



# The High Speed Rail (London – West Midlands) (Greatmoor Railway Sidings Etc.) Order

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## **Environmental Statement – technical appendices** **Volume 4.11:** Transport Assessment



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(Greatmoor Railway Sidings Etc.) Order

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**Volume 4.11:**  
Transport Assessment



## Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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# 1 Introduction

## 1.1 Background

- 1.1.1 FCC Waste Services (UK) Ltd. (FCC) operates the Calvert landfill site and Greatmoor Energy from Waste (EfW) facility, which are located to the south of the village of Calvert, west of the Aylesbury Link railway line and the proposed Phase One alignment of High Speed Two (HS2) (London-West Midlands). As part of its current operation, FCC brings in material to the Calvert landfill and Greatmoor EfW facility by rail which is off loaded at existing railway sidings currently located at Calvert on the west side of the Aylesbury Link railway line. Relocation of the sidings to the east of the Aylesbury Link railway line is required to accommodate the proposed HS2 Phase One alignment.
- 1.1.2 The HS2 Phase One Environmental Statement<sup>1</sup> (HS2 Phase One ES) included the relocation of the sidings to a location on the east side of the Aylesbury Link railway line and the proposed HS2 alignment, to the north of Decoypond Wood. The layout of the sidings was subsequently modified as part of Supplementary Environmental Statement (SES)<sup>3</sup> and Additional Provision (AP)<sup>4</sup> (which was deposited in October 2015)<sup>2</sup>, to more closely replicate the existing railway sidings layout and track length.
- 1.1.3 FCC, Buckinghamshire County Council (BCC), Aylesbury Vale District Council (AVDC), Calvert Green Parish Council and local residents petitioned the HS2 Ltd. Phase One hybrid Bill in the House of Commons. They requested the relocation of the sidings approximately 1.8km south of Calvert south of Sheepphouse Wood at Greatmoor, Buckinghamshire, opposite the Greatmoor EfW facility. The House of Commons Select Committee recognised benefits for local residents in distancing the sidings from the village and indicated a preference for an option south of Sheepphouse Wood in the Second Special Report of Session 2015-16.
- 1.1.4 As such, HS2 Ltd has worked with FCC in developing a scheme at Greatmoor, which forms the basis of this ES.
- 1.1.5 HS2 Ltd is therefore promoting an application for a Transport and Works Act Order (TWAO) to construct the replacement sidings. These are the 'Greatmoor Railway Sidings' and are referred to herein as the Proposed Scheme. If the TWAO is made by the Secretary of State for Transport, this will result in the removal of the provisions contained within the HS2 Phase One hybrid Bill which sought to authorise the northern sidings under AP<sup>4</sup>. In doing so, HS2 Ltd recognises the benefits of the TWAO scheme over the AP<sup>4</sup> scheme in addressing the petitioners' concerns. The House of Commons Select Committee expressed a strong preference for the southern site to be the location for the relocated sidings. HS2 Ltd considers that the proposed TWAO will deliver the outcome requested by the Select Committee, addressing the petitioners' concerns.

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<sup>1</sup> HS2 Phase One Environmental Statement available online at <https://www.gov.uk/government/collections/hs2-phase-one-environmental-statement-documents>

<sup>2</sup> HS2 Phase One SES<sup>3</sup> and AP<sup>4</sup> available online at <https://www.gov.uk/government/collections/supplementary-environmental-statement-3-and-additional-provision-4-supplementary-environmental-information>

- 1.1.6 This Transport Assessment (TA) identifies and assesses the traffic and transport impacts related to the Proposed Scheme. It forms part of Volume 4: Environmental Statement Technical Appendices, of the Environmental Statement (ES), as part of the Environmental Impact Assessment (EIA) process.

## 1.2 Approach to Assessment

- 1.2.1 The report has been prepared in line with Department for Transport's Guidance on Transport Assessment (March 2007) and National Planning Policy Guidance.
- 1.2.2 The approach to assessment has been set out in the scoping report for the Proposed Scheme which was submitted to the Secretary of State for Transport on 16th May 2016 as part of a request for a Scoping Opinion. This has been subject to feedback and discussion with the local highway authority BCC as well as the Department for Transport (DfT).
- 1.2.3 Construction of the Proposed Scheme will result in temporary impacts from construction traffic and the closure or diversion of Public Rights of Way (PRoW). Operation of the Proposed Scheme will result in permanent impacts from the realignment of PRoW. The amount of traffic generated by the Proposed Scheme during operation will be very low (comprising ad-hoc maintenance vehicle trips). Furthermore, these operational trips represent a redistribution of existing operational trips (which are also routed on the A41, to the site south of Calvert), rather than a change in the number of operational trips generated. Consequently, operational impacts relating to traffic have not been included within this assessment.
- 1.2.4 The Proposed Scheme has no material impact on public transport or other transport modes and consequently these are not considered in this TA, other than in the discussion of baseline.
- 1.2.5 As the Proposed Scheme is linked to the HS2 Phase One scheme, assessment of impacts within this ES has been undertaken in two ways:
- with a baseline including the HS2 Phase One scheme. The assessment of the Proposed Scheme has been made against this baseline; and
  - to demonstrate the cumulative impact of both the Proposed Scheme and the HS2 Phase One scheme, a combined assessment has been made against a baseline which does not include HS2 Phase One.
- 1.2.6 The Proposed Scheme would be expected to reduce traffic in the vicinity of the existing sidings site, south of Calvert, with some potential benefit on congestion and traffic flows in that area. However, as operational traffic generated by the sidings is low, this impact is not deemed to have the potential to result in significant effects and is therefore not considered within this TA.

## 1.3 Report Structure

- 1.3.1 This Report is formed of a further eight sections:
- Section 2 outlines transport related national and local government policies pertinent to the planning application;
  - Section 3 provides baseline information;

- Section 4 provides an outline of the development proposals;
- Section 5 provides future year baseline information;
- Section 6 outlines the predicted traffic generation during construction and operation;
- Section 7 assesses the impact of the development against a future baseline, both with HS2 Phase One (Proposed Scheme impact assessment) and without HS2 Phase One (cumulative impact assessment);
- Section 8 summarises the proposed mitigation; and
- Section 9 summarises and concludes the report.

1.3.2 The following sections comprise Appendix material associated with this Transport Assessment:

- Section 10 Appendix: Accident data; and
- Section 11 Appendix: Traffic survey data.

## 2 Planning Policy and Guidance Review

### 2.1 Introduction

2.1.1 This section of the report outlines the planning policy and guidance which is relevant to the proposed relocation of the sidings.

### 2.2 National Planning Policy Framework

2.2.1 The National Planning Policy Framework (NPPF) was published and came into effect on Tuesday 27th March 2012. The NPPF applies to England and is designed to supersede and simplify previous national planning policies. It is intended as a framework for the development of local and neighbourhood plans. However, existing Local Plan policies should not be considered out of date because they were adopted prior to the NPPF's publication.

2.2.2 The NPPF emphasises that the purpose of planning is to help achieve sustainable development; i.e. that which results in positive growth and economic, environmental, and social progress. The NPPF emphasises the need to support sustainable development where environmental conditions should be considered in conjunction with economic and social matters. The NPPF is therefore based upon a presumption in favour of sustainable development, which should be allowed to proceed without delay. Therefore, proposed development that accords with an up to date Local Plan should be approved, while that which conflicts should be refused.

2.2.3 Regarding Achieving Sustainable Development the NPPF states that there are three dimensions to sustainable development: economic, social and environmental, and that the planning system therefore needs to perform a number of roles:

- “an economic role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth”;
- “a social role – supporting strong, vibrant and healthy communities...with accessible local services that reflect the community's needs and support its health, social and cultural well-being”; and
- “an environmental role – contributing to protecting and enhancing our natural, built and historic environment”

2.2.4 The NPPF sets out twelve core land-use planning principles, which should underpin both plan-making and decision-taking. One of the principles states that planning should:

- “actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable.”

2.2.5 The NPPF sets out policies to achieve sustainable development under 13 headings, one of which is titled “Promoting sustainable transport”. Within this section, the NPPF states that:

- “All developments that generate significant amounts of movement should be

supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure.
- safe and suitable access to the site can be achieved for all people.
- improvements can be undertaken within the transport network that cost-effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe".
- "Plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised".
- "Developments should be located and designed where practical to:
  - accommodate the efficient delivery of goods and supplies.
  - give priority to pedestrian and cycle movements, and have access to high quality public transport facilities."

## 2.3 National Planning Practice Guidance

2.3.1 The National Planning Practice Guidance (NPPG) is intended to be consulted in conjunction with NPPF. Of specific relevance is Section 42 of NPPG 'Transport Assessments and Statements in decision-taking'. Section 42, last updated in March 2014, defines the overarching principles of Transport Assessments (TA) and Transport Statements (TS). It identifies that these documents are suitable mechanisms for assessing and mitigating the negative transport impacts of development in order to promote the use of more sustainable transport options and, in summary, states:

- TA's and TS's evaluate the potential transport impacts of a development proposal. They should promote mitigation measures, where necessary, and should also establish whether the residual transport impacts of a proposed development are likely to be severe, in the context of NPPF.

## 2.4 Buckinghamshire County Council Strategic Plan 2015–2017

2.4.1 BCC's Strategic Plan is the key document for the authority and establishes the county-wide priorities of the Council. The plan is focused on delivery of three themes:

- Safeguarding the vulnerable;
- Creating opportunities and building self-reliance; and
- Keeping Buckinghamshire thriving and attractive.

2.4.2 Within 'keeping Buckinghamshire thriving and attractive' the following are pertinent:

- "Continue to protect the Green Belt, AONB, Rights of Way and Green Spaces";

- "Mitigate the impact of HS2 on Buckinghamshire"; and
- "Get the best deal for Buckinghamshire from economic growth and development".

## 2.5 Buckinghamshire County Council Local Transport Plan 4 2016–2036

2.5.1 Buckinghamshire's Local Transport Plan 4 (LTP 4) was adopted in April 2016. The Plan sets out BCC transport policies for the years 2016 – 2036 and builds on the previous three LTP's. The Plan aims to "make Buckinghamshire a great place to live and work, maintaining and enhancing its special environment, helping its people and businesses thrive and grow". The vision and objectives of the Plan are focused on what transport can do to help improve the economy, environment, and quality of life in Buckinghamshire until 2036.

2.5.2 The LTP comprises 19 core policies relating to transport, including:

- Policy 4 and Policy 5: Maximising our rail network. "We will work to ensure that HS2 is built with minimal disruption to residents and that it brings benefits to Buckinghamshire: including a new East West Rail station in the north of the county and high-quality restoration of construction sites."
- Policy 9: The role of freight transport. "Freight should move around the county as efficiently as possible, without imposing inappropriate costs on business, consumers, residents or our unique environment."
- Policy 10: Improving our environment. "[We will] take advantage of opportunities to encourage more sustainable travel choices and reduce noise pollution. We will do this through the transport investments we promote, by managing the impact of new development, by promoting the use of Travel Plans".
- Policy 17: Road safety. "We will work with partners to support road safety and reduce the risk of death or injury on the county's highways...We will work to ensure that new developments provide safe and suitable access".

## 2.6 Buckinghamshire Freight Strategy

2.6.1 The BCC Freight Strategy was developed at the same time as BCC's LTP3 (the LTP4 states that this Strategy is due to be updated). It considers freight and transport in Buckinghamshire in the context of the UK and outlines BCC's strategic approach to freight management.

2.6.2 The Strategy states that Heavy Goods Vehicles (HGVs) will be encouraged to use those roads best suited for their size, primarily being the 'Strategic Inter Urban corridors' and other primary routes for through traffic. The Strategy shows the A41 as one such Strategic Inter Urban corridor. This is of relevance to this assessment, as construction HGVs associated with the Proposed Scheme will be routed on the A41, which has been identified as a suitable route for such vehicle types.

## 2.7 Vale of Aylesbury Local Plan (VALP) - Draft 2016

- 2.7.1 Aylesbury Vale District Council's local plan (VALP) is a new development strategy for the area and is scheduled to be adopted in summer 2017. It is currently in draft format. The VALP will include the overall strategy for the district, site allocations and development management policies.
- 2.7.2 The vision for Aylesbury "to secure the economic, social and environmental wellbeing of the people and businesses in the area" is based on the characteristics of the area and the key issues and challenges it faces.
- 2.7.3 Policy T2 Footpaths and cycle routes states that "for developments which will have implications for the footpath and cycle route networks the following criteria will apply, including:
- The council will safeguard existing pedestrian routes from adverse effects of new development. Development proposals must provide for direct, convenient and safe pedestrian movement and routes, connected where appropriate to the existing pedestrian network. In deciding planning applications the council will use planning conditions or legal agreements to secure the provision of new footpaths and the improvement of existing routes."
- 2.7.4 In addition, Policy C4 relates to the protection of public rights of way stating development proposals should ensure:
- "existing rights of way and byways are retained and enhanced;
  - the delivery of improvements to the public rights of way network;
  - no adverse impact on the existing public rights of way network;
  - new pedestrian routes are provided that link to the wider public rights of way network;
  - new cycle routes, bridleways and where appropriate greenways or dual/multiple routes are included; and
  - there are no negative visual impacts on the setting and amenity of existing rights of way."



## 3 Baseline Conditions

### 3.1 Extant Site

- 3.1.1 The existing railway sidings site, part of the Calvert landfill site and Greatmoor EfW facility, is currently in close proximity to the village of Calvert, adjacent to the Aylesbury Link railway line. Waste is brought in by rail and off loaded at the current sidings, located east of Calvert on the west side of the Aylesbury Link railway line.
- 3.1.2 Processed waste is predominantly household, with approximately 85% delivered by rail. The site has the capacity to accept up to 10 trains per day. Operational hours are, generally, from 0700 to 1630 Monday to Friday for road borne waste and 0500 to 1800 for train borne waste. The Proposed Scheme operational hours are proposed to be the same as at present.
- 3.1.3 The extant site has a single access point via Brackley Lane. Brackley Lane is primarily a residential road, with direct frontal access to properties.
- 3.1.4 The majority of landfill traffic generated by the site is understood to approach from the south. Therefore, the primary access route to the existing site is understood to be around Calvert (via Werner Terrace and Perry Hill) and south to the A41 through Edgcott and Grendon Underwood (via Buckingham Road/ Grendon Road/ Edgcott Road and The Broadway). The A41 proceeds to the west towards Bicester (and the M40 junction 9) and to the east towards Aylesbury.
- 3.1.5 The operation of the existing railway sidings site does not generate a notable amount of traffic and therefore the impact of the sidings alone upon the existing highway network is not deemed to be significant. Highway access under the Proposed Scheme is to remain as at present, although traffic would be routed on the private EfW access road from the A41, rather than on the roads towards Calvert, from the A41.

### 3.2 Proposed Site

#### Land Use

- 3.2.1 The Proposed Scheme is located at Greatmoor, south of Calvert and Sheephouse Wood SSSI. The application site is for an area of approximately 35.5ha primarily comprised of agricultural land (currently used for grazing or arable crops) directly to the east of the Aylesbury Link railway line.
- 3.2.2 The proposed site is bounded to the north by Muxwell Brook and Sheephouse Wood SSSI, to the east by Finemere Wood SSSI and to the south by other woodlands and a nature reserve. Greatmoor EfW facility and the associated current and former landfills are located on the west side of the Aylesbury Link railway line, immediately west of the Proposed Scheme sidings location.
- 3.2.3 Both Sheephouse Wood SSSI and Finemere Wood SSSI to the east are designated as ancient woodland and SSSI.
- 3.2.4 Two residential dwellings lie adjacent to the Proposed Scheme; Lower Greatmoor Farm approximately 150m to the west and Finemerehill House, approximately 210m to the east.

## Access

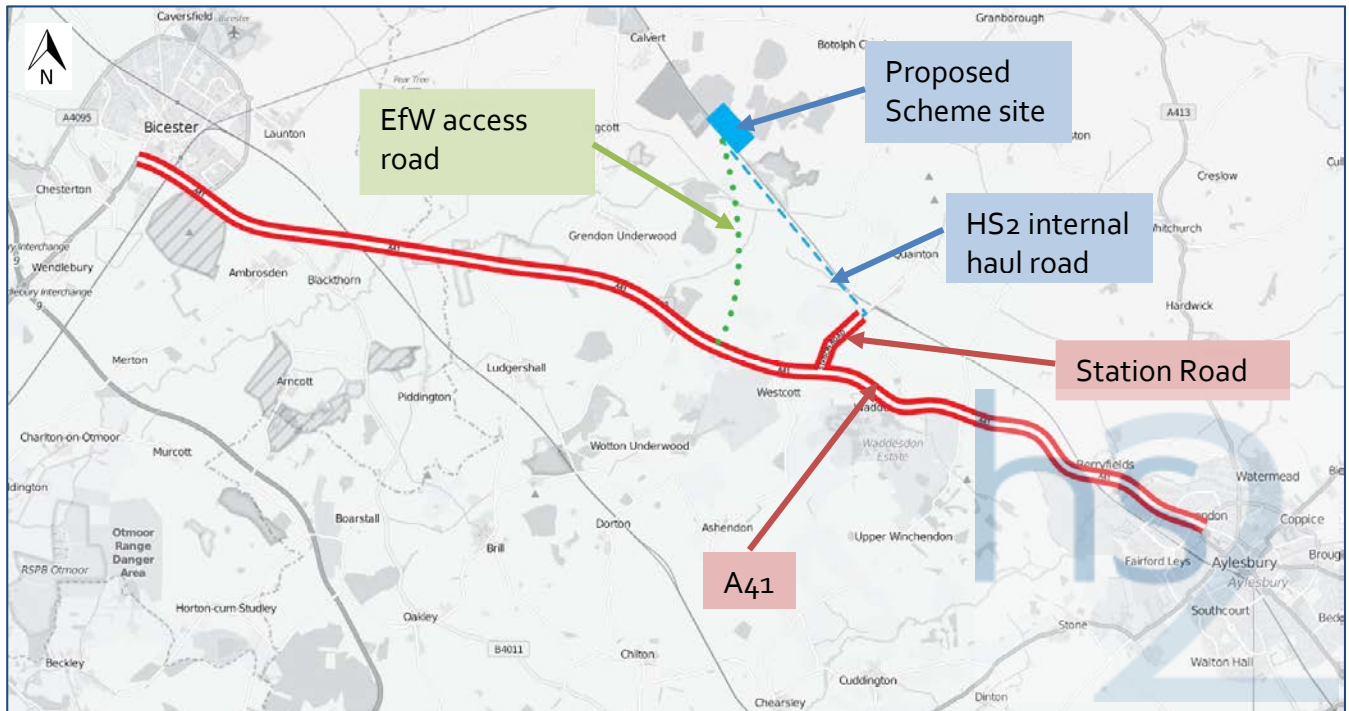
- 3.2.5 There is no direct access to the Proposed Scheme site via the public highway. A new access road was built as part of the Greatmoor EfW facility and became operational in July 2014. The access road is 4.5km long and is aligned along the Akeman Street Disused Railway (now Greatmoor Road) which forms the access road to the Greatmoor EfW facility to the south. The access road connects to the A41 via a new roundabout, near the Woodham industrial site. All construction and landfill traffic associated with the Greatmoor EfW facility uses this road to access the site. The old landfill access via Brackley Lane in Calvert Green is no longer available to HGV traffic, although may continue to be used by cars, Light Good Vehicles (LGVs) and service vehicles.
- 3.2.6 For the purposes of this assessment, it is assumed that construction of the Proposed Scheme will primarily be served from the Station Road overbridge satellite compound, established for the construction of HS2 Phase One, under powers which will be enacted by the hybrid Bill and not the TWAO. Construction traffic would then utilise an internal HS2 Phase One haul road to access the Proposed Scheme site. During rail systems work and operation of the Proposed Scheme, it is expected that traffic would utilise the Greatmoor EfW facility access road, but this will result in a small number of trips and have no substantial impact.

## 3.3 Existing Highway Network

### Strategic and Local Highway Network

- 3.3.1 The road network surrounding the site, to be used by Proposed Scheme construction traffic and subject to assessment, is illustrated in Figure 1. This comprises the A41 (between Bicester and Aylesbury) and Station Road (between the A41 and the HS2 Phase One scheme Station Road overbridge satellite compound). Beyond the extent of the A41, it is expected that construction traffic is routed towards the Strategic Road Network, most likely the M40.

Figure 1: Existing Highway Network and Proposed Scheme Site Access



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### A41

- 3.3.2 The A41 is a Primary A-Road originally running from London to Birkenhead, although it has since been superseded in parts by motorways. Within the area of assessment, the A41 runs in an east to west direction, between Aylesbury and Bicester. The road is a typical rural A-road, mainly single carriageway in each direction, and is subject to the national speed limits.
- 3.3.3 The A41 forms the southern side of the Aylesbury Ring Road and includes numerous junctions in the vicinity of Aylesbury (i.e. with the A413, A418 and a number of local roads). Heading westwards, the road becomes rural in nature with few junctions and minimal development adjoining the carriageway. The A41 does, however, run through the village of Waddesdon, where the speed limit reduces to 30mph. Pedestrian facilities are located within the village, including pelican crossings. Further to the west, the A41 also passes through the village of Kingswood. Arriving at Bicester, the road turns into dual carriageway between the Bicester Village Outlet Stores and the M40 junction 9 (the M40 forms part of the Strategic Road Network).

### Station Road

- 3.3.4 Station Road is a single carriageway in each direction rural road, connecting the A41 to the south to the village of Quanton to the north. It is subject to a 30mph speed limit. Buckinghamshire Railway Centre is located approximately half way along Station Road. To the south of this point (towards the A41), Station Road has no footway provision and is bound by agricultural land. To the north of this point, Station Road is fronted, in general, by residential properties and has a footway on its eastern side. The A41/ Station Road junction is a priority junction, whereby traffic on Station Road gives way to that on the A41. Construction traffic related to the Proposed Scheme will utilise this junction and travel along Station Road to the HS2 Phase One

scheme Station Road overbridge satellite compound, located south of the Buckinghamshire Railway Centre.

### 3.4 Existing Public Transport Network

3.4.1 The rural location of the site means that there is limited public transport services and accessibility in the vicinity of the Proposed Scheme. However, it is not anticipated that the Proposed Scheme will impact upon public transport services. This is because all construction trips generated (of which the majority are HGV trips transporting material), are assumed to use the highway network, and there will only be a low number of ad-hoc trips generated during operation.

#### Bus Network

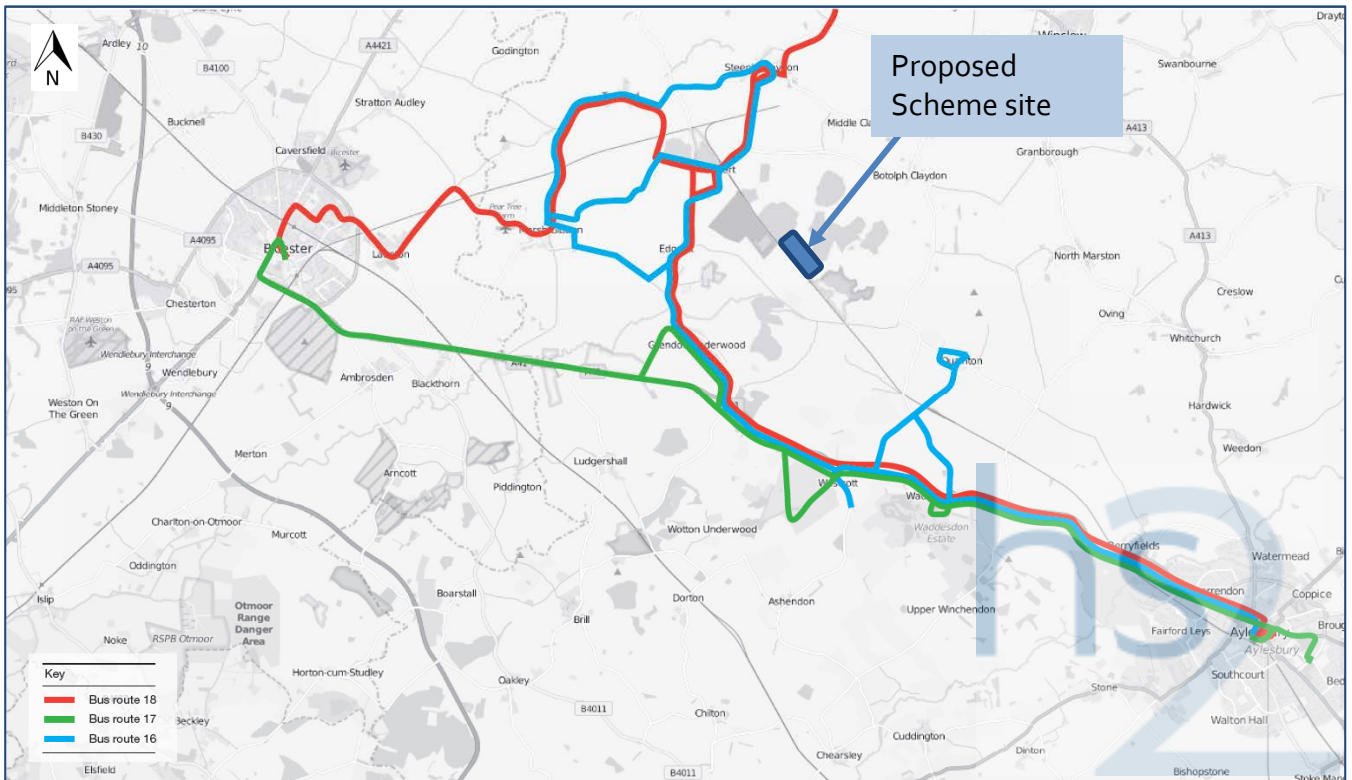
3.4.2 Bus services in the vicinity of the Proposed Scheme site are listed in Table 1 and shown in Figure 2.

3.4.3 Bus Route 17 provides a link between Aylesbury and Bicester, and Bus Route 16 between Aylesbury and Steeple Claydon (via Quainton Road/ Station). Bus Route 18 provides a link between Buckingham and Bicester via Steeple Claydon. The Proposed Scheme site is not served directly by bus services, with the nearest bus stops on the A41 located in Woodham, adjacent to the Woodham Industrial Estate.

Table 1: Bus Services

Route Number	Route	Peak Service Frequency
16/17	Aylesbury - Waddesdon - Quainton - Steeple Claydon - Marsh Gibbon/Bicester	2 per hour approx.
18	Buckingham - Steeple Claydon - Bicester	1 every two hours approx.

Figure 2: Bus routes



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## Rail Network

- 3.4.4 There are no passenger rail services in the vicinity of the Proposed Scheme site, with the nearest services located approximately 13km (in Aylesbury) and 18km (in Bicester) away. It is not expected that the Proposed Scheme will generate any trips served by the rail network.
- 3.4.5 Whilst not a public transport service, the Aylesbury Link railway line is a single track freight only line and is a continuation of the passenger service Marylebone to Aylesbury Line which terminates at Aylesbury Vale Parkway station. Freight services operate on the line at a frequency of approximately two trains per day (although it has capacity for up to 10 per day). The Aylesbury Link railway line runs to the east and parallel to the HS2 Phase One scheme and the Proposed Scheme. The number of services will not be impacted by the Proposed Scheme, as the capacity of the railway line will remain the same.
- 3.4.6 There is a rail station at Quainton Road and although no scheduled passenger trains pass through the station, it remains connected to the railway network. Special event day only passenger trains call at the station for organised events at the Buckinghamshire Railway Centre, which take place on most weekends during summer months and on a less frequent basis during the rest of the year.
- 3.4.7 The proposed East West Rail Phase 2 (EWR2) upgrade will provide a strategic railway connection between East Anglia and Central, Southern and Western England. It is expected to be operational by the early 2020s. EWR2 passenger services between Milton Keynes and Aylesbury are expected to operate on the upgraded Aylesbury Link railway line alongside the HS2 Phase One scheme, with a service frequency of one passenger train per hour in each direction.

## 3.5 Existing Pedestrian and Cycle Network

3.5.1 Both pedestrian and cycle provision is limited due to the rural nature of the Proposed Scheme site. There are no footways in the immediate vicinity of the site, as it is not connected directly to the highway network. The nearest cycle route (Route 51) to the site runs through Steeple Claydon, approximately 1km to the north of Calvert. This is an on-road route and is part of the national cycle network.

3.5.2 There are a number of PRoW, including footpaths and bridleways (also permissible to cyclists) in the vicinity of the Proposed Scheme site. These are:

- Public bridleway QUA/36/2 & QUA/36/3 (transecting the application site at the location of Bridleway QUA/36 accommodation green overbridge);
- Public footpath QUA/35/1 (transecting the application site);
- Public bridleway QUA/37/1 (located to the south of the sidings, on the western side of the railway line);
- Public footpath GUN/31/1 (located to the south of the sidings, on the eastern side of the railway line);
- Public footpath GUN/30/1 (located on the eastern side of the railway line);
- Public bridleway GUN/31/2 (located to the south of the sidings, on the eastern side of the railway line);
- Public footpath GUN/31/1 (transecting the application site);
- Public footpath GUN/29/1 (located to the south of the sidings, on the eastern side of the railway line);
- Public footpath CAG/2/1 (transecting the application site);
- Public bridleway GUN/25/2 (transecting the application site);
- Public bridleway GUN/28/1 (transecting the application site at the location of Bridleway GUN/28 accommodation green overbridge);
- QUA/37/1 (located adjacent to Greatmoor Road, the EfW access road);
- WOD/1/4 (located adjacent to Greatmoor Road, the EfW access road);
- Public bridleway GUN/25/1 (transecting the application site); and
- Public bridleway CAG/3/1 (transecting the application site).

3.5.3 The location of existing PRoW, along with details of temporary diversions or realignments of these, are shown in Volume 3: Environmental Statement Maps, Maps ES-01 to ES-03: Construction works sheets, and ES-04: Operation Sheet.

## 3.6 Accident Analysis

3.6.1 Accident data has been obtained from BCC for the most recent five year period up to the end of March 2016 (01/04/2011 - 31/03/2016). The area covered by this includes Station Road between the A41 and Lower Street in Quinton and the A41 between



the centre of Aylesbury (A4157 junction) and Blackthorn in the west (county boundary with Oxfordshire). The accident data along with accident location plots is included in Section 10 (Appendix).

- 3.6.2 Along Station Road, between the A41 and Quanton (excluding the A41 junction, a total of seven accidents occurred. Of these accidents, two were classified as serious and five were classified as of slight severity. Four accidents occurred at the Station Road/ Quanton Road junction, one of which was serious. These were a result of vehicles travelling on Quanton Road (mainly south-eastbound) failing to give way at the junction and colliding with vehicles travelling north-eastbound on Station Road. These mostly occurred in dark conditions. Of the remaining accidents, two occurred as a result of poor weather conditions where they skidded on black ice or lost control through an icy patch. A further accident occurred north of the junction with Quanton Road as a result of a driver crossing into the path of one in the opposite direction.
- 3.6.3 At the A41 / Station Road junction, there were two accidents in total over the five year period of slight severity, both occurring due to driver error as one turned out into the path of another, and a driver failed to stop behind a left turning vehicle.
- 3.6.4 Tables 2 and 3 summarise the accidents that were recorded on the A41 between Aylesbury and the county boundary with Oxfordshire in the west, with regard to vehicle type and the casualties involved.

Table 2: Accidents by Vehicle Groups: A41

Vehicle Type	Accidents			
	Slight	Serious	Fatal	Total
Motor vehicles only	82	11	4	97
2-wheeled motor vehicles	10	7	1	18
Pedal cycles	7	2	0	9
Horses and other	0	0	0	0
Total	99	20	5	124

Table 3: Accidents by Casualty Group: A41

Casualties	Accidents			
	Slight	Serious	Fatal	Total
Vehicle driver	109	9	4	122
Passenger	32	12	0	44
Motorcycle rider	10	7	1	18
Cyclist	7	2	0	9

Casualties	Accidents			
	Slight	Serious	Fatal	Total
Pedestrian	5	0	0	5
Other	0	0	0	0
Total	163	30	5	198

- 3.6.5 The tables show that a total of 124 accidents occurred on the section of the A41 subject to assessment over the last five year period, resulting in 198 casualties. Five of the accidents were fatal, 20 were serious with the remainder being of slight severity. Nine of the casualties were cyclists, 18 were motorcyclists and five were pedestrians.
- 3.6.6 On the A41 eastwards towards Waddesdon there were a total of eight accidents, seven of which were classified as slight and one as serious. These were a result of varied reasons including vehicles failing to stop when queuing vehicles, turning right into the layby or to let an emergency vehicle pass, veering across the carriageway, hitting the central island, turning right from the layby and a serious accident when attempting to overtake.
- 3.6.7 Through Waddesdon village, a total of seven accidents were recorded including six of slight severity and one that was serious. These mainly occurred as a result of right turns out of the side roads (across the path of other vehicles) and right turns into side roads (with vehicles failing to stop behind). Two accidents involved vehicles failing to see motorcycles – one of these resulted in a serious collision. One accident occurred as a result of losing control in the snow.
- 3.6.8 On the section of the A41 between Waddesdon and Aylesbury Vale parkway junction there were a total of ten accidents, excluding those at the Blackgrove Road crossroads. Of these ten accidents, one was fatal, two were serious and seven were slight. The more serious / fatal accidents occurred from clipping wing mirrors with the opposing traffic and crossing the carriageway. The slight accidents occurred mainly as a result of right turning vehicles where vehicles failed to stop behind. Poor weather conditions were contributory factors in some of these.
- 3.6.9 At the Blackgrove Road / Waddesdon Hill staggered crossroads there were a total of seven accidents including one fatal and six slight. The fatal accident was a right turn out of Blackgrove Road into the path of an ambulance on call. The slight accidents were a result of right turns out of both Blackgrove Road and Waddesdon Hill into the path of vehicles as well as clipping the central traffic island.
- 3.6.10 The accidents recorded at the junctions eastwards, in the direction of Aylesbury, are summarised in Table 4.



