

APPENDIX J

Draft Travel Plan

Land Improvements

Land to the north east of King George V Playing Fields,
Cuffley

Framework Travel Plan

June 2015

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EXECUTIVE SUMMARY

Vectos have been appointed by Land Improvements to provide advice on traffic and transportation issues relating to a proposed residential development located at Land to the north east of King George V Playing Fields.

The site is located to the south of Cuffley and is currently in agricultural use. It is bound by existing residential development to the north, the grounds of Cuffley School to the south, a railway line to the east and the B156 Northaw Road (East) to the west.

The site is situated close to a variety of local facilities including education, retail, healthcare and recreation. The site has good links to public transport and two bus stops (eastbound and westbound) are located on Northaw Road East, approximately 60m and 100m from the site respectively. These provide an hourly service (Service number 242) between Waltham Cross and Potters Bar.

Cuffley Railway Station is located approximately 850m from the site which provides a frequent service between London and Hertford North. During the weekday AM and PM peak periods, there are circa 5 trains per hour to London, with a journey time of less than 30 minutes.

The planning application seeks permission for a residential development of up to 121 dwellings and associated infrastructure on the land to the north east of the King George V Playing Fields.

This report sets out a Framework Travel Plan (FTP) for the proposed residential development. It provides an over-arching framework which will drive the production of the Full Travel Plan, once the site becomes occupied. It has been prepared in consultation with guidance from HCC and with the National Planning Practice Guidance (NPPG).

The objectives of this Travel Plan are to:

- Increase resident awareness of the advantages and availability of sustainable modes of transport over the car;
- Introduce a package of measures that will facilitate resident travel by sustainable modes; and therefore,
- Limit unnecessary or unsustainable use of the car for journeys to and from the site by residents.

The Action Targets for this Framework Travel Plan are:

- To appoint a Travel Plan Coordinator (*see Travel Plan Strategy, Section 5*)
- To coordinate baseline travel surveys (*see Monitoring and Review, Section 7*)

The Aim Targets for this Framework Travel Plan are to reduce single occupancy vehicle use by 5% and in turn, increase the modal share of sustainable travel modes such as public transport, walking and cycling by 5%.

In the absence of actual data, the modal share targets for the site have been derived using Census 2011 Journey to Work data for the Cuffley and Northaw Ward. Subsequently, an initial survey of travel patterns will be carried out and this will be undertaken once the Site is occupied. Occupation is defined as when 75% of the residential units are occupied. The exact nature of the survey will be discussed and agreed in advance with Hertfordshire County Council and the Travel Plan Coordinator (TPC) will be responsible for ensuring a 50% response rate.

The TPC is a part time role and they will be appointed by the site management company to manage the day to day running of the Travel Plan. The TPC role, the Travel Plan and its accompanying measures and initiatives will be funded by the developer throughout the five year period. The contact details for the TPC will be provided to HCC upon their appointment and prior to the occupation of the site

The developer will also provide £50 per flat and £100 per house for sustainable travel incentives, in line with HCC guidance and a Travel Plan Monitoring Contribution, to support the assessment and monitoring of the Plan.

A number of initiatives will be implemented as part of the Travel Plan, including awareness measures, such as the promotion of health benefits associated with walking and cycling and information measures, such as the provision of travel packs for residents.

Each year, a Review Report will be prepared by the TPC, outlining the progress of the Travel Plan and its initiatives, as well as an assessment of the survey results and any updates to the targets and initiatives that may subsequently be required. If targets are not being delivered, then the Travel Plan measures will be adjusted or added to, instead of simply revising down the target.

After five years, the TPC responsibilities will be passed on to the Residents Association to continue monitoring and management once the scheme is running effectively.

1 INTRODUCTION

Background

- 1.1 Vectos have been appointed by Land Improvements to provide advice on traffic and transportation issues relating to a proposed residential development located at Land to the north east of King George V Playing Fields, Cuffley.
- 1.2 The planning application seeks permission for a residential development of up to 121 dwellings and associated infrastructure on the land to the north east of the King George V Playing Fields. All matters reserved except for new vehicular and pedestrian accesses to serve the Site and existing playing fields, the provision of a surface water discharge point and the levels of the development platforms.
- 1.3 This report sets out a Framework Travel Plan (FTP) for the proposed residential development. It provides an over-arching framework which will drive the production of the Full Travel Plan, once the site becomes occupied.
- 1.4 This Travel Plan has been prepared in consultation with guidance from HCC and with the National Planning Practice Guidance (NPPG) document.

Policy Context

National Policy

National Planning Policy Framework (NPPF)

- 1.5 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied.
- 1.6 Section 4 of the NPPF deals with 'Promoting sustainable transport.' Paragraph 29 states that:

"The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel."
- 1.7 Paragraph 30 goes on to state that "Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion"

- 1.8 Paragraph 36 makes reference the importance of Travel Plans, stating that they are a “key tool” in the promotion of sustainable travel. “All developments which generate significant amounts of movement should be required to provide a Travel Plan”.

National Planning Practice Guidance (NPPG) 2014

- 1.1 On 6 March 2014, the Department for Communities and Local Government (DCLG) launched the National Planning Practice Guidance web-based resource. One section relates specifically to Transport and is titled ‘Travel Plans, Transport Assessments and Statements in decision-taking’ and this provides the overarching principles of Travel Plans, Transport Assessments and Statements.
- 1.2 The guidance also states that Travel Plans are “long term management strategies for integrating proposals for sustainable travel into the planning process”. They should be brought forward in parallel with development proposals and should be integrated in to the design of developments.
- 1.3 The guidance explains that when preparing Transport Assessments and Travel Plans the following key principles should be taken into account:
1. “proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible;
 2. established at the earliest practicable possible stage of a development proposal;
 3. be tailored to particular local circumstances (other locally-determined factors and information beyond those which are set out in this guidance may need to be considered in these studies provided there is robust evidence for doing so locally);
 4. be brought forward through collaborative ongoing working between the Local Planning Authority/ Transport Authority, transport operators. Engaging communities and local businesses in Travel Plans, Transport Assessments and Statements can be beneficial in positively supporting higher levels of walking and cycling (which in turn can encourage greater social inclusion, community cohesion and healthier communities).”
- 1.4 The guidance demonstrates that Transport Assessments and Statements and Travel Plans can positively contribute in the following ways:

- “encouraging sustainable travel;
- lessening traffic generation and its detrimental impacts;
- reducing carbon emissions and climate impacts;
- creating accessible, connected, inclusive communities;
- improving health outcomes and quality of life;
- improving road safety; and
- reducing the need for new development to increase existing road capacity or provide new roads.”

Local Policy

Hertfordshire Local Transport Plan

- 1.5 The Local Transport Plan (LTP) 3, produced by Hertfordshire County Council for the period of 2011 until 3031, was released in April 2011. The LTP is a plan aimed at tackling the implications of transport within the county primarily focusing on tackling congestion, providing safe and accessible transportation routes and providing a high quality for the counties residents.
- 1.6 The council’s vision for the local area is:
- “To provide a safe, efficient and resilient transport system that serves the needs of business and residents across Hertfordshire and minimises its impact on the environment.”*
- 1.7 There are five key goals established within the LTP aimed at supporting this vision. These are:
5. *“Support economic development and planned dwelling growth*
 6. *Improve transport opportunities for all and achieve behavioural change in mode choice*
 7. *Enhance quality of life, health and the natural, built and historic environment for all Hertfordshire residents*
 8. *Improve the safety and security of residents and other road users*
 9. *Reduce transport’s contribution to greenhouse gas emissions and improve its resilience”.*
- 1.8 For challenge 2 the LTP states:
- “Increasing the number of journeys by sustainable modes has been a long running aim but the new LTP looks to increase the promotion of these modes to ensure that health as well as*

transport benefits are fully appreciated. If people change their behaviour to walk and cycle for more short journeys and to use buses and other modes, such as car sharing, traffic growth, particularly in peak periods, can be reduced.

Emphasis will therefore be on publicity and promotional work, for schools and businesses, with support for travel planning for organisations and individuals. Provision of information and improvements to facilities for sustainable modes forms the other part of this strategy”

- 1.9 Transport Policy designed as part of the LTP includes a policy on Travel Planning and Changing Travel Behaviour. It addresses Challenge 2.2 ‘achieve behavioural change’ and Challenge 3.1 ‘improve journey experience.’ The policy notes the importance of promotion and the provision of information to increase the volume of trips made by sustainable modes.
- 1.10 The policy states that “Travel Plans are a key management tool” and that the county will encourage the widespread adoption of Travel Planning through “seeking the development, implementation and monitoring of travel plans as part of the planning process for new developments.”

Travel Plan Scope

- 1.11 This Travel Plan has been written as a stand-alone document. Once further information becomes available it will contain all the relevant information needed to effectively implement and monitor the Travel Plan itself.
- 1.12 The remainder of this document is structured as follows:
- Section 2 - Outlines the site location and accessibility by non-car modes;
 - Section 3 - Outlines the Baseline Travel Patterns for residents and employees of the site, based on 2011 census data;
 - Section 4 - Sets out the objectives and targets of the Framework Travel Plan;
 - Section 5 - Outlines the Framework Travel Plan strategy including how it will be managed;
 - Section 6 - Sets out the measures that will be implemented to help achieve the objectives and targets of the Framework Travel Plan;

- Section 7 - Outlines the monitoring and review programme which will ensure the Framework Travel Plan continues to develop;
- Section 8 - Sets out an Action Plan for the site.

2 SITE LOCATION AND ACCESSIBILITY BY NON-CAR MODES

Site Location

- 2.1 The Site is located to the south of Cuffley and is currently in agricultural use. It is bound by existing residential development to the north and north-west and the grounds of Cuffley Primary School also adjoin the Site along its northern boundary. The site location is shown at **Figure 2.1**.
- 2.2 The railway line and Northaw Road East (B156) form the eastern and western boundaries respectively. The southern boundary is defined by a mature hedgerow and tree belt lining the Hertfordshire Way footpath.

Local Facilities

- 2.3 Although located on the edge of the town, the site is situated close to a variety of local facilities. The site's proximity to key facilities such as education, retail, healthcare and recreation is key to maintaining a sustainable development.
- 2.4 A plan indicating the location of the site in relation to local facilities is presented at **Figure 2.2**.

Public Transport

Bus Provision

- 2.5 Bus stops are located on both the eastbound and westbound sides of Northaw Road East; approximately 60m and 100m respectively from the Site. From these stops there is one service with an hourly frequency during the week and a weekly service that runs only on Wednesday morning.
- 2.6 Service number 242 runs hourly between Waltham Cross and Potters Bar. The Sunday service is extended as far as Waltham Cross to Welwyn Garden City.

Rail Provision

- 2.7 Cuffley Railway station is located approximately 850m from the Site. Cuffley is situated on the Great Northern service that runs a frequent service between London and Hertford North.

The station provides a link to London with a journey time of less than 30mins to and from Finsbury Park station. During the weekday AM and PM peak periods there are circa 5 trains per hour to London.

Pedestrian and Cyclist Facilities

Pedestrians

- 2.8 It is reasonable to expect that typical able bodied people are capable of walking at least 2km for day to day activities. The thrust of sustainable policy is that there will be an increasing propensity for people to use non-single occupancy vehicle modes of which walking is one. People will choose their mode based upon their journey purpose and it is reasonable to conclude that residents will choose to walk for a fair proportion of their journey.
- 2.9 A 2 km walk isochrone is included within this report as **Figure 2.3**. This figure demonstrates that a number of services and facilities can be accessed within this distance, including centre of Cuffley and Cuffley railway station.
- 2.10 Facilities for pedestrians within the vicinity of the site are considered to be adequate, therefore encouraging future residents to access local facilities, as shown in Figure 2.3, on foot. **Figure 2.4** shows the Public Rights of Way provided.
- 2.11 It can be observed from Figure 2.4 that a public footpath (PRoW 6) extends along the southern boundary of the site. There is a further footpath to the south west of the site; this is also a recreational footpath and continues further west.
- 2.12 Northaw Road East provides a footpath running along its southern edge; this is well lit and well surfaced, and creates a safe footway for pedestrians travelling towards the centre of Cuffley.

Cyclists

- 2.13 Central Government research states that cycling has the potential to substitute for short car trips, particularly those under 5km, and to form part of a longer journey by public transport.
- 2.14 Cycling is an attractive form of travel and it is reasonable to expect that for typical able bodied people a cycle distance of 5km is readily achievable and attractive. The propensity

for people to choose to cycle will depend on journey purpose and individual ethos as well as having a safe place to store their bicycle at the end of their journey.

- 2.15 A 5km cycle isochrone is included within this report as **Figure 2.5**, which shows the whole of the village is within 5km.

3 BASELINE TRAVEL PATTERNS

- 3.1 This section will set out the baseline modal split for Land to the north east of King George V Playing Fields, Cuffley, which will be used as platform for setting future targets in this Framework Travel Plan.
- 3.2 In the interim, Census 2011 Journey to Work data has been used to give an indication of expected modal split for residents. These are set out in **Table 3.1** below.

Table 3.1 – Resident Modal Split for Cuffley & Northaw Ward

Travel Mode	Percentage Modal Share
Car Driver	69%
Car Passenger	3%
Rail/ Light Rail/ Underground	21%
Bus	1%
Taxi	1%
Motorcycle	1%
Walk	3%
Cycle	1%
TOTAL	100%

- 3.3 Subsequently, an initial survey of travel patterns will be carried out and this will be undertaken once the Site is occupied. Occupation is defined as when 75% of the residential units are occupied. The exact nature of the survey will be discussed and agreed in advance with Hertfordshire County Council.
- 3.4 The survey will provide baseline information on modal split for the Site. It is anticipated that the travel behaviour will be established early on in the life of the development; however, the baseline data will be a useful guide in the setting of realistic targets for modal shift over the life of the development.
- 3.5 Prior to the occupation of the site, the modal share shown above in Table 3.1 will be used to derive interim Travel Plan targets. If, after the baseline travel surveys have been carried out it is found that the expected modal share is not accurate, the targets will be adjusted to reflect the actual modal share.

4 OBJECTIVES AND TARGETS

4.1 This chapter sets out the overarching objectives for the Framework Travel Plan, as well as targets for the short and medium term. It includes indicators through which progress towards meeting the targets will be measured. Further information on monitoring and review of the Travel Plan can be found in **Chapter 7**.

- **Objectives** are the high-level aims of the Travel Plan. They help to give the Travel Plan direction and provide a clear focus.
- **Targets** are the measurable goals by which progress will be assessed. The Travel Plan sets out targets which the store will seek to reach within the period covered by this Travel Plan. In addition, interim targets have been set.

Objectives

4.2 The objectives of this Travel Plan are two-fold. Firstly to increase awareness of sustainable travel modes available to residents and secondly to reduce the dependence of residents on travel by car to and from the development. Therefore, more specifically, the objectives of this Travel Plan are to:

- Increase resident awareness of the advantages and availability of sustainable modes of transport over the car;
- Introduce a package of measures that will facilitate resident travel by sustainable modes; and therefore,
- Limit unnecessary or unsustainable use of the car for journeys to and from the site by residents.

Targets

4.3 Travel Plan targets are measurable goals by which progress can be assessed. These targets should be reviewed through a programme of monitoring (outlined in Chapter 7) to ensure they remain SMART (Specific, Measurable, Achievable Realistic and Timed).

4.4 Targets come in two forms – Action Targets and Aim Targets:

- **Action Targets** are non-quantifiable actions that need to be achieved by a certain time.
- **Aim Targets** are quantifiable and in the case of this Travel Plan relate to the degree of modal shift the plan is seeking to achieve.

Action Targets

4.5 The Action Targets for this Framework Travel Plan are:

- To appoint a Travel Plan Coordinator (*see Travel Plan Strategy, Section 5*)
- To coordinate baseline travel surveys (*see Monitoring and Review, Section 7*)

Aim Targets

4.6 As described previously, a baseline residential travel survey will be undertaken upon reaching 75% occupation of the site and this will form the results of the Year 0 survey, representing all types of journeys to/ from the site.

4.7 The Travel Plan Coordinator will achieve a sufficient response to ensure the survey results can be considered as representative. Door knocking, offer of incentives, or other techniques could be used as required to increase the response rate.

4.8 The draft residential travel survey is presented at **Appendix C** for information.

4.9 Prior to the baseline survey being undertaken, the following targets have been derived using the assumed modal split for the development as set out in Section 3 above. **Table 4.1** below shows the target modal split for the development once the Travel Plan has been implemented.

Table 4.1 – Assumed Development Modal Split and Post Travel Plan Implementation Target Split

Mode	Modal Split (Census Data)	Modal Split Interim and Final Year Targets		
		Year 1	Year 3	Year 5
Car Driver	69%	67%	65%	64%
Sustainable Transport Modes*	26%	28%	30%	31%

**Includes Public transport, walking and cycling*

- 4.10 The primary purpose of the Travel Plan is to limit unnecessary or unsustainable car journeys (particularly those with single occupants) to and from the development. The aim is to reduce single occupancy vehicle journeys and transfer these trips to a sustainable mode of travel, whether that be public transport, walking or cycling. Where it is not possible for residents to use these modes of travel, car sharing will be encouraged as an alternative.
- 4.11 If the subsequent baseline travel survey shows that the Census data modal split is not accurate the targets will be amended to take into account the surveyed modal split. Targets will be finalised and written into the Travel Plan once the travel surveys have been completed, the results analysed and discussions have been held with the HCC Travel Plan Officer.

