Proposal by the Church Commissioners for the Allocation of Land at Chidswell near Dewsbury, West Yorkshire for Mixed Residential and Employment Uses.

Site at Chidswell, North of Dewsbury, West Yorkshire

Highways Objection on behalf of
Morley Town Council

February 2018

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1 INTRODUCTION

1.1.1 This report has been prepared on behalf of Morley Town Council (MTC) to advise them and the Inspector on the highways and traffic issues related to the proposed allocation of land for a mixed use development at Chidswell to the north of Dewsbury in West Yorkshire.

1.1.2 The area of land being put forward is owned by the Church Commissioners and they appointed White Young Green (WYG) to prepare a transport assessment to consider the traffic impact of the proposals on the adjacent highway network.

1.1.3 WYG initially prepared a Scoping Note dated 21st April 2016 which was submitted to Kirklees Metropolitan Council (KMC) for comment. WYG subsequently produced an "Interim Transport Assessment" (ITA) dated 22nd August 2018 which has been put before the Inspector for consideration.

1.1.4 Section 2 of this report describes and then considers the contents of the ITA by WYG. It will be demonstrated that the ITA provides copious amounts of information and detailed results of analyses but lacks any supporting documentation. It will be shown that the report underestimates the predicted traffic generated by the development and uses flawed base traffic data. A key junction on the A653 Dewsbury Road is omitted from the analyses and those that are undertaken lack supporting drawings, flow diagrams or computer input / output data.

1.1.5 The ITA as submitted is therefore inadequate and misleading / incorrect. The possible deliberate act of omission of full details of the traffic impact of the proposals is considered sufficient that Morley Town Council would respectfully ask the Inspector to instruct the applicant to provide all relevant data / information for public perusal and comment before any further consideration of the proposals is made.

2 OBJECTIONS TO THE PROPOSALS

2.1 Introduction

2.1.1 This report describes and then considers the contents of the ITA by WYG. It will be demonstrated that the ITA provides copious amounts of information and detailed results of analyses but lacks any supporting documentation, computer input / output to substantiate the analyses or their conclusions. Such documentation is normally provided as appendices to the main text of a transport assessment to allow those people making the decisions to be fully informed and more importantly to allow other parties and particularly concerned members of public / local residents to review what has been submitted.

2.1.2 It will be further shown in Section 2 that the predicted traffic from the development has been underestimated and the base traffic survey data has been gathered when volumes would have been reduced. The lack of any traffic flow diagrams makes it almost impossible to review or question where the development traffic would be distributed and in what quantity.

2.1.3 The choice of junctions to be assessed, whilst agreed with KMC Officers, excludes a key junction on the A653 where it intersects with A6029 Rein Road and Syke Road which is in the District of Leeds. It will be shown that this junction is currently operating at over capacity without the Chidswell site traffic being added.

2.1.4 The lack of scaled drawings of the proposed access junctions makes it impossible to determine whether the capacity models that WYG have created are practicable, achievable or safe. The lack of any computer input / output information for any of the capacity analyses does not allow for any third party review of the assumptions made.

2.1.5 Finally it will be shown that the report prepared by WYG has little or no regard to the safety of vulnerable road users and actually encourages the potentially dangerous operation of junctions in mitigation of the impact of the development traffic at locations which have some of the highest injury accident records in the West Yorkshire area.

2.1.6 Evidence on each of the above matters is provided below and will refer as necessary to the ITA submitted and its two appendices.

2.2 Interim Transport Assessment (ITA) Overview

2.2.1 The ITA prepared by WYG dated 22nd August 2016 comprises several sections as below:

Executive Summary

1 Introduction

2 Existing Transport Situation

3 Indicative Masterplan Proposals

4 Trip generation, Assessment and Distribution

5 Highway Capacity Assessment

6 Summary and Conclusions

Appendices

A WYG Accessibility and Connectivity Review technical Note (21 December 2015)

B WYG Interim Transport Assessment Scoping Note (21 April 2016)

2.2.2 On first reading of the ITA one gets the impression that it provides a significant quantity of information in tabular, pictorial and text form. In normal circumstances this is supported by a comprehensive group of appendices which provides more detail, drawings, diagrams and substantiation of the information in the main body of the text of the report.

2.2.3 However, on closer examination it is evident that there are only two appendices provided and these are separate reports prepared by WYG. Neither of these two documents provides any further clarification of the above and elements of Appendix B (the Scoping Note) are superseded in the ITA but again with no detail provided (eg revised TRICS data output).

2.2.4 The information normally provided in the appendices to the main text of a transport assessment allows those people making the decisions to be fully informed and more importantly to allow them **and** other parties and particularly concerned members of public / local residents to properly review what has been submitted. It is appreciated from the ITA text that WYG has discussed matters with KMC Officers and their consultants and the "missing information" in the absent appendices may have been submitted separately but one then has to question why this information is not posted on the Council's website.

2.2.5 The ITA as submitted is therefore considered to inadequate and misleading / incorrect. The possible deliberate act of omission of full details of the traffic impact of the proposals is considered sufficient that Morley Town Council (MTC) would respectfully ask the Inspector to instruct the applicant to provide all relevant data / information for public perusal and comment before any further consideration of the proposals is made.

2.2.6 The individual sections of the ITA are now considered and commented on in the following paragraphs.

2.3 Executive Summary

2.3.1 This section merely summarises the document text after it and so any comments on the subsequent sections equally apply to this section but have not been repeated here for brevity.

2.4 1 - Introduction

2.4.1 This section describes the history / background of previous discussions and proposals on the site. Mention is also made of the two documents that are provided as appendices to the ITA.

2.4.2 Mention is made of discussions with KMC Highways Officers but with any from either Leeds City Council (LCC) or Wakefield Metropolitan District Council (WMDC). This is considered odd as the ITA considers the traffic impact of the proposals at key junctions with both of these Council areas (and omits some others). MTC would invite the Inspector to seek the views of these two Councils on the proposals.

2.5 2 – Existing Transport Situation

2.5.1 This section of the ITA firstly describes the site location and the local highway network. It then describes the adjacent bus routes and the services that run along them and the train services which use Batley and Dewsbury rail stations. It goes on to describes facilities for walking and cycling and Accessibility Indicators to local services. Finally it describes the baseline traffic surveys carried out "to inform the traffic modelling aspects of" the ITA.

2.5.2 At paragraph 7.1.9 of Appendix A of the ITA it suggests that 800m is a convenient walking distance to the core public transport network. The normally accepted distance to the nearest bus stops serving a route with at least 4 buses per hour (A653 Dewsbury Road) is given as 400m. This is measured from the centre of the development site or centre of "gravity" of the development. Looking at the masterplan a significant quantum of development is towards the eastern half of the site and certainly more than 400m away from the stops on Dewsbury Road.

2.5.3 Therefore, for this site to be considered accessible by public transport then local services would need to be diverted through it which will require the internal road layout to be laid out / designed accordingly to encourage this. It is likely such a diversion would require to be funded for at least five years by the developer.

2.5.4 At paragraph 2.50 of the ITA mention is made of the traffic surveys required "to inform the traffic modelling aspects of" the ITA. It is noted that the scope of the surveys was agreed with KMC Highways Officers but no mention is made if the same agreement was made with the same officers from LCC or WMDC.

2.5.5 At paragraph 2.51 of the ITA it is stated the surveys were carried out on Thursday 5th May 2016 at 10 "agreed" junctions on the highway network. MTC would like to bring to the attention of the Inspector **two fundamental concerns** with this matter.

2.5.6 Firstly is the date on which the baseline surveys were carried out – Thursday 5th May 2016. It is industry standard practice to carry out such surveys outside school holidays / holiday periods to ensure that the data gathered is as representative of normal traffic conditions as possible.

2.5.7 Monday 2nd May 2016 was a Bank Holiday and many people take that as an opportunity to have a longer break and go on holiday somewhere. This will have had some effect in reducing the peak hourly flows on the local network during the remainder of that week and particularly on the day of the survey.

2.5.8 The date of the surveys was also the date of the 2016 Local Council Elections in England and Wales. This applied to a third of the seats in Kirklees, Leeds, Bradford, Wakefield, Calderdale and Barnsley and all of the seats in Sheffield and Rotherham. On election days, many schools are closed to be used as polling stations and people change their travel patterns and journeys to or from work to go and vote.

2.5.9 Therefore it is the view of MTC that the date on which the baseline surveys at all 10 junctions were carried out would not be representative of normal daily traffic conditions as flows would be reduced or changed as a result of holidays and the local elections. Consequently all the junction capacity analyses within their ITA seriously underestimate the current traffic considitions and so in turn the potential impact of the traffic from the proposed allocation site at Chidswell.

2.5.10 Secondly, the surveys omit a key junction on the A653 corridor to the north of the site about half way between Junction 2 (M62 Junction 28) and Junction 3 (A653 Leeds Road / Heybeck Lane). This is the junction of the A653 Dewsbury Road with the A6029 Rein Road and Syke Road which is in the District of Leeds. If WYG did not contact LCC direct and only went through KMC Highways Engineers then it is probable that the latter would not be aware of this particular junction.

2.5.11 The A6029 Rein Road – Syke Road route is regularly used by commuters wishing to avoid the congested network at Junction 41 of the M1 and Junction 28 of the M62. One of the largest secondary schools in Leeds is also located a short distance from this junction along Rein Road. There are pedestrian crossing facilities provided on both of the A653 approaches which at peak times are called almost every cycle. The transport assessment prepared for a currently live application in West Ardsley in Leeds (ref 17 / 08262 / OT) has modelled this junction in the AM and PM peak hours and the analyses show that in 2017 this junction operates well over capacity in both peaks with negative Practical Reserve Capacities of -23.6% and -0.8% respectively. An extract from Appendix BGH7 from that Transport Assessment is attached as Appendix A to this report.

2.5.12 Therefore it is the opinion of MTC that the lack of any analysis of the impact of the traffic from the proposed allocation site at Chidswell at this key junction on the highway network is a serious omission by the applicant and their consultants.

2.6 3 – Indicative Masterplan Proposals

2.6.1 In this section of the ITA the proposed masterplan for the development proposals are described in words and in several figures. A separate larger scale drawing has also been submitted with the ITA.

2.6.2 However, whilst mention is made in this section of the potential for five separate access points to the site, no drawings are provided at any scale which show the exact details of these accesses in terms of location, junction layout and geometry. Such basic information is normally provided within an appendix to a transport assessment and whilst section 4 of the ITA refers to capacity analyses of these accesses, the absence of more detailed drawings (which must have been prepared to allow the analyses to be carried out) does not allow proper appraisal of the proposals by other parties.

2.7 4 – Trip Generation, Assessment and Distribution

Trip Generation

2.7.1 In this section of the ITA it is explained how the industry standard TRICS trip rate database has been used to derive the trip rates and predicted trips for the mix of uses shown in the masterplan. WYG state they have used the TRICS database to extract the people / person trip rates for each use and used the 2011 Census to provide the likely modal split for residents on the site and residents of neighbouring areas who might work on the site.

2.7.2 Whilst this methodology is accepted practice one would have expected to see the TRICS data output used to derive the trip rates for each use and the raw Census data to determine the modal splits. None of this information is provided in the appendices to any of the reports mentioned in the ITA and only the ned results are given in the various tables in the ITA. Consequently it is not possible to verify whether WYG have used the TRICS database correctly or whether the appropriate modal splits have been applied.

2.7.3 Notwithstanding the lack of information provided, it is noted that the ITA indicates that KMC Officers consider the trip rates to be acceptable. This is surprising for the reasons given below and if correct then such rates should be allowed to be used elsewhere.

2.7.4 MTC would wish to advise the Inspector of a few concerns regarding the rates used in the ITA for the proposed uses.

Residential Trip Rates

2.7.5 Paragraphs 4.9 to 4.12 of the ITA describe the process used to derive the people trip rates for the residential uses. For private housing the two way people trip rates for the AM and PM peaks are given in Table 4.1 as 1.051 and 0.995 trips per dwelling respectively. When the modal split from the 2011 Census for the area around the site is applied to these rates (66% as given in Table 4.4) then two way vehicle rates of 0.694 and 0.657 trips per dwelling can be calculated.

2.7.6 These are both less than the normally accepted vehicle trip rates used by KMC Highways Officers for planning applications in their area of 0.8 trips per dwelling. For 1228 dwellings the difference in the respective peak periods between the ITA "approved rates" and the normal rates accepted by KMC results in an underestimation in the ITA of 131 and 176 vehicle trips.

B1a Office Use

2.7.7 Paragraph 4.13 of the ITA describes the process used to derive the people trip rates for the B1a office use (business park). It indicates that it found only four sites that WYG deemed appropriate which can be the problem when being so selective but in the absence of the actual output it is not possible to verify how appropriate these sites are.

2.7.8 For the business park use the two way people trip rates for the AM and PM peaks are given in Table 4.1 as 2.238 and 1.845 trips per 100sqm respectively. When the modal split from the 2011 Census for the area around the site is applied to these rates (70% as given in Table 4.4) then two way vehicle rates of 1.567 and 1.292 trips per 100sqm can be calculated.

2.7.9 These are both less than what can be determined from a more wider interrogation of the database as can be found in Appendix B to this report. This indicates potential two way vehicle rates of 1.793 and 1.423 trips per 100sqm in the respective peak hours. For 30,625sqm of business park the difference in the respective peak periods between the ITA "approved rates" and the alternative rates derived from TRICS results in an underestimation of 69 and 40 vehicle trips.

B1c / B2 Industrial Uses

2.7.10 Paragraph 4.14 of the ITA describes the process used to derive the people trip rates for the industrial uses.

2.7.11 For the industrial estate use the two way people trip rates for the AM and PM peaks are given in Table 4.1 as 0.814 and 0.656 trips per 100sqm respectively. When the modal split from the 2011 Census for the area around the site is applied to these rates (70% as given in Table 4.4) then two way vehicle rates of 0.570 and 0.459 trips per 100sqm can be calculated.