Table 4: A41 Aylesbury Junction Accident Summary

Junction / Location	Accidents			
	Slight	Serious	Fatal	Total
A41 / Aylesbury Vale Parkway (roundabout)	1	1		3
A41 / Western Link Road (signals)	7			7
A41 Bicester Road / Jackson Road / Dickens Way (roundabout)	3			3
A41 / Rabans Lane (mini roundabout)	6		1	7
A41 / Meadowcroft (roundabout)	2			2
A41 / Broadfields (roundabout)	6	1		7
A41 / Chamberlain Road (priority junction)	5	1		6
A41 / Stonehaven Road (priority junction)	1			1
Pelican crossing east of Stonehaven Road Junction	4			4
A41 / Griffin Lane (roundabout)	4			4
Section between Griffin Lane leading to A4157 Junction	3	1	1	5

- 3.6.11 The main reasons for the accidents at the junctions on the A41 approaching Aylesbury from the west were a result of vehicles turning at roundabouts colliding with others already on the circulatory, failing to stop when queueing or slowing of vehicles in front, failing to stop for pedal cycles at the roundabouts and failing to give way when turning right at signals or motorcycles losing control and falling off. At the pelican crossing the accidents were related to pedestrians/ cyclists crossing into the path of vehicles or vehicles failing to stop behind others. It is notable that a few of the accidents involved HGVs on this section, whilst many involved pedal cycles.
- 3.6.12 With regard to accidents that occurred on the section of the A41 towards Bicester, west of Station Road (Quinton) up to Blackthorn (Oxfordshire County Council boundary), these occurred on both the sections between junctions as well as at the various accesses on this route.
- 3.6.13 In terms of collisions which occurred at the junctions along this route, these are summarised in Table 5.

Table 5: A41 section west of Station Road (Quainton) Accident Summary

Junction / Location	Accidents			
	Slight	Serious	Fatal	Total
A41 / High Street (Westcott)	3			3
A41 / The Broadway	1	2		3
A41 / Bicester Road (leading to Ludgershall)	2			2

- 3.6.14 The table shows that a small number of accidents occurred at the junctions on this route. However two of these accidents were serious. These accidents were a result of right turns into and out of the junctions, across the path of other vehicles, including a motorcyclist, and sometimes involving vehicles overtaking right turners.
- 3.6.15 In addition to the above, there were a number of accidents that occurred at the various minor accesses, including farm accesses, along this section of the A41. These were a result of right or left turning vehicles with vehicles failing to stop behind, failing to give way appropriately or vehicles overtaking those turning. Other accidents occurred on the sections between the junctions and were a result of overtaking vehicles, particularly on the short dual carriageway sections (and including a few motorcycles), veering across the carriageway to conflict with opposing traffic and losing control and hitting trees or other features on the nearside verges. Some of these accidents were attributable to poor weather conditions (black ice) or alcohol induced.
- 3.6.16 The accident rates, as recorded between 2011 and 2016, have been compared to the DfT national average rates for Great Britain (2014) based on the road type (A road or 'Other') and urban / rural location. This has shown that all rural sections are below the national average when taking the average for all area types (urban and rural roads). However, when comparing against the national average for rural roads only (as is comparable with these sections west of Aylesbury), Station Road and the A41 between Station Road and Waddesdon and between Station Road and Kingswood (to the west) are above the national average. The other sections of the A41 (between Blackgrove Road and Aylesbury Vale Parkway, and between Kingswood and Blackthorn) are below the national average for rural roads.

## 3.7 Existing Traffic Flows

- 3.7.1 In order to establish current use of the road network subject to assessment, traffic survey data originating from Automatic Traffic Counts (ATCs), used as part of the HS2 Phase One scheme assessment, has been obtained at the following locations.
- A41, east of Blackgrove Road (September 2012 survey);
  - A41 Aylesbury Road (Blackthorn) (April 2015 survey);
  - A41 Boundary Way (Bicester) (April 2015 survey);.and
  - Station Road (September 2012 survey).

3.7.2 The ATC traffic counts were undertaken for a two week period. The results of the survey are included in Section 11 (appendix). Junction turning count data at the A41/ Blackgrove Road, collected as part of the HS2 Phase One scheme assessment, was used to derive ATC flows for the section of the A41, west of Blackgrove Road.

3.7.3 The average traffic flows (by direction and two-way) are presented for the average weekday (Tuesday – Thursday) in Table 6. Flows are presented for both the 24 hour average annual daily traffic (AADT) and the AM peak hour (0800-0900) and PM peak hour (1700-1800).

Table 6: Existing (2012/2015) baseline highway flows

Road	Direction	Average Weekday (Tue – Thu)		
		12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)
A41 (between A4157 Weedon Road and Blackgrove Road)	Eastbound	7,855	913	697
	Westbound	8,008	633	832
	Two-way	15,863	1,546	1,528
A41 (between Blackgrove Road and The Broadway, Grendon Underwood)	Eastbound	8,662	912	767
	Westbound	7,625	722	756
	Two-way	16,287	1,634	1,523
A41 (between The Broadway, Grendon Underwood and A4421 Charbridge Lane)	Eastbound	5,839	443	612
	Westbound	5,332	492	441
	Two-way	11,171	935	1,053
A41 Boundary Way (between A4421 Charbridge Lane and B4030)	Eastbound	12,828	1,156	1,033
	Westbound	11,617	860	1,200
	Two-way	24,445	2,016	2,233
Station Road (between the A41 and Quainton Road)	Northbound	623	54	85
	Southbound	605	93	42
	Two-way	1,228	147	127

## A41/ Station Road Junction Existing Operation

- 3.7.4 Manual Classified Count (MCC) and queue length data has been sourced from the HS2 Phase One scheme assessment, for the junction of the A41 with Station Road. The data was obtained through a survey undertaken on a neutral weekday in April 2015. At this location, it is proposed that construction traffic would turn from the A41 onto Station Road (and vice versa) to access/ egress the HS2 Phase One scheme Station Road overbridge satellite compound.
- 3.7.5 The data has been used to model the junction using industry standard software, (Junctions 9) to forecast current (2015) operation. The results are shown in Table 7 and presented as an hourly summary, presenting the worst case across the modelled AM and PM peak hour periods.
- 3.7.6 The A41/ Station Road junction is a priority junction, whereby traffic on Station Road gives way to that on the A41. On the A41 East arm (westbound traffic), there is a right turn filter lane, for vehicles turning onto Station Road.

Table 7: Existing (2012/2015) A41/ Station Road junction operation

Approach	AM (0800-0900)				PM (1700-1800)			
	Flow (PCUs)	RFC	Queue (PCU)	Delay (s)	Flow (PCUs)	RFC	Queue (PCU)	Delay (s)
Station Road	96	30%	0	22	48	19%	0	20
A41 East	670	3%	0	8	645	4%	0	10

- 3.7.7 The traffic model results for the current year (2015) year indicates that the junction operates well within its practical capacity (defined as 85% or higher Ratio of Flow to Capacity – 'RFC' - for priority junctions) in both AM and PM peak hours. A minimal amount of queuing and delay is recorded.

## 4 Proposed Scheme

### 4.1 Introduction

- 4.1.1 The location of the current railway sidings site and the Proposed Scheme are shown in Figure 3, with the solid black line depicting the route of the HS2 Phase One scheme.
- 4.1.2 The Proposed Scheme includes railway sidings, bridges, PRow, vehicular and pedestrian accesses, roads, gantry crane, spoil grabs, weighbridge, lighting and mitigation works, including earthworks, drainage, fencing, planting and power connections required to replicate the function of the existing sidings. The removal of the existing sidings at Calvert is part of the proposed HS2 Phase One scheme within the HS2 Phase One hybrid Bill.
- 4.1.3 The footprint of the Proposed Scheme sidings and internal road network is about 50,340m<sup>2</sup>, or approximately five hectares. The Proposed Scheme will include staff welfare and office facilities, located adjacent to the diverted Bridleway GUN/28 accommodation overbridge.
- 4.1.4 Powers are sought to stop up the Greatmoor Road temporarily in order to allow for the utility apparatus to be installed in the road but access to all properties served by the road will be maintained at all times and the impact will be negligible.
- 4.1.5 The Proposed Scheme is likely to accommodate 8 freight trains per day, via the Aylesbury Link railway line. The core operating hours are expected to be 0700-1830 Monday to Friday and from 0700 to 1600 on Saturdays.
- 4.1.6 The layout and design of the Proposed Scheme is shown in Volume 3: Environmental Statement Maps, Maps ES-01 to ES-03: Construction works sheets; ES-04: Operation Sheet; ES-05: Mitigation context plan, and ES-06: Mitigation Plan.

Figure 3: Current and proposed location of the railway sidings



## 4.2 Construction programme

4.2.1 The current construction programme for the Proposed Scheme is shown in Table 8. It shows that construction will commence in autumn 2017, with completion by the end of 2019.

Table 8: Indicative construction programme phasing

Activity	2017 Quarters				2018 Quarters				2019 Quarters			
	1	2	3	4	1	2	3	4	1	2	3	4
<b>Advance works</b>												
Advance works												
<b>Civil engineering works</b>												
Station Road overbridge satellite compound												
Bridleway QUA/36 accommodation green overbridge												
Greatmoor Road Realignment												
Bridleway GUN/28 accommodation green overbridge												
Reception Sidings Cutting												
Operational Sidings Cutting												
Operational Sidings Embankment												
Culverts under the railway sidings and railway line												
Sidings access road and rail mounted gantry crane												
<b>Rail infrastructure and systems works</b>												
Greatmoor Railway Sidings Rail Systems satellite compound												
Sidings rail installation												
Commissioning												

## 4.3 Site Access

### Construction

- 4.3.1 There is currently no direct access to the Proposed Scheme site via the public highway. The private Akeman Street Disused Railway (now Greatmoor Road) provides a direct connection between the A41 to the Greatmoor EfW facility, near the Woodham industrial site. The planning condition for this recently built access road stipulated a limit on the number of HGVs to 276 daily (138 in and 138 out), which is the maximum forecast to be generated by the operation of the Greatmoor EfW facility.
- 4.3.2 It has been assumed that construction will be served primarily from the HS2 Phase One scheme Station Road overbridge satellite compound (accessed via Station Road, from the A41). Construction traffic would then use an access road constructed along the HS2 trace to the site of Bridleway GUN/28 accommodation green overbridge. This will provide the main access for construction of the Proposed Scheme and associated works. During rail systems works it is expected that Greatmoor Road will be used for access but the level of additional traffic will be low and is not expected to have any substantial impact. It is expected that all trips generated for the purposes of construction will utilise the public highway.

### Operation

- 4.3.3 The Proposed Scheme will generate a negligible number of ad hoc trips, relating to staff and maintenance. Given the minimal and low frequency vehicular movements generated, it is expected that operational traffic would utilise the Greatmoor EfW facility access road (Greatmoor Road), accessed from the A41 via a roundabout.



## 5 Future Year Conditions

### 5.1 Assessment Year

- 5.1.1 Construction of the Proposed Scheme civil engineering works is scheduled to be completed in 2019. This year forms the future assessment year for construction, and assumes the highest level of background growth over the construction period. Given the negligible changes to traffic flows in question, operational impacts with respect to traffic and transport do not form part of the scope for this TA and are therefore not considered further. Although there are PRow that are considered during operation, there are no changes to the baseline that affect these.

### 5.2 Committed Development and Schemes

#### Greatmoor Energy from Waste (EfW) facility

- 5.2.1 FCC Waste Services (UK) Ltd. was awarded planning permission for an EfW facility at Greatmoor (near Calvert) in July 2012. Construction commenced in 2013 and has now started treating waste as part of the commissioning process. The facility is due to be fully operational in summer 2016 and will treat up to 300,000 tonnes of residual waste each year, using energy conversion technology.
- 5.2.2 The Proposed Scheme is to be located adjacent to the Greatmoor EfW facility. A new access road for the facility (Greatmoor Road, routed on the Akeman Street Disused Railway) from the A41 has also been constructed, which became operational in September 2014, for the use of all Greatmoor EfW facility vehicles.
- 5.2.3 A Transport Assessment (TA) was undertaken by SLR Consulting Limited to accompany the Greatmoor EfW facility planning application. The TA outlines that operation of the development will generate 138 HGV daily arrivals and 138 HGV daily departures, in addition to the vehicles generated by staff movements. Staff movements comprise both day and shift working and the TA assumed a worst case of 25 light vehicle arrivals and departures in the AM peak, and a further 25 light vehicle arrivals and departures in the PM peak.
- 5.2.4 The vehicular trips generated during operation were assigned to Greatmoor Road and then the A41, in line with existing two-way traffic flows (for staff) or the most likely origin/ destination of loads (for HGVs).

#### HS2 Phase One scheme

- 5.2.5 High Speed 2 (HS2) is a planned high speed railway, with Phase One routeing between London Euston and Birmingham. HS2 will operate 18 trains per hour. Construction work on HS2 Phase One is scheduled to begin in 2017, with the line scheduled to be operational by 2026.
- 5.2.6 Within the vicinity of the Proposed Scheme, HS2 Phase One will pass through the southern edge of Quainton, near the Buckinghamshire Railway Centre, and will then run parallel to the Aylesbury Link railway line. It crosses over the River Ray, passing Finemere Wood SSSI and continues northward directly adjacent to the location of the Proposed Scheme in Greatmoor. The route will exit the area at the north-west corner

of Sheephouse Wood SSSI, to the south-east of Calvert. Key aspects of the HS2 Phase One scheme in the area include:

- two overbridges, up to 10m high, to take the realigned Station Road over the Proposed Scheme and the Aylesbury Link railway line;
- realignment of Station Road up to approximately 450m north of its existing alignment, to the east and west of the route, to connect the proposed Station Road overbridges to Quainton Road, Fidlers Field Road and Station Road;
- Bridleway QUA/36 accommodation green overbridge, a replacement of the existing crossing over the Aylesbury Link railway line, to provide a multi-use crossing as a footpath and farm access;
- Bridleway GUN/28 accommodation green overbridge, a replacement of the existing crossing over the Aylesbury Link railway line to provide a multi-use crossing point for a bridleway, footpath farm access; and
- Temporary and permanent closure or diversion of PRow (Public footpaths CAG/2/1, QUA/35/1, QUA/36/2, GUN/31/1; and Public Bridleways GUN/25/2, GUN/28/1, GUN/25/1, CAG/3/1).

5.2.7 Forecast HS2 construction traffic flows have been derived by taking the overall trip generation of each compound (based on the construction activities associated with each 'design' element of each compound) and applying a series of assumptions and methodologies (depending on trip type, such as workforce or excavated material) to forecast daily and peak hour construction traffic flows. Within the study area, HS2 Phase One scheme construction traffic is routed on the A41 between Aylesbury and Bicester, and along Station Road.

5.2.8 As the Proposed Scheme is linked to the HS2 Phase One scheme, assessment of impacts within this ES has been undertaken in two ways:

- with a baseline including the HS2 Phase One scheme. The assessment of the Proposed Scheme has been made against this baseline; and
- to demonstrate the cumulative impact of both the Proposed Scheme and the HS2 Phase One scheme, a combined assessment has been made against a baseline which does not include HS2 Phase One.

## 5.3 Future Year Baseline Highway Flows

### Background Growth (TEMPRO)

5.3.1 Traffic growth was applied to the baseline traffic flows, using factors derived from the Trip End Model Presentation Program (TEMPRO), and National Transport Model (NTM) adjusted, to obtain a future year baseline for construction (2019). The growth rates applied to the ATC and MCC baseline survey data are shown in Table 9.

Table 9: TEMPRO growth factors 2012/15 to 2019

<b>Growth to 2019 - ATC data</b>						
Link	Road Type	TEMPRO Area	Date of ATC	AM	PM	12 Hour
Station Road (between the A41 and Quainton Road)	rural - minor	rural (Aylesbury Vale)	2012	1.1049	1.1108	1.1112
A41 (between A4157 Weedon Road and Blackgrove Road)	rural - principal	Aylesbury	2012	1.114	1.1187	1.1189
A41 (between Blackgrove Road and The Broadway, Grendon Underwood)	rural - principal	rural (Aylesbury Vale)	2012	1.1031	1.109	1.1094
A41 (between The Broadway, Grendon Underwood and A4421 Charbridge Lane)	rural - principal	rural (Cherwell)	2015	1.06	1.0621	1.0634
A41 Boundary Way (between A4421 Charbridge Lane and B4030)	rural - principal	Bicester	2015	1.0599	1.0616	1.0629
<b>Growth to 2019 - MCC data</b>						
Link	Road Type	TEMPRO Area	Date of MCC	AM	PM	12 Hour
A41/ Station Road junction	rural - principal	rural (Aylesbury)	2015	1.0806	1.0846	n/a

- 5.3.2 Within the study area, peak hour weekday baseline traffic will grow by 10-12% (from 2012 to 2019) and 6-8% (from 2015 to 2019).

### 2019 Baseline Highway Flows

- 5.3.3 Future year (2019) forecast highway flows are presented in Table 10, both with and without HS2 Phase One scheme traffic included in the baseline. This enables assessment of the Proposed Scheme alone (against a baseline inclusive of the HS2 Phase One scheme); and assessment of the Proposed Scheme and HS2 Phase One cumulatively.
- 5.3.4 Within both of the future scenarios, forecast operational traffic generated by the Greatmoor EfW facility has been accounted for in the baseline, based upon the forecast flows presented within the development's TA.

Table 10: Future (2019) baseline highway flows, without Proposed Scheme traffic

Road	Direction	Baseline which does not include the Hs2 Phase One scheme construction traffic Average Weekday (Tue – Thu)			Baseline including the Hs2 Phase One scheme construction traffic Average Weekday (Tue – Thu)		
		12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)	12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)
A41 (between A4157 Weedon Road and Blackgrove Road)	Eastbound	7,911	1,017	780	8,100	1,050	834
	Westbound	8,027	705	930	8,216	762	961
	Two-way	15,938	1,723	1,710	16,315	1,812	1,794
A41 (between Blackgrove Road and The Broadway, Grendon Underwood)	Eastbound	8,629	1,006	851	8,914	1,049	897
	Westbound	7,596	796	838	7,881	846	879
	Two-way	16,225	1,802	1,689	16,794	1,895	1,777
A41 (between The Broadway, Grendon Underwood and A4421 Charbridge Lane)	Eastbound	5,352	470	650	5,666	551	674
	Westbound	4,852	522	468	5,167	548	547
	Two-way	10,204	991	1,118	10,833	1,099	1,221
A41 Boundary Way (between A4421 Charbridge Lane and B4030)	Eastbound	12,038	1,225	1,097	12,309	1,247	1,168
	Westbound	10,684	912	1,273	10,955	986	1,292
	Two-way	22,722	2,137	2,370	23,264	2,232	2,460
Station Road (between the A41 and Quinton Road)	Northbound	621	60	94	680	82	97
	Southbound	604	103	47	662	107	68
	Two-way	1,225	162	141	1,342	189	165

## A41/ Station Road Junction Future Operation

5.3.5 The A41/ Station Road junction has been modelled to forecast future (2019) operation, without the Proposed Scheme construction traffic. Table 11 provides the future baseline results without HS2 Phase One scheme traffic, whilst Table 12 provides future baseline results with HS2 Phase One scheme traffic. The results are presented as an hourly summary, presenting the worst case across the modelled AM and PM peak hour periods.

Table 11: Future baseline (2019) A41/ Station Road junction operation, without HS2 Phase One scheme

Approach	AM (0800-0900)				PM (1700-1800)			
	Flow (PCUs)	RFC	Queue (PCU)	Delay (s)	Flow (PCUs)	RFC	Queue (PCU)	Delay (s)
Station Road	103	35%	1	25	53	23%	0	24
A41 East	723	4%	0	8	700	5%	0	11

Table 12: Future baseline (2019) A41/ Station Road junction operation, with HS2 Phase One scheme

Approach	AM (0800-0900)				PM (1700-1800)			
	Flow (PCUs)	RFC	Queue (PCU)	Delay (s)	Flow (PCUs)	RFC	Queue (PCU)	Delay (s)
Station Road	107	42%	1	34	74	33%	1	33
A41 East	806	7%	0	10	771	5%	0	11

5.3.6 The traffic model results for the future year (2019) of construction that the junction operates well within its practical capacity (defined as 85% or higher Ratio of Flow to Capacity – 'RFC' - for priority junctions) in both AM and PM peak hours, prior to the introduction of Proposed Scheme traffic. This is the case for both baselines, both including and excluding HS2 Phase One scheme construction traffic.

## 6 Traffic Generation

### 6.1 Construction Traffic Generation

#### Daily Construction Traffic Generation

- 6.1.1 Construction of the Proposed Scheme is to be undertaken between autumn 2017 and the end of 2019, as shown in Table 8. Estimated daily volumes of traffic generated by construction of the scheme have been forecast based upon the number of vehicles required to serve each of the construction activities. For example, where material is being brought onto the site via the public highway, the total volume of material has been divided by an HGV vehicle payload (8.5m<sup>3</sup>) to give the total number of vehicles required, and then divided by the number of working days in the programme for that activity, to give the number of HGV vehicles required per day.
- 6.1.2 For workforce car trips, the number of daily (and AM and PM peak hour) trips used for the assessment is based upon the number of trips generated during the peak month of workforce activity. This provides a robust assessment.
- 6.1.3 The construction vehicle types required for the Proposed Scheme are HGVs (for the movement of material, such as excavated material), LGVs (for civils and systems works) and cars (for the workforce).
- 6.1.4 For a robust assessment, it has been assumed that all construction activities occur simultaneously. In reality, however, it is likely that not all construction activities will overlap and therefore traffic numbers will be lower than presented in this assessment.
- 6.1.5 The average daily forecast construction vehicle trip generation, by vehicle type, is presented in Table 13.

Table 13: Daily Construction Traffic Generation

	Daily Number of car Movements	Daily Number of LGV Movements	Daily Number of HGV Movements	Total Daily Vehicle Movement Numbers
Inbound	58	10	125	193
Outbound	58	10	125	193
Total (Two-Way)	117 (rounding applied)	19 (rounding applied)	250	386

- 6.1.6 It is forecast that up to 193 vehicles will access the Proposed Scheme site, via the public highway per day (386 two-way vehicle movements: 193 inbound and 193 outbound). The majority of these trips relate to HGVs transporting sub base material to the site over a period of approximately 60 days. Construction traffic flows presented in Table 13 are therefore a 'peak case' and reflect higher flows than are likely to occur during the majority of the overall construction period. For example, outside of the peak 60 day period for HGVs movements, there will be under 100 two-way daily HGV movements (approximately 50 inbound and 50 outbound trips).

## Hourly Construction Traffic Generation

6.1.7 In generating hourly construction traffic generation, the following assumptions have been made:

- An eight hour working day has been assumed;
- HGV and LGV trips: that 15% of the daily HGV and LGV construction trips occur during the morning peak hour (08:00 to 09:00) and 5% during the evening peak hour (17:00 to 18:00). This is based on typical patterns of deliveries at major construction sites;
- Workforce car trips: that 100% of the construction workforce commutes by car, on the basis that the construction site is not easily accessed or served by public transport. However, it has also been assumed that 20% of the construction workforce car-share with colleagues when commuting to and from construction compounds, which equates to an average of 1.2 workers per car; and
- Workforce car trips: 50% of trips arriving in the AM peak do so during the peak hour (0800-0900) and likewise 50% of trips departing in the PM peak do so during the peak hour (1700-1800).

6.1.8 The hourly forecast construction vehicle trip generation, by vehicle type, are presented in Table 14 (for AM peak) and Table 15 (for PM peak).

Table 14: Hourly Construction Traffic Generation (AM peak)

	Hourly Number of Car and LGV Movements	Hourly Number of HGV Movements	Total Hourly Vehicle Movement Numbers
Inbound	31	19	50
Outbound	2	19	21
Total (Two-Way)	33	37 (rounding applied)	70 (rounding applied)

Table 15: Hourly Construction Traffic Generation (PM peak)

	Hourly Number of Car and LGV Movements	Hourly Number of HGV Movements	Total Hourly Vehicle Movement Numbers
Inbound	1	6	7
Outbound	30	6	36
Total (Two-Way)	31	12	43

## 6.2 Operational Traffic Generation

- 6.2.1 The Proposed Scheme will generate a negligible number of ad hoc trips on the public highway, relating to staff and maintenance. Given the low frequency vehicular movements, operational traffic has not been assessed. Furthermore, these trips are already present on the A41 (accessing the existing railway sidings site near Calvert) and therefore there will be no additional trips on roads within the study area during operation of the Proposed Scheme.
- 6.2.2 Whilst the Proposed Scheme will generate daily HGV trips relating to the movement of material from the sidings to the Greatmoor EfW facility, these are on internal, private, EfW facility roads, and not subject to assessment as they do not impact upon the public highway.



# 7 Impact Assessment

## 7.1 Construction

### Highway

#### *Distribution Principles*

7.1.1 Construction vehicle trips generated have been manually assigned to the highway network, linking the Proposed Scheme site to the strategic highway network. Where there is a choice of routeing available, professional judgement has been applied. Specifically, the following methodology was utilised:

- 90% of workforce cars and 100% of HGV construction traffic would be routed on Station Road, from the A41 to the HS2 Phase One scheme Station Road overbridge satellite compound. A small number of workforce trips (10%) are assumed to access the compound from Station Road to the north. Construction traffic would then utilise an internal haul road along the trace of the HS2 Phase One scheme, to access the Proposed Scheme site.
- At the junction with the A41, all construction traffic has been distributed both east and west along the A41 in equal proportions (50% and 50% west).
- Beyond the A41, it is assumed that construction traffic would route towards the strategic highway network (primarily the M40). Roads beyond the A41 have not been subject to detailed assessment, given that further dilution of traffic numbers would result in a reduction in impact upon traffic operation.

#### *Assignment*

7.1.2 Based on these distribution proportions, and the traffic generation vehicle numbers, as presented in Section 6, the vehicle movements associated with construction of the Proposed Scheme are assigned to the local highway network as shown in Table 16. The number of HGVs (which are included in the all vehicles number presented) are shown in brackets. In some cases, rounding of numbers has been applied.

Table 16: Proposed Scheme construction traffic assignment

Road	Direction	Average Weekday (Tue – Thu)		
		12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)
A41 (between A4157 Weedon Road and Blackgrove Road)	Eastbound (Out)	94 (62)	10 (9)	17 (3)
	Westbound (In)	94 (62)	23 (9)	3 (3)
	Two-way	187 (125)	33 (19)	20 (6)
A41 (between Blackgrove Road and The Broadway, Grendon Underwood)	Eastbound	94 (62)	10 (9)	17 (3)
	Westbound	94 (62)	23 (9)	3 (3)

Road	Direction	Average Weekday (Tue – Thu)		
		12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)
	Two-way	187 (125)	33 (19)	20 (6)
A41 (between The Broadway, Grendon Underwood and A4421 Charbridge Lane)	Eastbound (In)	94 (62)	10 (9)	17 (3)
	Westbound (Out)	94 (62)	23 (9)	3 (3)
	Two-way	187 (125)	33 (19)	20 (6)
A41 Boundary Way (between A4421 Charbridge Lane and B4030)	Eastbound (In)	94 (62)	10 (9)	17 (3)
	Westbound (Out)	94 (62)	23 (9)	3 (3)
	Two-way	187 (125)	33 (19)	20 (6)
Station Road (between the A41 and Quainton Road)	Northbound (In)	193 (125)	46 (19)	10 (6)
	Southbound (Out)	193 (125)	23 (19)	33 (6)
	Two-way	386 (250)	70 (37)	43 (12)

### *Highway Impact Assessment*

- 7.1.3 Accounting for the construction trips generated in Table 16, which have been assigned onto the highway network, the total forecast flows for the future year 2019 are shown in Table 17 and Table 18.
- 7.1.4 The increase in traffic flows, as well as percentage change, is provided for the two scenarios:
- Table 17: relates to Proposed Scheme plus HS2 Phase One scheme construction traffic (cumulative impact with HS2 Phase One traffic excluded from the baseline); and
  - Table 18: relates to Proposed Scheme construction traffic only (with HS2 Phase One traffic included in the baseline).
- 7.1.5 It is pertinent to note that the HS2 Phase One scheme traffic used for the cumulative assessment (Table 17) includes construction traffic generated by the original replacement sidings within the Phase One scheme Bill. As it was not possible to quantify the exact amount of traffic associated with this activity within the Phase One traffic flows, it has been retained in the flows used in this assessment. It therefore represents a robust assessment, whereby the actual amount of traffic generated by the Phase One scheme and Proposed Scheme combined on the A41 (and impacts thereof) is likely to be less than that presented in Table 17.

Table 17: 2019 forecast traffic flows and combined impact of Proposed Scheme plus HS2 Phase One scheme

Road	Direction	2019 flows Average Weekday (Tue – Thu)			Increase in flows (HGVs in brackets)			% Change (HGVs in brackets)		
		Total forecast traffic, including baseline traffic, Proposed Scheme traffic and HS2 Phase One scheme traffic			Combined impacts of Proposed Scheme plus HS2 Phase One			Combined impacts of Proposed Scheme plus HS2 Phase One		
		12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)	12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)	12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)
A41 (between Weedon Road and Blackgrove Road)	EB	8,193	1,060	850	282 (83)	43 (12)	70 (4)	4% (8%)	4% (10%)	9% (7%)
	WB	8,309	785	964	282 (83)	80 (12)	34 (4)	4% (8%)	11% (13%)	4% (6%)
	Two-way	16,503	1,845	1,814	564 (166)	123 (25)	104 (8)	4% (8%)	7% (12%)	6% (7%)
A41 (between Blackgrove Road and The Broadway, Grendon Underwood)	EB	9,007	1059	914	378 (263)	53 (35)	63 (27)	4% (41%)	5% (48%)	7% (92%)
	WB	7,974	869	883	378 (263)	73 (35)	44 (27)	5% (46%)	9% (52%)	5% (109%)
	Two-way	16,981	1,928	1,796	756 (525)	126 (70)	107 (53)	5% (43%)	7% (50%)	6% (100%)
A41 (between The Broadway, Grendon Underwood and A4421 Charbridge Lane)	EB	5,760	574	677	408 (263)	105 (35)	27 (27)	8% (123%)	22% (161%)	4% (358%)
	WB	5,260	558	564	408 (263)	36 (35)	95 (27)	8% (115%)	7% (146%)	20% (200%)
	Two-way	11,020	1,132	1,241	816 (525)	141 (70)	122 (53%)	8% (119%)	14% (153%)	11% (257%)
A41 Boundary Way (between A4421 Charbridge Lane and B4030)	EB	12,403	1,257	1,185	365 (223)	31 (30)	88 (21)	3% (46%)	3% (62%)	8% (134%)
	WB	11,048	1,009	1,295	365 (223)	98 (30)	22 (21)	3% (41%)	11% (65%)	2% (56%)
	Two-way	23,451	2,266	2,480	729 (446)	129 (60)	110 (43)	3% (43%)	6% (64%)	5% (79%)
Station Road (between the A41 and Quinton Road)	NB	873	129	107	252 (134)	69 (20)	12 (7)	40% (258%)	116% (364%)	13% (302%)
	SB	855	130	101	252 (134)	27 (20)	54 (7)	42% (201%)	26% (303%)	116% (201%)
	Two-way	1,728	258	207	503 (268)	96 (40)	66 (13)	41% (226%)	59% (331%)	47% (241%)

Table 18: 2019 forecast traffic flows and impact of Proposed Scheme

Road	Direction	2019 flows Average Weekday (Tue – Thu)			Increase in flows (HGVs in brackets)			% Change (HGVs in brackets)		
		Total forecast traffic, including baseline traffic, Proposed Scheme traffic and HS2 Phase One scheme traffic			Proposed Scheme only			Proposed Scheme only		
		12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)	12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)	12 Hours	AM Peak (0800-0900)	PM Peak (1700-1800)
A41 (between Weedon Road and Blackgrove Road)	EB	8,193	1,060	850	94 (62)	10 (9)	17 (3)	1% (6%)	1% (8%)	2% (5%)
	WB	8,309	785	964	94 (62)	23 (9)	3 (3)	1% (6%)	3% (10%)	0% (5%)
	Two-way	16,503	1,845	1,814	187 (125)	33 (19)	20 (6)	1% (6%)	2% (8%)	1% (5%)
A41 (between Blackgrove Road and The Broadway, Grendon Underwood)	EB	9,007	1059	914	94 (62)	10 (9)	17 (3)	1% (7%)	1% (10%)	2% (6%)
	WB	7,974	869	883	94 (62)	23 (9)	3 (3)	1% (8%)	3% (10%)	0% (7%)
	Two-way	16,981	1,928	1,796	187 (125)	33 (19)	20 (6)	1% (8%)	2% (10%)	1% (6%)
A41 (between The Broadway, Grendon Underwood and A4421 Charbridge Lane)	EB	5,760	574	677	94 (62)	23 (9)	3 (3)	2% (15%)	4% (20%)	0% (10%)
	WB	5,260	558	564	94 (62)	10 (9)	17 (3)	2% (15%)	2% (19%)	3% (8%)
	Two-way	11,020	1,132	1,241	187 (125)	33 (19)	20 (6)	2% (15%)	3% (19%)	2% (9%)
A41 Boundary Way (between A4421 Charbridge Lane and B4030)	EB	12,403	1,257	1,185	94 (62)	10 (9)	17 (3)	1% (10%)	1% (14%)	1% (9%)
	WB	11,048	1,009	1,295	94 (62)	23 (9)	3 (3)	1% (9%)	2% (14%)	0% (6%)
	Two-way	23,451	2,266	2,480	187 (125)	33 (19)	20 (6)	1% (9%)	1% (14%)	1% (7%)
Station Road (between the A41 and Quainton Road)	NB	873	129	107	193 (125)	46 (19)	10 (6)	28% (205%)	57% (272%)	10% (234%)
	SB	855	130	101	193 (125)	23 (19)	33 (6)	29% (165%)	22% (235%)	49% (165%)
	Two-way	1,728	258	207	386 (250)	70 (37)	43 (12)	29% (183%)	37% (252%)	26% (194%)

- 7.1.6 It is evident that traffic generated through the construction of the Proposed Scheme only (Table 18) results in a less than a 5% increase in two way traffic on the A41, based on either daily or peak hour flows. Station Road has lower baseline flows and therefore the impact of Proposed Scheme traffic, as a percentage of all traffic, is higher. The impact of daily two-way construction traffic is just under 30%.
- 7.1.7 As expected, the combined impacts of the Proposed Scheme and HS2 Phase One scheme traffic (Table 17) is greater, with up to an 8% increase in daily two way traffic on the A41, and up to a 14% increase during the peak hours. On Station Road, the cumulative impact is also higher, with the impact of daily two-way construction traffic at just over 40%.
- 7.1.8 Design Manual for Roads and Bridges (DMRB) Note TA 79/99 provides indicative guidance on the capacity of urban road links. This has been used as a proxy to understand the capacity of the A41 and Station Road, during construction of the Proposed Scheme. DMRB Note TA 79/99 indicates a link capacity of 2,200 two-way vehicles, per hour, for the A41 (UAP1 road type assigned) and 1,700 for Station Road (UAP2 road type assigned). This would indicate that both the A41 and Station Road would operate within its link capacity, during construction of the scheme, apart from the A41 (between A4421 Charbridge Lane and B4030) which is slightly over its theoretical link capacity. However, this section of the A41 is already over its theoretical link capacity in the 2019 baseline (PM peak hour) without Proposed Scheme traffic (see Table 10), which only results in a 1% increase in peak hour two way traffic.