5 TRAVEL PLAN STRATEGY

Management

- 5.1 Although all details of how the Site is to be managed are not known, it is expected that a single management company, or similar management entity, will be put in place to manage the Site.
- 5.2 Under this scenario, the Management Company will appoint a Travel Plan Coordinator (TPC) who will manage the day to day running of the Travel Plan. The contact details for the TPC will be provided to HCC upon their appointment and prior to the occupation of the site
- 5.3 The role of the TPC will be part time and will vary throughout the year in response to campaigns/ sustainable transport events/ monitoring surveys etc. taking place. The TPC will be allocated enough time to effectively manage and implement the Travel Plan as agreed.

Funding

- 5.4 The Travel Plan, its accompanying measures and initiatives and the TPC role will be funded by the developer throughout the five year period. The developer will ensure that the TPC has sufficient funding to effectively implement the Plan.
- 5.5 In addition, current HCC guidance requests that developers provide for sustainable travel incentives to the value of £50 per flat and £100 per house. This can be used towards vouchers for cycle equipment or public transport tickets for example. This will be provided by the developer.
- 5.6 A Travel Plan monitoring contribution of £6,000 will also be paid to HCC to support the assessment and monitoring of the Travel Plan.

TPC Responsibilities

- 5.7 The TPC will be responsible for the administration of the Travel Plan, the implementation of measures, and for the on-going monitoring and review of the Travel Plan. They will have overall responsibility for ensuring that said measures are successfully delivered on time and to budget.

- 5.8 The TPC will report to the management company and other involved stakeholders such as residents associations (if applicable) and HCC, regarding the implementation and progression of the Travel Plan.
- 5.9 The formation of resident's associations will be encouraged by the TPC in order to understand their view and needs regarding sustainable travel, therefore enabling them to tailor the Travel Plan accordingly. The TPC will meet with said resident's groups on a semi-regular basis.
- 5.10 Administration of the Travel Plan will involve the maintenance of the necessary systems, data and paperwork, consultation and promotion associated with the implementation of the Travel Plan. Regular updating of the Travel Plan document is part of the responsibility of the nominated person.
- 5.11 A filing system will be established and maintained, for recording all correspondence relating to the Travel Plan, the results of periodic monitoring and the results of each review.

6 MEASURES AND INITIATIVES

Introduction

- 6.1 This section of the Framework Travel Plan outlines the specific physical and management measures to be implemented as part of the Travel Plan. The implementation of the listed measures, which include awareness initiatives, is the core of the Travel Plan. A section outlining measures that are not specific to either element is also included.
- 6.2 As described previously, the developer will provide for sustainable travel incentives to the value of £50 per flat and £100 per house. This can be used towards a variety of different initiatives such as those discussed below.

Measures

Walking

- 6.3 The TPC will report the results of the travel survey to the relevant HCC Officer and will liaise with that Officer to establish the potential for improvements to existing off-site facilities.
- 6.4 The TPC will also seek to ensure that pedestrian routes are appropriately maintained.
- 6.5 The TPC will promote the Health benefits of walking and explore the possibility of using such schemes as '10,000 steps a day campaign.'

Cycling

- 6.6 Parking in line with the relevant standards will be provided, the location of which is to be confirmed but will be located in secure and covered areas.
- 6.7 The TPC will report the results of the travel survey to the Cycling Officer of HCC and will liaise with the Officer to establish the potential for improvements to existing off-site facilities.
- 6.8 The TPC will also seek to ensure that cycle routes are appropriately maintained. This will be achieved through a regular dialogue with HCC.
- 6.9 Residents will be provided with information and advice concerning safe cycle routes to the site. The TPC will also seek to promote cycling events such as 'National Bike Week' to increase the profile and knowledge of potential cycle schemes.

- 6.10 The TPC will explore with local bicycle retailers the possibility of providing discounts on cycling equipment to residents of the development. The take up of this discount, if agreed, will be monitored.

Public Transport

- 6.11 The possibility of discounted travel with local bus and rail operators will be explored by the TPC in order to provide an incentive for residents to use such modes and form a habitual use from the outset.
- 6.12 Up-to-date details of bus, train and taxi services, including route information and service frequencies, will be permanently on display in locations to be agreed. Details of National Rail, Traveline and Car Share websites and enquiry phone numbers will also be displayed.
- 6.13 The TPC will liaise with HCC to ensure that issues periodically raised by residents are considered, for example, extension of services in mornings and evenings where services could be perceived to be lacking.
- 6.14 Taxis have an important role in providing for resident trips, in particular when other modes of transport may not be available. The TPC will ensure that the contact details for a local taxi operator are available on site.

Marketing Strategy

- 6.15 An essential element of the Travel Plan strategy, and one which largely determines its success, is the promotion of the Travel Plan. In order to promote and increase awareness of the Travel Plan, the following measures will be adopted:
- Distribution of travel information packs to all future residents of the development. This will include maps, bus routes and frequencies and details of local amenities;
 - Display of key Travel Plan information on public notice boards, including posters and/ or leaflets;
 - Mail drops can be used to disseminate new information or promote events;
 - Arrange Q&A sessions and offer a personalised travel planning service if demand is identified;

- Promote national travel initiatives and organise site-wide events such as organised cycle rides and walking events
- Developer will arrange for the display and distribution of sustainable travel information at the marketing suite for the development and on the marketing website; and
- TPC will attend Residents' Meetings to promote the Travel Plan.

6.16 The communal notice boards, which will allow for continued promotion of the Travel Plan, will have a similar layout and content so that they become familiar and accessible to residents and visitors. The notice boards will contain up-to-date public transport information and information detailing walking and cycling opportunities. These will be updated by the TPC as and when new information becomes available.

Welcome Pack and Travel Information Provision

6.17 As described previously, new residents will be provided with a Welcome Pack containing information on public transport services close to the Site and other measures for encouraging use of non-car modes of travel. The same information will also be provided on communal noticeboards throughout the site.

6.18 The provision of information of alternatives to the car is an important aspect of residential Travel Plans. It is recommended that the packs contain the following information:

- A summarised version of the Travel Plan document, that sets out the purpose and benefits etc;
- Timetables and route maps for public transport, particularly buses;
- Contact numbers and web details for the Traveline Journey Planner and National Rail Enquiries;
- Local taxi company details;
- Local Car Club information;
- Cycling and walking maps for the local area;
- Web details for any community travel sites and community forum sites; and
- Web and other contact details for major retailers offering home shopping facilities.

- Contact details for Care Sharing schemes

6.19 Car sharing should be encouraged amongst residents of the Site. Details of schemes such as www.liftshare.com will be included in Welcome Packs and on notice boards. Sharing journeys to local employment sites or to rail stations should be encouraged as this will have a direct positive impact on traffic congestion and air quality levels as well as acting a good social networking opportunity.

7 MONITORING AND REVIEW

Monitoring

- 7.1 The Travel Plan will be monitored for a period of five years, on an annual basis on the anniversary of the initial baseline survey. As described previously, the baseline travel survey will be undertaken when 75% of the residential units are occupied. The TPC will be responsible for ensuring the survey achieves a representative response rate.
- 7.2 The exact requirements for the monitoring and baseline surveys will be discussed with HCC. In line with HCC guidance, a Travel Plan monitoring contribution of £6,000 will be paid to support the assessment and monitoring of the Travel Plan prior to first occupation.
- 7.3 At the completion of this five year cycle the Travel Plan will be completely reviewed (detailed below).
- 7.4 Information gathered through the monitoring process will be recorded for input to the annual review (outlined below). The information will be made available to the HCC.

Reporting

- 7.5 The TPC will compile an annual Review Report outlining the progress of the Travel Plan and its initiatives, as well as an assessment of the survey results and any updates to the targets and initiatives that may subsequently be required. If targets are not being delivered, then the Travel Plan measures will be adjusted or added to, instead of simply revising down the target.
- 7.6 It should be noted that any proposed changes to the Travel Plan, including targets and action plans will be discussed and agreed with the Travel Plan officers.
- 7.7 The report will also incorporate the results of on-going monitoring by the TPC such as cycle parking observations, the uptake of TPC travel planning sessions and any comments received from residents, throughout the preceding period. The report will be issued to HCC.
- 7.8 After five years, the TPC responsibilities will be passed on to the Residents Association to continue monitoring and management once the scheme is running effectively.

8 ACTION PLAN

- 8.1 The Action Plan outlined below in **Table 8.1** sets out the measures included within the Travel Plan that are directed at influencing staff travel.

Table 8.1: Action Plan				
Action Type	Action	Responsibility	Timeframe	Notes
Management	Appointment of Travel Plan Coordinators (TPC)	Site Management Company	Three months prior to occupation	This is preferable to be completed as soon as possible, as when the site is occupied the TPC will need to undertake baseline travel surveys when the site is 75% occupied.
Baseline Travel Patterns	Baseline travel survey	TPC	Undertaken when 75% of the residential units are occupied	Survey results will need to be reported back to Planning Authority so targets can be set. The baseline survey represents the Travel Plans Year 0 start point, i.e. the point of occupation. Occupation is defined as 75% occupancy of residential units.
Travel Plan Document Progression	Finalisation of measures to be implemented	TPC and Planning Authority officers	Within 3 months of the baseline survey.	The measures should be agreed with the Local Planning Authority during the application process; however the baseline survey might reveal other possible measures to implement.
	Target setting	TPC and HCC officers	Within 3 months of the completion the baseline survey	Targets will need to be agreed with HCC.
	Travel Plan document completion	TPC	Within 3 months of the completion of the baseline survey Revised at Year 3 after full review	This should be completed well before Travel Plan launch.
Monitoring, Review & Reporting	Monitoring of measures and initiative take-up	TPC	On-going	This will involve regular monitoring of cycle and motorcycle parking use, and uptake of other measures implemented.
	First snapshot/monitoring survey	TPC	At Year 1	On the first anniversary of the completion of the baseline survey. This will be completed in-house
	Partial review and reporting 1	TPC and HCC	Following Year 1 snapshot survey result analysis	This will be a partial review focusing on revision of targets and measures where necessary.
	Second snapshot/monitoring survey	TPC	At Year 3	On the third anniversary of the completion of the baseline survey.

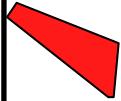
	Full review and reporting	TPC and HCC	Following Year 3 monitoring survey results analysis	This will be a full review at the end of the 3 year monitoring and review period. The Travel Plan document will be completely revised. At this time the role of the TPC will transfer from the management company to a local residents group or representative.
Implementation	Implementation of measures	TPC with liaison with Management Company	From the start of construction and on-going	Dependent on the nature of the measure. Physical measures such as cycle parking will be implemented during construction. Policy measures will be implemented on an on-going basis. The TPC will need to create a more detailed implementation timetable.
	Provision of Travel Packs to all residents	TPC	Upon occupation of each unit	Travel packs will contain up-to-date details of bus timetables, route maps and fare information, rail timetables and fare information, cycle and walking route maps, information on the benefits of sustainable travel and a brief overview of the Travel Plan. It will also include the TPC's details and their availability to provide personal travel planning services
	Communal Notice Boards within site	As part of development and TPC	Within construction period and information to be reviewed by TPC every 6 months	These will be provided in prominent communal locations and will be designed in the same format so that residents are able to recognise them around the site. They will provide the same information as the travel packs and will be reviewed on a 6-month basis to ensure that information is up-to-date
	Personal Travel Planning Service	TPC	On-going	The TPC will keep a record of all residents who use the personal travel planning service, and will collect feedback
	Cycle Parking located on-site	As part of development and TPC to monitor maintenance/ uptake	Within construction period and TPC to monitor uptake to ensure provision is sufficient	Houses will be provided with Brute Force Anchors within their private gardens and flats will be provided with Sheffield stands within a secure communal area. The TPC will monitor the maintenance and use of the communal stands
	Explore possibility of discounts at cycle retailers	TPC	On-going (dependent on interest from local residents)	The TPC will liaise with local bicycle retailers to explore the possibility of obtaining discounts on bicycles and equipment for residents. The uptake of said discount

				(if obtained) will be recorded
	Explore possibility of discounts on public transport routes	TPC	On-going (dependent on interest from local residents)	The TPC will liaise with public transport operators to explore the possibility of obtaining discounts on season tickets for residents. The uptake of said discount (if obtained) will be recorded
	Promote cycling through awareness campaigns	TPC	On-going	The TPC will promote the benefits of cycling through campaigns such as National Bike Week and will organise group cycle rides
	Promote walking through awareness campaigns	TPC	On-going	The TPC will promote the benefits of walking through campaigns such as the '10,000 steps a day challenge' and will organise group walking activities

FIGURES



Key



Site Location

Land to the north east of King George V Playing Fields

Lands Improvement

Strategic site location

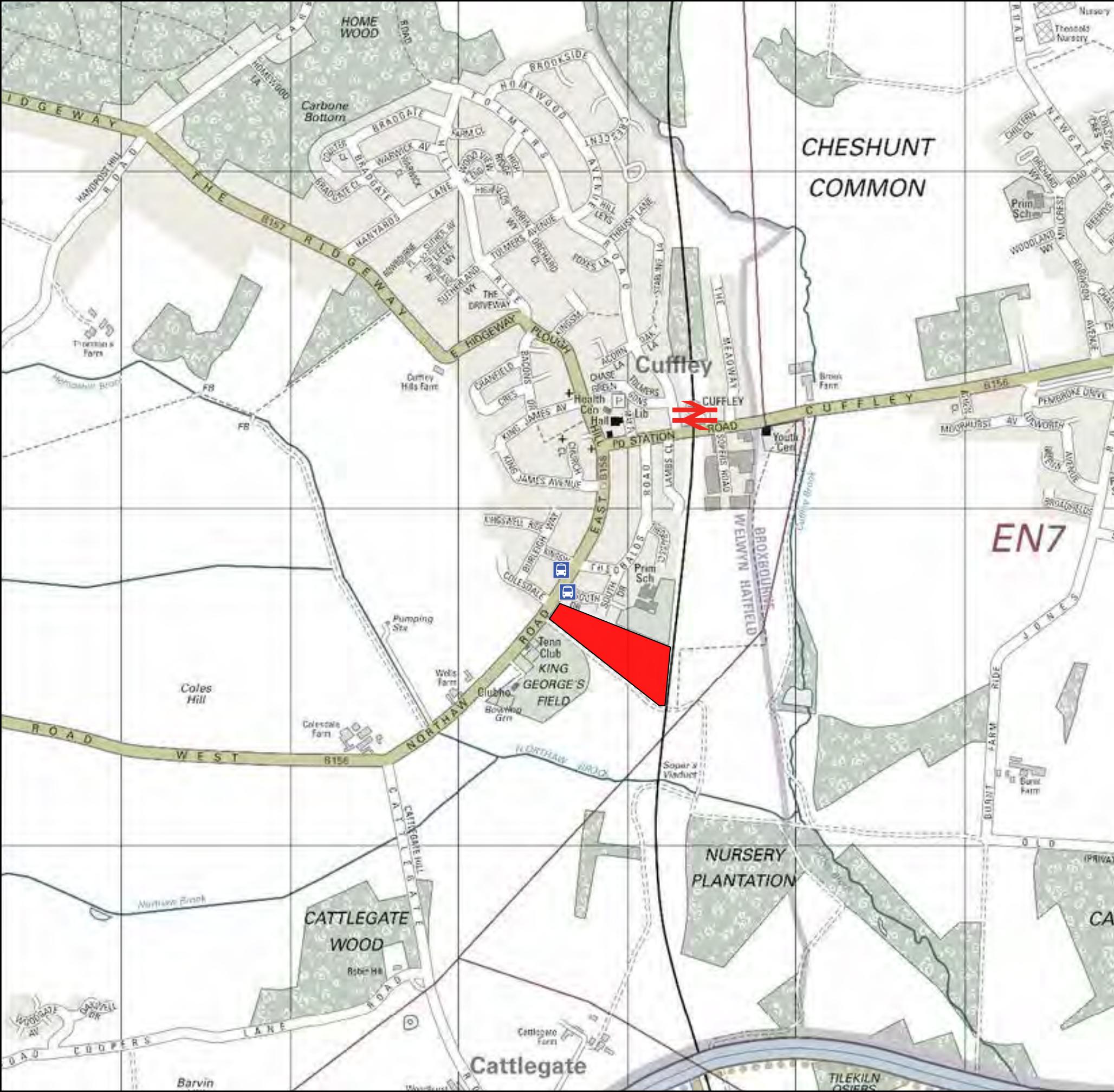
SCALES: NTS

DRAWN:	CHECKED:	DATE:	REVISION:
H.J	M.M	24/07/14	.

