

**Proposed Highway Improvement works at A41/High Street junction,  
Westcott, Buckinghamshire**

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<b>Author:</b>	Sarah Strauther – Senior Transport Planner
<b>Reviewer:</b>	Barry Roberts BSc (Hons)   Eng MICE MIHT – Director of Transport
<b>Approver:</b>	Matt Travis, BSc (Hons), MSc, MCIWEM, C. WEM, CEnv, CSci – Director

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Registered Office Stag House Chipping Wotton-Under-Edge Gloucestershire GL12 7AD

**Transport Statement**

Proposed Highway Improvement works at A41/High Street junction,  
Westcott, Buckinghamshire

Rockspring Property IM

SHF.110.001.TR.R.001

'Experience and expertise working in union'

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## 1.0 Introduction

### 1.1 Background

1.1.1 Enzygo Environmental Consultants has been commissioned on behalf of 'Rockspring Property IM' to prepare a Transport Statement (TS) to support a planning application for a proposed roundabout at the junction of High Street, Westcott and the A41. The junction is currently operating as a simple priority junction although it is at capacity.

1.1.2 High Street serves the village of Westcott and the Westcott Venture Park (WVP) in Buckinghamshire. WVP has a separate access road that serves the site off High Street.

1.1.3 The highway mitigation works at the junction are required predominantly due to the high base traffic levels that are currently experienced on the A41 and in particular at its junction with High Street. Due to the potential expansion of the Westcott Venture Park it is likely that a slight increase in traffic will be generated and therefore is has been requested by Buckinghamshire County Council (BCC) that mitigation measures are provided.

1.1.4 The scope for this transport study has been agreed with BCC during November and December 2017. It was agreed with BCC that a Transport Statement (TS) will suffice and the fully classified turning counts that were undertaken in July 2016 can be used for assessment purposes.

1.1.5 Westcott Venture Park is located off the A41 approximately 8 miles to the north west of Aylesbury and 10 miles to the south east of Bicester. The Venture Park is within the site of the former RAF Westcott airfield which currently supports a range of developments including automation manufacturers, propulsion system research, a waste recycling site, plant hire sites, and a race car preparation site.

1.1.6 The A41 provides the main vehicular link between Aylesbury and Bicester and generally operates as a single carriageway. At the junction with High Street the A41 has been widened to provide a ghost island right-turn lane for access to High Street and the Business Park.

1.1.7 The WVP access road runs from the existing access road, off High Street, in a south westerly direction into the centre of the business park. This avoids staff and visitors having to drive through the village of Westcott as the previous access road, that is located to the east end of the village has been 'stopped up'.

1.1.8 The WVP access road can only be accessed via the security barrier that is strictly managed, although visitors to the café do not need to enter the barrier. Only emergency and service vehicles are allowed to enter the site and members of the public are restricted.

1.1.9 This TS will demonstrate to Aylesbury Vale District Council (AVDC) and BCC that the development of the site and the traffic associated with it will be of no detriment to the local highway network following the provision of highway improvement measures in the form of a new roundabout.

1.1.10 The WVP site has been allocated as part of the Aylesbury Vale District Council's Local Plan. The council must therefore expect further proposals for employment development to be brought forward on allocated land within Westcott Venture Park.

1.1.11 WVP will be developed out in three predominant phases between 2017 and 2021 and the traffic impact assessment work will include 2018, 2023 and 2028 as agreed with BCC. WVP is approximately 650 acres in size and is in a rural location.

1.1.12 This report will provide an assessment of the predicted levels of traffic generated by the various phases of development at WVP and the Greatmoor Waste Management Facility to the east of the site on the A41. Any proposed capacity issues will be resolved via suitable highway mitigation measures, that have already been submitted to BCC in draft form.

1.1.13 In scoping the TS with BCC highways, it was agreed that the following key issues should be addressed;

- The junction of the A41 with High Street is approaching its theoretical capacity and accordingly all developments which are going to increase the number of vehicle movements through this junction need to carry out a PICADY assessment to determine whether or not the junction can accommodate the traffic movements associated with any proposed development;
- A Transport Statement will be acceptable, and it should be in accordance with the DfT's Guidance on Transport Assessment, 2007;
- Comprehensive swept path analysis is to be provided for the proposed roundabout as part of the planning application to illustrate that side impact risk due to 2 lane entry arms is negligible;
- Positioning of bus stops on the A41 to be safe and suitable for pedestrian accessibility; and
- A Stage 1 Road Safety Audit will be required to support the planning application.

### 1.2 Report Structure

1.2.1 This TS has the following report structure:

- Section 2 identifies the sources of information involved with the Transport Statement;
- Section 3 provides a description of the application area, site in relation to the local highway network
- Section 4 will assess the proposed access arrangements taking into account site observations, servicing, access and egress arrangements, visibility requirements and any apparent highway safety concerns;
- Section 5 outlines the base and predicted traffic impact of the WVP site composition and Greatmoor Waste Facility on the current priority junction and proposed roundabout proposal on the A41 over the forecast years 2018, 2023 and 2028 as agreed with BCC;
- Section 6 will summarise the collision data obtained from the BCC for collisions local to the site;
- Section 7 provides a summary of sustainable transport and accessibility of the site; and
- Section 8 provides a summary and conclusion of the above.

## 2.0 Sources of Information

### 2.1 Introduction

2.1.1 General information regarding the site location, proposed development composition, site topography, local collision history and an understanding of the local highway network has been provided by Rockspring Property IM, Buckinghamshire County Council (BCC) and Aylesbury/Vale District Council (AVDC).

2.1.2 In order to assist Enzygo in obtaining acceptable traffic data for entry into the traffic assessments within a short timescale, BCC agreed that the use of the RPS 2015 application for the purposes of obtaining traffic flow data only would be acceptable. This would be subject to an appropriate uplift to reflect current traffic flows in order to provide base data and include the Shanks 2015 application as it had received planning permission.

2.1.3 All necessary site highway data including descriptions of the local road highway network, an understanding of how the network currently operates, key site dimensions, existing site composition, site sustainability, accessibility have been obtained from a site visit in September 2017.

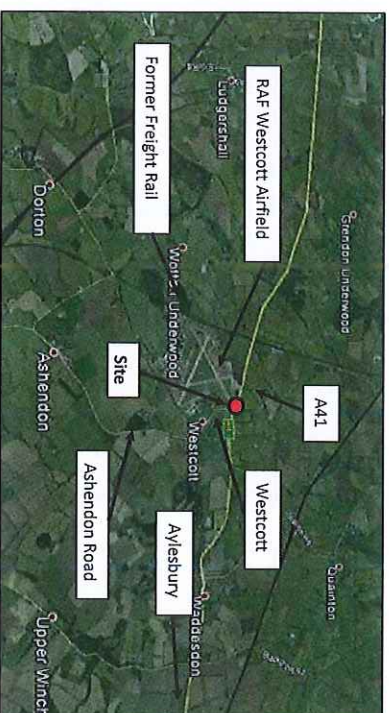
2.1.4 Collision data for the area has been obtained from BCC and is summarised by Enzygo for an area identified as attributable to the development. This includes the junctions to be assessed and sections of High Street and the A41.

## 3.0 Description of Application Area

### 3.1 Site Location

3.1.1 The site is located on the A41/High Street junction adjacent to the village of Westcott that is about 11 kilometres east of Aylesbury. The site in relation to the local highway network is shown in Figure 3.1 and Appendix 1 below. The site grid reference is SP 70771 16855 and the postcode is HP18 0PG.

Figure 3.1 – Site in relation to Local Highway Network



[Source: Google Earth Imagery]

3.1.2 RAF Westcott was originally created as a base for training bomber crews in WWII. Westcott became a Government Research Establishment in 1946 specifically for research into rocket propulsion and the development of rocket motors. Whilst commercial activities continue at the wider site rocket testing continues to remain on site.

3.1.3 Westcott Business Park is home to over 70 successful businesses including Moog, Shanks, Fedex, New Era and BAE Systems. The site is approximately 650 acres of which 500,000 sqft is developed with over 400 staff employed on the site.

3.1.4 The planning application site is the A41/High Street junction and its associated infrastructure that is currently in the form of a priority junction. The junction currently has a wide bellmouth, a right turn ghost island and has good visibility.

3.1.5 The A41 route provides the main link between Aylesbury and Bicester that is predominantly single carriageway and is subject to the national speed limit of 60mph.

3.1.6 The site is located in a relatively rural part of Buckinghamshire with Westcott village located to the east and the A41 to the north.

### 3.2 Local Highway Network

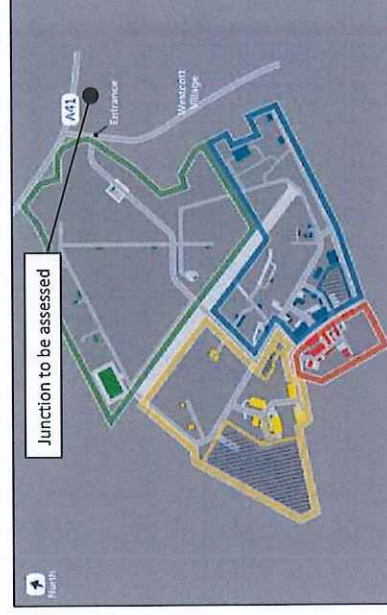
- 3.2.1 The application site is accessible via an access road that runs from High Street in a south easterly direction via a security gatehouse.
- 3.2.2 High Street runs from the A41 in a southerly direction towards Westcott Village and continues as Ashendon Road through the village. A 30 mph speed limit is imposed through the village to a point approximately 100 metres to the south of the existing site access junction. The section of High Street including the junction for the existing site access is de-restricted and subject to the national speed limit of 60mph.
- 3.2.3 The A41 is one of the main routes that runs from Bicester to Hemel Hempstead via Aylesbury town centre. This length of highway comprises long stretches of straight road with a small number of bends, however site observations during peak periods identified that the road can be subject to a moderate amount of traffic.
- 3.2.4 The M40 motorway can be reached via the A41 to the west or the M25 Motorway is accessible via the A41 to the south east. The A41 runs almost parallel with 2 rail lines that run from the Bicester area in a south early direction and into London centre.
- 3.2.5 The A41 / High Street priority junction also includes a right turn lane for vehicles turning right into High Street from the A41 that suggests that the A41 has been widened to accommodate it. Footpath linkages local to the junction provide excellent access for staff and visitors to the bus stops and public transport system.
- 3.2.6 The A41 at the right turn lane widened section is approximately 10 metres with a right turn lane of around 3.2 metres. The topography at this location is very flat and the visibility in both directions is good. The width of High Street is approximately 7.5 metres with a footway on the eastern side and a wide grass verge on the western side.
- 3.2.7 Figure 3.2 below shows the existing pedestrian footway access to the bus stops along the A41.