#### *A41/ Station Road Junction Impact Assessment*

- 7.1.9 Based on scoping discussions, and subsequent email correspondence with BCC Highways, detailed junction assessment has been carried out where Proposed Scheme construction trips constitute an increase of five percent or more in peak hours, compared to forecast baseline flows. Table 18 shows that this is only the case on Station Road, and therefore the A41/ Station Road junction has been modelled for the year 2019.
- 7.1.10 Table 19 provides junction model (Junctions 9) results for 2019, including baseline, Proposed Scheme and HS2 Phase One scheme traffic. The results are presented as an hourly summary, presenting the worst case across the modelled AM and PM peak hour periods.

Table 19: 2019 A41/ Station Road junction operation, including baseline traffic, Proposed Scheme traffic and HS2 Phase One scheme traffic

Approach	AM (0800-0900)				PM (1700-1800)			
	Flow (PCUs)	RFC	Queue (PCU)	Delay (s)	Flow (PCUs)	RFC	Queue (PCU)	Delay (s)
Station Road	151	59%	2	61	116	46%	1	42
A41 East	841	16%	0	14	778	7%	0	14

- 7.1.11 The traffic model results show that during construction of the Proposed Scheme, the junction operates well within its practical capacity (defined as 85% or higher RFC) in both AM and PM peak hours.
- 7.1.12 The cumulative impact of the Proposed Scheme and HS2 Phase One traffic results in a maximum increase in RFC of 24%, on any arm in either hour in comparison to the 2019 baseline operation without HS2 Phase One included (see Table 11).
- 7.1.13 The impact of the Proposed Scheme traffic alone results in a maximum increase in RFC of 11%, on any arm in either hour in comparison to the 2019 baseline operation with HS2 Phase One included (see Table 12).

## Public Rights of Way

- 7.1.14 The temporary diversion, or realignment of PRow are shown in Volume 3: Environmental Statement Maps, Maps ES-01 to ES-03: Construction works sheets, and ES-04: Operation Sheet. The details of PRow temporarily impacted by both the Proposed Scheme and HS2 Phase One scheme (cumulatively), as well as the Proposed Scheme alone are shown in Table 20.

Table 20: Temporary PRow impacts

PRow	Daily Users	Construction Activity	Combined impacts of Proposed Scheme plus HS2 Phase One scheme		Impact of Proposed Scheme only	
			Temporary Diversion Route and Duration	Maximum Diversion Length and Journey Time	Temporary Diversion Route	Maximum Diversion Length and Journey Time
QUA/36/2 & QUA/36/3 (public bridleway)	0	Construction of Bridleway QUA/36 accommodation green overbridge	Temporary closure of PRow for 9-12 months.  Alternative route for users along existing/ new PRow.	Alternative route via GUN/31/2 GUN/31/1, GUN/25/2 and QUA/37/1 of approximately 630m additional distance, resulting in 9 mins additional journey time	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	
QUA/35/1 (public footpath)	0	Construction of Bridleway QUA/36 accommodation green overbridge embankment	Temporary closure of PRow for 9-12 months.  Alternative route for users along existing PRow.	Alternative route along edge of the existing PRow, of approximately 100m additional distance resulting in 2 minutes additional journey time.	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	
QUA/37/1 (public)	-	Woodland habitat	Temporary closure of PRow	Negligible	Temporary closure of PRow for up to one	Negligible

bridleway)		creation	for up to one month with minor diversion around works		month with minor diversion around works	
GUN/35/1 (public bridleway)	-	Woodland habitat creation	Temporary closure of PRoW for up to one month with minor diversion around works	Negligible	Temporary closure of PRoW for up to one month with minor diversion around works	Negligible
GUN/30/1 (public bridleway)	-	Woodland habitat creation	Temporary closure of PRoW for up to one month with minor diversion around works	Negligible	Proposed Scheme has no further impact than that of the HS2 Phase One scheme	
GUN/31/2 (public bridleway)	-	Woodland habitat creation	Temporary closure of PRoW for up to one month with minor diversion around works	Negligible	Proposed Scheme has no further impact than that of the HS2 Phase One scheme	
GUN/31/1 (public footpath)	7	Construction of Bridleway GUN/28 accommodation green overbridge	Remains open during offline bridge construction. Potential closure or slight diversion during construction of tie-in earthworks for 12 months	200m, resulting in 2 mins additional journey time	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	
GUN/29/1 (public footpath)	-	Construction of Bridleway GUN/28 accommodation green overbridge	Temporary closure of PRoW for 12 months.  Alternative route for users along existing/ new PRoW.	Alternative route via GUN/31/1, at no additional distance to the existing route	Temporary closure of PRoW for 12 months	Alternative route via GUN/31/1, at no additional distance to the existing route
CAG/2/1 (public footpath)	3	Construction of Footpath CAG/2 underbridge	Temporary closure of PRoW for duration of construction.  Alternative route for users along existing/ new PRoW.	Alternative route via GUN/33/1, GUN/28/1, GUN/29/1, GUN/31/1 and GUN/25/11 of approximately 1.9km additional distance, resulting in 27 mins additional journey time	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	

GUN/28/1 (public bridleway)	7	Construction of Bridleway GUN/28 accommodation green overbridge	Temporary closure of PRoW for 12 months.  Alternative route for users along existing/ new PRoW.	Alternative route via GUN/29/1 and GUN/31/1 of approximately 300m additional distance, resulting in 4 mins additional journey time	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	
QUA/24A/1 (public footpath)	-	Utilities works on Greatmoor Road	Temporary closure of PRoW for up to one month with minor diversion around works	Negligible	Temporary closure of PRoW for up to one month with minor diversion around works	Negligible
WOD/1/4 (public footpath)	-	Utilities works on Greatmoor Road	Temporary closure of PRoW for up to one month with minor diversion around works	Negligible	Temporary closure of PRoW for up to one month with minor diversion around works	Negligible

7.1.15 The construction of the Proposed Scheme and the HS2 Phase One scheme cumulatively results in the temporary closure or temporary diversion of 12 PRoW. This is a result of the construction of railway overbridges/ underbridge, utility works and woodland habitat creation. However, these PRoW are not frequently used, with surveys, where available, showing a maximum of seven daily users on any of these PRoW. There are no temporary diversions of over 200m. However, where PRoW are being stopped up without a diversion provided, alternative routes on existing PRoW for users of QUA/36/2 & QUA/36/3 and CAG/2/1 will have significant increases in travel distance of between 630m and 1.9km.

7.1.16 The Proposed Scheme alone (with the HS2 Phase One scheme included in the baseline) results in impacts upon PRoW QUA/37/1, GUN/35/1, GUN/29/1, QUA/24A/1 and WOD/1/4. However, the changes to these PRoW comprise only a negligible change in travel distance. There will therefore not be a substantial impact upon users.

7.1.17 All temporarily impacted PRoW will be reinstated following construction of the Proposed Scheme. Where PRoW are being stopped up with alternative routeing provided, it is anticipated that constructions works will be phased to ensure that the best alternative route along existing PRoW, with the least additional travel distance, is achieved.

## 7.2 Operation

### Public Rights of Way

7.2.1 The permanent diversion, or realignment of PRoW are shown in Volume 3: Environmental Statement Maps, Maps ES-01 to ES-03: Construction works sheets; and ES-04: Operation Sheet. The details of PRoW permanently impacted by both the Proposed Scheme and HS2 Phase One scheme (cumulatively), as well as the Proposed Scheme alone are shown in Table 21.



Table 21: Permanent PRoW impacts

PRoW	Daily Users	Combined impacts of Proposed Scheme plus HS2 Phase One scheme		Impact of Proposed Scheme only	
		Permanent Diversion Route	Maximum Diversion Length and Journey Time	Permanent Diversion Route	Maximum Diversion Length and Journey Time
QUA/36/2 & QUA/36/3 (public bridleway)	0	Permanently divert footpath to Bridleway QUA/36 accommodation green overbridge.	Negligible	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	
QUA/35/1 (public footpath)	0	Permanently divert footpath around Bridleway QUA/36 accommodation overbridge embankment.	100m resulting in 1 mins additional journey time	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	
GUN/29/1 (public footpath)	-	Permanently divert footpath around GUN/28 accommodation green overbridge approach ramp, upgrade to Bridleway status.	Negligible	Permanently divert footpath around GUN/28 accommodation green overbridge approach ramp, upgrade to Bridleway status.	Negligible.
GUN/31/1 (public footpath)	7	Permanent diversion to Bridleway GUN/28 accommodation overbridge.	200m resulting in 2 mins additional journey time	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	
GUN/25/2 (public bridleway)	-	Permanently stopped up. Alternative route for users along existing/ new PRoW.	Permanent closure of PRoW. Alternative route for users along existing/ new PRoW, of negligible additional distance.	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	
GUN/28/1 (public bridleway)	7	Permanent diversion to Bridleway GUN/28 accommodation overbridge.	Negligible	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	
CAG/2/1 (public footpath)	3	Permanently diversion around balancing pond and sidings, then beneath Footpath CAG/2 underbridge once constructed.	50m resulting in 1 mins additional journey time	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	

PRoW	Daily Users	Combined impacts of Proposed Scheme plus HS2 Phase One scheme		Impact of Proposed Scheme only	
		Permanent Diversion Route	Maximum Diversion Length and Journey Time	Permanent Diversion Route	Maximum Diversion Length and Journey Time
GUN/25/1 (public bridleway)	7	Permanently stopped up. Alternative route for users along existing/ new PRoW.	Permanent closure of PRoW. Alternative route for users along existing/ new PRoW, of 2.2km (26 mins additional journey time)	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	
CAG/3/1 (public bridleway)	1	Permanently stopped up. Alternative route for users along existing/ new PRoW.	Permanent closure of PRoW. Alternative route for users along existing/ new PRoW, of 2.2km additional distance (26 mins additional journey time)	Proposed Scheme has no further impact than that of the HS2 Phase One scheme.	

7.2.2 The operation of the Proposed Scheme and the HS2 Phase One scheme cumulatively, results in the permanent realignment or closure of nine PRoW, resulting in additional travel distances for pedestrians and equestrians. Only two of these (bridleways GUN/25/1 and CAG/3/1) have a substantial additional distance, being 2.2km on alternative routes due to the permanent closure of these PRoW. All other PRoW will be reinstated with negligible or minor deviation from their existing alignment and therefore non-motorised users are not considered to be substantially impacted. These PRoW are not frequently used, with survey data showing a maximum of seven daily users.

7.2.3 The Proposed Scheme alone (with the HS2 Phase One scheme in the baseline) results in the permanent realignment of only one PRoW (footpath GUN/29/1), by a negligible change in distance. Users of this PRoW will therefore not be a substantially impacted.

## 8 Proposed Mitigation

### 8.1 Construction

8.1.1 The assessment has not identified any substantial adverse impacts that require mitigation. However, the following measures have been included as part of the design of the Proposed Scheme and will avoid or reduce impacts on transport users:

- all roads within the vicinity of the Proposed Scheme will be kept open during construction resulting in no diversions of traffic onto alternative routes;
- HGV routeing, as far as reasonably practicable, will be along the strategic road network and using designated routes;
- construction of embankments utilising locally sourced material which does not need to be transported via the public highway network;
- provision of temporary alternatives to maintain connectivity for PRow closed during construction, as far as reasonably practicable, to reduce loss of amenity; and
- providing on-site welfare facilities to reduce travel by site workers.

8.1.2 The assessment in this ES is made on the basis that the Proposed Scheme will be constructed in compliance with the draft CoCP (refer to Volume 4.14: Environmental Statement Technical Appendix: Draft CoCP). This will include measures which seek to avoid or reduce environmental impacts during construction.

8.1.3 The assessment in this ES is also made on the basis that the Proposed Scheme will use a derivative of the HS2 Phase One scheme Framework Travel Plan, with the aim of reducing workforce commuting by private car, especially sole occupancy car travel.

### 8.2 Operation

8.2.1 The assessment has not identified any substantial adverse impacts that require mitigation due to operation of the Proposed Scheme alone. Vehicular trips generated by the Greatmoor Railway Sidings will be minimal and infrequent and all PRow impacted are to be permanently reinstated on realigned routes.

8.2.2 Only two PRow are subject to significant additional travel distance (2.2km) along alternative PRow routes, as they are being permanently closed. However, this is a result of the HS2 Phase One scheme and the Proposed Scheme does not change this. These PRow are recreational bridleways used on an infrequent basis and no further mitigation is considered necessary.

## 9 Summary and Conclusion

- 9.1.1 This transport assessment presents the finding of an evaluation of the transport related impacts likely to arise as a result of the relocation of the existing railway sidings, from its current site near Calvert, to approximately 1.8km south of Calvert, south of Sheephouse Wood SSSI at Greatmoor, Buckinghamshire. The proposed site is opposite the Greatmoor EfW facility.
- 9.1.2 As the Proposed Scheme is linked to the HS2 Phase One scheme, assessment of impacts has been undertaken in two ways to allow impacts to be assessed for the Proposed Scheme alone and also cumulatively with the HS2 Phase One scheme.
- 9.1.3 Assessment of impacts upon the public highway has only been undertaken for construction of the Proposed Scheme, as the sidings will only generate a very small number of ad hoc trips during operation. Furthermore, these trips are already present on the A41 (accessing the existing railway sidings site near Calvert) and therefore there will be no additional trips on roads within the study area during operation of the Proposed Scheme.
- 9.1.4 Forecasts of construction traffic generated have been based upon both the construction activity type, and the proposed programme of works. For a robust assessment, the cumulative total of trips generated by all construction activities has been used, whereas in reality not all these activities are likely to overlap. The assessment assumes that most of the construction traffic in the vicinity of the site will be routed along the A41 and Station Road (and then along the HS2 Phase One scheme trace via a haul road to the site).
- 9.1.5 During construction of the Proposed Scheme, traffic generated by the Proposed Scheme alone (with HS2 Phase One scheme included in the baseline) results in a less than 5% increase in two way traffic on the A41, both on a daily basis and within peak hour. The impact of Proposed Scheme traffic on Station Road is higher, with a slightly less than 30% increase in daily flows, mainly due to the lower baseline on this local road. The combined impact of both Proposed Scheme and HS2 Phase One scheme traffic (without HS2 Phase One scheme assumed in the baseline) is higher, with up to an 8% increase in daily two way traffic on the A41 and just over 40% increase on Station Road. Link capacity guidance from DMRB Note TA 79/99 indicates that all impacted roads in the study area will operate within their link capacity, during construction of the Proposed Scheme and the HS2 Phase One scheme cumulatively, apart from the A41 (between A4421 Charbridge Lane and B4030) which is marginally over its theoretical link capacity (as is the case in the 2019 baseline without Proposed Scheme traffic).
- 9.1.6 Detailed assessment of the A41/ Station Road junction has been undertaken using industry standard modelling software. This indicates that the junction will operate well within its practical capacity during construction of the Proposed Scheme (both with HS2 Phase One scheme in the baseline, or as part of a cumulative impact assessment). Detailed analysis of other junctions has not been undertaken on the basis that the increase in traffic through them as a result of the Proposed Scheme is not significant (under 5% peak hour increase).

- 9.1.7 Consequently, the temporary introduction of Proposed Scheme traffic is not considered to have a substantial detrimental impact upon the operation of roads or junctions within the vicinity of the proposed site.
- 9.1.8 The Proposed Scheme alone (with the Hs2 Phase One scheme included in the baseline) results in changes to 5 PRow. However, as these changes comprise a negligible change in travel distance, there will not be any substantial impact upon users. The combined impact of the construction of the Proposed Scheme and the HS2 Phase One scheme results in the temporary closure or temporary diversion of 12 PRow. There are no temporary diversions over 200m, however where PRow are being stopped up without diversion, alternative routeing on existing PRow do have substantial increases in travel distance, of up to 1.9km. However, survey data indicated low usage of all PRow, with a maximum of 7 users per day.
- 9.1.9 The Proposed Scheme alone (with the Hs2 Phase One scheme included in the baseline) results in the permanent realignment of footpath GUN/29/1, by a negligible change in distance. The combined impact of the operation of the Proposed Scheme and the HS2 Phase One scheme results in the permanent realignment or closure of nine PRow. Only two of these (being bridleways) have substantial additional travel distances, being 2.2km, on alternative PRow as they are permanently stopped up. These PRow are not frequently used, with survey data showing a maximum of seven daily users.
- 9.1.10 The Proposed Scheme has no material impact on public transport or other transport modes and consequently does not require detailed assessment within this TA.
- 9.1.11 The assessment has not identified any substantial adverse impacts that require mitigation. However, the Proposed Scheme will be constructed in compliance with the draft CoCP, which will seek to avoid or reduce environmental impacts during construction. The Proposed Scheme will also use a derivative of the HS2 Phase One scheme Framework Travel Plan, with the aim of reducing workforce commuting by private car, especially sole occupancy car travel.
- 9.1.12 In conclusion, both the construction and the operation of the Proposed Scheme is not forecast to have a material impact on the operation of the local highway network. Temporary and permanent impacts upon PRow are to be mitigated through the reinstatement of routes along the existing alignment, or along an alternative alignment, with minimal additional travel distance for pedestrians and equestrians.

# 10 Appendix: Accident data

Accidents between dates 01/04/2011 and 31/03/2016 (60) months

Selection:  
Selected using Pre-defined Query :

Notes:  
A41 Bicester Road - From junction with A4157 Aylesbury to  
County Boundary with Oxfordshire.

**CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES**

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	4	11	82	97
2-wheeled motor vehicles	1	7	10	18
Pedal cycles	0	2	7	9
Horses & other	0	0	0	0
Total	5	20	99	124

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	4	9	109	122
Passenger	0	12	32	44
Motorcycle rider	1	7	10	18
Cyclist	0	2	7	9
Pedestrian	0	0	5	5
Other	0	0	0	0
Total	5	30	163	198

Number of casualties meeting the criteria: 198

Accidents between dates 01/04/2011 and 31/03/2016 (60) months

Selection:  
Selected using Pre-defined Query :

Notes:  
HS2 Station Road between the junction with the A41 to the junction with Lower Street, Quainton.

**CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES**

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	2	5	7
2-wheeled motor vehicles	0	0	0	0
Pedal cycles	0	0	0	0
Horses & other	0	0	0	0
Total	0	2	5	7

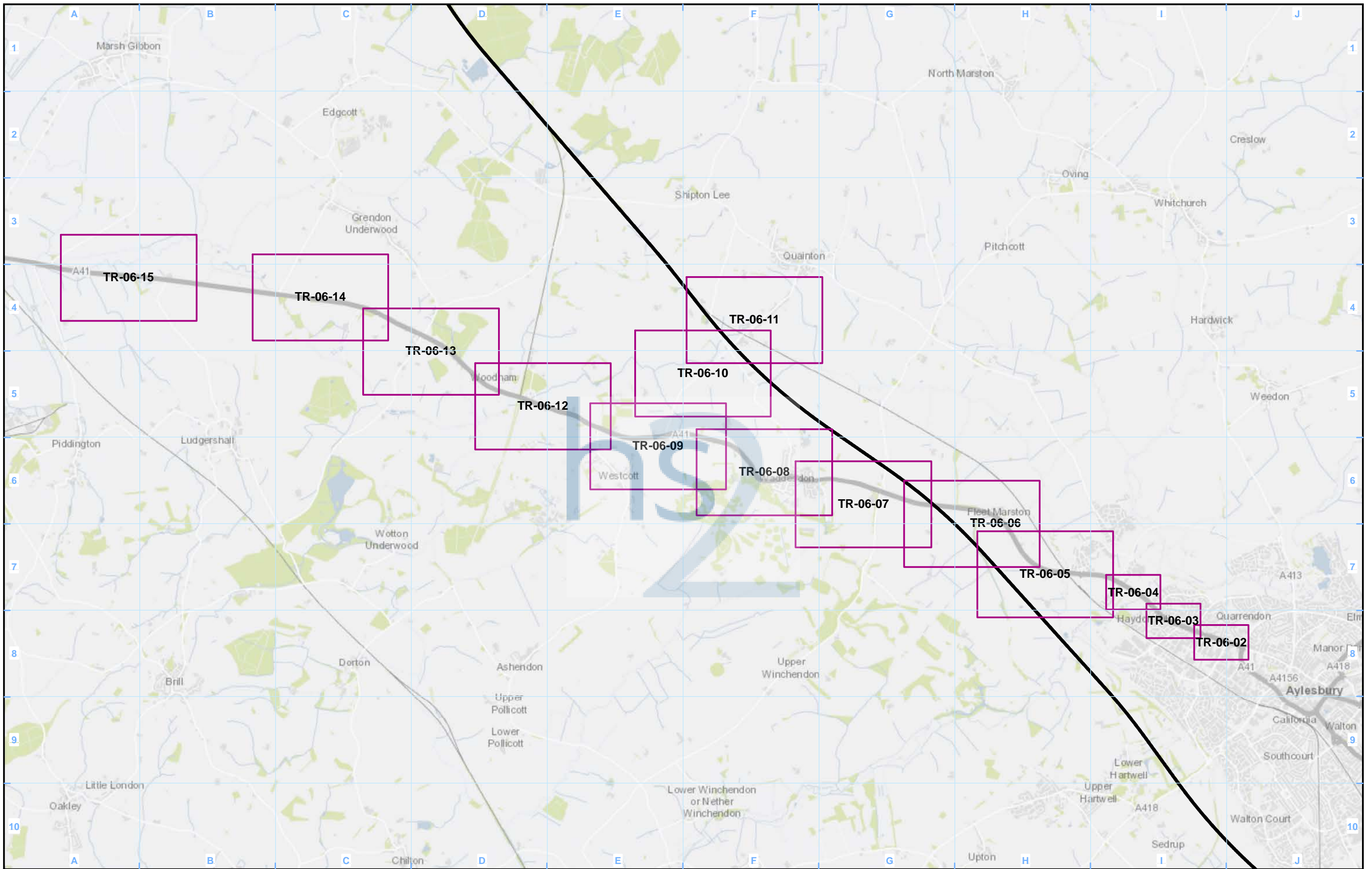
Casualties:




	Fatal	Serious	Slight	Total
Vehicle driver	0	2	9	11
Passenger	0	0	2	2
Motorcycle rider	0	0	0	0
Cyclist	0	0	0	0
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	2	11	13

Number of casualties meeting the criteria: 13









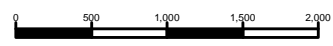
**Legend**  
 Route in tunnel  
 Route on surface  
 Page extents

Map Number  
**TR-06-01**  
 Map Name  
 Index Map of:  
 TWAO Accident Data  
 Station Road and A41  
 1/04/2011 - 31/03/2016

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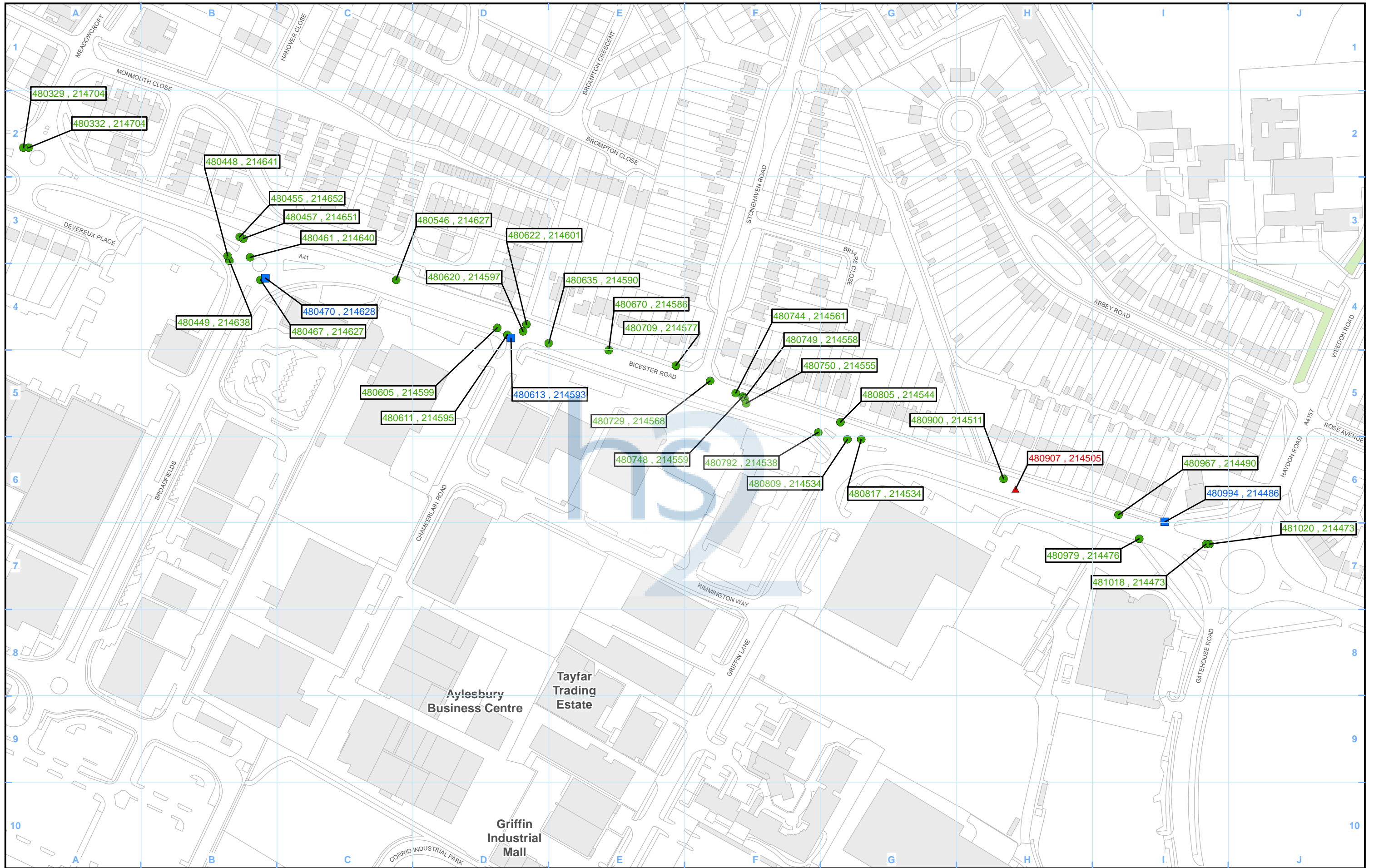


Scale at A3: 1:50,000

  
 0 500 1,000 1,500 2,000  
 Metres

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**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number	TR-06-02
Map Name	TWAO Accident Data Station Road and A41 1/04/2011 - 31/03/2016

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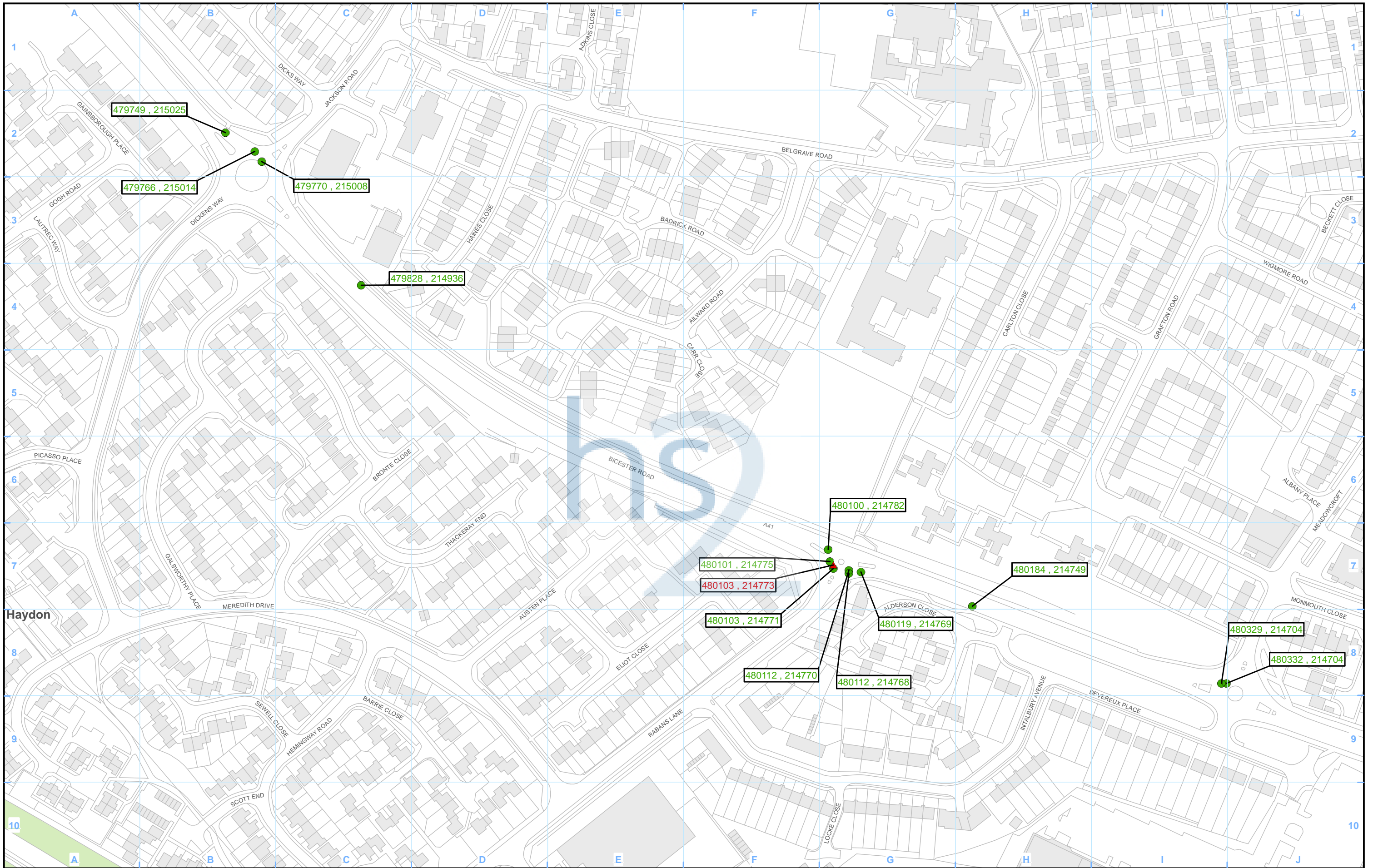
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Scale at A3: 1:2,000