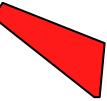


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Tel: 020 7580 7373 Email: london@vectos.co.uk www.vectos.co.uk

DRAWING REFERENCE: Figure 2.1



Key

-  Site Location
-  Bus stop
-  Railway

Land to the north east of King George V Playing Fields

Lands Improvement

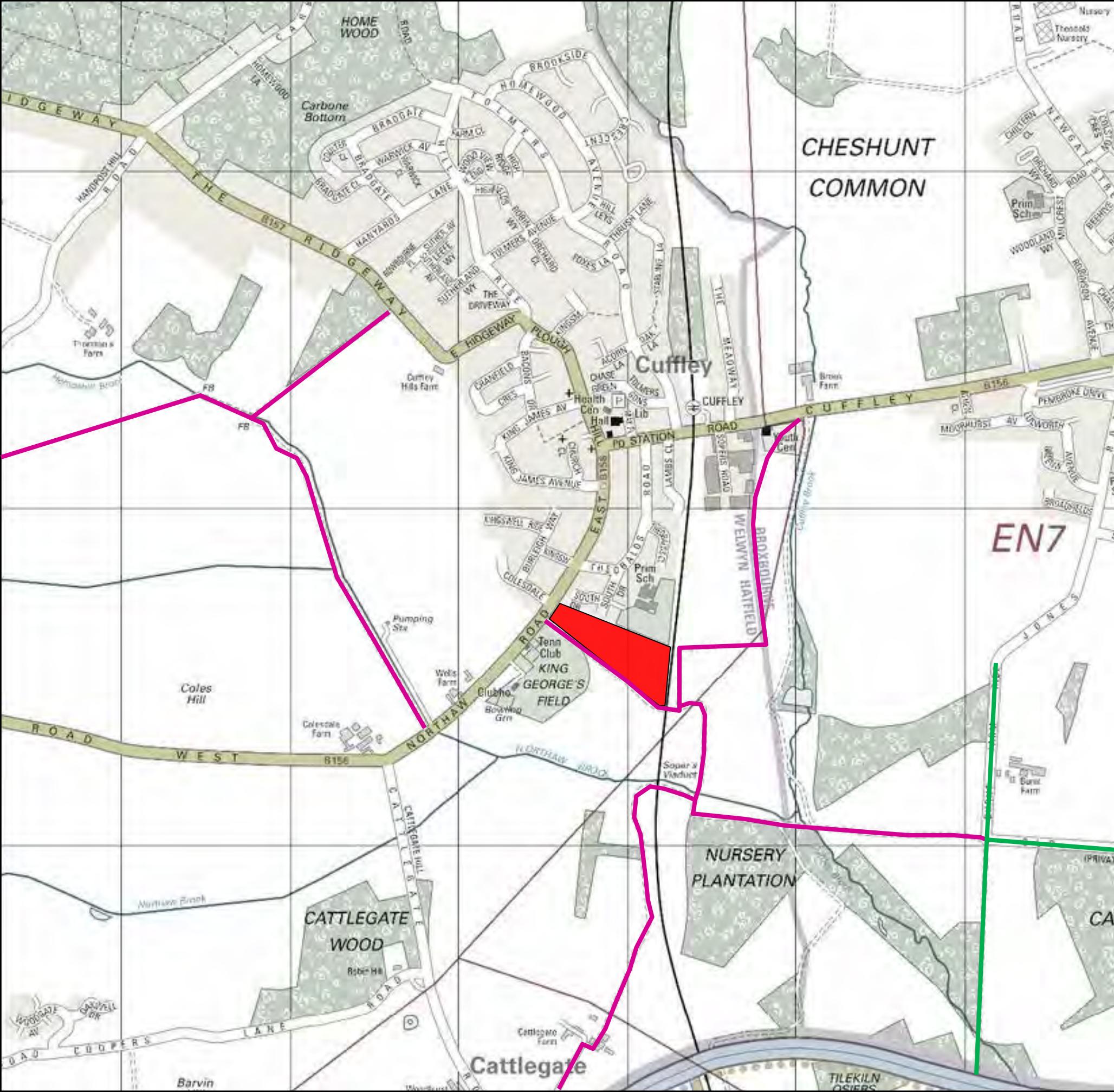
Local site location

SCALES:		NTS	
DRAWN:	CHECKED:	DATE:	REVISION:
H.J	M.M	24/07/14	.

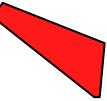


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DRAWING REFERENCE: **Figure 2.2**



Key

-  Site Location
-  Footpath
-  Bridleway

Land to the northeast of King George V Playing Fields

Lands Improvement

Public rights of way

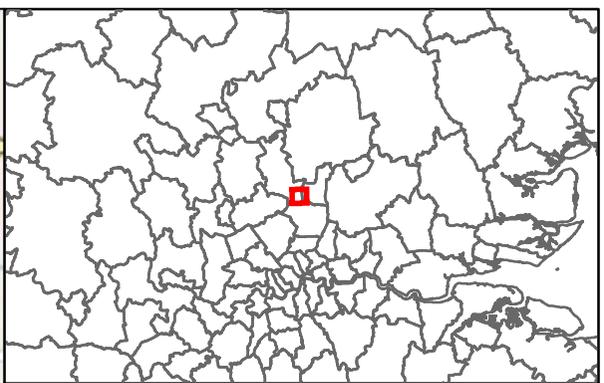
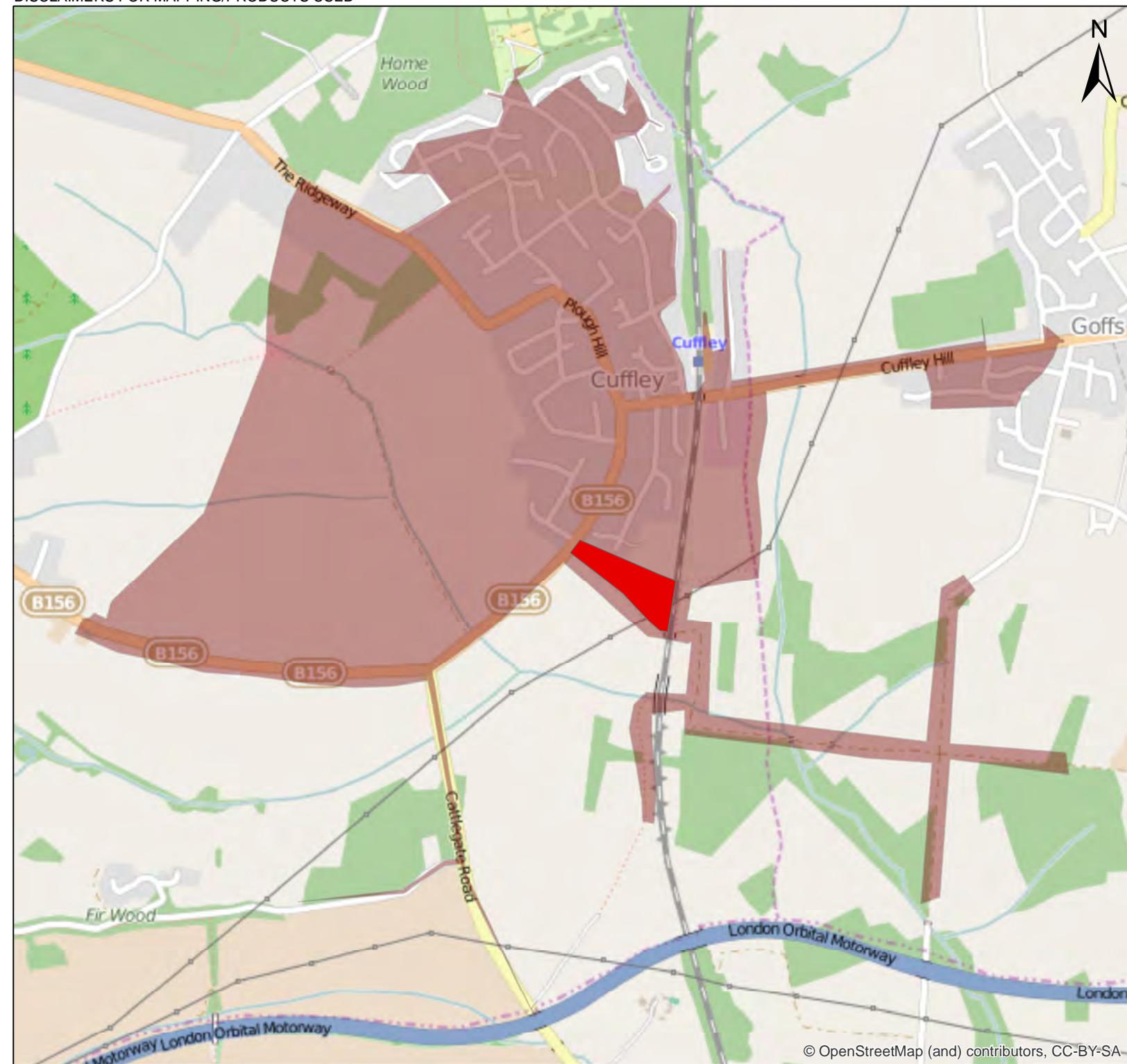
SCALES: **NTS**

DRAWN: H.J	CHECKED: M.M	DATE: 24/07/14	REVISION: •
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DRAWING REFERENCE: **Figure 2.3**



Legend

- Site Location
- 2km Walking Catchment

Land to the north east of King George V Playing Fields

Lands Improvements

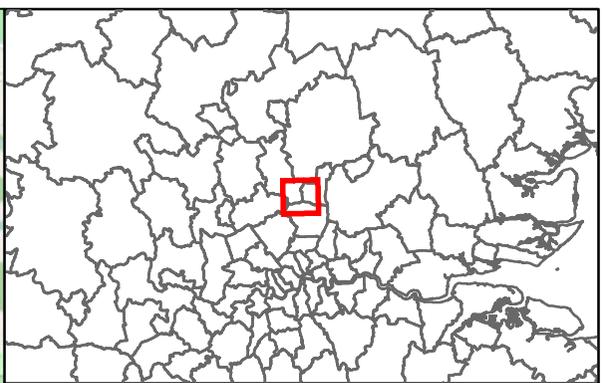
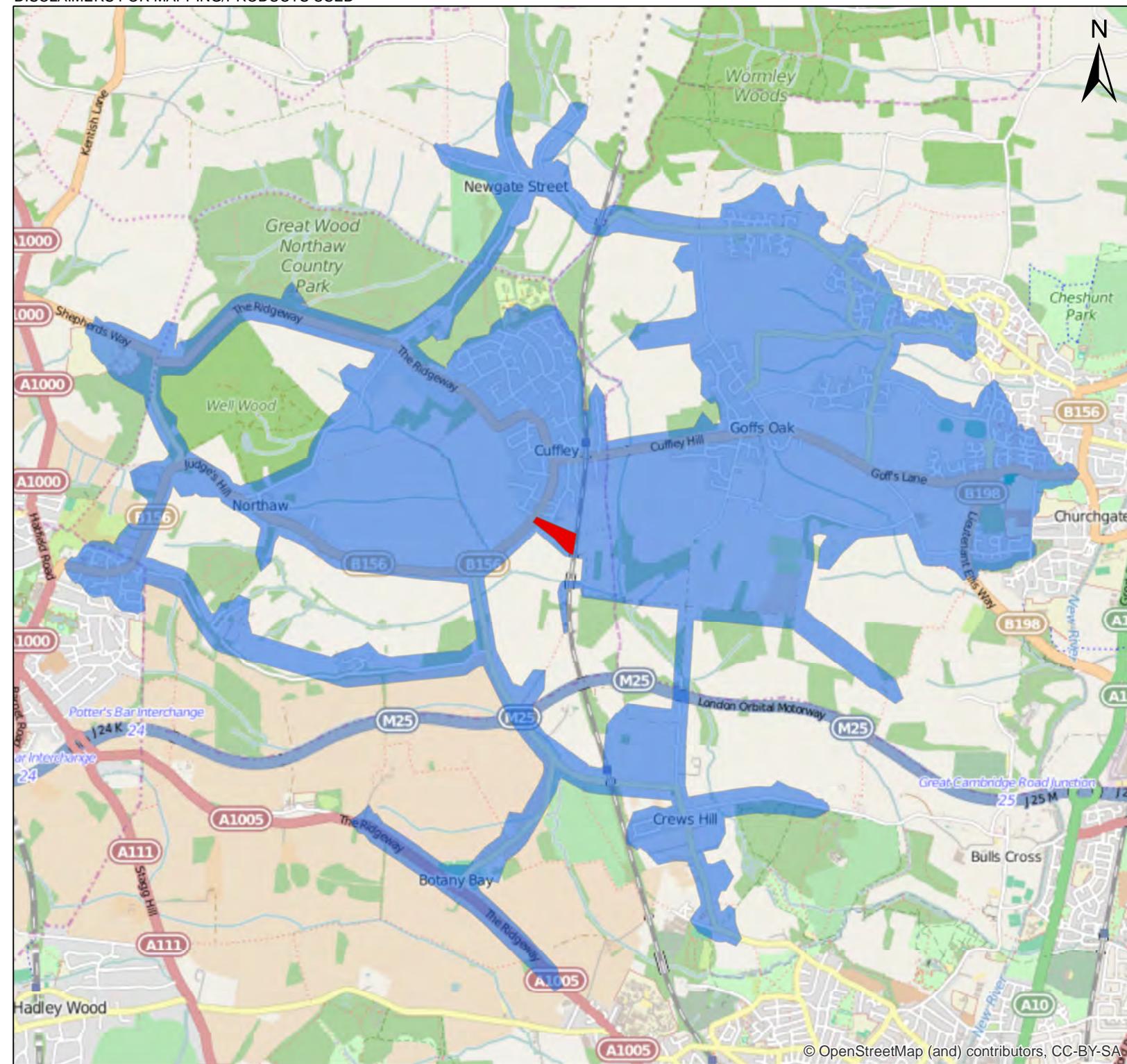
2km Walking Isochrone



Figure 2.4

DRAWN BY: H.J	CHECKED BY: M.M	DATE: 10/06/2015
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Legend

- Site Location
- 5km Cycling Catchment

Land to the north east of King George V Playing Fields

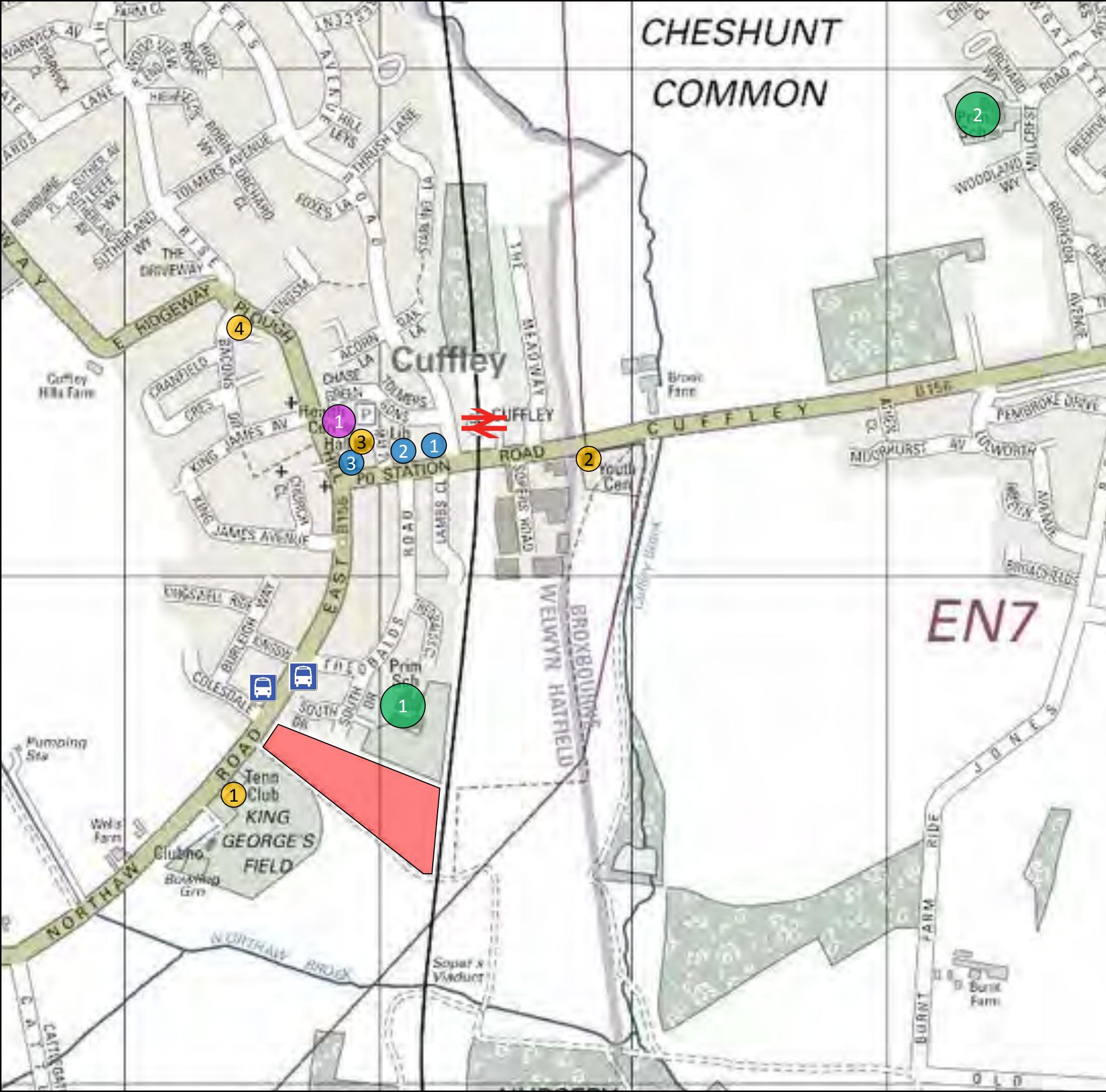
Lands Improvements

5km Cycling Isochrone



Figure 2.5

DRAWN BY: H.J	CHECKED BY: M.M	DATE: 10/06/2015
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- Key**
-  Site Location
 -  Bus stop
 -  Railway
 -  Education
 - 1 Cuffley Primary School
 - 2 Goffs Oak Primary School
 -  Retail
 - 1 Tescos Express
 - 2 The Co-operative Food
 - 3 Hallmark Post office
 -  Recreational
 - 1 Cuffley football and tennis club
 - 2 Cuffley Youth Centre
 - 3 Cuffley Village Hall and Library
 - 4 The Plough Public House
 -  Healthcare
 - 1 Cuffley Health Centre and surgery