Figure 3.2 – Existing Footway Access to the Westbound Bus Stops on A41



- 3.2.8 The photograph above shows the excellent connectivity between the business park site and the public transport network with a bus layby provided for Bicester bound patrons. The local infrastructure encourages all forms of travel for potential staff and visitors to the business park and the highways, both internal and external, can easily accommodate buses.
- 3.2.9 The A41 at its junction with High Street is subject to the national speed limit. The forward visibility along the A41 from High Street, and from the business park along High Street is good. RPS traffic counts evidence that average speeds along the A41 are between 40 and 50 mph.
- 3.2.10 The footways along High Street and part of the A41 are of tarmac construction with the width varying between 1.5 and 2.0 metres. The footways along the business park access road are illuminated, however the pedestrian link between the site and the A41 is not.
- 3.2.11 The nearest railway station to the application site is Aylesbury Vale Parkway which is approximately 7.5 kilometres east of the site and just off the A41 to the north east of Aylesbury town centre.
- 3.3 Existing Development
- 3.3.1 The Westcott Venture Park site is currently occupied by a number of tenants all of which generate differing levels of traffic at varied times of the day, depending on the size and type of business and nature of their work.
- 3.3.2 The business park comprises a wide range of diverse companies which range from automobile organisations, food developments, Shanks Waste company, Fedex deliveries, survey companies to accountants etc.
- 3.3.3 The site is divided into four coloured zones: red, yellow, blue and green. Figure 3.3 below shows a site plan of the WVP that was current at the time this report was prepared;

Figure 3.3 – Westcott Business Park Site Plan



[Source: <http://www.westcottventurepark.com/westcott-park-plan.asp>]

- 3.3.4 The overall WVP site is approximately 650 acres in area and is an irregular shape. The site is centred at National Grid Reference SP 70771 16855 with the post code of HP18 0XB.
- 3.3.5 The business park offers a wide range of industrial / office accommodation with units ranging from 120 sqft to 30,000 sqft. Some of the buildings are available for immediate occupation, some areas have planning consent, with other areas available for design and build schemes.
- 3.3.6 As the pre-application for the Greatmoor FFW site has been undertaken and the application is imminent the traffic flows shown in Figures 5.1 and 5.2 will be included in the modelling exercise.
- 3.4 Proposed Development Programme at WVP**
- 3.4.1 A phasing plan for the site including plot no's, occupants (if known), size of plot, assumed proposed use and the predicted no. of arrivals and departures associated with the plots is included in **Appendix 2** of this report.
- 3.4.2 The proposed arrival and departure numbers have been based on trip rates from a previous Transport Assessment undertaken by Rowland Bilsand that was agreed with BCC. These are included in **Appendix 4**.
- 3.4.3 The phasing plan and the excel spreadsheet that should be read in conjunction with the phasing plan, shows the approximate year of occupation for each plot between the years of 2018 and 2021. To simplify the traffic assessment scenarios, it was agreed that the planning submission year (2018) and the five and 10 years post planning (2023 and 2028) should be assessed. This ensures that all the approximate years of occupation are included in the junction assessment work.
- 3.4.4 The phasing of the various plots is split into three predominant phases that are shown in the clients five year development plan which is included in **Appendix 2**. This shows Phase 1 to include plots 6000, 6010, 6020, 6030, 6040, 6050, 6060, 6070, 8000, 8010, 8020, 8030 and 9000. The plots in Phase 1 are predicted to be operational between 2018 and 2022. Phase 2 includes plots 103, 1040, 2010, 4000, 4010 and 5000. It is predicted that the phase 2 plots will also be operational between 2018 and 2022 with Shanks looking to submit for planning as part of phase 3 work in 2018. Phase 3 development also includes a small level of residential development (25 No. resi units) and a village hall.
- 3.4.5 In summary, below is a breakdown of the recent movements on the WVP site:
- Rockspring are progressing with plot 1040. Century Court Phase 2 will complete April / May 2018 and should be fully occupied by the end of 2018. This has planning consent;
  - Plot 4000 which again has planning consent will be deferred by at least a year to 2019;
  - Plot 9000 is the Innovation Centre which will be submitted for planning soon.
- 3.4.6 The proposal is to provide suitable highway mitigation measures at the A41 / High Street junction that will accommodate the traffic generated by WVP and the Greatmoor Waste Management Facility. Discussions have already taken place with BCC highways and the client to ensure that the proposed solution is acceptable, in principle, prior to the progression of the planning application and this TS.
- 3.4.7 The report will accompany the application and will provide further details of the transport movements associated with the development and how any potential impacts will be mitigated.

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## 4.0 Access Arrangements

- 4.1 Existing Access Arrangements**
- 4.1.1 Vehicular access to the site is currently available via a recently constructed access road that runs from the western kerblime of High Street in a south westerly direction towards the centre of the WVP site.
- 4.1.2 The access road that serves Westcott Business Park and the cafe/shop that is located in front of the security gatehouse is approximately 7.3 metres wide and has a 2.0m wide footway on the southern side.
- 4.1.3 The access road is illuminated and is of a sufficient width and alignment to allow HGV's of all sizes to access and egress the site in a safe manner. Rockspring also provide a public transport service in the form of a bus service that runs each hour. The bus service runs into the business park, via the access road and then turns left opposite area 15 and follows a loop that ultimately takes it back onto the access road.
- 4.1.4 Vehicular and pedestrian access to the site is restricted and the business park is not open to the general public. The gatehouse has segregated lanes for visitors and staff and it is manned 24 hours a day and seven days a week.
- 4.1.5 The existing access has dropper kerbs to maintain pedestrian connectivity to the public transport services on the A41 and a wide bellmouth of approximately 41 metres (inclusive of bus stop and acceleration lane). Setback vehicular visibility from High Street along the A41 allows clear sight of the A41 / High Street junction.
- 4.1.6 The business park has excellent internal infrastructure that serves all tenants well with a sufficient level of parking and footpaths to connect all areas of the site.
- 4.1.7 A 30mph speed restriction exists along the access road. A number of public rights of way (PROW's) exist along the site perimeter, particularly on the north and east parts of the site.
- 4.2 Proposed Access Arrangement**
- 4.2.1 The proposals include for a new WVP site access. It is proposed to divert the existing WVP site access road north to join the A41 at the A41/High Street junction. It is proposed to upgrade the existing priority junction to a four arm roundabout layout in order for the WVP to have an independent access to remove the WVP traffic from High Street.
- 4.2.2 The proposed access to Westcott Venture Park will be via a new configuration that will be designed following junction assessment work at the A41 / High Street junction. However, junction assessment work undertaken to date shows that the existing priority junction arrangement is nearing, or at capacity.
- 4.2.3 Further junction assessment work, that is explained in more detail in Section 5 of this Transport Statement, suggests that a new roundabout will be able to accommodate the current and proposed traffic generation levels. The roundabout proposal has been accepted in principle by BCC and the preliminary design has been subject to a Stage 1 Road Safety Audit that was undertaken by BCC. The Stage 1 RSA is included in **Appendix 3**.

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4.2.4 The details of the proposed access arrangement will be confirmed in detail towards the end of Section 5.0 as the roundabout is deemed as a highway mitigation measure that is required on the A41 to enable it to operate with nil detriment to the local highway network.

4.2.5 A preliminary roundabout design was submitted to BCC and a Stage 1 Road Safety Audit (RSA) was subsequently carried out. The Stage 1 RSA identified several concerns with the original design proposed. These included the following:

- 1) Restricted forward visibility between vehicles on High Street and A41 westbound;
- 2) Restricted forward visibility along A41;
- 3) Excessive / acute entry angle;
- 4) Difference in levels between High Street / Venture Park and A41 carriageway;
- 5) Recognition of the roundabout junction during hours of darkness;
- 6) Large vehicles overrunning adjacent lanes;
- 7) 2 lane approach designation;
- 8) Provision for cyclists, pedestrians and horse riders; and
- 9) Repositioning of bus stops.

4.2.6 The concerns identified in the Stage 1 RSA were addressed and subsequently responses were received from BCC. The concerns above have been addressed and agreed with BCC as follows:

- 1) Visibility conforms to DMRB Vol 6 section 2, Part 3 TD 16/07 Para's 8.5, 8.6 and 8.7. BCC confirm that any visibility detail is to be considered at detailed Stage 2 RSA;
- 2) The capacity modelling assessments reveal minimal queuing at the proposed roundabout and Enzygo propose that visibility along the A41 is sufficient in terms of risk of collisions, given that the junction layout is predicted to generate minimal queue lengths. The high A41 traffic flows are accurate and have been utilised in modelling the capacity of the proposed roundabout design. We are confident that the queuing data revealed by the Junctions 8 industry standard software is proportionate as accurate data and traffic flows agreed with BCC have been utilised in the assessment.

In terms of request to provide high friction surfacing at the approach to the roundabout, in the Stage 1 RSA BCC identified with reference to the accident data that, 'Rear shunts with unexpected turns appear to be a common factor in these collisions which may be mitigated by the upgrading of this junction to a roundabout. Also, there are no reported collisions at the relatively new roundabout further west at Woodham.' The RSA appears to support the introduction of the roundabout as the risk of rear shunts is anticipated to reduce. Therefore, we feel that there is no justification for high friction surfacing at this location as the design introduced at Woodham, used as an example in the stage 1 RSA) does not have this in place.

85<sup>th</sup> percentile speeds taken from the RPS traffic data indicate eastbound speeds of 50.6mph and westbound speeds of 51.7mph. Average speeds of 43.9mph and 45.3mph respectively, were recorded indicating that high vehicular speeds are not found to be evidenced at this location;

- 3) Design has been revised to account for this concern. BCC agreed;

- 4) We are aware of the potential level differences and once we have a revised topographical survey these will be addressed at the detailed design/S278. BCC agreed;
- 5) Street lighting will be provided as part of the Section 278 design works. BCC agreed;
- 6) Design amended to accommodate all manoeuvres, supported by swept path analysis. Drawing SHF.110.001.TR.D.102C included in Appendix 3. BCC Agreed subject to detailed design;
- 7) Lane discipline is provided in the form of advance lane markings and strategically positioned advance direction signs. Hatching within the roundabout is proposed to encourage drivers to follow the correct route and exit via the correct arm. BCC agreed and to be considered at detailed Stage 2 RSA;
- 8) Enzygo to undertake Walking, Cycling & Horse-Riding Assessment and Review (HD42/17) independent to the design process. BCC Agreed; and
- 9) The relocation of the bus stops further east away from the roundabout conflict points can be provided at detailed design stage. BCC Agreed to be considered at detailed Stage 2 RSA.