2.7.12 These are both less than what can be determined from an interrogation of the database for edge of town sites as can be found in Appendix C to this report. This indicates potential two way vehicle rates of 0.756 and 0.610 trips per 100sqm in the respective peak hours. For 61,250sqm of industrial estate the difference in the respective peak periods between the ITA "approved rates" and the alternative rates derived from TRICS results in an underestimation of 114 and 92 vehicle trips.

B8 Storage or Distribution

2.7.13 Paragraph 4.15 of the ITA describes the process used to derive the people trip rates for the B8 storage use. It indicates that it found only four sites that WYG deemed appropriate which can be the problem when being so selective but in the absence of the actual output it is not possible to verify how appropriate these sites are.

2.7.14 The two way people trip rates for the AM and PM peaks are given in Table 4.1 as 0.067 and 0.070 trips per 100sqm of development respectively. When the modal split from the 2011 Census for the area around the site is applied to these rates (70% as given in Table 4.5) then vehicle rates of 0.047 and 0.049 can be calculated. These rates appear to be very low compared to a quick survey of rates used in transport assessments locally with the lowest rates being in the region of 0.174 and 0.181 vehicle trips per 100sqm respectively and the highest being 0.422 and 0.389 vehicle trips respectively.

2.7.15 Therefore given the rates used are significantly less than what is normally put forward one has to question the validity of the data used in the ITA for this use Indeed the rates are more akin to self storage type warehousing (typically 0.118 and 0.100 trips per 100sqm) than commercial storage. The TRICS database outputs for these uses can be found at Appendix D of this report.

2.7.16 For 30,628sqm of B8 uses the difference in the respective peak periods between the ITA “approved rates” and the more realistic rates given above results in an underestimation of 115 and 104 vehicle trips.

2.7.17 The table below summarises the above calculations. MTC has not reviewed the rates used for the affordable housing so the figures have been left the same as in the ITA but in the absence of the TRICS data reserve the right to comment further on their appropriateness.

Proposed Use	AM Peak	PM Peak
Residential	131	176
Affordable Residential	0	0
Business Park	69	40
Industrial Estate	114	92
Warehousing	115	104
Total Difference	429	413
ITA Total Flows	1873	1670
ITA + Difference	2302	2083

Table 1 – Difference in Traffic Generations

2.7.18 As can be seen from Table 1 if the trip rates used in the ITA are as inaccurate as is suggested above then the analyses carried out at the various existing and proposed junctions have used predicted flows some 19% less than perhaps should have been.

2011 Census Data

2.7.19 The ITA has used 2011 Census data to determine the modal split of residential traffic from the proposed development. It has used the same modal split as exists in the area surrounding to the site (Dewsbury East). However, whilst the location might be right, the ITA should have also considered the level of car ownership within that ward and compared that to an area with perhaps a greater amount of newer housing.

2.7.20 Dewsbury East is an area of typically higher density older housing often with limited off street parking. It is similar in this respect to the adjacent ward of Batley East but different to the adjacent ward in Leeds (Ardsley and Robin Hood) or even closer to the site, the Leeds Middle Output Area 108. The latter two areas have significant areas of newer housing than the first two.

2.7.21 If the 2011 Census is interrogated for each of these areas then the results as can be found in Appendix E are determined. These results show that in the similar residential areas of Dewsbury East and Batley East the proportion of households with no access to a private vehicle is about 30% whereas in Ardsley and Robin Hood or the Leeds Middle Output area 108 are 15.6% and 10.6% respectively.

2.7.22 Consequently if the modal splits for the same areas are examined (see Appendix E of this report) then these show a lower car use in Dewsbury East and Batley East (65.61% and 63.05% respectively when compared to the Leeds areas (75.74% and 80.50% respectively). These figures demonstrate that for areas of newer housing such as on the development site, a higher proportion of people will chose to use the private car for convenience as a greater proportion have access to a vehicle.

2.7.23 It is therefore concluded that the methodology used in the ITA to determine the residential vehicle trip rates from the people trip rates (and potentially the same applies to the employment uses) seriously underestimates the potential traffic generations form the development.

2.7.24 The ITA, at paragraph 4.42, suggests that their calculations “have identified what are considered to be suitable and robust person trip rates” and the vehicle trip rates “used in this assessment are considered suitable”. The evidence provided above would hopefully lead the Inspector to conclude differently.

Trip Distribution

2.7.25 The ITA describes the process undergone to determine the likely distribution of traffic from the development site. Given the lack of data from the Census or any traffic flow diagrams, the ITA attempts to show the traffic distributions using different coloured areas on very small map and some percentages shown on another more local plan. Consequently it is not possible to verify the data or assumptions as to whether they are correct or reasonable.

2.8 5 – Highway Capacity Assessment

2.8.1 At paragraphs 2.5.4 to 2.5.9 of this report it is demonstrated that the baseline junction surveys carried out in preparing the ITA are not representative of everyday conditions on the highway network. Section 2.7 of this report shows that the trip generation rates used in the ITA for the proposed uses appear to be lower than would be expected. **These factors render all of the highway capacity assessments carried out in the ITA significantly flawed and they grossly underestimate the traffic impact of the proposals on the site on these junctions.**

2.8.2 Notwithstanding the above statement there are further concerns which MTC would like to draw to the attention of the Inspector with regard to some of the analyses of the offsite and site access junctions which are outlined in the following paragraphs.

Offsite Junction Assessments

M1 Junction 40

2.8.3 This junction lies within WMDC jurisdiction but no mention is made in the ITA of that Authority's acceptance or otherwise of the analysis undertaken. The analyses show that the junction would operate significantly over capacity in both peak periods post development.

2.8.4 The mitigation offered is to model the junction away from the current methodology and optimise the signals. How this is achieved is unclear (due to the absence of the input data) but this might well be at the expense of increased queues on the motorway slip roads (something which Highways England would not be content with), linkages with adjacent signals and possibly safety.

2.8.5 The ITA uses the term "bonus green times" which have been applied at this and several other of the traffic signal controlled junctions analysed. As no analysis input / output raw data has been provided as an appendix to the ITA then it is not possible to verify the validity of the assumptions made or how the "bonus green time" has been applied. The inference in many of the junction analyses is that as some traffic was noted "generally running over the amber prior to the red at the end of their stage". MTC have been advised that such a suggestion is never put forward as being acceptable practice in transport assessments as it is condoning a potentially dangerous situation even if it does happen.

M62 Junction 28

2.8.6 This junction lies within LCC jurisdiction but no mention is made in the ITA of that Authority's acceptance or otherwise of the analysis undertaken. The analyses show that the junction would operate significantly over capacity in both peak periods post development.

2.8.7 Whilst committed development traffic is mentioned elsewhere in the ITA (and it is unclear what the actual analyses accommodated. What is not mentioned is the granting of planning permission for circa 300 dwellings on the A650 between Junction 28 of the M62 and Junction 41 of the M1 and the addition of that traffic on the former.

2.8.8 Again the mitigation offered is to model the junction away from the current methodology and optimise the signals. How this is achieved is unclear (due to the absence of the input data). Further mitigation in the form of increased use of "bonus green time" is also proposed. On the one hand to model the current operation of the junction with "bonus green time" as described in 2.8.5 above is one concern (given this probably occurs due to the congested nature of the network) to then almost offer this in mitigation of the impact of a proposed development is beyond belief.

2.8.9 Given the small amount of time between one approach changing from green to the opposing approach changing to green (otherwise known as the "intergreen") to offer an effective reduction in this safety factor as mitigation is creating a potentially unsafe situation. This junction has one of the worst injury accident records in the District of Leeds (ranked third) with signal violations being cited in 18 of the 30 collisions recorded. An extract from the Leeds Sites for Concern listing published in October 2017 is attached as Appendix F to this report.

2.8.10 The other so called "mitigation" measure is to suggest to reduce the green time given to pedestrians using the crossing over the northbound circulatory carriageway from 10 to 6 seconds as WYG deem the crossing to be little used. However they do not provide any evidence of this usage and in any case, it is understood from those people who use it, that this crossing is only called on demand when the button is pressed.

2.8.11 This crossing takes pedestrians and cyclists over four lanes of traffic on what is the circulatory carriageway to a motorway intersection where vehicles entering the system are or have been travelling at speed. The junction is close to the largest secondary school in Leeds and there are other developments nearby which may increase pedestrian volumes using the crossings. This measure would benefit cars to the detriment of pedestrian and cyclist safety (and the junction would still be over capacity) creating a less safe environment for all vulnerable road users.

A653 / Heybeck Lane

2.8.12 Again the mitigation offered is in the form of increased use of "bonus green time" (other measures are suggested at paragraph 5.97 but without the input data it is not possible to verify if they have been used correctly or safely). The analyses also assume minimal use of the pedestrian crossing facilities post development which given the junction is at the north west corner of the site suggest that WYG do not think there would be any increases as a result of the proposals which contradicts their thinking elsewhere in terms of accessing public transport on the A653.

2.8.13 It should also be pointed out that the method of operation of this junction may have changed since the ITA was written as the right turn movements off the A653 are now signalled separately. Therefore the analyses are out of date and not representative of the current operation.

A653 / Chidswell Lane

2.8.14 In the absence of traffic flow diagrams and the input / output data for the analysis of this junction it is not possible to verify whether the results in the ITA are correct. This is a priority junction on to a high speed dual carriageway and any significant increase in turning movements is a cause for concern regardless of the results.

2.8.15 No mitigation of traffic impact at this junction is proposed.

A653 / B6128 Shaw Cross Junction

2.8.16 This is a busy signal controlled cross roads junction with a significant road safety problem (11 collisions in five years). The analyses show that post development it would be significantly over capacity.

2.8.17 No mitigation of traffic impact at this junction is proposed. Use has been made of "bonus green times" once again at an accident blackspot (previous comments refer).

B6128 Owl Lane / Windsor Road

2.8.18 The analyses in the ITA admit that this junction will be over capacity in the future design years with or without the proposed development but does not offer any improvements in mitigation of the latter.

A638 / B6128 Roundabout

2.8.19 This junction lies within WMDC jurisdiction but no mention is made in the ITA of that Authority's acceptance or otherwise of the analysis undertaken. The analyses show that the junction would operate significantly over capacity in both peak periods without or with the development. No improvements are offered in mitigation of the latter.

2.8.20 This junctions lies within the control of WMDC and no mention is made in the ITA of that Council's views of the impact of the development at this junction.

A653 / A6029 Rein Road and Syke Road

2.8.21 As mentioned at 2.5.10 above the ITA failed to analyse a key junction on the A653 corridor to the north of the site about half way between Junction 2 (M62 Junction 28) and Junction 3 (A653 Leeds Road / Heybeck Lane). This is the junction of the A653 Dewsbury Road with the A6029 Rein Road and Syke Road which is in the District of Leeds.

2.8.22 The A6029 Rein Road – Syke Road route is regularly used by commuters wishing to avoid the congested network at Junction 41 of the M1 and Junction 28 of the M62. One of the largest secondary schools in Leeds is also located a short distance from this junction along Rein Road. There are pedestrian crossing facilities provided on both of the A653 approaches which at peak times are called almost every cycle.

2.8.23 The transport assessment prepared for a currently live application in West Ardsley in Leeds (ref 17 / 08262 / OT) has modelled this junction in the AM and PM peak hours and the analyses show that in 2017 this junction operates well over capacity in both peaks with negative Practical Reserve Capacities of -23.6% and -0.8% respectively. An extract from Appendix BGH7 from that Transport Assessment is attached as Appendix A to this report.

2.8.24 In addition it should be noted that this junction also has a severe injury accident record with 12 incidents occurring between 1st January 2012 and 30th June 2017 resulting in 8 slight and 4 serious injuries (see screen print of Crashmap website in Appendix F) . Therefore it is the opinion of MTC that the lack of any analysis of the impact of the traffic from the proposed allocation site at Chidswell at this key junction on the highway network is a serious omission by the applicant and their consultants. The views of LCC on this omission should be sought.

Site Access Junction Assessments

2.8.25 There are five separate access junctions to the development site but aside from their approximate location being indicated on the masterplan drawing no other drawings are available in the public domain. Therefore it is not possible to verify whether any of the proposed junction layouts are practicable, achievable or safe and what measures are proposed to cater for vulnerable road users. Brief comments on each are given below.

Heybeck Lane Access

2.8.26 This is proposed to be a priority junction but no information is provided whether there will be a right turn ghost island provided in Heybeck Lane or what pedestrian crossing facilities will be provided particularly as the ITA indicates there might be two approach lanes on the access road plus the exit lane.

A653 North Access

2.8.27 This junction is proposed to be traffic signal controlled which by 2030 will have little spare capacity in the AM peak according to the ITA (only 1.8% in table 5.22 contrary to what is stated at paragraph 5.137). If the baseline traffic data and the predicted traffic levels have been underestimated then this junction is more likely to be operating over capacity in the future design year.

2.8.28 In the absence of any detailed plans it is not possible to determine how this junction will be laid out and if the right turn movement in to the site access will be separately signalled (which may warrant carriageway widening affecting third party land) which is good safety practice in the design of traffic signal controlled junctions on high speed roads. Similarly the lack of any input data for the capacity analysis means that it is not possible to see how WYG have catered for anticipated pedestrian movements across the A653 to access bus stops.

2.8.29 It is noted from the masterplan that this junction will be approximately 300m south of the Heybeck Lane junction. As noted at 2.8.11 above, the analyses have incorrectly modelled the operation of this junction and the supposed "mitigation" is achieved by compromising safety. If the northbound A653 queue lengths in table 5.13 in the ITA are therefore more likely (61+ vehicles), then these would extend across the new access junction and so compromise its operation.