Land to the northeast of King George V Playing Fields

Lands Improvement

Facilities Plan

SCALE: **NTS**

DRAWN: H.J	CHECKED: M.M	DATE: 24/07/14	REVISION: .
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DRAWING REFERENCE: **Figure 2.6**

APPENDIX K

TRICS Output

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

03	SOUTH WEST	
	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	1 days
	WO WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	1 days

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

Filtering Stage 2 selection:

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

Parameter: Number of dwellings
 Actual Range: 98 to 166 (units:)
 Range Selected by User: 90 to 180 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/06 to 22/10/12

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

Selected survey days:

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

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

Selected survey types:

Manual count	9 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 undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	4

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:

Residential Zone	6
Out of Town	1
No Sub Category	2

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:

C3 9 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:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
15,001 to 20,000	4 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
50,001 to 75,000	1 days
75,001 to 100,000	2 days
100,001 to 125,000	3 days
125,001 to 250,000	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	2 days
1.1 to 1.5	7 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 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	CH-03-A-06 CREWE ROAD	SEMI -DET./BUNGALOWS		CESHIRE
	CREWE Suburban Area (PPS6 Out of Centre) No Sub Category Total Number of dwellings: 129 Survey date: TUESDAY 14/10/08			
2	LN-03-A-01 BRANT ROAD BRACEBRIDGE LINCOLN	MIXED HOUSES		Survey Type: MANUAL LINCOLNSHIRE
	Edge of Town Residential Zone Total Number of dwellings: 150 Survey date: TUESDAY 15/05/07			
3	NF-03-A-02 DEREHAM ROAD	HOUSES & FLATS		Survey Type: MANUAL NORFOLK
	NORWICH Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 98 Survey date: MONDAY 22/10/12			
4	NT-03-A-03 B6018 SUTTON ROAD	SEMI DETACHED		Survey Type: MANUAL NOTTINGHAMSHIRE
	KIRKBY-IN-ASHFIELD Edge of Town Residential Zone Total Number of dwellings: 166 Survey date: WEDNESDAY 28/06/06			
5	NY-03-A-06 HORSEFAIR	BUNGALOWS & SEMI DET.		Survey Type: MANUAL NORTH YORKSHIRE
	BOROUGHBRIDGE Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 115 Survey date: FRIDAY 14/10/11			
6	SF-03-A-03 BARTON HILL FORNHAM ST MARTIN BURY ST EDMUNDS	MIXED HOUSES		Survey Type: MANUAL SUFFOLK
	Edge of Town Out of Town Total Number of dwellings: 101 Survey date: MONDAY 15/05/06			
7	SH-03-A-04 ST MICHAEL'S STREET	TERRACED		Survey Type: MANUAL SHROPSHIRE
	SHREWSBURY Suburban Area (PPS6 Out of Centre) No Sub Category Total Number of dwellings: 108 Survey date: THURSDAY 11/06/09			

LIST OF SITES relevant to selection parameters (Cont.)

8	WL-03-A-01 MAPLE DRIVE	SEMI D./TERRACED W. BASSETT		WILTSHIRE
	WOOTTON BASSETT			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:		99	
	Survey date: MONDAY		02/10/06	Survey Type: MANUAL
9	WO-03-A-03	DETACHED		WORCESTERSHIRE
	BLAKEBROOK			
	BLAKEBROOK			
	KIDDERMINSTER			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		138	
	Survey date: FRIDAY		05/05/06	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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	123	0.113	9	123	0.426	9	123	0.539
08:00 - 09:00	9	123	0.232	9	123	0.758	9	123	0.990
09:00 - 10:00	9	123	0.241	9	123	0.348	9	123	0.589
10:00 - 11:00	9	123	0.235	9	123	0.294	9	123	0.529
11:00 - 12:00	9	123	0.274	9	123	0.284	9	123	0.558
12:00 - 13:00	9	123	0.285	9	123	0.281	9	123	0.566
13:00 - 14:00	9	123	0.288	9	123	0.253	9	123	0.541
14:00 - 15:00	9	123	0.285	9	123	0.284	9	123	0.569
15:00 - 16:00	9	123	0.620	9	123	0.337	9	123	0.957
16:00 - 17:00	9	123	0.486	9	123	0.297	9	123	0.783
17:00 - 18:00	9	123	0.577	9	123	0.329	9	123	0.906
18:00 - 19:00	9	123	0.356	9	123	0.339	9	123	0.695
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.992			4.230			8.222

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:	98 - 166 (units:)
Survey date date range:	01/01/06 - 22/10/12
Number of weekdays (Monday-Friday):	9
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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

APPENDIX L

Census Data

QS701EW - Method of travel to work

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

Method of Travel to Work	E00121603	E00121606	E00121607
All categories: Method of travel to work	190	175	133
Work mainly at or from home	4	6	3
Underground, metro, light rail, tram	6	4	2
Train	24	18	19
Bus, minibus or coach	1	2	1
Taxi	0	0	1
Motorcycle, scooter or moped	1	1	0
Driving a car or van	83	67	50
Passenger in a car or van	4	1	2
Bicycle	1	0	0
On foot	3	8	3
Other method of travel to work	3	1	0
Not in employment	60	67	52

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

APPENDIX M

Distribution Information

Origin LA	Origin Ward	Destination LA	Destination Ward	People	AtHome	NotWorking	Underground	Train	Bus	Taxi	Car Driver	Passenger	Motorcycle	Bicycle	On Foot	Other	Car Pool
Welwyn Hatfield	Northaw	Aylesbury Vale	Gatehouse	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barking and Dagenham	Thames	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Brunswick Park	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Childs Hill	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Coppetts	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	East Barnet	16	0	0	0	3	0	0	13	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	East Finchley	4	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Edgware	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Finchley Church End	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Hendon	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	High Barnet	19	0	0	0	0	0	0	16	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Oakleigh	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Totteridge	7	0	0	0	0	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Underhill	12	0	0	0	0	0	0	12	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	West Finchley	14	0	0	3	0	0	0	11	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Woodhouse	14	0	0	0	0	3	0	11	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Basildon	Pitsea North West	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Bracknell Forest	Binfield with Warfield	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Bracknell Forest	Priestwood and Garth	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Brent	Harlesden	3	0	0	3	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Brent	Tokington	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Brent	Welsh Harp	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Brentwood	Brentwood West	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Broxbourne	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Bury Green	7	0	0	0	0	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Cheshunt Central	26	0	0	0	0	0	0	26	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Cheshunt North	18	0	0	0	0	0	0	15	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Goffs Oak	24	0	0	0	0	0	0	21	0	0	0	3	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Hoddesdon Town	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Rosedale	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Rye Park	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Theobalds	11	0	0	0	0	3	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Waltham Cross	31	0	0	0	3	0	0	28	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Wormley & Turnford	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Bloomsbury	5	0	0	0	5	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Camden Town with Primrose Hill	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Frognal and Fitzjohns	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Hampstead Town	6	0	0	0	0	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Highgate	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Holborn and Covent Garden	22	0	0	3	16	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	King's Cross	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Regent's Park	10	0	0	3	4	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Bishopsgate	39	0	0	3	33	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Cripplegate	9	0	0	0	9	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Farringdon Within	13	0	0	0	7	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Farringdon Without	23	0	0	4	16	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Portoken	13	0	0	0	10	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Queenhithe	6	0	0	0	6	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Tower	22	0	0	3	19	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Walbrook	12	0	0	0	12	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Dacorum	Adeyfield East	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Dacorum	Berkhamsted East	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Dacorum	Hemel Hempstead Central	4	0	0	0	0	0	0	4	0	0	0	0	0	-1

Welwyn Hatfield	Northaw	Ealing	East Acton	5	0	0	0	0	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Ealing	Greenford Green	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Bishop's Stortford All Saints	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Braughing	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Great Amwell	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Hertford Bengoe	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Hertford Castle	32	0	0	0	3	3	0	26	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Hertford Heath	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Hertford Kingsmead	11	0	0	3	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Hertford Rural South	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Ware Chadwell	7	0	0	0	0	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Ware Christchurch	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Ware St Mary's	5	0	0	0	0	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Watton-at-Stone	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Edinburgh, City of	Holyrood	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Elmbridge	Thames Ditton	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Bush Hill Park	6	0	0	0	3	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Chase	24	0	0	0	3	0	0	21	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Cockfosters	15	0	0	0	0	0	0	15	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Edmonton Green	9	0	0	0	0	0	0	6	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Enfield Highway	19	0	0	0	0	0	0	19	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Enfield Lock	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Grange	37	0	0	3	3	0	0	31	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Highlands	37	0	0	0	3	0	0	34	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Jubilee	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Lower Edmonton	7	0	0	0	0	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Palmers Green	5	0	0	0	0	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Ponders End	28	0	0	0	3	0	0	25	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Southbury	33	0	0	0	0	0	0	33	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Southgate	11	0	0	0	3	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Town	40	0	0	0	3	3	0	28	3	0	0	3	0	-1
Welwyn Hatfield	Northaw	Enfield	Turkey Street	6	0	0	0	0	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Upper Edmonton	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Winchmore Hill	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Epping Hemnall	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Epping Lindsey and Thornwood Common	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Loughton Alderton	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Loughton St John's	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Lower Nazeing	7	0	0	0	0	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Waltham Abbey Honey Lane	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Waltham Abbey North East	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hackney	Dalston	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hackney	De Beauvoir	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hackney	Haggerston	12	0	0	3	6	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hackney	Hoxton	4	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hammersmith and Fulham	Avonmore and Brook Green	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hammersmith and Fulham	Hammersmith Broadway	6	0	0	0	6	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hammersmith and Fulham	Town	3	0	0	0	0	0	0	0	0	3	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Bounds Green	8	0	0	0	3	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Bruce Grove	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Crouch End	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Fortis Green	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Harringay	6	0	0	0	0	0	0	6	0	0	0	0	0	-1

Welwyn Hatfield	Northaw	Haringey	Hornsey	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Noel Park	6	0	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Northumberland Park	13	0	0	0	0	0	0	0	13	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	St Ann's	7	0	0	0	3	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Tottenham Green	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Tottenham Hale	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	White Hart Lane	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Woodside	4	0	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harlow	Little Parndon and Hare Street	6	0	0	0	0	0	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harlow	Netteswell	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harlow	Old Harlow	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrogate	Hookstone	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrogate	Low Harrogate	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrow	Canons	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrow	Greenhill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrow	Kenton East	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrow	Marlborough	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrow	Wealdstone	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Borehamwood Brookmeadow	4	0	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Borehamwood Cowley Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Borehamwood Hillside	5	0	0	0	0	0	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Borehamwood Kenilworth	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Bushey North	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Elstree	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Potters Bar Furze Field	16	0	0	0	0	3	0	0	10	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Potters Bar Oakmere	21	0	0	0	0	0	0	0	15	3	0	0	3	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Potters Bar Parkfield	81	0	0	0	0	0	3	61	14	0	0	0	3	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Shenley	6	0	0	0	0	0	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hillingdon	Northwood	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hillingdon	West Drayton	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Barnsbury	3	0	0	0	3	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Bunhill	17	0	0	0	14	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Caledonian	9	0	0	0	3	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Canonbury	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Clerkenwell	10	0	0	0	5	0	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Finsbury Park	7	0	0	0	0	0	0	0	4	0	0	0	3	0	-1
Welwyn Hatfield	Northaw	Islington	Highbury West	6	0	0	0	3	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Junction	3	0	0	0	3	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	St George's	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	St Mary's	8	0	0	0	5	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	St Peter's	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Lambeth	Bishop's	3	0	0	3	0	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Lambeth	Oval	3	0	0	0	3	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Luton	South	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Luton	Wigmore	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Merton	Abbey	3	0	0	0	3	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Merton	Cricket Green	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Mid Bedfordshire	Clifton and Meppershall	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Milton Keynes	Campbell Park	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Newark and Sherwood	Bridge	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	North Hertfordshire	Hitchin Priory	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Northampton	Nene Valley	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Reading	Abbey	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Redbridge	Barkingside	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1

Welwyn Hatfield	Northaw	Reigate and Banstead	Redhill West	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Richmond upon Thames	Hampton	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Slough	Chalvey	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Slough	Colnbrook with Poyle	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Slough	Upton	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Bucks	Beaconsfield South	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Bucks	Burnham Beeches	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Cambridgeshire	The Shelfords and Stapleford	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Cambridgeshire	The Wilbrahams	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Norfolk	Stoke Holy Cross	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Oxfordshire	Garsington	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Ribble	Farington West	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Southwark	Cathedrals	15	0	0	3	9	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Southwark	Chaucer	7	0	0	0	4	0	0	0	0	0	3	0	0	-1
Welwyn Hatfield	Northaw	Southwark	Grange	6	0	0	3	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Southwark	Livesey	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Southwark	Riverside	4	0	0	0	4	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Spelthorne	Ashford Common	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Spelthorne	Laleham and Shepperton Green	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Ashley	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Colney Heath	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	London Colney	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Marshalswick South	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Park Street	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Redbourn	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Sandridge	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	St Peters	17	0	0	0	0	3	0	14	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Stevenage	Bedwell	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Stevenage	Roebuck	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Stevenage	Symonds Green	4	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	Blackwall and Cubitt Town	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	Millwall	15	0	0	0	8	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	Spitalfields and Banglatown	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	St Dunstan's and Stepney Green	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	St Katherine's and Wapping	12	0	0	3	3	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	Whitechapel	9	0	0	0	9	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Chingford Green	4	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Hale End and Highams Park	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Hatch Lane	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Lea Bridge	6	0	0	0	0	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Markhouse	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Wood Street	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Watford	Central	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Watford	Holywell	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Watford	Tudor	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Brookmans Park and Little Heath	27	0	0	0	0	0	0	18	6	0	3	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Haldens	11	0	0	0	0	0	0	8	0	0	0	3	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Handside	18	0	0	0	0	3	0	15	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Hatfield Central	10	0	0	0	0	0	0	7	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Hatfield East	18	0	0	0	0	0	0	18	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Hatfield North	9	0	0	0	0	0	0	9	0	0	0	0	0	-1

Welwyn Hatfield	Northaw	Welwyn Hatfield	Hatfield West	10	0	0	0	0	0	0	7	0	0	0	3	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Hollybush	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Howlands	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Northaw	602	321	0	3	13	6	15	181	11	3	0	46	3	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Peartree	25	0	0	0	0	0	0	19	3	0	0	3	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Welham Green	20	0	0	0	0	0	0	20	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Welwyn North	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Welwyn South	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	Bryanston and Dorset Square	6	0	0	0	6	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	Hyde Park	6	0	0	3	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	Knightsbridge and Belgravia	6	0	0	0	3	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	Marylebone High Street	11	0	0	0	11	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	Regent's Park	6	0	0	0	3	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	St James's	41	0	0	8	30	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	West End	43	0	0	5	29	0	0	6	0	3	0	0	0	-1
Welwyn Hatfield	Northaw	Windsor and Maidenhead	Cox Green	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Wokingham	Bulmershe and Whitegates	3	0	0	0	0	0	0	3	0	0	0	0	0	-1

APPENDIX N

Survey Data

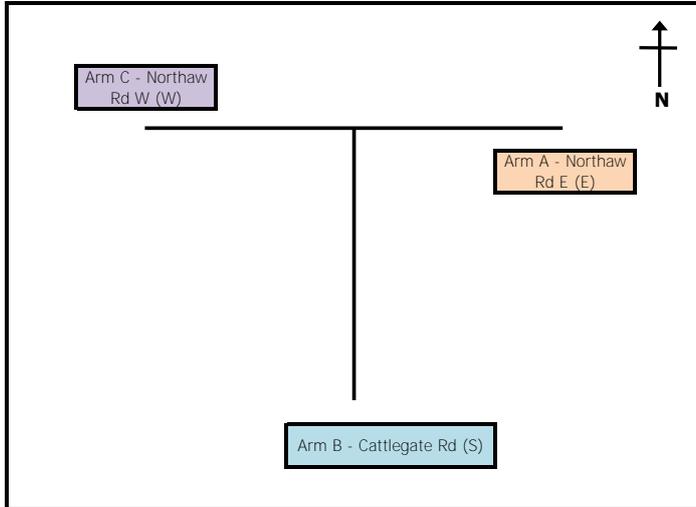
Intelligent Data Collection Limited



Client: Vectos
Project Number: ID02010
Junction Number: Site 1
Date of Survey: 10.07.2014
Junction Name: Northaw Rd/ Cattlegate Rd
Junction Type: T-Junction