4.2.7 The roundabout design has been amended as discussed above following the Stage 1 RSA. At the request of BCC, the design has included for crossing points to enable safe and suitable access to bus stops, demarcation of the kerb line either side of High Street, entry widths, entry kerb radii and swept path analysis to accommodate articulated vehicles. The proposed preliminary roundabout design is shown in Drawing SHF.110.001.TR.D.101D and is included in Appendix 3.

4.2.8 Access for pedestrians and cyclists will remain as existing, utilising the existing footways onto High Street. The westbound A41 bus stop adjacent to the existing A41/High Street junction will be moved further to the east to enable safe and suitable pedestrian access to bus stops as discussed above. Preliminary bus layby design is shown in Drawing SHF.110.001.TR.D.103A and is included in Appendix 3.

4.2.9 It is envisaged that the existing vehicular and pedestrian access, that currently meets the west kerbline of High Street, will be 'closed off' via a barrier and will be utilised as pedestrian and emergency access.

4.2.10 The accident data has been purchased and reviewed. This is detailed in a later section of this report and shows that the road network is deemed to operate to an acceptable standard and there is no major highway safety concern.

## 5.0 Traffic Generation

### 5.1 Introduction

5.1.1 This section will outline the predicted trip generations for the various phases of the predicted development within the WVP site and will also include the Greatmoor Waste Management Facility traffic (GWMF), as requested by BCC at the scoping stage. This section will assess the traffic on the existing A41 / High Street priority junction and if required, provide highway mitigation works that will accommodate the traffic in a safe manner that will be of no detriment to the operation of the local highway network.

5.1.2 The phases to be included in the junction assessment process are Phase 1 + GWMF (2018), Phase 1 + Phase 2 + GWMF (2023) and Phase 1 + Phase 2 + Innovation Centre + GWMF (2028). The innovation centre predicted peak time traffic generation figures have been provided by Rockspring and have been included in the modelling assessment for 2028 with the predicted GWMF traffic added in from the start.

5.1.3 Rowland Blisland Traffic Planning prepared a 'Transport Assessment' in December 2008 for the wider masterplan area of '08\_02970' Aylesbury Vale District Council including the site, however the wider site has been developed since 2008 and this TS will summarise will focus on only the site proposals.

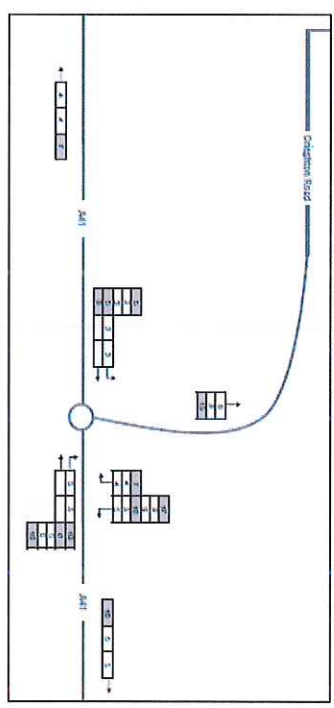
### 5.2 Predicted Trip Generation for Greatmoor Waste Management Facility (EFW)

5.2.1 The main traffic peak for the EFW are outside of the main traffic peaks on the local highway network and outside the AM and PM peak periods at the A41 / High Street junction. The EFW is an existing facility, therefore the applicant can demonstrate the existing operational use of the facility so BCC are satisfied using their assumption.

5.2.2 It is clear from the junction assessment results that BCC are not really anticipating any real capacity issues at the A41 / Creighton Road roundabout. This is predominantly due to the relatively limited levels of side road flow from the Woodham Industrial Area / Greatmoor Waste Management Area, which means that conflicting traffic streams are relatively limited. The addition of small levels of hourly additional HGV trips associated with effects of operating the Greatmoor site at the new maximum (300 per day) limit, has limited effects.

5.2.3 Based on the July 2016 fully classified turning count data, that has been agreed for use with BCC, the AM peak operating period is 07:45 – 08:45 and the evening peak period is 16:30 – 17:30 hours. As shown on Figure TA10a of the Axis Transport Assessment the AM peak hour is 07:15 – 08:15 and the PM peak operating period is 16:15 – 17:15. Therefore the peak periods do not coincide, however for robustness Enzygo has added the peak flows from the EFW peak periods onto the modelling assessment at the A41 / High Street junction. Figure 5.1 below is an extract from Figure TA10a that shows the predicted low level of traffic flows that will enter the A41/High Street junction.

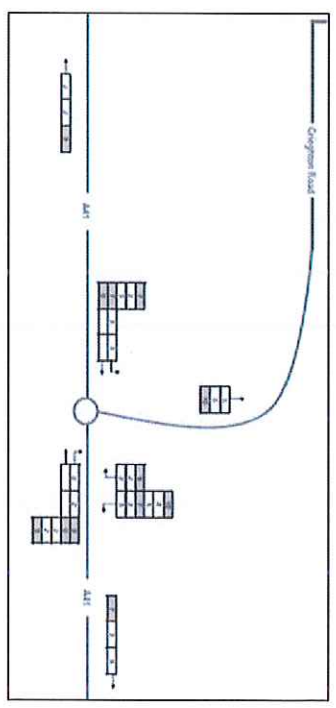
Figure 5.1 – Predicted Traffic Generation onto A41/High Street Junction from EFW, Greatmoor Site (AM Peak – 07:15 to 08:15 hours)



### 5.2.4

Figure 5.1 above shows that during the AM peak period for the EFW 4 No. vehicles and 4 No. HGV's (7 No. PCU's) will enter the A41 / High Street junction as a result of the EFW facility. During the AM peak approximately 4 No. vehicles and 4 No. HGV's (7 PCU's) will arrive at the site via the A41 / High Street junction.

Figure 5.2 – Predicted Traffic Generation onto A41/High Street Junction from EFW, Greatmoor Site (PM Peak – 16:15 to 17:15 hours)



[Source: BCC Highways – Axis Pre-application]



5.2.5 Figure 5.2 above shows that during the PM peak period for the EFW 2 No. vehicles and 2 No. HGV's (3 No. PCU's) will enter the A41 / High Street junction as a result of the EFW facility. During the PM peak approximately 3 No. vehicles and 3 No. HGV's (7 PCU's) will arrive at the site via the A41 / High Street junction.

5.2.6 The extracts from the Axis TA above show that the predicted level of traffic generated by the EFW during the peak operation periods at the A41/High Street junction are very minimal. However, as requested by BCC they will be taken into account in this section during the junction assessment exercise.

5.2.7 Once the engine testing facility has been completed and is fully operational the construction related trips will no longer be on the network. However, they will be replaced by a maximum of 200 No. trips that will be generated by the FTE's with a reasonable amount of the staff recruited locally who can use the excellent public transport services. As young apprentices will also be encouraged it is assumed they will not own cars and will also utilise the local bus services.

5.2.8 Based on a robust, 'worst case' scenario in traffic impact terms, it is assumed that the 200 No. FTE's will generate approximately 200 No. vehicular trips during the morning peak hour. As the predicted working hours for the staff will be between 08:00 and 17:00 hours it is assumed that the majority of these trips will arrive at the site between 08:00 and 09:00 and will depart between the hours of 17:00 and 18:00 hours. Table 5.1 below summarises the information as described above.

Table 5.1: Predicted Traffic Generation at proposed Engine Testing Facility Site

Traffic Generation	Vehicles	
	Arrivals	Departures
AM Peak – 08:00 – 09:00 hrs	200	0
PM Peak – 17:00 – 18:00 hrs	0	200
<b>Total</b>	<b>200</b>	<b>200</b>

5.2.9 It can be seen from Table 5.1 above that the site is anticipated to create a maximum of 200 arrival trips and no departure trips during the AM peak hour. The predicted PM traffic is will create no arrival trips and 200 departure trips. This will result in approximately one arrival trip in the AM peak every 18 seconds and the frequency will be the same for the departures during the PM peak.

5.2.10 However, 2011 'Travel to Work' Census Data obtained from the Office for National Statistics (ONS) website for the Aylesbury Vale area is summarised in Figure 5.1 below;

Figure 5.1 – Aylesbury Vale 'Travel to Work' Census Data

Date	2011
Geography	Aylesbury Vale
All categories: Method of travel to work	210
Work mainly at or from home	17
Underground, metro, light rail, tram	1
Train	1
Bus, minibus or coach	10
Taxi	5
Motorcycle, scooter or moped	0
Driving a car or van	17
Passenger in a car or van	8
Bicycle	1
On foot	20
Other method of travel to work	4
Not in employment	126

[[www.nomisweb.co.uk/](http://www.nomisweb.co.uk/)]

5.2.11 Figure 5.2 above shows that of the 84 people (210 – 126) that are employed in the Aylesbury Vale area, only 17 (20%) drove a car/van with the remaining 80% choosing to use other more sustainable modes of transport working from home). This is dependent on the availability and frequency of local public transport services, provision of local footpaths/cycle paths and if sustainable measures are promoted at the workplace. 23% of people walked to work and 12% travel by bus, coach or minibus so the traffic generation figures for vehicles quoted above are very robust.

### 5.3 Junction Operation Assessments

5.3.1 In light of the extent of the proposed development trips associated with the site on the local highway network, we can account for the derived traffic impact towards the A41 by assessing the A41 High Street & High Street priority junction.

5.3.2 Following discussions with BCC, it was requested that Enzygo model the A41/High Street priority junction for the following scenarios using the RPS traffic count data as provided by BCC:

- 2015 AM/PM;
- 2017 AM/PM;
- 2017 with Shanks only AM/PM;
- 2017 with all dev AM/PM (inc. Shanks);
- 2022 AM/PM;

- 2022 with Shanks AM/PV; and
  - 2022 with all dev AM/PV (inc. Shanks).
- 5.3.3 To ascertain the base traffic flows, we have derived TEMPRO 6.2 growth figures for a projection up to and including 2018 for the A41 being classified as a 'principal road' within 'Rural Aylesbury' for both peak hours, these growth factors are:
- 2015 to 2017 – AM Peak Hour – 1.0278;
  - 2015 to 2017 – PM Peak Hour – 1.0287;
  - 2015 to 2022 – AM Peak Hour – 1.0123; and
  - 2015 to 2022 – PM Peak Hour – 1.1034.

5.3.4 The traffic flows used in the modelling exercise have been agreed with BCC are included in Appendix 4 for reference.

5.3.5 Transport Research Laboratory's (TRL) Junctions 8 industry standard software will be utilised which includes PICADY (Priority Junction Intersection module) for predicting capacities, queues, delays at priority junctions.

