OUGHTIBRIDGE MILL

Breathing New Life into this Former Industrial Site

Transport Assessment

March 2016

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Proposed Residential Development, Oughtibridge Mill, Oughtibridge

Transport Assessment

March 2016

PROPOSED RESIDENTIAL DEVELOPMENT
OUGHTIBRIDGE MILL,
OUGHTIBRIDGE

CEG

TRANSPORT ASSESSMENT

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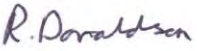
Report prepared by	Robbie Donaldson		18/03/2016
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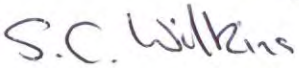
Overview by	Stuart Wilkins		18/03/2016

CONTENTS

APPENDICES

Appendix BGH1	Site Location Plan
Appendix BGH2	Parameters Plan
Appendix BGH3	2015 Existing Surveyed Peak Hour Traffic Flows
Appendix BGH4	2015 Existing Junctions 8 Modelling Outputs
Appendix BGH5	Personal Injury Accident Data
Appendix BGH6	TRACC Walking Catchment Plan
Appendix BGH7	TRACC Cycling Catchment Plan
Appendix BGH8	Sheffield Cycle Map – North West
Appendix BGH9	TRACC Public Transport Catchment Plans
Appendix BGH10	2021 'Growthed' Traffic Flows
Appendix BGH11	Committed Development Traffic Flows
Appendix BGH12	2021 Base Traffic Flows
Appendix BGH13	2021 Base Junctions 8 Modelling Outputs
Appendix BGH14	Site Access with Visibility
Appendix BGH15	Proposed Footway Widening Scheme
Appendix BGH16	TRICS Data
Appendix BGH17	Development Traffic Distribution Percentages
Appendix BGH18	Development Generated Traffic Flows
Appendix BGH19	2021 Predicted Traffic Flows
Appendix BGH20	2021 Predicted Junctions 8 Modelling Outputs

1.0 INTRODUCTION

Background

1.1 Bryan G Hall has been appointed by CEG to prepare a Transport Assessment (TA) to accompany a planning application at the former Oughtibridge Mill site in Oughtibridge, Sheffield. The planning application is for the demolition of existing buildings and structures and erection of residential development (Use Class C3), with means of site access including a new vehicular bridge and a pedestrian/cycle bridge across the River Don, and associated landscaping and infrastructure works.

1.2 A Transport Assessment Scoping Note (report ref. 15-215-003.03) was submitted to Sheffield City Council (SCC) in November 2015. The purpose of the Scoping Note was to define the extent of the TA for agreement with officers of the Local Planning and Highway Authority. This TA is therefore in line with the information set out within the submitted Scoping Note.

1.3 An initial appraisal of the site concluded that the provision of a new vehicular bridge over the River Don, and a revised site access junction is required to facilitate satisfactory access to the development site. The appraisal also indicated other minor works that would assist in the enhancing the sustainable provision for the site including a separate foot/cycle bridge over the river with footway link to the south east of the site to reduce the walk time to Oughtibridge, footway widening along the A6102 and improved bus stop facilities.

1.4 A Transport Environmental Impact Assessment Screening Note was prepared for the site in November 2015, which summarised the proposed means of access to the site by all modes, the scope of assessment and predicted trip generation, and summarised information relating to a Travel Plan and construction traffic. The note concluded that based on the predicted trip generation for the site, the thresholds requiring an EIA were not breached on Langsett Road North in the vicinity of the site access. It was also concluded that it would be highly unlikely that the thresholds would be breached further afield from the site access once the development generated flows have been distributed.

The Site

1.5 The site is located to the east of the A6102 and to the north of Oughtibridge. The site is bounded by the A6102 to the south and west and by woodland to the north and east. A site location plan is attached at **Appendix BGH1**.

1.6 It is proposed to construct up to 320 residential dwellings on the former Oughtibridge Mill site. A copy of the parameters plan is attached at **Appendix BGH2**.

1.7 The site will be accessed off the A6102 Langsett Road North via a new ghost island right turn lane junction, located approximately 40 metres to the north of the existing site access priority junction, which will be closed. There is an existing bridge over the River Don within the site, which is not considered to be suitable to serve residential development on the site. This bridge will therefore be removed, and a new replacement bridge will be constructed in its vicinity.

1.8 The site is on the boundary (defined by the River Don) of both Sheffield City Council (SCC) and Barnsley Metropolitan Borough Council (BMBC). Both authorities have therefore been consulted as part of the planning application. BMBC have sought to delegate their decision making powers to SCC being the main point of contact for issues arising within the TA, given that there are no road junctions in the vicinity of the site under their control.

Transport Assessment Content

1.9 The TA will deal comprehensively with all transport issues raised by the scheme and will be based on national guidance set out in the March 2014 updated Planning Practice Guidance Notes entitled 'Transport evidence bases in plan making' and 'Travel plans, transport assessments and statements in decision taking'. Reference will also be made to relevant local guidance as set out by SCC.

1.10 The TA will consider the transport implications of the proposals, consider travel by sustainable modes and identify any residual impacts together with appropriate mitigation measures.

1.11 Following this introduction, the TA is split into the following sections:

Section 2 sets out the relevant transport-related planning policies and guidance;

Section 3 provides a description of the setting of the site and the highway network in the vicinity of the proposed development. This section also considers the current traffic use and road safety characteristics of the local highway network;

Section 4 describes the accessibility of the site in terms of sustainable modes of transport;

Section 5 provides details of the base operating conditions, including committed developments, on the local highway network in the vicinity of the site;

Section 6 describes the development proposals; estimates the generated trips and distributes them onto the local highway network;

Section 7 provides details of the impact of the traffic generated by the proposed development on the local highway network in the vicinity of the site; and

Section 8 provides a summary and draws conclusions as to the results of the study.

2.0 RELEVANT NATIONAL AND LOCAL PLANNING POLICY

National Planning Policy Framework, March 2012

2.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how they are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development, which the document indicates should be seen as a 'golden thread' running through the decision making process (NPPF para 14).

2.2 Within the overarching roles that the planning system ought to play, the NPPF indicates that there are a set of core land use planning principles which should underpin the decision making process (NPPF para 17). Specifically in relation to transport these principles include:

- Actively managing patterns of growth to make the fullest possible use of public transport, walking and cycling, in addition to focussing significant development in locations which are or can be made sustainable.

2.3 The NPPF indicates that all developments that generate significant amounts of movement should be supported by a Transport Assessment and the decision making process 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; and
- Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development, which should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe (NPPF para 32).

2.4 The decision making process should also ensure that developments which generate significant movements are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised (NPPF para 34).

2.5 Development should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, developments should be located and designed where practical to, inter alia:

- Give priority to pedestrian/cycle movements and have access to high quality public transport facilities;
- Create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones; and
- Consider the needs of people with disabilities by all modes of transport. (NPPF para 35)

2.6 The NPPF indicates that a key tool to facilitate this will be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan (NPPF para 36). The application for this development is accompanied by a Framework Travel Plan.

2.7 Planning policies should aim for a balance of land uses within their area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities (NPPF para 37).

Planning Practice Guidance

2.8 The Department for Transport web-based resource Planning Practice Guidance (March 2015) contains the chapter "Travel plans, transport assessments and statements in decision-taking." With reference to the NPPF statement that 'all developments that generate significant amounts of transport movement should be supported by a Transport Statement or Transport Assessment', the guidance advises that local planning authorities must make a judgement as to whether a development proposal would generate significant amounts of movement on a case by case basis.

2.9 In paragraph 13 the guidance stipulates that in order to determine whether a Transport Assessment or Statement will be needed for a proposed development, local planning authorities should take into account the following considerations:

- The Transport Assessment and Statement policies (if any) of the Local Plan;
- The scale of the proposed development and its potential for additional trip generation (smaller applications with limited impacts may not need a Transport Assessment or Statement);
- Existing intensity of transport use and the availability of public transport;
- Proximity to nearby environmental designations or sensitive areas ;
- Impact on other priorities/strategies (such as promoting walking and cycling);

- The cumulative impacts of multiple developments within a particular area; and
- Whether there are particular types of impacts around which to focus the Transport Assessment or Statement (e.g. assessing traffic generated at peak times).

2.10 Given the quantum of development proposed it is considered that a Transport Assessment is warranted and has been produced in accordance with a scope agreed with SCC.

Local Policy

South Yorkshire Local Transport Plan (2011-2026)

2.11 The Sheffield area is covered by the third South Yorkshire Local Transport Plan (SYLTP3) covering the period 2011-2026. The Plan objectives, set out with reference to the national shared priorities for transport agreed by the Department for Transport and the Local Government Association, are for the transport system to support the economic growth of Sheffield City Region (SCR), enhance social inclusion and health, reduce emissions from vehicles and to make transport increasingly safe and secure.

2.12 The issues to be tackled by SYLTP are delivering accessibility, tackling congestion, providing safer roads, better air quality and effective asset management. The LTP recognises that Travel Plans have a part to play in dealing with three of these five issues. Along with this TA, a Framework Travel Plan which addresses these requirements has also been prepared to accompany the planning application for the proposed development.

Sheffield UDP and Core Strategy

2.13 The Sheffield Unitary Development Plan (UDP) was drawn up in the 1990s and adopted in 1998. The UDP sets out policies with the aim of benefitting the people who live in Sheffield, and those who visit the city.

2.14 The Core Strategy document (March 2009) sets out a spatial planning framework for the Sheffield district, aiming to assist with managing growth in a sustainable manner, whilst balancing the overall scale, distribution and phasing of development in the area.

2.15 With specific regard to transportation, Policy CS51 states that:

The Strategic priorities for transport are:

- *Promoting choice by developing alternatives to the car*

- *Maximising accessibility*
- *Containing congestion levels*
- *Improving air quality*
- *Improving road safety*
- *Supporting economic objectives through demand management measures and sustainable travel initiatives.*

2.16 With specific regard to new roads, Policy CS59 states that:

> *There will be no significant increase in the physical capacity of the city's highway network. New through-roads will only be built, and existing roads improved, in a limited number of circumstances, to:*
>
> - *Improve the movement of public transport, cyclists or pedestrians; or*
> - *Enable regeneration; or*
> - *Reduce serious traffic impacts on the local environment where there is no sustainable alternative option.*

2.17 The themes of accessibility, congestion, air quality and road safety accord with national policy for transport planning and the South Yorkshire Local Transport Plan.

