	62 Sli		
Easting   Apply   Sight   Time   1556							*****	*****	*****	*****
Day	~~~~~~~~								Easting	425513
Veh	Severity Day	Slight Thu		Time Weather	1556 FINE	First Rd Second Rd	A516 A50	40 mph 30 mph	Northing	331206
Cas	Date	30/07/2009		Surface	DRY	Lighting	DAY-LIG	HTS		
Reference D000609/09 Loc - HILTON EGGINTON ROAD O/S DON AMOTT  CARAVANS  Severity Slight Time 0817 First Rd A5132 40 mph Day Fri Weather FINE Second Rd mph Northing 330199  Date 31/07/2009 Surface DRY Lighting DAY-LIGHTS  Veh  Cas  1 G>7.5 Parked PKK PKK 2 CAR Stopping SE NW 1 DRIVER 27 Sli 3 CAR Going ahead other SE NW  Reference D000688/09 Loc - HILTON A516 T/I J/W WILLOWPIT LANE  Severity Serious Time 1517 First Rd A516 60 mph Day Sat Weather FINE Second Rd C246 mph Northing 331274  Date 05/09/2009 Surface DRY Lighting DAY-LIGHTS  Veh  Cas  1 MGV Going ahead other W E 1 DRIVER 54 Ser  Reference D000785/09 Loc - HILTON A5132 EGGINGTON ROAD APP 5  Severity Slight Time 1415 First Rd A5132 40 mph Day Wed Weather FINE Second Rd U mph Northing 330286  Date 07/10/2009 Surface DRY Lighting DAY-LIGHTS  Veh  Cas  Reference D000785/09 Loc - HILTON A5132 EGGINGTON ROAD APP 5  Severity Slight Time 1415 First Rd A5132 40 mph Day Wed Weather FINE Second Rd U mph Northing 330286  Date 07/10/2009 Surface DRY Lighting DAY-LIGHTS  Veh  Cas  Cas  Reference D000089/10 Loc - HATTON A511 STATION ROAD LOC N/V  Reference D000089/10 Loc - HATTON A511 STATION ROAD LOC N/V  Reference D000089/10 Loc - HATTON A511 STATION ROAD LOC N/V  Severity Serious Time 1545 First Rd A511 30 mph	Veh					Cas				
CARAVANS   Easting   425696	1 G>7.5	Going ahead	R/H be	end ******	NE W *******	DRIVE	R ******		******	*****
Surface DRY	Reference	0000609/09	Toc -	HILTON	EGGINTON	ROAD O/S D	ттома ио			
Surface DRY	Severity	Slight		CARAVAN: Time	S 0817	First Rd	A5132	40 mph	Easting	425696
Surface DRY	Day	Fri		Weather	FINE	Second Rd		mph	Northing	330199
1 G>7.5   Parked	Date	31/0//2009		Surface	DRY 	Lighting	DAY-LIG	HTS 	<b></b>	
CAR   Stopping   SE   NW   1   DRIVER   27   Sli	Veh	Daykod			שעם שעמ	Cas				
Reference D000688/09 Loc - HILTON A516 T/I J/W WILLOWPIT LANE  Severity Serious Time 1517 First Rd A516 60 mph Day Sat Weather FINE Second Rd C246 mph Northing 331274 Date 05/09/2009 Surface DRY Lighting DAY-LIGHTS  Veh Cas  1 MGV Going ahead other W E 1 DRIVER 54 Ser  Reference D000785/09 Loc - HILTON A5132 EGGINGTON ROAD APP 5  WATRS S/E OF J/W ISIS WAY - LOC N/V Easting 425627  Severity Slight Time 1415 First Rd A5132 40 mph Day Wed Weather FINE Second Rd U mph Northing 330286 Date 07/10/2009 Surface DRY Lighting DAY-LIGHTS  Veh Cas  1 CAR Going ahead other SE NW  Reference D000089/10 Loc - HATTON A511 STATION ROAD LOC N/V Severity Serious Time 1545 First Rd A511 30 mph  Easting 425499  Easting 425499  Easting 425499  Easting 425499  Easting 425499  Cas  1 DRIVER 18 Sli	2 CAR	Stopping				1 DRIVE	R	27 Sli		
Reference D000688/09						*****	******	*****	******	*****
Severity   Serious	Reference	D000688/09								
Day	Severity	Serious		Time	1517	First Rd	A516	60 mph	2	
Veh    MGV   Going   Ahead   Other   W   E   E   DRIVER   54   Ser	Day	Sat		Weather	FINE	Second Rd	C246	mph	Northing	331274
1 MGV Going ahead other W E 2 P/C Going ahead other W E 1 DRIVER 54 Ser ************************************	Date	05/09/2009		Surface	DRY 	Lighting	DAY-LIG	HTS 		
2 P/C Going ahead other  ***********************************	Veh									
Reference D000785/09 Loc - HILTON A5132 EGGINGTON ROAD APP 5  MTRS S/E OF J/W ISIS WAY - LOC N/V	2 P/C	Going ahead	other		WF	1 DRIVE	R	54 Ser	4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.	***
Severity Slight Time 1415 First Rd A5132 40 mph Day Wed Weather FINE Second Rd U mph Northing 330286 Date 07/10/2009 Surface DRY Lighting DAY-LIGHTS  Veh Cas 1 CAR Going ahead other NW SE 1 DRIVER 18 Sli 2 CAR Going ahead other SE NW ************************************	Reference	D000785/09	Loc -	HILTON A	A5132 EGG:	INGTON ROAD	APP 5			
Day Wed Weather FINE Second Rd U mph Northing 330286  Date 07/10/2009 Surface DRY Lighting DAY-LIGHTS  Veh Cas  1 CAR Going ahead other NW SE 1 DRIVER 18 Sli  2 CAR Going ahead other SE NW  ***********************************	Severity	Slight		Time	1415	First Rd	A5132	40 mph	•	
Veh	Day	Wed		Weather	FINE	Second Rd	U	mph	Northing	330286
Veh	Date	07/10/2009 		Surface	DRY 	Lighting	DAY-LIG	нТ5 	<b>-</b>	
2 CAR Going ahead other SE NW ************************************	Veh					Cas				
**************************************	2 CAR	Going ahead	other		SE NW					
Severity Serious Time 1545 First Rd A511 30 mph	*****	*****	*****	*****	*****			*****	*****	******
Severity Serious Time 1545 First Rd A511 30 mph Day Wed Weather RAIN Second Rd mph Northing 330417 Date 03/02/2010 Surface WET Lighting DAY-LIGHTS	~~~~~~~							0.0	Easting	421664
Date 03/02/2010 Surface WET Lighting DAY-LIGHTS	Severity Day	Serious Wed		Time Weather	1545 RAIN	First Rd Second Rd	A511	30 mph mph	Northina	330417
	Date	03/02/2010		Surface	WET	Lighting	DAY-LIG	HTS		
Veh Cas	Veh					Cas				
1 CAR O/Take stry Veh on O/S N S 1 PEDESTRIAN W 12 Ser	). CAR	O/Take stry	Veh o	n 0/S	N S	1 PEDES				
2 OMV Parked PKK PKK	Z 0197									

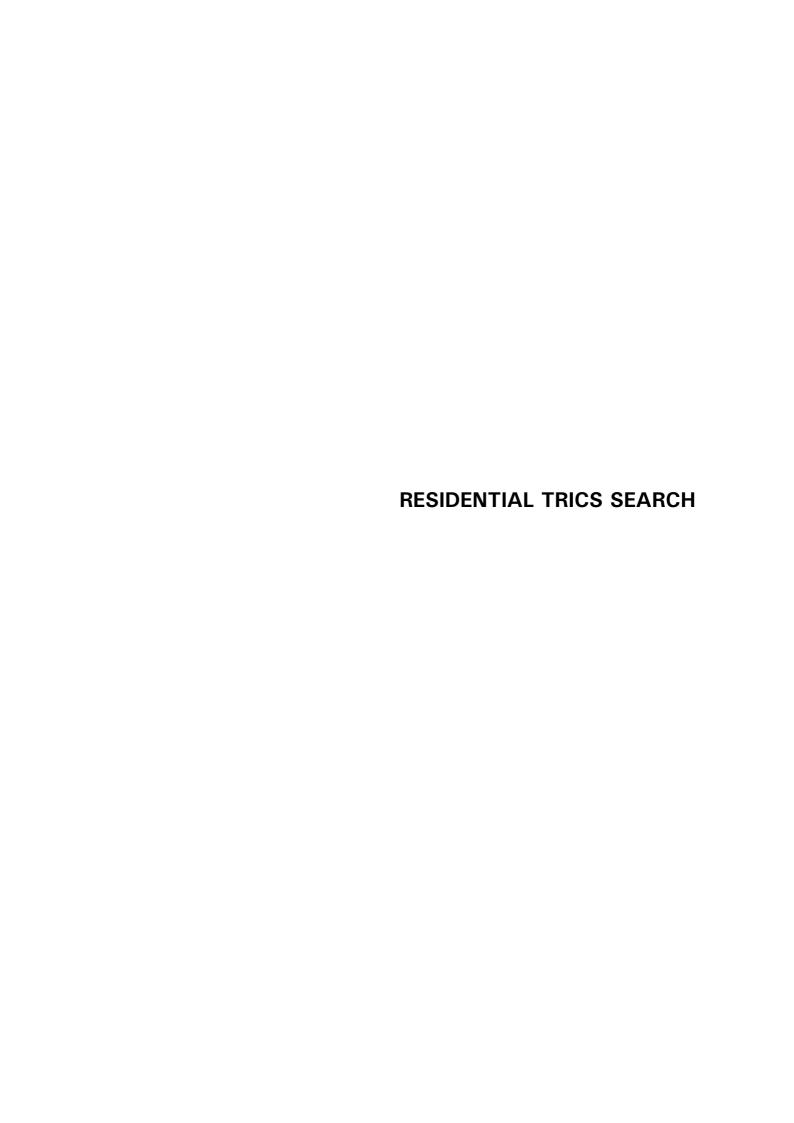
******	*****	*****	******	*******	****	******	******	*******	*****
Reference	D000101/10	Loc -	HATTON	A511 STAT					
			TREE ROA		First Rd	A511	30 mph	Easting	421660
Dav	Pri		Weather	FINE	Second Rd	11	30 mnh	Northing	330387
Date	05/02/2010		Surface	WET 	Lighting	DARK-LI	r 		
Veh					Cas				
1 P/C *******	Going ahead	other *****	****	S N *******				****	*****
Reference	D000130/10	Loc -	HILTON	MAIN STRE	ET O/S THE	KINGS			
Severity	Slight		HEAD Time	1535	First Rd	C366	30 mph	Easting	424300
Day	Fri		Weather	FINE	Second Rd	227 770	mph	Northing	330624
Date	Slight Fri 12/02/2010		Surface	WET	Lighting	DAY-LIGI	TTS 	<b></b>	
Veh					Cas				
2 CAR	Going ahead Stopping			W E	1 PASSE	NGER	38 Sli		
	**************************************							*****	******
~~~~~~~	~~~~~~~							Easting	425803
Severity	Slight Mon		Time	1920	First Rd Second Rd	A5132	50 mph	Northing	330064
Day Date	17/05/2010		Surface	DRY	Lighting	DAY-NO I	mph LIGHTS	NOTCHING	330064
Veh					Cas				
1 G<3.5	O/Take move		/s	SE NW					
2 P/C	Going ahead	other		SE NW	1 DRIVE				
******	*****	*****	****	******	. * * * * * * * * * * * * * * * * * * *	R ******	41 Sli ******	*****	*****
Reference	***********	*****	******** !!!!!!!	******** 13132 በም	**************************************	******* W A50	*****		*****
Reference	***********	*****	******** !!!!!!!	******** 13132 በም	**************************************	******* W A50	*****		
Reference ~~~~~ Severity Day	*********** D000656/10 ~~~~~~ Slight Tue	***** Loc -	******* HILTON R/BT Time Weather	*********** A5132 DEF 1727 FINE	RBY ROAD J/I First Rd Second Rd	**************************************	40 mph 30 mph		
Reference ~~~~~~ Severity Day Date	*****	****** Loc -	******* HILTON R/BT Time Weather Surface	********** A5132 DEF 1727 FINE DRY	RBY ROAD J/I First Rd Second Rd Lighting	**************************************	40 mph 30 mph HTS	Easting Northing	425287 331095
Reference ~~~~~~~ Severity Day Date Veh	*********** D000656/10 ~~~~~~~ Slight Tue 29/06/2010	***** Loc -	******* HILTON R/BT Time Weather Surface	********** A5132 DEF 1727 FINE DRY	RBY ROAD J/I First Rd Second Rd Lighting	**************************************	40 mph 30 mph HTS	Easting Northing	425287 331095
Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	*********** D000656/10 ~~~~~~~ Slight Tue 29/06/2010 Turning Rig	***** Loc -	******* HILTON R/BT Time Weather Surface	********** A5132 DEF 1727 FINE DRY NW SW	RBY ROAD J/1 First Rd Second Rd Lighting Cas	******** W A50 A5132 A50 DAY-LIG	40 mph 30 mph HTS	Easting Northing	425287 331095
Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	********** D000656/10 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	***** Loc - ht other *****	******* HILTON R/BT Time Weather Surface	********* A5132 DEF 1727 FINE DRY NW SW NE SW ********	RBY ROAD J/I First Rd Second Rd Lighting Cas 1 DRIVE:	**************************************	40 mph 30 mph HTS	Easting Northing	425287 331095
Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	********** D000656/10 ~~~~~~~ Slight Tue 29/06/2010 Turning Rigi	***** Loc - ht other *****	******* HILTON R/BT Time Weather Surface	********* A5132 DEF 1727 FINE DRY NW SW NE SW ********	RBY ROAD J/I First Rd Second Rd Lighting Cas 1 DRIVE:	********** W A50 A5132 A50 DAY-LIGH	40 mph 30 mph HTS	Easting Northing	425287 331095
Reference Severity Day Date Veh 1 CAR 2 CAR ******* Reference Severity	********** D000656/10 Slight Tue 29/06/2010 Turning Rigi Going ahead ********* D000626/10 Slight	***** Loc - ht other ***** Loc -	******* HILTON R/BT Time Weather Surface	********** A5132 DEF 1727 FINE DRY NW SW NE SW ********	First Rd Second Rd Lighting Cas 1 DRIVE:	**************************************	40 mph 30 mph HTS 	Easting Northing ********* Easting	425287 331095 *******************************
Reference Severity Day Date Veh 1 CAR 2 CAR ******* Reference Severity Day	********** D000656/10 Slight Tue 29/06/2010 Turning Right Going ahead ****** D000626/10 Slight Wed	***** Loc - ht other ***** Loc -	******* HILTON R/BT Time Weather Surface ******* HILTON Time Weather	*********** A5132 DEF 1727 FINE DRY NW SW NE SW ******** A5132 J/W 1130 UNKNOWN	First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd	**************************************	40 mph 30 mph HTS 42 Sli ************************************	Easting Northing ********* Easting	425287 331095 *******************************
Reference Severity Day Date Veh 1 CAR 2 CAR ******* Reference Severity Day Date	********** D000656/10 Slight Tue 29/06/2010 Turning Rigi Going ahead ********* D000626/10 Slight	***** Loc - ht other ***** Loc -	******* HILTON R/BT Time Weather Surface ****** HILTON Time Weather Surface	A5132 DEF 1727 FINE DRY NW SW NE SW ********* A5132 J/W 1130 UNKNOWN DRY	First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting	**************************************	40 mph 30 mph HTS 42 Sli ************************************	Easting Northing ********* Easting	425287 331095 *******************************
Reference Severity Day Date Veh 1 CAR 2 CAR ******* Reference Severity Day Date Veh	*********** D000656/10 Slight Tue 29/06/2010 Turning Right Going ahead ******* D000626/10 Slight Wed 30/06/2010	***** Loc - ht other ***** Loc -	******* HILTON R/BT Time Weather Surface ****** HILTON Time Weather Surface	A5132 DEF 1727 FINE DRY NW SW NE SW *********** A5132 J/W 1130 UNKNOWN DRY	First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting	**************************************	40 mph 30 mph HTS 42 Sli ************************************	Easting Northing ********* Easting	425287 331095 *******************************
Reference Severity Day Date CAR CAR CAR Severity Day Date CAR CAR CAR CAR CAR CAR	********* D000656/10 Slight Tue 29/06/2010 Turning Rigi Going ahead ******** D000626/10 Slight Wed 30/06/2010 Going ahead Waiting to	***** Loc - ht other **** Loc -	******* HILTON R/BT Time Weather Surface ****** HILTON Time Weather Surface	********* A5132 DEF 1727 FINE DRY NW SW NE SW ******* A5132 J/W 1130 UNKNOWN DRY E NW SW NE	First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting Cas	********* ### A50 A5132 A50 DAY-LIGHT R ******* A5132 A516 DAY-LIGHT	40 mph 30 mph HTS 42 Sli ************************************	Easting Northing ******* Easting Northing	425287 331095 ************ 425279 331111
Reference Severity Day Date CAR CAR CAR CAR CAR CAR CAR CAR CAR CA	********** D000656/10 Slight Tue 29/06/2010 Turning Rigit Going ahead ******** D000626/10 Slight Wed 30/06/2010 Going ahead Waiting to ******* D000602/10	***** Loc - ht other **** Loc - R/H b go ahe *****	******* HILTON R/BT Time Weather Surface ******* HILTON Time Weather Surface end ad *******	********** A5132 DEF 1727 FINE DRY NW SW NE SW ******** A5132 J/W 1130 UNKNOWN DRY E NW SW NE ********	First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting Cas	******** W A50 A5132 A50 DAY-LIGHT R ******* A5132 A516 DAY-LIGHT CAN ASSESS ASSES	40 mph 30 mph HTS 42 Sli ************************************	Easting Northing ******* Easting Northing	425287 331095 ************************************
Reference Severity Day Date CAR CAR CAR CAR CAR CAR CAR CAR CAR CA	********** D000656/10 Slight Tue 29/06/2010 Turning Rigit Going ahead ******** D000626/10 Slight Wed 30/06/2010 Going ahead Waiting to ******* D000602/10	***** Loc - ht other **** Loc - R/H b go ahe *****	******* HILTON R/BT Time Weather Surface ******* HILTON Time Weather Surface end ad *******	********** A5132 DEF 1727 FINE DRY NW SW NE SW ******** A5132 J/W 1130 UNKNOWN DRY E NW SW NE ********	First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting Cas	******** W A50 A5132 A50 DAY-LIGHT R ******* A5132 A516 DAY-LIGHT CAN ASSESS ASSES	40 mph 30 mph HTS 42 Sli ************************************	Easting Northing ******* Easting Northing	425287 331095 ************************************
Reference Severity Day Date CAR CAR CAR CAR CAR CAR CAR CAR CAR CA	********* D000656/10 Slight Tue 29/06/2010 Turning Rigit Going ahead ******** D000626/10 Slight Wed 30/06/2010 Going ahead Waiting to ******* D000602/10 Slight Fri	***** Loc - ht other **** Loc - R/H b go ahe **** Loc -	****** HILTON R/BT Time Weather Surface ****** HILTON Time Weather Surface end ad ******* HATTON BOX CAF Time Weather	********** A5132 DEF 1727 FINE DRY NW SW NE SW ******** A5132 J/W 1130 UNKNOWN DRY E NW SW NE ********* A511 STATI É CAR PARF 1228 FINE	First Rd Second Rd Lighting Cas 1 DRIVE ********** A516 First Rd Second Rd Lighting Cas 1 DRIVE ********** Cas 1 DRIVE ********** ********** ********** ****	******** ### A50 A5132 A50 DAY-LIGHT ### A5132 A516 DAY-LIGHT ### A5132 A516 DAY-LIGHT ### A511 ### A511 ### A511 ### A511	40 mph 30 mph HTS 42 Sli ************************************	Easting Northing ******* Easting Northing	425287 331095 ************* 425279 331111 **************
Reference	********** D000656/10 Slight Tue 29/06/2010 Turning Rigi Going ahead ******* D000626/10 Slight Wed 30/06/2010 Going ahead Waiting to ****** D000602/10 Slight Fri 02/07/2010	***** Loc - ht other **** Loc - R/H be go ahe **** Loc -	******* HILTON R/BT Time Weather Surface ****** HILTON Time Weather Surface end ad ******* HATTON BOX CAF Time Weather Surface	********** A5132 DEF 1727 FINE DRY NW SW NE SW ******** A5132 J/W 1130 UNKNOWN DRY E NW SW NE ******** A511 STATI É CAR PARI 1228 FINE DRY	First Rd Second Rd Lighting Cas 1 DRIVE ********** A516 First Rd Second Rd Lighting Cas 1 DRIVE *********** Cas 1 DRIVE *********** *********** **********	********* A5132 A50 DAY-LIGHT R ******** A5132 A516 DAY-LIGHT DAY-LIGHT A511 U DAY-LIGHT	40 mph 30 mph HTS 42 Sli ************************************	Easting Northing ******* Easting Northing ******** Easting	425287 331095 ************* 425279 331111 *******************************
Reference Severity Day Date CAR CAR CAR CAR CAR CAR CAR CAR CAR CA	*********** D000656/10 Slight Tue 29/06/2010 Turning Rigi Going ahead ******** D000626/10 Slight Wed 30/06/2010 Going ahead Waiting to ******* D000602/10 Slight Fri 02/07/2010	***** Loc - R/H bego ahe. **** Loc -	****** HILTON R/BT Time Weather Surface ****** HILTON Time Weather Surface end ad ****** HATTON BOX CAF Time Weather Surface	********** A5132 DEF 1727 FINE DRY NW SW NE SW ******** A5132 J/W 1130 UNKNOWN DRY E NW SW NE ******** A511 STATI É CAR PARF 1228 FINE DRY	First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting Cas Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting	********* A5132 A50 DAY-LIGHT R ******** A5132 A516 DAY-LIGHT DAY-LIGHT A511 U DAY-LIGHT	40 mph 30 mph HTS 42 Sli ************************************	Easting Northing ******* Easting Northing ******** Easting	425287 331095 ************* 425279 331111 *******************************
Reference ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	********** D000656/10 Slight Tue 29/06/2010 Turning Rigi Going ahead ******* D000626/10 Slight Wed 30/06/2010 Going ahead Waiting to ****** D000602/10 Slight Fri 02/07/2010	***** Loc - ht other *Loc - R/H b. go ahe. **** Loc -	******* HILTON R/BT Time Weather Surface ****** HILTON Time Weather Surface end ad ****** HATTON BOX CAF Time Weather Surface	********** A5132 DEF 1727 FINE DRY NW SW NE SW ******** A5132 J/W 1130 UNKNOWN DRY E NW SW NE ******** A511 STATI É CAR PARF 1228 FINE DRY	First Rd Second Rd Lighting Cas 1 DRIVE A516 First Rd Second Rd Lighting Cas 1 DRIVE Cas CON ROAD J/C First Rd Second Rd Lighting Cas Cas Con Road Cas	********* A5132 A50 DAY-LIGI R ******* A5132 A516 DAY-LIGI CAST AS	40 mph 30 mph HTS 42 Sli ************************************	Easting Northing ******* Easting Northing ******** Easting	425287 331095 ************* 425279 331111 *******************************

The attached information has been obtained from the Derbyshire Constabulary accident database. The database contains information relating to accidents involving personal injury which were recorded by the Derbyshire Constabulary. Whilst every effort has been made to ensure the accuracy of the data now supplied, Derbyshire Constabulary cannot be held responsible for any errors.









RICS 2009(b)v6.4	ICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMF	(C) 2009	MP Consultants Ltd on behalf of the TRICS Consortium	Monday 09/11/09 Page 1
Sancroft Consulting	Mercury House, New Basford	v Basford	Nottingham	Licence No: 53950

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas: SOUTH EAST SOUTH EAST ES EAST SUSSEX ES EAST SUSSEX H H HERTPORDSHIRE SC SURREY O3 SOUTH WEST CW CORNWALL CW CORNWALL CW CAMBRIDGESHIRE O4 CAMBRIDGESHIRE D5 ERBYSHIRE IN LINCOLNSHIRE IN LINCOLNSHIRE IN LINCOLNSHIRE IN WEST MIDLANDS SOUTH WEST CA CAMBRIDGESHIRE O5 CARST MIDLANDS IN NOTTINGHAMSHIRE WM WEST MIDLANDS WM WEST MIDLANDS WM WEST MIDLANDS WM WEST MIDLANDS OF CRESTERSHIRE UN LINCOLNSHIRE WM WEST MIDLANDS WM WEST WIDLANDS WM WEST WIDLANDS WM WEST WIDLANDS CM CHESHIRE CM CARRPHILLY WM WREKHAMM 11 SCOTLAND EA EAST AYRSHIRE FI FIFE H HIGHLAND STIRI ING	2 days 1 days 1 days 1 days 1 days	2 days 1 days 1 days	2 days 3 days 1 days 1 days 2 days	1 days 2 days 3 days 4 days 3 days	2 days 2 days 2 days 1 days 3 days	1 days 1 days 3 days 1 days 1 days 1 days 1 days 1 days
	CHOTOGODS and areas: SOUTH EAST BD BEPCROSHIRE ES EAST SUSSEX EX ESSEX HF HERTPONDSHIRE SC SURREY	5	4 2		£ £	83

; 2009(b)v6.4.2 280909 B14.19 (i	TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium	Monday 09/11/09
t Consulting Mercury House, New	New Basford Nottingham	Page 2 Licence No: 539501

Filtering Stage 2 selection:

Number of dwellings 10 to 491 (units:) Parameter: Range: Public Transport Provision: Selection by:

Include all surveys

60,	;	14 days	14 days	5 days	14 days	7 days	
01/01/00 to 24/04/09	ays:						
ate Range:	elected survey days:	londay	uesday	/ednesday	hursday	riday	

54 days 0 days	4 21 27 2	42 1 11
Selected survey types: Manual count Directional ATC Count	Selected Locations: Edge of Town Centre Suburban Area (PPS6 Out of Centre) Edge of Town Neighbourhood Centre (PPS6 Local Centre)	Selected Location Sub Categories: Residential Zone Out of Town No Sub Category

TPICE 2009(H)W6 A	2 280000 B14 10	ר פטטכ (כו)	TDICE 2000(N. 6.4.2) 280000 814 10 (C) 2000 1MB Conc. Hante 1td on babalf of the TDICS Concortium	Monday 00/11/00
T-04(0)6007 5711	בוידום כטכטטס בי	(2) 2003	File Collisation of Derivation of the Lives Collisor turns	Hollday 09/11/09
				Page 3
Bancroft Consulting	Mercury House, New Basford	w Basford	Nottingham	Licence No: 539501

LIST OF SITES relevant to selection parameters

BEDFORDSHIRE **BD-03-A-01 SEMI DETACHED, LUTON**NEW BEDFORD ROAD

LUTON

Total Number of dwellings: 131

Survey date: THURSDAY 08/07/04

BD-03-4-02 SEMI DETACHED, LUTON

RIDDY LANE

~

Survey Type: MANUAL BEDFORDSHIRE

LUTON

Survey Type: MANUAL CAMBRIDGESHIRE ellings: 82
TUESDAY 06/07/04
SEMI D./TERRACED, CAMBRIDGE Total Number of dwellings:
Survey date: TUESDAY
CA-03-A-01 SEMI D./

FALLOWFIELD CHESTERTON

06/02/01 124 Total Number of dwellings: Survey date: TUESDAY CAMBRIDGE

MIXED HOUSES, PETERBOROUGH THORPE ROAD CA-03-A-02

4

Survey Type: MANUAL CAMBRIDGESHIRE

PETERBOROUGH

Survey date: THÚRSDAY 13/05/04 CB-03-A-02 SEMI DETACHED, WORKINGTON 363 Total Number of dwellings:

Survey Type: MANUAL CUMBRIA

HAWKSHEAD AVENUE

Ŋ

20/06/02 Total Number of dwellings: Survey date: MONDAY WORKINGTON

SEMI DETACHED, WORKINGTON HAWKSHEAD AVENUE CB-03-A-03

9

Survey Type: MANUAL CUMBRIA

Total Number of dwellings: 40
Survey date: THURSDAY 20/11/08
CB-03-A-04 SEMI DETACHED, WORKINGTON WORKINGTON

Survey Type: MANUAL CUMBRIA

24/04/09 82 MIXED HOUSES, CARDIFF Total Number of dwellings: Survey date: FRIDAY SALTERBACK WORKINGTON

œ

MOORCLOSE ROAD

Survey Type: MANUAL CARDIFF 222 THURSDAY 17/10/02 MIXED HOUSES, CARDIFF Total Number of dwellings: Survey date: THURSDAY CF-03-A-01 VIRGIL STREET **NINIAN PARK** CARDIFF

DROPE ROAD CF-03-A-02

6

Survey Type: MANUAL CARDIFF

CARDIFF

196 *05/10/07* Total Number of dwellings: Survey date: FRIDAY

Survey Type: MANUAL

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Bancroft Consulting Mercury House, New Basford Nottingham

Monday 09/11/09 Page 4 Licence No: 539501

LIST OF SITES relevant to selection parameters (Cont.)

DETACHED, CARDIFF CF-03-A-03 LLANTRISANT ROAD 10

CARDIFF

CARDIFF

29 08/10/07 **DETACHED, CREWE** Total Number of dwellings:

Survey date: MONDAY

CH-03-A-05

DETACH

급

Survey Type: MANUAL CHESHIRE

14/10/08 Total Number of dwellings:
Survey date: TUESDAY
CH-03-A-06 SEMI-DE SYDNEY ROAD SYDNEY CREWE

17

Survey Type: MANUAL CHESHIRE Survey Type: MANUAL CAERPHILLY SEMI-DET./BUNGALOWS,CREWE 14/10/08 129 Total Number of dwellings:
Survey date: TUESDAY
CP-03-A-02 SEMI DE CREWE ROAD CREWE

SEMI DETACHED, PENGAM 13

02/09/02 **TERRACED, PENZANCE** Survey date: MONDAY
CW-03-A-01 TERRAC ALVERTON ROAD 14

4

Total Number of dwellings:

PENGAM

Survey Type: MANUAL CORNWALL

THURSDAY 30/06/05 SEMI D./ DETATCHED, TRURO Survey date: THURSDAY Total Number of dwellings: CW-03-A-02 PENZANCE 12

Survey Type: MANUAL CORNWALL 73 18/09/07 Total Number of dwellings:
Survey date: TUESDAY
DS-03-A-01 SEMI D./ **BOSVEAN GARDENS** TRURO

Survey Type: MANUAL EAST AYRSHIRE Survey Type: MANUAL DERBYSHIRE SEMI D./TERRACED, DRONFIELD THURSDAY 22/06/06 **DETATCHED, KILMARNOCK** 20 Total Number of dwellings:
Survey date: THURSDAY
EA-03-A-01
TALISKER AVENUE HOLMESDALE THE AVENUE DRONFIELD 16 17

Survey Type: MANUAL EAST SUSSEX 80/90/50 33 Survey date: THURSDAY Total Number of dwellings: KILMARNOCK

491 29/03/01 Survey date: THÜRSDAY Total Number of dwellings: ES-03-A-01 OLD MALLING WAY SOUTH MALLING LEWES

MIXED HOUSES/FLATS, LEWES

18

Survey Type: MANUAL

			Page 5
croft Col	Bancroft Consulting Mercury House, New Basford Nottingham	Licen	Licence No: 539501
SIT	LIST OF SITES relevant to selection parameters (Cont.)		
19	EX-03-A-01 SEMI-DET., STANFORD-LE-HOPE MILTON ROAD	ESSEX	
	CORRINGHAM STANFORD-LE-HOPE Total Number of dwellings: Common of the standard standa	F	
70	Survey date: 1 DESPAT FI-03-A-02 SEMI DETACHED, GLENROTHES WAROUT ROAD	Survey Type: MANOAL	
12	GLENROTHES Total Number of dwellings: 58 Survey date: MONDAY 16/05/05 FI-03-A-03 MIXED HOUSES, DUNFERMLINE	Survey Type: MANUAL FIFE	
22	Survey date: MONDAY 30/04/07 GM-03-A-07 SEMI DETACHED, MANCHESTER MILFORD DRIVE LEVENSHULME MANCHESTER	Survey Type: MANUAL GREATER MANCHESTER	
23	MANCHED IEK Total Number of dwellings: 138 Survey date: FRIDAY GN-03-A-08 ELM TREE ROAD LOWER BREDBURY	Survey Type: MANUAL GREATER MANCHESTER	
24	STOCKPORT Total Number of dwellings: Survey date: FRIDAY 12/10/01 GS-03-4-01 SEMI D./TERRACED, GLOUCESTER KINGSHOLM ROAD KINGSHOLM	Survey Type: MANUAL GLOUCESTERSHIRE	
25	GLOUCESTER Total Number of dwellings: 73 Total Number of dwellings: 25/05/04 HF-03-A-01 MIXED HOUSES, WELWYN GC LONGCROFT LANE	Survey Type: MANUAL HERTFORDSHIRE	
26	WELWYN GARDEN CITY Total Number of dwellings: Survey date: FRIDAY HI-03-A-11 BUNGALOWS, INVERNESS STEVENSON ROAD INSTEE	Survey Type: MANUAL HIGHLAND	
27	INVERNESS Total Number of dwellings: Survey date: MONDAY C-03-A-22 CLIFTON DRIVE NORTH	Survey Type: MANUAL LANCASHIRE	
	BLACKPOOL Total Number of dwellings: 98 Survey date: TUESDAY 18/10/05	Survey Type: MANUAL	

Monday 09/11/09 Page 6 Licence No: 539501 Survey Type: MANUAL LEICESTERSHIRE Survey Type: MANUAL LINCOLNSHIRE Survey Type: MANUAL LINCOLNSHIRE Survey Type: MANUAL MERSEYSIDE Survey Type: MANUAL NOTTINGHAMSHIRE Survey Type: MANUAL NORTH YORKSHIRE Survey Type: MANUAL NORTH YORKSHIRE TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium LANCASHIRE NORTHALLERTON
Total Number of dwellings: 52
Survey date: TUESDAY 25/09/07
NY-03-A-03 PRIVATE HOUSING, BOROUGHBRIDGE
NEW ROW NT-03-A-03 SEMI DETACHED,KIRKBY-IN-ASHFD B6018 SUTTON ROAD Survey date: WEDNESDAY 28/06/06

NY-03-A-01 MIXED HOUSES,NORTHALLERTON
GRAMMAR SCHOOL LANE **DETACHED/SEMI D., BLACKBURN** Total Number of dwellings: 185
Survey date: THURSDAY 10/06/04
LE-03-A-01 DETACHED, MELTON MOWBRAY 11 03/05/05 TUESDAY 15/05/07
MIXED HOUSES, LINCOLN 14 15/09/08 14/05/07 Bancroft Consulting Mercury House, New Basford Nottingham Total Number of dwellings: 11

Survey date: TUESDAY 03/05

LN-03-A-01 MIXED HOUSES, LINCOLN
BRANT ROAD
BRACEBRIDGE 150 186 372 LIST OF SITES relevant to selection parameters (Cont.) Total Number of dwellings: 1

Survey date: MONIDAY

MS-03-A-01

TERRACED, RUNCORN

PALACE FIELDS AVENUE Total Number of dwellings:
Survey date: TUESDAY
LN-03-A-02 MIXED HO
HYKEHAM ROAD Total Number of dwellings:
Survey date: THURSDAY
NT-03-A-03
SEMI DETA Total Number of dwellings: Survey date: MONDAY KIRKBY-IN-ASHFIELD REDWOOD AVENUE MELTON MOWBRAY LC-03-A-29 REVIDGE ROAD FOUR LANE ENDS BLACKBURN BOROUGHBRIDGE RUNCORN LINCOLN LINCOLN 28 59 30 31 32 33 34 32

Survey Type: MANUAL

IRICS 2009(b)VO.4.2 200909 B14.19 (c) 2009 JMP COISURAINS LW OII DEIIAII OI UIE IRICS COISOI UNII			Page 7
croft Co	Bancroft Consulting Mercury House, New Basford Nottingham	Licence	Licence No: 539501
SIT	LIST OF SITES relevant to selection parameters (Cont.)		
36	NY-03-A-05 HOUSES AND FLATS, RIPON BOROUGHBRIDGE ROAD	NORTH YORKSHIRE	
37	RIPON Total Number of dwellings: Survey date: MONDAY SC-03-A-03 A 330G HIPST POAD	Survey Type: MANUAL SURREY	
8	HURST PARK EAST MOLESEY Total Number of dwellings: 54 Survey date: TUESDAY 12/11/02 SF-03-A-01 SEMI DETACHED. IPSWICH	Survey Type: MANUAL SUFFOLK	
}	STOWE F	Survey Type: MANIJAL	
39	'TERRACED	SUFFOLK	
40	Total Number of dwellings: 230 Survey date: THURSDAY 24/05/07 SF-03-A-03 MIXED HOUSES, BURY ST EDMDS BARTON HILL FORNHAM ST MARTIN BURY ST EDMUNDS	Survey Type: MANUAL SUFFOLK	
14	Total Number of dwellings: 101 Survey date: MONDAY 15/05/06 SR-03-A-01 DETACHED, STIRLING BENVIEW	Survey Type: MANUAL STIRLING	
42	STIRLING Total Number of dwellings: 115 Survey date: MONDAY 23/04/07 ST-03-A-03 MIXED HOUSES, STAFFORD QUENSVILLE	Survey Type: MANUAL STAFFORDSHIRE	
43	STAFFORD Total Number of dwellings: Survey date: TUESDAY ST-03-A-05 TERRACED/ DETACHED, STOKE ETRURIA	Survey Type: MANUAL STAFFORDSHIRE	
4	STOKE-ON-TRENT Total Number of dwellings: 5.0.vey date: WEDNESDAY TV-03-A-01 POWLETT ROAD	Survey Type: MANUAL TEES VALLEY	
	HARTLEPOOL Total Number of dwellings: 225 Survey date: THURSDAY 14/04/05	Survey Type: MANUAL	

Monday 09/11/09 Page 8 Licence No: 539501 Survey Type: MANUAL WILTSHIRE Survey Type: MANUAL WEST MIDLANDS Survey Type: MANUAL WEST MIDLANDS Survey Type: MANUAL WEST MIDLANDS Survey Type: MANUAL WORCESTERSHIRE Survey Type: MANUAL WORCESTERSHIRE Survey Type: MANUAL WORCESTERSHIRE Survey Type: MANUAL WORCESTERSHIRE Survey Type: MANUAL TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium **TYNE & WEAR** FRIDAY 03/02/06
DETACHED/SEMI D., STRBRIDGE WEDNESDAY 18/09/02 SEMI D./TERRACED W. BASSETT DET./TERRACED, BROMSGROVE SEMI DETACHED, SUNDERLAND 99 02/10/06 12 WEDNESDAY 26/04/06 MIXED HOUSING, COVENTRY 84 24/09/07 138 *05/05/06* 232 30/06/05 Total Number of dwellings: 10
Survey date: THURSDAY 23/06/05
WO-03-A-02 SEMI DETACHED, REDDITCH allings: 48
TUESDAY 02/05/06
DETACHED, KIDDERMINSTER WO-03-A-01 DETACHED, BROMSGROVE
MARLBOROUGH AVENUE Bancroft Consulting Mercury House, New Basford Nottingham 79 LIST OF SITES relevant to selection parameters (Cont.) TERRACED, COVENTRY Total Number of dwellings:
Survey date: WEDNESDAY
WL-03-A-01 SEMI D./TEI ASTON FIELDS
BROMSGROVE
Total Number of dwellings:
Survey date: THURSDAY Survey date: WEDNESDAY Total Number of dwellings:

Survey date: TUESDAY

WO-03-A-03

BLAKEBROOK

BLAKEBROOK Total Number of dwellings:
Survey date: FRIDAY
WM-03-A-02 DETACHI
HEATH STREET Total Number of dwellings: Survey date: MONDAY Survey date: MONDAY Total Number of dwellings: Survey date: FRIDAY Total Number of dwellings: Total Number of dwellings: ST GODWALDS ROAD TW-03-A-01 LEECHMERE ROAD HILLVIEW SUNDERLAND WOOTTON BASSETT MEADOWHILL ROAD WM-03-A-01 FOLESHILL ROAD ROWLEYS GREEN COVENTRY KIDDERMINSTER STOURBRIDGE ASTON FIELDS WM-03-A-03 BROMSGROVE WO-03-A-06 MAPLE DRIVE **BASELEY WAY** FOLESHILL COVENTRY REDDITCH 45 46 47 49 20 25 23 48 21

Monday 09/11/09 Page 9 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Bancroft Consulting Mercury House, New Basford Nottingham

LIST OF SITES relevant to selection parameters (Cont.)