5.3.6 Junctions 8 software uses Ratio to Flow Capacity (RFC) to measure the capacity of the junction. RFC values of 0.85 or less are considered to indicate the acceptable operation of the junction. Values between 0.85 and 1.00 represents variable operation (i.e. possible queues building up on approaches and increases in vehicle delay). RFC values in excess of 1.00 represent overloaded conditions. Each approach also has a Mean Maximum Queue (MMQ) value, which is the mean maximum number of vehicles expected to queue on the approach at the worst time period of operation.

5.3.7 The A41 & High Street priority junction will be assessed using this software to assess current junction performance in accordance with the above scenarios. A summary of the results for the above scenarios is shown below in Table 5.2:

Table 5.2 - Junction 8 Modelling Results for A41 & High Street Priority Junction

ARMV / PERIOD	Weekday AM Peak (07:45 – 08:45 hours)			Weekday PM Peak (16:30 – 17:30 hours)		
	MMQ	Delay (s)	RFC	MMQ	Delay (s)	RFC
	2015					
High Street – Left Out	0.21	12.59	0.8	0.44	18.19	0.31
High Street – Right Out	0.93	36.41	0.49	2.41	58.45	0.73
A41 (West) – Right In	0.19	10.10	0.16	0.13	8.73	0.12

2017						
High Street – Left Out	0.24	12.59	0.18	0.44	18.19	0.31
High Street – Right Out	1.09	36.41	0.49	2.41	58.45	0.73
A41 (West) – Right In	0.21	10.10	0.16	0.13	8.73	0.12
2017 with Shanks						
High Street – Left Out	0.24	13.75	0.20	0.84	33.10	0.47
High Street – Right Out	1.13	43.59	0.54	3.73	86.22	0.82
A41 (West) – Right In	0.22	10.55	0.18	0.14	8.90	0.12
2017 with all Development						
High Street – Left Out	0.27	15.34	0.21	0.80	258.82	1.10
High Street – Right Out	1.39	54.59	0.60	14.17	231.79	1.08
A41 (West) – Right In	0.34	11.87	0.25	0.14	8.90	0.12
2022						
High Street – Left Out	0.37	20.15	0.28	5.72	212.53	1.01
High Street – Right Out	1.98	73.10	0.69	8.37	178.39	0.99
A41 (West) – Right In	0.23	11.09	0.19	0.15	9.39	0.13
2022 with Shanks						
High Street – Left Out	0.39	21.11	0.29	6.75	231.25	1.05

		2022 with all Development					
High Street – Right Out	2.08	77.04	0.70	10.24	205.93	1.03	
A41 (West) – Right In	0.25	11.30	0.20	0.15	9.39	0.13	
High Street – Left Out	0.66	36.6	0.41	17.88	517.01	1.34	
High Street – Right Out	3.00	113.43	0.79	31.65	482.79	1.32	
A41 (West) – Right In	0.38	12.80	0.28	0.15	9.39	0.13	

[Source: PICADY 8 Version:8.04.487]

5.3.8 The above results show that in the future year of 2022 prior to the introduction of any development traffic, the A41 and High Street junction outlines ratio to flow (RFC) values above the 0.850 RFC capacity threshold figure with excessive queues. This concludes that mitigation measures are required in order for the A41/High Street junction to operate well below operational capacity.

#### 5.4 Mitigation Measures

5.4.1 Enzygo investigated widening on the nearside lane on High Street and amending the kerbline, however this had very minimal impact and did not result in sufficient capacity increase to the junction. Therefore, the A41 high Street priority junction has been modelled with highway mitigation which involved increasing the carriageway width on the A41 from 6.0m to 7.3m.

5.4.2 The mitigated A41 & High Street priority junction has been assessed using Junctions 8 software to assess the mitigated junction performance in accordance with the scenarios in 5.3.2. A summary of the results for the scenarios is shown below in Table 5.3:

Table 5.3 - Junction 8 Modelling Results for the A41 & High Street Priority Junction with Mitigation.

ARM / PERIOD	Weekday AM Peak (07:45 – 08:45 hours)			Weekday PM Peak (16:30 – 17:30 hours)		
	MIMQ	Delay (s)	RFC	MIMQ	Delay (s)	RFC
2015						
High Street – Left Out	0.20	11.59	0.17	0.35	14.40	0.26
High Street – Right Out	0.76	29.66	0.44	1.83	43.68	0.66
A41 (West) – Right In	0.19	9.72	0.16	0.13	8.47	0.11
2017						
High Street – Left Out	0.21	12.21	0.18	0.42	16.91	0.30
High Street – Right Out	0.87	33.24	0.47	2.25	52.73	0.71
A41 (West) – Right In	0.20	9.95	0.17	0.13	8.62	0.12
2017 with Shanks						
High Street – Left Out	0.22	12.31	0.18	0.49	19.13	0.34
High Street – Right Out	0.89	34.04	0.48	2.57	58.30	0.74
A41 (West) – Right In	0.21	10.12	0.18	0.13	8.62	0.12
2017 with all Development						
High Street – Left Out	0.23	13.08	0.19	5.56	182.71	0.99
High Street – Right Out	1.04	40.06	0.52	8.59	147.89	0.98

	2022					
	0.24	0.13	8.62	0.12		
A41 (West) – Right In	0.32	11.30	0.24	0.13	8.62	0.12
High Street – Left Out	0.28	15.17	0.22	1.68	66.31	0.67
High Street – Right Out	1.36	49.19	0.59	4.80	107.93	0.87
A41 (West) – Right In	0.22	10.59	0.19	0.15	9.05	0.13
2022 with Shanks						
High Street – Left Out	0.29	15.45	0.23	4.31	143.97	0.95
High Street – Right Out	1.78	50.93	0.60	5.87	124.30	0.91
A41 (West) – Right In	0.36	10.78	0.19	0.15	9.05	0.13
2022 with all Development						
High Street – Left Out	0.34	18.07	0.26	12.66	366.10	1.19
High Street – Right Out	1.74	65.21	0.66	21.67	326.45	1.17
A41 (West) – Right In	0.36	12.11	0.27	0.15	9.05	0.13

[Source: P/CADY 8 Version:8.04.487]

5.4.3 The above results show that in the future year of 2022 prior to the introduction of any development traffic, the A41 and High Street junction outlines ratio to flow (RFC) values above the 0.850 RFC capacity threshold figure with a queue of 5 No. vehicles. This concludes that the mitigation measures proposed to improve the priority junction are not sufficient in order for the A41/High Street junction to operate well below operational capacity.

5.4.4 To increase capacity and accommodate the future and proposed development traffic flows, Enygo propose to implement a roundabout junction in place of the existing A41/High Street priority junction. The roundabout has been designed in accordance with the DMRB Volume 6, Section 2, Part 3 TD 16/07 and has been subject to a Stage 1 Road Safety Audit. The proposals are detailed within Drawing No. SHF.110.001.TR.D.101D, which is included in Appendix 3.

5.4.5 The capacity assessment period for the proposed roundabout junction design is for the planning application base year of 2018. The peak periods have been identified from the recent fully classified turning count survey as Weekday AM Peak 07:45 – 08:45 hours and PM Peak 16:30 – 17:30 hours.

5.4.6 We have derived TEMPRO 6.2 growth figures for a ten-year projection up to and including 2028 for the A41 being classified as a 'principal road' within Rural Aylesbury for both peak hours, these growth factors are: -

- 2015 to 2018 – AM Peak Hour – 1.0426;
- 2015 to 2018 – PM Peak Hour – 1.0441;
- 2015 to 2023 – AM Peak Hour – 1.0851;
- 2015 to 2023 – PM Peak Hour – 1.0866;
- 2015 to 2028 – AM Peak Hour – 1.1869; and
- 2015 to 2028 – PM Peak Hour – 1.1924.

5.4.7 Transport Research Laboratory's (TRL) Junctions 8 industry standard software will be utilised which includes ARCADY (Assessment of Roundabout Capacity and Delay) for predicting capacities, queues, delays at priority junctions.

5.4.8 The proposed roundabout junction will be assessed using ARCADY software to assess current junction performance in accordance with the following scenarios:

- 2018 Base year;
- 2023 Future + Development; and
- 2028 Future + Development.

5.4.9 These assumed development trips have been accounted within Tables 5.4 to 5.6 below:

Table 5.4: Junction 8 Modelling Results for A41 & High Street Roundabout junction for the Base Year 2018

ARM / PERIOD	Weekday AM Peak (07:45 – 08:45 hours)		Weekday PM Peak (16:30 – 17:30 hours)			
	M/M/Q	Delay (s)	M/M/Q	Delay (s)	RFC	
A41 NW	1.10	4.22	0.53	1.38	5.62	0.58
A41 SE	2.51	8.29	0.72	1.16	5.00	0.54
High Street	0.44	9.13	0.31	0.14	5.06	0.12
Site Access	0.10	3.9	0.09	1.90	9.94	0.66

[Source: ARCADY 8 Version: 8.0.6.541]

Table 5.5: Junction 8 Modelling Results for A41 & High Street Roundabout junction including Development Traffic for 2023

ARM / PERIOD	Weekday AM Peak (07:45 – 09:45 hours)			Weekday PM Peak (16:30 – 17:30 hours)		
	MMQ	Delay (s)	RFC	MMQ	Delay (s)	RFC
A41 NW	1.25	4.52	0.56	1.61	6.28	0.62
A41 SE	3.18	9.99	0.76	1.27	5.29	0.56
High Street	0.57	10.80	0.37	0.14	5.21	0.13
Site Access	0.11	4.02	0.10	2.59	12.59	0.73

[Source: ARCADY 8 Version: 8.0.6.541]

Table 5.6: Junction 8 Modelling Results for A41 & High Street Roundabout junction including Development Traffic for 2028

ARM / PERIOD	Weekday AM Peak (07:45 – 09:45 hours)			Weekday PM Peak (16:30 – 17:30 hours)		
	MMQ	Delay (s)	RFC	MMQ	Delay (s)	RFC
A41 NW	1.50	5.05	0.60	2.10	7.52	0.68
A41 SE	4.42	13.14	0.82	1.58	6.04	0.61
High Street	0.68	12.73	0.41	0.16	5.61	0.14
Site Access	0.13	4.30	0.12	3.26	15.68	0.77

[Source: ARCADY 8 Version: 8.0.6.541]

5.4.10 The above results in Table 5.4 to 5.6 show that with and without the addition of the development traffic, the proposed roundabout junction will operate well within capacity.