3.0 THE EXISTING SITUATION

The Application Site

3.1 The former Oughtibridge Mill site currently comprises various industrial buildings with associated plant and servicing areas. An application was submitted to Sheffield City Council in August 2013 (ref: 13/02864/DPN) for the demolition of industrial buildings on the site. It was determined that "Prior Approval" was not required for the demolition works, provided that the works are carried out in accordance with the details submitted with the application. A plan showing the site location relative to the surrounding highway network is shown on the plan attached at **Appendix BGH1**.

3.2 Existing access to the site is via a priority T-junction with the A6102 Langsett Road North. Internally, there is currently a steel bridge over the River Don with a total width of around 5.6 metres, which includes a footway of 1.4 metres in width. The footway is separated from the carriageway by an "Aco" type safety barrier. There is sufficient carriageway width over the bridge to allow one way vehicular movement only, facilitating access between the eastern and western halves of the site.

The Local Highway Network

3.3 The A6102 is a local non-primary route which runs between Greenhill to the south of the site and Deepcar to the north. In the vicinity of the site it is a two-way, single carriageway road with a general carriageway width of 9.4 metres, it is subject to a 40mph speed limit and is street lit. There is a footway on the north eastern (site) side which varies in width from around 1 metre to upto 4 metres in one area to the south east of the existing site access junction towards Oughtibridge, and a footway with a width of approximately 1.8 metres to the north west of the existing site access junction towards Wharncliffe Side. There are intermittent lengths of footway on the south western side of the A6102.

3.4 To the south east of the site, the A6102 Langsett Road North runs in a south eastern direction parallel to the River Don as the speed limit increases from 40mph to 50mph. The A6102 Langsett Road North then passes Cockshutts Lane with the speed limit reducing from 50mph to the 30mph speed limit that continues through the centre of Oughtibridge approximately 40 metres before the Cockshutts Lane junction. Cockshutts Lane provides access to existing residential properties to the south of the site.

3.5 Approximately 40 metres to the south of Cockshutts Lane, the A6102 Langsett Road North passes a priority junction with the A6102 Orchard Street. The A6102 Orchard Street/A6102 Langsett Road North junction forms the northern end of the gyratory arrangement in place within the centre of Oughtibridge, which operates as a clockwise one way traffic system. The southbound carriageway runs more or less parallel to the northbound carriageway, although residential dwellings and some local facilities are located in between the two. The southbound carriageway is mostly single lane, with designated stretches of layby parking to the western side of the carriageway associated with the residential dwellings in the middle of the gyratory. The northbound carriageway is mostly two lanes, with some on street parking associated with the local facilities which effectively narrows the available carriageway to single lane in some areas.

3.6 Approximately 100 metres to the south east of the A6102 Orchard Street/A6102 Langsett Road North junction, the A6102 Orchard Street forms a priority T-junction with Forge Lane. Forge Lane provides access to a small number of residential dwellings and sports playing fields.

3.7 Immediately to the south of the junction with Forge Lane, the A6102 Orchard Street forms a priority crossroads junction with Station Lane and Bridge Hill. Station Lane to the east of the A6102 provides access to a number of residential areas before becoming Oughtibridge Lane, as the road continues towards Grenoside. Bridge Hill to the west of the A6102 accommodates one-way traffic for vehicles travelling east only, as part of the gyratory arrangement with Oughtibridge. It is accessed only from the northbound carriageway of the A6102 Langsett Road North.

3.8 To the south of the junction with Station Lane and Bridge Hill, the A6102 Low Road continues for a distance of approximately 450 metres, providing access to residential properties located within the gyratory system. The A6102 Low Road then becomes the A6102 Forge Hill towards the southern end of the gyratory arrangement, where it forms a priority junction with the A6102 Langsett Road South. Two-way traffic flow is re-established as the A6102 Langsett Road South continues to the south of this junction leading away from Oughtibridge. Alternatively, traffic can turn right from the A6102 Forge Hill to join the north bound side of the gyratory, also known as the A6102 Langsett Road South.

3.9 To the north of the junction with the A6102 Forge Hill, the A6102 Langsett Road South provides frontage access to residential properties and a number of local facilities and small businesses. Approximately 450 metres to the north of the junction with the A6102 Forge Hill, the A6102 Langsett Road South narrows to a single lane as it forms a priority crossroads junction with Bridge Hill and Church

Street. Bridge Hill to the east provides access to local facilities and meets the southbound side of the A6102 at the A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill priority crossroads junction. To the west of the A6102 Langsett Road South, Church Street provides access to residential dwellings and Oughtibridge Primary School.

3.10 To the north of the priority crossroads junction with Bridge Hill and Church Street, the A6102 Langsett Road South becomes the A6102 Langsett Road North. The carriageway widens back into two lanes at this point as it heads towards the northern end of the gyratory system, with the right hand lane for traffic turning right onto the southbound A6102 Orchard Street, and the left hand lane continuing north as two-way traffic flow is re-established along the A6102 Langsett Road North back towards the site.

3.11 To the north west of the site, the A6102 Langsett Road North runs in a north western direction, providing access to a number of residential dwellings before passing Brightholmlee Lane and Dyson Holmes Lane through a priority crossroads junction in Wharncliffe Side. Dyson Holmes Lane is a lightly used access to a single residential dwelling and associated rural/agricultural land. Brightholmlee Lane provides access to the majority of residential dwellings in Wharncliffe Side, as well as local facilities including Wharncliffe Side Primary School.

3.12 The A6102 Main Road continues to the north of the Brightholmlee Lane junction in Wharncliffe Side, with the speed limit increasing from 40mph to the national speed limit (60mph) approximately 260 metres to the north of Brightholmlee Lane. The A6102 Main Road continues for approximately a further 3 kilometres to the north, forming a number of junctions with rural access roads, before the speed limit reduces from the national speed limit to 30mph on approach to the B6088 Manchester Road/A6102 Vaughton Hill signalised junction in Deepcar. From this junction, the B6088 Manchester Road continues to the west towards Stocksbridge, and the A6102 Vaughton Hill continues north providing access to the A616(T), part of the strategic road network.

Scope of Assessment

3.13 In the previously submitted TA Scoping Note agreed with SCC, it was confirmed that the scope for assessment would be limited to the following junctions:

- Site Access/A6102 Langsett Road North right turn ghost island junction;
- A6102 Main Road/Brightholmlee Lane/Dyson Holmes Lane priority crossroads junction;
- A6102 Vaughton Hill/B6088 Manchester Road signalised junction;

- A6102 Langsett Road/Cockshutts Lane priority T-junction;
- A6102 Langsett Road/Orchard Street priority junction;
- A6102 Orchard Street/Forge Lane/Station Lane/A6102 Low Road/Bridge Hill priority cross roads junction;
- A6102 Langsett Road North/Bridge Hill/A6102 Langsett Road North/Church Street priority cross roads junction; and
- A6102 Forge Hill/A6102 Langsett Road South priority junction.

3.14 For modelling purposes, the five arm A6102 Orchard Street/Forge Lane/Station Lane/A6102 Low Road/Bridge Hill priority cross roads junction has been treated as two junctions from this point forward in this TA. These two junctions will be referred to as:

- Forge Lane/A6102 Orchard Street priority T-junction; and
- A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill priority cross roads junction.

3.15 It is considered that the traffic generated by a proposed development will not have a material impact on the operation of a junction if the predicted additional development generated traffic at that junction is less than 30 two-way trips per hour. As is demonstrated in Section 7 of this TA the traffic generated by the proposed development is predicted to be less than 30 two-way trips per hour at the following junctions, therefore their capacity has not been assessed:

- A6102 Main Road/Brightholmlee Lane/Dyson Holmes Lane priority crossroads junction; and
- A6102 Vaughton Hill/B6088 Manchester Road signalised junction.

Traffic Surveys

3.16 Traffic surveys were undertaken on Wednesday 14th October 2015 at the existing junctions listed at paragraph 3.13, as agreed with SCC's highways department.

3.17 The surveys were undertaken between the hours of 7:00 am to 10:00 am and 4:00 pm to 7:00pm. From the survey data, it has been established that the morning and evening peak hours for traffic movements on the local highway network are 7:45am to 8:45am and 5:00pm to 6:00pm respectively. The existing 2015 peak hour surveyed traffic flow diagrams are attached at **Appendix BGH3**.

2015 Existing Operating Conditions

3.18 The existing junctions at which the proposed development generated traffic is predicted to have an impact of greater than 30 two-way vehicles per hour are listed for clarity:

- Cockshutts Lane/A6102 Langsett Road North priority T-junction;
- A6102 Langsett Road/Orchard Street priority junction;
- Forge Lane/A6102 Orchard Street priority T-junction;
- A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill priority crossroads junction;
- A6102 Langsett Road North/Bridge Hill/A6102 Langsett Road North/Church Street priority crossroads junction; and
- A6102 Forge Hill/A6102 Langsett Road South priority junction.

3.19 The 2015 existing peak hour operational characteristics of the junctions listed above have been assessed using the PICADY element of the Junctions 8 modelling software. Full outputs are attached at **Appendix BGH4** and the results for each junction are presented and summarised in the following tables and accompanying text. For new junctions, an RFC of 0.85 is generally considered to provide an indication that the junction would provide an economic level of capacity provision. At existing junctions in urban areas, a value of RFC up to 1.00 is considered acceptable.

Table 3.1
Cockshutts Lane/A6102 Langsett Road North

Arm	Existing 2015 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Cockshutts Lane left out	0.01	0	0.02	0
Cockshutts Lane right out	0.21	0	0.11	0
A6102 Langsett Road North ahead and right in	0.01	0	0.02	0

3.20 As identified in Table 3.1, the results of the 2015 existing morning and evening peak hour analysis of the operation of the Cockshutts Lane/A6102 Langsett Road North priority T-junction show that the junction is currently operating well within capacity during both peak hours. The maximum RFC value of 0.21 occurs on Cockshutts Lane during the morning peak hour, with no queuing predicted.