2.8.30 Finally this junction is located at an existing gap in the central reservation. Being on a dual carriageway such gaps are used by local residents to access to and from their properties. If the gap is removed (or such movements prohibited) then these movements will be displaced to another perhaps less safe location. No information or mention of this is given in the ITA.

A653 South Access

2.8.31 This junction is proposed to be traffic signal controlled which by 2030 will have ample reserve capacity according to the ITA. If the baseline traffic data and the predicted traffic levels have been underestimated then the operation of this junction is more likely closer to being over capacity in the future design year.

2.8.32 In the absence of any detailed plans it is not possible to determine how this junction will be laid out and if the right turn movement in to the site access will be separately signalled (which may warrant carriageway widening affecting third party land) which is good safety practice in the design of traffic signal controlled junctions on high speed roads. Similarly the lack of any input data for the capacity analysis means that it is not possible to see how WYG have catered for anticipated pedestrian movements across the A653 to access bus stops.

2.8.33 It is evident that two issues might not have been considered in the ITA. The first is whether the forward visibility requirements on the northbound approach on the A653 can be achieved in accordance with TD9 of the Design Manual for Roads and Bridges (the junction position is in a dip).

2.8.34 The second is that there is a significant level difference between the two carriageways hence why they are separated by a planter in the central reservation. Vehicles turning right either in to or out of the new access would have to cross the central reservation and so would encounter this level difference. No information is provided by WYG as to how this problem is to be remedied by either raising or lowering one or other of the carriageways with the consequent effect of private driveways etc.

2.8.35 It is therefore questionable if a new access can be formed in this location.

Chidswell Lane Priority Junction

2.8.36 This is proposed to be a priority junction but no information is provided as to what pedestrian crossing facilities will be provided particularly as the ITA indicates there might be two approach lanes on the access road plus the exit lane.

B6128 Owl Lane / Site Access Roundabout

2.8.37 A new roundabout is proposed at this junction however in the absence of any drawings it is not possible to determine how this junction will be laid out particularly for pedestrians.

2.8.38 The analyses in the ITA claim that this junction would be expected to operate within capacity in 2030 but it is noted that in the AM peak, the Owl Lane approaches would be nearing capacity. If the baseline traffic data and the predicted traffic levels have been underestimated then the operation of this junction is more likely closer to being over capacity in the future design year. In such a situation queue lengths would increase and impact on the safe operation of adjacent junctions / accesses.

2.9 Other Documents

2.9.1 MTC has obtained further documents through the Freedom of Information Act. This includes

a) Technical Paper and Addendum: Transport Model prepared by KMC dated April 2017

b) An assessment of Kirklees Local Plan Sites prepared for Highways England looking at the impact of these

c) Kirklees Local Plan Submission Document SD4.

2.9.2 An examination of the above documents indicates the following. Document a) indicates that funding for major highway improvements along the A653 is not currently available and the project has not been costed and there is no estimated completion date (according to the West Yorkshire Combined Authority web site https://www.westyorks-ca.gov.uk/transport/west-yorkshire-plus-transport-fund/a653/-).

2.9.3 Document b) identifies significant capacity problems at both Junction 40 of the M1 and Junction 28 of the M62 and with further developments in Kirklees these problems would be exacerbated.

2.9.4 Document c) puts forwards amendments to the allocation of this site at Chidswell such that:

"Additional mitigation on the wider highway networkill be required. Development of this site has the potential for a significant impact on the Strategic Road Network. Measures will be required to reduce and mitigate that impact. The transport assessment will need to demonstrate that any committed schemes are sufficient to deal with the additional demand generated by the site. Where committed schemes will not provide sufficient capacity or where Highways England does not have committed investment, development may need to contribute to additional schemes identified by Highways England and included in the Infrastructure Delivery Plan (IDP) or other appropriate schemes. If development is dependent upon construction of a committed scheme, then development will need to be phased to take place following scheme opening."

2.9.5 This amendment does indicate that that the content of the ITA prepared by WYG has not been accepted on face value by KMC. Whilst this does offer some comfort to MTC the concerns remain that the document prepared by WYG was published in the manner and form it has with the inference that many of its basic matters have been accepted by KMC Officers when they are clearly misleading or incorrect. MTC remains sceptical that future transport assessments will endeavour to build on this and so result in planning approvals on the site which fail to mitigate their impact on the highway network in Kirklles, Leeds and Wakefield.

3 SUMMARY AND CONCLUSIONS

3.1 Summary

3.1.1 This report has been prepared on behalf of Morley Town Council (MTC) to advise them and the Inspector on the highways and traffic issues related to the proposed allocation of land for a mixed use development at Chidswell to the north of Dewsbury in West Yorkshire.

3.1.2 Section 2 of this report describes and then considers the contents of the Interim Transport Assessment (ITA) prepared by White Young Green (WYG). It has been demonstrated that:

a) The ITA provides copious amounts of information and detailed results of analyses but lacks any supporting documentation.

b) The ITA report underestimates the predicted traffic generated by the development by about 19% and uses flawed base traffic survey data carried out in a holiday week on local election day.

c) A key junction on the A653 Dewsbury Road is omitted from the analyses and those that are undertaken lack supporting drawings, flow diagrams or computer input / output data.

d) Several proposed access junctions are either impracticable or create potential safety problems.

e) No real mitigation of the impact of the development on the highway network is offered and some of the proposals are not normally ever put forward as they would create significant road safety hazards to all road users particularly pedestrians and cyclists.

3.2 Conclusions

3.2.1 It is concluded that the ITA as submitted is therefore inadequate and misleading / incorrect. The possible deliberate act of omission of full details of the traffic impact of the proposals is considered sufficient that Morley Town Council would respectfully ask the Inspector to instruct the applicant to provide all relevant data / information for public perusal and comment before any further consideration of the proposals is made.

APPENDICES

APPENDIX A

LCC Application 17 / 08262 / OT – Appendix BGH7 of Transport Assessment

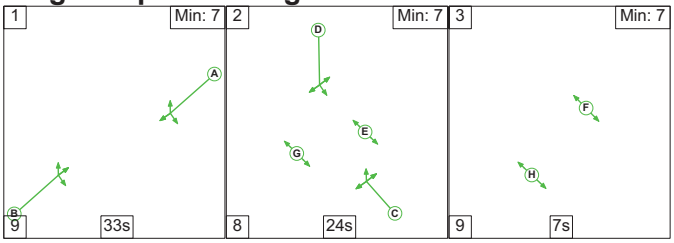
Full Input Data And Results

Lane Saturation Flows

Junction: Dewsbury Road - Syke Road - Rein Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dewsbury Road East (Entry))	3.10	0.00	Y	Arm 4 Ahead	Inf	78.9 %	1882	1882
				Arm 6 Left	14.00	21.1 %		
1/2 (Dewsbury Road East (Entry))	3.10	0.00	Y	Arm 4 Ahead	Inf	87.5 %	1900	1900
				Arm 8 Right	14.00	12.5 %		
2/1 (Dewsbury Road East (Exit))	3.00	0.00	Y				1915	1915
2/2 (Dewsbury Road East (Exit))	3.00	0.00	Y				1915	1915
3/1 (Dewsbury Road West (Entry))	3.00	0.00	Y	Arm 2 Ahead	Inf	60.2 %	1879	1879
				Arm 8 Left	31.00	39.8 %		
3/2 (Dewsbury Road West (Entry))	3.00	0.00	Y	Arm 2 Ahead	Inf	93.8 %	1901	1901
				Arm 6 Right	13.00	6.2 %		
4/1 (Dewsbury Road West (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (Dewsbury Road West (Exit) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Syke Road (Entry))	4.10	0.00	Y	Arm 2 Right	28.00	15.4 %	1963	1963
				Arm 4 Left	14.00	21.6 %		
				Arm 8 Ahead	Inf	63.0 %		
6/1 (Syke Road (Exit))	3.80	0.00	Y				1995	1995
7/1 (Rein Road (Entry))	3.50	0.00	Y	Arm 2 Left	9.00	19.7 %	1861	1861
				Arm 4 Right	28.00	42.8 %		
				Arm 6 Ahead	Inf	37.6 %		
8/1 (Rein Road (Exit))	3.50	0.00	Y				1965	1965

Scenario 1: '2017 Existing AM' (FG1: '2017 Existing AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