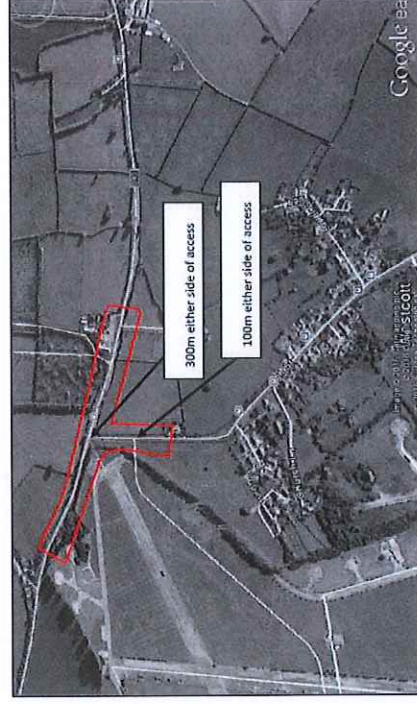
5.4.11 The 'Ratio of Flow to Capacity' figures for all scenarios are above the 0.850 RFC threshold figure in outlining that the junction is expected to operate satisfactorily for the inclusion of the assumed development traffic. Junctions 8 software results for all scenarios are included within Appendix 4.

## 6.0 Personal Injury Accident Data Analysis

### 6.1 Personal Injury Accident Data Analysis

- 6.1.1 Collision data for the area has been obtained from Buckinghamshire County Council (BCC) over the area shown as Figure 6.1 below. The area covers the junction of High Street and the A41 that runs 300 metres from the junction in an easterly and westerly direction and 100 metres in a southerly direction.
- 6.1.2 This identified search area is the assumed extent of the proposed impact of the site traffic as it joins the local highway network.
- 6.1.3 Data has been obtained for the latest five-year period from the website to assess 'severity' based road accidents within the vicinity of the site.

Figure 6.1 – Area of Collision Data



[www.google.co.uk]

- 6.1.4 The above area identifies the latest collisions from 31<sup>st</sup> July 2012 to the 31<sup>st</sup> July 2017 that are local to the proposed highway improvement works will enable Enzygo to assess any potential highway safety issues that may be of concern to BCC and AVDC. However, a Stage 1 Road Safety Audit has also been undertaken, as requested by BCC, that has identified potential highway safety issues. The Stage 1 Road Safety Audit will support the planning application for the new highway improvement measures.
- 6.1.5 The accident data obtained from BCC shows that there have been 9 No. accidents over the 5-year period identified. Each accident is summarised in Table 6.1 below;

Table 6.1 – Summary of Accident Data (From BCC)

Accident Reference	Date and Time	Accident Classification	Accident Location	Vehicles involved	Contributory Factors
N0551013	07/10/2013 12:40	Slight	A41 Bicester Road J/W C66 High St, Westcott	2	V1 travelling Bicester turned left onto Hook St too wide and collided with V2
N0761113	11/11/2013 11:24	Slight	A41 Bicester Road J/W Ent to UBF Ind Park, Aylesbury	2	V1 turned right, and oncoming V2 indicated to turn left but V1 thought he was turning into another access.
N1210315	12/03/2015 16:40	Slight	A41 Bicester Road J/W C66 High Street, Westcott	2	V1 entering A41, pulled out and stalled. V1 then pulled out without looking into path of V2.
N0390515	08/05/2015 11:27	Slight	A41 Bicester Road, Westcott J/W Ent to Upper Barn Farm Industrial Estate	2	2 Vehicles heading in same direction, V1 waits to turn right and is hit in rear as V2 fails to slow in time.
N1290615	20/06/2015 18:40	Slight	A41 Bicester Road, Westcott J/W entrance to New House Farm	2	2 vehicles travelling NW, V1 slowed intending to turn right into farm. V2 failed to slow, swerved and hit V1 pushing it into farm entrance

N2260615	24/06/2015 18:35	Serious	A41 Bicester Road, Westcott	3	V1 travelling towards Aylesbury crossed cway and collided with V2 that left the cway and hit V3.
N1060815	17/08/2015 15:00	Serious	A41 Bicester Road, Westcott app. 500m East of High Street	3	Police V1 travelling twds Bicester, opposing V2 slowed thinking police V1 would pull out to pass and M/C travelling behind V2 did not slow down in time.
43170061691	19/02/2017 11:30	Slight	A41 Bicester Road, Westcott app. 100m East of 'On Yer Bike'	1	Vehicles travelling west twds Bicester, V1 hit rear of cyclist causing cyclist to fall
43170111998	03/04/2017 08:03	Slight	A41 Bicester Road, J/W 'On Yer Bike'	4	Veh's travelling to Bicester, V1 waiting to turn right into premises, V2 and V3 stopped waiting behind. V4 failed to stop in time and hit rear of V3 causing shunts to all vehs

6.1.6 Table 6.1 above shows that there have been 9 No. recorded road accidents within the identified search area including 7 No. 'slight' accidents and 2 No. 'serious' accidents on the A41 Bicester Road, Westcott.

- 6.1.7 Majority of the accidents involved either 2 or 3 vehicles and a common theme seems to be poor observation as vehicles are turning right off the A41 Bicester Road into the minor roads and entrances.
- 6.1.8 The proposals to upgrade the A41/High Street junction to a roundabout will remove right turning vehicles from the A41, therefore reducing the risk of rear shunts on the A41.
- 6.1.9 Of all of the accidents analysed 2 No. occurred in 2013, 5 No. in 2015 and 2 No. in 2017. The accident locations are all on the A41 Bicester Road with its junction with High Street and other local farm and business access points.
- 6.1.10 Given that over a five-year period there has been 7 No. 'slight' and 2 No. 'serious' accidents, it is seen that the 'serious' accidents occurred in 2015, it should also be noted that over a five-year period (60 months) there has been a total of 9 No. accidents that averages out to one every 6.5 months.
- 6.1.11 It is seen that the expected minimal increase in development traffic associated with the proposals is negligible and with the proposed upgrade of High Street / A41 priority junction to a roundabout, in terms of road safety, will be of no detriment to the current operation of the local road network.

## 7.0 Site Sustainability

### 7.1 Introduction

To demonstrate that Westcott Venture Park is accessible by a wide range of travel modes and that the predicted traffic generation is a robust case, in terms of additional vehicular trips on the network, Enzygo has assessed the existing site sustainability in accordance with Department for Transport's guidance on Transport Statements.

### 7.2 Public Transport – Accessibility

7.2.1 Bus stop 'pick up' points are located within the business park that provide access to the No.17 bus service. This service was introduced started on Monday 4th January and runs each hour connecting the business park to Aylesbury and Bicester, also stopping at Waddesdon and Kingswood. The service makes 12 journeys throughout the day, departing from Aylesbury bus station at 07:50 hours with the first stop at Westcott Venture Park at 8:25am by the new Century Court development and reaching Bicester just before 09:00 hours. Additional information on the No.17 route, within the business park site and outside of the site, is shown below in this chapter.

7.2.2 'Rockspring Property IMV' have constructed a dedicated footpath link that runs from the A41 bus stop to the site and further across their land to the local village. This provides safe access to the site for the local residents.

7.2.3 Other local bus stops on the A41 to the immediate east side of the A41 / High Street junction provide access to local bus services. The bus stops comprise a pole, flag and timetable information. The eastbound bus stop is set within the grass verge and the Bicester bound bus stop is mounted to the rear of the tarmacadam footpath.

7.2.4 The relocated bus stops are easily accessible via the footpath link that runs across the quadrant to the south east side of the A41 / High Street junction and the dropped crossings. Each bus stop has a layby that is clearly marked for buses to pull off and join the A41 in a safe manner.

7.2.5 Other local bus stops are located in Westcott village on Ashendon Road and provide access to the No. 16 service that is also summarised below. These bus stops can be accessed via the 'stopped up' highway on the south eastern boundary of the site.

### 7.3 Local Bus Services

7.3.1 Bus services 16, 17 and 18 all operate from the bus stops identified above and serve a range of local destinations that include Aylesbury, Waddesdon, Westcott, Steeple Claydon and Bicester. Some of the above services are more regular than others, although the timetable for service No. 17 has been provided to mainly cater for the Westcott Business Park staff and visitors.

7.3.2 The above services are provided by Langston and Tasker (Route 18) and Red Rose (Route 16/17) and they all serve the business park site.

7.3.3 Table 7.1 below outlines a summary of the all bus services currently operating local to the site which are accessible for staff and prospective tenants/visitors to access the site.

Table 7.1: Local Bus Services that serve Westcott Business Park

Service No. and Operator	Destinations	Frequency (Monday to Friday)	Core Frequency
16 Red Route	Aylesbury Bus Station, Waddesdon, Westcott Business Park, Kingswood, Grendon Underwood, Steeple Claydon and Marsh Gibbon Post Office.	Every 60 minutes between 05:40 and 18:30 hours.	Saturday – Service 16 every 2 hours No Sunday service.

[Source: Red Rose Travel/Timetables]

7.3.4 The client has paid for the provision of the No. 17 Red Rose Travel bus service that provides a regular, convenient method of travel from Westcott Business Park to a range of local destinations between Aylesbury and Bicester. Rockspring have demonstrated, through the provision of this service, that they are fully supportive of sustainable travel initiatives and if required the route can be extended with the business park to accommodate the new engine testing facility site. Appendix 5 outlines all bus timetables outlined above in Table 7.1.

#### 7.4 Rail Services

7.4.1 The closest rail station to the site is 'Aylesbury Vale Parkway' which lies in the north western area of Aylesbury and is located some 8.5km to the east of the site. This station lies on the London Marylebone via Amersham' line and only provides a limited service by Chiltern Railways. Off peak services operate every hour, whilst peak services operate every hour.

7.4.2 Aylesbury Rail Station is located some 12km to the east of the site in the centre of Aylesbury, which is the mainline station operating connections to further afield including 'Princes Risborough – Aylesbury' Line including London Underground. Whist Bicester Rail Station is located some 13km to the north west of the site. At peak times there are up to five trains per hour to London.

7.4.3 On the basis that Aylesbury Rail Station is easily accessible off Station Way West of the A41 which connects towards the site to the west. The postcode for the rail station is HP20 1RU. The site is located in relation to the other local stations as shown below in Figure 7.1:

Figure 7.1 – Aylesbury Rail Station Location

Preceding station	National Rail	Following station
Terminus	Chiltern Railways London to Aylesbury Line	Aylesbury
Windsor	Chiltern Railways Varsity Line	Aylesbury

[Source: [https://en.wikipedia.org/wiki/Aylesbury\\_Vale\\_Parkway\\_railway\\_station](https://en.wikipedia.org/wiki/Aylesbury_Vale_Parkway_railway_station)]

7.4.4 The station is located near to Aylesbury Bus Station and currently provides connection with the No.16 bus service.

7.4.5 The rail station can be accessed on bike or via numerous local bus services. The station has approximately 150 No. sheltered cycle parking spaces allocated in stands, with lockers that are located near the main car park.