SEMI DETACHED, WREXHAM WR-03-A-01 SEMI DETA MOLD ROAD RHOSDDU WREXHAM Total Number of dwellings: Survey date: MONDAY

7

WREXHAM

Monday 09/11/09 10 1096 10

Survey Type: MANUAL

Licence No: 539501

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium

Bancroft Consulting Mercury House, New Basford Nottingham

WOLTT-MODAL VEHICLES
RANK ORDER FOR LAND USE 03 - RESIDENTIALA - HOUSES PRIVATELY OWNED

Ranking Type: TOTALS
15th Percentile = No. 46 (**)
85th Percentile = No. 9 (**) Time Range: 08:00-09:00

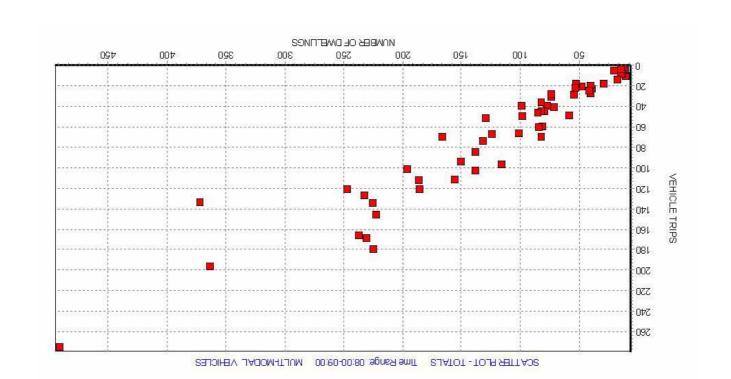
Median Values Arrivals: Departures: Totals: 8<u>+</u>1.0 91+.0 782.0

	01.010	cccio	10710	10/00/07	n	coc	TANK DESCRIPTION OF THE PROPERTY OF THE PROPER	000000000000000000000000000000000000000	70.17.60.170	1.6
	0+5.0	655.0	102.0	13/02/04	nyı	898	CAMBRIDGESHIRE	MIXED HOUSES, PETERBOROU	CY-03-Y-05	34
	Z₽S'0	844.0	660.0	20/90/02	nyı	737	WORCESTERSHIRE	DET./TERRACED, BROMSGROV	90-A-E0-OW	33
	842.0	265.0	0.153	10/20/90	ənT	124	CAMBRIDGESHIRE	SEMI D./TERRACED, CAMBRI	CA-03-A-01	32
	6 ⊁ S'0	995.0	681.0	24/04/09	İΤΉ	78	CUMBRIA	SEMI DETACHED, WORKINGTO	CB-03-Y-04	15
	0.553	424.0	0.129	90/90/50	noM	S8	HIGHLAND	BUNGALOWS, INVERNESS	11-A-E0-IH	30
	095.0	60 1 .0	121.0	10/62/03	nqŢ	164	EAST SUSSEX	MIXED HOUSES/FLATS, LEWE	ES-03-A-01	67
	292.0	024.0	0.145	1 0/∠0/80	nq⊥	131	BEDŁOKDZHIKE	SEMI DETACHED, LUTON	BD-03-A-01	82
	0ZS:0	814.0	0.152	90/20/60	İΤΞ	62	MEST MIDLANDS	TERRACED, COVENTRY	10-A-E0-MW	77
	8ZZ.0	294.0	6113	80/60/22	noM	īΖ	NORTH YORKSHIRE	HOUSES AND FLATS, RIPON	20-A-£0-YN	97
	065.0	655.0	152.0	80/90/50	nq⊥	68	EAST AYRSHIRE	DETATCHED, KILMARNOCK	10-A-E0-A3	52
	965.0	82 1 .0	8£1.0	14/04/02	nqŢ	525	TEES VALLEY	MIXED HOUSES/FLATS, HART	10-A-E0-VT	77
	809.0	0.425	681.0	14/02/07	noM	981	TINCOLNSHIRE	MIXED HONSES' FINCOFN	Z0-A-E0-NJ	23
	019.0	0.415	261.0	90/60/90	noM	Ţ þ	CAERPHILLY	SEMI DETACHED, PENGAM	CP-03-A-02	77
	919.0	024.0	961.0	10/11/60	İΤ쥐	138	GREATER MANCHESTER	SEMI DETACHED, MANCHESTE	GM-03-A-07	12
	919.0	152.0	285.0	30/90/02	nqı	13	CORNWALL	TERRACED, PENZANCE	CM-03-Y-01	70
	129.0	255.0	690'0	70/01/80	noM	67	CARDIFF	DETACHED, CARDIFF	CE-03-A-03	61
	729.0	044.0	781.0	12/02/02	ənŢ	120	LINCOLNSHIRE	WIXED HONZES' FINCOFN	10-A-E0-NJ	18
	£ 1 9.0	005.0	6-11-0	26/11/08	b9W	ÞΙ	STAFFORDSHIRE	TERRACED/DETACHED, STOKE	S0-A-E0-T2	Z I
	₽59.0	₽S2.0	0.130	₹0/90/01	nq_	182	LANCASHIRE	DETACHED/SEMI D., BLACKB	FC-03-∀-26	91
	859.0	164.0	791.0	17/10/02	nq_	777	CARDIFF	MIXED HONSES, CARDIFF	CE-03-A-01	ST
	£99.0	1 25.0	601.0	12/02/09	noM	101	SUFFOLK	MIXED HOUSES, BURY ST ED	SF-03-A-03	ÞΙ
	SZ9'0	024.0	0.225	20/11/08	nq_	04	CUMBRIA	SEMI DETACHED, WORKINGTO	CB-03-Y-03	13
	007.0	6.523	771.0	13/02/08	ənŢ	Z2Z	ESSEX	SEMI-DET., STANFORD-LE-H	EX-03-A-01	12
	227.0	8 + 2.0	₽ 71.0	30/04/02	noM	122	FIFE	MIXED HONSES' DNNFERMLIN	FI-03-A-03	II
	927.0	20 1 .0	125.0	Z0/60/ b Z	uoM	1 ⁄8	MEST MIDLANDS	MIXED HOUSING, COVENTRY	E0-A-E0-MW	10
	₽£7.0	164.0	6,243	Z4/02/02	nyı	730	SUFFOLK	SEMI DET./TERRACED, IPSW	SF-03-A-02	** 6
	147.0	902.0	0.235	18/09/02	bəW	18	TYNE & WEAR	SEMI DETACHED, SUNDERLAN	10-A-E0-WT	8
	9 b 2'0	£ \ 2.0	602.0	90/90/90	İηΉ	138	WORCESTERSHIRE	DETACHED, KIDDERMINSTER	E0-A-E0-OW	7
	£08.0	8£9.0	0.165	00/Z0/ b 0	ənŢ	724	STAFFORDSHIRE	MIXED HOUSES, STAFFORD	50-A-50-T2	9
	628.0	882.0	0.235	14/10/08	ənŢ	Z I	CHESHIKE	DETACHED, CREWE	CH-03-Y-02	S
	£ 1 8.0	876.0	0.165	Z3/0 4 /02	noM	SII	STIRLING	DETACHED, STIRLING	10-A-E0-AS	b
	S + 8.0	695.0	972.0	16/05/05	noM	89	FIFE	SEMI DETACHED, GLENROTHE	FI-03-A-02	ε
	₽28.0	7 £2.0	715.0	1 0/∠0/90	ənŢ	78	BEDŁOKDZHIKE	SEMI DETACHED, LUTON	BD-03-Y-05	7
	1,100	009.0	005.0	23/06/05	nq_	10	WORCESTERSHIRE	DETACHED, BROMSGROVE	10-A-E0-OW	Ţ
Plan	Totals	Departures	SlsvimA	Date	Day	DMEFFS	Area	Description	Site-Ref	Kgnk
Travel	(otals)	te (Sorted by	Trip Ra	1						

Bancroft Consulting Mercury House, New Basford Nottingham Licence No: 539501

	982.0	£ 1 1.0	6+1.0	12/06/08	Mon	ÞΙ	NORTH YORKSHIRE	РРІУАТЕ НОИЗІИС, ВОРОИСН	£0-A-£0-YN	₽S
	005.0	001.0	002.0	90/90/22	nq_	70	DEKBYSHIRE	SEMI D./TERRACED, DRONFI	DS-03-Y-01	23
	£££.0	0.250	880.0	90/+0/97	bəW	12	Mest Midlands	DETACHED/SEMI D., STRBRI	20-A-E0-MW	25
	9 ⊁ £.0	£71.0	£71.0	Z2/06/0Z	ən⊥	25	NORTH YORKSHIRE	MIXED HOUSES, NORTHALLERT	10-A-E0-YN	IS
	098.0	692.0	160.0	90/17/90	nyı	372	WEKSEKSIDE	ТЕРВАСЕР, ВОИСОВИ	10-A-E0-2M	20
	885.0	092.0	621.0	52\02\0 4	ənŢ	٤٧	GLOUCESTERSHIRE	SEMI D./TERRACED, GLOUCE	GS-03-A-01	6 b
	£04.0	0 , 2.0	591.0	14/10/08	ənŢ	179	CHEZHIKE	SEMI-DET./BUNGALOWS,CREW	CH-03-A-06	84
	₽0₽.0	£££.0	170.0	90/01/20	Mon	66	WILTSHIRE	SEMI D./TERRACED W. BASS	WL-03-A-01	4
	0.415	202.0	6113	70/60/90	iч	23	HERTFORDSHIRE	MIXED HOUSES, WELWYN GC	HF-03-A-01	** 97
	124.0	615.0	801.0	90/90/87	b9W	991	NOTTINGHAMSHIRE	ZEWI DETACHED, KIRKBY-IN-	E0-A-E0-TN	S₽
	22 1 .0	0.329	960'0	Z0/60/8T	ən⊥	23	CORNWALL	SEMI D./DETATCHED, TRURO	CM-03-A-02	44
	7£ 1 ,0	£££.0	₽01.0	90/90/70	ən⊥	84	MORCESTERSHIRE	SEMI DETACHED, REDDITCH	XO-A-E0-OW	43
	12 1 0	998.0	280.0	1 0/∠0/90	Mon	78	WREXHAM	SEMI DETACHED, WREXHAM	WE-03-A-01	45
	22 1 .0	₽98.0	160.0	03\02\02	ən⊥	11	LEICESTERSHIRE	DETACHED, MELTON MOWBRAY	LE-03-A-01	Ιb
	064.0	775.0	511.0	12/10/01	İΊΉ	747	GREATER MANCHESTER	SEMI DETACHED, STOCKPORT	GM-03-A-08	0₽
	0.500	0.425	270.0	50/90/02	Mon	0₽	CUMBRIA	SEMI DETACHED, WORKINGTO	CB-03-Y-05	36
	0.510	755.0	571.0	18\10\02	ən⊥	86	LANCASHIRE	BNNGALOWS, BLACKPOOL	FC-03-∀-22	38
	0.520	91 1 .0	₽01.0	23/02/02	b9W	LL	SUFFOLK	SEMI DETACHED, IPSWICH	SF-03-A-01	32
	0.520	614.0	701.0	20/01/90	İΊΞ	961	CARDIFF	MIXED HONSES, CARDIFF	CE-03-A-02	98
	752.0	685.0	8+1.0	12/11/02	ənŢ	₽S	SURREY	DETACHED, EAST MOLESEY	SC-03-A-03	32
Plan	Totals	Departures	Arrivals	Date	γεα	DMEFFS	Area	Description	Site-Ref	Rank
Travel	(slato)	te (Sorted by T	sA qirT							

1000 Place | Trics 2009(b) No. 4.2 | 280909 B14.19 | C) 2009 | B14.19 | C) 2009 | B14.19 | D) | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion | Dispersion



Monday 09/11/09 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium SITE DETAILS FOR EX-03-A-0.1

Bancroft Consulting Mercury House, New Basford Nottingham

Licence No: 539501

03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED Multi-Modal Site Version: 2008(b)v6.2.1 21/07/08 51.53517, 0.445885 Latitude/Longitude: Land Use Type: Site Reference:

SOUTH EASTESSEX

Region/Area

Created:

2008(b)v6.2.1 21/07/08

SEMI-DET., STANFORD-LE-HOPE MILTON ROAD /ersion/Creation Date: Description:

STANFORD-LE-HOPE CORRINGHAM SS17 8JU Post Code: District: Street: Town:

Edge of Town Residential Zone C3 Location: Location Sub Category: Use Class:

15,001 to 20,000 125,001 to 250,000 0.6 to 1.0 Car ownership within 5 Miles: Population within 5 Miles: Population within 1 Mile: Population within 500m:

Public Transport Provision Summary

Total Services	46	10	12	46	
Total Trains within 1000m					
Total buses/trams within 400m	46	10	12	46	
Period	0061-0020	0001-0020	1600-1900	0700-1900	0700-1900
Day	Monday-Friday	Monday-Friday	Monday-Friday	Saturday	Sunday

6.84 hect 237 34.65 S 담 ዖ ટ If not, are there any plans to implement implementation of the Travel Plan? Is the location of the site hilly or flat: Is site associated with a travel plan: Is survey data available before the a Travel Plan in the future? Urban Regeneration: Site area

No. of developments for this Site: No. of survey Days for this Site:

Number of dwellings

Housing Density

Bypass, which leads north-east towards Basildon and south-west towards Grays. The A13 also leads south-west towards Comments

This site is located on the north edge of Corringham. The site is within close proximity to the A13, the Stanford-le-Hope

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This site is located on the north edge of Corringham. The site is within close proximity to the A13, the Stanford-le-Hope

This site is located on the north edge of Corringham. the M25 and continues west into Central London.

- Bus (or tram) site accessibility
 3. Is there at least 1 his for the
- 3. Is there at least 1 bus (or fram) stop within the site frontage or within 400m of the site frontage? : Yes
 4. If yes to question 3, where it is necessary to cross a road between the development and the stop,
 is there a conveniently placed crossing facility? : Yes
 5. If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes

Monday 09/11/09 Page 2 Licence No: 539501 TRICS 2009(b)w6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium SITE DETAILS FOR EX-03-A-0.1

Bancroft Consulting Mercury House, New Basford Nottingham

serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes 6. If yes to question 5, what are the service characteristics? (please complete the outline information below)

Destination (town/area)	Number per hour	Approx. journey time
Basildon Bus Station	2	14

11. Please enter general comments/views about the relevance, quality and importance of public transport.

services relating to this development.

There is no train station within 1km of the site.

Design features encouraging non-car modes

12. Pedestrians None

13. Pedal cycles

None

Public transport
 There is a local bus service available.

Accessibility & Census Information

Road Network Distance to Local Developments	nts
Year of Analysis	2001
Nearest Primary School	0.5 kilometres
Nearest Secondary School	0.2 kilometres
Nearest Local Shop/Corner Shop	0.4 kilometres
Nearest Main Supermarket	1.6 kilometres
Nearest Doctors Surgery	1.0 kilometres
Nearest Hospital with Minor Injuries/A & E	1.6 kilometres
Nearest Sports/Leisure Centre	0.3 kilometres

Census Data	
Year of Census	2001
Census Output Area/Data Zone	
Number of people employed within Census Output Area	299
Number of households within Census Output Area	131
Number of people living within Census Output Area	386
Area of Census Output Area (hectares)	24.00
Population density within Census Output Area (per hectare)	16.43

Monday 09/11/09 Page 3 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium SITE DETAILS FOR EX-03-A-01

Bancroft Consulting Mercury House, New Basford Nottingham

SITE PHOTO



TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium DEVELOPMENT DETAILS FOR Ex-03-A-01 / 01	JMP Consultants Lt	d on behalf of the TRICS Consortium	Monday 09/11/09 Page 4
Bancroft Consulting Mercury House, New Basford	Nottingham		Licence No: 539501
Site reference: Trade name:	EX-03-A-01 MILTON ROAD	Multi-Modal survey site	
Site area (h/a):	6.84		
Site area excluding public open spaces (h/a) :	6.84		
Open since	1901		
Occupied dwellings Unoccupied dwellings Total dwellings	237		
Housing Density Privately owned units Non-Privately owned units Name of nearest site Distance to nearest similar site	34.65 237 0 ANTHONY DRIVE 0 Km		
Average Bedrooms Per Unit No of units with 1 bedroom No of units with 2 bedrooms No of units with 3 bedrooms No of units with 4+ bedrooms Total bedrooms	3.03 0 8 218 11 717 34.5		
סוור כמיפיל	54.6		

Residential unit types

	Private	Non-Private	logal
Detached houses	2	0	2
Semi-detached houses	224	0	224
Terraced houses	0	0	0
Bungalows	11	0	11
Flats (in houses)	0	0	0
Flats (in blocks)	0	0	0
Other (specify below)			
Other:			

Comments The nearest similar site is located 0.8km away.

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the	JMP Consultants Ltd on behalf of the TRICS Consortium	Monday 09/11/09
PARKING DETAILS FOR SITE EX-03-A-01		Page 5
Bancroff Consulting Marcury House New Bacford	Nottingham	Licence No. 539501

Multi-Modal survey site

599 87.573 2.527	86 290 203 20
On-Site parking Total no. of parking spaces Spaces Per Hectare Spaces Per declare	Number of spaces On-Street Driveway Garages Communal parking spaces

Off-Site parking details
Is there off-site parking available

Off-Site parking included in the counts

Free On-Street parking available nearby Yes

Yes If yes, considered easy to find a space

If prepared to pay, easy to find somewhere to park off-site all day

<u>Parking restrictions</u>
Area subject to parking restrictions (controlled parking zone - CPZ)

9 Off-Street parking Off-Street parking available

 $\underline{\text{Park }8\text{ Ride}}$ Park & Ride Type Facility providing relevant means of accessing the site

Monday 09/11/09 Page 6 Licence No: 539501 Day of week: Tuesday TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium SURVEY DAY DETAILS FOR EX-03-A-01 / 01

Bancroft Consulting Mercury House, New Basford Nottingham

Site reference:

Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type:

Manual Count

M weather: Hot and Clear
Hot and Clear

Survey date: 13/05/08

Final car park occupancy:

Survey type:

AM weather:
Hot and Clear
Hot and Clear
Hot and Clear
Initial car park occupancy:
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE

Public service OGV (2) Taxis 0 Motor cycles OGV (1) 86 11 Data proportions in % Motor cars Light goods

7 0 0

Parking Accum								(-49)	(-131)	(-141)	(-157)	(-146)	(-139)	(-136)	(-131)	(-92)	(-51)	(-12)	(10)					
Totals								109	166	84	74	29	95	93	93	185	151	169	114					
Departures 695								62	124	47	45	28	44	45	44	73	55	65	46					
Arrivals 705								30	42	37	59	39	51	48	49	112	96	104	89					
Time	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	02:00-06:00	00:00-00:90	07:00-08:00	00:60-00:80	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00

Comments

There are no initial and final car park occupancy figures provided as there are garages at the site and therefore these figures could not be counted.

No PSVs entered or exited the site during this survey.

Monday 09/11/09 Page 7 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Survey DAY DETAILS FOR EX-03-A-01 / 04

Bancroft Consulting Mercury House, New Basford Nottingham

Day of week: Tuesday Survey date: 13/05/08

Site reference: EX-03-A-01
Multi-Modal survey site
Vehicles surveyed: OGV

OGV (2) OGV (1) 100 Data proportions in %

0

1 occupant per OGV is assumed, and included in the vehicle occupants count

Fotals Accumulation								4 (0)	(0) 0	(0) 0	(0) 0	(0) 0	6 (-2)	4 (-2)	0 (-2)	0 (-2)	0 (-2)	0 (-2)	0 (-2)					-
Departures 8 To								2	0	0	0	0	4	2	0	0	0	0	0					
Arrivals 6								2	0	0	0	0	2	2	0	0	0	0	0					
Time	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	02:00-06:00	00:00-00:00	07:00-08:00	08:00-00:80	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009	TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium	Monday 09/11/09
SURVEY DAY DETAILS FOR EX-03-A-01 / 05		Page 8
Bancroft Consulting Mercury House, New Basford N	Nottingham	Licence No: 539501

Site reference: Multi-Modal surv Vehicles surveyo

Monday 09/11/09 Page 9 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Survey DAY DETAILS FOR EX-03-A-01 / 02

Bancroft Consulting Mercury House, New Basford Nottingham

Day of week: Tuesday Survey date: 13/05/08

Site reference: EX-03-A-01
Multi-Modal survey site
Vehicles surveyed: Cycles

Accumulation								(0)	(-5)	(-1)	(-5)	(-5)	(-1)	(-5)	(-4)	(-2)	(-3)	(-4)	(-5)					
Totals								4	2	1	1	0	П		2	6	4	15	14					
Departures 28								2	2	0	1	0	0	1	2	2	1	8	9					
Arrivals 26								2	0	1	0	0		0	0	4	3	7	8					
Time	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	02:00-06:00	06:00-07:00	07:00-08:00	00:60-00:80	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00

CS 2009(b)v6.4.2 280909 B14.19 (C) 2009	TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium	Monday 09/11/09
SURVEY DAY DETAILS FOR EX-03-A-01 / 06		Page 10
Bancroft Consulting Mercury House, New Basford No	l Nottingham	Licence No: 539501

Site reference: EX-03-A-01 Survey date Multi-Modal survey site People Surveyed: Car/LGV/Motorcycle occupants

Survey date: 13/05/08

Day of week: Tuesday

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

	2 3 4))	דטע קשט	Totals Accum
33 57 1	18 1	1 0 0	0 100	133 (-67)
65 75 3	30 15	3 1 0	0 197	262 (-199)
44 26 1	19 1 (0 0 0	29 0	111 (-222)
36 33 1	12 0 (0 0 0	0 57	93 (-243)
46 18 1	10 0	0 0 0	0 38	84 (-235)
36	4 4	0 0 0	0 56	125 (-222)
64 32 1	11 1	0 0 0	0 57	121 (-215)
63 34	8	0 0 0	0 53	116 (-205)
176 31 3	36 4	1 1 0	0 124	300 (-153)
131 30 1	16 4	2 0 0	0 82	213 (-104)
133 44 1	16 2	1 0 0	98 0	
93 29 1	12 2	2 0 0	0 67	160 (-31)

Monday 09/11/09 Page 11 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Survey DAY DETAILS FOR EX-03-A-01 / 07

Bancroft Consulting Mercury House, New Basford Nottingham

Day of week: Tuesday Survey date: 13/05/08

Site reference: EX-03-A-01
Multi-Modal survey site
People Surveyed: Pedestrians

Accumulation								(-21)	(-71)	(9/-)	(-84)	(6/-)	(-74)	(-72)	(-80)	(-15)	(1)	(-1)	(2)					
Totals								43	92	39	14	17	13	18	18	113	46	38	46					
Departures 245								32	71	22	11	9	4	8	13	24	15	20	19					
Arrivals 252								11	21	17	3	11	6	10	5	68	31	18	22					
Time	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	02:00-06:00	06:00-07:00	07:00-08:00	00:60-00:80	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00

ICS 2009(b)v6.4.2 280909 B14.19 (C) 200	TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium	Monday 09/11/09
SURVEY DAY DETAILS FOR EX-03-A-01 / 08		Page 12
croft Consulting Mercury House, New Basford	ird Nottingham	Licence No: 539501

Site reference: EX-03-A-01 S
Multi-Modal survey site
People Surveyed: Public transport Users

Survey date: 13/05/08

Day of week: Tuesday

Accumulation								(0)	(-2)	(4-)	(-4)	(-2)	(-2)	(2)	(2)	(2)	(4)	(9)	(9)					
Totals								0	4	4	2	1	S	4	0	0	2	2	0					
Departures 9								0	m	က	1	1		0	0	0	0	0	0					
Arrivals 15								0		H	1	0	4	4	0	0	2	2	0					
Time	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	02:00-06:00	00:00-02:00	07:00-08:00	00:60-00:80	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00

Monday 09/11/09 Page 13 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Survey DAY DETAILS FOR EX-03-A-01 / 09

Bancroft Consulting Mercury House, New Basford Nottingham

Day of week: Tuesday

Survey date: 13/05/08

Site reference: EX-03-A-01 Sulti-Modal survey site
People Surveyed: Bus/Tram Passengers

Accumulation								(0)	(-2)	(4-)	(-4)	(-2)	(-2)	(2)	(5)	(2)	(4)	(9)	(9)					
Totals								0	4	4	2	1	5	4	0	0	2	2	0					
Departures 9								0	က	3	1	1	1	0	0	0	0	0	0					
Arrivals 15								0	1	1	1	0	4	4	0	0	2	2	0					
Time	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	02:00-06:00	06:00-07:00	07:00-08:00	00:60-00:80	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 200	TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium	Monday 09/11/09
SURVEY DAY DETAILS FOR EX-03-A-01		Page 14
Bancroft Consulting Mercury House, New Basford	d Nottingham	Licence No: 539501

Day of week: Tuesday

Survey date: 13/05/08 Site reference: EX-03-A-01
Multi-Modal survey site
People Surveyed: Total people

Accumulation								(88-)	(-274)	(-303)	(-333)	(-321)	(-299)	(-287)	(-287)	(-171)	(-102)	(-26)	(-50)					
Totals								180	360	155	110	102	144	144	136	422	265	274	220					
Departures 1266								134	273	92	70	45	61	99	89	153	86	114	95					
Arrivals 1246								46	87	63	40	22	83	78	89	592	167	160	128					
Time	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00	07:00-08:00	08:00-00:80	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	00.10

Monday 09/11/09 Page 1 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium

Bancroft Consulting Mercury House, New Basford Nottingham

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

O2 SOUTH EAST

EX ESSEX

1 days

Filtering Stage 2 selection:

Number of dwellings 237 to 237 (units:) Parameter: Range:

Public Transport Provision: Selection by:

Include all surveys

01/01/00 to 24/04/09 Date Range: Selected survey days: Tuesday

1 days

1 days 0 days Selected survey types: Manual count Directional ATC Count

Selected Locations: Edge of Town

Selected Location Sub Categories: Residential Zone

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium

Monday 09/11/09 Page 2 Licence No: 539501

Bancroft Consulting Mercury House, New Basford Nottingham

LIST OF SITES relevant to selection parameters

ESSEX SEMI-DET., STANFORD-LE-HOPE

1 EX-03-A-01 SEMI-DET,
MILTON ROAD
CORRINGHAM
STANFORD-LE-HOPE
Total Number of dwellings:
Survey date: TUESDAY

237 13/05/08

Survey Type: MANUAL

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium

Monday 09/11/09 Page 3 Licence No: 539501

Bancroft Consulting Mercury House, New Basford Nottingham

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

ARRIVALS
Ave. Trip
00000 0 0
000.0 0 0.000
0 00:00
0 00:00
0 0.000
0 0.000
1 237 0.177
1 237 0.156
1 237 0.215
1 237 0.473
1 237 0.439
1 237 0.287
0 0.000
0 0.000
0 0.000
0 0.000
0 0000
2.976

Licence No: 539501

Parameter summary

Trip rate parameter range selected:

237 - 237 (units:) 01/01/00 - 24/04/09 1 0 0 53 Survey date date range:
Number of weekdays (Monday-Friday):
Number of Saturdays:
Number of Sundays:
Surveys manually removed from selection:

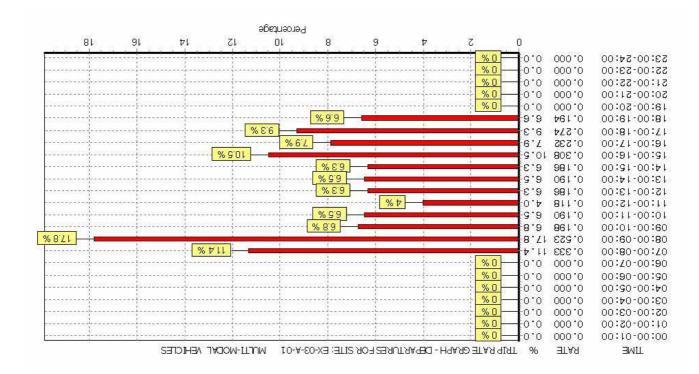
TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium

Bancroft Consulting Mercury House, New Basford Nottingham

Monday 09/11/09 4 9ge 4

Percentage 7 0 91 かし 21 οι 8 9 t \$3:00-\$3:00 \$3:00-\$4:00 %0 0.0 000.0 % O % O 0.0 000.0 0.0 000.0 51:00-55:00 %0 0.0 000.0 50:00-54:00 19:00-20:00 %0 0.0 000.0 00:61-00:81 % 9'6 0.287 9.6 8.41 654.0 17:00:18:00 9.61 904.0 00:71-00:91 6.81 674.0 12:00-16:00 % 6'91 0.207 14:00-12:00 0.7 13:00-14:00 %89 8.8 605.0 2.7 0.215 15:00-13:00 9 9 991.0 44:00-45:00 %17 1.4 0:155 10:00-11:00 % 2.3 6.8 5.8 991.0 00:01-00:60 O.17Z 00:60-00:80 % 6'9 E. 4 0.127 00:80-00:70 % O 0.0 000.0 00:20-00:90 %0 00:90-00:90 000.0 0.0 % O 0.0 000.0 00:90-00:00 0.0 000.0 03:00-04:00 %0 0.0 000.0 05:00-03:00 %0 0.0 000.0 01:00-05:00 %0 00:10-00:00 000.0 0.0 TRIP RATE GRAPH - ARRIVALS FOR SITE: EX-03-A-01 **TTAA** TIME MULTI-MODAL VEHICLES

Bancroft Consulting Mercury House, New Basford Nottingham

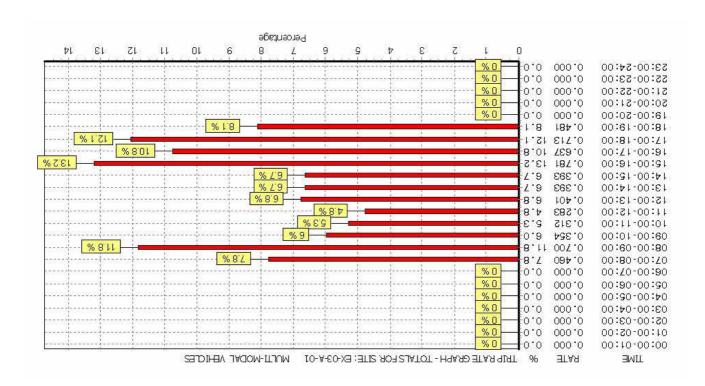


Licence No: 539501

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TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium

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TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Monday 09/11/09 Page 1

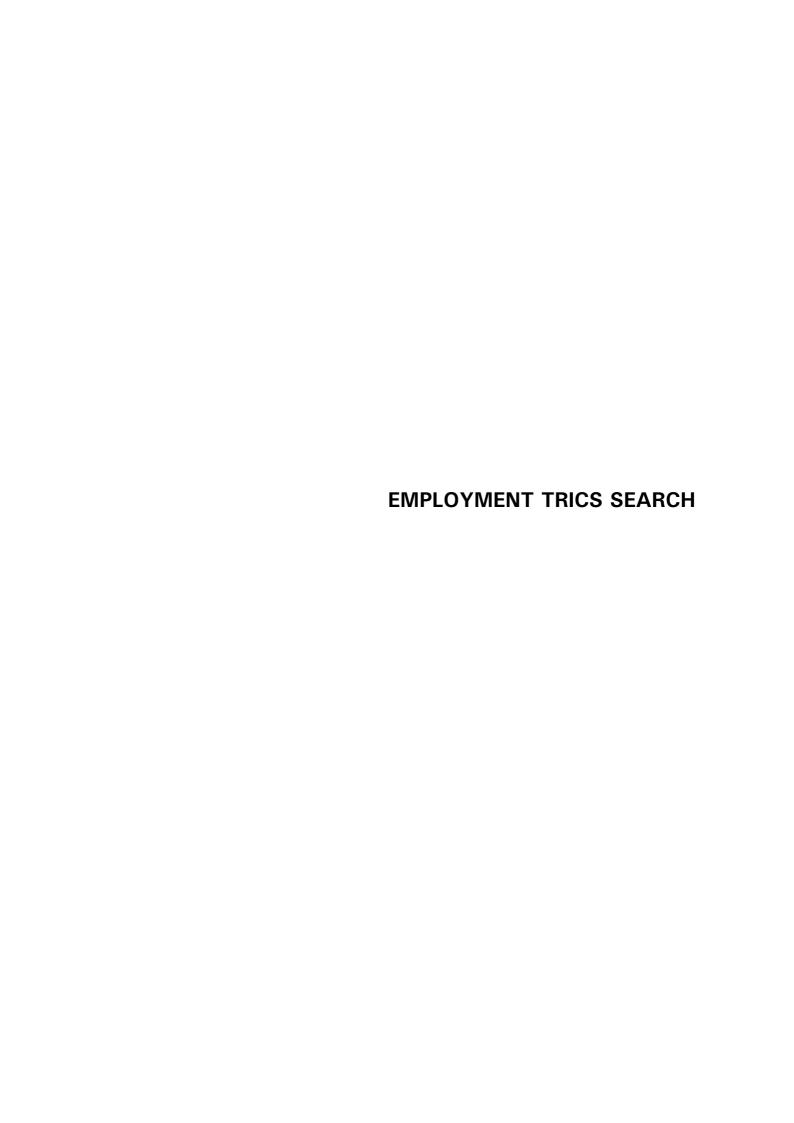
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Modal Split Percentages for EX-03-A-01 Surveyed : 13/05/08 Tuesday

Vehicle Occupants 77.1 %

Pedestriens 19.8 %

Public Transport Users 1.8.



TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMI	(C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium	Monday 09/11/09
Bancroft Consulting Mercury House, New Basford N	Nottingham	Licence No: 539501
TRIP RATE CALCULATION SELECTION PARAMETERS:	AMETERS:	
Land Use : 02 - EMPLOYMENT Category : B - BUSINESS PARK MULTI - MODAL VEHICLES		
Selected regions and areas: 03 SOUTH WEST		
DC DORSET WL WILTSHIRE	1 days 1 days	
	1 days	
ST	1 days	
ST	1 days	
	1 days 1 days	
_	E 1 days	
09 NORTH TW TYNE & WEAR	1 days	
Щ	1 days	
Filtering Stage 2 selection:		
Parameter: Gross floor area Range: 975 to 4460 (units: sqm)		
Public Transport Provision: Selection by:	Include all surveys	
Date Range: 01/01/00 to 17/07/08		
Selected survey days: Monday Tuesday Wednesday Thursday Friday	1 days 3 days 1 days 4 days 1 days	
Selected survey types: Manual count Directional ATC Count	10 days 0 days	
Selected Locations: Town Centre Suburban Area (PPS6 Out of Centre) Edge of Town	- m •	
Selected Location Sub Categories: Industrial Zone Residential Zone Built-Up Zone No Sub Category	4000	

Monday 09/11/09 Page 2 Licence No: 539501									
ehalf of the TRICS Consortium	CARDIFF Survey Type: MANUAL DORSET	Survey Type: MANUAL LI NCOLNSHI RE	Survey Type: MANUAL NORTH LI NCOLNSHIRE	Survey Type: MANUAL NOTTINGHAMSHIRE	Survey Type: MANUAL SUFFOLK	Survey Type: MANUAL STAFFORDSHIRE	Survey Type: MANUAL TYNE & WEAR	Survey Type: MANUAL WILTSHIRE	Survey Type: MANUAL
TRICS 2009 (b) v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Bancroft Consulting Mercury House, New Basford Nottingham LIST OF SITES relevant to selection parameters	1 CF-02-B-02 BUSI NESS/TECH. UNI TS, CARDI FF CRICKHOWELL ROAD ST MELLONS CARDIFF Total Gross floor area: 2587 sqm Survey date: FRIDAY 20/10/06 2 DC-02-B-01 BUSI NESS PARK, POOLE COMMERCIAL ROAD	POOLE Total Gross floor area: Survey date: THURSDAY 17/07/08 LN-02-B-01 BUSINESS PARK, LINCOLN BISHOPS ROAD	LINCOLN Total Gross floor area: 4460 sqm Survey date: TUESDAY 17/05/05 A NO-02-B-02 BUSINESS PARK, SCUNTHORPE DONCASTER ROAD	SCUNTHORPE Total Gross floor area: 1574 sqm Survey date: THURSDAY 22/09/05 5 NT-02-B-01 BUSINESS PARK, NOTTINGHAM PARK LANE	NOTTINGHAM Total Gross floor area: 2321 sqm Survey date: THURSDAY 17/05/07 6 SF-02-B-01 BUSI NESS PK, BURY ST EDMUNDS KEMPSON WAY	BURY ST EDMUNDS Total Gross floor area: Survey date: WEDNESDAY 7 ST-02-B-03 FRANK FOLEY WAY GREYFRIARS CTARFORD	Total Gross floor area: 4064 sqm Survey date: THURSDAY 06/07/00 8 TW-02-B-01 BUSINESS PARK, NEWCASTLE ST THOMAS STREET	NEWCASTLE Total Gross floor area: 975 sqm Survey date: TUESDAY 03/05/05 9 WL-02-B-01 BUSINESS PK,WOOTTON BASSETT HIGH STREET	WOOTON BASSETT WOOTON BASSETT Total Gross floor area: 2600 sqm Survey date: MONDAY 02/10/06

Monday 09/11/09 Page 3 Licence No: 539501 Survey Type: MANUAL TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium WORCESTERSHIRE 3525 sqm 02/05/06 WO-02-B-01 BUSINESS PARK, REDDITCH
BURNT MEADOW ROAD
MOORS MOAT NTH IND. EST
REDDITCH
Total Gross floor area: 3525 sqr
Survey date: TUESDAY 02/05/0 Bancroft Consulting Mercury House, New Basford Nottingham LIST OF SITES relevant to selection parameters (Cont.) 10

Page 4 Monday 09/11/09

770.0

991.0

2587 Fri 20/10/06

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium

Bancroft Consulting Mercury House, New Basford Nottingham Licence No: 539501

CARDIFF

RANK ORDER for Land Use 02 - EMPLOYMENT/B - BUSINESS PRRK
MULTI-MODAL VEHICLES
Ranking Type: TOTALS
ZO surveys is not recommended by TRICS and may be misleading.