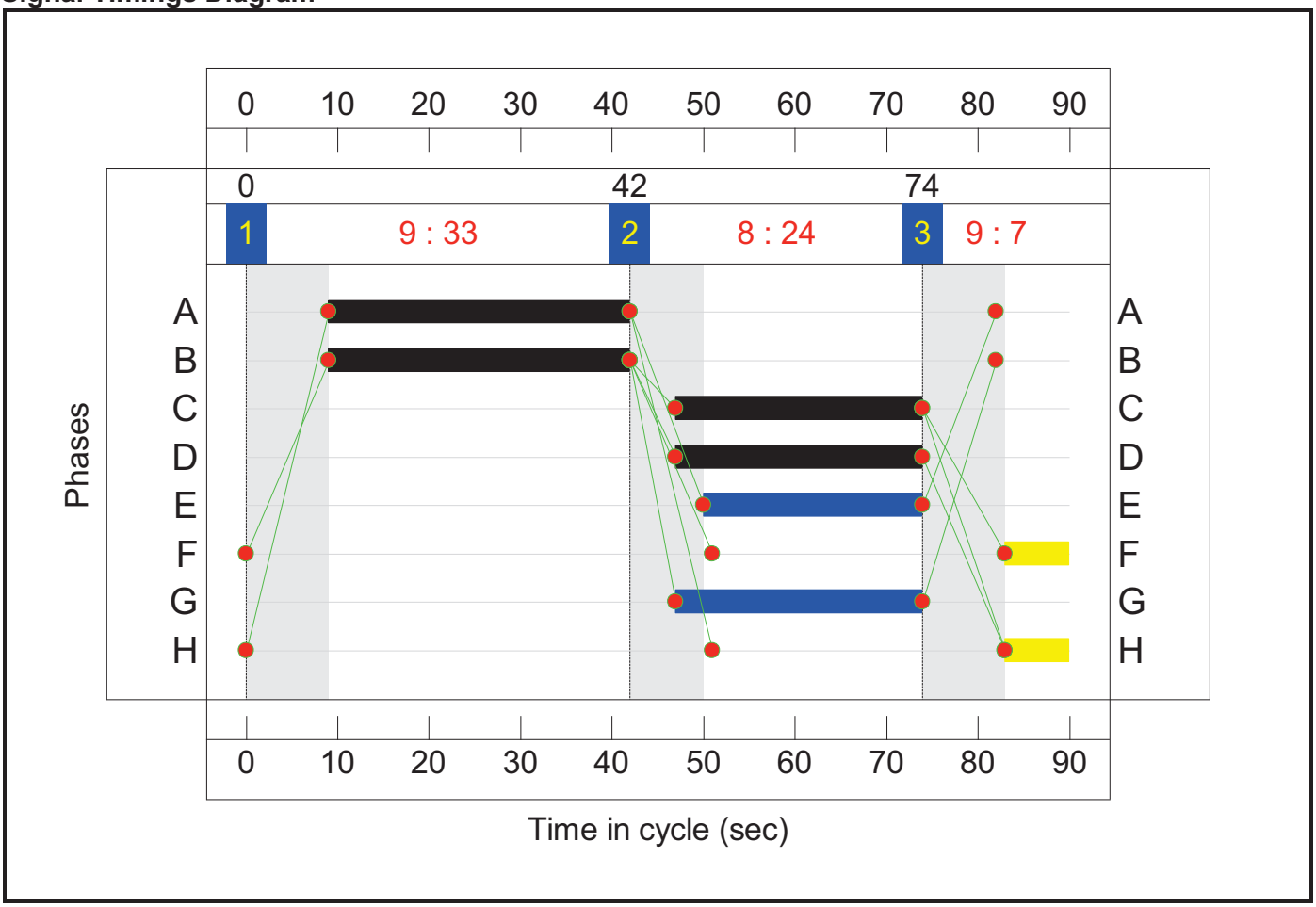


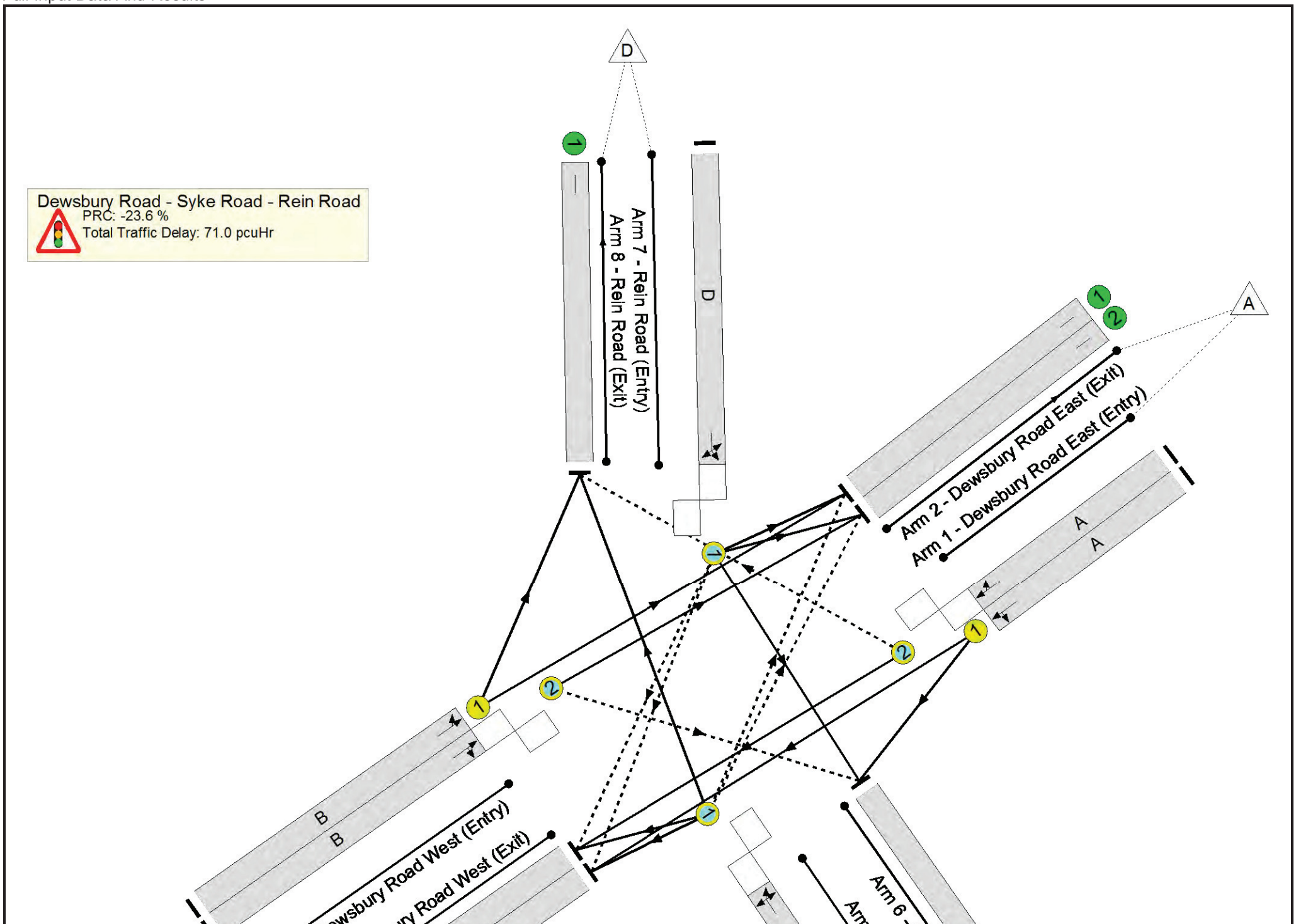
Full Input Data And Results

Stage Timings

Stage	1	2	3
Duration	33	24	7
Change Point	0	42	74

Signal Timings Diagram




Dewsbury Road - Syke Road - Rein Road
PRC: -23.6 %
Total Traffic Delay: 71.0 pcuHr
D
Arm 7 - Rein Road (Entry)
Arm 8 - Rein Road (Exit)
D
A
Arm 2 - Dewsbury Road East (Exit)
Arm 1 - Dewsbury Road East (Entry)
A
A
B
B
Arm 6 -

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**111.3%**
Dewsbury Road - Syke Road - Rein Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**111.3%**
1/1	Dewsbury Road East (Entry) Ahead Left	U	N/A	N/A	A		1	33	-	377	1895	716	52.7%
1/2	Dewsbury Road East (Entry) Ahead Right	O	N/A	N/A	A		1	33	-	378	1878	340	111.3%
2/1	Dewsbury Road East (Exit)	U	N/A	N/A	-		-	-	-	530	1915	1915	27.7%
2/2	Dewsbury Road East (Exit)	U	N/A	N/A	-		-	-	-	783	1915	1915	40.9%
3/1	Dewsbury Road West (Entry) Ahead Left	U	N/A	N/A	B		1	33	-	697	1880	710	98.1%
3/2	Dewsbury Road West (Entry) Ahead Right	O	N/A	N/A	B		1	33	-	697	1911	722	96.5%
5/1	Syke Road (Entry) Right Left Ahead	O	N/A	N/A	C		1	27	-	366	1964	611	59.9%
6/1	Syke Road (Exit)	U	N/A	N/A	-		-	-	-	230	1995	1995	11.5%
7/1	Rein Road (Entry) Left Right Ahead	O	N/A	N/A	D		1	27	-	400	1862	435	92.1%
8/1	Rein Road (Exit)	U	N/A	N/A	-		-	-	-	558	1965	1965	27.9%

Full Input Data And Results

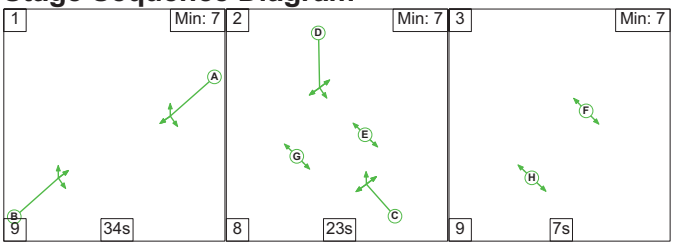
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**280**	**0**	**86**	**21.0**	**48.5**	**1.4**	**71.0**	**-**	**-**	**-**	**-**
Dewsbury Road - Syke Road - Rein Road	**-**	**-**	**280**	**0**	**86**	**21.0**	**48.5**	**1.4**	**71.0**	**-**	**-**	**-**	**-**
1/1	377	377	-	-	-	2.3	0.6	-	2.8	27.0	7.2	0.6	7.8
1/2	378	378	0	0	80	2.3	23.2	0.9	26.4	251.3	7.3	23.2	30.5
2/1	530	530	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/2	783	783	-	-	-	0.0	0.3	-	0.3	1.6	0.0	0.3	0.3
3/1	697	697	-	-	-	5.4	10.3	-	15.7	80.9	17.0	10.3	27.3
3/2	697	697	13	0	0	5.3	8.4	0.0	13.7	70.7	17.0	8.4	25.4
5/1	366	366	114	0	3	2.7	0.7	0.1	3.5	34.6	7.7	0.7	8.5
6/1	230	230	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/1	400	400	153	0	3	3.1	4.6	0.4	8.1	72.7	9.7	4.6	14.2
8/1	549	549	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2

C1 PRC for Signalled Lanes (%): -23.6 Total Delay for Signalled Lanes (pcuHr): 70.16 Cycle Time (s): 90
PRC Over All Lanes (%): -23.6 Total Delay Over All Lanes(pcuHr): 70.96

Full Input Data And Results

Scenario 2: '2017 Existing PM' (FG2: '2017 Existing PM', Plan 1: 'Network Control Plan 1')

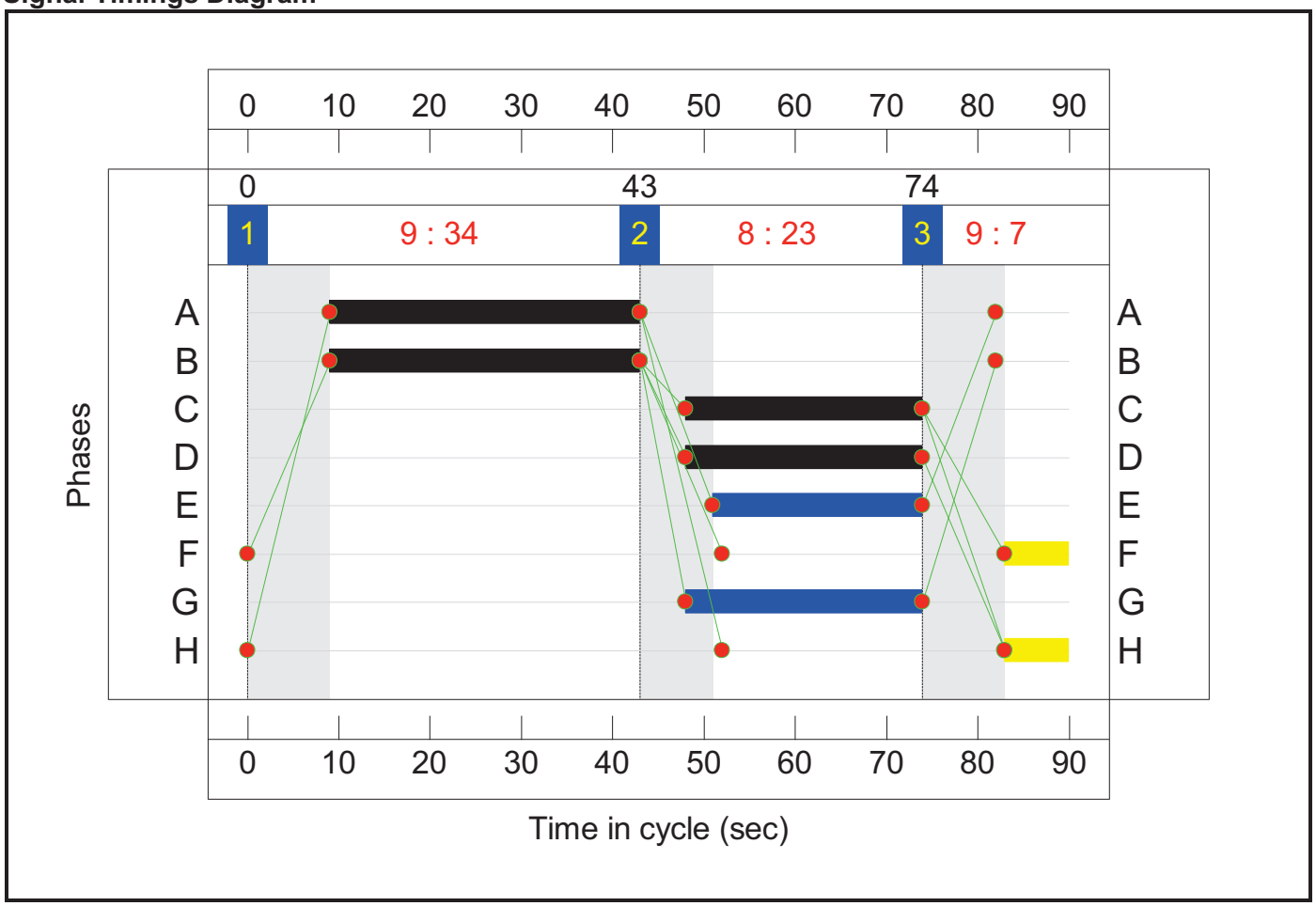
Stage Sequence Diagram

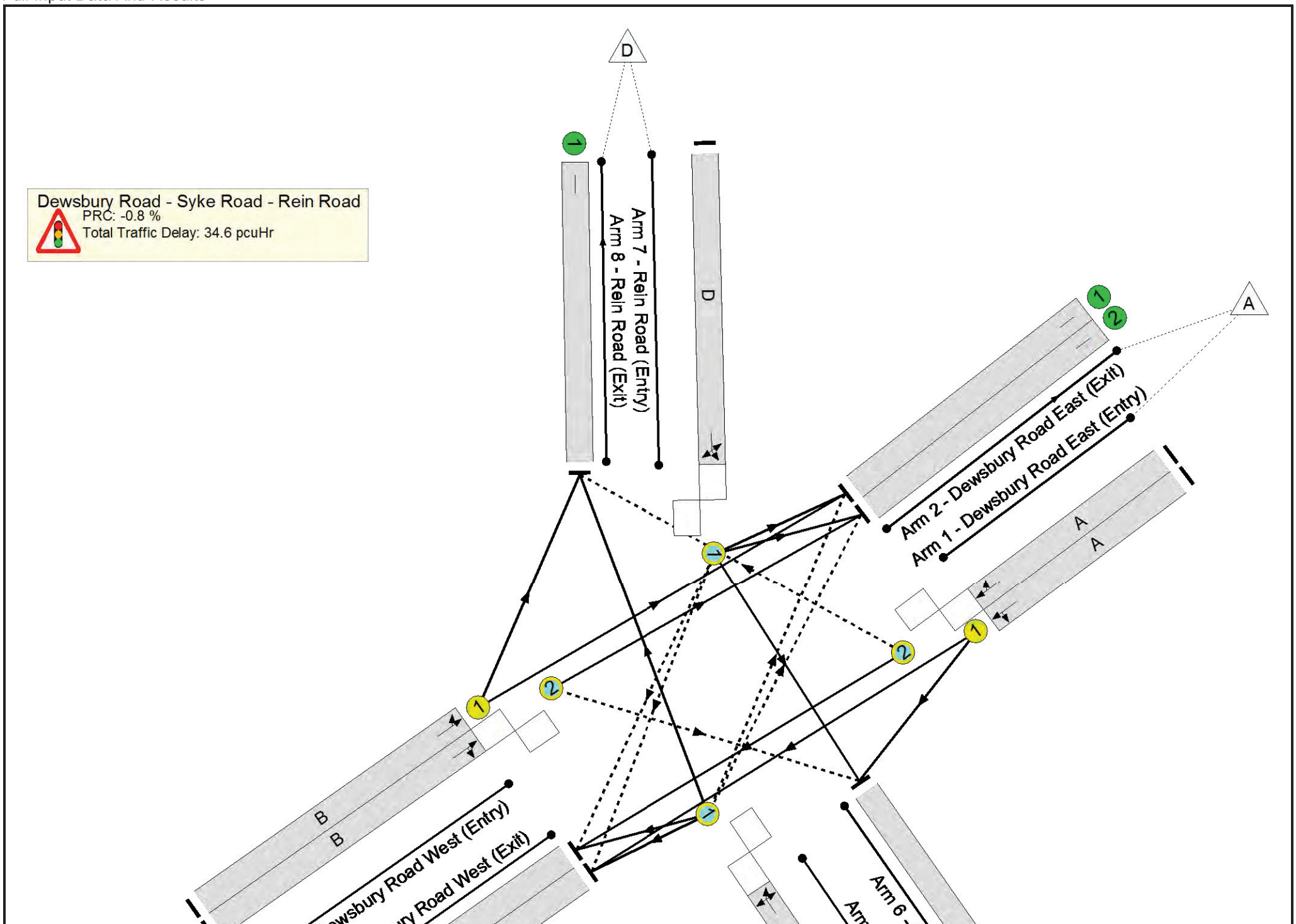


Stage Timings

Stage	1	2	3
Duration	34	23	7
Change Point	0	43	74

Signal Timings Diagram




Dewsbury Road - Syke Road - Rein Road
PRC: -0.8 %
Total Traffic Delay: 34.6 pcuHr
D
Arm 7 - Rein Road (Entry)
Arm 8 - Rein Road (Exit)
D
A
Arm 2 - Dewsbury Road East (Exit)
Arm 1 - Dewsbury Road East (Entry)
A
A
B
B
Arm 6 -