Table 3.2
A6102 Langsett Road North/A6102 Orchard Street

Arm	Existing 2015 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
A6102 Langsett Road North right turn to A6102 Orchard Street	0.19	0	0.07	0

3.21 The results of the 2015 existing morning and evening peak hour analysis of the operation of the A6102 Langsett Road North/A6102 Orchard Street priority junction show that the junction is currently operating well within capacity during both peak hours. The maximum RFC value of 0.19 occurs on the A6102 Langsett Road North on the right turn arm to the A6102 Orchard Street during the morning peak hour, with no queuing predicted.

Table 3.3
Forge Lane/A6102 Orchard Street

Arm	Existing 2015 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Forge Lane left out to A6102 Orchard Street	0.04	0	0.02	0

3.22 The results of the 2015 existing morning and evening peak hour analysis of the operation of the Forge Lane/A6102 Orchard Street priority T-junction show that the junction is currently operating well within capacity during both peak hours. The maximum RFC value of 0.04 occurs on Forge Lane during the morning peak hour, with no queuing predicted.

Table 3.4
A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill

Arm	Existing 2015 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Station Lane left out to Low Road	0.63	2	0.77	3
Bridge Hill ahead	0.43	1	0.29	0
Bridge Hill right out	0.41	1	0.32	0

3.23 The results of the 2015 existing morning and evening peak hour analysis of the operation of the A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill priority crossroads junction show that the junction is currently operating within capacity during both peak hours. The maximum RFC value of 0.77 occurs on Station Lane during the evening peak hour, with a maximum predicted queue length of 3 passenger car units (PCUs).

Table 3.5
A6102 Langsett Road North/Bridge Hill/A6102 Langsett Road South/Church Street

Arm	Existing 2015 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Church Street left out and ahead	0.64	2	0.60	1
A6102 Langsett Road South right turn to Bridge Hill	0.21	0	0.20	0

3.24 The results of the 2015 existing morning and evening peak hour analysis of the operation of the A6102 Langsett Road North/Bridge Hill/A6102 Langsett Road South/Church Street priority crossroads junction show that the junction is currently operating within capacity during both peak hours. The maximum RFC value of 0.64 occurs on Church Street during the morning peak hour, with a maximum predicted queue length of 2 PCUs.

Table 3.6
A6102 Forge Hill/A6102 Langsett Road South

Arm	Existing 2015 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
A6102 Forge Hill right turn to A6102 Langsett Road South	0.38	1	0.56	1

3.25 The results of the 2015 existing morning and evening peak hour analysis of the operation of the A6102 Forge Hill/A6102 Langsett Road South priority junction show that the junction is currently operating within capacity during both peak hours. The maximum RFC value of 0.56 occurs on Forge Hill for the right turn movement to the A6102 Langsett Road South during the morning peak hour, with a maximum predicted queue length of 1 PCU.

Personal Injury Accidents

3.26 Details of the personal injury accidents that have occurred on the highway network, within the extents of the TA, have been obtained from SCC. The accident data has been obtained for the latest five year period available from January 2011 to December 2015. The accident data plan and commentary received from SCC are attached at **Appendix BGH5**. Table 3.7 summarises the personal injury accidents that have occurred within the area of assessment.

Table 3.7
Accident Data Summary for the Assessment Area

Junction/Link	Slight	Serious	Fatal	Total
A6102 Vaughton Hill/B6088 Manchester Road	2	0	0	**2**
A6102 Link from Deepcar to Wharncliffe Side	7	0	0	**7**
A6102 Main Road/Brightholmlee Lane/Dyson Holmes Lane	2	0	0	**2**
A6102 Link Wharncliffe Side to Cockshutts Lane	6	2	0	**8**
A6102 Langsett Road/Cockshutts Lane	2	0	0	**2**

Table 3.7
Accident Data Summary for the Assessment Area

Junction/Link	Slight	Serious	Fatal	Total
A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill	4	1	0	**5**
A6102 Langsett Road North/Bridge Hill/A6102 Langsett Road North/Church Street	1	0	0	**1**
A6102 Link to South of Church Street (Northbound)	2	0	0	**2**
A6102 Link to South of Station Lane (Southbound)	2	0	0	**2**
Total	**28**	**3**	**0**	**31**

3.27 The accident data summary at Table 3.7 shows that there have been a total of 31 personal injury accidents (28 slight and 3 serious) recorded in the assessment area in the five year period from January 2011 to December 2015.

3.28 On the A6102 link from Wharncliffe Side to the junction with Cockshutts Lane, two serious accidents have occurred within the last five years, both of which happened on the bend in the road to the south east of the site. The first serious accident involved a motorcycle colliding with a bus in wet/damp road conditions, for which the contributory factors are listed as slippery road, loss of control and road layout. Although the road layout is listed as a contributory factor, this is the only accident of its type to occur within the last five years, and clearly then the road geometry at this point is not resulting in multiple similar accident types.

3.29 The second serious accident on the A6102 bend occurred when a car being driven by an elderly driver drifted over the double white lines in the centre of the road, colliding with two oncoming vehicles. Contributory factors are listed as swerved, loss of control and disobeyed double white lines.

3.30 The third serious accident to be recorded occurred at the A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill priority crossroads junction, when a car travelling eastbound from Bridge Hill to Station Lane pulled out across the path of a cyclist travelling southbound through the junction. The contributory factor is listed as failed to look properly. Two other similar accidents resulting in slight injuries have occurred at this junction within the last five years.

3.31 In summary, the personal injury accident data shows that there are no significant reoccurring causation factors or locations relating to specific road safety issues on the local highway network. In view of this, and given the relatively low number of accidents recorded at each junction/link within the last five years, it is concluded that there are no apparent road safety issues on the highway network within the study area.

4.0 SITE SUSTAINABILITY

Pedestrian Accessibility

4.1 The Chartered Institute of Highways and Transportation (CIHT) publication 'Guidelines for Providing for Journeys on Foot' identifies that walking accounts for over a quarter of all journeys and four-fifths of journeys less than one mile (1.6km). Walking is also an essential part of public transport travel, bus stops usually being accessed on foot.

4.2 The CIHT Guidelines also describe 'acceptable' walking distances for pedestrians without any mobility impairment. The recommended desirable, acceptable and preferred maximum walking distances for commuting/school and other journeys, such as retail/shopping, are shown in Table 4.1 below.

Table 4.1: Recommended Walking Distances

	Trip Purpose	
	Commuting/School	**Other Journeys (Retail/Shopping)**
Desirable Maximum Distance	500 metres	400 metres
Acceptable Maximum Distance	1,000 metres	800 metres
Preferred Maximum Distance	2,000 metres	1,200 metres

4.3 The walking accessibility plan attached at **Appendix BGH6** has been prepared using the Visography TRACC software, which also includes the location of a number of local facilities which are considered to be accessible on foot. It shows that there are a number of local facilities in Oughtibridge to the south of the site within a maximum walking distance of 1,200 metres, with additional facilities including primary schools located within a maximum walking distance of 2,000 metres in Oughtibridge and also Wharncliffe Side.

4.4 Facilities in Oughtibridge include Oughtibridge Primary School, a number of restaurants/public houses, a pharmacy, a doctor's surgery, a post office, a barber's and hair salon, a convenience store and a number of other small businesses. Additional facilities in Wharncliffe Side include Wharncliffe Side Primary School, two public houses and a post office/convenience store.

4.5 Future residents would access Wharncliffe Side to the north west of the site via the A6102, where a continuous footway on the north eastern side of the carriageway provides access to Wharncliffe Side village centre. A signalised pedestrian crossing is provided on the A6102 Main Road, just to the south of the junction with Brightholmlee Lane, to assist pedestrians accessing the local facilities. An uncontrolled pedestrian dropped crossing point with tactile paving is also provided across Brightholmlee Lane at the junction with the A6102 Main Road.

4.6 There are footways provided on both sides of Brightholmlee Lane. The footway on the north eastern side provides pedestrian access to the post office/convenience store, and the footway on the south western side provides pedestrian access to Wharncliffe Side Primary School, via an uncontrolled pedestrian dropped crossing point with tactile paving across Dixon Drive.

4.7 Residents at the proposed development site seeking to walk to Oughtibridge to the south east of the site would walk south east along the footway on the north eastern side of the A6102 Langsett Road North. This provides a continuous pedestrian route to the centre of Oughtibridge, although the footway width along this route varies in width from around 1 metre to upto 4 metres, and pedestrians currently have to negotiate a small side road which does not have dropped kerbs or tactile paving. Improvements to the footway in this area are proposed as part of a footway widening scheme to improve pedestrian access to Oughtibridge, along with an additional pedestrian access in the form of a footbridge over the River Don at the eastern extents of the site, both of which are detailed in Section 6 of this TA.

4.8 Once in the centre of Oughtibridge, there are a number of pedestrian crossing facilities to assist pedestrian access to the local facilities. These include zebra crossings on A6102 Low Road to the south of the junction with Station Road and Bridge Hill, on A6102 Langsett Road South to the south of the junction with Church Street and Bridge Hill and on Church Street to the west of the junction with Bridge Hill and A6102 Langsett Road South. Uncontrolled pedestrian dropped crossing points with tactile paving are also provided at a number of locations including Bridge Hill, Forge Lane and Station Lane.

4.9 To access Oughtibridge Primary School from the footway on the eastern side of the A6102 Langsett Road North, pedestrians would continue onto Orchard Street and cross the carriageway using the existing pedestrian dropped crossing point at the A6102 Langsett Road North/Orchard Street junction. Pedestrians then walk south along the footway on the eastern side of the continuation of the A6102 Langsett Road. At the A6102 Langsett Road North/Bridge Hill/A6102 Langsett

Road North/Church Street junction, pedestrians would cross the road to access the footway on the northern side of Church Street via an existing pedestrian dropped crossing point.