X Coordinate	Y Coordinate	Google Maps Link
51.699627	-0.12336	Click Here
AM Peak Conditions	PM Peak Conditions	
Dry and Clear	Dry and Clear	

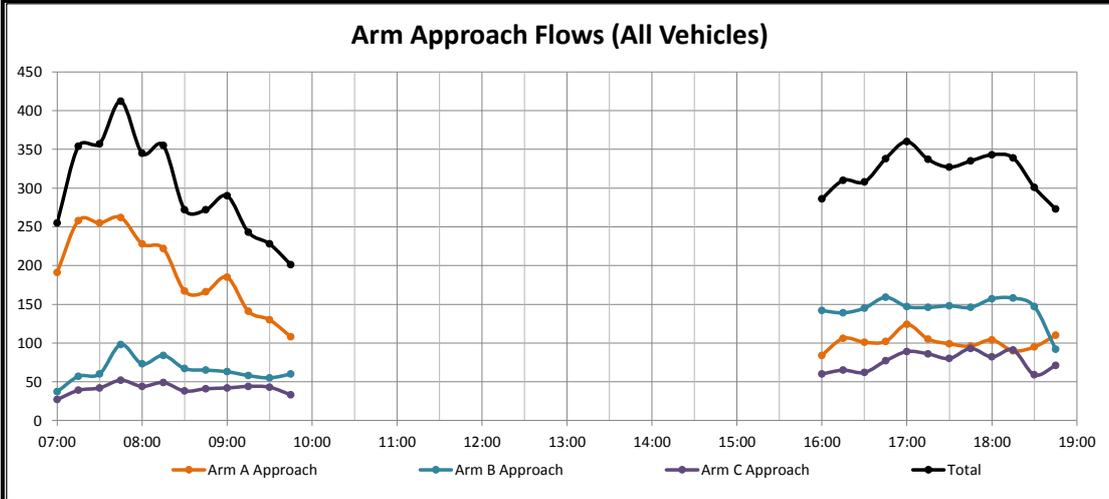
Junction Layout



Aerial Mapping and On-site Camera View



Junction Flow Profile



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited



Client: Vectos
 Project Number: ID02010
 Junction Number: Site 1

Date of Survey: 10.07.2014
 Junction Name: Northaw Rd/ Cattlegate Rd
 Junction Type: T-Junction

Arm A: Northaw Rd E (E)
 Arm B: Cattlegate Rd (S)

Arm C: Northaw Rd W (W)

Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	34	22	2	0	0	0	0	58	91	40	0	0	0	0	2	133	
07:15	0	0	0	0	0	0	0	38	12	0	0	1	0	2	53	158	45	1	0	0	1	0	205	
07:30	0	0	0	0	0	0	0	41	10	0	0	2	0	0	53	156	42	3	0	0	1	0	202	
07:45	0	0	0	0	0	0	0	20	18	0	0	1	1	0	40	173	47	1	0	0	1	0	222	
08:00	0	0	0	0	0	0	0	17	5	1	0	0	1	0	24	185	18	1	0	0	0	0	204	
08:15	0	0	0	0	0	0	0	25	4	2	0	0	1	0	32	170	15	3	0	0	0	2	190	
08:30	0	0	0	0	0	0	0	21	8	3	0	0	0	0	32	119	12	3	1	0	0	0	135	
08:45	0	0	0	0	0	0	0	33	6	1	0	1	0	0	41	109	16	0	0	0	0	0	125	
09:00	0	0	0	0	0	0	0	31	5	0	1	0	0	0	37	127	20	0	0	0	1	0	148	
09:15	0	0	0	0	0	0	0	31	2	0	0	1	0	0	34	96	10	1	0	0	0	0	107	
09:30	0	0	0	0	0	0	0	20	4	0	1	0	0	0	25	94	9	1	0	0	1	0	105	
09:45	0	0	0	0	0	0	0	17	8	1	0	0	0	0	26	68	12	1	0	0	1	0	82	
16:00	0	0	0	0	0	0	0	23	2	0	0	0	0	0	25	47	10	1	1	0	0	0	59	
16:15	0	0	0	0	0	0	0	22	7	1	0	0	0	0	30	63	13	0	0	0	0	0	76	
16:30	0	0	0	0	0	0	0	18	3	0	0	1	1	0	23	65	13	0	0	0	0	0	78	
16:45	0	0	0	0	0	0	0	21	3	0	0	0	0	0	24	67	9	2	0	0	0	0	78	
17:00	0	0	0	0	0	0	0	34	3	2	0	0	0	0	39	75	10	0	0	0	0	0	85	
17:15	0	0	0	0	0	0	0	24	0	1	0	0	0	0	25	72	8	0	0	0	0	0	80	
17:30	0	0	0	0	0	0	0	16	4	0	0	0	0	0	20	69	8	1	0	0	1	0	79	
17:45	0	0	0	0	0	0	0	28	3	0	0	1	0	0	32	54	7	1	1	0	1	0	64	
18:00	0	0	0	0	0	0	0	27	3	0	0	0	0	0	30	69	5	0	0	0	0	0	74	
18:15	0	0	0	0	0	0	0	22	1	0	0	0	0	0	23	53	13	0	0	0	0	1	67	
18:30	0	0	0	0	0	0	0	27	1	0	0	0	0	0	28	63	4	0	0	0	0	0	67	
18:45	0	0	0	0	0	0	0	38	2	0	0	1	0	0	41	60	9	0	0	0	0	0	69	
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	0	0	0	0	0	0	0	133	62	2	0	4	1	2	204	578	174	5	0	0	3	2	762	
07:15	0	0	0	0	0	0	0	116	45	1	0	4	2	2	170	672	152	6	0	0	3	0	833	
07:30	0	0	0	0	0	0	0	103	37	3	0	3	3	0	149	684	122	8	0	0	2	2	818	
07:45	0	0	0	0	0	0	0	83	35	6	0	1	3	0	128	647	92	8	1	0	1	2	751	
08:00	0	0	0	0	0	0	0	96	23	7	0	1	2	0	129	583	61	7	1	0	0	2	654	
08:15	0	0	0	0	0	0	0	110	23	6	1	1	1	0	142	525	63	6	1	0	1	2	598	
08:30	0	0	0	0	0	0	0	116	21	4	1	2	0	0	144	451	58	4	1	0	1	0	515	
08:45	0	0	0	0	0	0	0	115	17	1	2	2	0	0	137	426	55	2	0	0	2	0	485	
09:00	0	0	0	0	0	0	0	99	19	1	2	1	0	0	122	385	51	3	0	0	3	0	442	
16:00	0	0	0	0	0	0	0	84	15	1	0	1	1	0	102	242	45	3	1	0	0	0	291	
16:15	0	0	0	0	0	0	0	95	16	3	0	1	1	0	116	270	45	2	0	0	0	0	317	
16:30	0	0	0	0	0	0	0	97	9	3	0	1	1	0	111	279	40	2	0	0	0	0	321	
16:45	0	0	0	0	0	0	0	95	10	3	0	0	0	0	108	283	35	3	0	0	1	0	322	
17:00	0	0	0	0	0	0	0	102	10	3	0	1	0	0	116	270	33	2	1	0	2	0	308	
17:15	0	0	0	0	0	0	0	95	10	1	0	1	0	0	107	264	28	2	1	0	2	0	297	
17:30	0	0	0	0	0	0	0	93	11	0	0	1	0	0	105	245	33	2	1	0	2	1	284	
17:45	0	0	0	0	0	0	0	104	8	0	0	1	0	0	113	239	29	1	1	0	1	1	272	
18:00	0	0	0	0	0	0	0	114	7	0	0	1	0	0	122	245	31	0	0	0	0	1	277	

Intelligent Data Collection Limited



Client: Vectos
 Project Number: ID02010
 Junction Number: Site 1

Date of Survey: 10.07.2014
 Junction Name: Northaw Rd/ Cattlegate Rd
 Junction Type: T-Junction

Arm A: Northaw Rd E (E)
 Arm B: Cattlegate Rd (S)

Arm C: Northaw Rd W (W)

Time	B to B								B to A								B to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	17	11	0	0	0	0	0	28	7	2	0	0	0	0	0	9
07:15	0	0	0	0	0	0	0	0	27	9	0	0	0	0	0	36	19	2	0	0	0	0	0	21
07:30	0	0	0	0	0	0	0	0	24	10	0	0	0	0	0	34	22	4	0	0	0	0	0	26
07:45	0	0	0	0	0	0	0	0	45	12	0	0	0	0	0	57	33	6	2	0	0	0	0	41
08:00	0	0	0	0	0	0	0	0	38	12	1	1	0	0	0	52	15	6	0	0	0	0	0	21
08:15	0	0	0	0	0	0	0	0	40	16	1	0	0	0	1	58	22	4	0	0	0	0	0	26
08:30	0	0	0	0	0	0	0	0	43	4	2	0	0	0	0	49	14	3	1	0	0	0	0	18
08:45	0	0	0	0	0	0	0	0	36	7	1	0	0	1	0	45	19	0	0	1	0	0	0	20
09:00	0	0	0	0	0	0	0	0	35	10	2	0	0	0	0	47	13	3	0	0	0	0	0	16
09:15	0	0	0	0	0	0	0	0	34	8	0	0	1	0	0	43	10	2	0	1	0	0	2	15
09:30	0	0	0	0	0	0	0	0	30	9	1	0	0	0	0	40	13	1	1	0	0	0	0	15
09:45	0	0	0	0	0	0	0	0	42	6	0	0	0	0	0	48	11	0	1	0	0	0	0	12
16:00	0	0	0	0	0	0	0	0	103	16	0	0	0	2	0	121	14	6	1	0	0	0	0	21
16:15	0	0	0	0	0	0	0	0	85	32	1	0	0	0	0	118	19	2	0	0	0	0	0	21
16:30	0	0	0	0	0	0	0	0	85	36	3	0	0	0	0	124	18	3	0	0	0	0	0	21
16:45	0	0	0	0	0	0	0	0	103	34	0	1	0	0	0	138	17	4	0	0	0	0	0	21
17:00	0	0	0	0	0	0	0	0	108	14	0	0	0	0	1	123	19	3	1	0	0	0	1	24
17:15	0	0	0	0	0	0	0	0	101	27	0	0	0	1	0	129	14	2	0	0	1	0	0	17
17:30	0	0	0	0	0	0	0	0	112	23	0	0	0	0	0	135	11	2	0	0	0	0	0	13
17:45	0	0	0	0	0	0	0	0	110	21	0	0	0	0	1	132	11	2	1	0	0	0	0	14
18:00	0	0	0	0	0	0	0	0	124	15	0	0	0	0	0	139	15	3	0	0	0	0	0	18
18:15	0	0	0	0	0	0	0	0	127	15	0	0	0	0	0	142	16	0	0	0	0	0	0	16
18:30	0	0	0	0	0	0	0	0	114	14	0	0	0	0	0	128	19	0	0	0	0	0	0	19
18:45	0	0	0	0	0	0	0	0	68	9	0	0	0	0	0	77	12	2	0	0	0	0	1	15
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	113	42	0	0	0	0	0	155	81	14	2	0	0	0	0	97
07:15	0	0	0	0	0	0	0	0	134	43	1	1	0	0	0	179	89	18	2	0	0	0	0	109
07:30	0	0	0	0	0	0	0	0	147	50	2	1	0	0	1	201	92	20	2	0	0	0	0	114
07:45	0	0	0	0	0	0	0	0	166	44	4	1	0	0	1	216	84	19	3	0	0	0	0	106
08:00	0	0	0	0	0	0	0	0	157	39	5	1	0	1	1	204	70	13	1	1	0	0	0	85
08:15	0	0	0	0	0	0	0	0	154	37	6	0	0	1	1	199	68	10	1	1	0	0	0	80
08:30	0	0	0	0	0	0	0	0	148	29	5	0	1	1	0	184	56	8	1	2	0	0	2	69
08:45	0	0	0	0	0	0	0	0	135	34	4	0	1	1	0	175	55	6	1	2	0	0	2	66
09:00	0	0	0	0	0	0	0	0	141	33	3	0	1	0	0	178	47	6	2	1	0	0	2	58
16:00	0	0	0	0	0	0	0	0	376	118	4	1	0	2	0	501	68	15	1	0	0	0	0	84
16:15	0	0	0	0	0	0	0	0	381	116	4	1	0	0	1	503	73	12	1	0	0	0	1	87
16:30	0	0	0	0	0	0	0	0	397	111	3	1	0	1	1	514	68	12	1	0	1	0	1	83
16:45	0	0	0	0	0	0	0	0	424	98	0	1	0	1	1	525	61	11	1	0	1	0	1	75
17:00	0	0	0	0	0	0	0	0	431	85	0	0	0	1	2	519	55	9	2	0	1	0	1	68
17:15	0	0	0	0	0	0	0	0	447	86	0	0	0	1	1	535	51	9	1	0	1	0	0	62
17:30	0	0	0	0	0	0	0	0	473	74	0	0	0	0	1	548	53	7	1	0	0	0	0	61
17:45	0	0	0	0	0	0	0	0	475	65	0	0	0	0	1	541	61	5	1	0	0	0	0	67
18:00	0	0	0	0	0	0	0	0	433	53	0	0	0	0	0	486	62	5	0	0	0	0	1	68

Intelligent Data Collection Limited



Client: Vectos
 Project Number: ID02010
 Junction Number: Site 1

Date of Survey: 10.07.2014
 Junction Name: Northaw Rd/ Cattlegate Rd
 Junction Type: T-Junction

Arm A: Northaw Rd E (E)
 Arm B: Cattlegate Rd (S)

Arm C: Northaw Rd W (W)

Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	11	3	0	0	0	0	0	14	8	3	2	0	0	0	0	13
07:15	0	0	0	0	0	0	0	0	12	4	0	0	1	0	0	17	15	4	1	0	2	0	0	22
07:30	0	0	0	0	0	0	0	0	22	4	0	0	0	0	0	26	12	1	1	1	1	0	0	16
07:45	0	0	0	0	0	0	0	0	27	3	2	0	0	0	0	32	16	3	0	0	1	0	0	20
08:00	0	0	0	0	0	0	0	0	17	3	0	0	0	0	0	20	17	7	0	0	0	0	0	24
08:15	0	0	0	0	0	0	0	0	17	5	1	1	0	0	0	24	21	2	2	0	0	0	0	25
08:30	0	0	0	0	0	0	0	0	16	2	1	0	0	0	0	19	19	0	0	0	0	0	0	19
08:45	0	0	0	0	0	0	0	0	21	1	0	0	0	0	0	22	15	4	0	0	0	0	0	19
09:00	0	0	0	0	0	0	0	0	18	2	0	0	0	0	0	20	18	2	0	0	1	1	0	22
09:15	0	0	0	0	0	0	0	0	20	3	0	0	0	0	0	23	16	5	0	0	0	0	0	21
09:30	0	0	0	0	0	0	0	0	15	0	1	0	0	0	0	16	16	9	1	0	1	0	0	27
09:45	0	0	0	0	0	0	0	0	9	4	0	0	0	0	0	13	13	3	4	0	0	0	0	20
16:00	0	0	0	0	0	0	0	0	10	3	1	0	0	0	0	14	37	6	2	0	1	0	0	46
16:15	0	0	0	0	0	0	0	0	17	9	0	0	0	0	0	26	28	10	0	0	1	0	0	39
16:30	0	0	0	0	0	0	0	0	13	5	0	0	0	0	0	18	30	13	0	0	0	1	0	44
16:45	0	0	0	0	0	0	0	0	30	3	0	0	0	0	0	33	34	7	2	0	0	0	1	44
17:00	0	0	0	0	0	0	0	0	27	5	0	1	0	0	0	33	47	8	0	0	0	0	1	56
17:15	0	0	0	0	0	0	0	0	20	3	0	0	0	0	0	23	50	12	0	0	0	1	0	63
17:30	0	0	0	0	0	0	0	0	25	3	0	0	0	0	0	28	42	6	2	0	1	1	0	52
17:45	0	0	0	0	0	0	0	0	23	3	0	0	0	0	0	26	54	13	0	0	0	0	0	67
18:00	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0	31	41	9	1	0	0	0	0	51
18:15	0	0	0	0	0	0	0	0	33	2	0	0	0	0	0	35	49	5	2	0	0	0	0	56
18:30	0	0	0	0	0	0	0	0	17	3	1	0	0	0	0	21	33	3	1	0	1	0	0	38
18:45	0	0	0	0	0	0	0	0	26	4	0	0	0	0	0	30	34	7	0	0	0	0	0	41
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	0	0	0	0	0	0	0	0	72	14	2	0	1	0	0	89	51	11	4	1	4	0	0	71
07:15	0	0	0	0	0	0	0	0	78	14	2	0	1	0	0	95	60	15	2	1	4	0	0	82
07:30	0	0	0	0	0	0	0	0	83	15	3	1	0	0	0	102	66	13	3	1	2	0	0	85
07:45	0	0	0	0	0	0	0	0	77	13	4	1	0	0	0	95	73	12	2	0	1	0	0	88
08:00	0	0	0	0	0	0	0	0	71	11	2	1	0	0	0	85	72	13	2	0	0	0	0	87
08:15	0	0	0	0	0	0	0	0	72	10	2	1	0	0	0	85	73	8	2	0	1	1	0	85
08:30	0	0	0	0	0	0	0	0	75	8	1	0	0	0	0	84	68	11	0	0	1	1	0	81
08:45	0	0	0	0	0	0	0	0	74	6	1	0	0	0	0	81	65	20	1	0	2	1	0	89
09:00	0	0	0	0	0	0	0	0	62	9	1	0	0	0	0	72	63	19	5	0	2	1	0	90
16:00	0	0	0	0	0	0	0	0	70	20	1	0	0	0	0	91	129	36	4	0	2	1	1	173
16:15	0	0	0	0	0	0	0	0	87	22	0	1	0	0	0	110	139	38	2	0	1	1	2	183
16:30	0	0	0	0	0	0	0	0	90	16	0	1	0	0	0	107	161	40	2	0	0	2	2	207
16:45	0	0	0	0	0	0	0	0	102	14	0	1	0	0	0	117	173	33	4	0	1	2	2	215
17:00	0	0	0	0	0	0	0	0	95	14	0	1	0	0	0	110	193	39	2	0	1	2	1	238
17:15	0	0	0	0	0	0	0	0	97	11	0	0	0	0	0	108	187	40	3	0	1	2	0	233
17:30	0	0	0	0	0	0	0	0	110	10	0	0	0	0	0	120	186	33	5	0	1	1	0	226
17:45	0	0	0	0	0	0	0	0	102	10	1	0	0	0	0	113	177	30	4	0	1	0	0	212
18:00	0	0	0	0	0	0	0	0	105	11	1	0	0	0	0	117	157	24	4	0	1	0	0	186