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**90.8%**
Dewsbury Road - Syke Road - Rein Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**90.8%**
1/1	Dewsbury Road East (Entry) Ahead Left	U	N/A	N/A	A		1	34	-	626	1882	732	85.5%
1/2	Dewsbury Road East (Entry) Ahead Right	O	N/A	N/A	A		1	34	-	625	1900	700	89.2%
2/1	Dewsbury Road East (Exit)	U	N/A	N/A	-		-	-	-	361	1915	1915	18.9%
2/2	Dewsbury Road East (Exit)	U	N/A	N/A	-		-	-	-	527	1915	1915	27.5%
3/1	Dewsbury Road West (Entry) Ahead Left	U	N/A	N/A	B		1	34	-	498	1879	731	68.2%
3/2	Dewsbury Road West (Entry) Ahead Right	O	N/A	N/A	B		1	34	-	497	1901	726	68.4%
5/1	Syke Road (Entry) Right Left Ahead	O	N/A	N/A	C		1	26	-	208	1963	589	35.3%
6/1	Syke Road (Exit)	U	N/A	N/A	-		-	-	-	335	1995	1995	16.8%
7/1	Rein Road (Entry) Left Right Ahead	O	N/A	N/A	D		1	26	-	458	1861	505	90.8%
8/1	Rein Road (Exit)	U	N/A	N/A	-		-	-	-	407	1965	1965	20.7%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**285**	**0**	**52**	**20.3**	**13.7**	**0.6**	**34.6**	**-**	**-**	**-**	**-**
Dewsbury Road - Syke Road - Rein Road	**-**	**-**	**285**	**0**	**52**	**20.3**	**13.7**	**0.6**	**34.6**	**-**	**-**	**-**	**-**
1/1	626	626	-	-	-	4.4	2.8	-	7.2	41.3	14.3	2.8	17.1
1/2	625	625	52	0	26	4.3	3.8	0.3	8.4	48.5	14.1	3.8	17.8
2/1	361	361	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
2/2	527	527	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
3/1	498	498	-	-	-	3.2	1.1	-	4.2	30.5	10.2	1.1	11.3
3/2	497	497	11	0	20	3.1	1.1	0.2	4.4	31.8	10.2	1.1	11.3
5/1	208	208	31	0	1	1.4	0.3	0.0	1.7	29.5	4.0	0.3	4.3
6/1	335	335	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
7/1	458	458	192	0	4	3.8	4.2	0.2	8.2	64.2	11.1	4.2	15.2
8/1	407	407	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1

C1 PRC for Signalled Lanes (%): -0.8 Total Delay for Signalled Lanes (pcuHr): 34.09 Cycle Time (s): 90
PRC Over All Lanes (%): -0.8 Total Delay Over All Lanes(pcuHr): 34.62

APPENDIX B
TRICS Output – Business Park

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : B - BUSINESS PARK

VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BU	BUCKINGHAMSHIRE	1 days
	HC	HAMPSHIRE	1 days
	HF	HERTFORDSHIRE	1 days
	OX	OXFORDSHIRE	1 days
03	SOUTH WEST		
	DC	DORSET	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	3 days
	WM	WEST MIDLANDS	1 days
	WO	WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NO	NORTH LINCOLNSHIRE	1 days
08	NORTH WEST		
	GM	GREATER MANCHESTER	1 days
09	NORTH		
	TW	TYNE & WEAR	4 days
10	WALES		
	CF	CARDIFF	2 days

Filtering Stage 2 selection:

Parameter:	Gross floor area
Range:	975 to 121275 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 22/06/09

Selected survey days:

Monday	3 days
Tuesday	6 days
Wednesday	2 days
Thursday	8 days
Friday	4 days

Selected survey types:

Manual count	23 days
Directional ATC Count	0 days

Selected Locations:

Town Centre	1
Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	6
Edge of Town	15

Selected Location Sub Categories:

Industrial Zone	8
Commercial Zone	5
Residential Zone	2
Retail Zone	1
Built-Up Zone	2
No Sub Category	5

LIST OF SITES relevant to selection parameters

1 BU-02-B-01 BUSINESS PARK, HIGH WYCOMBE BUCKINGHAMSHIRE
LONDON ROAD

HIGH WYCOMBE
Edge of Town
No Sub Category
Total Gross floor area: 13300 sqm

2 CF-02-B-01 BUSINESS PARK, CARDIFF CARDIFF
FORTRAN ROAD
ST MELLONS
CARDIFF
Edge of Town
Industrial Zone
Total Gross floor area: 12000 sqm

3 CF-02-B-02 BUSINESS/TECH. UNITS, CARDIFF CARDIFF
CRICKHOWELL ROAD
ST MELLONS
CARDIFF
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Gross floor area: 2587 sqm

4 DC-02-B-01 BUSINESS PARK, POOLE DORSET
COMMERCIAL ROAD

POOLE
Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total Gross floor area: 1570 sqm

5 GM-02-B-03 BUSINESS PARK, SALE GREATER MANCHESTER
CROSS STREET

SALE
Edge of Town
Industrial Zone
Total Gross floor area: 3985 sqm

6 HC-02-B-01 BUSINESS PARK, BASINGSTOKE HAMPSHIRE
CROCKFORD LANE
CHINEHAM BUSINESS PARK
BASINGSTOKE
Edge of Town
Commercial Zone
Total Gross floor area: 121275 sqm

7 HF-02-B-01 BUSINESS PARK, HATFIELD HERTFORDSHIRE
ST ALBANS ROAD WEST

HATFIELD
Edge of Town
Commercial Zone
Total Gross floor area: 26000 sqm

8 LN-02-B-01 BUSINESS PARK, LINCOLN LINCOLNSHIRE
BISHOPS ROAD

LINCOLN
Edge of Town
Industrial Zone
Total Gross floor area: 4460 sqm

9 NF-02-B-02 BUSINESS PARK, NORWICH NORFOLK
WHITING ROAD
LONG JOHN'S HILL
NORWICH
Edge of Town
Retail Zone
Total Gross floor area: 7400 sqm

LIST OF SITES relevant to selection parameters (Cont.)

10 NO-02-B-02 BUSINESS PARK, SCUNTHORPE NORTH LINCOLNSHIRE
DONCASTER ROAD

SCUNTHORPE
Edge of Town
Residential Zone
Total Gross floor area: 1574 sqm

11 NT-02-B-01 BUSINESS PARK, NOTTINGHAM NOTTINGHAMSHIRE
PARK LANE

NOTTINGHAM
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Gross floor area: 2321 sqm

12 OX-02-B-01 BUSINESS PARK, OXFORD OXFORDSHIRE
GARSINGTON ROAD
COWLEY
OXFORD
Edge of Town
Commercial Zone
Total Gross floor area: 33105 sqm

13 SF-02-B-01 BUSINESS PK, BURY ST EDMUNDS SUFFOLK
KEMPSON WAY

BURY ST EDMUNDS
Edge of Town
Industrial Zone
Total Gross floor area: 2480 sqm

14 SH-02-B-01 BUSINESS PARK, SHREWSBURY SHROPSHIRE
WELSHPOOL ROAD

SHREWSBURY
Edge of Town
Commercial Zone
Total Gross floor area: 17197 sqm

15 SH-02-B-02 BUSINESS PARK, TELFORD SHROPSHIRE
STAFFORD COURT

TELFORD
Edge of Town Centre
Commercial Zone
Total Gross floor area: 9500 sqm

16 SH-02-B-03 BUSINESS CENTRE, TELFORD SHROPSHIRE
CASTLE STREET
HADLEY
TELFORD
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Gross floor area: 1300 sqm

17 TW-02-B-01 BUSINESS PARK, NEWCASTLE TYNE & WEAR
ST THOMAS STREET

NEWCASTLE
Town Centre
Built-Up Zone
Total Gross floor area: 975 sqm

18 TW-02-B-02 BUSINESS PARK,NORTH SHIELDS TYNE & WEAR
HIGH FLATWORTH

NORTH SHIELDS
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 27142 sqm

LIST OF SITES relevant to selection parameters (Cont.)

19	TW-02-B-03	BUSINESS PARK, SUNDERLAND	TYNE & WEAR
	CITY WAY		
	EAST HERRINGTON		
	SUNDERLAND		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	77513 sqm	
20	TW-02-B-04	BUSINESS PARK, NEWCASTLE	TYNE & WEAR
	KINGFISHER BOULEVARD		
	LEMINGTON		
	NEWCASTLE UPON TYNE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	38853 sqm	
21	WL-02-B-01	BUSINESS PK,WOOTTON BASSETT	WILTSHIRE
	HIGH STREET		
	COPED HALL		
	WOOTTON BASSETT		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:	2600 sqm	
22	WM-02-B-01	BUSINESS PARK, COVENTRY	WEST MIDLANDS
	COURTALD WAY		
	FOLESHILL		
	COVENTRY		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	30042 sqm	
23	WO-02-B-01	BUSINESS PARK, REDDITCH	WORCESTERSHIRE
	BURNT MEADOW ROAD		
	MOORS MOAT NTH IND. EST		
	REDDITCH		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3525 sqm	

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	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	0.000	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	0.000	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	0.000	0	0	0.000
07:00 - 07:30	23	19161	0.164	23	19161	0.044	23	19161	0.208
07:30 - 08:00	23	19161	0.432	23	19161	0.084	23	19161	0.516
08:00 - 08:30	23	19161	0.662	23	19161	0.130	23	19161	0.792
08:30 - 09:00	23	19161	0.850	23	19161	0.151	23	19161	1.001
09:00 - 09:30	23	19161	0.504	23	19161	0.126	23	19161	0.630
09:30 - 10:00	23	19161	0.278	23	19161	0.121	23	19161	0.399
10:00 - 10:30	23	19161	0.158	23	19161	0.113	23	19161	0.271
10:30 - 11:00	23	19161	0.126	23	19161	0.114	23	19161	0.240
11:00 - 11:30	23	19161	0.126	23	19161	0.123	23	19161	0.249
11:30 - 12:00	23	19161	0.144	23	19161	0.139	23	19161	0.283
12:00 - 12:30	23	19161	0.161	23	19161	0.300	23	19161	0.461
12:30 - 13:00	23	19161	0.225	23	19161	0.233	23	19161	0.458
13:00 - 13:30	23	19161	0.252	23	19161	0.285	23	19161	0.537
13:30 - 14:00	23	19161	0.262	23	19161	0.175	23	19161	0.437
14:00 - 14:30	23	19161	0.140	23	19161	0.164	23	19161	0.304
14:30 - 15:00	23	19161	0.139	23	19161	0.171	23	19161	0.310
15:00 - 15:30	23	19161	0.125	23	19161	0.199	23	19161	0.324
15:30 - 16:00	23	19161	0.128	23	19161	0.231	23	19161	0.359
16:00 - 16:30	23	19161	0.108	23	19161	0.372	23	19161	0.480
16:30 - 17:00	23	19161	0.142	23	19161	0.481	23	19161	0.623
17:00 - 17:30	23	19161	0.109	23	19161	0.691	23	19161	0.800
17:30 - 18:00	23	19161	0.086	23	19161	0.518	23	19161	0.604
18:00 - 18:30	23	19161	0.065	23	19161	0.301	23	19161	0.366
18:30 - 19:00	23	19161	0.049	23	19161	0.140	23	19161	0.189
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	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	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			5.435			5.406			10.841

Parameter summary

Trip rate parameter range selected:	975 - 121275 (units: sqm)
Survey date date range:	01/01/02 - 22/06/09
Number of weekdays (Monday-Friday):	23
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

APPENDIX C

TRICS Output – Industrial Estate

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : D - INDUSTRIAL ESTATE
VEHICLES

Selected regions and areas:

04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	1 days
06	WEST MIDLANDS		
	WO	WORCESTERSHIRE	1 days
08	NORTH WEST		
	LC	LANCASHIRE	1 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	TW	TYNE & WEAR	1 days

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

Filtering Stage 2 selection:

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

Parameter: Gross floor area
Actual Range: 2063 to 6800 (units: sqm)
Range Selected by User: 1197 to 8000 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 23/05/14

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

Selected survey days:

Monday	2 days
Tuesday	1 days
Friday	3 days

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

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	6

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

Selected Location Sub Categories:

Industrial Zone	2
Commercial Zone	1
Residential Zone	2
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

B1	1 days
B2	3 days
B8	1 days

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

Population within 1 mile:

1,000 or Less	1 days
5,001 to 10,000	2 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	2 days

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

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	5 days

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

Travel Plan:

No	6 days

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

LIST OF SITES relevant to selection parameters

1	CA-02-D-02	IND. ESTATE		CAMBRIDGESHIRE
	COLDHAM'S ROAD			
	COLDHAM'S COMMON			
	CAMBRIDGE			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:		2063 sqm	
	Survey date: MONDAY		19/10/09	Survey Type: MANUAL
2	LC-02-D-04	INDUSTRIAL ESTATE		LANCASHIRE
	GREEN LANE WEST			
	GARSTANG			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:		4555 sqm	
	Survey date: FRIDAY		16/06/06	Survey Type: MANUAL
3	MS-02-D-05	INDUSTRIAL ESTATE		MERSEYSIDE
	BROADOAK ROAD			
	ST HELENS			
	Edge of Town			
	No Sub Category			
	Total Gross floor area:		2430 sqm	
	Survey date: TUESDAY		18/10/05	Survey Type: MANUAL
4	NF-02-D-03	INDUSTRIAL ESTATE		NORFOLK
	BIDEWELL CLOSE			
	NORWICH			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:		6000 sqm	
	Survey date: MONDAY		08/10/12	Survey Type: MANUAL
5	TW-02-D-07	INDUSTRIAL ESTATE		TYNE & WEAR
	SWALWELL BANK			
	WHICKHAM			
	GATESHEAD			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:		6800 sqm	
	Survey date: FRIDAY		04/10/13	Survey Type: MANUAL
6	WO-02-D-01	INDUSTRIAL ESTATE		WORCESTERSHIRE
	SANDY LANE			
	STOURPORT-ON-SEVERN			
	Edge of Town			
	Commercial Zone			
	Total Gross floor area:		2758 sqm	
	Survey date: FRIDAY		23/05/14	Survey Type: MANUAL

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

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
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	6	4101	0.154	6	4101	0.077	6	4101	0.231
07:30 - 08:00	6	4101	0.309	6	4101	0.061	6	4101	0.370
08:00 - 08:30	6	4101	0.211	6	4101	0.224	6	4101	0.435
08:30 - 09:00	6	4101	0.175	6	4101	0.146	6	4101	0.321
09:00 - 09:30	6	4101	0.272	6	4101	0.154	6	4101	0.426
09:30 - 10:00	6	4101	0.215	6	4101	0.207	6	4101	0.422
10:00 - 10:30	6	4101	0.195	6	4101	0.215	6	4101	0.410
10:30 - 11:00	6	4101	0.199	6	4101	0.167	6	4101	0.366
11:00 - 11:30	6	4101	0.248	6	4101	0.224	6	4101	0.472
11:30 - 12:00	6	4101	0.240	6	4101	0.280	6	4101	0.520
12:00 - 12:30	6	4101	0.276	6	4101	0.280	6	4101	0.556
12:30 - 13:00	6	4101	0.232	6	4101	0.260	6	4101	0.492
13:00 - 13:30	6	4101	0.215	6	4101	0.211	6	4101	0.426
13:30 - 14:00	6	4101	0.183	6	4101	0.224	6	4101	0.407
14:00 - 14:30	6	4101	0.280	6	4101	0.240	6	4101	0.520
14:30 - 15:00	6	4101	0.224	6	4101	0.203	6	4101	0.427
15:00 - 15:30	6	4101	0.268	6	4101	0.276	6	4101	0.544
15:30 - 16:00	6	4101	0.171	6	4101	0.207	6	4101	0.378
16:00 - 16:30	6	4101	0.167	6	4101	0.248	6	4101	0.415
16:30 - 17:00	6	4101	0.142	6	4101	0.248	6	4101	0.390
17:00 - 17:30	6	4101	0.073	6	4101	0.350	6	4101	0.423
17:30 - 18:00	6	4101	0.069	6	4101	0.118	6	4101	0.187
18:00 - 18:30	6	4101	0.057	6	4101	0.118	6	4101	0.175
18:30 - 19:00	6	4101	0.037	6	4101	0.041	6	4101	0.078
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									
Total Rates:			4.612			4.779			9.391

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

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

Parameter summary

Trip rate parameter range selected:	2063 - 6800 (units: sqm)
Survey date date range:	01/01/02 - 23/05/14
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

APPENDIX D

TRICS Output – Warehousing – Commercial and Self Storage

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	EN	ENFIELD	1 days
	HO	HOUNSLOW	1 days
	KI	KINGSTON	1 days
02	SOUTH EAST		
	BD	BEDFORDSHIRE	1 days
	HC	HAMPSHIRE	1 days
	KC	KENT	1 days
	SC	SURREY	1 days
03	SOUTH WEST		
	CW	CORNWALL	1 days
	DC	DORSET	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
	WO	WORCESTERSHIRE	1 days
10	WALES		
	BG	BRIDGEND	1 days
	NW	NEWPORT	1 days
	WR	WREXHAM	1 days
11	SCOTLAND		
	GC	GLASGOW CITY	1 days

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

Filtering Stage 2 selection:

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

Parameter:	Gross floor area
Actual Range:	3050 to 16275 (units: sqm)
Range Selected by User:	2000 to 18000 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/00 to 13/10/14

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

Selected survey days:

Monday	2 days
Tuesday	5 days
Wednesday	3 days
Thursday	3 days
Friday	3 days

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

Selected survey types:

Manual count	16 days
Directional ATC Count	0 days

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

Selected Locations:

Town Centre	1
Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	9
Neighbourhood Centre (PPS6 Local Centre)	1
Free Standing (PPS6 Out of Town)	1

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

Selected Location Sub Categories:

Industrial Zone	9
Residential Zone	2
Village	1
No Sub Category	4

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

Filtering Stage 3 selection:

Use Class:

Not Known	2 days
B8	14 days

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

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

1,000 or Less	2 days
1,001 to 5,000	6 days
10,001 to 15,000	3 days
20,001 to 25,000	1 days
25,001 to 50,000	3 days
50,001 to 100,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	1 days
100,001 to 125,000	3 days
125,001 to 250,000	2 days
250,001 to 500,000	2 days
500,001 or More	4 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	4 days
1.1 to 1.5	10 days
1.6 to 2.0	1 days

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

Travel Plan:

Not Known	6 days
Yes	1 days
No	9 days

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

LIST OF SITES relevant to selection parameters

1 BD-02-F-01 WAREHOUSING BEDFORDSHIRE
FRENCH'S AVENUE

DUNSTABLE
Edge of Town
Industrial Zone
Total Gross floor area: 6050 sqm
Survey date: THURSDAY 07/03/02 Survey Type: MANUAL

2 BG-02-F-01 LOGISTICS COMPANY BRIDGEND
PARC CRESCENT
WATERTON IND. EST.
BRIDGEND
Edge of Town
Industrial Zone
Total Gross floor area: 3050 sqm
Survey date: MONDAY 13/10/14 Survey Type: MANUAL

3 CW-02-F-01 WAREHOUSING CORNWALL
A390
THREEMILESTONE
NEAR TRURO
Edge of Town
No Sub Category
Total Gross floor area: 5150 sqm
Survey date: TUESDAY 18/09/07 Survey Type: MANUAL

4 DC-02-F-01 STEEL DISTRIB. DORSET
STATION ROAD

STALBRIDGE
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Gross floor area: 9100 sqm
Survey date: FRIDAY 05/10/01 Survey Type: MANUAL

5 EN-02-F-01 WAREHOUSING ENFIELD
OAKTHORPE ESTATE
PALMERS GREEN
ENFIELD
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 13251 sqm
Survey date: WEDNESDAY 19/11/08 Survey Type: MANUAL

6 GC-02-F-01 DISTRIBUTION CEN. GLASGOW CITY
BARRACHNIE ROAD
GARROWHILL
GLASGOW
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 11504 sqm
Survey date: MONDAY 10/09/01 Survey Type: MANUAL

7 HC-02-F-01 WAREHOUSING HAMPSHIRE
MAURETANIA ROAD
NURSLING INDUSTRIAL ESTATE
SOUTHAMPTON
Edge of Town
Industrial Zone
Total Gross floor area: 4000 sqm
Survey date: WEDNESDAY 21/11/07 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 HO-02-F-02 LOGISTICS AND FREIGHT HOUNSLOW
ASCOT ROAD

FELTHAM
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 13500 sqm
Survey date: THURSDAY 11/09/14 Survey Type: MANUAL

9 KC-02-F-01 FOOD DISTRIB. KENT
HOLBOROUGH ROAD

SNODLAND
Edge of Town
No Sub Category
Total Gross floor area: 7500 sqm
Survey date: THURSDAY 20/06/02 Survey Type: MANUAL

10 KI-02-F-01 STATIONERY KINGSTON
OAKCROFT ROAD

CHESSINGTON NORTH
Town Centre
Industrial Zone
Total Gross floor area: 4661 sqm
Survey date: TUESDAY 08/09/09 Survey Type: MANUAL

11 NW-02-F-01 LOGISTICS CENTRE NEWPORT
TREDEGAR TERRACE
CROSSKEYS
NEWPORT
Edge of Town
No Sub Category
Total Gross floor area: 16275 sqm
Survey date: FRIDAY 12/10/07 Survey Type: MANUAL

12 SC-02-F-04 WAREHOUSING SURREY
PRETORIA ROAD

CHERTSEY
Edge of Town
No Sub Category
Total Gross floor area: 4460 sqm
Survey date: TUESDAY 27/11/07 Survey Type: MANUAL

13 SF-02-F-01 PHARMACY DISTRIB. SUFFOLK
BURRELL WAY
BARROW HILL
THETFORD
Edge of Town
Industrial Zone
Total Gross floor area: 4550 sqm
Survey date: FRIDAY 27/09/02 Survey Type: MANUAL

14 WM-02-F-01 LEGETT LOGIS. WEST MIDLANDS
SAMPSON ROAD NORTH

BIRMINGHAM
Edge of Town Centre
Industrial Zone
Total Gross floor area: 4000 sqm
Survey date: WEDNESDAY 17/06/09 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15 WO-02-F-02 DISTRIB. CENTRE WORCESTERSHIRE
COTSWOLD WAY

WORCESTER
Edge of Town
Industrial Zone
Total Gross floor area: 3824 sqm
Survey date: TUESDAY 10/09/02 Survey Type: MANUAL

16 WR-02-F-01 WAREHOUSE WREXHAM
UNIT 1-2 PACIFIC PARK
WREXHAM IND. ESTATE
NEAR WREXHAM
Free Standing (PPS6 Out of Town)
Industrial Zone
Total Gross floor area: 9000 sqm
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30	1	7500	0.093	1	7500	0.080	1	7500	0.173
00:30 - 01:00	1	7500	0.053	1	7500	0.067	1	7500	0.120
01:00 - 01:30	1	7500	0.013	1	7500	0.027	1	7500	0.040
01:30 - 02:00	1	7500	0.040	1	7500	0.067	1	7500	0.107
02:00 - 02:30	1	7500	0.027	1	7500	0.027	1	7500	0.054
02:30 - 03:00	1	7500	0.053	1	7500	0.067	1	7500	0.120
03:00 - 03:30	1	7500	0.027	1	7500	0.013	1	7500	0.040
03:30 - 04:00	1	7500	0.067	1	7500	0.053	1	7500	0.120
04:00 - 04:30	1	7500	0.053	1	7500	0.053	1	7500	0.106
04:30 - 05:00	1	7500	0.067	1	7500	0.053	1	7500	0.120
05:00 - 05:30	1	7500	0.080	1	7500	0.067	1	7500	0.147
05:30 - 06:00	1	7500	0.067	1	7500	0.053	1	7500	0.120
06:00 - 06:30	1	7500	0.133	1	7500	0.133	1	7500	0.266
06:30 - 07:00	1	7500	0.133	1	7500	0.080	1	7500	0.213
07:00 - 07:30	16	7492	0.068	16	7492	0.053	16	7492	0.121
07:30 - 08:00	16	7492	0.122	16	7492	0.063	16	7492	0.185
08:00 - 08:30	16	7492	0.152	16	7492	0.050	16	7492	0.202
08:30 - 09:00	16	7492	0.153	16	7492	0.067	16	7492	0.220
09:00 - 09:30	16	7492	0.106	16	7492	0.069	16	7492	0.175
09:30 - 10:00	16	7492	0.058	16	7492	0.063	16	7492	0.121
10:00 - 10:30	16	7492	0.069	16	7492	0.068	16	7492	0.137
10:30 - 11:00	16	7492	0.073	16	7492	0.056	16	7492	0.129
11:00 - 11:30	16	7492	0.073	16	7492	0.062	16	7492	0.135
11:30 - 12:00	16	7492	0.065	16	7492	0.064	16	7492	0.129
12:00 - 12:30	16	7492	0.074	16	7492	0.086	16	7492	0.160
12:30 - 13:00	16	7492	0.080	16	7492	0.073	16	7492	0.153
13:00 - 13:30	16	7492	0.092	16	7492	0.112	16	7492	0.204
13:30 - 14:00	16	7492	0.098	16	7492	0.065	16	7492	0.163
14:00 - 14:30	16	7492	0.085	16	7492	0.095	16	7492	0.180
14:30 - 15:00	16	7492	0.067	16	7492	0.079	16	7492	0.146
15:00 - 15:30	16	7492	0.064	16	7492	0.088	16	7492	0.152
15:30 - 16:00	16	7492	0.050	16	7492	0.060	16	7492	0.110
16:00 - 16:30	16	7492	0.061	16	7492	0.090	16	7492	0.151
16:30 - 17:00	16	7492	0.063	16	7492	0.103	16	7492	0.166
17:00 - 17:30	16	7492	0.053	16	7492	0.147	16	7492	0.200
17:30 - 18:00	16	7492	0.043	16	7492	0.146	16	7492	0.189
18:00 - 18:30	16	7492	0.043	16	7492	0.082	16	7492	0.125
18:30 - 19:00	16	7492	0.021	16	7492	0.053	16	7492	0.074
19:00 - 19:30	2	6775	0.030	2	6775	0.030	2	6775	0.060
19:30 - 20:00	2	6775	0.007	2	6775	0.037	2	6775	0.044
20:00 - 20:30	1	7500	0.053	1	7500	0.013	1	7500	0.066
20:30 - 21:00	1	7500	0.040	1	7500	0.053	1	7500	0.093
21:00 - 21:30	1	7500	0.040	1	7500	0.053	1	7500	0.093
21:30 - 22:00	1	7500	0.013	1	7500	0.027	1	7500	0.040
22:00 - 22:30	1	7500	0.067	1	7500	0.053	1	7500	0.120
22:30 - 23:00	1	7500	0.067	1	7500	0.040	1	7500	0.107
23:00 - 23:30	1	7500	0.040	1	7500	0.040	1	7500	0.080
23:30 - 24:00	1	7500	0.040	1	7500	0.040	1	7500	0.080
Total Rates:			3.136			3.120			6.256