20 surveys is not recommended by TRICS and may be misleading.
30 surveys is not recommended by TRICS and may be misleading.
48th Percentile = No. 2 (**)
88th Percentile = No. 2 (**)

0.490 Departures: Median Values Arrivals: 1.423

10 CE-02-B-02 BUSINESS/TECH. UNITS, CA

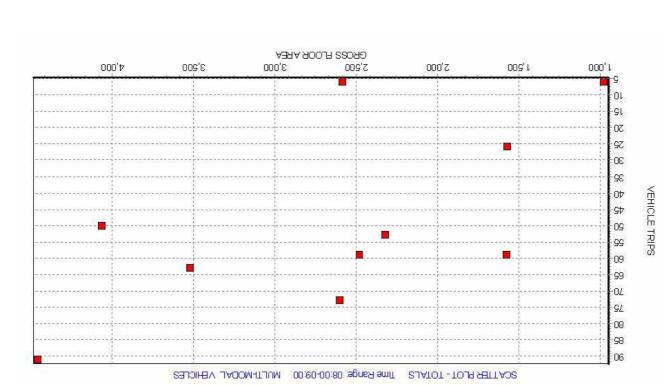
	919.0	E01.0	613.0	03\02\02	ənŢ	976	TYNE & WEAR	BUSINESS PARK, NEWCASTLE	TW-02-B-01	** 6
	1.230	791.0	1.033	00/L0/90	nqŢ	₱90₱	STAFFORDSHIRE	BUSINESS PARK, STAFFORD	ST-02-B-03	8
	999°L	721.0	1.529	80/L0/L1	nqŢ	1670	DORSET	BUSINESS PARK, POOLE	DC-05-B-01	L
	787.1	795.0	1.390	90/90/70	ənŢ	3252	WORCESTERSHIRE	BUSINESS PARK, REDDITCH	MO-02-B-01	9
	2.040	0.583	734. f	11/02/02	ənŢ	09††	ГІИСОГИЗНІВЕ	BUSINESS PARK, LINCOLN	LN-02-B-01	S
	2.284	474.0	018.1	17/05/07	nqŢ	7321	NOTTINGHAMSHIRE	BUSINESS PARK, NOTTINGHA	NT-02-B-01	7
	2.379	191.0	2.218	90/90/01	bəW	2480	SUFFOLK	BUSINESS PK, BURY ST EDM	SF-02-B-01	3
	2.808	385.0	2.423	90/01/70	noM	7600	WILTSHIRE	BUSINESS PK, WOOTTON BASS	WL-02-B-01	* * Z
	847.E	0.254	494.8	22/09/05	nqŢ	1274	ИОВТН LINCOLNSHIRE	ВОЗІИЕЗЗ РАВК, ЗСИИТНОЯР	NO-02-B-02	l
Plan	Totals	Departures	Arrivals	Date	Day	AŦĐ	Area	Description	Site-Ref	Kank
Travel	(slato)	te (Sorted by	Trip Ra							
	•							•		
									1 01912: 1	

Monday 09/11/09 5 age 5

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium

Licence No: 539501

Bancroft Consulting Mercury House, New Basford Nottingham



Site Reference:	WI-02-B-01
Latitude/Longitude:	51.5503414860659, -1.89322850613545
Land Use Type:	02 - EMPLOYMENT/B - BUSINESS PARK
Region/Area	SOUTH WESTWILTSHIRE
Description:	BUSINESS PK,WOOTTON BASSETT
Street:	HIGH STREET
District:	COPED HALL
Town:	WOOTTON BASSETT
Post Code:	SN4 8DP
Location: Location Sub Category: Use Class: <u>Use Class Break Down</u>	Edge of Town Residential Zone B1
B1(a)	73%
B1(c)	12%
B1(c)	0%
B2	0%
B8	15%
Population within 500m: Population within 1 Mile: Population within 5 Miles: Car ownership within 5 Miles:	2000 5,001 to 10,000 100,001 to 125,000 1.1 to 1.5

Monday 09/11/09 Page 1 Licence No: 539501

TRICS 2009 (b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium SITE DETAILS FOR WL-0.2-B-0.1

Bancroft Consulting Mercury House, New Basford Nottingham

Public Transport Provision Summary Total buses/trams Total Trains Day Period within 400m within 1000m Monday-Friday 0700-1900 36 within 1000m Monday-Friday 0700-1000 36 normalia Monday-Friday 1600-1900 38 normalia Saturday 0700-1900 140 normalia Saturday 0700-1900 140 normalia		Total	Services	156	36	38	140	40
		Total Trains	within 1000m					
Monday-Friday 0700-1900 Monday-Friday 0700-1000 Monday-Friday 0700-1000 Saturday 0700-1000 Saturday 0700-1000 Saturday 0700-1000		Total buses/trams	within 400m	156	36	38	140	40
Public Transport Provi Day Monday-Friday Monday-Friday Monday-Friday Saturday Sunday	sion Summary	Period		0700-1900	0001-0020	1600-1900	0061-0020	0061-0020
	Public Transport Provi	Day		Monday-Friday	Monday-Friday	Monday-Friday	Saturday	Sunday

S

Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	ON.
Is survey data available before the	
implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Flat
Urban Regeneration:	No
Gross floor area	2600 sqm
Total Full Time Employees	95
Total Part Time Employees	59

No. of developments for this Site: No. of survey Days for this Site:

Comments

This site is the Coped Hall Business Park. It is located at the northern edge of Wootton Bassett, off the A3102 High Street, which heads north-east a very short distance to the junction with the B4042 (where it turns eastwards and heads towards Junction 16 of the M4 motorway), and south-west through the town and beyond.

The site has a single access for all modes, with an internal loop road serving its 4 buildings.

Local developments are mainly residential to the west and south, with open land across the A3102 to the east and across

There were 2 vacant units at the site, which have a combined Gross Floor Area of 825m2 (excluded from the survey). There are 3 bus stops close to the site, all across High Street (one on High Street itself and one on either side of Maple Drive) - all a short distance to the west. the B4042 to the north.

Monday 09/11/09 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium SITE DETAILS FOR WL-02-B-01

Bancroft Consulting Mercury House, New Basford Nottingham

Licence No: 539501

Bus (or tram) site accessibility

- 3. Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes 4. If yes to question 3, where it is necessary to cross a road between the development and the stop,
- 5. If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes 6. If yes to question 5, what are the service characteristics? (please complete the outline information below) is there a conveniently placed crossing facility? : Yes

Approx. journey time	40	30	
Number per hour	3	3	
Destination (town/area)	Chippenham	Swindon	

11. Please enter general comments/views about the relevance, quality and importance of public transport

In addition to the bus services shown there is an hourly service available to Malmesbury, the journey time taking 30

The bus frequencies are slightly lower at am and pm peaks than at other times of the day.

Design features encouraging non-car modes

12. Pedestrians None

13. Pedal cycles

Cycle storage is available at the site, and there are local cycle routes.

14. Public transport
The site is in close proximity to local bus routes.

Monday 09/11/09 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium SITE DETAILS FOR WL-02-B-01
Bancroft Consulting Mercury House, New Basford Nottingham

SITE PHOTO



Monday 09/11/09 Page 4	Licence No: 539501							
TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium DEVELOPMENT DETAILS FOR WL-02-B-01 / 01	Nottingham	WL-02-B-01 Multi-Modal survey site FAST TRACK HOLIDAYS	0°60 009 0	2004 26 22 84% 4 16%	%58	65% 35% 12.500	2 SCORPIO TRAVEL 5 Km	to 23:00 to 23:00 to 23:00 to 23:00
TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 DEVELOPMENT DETAILS FOR WL-02-B-01 / 01	Bancroft Consulting Mercury House, New Basford	Site reference: Trade name:	Site area (h/a): Gross floor area (sqm) GFA not in use (sqm)	Open since Total Employees Full Time Employees Part Time Employees	al employee s or similar nployee Gen	Male FA per employee	Number of units Name of nearest site Distance to nearest similar site	OPENING TIMES (24 Hour format) Mon to Thurs 68:00 Friday Saturday 08:00 Sunday 08:00

Comments
The site area shown is the total for the whole site.
This unit is a company providing specific HR software.
Shiftwork is not undertaken at this unit.

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Shiftwork is not undertaken at this unit.

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 DEVELOPMENT DETAILS FOR WL-02-B-01 / 02	TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium DEVELOPMENT DETAILS FOR WL-02-8-01 / 02	Monday 09/11/09 Page 5
Bancroft Consulting Mercury House, New Basford	Nottingham	Licence No: 539501
Site reference: Trade name:	WL-02-B-01 Multi-Modal survey site HIRUMED LIMITED/POINT OF CARE SERVICES	
Site area (h/a): Gross floor area (sqm) GFA not in use (sqm)	0.60 175 0	
Open since Total Employees Full Time Employees Part Time Employees	2005 26 22 84% 4 16%	
Approximate 70 or rotal employees working standard 9-5 hours or similar Percentage Split of Employee Gender Male Female	85% 65% 35%	
GFA per employee Number of units Name of nearest site Distance to nearest similar site	12.500 1 CLINICAL SYSTEMS LTD 75 Km	
OPENING TIMES (24 Hour format) Mon to Thurs Friday Saturday Sunday 00:00 00:00	to 17:30 to 17:30 to 00:00 to 00:00	

Monday 09/11/09 Page 6	Licence No: 539501							
(C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium B-01 / 03	Nottingham	WL-02-B-01 Multi-Modal survey site NIGEL B BUTLER	0.60 100 0	2005 26 22 84% 4 16%	85% 85%	03.% 12.500 1	HAYDN J WILLIAMS 2 Km	to 17:30 to 17:30 to 00:00 to 00:00
TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 DEVELOPMENT DETAILS FOR WL-02-B-01 / 03	Bancroft Consulting Mercury House, New Basford	Site reference: Trade name:	Site area (h/a): Gross floor area (sqm) GFA not in use (sqm)	Open since Total Employees Full Time Employees Part Time Employees	Approximate % of total employees working standard 9-5 hours or similar Percentage Split of Employee Gender	rvate Female GFA per employee Number of units	Name of nearest site Distance to nearest similar site	OPENING TIMES (24 Hour format) Mon to Thurs 69:00 Friday Saturday 00:00 Sunday 00:00

Comments
The site area shown is the total for the whole site.
This unit is a company providing specific HR software.
Shiftwork is not undertaken at this unit.

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This unit is a company providing specific HR software.
Shiftwork is not undertaken at this unit.

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 DEVELOPMENT DETAILS FOR WL-02-B-01 / 04	TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium DEVELOPMENT DETAILS FOR WL-02-B-01 / 04	Monday 09/11/09 Page 7
Bancroft Consulting Mercury House, New Basford	Nottingham	Licence No: 539501
Site reference: Trade name:	WL-02-B-01 Multi-Modal survey site INFOCAP TECHNOLOGIES LIMITED	
Site area (tr/a): Gross floor area (sqm) GFA not in use (sqm)	0.60 100 0	
Open since Total Employees	2005 26	
Full Time Employees Part Time Employees	22 84% 4 16%	
Approximate % of total employees working standard 9-5 hours or similar percentage South of Employee Condensity of	85%	
Male Female Spin of Employee Condenses	65% 35%	
GFA per employee Number of units	12.500 1	
Name of nearest site Distance to nearest similar site	FORMSCAN, FROME 50 Km	
OPENING TIMES (24 Hour format) Mon to Thurs 62:00 Friday Saturday 00:00 Sunday 00:00	to 17:30 to 17:30 to 00:00 to 00:00	

Bancroft Consulting Mercury House, New Basford		DEVELOPMENT DETAILS FOR WL-02-B-01 / 05	Page 8
	Nottingham		Licence No: 539501
Site reference: Trade name:	WL-02-B-01 JELF GROUP PLC	Multi-Modal survey site	
Site area (h/a): Gross floor area (sqm) GFA not in use (sqm)	0.60 250 0		
Open since Total Employees Full Time Employees Part Time Employees	2005 26 22 84% 4 16%		
Approximate % of total employees working standard 9-5 hours or similar Percentage Split of Employee Gender	85%		
Male Female	65% 35%		
GFA per employee Number of units	12.500 1		
Name of nearest site Distance to nearest similar site	ALLIED WESSEX 2 Km		
OPENING TIMES (24 Hour format) Mon to Thurs 09:00 Friday 09:00 Saturday 00:00 Sunday 00:00	to 17:30 to 17:30 to 00:00 to 00:00		

Comments
The site area shown is the total for the whole site.
This unit is a company providing specific HR software.
Shiftwork is not undertaken at this unit.

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Shiftwork is not undertaken at this unit.

TRICS 2009 (b) v6.4.2 280909 B14.19 (C) 2009 DEVELOPMENT DETAILS FOR WL-02-B-01 / 06	TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium DEVELOPMENT DETAILS FOR WL-02-B-01 / 06	Monday 09/11/09 Page 9
Bancroft Consulting Mercury House, New Basford	Nottingham	Licence No: 539501
Site reference: Trade name:	WL-02-B-01 Multi-Modal survey site TRIO CHILDCARE CONNECTION	
Site area (tr/a): Gross floor area (sqm) GFA not in use (sqm)	0.60 200 0	
Open since Total Employees Full Time Employees Part Time Employees	2005 26 22 84% 4 16%	
Approximate % of total employees working standard 9-5 hours or similar Percentage Split of Employee Gender Male Female	85% 65% 35%	
GFA per employee Number of units Name of nearest site Distance to nearest similar site	12.500 1 CHILDCARE PLUS LIMITED 125 Km	
OPENING TIMES (24 Hour format) Mon to Thurs 09:00 Friday 09:00 Saturday 00:00 Sunday 00:00	to 17:00 to 17:00 to 00:00 to 00:00	

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 DEVELOPMENT DETAILS FOR WL-02-B-01 / 07	5	Monday 09/11/09 Page 10
Bancroft Consulting Mercury House, New Basford	Nottingham	Licence No: 539501
	WL-02-B-01 Multi-Modal survey site COPED HALL MANAGEMENT COMPANY LIMITED	
Site area (h/a): Gross floor area (sqm) GFA not in use (sqm)	0,60 350 0	
Open since Total Employees Full Time Employees	2005 26 2 84% 1 1.0%	
Approximate % of total employees working standard 9-5 hours or similar Percentage Split of Employee Gender	88% 85%	
wate GFA per employee Number of units	93% 35% 12.500	
Name of nearest site Distance to nearest similar site	BUSINESS SPACE SERV. 8 Km	
OPENING TIMES (24 Hour format) Mon to Thurs 09:00 Saturday Saturday 00:00 Sunday 00:00	00 to 17:00 00 to 17:00 00 to 00:00 00 to 00:00	

Comments
The site area shown is the total for the whole site.
This unit is a company providing specific HR software.
Shiftwork is not undertaken at this unit.

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The site area shown is the total for the whole site.
This unit is a company providing specific HR software.
Shiftwork is not undertaken at this unit.

TRICS 2009 (b) v6.4.2 280909 B14.19 (C) 2009 DEVELOPMENT DETAILS FOR WL-02-B-01 / 08	TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium DEVELOPMENT DETAILS FOR WL-02-B-01 / 08	Monday 09/11/09 Page 11
Bancroft Consulting Mercury House, New Basford	Nottingham	Licence No: 539501
Site reference: Trade name:	WL-02-B-01 Multi-Modal survey site BRITISH RED CROSS	
Site area (tv/a): Gross floor area (sqm) GFA not in use (sqm)	0.60 500 0	
Open since Total Employees	2006 26	
Full Time Employees Part Time Employees	22 84% 4 16%	
Approximate % of total employees working standard 9-5 hours or similar Percentage Split of Employee Gender	85%	
Male	65% 35%	
GFA per employee Number of units Name of nearest site Distance to nearest similar site	12.500 2 BRITISH RED CROSS 80 Km	
OPENING TIMES (24 Hour format) Mon to Thurs 62:00 Friday Saturday 00:00 Sunday 00:00	to 17:00 to 17:00 to 00:00 to 00:00	

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 DEVELOPMENT DETAILS FOR WL-02-B-01 / 09	TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium DEVELOPMENT DETAILS FOR WL-02-B-01 / 09	Monday 09/11/09 Page 12
Bancroft Consulting Mercury House, New Basford Nottingham	i Nottingham	Licence No: 539501
Site reference: Trade name:	WL-02-B-01 Multi-Modal survey site INFOSUPPORT (GOWI SERVICES)	
Site area (h/a):	09.0	
Gross floor area (sqm) GFA not in use (sqm)	325 0	
Open since	2006	
Total Employees	26	

1 INTELLECT, ST ALBANS 110 Km 26 22 84% 4 16% 35% 12.500 %59 Approximate % of fotal employees working standard 9-5 hours or similar Percentage Split of Employee Gender Male Female Distance to nearest similar site Full Time Employees Part Time Employees Name of nearest site GFA per employee Number of units

17:00 17:00 00:00 09:00 09:00 00:00 00:00 00:00 OPENING TIMES (24 Hour format) Mon to Thurs Saturday Sunday Friday

Comments
The site area shown is the total for the whole site.
This unit is a company providing specific HR software.
Shiftwork is not undertaken at this unit.

onsortium Monday 09/11/09 Page 13	Licence No: 539501													
TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium PARKING DETAILS FOR SITE WL-02-B-01	Nottingham	Multi-Modal survey site												Comments about the management of the site car park, along with enforcement measures Some of the parking spaces are marked out for individual companies within the site.
) B14.19 (C) 2009 WL-02-B-01	House, New Basford		ces 111 4.269		107	4	0	0	80	0	0	0	No	anagement of the site y spaces are marked or
TRICS 2009(b)v6.4.2 280909 B14.19 (C) PARKING DETAILS FOR SITE WL-02-B-01	Bancroft Consulting Mercury House, New Basford	On-Site parking	Total no. of parking spaces Spaces Per 100m2 GFA	Number of spaces	Employee	Disabled	Visitor/Customer	OGV parking bays	Cycle racks	OGV loading bays	Mother & Toddler	Motorcycle spaces	Parking charges	Comments about the man Some of the parking

Site parking surface or non-surface (multi-storey/underground)
Surface

Off-Site parking details Is there off-site parking available

Off-Site parking included in the counts

Free On-Street parking available nearby Yes

If yes, considered easy to find a space Yes

If prepared to pay, easy to find somewhere to park off-site all day $$\operatorname{\textsc{No}}$$

Parking restrictions Area subject to parking restrictions (controlled parking zone - CPZ)

9

Off-Street parking Off-Street parking available

Park & Ride Park & Ride Type Facility providing relevant means of accessing the site

Monday 09/11/09 Page 14 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium SURVEY DAY DETAILS FOR WL-02-B-01 / 01

Bancroft Consulting Mercury House, New Basford Nottingham

Survey date: 02/10/06 Multi-Modal survey site Vehicles surveyed: Total vehicles Mild and Windy Mild and Windy Manual Count WL-02-B-01 Site reference: Survey type:

Final car park occupancy: BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE AM weather:

PM weather:

Initial car park occupancy:

15

Public service OGV (2) Motor cycles OGV (1) 11 Data proportions in % Light goods Motor cars

,	0	
(1)	Taxis	
(.)		
25.06		

Parking Accum															2	15	26	89	84	94	94	94	91	98	77	80	82	98	88	88	85	85	81	99	33	17	17	15										
Totals															3	15	17	56	16	12	20	10	21	17	21	11	17	-	4	2	6	10	12	18	36	20	9	2										
Departures 172															2	-	m	7	С		10	22	12	11	15	4	9	0	-	_	9	2	8	17	34	18	8	2										
Arrivals 184															-	14	14	49	16	11	10	2	6	9	9	7	11		3	-	3	2	4	l	2	2	3	0										
Time	00:00-00:30	00:30-01:00	01:00-01:30	01:30-02:00	02:00-02:30	02:30-03:00	03:00-03:30	03:30-04:00	04:00-04:30	04:30-05:00	05:00-05:30	05:30-06:00	06:00-06:30	06:30-07:00	07:00-07:30	07:30-08:00	08:00-08:30	08:30-09:00	06:00-00:30	09:30-10:00	10:00-10:30	10:30-11:00	11:00-11:30	11:30-12:00	12:00-12:30	12:30-13:00	13:00-13:30	13:30-14:00	14:00-14:30	14:30-15:00	15:00-15:30	15:30-16:00	16:00-16:30	16:30-17:00	17:00-17:30	17:30-18:00	18:00-18:30	18:30-19:00	19:00-19:30	19:30-20:00	20:00-20:30	20:30-21:00	21:00-21:30	21:30-22:00	22:00-22:30	22:30-23:00	23:00-23:30	23:30-24:00

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium SURVEY DAY DETAILS FOR WL-02-B-01 / 01

Bancroft Consulting Mercury House, New Basford Nottingham

Monday 09/11/09 Page 15 Licence No: 539501

Day of week: Monday

Comments

No PSV's or taxis entered or exited the site during this survey.

OGV's parked in the general parking areas, as there are no specific OGV parking spaces/loading bays available.

There are occasions when the number of vehicles exceeds the number of vehicle occupants. This can be explained by the fact that vehicles picking up/dropping off people at the site are included as both vehicle arrivals and departures, but drivers of such vehicles are excluded from the vehicle occupants count.

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Monday 09/711/09 SURVEY DAY DETAILS FOR WL-02-B-01 / 03 Page 16 Bancroft Consulting Mercury House, New Basford Nottingham Licence No: 539501

Site reference: WL-02-B-01 Sur Multi-Modal survey site Vehicles surveyed: OGV

3-01 Survey date: 02/10/06

: 02/10/06 Day of week: Monday

1 occupant per OGV is assumed, and included in the vehicle occupants count

0

OGV (2)

OGV (1) 100

Data proportions in %

ב	Allivais	Departures	lotals	Total Indian
00:00-00:30				
00:30-01:00				
01.00-01.30				
01.30.02.00				
01.30-02.30				
00:50 05:00				
02.30-03.00				
03:00-03:30				
03:30-04:00				
04:00-04:30				
04:30-05:00				
05:00-05:30				
05:30-06:00				
06:00-06:30				
06:30-07:00				
07:00-07:30	0	0	0	(0)
07:30-08:00	0	0	0	0
08:00-08:30	0	0	0	(0)
08:30-06:00	0	0	0	(0)
09:00-09:30	0	0	0	(0)
09:30-10:00	0	С	0	(0)
10:00-10:30	0	C	0	(0)
10:30-11:00	-	0	-	E E
11.00-11.30	c		-	8
11:30-12:00	0	- 0	- c	00
12:00-12:30				9
12:30-12:30			0 0	0)(0)
12:00-12:00				
13:00-13:30				0)
13:30-14:00	D	D.	o l	0);
14:00-14:30	0	0	0	0
14:30-15:00	0	0	0	0
15:00-15:30	0	0	0	(0)
15:30-16:00	0	0	0	(0)
16:00-16:30	0	0	0	(0)
16:30-17:00	0	0	0	(0)
17:00-17:30	0	0	0	(0)
17:30-18:00	0	0	0	(0)
18:00-18:30	0	0	0	(0)
18:30-19:00	0	0	0	(0)
19:00-19:30				
19:30-20:00				
20:00-20:30				
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21:00-21:30				
21:30-22:00				
22:00-22:30				
22:30-23:00				
23:00-23:30				
20:02				

Monday 09/11/09	Page 17	Licence No: 539501
JMP Consultants Ltd on behalf of the TRICS Consortium		Nottingham
TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of	SURVEY DAY DETAILS FOR WL-02-B-01 / 02	Bancroft Consulting Mercury House, New Basford

Site reference: WL-02-B-01 Survey date: 02/10/06 Multi-Modal survey site Vehicles surveyed: Cycles

Day of week: Monday

00:30-01:00				
00.10				
01:00-01:30				
01:30-02:00				
02:00-02:30				
02:30-03:00				
03:00-03:30				
03:30-04:00				
04:00-04:30				
04:30-05:00				
05:00-05:30				
05:30-06:00				
06:00-06:30				
06:30-07:00				
07:00-07:30	0	0	0	(0)
07:30-08:00	0	0	0	(0)
08:00-08:30	0	0	0	(0)
08:30-06:00		0	_	(1)
06:00-06:30	-	0	_	(2)
09:30-10:00	0	0	0	(2)
10:00-10:30	0	0	0	(2)
10:30-11:00	0	C	C	(2)
11:00-11:30	0	0	0	(2)
11:30-12:00	0	0	0	(2)
12.00-12.30	0	,	o -	(1)
12:30-12:00		- c	- c	3(3)
12.30-13:00	0 ,		5 7	
13:00-13:30		0		(2)
13:30-14:00	0	0	0	(2)
14:00-14:30	0	1	1	(1)
14:30-15:00	0	0	0	(1)
15:00-15:30	0	0	0	(1)
15:30-16:00	0	0	0	(1)
16:00-16:30	0	0	0	ΞΞ
16:30-17:00	0	0	0	Ξ
17:00-17:30	0	0	0	(1)
17:30-18:00	0	-	-	(0)
18:00-18:30	0	0	0	(0)
18:30-19:00	0	0	0	(0)
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21:00-21:30				
21-30-22-00				
22:00-22:30				
22:30-23:00				
22:30-23:00				
23:00-23:30				

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Monday 09/11/09 Page 18 Survey DAY DETAILS FOR WIL-02-B-01 / 04 Basford Nottingham Ltd on Sulting Mercury House, New Basford Nottingham

Site reference: WL-02-B-01 Survey date: 02/10/06
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

Day of week: Monday

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	Arrivals 202	Departures 184	lotals	Accumulation
00:00-00:30				
00:30-01:00				
01:00-01:30				
01:30-02:00				
02:00-02:30				
02:30-03:00				
03:00-03:30				
03:30-04:00				
04:00-04:30				
04:30-05:00				
05:00-05:30				
05:30-06:00				
06:00-06:30				
06:30-07:00				
07:00-07:30	1	2	3	(-1)
07:30-08:00	15	0	15	(14)
08:00-08:30	14	2	16	(56)
08:30-09:00	50	9	26	(07)
09:00-09:30	17	0	17	(87)
09:30-10:00	11	٢	12	(26)
10:00-10:30	10	10	20	(26)
10:30-11:00	9	2	11	(86)
11:00-11:30	12	16	28	(64)
11:30-12:00	9	11	17	(68)
12:00-12:30	9	17	23	(78)
12:30-13:00	7	4	11	(81)
13:00-13:30	15	7	22	(68)
13:30-14:00	2	0	2	(61)
14:00-14:30	4	1	2	(64)
14:30-15:00	2	1	3	(62)
15:00-15:30	3	9	6	(65)
15:30-16:00	5	9	11	(61)
16:00-16:30	5	6	14	(87)
16:30-17:00	1	17	18	(71)
17:00-17:30		35	36	(37)
17:30-18:00	3	20	23	(20)
18:00-18:30	9	3	6	(23)
18:30-19:00	0	5	5	(18)
19:00-19:30				
19:30-20:00				
20:00-20:30				
20:30-21:00				
21:00-21:30				
21:30-22:00				
22:00-22:30				
22:30-23:00				
23:00-23:30				

Monday 09/11/09	Page 19	Licence No: 539501
JMP Consultants Ltd on behalf of the TRICS Consortium		Nottingham
TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Con	SURVEY DAY DETAILS FOR WL-02-B-01 / 05	Bancroft Consulting Mercury House, New Basford

Day of week: Monday

Site reference: WL-02-B-01 Survey date: 02/10/06 Multi-Modal survey site People Surveyed: Pedestrians

00:00-00:30 00:30-01:00 01:00-01:30 01:30-02:00				
00:30-01:00 01:00-01:30 01:30-02:00				
01:30-02:00				
01:30-02:00				
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02:00-02:30				
02:30-03:00				
03:00-03:30				
03:30-04:00				
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00.00-00.00				
05:30-06:00				
06:00-06:30				
06:30-07:00				
07:00-07:30	0	0	0	(0)
07:30-08:00	0	0	0	(0)
08:00-08:30	_	-	2	(0)
08:30-06:00		0	-	(1)
09:00-09:30	0	o	О	(1)
09:30-10:00	C	C	C	(1)
10:00 10:30				
10.00-10.30		,	,	3
10:30-11:00	O	_		(0)
11:00-11:30	-	0	-	(1)
11:30-12:00	0	0	0	(1)
12:00-12:30	0	1	1	(0)
12:30-13:00	,-	22	9	(-4)
13.00-13.30	ĸ	12	17	(-11)
13:30-14:00	2 7		ά	(1)
14.00.44.00	<u>+</u> (+ 0	2	(1-)
14:00-14:30	7	0 (7	Ξ
14:30-15:00	0	0	0	(1)
15:00-15:30	0	0	0	(1)
15:30-16:00	0	0	0	(1)
16:00-16:30	0	0	0	(1)
16:30-17:00	0			(0)
17:00-17:30	-	m	4	(-2)
17:30-18:00		0	,	(1-)
18:00-18:30	0	0	0	(1-)
18:30-19:00	0	0	0	(1-)
19:00-19:30				
19:30-20:00				
20.00-20.30				
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22:30-23:00				
23.00-23.30				
23.00-23.30				

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Monday 09/711/09 SURVEY DAY DETAILS FOR WL-02-B-01 / 06 Bancroft Consulting Mercury House, New Basford Nottingham Licence No: 539501

Site reference: WL-02-B-01 Survey date:
Multi-Modal survey site
People Surveyed: Public transport Users

WL-02-B-01 Survey date: 02/10/06 Day of week: Monday site

Accumulation																(0)	(E)	(2)	(4)	(5)	(4)	(4)	(2)	(2)	(2)	(2)	(5)	(2)	(2)	(2)	(2)	(9)	(9)	(5)	(2)	(2)	(1)	(1)	(1)										
Totals																0	_	-	2	_	-	0	-	0	0	0	0	0	0	0	0	-	0	_	3	0	1	0	0										
Departures 6																0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	_	8	0	1	0	0										
Arrivals 7																0	_	-	2	٢	0	0	_	0	0	0	0	0	0	0	0	_	0	0	0	0	0	0	0										
Time	00:00-00:30	00:30-01:00	01:00-01:30	01-30-02-00	02:30-02:30	02:00-02:30	02:30-03:00	03:00-03:30	03:30-04:00	04:00-04:30	04:30-05:00	05:00-05:30	05:30-06:00	06:00-06:30	06:30-07:00	07:00-07:30	07:30-08:00	08:00-08:30	08:30-06:00	09:00-09:30	09:30-10:00	10:00-10:30	10:30-11:00	11:00-11:30	11:30-12:00	12:00-12:30	12:30-13:00	13:00-13:30	13:30-14:00	14:00-14:30	14:30-15:00	15:00-15:30	15:30-16:00	16:00-16:30	16:30-17:00	17:00-17:30	17:30-18:00	18:00-18:30	18:30-19:00	19:00-19:30	19:30-20:00	20:00-20:30	20:30-21:00	21:00-21:30	21:30-22:00	22:00-22:30	22:30-23:00	23:00-23:30	23:30-24:00

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Monday 09/11/09 SURVEY DAY DETAILS FOR WL-02-B-01 / 07 Page 21 Bancroft Consulting Mercury House, New Basford Nottingham L

Site reference: WL-02-B-01 Survey date: 02/10/06 Multi-Modal survey site People Surveyed: Bus/Tram Passengers

Day of week: Monday

Time	/ CIDALLIA	Departures o	2000	
00:00-00:30				
00:30-01:00				
01:00-01:30				
01:30-02:00				
02:00-02:30				
02:30-03:00				
03:00-03:30				
03:30-04:00				
03:30-04:30				
04.00-04.30				
04:30-05:00				
05:00-05:30				
05:30-06:00				
06:00-06:30				
06:30-07:00				
07:00-07:30	C	C	С	(0)
07:30-08:00	, -	0	, -	(1)
00:00-00:00				(5)
06.00-06.30	- (0 0	- 0	(2)
08:30-04:00	2	0	2	(4)
09:00-09:30	1	0	-	(2)
09:30-10:00	0	_	-	(4)
10.00-10.30	c	c	c	(4)
10:30 11:00	,		7	9
10:30-11:00		D.	_	(e)
11:00-11:30	0	0	0	(5)
11:30-12:00	0	0	0	(2)
12:00-12:30	0	0	0	(5)
12:30-13:00	c	c	С	(5)
12:00 12:20				
13:00-13:30	> '	D.	5	6
13:30-14:00	0	0	0	(5)
14:00-14:30	0	0	0	(2)
14:30-15:00	С	С	О	(5)
15.00-15.30		C		(9)
15.30.16.00				(9)
15:30-16:00		0 17	7	9
16:00-16:30		- 0	- 0	(e)
16:30-17:00	O	33	m	(7)
17:00-17:30	0	0	0	(2)
17:30-18:00	0	-	-	(1)
18:00-18:30	0	0	0	(1)
18:30-19:00	c	C	С	(1)
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19:30-19:30				
19.30-20.00				
20:00-20:30				
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21:00-21:30				
21:30-22:00				
22:00-22:30				
22:32 22:32				
22:30-23:00				
23:00-23:30				

Monday 09/11/09 Page 22 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium SURVEY DAY DETAILS FOR WL-02-B-01

Bancroft Consulting Mercury House, New Basford Nottingham

Site reference: WL-02-B-01 Multi-Modal survey site People Surveyed: Total people

Survey date: 02/10/06

Day of week: Monday

Time	Arrivals 239	Departures 221	Totals	Accumulation
00:00-00:30				
00:30-01:00				
01:00-01:30				
01:30-02:00				
02:00-02:30				
02:30-03:00				
03:00-03:30				
03:30-04:00				
04:00-04:30				
04:30-05:00				
05:00-05:30				
05:30-06:00				
06:00-06:30				
06:30-07:00				
07:00-07:30	_	2	3	(-1)
07:30-08:00	16	0	16	(15)
08:00-08:30	16	3	19	(28)
08:30-06:00	54	9	09	(92)
09:00-09:30	19	0	19	(62)
09:30-10:00	11	2	13	(104)
10:00-10:30	10	10	20	(104)
10:30-11:00	7	9	13	(105)
11:00-11:30	13	16	29	(102)
11:30-12:00	9	11	17	(67)
12:00-12:30	9	19	25	(84)
12:30-13:00	8	6	17	(83)
13:00-13:30	21	19	40	(85)
13:30-14:00	16	4	20	(67)
14:00-14:30	9	2	8	(101)
14:30-15:00	2	1	3	(102)
15:00-15:30	4	9	10	(100)
15:30-16:00	2	9	11	(66)
16:00-16:30	22	10	15	(64)
16:30-17:00	-	21	22	(74)
17:00-17:30	2	38	40	(38)
17:30-18:00	4	22	26	(20)
18:00-18:30	9	3	6	(23)
18:30-19:00	0	5	5	(18)
19:00-19:30				
19:30-20:00				
20:00-20:30				
20:30-21:00				
21:00-21:30				
21:30-22:00				
22:00-22:30				
22:30-23:00				
23:00-23:30				
23:30-24:00				

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT Category : B - BUSINESS PARK MULTI - MODAL VEHICLES

Selected regions and areas:
03 SOUTH WEST
WL WILTSHIRE

1 days

Filtering Stage 2 selection:

Gross floor area 2600 to 2600 (units: sqm) Parameter:

01/01/00 to 17/07/08 Public Transport Provision: Selection by: Date Range:

Include all surveys

Selected survey days: Monday

1 days

1 days 0 days Selected survey types: Manual count Directional ATC Count

Selected Locations: Edge of Town

Selected Location Sub Categories: Residential Zone

Monday 09/11/09 Page 2 Licence No: 539501 TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Bancroft Consulting Mercury House, New Basford Nottingham

LIST OF SITES relevant to selection parameters

WILTSHIRE BUSINESS PK, WOOTTON BASSETT WL-02-B-01 BUSINESS HIGH STREET COPED HALL WOOTTON BASSETT Total Gross floor area: Survey date: MONDAY

2600 sqm 02/10/06

Survey Type: MANUAL

TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Bancroft Consulting Mercury House, New Basford Nottingham

Monday 09/11/09 Page 3 Licence No: 539501

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK MULTI-MODAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

		AKKIVALS		_	DEPAKI UKES	_		IOIALS	
T C C C C	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
00:00 - 00:30			0000		0	0.000			0.000
00:30 - 01:00	0	0	000.0	0	0	000.0	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	000.0	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	0	0	0.000	0	0	000.0	0	0	0.000
05:30 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 06:30	0	0	0.000	0	0	0.000	0	0	0.000
06:30 - 07:00	0	0	0.000	0	0	000.0	0	0	0.000
07:00 - 07:30	-	2600	0.038	1	2600	0.077	-	2600	0.115
07:30 - 08:00	-	2600	0.538	-	2600	0.038	-	2600	0.576
08:00 - 08:30	-	2600	0.538	-	2600	0.115	_	2600	0.653
08:30 - 06:00	-	2600	1.885	1	2600	0.269	-	2600	2.154
09:00 - 09:30	-	2600	0.615	1	2600	000.0	-	2600	0.615
09:30 - 10:00	1	2600	0.423	1	2600	0.038	1	2600	0.461
10:00 - 10:30	1	2600	0.385	1	2600	0.385	1	2600	0.770
10:30 - 11:00	1	2600	0.192	1	2600	0.192	1	2600	0.384
11:00 - 11:30	-	2600	0.346	1	2600	0.462	-	2600	0.808
11:30 - 12:00	1	2600	0.231	1	2600	0.423	1	2600	0.654
12:00 - 12:30	1	2600	0.231	1	2600	0.577	1	2600	0.808
12:30 - 13:00	1	2600	0.269	1	2600	0.154	1	2600	0.423
13:00 - 13:30	1	2600	0.423	1	2600	0.231	1	2600	0.654
13:30 - 14:00	1	2600	0.038	1	2600	0.000	1	2600	0.038
14:00 - 14:30	-	2600	0.115	-	2600	0.038	-	2600	0.153
14:30 - 15:00	-	2600	0.038	-	2600	0.038	-	2600	0.076
15:00 - 15:30	-	2600	0.115	-	2600	0.231	-	2600	0.346
15:30 - 16:00	-	2600	0.192	1	2600	0.192	1	2600	0.384
16:00 - 16:30	1	2600	0.154	1	2600	0.308	1	2600	0.462
- 1	1	2600	0.038	1	2600	0.654	1	2600	0.692
17:00 - 17:30	-	2600	0.077	1	2600	1.308	-	2600	1.385
17:30 - 18:00	1	2600	0.077	1	2600	0.692	1	2600	0.769
	1	2600	0.115	1	2600	0.115	1	2600	0.230
18:30 - 19:00	-	2600	0.000	1	2600	0.077	-	2600	0.077
	0	0	0.000	0	0	000.0	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	000.0	0	0	0.000
	0	0	0.000	0	0	0.000	0	0	0.000
	0	0	0.000	0	0	000.0	0	0	0.000
- 1	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	000.0	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
otal Dates			C L O L			4 414			10 / 07

I RICS 2009(b)V6.4.2 280909 B14.19 (c) 2009 JMP Consultants Ltd on benall of the I RICS Consortium		Nonday 0971 Pa
Bancroft Consulting Mercury House, New Basford Nottingham	ingham	Licence No: 53
Parameter summary		

Monday 09/11/09

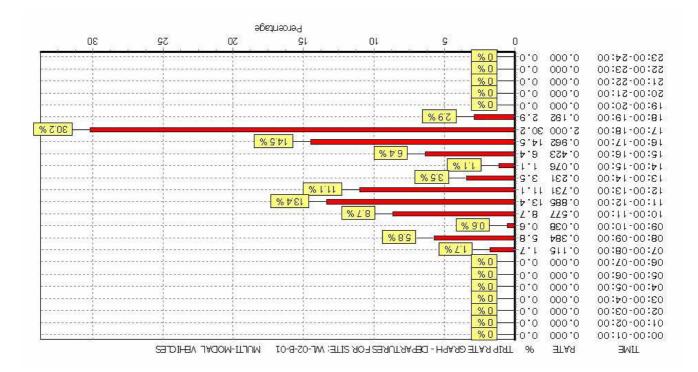
11/09 age 4 339501

Trip rate parameter range selected: 2600 - 2600 (units: sqm)
Survey date date range: 01/01/00 - 17/07/08
Number of weekdays (Monday-Friday): 1
Number of Sundays: 0
Number of Sundays: 0
Surveys manually removed from selection: 9

Percentage ٥l g 0 98 30 52 20 gı \$3:00-\$3:00 \$3:00-\$4:00 000.0 %0 0.0 % 0 % 0 0.0 0.0 000.0 51:00-55:00 %0 0.0 000.0 50:00-54:00 %0 18:00-50:00 0.0 000.0 % 9"l 00:61-00:81 0.115 9.1 2.2 491.0 17:00:18:00 % L'Z 2.7 0.195 00:71-00:91 % E't -€.4 YOE .O 12:00-16:00 13:00-14:00 2.2 % 2.2 0.153 6.8 194.0 % L'L 009.0 15:00-13:00 % 2'8 2.8 778.0 44:00-45:00 % 2.8 8.2 ZZ9'0 10:00-11:00 00:60-00:80 % L'71 8.48 7.41 850.1 % 8758 2,423 1.8 978.0 00:80-00:70 % O 0.0 000.0 00:20-00:90 %0 00:90-00:90 000.0 0.0 % O 0.0 000.0 00:90-00:00 0.0 000.0 03:00-04:00 %0 0.0 000.0 05:00-03:00 %0 0.0 000.0 01:00-02:00 %0 00:10-00:00 0.0 000.0 TIME TIP RATE GRAPH - ARRIVALS FOR SITE: WL-02-8-01 **TAA** MULTI-MODAL VEHICLES Licence No: 539501 Bancroft Consulting Mercury House, New Basford Notlingham Page 5

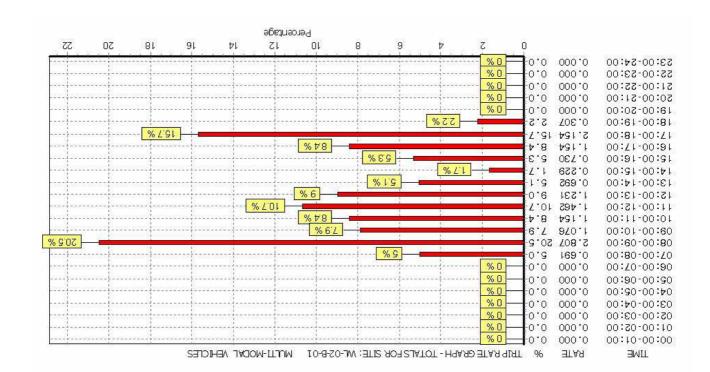
TRICS 2009(b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium

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RBICS 2009(b)v6.4.2 280909 B14.19 (C) 2004 M Basford (b) 4.6.4.2 280909 B14.19 (C) 2004 M Basford (c) 4.6.4 (c) 4.6.