Doc Number: C222-ATK-TM-MAP-020-000501-P01

Date: 14/07/16





**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number: TR-06-03

Map Name: TWAO Accident Data  
Station Road and A41  
1/04/2011 - 31/03/2016

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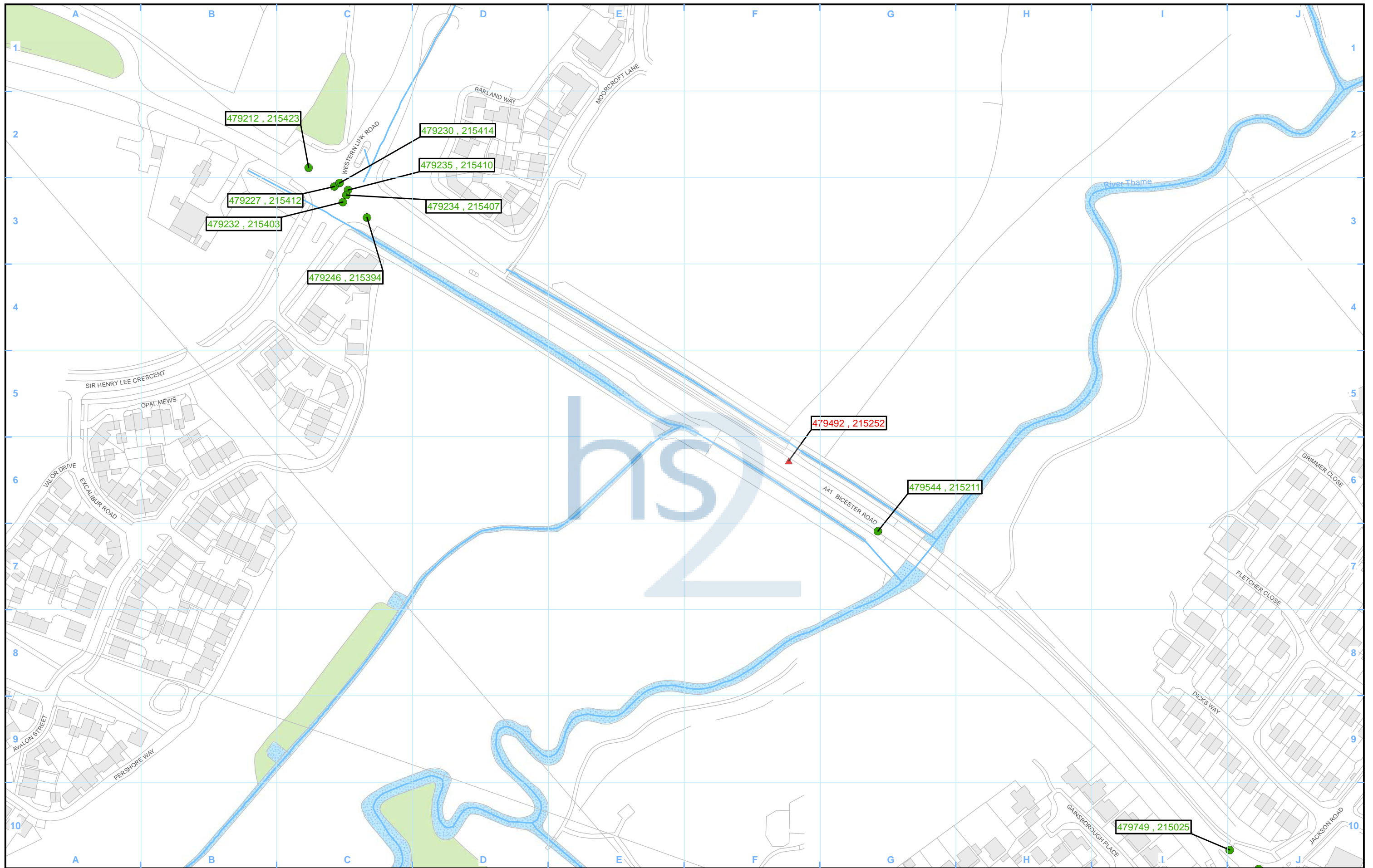
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Scale at A3: 1:2,000

Doc Number: C222-ATK-TM-MAP-020-000502-P01

Date: 14/07/16





**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number: TR-06-04

Map Name: TWAO Accident Data  
Station Road and A41  
1/04/2011 - 31/03/2016

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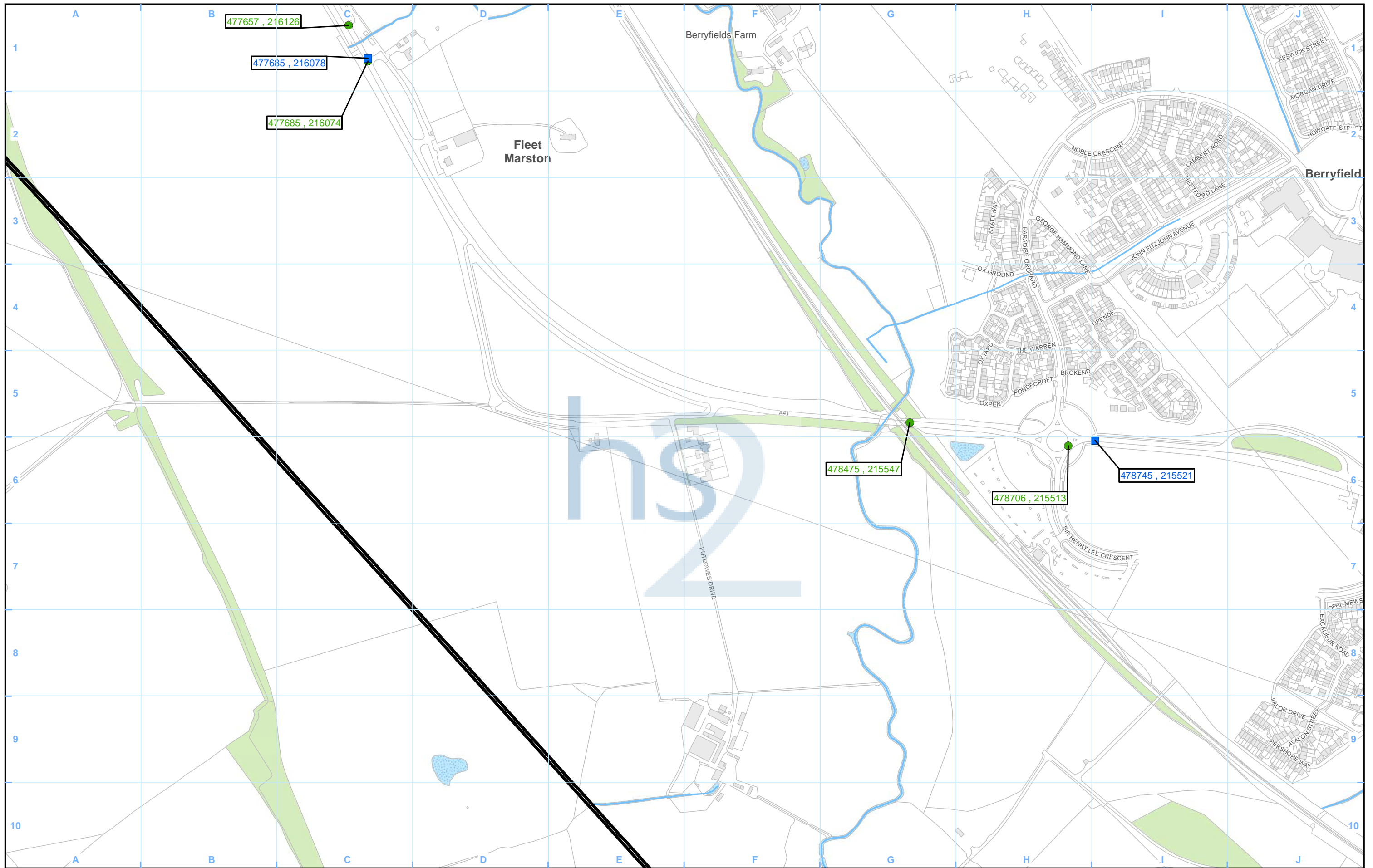
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Scale at A3: 1:2,000

Doc Number: C222-ATK-TM-MAP-020-000503-P01

Date: 14/07/16



**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number: TR-06-05

Map Name: TWAO Accident Data  
Station Road and A41  
1/04/2011 - 31/03/2016

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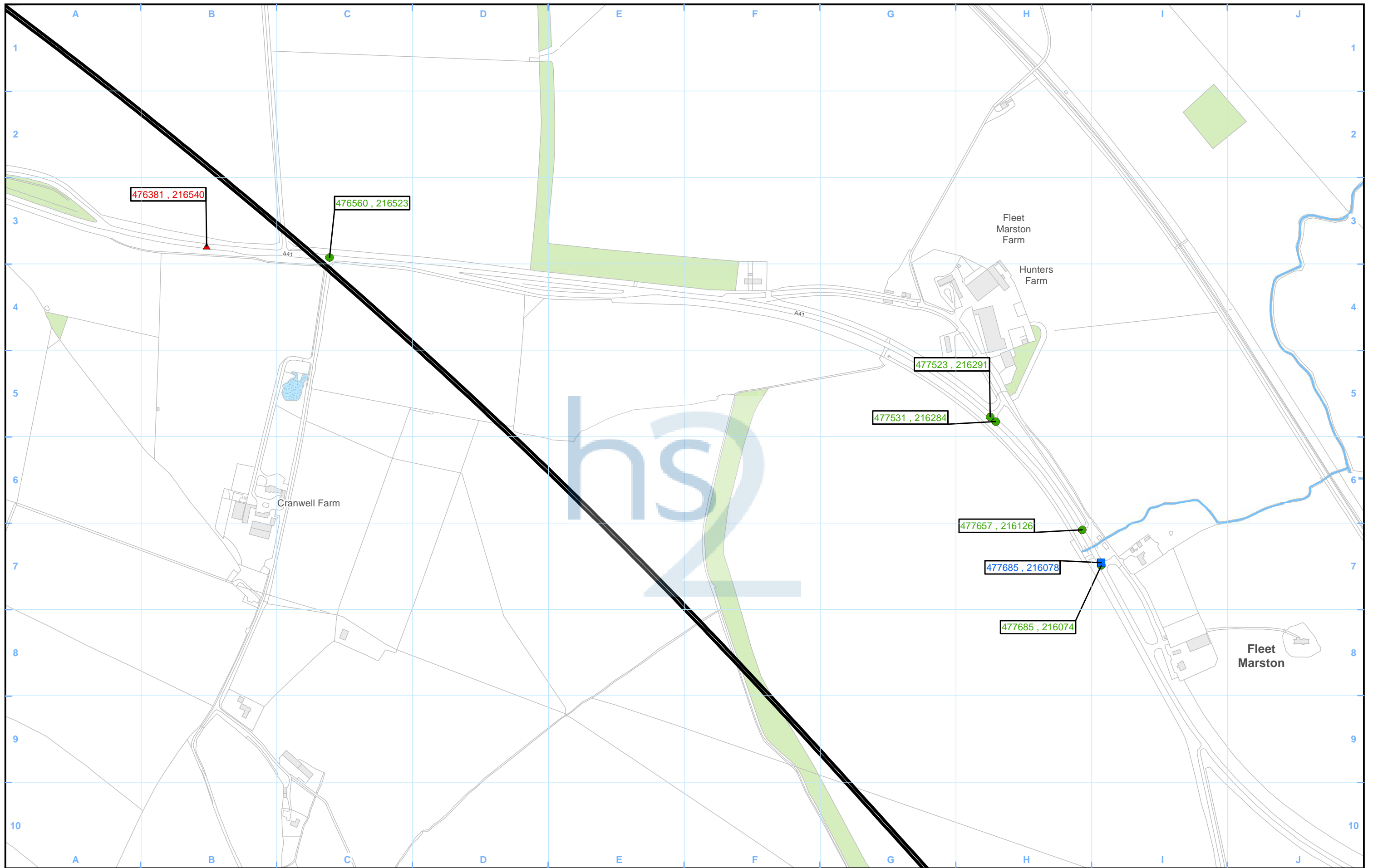
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Doc Number: C222-ATK-TM-MAP-020-000504-P01

Date: 14/07/16

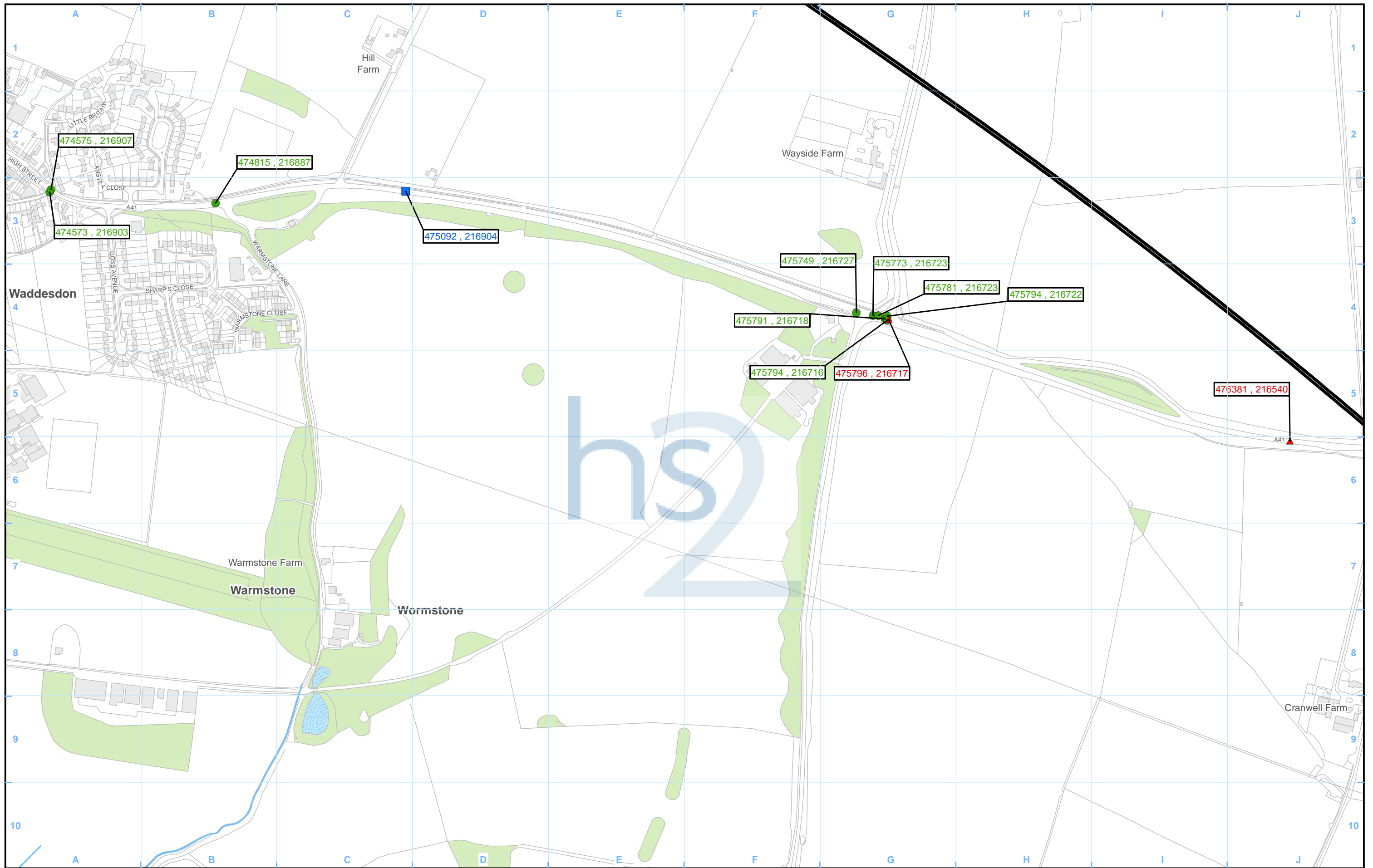




<b>Legend</b>	
Route in tunnel	<b>Severity of Accident</b>
Route on surface	
Watercourse	
Water body	Fatal
Woodland (not verified by survey)	Serious
	Slight

Map Number	TR-06-06
Map Name	TWAO Accident Data Station Road and A41 1/04/2011 - 31/03/2016

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Scale at A3: 1:5,000 	
Doc Number: C222-ATK-TM-MAP-020-000505-P01	Date: 14/07/16



**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number: TR-06-07

Map Name: TWAO Accident Data  
Station Road and A41  
1/04/2011 - 31/03/2016

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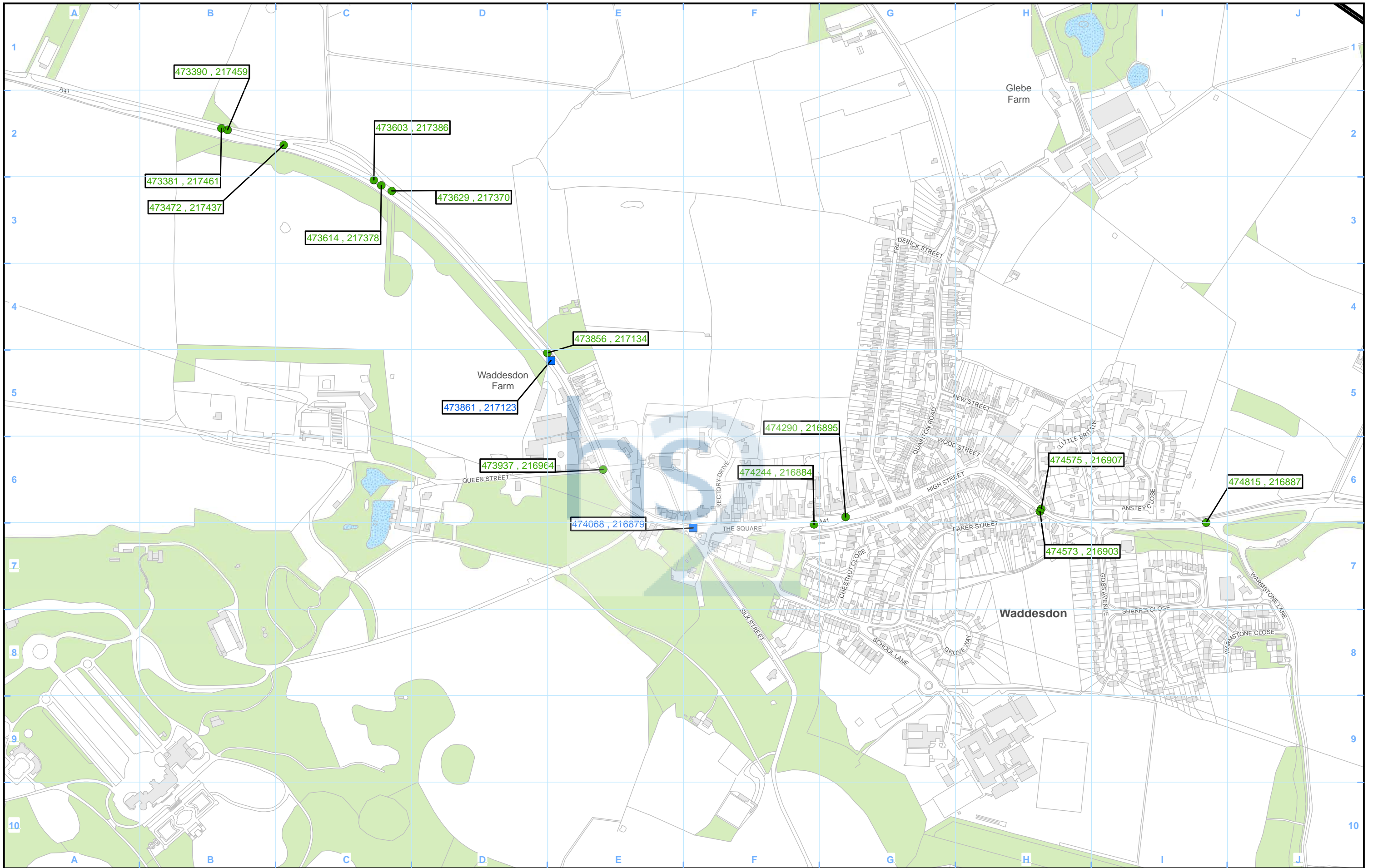
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Scale at A3: 1:5,000

Doc Number: C222-ATK-TM-MAP-020-000506-P01      Date: 14/07/16





**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number	TR-06-08
Map Name	TWAO Accident Data Station Road and A41 1/04/2011 - 31/03/2016

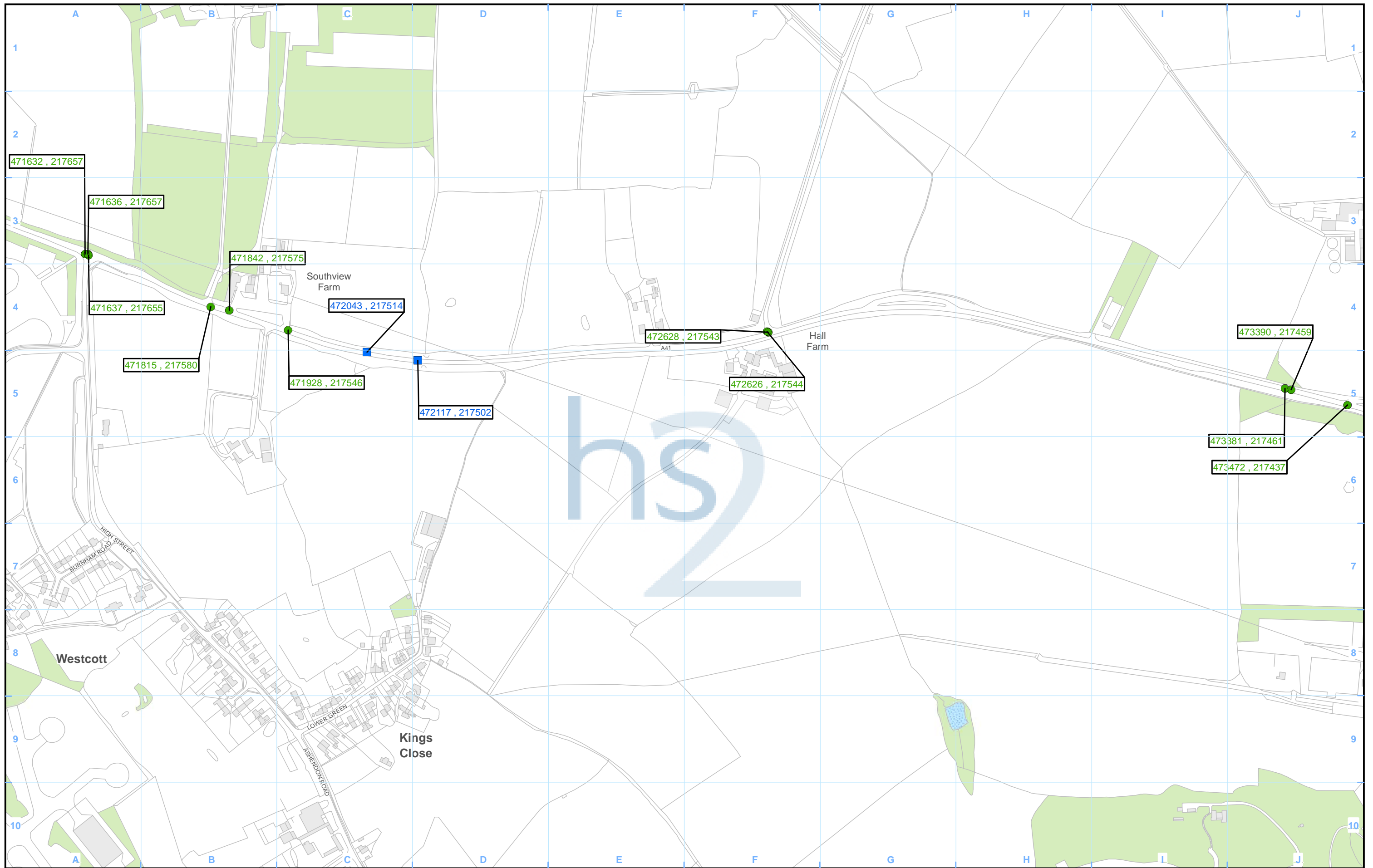
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Doc Number: C222-ATK-TM-MAP-020-000507-P01      Date: 14/07/16



**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number: TR-06-09

Map Name: TWAO Accident Data  
Station Road and A41  
1/04/2011 - 31/03/2016

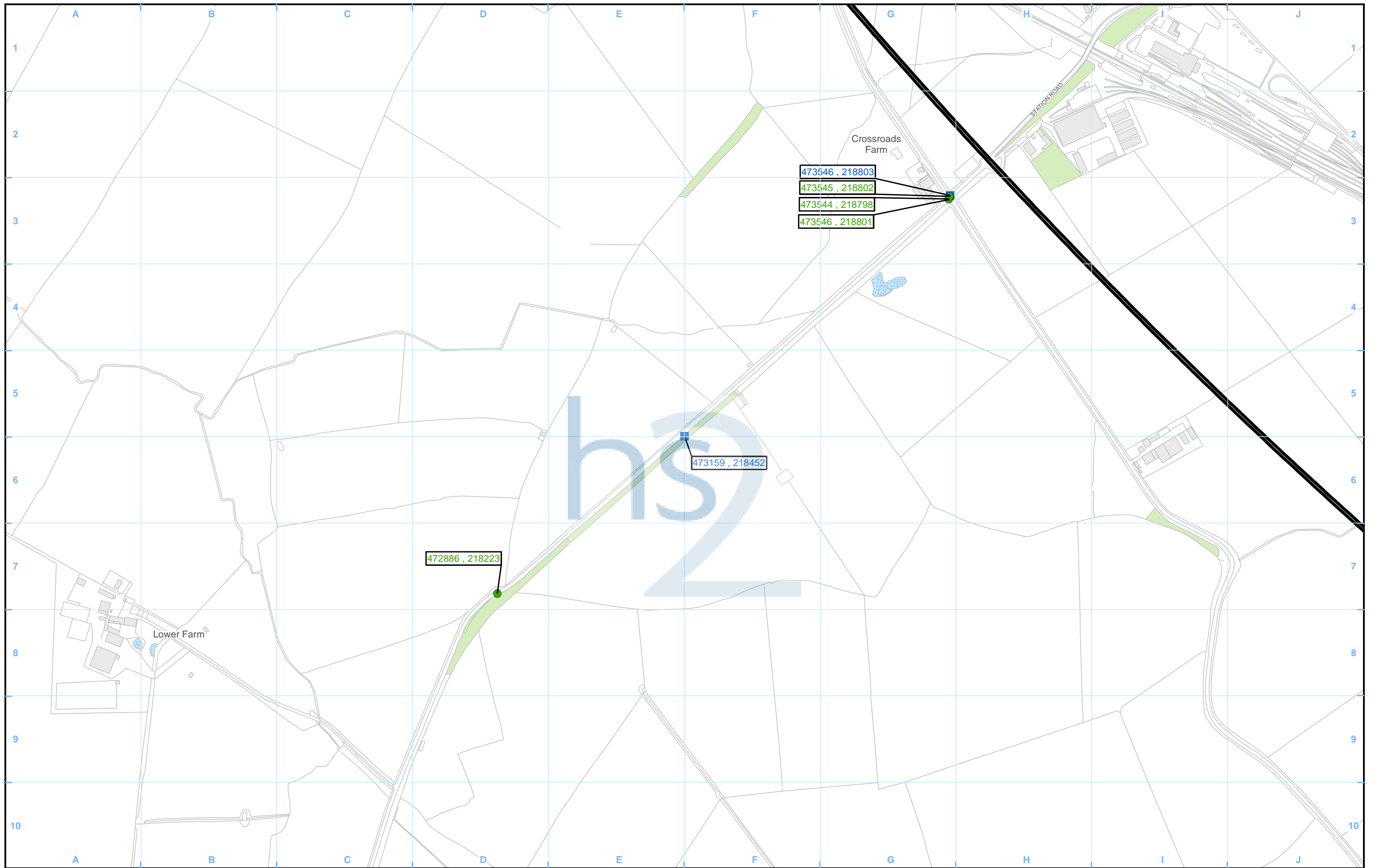
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**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number: TR-06-10

Map Name: TWAO Accident Data Station Road and A41 1/04/2011 - 31/03/2016

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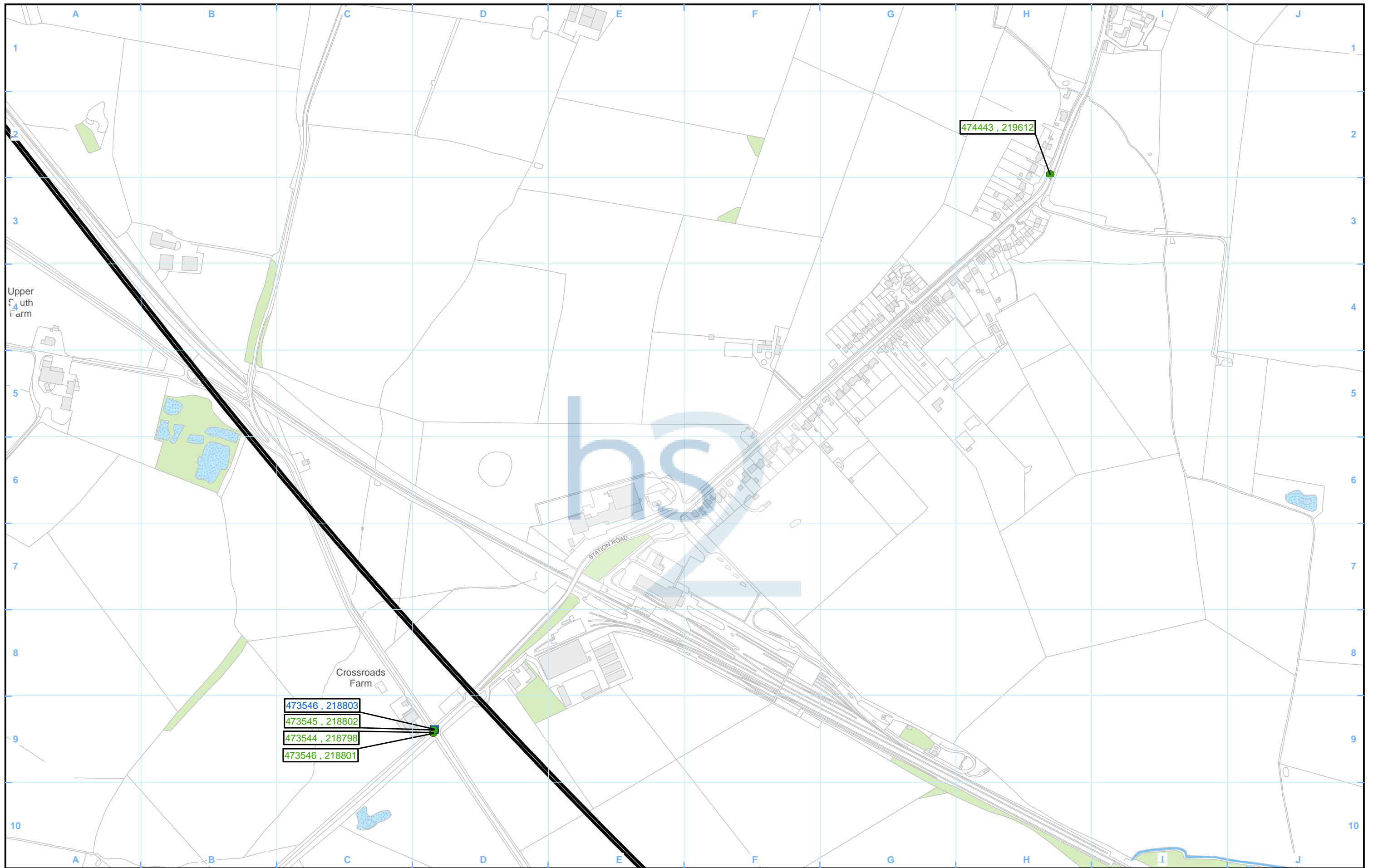
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0 50 100 150 200 Metres

Doc Number: C222-ATK-TM-MAP-020-000509-P01

Date: 14/07/16





- Legend**
- Route in tunnel
  - Route on surface
  - Watercourse
  - Water body
  - Woodland (not verified by survey)