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

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

Parameter summary

Trip rate parameter range selected:	3050 - 16275 (units: sqm)
Survey date date range:	01/01/00 - 13/10/14
Number of weekdays (Monday-Friday):	18
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	EN	ENFIELD	1 days
	KI	KINGSTON	1 days
02	SOUTH EAST		
	BD	BEDFORDSHIRE	1 days
	BU	BUCKINGHAMSHIRE	1 days
	HC	HAMPSHIRE	1 days
	HF	HERTFORDSHIRE	2 days
	KC	KENT	1 days
	SC	SURREY	1 days
03	SOUTH WEST		
	CW	CORNWALL	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
	WO	WORCESTERSHIRE	2 days
08	NORTH WEST		
	LC	LANCASHIRE	1 days
09	NORTH		
	TV	TEES VALLEY	1 days
10	WALES		
	NW	NEWPORT	1 days
11	SCOTLAND		
	HI	HIGHLAND	1 days
13	MUNSTER		
	CR	CORK	2 days
15	GREATER DUBLIN		
	DL	DUBLIN	1 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	2 days
	AR	ARMAGH	1 days

Filtering Stage 2 selection:

Parameter:	Gross floor area
Range:	890 to 80066 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 29/07/10

Selected survey days:

Tuesday	5 days
Wednesday	6 days
Thursday	8 days
Friday	5 days

Selected survey types:

Manual count	24 days
Directional ATC Count	0 days

Selected Locations:

Town Centre	1
Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	5
Edge of Town	15
Neighbourhood Centre (PPS6 Local Centre)	1
Free Standing (PPS6 Out of Town)	1

Selected Location Sub Categories:

Industrial Zone	12
Commercial Zone	4
Residential Zone	2
No Sub Category	6

LIST OF SITES relevant to selection parameters

1 AN-02-F-01 SUPERSTORE DISTRIB., BELFAST ANTRIM
BOUCHER ROAD
WINDSOR
BELFAST
Edge of Town
Commercial Zone
Total Gross floor area: 15700 sqm

2 AN-02-F-02 DISTRIBUTION CENTRE, BELFAST ANTRIM
APOLLO ROAD

BELFAST
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 10832 sqm

3 AR-02-F-01 ELECTRICAL DIST., PORTADOWN ARMAGH
MAHON ROAD

PORTADOWN
Edge of Town
Industrial Zone
Total Gross floor area: 1900 sqm

4 BD-02-F-01 WAREHOUSING, DUNSTABLE BEDFORDSHIRE
FRENCH'S AVENUE

DUNSTABLE
Edge of Town
Industrial Zone
Total Gross floor area: 6050 sqm

5 BU-02-F-01 SUPERSTORE DISTRIB.,M.KEYNES BUCKINGHAMSHIRE
BLETCHAM WAY
BLETCHLEY
MILTON KEYNES
Edge of Town
Industrial Zone
Total Gross floor area: 52125 sqm

6 CR-02-F-01 WAREHOUSING ESTATE, CORK CORK
TRAMORE ROAD
BALLYPHEHANE
CORK
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Gross floor area: 14400 sqm

7 CR-02-F-02 PNEUMATIC CENTRE, CORK CORK
TRAMORE ROAD
BALLYPHEHANE
CORK
Edge of Town
Commercial Zone
Total Gross floor area: 4650 sqm

8 CW-02-F-01 WAREHOUSING, TRURO CORNWALL
A390
THREEMILESTONE
NEAR TRURO
Edge of Town
No Sub Category
Total Gross floor area: 5150 sqm

9 DL-02-F-01 CLARITY, DUBLIN DUBLIN
BLESSINGTON ROAD
TALLAGHT
DUBLIN
Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total Gross floor area: 3760 sqm

LIST OF SITES relevant to selection parameters (Cont.)

10 EN-02-F-01 WAREHOUSING, ENFIELD ENFIELD
OAKTHORPE ESTATE
PALMERS GREEN

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 13251 sqm

11 HC-02-F-01 WAREHOUSING, SOUTHAMPTON HAMPSHIRE
MAURETANIA ROAD
NURSLING INDUSTRIAL ESTATE
SOUTHAMPTON
Edge of Town
Industrial Zone
Total Gross floor area: 4000 sqm

12 HF-02-F-02 SUPERSTORE DIST., WELWYN GC HERTFORDSHIRE
BLACK FAN ROAD
PANSHANGER
WELWYN GARDEN CITY
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 18600 sqm

13 HF-02-F-03 DISTRIBUTION CEN., HATFIELD HERTFORDSHIRE

HATFIELD BUSINESS CEN.
HATFIELD
Edge of Town
Commercial Zone
Total Gross floor area: 80000 sqm

14 HI-02-F-01 WAREHOUSING,NEAR INVERNESS HIGHLAND
B9039
DALCROSS IND. ESTATE
NEAR INVERNESS
Free Standing (PPS6 Out of Town)
Industrial Zone
Total Gross floor area: 890 sqm

15 KC-02-F-01 FOOD DISTRIB., SNODLAND KENT
HOLBOROUGH ROAD

SNODLAND
Edge of Town
No Sub Category
Total Gross floor area: 7500 sqm

16 KI-02-F-01 STATIONERY, CHESSINGTON KINGSTON
OAKCROFT ROAD

CHESSINGTON NORTH
Town Centre
Industrial Zone
Total Gross floor area: 4661 sqm

17 LC-02-F-02 WAREHOUSING, PRESTON LANCASHIRE
CHORLEY ROAD
WALTON-LE-DALE
PRESTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 1200 sqm

18 NW-02-F-01 LOGISTICS CENTRE, NEWPORT NEWPORT
TREDEGAR TERRACE
CROSSKEYS
NEWPORT
Edge of Town
No Sub Category
Total Gross floor area: 16275 sqm

LIST OF SITES relevant to selection parameters (Cont.)

19	SC-02-F-04	WAREHOUSING, CHERTSEY	SURREY
	PRETORIA ROAD		
	CHERTSEY		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	4460 sqm	
20	SF-02-F-01	PHARMACY DISTRIB., THETFORD	SUFFOLK
	BURRELL WAY		
	BARROW HILL		
	THETFORD		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4550 sqm	
21	TV-02-F-02	ARGOS WAREHOUSE, DARL'TON	TEES VALLEY
	ROUNDHOUSE ROAD		
	FAVERDALE		
	DARLINGTON		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	80066 sqm	
22	WM-02-F-01	LEGETT LOGIS., BIRMINGHAM	WEST MIDLANDS
	SAMPSON ROAD NORTH		
	BIRMINGHAM		
	Edge of Town Centre		
	Industrial Zone		
	Total Gross floor area:	4000 sqm	
23	WO-02-F-01	SUPERSTORE DIST., WORCESTER	WORCESTERSHIRE
	WAINWRIGHT ROAD		
	SHIRE BUSINESS PARK		
	WORCESTER		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	31416 sqm	
24	WO-02-F-02	DISTRIB. CENTRE, WORCESTER	WORCESTERSHIRE
	COTSWOLD WAY		
	WORCESTER		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3824 sqm	

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30	1	7500	0.093	1	7500	0.080	1	7500	0.173
00:30 - 01:00	1	7500	0.053	1	7500	0.067	1	7500	0.120
01:00 - 01:30	1	7500	0.013	1	7500	0.027	1	7500	0.040
01:30 - 02:00	1	7500	0.040	1	7500	0.067	1	7500	0.107
02:00 - 02:30	1	7500	0.027	1	7500	0.027	1	7500	0.054
02:30 - 03:00	1	7500	0.053	1	7500	0.067	1	7500	0.120
03:00 - 03:30	1	7500	0.027	1	7500	0.013	1	7500	0.040
03:30 - 04:00	1	7500	0.067	1	7500	0.053	1	7500	0.120
04:00 - 04:30	1	7500	0.053	1	7500	0.053	1	7500	0.106
04:30 - 05:00	1	7500	0.067	1	7500	0.053	1	7500	0.120
05:00 - 05:30	1	7500	0.080	1	7500	0.067	1	7500	0.147
05:30 - 06:00	1	7500	0.067	1	7500	0.053	1	7500	0.120
06:00 - 06:30	1	7500	0.133	1	7500	0.133	1	7500	0.266
06:30 - 07:00	1	7500	0.133	1	7500	0.080	1	7500	0.213
07:00 - 07:30	24	16219	0.057	24	16219	0.057	24	16219	0.114
07:30 - 08:00	24	16219	0.103	24	16219	0.050	24	16219	0.153
08:00 - 08:30	24	16219	0.074	24	16219	0.038	24	16219	0.112
08:30 - 09:00	24	16219	0.088	24	16219	0.038	24	16219	0.126
09:00 - 09:30	24	16219	0.087	24	16219	0.047	24	16219	0.134
09:30 - 10:00	24	16219	0.064	24	16219	0.046	24	16219	0.110
10:00 - 10:30	24	16219	0.058	24	16219	0.050	24	16219	0.108
10:30 - 11:00	24	16219	0.054	24	16219	0.045	24	16219	0.099
11:00 - 11:30	24	16219	0.053	24	16219	0.047	24	16219	0.100
11:30 - 12:00	24	16219	0.052	24	16219	0.045	24	16219	0.097
12:00 - 12:30	24	16219	0.053	24	16219	0.052	24	16219	0.105
12:30 - 13:00	24	16219	0.053	24	16219	0.060	24	16219	0.113
13:00 - 13:30	24	16219	0.081	24	16219	0.075	24	16219	0.156
13:30 - 14:00	24	16219	0.131	24	16219	0.107	24	16219	0.238
14:00 - 14:30	24	16219	0.075	24	16219	0.100	24	16219	0.175
14:30 - 15:00	24	16219	0.081	24	16219	0.095	24	16219	0.176
15:00 - 15:30	24	16219	0.048	24	16219	0.084	24	16219	0.132
15:30 - 16:00	24	16219	0.059	24	16219	0.078	24	16219	0.137
16:00 - 16:30	24	16219	0.045	24	16219	0.084	24	16219	0.129
16:30 - 17:00	24	16219	0.043	24	16219	0.075	24	16219	0.118
17:00 - 17:30	24	16219	0.038	24	16219	0.081	24	16219	0.119
17:30 - 18:00	24	16219	0.041	24	16219	0.080	24	16219	0.121
18:00 - 18:30	24	16219	0.027	24	16219	0.070	24	16219	0.097
18:30 - 19:00	24	16219	0.021	24	16219	0.039	24	16219	0.060
19:00 - 19:30	2	6775	0.030	2	6775	0.030	2	6775	0.060
19:30 - 20:00	2	6775	0.007	2	6775	0.037	2	6775	0.044
20:00 - 20:30	1	7500	0.053	1	7500	0.013	1	7500	0.066
20:30 - 21:00	1	7500	0.040	1	7500	0.053	1	7500	0.093
21:00 - 21:30	1	7500	0.040	1	7500	0.053	1	7500	0.093
21:30 - 22:00	1	7500	0.013	1	7500	0.027	1	7500	0.040
22:00 - 22:30	1	7500	0.067	1	7500	0.053	1	7500	0.120
22:30 - 23:00	1	7500	0.067	1	7500	0.040	1	7500	0.107
23:00 - 23:30	1	7500	0.040	1	7500	0.040	1	7500	0.080
23:30 - 24:00	1	7500	0.040	1	7500	0.040	1	7500	0.080
Total Rates:			2.789			2.769			5.558

Parameter summary

Trip rate parameter range selected:	890 - 80066 (units: sqm)
Survey date date range:	01/01/02 - 29/07/10
Number of weekdays (Monday-Friday):	24
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : E - WAREHOUSING (SELF STORAGE)
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BU	BUCKINGHAMSHIRE	1 days
	EX	ESSEX	1 days
	KC	KENT	2 days
	WS	WEST SUSSEX	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	NF	NORFOLK	2 days
05	EAST MIDLANDS		
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	1 days
08	NORTH WEST		
	MS	MERSEYSIDE	1 days
10	WALES		
	CF	CARDIFF	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 2500 to 14000 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 09/09/10

Selected survey days:

Monday	2 days
Tuesday	5 days
Wednesday	2 days
Thursday	4 days
Friday	2 days

Selected survey types:

Manual count	15 days
Directional ATC Count	0 days

Selected Locations:

Town Centre	1
Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	10
Edge of Town	2

Selected Location Sub Categories:

Industrial Zone	9
Development Zone	1
Residential Zone	1
Retail Zone	1
Built-Up Zone	3

LIST OF SITES relevant to selection parameters

1 BU-02-E-01 BIG YELLOW STORAGE, M.KEYNES BUCKINGHAMSHIRE
SNOWDON DRIVE
WINTERHILL
MILTON KEYNES
Suburban Area (PPS6 Out of Centre)
Retail Zone
Total Gross floor area: 5700 sqm

2 CA-02-E-01 SELF STORAGE, PETERBOROUGH CAMBRIDGESHIRE
WESTFIELD ROAD

PETERBOROUGH
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 4400 sqm

3 CA-02-E-02 SELF STORAGE, CAMBRIDGE CAMBRIDGESHIRE
CLIFTON WAY

CAMBRIDGE
Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total Gross floor area: 2675 sqm

4 CF-02-E-01 BIG YELLOW STORAGE, CARDIFF CARDIFF
PENARTH ROAD

CARDIFF
Edge of Town Centre
Industrial Zone
Total Gross floor area: 4200 sqm

5 EX-02-E-02 BIG YELLOW STORAGE, ILFORD ESSEX
EASTERN AVENUE

ILFORD
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 5350 sqm

6 KC-02-E-01 EASI STORE, TUNBRIDGE WELLS KENT
LONGFIELD ROAD

TUNBRIDGE WELLS
Edge of Town
Industrial Zone
Total Gross floor area: 5925 sqm

7 KC-02-E-03 BIG YELLOW STORAGE,T.WELLS KENT
LONGFIELD ROAD

TUNBRIDGE WELLS
Edge of Town
Industrial Zone
Total Gross floor area: 5575 sqm

8 MS-02-E-01 BIG YELLOW, LIVERPOOL MERSEYSIDE
MILL LANE

LIVERPOOL
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 8000 sqm

9 NF-02-E-01 BIX BOX STORAGE, NORWICH NORFOLK
VULCAN ROAD NORTH
HELLESDON
NORWICH
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 2650 sqm

LIST OF SITES relevant to selection parameters (Cont.)