7.4.6 Chiltern Railways are the station operator. The car parking area is open 24 hours a day between Monday and Sunday with 302 No. car parking spaces available, with free parking available for disabled customers. Wheelchair users may require assistance using car equipment at the station.

7.4.7 The ticket office is open between the hours of 06:00 – 19:10 (Monday to Friday), 06:40 – 18:10 (Saturday) and 08:10 – 17:40 on Sundays.

7.4.8 The station facilities include pay phones, WiFi, CCTV, refreshments, waiting rooms, toilets and baby changing. Staff help is available for accessibility and mobility issues with ramps provided although step free access coverage is available.

#### 7.5 Public Rights of Way

7.5.1 In obtaining local public rights of way in the vicinity of the site from the Buckinghamshire County Council (BCC) interactive mapping portal, Figure 7.4 below outlines that there is a complex network of Public Rights of Way (PROW) local to the site and the village of Westcott.

7.5.2 There are also bridleway links that connect the PROW's as show in green below. There is a number of PROW's that run along the Westcott Business Park site boundaries and provide direct links onto High Street and the bus stops.

7.5.3 The PROW's also extend to all areas around the site stretching out towards Wotton Underwood, Ashendon, Upper Winchendon and Quainton to the north of the A41.

7.5.4 There is also a wide range of recreational walks that are available in and around the Westcott area of all varying lengths, gradients and difficulty. Below are a series of website links that provide more information on the local walking routes:



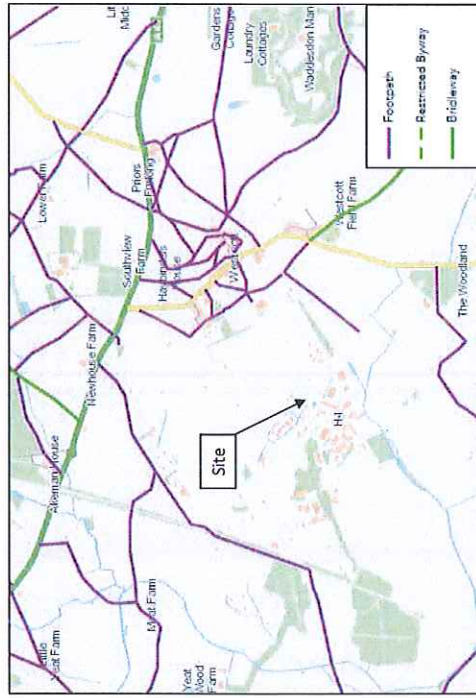
<http://www.walkinginbucks.co.uk/avlesbury.php>

<https://www.buckscc.gov.uk/services/environment/public-rights-of-way/public-rights-of-way-map/>

<http://www.ramblers.org.uk/go-walking/find-a-walk-or-route.aspx?group=BU03&tab=walks>

<https://www.buckscc.gov.uk/environment/rights-of-way/exploring-the-countryside/simply-walk/>

Figure 7.4– Existing Public Rights of Way within the Vicinity of the Site



[[www.Buckscc.gov.uk/website/](http://www.Buckscc.gov.uk/website/)]

## 7.5 Cycling Routes

7.5.1 As the site is located in a rural location the number of cycle routes available that run from the local villages and towns is limited.

7.5.2 There are a number of local bridleways that run from the A41 in a northerly direction towards Shipton and in a north easterly direction towards Upper Winchendon. The bridleways are shown in green on Figure 7.4 above.

7.5.3 The A41 is a relatively busy road and novice cyclists are advised to use the bridleways and not the main highways. Experienced cyclists can use the A41 and High Street to access the site from the local villages and towns as the topography is relatively flat and, due to the alignment of the highways, the forward visibility is good.

7.6.4 The websites identified above provide additional information on the available cycle routes in the Westcott and Aylesbury area.

7.6.5 Former Planning Policy Guidance Note 13 stated that cycling has the 'potential to replace short car journeys, particularly those under 5 kilometres. The distance equates to a journey time of around 25 minutes, while cycling at a leisure speed of 12 kilometres per hour. Advanced cyclists who tend to travel up to 5km to their place of work or for leisure can access the local villages, although Aylesbury and Bicester are approximately 10 kilometres in each direction on the A41.

## 7.7 Local Facilities

7.7.1 As the site is situated in a rural location the availability of many local facilities is limited. Directly outside of the security gatehouse on the business park access road is a café that provides snacks and drinks and an outdoor seating area. There is also a rest room for long distance drivers with showers that are available to use free of charge and a shop that is open all hours.

7.7.2 The meeting room facility offers a pleasant professional setting and is available free of charge to all Westcott businesses from two to 12 people. The room is fully equipped with free internet access. There are a number of local public houses that serve food and drink on the A41.

## 8.0 Summary and Conclusions

### 8.1 Introduction

8.1.1 At the request of the 'Rockspring Property IM', Enzygo has been commissioned to prepare a Transport Statement to support a planning application for proposed highway junction improvement works to mitigate against the slight increase in traffic at the A41 / High Street junction.

8.1.2 This report outlines the baseline conditions surrounding the site including details of the proposed phased development within Westcott Venture Park and the inclusion of the predicted traffic generated by the Greatmoor Waste Management Facility. The report also outlines the existing operational junction impact of the development flows at the Site Access and High Street priority and 'A41 and High Street' priority junctions for 2018, 2023 and 2028 with development scenario's.

### 8.2 Summary of Transport Statement

8.2.1 The TS has demonstrated the following:

- The development is seen to generate approximately 200 Full Time Employee (FTE) jobs in the construction of the facility at its peak, and 200 FTE jobs during on-going operation.
- Prior to the introduction of any development traffic in 2022, the A41 and High Street priority junction outlines ratio to flow (RFC) values above the 0.850 capacity threshold figure with excessive queuing;
- Mitigation to the priority junction involved widening of the A41. Modelling outputs resulted in 2022 future base flows causing the mitigated priority junction to operate over capacity. Therefore, a roundabout option was investigated.
- The proposed four arm roundabout has been designed in accordance with DMRB Volume 6, Section 2, Part 3 TD16/07 and addresses concerns raised in the Stage 1 Road Safety Audit.
- It is seen that the addition of the development traffic for all of the scenarios modelled up to and including the 2028 Future + Development traffic scenario, that there is a marginal effect on operational capacity and that the proposed roundabout junction will operate well below capacity;
- The latest road accident data from BBC shows that there have been nine recorded accidents within the identified search area with the latest five-year period. Following the Stage 1 RSA, it is concluded that the slight increase in the predicted development traffic will be negligible and will have no impact, in highway safety terms, on the operation of the A41 and the local highway network; and

- Bus stop 'pick up' points are located within the business park that provide access to the extensive No.17 bus service which is a reliable service for staff and visitors;

### 8.3 Conclusion

8.3.1 This TS demonstrates that the proposed highway mitigation works, in the form of a new four arm roundabout, at the A41 / High Street junction will easily accommodate the increase in traffic generated by the Westcott Venture Park site and the Greatmoor Waste Management Facility and the increase in base traffic levels.

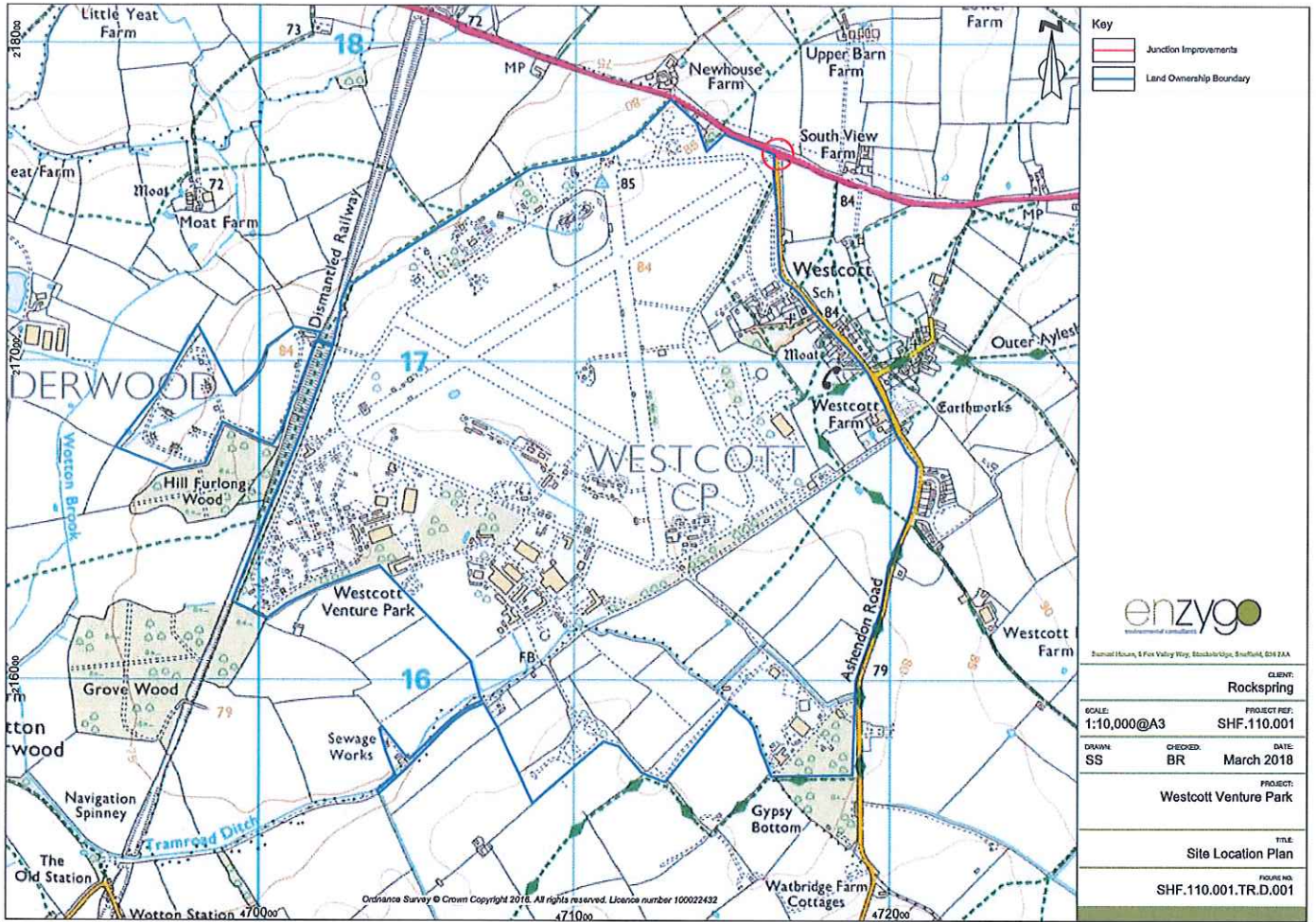
8.3.2 Having undertaken all the necessary investigation work in accordance with DfT's guidance for a Transport Statement and BCC requirements, Enzygo cannot see any highway or transport reasons why the proposed highway improvement works should not be granted planning permission.