- Severity of Accident**
- Fatal
  - Serious
  - Slight

Map Number TR-06-11

Map Name TWAO Accident Data  
Station Road and A41  
1/04/2011 - 31/03/2016

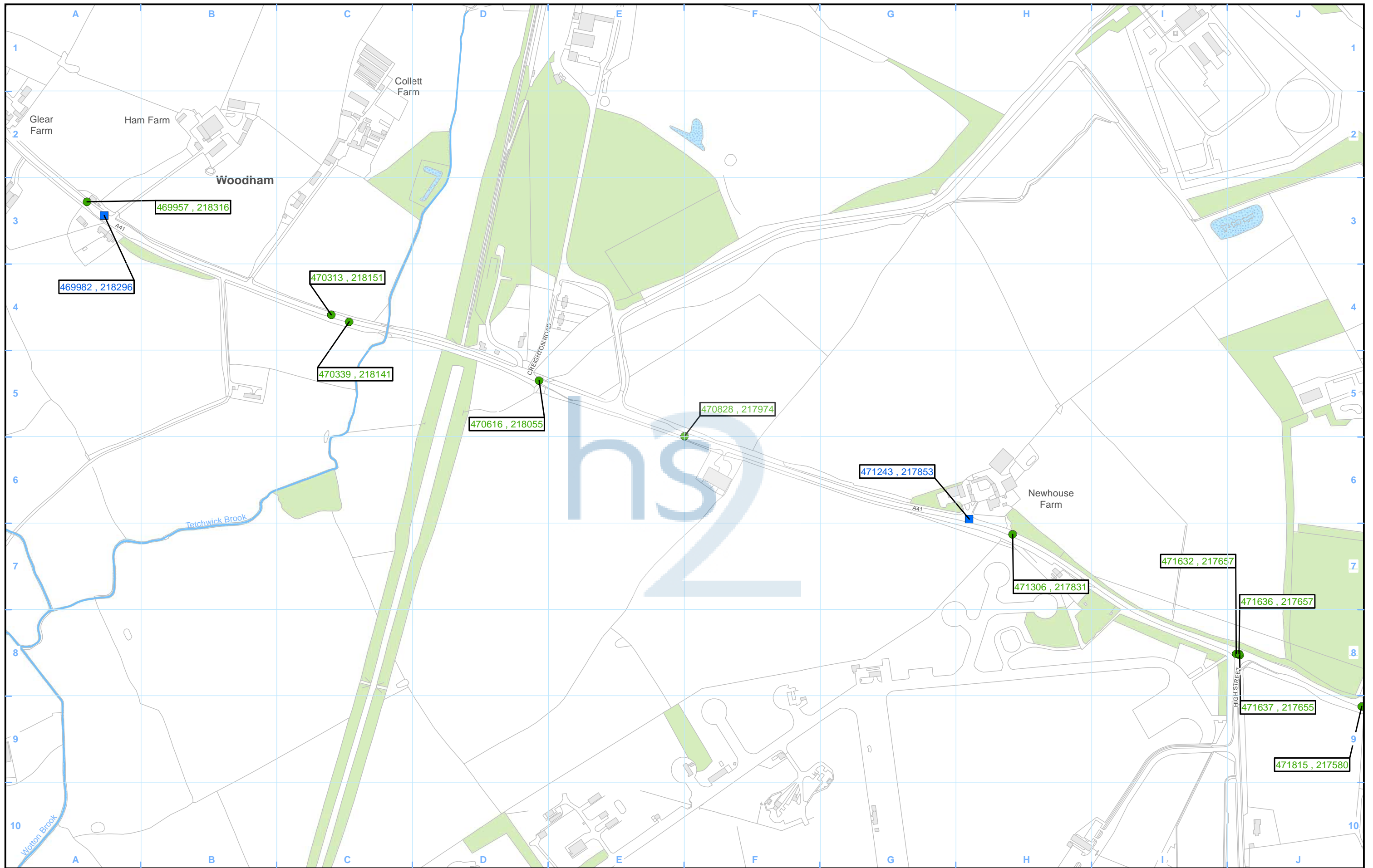
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0 50 100 150 200 Metres



**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number: TR-06-12

Map Name: TWAO Accident Data Station Road and A41 1/04/2011 - 31/03/2016

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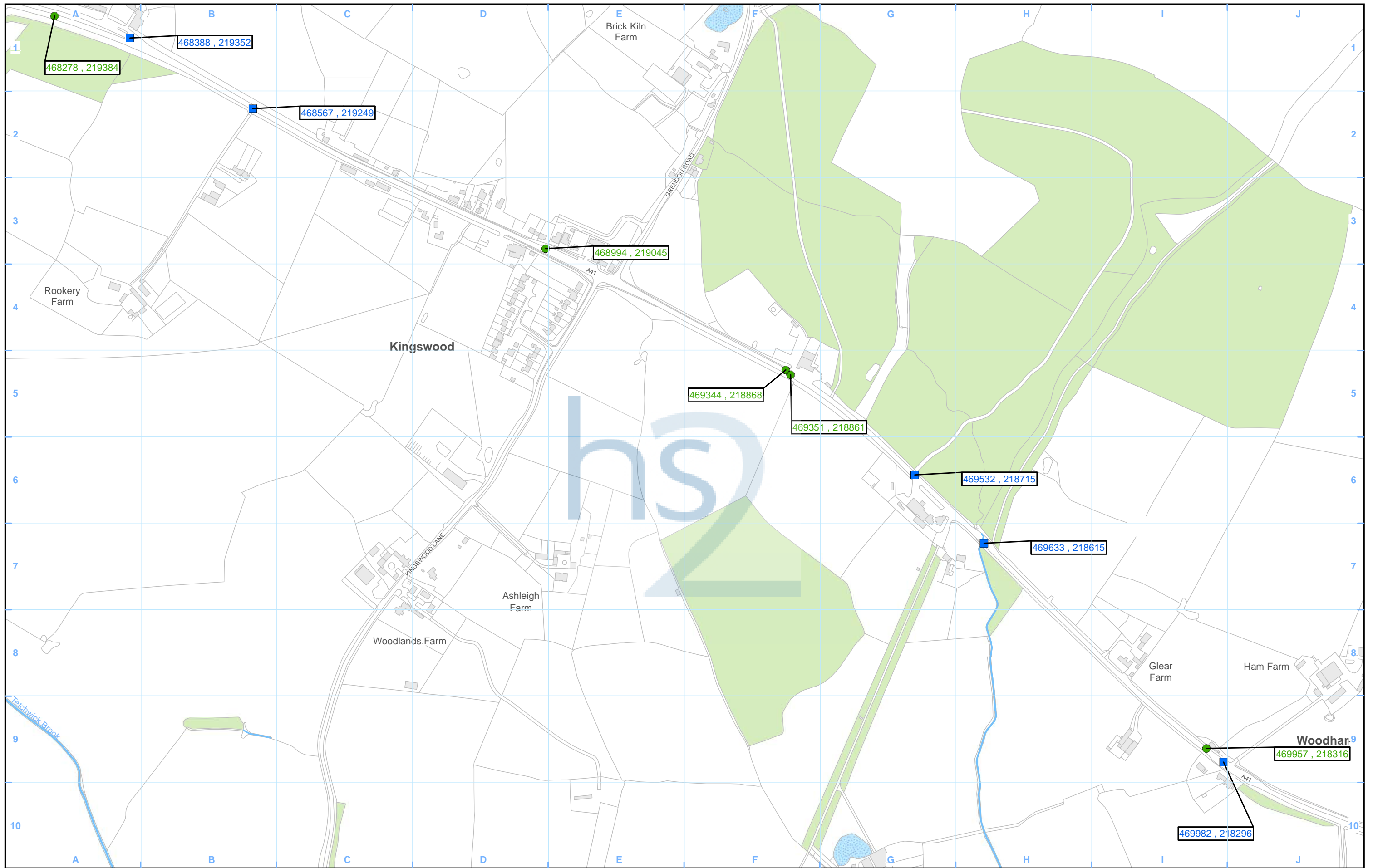
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Doc Number: C222-ATK-TM-MAP-020-000511-P01 Date: 14/07/16





**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number: TR-06-13

Map Name: TWAO Accident Data  
Station Road and A41  
1/04/2011 - 31/03/2016

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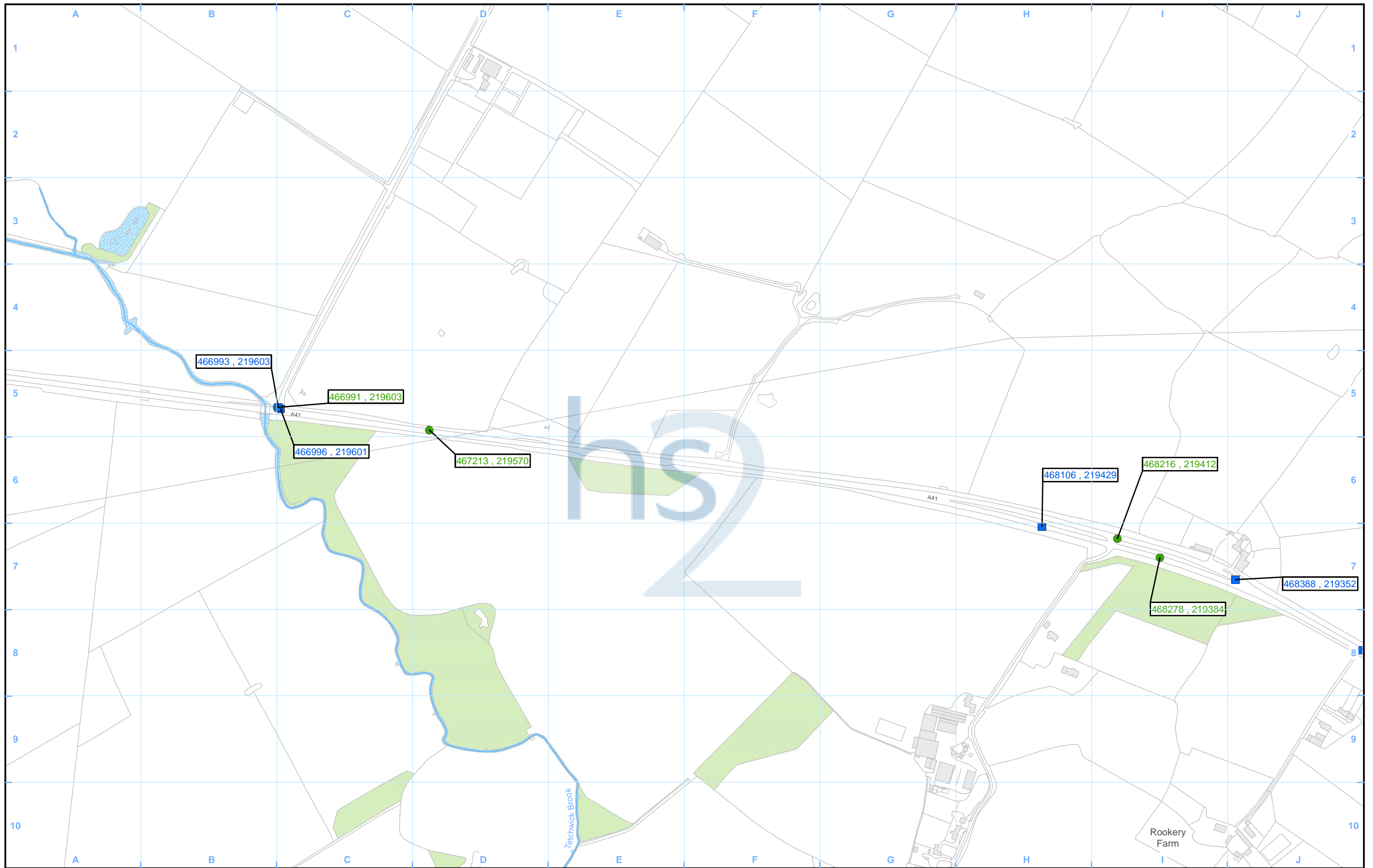
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Doc Number: C222-ATK-TM-MAP-020-000512-P01

Date: 14/07/16



- Legend**
- Route in tunnel
  - Route on surface
  - Watercourse
  - Water body
  - Woodland (not verified by survey)

- Severity of Accident**
- Fatal
  - Serious
  - Slight

Map Number  
**TR-06-14**

Map Name  
**TWAO Accident Data  
Station Road and A41  
1/04/2011 - 31/03/2016**

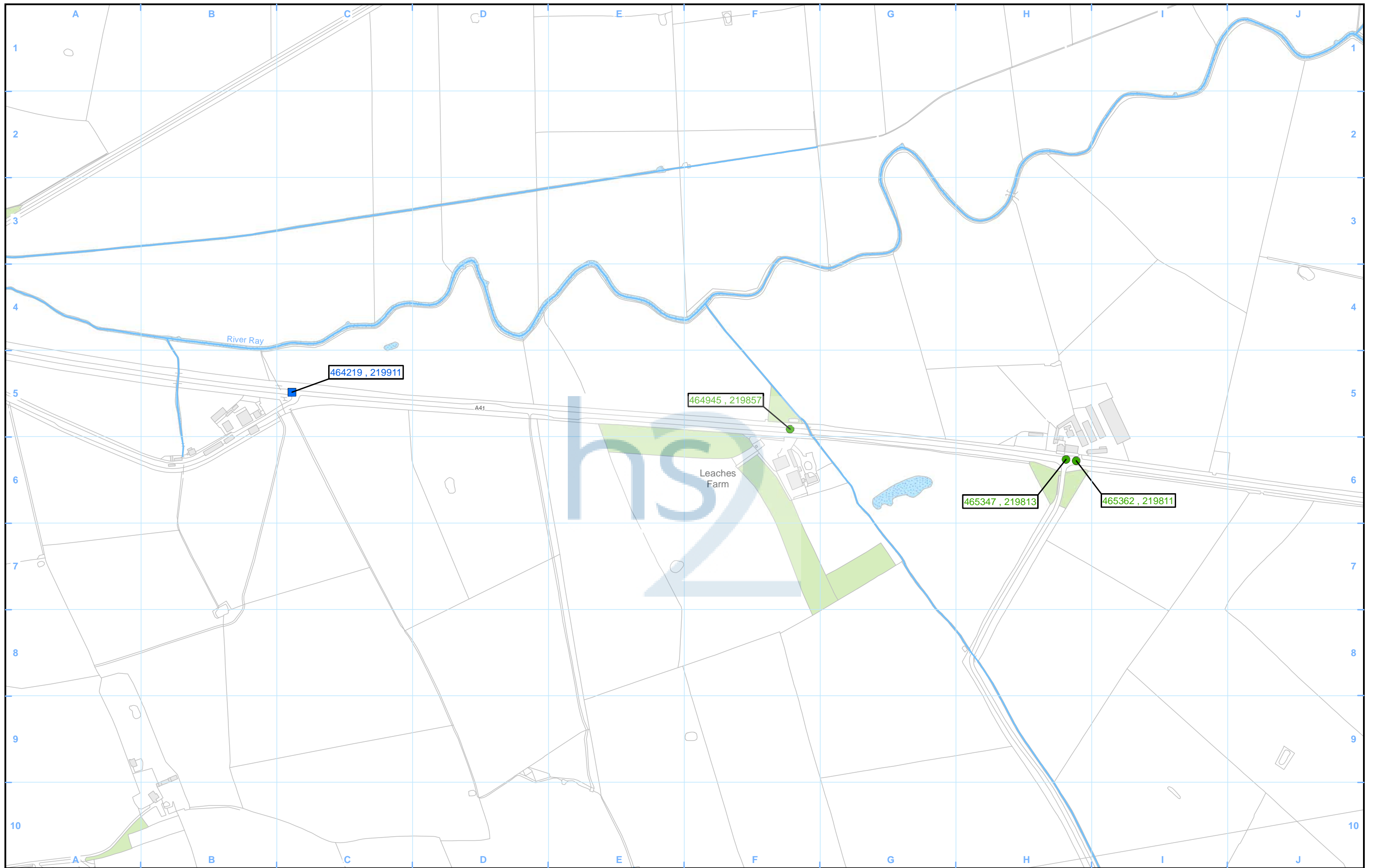
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Scale at A3: 1:5,000

Doc Number: C222-ATK-TM-MAP-020-000513-P01      Date: 14/07/16



**Legend**

- Route in tunnel
- Route on surface
- Watercourse
- Water body
- Woodland (not verified by survey)

**Severity of Accident**

- Fatal
- Serious
- Slight

Map Number: **TR-06-15**

Map Name: **TWAO Accident Data  
Station Road and A41  
1/04/2011 - 31/03/2016**

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Scale at A3: 1:5,000

Doc Number: C222-ATK-TM-MAP-020-000514-P01 **Date: 14/07/16**



# 11 Appendix: Traffic survey data

Site No: 76101661  
A41 Waddesdon Xrds (classifier site)  
Vehicle Count Report - 2011

Site Reference: A0041 761166

Channel: eastbound

		2012 (with growth applied)
<b>AADT 24hr</b>	7797	7855
<b>AAWT 24hr</b>	8397	8458
<b>18 hr</b>	8193	8253
<b>12 hr</b>	7020	7071
<b>16hr (7-23)</b>	7816	7873
<b>8HR (23-7)</b>	580	585
<b>AM</b>	907	913
<b>PM</b>	692	697

Channel: westbound

		2012 (with growth applied)
<b>AADT 24hr</b>	7949	8008
<b>AAWT 24hr</b>	8612	8674
<b>18 hr</b>	8400	8461
<b>12 hr</b>	7122	7174
<b>16hr (7-23)</b>	8043	8101
<b>8HR (23-7)</b>	568	573
<b>AM</b>	629	633
<b>PM</b>	825	832



Job Number L0065  
 Client HS2  
 Project Southern Rural - Buckinghamshire - ATC (4)  
 Location Quainton  
 Site No. 715  
 Road Wk1 Station Rd  
 Start Date 17-Sep-12  
 Direction Eastbound

Volume Summary

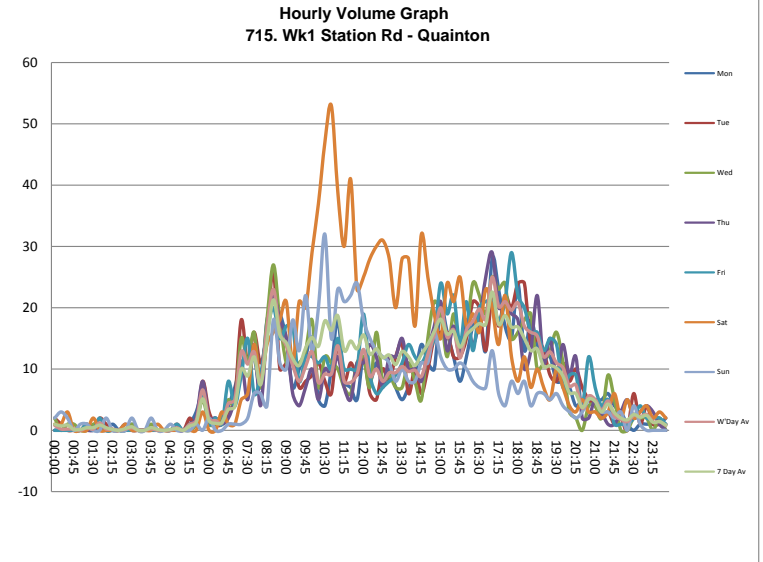
Average Weekday 764  
 7 Day Average 796

715. Wk1 Station Rd - Quainton

▼ Eastbound ▼

Time	Day of Week							Ave Wday	7 Day Ave
	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep		
<b>AM Peak</b>	<b>20</b>	<b>26</b>	<b>27</b>	<b>22</b>	<b>20</b>	<b>53</b>	<b>32</b>		
<b>PM Peak</b>	<b>28</b>	<b>24</b>	<b>25</b>	<b>29</b>	<b>29</b>	<b>32</b>	<b>18</b>		
00:00	0	2	2	0	0	1	2	1	1
00:15	0	1	0	0	0	1	3	0	1
00:30	0	0	1	0	0	3	2	0	1
00:45	0	0	1	0	0	0	0	0	0
01:00	0	0	0	0	0	0	1	0	0
01:15	0	1	0	0	1	0	1	0	0
01:30	0	0	1	0	0	2	0	0	0
01:45	0	2	1	1	2	0	0	1	1
02:00	0	1	0	0	0	0	2	0	0
02:15	1	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0
02:45	0	0	0	1	0	1	0	0	0
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03:15	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0
03:45	0	0	1	0	0	0	2	0	0
04:00	0	0	0	0	0	1	0	0	0
04:15	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	1	0	0
04:45	0	1	0	0	1	0	0	0	0
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05:15	1	2	0	1	1	0	0	1	1
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05:45	6	8	5	8	6	3	0	7	5
06:00	2	3	1	2	1	0	2	2	2
06:15	2	1	1	2	2	0	0	2	1
06:30	1	1	2	1	1	3	0	1	1
06:45	4	3	5	2	8	1	1	4	3
07:00	7	5	4	5	4	1	1	5	4
07:15	11	18	15	11	9	5	1	13	10
07:30	12	11	11	5	15	6	2	11	9
07:45	12	16	16	14	6	14	6	13	12
08:00	7	11	7	4	9	8	6	8	7
08:15	18	16	18	16	16	14	4	17	15
08:30	20	26	27	22	20	16	18	23	21
08:45	19	10	18	18	15	18	11	16	16
09:00	15	11	11	15	17	21	10	14	14
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13:30	5	14	7	15	11	28	10	10	13
13:45	7	6	11	10	14	28	8	10	12
14:00	9	10	8	10	12	17	8	10	11
14:15	14	6	5	8	11	32	11	9	12
14:30	11	10	15	13	13	25	11	12	14
14:45	10	15	21	17	15	19	16	16	16
15:00	20	16	19	21	24	15	12	20	18
15:15	16	16	12	13	19	24	10	15	16
15:30	12	12	19	17	22	21	10	16	16
15:45	8	12	13	12	14	25	11	12	14
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16:15	17	21	24	14	13	19	8	18	17
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16:45	13	13	19	25	21	23	7	18	17
17:00	28	22	25	29	21	20	13	25	23
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17:30	17	22	24	21	21	22	4	21	19
17:45	15	20	15	19	29	12	8	20	17
18:00	24	24	16	18	22	8	6	21	17
18:15	13	24	18	10	20	12	8	17	15
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18:45	14	15	10	22	16	10	6	15	13
19:00	12	13	11	11	13	7	6	12	10
19:15	12	9	13	15	15	5	5	13	11
19:30	8	8	16	9	14	10	6	11	10
19:45	8	11	11	14	7	7	4	10	9
20:00	7	8	3	9	9	4	3	7	6
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20:45	5	5	4	2	12	3	5	6	5
21:00	5	4	4	5	7	3	5	5	5
21:15	5	2	2	3	4	2	3	3	3
21:30	6	3	9	1	5	3	3	5	4
21:45	4	1	5	1	1	6	2	2	3
22:00	3	2	0	3	1	2	3	2	2
22:15	1	0	0	5	1	5	0	1	2
22:30	0	6	2	2	2	2	4	2	3
22:45	1	1	2	3	4	3	1	2	2
23:00	1	4	2	4	2	4	0	3	2
23:15	1	1	0	3	2	2	0	1	1
23:30	1	1	2	1	2	3	0	1	1
23:45	2	1	0	0	1	2	0	1	1
<b>Total</b>	<b>715</b>	<b>748</b>	<b>775</b>	<b>752</b>	<b>828</b>	<b>1127</b>	<b>628</b>	<b>764</b>	<b>796</b>

7-19	603	624	664	627	689	1030	553	641	684
6-22	693	713	753	718	801	1092	603	736	768
6-24	703	729	761	739	816	1115	611	750	782
0-24	715	748	775	752	828	1127	628	764	796





Job Number L0065  
 Client HS2  
 Project Southern Rural - Buckinghamshire - ATC (4)  
 Location Quainton  
 Site No. 715  
 Road Wk1 Station Rd  
 Start Date 17-Sep-12  
 Direction Westbound

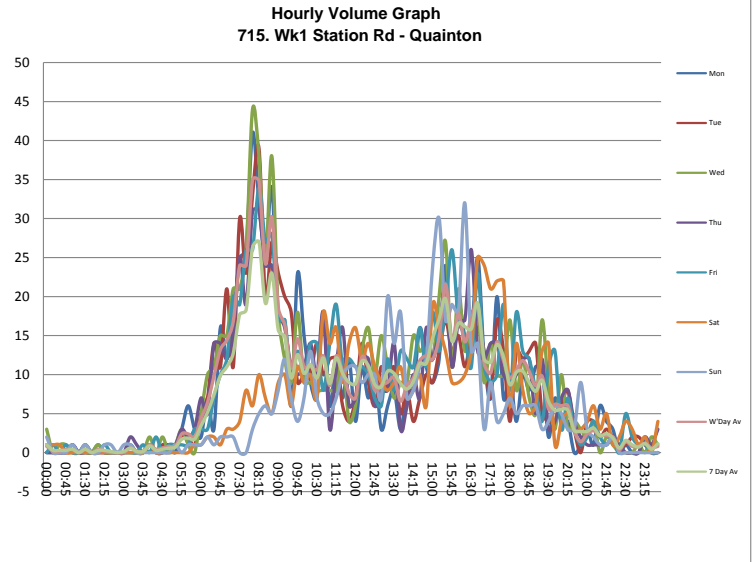
Volume Summary

Average Weekday 795  
 7 Day Average 734

715. Wk1 Station Rd - Quainton

Westbound

Time	Day of Week							Ave Wday	7 Day Ave
	Mon 17-Sep	Tue 18-Sep	Wed 19-Sep	Thu 20-Sep	Fri 21-Sep	Sat 22-Sep	Sun 23-Sep		
AM Peak	41	39	44	31	34	18	13		
PM Peak	25	17	27	26	26	25	32		
00:00	0	1	3	0	0	1	2	1	1
00:15	0	0	0	0	1	1	0	0	0
00:30	0	0	1	0	0	1	0	0	0
00:45	0	0	1	0	1	0	0	0	0
01:00	1	0	0	1	0	0	1	0	0
01:15	0	0	0	0	0	0	0	0	0
01:30	0	1	0	0	1	0	1	0	0
01:45	0	0	0	0	0	0	0	0	0
02:00	1	0	1	0	0	0	0	0	0
02:15	0	0	0	0	1	0	1	0	0
02:30	0	0	0	0	0	0	1	0	0
02:45	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	1	0	0
03:15	1	0	0	2	0	0	1	1	1
03:30	0	0	0	1	0	0	0	0	0
03:45	0	0	0	0	1	0	0	0	0
04:00	1	1	2	1	0	1	0	1	1
04:15	0	0	0	0	2	0	0	0	0
04:30	0	1	2	0	0	0	0	1	0
04:45	1	1	0	1	1	0	0	1	1
05:00	0	1	1	1	1	0	1	1	1
05:15	3	2	3	3	1	0	0	2	2
05:30	6	2	1	2	1	0	1	2	2
05:45	3	1	0	3	3	1	1	2	2
06:00	2	5	5	7	3	1	1	4	3
06:15	7	7	10	5	3	2	2	6	5
06:30	3	14	11	14	7	2	1	10	7
06:45	16	11	15	14	10	1	2	13	10
07:00	12	21	15	12	12	3	2	14	11
07:15	17	11	21	15	20	3	2	17	13
07:30	25	30	21	25	19	4	0	24	18
07:45	26	23	26	19	26	8	0	24	18
08:00	41	33	44	31	26	6	3	35	26
08:15	32	39	38	31	34	10	5	35	27
08:30	25	20	25	24	27	7	6	24	19
08:45	34	27	38	24	28	5	5	30	23
09:00	17	23	18	18	17	9	8	19	16
09:15	17	20	12	16	17	10	12	16	15
09:30	6	18	9	11	10	6	7	11	10
09:45	23	9	18	10	13	11	4	15	13
10:00	15	10	9	11	10	9	7	11	10
10:15	9	10	9	14	14	10	13	11	11
10:30	7	14	8	10	14	7	7	11	10
10:45	18	10	8	18	8	18	5	12	12
11:00	6	12	8	3	14	14	5	9	9
11:15	12	12	8	11	19	16	7	12	12
11:30	7	6	12	16	11	9	10	10	10
11:45	12	4	4	6	12	14	11	8	9
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13:00	3	11	15	8	6	9	7	9	8
13:15	6	8	11	8	12	8	20	9	10
13:30	8	11	7	14	8	9	14	10	10
13:45	3	5	9	3	13	11	18	7	9
14:00	8	8	9	6	12	7	7	9	8
14:15	8	4	15	10	11	8	8	10	9
14:30	16	7	13	7	16	10	11	12	11
14:45	11	10	14	16	11	6	12	12	11
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15:15	12	13	20	16	13	16	30	15	17
15:30	24	17	27	21	19	13	17	22	20
15:45	11	13	11	11	26	9	19	14	14
16:00	19	15	21	17	17	9	18	18	17
16:15	15	11	13	17	15	10	32	14	16
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17:30	20	17	10	14	10	22	4	14	14
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19:30	2	4	8	3	11	14	4	6	7
19:45	7	4	3	4	13	1	6	6	5
20:00	4	6	10	7	3	4	5	6	6
20:15	4	8	3	8	7	5	3	6	5
20:30	0	3	4	4	3	3	3	3	3
20:45	1	0	3	2	1	3	9	1	3
21:00	3	4	2	1	2	4	3	2	3
21:15	1	4	4	1	4	6	2	3	3
21:30	6	2	0	1	2	3	1	2	2
21:45	4	3	2	1	1	5	1	2	2
22:00	3	2	1	2	2	1	2	2	2
22:15	0	1	0	1	0	2	0	0	1
22:30	1	1	0	0	5	4	0	1	2
22:45	0	2	0	0	2	3	0	1	1
23:00	0	2	1	0	1	1	0	1	1
23:15	2	1	0	2	1	2	0	1	1
23:30	0	0	2	1	0	0	0	1	0
23:45	0	0	1	3	0	4	0	1	1
Total	770	767	838	773	828	631	533	795	734



7-19	665	653	716	660	721	536	468	683	631
6-22	747	747	818	749	803	609	520	773	713
6-24	753	756	823	758	814	626	522	781	722
0-24	770	767	838	773	828	631	533	795	734



Job Number L0065  
 Client HS2  
 Project Southern Rural - Buckinghamshire - ATC (4)  
 Location Quainton  
 Site No. 715  
 Road Wk2 Station Rd  
 Start Date 24-Sep-12  
 Direction Eastbound

Volume Summary

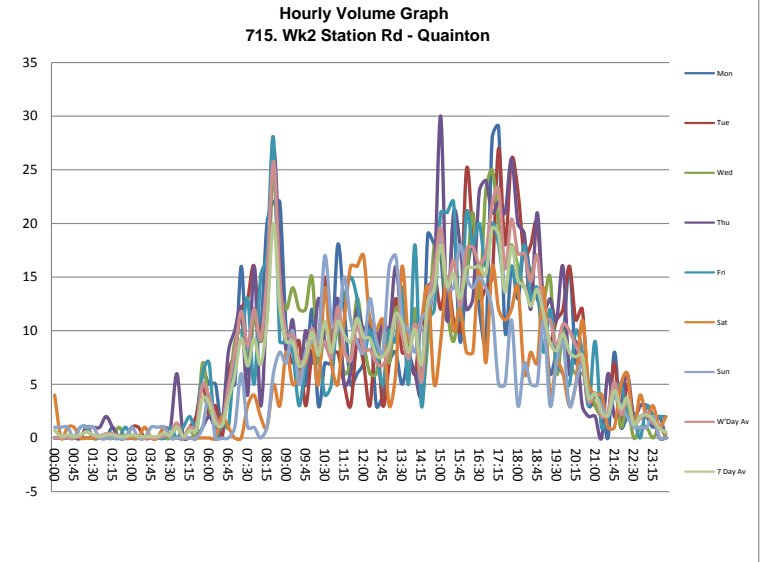
Average Weekday 724  
 7 Day Average 669

715. Wk2 Station Rd - Quainton

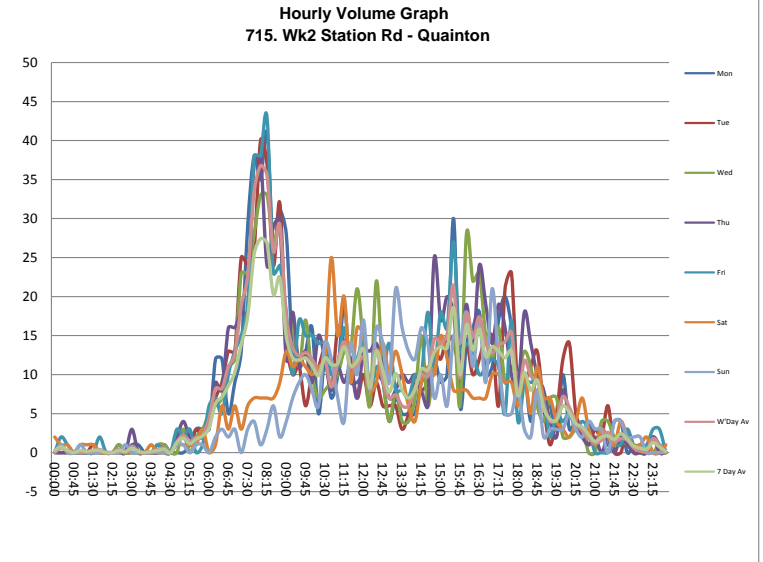
Eastbound

Time	Day of Week							Ave Wday	7 Day Ave
	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep		
AM Peak	22	27	25	27	28	16	17		
PM Peak	29	27	25	30	22	17	19		
00:00	0	0	0	0	0	4	1	0	1
00:15	0	0	0	0	0	0	1	0	0
00:30	0	0	0	0	0	1	1	0	0
00:45	0	0	0	0	0	1	0	0	0
01:00	0	0	0	0	1	0	1	0	0
01:15	0	1	0	1	1	0	1	1	1
01:30	0	0	0	1	0	0	1	0	0
01:45	0	0	0	1	0	0	0	0	0
02:00	0	0	0	2	0	0	0	0	0
02:15	1	0	0	1	0	0	0	0	0
02:30	0	0	1	0	0	0	0	0	0
02:45	0	0	0	0	1	0	0	0	0
03:00	0	1	0	0	0	0	1	0	0
03:15	0	1	0	0	0	0	0	0	0
03:30	0	0	0	0	0	1	0	0	0
03:45	0	0	0	0	0	0	1	0	0
04:00	0	0	0	0	0	0	1	0	0
04:15	0	0	0	1	0	1	1	0	0
04:30	0	0	0	1	1	0	0	0	0
04:45	0	0	1	6	0	0	0	1	1
05:00	0	0	0	0	1	0	0	0	0
05:15	1	1	1	0	2	0	0	1	1
05:30	2	2	0	0	1	0	0	1	1
05:45	6	5	7	1	6	0	1	5	4
06:00	5	2	3	2	7	0	4	4	3
06:15	5	3	1	1	0	0	0	2	1
06:30	1	0	2	1	2	2	0	1	1
06:45	5	6	4	8	1	1	0	5	4
07:00	5	8	9	10	8	0	1	8	6
07:15	16	12	10	12	9	0	6	12	9
07:30	6	13	7	4	13	3	1	9	7
07:45	12	16	11	16	5	4	1	12	9
08:00	10	9	9	3	15	2	0	9	7
08:15	20	14	11	13	17	1	1	15	11
08:30	22	27	25	27	28	5	6	26	20
08:45	22	12	14	17	9	3	8	15	12
09:00	10	9	12	8	9	8	7	10	9
09:15	8	7	14	11	8	5	10	10	9
09:30	7	9	12	5	3	6	5	7	7
09:45	5	3	12	10	7	7	8	7	7
10:00	12	8	15	7	9	9	9	10	10
10:15	3	9	7	13	8	5	9	8	8
10:30	7	15	10	9	4	14	17	9	11
10:45	7	8	10	8	5	7	11	8	8
11:00	18	8	10	13	12	5	10	12	11
11:15	12	5	6	5	13	11	15	8	10
11:30	5	3	7	6	15	16	11	7	9
11:45	6	9	13	12	13	16	9	11	11
12:00	7	7	9	10	8	17	8	8	9
12:15	11	3	6	11	10	11	13	8	9
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13:15	8	13	12	16	9	6	17	12	12
13:30	5	8	11	10	14	16	11	10	11
13:45	8	8	8	8	5	9	10	7	8
14:00	11	6	12	6	18	10	8	11	10
14:15	4	11	4	4	3	11	11	5	7
14:30	19	10	9	14	11	14	12	13	13
14:45	18	15	18	15	12	5	14	16	14
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16:45	9	14	23	24	16	7	14	17	15
17:00	28	15	25	21	20	16	12	22	20
17:15	29	27	20	22	18	12	5	23	19
17:30	10	18	16	21	14	11	5	16	14
17:45	16	26	18	26	16	12	11	20	18
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18:30	15	18	15	12	13	8	5	15	12
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19:30	8	11	6	11	7	7	7	9	8
19:45	9	12	10	16	6	6	9	11	10
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20:15	7	11	6	9	10	5	5	9	8
20:30	7	12	6	3	8	11	7	7	8
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21:00	4	3	3	2	9	4	4	4	4
21:15	4	3	2	0	1	4	3	2	2
21:30	0	2	2	6	2	1	2	2	2
21:45	8	7	5	2	4	1	4	5	4
22:00	1	1	1	3	5	5	3	2	3
22:15	2	5	3	6	2	6	2	4	4
22:30	1	2	0	2	2	1	1	1	1
22:45	2	3	1	3	0	4	1	2	2
23:00	2	3	1	3	3	2	1	2	2
23:15	1	2	0	2	2	3	2	1	2
23:30	2	0	1	0	2	1	0	1	1
23:45	0	0	0	0	2	2	0	0	1
Total	691	728	709	774	717	521	545	724	669