4.10 Continuing west on Church Street, there is an existing zebra crossing to assist pedestrians crossing to the footway on the southern side of Church Street. Pedestrians can access Oughtibridge Primary School via a public footpath which runs to the south from Church Street in between houses flanked by Church Close and Poplar Road. Existing pedestrian dropped crossing points are provided over junctions with Glossop Row and Church Close. Alternatively, pedestrians can continue along Church Street and access the school via the main vehicular and pedestrian access on Naylor Road.

Cycle Accessibility

4.11 The cycling accessibility plan attached at **Appendix BGH7** has been prepared using the Visography TRACC software. Cycling has clear potential to substitute for short car trips, particularly those within 5km - 8km and to form part of a longer journey by public transport. The development site is located within 8km of areas including north-western Sheffield, Hillsborough, Chapeltown and Stocksbridge. Sheffield City Centre could still act as a draw for residents working in Sheffield to cycle to work, despite sitting just outside the 8km catchment to the south east of the site.

4.12 As shown on the Sheffield Cycle Map – North West attached at **Appendix BGH8**, there is no existing provision for cyclists on the A6102 in the immediate vicinity of the site access. To the south east of the site, there is a traffic free cycle route alongside the River Don, running parallel to the A6102. The route continues to the south east onto a signed route by way of a shared footway/cycleway on Beeley Wood Lane, becoming Clay Wheels Lane as it continues towards the A61 Penistone Road.

4.13 There is then a break in formal provision for cyclists before National Cycle Network (NCN) route number 627 can be accessed just after the junction with Beulah Road, by way of a traffic free segregated footway/cycleway on the eastern side of the A61. This route continues along the eastern side of the A61 Penistone Road towards the existing provision for cyclists in the centre of Sheffield.

4.14 Although there is no existing provision for cyclists on the A6102 in the immediate vicinity of the site access, the cycle route provision to the south east of the site towards Sheffield City Centre is considered to have the potential to encourage residents to adopt cycling as a realistic mode of travel to and from the site.

4.15 NCN route 627 also runs through Wharncliffe Woods to the north-east of the site. Locally the route links Hillsborough to the south-east with Deepcar, Penistone and Millhouse Green to the north-west. An existing access to the route is provided via Platts Lane, which forms a priority junction with Oughtibridge Lane approximately 1 kilometre to the south east of the site as the crow flies.

Public Transport Accessibility

4.16 The public transport accessibility plans attached at **Appendix BGH9** have been prepared using the Visography TRACC software. The plan indicates that there are a large number of employment areas accessible using public transport including buses, trams and trains, within a 60 minute catchment in both the morning and evening peaks. These areas include Sheffield City Centre, Hillsborough, Ecclesfield, Tankersley, Chapeltown, Stannington and Stocksbridge. Also accessible in the AM peak is Thurgoland, Silkstone Common and the outskirts of Penistone, whilst Langsett, Hoyland and Birdwell are accessible in the PM peak. The accessibility plans have been prepared using a maximum distance to first stop of 500 metres and a maximum interchange distance of 400 metres.

Bus

4.17 The A6102 is currently an operational bus route, with various bus stops located along its length. The closest bus stops to the development site are located within 50 metres of the existing site access. These bus stops are located an approximate walking distance of 400m from the centre of the site, which is the preferred walking distance to bus stops identified in the CIHT guidance.

4.18 The north westbound bus stop offers timetable information as well as a shelter, whereas the south-eastbound stop has timetable information and a flag pole only. Details of the buses which serve these stops are shown in Table 4.2.

Table 4.2

Summary of Existing Bus Services

Route Number	Operator	Route Description	Frequency		
			Monday - Saturday	Evening	Sunday
57	Stagecoach	Sheffield – Hillsborough – Worrall – Oughtibridge – Deepcar - Stocksbridge	30mins	60mins	60mins
SL – Supertram Link	Stagecoach	Middlewood – Oughtibridge – Deepcar – Stocksbridge	10mins	20mins	20mins
766	Brightbus	Wharncliffe Side – Oughtibridge – Bradfield School	School Service		
781	Brightbus	Stocksbridge, Deepcar, Wharncliffe Side, Oughtibridge – Notre Dame School	School Service		

4.19 Table 4.2 shows that there are frequent existing services operating in close proximity to the site, serving destinations including Sheffield, Hillsborough, Deepcar, Stocksbridge and Middlewood. The SL service provides a regular, direct link to the nearest Supertram station to the south east site in Middlewood, which is also accessible via the number 57 service.

4.20 The nearest secondary school to the site is Bradfield School, located in Worrall to the south of the site, to the south west of Oughtibridge. The 766 bus service provides access to Bradfield School from the site, serving the school via a dedicated bus terminus. The nearest stops to the site are also served by the 781 school bus service which provides access to an alternative high school, stopping immediately outside the Notre Dame School on Fulwood Road to the west of the centre of Sheffield.

Supertram

4.21 The nearest Supertram stop to the site in Middlewood, accessible via the bus services described in the previous paragraphs, is on the Supertram yellow route, which operates a 10 minute service frequency during the peak periods between Middlewood and Meadowhall, via Sheffield City Centre. There is a park and ride facility at the station with 343 car parking spaces and cycle parking provision available. A summary of the Supertram Yellow Route service is provided in Table 4.3.

Table 4.3

Summary of Existing Supertram Service

Route Number	Operator	Route Description	Frequency		
			Monday - Saturday	Evening	Sunday
Yellow Route	Stagecoach	Middlewood – Hillsborough – University of Sheffield – City Centre – Nunnery Square – Sheffield Arena – Centertainment - Meadowhall	10mins	20mins	20mins

4.22 The summary information in Table 4.3 shows that the Supertram Yellow Route provides a good quality, regular public transport service into the centre of Sheffield, linked to the site via the SL and 57 bus services. This would encourage residents at the site to use public transport as their preferred travel mode into Sheffield City Centre, for employment, retail and leisure journeys alike.

Rail

4.23 The nearest railway station to the site is Sheffield station located in the city centre, and is directly served by the Supertram Yellow Route, which provides a link to the proposed development site via the SL and 57 bus services as described previously.

4.24 Sheffield station provides a comprehensive service timetable to a large number of major destinations including Leeds, Liverpool, Manchester, Newcastle, London, Birmingham, Edinburgh, Doncaster, York, Derby and Leicester.

4.25 At Sheffield station, there are 400 sheltered cycle parking spaces, 10 bicycles available for hire and a pay on foot 24 hour multi storey car park with 678 spaces. The station also has a number of other facilities, such as shops, toilets and refreshment facilities.

Travel Planning

4.26 The accessibility of the site will be assisted by the implementation of a site specific Travel Plan, to further the aims and objectives of local transport policy by promoting the use of alternative modes of transport and reducing the need to travel by private car. A Framework Travel Plan has been prepared and will be submitted with the application alongside this TA.

Conclusion

4.27 By providing adequate connections to the existing services and facilities, including public transport services and walking and cycling facilities, will ensure that the site accords with the aims of the NPPF and local transport policies.

4.28 The evidence provided in this section of the TA demonstrates that the site is accessible by sustainable modes such as walking, cycling and public transport, thereby helping to reduce vehicular trips to and from the site and the associated impact on the local road network.

5.0 BASE OPERATING CONDITIONS

Growth Factors

5.1 It has been agreed with SCC that the junctions within the scope of assessment will be assessed for a future year of 2021 (5 years post application).

5.2 The relevant NTM growth factors have been obtained for the area of Oughtibridge and Wharncliffe Side, and these growth factors have been applied to the 2015 existing traffic flows attached at **Appendix BGH3**. The growth factors and resulting 2021 'growthed' traffic flows are attached at **Appendix BGH10**.

Committed Development

5.3 After a preliminary review of committed developments on both the Sheffield City Council and Barnsley Metropolitan Borough Council planning portals, it was agreed with SCC that the traffic predicted to be generated by the following committed developments should be considered as part of the junction assessments:

- 14/00318/FUL – Application to construct 460 dwellings, 2.5 miles north of the site at Deepcar. Decision currently pending; and
- 14/03782/FUL – Application to construct 11 dwellings, 0.5 miles north of the site at Wharncliffe Side. Planning permission has been granted.

5.4 The proposed residential development site in Deepcar has been subject to previous approvals for mixed use residential and employment development, however it is understood that the developer wishes to consolidate the proposals. Although not yet approved, SCC has advised that a revised application is likely to be approved in the near future. Therefore it has been agreed with SCC that the more recent 14/00318/FUL application is considered in terms of committed development traffic.

5.5 A Transport Technical Note was submitted to support the planning application at Deepcar, which is dated December 2013 and was prepared by the formerly titled Hyder Consulting (UK) Limited (now known as Arcadis Consulting (UK) Limited). The report assessed the traffic impact of up to 460 residential dwellings on the site, and contains predicted development generated traffic flows within the report.

5.6 Although a more recent Transport Technical Note dated December 2015 has been prepared for a further reduced proposal of 417 dwellings on the site, there is no

traffic flow data publicly available on the SCC planning portal. Therefore, this TA has undertaken a pro rata exercise to take into account the reduced quantum of committed development flows for 417 dwellings on the Deepcar site.

5.7 The approved residential development site in Wharncliffe Side has not been included as further committed development in this TA, this is because it is considered that the traffic flows predicted to be generated by 11 dwellings would be minimal, and would not be perceptible on the local highway network.

5.8 Bryan G Hall are also aware of a mixed use development in Stocksbridge on the former Outo Kumpu/Tata Steel site. It is understood that the proposals originally consisted of a mixed use development including a supermarket, employment (office) and residential units. However, it is understood that the development proposals no longer include the supermarket and the office element has been reduced. A review of the trip generation for the residential element (140 units) of the scheme has been undertaken and it has been found that less than 15 two way trips are predicted to travel to /from south along Manchester Road. As a result these have not been included within this TA.

5.9 The committed development flows for 460 dwellings at the Deepcar residential development site for both the morning and evening peaks are attached at **Appendix BGH11**. These committed development flows have been added to the 2021 'growthed' traffic flows, resulting in the 2021 base traffic flows attached at **Appendix BGH12**.