Intelligent Data Collection Limited



Client: Vectos
Project Number: ID02010
Junction Number: Site 1

Date of Survey: 10.07.2014
Junction Name: Northaw Rd/ Cattlegate Rd
Junction Type: T-Junction

Time	Arm A Approach								Arm A Exit									
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	125	62	2	0	0	0	2	191	25	14	2	0	0	0	0	41		
07:15	196	57	1	0	1	1	2	258	42	13	1	0	2	0	0	58		
07:30	197	52	3	0	2	1	0	255	36	11	1	1	1	0	0	50		
07:45	193	65	1	0	1	2	0	262	61	15	0	0	1	0	0	77		
08:00	202	23	2	0	0	1	0	228	55	19	1	1	0	0	0	76		
08:15	195	19	5	0	0	1	2	222	61	18	3	0	0	0	1	83		
08:30	140	20	6	1	0	0	0	167	62	4	2	0	0	0	0	68		
08:45	142	22	1	0	1	0	0	166	51	11	1	0	0	1	0	64		
09:00	158	25	0	1	0	1	0	185	53	12	2	0	1	1	0	69		
09:15	127	12	1	0	1	0	0	141	50	13	0	0	1	0	0	64		
09:30	114	13	1	1	0	1	0	130	46	18	2	0	1	0	0	67		
09:45	85	20	2	0	0	1	0	108	55	9	4	0	0	0	0	68		
16:00	70	12	1	1	0	0	0	84	140	22	2	0	1	2	0	167		
16:15	85	20	1	0	0	0	0	106	113	42	1	0	1	0	0	157		
16:30	83	16	0	0	1	1	0	101	115	49	3	0	0	1	0	168		
16:45	88	12	2	0	0	0	0	102	137	41	2	1	0	0	1	182		
17:00	109	13	2	0	0	0	0	124	155	22	0	0	0	0	2	179		
17:15	96	8	1	0	0	0	0	105	151	39	0	0	0	2	0	192		
17:30	85	12	1	0	0	1	0	99	154	29	2	0	1	1	0	187		
17:45	82	10	1	1	1	1	0	96	164	34	0	0	0	0	1	199		
18:00	96	8	0	0	0	0	0	104	165	24	1	0	0	0	0	190		
18:15	75	14	0	0	0	0	1	90	176	20	2	0	0	0	0	198		
18:30	90	5	0	0	0	0	0	95	147	17	1	0	1	0	0	166		
18:45	98	11	0	0	1	0	0	110	102	16	0	0	0	0	0	118		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	711	236	7	0	4	4	4	966	164	53	4	1	4	0	0	226		
07:15	788	197	7	0	4	5	2	1003	194	58	3	2	4	0	0	261		
07:30	787	159	11	0	3	5	2	967	213	63	5	2	2	0	1	286		
07:45	730	127	14	1	1	4	2	879	239	56	6	1	1	0	1	304		
08:00	679	84	14	1	1	2	2	783	229	52	7	1	0	1	1	291		
08:15	635	86	12	2	1	2	2	740	227	45	8	0	1	2	1	284		
08:30	567	79	8	2	2	1	0	659	216	40	5	0	2	2	0	265		
08:45	541	72	3	2	2	2	0	622	200	54	5	0	3	2	0	264		
09:00	484	70	4	2	1	3	0	564	204	52	8	0	3	1	0	268		
16:00	326	60	4	1	1	1	0	393	505	154	8	1	2	3	1	674		
16:15	365	61	5	0	1	1	0	433	520	154	6	1	1	1	3	686		
16:30	376	49	5	0	1	1	0	432	558	151	5	1	0	3	3	721		
16:45	378	45	6	0	0	1	0	430	597	131	4	1	1	3	3	740		
17:00	372	43	5	1	1	2	0	424	624	124	2	0	1	3	3	757		
17:15	359	38	3	1	1	2	0	404	634	126	3	0	1	3	1	768		
17:30	338	44	2	1	1	2	1	389	659	107	5	0	1	1	1	774		
17:45	343	37	1	1	1	1	1	385	652	95	4	0	1	0	1	753		
18:00	359	38	0	0	1	0	1	399	590	77	4	0	1	0	0	672		

Intelligent Data Collection Limited



Client: Vectos
Project Number: ID02010
Junction Number: Site 1

Date of Survey: 10.07.2014
Junction Name: Northaw Rd/ Cattlegate Rd
Junction Type: T-Junction

Time	Arm B Approach							Arm B Exit								
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	24	13	0	0	0	0	0	37	102	43	0	0	0	0	2	147
07:15	46	11	0	0	0	0	0	57	170	49	1	0	1	1	0	222
07:30	46	14	0	0	0	0	0	60	178	46	3	0	0	1	0	228
07:45	78	18	2	0	0	0	0	98	200	50	3	0	0	1	0	254
08:00	53	18	1	1	0	0	0	73	202	21	1	0	0	0	0	224
08:15	62	20	1	0	0	0	1	84	187	20	4	1	0	0	2	214
08:30	57	7	3	0	0	0	0	67	135	14	4	1	0	0	0	154
08:45	55	7	1	1	0	1	0	65	130	17	0	0	0	0	0	147
09:00	48	13	2	0	0	0	0	63	145	22	0	0	0	1	0	168
09:15	44	10	0	1	1	0	2	58	116	13	1	0	0	0	0	130
09:30	43	10	2	0	0	0	0	55	109	9	2	0	0	1	0	121
09:45	53	6	1	0	0	0	0	60	77	16	1	0	0	1	0	95
16:00	117	22	1	0	0	2	0	142	57	13	2	1	0	0	0	73
16:15	104	34	1	0	0	0	0	139	80	22	0	0	0	0	0	102
16:30	103	39	3	0	0	0	0	145	78	18	0	0	0	0	0	96
16:45	120	38	0	1	0	0	0	159	97	12	2	0	0	0	0	111
17:00	127	17	1	0	0	0	2	147	102	15	0	1	0	0	0	118
17:15	115	29	0	0	1	1	0	146	92	11	0	0	0	0	0	103
17:30	123	25	0	0	0	0	0	148	94	11	1	0	0	1	0	107
17:45	121	23	1	0	0	0	1	146	77	10	1	1	0	1	0	90
18:00	139	18	0	0	0	0	0	157	98	7	0	0	0	0	0	105
18:15	143	15	0	0	0	0	0	158	86	15	0	0	0	0	1	102
18:30	133	14	0	0	0	0	0	147	80	7	1	0	0	0	0	88
18:45	80	11	0	0	0	0	1	92	86	13	0	0	0	0	0	99
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	194	56	2	0	0	0	0	252	650	188	7	0	1	3	2	851
07:15	223	61	3	1	0	0	0	288	750	166	8	0	1	3	0	928
07:30	239	70	4	1	0	0	1	315	767	137	11	1	0	2	2	920
07:45	250	63	7	1	0	0	1	322	724	105	12	2	0	1	2	846
08:00	227	52	6	2	0	1	1	289	654	72	9	2	0	0	2	739
08:15	222	47	7	1	0	1	1	279	597	73	8	2	0	1	2	683
08:30	204	37	6	2	1	1	2	253	526	66	5	1	0	1	0	599
08:45	190	40	5	2	1	1	2	241	500	61	3	0	0	2	0	566
09:00	188	39	5	1	1	0	2	236	447	60	4	0	0	3	0	514
16:00	444	133	5	1	0	2	0	585	312	65	4	1	0	0	0	382
16:15	454	128	5	1	0	0	2	590	357	67	2	1	0	0	0	427
16:30	465	123	4	1	1	1	2	597	369	56	2	1	0	0	0	428
16:45	485	109	1	1	1	1	2	600	385	49	3	1	0	1	0	439
17:00	486	94	2	0	1	1	3	587	365	47	2	2	0	2	0	418
17:15	498	95	1	0	1	1	1	597	361	39	2	1	0	2	0	405
17:30	526	81	1	0	0	0	1	609	355	43	2	1	0	2	1	404
17:45	536	70	1	0	0	0	1	608	341	39	2	1	0	1	1	385
18:00	495	58	0	0	0	0	1	554	350	42	1	0	0	0	1	394

Intelligent Data Collection Limited



Client: Vectos
Project Number: ID02010
Junction Number: Site 1

Date of Survey: 10.07.2014
Junction Name: Northaw Rd/ Cattlegate Rd
Junction Type: T-Junction

Time	Arm C Approach							Arm C Exit								
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	19	6	2	0	0	0	0	27	41	24	2	0	0	0	0	67
07:15	27	8	1	0	3	0	0	39	57	14	0	0	1	0	2	74
07:30	34	5	1	1	1	0	0	42	63	14	0	0	2	0	0	79
07:45	43	6	2	0	1	0	0	52	53	24	2	0	1	1	0	81
08:00	34	10	0	0	0	0	0	44	32	11	1	0	0	1	0	45
08:15	38	7	3	1	0	0	0	49	47	8	2	0	0	1	0	58
08:30	35	2	1	0	0	0	0	38	35	11	4	0	0	0	0	50
08:45	36	5	0	0	0	0	0	41	52	6	1	1	1	0	0	61
09:00	36	4	0	0	1	1	0	42	44	8	0	1	0	0	0	53
09:15	36	8	0	0	0	0	0	44	41	4	0	1	1	0	2	49
09:30	31	9	2	0	1	0	0	43	33	5	1	1	0	0	0	40
09:45	22	7	4	0	0	0	0	33	28	8	2	0	0	0	0	38
16:00	47	9	3	0	1	0	0	60	37	8	1	0	0	0	0	46
16:15	45	19	0	0	1	0	0	65	41	9	1	0	0	0	0	51
16:30	43	18	0	0	0	1	0	62	36	6	0	0	1	1	0	44
16:45	64	10	2	0	0	0	1	77	38	7	0	0	0	0	0	45
17:00	74	13	0	1	0	0	1	89	53	6	3	0	0	0	1	63
17:15	70	15	0	0	0	1	0	86	38	2	1	0	1	0	0	42
17:30	67	9	2	0	1	1	0	80	27	6	0	0	0	0	0	33
17:45	77	16	0	0	0	0	0	93	39	5	1	0	1	0	0	46
18:00	70	11	1	0	0	0	0	82	42	6	0	0	0	0	0	48
18:15	82	7	2	0	0	0	0	91	38	1	0	0	0	0	0	39
18:30	50	6	2	0	1	0	0	59	46	1	0	0	0	0	0	47
18:45	60	11	0	0	0	0	0	71	50	4	0	0	1	0	1	56
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	123	25	6	1	5	0	0	160	214	76	4	0	4	1	2	301
07:15	138	29	4	1	5	0	0	177	205	63	3	0	4	2	2	279
07:30	149	28	6	2	2	0	0	187	195	57	5	0	3	3	0	263
07:45	150	25	6	1	1	0	0	183	167	54	9	0	1	3	0	234
08:00	143	24	4	1	0	0	0	172	166	36	8	1	1	2	0	214
08:15	145	18	4	1	1	1	0	170	178	33	7	2	1	1	0	222
08:30	143	19	1	0	1	1	0	165	172	29	5	3	2	0	2	213
08:45	139	26	2	0	2	1	0	170	170	23	2	4	2	0	2	203
09:00	125	28	6	0	2	1	0	162	146	25	3	3	1	0	2	180
16:00	199	56	5	0	2	1	1	264	152	30	2	0	1	1	0	186
16:15	226	60	2	1	1	1	2	293	168	28	4	0	1	1	1	203
16:30	251	56	2	1	0	2	2	314	165	21	4	0	2	1	1	194
16:45	275	47	4	1	1	2	2	332	156	21	4	0	1	0	1	183
17:00	288	53	2	1	1	2	1	348	157	19	5	0	2	0	1	184
17:15	284	51	3	0	1	2	0	341	146	19	2	0	2	0	0	169
17:30	296	43	5	0	1	1	0	346	146	18	1	0	1	0	0	166
17:45	279	40	5	0	1	0	0	325	165	13	1	0	1	0	0	180
18:00	262	35	5	0	1	0	0	303	176	12	0	0	1	0	1	190

Intelligent Data Collection Limited

Client: Vectos
Project Number: ID02010
Junction Number: Site 1
Date of Survey: 10.07.2014
Junction Name: Northaw Rd/ Cattlegate Rd
Junction Type: T-Junction



Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	168	81	4	0	0	0	2	255
07:15	269	76	2	0	4	1	2	354
07:30	277	71	4	1	3	1	0	357
07:45	314	89	5	0	2	2	0	412
08:00	289	51	3	1	0	1	0	345
08:15	295	46	9	1	0	1	3	355
08:30	232	29	10	1	0	0	0	272
08:45	233	34	2	1	1	1	0	272
09:00	242	42	2	1	1	2	0	290
09:15	207	30	1	1	2	0	2	243
09:30	188	32	5	1	1	1	0	228
09:45	160	33	7	0	0	1	0	201
16:00	234	43	5	1	1	2	0	286
16:15	234	73	2	0	1	0	0	310
16:30	229	73	3	0	1	2	0	308
16:45	272	60	4	1	0	0	1	338
17:00	310	43	3	1	0	0	3	360
17:15	281	52	1	0	1	2	0	337
17:30	275	46	3	0	1	2	0	327
17:45	280	49	2	1	1	1	1	335
18:00	305	37	1	0	0	0	0	343
18:15	300	36	2	0	0	0	1	339
18:30	273	25	2	0	1	0	0	301
18:45	238	33	0	0	1	0	1	273
Start Time	Rolling Hour							Total
07:00	1028	317	15	1	9	4	4	1378
07:15	1149	287	14	2	9	5	2	1468
07:30	1175	257	21	3	5	5	3	1469
07:45	1130	215	27	3	2	4	3	1384
08:00	1049	160	24	4	1	3	3	1244
08:15	1002	151	23	4	2	4	3	1189
08:30	914	135	15	4	4	3	2	1077
08:45	870	138	10	4	5	4	2	1033
09:00	797	137	15	3	4	4	2	962
16:00	969	249	14	2	3	4	1	1242
16:15	1045	249	12	2	2	2	4	1316
16:30	1092	228	11	2	2	4	4	1343
16:45	1138	201	11	2	2	4	4	1362
17:00	1146	190	9	2	3	5	4	1359
17:15	1141	184	7	1	3	5	1	1342
17:30	1160	168	8	1	2	3	2	1344
17:45	1158	147	7	1	2	1	2	1318
18:00	1116	131	5	0	2	0	2	1256