7-19	571	588	602	646	600	421	458	601	555
6-22	670	701	692	740	685	489	524	698	643
6-24	681	717	699	759	703	513	534	712	658
0-24	691	728	709	774	717	521	545	724	669



Time	Day of Week							Ave Wday	7 Day Ave
	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep		
<b>AM Peak</b>	<b>41</b>	<b>40</b>	<b>33</b>	<b>38</b>	<b>43</b>	<b>25</b>	<b>14</b>		
<b>PM Peak</b>	<b>30</b>	<b>23</b>	<b>28</b>	<b>25</b>	<b>27</b>	<b>15</b>	<b>21</b>		
00:00	0	0	0	0	0	2	0	0	0
00:15	0	0	1	0	2	1	1	1	1
00:30	0	0	0	0	1	1	0	0	0
00:45	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	1	1	0	0
01:15	0	0	0	0	0	1	0	0	0
01:30	0	1	0	0	0	1	0	0	0
01:45	0	0	0	0	2	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0
02:30	1	0	1	0	0	0	0	0	0
02:45	0	0	0	0	0	0	1	0	0
03:00	1	0	0	3	0	0	0	1	1
03:15	1	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	1	0	0	0
04:00	0	0	1	0	1	0	0	0	0
04:15	1	1	1	0	0	0	0	1	0
04:30	0	0	0	0	0	0	0	0	0
04:45	0	2	0	2	3	1	1	1	1
05:00	0	2	3	4	2	1	1	2	2
05:15	1	1	0	2	3	1	0	1	1
05:30	3	3	2	2	0	1	1	2	2
05:45	3	2	3	2	1	3	1	2	2
06:00	3	4	5	4	6	0	0	4	3
06:15	12	7	6	9	7	1	2	8	6
06:30	12	9	7	8	5	6	3	8	7
06:45	5	13	11	16	10	3	2	11	9
07:00	9	13	12	16	13	6	3	13	10
07:15	13	25	23	18	15	3	0	19	14
07:30	29	24	23	18	19	6	3	23	17
07:45	38	26	28	37	38	7	4	33	25
08:00	35	40	33	38	38	7	1	37	27
08:15	41	37	33	24	43	7	3	36	27
08:30	26	24	27	29	23	7	6	26	20
08:45	31	32	29	30	24	9	2	29	22
09:00	28	14	15	12	18	13	4	17	15
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09:30	12	11	11	11	17	12	9	12	12
09:45	13	6	17	13	15	11	10	13	12
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11:45	9	7	21	7	12	16	10	11	12
12:00	10	10	14	13	14	15	17	12	13
12:15	9	6	6	13	8	8	8	8	8
12:30	10	9	22	14	11	9	16	13	13
12:45	9	6	10	11	10	14	14	9	11
13:00	4	6	4	7	14	10	9	7	8
13:15	7	6	8	8	8	13	21	7	10
13:30	5	3	4	10	8	10	16	6	8
13:45	5	5	4	9	7	6	13	6	7
14:00	5	9	7	10	10	4	12	8	8
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14:30	10	9	6	6	18	11	14	10	11
14:45	12	13	12	25	11	10	7	15	13
15:00	9	12	14	17	18	15	10	14	14
15:15	10	15	15	20	16	12	6	15	13
15:30	30	14	18	18	27	8	15	21	19
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16:30	18	12	23	24	10	7	17	17	16
16:45	10	15	15	19	11	7	9	14	12
17:00	11	15	12	14	12	10	21	13	14
17:15	17	6	16	19	11	10	12	14	13
17:30	20	21	9	16	5	9	5	14	12
17:45	16	23	11	10	17	9	5	15	13
18:00	7	8	10	8	4	6	8	7	7
18:15	10	9	13	18	9	10	3	12	10
18:30	4	11	11	14	9	5	2	10	8
18:45	8	13	6	10	9	11	8	9	9
19:00	6	6	4	8	7	7	2	6	6
19:15	6	1	7	4	2	7	3	4	4
19:30	3	5	7	2	5	4	3	4	4
19:45	10	12	2	8	4	3	3	7	6
20:00	3	14	2	5	5	2	5	6	5
20:15	4	5	3	4	3	4	3	4	4
20:30	2	3	3	2	4	7	2	3	3
20:45	4	1	0	1	3	3	4	2	2
21:00	1	3	0	2	0	1	3	1	1
21:15	2	2	4	0	0	3	3	2	2
21:30	1	6	4	2	0	2	0	3	2
21:45	4	0	2	0	1	1	4	1	2
22:00	4	0	2	2	1	4	4	2	2
22:15	0	3	1	1	3	2	2	2	2
22:30	1	0	1	0	1	1	2	1	1
22:45	0	0	0	0	1	1	2	0	1
23:00	0	0	0	0	1	2	0	0	0
23:15	2	2	0	2	3	0	0	2	1
23:30	1	0	1	0	3	0	0	1	1
23:45	0	0	0	0	0	1	0	0	0
<b>Total</b>	<b>773</b>	<b>760</b>	<b>783</b>	<b>826</b>	<b>792</b>	<b>558</b>	<b>513</b>	<b>787</b>	<b>715</b>



7-19	676	652	699	731	702	478	454	692	627
6-22	754	743	766	806	764	532	496	767	694
6-24	762	748	771	811	777	543	506	774	703
0-24	773	760	783	826	792	558	513	787	715









**Job Number** Tad 1591  
**Client** Atkins  
**Project** HS2 Phase 4  
**Location** 450m East of Boundry Farm  
**Site No.** 76  
**Road** A41 Aylesbury Road  
**Start Date** 16-Apr-15  
**Direction** Eastbound

Volume Summary

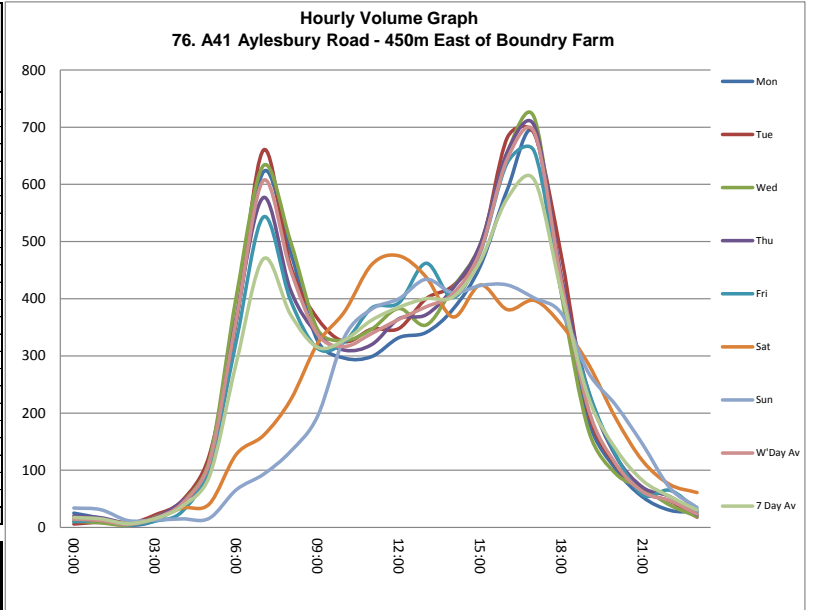
**Average Weekday** 6,474  
**7 Day Average** 6,094

76. A41 Aylesbury Road - 450m East of Boundry Farm

Eastbound

Time	Day of Week							Ave Wday	7 Day Ave
	Mon 20-Apr	Tue 21-Apr	Wed 22-Apr	Thu 16-Apr	Fri 17-Apr	Sat 18-Apr	Sun 19-Apr		
<b>AM Peak</b>	<b>622</b>	<b>660</b>	<b>633</b>	<b>577</b>	<b>543</b>	<b>460</b>	<b>382</b>		
<b>PM Peak</b>	<b>690</b>	<b>688</b>	<b>716</b>	<b>702</b>	<b>657</b>	<b>475</b>	<b>434</b>		
00:00	25	6	11	20	10	16	34	14	17
01:00	16	9	8	17	12	12	31	12	15
02:00	4	6	4	8	5	8	12	5	7
03:00	12	22	18	17	11	15	13	16	15
04:00	46	47	44	46	28	34	15	42	37
05:00	121	126	117	95	106	41	16	113	89
06:00	361	363	405	369	327	128	66	365	288
07:00	622	660	633	577	543	161	93	607	470
08:00	481	457	500	415	397	223	133	450	372
09:00	326	365	346	338	313	322	195	338	315
10:00	296	325	327	310	325	378	334	317	328
11:00	299	347	347	320	384	460	382	339	363
12:00	332	348	383	365	393	475	400	364	385
13:00	341	400	354	372	462	438	434	386	400
14:00	382	423	420	419	402	368	410	409	403
15:00	457	486	495	495	481	424	423	483	466
16:00	591	682	656	657	638	381	424	645	576
17:00	690	688	716	702	657	397	401	691	607
18:00	413	473	407	437	411	354	374	428	410
19:00	186	200	169	237	238	285	270	206	226
20:00	102	109	94	125	127	191	214	111	137
21:00	53	62	69	70	57	116	145	62	82
22:00	30	46	39	54	65	75	69	47	54
23:00	27	18	19	22	31	61	35	23	30
<b>Total</b>	<b>6213</b>	<b>6668</b>	<b>6581</b>	<b>6487</b>	<b>6423</b>	<b>5363</b>	<b>4923</b>	<b>6474</b>	<b>6094</b>

07:00-19:00	5230	5654	5584	5407	5406	4381	4003	5456	5095
06:00-22:00	5932	6388	6321	6208	6155	5101	4698	6201	5829
06:00-24:00	5989	6452	6379	6284	6251	5237	4802	6271	5913
00:00-24:00	6213	6668	6581	6487	6423	5363	4923	6474	6094





**Job Number** Tad 1591  
**Client** Atkins  
**Project** HS2 Phase 4  
**Location** 450m East of Boundry Farm  
**Site No.** 76  
**Road** A41 Aylesbury Road  
**Start Date** 16-Apr-15  
**Direction** Westbound

Volume Summary

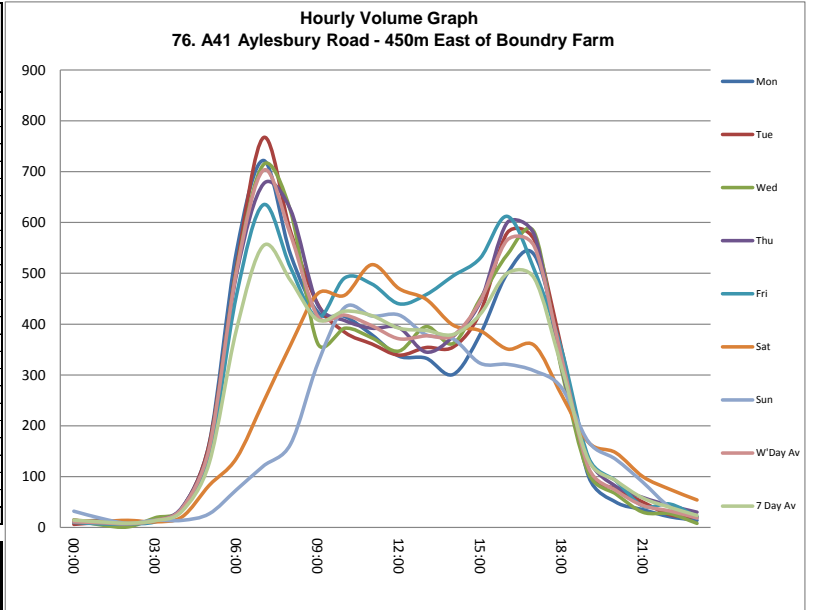
**Average Weekday** 6,555  
**7 Day Average** 6,116

76. A41 Aylesbury Road - 450m East of Boundry Farm

Westbound

Time	Day of Week							Ave Wday	7 Day Ave
	Mon 20-Apr	Tue 21-Apr	Wed 22-Apr	Thu 16-Apr	Fri 17-Apr	Sat 18-Apr	Sun 19-Apr		
<b>AM Peak</b>	<b>722</b>	<b>767</b>	<b>714</b>	<b>676</b>	<b>635</b>	<b>517</b>	<b>433</b>		
<b>PM Peak</b>	<b>536</b>	<b>580</b>	<b>580</b>	<b>600</b>	<b>612</b>	<b>470</b>	<b>418</b>		
00:00	10	6	15	14	10	14	32	11	14
01:00	14	10	5	10	7	12	18	9	11
02:00	8	13	4	8	7	14	8	7	8
03:00	13	12	19	13	11	11	14	14	13
04:00	39	38	37	40	37	21	14	38	32
05:00	166	165	156	156	138	83	27	156	127
06:00	542	511	505	497	456	136	74	502	389
07:00	722	767	714	676	635	247	121	703	555
08:00	537	582	622	625	511	359	164	575	486
09:00	424	440	362	438	413	460	322	415	408
10:00	415	384	392	407	491	457	433	418	426
11:00	379	361	373	392	479	517	416	397	417
12:00	337	339	347	393	440	470	418	371	392
13:00	333	354	395	345	458	449	379	377	388
14:00	301	355	362	376	495	398	371	378	380
15:00	380	423	450	444	530	387	323	445	420
16:00	500	580	537	600	612	351	321	566	500
17:00	536	565	580	575	506	358	308	552	490
18:00	345	352	310	316	350	261	275	335	316
19:00	100	108	106	135	137	167	168	117	132
20:00	50	76	66	81	92	147	134	73	92
21:00	35	50	30	59	42	100	89	43	58
22:00	21	25	27	43	46	75	40	32	40
23:00	14	20	8	30	21	54	19	19	24
<b>Total</b>	<b>6221</b>	<b>6536</b>	<b>6419</b>	<b>6673</b>	<b>6924</b>	<b>5548</b>	<b>4488</b>	<b>6555</b>	<b>6116</b>

07:00-19:00	5209	5502	5444	5587	5920	4714	3851	5532	5175
06:00-22:00	5936	6247	6151	6359	6647	5264	4316	6268	5846
06:00-24:00	5971	6292	6186	6432	6714	5393	4375	6319	5909
00:00-24:00	6221	6536	6419	6673	6924	5548	4488	6555	6116





**Job Number** Tad 1591  
**Client** Atkins  
**Project** HS2 Phase 4  
**Location** 450m East of Boundry Farm  
**Site No.** 76  
**Road** A41 Aylesbury Road  
**Start Date** 16-Apr-15  
**Direction** Eastbound

Volume Summary

**Average Weekday** 5,703  
**7 Day Average** 5,583

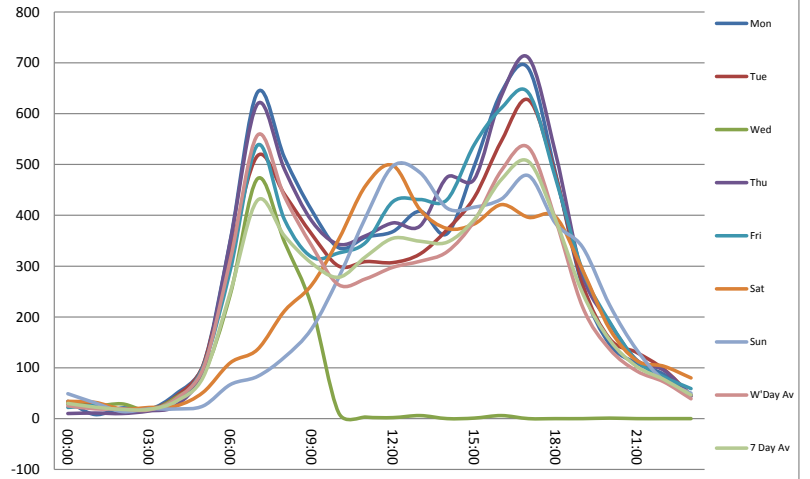
76. A41 Aylesbury Road - 450m East of Boundry Farm

▼ Eastbound ▼

Time	Day of Week							Ave Wday	7 Day Ave
	Mon 27-Apr	Tue 28-Apr	Wed 29-Apr	Thu 23-Apr	Fri 24-Apr	Sat 25-Apr	Sun 26-Apr		
<b>AM Peak</b>	642	517	472	619	538	459	397		
<b>PM Peak</b>	689	627	6	710	641	498	497		
00:00	34	29	31	10	22	34	49	25	30
01:00	8	27	25	11	25	32	31	19	23
02:00	21	18	29	10	16	19	14	19	18
03:00	18	17	16	15	20	22	19	17	18
04:00	49	44	42	26	35	25	19	39	34
05:00	106	106	87	95	103	52	25	99	82
06:00	352	327	245	350	293	110	67	313	249
07:00	642	517	472	619	538	136	83	558	430
08:00	513	441	347	490	391	212	121	436	359
09:00	410	363	221	389	318	263	177	340	306
10:00	336	300	11	343	326	353	278	263	278
11:00	357	309	3	360	347	459	397	275	319
12:00	368	307	2	385	427	498	497	298	355
13:00	408	324	6	379	431	411	484	310	349
14:00	364	372	0	475	431	374	414	328	347
15:00	497	435	1	471	539	383	416	389	392
16:00	642	546	6	635	611	421	432	488	470
17:00	689	627	0	710	641	396	478	533	506
18:00	483	479	0	522	473	397	384	391	391
19:00	259	265	0	282	291	292	337	219	247
20:00	146	157	1	188	190	176	223	136	154
21:00	109	130	0	115	114	114	135	94	102
22:00	87	97	0	95	82	103	75	72	77
23:00	46	46	0	44	59	80	50	39	46
<b>Total</b>	6944	6283	1545	7019	6723	5362	5205	5703	5583

07:00-19:00	5709	5020	1069	5778	5473	4303	4161	4610	4502
06:00-22:00	6575	5899	1315	6713	6361	4995	4923	5373	5254
06:00-24:00	6708	6042	1315	6852	6502	5178	5048	5484	5378
00:00-24:00	6944	6283	1545	7019	6723	5362	5205	5703	5583

Hourly Volume Graph  
76. A41 Aylesbury Road - 450m East of Boundry Farm





**Job Number** Tad 1591  
**Client** Atkins  
**Project** HS2 Phase 4  
**Location** 450m East of Boundry Farm  
**Site No.** 76  
**Road** A41 Aylesbury Road  
**Start Date** 16-Apr-15  
**Direction** Westbound

Volume Summary

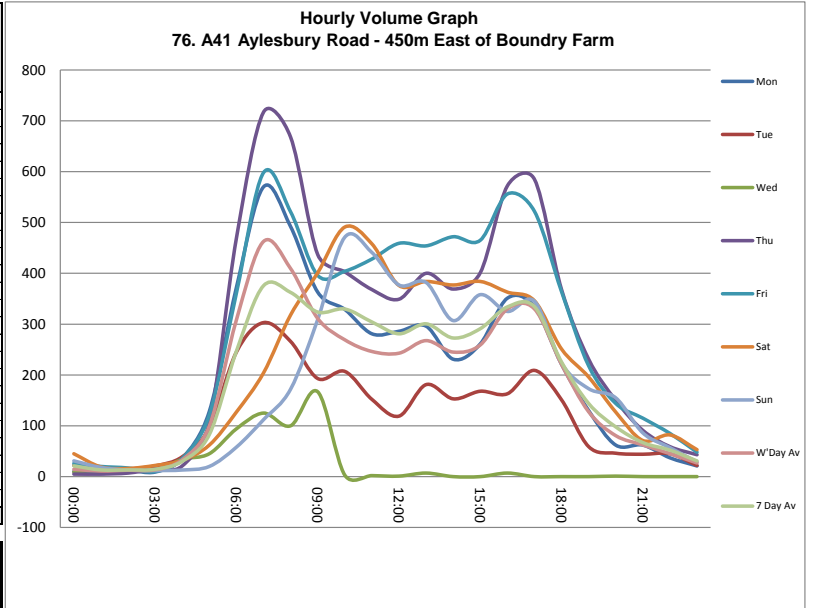
**Average Weekday** 4,428  
**7 Day Average** 4,548

76. A41 Aylesbury Road - 450m East of Boundry Farm

Westbound

Time	Day of Week							Ave Wday	7 Day Ave
	Mon 27-Apr	Tue 28-Apr	Wed 29-Apr	Thu 23-Apr	Fri 24-Apr	Sat 25-Apr	Sun 26-Apr		
<b>AM Peak</b>	570	303	167	717	598	491	471		
<b>PM Peak</b>	351	209	7	585	556	384	382		
00:00	10	22	9	5	26	45	31	14	21
01:00	6	11	13	5	20	19	18	11	13
02:00	12	15	12	7	17	16	13	13	13
03:00	9	21	12	15	10	22	12	13	14
04:00	36	39	34	21	36	32	13	33	30
05:00	128	96	45	106	121	62	20	99	83
06:00	372	245	94	469	361	127	58	308	247
07:00	570	303	125	717	598	204	112	463	376
08:00	492	266	100	668	521	318	172	409	362
09:00	363	193	167	437	396	401	309	311	324
10:00	329	207	3	403	404	491	471	269	330
11:00	281	152	2	368	428	458	441	246	304
12:00	286	119	1	349	459	376	377	243	281
13:00	296	181	7	400	454	384	382	268	301
14:00	231	153	0	369	472	377	307	245	273
15:00	261	168	0	401	465	384	358	259	291
16:00	351	163	7	572	556	363	325	330	334
17:00	334	209	0	585	522	346	345	330	334
18:00	221	151	0	368	364	251	223	221	225
19:00	130	59	0	231	218	196	173	128	144
20:00	62	46	1	150	144	127	155	81	98
21:00	62	44	0	91	115	71	86	62	67
22:00	37	45	0	59	85	82	57	45	52
23:00	21	22	0	43	48	53	29	27	31
<b>Total</b>	4900	2930	632	6839	6840	5205	4487	4428	4548

07:00-19:00	4015	2265	412	5637	5639	4353	3822	3594	3735
06:00-22:00	4641	2659	507	6578	6477	4874	4294	4172	4290
06:00-24:00	4699	2726	507	6680	6610	5009	4380	4244	4373
00:00-24:00	4900	2930	632	6839	6840	5205	4487	4428	4548









**Job Number** Tad 1591  
**Client** Atkins  
**Project** HS2 Phase 4  
**Location** A41 200 meters south of Rail line  
**Site No.** 78  
**Road** A41 Boudry Lane - wk1  
**Start Date** 11-Apr-15  
**Direction** Northbound

Volume Summary

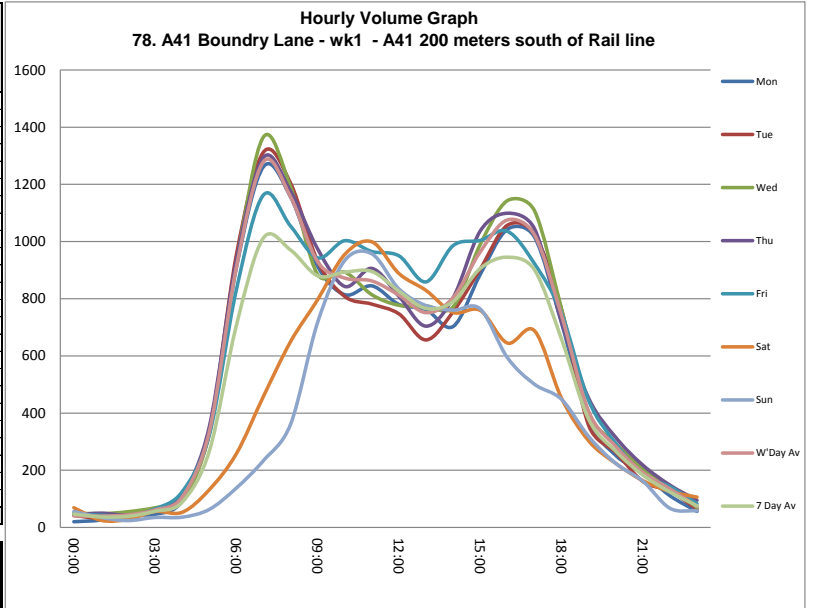
**Average Weekday** 13,898  
**7 Day Average** 12,715

78. A41 Boudry Lane - wk1 - A41 200 meters south of Rail line

Northbound

Time	Day of Week							Ave Wday	7 Day Ave
	Mon 13-Apr	Tue 14-Apr	Wed 15-Apr	Thu 16-Apr	Fri 17-Apr	Sat 11-Apr	Sun 12-Apr		
<b>AM Peak</b>	1262	1313	1366	1294	1163	999	957		
<b>PM Peak</b>	1043	1057	1143	1099	1036	888	834		
00:00	20	42	51	43	47	69	56	41	47
01:00	26	31	48	50	43	25	35	40	37
02:00	47	35	55	43	40	28	24	44	39
03:00	46	66	69	60	65	56	35	61	57
04:00	93	106	94	113	125	53	36	106	89
05:00	336	331	328	352	323	132	63	334	266
06:00	909	954	924	934	832	258	138	911	707
07:00	1262	1313	1366	1294	1163	459	234	1280	1013
08:00	1156	1204	1191	1176	1054	650	361	1156	970
09:00	913	931	884	974	943	797	718	929	880
10:00	814	808	893	843	1003	955	934	872	893
11:00	845	781	814	906	965	999	957	862	895
12:00	780	747	777	808	950	888	834	812	826
13:00	762	656	775	704	859	829	776	751	766
14:00	703	755	772	804	986	752	760	804	790
15:00	885	904	990	1037	1004	759	764	964	906
16:00	1043	1057	1143	1099	1036	645	594	1076	945
17:00	1016	1026	1108	1045	923	688	501	1024	901
18:00	715	762	764	719	749	452	448	742	658
19:00	375	357	401	452	444	303	318	406	379
20:00	252	263	294	315	294	224	224	284	267
21:00	189	161	206	218	185	164	162	192	184
22:00	111	127	146	148	143	126	67	135	124
23:00	56	64	69	95	83	106	58	73	76
<b>Total</b>	13354	13481	14162	14232	14259	10417	9097	13898	12715

07:00-19:00	10894	10944	11477	11409	11635	8873	7881	11272	10445
06:00-22:00	12619	12679	13302	13328	13390	9822	8723	13064	11980
06:00-24:00	12786	12870	13517	13571	13616	10054	8848	13272	12180
00:00-24:00	13354	13481	14162	14232	14259	10417	9097	13898	12715





**Job Number** Tad 1591  
**Client** Atkins  
**Project** HS2 Phase 4  
**Location** A41 200 meters south of Rail line  
**Site No.** 78  
**Road** A41 Boudry Lane - wk1  
**Start Date** 11-Apr-15  
**Direction** Southbound

Volume Summary

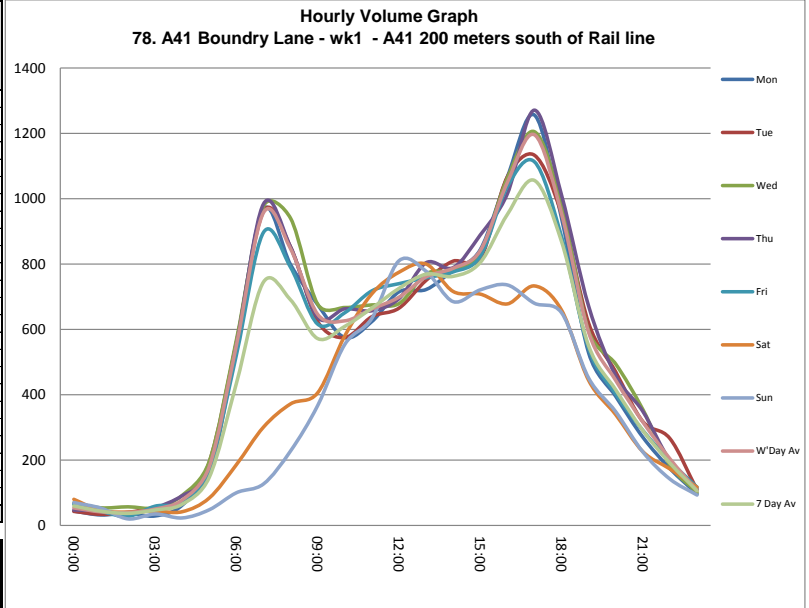
**Average Weekday** 12,682  
**7 Day Average** 11,607

78. A41 Boudry Lane - wk1 - A41 200 meters south of Rail line

Southbound

Time	Day of Week							Ave Wday	7 Day Ave
	Mon 13-Apr	Tue 14-Apr	Wed 15-Apr	Thu 16-Apr	Fri 17-Apr	Sat 11-Apr	Sun 12-Apr		
<b>AM Peak</b>	968	961	977	984	897	709	634		
<b>PM Peak</b>	1256	1133	1205	1271	1113	800	810		
00:00	44	43	69	47	65	80	70	54	60
01:00	32	34	54	45	43	45	53	42	44
02:00	38	40	57	35	28	41	20	40	37
03:00	29	55	54	54	59	44	35	50	47
04:00	62	73	92	91	71	42	23	78	65
05:00	179	194	196	159	172	84	48	180	147
06:00	559	560	568	550	522	186	100	552	435
07:00	968	961	977	984	897	301	127	957	745
08:00	798	852	940	852	790	372	228	846	690
09:00	676	624	677	637	616	406	367	646	572
10:00	575	575	667	663	651	580	554	626	609
11:00	624	639	675	657	718	709	634	663	665
12:00	715	665	679	694	740	775	810	699	725
13:00	722	750	770	804	758	800	778	761	769
14:00	781	809	781	789	776	716	685	787	762
15:00	844	816	833	889	823	708	721	841	805
16:00	1067	1067	1063	1015	1037	678	736	1050	952
17:00	1256	1133	1205	1271	1113	733	680	1196	1056
18:00	940	953	983	1011	884	659	651	954	869
19:00	528	619	595	671	541	444	451	591	550
20:00	395	470	494	458	402	339	348	444	415
21:00	270	318	355	349	291	226	225	317	291
22:00	174	266	185	198	197	173	142	204	191
23:00	96	109	101	110	117	117	93	107	106
<b>Total</b>	12372	12625	13070	13033	12311	9258	8579	12682	11607

07:00-19:00	9966	9844	10250	10266	9803	7437	6971	10026	9220
06:00-22:00	11718	11811	12262	12294	11559	8632	8095	11929	10910
06:00-24:00	11988	12186	12548	12602	11873	8922	8330	12239	11207
00:00-24:00	12372	12625	13070	13033	12311	9258	8579	12682	11607







**Job Number** Tad 1591  
**Client** Atkins  
**Project** HS2 Phase 4  
**Location** A41 200 meters south of Rail line  
**Site No.** 78  
**Road** A41 Boudry Lane - wk2  
**Start Date** 11-Apr-15  
**Direction** Northbound