2021 Base Operating Conditions

5.10 The 2021 base peak hour operational characteristics of the junctions within the scope of assessment have been assessed using the PICADY element of the Junctions 8 modelling software. Full outputs are attached at **Appendix BGH13** and the results for each junction are presented and summarised in the following tables and accompanying text.

Table 5.1
Cockshutts Lane/A6102 Langsett Road North

Arm	Base 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Cockshutts Lane left out	0.02	0	0.03	0
Cockshutts Lane right out	0.25	0	0.13	0
A6102 Langsett Road North ahead and right in	0.01	0	0.03	0

5.11 The results of the 2021 base morning and evening peak hour analysis of the operation of the Cockshutts Lane/A6102 Langsett Road North priority T-junction show that the junction is predicted to continue to operate well within capacity during both peak hours. The maximum RFC value of 0.25 is predicted to occur on Cockshutts Lane during the morning peak hour, with no queuing.

Table 5.2
A6102 Langsett Road North/A6102 Orchard Street

Arm	Base 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
A6102 Langsett Road North right turn to A6102 Orchard Street	0.22	0	0.08	0

5.12 The analysis of the operation of the A6102 Langsett Road North/A6102 Orchard Street priority junction show that the junction is predicted to continue to operate well within capacity during both peak hours. The maximum RFC value of 0.22 is predicted to occur on the A6102 Langsett Road North, on the right turn arm to the A6102 Orchard Street during the morning peak hour, with no queuing.

Table 5.3
Forge Lane/A6102 Orchard Street

Arm	Base 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Forge Lane left out to A6102 Orchard Street	0.05	0	0.02	0

5.13 The Forge Lane/A6102 Orchard Street priority T-junction is predicted to continue to operate well within capacity during both peak hours. The maximum RFC value of 0.05 is predicted to occur on Forge Lane during the morning peak hour, with no queuing.

Table 5.4
A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill

Arm	Base 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Station Lane left out to Low Road	0.75	3	0.92	9
Bridge Hill ahead	0.53	1	0.33	1
Bridge Hill right out	0.50	1	0.37	1

5.14 The results of the 2021 base morning and evening peak hour analysis of the operation of the A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill priority crossroads junction show that the junction is predicted to continue to operate within capacity during the AM peak, but approaching capacity during the PM peak. The maximum RFC value of 0.92 is predicted to occur on Station Lane during the evening peak hour, with a maximum predicted queue length of 8 passenger car units (PCUs). This is a predicted increase in maximum queue length of up to 5 PCUs over the 2015 existing scenario.

Table 5.5
A6102 Langsett Road North/Bridge Hill/A6102 Langsett Road South/Church Street

Arm	Base 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Church Street left out and ahead	0.72	3	0.71	2
A6102 Langsett Road South right turn to Bridge Hill	0.23	0	0.22	0

5.15 The operation of the A6102 Langsett Road North/Bridge Hill/A6102 Langsett Road South/Church Street priority crossroads junction show that the junction is predicted to continue to operate within capacity during both peak hours. The maximum RFC value of 0.71 is predicted to occur on Church Street during the morning peak hour, with a maximum predicted queue length of 2 PCUs.

Table 5.6
A6102 Forge Hill/ A6102 Langsett Road South

Arm	Base 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
A6102 Forge Hill right turn to A6102 Langsett Road South	0.46	1	0.72	2

5.16 The results of the 2021 base morning and evening peak hour analysis of the operation of the A6102 Forge Hill/A6102 Langsett Road South priority junction show that the junction is predicted to continue to operate within capacity during both peak hours. The maximum RFC value of 0.72 is predicted to occur on Forge Hill for the right turn movement to the A6102 Langsett Road South during the morning peak hour, with a maximum predicted queue length of 2 PCUs.

6.0 DEVELOPMENT PROPOSALS

The Proposed Development

6.1 The proposals are for a residential development of up to 320 dwellings at the former Oughtibridge Mill site in Oughtibridge, Sheffield. A copy of the proposed parameters plan is attached at **Appendix BGH2**.

Vehicular Access

6.2 The site will be accessed off the A6102 Langsett Road North via a new ghost island right turn lane junction, located approximately 40 metres to the north of the existing site access priority T-junction, which will be closed. The drawing at **Appendix BGH14** illustrates the site access proposals, and shows the appropriate visibility splays for a 40 mph road of 120 metres in each direction, from a point 2.4 metres back behind the give way line. This level of visibility provision is the desirable minimum distance required for a 70 kph design speed, as set out in the Design Manual for Roads and Bridges.

6.3 As detailed in Section 3.0 of this TA, there is currently a steel bridge within the site over the River Don with a total width of around 5.6 metres, which includes a footway of 1.4 metres in width, facilitating access between the eastern and western halves of the site. Clearly, the existing bridge over the River Don would not be suitable to serve the proposed residential development. It is therefore proposed to remove the existing bridge and construct a new one in its vicinity. The new bridge will be capable of accommodating two-way vehicular traffic with a proposed carriageway width of 6 metres, plus footways/cycleways either side.

Pedestrian and Cycle Access

6.4 A 2 metre wide footway will be provided on one side of the carriageway of the proposed new access road into the site, with a 3 metre wide shared footway/cycleway on the opposite side, facilitating pedestrian and cycle access to the site from the A6102 Langsett Road North. The 2 metre wide footway and 3 metre wide shared footway/cycleway provision will continue into the site and across the new bridge over the River Don, in order to facilitate pedestrian and cycle access between the two halves of the site.

6.5 An additional pedestrian access will be provided to serve the site at its eastern extents from the footway on the northern side of the A6102 Langsett Road North. The location of the additional pedestrian access is indicatively shown on the proposed parameters plan attached at **Appendix BGH2**. The access will consist of

a foot/cycleway over the River Don, and will have a minimum width of 2 metres. This will become the primary access point for pedestrians accessing Oughtibridge.

6.6 It is noted that the footway on the north eastern side of the A6102 Langsett Road North to the south east of the site varies in width but is around 1 metre. Pedestrians also currently have to negotiate a small access which does not have dropped kerbs or tactile paving. A footway widening scheme is proposed to improve the pedestrian route to Oughtibridge, which will involve widening the existing footway to a width of 2 metres where possible, but ensuring that a minimum 7.3 metre wide carriageway width is maintained along the A6102 Langsett Road North. An illustrative plan showing the footway widening scheme proposals is included at **Appendix BGH15**.

6.7 As part of the development site access proposals, an uncontrolled pedestrian crossing facility will be provided to improve access to the existing bus stops northbound. This will include a central refuge island with dropped kerbs and tactile paving. The approximate location of the proposed pedestrian refuge island is shown on the proposed access drawing at **Appendix BGH14**.

6.8 In addition to the proposed pedestrian refuge island, the existing bus stop facilities at the nearest stops to the site, in the vicinity of the proposed site access will be upgraded. This will help to encourage residents to use public transport as their travel mode of choice. Any proposals to upgrade the existing bus stop facilities are to be agreed with SYPTE.

Servicing and Parking Provision

6.9 The proposed number of car parking spaces will be informed by the prevailing South Yorkshire standards for residential uses. Appropriate servicing access will be provided to each property for deliveries and refuse collection. These matters will be dealt within in full as part of any reserved matters planning application.

7.0 TRAFFIC IMPACT ON THE LOCAL HIGHWAY NETWORK

Trip Generation

7.1 Trip rates for the proposed development for the morning and evening peak hours have been determined through use of the industry standard TRICS database. The peak hour trip rates are summarised in Table 7.1 below, and the full TRICS outputs are included at **Appendix BGH16**.

Table 7.1: Trip Rates and Generation

		Trip Rates and Generation					
		Morning			Evening		
		In	Out	Two-Way	In	Out	Two-Way
Trip Rate	Houses Privately Owned	0.152	0.402	0.554	0.353	0.219	0.572
	Flats Privately Owned	0.062	0.267	0.329	0.247	0.103	0.350
Trip Generation	Houses Privately Owned (240 units)	49	129	178	113	70	183
	Flats Privately Owned (80 units)	5	22	27	20	8	28
	Total	41	118	160	104	61	165

7.2 The site would have historically generated a significant amount of trips given its former employment use, although it is acknowledged the site is now vacant and the traffic flows associated with the former use are not therefore inherent within the existing 2015 surveyed flows, no netting off of the historic use will be applied.

Trip Distribution

7.3 The likely distribution of the traffic predicted to be generated by the proposed development has been established using 2011 Census Data. The data for "Location of usual residence and place of work by method of travel to work (MSOA level)" has been obtained for the middle super output area of Sheffield 008, in which the site is situated. Using the data for car drivers only, the likely

percentage traffic distribution has been determined and is shown on the diagrams attached at **Appendix BGH17**.

7.4 The resulting assignment of development related traffic onto the surrounding highway network during the morning and evening peak hours is shown at **Appendix BGH18.**

7.5 The development generated traffic at **Appendix BGH18** has been added to the 2021 base flows at **Appendix BGH12** to provide the predicted traffic flows on the network in 2021, as shown on the diagrams at **Appendix BGH19**.

2021 Predicted Operating Conditions

7.6 The 2021 predicted peak hour operational characteristics of the junctions within the scope of assessment have been assessed using the PICADY element of the Junctions 8 modelling software. Full outputs are attached at **Appendix BGH20** and the results for each junction are presented and summarised in the following tables and accompanying text.

Table 7.1
Cockshutts Lane/A6102 Langsett Road North

Arm	Predicted 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Cockshutts Lane left out	0.02	0	0.03	0
Cockshutts Lane right out	0.27	0	0.15	0
A6102 Langsett Road North ahead and right in	0.02	0	0.03	0

7.7 The results of the 2021 predicted morning and evening peak hour analysis of the operation of the Cockshutts Lane/A6102 Langsett Road North priority T-junction show that the junction is predicted to continue to operate well within capacity during both peak hours, with the addition of proposed development generated traffic. The maximum RFC value of 0.27 is predicted to occur on Cockshutts Lane during the morning peak hour, with no queuing.