TRICS 2009 (b)v6.4.2 280909 B14.19 (C) 2009 JMP Consultants Ltd on behalf of the TRICS Consortium Monday 09/11/09 Page 1

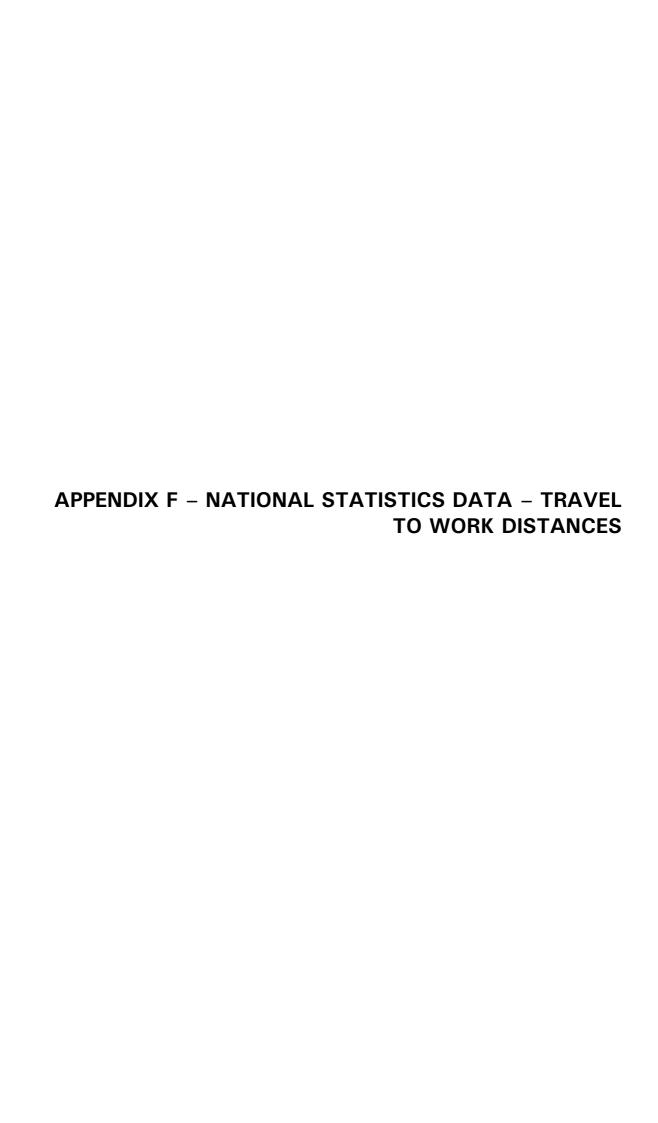
Bancroft Consulting Mercury House, New Basford Nottingham Licence No: 539501

Modal Split Percentages for W/L-CZ-B-01 Surveyed : 02/10/06 Monday

Wehicle Occupants 84.5 %

Pedestrians 11.3 %

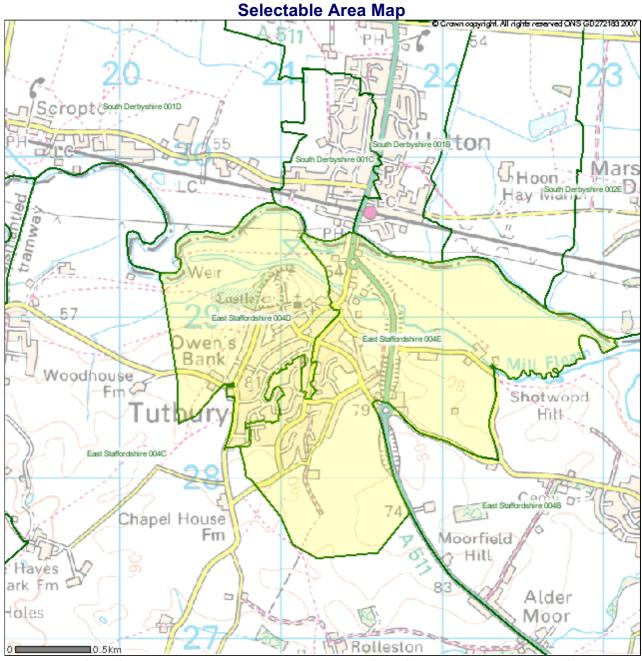
Public Transport Users 2.9 %



Selectable Area Map Page 1 of 1

Neighbourhood Statistics





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Custom Table Page 1 of 1

Neighbourhood Statistics



	East Staffordshire 004D3	East Staffordshire 004E ³
	Super Output Area Lower Layer	Super Output Area Lower Layer
Less than 2km ¹ 2	Lower Layer	Lower Layer
Persons		
Count	151	92
Apr01		
2km to less than 5km1		
2		
Persons	63	75
Count		, -
Apr01		
5km to less than		
10km <mark>1 2</mark>		
Persons	203	250
Count		
Apr01		
10km to less than		
20km <mark>1 2</mark>		
Persons	87	110
Count		
Apr01		
20km to less than		
30km ¹ 2		
Persons	30	35
Count		
Apr01		
30km to less than		
40km1 2		
Persons	15	26
Count		
Apr01		
40km to less than		
60km1 2		
Persons	11	20
Count		
Apr01		
60km and over 12		
Persons	_	2.4
Count	9	24
Apr01		
•		19 November 2004

Last Updated: 18 November 2004 Source: Office for National Statistics

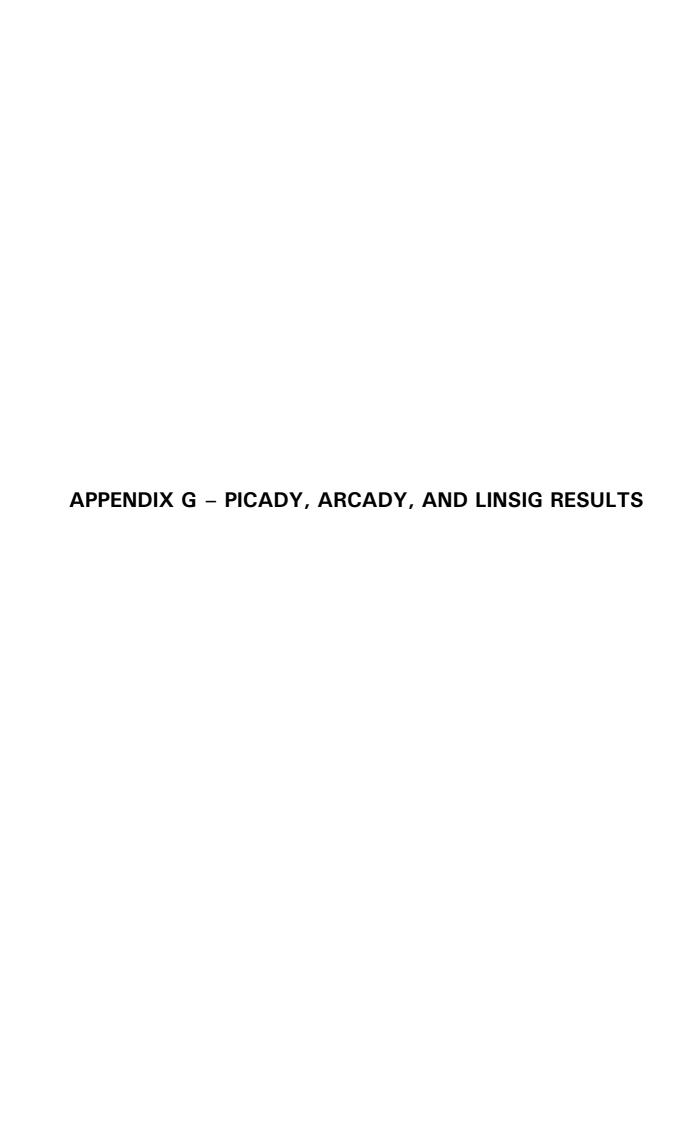
Notes

- 1 From the dataset: Distance Travelled to Work (UV35)
- 2 National Statistics
- 3 Part of the NeSS Geography Hierarchy

Caution:

using statistics from different sets of data means that you may not be comparing like with like.

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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.

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 1 am peak tutbury.vpo - Page 2

GEOMETRIC DATA

GEOMETRIC DATA

Ι	DATA ITEM	Ι	MINOR	ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	Ι	(W)	7.53 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR)	0.00 M.	I
Ι		Ι			I
Ι	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B)	2.20 M.	I
I	- VISIBILITY	I	(VC-B)	50.0 M.	I
I	- BLOCKS TRAFFIC	I		YES	I
Ι		I			I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C)	25.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A)	18.0 M.	I
I	- LANE 1 WIDTH	Ι	(WB-C)	3.85 M.	I
I	- LANE 2 WIDTH	I	(WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I		Ι	NUMBER OF	MI	NUTES	FROM	STA	ART WHEN	Ι	RATE	OF	FLOW	(VEI	H/MIN)	I
I	ARM	I	FLOW STARTS	I	TOP O	F PEAK	I	FLOW STOPS	I	BEFORE	Ι	AT TOP	I	AFTER	I
Ι		Ι	TO RISE	I	IS R	EACHED	I	FALLING	Ι	PEAK	Ι	OF PEAR	ΚI	PEAK	I
I	ARM A	I	15.00	I	4	5.00	I	75.00	I	2.94	Ι	4.41	I	2.94	Ι
Ι	ARM B	I	15.00	I	4	5.00	Ι	75.00	I	0.50	Ι	0.75	I	0.50	I
I	ARM C	Ι	15.00	I	4	5.00	Ι	75.00	Ι	3.74	Ι	5.61	I	3.74	I
_		_	10.00	_	-		_	, 0 . 0 0	_	0.71	_	0.01	_	0.71	_

т		 Т			JRNING PRO	DODETONS	т
T T		T				JPORTIONS JNTS (VEH/	_
T		T				OF H.V.S)	
I							
I	TIME	I	FROM/TO	I	ARM A I	ARM B I	ARM C I
I	07.30 - 09.00	I		I	I	I	I
I		Ι	ARM A	I	0.000 I	0.038 I	0.962 I
I		I		Ι	0.0 I	9.0 I	226.0 I
I		I		I	(0.0)I	(0.0)I	(8.4)I
Ι		I		Ι	I	I	I
Ι		I	ARM B	Ι	0.625 I	0.000 I	0.375 I
I		I		I	25.0 I	0.0 I	15.0 I
Ι		I		Ι	(0.0)I	(0.0)I	(0.0)I
I		Ι		Ι	I	I	I
Ι		Ι	ARM C	Ι	0.967 I	0.033 I	0.000 I
Ι		I		Ι	289.0 I	10.0 I	0.0 I
Ι		Ι		_	(4.5)I	(0.0)I	(0.0)I
Ι		Ι		Ι	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 1 am peak tutbury.vpo - Page 3

I	07.30-0 B-AC C-AB	(VEH/MIN) 07.45 0.50 0.18	(VEH/MIN)	CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE (VEHS)	QUEUE (VEHS)	(VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I I I
I I I	C-A A-B A-C	3.56 0.11 2.83							
I	07.45-0	(VEH/MIN)	(VEH/MIN)	CAPACITY (RFC)	(PEDS/MIN)	QUEUE (VEHS)	QUEUE (VEHS)	(VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I I I I	C-A A-B A-C	0.60 0.23 4.24 0.13 3.37	8.32 12.10	0.072 0.019				1.1	I I I I I
I I I		(VEH/MIN)		CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE	QUEUE	(VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I I I I I	C-A A-B A-C	0.73 0.30 5.16 0.16 4.13	8.00 12.57	0.091 0.024		0.1	0.1	1.5	I I I I I I
- I I		(VEH/MIN)	(VEH/MIN)	CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I
IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	B-AC C-AB C-A A-B	0.73 0.30 5.16 0.16 4.13				0.1	0.1	TIME SEGMENT) 1.5 0.4	TIME SEGMENT) I I I I I I I I I I I I I I I I I I I
- I	 TIME				PEDESTRIAN		END		GEOMETRIC DELAYI
I I I I I I I I	08.30-0 B-AC C-AB C-A A-B A-C	8.45	(VEH/MIN) 8.32 12.10			(VEHS)	(VEHS)	1.2	(VEH.MIN/ I TIME SEGMENT) I I I I I I I I I I I I
- I I	TIME	DEMAND (VEH/MIN)		CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I
I I I I I	08.45-0 B-AC C-AB C-A A-B A-C	0.50	8.56 11.76	0.058	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT) 1.0 0.3	TIME SEGMENT) I I I I I I I I I I I I I I I I I I I
_			-				-	·	_

^{*}WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 1 am peak tutbury.vpo - Page 4

QUEUE FOR STREAM B-AC _____

IME	SEGMENT	1	10.	OF	
END	ING	VEF	HICI	LES	
		IN	QUE	EUE	
07.	45		0.	. 1	
08.	00		0.	. 1	
08.	15		0.	. 1	
08.	30		0.	. 1	
08.	45		0.	. 1	
09.	0.0		0	. 1	

QUEUE FOR STREAM C-AB

IME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
07.45	0.0
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0

OUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I I	STREAM	I			DEMAND	Ι	* DELAY	Z *	I	* INCLUSIVE * DEI	ιA	Z *	I
I		Ī	(VEH)			Ι	(MIN)	(MIN/VEH)	Ι	(MIN)		(MIN/VEH)	I
I	B-AC C-AB C-A A-B	I I I	54.8 21.1 388.9 12.3	I	259.2	I I I	7.1 I 2.1 I I	0.13 0.10	I I I	7.1 2.1	Ι	0.13 0.10	I I I
Ι	A-C	Ι	309.9	I	206.6	Ι	I		Ι		I		I
I	ALL	Ι	787.1	Ι	524.7	Ι	9.2 I	0.01	I	9.2	Ι	0.01	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 JOB

***** PICADY 4 run completed.

[Printed at 21:37:09 on 28/10/2010]

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

ETC.

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 1 pm peak tutbury.vpo - Page 2

GEOMETRIC DATA

I	DATA ITEM	Ι	MINOR	ROAD B	I
I I I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH CENTRAL RESERVE WIDTH	Ι	(WCR)		I I I
I I I	MAJOR ROAD RIGHT TURN - WIDTH - VISIBILITY - BLOCKS TRAFFIC	I I I	(WC-B) (VC-B)	2.20 M. 50.0 M. YES	I I I
I I I	MINOR ROAD - VISIBILITY TO LEFT - VISIBILITY TO RIGHT - LANE 1 WIDTH - LANE 2 WIDTH	I	(VB-C) (VB-A) (WB-C) (WB-A)	3.85 M.	I I I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 16.30 AND ENDS 18.00

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I		Ι	NUMBER OF	MI	NUTES	FROM	STA	ART WHEN	Ι	RATE	OF	FLOW	(VEI	H/MIN)	I
I	ARM	I	FLOW STARTS	I	TOP O	F PEAK	I	FLOW STOPS	I	BEFORE	Ι	AT TOP	I	AFTER	I
I		Ι	TO RISE	Ι	IS R	EACHED	I	FALLING	Ι	PEAK	Ι	OF PEAR	ΚI	PEAK	I
I	ARM A	I	15.00	I	4	5.00	I	75.00	I	4.39	Ι	6.58	I	4.39	Ι
I	ARM B	I	15.00	I	4	5.00	Ι	75.00	I	0.30	Ι	0.45	I	0.30	I
I	ARM C	I	15.00	Ι	4	5.00	Ι	75.00	I	3.35	Ι	5.02	I	3.35	Ι

I		Ι		ΤU	JRNING PRO	PORTIONS	I
I		I		ΤU	JRNING COU	JNTS (VEH/	HR) I
Т		Т		(PF	RCENTAGE	OF H.V.S)	, Т
T							
_	m T M D	_	EDOM /EO	_	7 DM 7 T	ADM D T	ADM C T
1	TIME		FROM/TO		ARM A I	ARM B I	ARM C I
Т	16.30 - 18.00	т		T	Т	Т	т
T		T	ARM A	Т	0.000 I	0.060 I	0.940 I
т т		T	711(1-1-11	T	0.000 I	21.0 I	
Τ.		_		_			
1		Ι			(0.0)I	(0.0)I	(2.4)1
I		I		Ι	I	I	I
Ι		Ι	ARM B	Ι	0.542 I	0.000 I	0.458 I
I		I		Ι	13.0 I	0.0 I	11.0 I
I		I		Ι	(0.0)I	(0.0)I	(0.0)I
I		I		Ι	I	I	I
I		Ι	ARM C	Ι	0.959 I	0.041 I	0.000 I
I		I		Ι	257.0 I	11.0 I	0.0 I
I		I		Ι	(2.3)I	(0.0)I	(0.0)I
I		I		I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 1 pm peak tutbury.vpo - Page 3

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY (RFC)	FLOW (PEDS/MIN)	QUEUE (VEHS)	QUEUE (VEHS)	(VEH.MIN/ TIME SEGMENT)	(VEH.MIN/ I
16.30-1 B-AC	0.30	8.55	0.035]
C-AB C-A	0.19 3.16	11.27	0.017		0.0	0.0	0.3	
A-B A-C	0.26 4.13							: :
	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY (RFC)	FLOW (PEDS/MIN)	QUEUE (VEHS)	QUEUE (VEHS)	(VEH.MIN/ TIME SEGMENT)	(VEH.MIN/ I
16.45-1	7.00	8 27	0 043		0.0	0.0	0.7	
C-AB	0.24	11.52	0.021		0.0	0.0	0.4]
A-B A-C	0.31 4.93							<u> </u>
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
		(VEH/MIN)	CAPACITY (RFC)	FLOW (PEDS/MIN)	QUEUE (VEHS)	QUEUE (VEHS)	(VEH.MIN/ TIME SEGMENT)	
		7.88	0.056		0.0	0.1	0.9]
C-AB C-A	0.32 4.58	11.87	0.027		0.0	0.0	0.5	
A-B A-C	0.38 6.03]
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
		(VEH/MIN)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
B-AC	0.44	7.88	0.056]
C-A	4.58	11.87	0.027		0.0	0.0	0.5]
]
TIME								GEOMETRIC DELAY
17 20 1		(VEH/MIN)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
B-AC		8.27	0.043		0.1	0.0	0.7]
C-A	3.76	11.52	0.021		0.0	0.0	0.4]]
A-B A-C	0.31 4.93]]
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
17 / = 1		(APU\MIN)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
B-AC	0.30		0.035				0.6]
C-AB	0.19	11.27	0.017		0.0	0.0	0.3]
C-A	3.16]
C-A A-B	3.16 0.26 4.13							[[
	16.30-1 B-AC C-AB C-A A-B A-C TIME 16.45-1 B-AC C-AB C-A A-B A-C TIME 17.00-1 B-AC C-AB C-A A-B A-C TIME 17.15-1 B-AC C-AB C-A A-B A-C TIME 17.15-1 B-AC C-AB C-A A-B A-C TIME	(VEH/MIN) 16.30-16.45 B-AC	(VEH/MIN) (VEH/MIN) 16.30-16.45 B-AC	(VEH/MIN) (VEH/MIN) CAPACITY (RFC) 16.30-16.45 B-AC 0.30 8.55 0.035 C-AB 0.19 11.27 0.017 C-A 3.16 A-B 0.26 A-C 4.13 TIME DEMAND CAPACITY DEMAND/ (VEH/MIN) (VEH/MIN) CAPACITY (RFC) 16.45-17.00 B-AC 0.36 8.27 0.043 C-AB 0.24 11.52 0.021 C-A 3.76 A-B 0.31 A-C 4.93 TIME DEMAND CAPACITY DEMAND/ (VEH/MIN) (VEH/MIN) CAPACITY (RFC) 17.00-17.15 B-AC 0.44 7.88 0.056 C-AB 0.32 11.87 0.027 C-A 4.58 A-B 0.38 A-C 6.03 TIME DEMAND CAPACITY DEMAND/ (VEH/MIN) (VEH/MIN) CAPACITY (RFC) 17.15-17.30 B-AC 0.44 7.88 0.056 C-AB 0.32 11.87 0.027 C-A 4.58 A-B 0.38 A-C 6.03 TIME DEMAND CAPACITY DEMAND/ (VEH/MIN) (VEH/MIN) CAPACITY (RFC) 17.15-17.30 B-AC 0.44 7.88 0.056 C-AB 0.32 11.87 0.027 C-A 4.58 A-B 0.38 A-C 6.03 TIME DEMAND CAPACITY DEMAND/ (VEH/MIN) CAPACITY (RFC) 17.30-17.45 B-AC 0.44 7.88 0.056 C-AB 0.32 11.87 0.027 C-A 4.58 A-B 0.38 A-C 6.03 TIME DEMAND CAPACITY DEMAND/ (VEH/MIN) CAPACITY (RFC) 17.30-17.45 B-AC 0.36 8.27 0.043 C-AB 0.24 11.52 0.021	CVEH/MIN CVEH/MIN CAPACITY CRFC	CVEH/MIN CVEH/MIN CAPACITY CRFC CPEDS/MIN CVEHS	VEH/MIN	(VEH/MIN) (VEH/MIN) (RPC) (PEDS/MIN) (VEHS) (VEHS) (VEHS) (TIME SEGMENT) 16.30-16.45 B-AC 0.30 8.55 0.035 C-AB 0.19 11.27 0.017 C-A 3.16 A-B 0.26 A-C 4.13 TIME DEMAND CAPACITY DEMAND/ (VEH/MIN)

^{*}WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 1 pm peak tutbury.vpo - Page 4

QUEUE FOR STREAM B-AC

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.0
17.00	0.0
17.15	0.1
17.30	0.1
17.45	0.0
18.00	0.0

QUEUE FOR STREAM C-AB

IME	SEGMENT	1	10.	OF	
END	ING	VEF	HIC	LES	
		IN	QUI	EUE	
16.	45		0	. 0	
17.	00		0	. 0	
17.	15		0	. 0	
17.	30		0	. 0	
17.	45		0	. 0	
18.	0.0		0	. 0	

OUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I I	STREAM	I I	TOTAL	DE	MAND	I I	* DELA	Υ *	I * INCLUSIVE QUEUEING * I * DELAY *						
I		I -	(VEH)	 (V	EH/H)	I		(MIN/VEH)				(MIN/VEH)	_		
I I I I I	C-AB C-A A-B	I I I I I	32.9 22.6 344.9 28.8 452.5	I I I	21.9 15.1 229.9 19.2 301.7	I I I	4.2 I 2.4 I I I	0.11	I I I I	4.2 2.4	I I I I	0.13 0.11	I I I I		
I	ALL	I	881.7	 I	587.8	I	6.6 I	0.01	Ι	6.6	I	0.01	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 JOB

***** PICADY 4 run completed.

[Printed at 21:37:53 on 28/10/2010]

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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.

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 2 am peak tutbury.vpo - Page 2

GEOMETRIC DATA

I	DATA ITEM	Ι	MINOR ROAD B I
I I I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH CENTRAL RESERVE WIDTH		(WCR) 6.50 M. I (WCR) 0.00 M. I I
I I I	MAJOR ROAD RIGHT TURN - WIDTH - VISIBILITY - BLOCKS TRAFFIC	I I I	(WC-B) 3.50 M. I (VC-B) 250.0 M. I NO I
I I I I	MINOR ROAD - VISIBILITY TO LEFT - VISIBILITY TO RIGHT - LANE 1 WIDTH - LANE 2 WIDTH	I	(VB-C) 28.0 M. I (VB-A) 23.0 M. I (WB-C) 4.19 M. I (WB-A) 0.00 M. I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

FLOW (VEH/MIN) I
AT TOP I AFTER I
OF PEAK I PEAK I
7.78 I 5.19 I
1.46 I 0.98 I
11.40 I 7.60 I
(

I		Ι		JΤ	JRNING PRO	OPORTIONS	I
Ι		Ι				JNTS (VEH/	,
I		Ι		(PE	ERCENTAGE	OF H.V.S)	I
I							
Ι	TIME	Ι	FROM/TO	Ι	ARM A I	ARM B I	ARM C I
I	07.30 - 09.00	 I		 I	I	I	I
I		Ι	ARM A	Ι	0.000 I	0.082 I	0.918 I
I		Ι		Ι	0.0 I	34.0 I	381.0 I
I		I		I	(0.0)I	(0.0)I	(5.2)I
I		Ι		Ι	I	I	I
I		I	ARM B	I	0.641 I	0.000 I	0.359 I
I		Ι		Ι	50.0 I	0.0 I	28.0 I
I		I		I	(0.0)I	(0.0)I	(0.0)I
I		I		Ι	I	I	I
I		Ι	ARM C	Ι	0.954 I	0.046 I	0.000 I
I		I		Ι	580.0 I	28.0 I	0.0 I
I		I		I	(3.1)I	(0.0)I	(0.0)I
Ι		Ι		Ι	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 2 am peak tutbury.vpo - Page 3

TRI		TRL 	VIEWER	2.0 AE c:	\Program	es\PICAL)Y 4.1\s	site access 2 a	m peak tutbury.vp
I I I	TIME	(VEH/MIN)	CAPACITY (VEH/MIN)	CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE		DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I	07.30-0 B-AC		7.69	0.127		0.0	0.1	2.1	I
I	C-A C-B	7.25	11.98	0.029		0.0	0.0	0.4	I
I	A-B A-C	0.43 4.76		****					I
I	A-C	4.76							I I
I I I	TIME 07.45-0	(VEH/MIN)		DEMAND/ CAPACITY (RFC)	FLOW	QUEUE			GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I	B-AC	1.16	7.20	0.162		0.1	0.2	2.8	I
I	C-A C-B		11.66	0.036		0.0	0.0	0.5	I
I	A-B A-C	0.51 5.69							I
I 									I
I I	TIME		CAPACITY (VEH/MIN)	CAPACITY		QUEUE			GEOMETRIC DELAYI
I	08.00-0	8.15		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
I	B-AC C-A	1.43 10.60	6.52	0.219		0.2	0.3	4.0	I
I	C-B		11.20	0.046		0.0	0.0	0.7	I
I	A-B A-C	6.96							I
I 									I
I I I	TIME 08.15-0	(VEH/MIN)		DEMAND/ CAPACITY (RFC)	FLOW	QUEUE	QUEUE		GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I	B-AC	1.43	6.52	0.219		0.3	0.3	4.2	I
I	C-A C-B		11.20	0.046		0.0	0.0	0.7	I
I	A-B A-C	0.62 6.96							I
I 									I
 I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I I		(VEH/MIN)	(VEH/MIN)	CAPACITY (RFC)	FLOW (PEDS/MIN)	QUEUE (VEHS)	QUEUE (VEHS)	(VEH.MIN/ TIME SEGMENT)	(VEH.MIN/ I TIME SEGMENT) I
I	08.30-0 B-AC	8.45		0.162			0.2		I
I	C-A	8.66							I
I	С-В А-В	0.51	11.66	0.036		0.0	0.0	0.6	I
I	A-C	5.69							I
I	TIME	DEMZND	CAPACTTV	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I
I	08.45-0								TIME SEGMENT) I
I	B-AC C-A		7.69	0.127		0.2	0.1	2.3	I I
I	C-B	0.35	11.98	0.029		0.0	0.0	0.5	I
I	A-B A-C	0.43 4.76							I
I 									I

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 2 am peak tutbury.vpo - Page 4

QUEUE FOR STREAM B-AC _____

IME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
07.45	0.1
08.00	0.2
08.15	0.3
08.30	0.3
08.45	0.2
09.00	0.1

QUEUE FOR STREAM C-B

IME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
07.45	0.0
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0

OUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I I	STREAM	I				I I	* QUEUE] * DELA	*	I * INCLUSIVE QUEUEING * I * DELAY *						
I		I	(VEH)							(MIN)			_		
I	B-AC C-A C-B A-B A-C	I I I I	795.3 38.4 46.6	I I I	530.2 25.6	I I I	18.3 I I 3.4 I I	0.17	I I I I	18.3	I I I I I	0.17	I I I I		
I	ALL		1509.7	I	1006.5	Ι	21.7 I	0.01	 I	21.7		0.01	 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 JOB

***** PICADY 4 run completed.

[Printed at 21:38:50 on 28/10/2010]

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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.

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 2 pm peak tutbury.vpo - Page 2

GEOMETRIC DATA

I DATA ITEM I MINOR ROAD B I

I TOTAL MAJOR ROAD CARRIAGEWAY WIDTH I (WC) 6.50 M. I

I CENTRAL RESERVE WIDTH I (WCR) 0.00 M. I

I I I MAJOR ROAD RIGHT TURN - WIDTH I (WC-B) 3.50 M. I

I - VISIBILITY I (VC-B) 250.0 M. I

I - BLOCKS TRAFFIC I NO I

I MINOR ROAD - VISIBILITY TO LEFT I (VB-C) 28.0 M. I

I - VISIBILITY TO RIGHT I (VB-A) 23.0 M. I

I - LANE 1 WIDTH I (WB-C) 4.19 M. I

I - LANE 2 WIDTH I (WB-A) 0.00 M. I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 16.30 AND ENDS 18.00

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

Ι		Ι	NUMBER OF	ΜI	NUTES	FROM	STA	ART WHEN	Ι	RATE	OE	FLOW	(VEI	H/MIN)	I
I	ARM	Ι	FLOW STARTS	I	TOP C	F PEAK	Ι	FLOW STOPS	I	BEFORE	Ι	AT TOP	I	AFTER	I
Ι		Ι	TO RISE	I	IS F	REACHED	I	FALLING	Ι	PEAK	Ι	OF PEAR	ΚI	PEAK	Ι
I	ARM A	I	15.00	Ι	4	5.00	Ι	75.00	Ι	8.49	Ι	12.73	I	8.49	I
I	ARM B	Ι	15.00	I	4	5.00	I	75.00	Ι	0.86	Ι	1.29	I	0.86	I
Ι	ARM C	Ι	15.00	Ι	4	5.00	Ι	75.00	I	5.93	Ι	8.89	Ι	5.93	Ι

I		Ι		JΤ	JRNING PRO	OPORTIONS	I
I		I		ΤU	JRNING COU	JNTS (VEH/	'HR) I
I		I		(PE	ERCENTAGE	OF H.V.S)	I
I							
I	TIME	I	FROM/TO	Ι	ARM A I	ARM B I	ARM C I
т	16.30 - 18.00	 Т		 Т	 T	 T	т
т	10.50 10.00	T	ARM A	T	0.000 I	0.059 I	0.941 T
Τ		_	AKM A	_			
Ι		I		Ι	0.0 I	40.0 I	639.0 I
I		I		Ι	(0.0)I	(0.0)I	(2.8)I
I		I		Ι	I	I	I
I		Ι	ARM B	Ι	0.565 I	0.000 I	0.435 I
I		I		Ι	39.0 I	0.0 I	30.0 I
I		I		Ι	(0.0)I	(0.0)I	(0.0)I
I		I		Ι	I	I	I
I		I	ARM C	Ι	0.951 I	0.049 I	0.000 I
I		Ι		Ι	451.0 I	23.0 I	0.0 I
I		Ι		Ι	(2.4)I	(0.0)I	(0.0)I
I		I		I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 2 pm peak tutbury.vpo - Page 3

TRI		TRL	VIEWER	2.0 AE c:	\Program File	es\PICAI	OY 4.1\s	site access 2 p:	m peak tutbury.vp
 I	TIME	DEMAND	CAPACITY		PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I	16 00 1		(VEH/MIN)	(RFC)	FLOW (PEDS/MIN)		QUEUE (VEHS)	(VEH.MIN/ TIME SEGMENT)	(VEH.MIN/ I
Ι	16.30-1 B-AC	0.86	7.31	0.118		0.0	0.1	1.9	-
I I I	C-A C-B A-B	5.64 0.29 0.50	10.97	0.026		0.0	0.0	0.4	: : :
I I	A-C	7.99]]
 I	TIME		CAPACITY		PEDESTRIAN	START	END	DELAY .	GEOMETRIC DELAY
I I T	16.45-1		(VEH/MIN)	CAPACITY (RFC)	FLOW (PEDS/MIN)		QUEUE (VEHS)	(VEH.MIN/ TIME SEGMENT)	(VEH.MIN/ I TIME SEGMENT) I
I	B-AC C-A	1.03	6.71	0.154		0.1	0.2	2.6	[[
I I I	C-B A-B A-C	0.34 0.60 9.54	10.44	0.033		0.0	0.0	0.5]]] 1
I I I	TIME	(VEH/MIN)	CAPACITY (VEH/MIN)		PEDESTRIAN FLOW (PEDS/MIN)	QUEUE	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI (VEH.MIN/ I
Ι	17.00-1 B-AC		5.86	0.215		0.2	0.3	3.9]]]
I I I I	C-A C-B A-B A-C	0.42 0.73 11.68	9.71	0.043		0.0	0.0	0.7	1 1 1
 I I	TIME		CAPACITY		PEDESTRIAN	START	END QUEUE	DELAY	GEOMETRIC DELAY
I	17.15-1		(VEII/PIIN)	(RFC)					TIME SEGMENT)
I I	B-AC C-A	1.26 8.24	5.86	0.215		0.3	0.3	4.1	
I I I	C-B A-B A-C	0.42 0.73 11.68	9.71	0.043		0.0	0.0	0.7]]]]
I I I	TIME 17.30-1	(VEH/MIN)		DEMAND/ CAPACITY (RFC)	FLOW	QUEUE	QUEUE	(VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I	B-AC C-A	1.03 6.73	6.71	0.154		0.3	0.2	2.9]
I I I 	C-B A-B A-C	0.34 0.60 9.54	10.44	0.033		0.0	0.0	0.5]]]]
I	TIME			CAPACITY	PEDESTRIAN FLOW	QUEUE	QUEUE	(VEH.MIN/	GEOMETRIC DELAYI
	17.45-1				(PEDS/MIN)				TIME SEGMENT) I
I I	B-AC C-A C-B	5.64	7.31					2.1]]]
I I	A-B	0.50 7.99]]
_	_			_	· - -			==	

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\site access 2 pm peak tutbury.vpo - Page 4

QUEUE FOR STREAM B-AC _____

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.1
17.00	0.2
17.15	0.3
17.30	0.3
17.45	0.2
18.00	0.1

QUEUE FOR STREAM C-B

IME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0

OUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	I I				I	* QUEUE] * DELA	<i>?</i> *	I * INCLUSIVE QUEUEING I * DELAY *					
I		I					(MIN)					(MIN/VEH)	I
I I I I	B-AC C-A C-B A-B A-C	I I I I	618.4 31.5 54.8	I I I	412.3 21.0 36.6	I I I	17.4 I I 3.2 I I	0.18	I I I I	17.4	I I I I	0.18	I I I I
 I	ALL	I	1675.6	I	1117.1	Ι	20.6 I	0.01	I	20.6	 I	0.01	 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 JOB

***** PICADY 4 run completed.

[Printed at 21:39:41 on 28/10/2010]

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 no development pm.vpo - Page 1 TRI TRL LIMITED (C) COPYRIGHT 2001 CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS PICADY 4.1 ANALYSIS PROGRAM RELEASE 4.0 (NOV 2003) ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT BY PERMISSION OF THE CONTROLLER OF HMSO FOR SALES AND DISTRIBUTION INFORMATION, PROGRAM ADVICE AND MAINTENANCE CONTACT: TRL SOFTWARE BUREAU TEL: CROWTHORNE (01344) 770758, FAX: 770864 EMAIL: SoftwareBureau@trl.co.uk THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION Run with file:-"c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 no development pm.vpi" (drive-on-the-left) at 21:34:49 on Thursday, 28 October 2010 RUN TITLE Derby Road/Uttoxeter Road T junction 2018 design year pm no development .MAJOR/MINOR JUNCTION CAPACITY AND DELAY INPUT DATA MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A) MINOR ROAD (ARM B) ARM A IS Derby Road (west) ARM B IS Uttoxeter Road ARM C IS Derby Road (east)

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.