Volume Summary

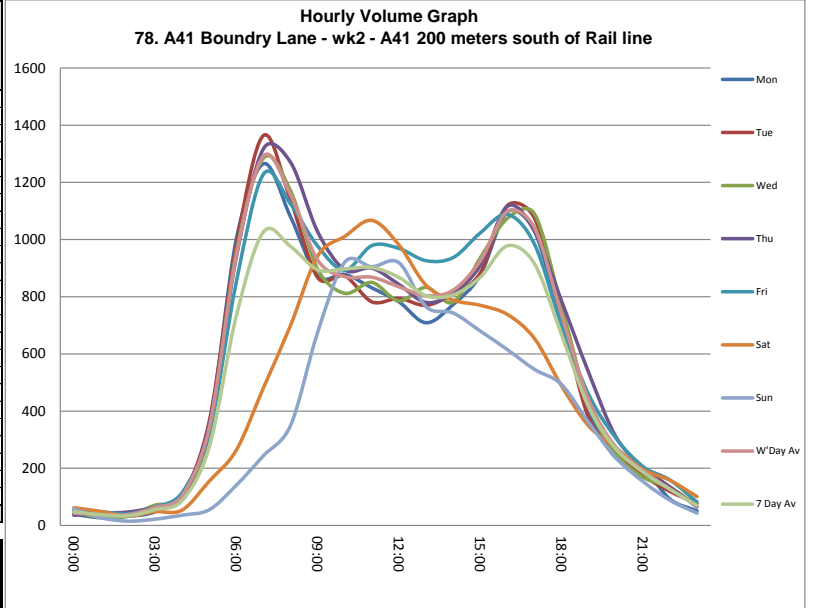
**Average Weekday** 14,056  
**7 Day Average** 12,940

78. A41 Boudry Lane - wk2 - A41 200 meters south of Rail line

Northbound

Time	Day of Week							Ave Wday	7 Day Ave
	Mon 20-Apr	Tue 21-Apr	Wed 22-Apr	Thu 23-Apr	Fri 24-Apr	Sat 18-Apr	Sun 19-Apr		
<b>AM Peak</b>	1265	1364	1285	1318	1229	1067	921		
<b>PM Peak</b>	1097	1119	1090	1116	1088	981	919		
00:00	39	40	48	36	52	62	58	43	48
01:00	27	42	28	43	48	49	27	38	38
02:00	32	35	33	47	41	33	15	38	34
03:00	48	68	71	64	65	48	22	63	55
04:00	112	104	96	96	115	54	36	105	88
05:00	345	365	322	356	322	155	55	342	274
06:00	1003	981	957	940	853	264	141	947	734
07:00	1265	1364	1285	1318	1229	482	244	1292	1027
08:00	1079	1137	1170	1270	1124	700	350	1156	976
09:00	873	867	896	1027	977	943	676	928	894
10:00	878	873	812	894	893	1011	921	870	897
11:00	831	782	850	900	979	1067	905	868	902
12:00	782	794	785	843	969	981	919	835	868
13:00	709	770	833	780	926	840	765	804	803
14:00	773	811	781	813	937	788	743	823	807
15:00	876	883	936	909	1023	770	680	925	868
16:00	1097	1119	1074	1116	1088	738	615	1099	978
17:00	1030	1075	1090	1030	984	654	546	1042	916
18:00	706	733	767	785	700	488	493	738	667
19:00	400	376	425	535	458	348	360	439	415
20:00	237	266	253	311	306	272	237	275	269
21:00	203	176	169	205	206	196	154	192	187
22:00	92	119	133	135	159	158	88	128	126
23:00	51	77	69	65	82	101	43	69	70
<b>Total</b>	13488	13857	13883	14518	14536	11202	9093	14056	12940

07:00-19:00	10899	11208	11279	11685	11829	9462	7857	11380	10603
06:00-22:00	12742	13007	13083	13676	13652	10542	8749	13232	12207
06:00-24:00	12885	13203	13285	13876	13893	10801	8880	13428	12403
00:00-24:00	13488	13857	13883	14518	14536	11202	9093	14056	12940





**Job Number** Tad 1591  
**Client** Atkins  
**Project** HS2 Phase 4  
**Location** A41 200 meters south of Rail line  
**Site No.** 78  
**Road** A41 Boudry Lane - wk2  
**Start Date** 11-Apr-15  
**Direction** Southbound

Volume Summary

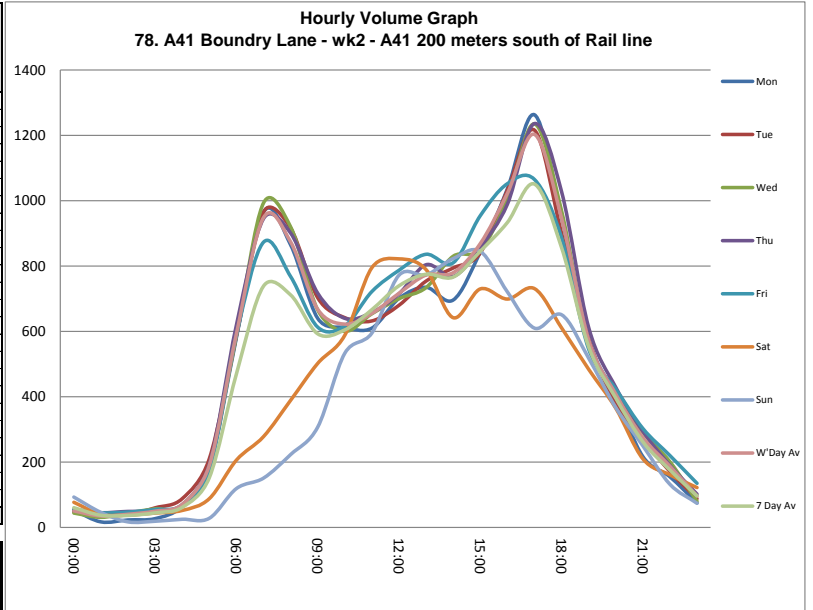
**Average Weekday** 12,647  
**7 Day Average** 11,627

78. A41 Boudry Lane - wk2 - A41 200 meters south of Rail line

Southbound

Time	Day of Week							Ave Wday	7 Day Ave
	Mon 20-Apr	Tue 21-Apr	Wed 22-Apr	Thu 23-Apr	Fri 24-Apr	Sat 18-Apr	Sun 19-Apr		
<b>AM Peak</b>	965	965	993	945	873	795	595		
<b>PM Peak</b>	1263	1216	1235	1236	1065	822	845		
00:00	53	48	44	52	56	77	93	51	60
01:00	17	37	31	45	45	40	46	35	37
02:00	23	39	44	49	47	38	17	40	37
03:00	27	60	57	50	55	44	19	50	45
04:00	64	88	63	70	68	52	25	71	61
05:00	180	210	189	193	177	88	28	190	152
06:00	581	586	587	619	589	206	119	592	470
07:00	965	965	993	945	873	278	151	948	739
08:00	865	916	920	901	768	389	223	874	712
09:00	640	703	666	717	613	502	307	668	593
10:00	612	642	600	640	617	588	533	622	605
11:00	610	632	654	658	722	795	595	655	667
12:00	701	680	700	715	787	822	772	717	740
13:00	735	754	734	804	836	789	773	773	775
14:00	696	794	830	768	810	642	823	780	766
15:00	843	840	849	857	954	730	845	869	845
16:00	1036	1032	1004	989	1052	699	721	1023	933
17:00	1263	1216	1235	1236	1065	731	610	1203	1051
18:00	950	900	969	1028	887	611	651	947	857
19:00	575	578	559	612	546	484	518	574	553
20:00	402	377	410	429	424	365	367	408	396
21:00	217	271	291	294	303	210	250	275	262
22:00	155	171	201	190	220	161	132	187	176
23:00	75	88	80	102	135	122	74	96	97
<b>Total</b>	12285	12627	12710	12963	12649	9463	8692	12647	11627

07:00-19:00	9916	10074	10154	10258	9984	7576	7004	10077	9281
06:00-22:00	11691	11886	12001	12212	11846	8841	8258	11927	10962
06:00-24:00	11921	12145	12282	12504	12201	9124	8464	12211	11234
00:00-24:00	12285	12627	12710	12963	12649	9463	8692	12647	11627









# Sky High Technology

<b>Client:</b>	<b>Atkins Global</b>
<b>Project:</b>	<b>TAD-1591 HS2 Phase 4</b>
<b>Site:</b>	<b>39 - A41 / Station Road</b>
<b>Survey Date:</b>	<b>Wednesday 15th April 2015</b>
<b>Survey Period:</b>	<b>07:00 - 10:00 &amp; 16:00 - 19:00</b>
<b>Method:</b>	<b>Video Observation</b>
<b>AM Weather:</b>	<b>Hot / Clear</b>
<b>PM Weather:</b>	<b>Hot / Clear</b>

**Incidents / Observations:**

There were no incidents reported over the survey period.

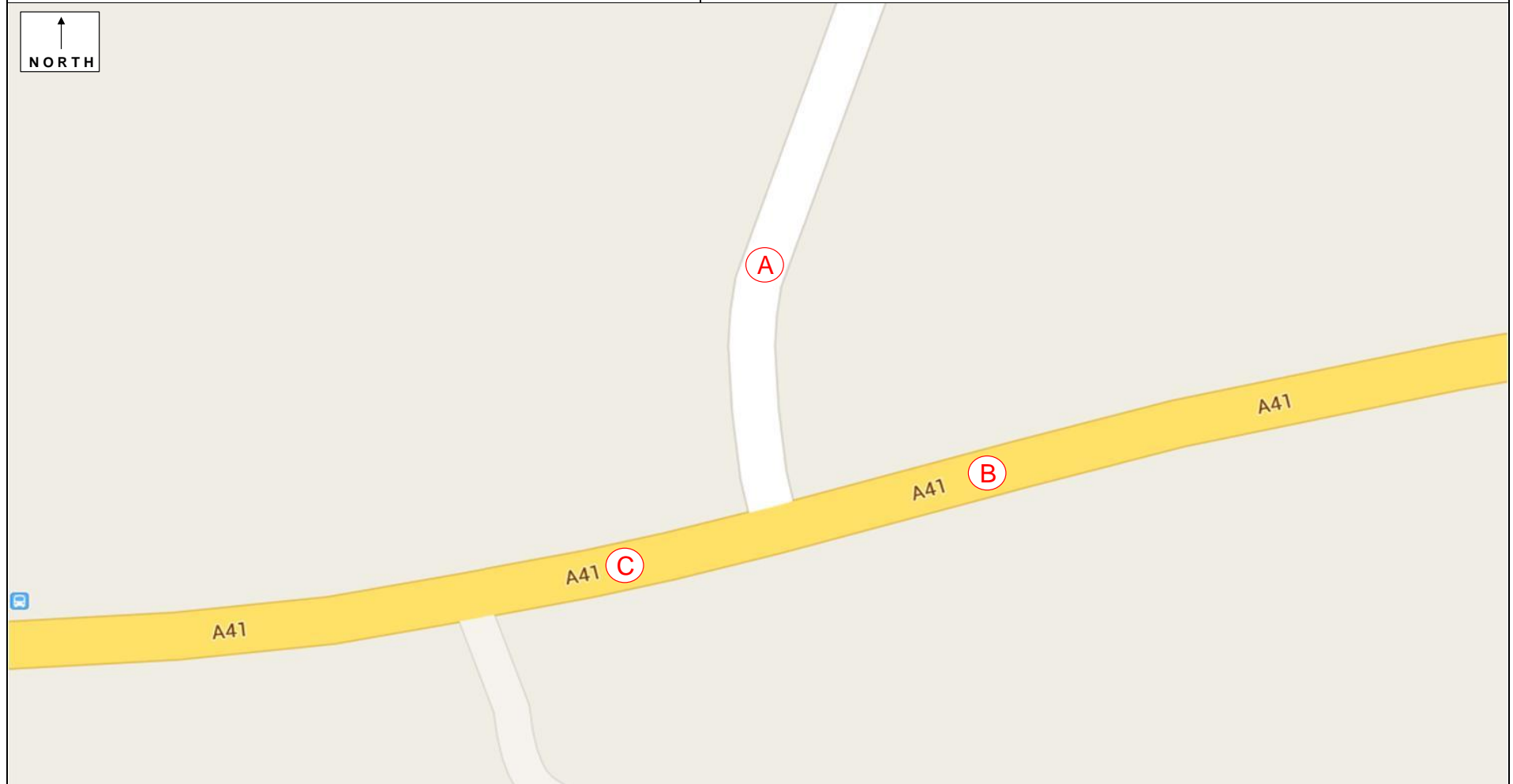
# Sky High Technology

Client : Atkins Global

Site plan for : 39 - A41 / Station Road

Project : TAD-1591 HS2 Phase 4

Date : Wednesday 15th April 2015



- A - Station Road
- B - A41 (e)
- C - A41 (w)

Hall Farm

Google



Client : Atkins Global  
 Project : TAD-1591 HS2 Phase 4  
 Site : 39 - A41 / Station Road  
 Date : Wednesday 15th April 2015

AM Weather : Hot / Clear  
 PM Weather : Hot / Clear

Entry : A - Station Road

	Destination : A - Station Road									Destination : B - A41 (e)									Destination : C - A41 (w)									Arm Totals
	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	
07:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	10	3	0	0	0	0	0	0	13	14
07:15	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	3	17	3	0	0	0	0	0	0	20	23
07:30	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2	12	3	0	0	0	0	1	0	16	18
07:45	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	24	3	1	0	0	0	1	0	29	30
1 Hr	0	0	0	0	0	0	0	0	0	5	0	0	2	0	0	0	0	7	63	12	1	0	0	0	2	0	78	85
08:00	0	0	0	0	0	0	0	0	0	4	1	0	0	2	0	0	0	7	14	1	0	0	0	0	0	0	15	22
08:15	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	15	3	1	1	0	0	0	0	20	23
08:30	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	3	19	3	0	0	0	0	0	0	22	25
08:45	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	14	2	2	0	0	0	0	0	18	20
1 Hr	0	0	0	0	0	0	0	0	0	11	1	1	0	2	0	0	0	15	62	9	3	1	0	0	0	0	75	90
09:00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	9	1	0	0	0	0	0	0	10	12
09:15	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	8	1	1	0	0	0	0	0	10	12
09:30	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	3	6	3	0	0	0	0	0	0	9	12
09:45	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3	10	0	0	0	0	0	0	0	10	13
1 Hr	0	0	0	0	0	0	0	0	0	4	2	4	0	0	0	0	0	10	33	5	1	0	0	0	0	0	39	49
3 Hrs	0	0	0	0	0	0	0	0	0	20	3	5	2	2	0	0	0	32	158	26	5	1	0	0	2	0	192	224
16:00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	3	2	0	0	0	0	0	0	5	7
16:15	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	8	2	0	0	0	0	1	0	11	15
16:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	4	5
16:45	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	7	2	1	0	1	0	1	0	12	14
1 Hr	0	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	0	9	19	8	2	0	1	0	2	0	32	41
17:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	7	3	0	1	0	0	0	0	11	13
17:15	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	8	2	0	0	0	0	0	0	10	12
17:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	5	3	0	0	0	0	0	0	8	9
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	10	3	0	0	0	0	0	0	13	14
1 Hr	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	1	0	6	30	11	0	1	0	0	0	0	42	48
18:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2	8	1	1	0	0	0	0	0	10	12
18:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	11	0	0	0	1	0	0	0	12	13
18:30	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	5	3	0	0	0	0	0	0	8	10
18:45	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	4	1	0	0	0	0	0	0	5	7
1 Hr	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	1	7	28	5	1	0	1	0	0	0	35	42
3 Hrs	0	0	0	0	0	0	0	0	0	17	3	0	0	0	0	1	1	22	77	24	3	1	2	0	2	0	109	131
Total	0	0	0	0	0	0	0	0	0	37	6	5	2	2	0	1	1	54	235	50	8	2	2	0	4	0	301	355



Client : Atkins Global  
 Project : TAD-1591 HS2 Phase 4  
 Site : 39 - A41 / Station Road  
 Date : Wednesday 15th April 2015

AM Weather : Hot / Clear  
 PM Weather : Hot / Clear

Entry : B - A41 (e)

	Destination : A - Station Road									Destination : B - A41 (e)									Destination : C - A41 (w)									Arm Totals	
	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total		
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116	29	8	2	0	2	0	0	157	157
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	139	27	9	3	0	0	3	0	181	181
07:30	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	150	36	8	8	1	1	-1	0	203	203
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	144	16	4	7	0	1	2	0	174	174
1 Hr	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	549	108	29	20	1	4	4	0	715	715
08:00	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	140	20	8	4	0	1	1	0	174	176
08:15	7	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	133	22	7	5	2	1	4	0	174	181
08:30	4	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	110	21	10	5	0	1	4	0	151	156
08:45	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	87	11	9	5	0	0	3	0	115	117
1 Hr	15	1	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	470	74	34	19	2	3	12	0	614	630
09:00	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	62	15	8	8	0	0	1	0	94	96
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	13	10	7	1	0	1	0	106	106
09:30	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	73	16	14	7	0	0	1	0	111	112
09:45	2	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	75	22	7	8	0	0	0	0	112	115
1 Hr	5	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	284	66	39	30	1	0	3	0	423	429
3 Hrs	22	2	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	1303	248	102	69	4	7	19	0	1752	1776
16:00	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	112	18	10	5	0	1	1	0	147	149
16:15	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	131	18	7	6	0	0	3	0	165	167
16:30	6	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	128	24	8	3	0	0	3	0	166	172
16:45	5	0	1	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	150	19	7	3	1	0	2	0	182	188
1 Hr	15	0	1	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	521	79	32	17	1	1	9	0	660	676
17:00	6	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	146	13	1	3	0	0	2	0	165	171
17:15	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	126	17	6	4	0	0	2	0	155	157
17:30	5	2	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	140	17	1	3	0	0	0	0	161	168
17:45	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	120	6	3	0	0	0	2	0	131	133
1 Hr	14	2	0	1	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	532	53	11	10	0	0	6	0	612	629
18:00	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	102	7	4	1	0	0	0	2	116	118
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	9	2	2	1	0	2	0	124	124
18:30	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	93	4	5	1	0	1	1	0	105	107
18:45	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	95	4	2	0	0	0	0	0	101	102
1 Hr	5	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	398	24	13	4	1	1	3	2	446	451
3 Hrs	34	2	1	1	0	0	0	0	0	38	0	0	0	0	0	0	0	0	0	1451	156	56	31	2	2	18	2	1718	1756
Total	56	4	1	1	0	0	0	0	0	62	0	0	0	0	0	0	0	0	0	2754	404	158	100	6	9	37	2	3470	3532





Client : Atkins Global  
 Project : TAD-1591 HS2 Phase 4  
 Site : 39 - A41 / Station Road  
 Date : Wednesday 15th April 2015

AM Weather : Hot / Clear  
 PM Weather : Hot / Clear

Entry : C - A41 (w)

	Destination : A - Station Road									Destination : B - A41 (e)									Destination : C - A41 (w)									Arm Totals
	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	
07:00	1	3	0	0	0	0	0	0	4	63	24	5	1	0	0	0	0	93	0	0	0	0	0	0	0	0	0	97
07:15	4	3	1	0	0	0	0	0	8	116	26	15	7	0	0	0	0	164	0	0	0	0	0	0	0	0	0	172
07:30	2	4	2	0	1	0	0	0	9	126	19	8	2	0	0	0	0	155	0	0	0	0	0	0	0	0	0	164
07:45	4	4	1	0	0	0	0	0	9	158	16	6	8	0	0	2	0	190	0	0	0	0	0	0	0	0	0	199
1 Hr	11	14	4	0	1	0	0	0	30	463	85	34	18	0	0	2	0	602	0	0	0	0	0	0	0	0	0	632
08:00	5	4	0	1	0	0	0	0	10	127	19	12	3	0	4	1	0	166	0	0	0	0	0	0	0	0	0	176
08:15	5	1	2	1	0	0	0	0	9	110	19	11	12	1	0	0	0	153	0	0	0	0	0	0	0	0	0	162
08:30	9	2	1	0	0	0	0	0	12	112	20	7	5	1	0	1	1	147	0	0	0	0	0	0	0	0	0	159
08:45	5	4	0	0	0	0	0	0	9	88	18	8	11	0	0	0	0	125	0	0	0	0	0	0	0	0	0	134
1 Hr	24	11	3	2	0	0	0	0	40	437	76	38	31	2	4	2	1	591	0	0	0	0	0	0	0	0	0	631
09:00	3	1	3	0	1	0	0	0	8	95	21	7	8	1	1	1	0	134	0	0	0	0	0	0	0	0	0	142
09:15	5	0	0	0	0	0	0	0	5	110	14	7	7	0	1	0	0	139	0	0	0	0	0	0	0	0	0	144
09:30	5	3	0	0	0	0	0	0	8	74	15	7	5	0	0	0	0	101	0	0	0	0	0	0	0	0	0	109
09:45	2	0	1	1	0	0	0	0	4	79	18	18	7	0	0	1	0	123	0	0	0	0	0	0	0	0	0	127
1 Hr	15	4	4	1	1	0	0	0	25	358	68	39	27	1	2	2	0	497	0	0	0	0	0	0	0	0	0	522
3 Hrs	50	29	11	3	2	0	0	0	95	1258	229	111	76	3	6	6	1	1690	0	0	0	0	0	0	0	0	0	1785
16:00	12	1	0	0	0	0	0	0	13	104	20	10	5	0	1	1	0	141	0	0	0	0	0	0	0	0	0	154
16:15	11	0	0	0	0	0	0	0	11	159	28	6	3	0	0	7	0	203	0	0	0	0	0	0	0	0	0	214
16:30	11	3	1	0	0	0	0	0	15	153	30	4	1	0	0	4	0	192	0	0	0	0	0	0	0	0	0	207
16:45	14	4	0	0	0	0	0	0	18	132	21	3	5	0	0	3	0	164	0	0	0	0	0	0	0	0	0	182
1 Hr	48	8	1	0	0	0	0	0	57	548	99	23	14	0	1	15	0	700	0	0	0	0	0	0	0	0	0	757
17:00	17	3	1	0	0	0	0	0	21	183	31	4	2	0	0	1	1	222	0	0	0	0	0	0	0	0	0	243
17:15	27	2	0	0	0	0	0	0	29	145	20	1	1	1	0	0	0	168	0	0	0	0	0	0	0	0	0	197
17:30	19	6	1	0	0	0	0	0	26	188	30	1	1	1	0	5	0	226	0	0	0	0	0	0	0	0	0	252
17:45	13	1	1	0	0	0	0	0	15	140	11	1	2	0	0	8	0	162	0	0	0	0	0	0	0	0	0	177
1 Hr	76	12	3	0	0	0	0	0	91	656	92	7	6	2	0	14	1	778	0	0	0	0	0	0	0	0	0	869
18:00	13	3	1	0	0	0	0	0	17	144	13	1	4	0	1	3	0	166	0	0	0	0	0	0	0	0	0	183
18:15	9	2	1	0	0	0	0	0	12	139	16	1	0	0	0	2	0	158	0	0	0	0	0	0	0	0	0	170
18:30	4	2	0	0	0	0	0	0	6	109	13	1	2	0	0	3	0	128	0	0	0	0	0	0	0	0	0	134
18:45	12	2	0	0	0	0	0	0	14	80	13	1	0	2	0	2	0	98	0	0	0	0	0	0	0	0	0	112
1 Hr	38	9	2	0	0	0	0	0	49	472	55	4	6	2	1	10	0	550	0	0	0	0	0	0	0	0	0	599
3 Hrs	162	29	6	0	0	0	0	0	197	1676	246	34	26	4	2	39	1	2028	0	0	0	0	0	0	0	0	0	2225
Total	212	58	17	3	2	0	0	0	292	2934	475	145	102	7	8	45	2	3718	0	0	0	0	0	0	0	0	0	4010



Client : Atkins Global  
 Project : TAD-1591 HS2 Phase 4  
 Site : 39 - A41 / Station Road  
 Date : Wednesday 15th April 2015

AM Weather : Hot / Clear  
 PM Weather : Hot / Clear

ORIGIN SUMMARY

	Origin : A - Station Road									Origin : B - A41 (e)									Origin : C - A41 (w)									Origin Totals
	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	
07:00	11	3	0	0	0	0	0	0	14	116	29	8	2	0	2	0	0	157	64	27	5	1	0	0	0	0	97	268
07:15	19	3	0	1	0	0	0	0	23	139	27	9	3	0	0	3	0	181	120	29	16	7	0	0	0	0	172	376
07:30	13	3	0	1	0	0	1	0	18	152	36	8	8	1	1	-1	0	205	128	23	10	2	1	0	0	0	164	387
07:45	25	3	1	0	0	0	1	0	30	144	16	4	7	0	1	2	0	174	162	20	7	8	0	0	2	0	199	403
1 Hr	68	12	1	2	0	0	2	0	85	551	108	29	20	1	4	4	0	717	474	99	38	18	1	0	2	0	632	1434
08:00	18	2	0	0	2	0	0	0	22	142	20	8	4	0	1	1	0	176	132	23	12	4	0	4	1	0	176	374
08:15	18	3	1	1	0	0	0	0	23	140	22	7	5	2	1	4	0	181	115	20	13	13	1	0	0	0	162	366
08:30	21	3	1	0	0	0	0	0	25	114	22	10	5	0	1	4	0	156	121	22	8	5	1	0	1	1	159	340
08:45	16	2	2	0	0	0	0	0	20	89	11	9	5	0	0	3	0	117	93	22	8	11	0	0	0	0	134	271
1 Hr	73	10	4	1	2	0	0	0	90	485	75	34	19	2	3	12	0	630	461	87	41	33	2	4	2	1	631	1351
09:00	10	1	1	0	0	0	0	0	12	64	15	8	8	0	0	1	0	96	98	22	10	8	2	1	1	0	142	250
09:15	9	1	2	0	0	0	0	0	12	74	13	10	7	1	0	1	0	106	115	14	7	7	0	1	0	0	144	262
09:30	7	3	2	0	0	0	0	0	12	74	16	14	7	0	0	1	0	112	79	18	7	5	0	0	0	0	109	233
09:45	11	2	0	0	0	0	0	0	13	77	23	7	8	0	0	0	0	115	81	18	19	8	0	0	1	0	127	255
1 Hr	37	7	5	0	0	0	0	0	49	289	67	39	30	1	0	3	0	429	373	72	43	28	2	2	2	0	522	1000
3 Hrs	178	29	10	3	2	0	2	0	224	1325	250	102	69	4	7	19	0	1776	1308	258	122	79	5	6	6	1	1785	3785
16:00	5	2	0	0	0	0	0	0	7	114	18	10	5	0	1	1	0	149	116	21	10	5	0	1	1	0	154	310
16:15	12	2	0	0	0	0	1	0	15	133	18	7	6	0	0	3	0	167	170	28	6	3	0	0	7	0	214	396
16:30	2	2	1	0	0	0	0	0	5	134	24	8	3	0	0	3	0	172	164	33	5	1	0	0	4	0	207	384
16:45	8	3	1	0	1	0	1	0	14	155	19	8	3	1	0	2	0	188	146	25	3	5	0	0	3	0	182	384
1 Hr	27	9	2	0	1	0	2	0	41	536	79	33	17	1	1	9	0	676	596	107	24	14	0	1	15	0	757	1474
17:00	8	4	0	1	0	0	0	0	13	152	13	1	3	0	0	2	0	171	200	34	5	2	0	0	1	1	243	427
17:15	10	2	0	0	0	0	0	0	12	128	17	6	4	0	0	2	0	157	172	22	1	1	1	0	0	0	197	366
17:30	6	3	0	0	0	0	0	0	9	145	19	1	3	0	0	0	0	168	207	36	2	1	1	0	5	0	252	429
17:45	10	3	0	0	0	0	1	0	14	121	6	3	1	0	0	2	0	133	153	12	2	2	0	0	8	0	177	324
1 Hr	34	12	0	1	0	0	1	0	48	546	55	11	11	0	0	6	0	629	732	104	10	6	2	0	14	1	869	1546
18:00	8	2	1	0	0	0	0	1	12	104	7	4	1	0	0	0	2	118	157	16	2	4	0	1	3	0	183	313
18:15	12	0	0	0	1	0	0	0	13	108	9	2	2	1	0	2	0	124	148	18	2	0	0	0	2	0	170	307
18:30	7	3	0	0	0	0	0	0	10	95	4	5	1	0	1	1	0	107	113	15	1	2	0	0	3	0	134	251
18:45	6	1	0	0	0	0	0	0	7	96	4	2	0	0	0	0	0	102	92	15	1	0	2	0	2	0	112	221
1 Hr	33	6	1	0	1	0	0	1	42	403	24	13	4	1	1	3	2	451	510	64	6	6	2	1	10	0	599	1092
3 Hrs	94	27	3	1	2	0	3	1	131	1485	158	57	32	2	2	18	2	1756	1838	275	40	26	4	2	39	1	2225	4112
Total	272	56	13	4	4	0	5	1	355	2810	408	159	101	6	9	37	2	3532	3146	533	162	105	9	8	45	2	4010	7897



Client : Atkins Global  
 Project : TAD-1591 HS2 Phase 4  
 Site : 39 - A41 / Station Road  
 Date : Wednesday 15th April 2015

AM Weather : Hot / Clear  
 PM Weather : Hot / Clear

DESTINATION SUMMARY

	Destination : A - Station Road									Destination : B - A41 (e)									Destination : C - A41 (w)									Dest Totals
	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	
07:00	1	3	0	0	0	0	0	0	4	64	24	5	1	0	0	0	0	94	126	32	8	2	0	2	0	0	170	268
07:15	4	3	1	0	0	0	0	0	8	118	26	15	8	0	0	0	0	167	156	30	9	3	0	0	3	0	201	376
07:30	4	4	2	0	1	0	0	0	11	127	19	8	3	0	0	0	0	157	162	39	8	8	1	1	0	0	219	387
07:45	4	4	1	0	0	0	0	0	9	159	16	6	8	0	0	2	0	191	168	19	5	7	0	1	3	0	203	403
1 Hr	13	14	4	0	1	0	0	0	32	468	85	34	20	0	0	2	0	609	612	120	30	20	1	4	6	0	793	1434
08:00	7	4	0	1	0	0	0	0	12	131	20	12	3	2	4	1	0	173	154	21	8	4	0	1	1	0	189	374
08:15	12	1	2	1	0	0	0	0	16	113	19	11	12	1	0	0	0	156	148	25	8	6	2	1	4	0	194	366
08:30	13	3	1	0	0	0	0	0	17	114	20	8	5	1	0	1	1	150	129	24	10	5	0	1	4	0	173	340
08:45	7	4	0	0	0	0	0	0	11	90	18	8	11	0	0	0	0	127	101	13	11	5	0	0	3	0	133	271
1 Hr	39	12	3	2	0	0	0	0	56	448	77	39	31	4	4	2	1	606	532	83	37	20	2	3	12	0	689	1351
09:00	5	1	3	0	1	0	0	0	10	96	21	8	8	1	1	1	0	136	71	16	8	8	0	0	1	0	104	250
09:15	5	0	0	0	0	0	0	0	5	111	14	8	7	0	1	0	0	141	82	14	11	7	1	0	1	0	116	262
09:30	6	3	0	0	0	0	0	0	9	75	15	9	5	0	0	0	0	104	79	19	14	7	0	0	1	0	120	233
09:45	4	1	1	1	0	0	0	0	7	80	20	18	7	0	0	1	0	126	85	22	7	8	0	0	0	0	122	255
1 Hr	20	5	4	1	1	0	0	0	31	362	70	43	27	1	2	2	0	507	317	71	40	30	1	0	3	0	462	1000
3 Hrs	72	31	11	3	2	0	0	0	119	1278	232	116	78	5	6	6	1	1722	1461	274	107	70	4	7	21	0	1944	3785
16:00	14	1	0	0	0	0	0	0	15	106	20	10	5	0	1	1	0	143	115	20	10	5	0	1	1	0	152	310
16:15	13	0	0	0	0	0	0	0	13	163	28	6	3	0	0	7	0	207	139	20	7	6	0	0	4	0	176	396
16:30	17	3	1	0	0	0	0	0	21	154	30	4	1	0	0	4	0	193	129	26	9	3	0	0	3	0	170	384
16:45	19	4	1	0	0	0	0	0	24	133	22	3	5	0	0	3	0	166	157	21	8	3	2	0	3	0	194	384
1 Hr	63	8	2	0	0	0	0	0	73	556	100	23	14	0	1	15	0	709	540	87	34	17	2	1	11	0	692	1474
17:00	23	3	1	0	0	0	0	0	27	184	32	4	2	0	0	1	1	224	153	16	1	4	0	0	2	0	176	427
17:15	29	2	0	0	0	0	0	0	31	147	20	1	1	1	0	0	0	170	134	19	6	4	0	0	2	0	165	366
17:30	24	8	1	0	0	0	0	0	33	189	30	1	1	1	0	5	0	227	145	20	1	3	0	0	0	0	169	429
17:45	14	1	1	1	0	0	0	0	17	140	11	1	2	0	0	9	0	163	130	9	3	0	0	0	2	0	144	324
1 Hr	90	14	3	1	0	0	0	0	108	660	93	7	6	2	0	15	1	784	562	64	11	11	0	0	6	0	654	1546
18:00	15	3	1	0	0	0	0	0	19	144	14	1	4	0	1	3	1	168	110	8	5	1	0	0	0	2	126	313
18:15	9	2	1	0	0	0	0	0	12	140	16	1	0	0	0	2	0	159	119	9	2	2	2	0	2	0	136	307
18:30	6	2	0	0	0	0	0	0	8	111	13	1	2	0	0	3	0	130	98	7	5	1	0	1	1	0	113	251
18:45	13	2	0	0	0	0	0	0	15	82	13	1	0	2	0	2	0	100	99	5	2	0	0	0	0	0	106	221
1 Hr	43	9	2	0	0	0	0	0	54	477	56	4	6	2	1	10	1	557	426	29	14	4	2	1	3	2	481	1092
3 Hrs	196	31	7	1	0	0	0	0	235	1693	249	34	26	4	2	40	2	2050	1528	180	59	32	4	2	20	2	1827	4112
Total	268	62	18	4	2	0	0	0	354	2971	481	150	104	9	8	46	3	3772	2989	454	166	102	8	9	41	2	3771	7897



Client : Atkins Global  
 Project : TAD-1591 HS2 Phase 4  
 Site : 39 - A41 / Station Road  
 Date : Wednesday 15th April 2015

Values can be adjusted here.