Table 7.2
A6102 Langsett Road North/Orchard Street

Arm	Predicted 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
A6102 Langsett Road North right turn to A6102 Orchard Street	0.22	0	0.08	0

7.8 The modelling of the operation of the A6102 Langsett Road North/A6102 Orchard Street priority junction show that the junction is predicted to continue to operate well within capacity during both peak hours, with the addition of proposed development generated traffic. The maximum RFC value remains unchanged from the 2021 base scenario at 0.22 predicted to occur on the A6102 Langsett Road North, on the right turn arm to the A6102 Orchard Street during the morning peak hour, with no queuing.

Table 7.3
Forge Lane/Orchard Street

Arm	Predicted 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Forge Lane left out to A6102 Orchard Street	0.06	0	0.02	0

7.9 As identified in Table 7.3, the results of the 2021 predicted morning and evening peak hour analysis of the operation of the Forge Lane/A6102 Orchard Street priority T-junction show that the junction is predicted to continue to operate well within capacity during both peak hours, with the addition of proposed development generated traffic. The maximum RFC value of 0.06 is predicted to occur on Forge Lane during the morning peak hour, with no queuing.

Table 7.4
Orchard Street/Station Lane/Low Road/Bridge Hill

Arm	Predicted 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Station Lane left out to Low Road	0.79	4	0.97	13
Bridge Hill ahead	0.55	1	0.34	1
Bridge Hill right out	0.52	1	0.37	1

7.10 The results of the 2021 predicted morning and evening peak hour analysis of the operation of the A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill priority crossroads junction show that the junction is predicted to continue to operate within capacity during both peaks, with the addition of proposed development generated traffic. The maximum RFC value of 0.97 is predicted to occur on Station Lane during the evening peak hour, with a maximum predicted queue length of 13 passenger car units (PCUs). The addition of the proposed development generated traffic is predicted to slightly increase the maximum RFC by 0.05, and an increase in queening of only 4 PCUs. Therefore the impact that the proposed development generated traffic is predicted to have on the junction is not considered to be material.

Table 7.5
A6102 Langsett Road North/Bridge Hill/ A6102 Langsett Road South/Church Street

Arm	Predicted 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Church Street left out and ahead	0.74	3	0.75	3
A6102 Langsett Road South right turn to Bridge Hill	0.23	0	0.22	0

7.11 The analysis of the operation of the A6102 Langsett Road North/Bridge Hill/A6102 Langsett Road South/Church Street priority crossroads junction show that the

junction is predicted to continue to operate within capacity during both peak hours, with the addition of proposed development generated traffic. The maximum RFC value of 0.75 is predicted to occur on Church Street during the morning peak hour, with a maximum predicted queue length of 3 PCUs.

Table 7.6
A6102 Forge Hill/ A6102 Langsett Road South

Arm	Predicted 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
A6102 Forge Hill right turn to A6102 Langsett Road South	0.49	1	0.78	3

7.12 The results of the 2021 predicted morning and evening peak hour analysis of the operation of the A6102 Forge Hill/A6102 Langsett Road South priority junction show that the junction is predicted to continue to operate within capacity during both peak hours, with the addition of proposed development generated traffic. The maximum RFC value of 0.78 is predicted to occur on Forge Hill for the right turn movement to the A6102 Langsett Road South during the morning peak hour, with a maximum predicted queue length of 3 PCUs.

7.13 The capacity of the proposed new site access junction with the A6102 Langsett Road North has been carried out for the 2021 predicted scenario, with the results summarised as follows.

Table 7.7
Site Access/A6102 Langsett Road North

Arm	Predicted 2021 Flows			
	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Site access left out	0.24	0	0.10	0
Site access right out	0.05	0	0.02	0
A6102 Langsett Road North ahead and right in	0.08	0	0.17	0

7.14 The results of the 2021 predicted morning and evening peak hour analysis of the operation of the proposed new site access junction with the A6102 Langsett Road

North show that the junction is predicted to operate within capacity during both peak hours. The maximum RFC value of 0.24 is predicted to occur on the site access arm during the morning peak hour, with no queuing.

Speed Limit

7.15 As described in Paragrpah 3.4 the speed limit changes from 40mph to 50mph to the south of the site access and then from 50mph to the 30mph in the vicinity of Cockshutts Lane. It is porposed that the speed limit be maintained at 40mph throughout the 50mph area. The introduction of the speed limit would need to be instigated by the Local Highway Authority given the need for a Traffic Regulation Order, but this would be supported by the applicant.

Conclusion

7.16 Following the junction capacity assessments, it is concluded that the junctions upon which the proposed development generated traffic is considered to have an impact, including the proposed new site access junction, will continue to operate within capacity at a future year of 2021.

8.0 SUMMARY AND CONCLUSIONS

8.1 Bryan G Hall has been appointed by CEG to prepare a Transport Assessment (TA) to accompany a planning application at the former Oughtibridge Mill site in Oughtibridge, Sheffield. The planning application is for the demolition of existing buildings and structures and erection of residential development (Use Class C3), with means of site access including a new vehicular bridge and a pedestrian/cycle bridge across the River Don, and associated landscaping and infrastructure works.

8.2 The site is located to the north of Oughtibridge. The site is bounded by the A6102 to the west and south and by woodland to the north and east. It is proposed to construct up to 320 residential dwellings at the former Oughtibridge Mill site in Oughtibridge, Sheffield.

8.3 The site will be accessed off the A6102 Langsett Road North via a new ghost island right turn junction, located approximately 40 metres to the north of the existing site access priority junction, which will be closed. There is an existing bridge over the River Don within the site, which is not considered to be suitable to serve residential development on the site. This bridge will therefore be removed, and a new replacement bridge will be constructed in its vicinity.

8.4 A 2.0 metre wide footway will be provided on one side of the carriageway of the proposed new access road into the site, with a 3 metre wide shared footway/cycleway on the opposite side. An additional pedestrian access in the form of a footbridge over the River Don will be provided to serve the site at its eastern extents.

8.5 A footway widening scheme is proposed to improve the pedestrian route to Oughtibridge, which will involve widening the existing footway on the north eastern side of the A6102 Langsett Road North to a width of 2.0 metres where possible, but ensuring that a minimum 7.3 metre wide carriageway width is maintained along the A6102 Langsett Road North.

8.6 As part of the development site access proposals, an uncontrolled pedestrian refuge island crossing facility will be provided to improve access to the existing bus stops. It may also be possible to upgrade the existing bus stop facilities at the nearest stops to the site, in the vicinity of the proposed site access.

8.7 Traffic surveys were undertaken at the junctions within the agreed survey scope. Morning and evening peak hours for traffic movements have been established, and the capacity of the junctions at which the proposed development generated

traffic is predicted to have a material impact (greater than 30 two-way trips) have been assessed for the 2015 existing scenario. All junctions assessed are found to be currently operating within capacity.

8.8 After analysis of personal injury accident data for the latest five year period available of January 2011 to December 2015, it has been concluded that there are no apparent road safety issues on the highway network within the study area.

8.9 This TA demonstrates that the site is accessible by sustainable modes such as walking, cycling and public transport, thereby helping to reduce vehicular trips to and from the site and the associated impact on the local road network, and according with the aims of the NPPF and local transport policies.

8.10 The 2015 existing traffic flows have been projected to a future year of 2021 using the relevant NTM growth factors, as agreed with SCC. Committed development generated traffic flows for the Deepcar residential development to the north of the site have been added to the 2021 'growthed' flows to obtain 2021 base flows. Junction capacity assessment for the 2021 base scenario showed that all junctions are predicted to continue to operate within capacity. The A6102 Orchard Street/Station Lane/A6102 Low Road/Bridge Hill priority crossroads junction is predicted to operate effectively at capacity during the PM peak, with a maximum RFC value of 0.99 predicted to occur on Station Lane.

8.11 The results of the junction capacity assessments for the 2021 predicted scenario show that all junctions upon which the proposed development generated traffic is considered to have an impact, including the proposed new site access junction, will continue to operate within capacity at a future year of 2021.

8.12 It is concluded that the site is accessible by sustainable modes of transport and that the on-site layout can satisfactorily accommodate the likely servicing and parking demands. The level of traffic generated by the proposed development will not have a material impact on the local highway network. There are therefore no transport reasons why the proposals should not be granted planning permission, subject to:

- the construction of a new right turn ghost island site access junction;
- the provision of a pedestrian crossing point to improve access to the existing bus stops;
- the possible upgrading of the existing bus stop facilities;
- the construction of the proposed footway widening scheme on the A6102 to the south east of the site; and
- the implementation of the Travel Plan.

APPENDIX BGH 1

Revision notes:

Rev:	Date:	Revision:

Drawing Number:
1526:01

Project:
Oughtibridge Mills

Date:
November 2015

Scale @ A2:
1:2500

Revision:
-

Client:
CEG

Drawing Title:
Location Plan

STEN Architecture Ltd
Suite 4, Unit 1,
Benton Office Park,
Bennett Avenue,
Horbury,
Wakefield,
WF4 5RA
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Facebook: stenarchitectureltd
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APPENDIX BGH 2

01 | USE AND DEVELOPMENT AREA

RESIDENTIAL DEVELOPMENT

OPEN SPACE

INDICATIVE VEHICULAR ROUTE OF PRIMARY ACCESS ROAD

INDICATIVE PEDESTRIAN ROUTES

INDICATIVE PEDESTRIAN / CYCLE ROUTE

STRATEGIC BREAK IN MASSING

NEW BRIDGE CROSSINGS OVER RIVER (INDICATIVE LOCATIONS ONLY)

NEW VEHICLE ACCESS POINT

NEW PEDESTRIAN LINK VIA NEW FOOTBRIDGE (INDICATIVE LOCATION)

WOODLAND

RIVER DON

LANGSETT ROAD NORTH

RAILWAY LINE

WOODLAND

Usher Wood

Quarry (disused)