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 no development pm.vpo - Page 2

GEOMETRIC DATA

I	DATA ITEM	I	MINO	R ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W)	6.50 M	. I
I	CENTRAL RESERVE WIDTH	I	(WCR)	0.00 M	. I
I		I			I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B)	3.50 M	. I
Ι	- VISIBILITY	I	(VC-B)	100.0 M	. I
Ι	- BLOCKS TRAFFIC	I		NO	I
Ι		I			I
Ι	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C)	37.0 M	. I
I	- VISIBILITY TO RIGHT	I	(VB-A)	49.0 M	. I
I	- LANE 1 WIDTH	I	(WB-C)	-	I
I	- LANE 2 WIDTH	I	(WB-A)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I		10.00 M	. I
Ι	- WIDTH AT 5 M FROM JUNC.	I		7.50 M	. I
I	- WIDTH AT 10 M FROM JUNC.	I		5.50 M	. I
I	- WIDTH AT 15 M FROM JUNC.	I		5.00 M	. I
I	- WIDTH AT 20 M FROM JUNC.	I		3.00 M	. I
Ι	- LENGTH OF FLARED SECTION	I		1 VE	HS I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 16.30 AND ENDS 18.00

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I		I	NUMBER OF	MI	NUTES	FROM	STA	ART WHEN	I	RATE	OE	FLOW	(VE	H/MIN)	I
I	ARM	I	FLOW STARTS	I '	TOP O	PEAR	I	FLOW STOPS	I	BEFORE	Ι	AT TO	? I	AFTER	I
I		I	TO RISE	I	IS R	CACHE) I	FALLING	Ι	PEAK	Ι	OF PEA	AK I	PEAK	I
I	ARM A	I	15.00	I	4	5.00	I	75.00	I	5.40	Ι	8.10) I	5.40	I
I	ARM B	I	15.00	I	4	5.00	I	75.00	I	5.46	Ι	8.19) I	5.46	I
I	ARM C	I	15.00	Ι	4.	5.00	I	75.00	Ι	1.27	Ι	1.93	L I	1.27	I

I I I I		I I I		TU		PORTIONS JNTS (VEH, OF H.V.S)	,
I	TIME	Ι	FROM/TO	Ι	ARM A I	ARM B I	ARM C I
	6.30 - 18.00		ARM A ARM B ARM C	I I I I I I	0.890 I 389.0 I (4.0)I I 0.853 I 87.0 I	0.0 I	123.0 I (10.5) I I 0.110 I 48.0 I (0.0) I I 0.000 I 0.0 I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 no development pm.vpo - Page 3

ľRI								erby Road Utto	xeter Road 2018 :
 I I	TIME	DEMAND	CAPACITY (VEH/MIN)	DEMAND/	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I I I	16.30-3 B-C B-A	0.60 4.86	6.48 8.32	0.093 0.584	(FEDS/MIN)	0.0	0.1 1.3	1.4 18.3	
I I I	C-A C-B A-B A-C	1.09 0.19 3.86 1.54	10.44	0.018		0.0	0.0	0.3	
I 									
I I I	TIME	(VEH/MIN)	CAPACITY (VEH/MIN)		PEDESTRIAN FLOW (PEDS/MIN)	QUEUE	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I	B-C B-A	0.72 5.81	4.87 8.09	0.147 0.718		0.1 1.3	0.2	2.4 31.6	
I I I	C-A C-B A-B A-C	1.30 0.22 4.61 1.84	10.13	0.022		0.0	0.0	0.3	
I 									
I I I	TIME		CAPACITY (VEH/MIN)		PEDESTRIAN FLOW (PEDS/MIN)	QUEUE	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I I	17.00-1 B-C B-A	17.15 0.88 7.11	1.91 7.73	0.461 0.920		0.2	0.8 6.6	9.8 76.2	
I I I	C-A C-B A-B A-C	1.59 0.27 5.65 2.25	9.70	0.028		0.0	0.0	0.4	
I 									
I I I	TIME	(VEH/MIN)	CAPACITY (VEH/MIN)		PEDESTRIAN FLOW (PEDS/MIN)	QUEUE		DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I	17.15-1 B-C B-A	0.88 7.11	1.30 7.71	0.677 0.922		0.8 6.6	1.6 8.0	19.3 110.1	
I I I I	C-A C-B A-B A-C	1.59 0.27 5.65 2.25	9.70	0.028		0.0	0.0	0.4	
I I I	TIME	(VEH/MIN)		DEMAND/ CAPACITY (RFC)	FLOW	QUEUE	QUEUE	(VEH.MIN/	TIME SEGMENT)
I	17.30-1 B-C B-A	0.72 5.81		0.171 0.720		1.6 8.0	0.2 2.8		
I I I	C-A C-B A-B A-C	1.30	10.13			0.0		0.3	
I 									

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 no development pm.vpo - Page 4

Ι	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELA	ΥI
I		(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	I
I				(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	Ι
I	17.45-1	8.00								Ι
I	B-C	0.60	6.26	0.096		0.2	0.1	1.7		Ι
I	B-A	4.86	8.32	0.584		2.8	1.5	23.9		Ι
I	C-A	1.09								Ι
I	C-B	0.19	10.44	0.018		0.0	0.0	0.3		Ι
I	A-B	3.86								Ι
I	A-C	1.54								Ι
I										Ι

QUEUE FOR STREAM B-C

		-
TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
16.45	0.1	
17.00	0.2	
17.15	0.8	*
17.30	1.6	**
17.45	0.2	
18.00	0.1	

QUEUE FOR STREAM B-A

		-
TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
16.45	1.3	*
17.00	2.3	* *
17.15	6.6	*****
17.30	8.0	*****
17.45	2.8	***
18.00	1.5	*

QUEUE FOR STREAM C-B

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I STREAM		I TOTAL I		. I	DEMAND	I I	* QUEUEING * * DELAY *			I * INCLUSIVE QUEUEING I * DELAY *			I I
I		Ī	(VEH)		(VEH/H)	Ι		(MIN/VEH)		(MIN)		(MIN/VEH)	_
_	B-C B-A	I	65.8 533.4				38.5 I 314.8 T	0.59	I T		I	0.59	I
I	C-A	Ī	119.3	Ι	79.5	I	I		I		Ī		I
_	C-B A-B	I	20.6 423.7	I		I	2.1 I I	0.10	I	2.1	I	0.10	I
Ι	A-C	I 	168.7	Ι	112.4	Ι	I		Ι		I 		Ι
Ι	ALL	Ι	1331.4	Ι	887.6	Ι	355.4 I	0.27	Ι	355.5	Ι	0.27	Ι

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .

 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.

 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

***** PICADY 4 run completed.

[Printed at 21:35:23 on 28/10/2010]

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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.

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 am.vpo - Page 2

GEOMETRIC DATA

I DATA ITEM	I	MINO	R ROAD	В	I
I TOTAL MAJOR ROAD CARRIAGEWAY WIDTH I CENTRAL RESERVE WIDTH I I MAJOR ROAD RIGHT TURN - WIDTH	I	(WCR)	0.00	М.	I
I - VISIBILITY I - BLOCKS TRAFFIC I				М.	I I I
I - WIDTH AT 0 M FROM JUNC. I - WIDTH AT 5 M FROM JUNC.	I I I I	(WB-A)	49.0 - - 10.00 7.50	M. M.	I I I I
I - WIDTH AT 10 M FROM JUNC. I - WIDTH AT 15 M FROM JUNC. I - WIDTH AT 20 M FROM JUNC. I - LENGTH OF FLARED SECTION	I		5.00 3.00		I I I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I		Ι	NUMBER OF	MI	NUTE	S FROM	STA	ART WHEN	Ι	RATE	OF	FLOW (VEF	H/MIN)	Ι
I	ARM	Ι	FLOW STARTS	I	TOP	OF PEAK	Ι	FLOW STOPS	Ι	BEFORE	Ι	AT TOP	I	AFTER	Ι
I		I	TO RISE	I	IS	REACHED	Ι	FALLING	I	PEAK	Ι	OF PEAK	I	PEAK	Ι
I	ARM A	Ι	15.00	I		45.00	Ι	75.00	Ι	5.41	Ι	8.12	I	5.41	Ι
I	ARM B	Ι	15.00	I		45.00	Ι	75.00	I	3.24	Ι	4.86	I	3.24	Ι
I	ARM C	Ι	15.00	I		45.00	Ι	75.00	Ι	1.99	Ι	2.98	I	1.99	Ι

I I		I I I		JΤ		PORTIONS UNTS (VEH/ OF H.V.S)	,
1							
Ι	TIME	Ι	FROM/TO	Ι	ARM A I	ARM B I	ARM C I
	07.30 - 09.00		ARM A ARM B ARM C	I I I I I I I I I	0.0 I (0.0) I I 0.958 I 248.0 I (7.2) I I 0.748 I 119.0 I	(6.1) I I 0.000 I 0.0 I (0.0) I I	57.0 I (10.5) I I 0.042 I 11.0 I (0.0) I I 0.000 I 0.0 I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 am.vpo - Page 3

									ACCCI NOUG 2010 G
I I I	TIME 07.30-	(VEH/MIN)	CAPACITY (VEH/MIN)	CAPACITY					GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I	B-C B-A	0.14 3.10	7.92 8.11			0.0	0.0	0.3 8.5	I I
I I I I	C-A C-B A-B A-C	1.49 0.50 4.70 0.71	10.19	0.049		0.0	0.1	0.7	I I I I
I I I	TIME	(VEH/MIN)	CAPACITY (VEH/MIN)	CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE		(VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I	07.45- B-C B-A	0.16 3.70	7.23 7.89	0.023 0.469		0.0 0.6	0.0	0.3 12.3	I I
I I I I	C-A C-B A-B A-C	1.78 0.60 5.61 0.85	9.89	0.060		0.1	0.1	0.9	I I I I
I I I	TIME 08.00-	(VEH/MIN)		DEMAND/ CAPACITY (RFC)	FLOW	QUEUE	QUEUE	(VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I	B-C B-A	0.20 4.53	5.99 7.59	0.034 0.598		0.0	0.0	0.5 19.7	I
I I I I	C-A C-B A-B A-C	2.18 0.73 6.87 1.04	9.48	0.077		0.1	0.1	1.2	I I I I
I I I	TIME	(VEH/MIN)	CAPACITY (VEH/MIN)	CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE	QUEUE	(VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
Ι	08.15- B-C B-A	0.20	5.95 7.59	0.034 0.598		0.0 1.4	0.0 1.4	0.5 21.5	I I
I I I	C-A C-B A-B	6 87	9.48	0.077		0.1	0.1	1.2	I I I
I I	A-C	1.04							I
I I	TIME 08.30-	(VEH/MIN)		CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE	QUEUE	(VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I	B-C B-A	0.16 3.70	7.18 7.89	0.023 0.469		0.0	0.0	0.4 14.5	I
I I I I	C-A C-B A-B A-C	5.61	9.89	0.060		0.1	0.1	1.0	I I I I

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 am.vpo - Page 4

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)		PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY	Ι
1				(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	1
I	08.45-0	9.00								I
I	B-C	0.14	7.88	0.017		0.0	0.0	0.3		Ι
I	B-A	3.10	8.11	0.382		0.9	0.6	9.9		Ι
I	C-A	1.49								Ι
I	C-B	0.50	10.19	0.049		0.1	0.1	0.8		I
I	A-B	4.70								Ι
Ι	A-C	0.71								Ι
Ι										Ι

QUEUE FOR STREAM B-C

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
07.45	0.0
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0

QUEUE FOR STREAM B-A

		-
TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	0.6	*
08.00	0.9	*
08.15	1.4	*
08.30	1.4	*
08.45	0.9	*
09.00	0.6	*

QUEUE FOR STREAM C-B

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
07.45	0.1
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	I					I I	* QUEUEI * DELAY	*	I	* INCLUSIV * DE	LA	· *	I
I		I	(VEH)	_			(MIN)					(MIN/VEH)	_
Ι	в-с	Ι	15.1	Ι	10.1	Ι	2.2 I	0.15	I	2.2	Ι	0.15	Ι
Ι	B-A	Ι	340.1	Ι	226.7	Ι	86.4 I	0.25	Ι	86.5	I	0.25	I
Ι	C-A	I	163.2	Ι	108.8	Ι	I		Ι		I		Ι
Ι	C-B	Ι	54.8	Ι	36.6	Ι	5.9 I	0.11	I	5.9	I	0.11	I
Ι	A-B	Ι	515.6	Ι	343.7	Ι	I		I		I		I
Ι	A-C	Ι	78.2	Ι	52.1	Ι	I		Ι		Ι		Ι
I	ALL	Ι	1166.9	I	777.9	I	94.6 I	0.08	I	94.6	I	0.08	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 JOB

***** PICADY 4 run completed.

[Printed at 21:33:23 on 28/10/2010]

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

ETC.

TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 pm.vpo - Page 2

GEOMETRIC DATA

Ι DATA ITEM I MINOR ROAD B I TOTAL MAJOR ROAD CARRIAGEWAY WIDTH I (W) 6.50 M. I CENTRAL RESERVE WIDTH I (WCR) 0.00 M. I CENTRAL RESERVE WIDTH MAJOR ROAD RIGHT TURN - WIDTH I (WC-B) 3.50 M.
- VISIBILITY I (VC-B) 100.0 M. MINOR ROAD - VISIBILITY TO LEFT I (VB-C) 37.0 M.

- VISIBILITY TO RIGHT I (VB-A) 49.0 M.

- LANE 1 WIDTH I (WB-C)
- LANE 2 WIDTH I (WB-A)
WIDTH AT 0 M FROM JUNC. I 10.00 M.

WIDTH AT 5 M FROM JUNC. I 7.50 M.

WIDTH AT 10 M FROM JUNC. I 5.50 M.

WIDTH AT 15 M FROM JUNC. I 5.00 M.

WIDTH AT 20 M FROM JUNC. I 3.00 M.

WIDTH AT 20 M FROM JUNC. I 3.00 M.

LENGTH OF FLARED SECTION I 1 VEHS - BLOCKS TRAFFIC I I MINOR ROAD - VISIBILITY TO LEFT

SECTION I 1 VEHS I Т

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 16.30 AND ENDS 18.00

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

Ι		Ι	NUMBER OF	M	INUTE	ES FROM	STA	ART WHEN	Ι	RATE	OE	F FLOW	(VEI	H/MIN)	Ι
I	ARM	Ι	FLOW STARTS	Ι	TOP	OF PEAK	Ι	FLOW STOPS	Ι	BEFORE	Ι	AT TOP	I	AFTER	Ι
Ι		Ι	TO RISE	Ι	IS	REACHED	Ι	FALLING	Ι	PEAK	Ι	OF PEA	ΚI	PEAK	I
I	ARM A	I	15.00	I		45.00	Ι	75.00	Ι	5.71	Ι	8.57	I	5.71	Ι
I	ARM B	Ι	15.00	Ι		45.00	Ι	75.00	Ι	5.57	Ι	8.36	I	5.57	Ι
Ι	ARM C	Ι	15.00	Ι		45.00	Ι	75.00	Ι	1.48	Ι	2.21	I	1.48	I

I TURNING COUNTS (VEH/HR) I TURNING COUNTS (VEH/HR) I (PERCENTAGE OF H.V.S) I TIME I FROM/TO I ARM A I ARM B I ARM C I 16.30 - 18.00 I I I I I I I I I I I I I I I I I I								
I 16.30 - 18.00 I I I I I I I I I I I I I I I I I I	I I I		I		JΤ	JRNING COU	JNTS (VEH,	
I ARM A I 0.000 I 0.696 I 0.304 I I I 0.01 318.0 I 139.0 I I 0.01 (6.1) I (10.5) I I I I I I I ARM B I 0.892 I 0.000 I 0.108 I I 398.0 I 0.0 I 48.0 I I I (4.0) I (0.0) I (0.0) I I I ARM C I 0.873 I 0.127 I 0.000	I	TIME	I	FROM/TO	I	ARM A I	ARM B I	ARM C I
I I I (1.9)I (0.0)I (0.0) I I I I I		16.30 - 18.00	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	ARM B	I I I I I I I I I	0.0 I (0.0) I I 0.892 I 398.0 I (4.0) I I 0.873 I 103.0 I	318.0 I (6.1) I I 0.000 I 0.0 I (0.0) I I 0.127 I 15.0 I	139.0 I (10.5)I I 0.108 I 48.0 I (0.0)I I 0.000 I 0.0 I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 pm.vpo - Page 3

0.60 6.24 0.096 0.0 0.1 1.5 19.7 I 1.59 1.29 0.19 10.34 0.018 0.0 0.0 1.5 19.7 I 1.29 10.19 10.34 0.018 0.0 0.0 0.3 I 1.39.7 I 1.74 I 1.74 I 1.74 I 1.74 I 1.74 I 1.74 I 1.74 I 1.74 I 1.74 I 1.74 I 1.74 I 1.75 I 1.74 I 1.75 I 1.74 I 1.75 I 1	_	TKL	VIEWER	Z.U AE C:	\Frogram File	es\PICAL	JI 4.1\D	erby koad Utto:	xeter koad 2018 p
B-C 0.60 6.24 0.096 0.0 0.1 1.5 1.7 I 1.5 I 1.5 C-A 1.29 C-A 1.29 C-B 0.19 1.34 0.018 0.0 0.0 0.0 0.3 I 1.5 C-B 0.19 1.34 0.018 0.0 0.0 0.0 0.3 I 1.5 C-B 0.19 1.74 0.018 0.0 0.0 0.0 0.3 I 1.5 C-B 0.19 1.74 0.018 0.0 0.0 0.0 0.3 I 1.5 C-B 0.19 1.74 0.018 0.0 0.0 0.0 0.3 I 1.5 C-B 0.19 1.74 0.018 0.0 0.0 0.0 0.3 I 1.5 C-B 0.19 1.74 0.018 0.0 0.0 0.0 0.3 I 1.5 C-B 0.19 1.74 0.018 0.0 0.0 0.0 0.3 I 1.5 C-B 0.19 1.74 0.018 0.0 0.0 0.0 0.3 I 1.5 C-B 0.20 1.74 0.0 0.0 0.0 0.0 0.3 I 1.5 C-B 0.20 1.74 0.0 0.0 0.0 0.0 0.3 I 1.5 C-B 0.20 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.0 0.0 0.3 I 1.5 C-B 0.22 10.0 0.0 0.0 0.0 0.0 0.4 I 1.5 C-B 0.22 10.0 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 I 1.5 C-B 0.25 I 1.5 C-B 0.27 0.55 0.63 I 1.5 C-B 0.27 0.55 0.63 I 1.5 C-B 0.25 0.0 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 0.0 0.0 0.0 0.4 I 1.5 C-B 0.25 0.0 0.0 0.0 0.4 I 1.5 C-B 0.22 0.02 0.05 0.0 0.0 0.0 0.4 I 1.5 C-B 0.22 0.25 0.0 0.0 0.0 0.0 0.4 I 1.5 C-B 0.22 0.02 0.0 0.0 0.0 0.0 0.4		(VEH/MIN)		CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I TIME SEGMENT) I
C-B	B-C B-A	0.60 4.97						1.5 19.7	I
(VEH/MIN) (VEH/MIN) CAPACITY (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) I TIME SEGME	C-B A-B	0.19 3.97	10.34	0.018		0.0	0.0	0.3	I I I
B-C 0.72 4.48 0.160 0.1 0.2 2.7 I.54 C-A 1.54 C-A 1.54 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.0 0.3 I.54 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.0 0.3 I.54 C-B 0.22 10.02 0.022 0.0 0.0 0.0 0.0 0.3 I.54 C-B 0.207 I.54 C-B 0.207 I.54 C-B 0.207 I.54 C-B 0.207 I.54 C-B 0.207 I.55 C-B 0.20		(VEH/MIN)		CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I
-A 1.54 -B 0.22 10.02 0.022 0.022 0.0 0.0 0.0 0.3 I A-B 4.75 -A-C 2.07 I I I I I I I I I I I I I I I I I I I	3-C	0.72							I
(VEH/MIN) (VEH/MIN) CAPACITY (RFC) (PEDS/MIN) (VEHS) (VEHS) (VEHS) TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT) I TIME SEGMENT I TIME SEGMENT)	C-B A-B	0.22 4.75	10.02	0.022		0.0	0.0	0.3]]]
B-C 0.88 1.18 0.746 2.6 8.4 92.5 I B-A 7.28 7.58 0.960 2.6 8.4 92.5 I C-A 1.88		(VEH/MIN)		CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I TIME SEGMENT) I
C-B 0.27 9.57 0.029 0.0 0.0 0.4 I A-B 5.81 A-C 2.54 I A-C 2.55 I A	B-C B-A	0.88 7.28							I
(VEH/MIN) (VEH/MIN) CAPACITY (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) ITME SEGMENT	-В -В	0.27 5.81	9.57	0.029		0.0	0.0	0.4	I I I
(VEH/MIN) (VEH/MIN) CAPACITY (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) I (7.15-17.30 B-C									
B-C 0.88 0.96 0.911 1.8 3.2 38.8 I B-A 7.28 7.55 0.963 8.4 10.9 146.3 I C-A 1.88 I C-B 0.27 9.57 0.029 0.0 0.0 0.4 I A-B 5.81 I A-C 2.54 I I I I I I I I I I I I I I I I I I I		(VEH/MIN)		CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I TIME SEGMENT) I
C-B	B-C B-A	0.88 7.28							I
DEMAND CAPACITY DEMAND PEDESTRIAN START END DELAY GEOMETRIC DELAY	C-B A-B A-C	0.27 5.81 2.54							I I I
I7.30-17.45 B-C 0.72 3.44 0.208 3.2 0.3 6.6 I B-A 5.94 7.92 0.750 10.9 3.4 75.3 I C-A 1.54 C-B 0.22 10.02 0.022 0.0 0.0 0.4 I A-B 4.75 A-C 2.07		DEMAND	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I
C-A 1.54 C-B 0.22 10.02 0.022 0.0 0.0 0.4 A-B 4.75 A-C 2.07	B-C	0.72		0.208	(PEDS/MIN)	3.2	0.3	6.6	I
	C-A C-B A-B	1.54 0.22 4.75]]]

TRL TRL VIEWER 2.0 AE c:\Program Files\PICADY 4.1\Derby Road Uttoxeter Road 2018 pm.vpo - Page 4

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)	Ι
I	17.45-1	8.00								Ι
I	B-C	0.60	5.96	0.101		0.3	0.1	1.8		Ι
Ι	B-A	4.97	8.22	0.605		3.4	1.6	26.7		Ι
I	C-A	1.29								I
Ι	C-B	0.19	10.34	0.018		0.0	0.0	0.3		Ι
I	A-B	3.97								Ι
Ι	A-C	1.74								Ι
Ι										Ι

QUEUE FOR STREAM B-C

		_
TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
16.45	0.1	
17.00	0.2	
17.15	1.8	**
17.30	3.2	***
17.45	0.3	
18.00	0.1	

QUEUE FOR STREAM B-A

		_
TIME SEGMEN	T NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
16.45	1.5	*
17.00	2.6	* * *
17.15	8.4	*****
17.30	10.9	*****
17.45	3.4	* * *
18.00	1.6	**

QUEUE FOR STREAM C-B

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I					* QUEUE:	Y *	I	* INCLUSIV * DE	LA:	· *	I I
I		I	(VEH)							(MIN)			_
I	B-C	I	65.8	I	43.9	I	71.2 I	1.08	I	71.2	I	1.08	I
Ι	B-A	Ι	545.7	Ι	363.8	Ι	395.8 I	0.73	I	396.0	Ι	0.73	I
Ι	C-A	Ι	141.2	Ι	94.2	Ι	I		I		Ι		Ι
I	C-B	Ι	20.6	Ι	13.7	Ι	2.1 I	0.10	I	2.1	I	0.10	I
I	A-B	I	436.0	Ι	290.7	Ι	I		I		I		Ι
I	A-C	I	190.6	Ι	127.1	I	I		I		I		I
I	ALL	I	1400.0	I	933.3	I	469.1 I	0.34	I	469.3	I	0.34	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 JOB

***** PICADY 4 run completed.

[Printed at 21:36:04 on 28/10/2010]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM RELEASE 1.1 (MAY 2001)

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

Run with file:-

"C:\Program Files\ARCADY 5\A511 Burton Road Rolleston Lane Roundabout 2018 am.vai" (drive-on-the-left) at 21:22:32 on Thursday, 28 October 2010

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

A511/Burton Road/Rolleston Lane Roundabout 2018 design year am with development

INPUT DATA

ARM A - A511 (north)

ARM B - Rolleston Lane

ARM C - A511 (south)

ARM D - Burton Road

GEOMETRIC DATA

I ARM I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I ARM A I I ARM B I I ARM C I I ARM D I	5.25 3.00 5.00 3.75	I I I	8.00 5.00 8.00 8.00	I	17.00 6.50 5.50 7.00	I I I	30.00 17.50 34.00 15.00	I I I	49.00 49.00 49.00 49.00	I I I	36.0 47.0 32.0 59.0	I	0.693 0.486 0.649 0.520	I	18.904 31.174	I I I

E = entry width

PHI = entry angle

TRAFFIC DEMAND DATA -----

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

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

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DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

 T		 Т	NUMBER OF	мт	NUTES FROM S	START	WHEN	 Т	RATE	OF	FLOW (VEH	 /MTN)	т
I			FLOW STARTS								,			
Ι		Ι	TO RISE	Ι	IS REACHED	IFAL	LING I	Ε	PEAK I	OF	PEAK I	PE.	AK I	
I	ARM A	I	15.00	I	45.00	I	75.00	Ι	6.13	Ι	9.19	I	6.13	I
I	ARM B	I	15.00	I	45.00	I	75.00	Ι	1.73	I	2.59	I	1.73	I
I	ARM C	I	15.00	I	45.00	I	75.00	Ι	5.11	Ι	7.67	I	5.11	Ι
I	ARM D	I	15.00	I	45.00	I	75.00	Ι	3.94	I	5.91	I	3.94	I

Ι		Ι		ΤU	JRNING PRO	OPORTIONS		I					
Т		Т		тī	IRNING COL	JNTS (VEH/	/HR)	Т					
T		T											
т т		I (PERCENTAGE OF H.V.S)											
± T	TIME	т	EDOM/TO	т	7 DM 7 T	ARM B I	ADM C T	NDM D T					
	11ME		FROM/10		ANM A I	ANM D I	ANM C I	ARM D I					
Т	07.30 - 09.00	Т		Т	Т	Т	Т	Т					
T		Т	ARM A	Т	0.006 I	0.106 I	0.837 I	0.051 T					
T		Т		Т	3.0 T	52.0 I	410.0 I	25.0 I					
T		Т		T	(0.0)I	(3.8)I							
T		Т		T	(0.0,1	T	, 2.,, I	T					
T		т	ARM B	T	_	0.000 I	0.043 I	0.536 I					
T		т	mui D	T	58.0 I	0.00 I	6.0 I	74.0 I					
T		T		-		(0.0)I		(6.8)I					
T				T	(0.0)I	(0.0)1 T	(0.0)I	(0.0)1					
			ARM C	T	_	0.002 I	0.002 I	0.347 I					
Τ		Τ	ARM C	_									
1		Τ		Ι	265.0 I	1.0 I	1.0 I	142.0 I					
Ι		Ι		Ι	(2.6)I	(0.0)I	,	(9.2)I					
Ι		Ι		Ι	I	I	I	I					
Ι		Ι	ARM D	Ι	0.175 I	0.216 I	0.610 I	0.000 I					
I		I		Ι	55.0 I	68.0 I	192.0 I	0.0 I					
I		Ι		Ι	(0.0)I	(8.8)I	(3.6)I	(0.0)I					
I		I		Ι	I	I	I	I					

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I TIME I I I 07.30-(I ARM A I ARM B I ARM C I ARM D I	, ,	CAPACITY (VEH/MIN) 32.26 14.44 28.45 20.16	DEMAND/ CAPACITY (RFC) 0.190 0.119 0.180 0.195	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS) 0.0 0.0 0.0 0.0 0.0	END QUEUE (VEHS) 0.2 0.1 0.2 0.2		GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I I I I I I I I I				
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN		END	DELAY	GEOMETRIC DELAYI				
I	(VEH/MIN)	(VEH/MIN)	CAPACITY (RFC)	FLOW	QUEUE	QUEUE (VEHS)		(VEH.MIN/ I TIME SEGMENT) I				
	I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) I I 07.45-08.00											
I ARM A	7.31	31.81	0.230		0.2	0.3	4.4	I				
I ARM B	2.06	13.70	0.150		0.1	0.2	2.6	I				
I ARM C		28.20	0.216		0.2	0.3	4.1	I				
I ARM D T	4.70	19.76	0.238		0.2	0.3	4.6	I T				
1												
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI				
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I				
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I				
I 08.00-0		21 10	0 207		0.3	0 4	F 0	I				
I ARM A I ARM B	8.96 2.52	31.19 12.68	0.287 0.199		0.3	0.4	5.9 3.6	I I				
I ARM C	7.48	27.86	0.199		0.2	0.4	5.4	I				
I ARM D	5.76	19.20	0.300		0.3	0.4	6.3	Ī				
I					. • •			Ī				

TRI	TRL VIEWER	2.0 AE C:\Program Files\ARCADY 5\A511 Burton F	Road Rolleston Lane Roundabout 2018	am.vao - Page									

I TIME I I I 08.15-	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 DELAYI (VEH.MIN/ I TIME SEGMENT) I
I ARM A I ARM B I ARM C I ARM D I	8.96 2.52 7.48 5.76	31.19 12.68 27.86 19.19	0.287 0.199 0.268 0.300		0.4 0.2 0.4 0.4	0.4 0.2 0.4 0.4	6.0 3.7 5.5 6.4	I I I I
I TIME I I I 08.30- I ARM A I ARM B I ARM C	DEMAND (VEH/MIN) 08.45 7.31 2.06 6.10	CAPACITY (VEH/MIN) 31.81 13.69 28.20	DEMAND/ CAPACITY (RFC) 0.230 0.150 0.217	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS) 0.4 0.2 0.4	END QUEUE (VEHS) 0.3 0.2 0.3	DELAY (VEH.MIN/ TIME SEGMENT) 4.6 2.7 4.2	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I I I I
I ARM D I	4.70	19.75	0.238		0.4	0.3	4.8	
I TIME I I I 08.45-0		, , ,	CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	,	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	I
I ARM A I ARM B I ARM C I ARM D I	6.13 1.73 5.11 3.94	32.25 14.42 28.44 20.15	0.190 0.120 0.180 0.195		0.3 0.2 0.3 0.3	0.2 0.1 0.2 0.2	3.6 2.1 3.3 3.7	I I I I

QUEUE AT ARM A

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
07.45	0.2
08.00 08.15	0.3
08.30	0.4
08.45 09.00	0.3

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.1
08.00	0.2
08.15	0.2
08.30	0.2
08.45	0.2
09.00	0.2

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45 08.00 08.15 08.30 08.45 09.00	0.2 0.3 0.4 0.4 0.3

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A511 Burton Road Rolleston Lane Roundabout 2018 am.vao - Page

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45 08.00	0.2
08.15	0.4
08.30	0.4
08.45	0.3
09.00	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I I I	ARM	I I I	TOTAL DEMAND		I I	_	* QUEUEING * * DELAY *			* INCLUSIVE QUEUEING '			
I		I	(VEH)		(VEH/H)	Ι	(MIN)	(MIN/VEH)	I	(MIN)		(MIN/VEH)	I
I I I I	A B C D	I I I I		I	126.2 373.9	I I	27.9 I 16.7 I 25.7 I 29.3 I	0.04 0.09 0.05 0.07	I I I	27.9 16.7 25.7 29.3	_	0.04 0.09 0.05 0.07	I I I I
Ι	ALL	I	1853.9	Ι	1235.9	I	99.7 I	0.05	I	99.7	I	0.05	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 JOB

***** ARCADY 5 run completed.

------ end of file ------

[Printed at 21:23:22 on 28/10/2010]

TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A511 Burton Road Rolleston Lane Roundabout 2018 pm.vao - Page 3 TRI

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM RELEASE 1.1 (MAY 2001)

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Run with file:-

"C:\Program Files\ARCADY 5\A511 Burton Road Rolleston Lane Roundabout 2018 pm.vai" (drive-on-the-left) at 21:23:37 on Thursday, 28 October 2010

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

A511/Burton Road/Rolleston Lane Roundabout 2018 design year pm with development

INPUT DATA

ARM A - A511 (north)

ARM B - Rolleston Lane

ARM C - A511 (south)

ARM D - Burton Road

GEOMETRIC DATA

______ I ARM I V (M) I E (M) I L (M) I R (M) I D (M) I PHI (DEG) I SLOPE I INTERCEPT (PCU/MIN) I I ARM A I 5.25 I 8.00 I 17.00 I 30.00 I 49.00 I 36.0 I 0.693 I 35.502 I 1 ARM B I 3.00 I 5.00 I 6.50 I 17.50 I 49.00 I 47.0 I 0.486 I 18.904 I 1 ARM C I 5.00 I 8.00 I 5.50 I 34.00 I 49.00 I 32.0 I 0.649 I 31.174 I I ARM D I 3.75 I 8.00 I 7.00 I 15.00 I 49.00 I 59.0 I 0.520 I 23.163 I

E = entry width

 $\begin{array}{lll} \textbf{V} = \text{approach half-width} & \textbf{L} = \text{effective flare length} \\ \textbf{E} = \text{entry width} & \textbf{R} = \text{entry radius} \end{array}$

D = inscribed circle diameter

PHI = entry angle

TRAFFIC DEMAND DATA -----

TIME PERIOD BEGINS 16.30 AND ENDS 18.00

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

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A511 Burton Road Rolleston Lane Roundabout 2018 pm.vao - Page 2

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

Ι		Ι	NUMBER OF	MINUT	ES FROM	STAR	T WHEN	I	RATE	OF	FLOW	VEH	/MIN)	Ι
I	ARM	I	FLOW STARTS	I TOF	OF PEAK	ΙF	LOW STOPS	I	BEFORE	Ι	AT TOP	I	AFTER	Ι
I		I	TO RISE	I IS	REACHED	IFA	LLING I	P	EAK I	OF	PEAK I	PE	AK I	
I	ARM A	I	15.00	I	45.00	I	75.00	Ι	5.22	Ι	7.84	I	5.22	Ι
I	ARM B	Ι	15.00	I	45.00	I	75.00	Ι	1.45	I	2.18	I	1.45	Ι
I	ARM C	I	15.00	I	45.00	I	75.00	I	8.16	Ι	12.24	I	8.16	Ι
I	ARM D	I	15.00	I	45.00	I	75.00	I	3.40	Ι	5.10	I	3.40	Ι

I		Ι		ΤŪ	JRNING PRO	PORTIONS		I
Т		Т		тī	JRNING COU	INTS (VEH	HR)	Т
T		T			ERCENTAGE			T
			1					
1	TIME		FROM/TO	Ι.	ARM A I	ARM B I	ARM C I	ARM D I
Т	16.30 - 18.00	т.		Т.	T	Т	Т	Т
T		Т	ARM A	Т	0.002 I	0.158 I	0.746 I	0.093 T
T		Т		Т		66.0 I	312.0 I	39.0 I
T		I		Т		(3.8)I		
T		Т		Т	T	, , , , , , , , , , , , , , , , , , ,	T	T
T		Т	ARM B	Т	0.388 T	0.000 I	0.112 I	0.500 I
Ī		I		I	45.0 I	0.0 I	13.0 I	58.0 I
I		Ι		I	(2.2)I	(0.0)I	(0.0)I	(3.4)I
I		Ι		Ι	Ĭ	I	I	I
I		I	ARM C	I	0.625 I	0.008 I	0.000 I	0.368 I
I		I		I	408.0 I	5.0 I	0.0 I	240.0 I
I		Ι		Ι	(2.6)I	(20.0)I	(0.0)I	(2.5)I
I		I		I	I	I	I	I
I		I	ARM D	I	0.162 I	0.279 I	0.559 I	0.000 I
I		I		I	44.0 I	76.0 I	152.0 I	0.0 I
I		Ι		Ι	(2.2)I	(6.6)I	(0.0)I	(0.0)I
Ι		Ι		I	I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I TIME I I	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 DELAYI (VEH.MIN/ I TIME SEGMENT) I
I 16.30-1	16.45		, -,	, -, ,	/	- /	,	I
I ARM A		32.40	0.161		0.0	0.2	2.8	Ī
I ARM B	1.45	15.39	0.094		0.0	0.1	1.5	Ī
I ARM C	8.16	29.21	0.279			0.4	5.7	Ī
I ARM D	3.40	19.68	0.173		0.0	0.2	3.1	I
I								I
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I	(VEH/MIN)			FLOW	QUEUE		(VEH.MIN/	
Ī	(,,	(- = , = ,		(PEDS/MIN)		(VEHS)		TIME SEGMENT) I
I 16.45-1	L7.00		, -,	, ,	/	- /	,	I
I ARM A	6.24	32.00	0.195		0.2	0.2	3.6	I
I ARM B	1.73	14.79	0.117		0.1	0.1	1.9	I
I ARM C	9.75	28.98	0.336		0.4	0.5	7.4	I
I ARM D	4.06	19.09	0.213		0.2	0.3	4.0	I
I								I
I TIME		CAPACITY	,		START	END	DELAY	GEOMETRIC DELAYI
I	(VEH/MIN)	(VEH/MIN)		FLOW	QUEUE	QUEUE		(VEH.MIN/ I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
I 17.00-1								I
I ARM A	7.64	31.47	0.243		0.2	0.3	4.7	I
I ARM B	2.12	13.98	0.152		0.1	0.2	2.6	I
I ARM C	11.94	28.67	0.416		0.5	0.7	10.4	I
I ARM D	4.97	18.28	0.272		0.3	0.4	5.5	I
I								I

TRL	TRL VIEWER	2.0 AE C:\Program Files\ARCADY 5\A511 Burton Road Rolleston Lane Roundabout 2018 pm	n.vao - Page

I TIME I I	(VEH/MIN)	CAPACITY (VEH/MIN)	,	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE	END QUEUE (VEHS)	(VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I 17.15-1 I ARM A I ARM B I ARM C I ARM D I	7.64 2.12 11.94	31.46 13.97 28.67 18.28	0.243 0.152 0.416 0.272		0.2	0.3 0.2 0.7 0.4	4.8 2.7 10.7 5.6	I I I I I
I TIME I I I 17.30-1	(VEH/MIN)			FLOW	QUEUE		DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I ARM A I ARM B I ARM C	6.24 1.73 9.75	32.00 14.79 28.98 19.08	0.195 0.117 0.336 0.213		0.2	0.2 0.1 0.5 0.3		I I
I TIME I I I 17.45-1	, ,	CAPACITY (VEH/MIN)	,	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I ARM A I ARM B I ARM C I ARM D I	5.22 1.45 8.16 3.40	32.39 15.38 29.20 19.66	0.161 0.094 0.280 0.173		0.2 0.1 0.5 0.3	0.2 0.1 0.4 0.2	2.9 1.6 5.9 3.2	1 1 1 1 1
								

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.45 17.00 17.15 17.30 17.45 18.00	0.2 0.2 0.3 0.3 0.2

QUEUE AT ARM B

QUEUE AT ARM E	3
TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.45 17.00 17.15 17.30 17.45 18.00	0.1 0.1 0.2 0.2 0.1 0.1

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.45 17.00 17.15 17.30 17.45 18.00	0.4 0.5 0.7 0.7 0.5	* * *

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A511 Burton Road Rolleston Lane Roundabout 2018 pm.vao - Page

QUEUE AT ARM D

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.2
17.00	0.3
17.15	0.4
17.30	0.4
17.45	0.3
18.00	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I I	ARM	I I	TOTAL DEMAND I		I I	* DEI	* QUEUEING * * DELAY *		I * INCLUSIVE QUEUEING * I * DELAY *			I I
I		I	(VEH)	(VEH/H)	I		(MIN/VEH)		(MIN)		(MIN/VEH)	I
I I I I	A B C D	I I I I	895.4	I 106.0 I 596.9	I I	22.6 I 12.4 I 47.9 I 25.4 I	0.04 0.08 0.05 0.07	I I I I	22.6 12.4 47.9 25.4	I I I I	0.04 0.08 0.05 0.07	I I I I
I	ALL	I	2000.6	I 1333.7	I	108.3 I	0.05	I	108.3	I	0.05	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 JOB