10	NF-02-E-02	BIG YELLOW STORAGE, NORWICH	NORFOLK
	CANARY WAY		
	RIVERSIDE		
	NORWICH		
	Suburban Area (PPS6 Out of Centre)		
	Development Zone		
	Total Gross floor area:	6830 sqm	
11	NT-02-E-01	ACCESS STORAGE, NOTTINGHAM	NOTTINGHAMSHIRE
	QUEENS ROAD		
	NOTTINGHAM		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	14000 sqm	
12	WM-02-E-01	SPACES STORAGE, BIRMINGHAM	WEST MIDLANDS
	STANIFORTH STREET		
	NEW TOWN ROW		
	BIRMINGHAM		
	Town Centre		
	Built-Up Zone		
	Total Gross floor area:	4645 sqm	
13	WM-02-E-02	EXTRASPACE, COVENTRY	WEST MIDLANDS
	101 LOCKHURST LANE		
	COVENTRY		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	7000 sqm	
14	WS-02-E-01	SELF STORAGE SPACE, BOGNOR	WEST SUSSEX
	DURBAN ROAD		
	SOUTH BERSTED		
	BOGNOR REGIS		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	3000 sqm	
15	WY-02-E-01	SELF STORAGE, HUDDERSFIELD	WEST YORKSHIRE
	ST ANDREWS ROAD		
	HUDDERSFIELD		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	2500 sqm	

TRIP RATE for Land Use 02 - EMPLOYMENT/E - WAREHOUSING (SELF STORAGE)

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	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	0.000	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	0.000	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	0.000	0	0	0.000
07:00 - 07:30	14	5675	0.009	14	5675	0.001	14	5675	0.010
07:30 - 08:00	14	5675	0.037	14	5675	0.008	14	5675	0.045
08:00 - 08:30	15	5497	0.029	15	5497	0.016	15	5497	0.045
08:30 - 09:00	15	5497	0.046	15	5497	0.027	15	5497	0.073
09:00 - 09:30	15	5497	0.046	15	5497	0.034	15	5497	0.080
09:30 - 10:00	15	5497	0.052	15	5497	0.034	15	5497	0.086
10:00 - 10:30	15	5497	0.046	15	5497	0.039	15	5497	0.085
10:30 - 11:00	15	5497	0.033	15	5497	0.036	15	5497	0.069
11:00 - 11:30	15	5497	0.035	15	5497	0.041	15	5497	0.076
11:30 - 12:00	15	5497	0.055	15	5497	0.051	15	5497	0.106
12:00 - 12:30	15	5497	0.050	15	5497	0.042	15	5497	0.092
12:30 - 13:00	15	5497	0.042	15	5497	0.050	15	5497	0.092
13:00 - 13:30	15	5497	0.050	15	5497	0.059	15	5497	0.109
13:30 - 14:00	15	5497	0.038	15	5497	0.047	15	5497	0.085
14:00 - 14:30	15	5497	0.033	15	5497	0.034	15	5497	0.067
14:30 - 15:00	15	5497	0.055	15	5497	0.046	15	5497	0.101
15:00 - 15:30	15	5497	0.050	15	5497	0.055	15	5497	0.105
15:30 - 16:00	15	5497	0.038	15	5497	0.035	15	5497	0.073
16:00 - 16:30	15	5497	0.040	15	5497	0.045	15	5497	0.085
16:30 - 17:00	15	5497	0.033	15	5497	0.045	15	5497	0.078
17:00 - 17:30	15	5497	0.025	15	5497	0.038	15	5497	0.063
17:30 - 18:00	15	5497	0.008	15	5497	0.029	15	5497	0.037
18:00 - 18:30	14	5675	0.011	14	5675	0.020	14	5675	0.031
18:30 - 19:00	14	5675	0.014	14	5675	0.019	14	5675	0.033
19:00 - 19:30	2	4775	0.031	2	4775	0.042	2	4775	0.073
19:30 - 20:00	2	4775	0.010	2	4775	0.073	2	4775	0.083
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	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	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.916			0.966			1.882

Parameter summary

Trip rate parameter range selected:	2500 - 14000 (units: sqm)
Survey date date range:	01/01/02 - 09/09/10
Number of weekdays (Monday-Friday):	15
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

APPENDIX E

2011 Census – Car Ownership and Modal Split

KS404EW - Car or van availability

population	All households; All cars or vans
units	Households
date	2011
rural urban	Total

Cars	ward011qs:E05001390 : Batley East		ward011qs:E05001398 : Dewsbury East		ward011qs:E05001413 : Ardsley and Robin Hood		msoa2011:E02002437 : Leeds 108	
	number	%	number	%	number	%	number	%
All categories: Car or van availa	6,820	100.0	7,930	100.0	9,179	100.0	2,445	100.0
No cars or vans in household	2,099	30.8	2,421	30.5	1,430	15.6	260	10.6
1 car or van in household	3,112	45.6	3,512	44.3	3,988	43.4	931	38.1
2 cars or vans in household	1,294	19.0	1,633	20.6	3,129	34.1	993	40.6
3 cars or vans in household	244	3.6	282	3.6	486	5.3	192	7.9
4 or more cars or vans in house	71	1.0	82	1.0	146	1.6	69	2.8

QS701EW - Method of travel to work

population	All usual residents aged 16 to 74
units	Persons
date	2011
rural urban	Total

Method of Travel to Work	E05001390 : Batley East		E05001398 : Dewsbury East		E05001413 : Ardsley and Robin Hood		2011 super output areas - middle layer E02002437 : Leeds 108	
All categories: Method of travel to work								
Underground, r	7	0.10%	2	0.02%	8	0.07%	5	0.15%
Train	289	4.13%	274	3.28%	162	1.43%	29	0.89%
Bus, minibus o	416	5.94%	725	8.67%	1,047	9.23%	228	7.01%
Taxi	114	1.63%	133	1.59%	54	0.48%	8	0.25%
Motorcycle, sc	34	0.49%	76	0.91%	99	0.87%	31	0.95%
Driving a car o	4,417	63.05%	5,486	65.61%	8,590	75.74%	2,618	80.50%
Passenger in a	625	8.92%	677	8.10%	798	7.04%	215	6.61%
Bicycle	66	0.94%	90	1.08%	119	1.05%	26	0.80%
On foot	1,037	14.80%	898	10.74%	464	4.09%	92	2.83%
total	7,005	100.00%	8,361	100.00%	11,341	100.00%	3,252	100.00%

APPENDIX F

LCC Sites for Concern Extract + Crashmap Screen Print

A653 Dewsbury Road j/w A650 Bradford Road (Tingley Roundabout), Tingley

Ref No. : **LSC072** *Rank this year :* **3** *(last) :* **3** *Grid Ref:* ***428033 / 426396***

Description of Site

The site is a large signalised roundabout to the south of Leeds giving access to main Bradford, Leeds, Wakefield and Dewsbury routes, together with the grade-separated M62 motorway. The layout includes a direct link through the central island to carry traffic eastbound from the A650 and A653. An extra lane is provided on the A653 approach from Leeds and yellow box markings are in place on the circulatory carriageway, which highlight the conflict points. Two historic in-depth studies have been completed here. The first identified a pattern of signal violations involving traffic "chasing" a green signal, and continuing against red lights. The second found that the frequency of signal violations had reduced and, whilst the majority were still located in the same place, the previous "chasing" pattern was no longer present.

Accident Record

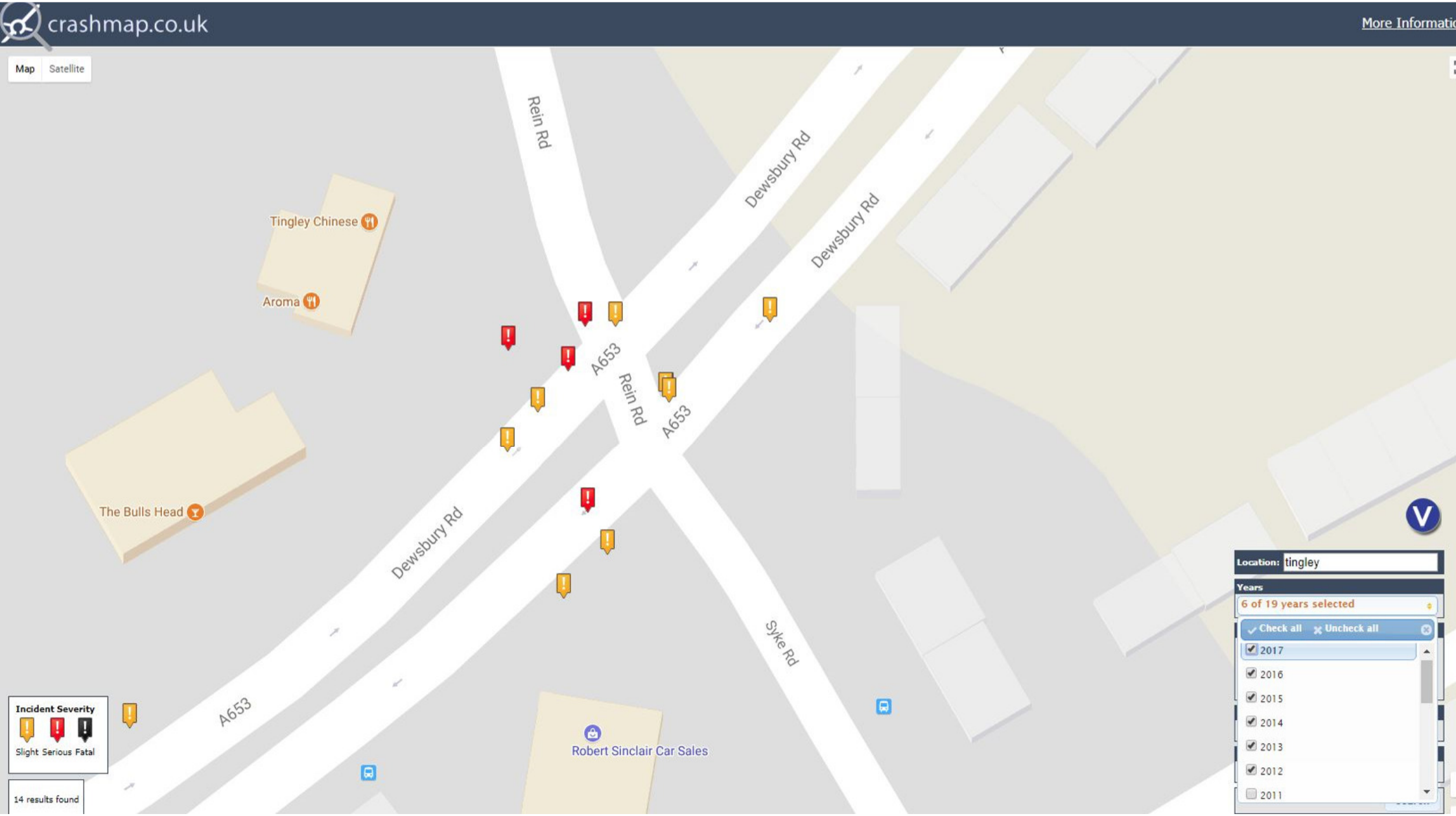
Year	*Slight*	*Serious*	*Fatal*	*Total*
2012	11	1	0	**12**
2013	4	0	0	**4**
2014	2	0	0	**2**
2015	8	0	0	**8**
2016	3	1	0	**4**
Total	**28**	**2**	**0**	**30**

Accident Analysis

Eighteen of the accidents were signal violations. At least 9 of these were identified as having occurred at the eastern extent of the above-described direct link through the central island. Six were recorded as having occurred at the western extent, with 3 having undetermined locations. All of these accidents were of Slight severity. Five accidents involved loss of control events (including 3 motorcyclists) and there were 4 lane changing conflicts. The remaining 3 accidents were all disparate types.

Recommendations

It is apparent that the previously identified issues with signal violations are still occurring, however these being of low severity, mitigates against the introduction of red light violation cameras. There is the possibility, in the next financial year, of widening the westbound off slip, and simultaneous limited widening of the circulatory area. A review of signal timings also appears warranted.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More Informatio
Map
Satellite
Rein Rd
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Tingley Chinese
Aroma
A653
Rein Rd
A653
The Bulls Head
Dewsbury Rd
Syke Rd
A653
Robert Sinclair Car Sales
Incident Severity
Slight Serious Fatal
14 results found
Location: tingley
Years
6 of 19 years selected
Check all
Uncheck all
2017
2016
2015
2014
2013
2012
2011