AM Weather : Hot / Clear  
 PM Weather : Hot / Clear

PCU Values			
Car	1.0	Bus	2.0
Lgv	1.0	Coach	2.0
Ogv1	1.5	Mc	0.4
Ogv2	2.3	Pc	0.2

**PCU's**

Entry : A - Station Road

	Destination : A - Station Road									Destination : B - A41 (e)									Destination : C - A41 (w)									Arm Totals
	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	
07:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	10.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	14.0
07:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	4.3	17.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	24.3
07:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	3.3	12.0	3.0	0.0	0.0	0.0	0.0	0.4	0.0	15.4	18.7
07:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	24.0	3.0	1.5	0.0	0.0	0.0	0.4	0.0	28.9	29.9
1 Hr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0	9.6	63.0	12.0	1.5	0.0	0.0	0.0	0.8	0.0	77.3	86.9
08:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	1.0	0.0	0.0	4.0	0.0	0.0	0.0	9.0	14.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	24.0
08:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	15.0	3.0	1.5	2.3	0.0	0.0	0.0	0.0	21.8	24.8
08:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	3.5	19.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0	25.5
08:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	14.0	2.0	3.0	0.0	0.0	0.0	0.0	0.0	19.0	21.0
1 Hr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	1.0	1.5	0.0	4.0	0.0	0.0	0.0	17.5	62.0	9.0	4.5	2.3	0.0	0.0	0.0	0.0	77.8	95.3
09:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	2.5	9.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	12.5
09:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	2.5	8.0	1.0	1.5	0.0	0.0	0.0	0.0	0.0	10.5	13.0
09:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	4.0	6.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	13.0
09:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	13.0
1 Hr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	2.0	6.0	0.0	0.0	0.0	0.0	0.0	12.0	33.0	5.0	1.5	0.0	0.0	0.0	0.0	0.0	39.5	51.5
3 Hrs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	3.0	7.5	4.6	4.0	0.0	0.0	0.0	39.1	158.0	26.0	7.5	2.3	0.0	0.0	0.8	0.0	194.6	233.7
16:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	7.0
16:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	8.0	2.0	0.0	0.0	0.0	0.0	0.4	0.0	10.4	14.4
16:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	4.5	5.5
16:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	7.0	2.0	1.5	0.0	2.0	0.0	0.4	0.0	12.9	14.9
1 Hr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	19.0	8.0	3.0	0.0	2.0	0.0	0.8	0.0	32.8	41.8
17:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	7.0	3.0	0.0	2.3	0.0	0.0	0.0	0.0	12.3	14.3
17:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	8.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	12.0
17:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	5.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	9.0
17:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	10.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	13.4
1 Hr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	1.0	0.0	0.0	0.0	0.0	0.4	0.0	5.4	30.0	11.0	0.0	2.3	0.0	0.0	0.0	0.0	43.3	48.7
18:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2	8.0	1.0	1.5	0.0	0.0	0.0	0.0	0.0	10.5	11.7
18:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	11.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	13.0	14.0
18:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	5.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	10.0
18:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	4.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	7.0
1 Hr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	1.0	0.0	0.0	0.0	0.0	0.0	0.2	6.2	28.0	5.0	1.5	0.0	2.0	0.0	0.0	0.0	36.5	42.7
3 Hrs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	3.0	0.0	0.0	0.0	0.0	0.4	0.2	20.6	77.0	24.0	4.5	2.3	4.0	0.0	0.8	0.0	112.6	133.2
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	6.0	7.5	4.6	4.0	0.0	0.4	0.2	59.7	235.0	50.0	12.0	4.6	4.0	0.0	1.6	0.0	307.2	366.9



Client : Atkins Global  
 Project : TAD-1591 HS2 Phase 4  
 Site : 39 - A41 / Station Road  
 Date : Wednesday 15th April 2015

Values can be adjusted here.

PCU Values			
Car	1.0	Bus	2.0
Lgv	1.0	Coach	2.0
Ogv1	1.5	Mc	0.4
Ogv2	2.3	Pc	0.2

AM Weather : Hot / Clear  
 PM Weather : Hot / Clear

**PCU's**

Entry : B - A41 (e)

	Destination : A - Station Road									Destination : B - A41 (e)									Destination : C - A41 (w)									Arm Totals
	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	
07:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116.0	29.0	12.0	4.6	0.0	4.0	0.0	0.0	165.6	165.6
07:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	139.0	27.0	13.5	6.9	0.0	0.0	1.2	0.0	187.6	187.6
07:30	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	150.0	36.0	12.0	18.4	2.0	2.0	-0.4	0.0	220.0	220.0
07:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	144.0	16.0	6.0	16.1	0.0	2.0	0.8	0.0	184.9	184.9
1 Hr	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	549.0	108.0	43.5	46.0	2.0	8.0	1.6	0.0	758.1	760.1
08:00	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	140.0	20.0	12.0	9.2	0.0	2.0	0.4	0.0	183.6	185.6
08:15	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	133.0	22.0	10.5	11.5	4.0	2.0	1.6	0.0	184.6	191.6
08:30	4.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	110.0	21.0	15.0	11.5	0.0	2.0	1.6	0.0	161.1	166.1
08:45	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	87.0	11.0	13.5	11.5	0.0	0.0	1.2	0.0	124.2	126.2
1 Hr	15.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	470.0	74.0	51.0	43.7	4.0	6.0	4.8	0.0	653.5	669.5
09:00	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.0	15.0	12.0	18.4	0.0	0.0	0.4	0.0	107.8	109.8
09:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	74.0	13.0	15.0	16.1	2.0	0.0	0.4	0.0	120.5	120.5
09:30	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.0	16.0	21.0	16.1	0.0	0.0	0.4	0.0	126.5	127.5
09:45	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	22.0	10.5	18.4	0.0	0.0	0.0	0.0	125.9	128.9
1 Hr	5.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	284.0	66.0	58.5	69.0	2.0	0.0	1.2	0.0	480.7	486.7
3 Hrs	22.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1303.0	248.0	153.0	158.7	8.0	14.0	7.6	0.0	1892.3	1916.3
16:00	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	112.0	18.0	15.0	11.5	0.0	2.0	0.4	0.0	158.9	160.9
16:15	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	131.0	18.0	10.5	13.8	0.0	0.0	1.2	0.0	174.5	176.5
16:30	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	128.0	24.0	12.0	6.9	0.0	0.0	1.2	0.0	172.1	178.1
16:45	5.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	150.0	19.0	10.5	6.9	2.0	0.0	0.8	0.0	189.2	195.7
1 Hr	15.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	521.0	79.0	48.0	39.1	2.0	2.0	3.6	0.0	694.7	711.2
17:00	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	146.0	13.0	1.5	6.9	0.0	0.0	0.8	0.0	168.2	174.2
17:15	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	126.0	17.0	9.0	9.2	0.0	0.0	0.8	0.0	162.0	164.0
17:30	5.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	140.0	17.0	1.5	6.9	0.0	0.0	0.0	0.0	165.4	172.4
17:45	1.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	120.0	6.0	4.5	0.0	0.0	0.0	0.8	0.0	131.3	134.6
1 Hr	14.0	2.0	0.0	2.3	0.0	0.0	0.0	0.0	18.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	532.0	53.0	16.5	23.0	0.0	0.0	2.4	0.0	626.9	645.2
18:00	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.0	7.0	6.0	2.3	0.0	0.0	0.0	0.4	117.7	119.7
18:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	108.0	9.0	3.0	4.6	2.0	0.0	0.8	0.0	127.4	127.4
18:30	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.0	4.0	7.5	2.3	0.0	2.0	0.4	0.0	109.2	111.2
18:45	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.0	4.0	3.0	0.0	0.0	0.0	0.0	0.0	102.0	103.0
1 Hr	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	398.0	24.0	19.5	9.2	2.0	2.0	1.2	0.4	456.3	461.3
3 Hrs	34.0	2.0	1.5	2.3	0.0	0.0	0.0	0.0	39.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1451.0	156.0	84.0	71.3	4.0	4.0	7.2	0.4	1777.9	1817.7
Total	56.0	4.0	1.5	2.3	0.0	0.0	0.0	0.0	63.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2754.0	404.0	237.0	230.0	12.0	18.0	14.8	0.4	3670.2	3734.0



Client : Atkins Global  
 Project : TAD-1591 HS2 Phase 4  
 Site : 39 - A41 / Station Road  
 Date : Wednesday 15th April 2015

Values can be adjusted here.

PCU Values			
Car	1.0	Bus	2.0
Lgv	1.0	Coach	2.0
Ogv1	1.5	Mc	0.4
Ogv2	2.3	Pc	0.2

AM Weather : Hot / Clear  
 PM Weather : Hot / Clear

**PCU's**

Entry : C - A41 (w)

	Destination : A - Station Road									Destination : B - A41 (e)									Destination : C - A41 (w)									Arm Totals
	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	
07:00	1.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	63.0	24.0	7.5	2.3	0.0	0.0	0.0	0.0	96.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.8
07:15	4.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	8.5	116.0	26.0	22.5	16.1	0.0	0.0	0.0	0.0	180.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	189.1
07:30	2.0	4.0	3.0	0.0	2.0	0.0	0.0	0.0	11.0	126.0	19.0	12.0	4.6	0.0	0.0	0.0	0.0	161.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	172.6
07:45	4.0	4.0	1.5	0.0	0.0	0.0	0.0	0.0	9.5	158.0	16.0	9.0	18.4	0.0	0.0	0.8	0.0	202.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	211.7
1 Hr	11.0	14.0	6.0	0.0	2.0	0.0	0.0	0.0	33.0	463.0	85.0	51.0	41.4	0.0	0.0	0.8	0.0	641.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	674.2
08:00	5.0	4.0	0.0	2.3	0.0	0.0	0.0	0.0	11.3	127.0	19.0	18.0	6.9	0.0	8.0	0.4	0.0	179.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	190.6
08:15	5.0	1.0	3.0	2.3	0.0	0.0	0.0	0.0	11.3	110.0	19.0	16.5	27.6	2.0	0.0	0.0	0.0	175.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	186.4
08:30	9.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	12.5	112.0	20.0	10.5	11.5	2.0	0.0	0.4	0.2	156.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	169.1
08:45	5.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	88.0	18.0	12.0	25.3	0.0	0.0	0.0	0.0	143.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	152.3
1 Hr	24.0	11.0	4.5	4.6	0.0	0.0	0.0	0.0	44.1	437.0	76.0	57.0	71.3	4.0	8.0	0.8	0.2	654.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	698.4
09:00	3.0	1.0	4.5	0.0	2.0	0.0	0.0	0.0	10.5	95.0	21.0	10.5	18.4	2.0	2.0	0.4	0.0	149.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	159.8
09:15	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	110.0	14.0	10.5	16.1	0.0	2.0	0.0	0.0	152.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	157.6
09:30	5.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	74.0	15.0	10.5	11.5	0.0	0.0	0.0	0.0	111.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	119.0
09:45	2.0	0.0	1.5	2.3	0.0	0.0	0.0	0.0	5.8	79.0	18.0	27.0	16.1	0.0	0.0	0.4	0.0	140.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	146.3
1 Hr	15.0	4.0	6.0	2.3	2.0	0.0	0.0	0.0	29.3	358.0	68.0	58.5	62.1	2.0	4.0	0.8	0.0	553.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	582.7
3 Hrs	50.0	29.0	16.5	6.9	4.0	0.0	0.0	0.0	106.4	1258.0	229.0	166.5	174.8	6.0	12.0	2.4	0.2	1848.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1955.3
16:00	12.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	104.0	20.0	15.0	11.5	0.0	2.0	0.4	0.0	152.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	165.9
16:15	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	159.0	28.0	9.0	6.9	0.0	0.0	2.8	0.0	205.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	216.7
16:30	11.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	15.5	153.0	30.0	6.0	2.3	0.0	0.0	1.6	0.0	192.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	208.4
16:45	14.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	132.0	21.0	4.5	11.5	0.0	0.0	1.2	0.0	170.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	188.2
1 Hr	48.0	8.0	1.5	0.0	0.0	0.0	0.0	0.0	57.5	548.0	99.0	34.5	32.2	0.0	2.0	6.0	0.0	721.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	779.2
17:00	17.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	21.5	183.0	31.0	6.0	4.6	0.0	0.0	0.4	0.2	225.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	246.7
17:15	27.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0	145.0	20.0	1.5	2.3	2.0	0.0	0.0	0.0	170.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	199.8
17:30	19.0	6.0	1.5	0.0	0.0	0.0	0.0	0.0	26.5	188.0	30.0	1.5	2.3	2.0	0.0	2.0	0.0	225.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	252.3
17:45	13.0	1.0	1.5	0.0	0.0	0.0	0.0	0.0	15.5	140.0	11.0	1.5	4.6	0.0	0.0	3.2	0.0	160.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	175.8
1 Hr	76.0	12.0	4.5	0.0	0.0	0.0	0.0	0.0	92.5	656.0	92.0	10.5	13.8	4.0	0.0	5.6	0.2	782.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	874.6
18:00	13.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	17.5	144.0	13.0	1.5	9.2	0.0	2.0	1.2	0.0	170.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	188.4
18:15	9.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	12.5	139.0	16.0	1.5	0.0	0.0	0.0	0.8	0.0	157.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	169.8
18:30	4.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	109.0	13.0	1.5	4.6	0.0	0.0	1.2	0.0	129.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	135.3
18:45	12.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	80.0	13.0	1.5	0.0	4.0	0.0	0.8	0.0	99.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	113.3
1 Hr	38.0	9.0	3.0	0.0	0.0	0.0	0.0	0.0	50.0	472.0	55.0	6.0	13.8	4.0	2.0	4.0	0.0	556.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	606.8
3 Hrs	162.0	29.0	9.0	0.0	0.0	0.0	0.0	0.0	200.0	1676.0	246.0	51.0	59.8	8.0	4.0	15.6	0.2	2060.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2260.6
Total	212.0	58.0	25.5	6.9	4.0	0.0	0.0	0.0	306.4	2934.0	475.0	217.5	234.6	14.0	16.0	18.0	0.4	3909.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4215.9



Client : Atkins Global  
 Project : TAD-1591 HS2 Phase 4  
 Site : 39 - A41 / Station Road  
 Date : Wednesday 15th April 2015

Values can be adjusted here.

AM Weather : Hot / Clear  
 PM Weather : Hot / Clear

PCU Values			
Car	1.0	Bus	2.0
Lgv	1.0	Coach	2.0
Ogv1	1.5	Mc	0.4
Ogv2	2.3	Pc	0.2

**PCU's**

**ORIGIN SUMMARY**

	Origin : A - Station Road									Origin : B - A41 (e)									Origin : C - A41 (w)									Origin Totals
	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	
07:00	11.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	116.0	29.0	12.0	4.6	0.0	4.0	0.0	0.0	165.6	64.0	27.0	7.5	2.3	0.0	0.0	0.0	0.0	100.8	280.4
07:15	19.0	3.0	0.0	2.3	0.0	0.0	0.0	0.0	24.3	139.0	27.0	13.5	6.9	0.0	0.0	1.2	0.0	187.6	120.0	29.0	24.0	16.1	0.0	0.0	0.0	0.0	189.1	401.0
07:30	13.0	3.0	0.0	2.3	0.0	0.0	0.4	0.0	18.7	152.0	36.0	12.0	18.4	2.0	2.0	-0.4	0.0	222.0	128.0	23.0	15.0	4.6	2.0	0.0	0.0	0.0	172.6	413.3
07:45	25.0	3.0	1.5	0.0	0.0	0.0	0.4	0.0	29.9	144.0	16.0	6.0	16.1	0.0	2.0	0.8	0.0	184.9	162.0	20.0	10.5	18.4	0.0	0.0	0.8	0.0	211.7	426.5
1 Hr	68.0	12.0	1.5	4.6	0.0	0.0	0.8	0.0	86.9	551.0	108.0	43.5	46.0	2.0	8.0	1.6	0.0	760.1	474.0	99.0	57.0	41.4	2.0	0.0	0.8	0.0	674.2	1521.2
08:00	18.0	2.0	0.0	0.0	4.0	0.0	0.0	0.0	24.0	142.0	20.0	12.0	9.2	0.0	2.0	0.4	0.0	185.6	132.0	23.0	18.0	9.2	0.0	8.0	0.4	0.0	190.6	400.2
08:15	18.0	3.0	1.5	2.3	0.0	0.0	0.0	0.0	24.8	140.0	22.0	10.5	11.5	4.0	2.0	1.6	0.0	191.6	115.0	20.0	19.5	29.9	2.0	0.0	0.0	0.0	186.4	402.8
08:30	21.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	25.5	114.0	22.0	15.0	11.5	0.0	2.0	1.6	0.0	166.1	121.0	22.0	12.0	11.5	2.0	0.0	0.4	0.2	169.1	360.7
08:45	16.0	2.0	3.0	0.0	0.0	0.0	0.0	0.0	21.0	89.0	11.0	13.5	11.5	0.0	0.0	1.2	0.0	126.2	93.0	22.0	12.0	25.3	0.0	0.0	0.0	0.0	152.3	299.5
1 Hr	73.0	10.0	6.0	2.3	4.0	0.0	0.0	0.0	95.3	485.0	75.0	51.0	43.7	4.0	6.0	4.8	0.0	669.5	461.0	87.0	61.5	75.9	4.0	8.0	0.8	0.2	698.4	1463.2
09:00	10.0	1.0	1.5	0.0	0.0	0.0	0.0	0.0	12.5	64.0	15.0	12.0	18.4	0.0	0.0	0.4	0.0	109.8	98.0	22.0	15.0	18.4	4.0	2.0	0.4	0.0	159.8	282.1
09:15	9.0	1.0	3.0	0.0	0.0	0.0	0.0	0.0	13.0	74.0	13.0	15.0	16.1	2.0	0.0	0.4	0.0	120.5	115.0	14.0	10.5	16.1	0.0	2.0	0.0	0.0	157.6	291.1
09:30	7.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	13.0	74.0	16.0	21.0	16.1	0.0	0.0	0.4	0.0	127.5	79.0	18.0	10.5	11.5	0.0	0.0	0.0	0.0	119.0	259.5
09:45	11.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	77.0	23.0	10.5	18.4	0.0	0.0	0.0	0.0	128.9	81.0	18.0	28.5	18.4	0.0	0.0	0.4	0.0	146.3	288.2
1 Hr	37.0	7.0	7.5	0.0	0.0	0.0	0.0	0.0	51.5	289.0	67.0	58.5	69.0	2.0	0.0	1.2	0.0	486.7	373.0	72.0	64.5	64.4	4.0	4.0	0.8	0.0	582.7	1120.9
3 Hrs	178.0	29.0	15.0	6.9	4.0	0.0	0.8	0.0	233.7	1325.0	250.0	153.0	158.7	8.0	14.0	7.6	0.0	1916.3	1308.0	258.0	183.0	181.7	10.0	12.0	2.4	0.2	1955.3	4105.3
16:00	5.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	114.0	18.0	15.0	11.5	0.0	2.0	0.4	0.0	160.9	116.0	21.0	15.0	11.5	0.0	2.0	0.4	0.0	165.9	333.8
16:15	12.0	2.0	0.0	0.0	0.0	0.0	0.4	0.0	14.4	133.0	18.0	10.5	13.8	0.0	0.0	1.2	0.0	176.5	170.0	28.0	9.0	6.9	0.0	0.0	2.8	0.0	216.7	407.6
16:30	2.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	5.5	134.0	24.0	12.0	6.9	0.0	0.0	1.2	0.0	178.1	164.0	33.0	7.5	2.3	0.0	0.0	1.6	0.0	208.4	392.0
16:45	8.0	3.0	1.5	0.0	2.0	0.0	0.4	0.0	14.9	155.0	19.0	12.0	6.9	2.0	0.0	0.8	0.0	195.7	146.0	25.0	4.5	11.5	0.0	0.0	1.2	0.0	188.2	398.8
1 Hr	27.0	9.0	3.0	0.0	2.0	0.0	0.8	0.0	41.8	536.0	79.0	49.5	39.1	2.0	2.0	3.6	0.0	711.2	596.0	107.0	36.0	32.2	0.0	2.0	6.0	0.0	779.2	1532.2
17:00	8.0	4.0	0.0	2.3	0.0	0.0	0.0	0.0	14.3	152.0	13.0	1.5	6.9	0.0	0.0	0.8	0.0	174.2	200.0	34.0	7.5	4.6	0.0	0.0	0.4	0.2	246.7	435.2
17:15	10.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	128.0	17.0	9.0	9.2	0.0	0.0	0.8	0.0	164.0	172.0	22.0	1.5	2.3	2.0	0.0	0.0	0.0	199.8	375.8
17:30	6.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	145.0	19.0	1.5	6.9	0.0	0.0	0.0	0.0	172.4	207.0	36.0	3.0	2.3	2.0	0.0	2.0	0.0	252.3	433.7
17:45	10.0	3.0	0.0	0.0	0.0	0.0	0.4	0.0	13.4	121.0	6.0	4.5	2.3	0.0	0.0	0.8	0.0	134.6	153.0	12.0	3.0	4.6	0.0	0.0	3.2	0.0	175.8	323.8
1 Hr	34.0	12.0	0.0	2.3	0.0	0.0	0.4	0.0	48.7	546.0	55.0	16.5	25.3	0.0	0.0	2.4	0.0	645.2	732.0	104.0	15.0	13.8	4.0	0.0	5.6	0.2	874.6	1568.5
18:00	8.0	2.0	1.5	0.0	0.0	0.0	0.0	0.2	11.7	104.0	7.0	6.0	2.3	0.0	0.0	0.0	0.4	119.7	157.0	16.0	3.0	9.2	0.0	2.0	1.2	0.0	188.4	319.8
18:15	12.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	14.0	108.0	9.0	3.0	4.6	2.0	0.0	0.8	0.0	127.4	148.0	18.0	3.0	0.0	0.0	0.0	0.8	0.0	169.8	311.2
18:30	7.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	95.0	4.0	7.5	2.3	0.0	2.0	0.4	0.0	111.2	113.0	15.0	1.5	4.6	0.0	0.0	1.2	0.0	135.3	256.5
18:45	6.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	96.0	4.0	3.0	0.0	0.0	0.0	0.0	0.0	103.0	92.0	15.0	1.5	0.0	4.0	0.0	0.8	0.0	113.3	223.3
1 Hr	33.0	6.0	1.5	0.0	2.0	0.0	0.0	0.2	42.7	403.0	24.0	19.5	9.2	2.0	2.0	1.2	0.4	461.3	510.0	64.0	9.0	13.8	4.0	2.0	4.0	0.0	606.8	1110.8
3 Hrs	94.0	27.0	4.5	2.3	4.0	0.0	1.2	0.2	133.2	1485.0	158.0	85.5	73.6	4.0	4.0	7.2	0.4	1817.7	1838.0	275.0	60.0	59.8	8.0	4.0	15.6	0.2	2260.6	4211.5
Total	272.0	56.0	19.5	9.2	8.0	0.0	2.0	0.2	366.9	2810.0	408.0	238.5	232.3	12.0	18.0	14.8	0.4	3734.0	3146.0	533.0	243.0	241.5	18.0	16.0	18.0	0.4	4215.9	8316.8

Check

366.9

3734.0

4215.9

8316.8



Client : Atkins Global  
 Project : TAD-1591 HS2 Phase 4  
 Site : 39 - A41 / Station Road  
 Date : Wednesday 15th April 2015

Values can be adjusted here.

AM Weather : Hot / Clear  
 PM Weather : Hot / Clear

PCU Values			
Car	1.0	Bus	2.0
Lgv	1.0	Coach	2.0
Ogv1	1.5	Mc	0.4
Ogv2	2.3	Pc	0.2

**PCU's**

**DESTINATION SUMMARY**

	Destination : A - Station Road									Destination : B - A41 (e)									Destination : C - A41 (w)									Dest Totals
	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	Car	Lgv	Ogv1	Ogv2	Bus	Coach	Mc	Pc	Total	
07:00	1.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	64.0	24.0	7.5	2.3	0.0	0.0	0.0	0.0	97.8	126.0	32.0	12.0	4.6	0.0	4.0	0.0	0.0	178.6	280.4
07:15	4.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	8.5	118.0	26.0	22.5	18.4	0.0	0.0	0.0	0.0	184.9	156.0	30.0	13.5	6.9	0.0	0.0	1.2	0.0	207.6	401.0
07:30	4.0	4.0	3.0	0.0	2.0	0.0	0.0	0.0	13.0	127.0	19.0	12.0	6.9	0.0	0.0	0.0	0.0	164.9	162.0	39.0	12.0	18.4	2.0	2.0	0.0	0.0	235.4	413.3
07:45	4.0	4.0	1.5	0.0	0.0	0.0	0.0	0.0	9.5	159.0	16.0	9.0	18.4	0.0	0.0	0.8	0.0	203.2	168.0	19.0	7.5	16.1	0.0	2.0	1.2	0.0	213.8	426.5
1 Hr	13.0	14.0	6.0	0.0	2.0	0.0	0.0	0.0	35.0	468.0	85.0	51.0	46.0	0.0	0.0	0.8	0.0	650.8	612.0	120.0	45.0	46.0	2.0	8.0	2.4	0.0	835.4	1521.2
08:00	7.0	4.0	0.0	2.3	0.0	0.0	0.0	0.0	13.3	131.0	20.0	18.0	6.9	4.0	8.0	0.4	0.0	188.3	154.0	21.0	12.0	9.2	0.0	2.0	0.4	0.0	198.6	400.2
08:15	12.0	1.0	3.0	2.3	0.0	0.0	0.0	0.0	18.3	113.0	19.0	16.5	27.6	2.0	0.0	0.0	0.0	178.1	148.0	25.0	12.0	13.8	4.0	2.0	1.6	0.0	206.4	402.8
08:30	13.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	17.5	114.0	20.0	12.0	11.5	2.0	0.0	0.4	0.2	160.1	129.0	24.0	15.0	11.5	0.0	2.0	1.6	0.0	183.1	360.7
08:45	7.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	90.0	18.0	12.0	25.3	0.0	0.0	0.0	0.0	145.3	101.0	13.0	16.5	11.5	0.0	0.0	1.2	0.0	143.2	299.5
1 Hr	39.0	12.0	4.5	4.6	0.0	0.0	0.0	0.0	60.1	448.0	77.0	58.5	71.3	8.0	8.0	0.8	0.2	671.8	532.0	83.0	55.5	46.0	4.0	6.0	4.8	0.0	731.3	1463.2
09:00	5.0	1.0	4.5	0.0	2.0	0.0	0.0	0.0	12.5	96.0	21.0	12.0	18.4	2.0	2.0	0.4	0.0	151.8	71.0	16.0	12.0	18.4	0.0	0.0	0.4	0.0	117.8	282.1
09:15	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	111.0	14.0	12.0	16.1	0.0	2.0	0.0	0.0	155.1	82.0	14.0	16.5	16.1	2.0	0.0	0.4	0.0	131.0	291.1
09:30	6.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	75.0	15.0	13.5	11.5	0.0	0.0	0.0	0.0	115.0	79.0	19.0	21.0	16.1	0.0	0.0	0.4	0.0	135.5	259.5
09:45	4.0	1.0	1.5	2.3	0.0	0.0	0.0	0.0	8.8	80.0	20.0	27.0	16.1	0.0	0.0	0.4	0.0	143.5	85.0	22.0	10.5	18.4	0.0	0.0	0.0	0.0	135.9	288.2
1 Hr	20.0	5.0	6.0	2.3	2.0	0.0	0.0	0.0	35.3	362.0	70.0	64.5	62.1	2.0	4.0	0.8	0.0	565.4	317.0	71.0	60.0	69.0	2.0	0.0	1.2	0.0	520.2	1120.9
3 Hrs	72.0	31.0	16.5	6.9	4.0	0.0	0.0	0.0	130.4	1278.0	232.0	174.0	179.4	10.0	12.0	2.4	0.2	1888.0	1461.0	274.0	160.5	161.0	8.0	14.0	8.4	0.0	2086.9	4105.3
16:00	14.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	106.0	20.0	15.0	11.5	0.0	2.0	0.4	0.0	154.9	115.0	20.0	15.0	11.5	0.0	2.0	0.4	0.0	163.9	333.8
16:15	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	163.0	28.0	9.0	6.9	0.0	0.0	2.8	0.0	209.7	139.0	20.0	10.5	13.8	0.0	0.0	1.6	0.0	184.9	407.6
16:30	17.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	21.5	154.0	30.0	6.0	2.3	0.0	0.0	1.6	0.0	193.9	129.0	26.0	13.5	6.9	0.0	0.0	1.2	0.0	176.6	392.0
16:45	19.0	4.0	1.5	0.0	0.0	0.0	0.0	0.0	24.5	133.0	22.0	4.5	11.5	0.0	0.0	1.2	0.0	172.2	157.0	21.0	12.0	6.9	4.0	0.0	1.2	0.0	202.1	398.8
1 Hr	63.0	8.0	3.0	0.0	0.0	0.0	0.0	0.0	74.0	556.0	100.0	34.5	32.2	0.0	2.0	6.0	0.0	730.7	540.0	87.0	51.0	39.1	4.0	2.0	4.4	0.0	727.5	1532.2
17:00	23.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	27.5	184.0	32.0	6.0	4.6	0.0	0.0	0.4	0.2	227.2	153.0	16.0	1.5	9.2	0.0	0.0	0.8	0.0	180.5	435.2
17:15	29.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	31.0	147.0	20.0	1.5	2.3	2.0	0.0	0.0	0.0	172.8	134.0	19.0	9.0	9.2	0.0	0.0	0.8	0.0	172.0	375.8
17:30	24.0	8.0	1.5	0.0	0.0	0.0	0.0	0.0	33.5	189.0	30.0	1.5	2.3	2.0	0.0	2.0	0.0	226.8	145.0	20.0	1.5	6.9	0.0	0.0	0.0	0.0	173.4	433.7
17:45	14.0	1.0	1.5	2.3	0.0	0.0	0.0	0.0	18.8	140.0	11.0	1.5	4.6	0.0	0.0	3.6	0.0	160.7	130.0	9.0	4.5	0.0	0.0	0.0	0.8	0.0	144.3	323.8
1 Hr	90.0	14.0	4.5	2.3	0.0	0.0	0.0	0.0	110.8	660.0	93.0	10.5	13.8	4.0	0.0	6.0	0.2	787.5	562.0	64.0	16.5	25.3	0.0	0.0	2.4	0.0	670.2	1568.5
18:00	15.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	19.5	144.0	14.0	1.5	9.2	0.0	2.0	1.2	0.2	172.1	110.0	8.0	7.5	2.3	0.0	0.0	0.0	0.4	128.2	319.8
18:15	9.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	12.5	140.0	16.0	1.5	0.0	0.0	0.0	0.8	0.0	158.3	119.0	9.0	3.0	4.6	4.0	0.0	0.8	0.0	140.4	311.2
18:30	6.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	111.0	13.0	1.5	4.6	0.0	0.0	1.2	0.0	131.3	98.0	7.0	7.5	2.3	0.0	2.0	0.4	0.0	117.2	256.5
18:45	13.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	82.0	13.0	1.5	0.0	4.0	0.0	0.8	0.0	101.3	99.0	5.0	3.0	0.0	0.0	0.0	0.0	0.0	107.0	223.3
1 Hr	43.0	9.0	3.0	0.0	0.0	0.0	0.0	0.0	55.0	477.0	56.0	6.0	13.8	4.0	2.0	4.0	0.2	563.0	426.0	29.0	21.0	9.2	4.0	2.0	1.2	0.4	492.8	1110.8
3 Hrs	196.0	31.0	10.5	2.3	0.0	0.0	0.0	0.0	239.8	1693.0	249.0	51.0	59.8	8.0	4.0	16.0	0.4	2081.2	1528.0	180.0	88.5	73.6	8.0	4.0	8.0	0.4	1890.5	4211.5
Total	268.0	62.0	27.0	9.2	4.0	0.0	0.0	0.0	370.2	2971.0	481.0	225.0	239.2	18.0	16.0	18.4	0.6	3969.2	2989.0	454.0	249.0	234.6	16.0	18.0	16.4	0.4	3977.4	8316.8





# Sky High Technology

**Client :** Atkins Global  
**Project :** TAD-1591 HS2 Phase 4  
**Site :** 39 - A41 / Station Road  
**Date :** Wednesday 15th April 2015

Lane 1 is nearside. Queues are recorded in metres.

Time	A - Station Road	
	Lane 1	Lane 2
07:00	5	0
07:15	0	0
07:30	0	0
07:45	0	10
08:00	0	0
08:15	10	5
08:30	0	0
08:45	0	0
09:00	0	0
09:15	0	0
09:30	0	0
09:45	0	0

16:00	5	0
16:15	0	0
16:30	0	0
16:45	0	0
17:00	0	0
17:15	0	0
17:30	0	0
17:45	0	0
18:00	0	0
18:15	0	0
18:30	0	0
18:45	0	0