***** ARCADY 5 run completed.

------ end of file ------

[Printed at 21:24:11 on 28/10/2010]

TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A511 Bridge Street Roundabout 2018 am.vao - Page 1 TRI

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

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Run with file:-

"C:\Program Files\ARCADY 5\A511 Bridge Street Roundabout 2018 am.vai" (drive-on-the-left) at 21:21:27 on Thursday, 28 October 2010

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

A511/Bridge Street Roundabout 2018 design year am with development

INPUT DATA

ARM A - A511 (north)

ARM B - A511 (east)

ARM C - Bridge Street

ARM D - Tutbury Mill

GEOMETRIC DATA

______ I ARM I V (M) I E (M) I L (M) I R (M) I D (M) I PHI (DEG) I SLOPE I INTERCEPT (PCU/MIN) I I ARM A I 3.50 I 6.50 I 10.00 I 18.00 I 35.00 I 44.0 I 0.583 I 24.032 I 1 ARM B I 5.25 I 7.00 I 13.00 I 25.00 I 35.00 I 38.0 I 0.692 I 32.101 I 1 ARM C I 4.50 I 5.50 I 9.00 I 10.00 I 35.00 I 26.0 I 0.607 I 25.524 I 1 ARM D I 2.65 I 3.25 I 5.00 I 13.00 I 35.00 I 16.0 I 0.507 I 15.918 I ______

V = approach half-width L = effective flare length E = entry width R = entry radius

D = inscribed circle diameter

PHI = entry angle

TRAFFIC DEMAND DATA -----

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

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

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A511 Bridge Street Roundabout 2018 am.vao - Page 2

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I		I	NUMBER OF	MI	INUTES F	'ROM	START	WHEN	Ι	RATE	OF	FLOW	(VEH	/MIN)	I
I	ARM	I	FLOW STARTS	Ι	TOP OF	PEAK	I FL	OW STOPS	Ι	BEFORE	I.	AT TOP	I	AFTER	I
I		I	TO RISE	Ι	IS REA	CHED	IFAL	LING I]	PEAK I	OF	PEAK]	I PE	AK I	
I	ARM A	I	15.00	Ι	45.	00	I	75.00	Ι	9.02	Ι	13.54	I	9.02	I
I	ARM B	I	15.00	Ι	45.	00	I	75.00	Ι	5.07	Ι	7.61	I	5.07	Ι
I	ARM C	I	15.00	Ι	45.	00	I	75.00	Ι	2.96	Ι	4.44	I	2.96	I
I	ARM D	I	15.00	Ι	45.	00	I	75.00	I	0.03	Ι	0.04	I	0.03	Ι

I I I I		I TURNING PROPORTIONS I TURNING COUNTS (VEH/HR) I (PERCENTAGE OF H.V.S)										
I	TIME	I	FROM/TO	I	ARM A I	ARM B I	ARM C I	ARM D I				
	07.30 - 09.00		ARM A ARM B ARM C		0.000 I 0.00 I (0.0) I 0.970 I 394.0 I (3.3) I 0.932 I 221.0 I (5.4) I I 0.500 I 1.0 I (0.0) I	550.0 I (2.5) I	0.233 I 168.0 I (3.6) I 0.017 I 7.0 I (0.0) I 0.000 I 0.00 I (0.0) I 0.000 I 0.00 I (0.0) I	0.012 I 5.0 I (0.0) I I 0.017 I 4.0 I (0.0) I 0.000 I 0.00 I				
Ī		I		Ī	,, I	I	` I	I				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I TIME I T	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 DELAYI (VEH.MIN/ I TIME SEGMENT) I
I 07.30	-07.45		(112 0)	(1220/11111)	(12110)	(12110)	11111 0111111111	I I
I ARM A	9.02	23.30	0.387		0.0	0.6	9.1	I
I ARM B	5.07	29.62	0.171		0.0	0.2	3.0	I
I ARM C	2.96	21.31	0.139		0.0	0.2	2.4	I
I ARM D	0.03	11.80	0.002		0.0	0.0	0.0	I
I								I
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE		(VEH.MIN/ I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
I 07.45							40.5	I
I ARM A	10.78	23.28	0.463		0.6	0.9	12.5	I
I ARM B	6.06	29.33	0.207		0.2	0.3	3.8	I
I ARM C I ARM D	3.54 0.03	20.72 10.98	0.171		0.2	0.2	3.0 0.0	I I
T ARM D	0.03	10.98	0.003		0.0	0.0	0.0	I T
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
I 08.00								I
I ARM A		23.26	0.568		0.9	1.3	18.7	I
I ARM B	7.42	28.93	0.257		0.3	0.3	5.1	I
I ARM C	4.33	19.91	0.218		0.2	0.3	4.1	I
I ARM D	0.04	9.88	0.004		0.0	0.0	0.1	I
I								I

TRL	TRL VIEWER	2.0 AE C:\Program	A511 Bridge Stre	am.vao - Page 3

I TIME I I		CAPACITY (VEH/MIN)	,	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE	END QUEUE (VEHS)	(VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I 08.15-0 I ARM A I ARM B I ARM C I ARM D I	13.20 7.42	23.26 28.92 19.91 9.87	0.568 0.257 0.218 0.004		1.3 0.3 0.3 0.0	1.3 0.3 0.3 0.0	19.5 5.2 4.2 0.1	I I I I I
			DEMAND /	PEDESTRIAN		END	DELAY	GEOMETRIC DELAYI
I TIME I	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)		FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I TIME SEGMENT) I
I ARM B I ARM C	10.78 6.06 3.54	23.28 29.32 20.71 10.98	0.463 0.207 0.171 0.003		0.3		13.4 4.0 3.2 0.0	I I I I I
I TIME I I I 08.45-0	, ,	CAPACITY (VEH/MIN)	,	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	TIME SEGMENT) I
I 08.45-0 I ARM A I ARM B I ARM C I ARM D I	9.02 5.07 2.96 0.03	23.30 29.61 21.29 11.78	0.387 0.171 0.139 0.002		0.9 0.3 0.2 0.0	0.6 0.2 0.2 0.0	9.8 3.1 2.5 0.0	I I I I I

QUEUE AT ARM A

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	0.6	*
08.00	0.9	*
		*
08.15	1.3	*
08.30	1.3	
08.45	0.9	*
09.00	0.6	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.2
08.00	0.3
08.15	0.3
08.30	0.3
08.45	0.3

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.2
08.00	0.2
08.15	0.3
08.30	0.3
08.45	0.2

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A511 Bridge Street Roundabout 2018 am.vao - Page 4

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45 08.00 08.15	0.0
08.30	0.0
08.45 09.00	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I I I	TOTA	TOTAL DEMAND			* DE	UEING * LAY *	I I		DEL	QUEUEING * .AY *	I
I		I	(VEH)		(VEH/H)	I	(MIN)			(MIN)		(MIN/VEH)	I
I I I I	A B C D	I I I I		I	371.1 216.7	I I	83.1 I 24.3 I 19.3 I 0.3 I	0.08 0.04 0.06 0.09	I I I I	83.1 24.3 19.3 0.3	I I I I	0.08 0.04 0.06 0.09	I I I I
I	ALL	I	1874.4	Ι	1249.6	I	126.8 I	0.07	I	126.8	I	0.07	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 JOB

***** ARCADY 5 run completed.

[Printed at 21:21:58 on 28/10/2010]

TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A511 Bridge Street Roundabout 2018 pm.vao - Page 1 TRI

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM RELEASE 1.1 (MAY 2001)

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Run with file:-

"C:\Program Files\ARCADY 5\A511 Bridge Street Roundabout 2018 pm.vai" (drive-on-the-left) at 20:13:36 on Thursday, 28 October 2010

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

A511/Bridge Street Roundabout 2018 design year pm with development

INPUT DATA

ARM A - A511 (north)

ARM B - A511 (east)

ARM C - Bridge Street

ARM D - Tutbury Mill

GEOMETRIC DATA

I ARM I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	Ι	SLOPE	I	INTERCEPT (PCU/MIN)	I
I ARM A I	3.50	I	6.50	I	10.00	I	18.00	I	35.00	I	44.0	I	0.583	I	24.032	Ι
I ARM B I	5.25	I	7.00	I	13.00	I	25.00	I	35.00	I	38.0	I	0.692	I	32.101	I
I ARM C I	4.50	I	5.50	I	9.00	I	10.00	I	35.00	I	26.0	I	0.607	I	25.524	I
I ARM D I	2.65	I	3.25	I	5.00	I	13.00	I	35.00	I	16.0	I	0.507	I	15.918	I

 $\begin{array}{lll} V = approach \; half-width & L = effective \; flare \; length & D = inscribed \; circle \; diameter \\ E = entry \; width & R = entry \; radius & PHI = entry \; angle \end{array}$

TRAFFIC DEMAND DATA -----

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

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

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A511 Bridge Street Roundabout 2018 pm.vao - Page 2

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

														-
Ι		Ι	NUMBER	OF MI	NUTES FROM	STA	RT WHEN	Ι	RATE	OF	FLOW (VEH	/MIN)	Ι
I	ARM	Ι	FLOW STA	RTS I	TOP OF PEAR	Ί	FLOW STOPS	Ι	BEFORE	I.	AT TOP	I	AFTER	I
Ι		Ι	TO RIS	E I	IS REACHEI) IF	ALLING I]	PEAK I	OF	PEAK I	PE	AK I	
														-
Ι	ARM A	I	15.0	I C	45.00	I	75.00	I	8.46	I	12.69	I	8.46	Ι
Ι	ARM B	Ι	15.0) I	45.00	I	75.00	Ι	6.65	Ι	9.98	I	6.65	Ι
I	ARM C	I	15.0	I C	45.00	I	75.00	Ι	3.38	Ι	5.06	I	3.38	Ι
I	ARM D	I	15.0	I C	45.00	I	75.00	I	0.11	Ι	0.17	I	0.11	Ι
														-

I I		I TURNING PROPORTIONS I TURNING COUNTS (VEH/HR) I (PERCENTAGE OF H.V.S)										
I I	TIME	I	FROM/TO	I	ARM A I	ARM B I	ARM C I	ARM D I				
	07.30 - 09.00		ARM A ARM C ARM D	I I I I	4.0 I (0.0) I I 0.966 I 514.0 I (3.5) I I 0.937 I 253.0 I	420.0 I (3.1) I I 0.000 I 0.0 I (0.0) I I 0.056 I 15.0 I	0.366 I 248.0 I (3.2)I I 0.026 I 14.0 I (0.0)I 0.000 I 0.00 I (0.0)I	5.0 I (25.0) I I 0.008 I 4.0 I (0.0) I I 0.007 I 2.0 I				
I I I		I I I		I I I	1.0 I (0.0) I I	6.0 I	2.0 I (50.0) I I	0.0 I				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I TIME I I I I 07.30- I ARM A I ARM B I ARM C I ARM D I	8.46 6.65 3.38		DEMAND/ CAPACITY (RFC) 0.366 0.231 0.162 0.012	PEDESTRIAN FLOW (PEDS/MIN)	0.0	END QUEUE (VEHS) 0.6 0.3 0.2	DELAY (VEH.MIN/ TIME SEGMENT) 8.4 4.4 2.8 0.2	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I I I I I I I I I I I I I I I I I I I
I TIME I I I 07.45- I ARM A I ARM B I ARM C I ARM D I	10.11 7.94 4.03	CAPACITY (VEH/MIN) 23.07 28.37 20.07 8.80	CAPACITY	FLOW	QUEUE (VEHS) 0.6 0.3	(VEHS)	DELAY (VEH.MIN/ TIME SEGMENT) 11.3 5.7 3.7 0.2	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I I I I I
I TIME I I 08.00- I ARM A I ARM B I ARM C I ARM D I	(VEH/MIN) 08.15	CAPACITY (VEH/MIN) 23.02 27.76 18.99 7.56	,	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE		DELAY (VEH.MIN/ TIME SEGMENT) 16.7 7.9 5.1 0.3	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I I I I I

TRL	TRL VIEWER	2.0 AE C:\Program Files\ARCADY 5\A511 Bridge Street Roundabout 2018 pm.vao - Pa	age 3

I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I	(VEH/MIN)	(VEH/MIN)		FLOW	QUEUE	QUEUE		(VEH.MIN/ I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
I 08.15-0							4.7.0	I
I ARM A		23.02	0.538		1.1	1.2	17.3	I
I ARM B		27.76	0.350		0.5	0.5	8.1	I
I ARM C		18.99 7.56	0.260		0.3	0.4	5.2	I
I ARM D	0.16	7.56	0.022		0.0	0.0	0.3	I T
1								
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
I 08.30-0								I
		23.07	0.438			0.8	12.1	I
I ARM B	7.94	28.36	0.280		0.5	0.4	6.0	I
I ARM C	4.03	20.06	0.201		0.4	0.3	3.9	I
I ARM D	0.13	8.79	0.015		0.0	0.0	0.2	I
I								I
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
I 08.45-0								I
I ARM A		23.10	0.366		0.8	0.6	8.9	I
		28.80	0.231		0.4	0.3	4.6	I
I ARM C	3.38	20.85	0.162		0.3	0.2	3.0	I
I ARM D	0.11	9.69	0.012		0.0	0.0	0.2	I
I								I

QUEUE AT ARM A

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	0.6	*
08.00	0.8	*
08.15	1.1	*
08.30	1.2	*
08.45	0.8	*
09.00	0.6	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
07.45 08.00 08.15 08.30 08.45 09.00	0.3 0.4 0.5 0.5 0.4	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.2
08.00	0.2
08.15	0.3
08.30	0.4
08.45	0.3

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A511 Bridge Street Roundabout 2018 pm.vao - Page 4

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
	IN QUEUE
07.45	0.0
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I I	ARM	I I	TOTA	. — . С. I	DEMAND	I I	* DE	UEING * LAY *	I I		DEI	ÃΥ *	I
I		I	(VEH)		(VEH/H)	Ι	(MIN)			(MIN)		(MIN/VEH)	I
I I I I	A B C D	I I I I	928.3 729.5 370.2 12.3	I I	486.3 246.8	I I	74.7 I 36.6 I 23.7 I 1.5 I	0.05	I I I I	74.7 36.6 23.7 1.5	I I I I	0.08 0.05 0.06 0.12	I I I I
I	ALL	I	2040.4	I	1360.2	I	136.5 I	0.07	 I	136.5	I	0.07	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 JOB

***** ARCADY 5 run completed.

[Printed at 21:20:59 on 28/10/2010]

TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 am no dev.vao - Page 1 TRI

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM RELEASE 1.1 (MAY 2001)

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Run with file:-

"C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 am no dev.vai" (drive-on-the-left) at 21:29:44 on Thursday, 28 October 2010

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

A516/A5132 roundabout 2018 design year am no development

INPUT DATA

ARM A - A516 north

ARM B - A5132

ARM C - A516 west

GEOMETRIC DATA

I ARM I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I ARM A I I ARM B I I ARM C I	3.65	I	6.70 6.50 6.00	_	,	_	53.00 26.50 33.00	I	40.00	I I I	34.0 57.0 27.0	I	0.610 0.546 0.640	I	25.277 22.427 27.405	I I I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

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

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 am no dev.vao - Page 2

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I		I	NUMBER OF	MINUT	ES FROM	START	WHEN	I	RATE	OF	FLOW	(VEI	H/MIN)	I
I	ARM	I	FLOW STARTS	I TOP	OF PEAK	I FL	OW STOPS	I	BEFORE	I.	AT TOP	I	AFTER	I
Ι		Ι	TO RISE	I IS	REACHED	IFAL	LING I	Ε	PEAK I	OF	PEAK	I PE	EAK I	
I	ARM A	I	15.00	I	45.00	I	75.00	I	4.95	Ι	7.42	I	4.95	Ι
I	ARM B	I	15.00	I	45.00	I	75.00	I	12.63	Ι	18.94	I	12.63	I
Ι	ARM C	I	15.00	I	45.00	I	75.00	I	7.60	Ι	11.40	I	7.60	I

I I I		I I I		TU		OPORTIONS JNTS (VEH/ OF H.V.S)	,
Ι	TIME	Ι	FROM/TO	Ι	ARM A I	ARM B I	ARM C I
I T	07.30 - 09.00	I T	ARM A	I T	I	I	I
I		I	ARM A	I	1.0 I	0.598 I 237.0 I	158.0 I
I		I		I	I	(8.5)I	Ĭ
I I		I	ARM B	I	0.837 I 845.0 I	0.000 I 0.0 I	
I I		I		I	(3.6)I I	I(0.0)	(10.3)I I
I I		I	ARM C	I I	0.977 I 594.0 I	0.023 I 14.0 I	0.000 I 0.0 I
I I		I		I I	(6.0)I I	(7.0)I I	(0.0)I I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I TIME I I I 07.30-0 I ARM A I ARM B I ARM C	DEMAND (VEH/MIN) 07.45 4.95 12.63 7.60	CAPACITY (VEH/MIN) 23.34 20.32 19.29	DEMAND/ CAPACITY (RFC) 0.212 0.621 0.394	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS) 0.0 0.0	END QUEUE (VEHS) 0.3 1.6 0.6	DELAY (VEH.MIN/ TIME SEGMENT) 3.9 22.6 9.3	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I I I I I
I ANT C		19.29						I
I TIME I I I 07.45-	, , ,	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)		GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I ARM A I ARM B I ARM C I		23.32 20.10 18.00	0.253 0.750 0.504		0.3 1.6 0.6	0.3 2.9 1.0	5.0 39.7 14.5	I I I
I TIME I I 08.00-(I ARM A I ARM B I ARM C I	, , ,	CAPACITY (VEH/MIN) 23.29 19.80 16.40	DEMAND/ CAPACITY (RFC) 0.311 0.932 0.678	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS) 0.3 2.9 1.0	END QUEUE (VEHS) 0.4 9.3 2.0		GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I I I I I

TRL	TRL VIEWER	2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 am no dev.vao - Page 3	3

I TIME I	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)		PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
T 08.15-0	08.30		(1110)	(1220/11111)	(12110)	(12110)	11111 0110111111	I
I ARM A	7.24	23.29	0.311		0.4	0.4	6.7	Ī
I ARM B	18.46	19.80	0.932		9.3		151.6	Ī
I ARM C	11.11	16.23	0.685		2.0	2.1	31.3	I
I								I
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN		END	DELAY	GEOMETRIC DELAYI
I		(VEH/MIN)	,	FLOW	OUEUE	QUEUE	(VEH.MIN/	
T	(VEII/PIIN)	(VEII/PIIN)		(PEDS/MIN)		(VEHS)		TIME SEGMENT) I
T 08.30-0	08 45		(111.0)	(ILDS/HIN)	(VEIIO)	(V LIIO)	IIII DEGILINI,	I I
T ARM A	5.91	23.32	0.253		0.4	0.3	5.2	T
I ARM B	15.08	20.10	0.750			3.2	58.8	Ī
I ARM C	9.08	17.69	0.513		2.1	1.1	16.8	I
I								I
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	OUEUE	OUEUE	(VEH.MIN/	(VEH.MIN/ I
I	, , ,	, , ,	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)		TIME SEGMENT) I
I 08.45-0	09.00						,	I
I ARM A	4.95	23.34	0.212		0.3	0.3	4.1	I
I ARM B	12.63	20.31	0.622		3.2	1.7	26.6	I
I ARM C	7.60	19.19	0.396		1.1	0.7	10.2	I
I								I

QUEUE AT ARM A

TIME SEGMENT	NO. O
ENDING	VEHICLES
	IN QUEU
0.7. 4.5	0 0
07.45	0.3
08.00	0.3
08.15	0.4
08.30	0.4
08.45	0.3
09.00	0.3

QUEUE AT ARM B

TIME SEGMENT NO. OF ENDING VEHICLES

21122110	TM OUDUD	
	IN QUEUE	
07.45	1.6	**
08.00	2.9	***
08.15	9.3	*****
08.30	10.7	******
08.45	3.2	***
09.00	1.7	**

QUEUE AT ARM C

TIME SEGMENT NO. OF

ENDING	VEHICLES	
	IN QUEUE	
07.45	0.6	*
08.00	1.0	*
08.15	2.0	* *
08.30	2.1	* *
08.45	1.1	*
09.00	0.7	*

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 am no dev.vao - Page 4

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

 I I T	ARM	I I I	TOTAI	DEMAND	I I	* DE	CUEING *	I I	*	DEL	QUEUEING *	I I
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	Ι	(MIN)		(MIN/VEH)	I
I I I	А В С	_	543.0 1384.9 833.7	I 923.3	3 I	31.6 I 408.6 I 110.5 I	0.30	I I I	408.6	I I I		I I I
I 	ALL	I	2761.6	I 1841.1	. I	550.6 I	0.20	I	550.7		0.20	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 JOB

***** ARCADY 5 run completed.

[Printed at 21:31:10 on 28/10/2010]

TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 am.vao - Page 1 TRI

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM RELEASE 1.1 (MAY 2001)

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Run with file:- "C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 am.vai" (drive-on-the-left) at 21:24:49 on Thursday, 28

RUN TITLE

A516/A5132 roundabout 2018 design year am with development

INPUT DATA

ARM A - A516 north

ARM B - A5132

ARM C - A516 west

GEOMETRIC DATA

I ARM I V (I	1) I	E (M)	I	L (M)	Ι	R (M)	Ι	D (M)	Ι	PHI (DEG)	Ι	SLOPE	I	INTERCEPT (PCU/MIN)	Ι
I ARM B I 3.	55 I 55 I	6.70 6.50 6.00	I	6.50	I	53.00 26.50 33.00	I	40.00	I I	34.0 57.0 27.0	I	0.610 0.546 0.640	I	25.277 22.427 27.405	I I

E = entry width

TRAFFIC DEMAND DATA -----

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

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

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 am.vao - Page 2

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I		Ι	NUMBER OF	MINUT	ES FROM	START	WHEN	Ι	RATE	OF	FLOW	(VEH	/MIN)	Ι
I	ARM	Ι	FLOW STARTS	I TOP	OF PEAK	I FL	OW STOPS	I	BEFORE	Ι	AT TOP	ΙZ	AFTER	Ι
I		Ι	TO RISE	I IS	REACHED	IFAL	LING I	Ι	PEAK I	OF	PEAK :	I PE	AK I	
I	ARM A	Ι	15.00	I	45.00	I	75.00	Ι	5.13	Ι	7.69	I	5.13	Ι
I	ARM B	Ι	15.00	I	45.00	I	75.00	Ι	12.63	Ι	18.94	I :	12.63	Ι
I	ARM C	Ι	15.00	I	45.00	I	75.00	I	7.66	Ι	11.49	I	7.66	Ι

I I I		I I I		ΤŪ		OPORTIONS JNTS (VEH, OF H.V.S)	
I	TIME	I	FROM/TO) I	ARM A I	ARM B I	ARM C I
	07.30 - 09.00		ARM A ARM B ARM C	I I I I I I I	1.0 I (0.0) I I 0.837 I 845.0 I (3.6) I I 0.977 I 599.0 I	0.602 I 247.0 I (8.5) I 0.000 I 0.0 I (0.0) I 0.023 I 14.0 I (7.0) I	162.0 I (6.8) I 0.163 I 165.0 I (10.3) I 0.000 I 0.0 I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I		5.13	CAPACITY (VEH/MIN) 23.34	(RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I I I
	ARM B ARM C	12.63 7.66	20.29 19.29	0.622 0.397		0.0	1.6 0.7	22.7 9.5	I I I
I I I I	TIME 07.45-0	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)		GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
I	ARM B	6.12 15.08 9.15	23.32 20.07 18.00	0.262 0.751 0.508		0.3 1.6 0.7	0.4 2.9 1.0	5.2 39.9 14.8	I I I
I		, ,	CAPACITY (VEH/MIN) 23.29 19.76 16.41	DEMAND/ CAPACITY (RFC) 0.322 0.934 0.683	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS) 0.4 2.9 1.0			GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I I I I I
I									I

TRL	TRL	VIEWER	2.0 AE C:	\Program File	es\ARCAI)Y 5\A51	6 A5132 rounda	bout 2018 am.vao
I TIME I I	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	,	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I 08.15-0								
I ARM A	7.50	23.29	0.322			0.5	7.1	
I ARM B			0.934			11.0	154.4	
I ARM C I	11.21	16.23	0.690		2.1	2.2	32.1	
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
I 08.30-0								
I ARM A		23.32	0.262			0.4	5.5	
I ARM B		20.06 17.68	0.751			3.2	59.6	
I ARM C I	9.15	17.08	0.517		2.2	1.1	17.1	
I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
I 08.45-0								
I ARM A		23.34	0.220			0.3	4.3	
I ARM B		20.28	0.622			1.7	26.7	
I ARM C I	7.66	19.19	0.399		1.1	0.7	10.4	

QUEUE AT ARM A

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
07.45	0.3
08.00	0.4
08.15	0.5
08.30	0.5
08.45	0.4
09.00	0.3

QUEUE AT ARM B

TIME SEGMENT NO. OF ENDING VEHICLES IN QUEUE

1.6 **
2.9 ***
9.4 ********
11.0 ********
3.2 ***
1.7 ** 07.45 08.00 08.15 08.30 08.45 09.00

QUEUE AT ARM C

	NO. OF	TIME SEGMENT
	VEHICLES	ENDING
	IN QUEUE	
*	0.7	07.45
	0.7	07.45
*	1.0	08.00
* *	2.1	08.15
* *	2.2	08.30
*	1.1	08.45
*	0.7	09.00

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 am.vao - Page 4

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

 I I T	ARM	I I I	TOTAL	DEMAND	I I	* DE	LAY *	I * INCLUSIVE QUEUEING * I * DELAY *				
I		I	(VEH)			(MIN)			(MIN)		(MIN/VEH)	I
I I I	A B C	_	562.2 1384.9 840.6	I 923.3	I	33.1 I 413.9 I 112.7 I	0.30	I I I	33.1 414.0 112.7	I I I	0.06 0.30 0.13	I I I
I 	ALL	I 	2787.7	I 1858.4	 	559.8 I	0.20	I	559.9	I	0.20	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 JOB

***** ARCADY 5 run completed.

[Printed at 21:25:35 on 28/10/2010]

TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 pm.vao - Page 1 TRI

TRL LIMITED

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM RELEASE 1.1 (MAY 2001)

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

Run with file:- "C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 pm.vai" (drive-on-the-left) at 21:31:32 on Thursday, 28

ROUNDABOUT CAPACITY AND DELAY **************

RUN TITLE

A516/A5132 roundabout 2018 design year pm with development

INPUT DATA

ARM A - A516 north

ARM B - A5132

ARM C - A516 west

GEOMETRIC DATA

I ARM I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I ARM A I I ARM B I I ARM C I	3.65 3.65 3.75	I	6.70 6.50 6.00	I I I	7.00 6.50 15.00	I I I	53.00 26.50 33.00	I I I	40.00 40.00 40.00	I I I	34.0 57.0 27.0	I	0.610 0.546 0.640	I	25.277 22.427 27.405	I I I

V = approach half-width E = entry width E = entry radius

D = inscribed circle diameter

PHI = entry angle

TRAFFIC DEMAND DATA -----

TIME PERIOD BEGINS 16.30 AND ENDS 18.00

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

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 pm.vao - Page 2

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	NUMBER OF	MINUT	ES FROM	STARI	WHEN	Ι	RATE	OF	FLOW	(VEI	H/MIN)	I
I	FLOW STARTS	I TOF	OF PEAK	I FI	LOW STOPS	I	BEFORE	Ι.	AT TOP	I	AFTER	I
I	TO RISE	I IS	REACHED	IFAI	LING I	F	PEAK I	OF	PEAK	I PI	EAK I	
I	15.00	I	45.00	I	75.00	I	13.07	Ι	19.61	I	13.07	Ι
3 I	15.00	I	45.00	I	75.00	Ι	5.71	Ι	8.57	I	5.71	I
I	15.00	I	45.00	I	75.00	Ι	4.09	I	6.13	I	4.09	Ι
	I I A I B I	I FLOW STARTS I TO RISE A I 15.00 B I 15.00	I FLOW STARTS I TOP I TO RISE I IS 	I FLOW STARTS I TOP OF PEAK I TO RISE I IS REACHED I 15.00 I 45.00 I 15.00 I 45.00	I FLOW STARTS I TOP OF PEAK I FI I TO RISE I IS REACHED IFAI A I 15.00 I 45.00 I B I 15.00 I 45.00 I	I FLOW STARTS I TOP OF PEAK I FLOW STOPS I TO RISE I IS REACHED IFALLING I A I 15.00 I 45.00 I 75.00 B I 15.00 I 45.00 I 75.00	I FLOW STARTS I TOP OF PEAK I FLOW STOPS I I TO RISE I IS REACHED IFALLING I F A I 15.00 I 45.00 I 75.00 I B I 15.00 I 45.00 I 75.00 I	I FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I TO RISE I IS REACHED IFALLING I PEAK I A I 15.00 I 45.00 I 75.00 I 13.07 B I 15.00 I 45.00 I 75.00 I 5.71	I FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I I TO RISE I IS REACHED IFALLING I PEAK I OF I I I I I I I I I I I I I I I I I	I FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I TO RISE I IS REACHED IFALLING I PEAK I OF PEAK I A I 15.00 I 45.00 I 75.00 I 13.07 I 19.61 B I 15.00 I 45.00 I 75.00 I 5.71 I 8.57	I FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I I TO RISE I IS REACHED IFALLING I PEAK I OF PEAK I PEAK I 15.00 I 45.00 I 75.00 I 13.07 I 19.61 I 15.00 I 45.00 I 75.00 I 5.71 I 8.57 I	3 I 15.00 I 45.00 I 75.00 I 5.71 I 8.57 I 5.71

I I I		I I I		ΤŪ		OPORTIONS JNTS (VEH, OF H.V.S)	
I	TIME	I	FROM/TO	Ι	ARM A I	ARM B I	ARM C I
	16.30 - 18.00		ARM A ARM B ARM C	I I I I I I I	1.0 I (0.0)I I 0.630 I 288.0 I (3.8)I I 0.914 I 299.0 I	0.630 I 659.0 I (3.4) I 0.000 I 0.0 I (0.0) I I 0.083 I 27.0 I (0.0) I	386.0 I (6.4)I I 0.370 I 169.0 I (0.6)I I 0.003 I 1.0 I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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 DELAYI (VEH.MIN/ I TIME SEGMENT) I
I	16.30-1	6.45							I
I	ARM A	13.07	23.98	0.545		0.0	1.2	17.0	I
I	ARM B	5.71	19.12	0.299		0.0	0.4	6.2	I
I	ARM C	4.09	23.19	0.176		0.0	0.2	3.1	I
I									I
Ι	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I		(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I
I				(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
I	16.45-1	7.00							I
I	ARM A	15.61	23.94	0.652		1.2	1.8	26.3	I
		6.82	18.58	0.367		0.4	0.6	8.4	I
I	ARM C	4.88	22.76	0.214		0.2	0.3	4.0	I
I									I
I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I		(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I
I				(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
I	17.00-1	7.15							I
Ι	ARM A	19.12	23.89	0.800		1.8	3.8	51.4	I
Ι	ARM B	8.35	17.86	0.468		0.6	0.9	12.6	I
Ι	ARM C	5.98	22.16	0.270		0.3	0.4	5.4	I
I									I

TRL	TRL VIEWER	2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 pm.vao - Page	3

I TIM	(VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)		GEOMETRIC DELAYI (VEH.MIN/ I TIME SEGMENT) I
	5-17.30	02.00	0 000		2.0	2 0	F.7. F	Ī
I ARM . I ARM .		23.89 17.84	0.800 0.468		3.8 0.9	3.9 0.9	57.5 13.1	I I
I ARM		22.15	0.400		0.9	0.4	5.5	T.
I	0 3.30	22.13	0.270		0.1	P.0	3.3	Ī
I TIM	E DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
	0-17.45		0.550					I
I ARM		23.94	0.652		3.9 0.9	1.9	30.4 9.0	I I
I ARM		18.55 22.74	0.368 0.215		0.9	0.6 0.3	4.2	
I	C 4.00	22.74	0.213		0.4	0.5	4.2	Ī
I TIM	E DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/ I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT) I
	5-18.00							I
I ARM		23.98	0.545		1.9	1.2	18.9	I
I ARM		19.10	0.299		0.6	0.4	6.6	I
I ARM	C 4.09	23.18	0.176		0.3	0.2	3.3	I

QUEUE AT ARM A

TIME SEGM	ENT 1	NO. OF	1
ENDING	VE	HICLES	;
	IN	QUEUE	
16.45		1.2	*
17.00		1.8	**
17.15		3.8	****
17.30		3.9	****
17.45		1.9	* *
18.00		1.2	*

QUEUE AT ARM B

TIME SEGMENT NO. OF ENDING VEHICLES IN QUEUE 0.4 0.6 * 0.9 * 0.9 * 0.6 * 16.45 17.00 17.15 17.30 17.45 18.00

QUEUE AT ARM C

TIME SEGMENT	NO. OH
ENDING	VEHICLES
	IN QUEUE
16.45 17.00 17.15	0.2 0.3 0.4
17.30 17.45 18.00	0.4 0.3 0.2

TRL TRL VIEWER 2.0 AE C:\Program Files\ARCADY 5\A516 A5132 roundabout 2018 pm.vao - Page 4

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I I I	ARM	I I I	TOTAI	LI	DEMAND	I I	* DEI	LAY *	I		*	DEL	2	I I -I
I		I	(VEH)		(VEH/H)	I	(MIN)	(MIN/VEH)	I	(1)	MIN)		(MIN/VEH)	I
I I I	A B C	I	626.6	Ι	956.2 417.8 298.9	Ι	201.6 I 55.9 I 25.5 I		I I I		201.6 55.9 25.5	I		I I I
I	ALL	I	2509.3	I	1672.9	I	283.0 I	0.11	I	2	283.1	I	0.11	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 JOB

***** ARCADY 5 run completed.

[Printed at 21:32:00 on 28/10/2010]

Report 10051

LinSig Modelling Tutbury

29 October 2010

Ref: 10051A-1.0



Client: Armstrong Stokes and Clayton Tutbury

Job Reference: 10051

	Prepared by:	Approved by:
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Position:	Engineer	Director
Date:	28.10.2010	29.10.2010
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Previous Revisions

Previous Issue:	Date Issued:	Prepared by:	Approved by:

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3		Method & Assumptions	3
4		Summary of Model Output	5
	4.1	Harehedge	5
	4.2	Malthouse	5

Appendix A - LinSig Output - A511 / Harehedge Ln / Beam Hill Rd

Appendix B – LinSig Output – Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln

Appendix C – Base and Base Plus Development Flows

1 Introduction

JCT Consultancy Ltd. has been engaged by Armstrong Stokes and Clayton to model two signalled junctions at the periphery of a proposed development in Tutbury, Staffordshire. The two junctions have been modelled with LinSig Version 3 using supplied 2009 base, 2018 base, and 2018 base plus development flows.

The junction of the A511, Harehedge Lane and Beam Hill Road exists towards the South of Tutbury and will subsequently be referred to as the 'Harehedge junction' in this report. Located towards the North, the junction of Uttoxeter Road, Derby Road, Station Road and Malthouse Lane will be referred to simply as the 'Malthouse junction'.

This report contains the modelling approach, the data used to construct the models, the assumptions made and includes the model output reports.

2 Data Supplied

The following data has been supplied by Armstrong Stokes and Clayton and used in the analysis presented here:

- Harehedge 2009 base flows for AM and PM peak scenarios (Appendix C).
- Harehedge 2018 base flows for AM and PM peak scenarios (Appendix C).
- Harehedge 2018 base plus development flows for AM and PM peak scenarios (Appendix C).
- Malthouse 2009 base flows for AM and PM peak scenarios (Appendix C).
- Malthouse 2018 base flows for AM and PM peak scenarios (Appendix C).
- Malthouse 2018 base plus development flows for AM and PM peak scenarios (Appendix C).
- A LinSig Version 2 model of Harehedge.
- A LinSig Version 2 model of Malthouse.

3 Method & Assumptions

As requested, both junctions have been modelled using LinSig (Version 3) using the supplied LinSig Version 2 models as a starting point. Due to the simple nature of these junctions, no additional measures were necessary to convert between versions; the different levels in functionality between versions sometimes requires a different approach to modelling a given situation on-street but this was not the case here. Nevertheless, some

opportunities to provide more robust or accurate versions of the supplied models were identified and implemented:

- Giveway turning co-efficients in both models were adjusted to match industry standards (based on Webster and Cobbe, Road Research Technical Paper 56).
- The Malthouse junction has a flared lane for the west arm entering the junction. The Linsig model was adjusted to include a flare on this lane.
- At the Malthouse junction the vehicle storage ahead of stop lines for the east and
 west arms entering the junction was increased from 2 PCUs to 3 PCUs in both
 cases, to represent distances measured using Google Earth.
- The Harehedge junction has a flared lane on its south arm entering the junction. The LinSig model was modified to include this flare.
- The vehicle storage ahead of the stop line for the east arm of the Harehedge junction was increased from 2 PCUs to 3 PCUs with 2 PCUs of that storage configured as non-blocking.

The assumptions made to support the models of these junctions are listed as follows:

- i) Saturation flows are based upon RR67 and are estimated as a function of lane width, gradient and curvature although in this case the gradient data was not supplied and has been ignored. Saturation flows from the original Version 2 models have been used here; a random sample shows good agreement with measurements from aerial views of the junctions.
- ii) It is assumed that pedestrian phases are not called every cycle and are called no more frequently than once every two cycles. The stage sequence for the Harehedge model utilises a multiple-cycling technique to replicate this. Less frequent pedestrian phases would liberate additional junction capacity.
- iii) The pedestrian phases at Malthouse are also not expected to be called every cycle and should operate no more than once every three cycles. Again, a multiple-cycling technique models this effect where less frequent pedestrian activity will increase the available junction capacity.