**APPENDICES**

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**Appendix 1 – Site Location Plan**

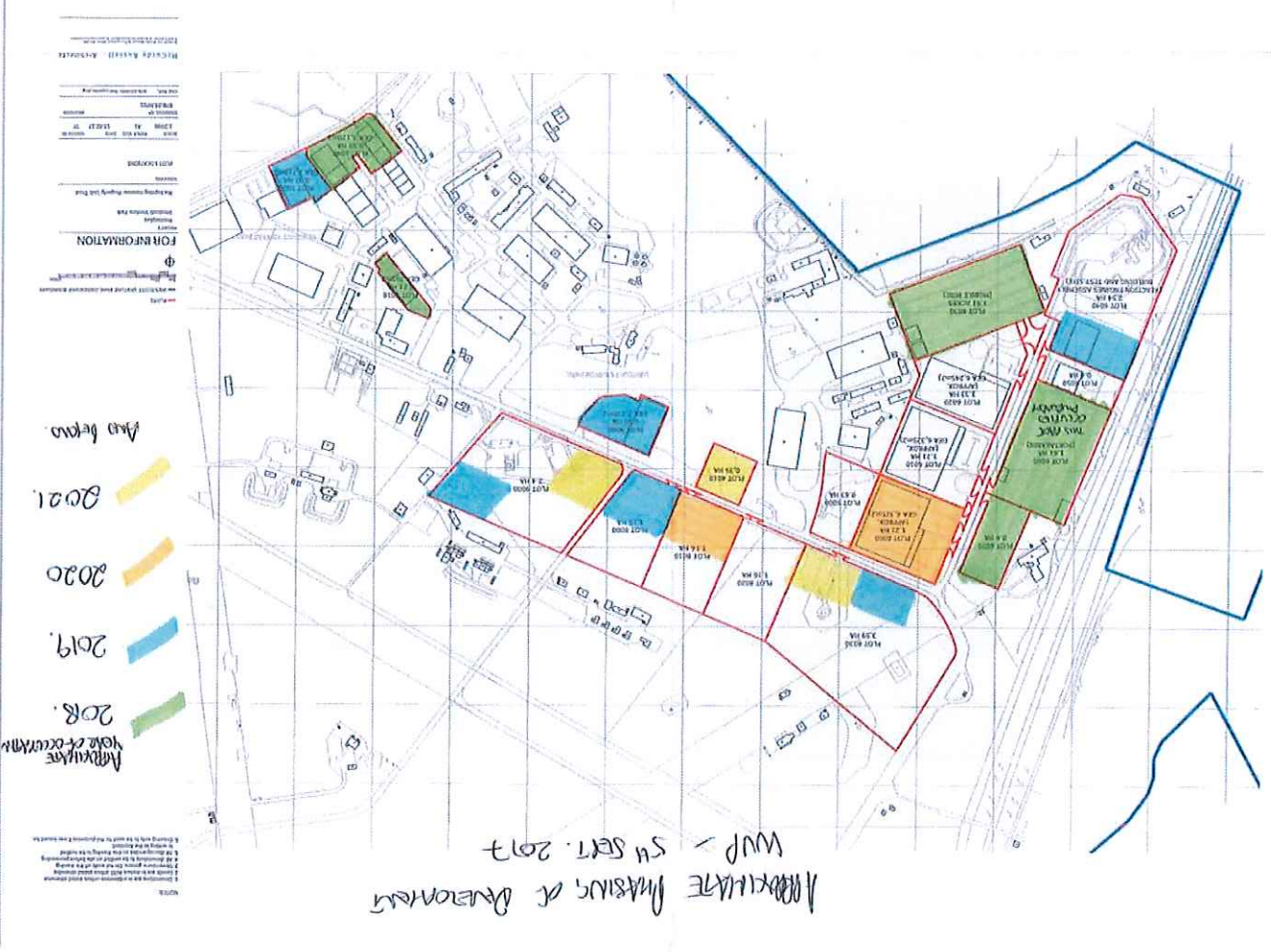
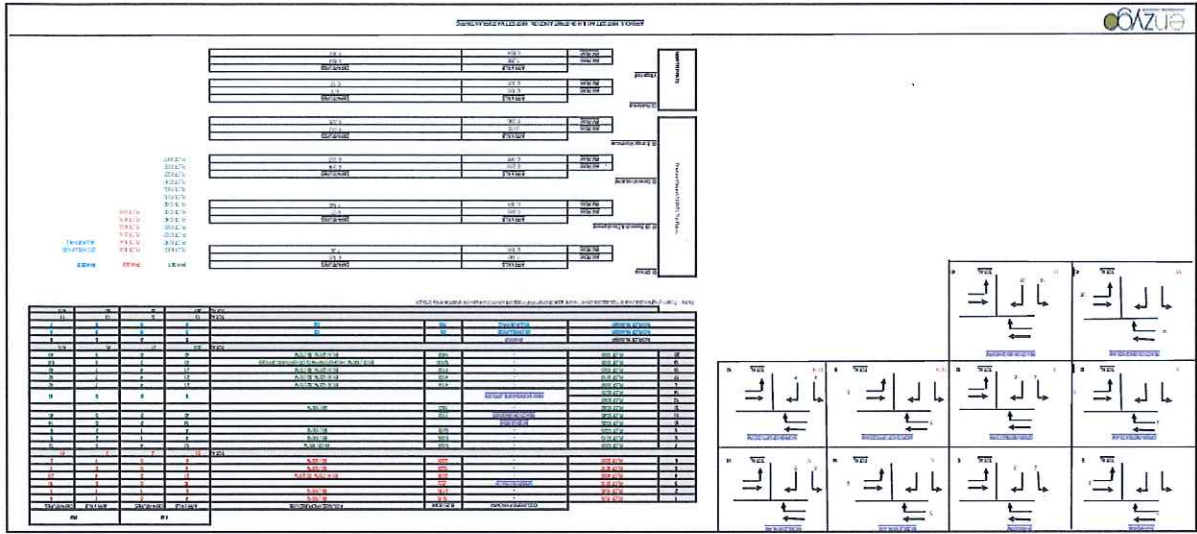
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Key	
	Junction Improvements
	Land Ownership Boundary
<small>Enzygo House, 5 Fox Valley Way, Stockley/Village, Stratford, SH16 2AA</small>	
CLIENT:	Rockspring
SCALE:	PROJECT REF: SHF.110.001
1:10,000@A3	
DRAWN:	CHECKED:
SS	BR
DATE:	March 2018
PROJECT:	Westcott Venture Park
TITLE:	Site Location Plan
FIGURE NO:	SHF.110.001.TR.D.001

Appendix 2 – Proposed Site Phasing

SHF.110.001.TR.R.001 Proposed Highway Improvement Works on A41, Westcott Venture Park, Westcott



**Transport for Buckinghamshire**



**Stage 1 ROAD SAFETY AUDIT REPORT.**

**A41 / High Street, Westcott.  
Proposed Roundabout junction.  
Westcott Venture Park.**



# Transport for Buckinghamshire



Simon Dando • Contract Director • TFB • County Hall  
Walton Street • Aylesbury • Buckinghamshire • HP20 1UY

## Contents:

1. Introduction.
2. Documents and Methodology.
3. Road Safety Audit.
4. Audit Statement.
5. Plan with problem locations.

## Stage 1 ROAD SAFETY AUDIT REPORT.

### A41 / High Street, Westcott. Proposed Roundabout junction. Westcott Venture Park

To: Barry Roberts - Director of Traffic and Transportation, Enzygo Ltd.

From: Peter Chapman – Collision investigation officer, Network Safety Team, Transport for Buckinghamshire.

Date: 27/12/2017

Tel Ext: 01296-382438

## ROAD SAFETY AUDIT.

### 1. INTRODUCTION

- 1.1 This report results from a request from Enzygo Ltd, Sheffield for a Stage 1 Road Safety Audit of a proposed new roundabout at the junction of the A41 and High Street, Westcott.
- 1.2 To the southwest of this junction is Westcott Venture Park. This ex-airfield has a number of plots with a range of tenants from car storage to rocket testing. There is a 5 year development plan with potential increased traffic flows to and from the park. Part of the expansion issues relate to the lack of capacity at the A41/High Street access with a proposed roundabout to accommodate the increase in turning movements at the junction into and out of the park onto the A41. The predicted traffic flows at the site are predominantly express delivery vans with a small % of HGV's that access a waste site within the park.
- 1.3 The A41 is a main rural arterial road subject to the national speed limit. High street at its northern end is also subject to the national speed limit. No changes to speed limits are proposed as part of the initial design. The junction is currently a priority 'T' junction with a

right turn lane within central cross-hatching for eastbound vehicles on the A41.

- 1.4 Turning counts supplied, dated 5<sup>th</sup> July 2016, indicate turning movements between 07.00 and 10.00 hrs. and 16.00 and 19.00 hrs. on a weekday (Tuesday).

Totals combined for both 3 hourly periods:

- A41 eastbound; 3156
- A41 westbound; 3020
- A41 eastbound, left into High St; 492
- A41 eastbound, right into High St; 318
- High St right onto A41; 517
- High St left onto A41; 360
- 417 vehicles entered the site and 523 vehicles left the site in total during these two time periods

The planning proposal seeks to increase the maximum daily vehicle trips to 600 daily HGV trips (300 in and 300 out). This would represent an increase of 324 movements (162 in and 162 out) over the current permitted maximum of 276 Movements (138 in / 138 out).

#### 1.5 Collision Data.

Collision data for the latest 5 years (01/9/2012 to 31/08/2017) indicates there have been 10 reported injury collisions within a 500m radius of the junction. Two of these were at the existing T-junction of A41 / High Street.