Delf Hill

Hill Top

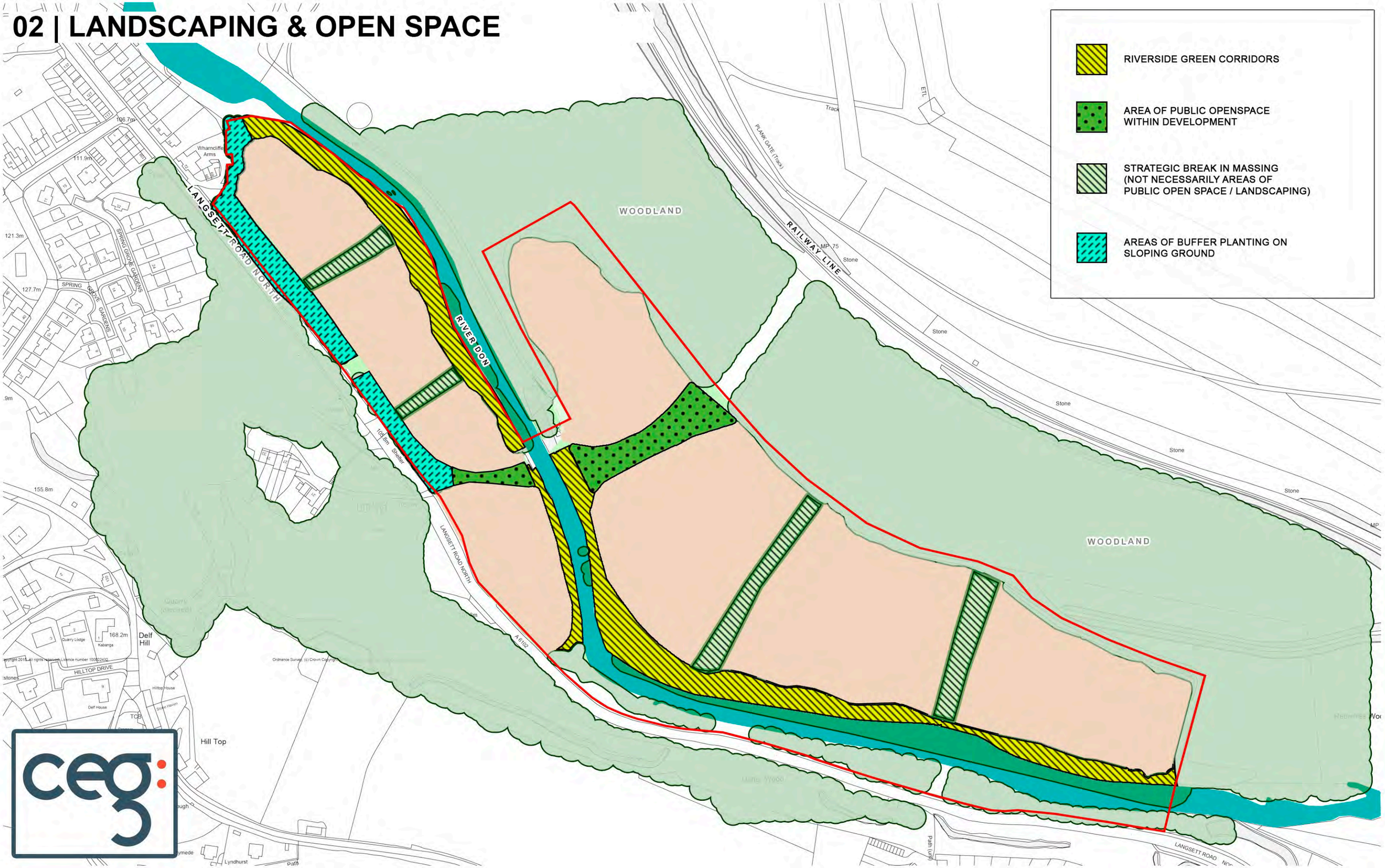
Drwg No: 1526:10

STEN ARCHITECTURE
STEN Architecture Ltd
Suite 4, Unit 1
Benton Office Park
Bennett Avenue
Horbury
WF4 5RA
TEL: 01924 669424

PARAMETER PLAN 01 | MARCH 2016 | 1:2500 @ A3

OUGHTIBRIDGE MILL

02 | LANDSCAPING & OPEN SPACE



Drwg No: 1526:11

STEN ARCHITECTURE
STEN Architecture Ltd
Suite 4, Unit 1
Benton Office Park
Bennett Avenue
Horbury
WF4 5RA
TEL: 01924 669424

PARAMETER PLAN 02 | MARCH 2016 | 1:2500 @ A3

OUGHTIBRIDGE MILL

03 | STOREY HEIGHTS

Drwg No: 1526:12

STEN ARCHITECTURE

STEN Architecture Ltd
Suite 4, Unit 1
Benton Office Park
Bennett Avenue
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WF4 5RA
TEL: 01924 669424

PARAMETER PLAN 03 | MARCH 2016 | 1:2500 @ A3

OUGHTIBRIDGE MILL

04 | DENSITY

MIXTURE OF LOWER AND MEDIUM DENSITY DEVELOPMENT AVERAGING BETWEEN 25-40 DPH

HIGHER DENSITY DEVELOPMENT AVERAGING BETWEEN 50-100 DPH

WOODLAND

LANGSETT ROAD NORTH

RIVER DON

RAILWAY LINE

WOODLAND

Drwg No: 1526:13

STEN ARCHITECTURE
STEN Architecture Ltd
Suite 4, Unit 1
Benton Office Park
Bennett Avenue
Horbury
WF4 5RA
TEL: 01924 669424

PARAMETER PLAN 04 | MARCH 2016 | 1:2500 @ A3

OUGHTIBRIDGE MILL

05 | ACCESS

PROPOSED NEW VEHICLE ACCESS
(SUBJECT TO DETAILED DESIGN)

INDICATIVE LOCATION OF PROPOSED NEW
PEDESTRIAN FOOTBRIDGE ACCESSING
THE SITE (SUBJECT TO DETAILED DESIGN)

WOODLAND

RIVER DON

RAILWAY LINE

LANGSETT ROAD NORTH

WOODLAND

Usher Wood

Quarry
(disused)

Delf
Hill

Hill Top

SCALED AT
1:2500

40m 400m

Drwg No: 1526:14

STEN ARCHITECTURE
STEN Architecture Ltd
Suite 4, Unit 1
Benton Office Park
Bennett Avenue
Horbury
WF4 5RA
TEL: 01924 669424