- iv) The Malthouse Lane approach will only need to be called once or twice in the whole peak period for both peaks, and has therefore been ignored in the model, flows have been set to zero and the stage not called. If the stage were to be included in the model it would not realistically affect reality.

Origin-Destination matrices (OD matrices) are used by LinSig to define the flow of traffic through the junction. All OD matrices used in these models were transcribed from the supplied turning counts.

4 Summary of Model Output

The following summarises the modelled junction capacity for both junctions, a full break down of the modelled output is presented in Appendices A and B.

4.1 Harehedge

10051A-1.0

The summary of Harehedge's modelled behaviour is given in Table 1. This suggests the junction would operate well within capacity in 2018 in both peak periods both with and without development. The PRC indicates the amount by which traffic demand can grow before the junction is assumed to work inefficiently and the delay starts to rise abruptly as saturation increases; this turning point in efficiency is generally taken when the worst degree of saturation reaches 90%. The AM peak 2018 with development has the worst PRC at 6.5%, the worst degree of saturation in this scenario is 84.5% on Harehedge lane, well below the 90% threshold.

Table 1. Summary of model characteristics for the Harehedge junction

Scenario	Cycle-time (s)	PRC(%)	Delay(PCU Hr)
2009 AM Base	90 (180 double cycled)	58.4	10.48
2009 PM Base	90 (180 double cycled)	31.8	11.08
2018 AM Base	90 (180 double cycled)	31.7	14.42
2018 PM Base	90 (180 double cycled)	10.1	16.81
2018 AM Base + Dev	90 (180 double cycled)	24.9	15.57
2018 PM Base + Dev	90 (180 double cycled)	6.5	18.22

4.2 Malthouse

The summary of modelled behaviour for the Malthouse junction is shown in

Table 2. The junction works within capacity in the AM Peak periods in all scenarios. However, the PM Peak in 2018 for the Malthouse junction is only just within capacity (1.3% PRC) without development flows, and exceeds capacity for 2018 with development flows included (-7.4 % PRC). The PRC indicates the amount by which traffic demand can grow before the junction is assumed to work inefficiently and the delay starts to rise abruptly as

saturation increases; this turning point in efficiency is generally taken as 90% junction saturation.

Negative PRC values indicate that the 90% saturation level has been surpassed and in this sense the existing junction layout is starting to work inefficiently in the PM peak in 2018 once the development flows are included. The worst degrees of saturation in the 2018 PM Peak with development scenario are Uttoxeter Road at 95.4% and Station Road at 96.6%.

Table 2. Summary of model characteristics for the Malthouse junction

Scenario	Cycle-time (s)	PRC(%)	Delay(PCU Hr)
2009 AM Base	90 (270 triple cycled)	30.0	10.62
2009 PM Base	90 (270 triple cycled)	19.8	12.76
2018 AM Base	90 (270 triple cycled)	9.6	16.08
2018 PM Base	90 (270 triple cycled)	1.3	21.39
2018 AM Base + Dev	90 (270 triple cycled)	3.0	19.67
2018 PM Base + Dev	90 (270 triple cycled)	-7.4	28.53

Appendix A

LinSig Report – Tutbury – A511 / Harehedge Lane **LinSig Report**

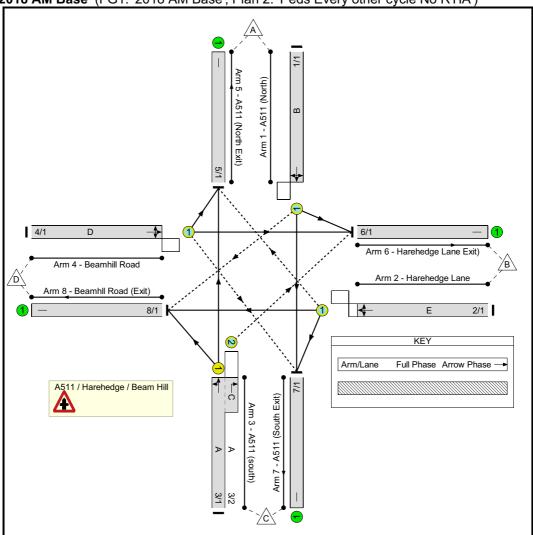
Project and User Details

Project:	10051 - Tutbury
Title:	Tutbury A511 / Harehedge 2018
Location:	A511 / Harehedge Lane/ Beamhill Road
File name:	A511 - Harehedge.lsg3x
Author:	Ian Robinson
Company:	JCT Consultancy Ltd.
Address:	LinSig House, Deepdale Enterprise Park, Nettleham Lincoln LN2 2LL
Notes:	

Scenarios

Number	Scenario Name	Flow Group	Network Control Plan	Time	Cycle Time (s)	PRC (%)	Delay (pcuHr)
1	2018 AM Base	2018 AM Base	Peds Every other cycle No RTIA	07:45 - 08:45	180	31.7	14.42
2	2018 PM Base	2018 PM Base	Peds Every other cycle No RTIA	16:45 - 17:45	180	10.1	16.81
3	2018 AM Base+Dev	2018 AM Base+Dev	Peds Every other cycle No RTIA	07:45 - 08:45	180	24.9	15.57
4	2018 PM Base+Dev	2018 PM Base+Dev	Peds Every other cycle No RTIA	16:45 - 17:45	180	6.5	18.22
5	2009 AM	2009 AM	Peds Every other cycle No RTIA	07:45 - 08:45	180	58.4	10.48
6	2009 PM	2009 PM	Peds Every other cycle No RTIA	16:45 - 17:45	180	31.8	11.08

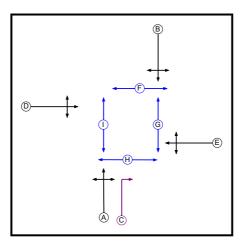
Scenario 1: '2018 AM Base' (FG1: '2018 AM Base', Plan 2: 'Peds Every other cycle No RTIA')



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
А	Traffic		7	7
В	Traffic		7	7
С	Ind. Arrow	Α	4	4
D	Traffic		7	7
Е	Traffic		7	7
F	Pedestrian		8	8
G	Pedestrian		8	8
Н	Pedestrian		8	8
I	Pedestrian		8	8

Phase Diagram

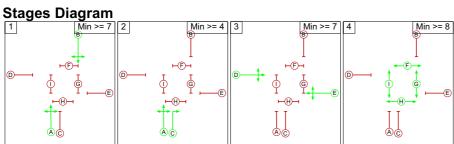


Phase Intergreens Matrix

r nase mile	<u>. 9.</u>			1710	4611	_				
			5	Star	ting	Ph	ase)		
		Α	В	С	D	E	F	G	Н	ı
	Α		-	-	7	7	8	8	8	8
	В	-		5	7	7	8	8	8	8
	С	_	7		7	7	8	8	8	8
Terminating	D	7	7	7		-	8	8	8	8
Phase	Е	7	7	7	-		8	8	8	8
	F	8	8	8	8	8		-	-	-
	G	8	8	8	8	8	-		-	-
	Н	8	8	8	8	8	-	-		-
	ı	8	8	8	8	8	-	-	-	

Phase Delays



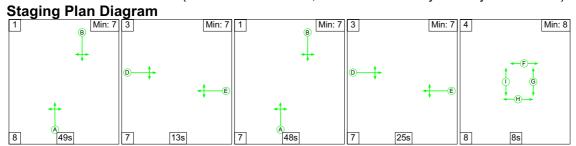


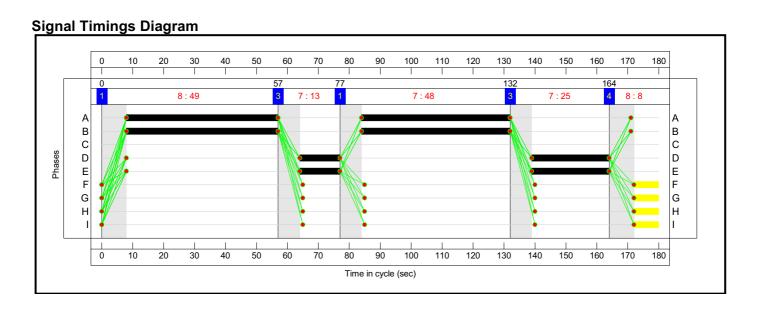
LinSig Report Lane Input Data	æ											
Junction: A511 / Harehedge / B	larehed	ige / Bear	Seam Hill									
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
											Arm 6 Left	12.00
1/1 (A511 (North))	0	В	7	က	0.09	Geom	ı	3.90	0.00	>	Arm 7 Ahead	luf
											Arm 8 Right	15.00
											Arm 5 Right	10.00
2/1 (Harehedge Lane)	0	ш	7	က	0.09	Geom	ı	3.00	0.00	>	Arm 7 Left	10.00
											Arm 8 Ahead	Inf
3/1	=	<	c	c	0	3		20.0		>	Arm 5 Ahead	lnf
(A511 (south)))	(٧	o	0.00	5	ı	3.23	00.0	-	Arm 8 Left	13.00
3/2 (A511 (south))	0	A C	7	င	0.4	Geom	1	3.00	0.00	z	Arm 6 Right	10.00
											Arm 5 Left	10.00
4/1 (Beamhill Road)	0	۵	7	ဇ	0.09	Geom	ı	3.00	0.00	>	Arm 6 Ahead	Inf
											Arm 7 Right	13.00

LinSig Report **Give-Way Lane Input Data**

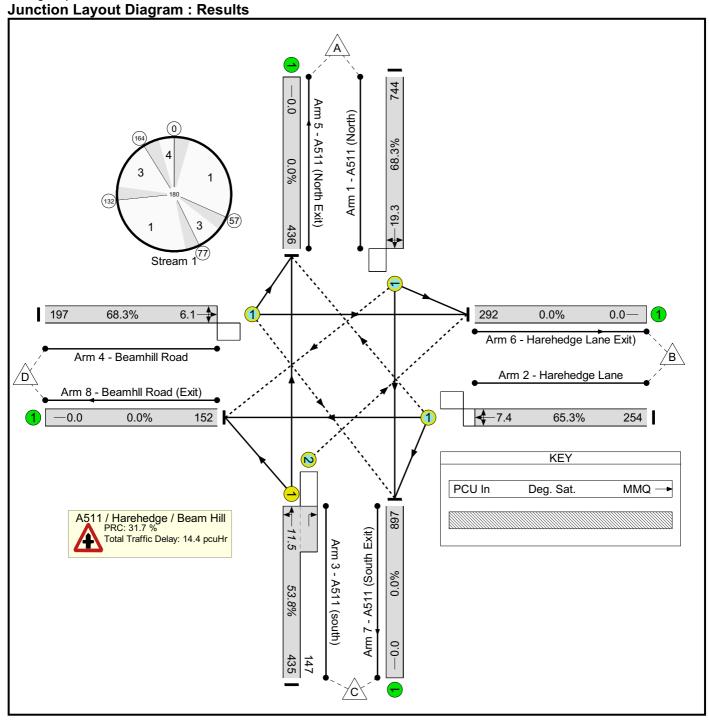
Junction: A5	•		lill							
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (A511 (North))	8/1 (Right)	1439	3/1	1.09	3/1	2.00	2.00	0.50	2	2.00
2/1 (Harehedge Lane)	5/1 (Right)	1400	4/1	1.10	4/1	3.00	2.00	0.50	3	3.00
3/2 (A511 (south))	6/1 (Right)	1439	1/1	1.09	1/1	3.00	-	0.50	3	3.00
4/1 (Beamhill Road)	7/1 (Right)	1439	2/1	1.09	2/1	2.00	2.00	0.50	2	2.00

Scenario 1: '2018 AM Base' (FG1: '2018 AM Base', Plan 2: 'Peds Every other cycle No RTIA')

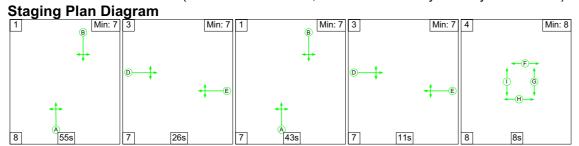


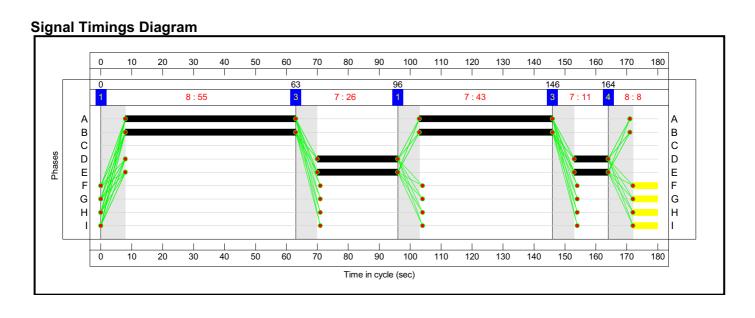


LinSig Report Link Results															
ltem	Lane Description	Lane Type	Controller Stream	Full Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Max. Back of Uniform Queue (pcu)	Mean Max Queue (pcu)
Network: Tutbury A511 / Harehedge 2018	·		A/N	ı		ı			•	ı		%8.3%	14.4	ı	
A511 / Harehedge / Beam Hill	•	•	N/A	•		•	ı			•		68.3%	14.4	ı	·
1/1	A511 (North) Left Ahead Right	0	N/A	В	7	26	8(84)	57(132)	37.2	1980	54.5	68.3%	4.5	18.2	19.3
2/1	Harehedge Lane Right Left Ahead	0	N/A	Ш	7	38	64(139)	77(164)	12.7	1751	19.5	65.3%	3.2	6.5	7.4
3/1+3/2	A511 (south) Ahead Right Left	O+0	N/A	∢	8	26	ı	1	29.1	1914:1787	54.1	53.8%	3.6	10.9	11.5
4/1	Beamhill Road Left Ahead Right	0	N/A	D	2	38	64(139)	77(164)	9.8	1785	14.4	68.3%	3.1	5.1	6.1
	C1		PRC for Signalled Lanes (%): PRC Over All Lanes (%):	C for Signalled Lanes (%) PRC Over All Lanes (%):		31.7 31.7	Total Delay Total I	for Signalled Jelay Over A	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	14.42 14.42	Cycle Time (s): 180	(s): 180			

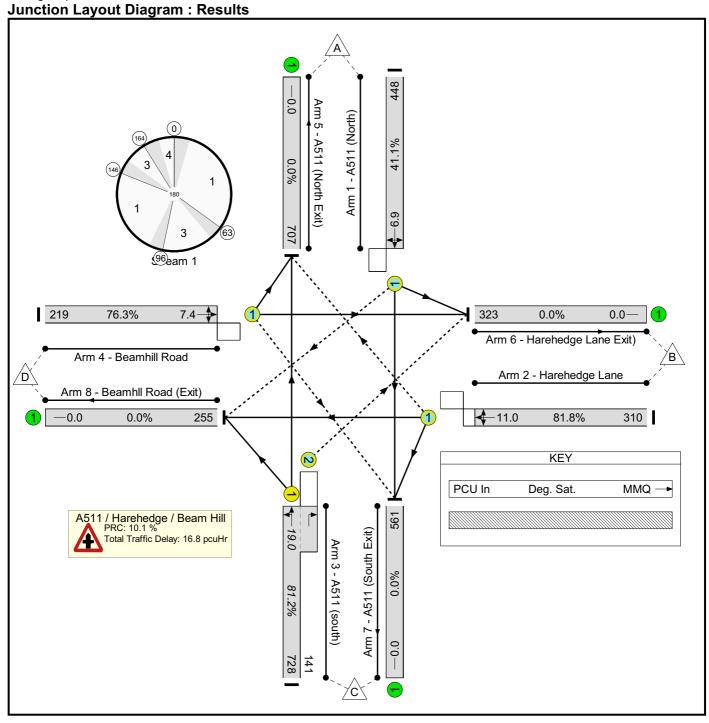


Scenario 2: '2018 PM Base' (FG2: '2018 PM Base', Plan 2: 'Peds Every other cycle No RTIA')

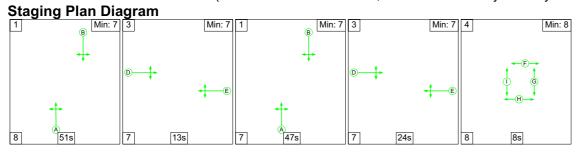


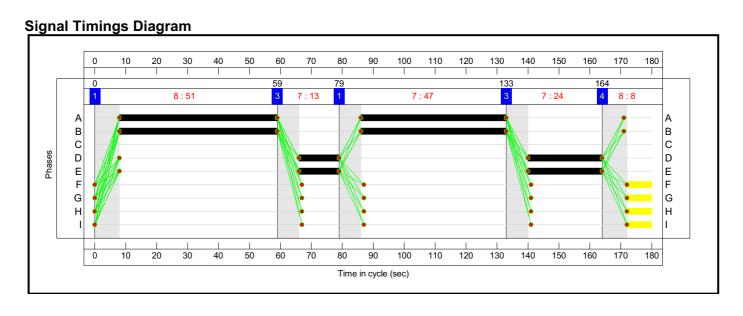


LinSig Report Link Results															
ltem	Lane Description	Lane Type	Controller Stream	Full	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Max. Back of Uniform Queue (pcu)	Mean Max Queue (pcu)
Network: Tutbury A511 / Harehedge 2018			A/N	ı			ı		ı	ı	•	81.8%	16.8	ı	ı
A511 / Harehedge / Beam Hill		•	N/A	ı	,				ı		·	81.8%	16.8	,	·
1/1	A511 (North) Left Ahead Right	0	N/A	В	5	86	8(103)	63(146)	22.4	1961	54.5	41.1%	6.	9.9	6.9
2/1	Harehedge Lane Right Left Ahead	0	N/A	Ш	7	37	70(153)	96(164)	15.5	1750	19.0	81.8%	5.2	8.9	11.0
3/1+3/2	A511 (south) Ahead Right Left	0+0	N/A	∢	7	86	ı	,	43.5	1905:1787	53.5	81.2%	0.9	16.8	19.0
4/1	Beamhill Road Left Ahead Right	0	N/A	D	2	37	70(153)	96(164)	10.9	1814	14.4	76.3%	3.7	5.8	7.4
	C1		PRC for Signalled Lanes (%): PRC Over All Lanes (%):	C for Signalled Lanes (%) PRC Over All Lanes (%):		10.1 10.1	Total Delay Total [for Signalled Jelay Over Al	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	16.81 16.81	Cycle Time (s): 180	(s): 180		4	

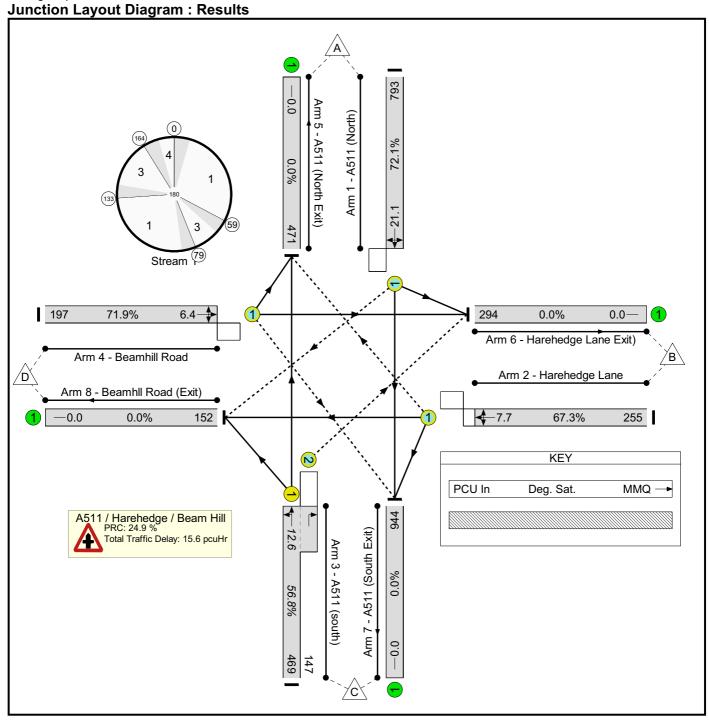


Scenario 3: '2018 AM Base+Dev' (FG3: '2018 AM Base+Dev', Plan 2: 'Peds Every other cycle No RTIA')

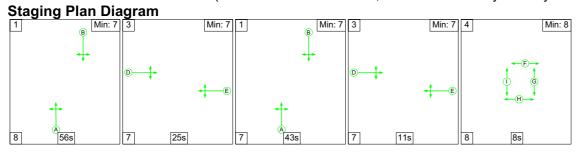


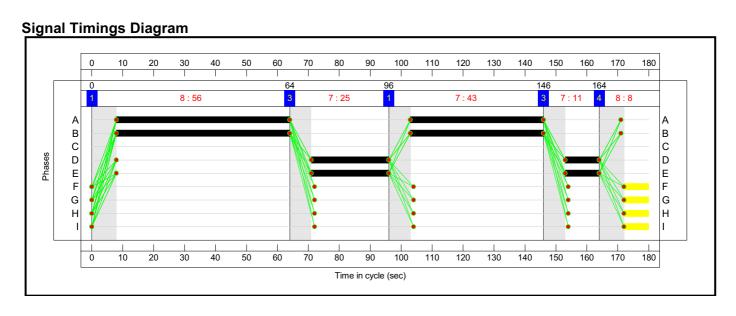


LinSig Report Link Results															
ltem	Lane Description	Lane Type	Controller Stream	Full Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Max. Back of Uniform Queue (pcu)	Mean Max Queue (pcu)
Network: Tutbury A511 / Harehedge 2018	,		N/A	ı			ı		•	•		72.1%	15.6	ı	
A511 / Harehedge / Beam Hill	r	•	N/A			r	ı				r	72.1%	15.6	r	,
1/1	A511 (North) Left Ahead Right	0	N/A	В	2	86	8(86)	59(133)	39.6	1981	55.0	72.1%	4.9	19.8	21.1
2/1	Harehedge Lane Right Left Ahead	0	N/A	Ш	2	37	66(140)	79(164)	12.8	1750	19.0	67.3%	3.4	6.7	7.7
3/1+3/2	A511 (south) Ahead Right Left	O+ 1	N/A	∢	8	86	ı	,	30.8	1916:1787	54.3	26.8%	3.9	11.9	12.6
4/1	Beamhill Road Left Ahead Right	0	N/A	D	2	37	66(140)	79(164)	8.6	1785	13.7	71.9%	3.4	5.2	6.4
	C1	1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	C for Signalled Lanes (%): PRC Over All Lanes (%):		24.9 24.9	Total Delay Total [for Signalled Delay Over Al	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	15.57 15.57	Cycle Time (s): 180	s): 180		•	

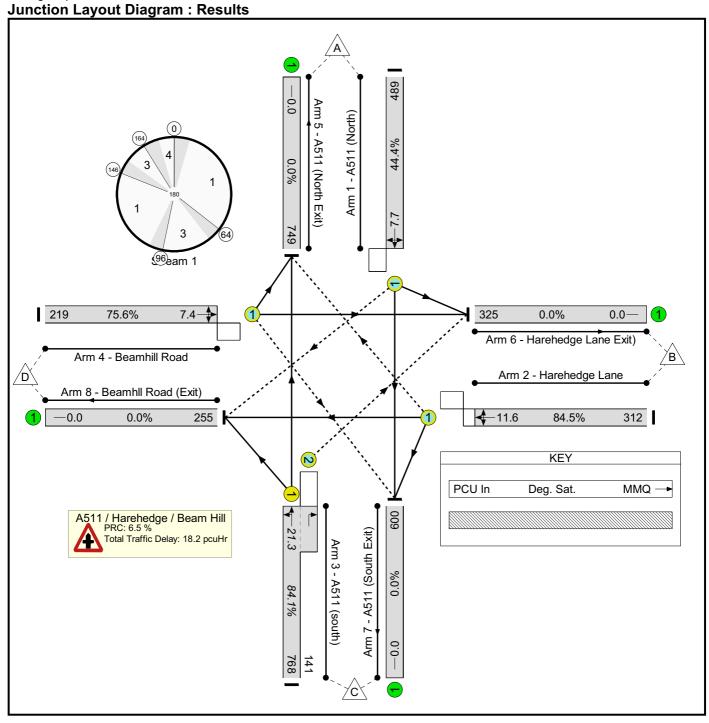


Scenario 4: '2018 PM Base+Dev' (FG4: '2018 PM Base+Dev', Plan 2: 'Peds Every other cycle No RTIA')

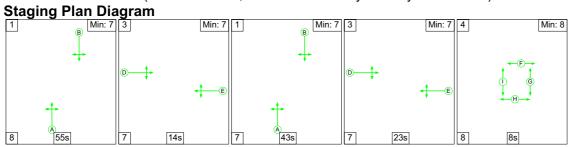


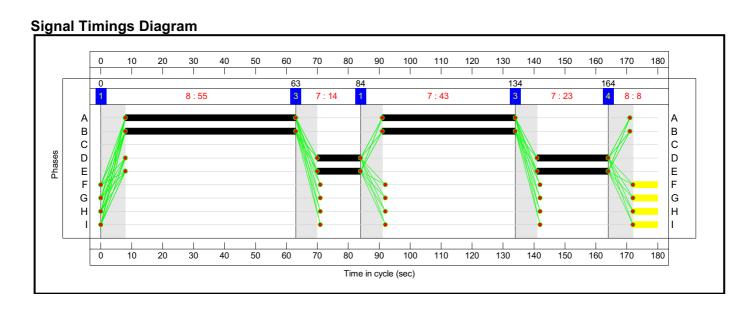


LinSig Report Link Results															
ltem	Lane Description	Lane Type	Controller Stream	Full Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Max. Back of Uniform Queue (pcu)	Mean Max Queue (pcu)
Network: Tutbury A511 / Harehedge 2018	·	•	N/A	ı			•		ı			84.5%	18.2	ı	ı
A511 / Harehedge / Beam Hill	·		N/A	ı		,	ı			•		84.5%	18.2	·	
1/1	A511 (North) Left Ahead Right	0	N/A	В	2	66	8(103)	64(146)	24.4	1964	55.1	44.4%	2.1	7.3	7.7
2/1	Harehedge Lane Right Left Ahead	0	N/A	Ш	2	36	71(153)	96(164)	15.6	1749	18.5	84.5%	2.7	9.1	11.6
3/1+3/2	A511 (south) Ahead Right Left	O+0	N/A	٧	2	66	ı	-	45.5	1906:1787	54.0	84.1%	6.7	18.7	21.3
4/1	Beamhill Road Left Ahead Right	0	N/A	D	2	36	71(153)	96(164)	10.9	1814	14.5	75.6%	3.7	5.9	7.4
	C1		PRC for Signalled Lanes (%): PRC Over All Lanes (%):	C for Signalled Lanes (%): PRC Over All Lanes (%):		6.5 6.5	Total Delay Total L	for Signalled Delay Over Al	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	18.22	Cycle Time (s): 180	s): 180			

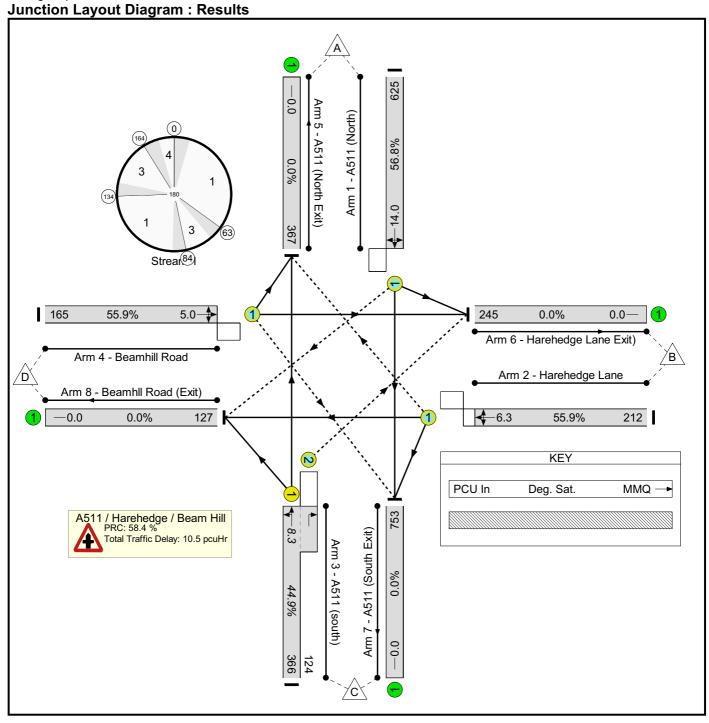


Scenario 5: '2009 AM' (FG5: '2009 AM', Plan 2: 'Peds Every other cycle No RTIA')



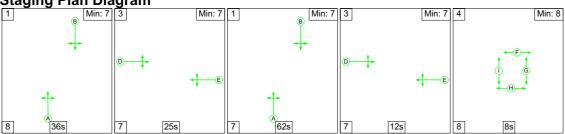


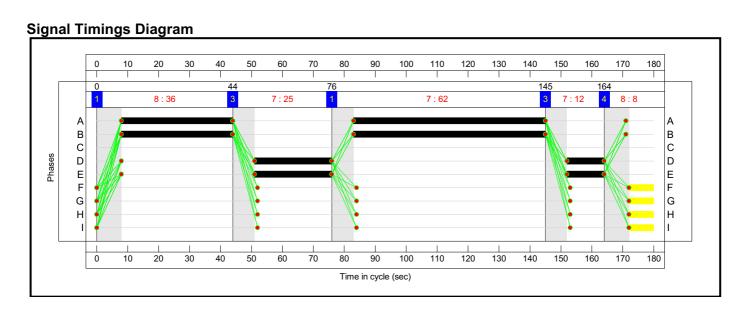
LinSig Report Link Results															
ltem	Lane Description	Lane Type	Controller Stream	Full Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Max. Back of Uniform Queue (pcu)	Mean Max Queue (pcu)
Network: Tutbury A511 / Harehedge 2018			N/A	ı		ı	•		•			26.8%	10.5	ı	ı
A511 / Harehedge / Beam Hill	,	•	ΝΆ			r					ı	26.8%	10.5	ı	ı
1/1	A511 (North) Left Ahead Right	0	N/A	В	2	86	8(91)	63(134)	31.3	1980	55.0	%8.95	3.2	13.4	14.0
2/1	Harehedge Lane Right Left Ahead	0	N/A	Ш	7	37	70(141)	84(164)	10.6	1750	19.0	25.9%	2.6	5.7	6.3
3/1+3/2	A511 (south) Ahead Right Left	O+0	N/A	Α	2	86	•	1	24.5	1914:1787	54.6	44.9%	2.5	7.9	8.3
4/1	Beamhill Road Left Ahead Right	0	N/A	D	2	37	70(141)	84(164)	8.3	1784	14.8	25.9%	2.3	4.4	5.0
	C1		PRC for Signalled Lanes (%): PRC Over All Lanes (%):	C for Signalled Lanes (%): PRC Over All Lanes (%):		58.4 58.4	Total Delay Total L	for Signalled Delay Over Al	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	10.48	Cycle Time (s): 180	s): 180			



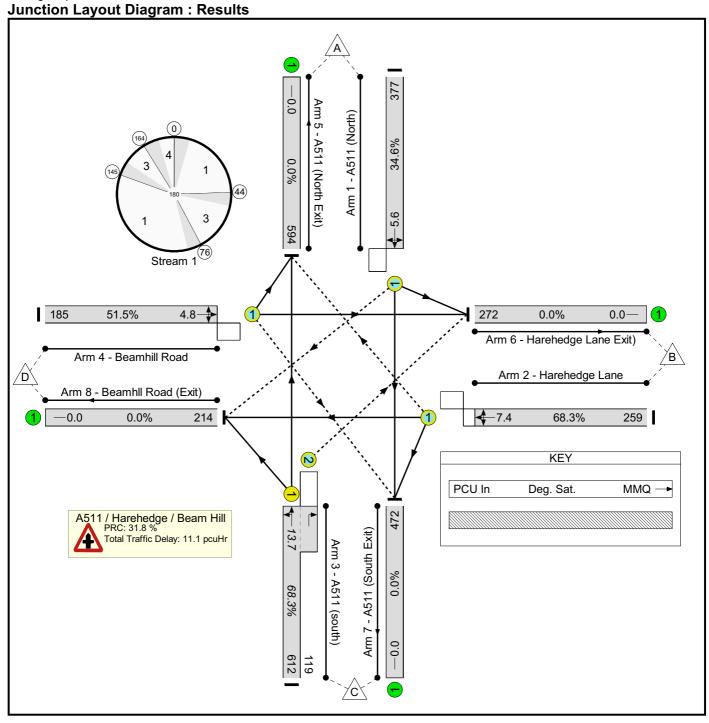
Scenario 6: '2009 PM' (FG6: '2009 PM', Plan 2: 'Peds Every other cycle No RTIA')







LinSig Report Link Results															
ltem	Lane Description	Lane Type	Controller Stream	Full Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Max. Back of Uniform Queue (pcu)	Mean Max Queue (pcu)
Network: Tutbury A511 / Harehedge 2018	,		A/N	ı			ı		ı	ı		68.3%	11.1	ı	,
A511 / Harehedge / Beam Hill	,	•	N/A	•	•	•				r	r	68.3%	11.1		,
1/1	A511 (North) Left Ahead Right	0	N/A	В	5	86	8(83)	44(145)	18.9	1961	54.5	34.6%	7:	5.3	5.6
2/1	Harehedge Lane Right Left Ahead	0	N/A	Ш	5	37	51(152)	76(164)	12.9	1750	19.0	68.3%	3.4	6.3	7.4
3/1+3/2	A511 (south) Ahead Right Left	0+0	N/A	4	7	86	ı	ı	36.5	1905:1787	53.5	68.3%	3.9	12.6	13.7
4/1	Beamhill Road Left Ahead Right	0	N/A	D	2	37	51(152)	76(164)	9.3	1814	18.0	51.5%	2.2	4.3	4.8