Details of these collisions are:

1. Monday 07/10/2013 1240 hrs. Slight  
Location: A41 Bicester Road J/W C66 High Street, Westcott  
Circs: Goods Vehicle travelling west towards Bicester, turned left onto High Street took the turn too wide collided with Goods vehicle 2 approaching the junction.
2. Thursday 12/03/2015 1640 hrs. Slight  
Location: A41 Bicester Road Westcott J/W C66 High Street  
Circs: Car waiting to enter A41 to travel SE towards Aylesbury, began to move out, stalled vehicle & made a second attempt without looking. Pulled out across path car 2 travelling NW towards Bicester.  
One collision was approx. 400 m west of the junction:
3. Saturday 20/06/2015 1840 hrs. Slight  
Location: A41 Bicester Road Westcott J/W Ent To New House Farm  
Circs: All vehicles travelling NW towards Kingswood, Car 2 slowed intending to turn right into farm entrance, Car 1 travelling behind failed to slow in time swerved to avoid collision hit offside Car 2, Car 3 travelling behind Car 1 braked but unable to stop hit rear of Car 1 pushing car 1 across carriageway into farm entrance.  
The other 7 collisions were to the east of the junction:
4. Wednesday 22/05/2013 1030 hrs Slight  
Location: A41 Bicester Road J/W Ent To On Yer Bike, Westcott  
Circs: Car 1 travelling W towards Waddesdon followed by Car 3. Car 1 crossed central white line intending to turn right into on yer bike, Car 2 travelling opposite direction towards Aylesbury swerved to avoid car 1 lost control & skidded into offside of Car 3.

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5. Monday 11/11/2013 1124 hrs Slight  
Location: A41 Bicester Road J/W Ent To Ubr Industrial Park, Aylesbury  
Circs: Goods vehicle turned right out of UBF across path Car 2 travelling E towards Aylesbury.

6. Friday 08/05/2015 1127 hrs Slight  
Location: A41 Bicester Road Westcott j/w ent to upper barn farm industrial estate.  
Circs: Both vehicles travelling W towards Bicester, Car 2 stationary waiting to turn right into Industrial estate hit in rear by car 1 failed to slow in time.

7. Wednesday 24/06/2015 1835 hrs Serious  
Location: A41 Bicester Road Westcott (Loc Tkn From Map Ref)  
Circs: Car 1 travelling E towards Aylesbury on a left hand bend, driver crossed carriageway collided with offside car 2 travelling opposite direction, car 2 left carriageway to the offside. Car 1 then collided head on with car 3 travelling W behind car 2.

8. Monday 17/08/2015 1500 hrs Serious  
Location: A41 Bicester Road Westcott Approx 500m E High Street  
Circs: Car 1 (police) on blue light travelling W towards Bicester, car 3 travelling opposite direction slowed, motorcycle travelling behind car 3 hit rear of car 3.

9. Sunday 19/02/2017 1130 hrs Slight  
Location: A41 Bicester Road Westcott Aprx 100m E Ent To 'On Yer Bike'.  
Circs: Both vehicles travelling W towards Bicester, car hit rear of pedal cycle causing cyclist to fall

10. Monday 03/04/2017 0803 hrs Slight  
Location: A41 Bicester Road Westcott J/W Ent To On Yer Bike  
Circs: All vehicles travelling W towards Bicester. Car stat intending to turn right into premises, two vehicles stopped behind, car following failed to slow in time hit rear of queue pushing cars in front together.

Rear shunts with unexpected turns appear to be a common factor in these collisions which may be mitigated by the upgrading of this junction to a roundabout. Also, there are no reported collisions at the relatively new roundabout further west at Woodham.

#### 1.5 The Safety Audit was carried out by:

Peter Chapman, MCHT, MScPSA (Audit Team Leader)  
HE Approved RSA Certificate of Competency (2013).  
Collision Investigation & Analysis Officer, Network Safety Team, Transport for Buckinghamshire.

Sue Brown, MCHT (Audit Team Member)  
Team Leader, Network Safety Team, Transport for Buckinghamshire.

1.5 The examination has been carried out with the sole purpose of identifying any features of the site that raise road safety concerns. No members of the audit team have been involved in the design of the scheme.

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## 2. Documents and Methodology

2.1 The audit was undertaken with reference to a site visit and the following documents and drawings;

- A TFB Road safety Audit Request / audit brief form. This indicated that there are no departures from standard.
- Drawing No. CRM.110.004.TR.D.001 Rev (none shown). Dated June 2017. Proposed preliminary A41 & West Street Roundabout Design.
- Drawing No. CRM.110.004.TR.D.001 Rev (none shown). Dated Dec 2017. Proposed preliminary A41 & West Street Roundabout Design. Indicating swept path tracking diagrams.
- Junction Traffic counts dated 5<sup>th</sup> July 2016 for peak hours 07.00 – 10.00 and 16.00 – 19.00.
- 'Arcady' roundabout assessment dated 14/12/2017.

2.2 Following a desktop examination of the plans provided, a site visit was carried out by both members of the audit team on Tuesday 19<sup>th</sup> December 2017 between 11:00hrs and 12:00hrs. The weather conditions were dry and overcast with light traffic.

2.3 The audit has been based on the principles contained within the Buckinghamshire County Council Road Safety Audit Policy, The Highway Advice note HD 19/15 (Road Safety Audit) of the Highways Agency's Design Manual for Roads and Bridges (DMRB) and the CIHT Road Safety Audit Guidelines 2008. The scheme has been examined, and this report compiled, only with regard to the safety implications for road users of the scheme as presented. It has not been examined or verified for compliance with any other standards or criteria. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. Any audit comments should not be construed as implying that a technical audit has been undertaken in any respect.

2.4 The format of this report has potential safety problems identified as **Problem** normally with a **Recommendation** of action. In addition, other pertinent safety matters that the auditor thinks are important will be mentioned by way of **Comment**. The order of concerns does not indicate the degree of safety concern.

2.5 Any recommendations included within this report should not be regarded as being prescriptive design solutions to the problems raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, in accordance with HD19/15, and in no way imply that a formal design process has been undertaken. There may be alternative methods of addressing a problem which would be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.

2.6 Previous Safety Audits

None known.

## 3. ROAD SAFETY AUDIT - ITEMS RESULTING FROM THIS INSPECTION.

3.1 A41 / High Street. South east hedge line.

**PROBLEM**  
Restricted forward visibility between vehicles on High Street and A41 westbound.

### **SUMMARY**

Visibility for drivers waiting at the new junction on High Street is likely to be obstructed across the SE corner by the hedge line around the adjoining field and a straight hedge closer to the carriageway. Whilst the 15m visibility from entry is achieved on High Street approach, drivers waiting at this junction may not see vehicles approaching from the east on the A41 who may not slow or stop, given the advance visibility towards eastbound A41 traffic. This may lead to High Street vehicles pulling out as a vehicle emerges into sight from their right onto the roundabout resulting in side impact collisions or loss of control under braking.

### **RECOMMENDATION**

Reduce the vegetation / hedge line on this corner to provide adequate visibility.

3.2 A41 eastbound approach towards the roundabout.

### **PROBLEM**

Restricted forward visibility.



### **SUMMARY**

The eastbound approach to the proposed roundabout is subject to the national speed limit and rises to a brow followed by slight left hand bend. Although Arcady program modelling indicates minimal delays and queuing, as a main arm of the roundabout drivers will need to give way to vehicles entering the roundabout to their right from the site access road. Traffic counts indicate, unsurprisingly, that the ahead movement on the A41 is the prime movement and this is likely, at times, to result in some queuing towards the bend and brow. Vehicles may fail to see the rear of any queue resulting in late and sudden braking leading to loss of control and/or rear shunt collisions, currently seen at other junctions at this location.

RECOMMENDATION

Improve the forward visibility by cutting back the hedge line on the northern side of the carriageway.  
Reposition the roundabout further south to straighten the approach path (whilst retaining the entry path curvature and deflection).  
Install high friction surfacing to this and other approaches.

3.3 LOCATION

PROBLEM

A41 westbound entry.  
Excessive /acute entry angle.

SUMMARY

The entry angle and inside kerb radius appear excessive on the approach particularly for those turning left onto High Street. This manoeuvre has been involved in a previous collision within the latest 5 years and one just beyond the 5 years (Dec 2011). The difference in levels / crossfall may also raise the risk of vehicles making a tight left turn with an adverse camber losing control or overturning given the potential high approach speeds.  
This approach angle may also affect lane discipline, with westbound drivers in the inside lane, intending to take the second left exit into the Venture Park, inclined to encroach into lane 2 as they negotiate the roundabout taking a straight line between the approach and their exit. This leads to a potential risk of side swipe collisions.

RECOMMENDATION

Reduce the kerb radius to relax the entry angle and allow a less severe angled left turn.

3.4 LOCATION

PROBLEM

A41 / High Street  
Difference in levels between High Street / Venture Park and A41 carriageway.



SUMMARY

The level of the High Street approach and the Venture Park access road are lower than the main carriageway. If these levels remain when tying in the two southern approaches there is likely to be an adverse camber for those traveling from east to west through the roundabout or turning right from A41 to the access road. This will increase the risk of loss of control given the additional forces acting on the nearside tyres and suspension, or

RECOMMENDATION

result in a large heavy goods or agricultural vehicle overturning. This crossfall may also affect the drainage within the circulatory carriageway resulting in ponding or flooding which again will result in the risk of loss of control collisions or side wipe collisions between vehicles alongside each other.

Check levels at detailed design to ensure levels are not excessive leading to an adverse camber and drainage is adequate and effective.

3.5 LOCATION

PROBLEM

A41 / High Street  
Recognition of the roundabout junction during the hours of darkness.

SUMMARY

This section of the A41 is unlit. An unlit roundabout may not be recognised as drivers approach, resulting in sudden and late braking at high speeds when traffic is lighter, with loss of control and potential impact with the roundabout at speed.

RECOMMENDATION

Provide central lighting on the roundabout. This also applies consistency along the route with the existing nearby roundabout to the west.

3.6 LOCATION

PROBLEM

A41 roundabout circulatory carriageway and approaches.  
Large vehicles overrunning adjacent lanes.

SUMMARY

The tracking diagram indicates swept paths of an articulated HGV 3 axled tractor unit with a 3 axled trailer. Overrun areas have been provided but some of these tracked paths encroach into the adjacent lane. The Access Road northbound approach has been tracked off of the proposed carriageway and is likely that this vehicle on the proposed route will overrun the opposite carriageway. The site visit indicated that the High Street and A41 are heavily used by heavy goods vehicles, of varying gross vehicle weights, and agricultural vehicles. The swept path analysis reveals a danger of side swipe collisions or sudden braking caused by large vehicle overrunning the adjacent lane causing impact between two vehicles side by side, or impact with the roundabout or other street furniture.

RECOMMENDATION

Revise the roundabout geometry and lane widths to accommodate the path of two large vehicles alongside each other. If this cannot be achieved, single lane approaches on some or all arms may be an alternative.

3.7 LOCATION

PROBLEM

A41, east and west two lane approaches  
2 lane approach designation

SUMMARY

The preliminary design indicates 2 lane approaches on the A41 and 1 lane exits. Drivers approaching should therefore be directed into one lane for the ahead movement and one lane for a turning movement. This may prove difficult to designate the two