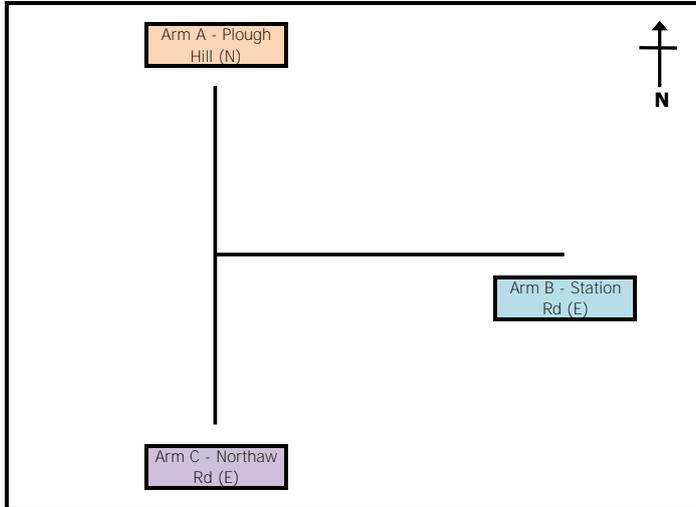
Intelligent Data Collection Limited



Client: Vectos
Project Number: ID02010
Junction Number: Site 2
Date of Survey: 10.07.2014
Junction Name: Plough Hill/ Station Rd
Junction Type: T-Junction

X Coordinate	Y Coordinate	Google Maps Link
51.707795	-0.113726	Click Here
AM Peak Conditions	PM Peak Conditions	
Dry and Clear	Dry and Clear	

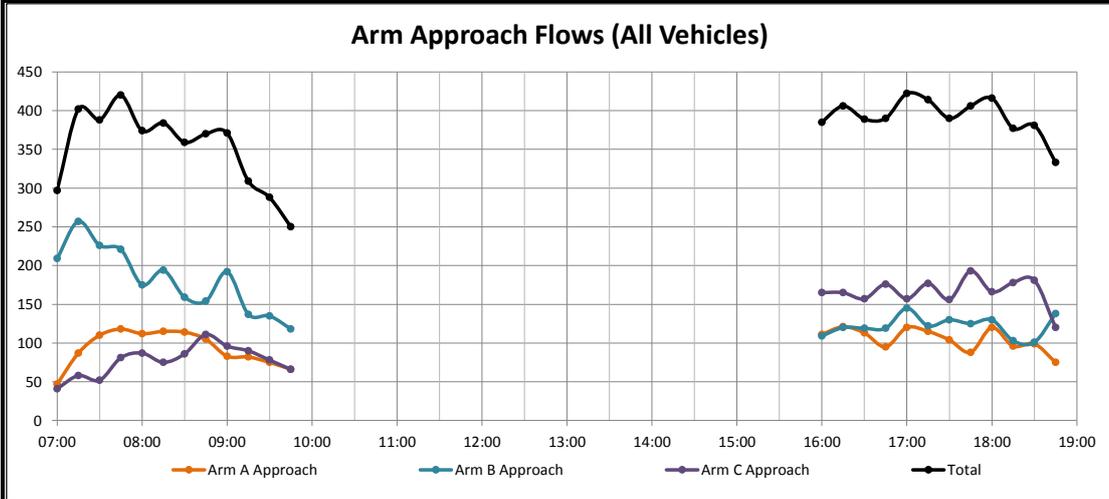
Junction Layout



Aerial Mapping and On-site Camera View



Junction Flow Profile



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited



Client: Vectos
 Project Number: ID02010
 Junction Number: Site 2

Date of Survey: 10.07.2014
 Junction Name: Plough Hill/ Station Rd
 Junction Type: T-Junction

Arm A: Plough Hill (N)
 Arm B: Station Rd (E)

Arm C: Northaw Rd (E)

Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	18	5	0	0	0	0	1	24	18	4	0	0	0	1	0	23	
07:15	0	0	0	0	0	0	0	34	3	0	0	0	1	1	39	38	8	0	0	0	0	2	48	
07:30	0	0	0	0	0	0	0	50	10	2	1	2	1	0	66	36	5	0	0	0	1	2	44	
07:45	0	0	0	0	0	0	0	68	9	0	0	0	0	0	77	36	4	1	0	0	0	0	41	
08:00	0	0	0	0	0	0	0	67	11	2	0	0	0	0	80	25	6	0	0	1	0	0	32	
08:15	0	0	0	0	0	0	0	43	5	4	0	0	0	1	53	52	10	0	0	0	0	0	62	
08:30	0	0	0	0	0	0	0	44	4	0	2	0	0	0	50	55	9	0	0	0	0	0	64	
08:45	0	0	0	0	0	0	0	38	5	0	0	0	0	0	43	57	4	1	0	0	0	0	62	
09:00	0	0	0	0	0	0	0	30	4	0	2	1	1	0	38	37	6	1	0	0	1	0	45	
09:15	0	0	0	0	0	0	0	31	3	2	0	0	0	0	36	45	1	0	0	0	0	0	46	
09:30	0	0	0	0	0	0	0	25	2	1	2	0	0	0	30	36	7	1	0	1	0	0	45	
09:45	0	0	0	0	0	0	0	21	4	0	0	0	0	0	25	27	11	2	0	0	1	0	41	
16:00	0	0	0	0	0	0	0	24	4	0	1	0	0	0	29	53	21	7	1	0	0	0	82	
16:15	0	0	0	0	0	0	0	23	8	0	0	0	0	0	31	73	17	0	0	0	0	0	90	
16:30	0	0	0	0	0	0	0	24	5	0	0	0	0	0	29	65	18	1	0	0	0	0	84	
16:45	0	0	0	0	0	0	0	25	4	0	0	0	0	0	29	51	14	1	0	0	0	0	66	
17:00	0	0	0	0	0	0	0	34	4	2	0	0	0	0	40	63	14	1	0	0	2	0	80	
17:15	0	0	0	0	0	0	0	37	4	0	0	0	1	0	42	55	17	1	0	0	0	0	73	
17:30	0	0	0	0	0	0	0	24	6	1	0	0	1	0	32	64	7	0	0	0	1	0	72	
17:45	0	0	0	0	0	0	0	24	5	0	1	0	0	0	30	51	7	0	0	0	0	0	58	
18:00	0	0	0	0	0	0	0	35	5	0	0	0	0	0	40	70	9	1	0	0	0	0	80	
18:15	0	0	0	0	0	0	0	32	3	0	0	0	0	0	35	55	6	0	0	0	0	0	61	
18:30	0	0	0	0	0	0	0	24	2	0	0	0	0	0	26	64	8	0	0	0	0	1	73	
18:45	0	0	0	0	0	0	0	14	2	0	0	0	0	0	16	52	6	0	0	1	0	0	59	
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	0	0	0	0	0	0	0	170	27	2	1	2	2	2	206	128	21	1	0	0	2	4	156	
07:15	0	0	0	0	0	0	0	219	33	4	1	2	2	1	262	135	23	1	0	1	1	4	165	
07:30	0	0	0	0	0	0	0	228	35	8	1	2	1	1	276	149	25	1	0	1	1	2	179	
07:45	0	0	0	0	0	0	0	222	29	6	2	0	0	1	260	168	29	1	0	1	0	0	199	
08:00	0	0	0	0	0	0	0	192	25	6	2	0	0	1	226	189	29	1	0	1	0	0	220	
08:15	0	0	0	0	0	0	0	155	18	4	4	1	1	1	184	201	29	2	0	0	1	0	233	
08:30	0	0	0	0	0	0	0	143	16	2	4	1	1	0	167	194	20	2	0	0	1	0	217	
08:45	0	0	0	0	0	0	0	124	14	3	4	1	1	0	147	175	18	3	0	1	1	0	198	
09:00	0	0	0	0	0	0	0	107	13	3	4	1	1	0	129	145	25	4	0	1	2	0	177	
16:00	0	0	0	0	0	0	0	96	21	0	1	0	0	0	118	242	70	9	1	0	0	0	322	
16:15	0	0	0	0	0	0	0	106	21	2	0	0	0	0	129	252	63	3	0	0	2	0	320	
16:30	0	0	0	0	0	0	0	120	17	2	0	0	1	0	140	234	63	4	0	0	2	0	303	
16:45	0	0	0	0	0	0	0	120	18	3	0	0	2	0	143	233	52	3	0	0	3	0	291	
17:00	0	0	0	0	0	0	0	119	19	3	1	0	2	0	144	233	45	2	0	0	3	0	283	
17:15	0	0	0	0	0	0	0	120	20	1	1	0	2	0	144	240	40	2	0	0	1	0	283	
17:30	0	0	0	0	0	0	0	115	19	1	1	0	1	0	137	240	29	1	0	0	1	0	271	
17:45	0	0	0	0	0	0	0	115	15	0	1	0	0	0	131	240	30	1	0	0	0	1	272	
18:00	0	0	0	0	0	0	0	105	12	0	0	0	0	0	117	241	29	1	0	1	0	1	273	

Intelligent Data Collection Limited



Client: Vectos
 Project Number: ID02010
 Junction Number: Site 2

Date of Survey: 10.07.2014
 Junction Name: Plough Hill/ Station Rd
 Junction Type: T-Junction

Arm A: Plough Hill (N)
 Arm B: Station Rd (E)

Arm C: Northaw Rd (E)

Time	B to B							B to A							B to C									
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	32	11	0	0	0	0	0	43	110	54	2	0	0	0	0	166
07:15	0	0	0	0	0	0	0	0	34	7	1	0	0	0	1	43	161	49	2	0	1	0	1	214
07:30	0	0	0	0	0	0	0	0	33	5	0	0	0	0	1	39	142	43	1	0	0	1	0	187
07:45	0	0	0	0	0	0	0	0	34	8	0	0	0	0	0	42	134	41	1	0	1	1	1	179
08:00	0	0	0	0	0	0	0	0	28	5	1	0	0	0	0	34	125	14	1	0	0	1	0	141
08:15	0	0	0	0	0	0	0	0	23	4	3	0	0	0	0	30	145	17	1	0	0	1	0	164
08:30	0	0	0	0	0	0	0	0	24	4	2	1	1	0	0	32	107	14	5	0	1	0	0	127
08:45	0	0	0	0	0	0	0	0	42	3	0	1	0	0	0	46	91	16	1	0	0	0	0	108
09:00	0	0	0	0	0	0	0	0	37	6	1	1	0	0	0	45	125	21	1	0	0	0	0	147
09:15	0	0	0	0	0	0	0	0	33	3	0	1	0	0	0	37	85	14	0	0	1	0	0	100
09:30	0	0	0	0	0	0	0	0	28	12	0	0	2	0	0	42	78	14	0	0	0	1	0	93
09:45	0	0	0	0	0	0	0	0	30	3	0	0	0	0	0	33	68	14	2	0	0	1	0	85
16:00	0	0	0	0	0	0	0	0	29	8	0	1	0	1	0	39	59	9	2	0	0	0	0	70
16:15	0	0	0	0	0	0	0	0	31	5	2	0	0	2	0	40	69	11	0	0	0	0	0	80
16:30	0	0	0	0	0	0	0	0	41	7	0	0	0	0	0	48	59	10	0	0	1	1	0	71
16:45	0	0	0	0	0	0	0	0	37	10	0	0	0	0	0	47	60	9	3	0	0	0	0	72
17:00	0	0	0	0	0	0	0	0	42	3	0	0	0	1	0	46	89	9	1	0	0	0	0	99
17:15	0	0	0	0	0	0	0	0	49	6	0	0	0	0	0	55	62	4	1	0	0	0	0	67
17:30	0	0	0	0	0	0	0	0	39	5	0	0	0	0	2	46	75	9	0	0	0	0	0	84
17:45	0	0	0	0	0	0	0	0	35	5	0	0	0	0	0	40	71	12	1	0	1	0	0	85
18:00	0	0	0	0	0	0	0	0	50	2	0	0	0	0	0	52	72	6	0	0	0	0	0	78
18:15	0	0	0	0	0	0	0	0	35	1	0	0	0	0	0	36	58	9	0	0	0	0	0	67
18:30	0	0	0	0	0	0	0	0	34	1	0	0	0	0	0	35	59	7	0	0	0	0	0	66
18:45	0	0	0	0	0	0	0	0	27	2	0	1	0	0	0	30	98	8	0	1	1	0	0	108
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	0	0	0	0	0	0	0	0	133	31	1	0	0	1	1	167	547	187	6	0	2	2	2	746
07:15	0	0	0	0	0	0	0	0	129	25	2	0	0	1	1	158	562	147	5	0	2	3	2	721
07:30	0	0	0	0	0	0	0	0	118	22	4	0	0	0	1	145	546	115	4	0	1	4	1	671
07:45	0	0	0	0	0	0	0	0	109	21	6	1	1	0	0	138	511	86	8	0	2	3	1	611
08:00	0	0	0	0	0	0	0	0	117	16	6	2	1	0	0	142	468	61	8	0	1	2	0	540
08:15	0	0	0	0	0	0	0	0	126	17	6	3	1	0	0	153	468	68	8	0	1	1	0	546
08:30	0	0	0	0	0	0	0	0	136	16	3	4	1	0	0	160	408	65	7	0	2	0	0	482
08:45	0	0	0	0	0	0	0	0	140	24	1	3	2	0	0	170	379	65	2	0	1	1	0	448
09:00	0	0	0	0	0	0	0	0	128	24	1	2	2	0	0	157	356	63	3	0	1	2	0	425
16:00	0	0	0	0	0	0	0	0	138	30	2	1	0	3	0	174	247	39	5	0	1	1	0	293
16:15	0	0	0	0	0	0	0	0	151	25	2	0	0	3	0	181	277	39	4	0	1	1	0	322
16:30	0	0	0	0	0	0	0	0	169	26	0	0	0	1	0	196	270	32	5	0	1	1	0	309
16:45	0	0	0	0	0	0	0	0	167	24	0	0	0	1	2	194	286	31	5	0	0	0	0	322
17:00	0	0	0	0	0	0	0	0	165	19	0	0	0	1	2	187	297	34	3	0	1	0	0	335
17:15	0	0	0	0	0	0	0	0	173	18	0	0	0	0	2	193	280	31	2	0	1	0	0	314
17:30	0	0	0	0	0	0	0	0	159	13	0	0	0	0	2	174	276	36	1	0	1	0	0	314
17:45	0	0	0	0	0	0	0	0	154	9	0	0	0	0	0	163	260	34	1	0	1	0	0	296
18:00	0	0	0	0	0	0	0	0	146	6	0	1	0	0	0	153	287	30	0	1	1	0	0	319

Intelligent Data Collection Limited



Client: Vectos
 Project Number: ID02010
 Junction Number: Site 2

Date of Survey: 10.07.2014
 Junction Name: Plough Hill/ Station Rd
 Junction Type: T-Junction

Arm A: Plough Hill (N)
 Arm B: Station Rd (E)

Arm C: Northaw Rd (E)

Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	20	8	2	0	0	0	0	30	7	4	0	0	0	0	0	11
07:15	0	0	0	0	0	0	0	0	22	8	1	0	0	2	0	33	17	8	0	0	0	0	0	25
07:30	0	0	0	0	0	0	0	0	32	8	1	0	0	0	0	41	9	2	0	0	0	0	0	11
07:45	0	0	0	0	0	0	0	0	43	12	0	0	1	0	0	56	19	4	0	1	1	0	0	25
08:00	0	0	0	0	0	0	0	0	44	9	0	0	0	0	0	53	25	8	0	1	0	0	0	34
08:15	0	0	0	0	0	0	0	0	41	10	3	0	0	0	0	54	15	6	0	0	0	0	0	21
08:30	0	0	0	0	0	0	0	0	53	3	1	0	0	0	0	57	22	5	2	0	0	0	0	29
08:45	0	0	0	0	0	0	0	0	73	13	1	0	0	1	0	88	22	1	0	0	0	0	0	23
09:00	0	0	0	0	0	0	0	0	49	12	0	0	1	1	0	63	27	4	2	0	0	0	0	33
09:15	0	0	0	0	0	0	0	0	56	10	0	0	1	0	0	67	19	3	0	1	0	0	0	23
09:30	0	0	0	0	0	0	0	0	47	8	2	0	3	0	0	60	15	2	0	1	0	0	0	18
09:45	0	0	0	0	0	0	0	0	41	8	2	0	0	0	0	51	11	3	1	0	0	0	0	15
16:00	0	0	0	0	0	0	0	0	108	23	3	0	0	2	0	136	24	5	0	0	0	0	0	29
16:15	0	0	0	0	0	0	0	0	94	31	1	0	1	0	0	127	29	9	0	0	0	0	0	38
16:30	0	0	0	0	0	0	0	0	88	33	4	0	0	1	0	126	22	9	0	0	0	0	0	31
16:45	0	0	0	0	0	0	0	0	93	35	1	1	0	0	0	130	43	2	1	0	0	0	0	46
17:00	0	0	0	0	0	0	0	0	114	14	0	0	0	0	2	130	19	8	0	0	0	0	0	27
17:15	0	0	0	0	0	0	0	0	112	21	1	0	0	1	0	135	38	4	0	0	0	0	0	42
17:30	0	0	0	0	0	0	0	0	103	27	2	0	1	1	0	134	20	2	0	0	0	0	0	22
17:45	0	0	0	0	0	0	0	0	142	25	0	0	0	0	0	167	23	3	0	0	0	0	0	26
18:00	0	0	0	0	0	0	0	0	122	19	1	0	0	0	0	142	21	3	0	0	0	0	0	24
18:15	0	0	0	0	0	0	0	0	142	18	2	0	0	0	0	162	16	0	0	0	0	0	0	16
18:30	0	0	0	0	0	0	0	0	134	18	1	0	1	0	0	154	27	0	0	0	0	0	0	27
18:45	0	0	0	0	0	0	0	0	86	11	0	0	0	0	1	98	18	4	0	0	0	0	0	22
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	117	36	4	0	3	0	0	160	52	18	0	1	1	0	0	72
07:15	0	0	0	0	0	0	0	0	141	37	2	0	3	0	0	183	70	22	0	2	1	0	0	95
07:30	0	0	0	0	0	0	0	0	160	39	4	0	1	0	0	204	68	20	0	2	1	0	0	91
07:45	0	0	0	0	0	0	0	0	181	34	4	0	1	0	0	220	81	23	2	2	1	0	0	109
08:00	0	0	0	0	0	0	0	0	211	35	5	0	0	1	0	252	84	20	2	1	0	0	0	107
08:15	0	0	0	0	0	0	0	0	216	38	5	0	1	2	0	262	86	16	4	0	0	0	0	106
08:30	0	0	0	0	0	0	0	0	231	38	2	0	2	2	0	275	90	13	4	1	0	0	0	108
08:45	0	0	0	0	0	0	0	0	225	43	3	0	5	2	0	278	83	10	2	2	0	0	0	97
09:00	0	0	0	0	0	0	0	0	193	38	4	0	5	1	0	241	72	12	3	2	0	0	0	89
16:00	0	0	0	0	0	0	0	0	383	122	9	1	1	3	0	519	118	25	1	0	0	0	0	144
16:15	0	0	0	0	0	0	0	0	389	113	6	1	1	1	2	513	113	28	1	0	0	0	0	142
16:30	0	0	0	0	0	0	0	0	407	103	6	1	0	2	2	521	122	23	1	0	0	0	0	146
16:45	0	0	0	0	0	0	0	0	422	97	4	1	1	2	2	529	120	16	1	0	0	0	0	137
17:00	0	0	0	0	0	0	0	0	471	87	3	0	1	2	2	566	100	17	0	0	0	0	0	117
17:15	0	0	0	0	0	0	0	0	479	92	4	0	1	2	0	578	102	12	0	0	0	0	0	114
17:30	0	0	0	0	0	0	0	0	509	89	5	0	1	1	0	605	80	8	0	0	0	0	0	88
17:45	0	0	0	0	0	0	0	0	540	80	4	0	1	0	0	625	87	6	0	0	0	0	0	93
18:00	0	0	0	0	0	0	0	0	484	66	4	0	1	0	1	556	82	7	0	0	0	0	0	89

Intelligent Data Collection Limited



Client: Vectos
 Project Number: ID02010
 Junction Number: Site 2

Date of Survey: 10.07.2014
 Junction Name: Plough Hill/ Station Rd
 Junction Type: T-Junction

Time	Arm A Approach								Arm A Exit									
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	36	9	0	0	0	1	1	47	39	15	0	0	0	0	0	54		
07:15	72	11	0	0	0	1	3	87	51	15	1	0	0	1	0	68		
07:30	86	15	2	1	2	2	2	110	42	7	0	0	0	0	1	50		
07:45	104	13	1	0	0	0	0	118	53	12	0	1	1	0	0	67		
08:00	92	17	2	0	1	0	0	112	53	13	1	1	0	0	0	68		
08:15	95	15	4	0	0	0	1	115	38	10	3	0	0	0	0	51		
08:30	99	13	0	2	0	0	0	114	46	9	4	1	1	0	0	61		
08:45	95	9	1	0	0	0	0	105	64	4	0	1	0	0	0	69		
09:00	67	10	1	2	1	2	0	83	64	10	3	1	0	0	0	78		
09:15	76	4	2	0	0	0	0	82	52	6	0	2	0	0	0	60		
09:30	61	9	2	2	1	0	0	75	43	14	0	1	2	0	0	60		
09:45	48	15	2	0	0	1	0	66	41	6	1	0	0	0	0	48		
16:00	77	25	7	2	0	0	0	111	53	13	0	1	0	1	0	68		
16:15	96	25	0	0	0	0	0	121	60	14	2	0	0	2	0	78		
16:30	89	23	1	0	0	0	0	113	63	16	0	0	0	0	0	79		
16:45	76	18	1	0	0	0	0	95	80	12	1	0	0	0	0	93		
17:00	97	18	3	0	0	2	0	120	61	11	0	0	0	1	0	73		
17:15	92	21	1	0	0	1	0	115	87	10	0	0	0	0	0	97		
17:30	88	13	1	0	0	2	0	104	59	7	0	0	0	0	2	68		
17:45	75	12	0	1	0	0	0	88	58	8	0	0	0	0	0	66		
18:00	105	14	1	0	0	0	0	120	71	5	0	0	0	0	0	76		
18:15	87	9	0	0	0	0	0	96	51	1	0	0	0	0	0	52		
18:30	88	10	0	0	0	0	1	99	61	1	0	0	0	0	0	62		
18:45	66	8	0	0	1	0	0	75	45	6	0	1	0	0	0	52		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	298	48	3	1	2	4	6	362	185	49	1	1	1	1	1	239		
07:15	354	56	5	1	3	3	5	427	199	47	2	2	1	1	1	253		
07:30	377	60	9	1	3	2	3	455	186	42	4	2	1	0	1	236		
07:45	390	58	7	2	1	0	1	459	190	44	8	3	2	0	0	247		
08:00	381	54	7	2	1	0	1	446	201	36	8	3	1	0	0	249		
08:15	356	47	6	4	1	2	1	417	212	33	10	3	1	0	0	259		
08:30	337	36	4	4	1	2	0	384	226	29	7	5	1	0	0	268		
08:45	299	32	6	4	2	2	0	345	223	34	3	5	2	0	0	267		
09:00	252	38	7	4	2	3	0	306	200	36	4	4	2	0	0	246		
16:00	338	91	9	2	0	0	0	440	256	55	3	1	0	3	0	318		
16:15	358	84	5	0	0	2	0	449	264	53	3	0	0	3	0	323		
16:30	354	80	6	0	0	3	0	443	291	49	1	0	0	1	0	342		
16:45	353	70	6	0	0	5	0	434	287	40	1	0	0	1	2	331		
17:00	352	64	5	1	0	5	0	427	265	36	0	0	0	1	2	304		
17:15	360	60	3	1	0	3	0	427	275	30	0	0	0	0	2	307		
17:30	355	48	2	1	0	2	0	408	239	21	0	0	0	0	2	262		
17:45	355	45	1	1	0	0	1	403	241	15	0	0	0	0	0	256		
18:00	346	41	1	0	1	0	1	390	228	13	0	1	0	0	0	242		

Intelligent Data Collection Limited



Client: Vectos
Project Number: ID02010
Junction Number: Site 2

Date of Survey: 10.07.2014
Junction Name: Plough Hill/ Station Rd
Junction Type: T-Junction

Time	Arm B Approach								Arm B Exit									
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	142	65	2	0	0	0	0	209	38	12	2	0	0	1	0	53		
07:15	195	56	3	0	1	1	1	257	60	16	1	0	2	0	2	81		
07:30	175	48	1	0	0	1	1	226	68	13	1	0	0	1	2	85		
07:45	168	49	1	0	1	1	1	221	79	16	1	0	1	0	0	97		
08:00	153	19	2	0	0	1	0	175	69	15	0	0	1	0	0	85		
08:15	168	21	4	0	0	1	0	194	93	20	3	0	0	0	0	116		
08:30	131	18	7	1	2	0	0	159	108	12	1	0	0	0	0	121		
08:45	133	19	1	1	0	0	0	154	130	17	2	0	0	1	0	150		
09:00	162	27	2	1	0	0	0	192	86	18	1	0	1	2	0	108		
09:15	118	17	0	1	1	0	0	137	101	11	0	0	1	0	0	113		
09:30	106	26	0	0	2	1	0	135	83	15	3	0	4	0	0	105		
09:45	98	17	2	0	0	1	0	118	68	19	4	0	0	1	0	92		
16:00	88	17	2	1	0	1	0	109	161	44	10	1	0	2	0	218		
16:15	100	16	2	0	0	2	0	120	167	48	1	0	1	0	0	217		
16:30	100	17	0	0	1	1	0	119	153	51	5	0	0	1	0	210		
16:45	97	19	3	0	0	0	0	119	144	49	2	1	0	0	0	196		
17:00	131	12	1	0	0	1	0	145	177	28	1	0	0	2	2	210		
17:15	111	10	1	0	0	0	0	122	167	38	2	0	0	1	0	208		
17:30	114	14	0	0	0	0	2	130	167	34	2	0	1	2	0	206		
17:45	106	17	1	0	1	0	0	125	193	32	0	0	0	0	0	225		
18:00	122	8	0	0	0	0	0	130	192	28	2	0	0	0	0	222		
18:15	93	10	0	0	0	0	0	103	197	24	2	0	0	0	0	223		
18:30	93	8	0	0	0	0	0	101	198	26	1	0	1	0	1	227		
18:45	125	10	0	2	1	0	0	138	138	17	0	0	1	0	1	157		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	680	218	7	0	2	3	3	913	245	57	5	0	3	2	4	316		
07:15	691	172	7	0	2	4	3	879	276	60	3	0	4	1	4	348		
07:30	664	137	8	0	1	4	2	816	309	64	5	0	2	1	2	383		
07:45	620	107	14	1	3	3	1	749	349	63	5	0	2	0	0	419		
08:00	585	77	14	2	2	2	0	682	400	64	6	0	1	1	0	472		
08:15	594	85	14	3	2	1	0	699	417	67	7	0	1	3	0	495		
08:30	544	81	10	4	3	0	0	642	425	58	4	0	2	3	0	492		
08:45	519	89	3	3	3	1	0	618	400	61	6	0	6	3	0	476		
09:00	484	87	4	2	3	2	0	582	338	63	8	0	6	3	0	418		
16:00	385	69	7	1	1	4	0	467	625	192	18	2	1	3	0	841		
16:15	428	64	6	0	1	4	0	503	641	176	9	1	1	3	2	833		
16:30	439	58	5	0	1	2	0	505	641	166	10	1	0	4	2	824		
16:45	453	55	5	0	0	1	2	516	655	149	7	1	1	5	2	820		
17:00	462	53	3	0	1	1	2	522	704	132	5	0	1	5	2	849		
17:15	453	49	2	0	1	0	2	507	719	132	6	0	1	3	0	861		
17:30	435	49	1	0	1	0	2	488	749	118	6	0	1	2	0	876		
17:45	414	43	1	0	1	0	0	459	780	110	5	0	1	0	1	897		
18:00	433	36	0	2	1	0	0	472	725	95	5	0	2	0	2	829		

Intelligent Data Collection Limited



Client: Vectos
Project Number: ID02010
Junction Number: Site 2

Date of Survey: 10.07.2014
Junction Name: Plough Hill/ Station Rd
Junction Type: T-Junction

Time	Arm C Approach							Arm C Exit								
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	27	12	2	0	0	0	0	41	128	59	2	0	0	0	1	190
07:15	39	16	1	0	2	0	0	58	195	52	2	0	1	1	2	253
07:30	41	10	1	0	0	0	0	52	192	53	3	1	2	2	0	253
07:45	62	16	0	1	2	0	0	81	202	50	1	0	1	1	1	256
08:00	69	17	0	1	0	0	0	87	192	25	3	0	0	1	0	221
08:15	56	16	3	0	0	0	0	75	188	22	5	0	0	1	1	217
08:30	75	8	3	0	0	0	0	86	151	18	5	2	1	0	0	177
08:45	95	14	1	0	0	1	0	111	129	21	1	0	0	0	0	151
09:00	76	16	2	0	1	1	0	96	155	25	1	2	1	1	0	185
09:15	75	13	0	1	1	0	0	90	116	17	2	0	1	0	0	136
09:30	62	10	2	1	3	0	0	78	103	16	1	2	0	1	0	123
09:45	52	11	3	0	0	0	0	66	89	18	2	0	0	1	0	110
16:00	132	28	3	0	0	2	0	165	83	13	2	1	0	0	0	99
16:15	123	40	1	0	1	0	0	165	92	19	0	0	0	0	0	111
16:30	110	42	4	0	0	1	0	157	83	15	0	0	1	1	0	100
16:45	136	37	2	1	0	0	0	176	85	13	3	0	0	0	0	101
17:00	133	22	0	0	0	0	2	157	123	13	3	0	0	0	0	139
17:15	150	25	1	0	0	1	0	177	99	8	1	0	0	1	0	109
17:30	123	29	2	0	1	1	0	156	99	15	1	0	0	1	0	116
17:45	165	28	0	0	0	0	0	193	95	17	1	1	1	0	0	115
18:00	143	22	1	0	0	0	0	166	107	11	0	0	0	0	0	118
18:15	158	18	2	0	0	0	0	178	90	12	0	0	0	0	0	102
18:30	161	18	1	0	1	0	0	181	83	9	0	0	0	0	0	92
18:45	104	15	0	0	0	0	1	120	112	10	0	1	1	0	0	124
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	169	54	4	1	4	0	0	232	717	214	8	1	4	4	4	952
07:15	211	59	2	2	4	0	0	278	781	180	9	1	4	5	3	983
07:30	228	59	4	2	2	0	0	295	774	150	12	1	3	5	2	947
07:45	262	57	6	2	2	0	0	329	733	115	14	2	2	3	2	871
08:00	295	55	7	1	0	1	0	359	660	86	14	2	1	2	1	766
08:15	302	54	9	0	1	2	0	368	623	86	12	4	2	2	1	730
08:30	321	51	6	1	2	2	0	383	551	81	9	4	3	1	0	649
08:45	308	53	5	2	5	2	0	375	503	79	5	4	2	2	0	595
09:00	265	50	7	2	5	1	0	330	463	76	6	4	2	3	0	554
16:00	501	147	10	1	1	3	0	663	343	60	5	1	1	1	0	411
16:15	502	141	7	1	1	1	2	655	383	60	6	0	1	1	0	451
16:30	529	126	7	1	0	2	2	667	390	49	7	0	1	2	0	449
16:45	542	113	5	1	1	2	2	666	406	49	8	0	0	2	0	465
17:00	571	104	3	0	1	2	2	683	416	53	6	1	1	2	0	479
17:15	581	104	4	0	1	2	0	692	400	51	3	1	1	2	0	458
17:30	589	97	5	0	1	1	0	693	391	55	2	1	1	1	0	451
17:45	627	86	4	0	1	0	0	718	375	49	1	1	1	0	0	427
18:00	566	73	4	0	1	0	1	645	392	42	0	1	1	0	0	436

Intelligent Data Collection Limited

Client: Vectos
Project Number: ID02010
Junction Number: Site 2

Date of Survey: 10.07.2014
Junction Name: Plough Hill/ Station Rd
Junction Type: T-Junction



Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	205	86	4	0	0	1	1	297
07:15	306	83	4	0	3	2	4	402
07:30	302	73	4	1	2	3	3	388
07:45	334	78	2	1	3	1	1	420
08:00	314	53	4	1	1	1	0	374
08:15	319	52	11	0	0	1	1	384
08:30	305	39	10	3	2	0	0	359
08:45	323	42	3	1	0	1	0	370
09:00	305	53	5	3	2	3	0	371
09:15	269	34	2	2	2	0	0	309
09:30	229	45	4	3	6	1	0	288
09:45	198	43	7	0	0	2	0	250
16:00	297	70	12	3	0	3	0	385
16:15	319	81	3	0	1	2	0	406
16:30	299	82	5	0	1	2	0	389
16:45	309	74	6	1	0	0	0	390
17:00	361	52	4	0	0	3	2	422
17:15	353	56	3	0	0	2	0	414
17:30	325	56	3	0	1	3	2	390
17:45	346	57	1	1	1	0	0	406
18:00	370	44	2	0	0	0	0	416
18:15	338	37	2	0	0	0	0	377
18:30	342	36	1	0	1	0	1	381
18:45	295	33	0	2	2	0	1	333
Start Time	Rolling Hour							Total
07:00	1147	320	14	2	8	7	9	1507
07:15	1256	287	14	3	9	7	8	1584
07:30	1269	256	21	3	6	6	5	1566
07:45	1272	222	27	5	6	3	2	1537
08:00	1261	186	28	5	3	3	1	1487
08:15	1252	186	29	7	4	5	1	1484
08:30	1202	168	20	9	6	4	0	1409
08:45	1126	174	14	9	10	5	0	1338
09:00	1001	175	18	8	10	6	0	1218
16:00	1224	307	26	4	2	7	0	1570
16:15	1288	289	18	1	2	7	2	1607
16:30	1322	264	18	1	1	7	2	1615
16:45	1348	238	16	1	1	8	4	1616
17:00	1385	221	11	1	2	8	4	1632
17:15	1394	213	9	1	2	5	2	1626
17:30	1379	194	8	1	2	3	2	1589
17:45	1396	174	6	1	2	0	1	1580
18:00	1345	150	5	2	3	0	2	1507