	C1	1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	C for Signalled Lanes (%): PRC Over All Lanes (%):		31.8 31.8	Total Delay Total I	for Signalled Jelay Over A	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	11.08	Cycle Time (s): 180	(s): 180		·	



Appendix B

LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane

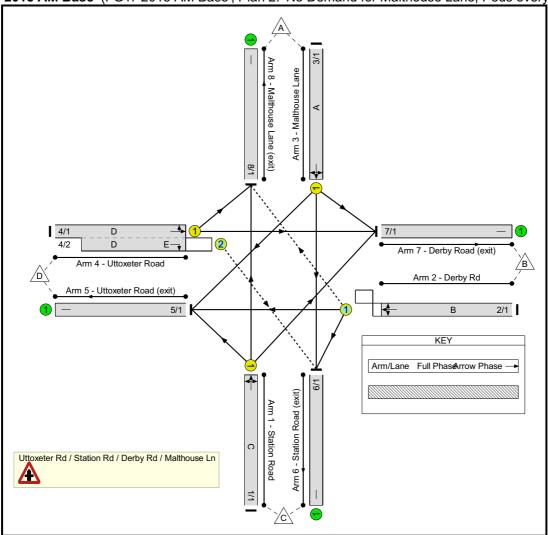
Project and User Details

Project:	10051 Tutbury
Title:	Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln
Location:	Station Road/Derby Road/Uttoxeter Road Crossroads
File name:	Uttoxeter - Station - Derby - Malthouse.lsg3x
Author:	Ian Robinson
Company:	JCT Consultancy Ltd
Address:	LinSig House, Deepdale Enterprise Park, Nettleham, Lincoln LN2 2LL
Notes:	

Scenarios

Number	Scenario Name	Flow Group	Network Control Plan	Time	Cycle Time (s)	PRC (%)	Delay (pcuHr)
1	2018 AM Base	2018 AM Base	No Demand for Malthouse Lane, Peds every 3rd cycle	07:45 - 08:45	270	9.6	16.08
2	2018 PM Base	2018 PM Base	No Demand for Malthouse Lane, Peds every 3rd cycle	16:45 - 17:45	270	1.3	21.39
3	2018 AM Base+Dev	2018 AM Base + Dev	No Demand for Malthouse Lane, Peds every 3rd cycle	07:45 - 08:45	270	3.0	19.67
4	2018 PM Base+Dev	2018 PM Base + Dev	No Demand for Malthouse Lane, Peds every 3rd cycle, No RTIA	16:45 - 17:45	270	-7.4	28.53
5	2009 AM	2009 AM	No Demand for Malthouse Lane, Peds every 3rd cycle	07:45 - 08:45	270	30.0	10.62
6	2009 PM	2009 PM	No Demand for Malthouse Lane, Peds every 3rd cycle	16:45 - 17:45	270	19.8	12.76

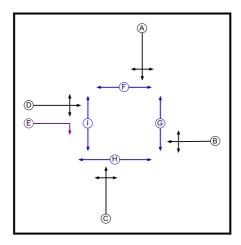
Scenario 1: '2018 AM Base' (FG1: '2018 AM Base', Plan 2: 'No Demand for Malthouse Lane, Peds every 3rd cycle')



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
А	Traffic		7	7
В	Traffic		7	7
С	Traffic		7	7
D	Traffic		7	7
E	Ind. Arrow	D	7	7
F	Pedestrian		7	7
G	Pedestrian		7	7
Н	Pedestrian		7	7
I	Pedestrian		7	7

Phase Diagram

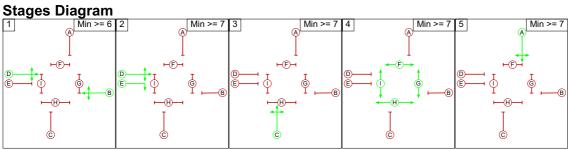


Phase Intergreens Matrix

i mase mile	<u>. y.</u>									
		Starting Phase								
		Α	В	С	D	Е	F	G	Н	I
	Α		5	5	5	5	5	11	9	10
	В	6		5	-	6	11	5	9	10
	С	7	5		6	6	10	12	6	9
Terminating	D	5	-	5		-	7	10	-	5
Phase	E	5	5	5	-		-	-	11	5
	F	9	9	9	9	-		-	-	-
	G	9	9	9	9	-	-		-	-
	Н	10	10	10	-	10	-	-		1
	ı	10	10	10	10	10	-	-	-	

Phase Delays

aoo	, 						
Term. Stage	Start Stage	Phase	Туре	Value	Cont value		
There are no Phase Delays defined							



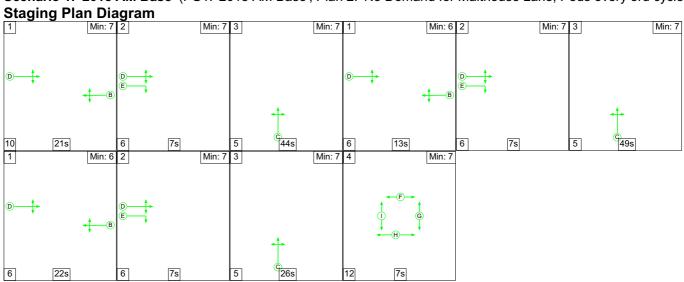
Turning Radius (m) 15.00 15.00 12.00 10.00 14.00 13.00 8.00 8.00 Пf υĘ υţ 直 Arm 8 Ahead Arm 6 Ahead Arm 5 Ahead Arm 7 Ahead Arm 7 Right Arm 8 Right Arm 5 Right Arm 6 Right Arm 6 Left Arm 7 Left Arm 8 Left Arm 5 Left Turns Nearside Lane > > \succ > > Lane Width Gradient (m) 0.00 0.00 0.00 0.00 0.00 3.40 3.00 3.00 3.25 3.10 Def User Saturation Flow (PCU/Hr) Sat Flow Type Geom Geom Geom Geom Geom Junction: Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Physical Length (PCU) 0.09 0.09 0.09 0.09 25.0 End Disp. က က က က က Start Disp. 0 $^{\circ}$ 0 0 0 Lane Phases Type DE \circ Ω ⋖ \Box \supset 0 \supset \supset 0 (Malthouse Lane) 4/2 (Uttoxeter Road) (Uttoxeter Road) (Station Road) (Derby Rd) Lane 3/1 2/1

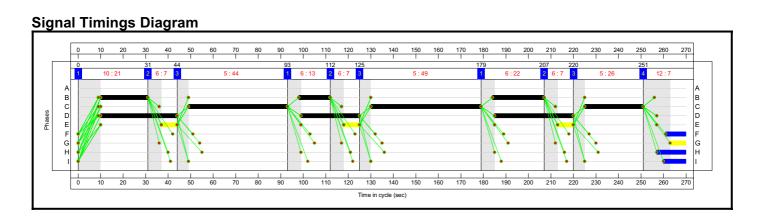
LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane Lane Input Data

LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane **Give-Way Lane Input Data**

Junction: Ut	Junction: Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln									
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
2/1 (Derby Rd)	8/1 (Right)	1439	4/1	1.09	4/1	3.00	2.00	0.50	3	3.00
4/2 (Uttoxeter Road)	6/1 (Right)	1439	2/1	1.09	2/1	3.00	-	0.50	3	3.00

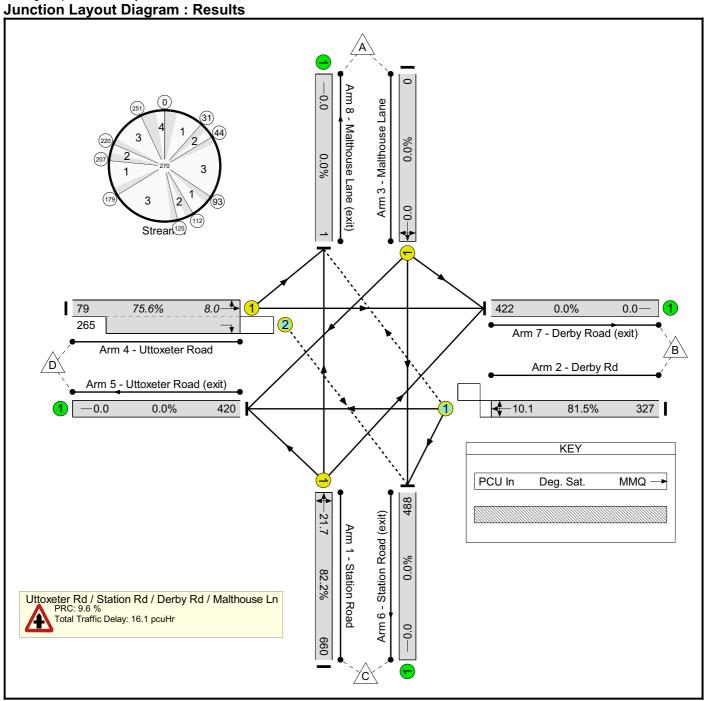
LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane **Scenario 1: '2018 AM Base'** (FG1: '2018 AM Base', Plan 2: 'No Demand for Malthouse Lane, Peds every 3rd cycle')





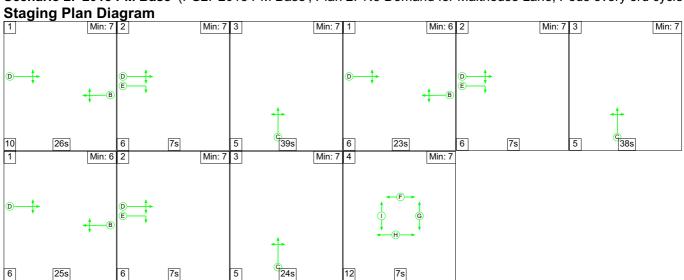
21.7 10.1 Mean Max Queue (pcu) 0.0 8.0 Max. Back of Uniform Queue (pcu) 19.4 0.0 8.0 Total Delay (pcuHr) 16.1 4.5 16.1 0.0 6.4 5.1 82.2% 82.2% 81.5% 75.6% 82.2% %0.0 Sat (%) 270 Cycle Time (s): Capacity (pcu) 60.3 30.1 34.1 0.0 1940:1739 Sat Flow (pcu/Hr) 1915 1778 1775 16.08 16.08 Demand Flow (pcu) 24.5 25.8 49.5 0.0 Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): End Green (s) 93(179,251) 31(112,207) × 0 49(130,225) Start Green (s) 10(98,184) 0 \times Total Green (s) 119 28 95 0 Num Greens က က 0 က PRC for Signalled Lanes (%): PRC Over All Lanes (%): Full Phase Ω \circ В ⋖ Controller Stream ٨ ٨ ΚX ۷ X ۷ ۷ ΑN O+0 Lane Type \supset \supset 0 Malthouse Lane Right Ahead Left Uttoxeter Road Right Ahead Left ပ Station Road Left Right Ahead Derby Rd Ahead Left Right Lane Description Network: Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Link Results 4/1+4/2 3/1 7 2/1 Item

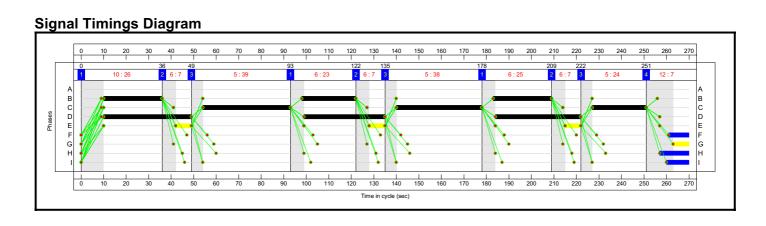
LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane



LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane

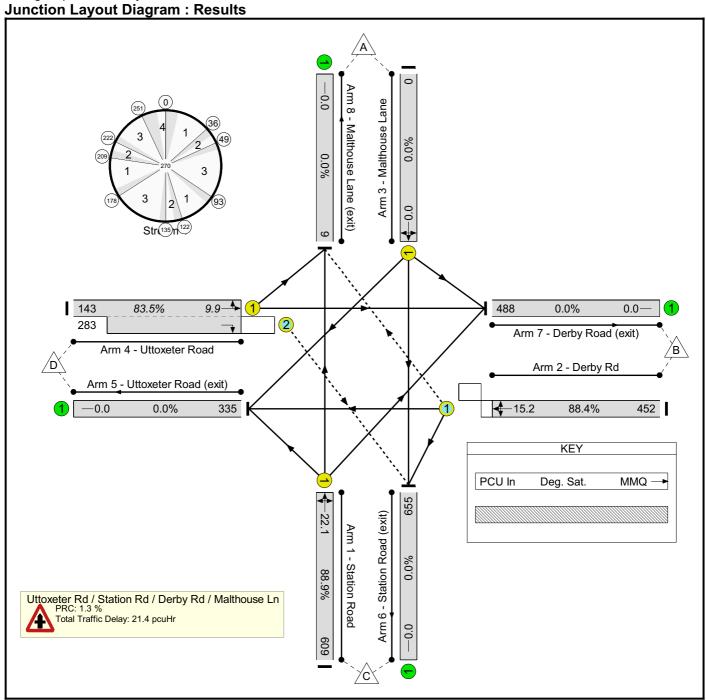
Scenario 2: '2018 PM Base' (FG2: '2018 PM Base', Plan 2: 'No Demand for Malthouse Lane, Peds every 3rd cycle')





22.1 15.2 Mean Max Queue (pcu) 0.0 6.6 Max. Back of Uniform Queue (pcu) 1.8 18.4 0.0 7.5 Total Delay (pcuHr) 21.4 21.4 7.2 0.0 5.9 8.2 88.9% 88.9% 88.4% 83.5% 88.9% %0.0 Sat (%) 270 Cycle Time (s): Capacity (pcu) 51.4 38.4 38.3 0.0 1937:1739 Sat Flow (pcu/Hr) 1915 1779 1748 21.39 Demand Flow (pcu) 33.9 31.9 45.7 0.0 Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): End Green (s) 93(178,251) 36(122,209) × 0 54(140,227) Start Green (s) 10(98,183) 0 \times Total Green (s) 113 101 9/ 0 <u>ლ</u> ლ Num Greens က က 0 က PRC for Signalled Lanes (%): PRC Over All Lanes (%): Full Phase Ω \circ В ⋖ Controller Stream ٨ ٨ ΚX ۷ X ۷ ۷ ΑN О Т Lane Type \supset \supset 0 Malthouse Lane Right Ahead Left Uttoxeter Road Right Ahead Left ပ Station Road Left Right Ahead Derby Rd Ahead Left Right Lane Description Network: Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Link Results 4/1+4/2 3/1 7 2/1 Item

LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane



LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane

7s

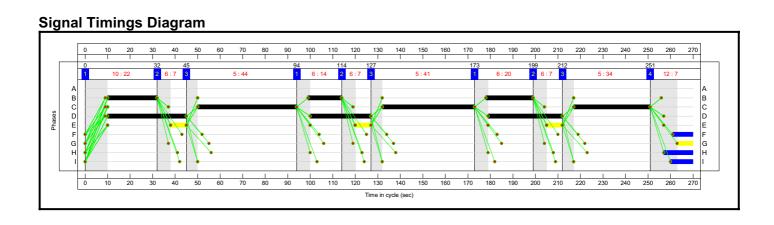
6

20s

Scenario 3: '2018 AM Base+Dev' (FG3: '2018 AM Base + Dev', Plan 2: 'No Demand for Malthouse Lane, Peds every 3rd cycle')

34s

5

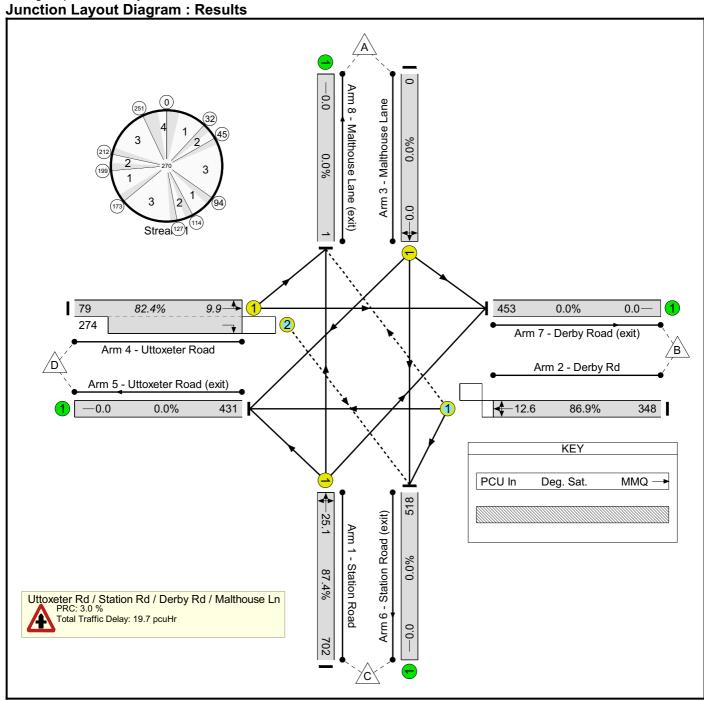


12

7s

12.6 25.1 Mean Max Queue (pcu) 0.0 6.6 Max. Back of Uniform Queue (pcu) 21.8 0.0 7.7 Total Delay (pcuHr) 19.7 19.7 5.5 7.9 6.3 0.0 87.4% 87.4% 87.4% 82.4% 86.9% %0.0 Sat (%) 270 Cycle Time (s): Capacity (pcu) 60.3 30.0 32.1 0.0 1940:1739 Sat Flow (pcu/Hr) 1915 1778 1772 19.67 Demand Flow (pcu) 26.5 52.6 26.1 0.0 Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): End Green (s) 94(173,251) 32(114,199) × 0 50(132,217) Start Green (s) 10(99,178) 0 \times Total Green (s) 119 28 95 0 3.0 Num Greens က က 0 က PRC for Signalled Lanes (%): PRC Over All Lanes (%): Full Phase Ω \circ В ⋖ Controller Stream ٨ ٨ ΚX ۷ X ۷ ۷ ΑN O+0 Lane Type \supset \supset 0 Malthouse Lane Right Ahead Left Uttoxeter Road Right Ahead Left ပ Station Road Left Right Ahead Derby Rd Ahead Left Right Lane Description Network: Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Link Results 4/1+4/2 3/1 7 2/1 Item

LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane

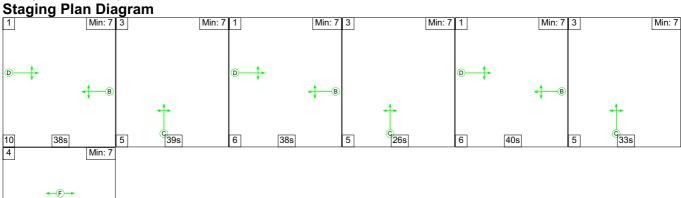


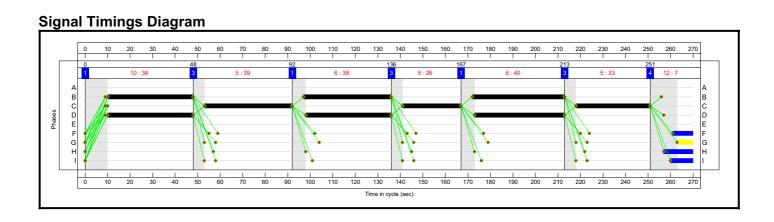
LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane

12

7s

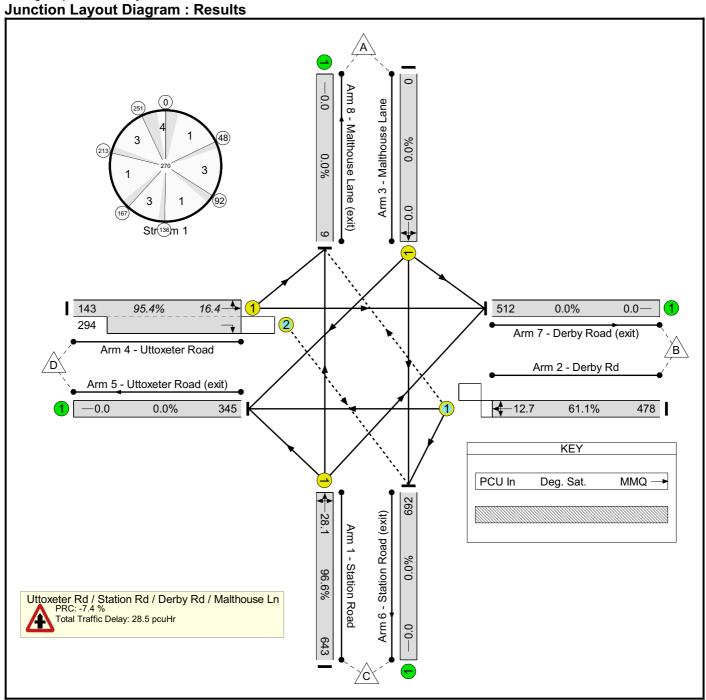
Scenario 4: '2018 PM Base+Dev' (FG4: '2018 PM Base + Dev', Plan 3: 'No Demand for Malthouse Lane, Peds every 3rd cycle, No RTIA')



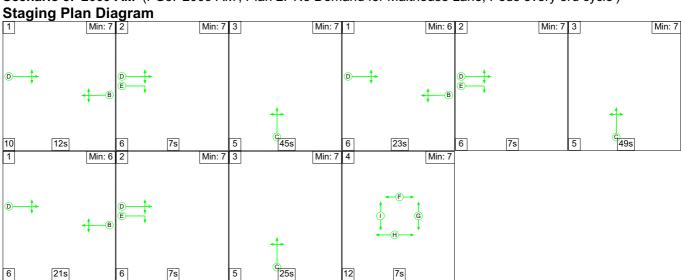


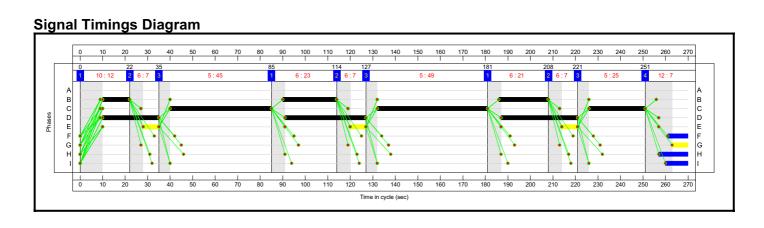
28.1 16.4 Mean Max Queue (pcu) 12.7 0.0 Max. Back of Uniform Queue (pcu) 12.0 10.0 19.8 0.0 Total Delay (pcuHr) 28.5 28.5 13.4 11.7 3.5 0.0 **%9**'96 **%9**'96 %9.96 61.1% 95.4% %0.0 Sat (%) 270 Cycle Time (s): Capacity (pcu) 49.9 58.7 34.3 0.0 1937:1739 Sat Flow (pcu/Hr) 1915 1779 1746 28.53 28.53 Demand Flow (pcu) 32.8 35.9 48.2 0.0 Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): End Green (s) 92(167,251) 48(136,213) × 0 53(141,218) Start Green (s) 10(97,172) 0 \times Total Green (s) 118 116 86 0 -7.4 -7.4 Num Greens က က 0 က PRC for Signalled Lanes (%): PRC Over All Lanes (%): Full Phase Ω \circ В ⋖ Controller Stream ٨ ٨ ΚX ۷ X ۷ ۷ ΑN О Т Lane Type \supset \supset 0 Malthouse Lane Right Ahead Left Uttoxeter Road Right Ahead Left ပ Station Road Left Right Ahead Derby Rd Ahead Left Right Lane Description Network: Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Link Results 4/1+4/2 3/1 7 2/1 Item

LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane



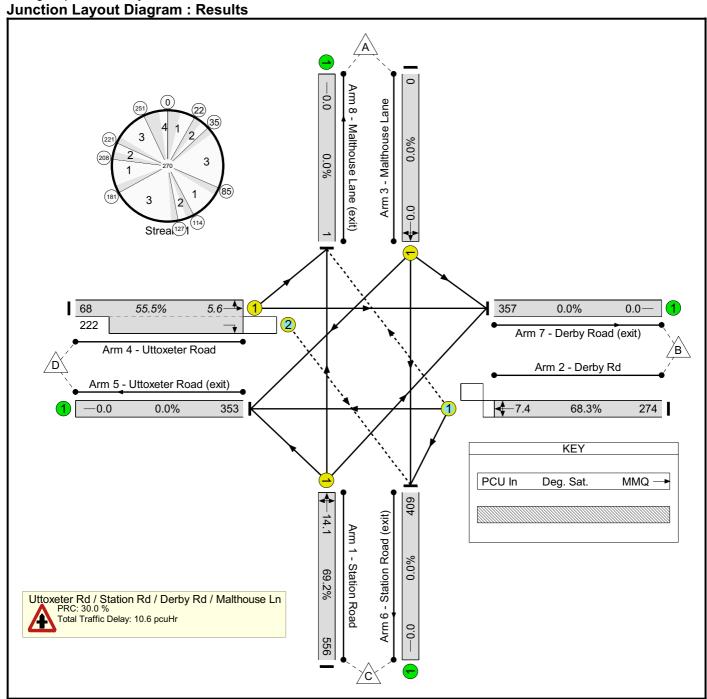
LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane **Scenario 5: '2009 AM'** (FG5: '2009 AM', Plan 2: 'No Demand for Malthouse Lane, Peds every 3rd cycle')



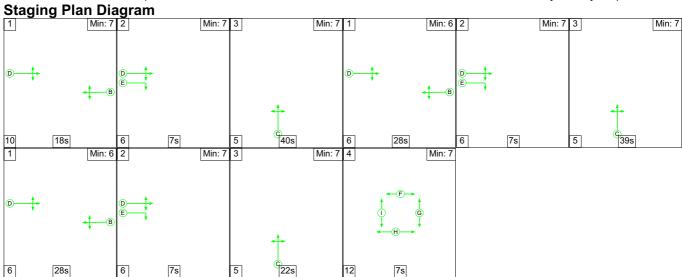


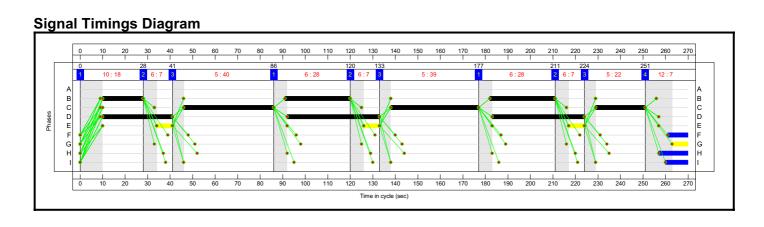
14.1 Mean Max Queue (pcu) 7.4 0.0 5.6 Max. Back of Uniform Queue (pcu) 13.0 0.0 5.0 6.3 Total Delay (pcuHr) 10.6 10.6 3.5 4.2 0.0 2.9 69.2% 69.2% 55.5% 69.2% 68.3% %0.0 Sat (%) 270 Cycle Time (s): Capacity (pcu) 60.3 30.1 39.2 0.0 1940:1739 Sat Flow (pcu/Hr) 1915 1778 1775 10.62 10.62 Demand Flow (pcu) 20.6 21.8 41.7 Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): 0.0 End Green (s) 85(181,251) 22(114,208) × 0 40(132,226) Start Green (s) 10(90,186) 0 \times Total Green (s) 119 28 95 0 30.0 Num Greens က က 0 က PRC for Signalled Lanes (%): PRC Over All Lanes (%): Full Phase Ω \circ В ⋖ Controller Stream ٨ ٨ ΚX ۷ X ۷ ۷ ΑN O+0 Lane Type \supset \supset 0 Malthouse Lane Right Ahead Left Uttoxeter Road Right Ahead Left ပ Station Road Left Right Ahead Derby Rd Ahead Left Right Lane Description Network: Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Link Results 4/1+4/2 3/1 7 2/1 Item

LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane



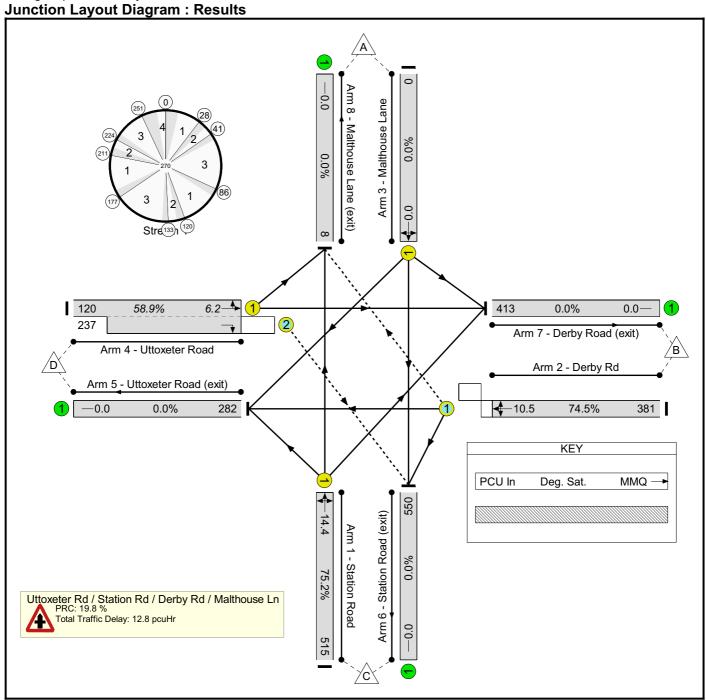
LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane **Scenario 6: '2009 PM'** (FG6: '2009 PM', Plan 2: 'No Demand for Malthouse Lane, Peds every 3rd cycle')



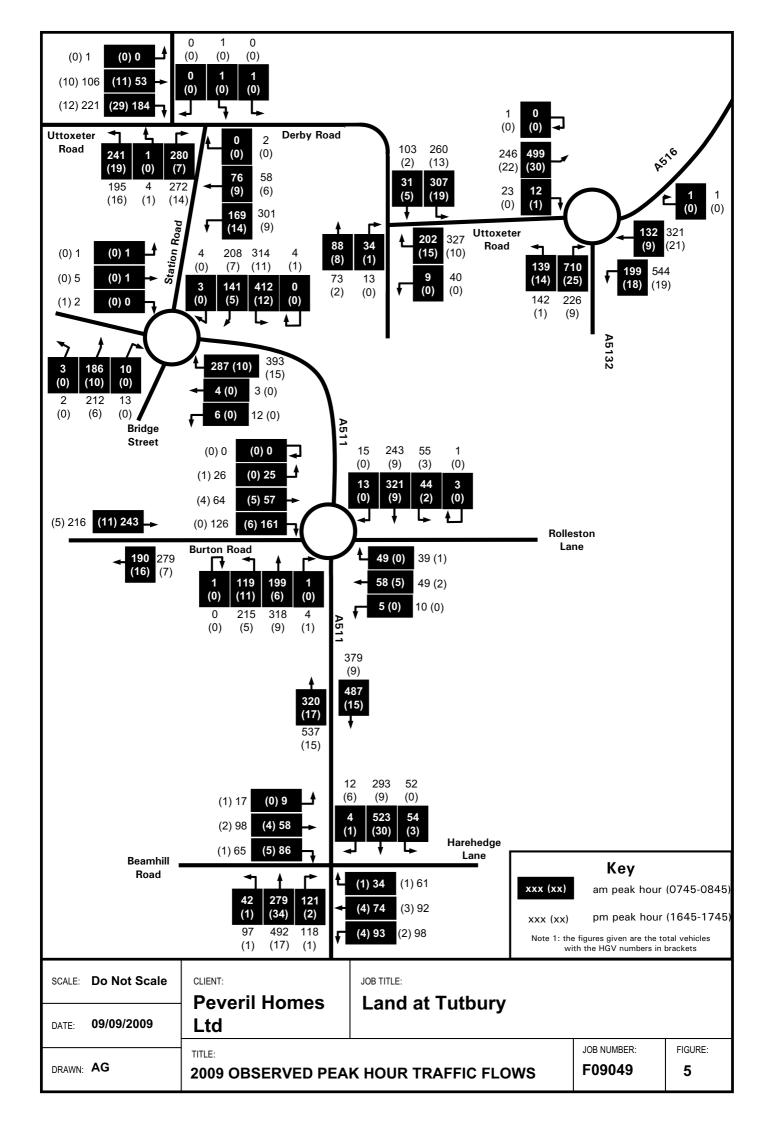


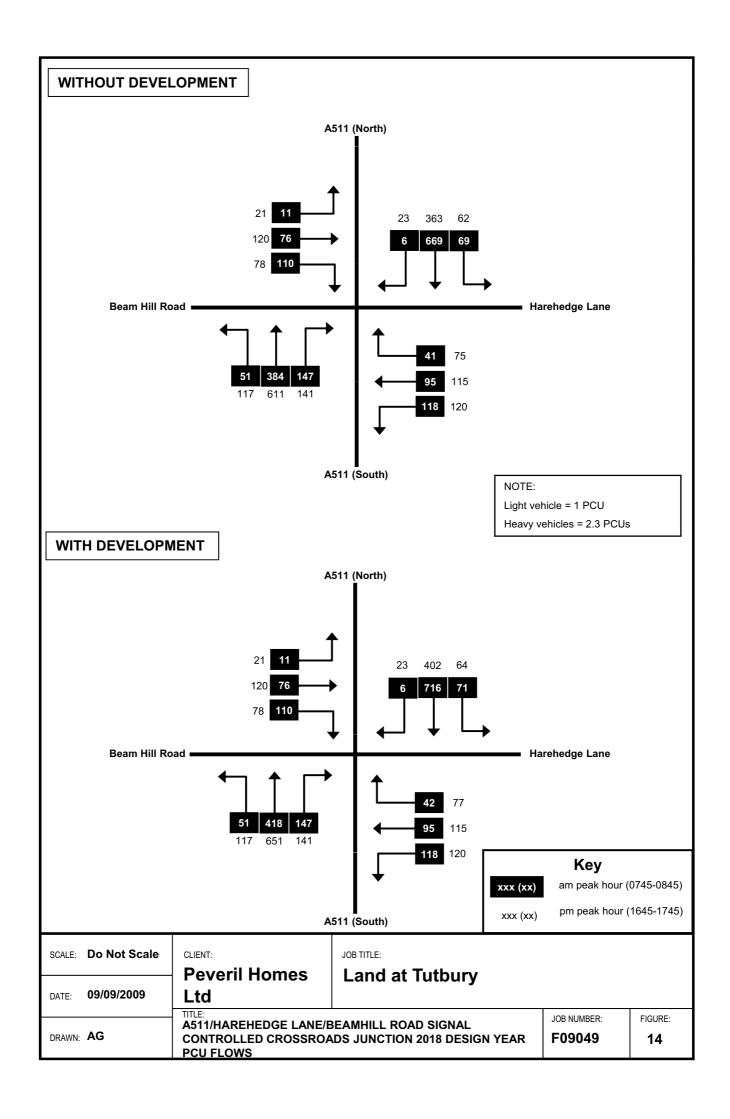
10.5 14.4 Mean Max Queue (pcu) 0.0 6.2 Max. Back of Uniform Queue (pcu) 12.9 0.0 9.1 Total Delay (pcuHr) 12.8 12.8 4.5 5.0 0.0 3.3 75.2% 75.2% 74.5% 58.9% 75.2% %0.0 Sat (%) 270 Cycle Time (s): Capacity (pcu) 51.4 38.4 45.5 0.0 1937:1739 Sat Flow (pcu/Hr) 1915 1779 1748 12.76 12.76 Demand Flow (pcu) 28.6 26.8 38.6 0.0 Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): End Green (s) 86(177,251) 28(120,211) × 0 46(138,229) Start Green (s) 10(91,182) 0 \times Total Green (s) 113 101 9/ 0 19.8 19.8 Num Greens က က 0 က PRC for Signalled Lanes (%): PRC Over All Lanes (%): Full Phase Ω \circ В ⋖ Controller Stream ٨ ٨ ΚX ۷ X ۷ ۷ ΑN O+0 Lane Type \supset \supset 0 Malthouse Lane Right Ahead Left Uttoxeter Road Right Ahead Left ပ Station Road Left Right Ahead Derby Rd Ahead Left Right Lane Description Network: Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Uttoxeter Rd / Station Rd / Derby Rd / Malthouse Ln Link Results 4/1+4/2 3/1 7 2/1 Item

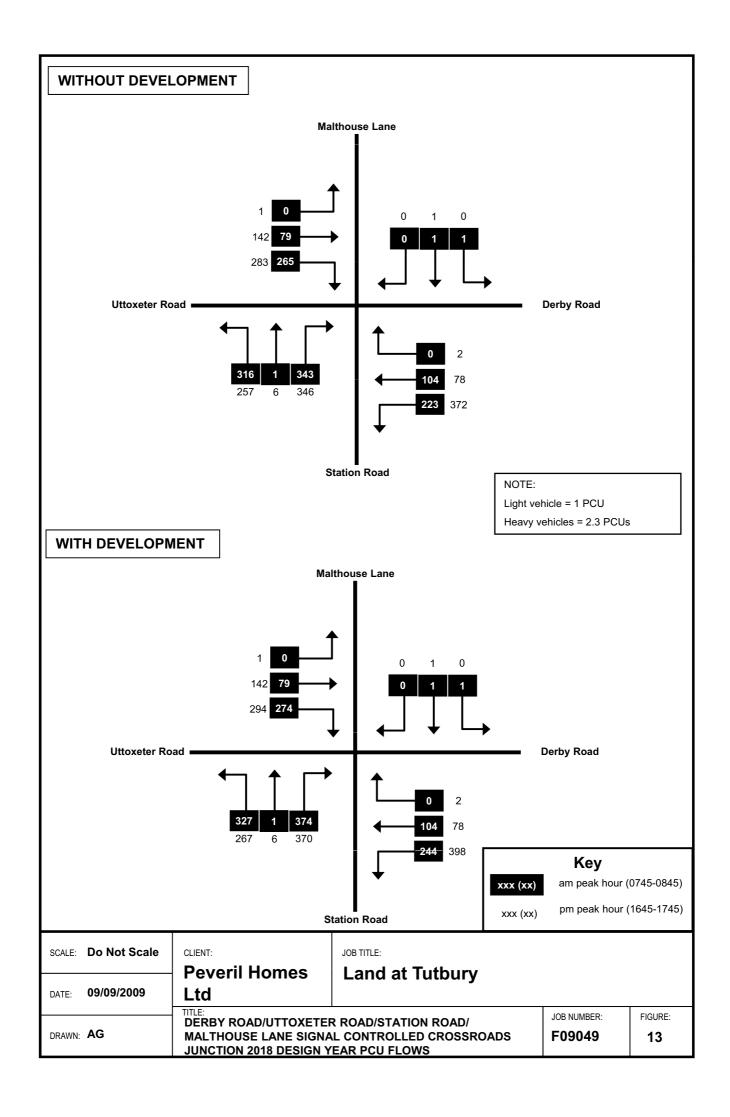
LinSig Report - Tutbury - Uttoxeter Rd, Malthouse Lane

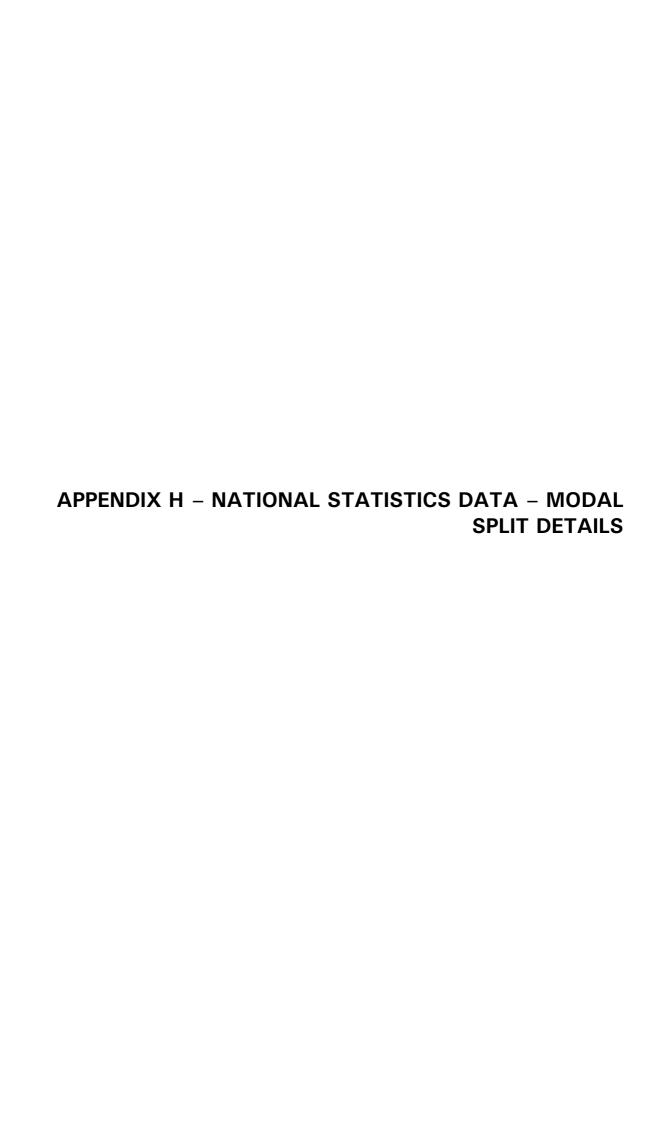


Appendix C





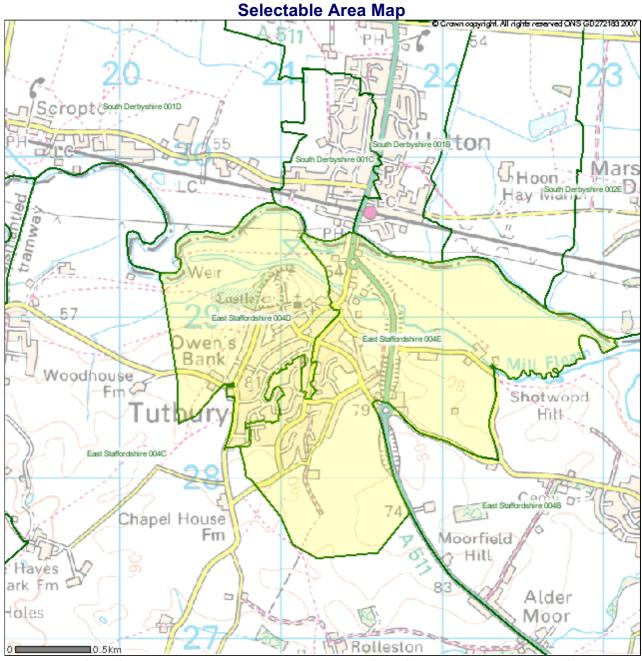




Selectable Area Map Page 1 of 1

Neighbourhood Statistics





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Custom Table Page 1 of 2

Neighbourhood Statistics



	East Staffordshire 004D3	East Staffordshire 004E3
	Super Output Area	004E3 Super Output Area
	Lower Layer	Lower Layer
People who work		
mainly at or from home 2		
Persons	10.00	9.71
Percentage		
Apr01		
People aged 16-74		
who usually travel to		
work by:		
Underground, Metro,	0.00	0.00
Light Rail or Tram ¹ 2		
Persons Percentage		
Apr01		
People aged 16-74		
who usually travel to		
work by: Train1 2	0.45	1.37
Persons	0.43	1.5/
Percentage		
Apr01		
People aged 16-74		
who usually travel to		
work by: Bus, Mini Bus or Coach ¹ ²	7.12	4.24
Persons	7.12	4.24
Percentage		
Apr01		
People aged 16-74		
who usually travel to		
work by: Motorcycle,		
Scooter or Moped 2	1.21	1.37
Persons		
Percentage		
Apr01 People aged 16-74		
who usually travel to		
work by: Driving a Car		
or Van1 2	57.42	68.26
Persons		
Percentage		
Apr01		
People aged 16-74		
who usually travel to		
work by: Passenger in a Car or Van 2	8.18	6.20
Persons	0.10	6.29
r ersons Percentage		
Apr01		
People aged 16-74		
who travel to work by:		
Taxi or Minicab1 2	0.61	0.41
Persons	0.01	0.41
Percentage		
Apr01		
People aged 16-74		
who usually travel to		
work by: Bicycle ¹ ² Persons	2.58	1.64
Percentage		
Apr01		
People aged 16-74		
who usually travel to		
work by: On foot1 2	11.97	6.29
Persons	11.9/	0.29
Percentage		
Apr01		
People aged 16-74		
who usually travel to		
work by: Other 2	0.45	0.41
l		

Custom Table Page 2 of 2

Last Updated: 02 June 2006
Source: Office for National Statistics

Notes

- 1 From the dataset: Travel to Work (KS15)
- 2 National Statistics
- 3 Part of the NeSS Geography Hierarchy

Caution:

using statistics from different sets of data means that you may not be comparing like with like.

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