PARAMETER PLAN 05 | MARCH 2016 | 1:2500 @ A3

OUGHTIBRIDGE MILL

APPENDIX BGH 3

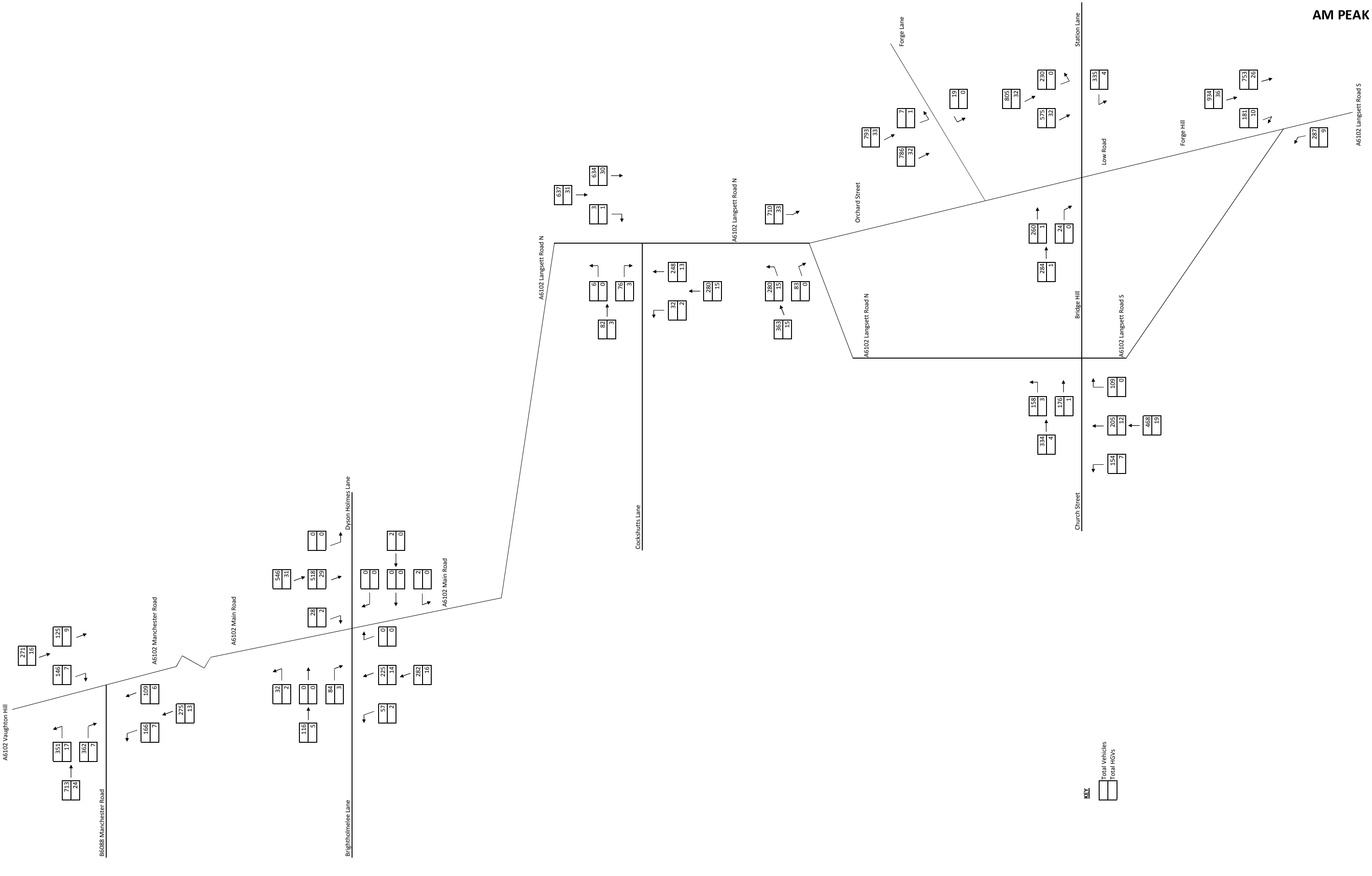
EXISTING 2015 VEHICULAR FLOWS

OUGHTIBRIDGE, SHEFFIELD

WEDNESDAY 14 OCTOBER 2015

7:45 am - 8:45 am

AM PEAK



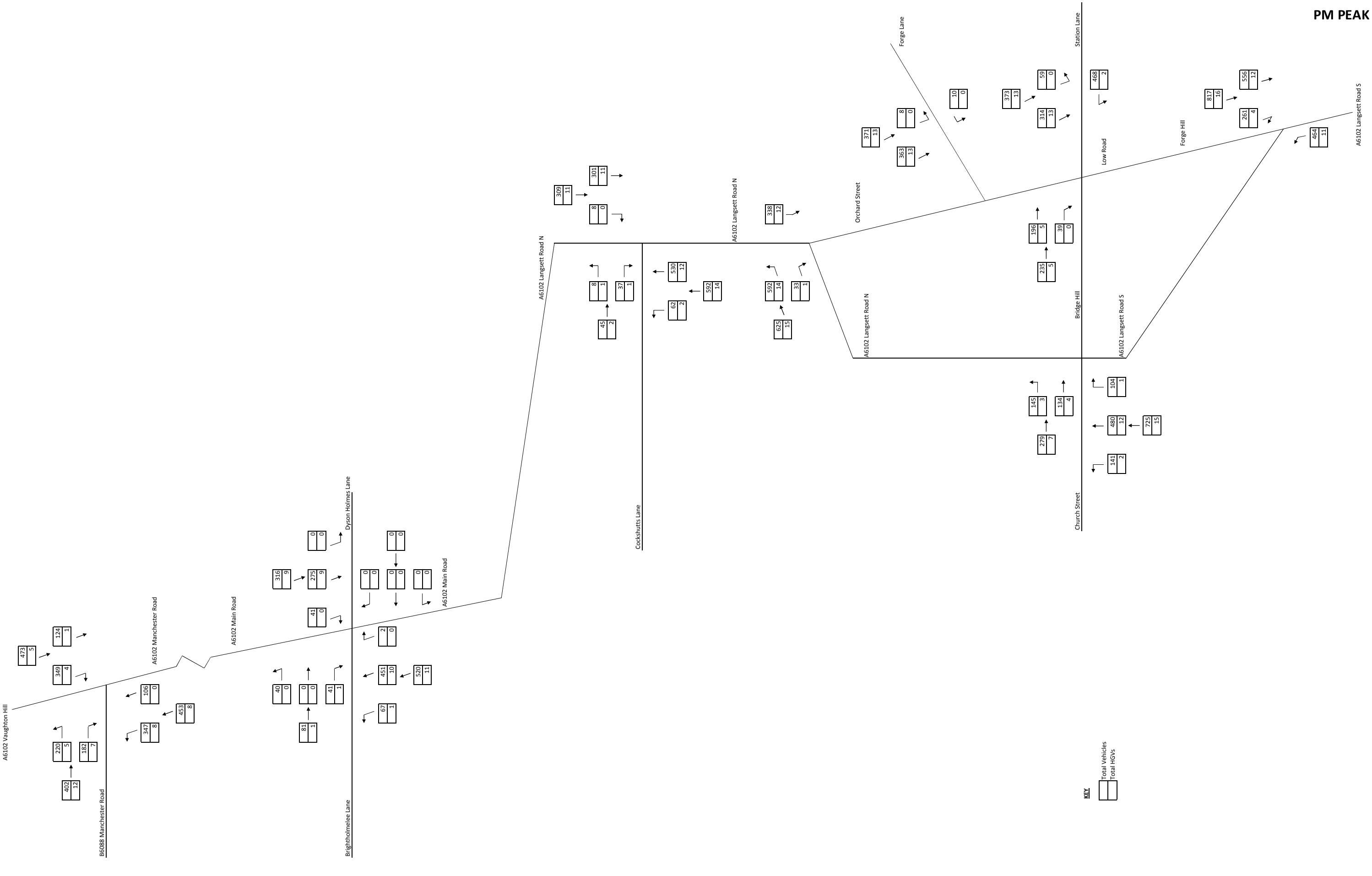
EXISTING 2015 VEHICULAR FLOWS

OUGHTIBRIDGE, SHEFFIELD

WEDNESDAY 14 OCTOBER 2015

5:00 pm - 6:00 pm

PM PEAK



APPENDIX BGH 4

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.2.316 [14 Feb 2013]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: Cockshutts Ln-A6102 Langsett Rd N (3).arc8
Path: Y:\2015\15-201 to 15-225\15-215 Oughtibridge Mill, Oughtibridge\Technical\Junction Models
Report generation date: 16/03/2016 15:08:33

Summary of junction performance

	AM Peak			
	Queue (PCU)	**Delay (s)**	**RFC**	**LOS**
	Existing Layout - Existing 2015			
Stream B-C	0.01	7.07	0.01	A
Stream B-A	0.26	10.80	0.21	B
Stream C-AB	0.01	4.02	0.01	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2015, AM Peak " model duration: 07:30 - 09:00
"D2 - Existing 2015, PM Peak" model duration: 16:45 - 18:15
"D3 - Base 2021, AM Peak" model duration: 07:30 - 09:00
"D4 - Base 2021, PM Peak" model duration: 16:45 - 18:15
"D5 - Predicted 2021, AM Peak" model duration: 07:30 - 09:00
"D6 - Predicted 2021, PM Peak" model duration: 16:45 - 18:15

Run using Junctions 8.0.2.316 at 16/03/2016 15:08:33

File summary

File Description

Title	Cockshutts Lane/A6102 Langsett Road N Priority T-Junction
Location	Oughtibridge, Sheffield
Site Number	
Date	11/01/2016
Version	
Status	
Identifier	
Client	CEG
Jobnumber	15-215
Enumerator	RD
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing Layout - Existing 2015, AM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing Layout			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2015, AM Peak	Existing 2015	AM Peak		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	9.91	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm Type
A	A6102 Langsett Road N (South West)		Major
B	Cockshutts Lane		Minor
C	A6102 Langsett Road N (North East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.80		0.00		2.20	96.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.30	6.60	5.30	5.20	✓	3.00	36	42

Pedestrian Crossings

Arm	Crossing Type

A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	609.566	0.097	0.246	0.155	0.352
1	B-C	606.636	0.082	0.206	-	-
1	C-B	629.558	0.214	0.214	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	295.00	100.000
B	ONE HOUR	✓	85.00	100.000
C	ONE HOUR	✓	668.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	34.000	261.000
	B	79.000	0.000	6.000
	C	664.000	4.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.93	0.00	0.07
	C	0.99	0.01	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.01	7.07	0.01	A
B-A	0.21	10.80	0.26	B
C-AB	0.01	4.02	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	4.52	4.48	0.00	546.50	0.008	0.01	6.641	A
B-A	59.48	58.92	0.00	480.08	0.124	0.14	8.537	A
C-AB	5.96	5.93	0.00	900.99	0.007	0.01	4.021	A
C-A	496.95	496.95	0.00	-	-	-	-	-
A-B	25.60	25.60	0.00	-	-	-	-	-
A-C	196.49	196.49	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	5.39	5.39	0.00	533.79	0.010	0.01	6.812	A
B-A	71.02	70.85	0.00	454.95	0.156	0.18	9.368	A
C-AB	7.95	7.94	0.00	948.69	0.008	0.01	3.825	A
C-A	592.57	592.57	0.00	-	-	-	-	-
A-B	30.57	30.57	0.00	-	-	-	-	-
A-C	234.63	234.63	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	6.61	6.60	0.00	515.65	0.013	0.01	7.071	A
B-A	86.98	86.68	0.00	420.20	0.207	0.26	10.784	B
C-AB	11.20	11.19	0.00	1010.75	0.011	0.01	3.600	A
C-A	724.28	724.28	0.00	-	-	-	-	-
A-B	37.43	37.43	0.00	-	-	-	-	-
A-C	287.37	287.37	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	6.61	6.61	0.00	515.54	0.013	0.01	7.072	A
B-A	86.98	86.97	0.00	420.21	0.207	0.26	10.802	B
C-AB	11.21	11.21	0.00	1010.76	0.011	0.01	3.603	A
C-A	724.27	724.27	0.00	-	-	-	-	-
A-B	37.43	37.43	0.00	-	-	-	-	-
A-C	287.37	287.37	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	5.39	5.40	0.00	533.62	0.010	0.01	6.817	A
B-A	71.02	71.31	0.00	454.96	0.156	0.19	9.391	A
C-AB	7.95	7.97	0.00	948.70	0.008	0.01	3.828	A
C-A	592.56	592.56	0.00	-	-	-	-	-
A-B	30.57	30.57	0.00	-	-	-	-	-
A-C	234.63	234.63	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	4.52	4.52	0.00	546.26	0.008	0.01	6.644	A
B-A	59.48	59.65	0.00	480.09	0.124	0.14	8.565	A
C-AB	5.97	5.98	0.00	901.00	0.007	0.01	4.022	A
C-A	496.93	496.93	0.00	-	-	-	-	-
A-B	25.60	25.60	0.00	-	-	-	-	-
A-C	196.49	196.49	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.2.316 [14 Feb 2013]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: Cockshutts Ln-A6102 Langsett Rd N (3).arc8
Path: Y:\2015\15-201 to 15-225\15-215 Oughtibridge Mill, Oughtibridge\Technical\Junction Models
Report generation date: 16/03/2016 15:12:44

Summary of junction performance

	PM Peak			
	Queue (PCU)	**Delay (s)**	**RFC**	**LOS**
	Existing Layout - Existing 2015			
Stream B-C	0.02	7.70	0.02	A
Stream B-A	0.12	10.32	0.11	B
Stream C-AB	0.03	5.25	0.02	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2015, AM Peak" model duration: 07:30 - 09:00
"D2 - Existing 2015, PM Peak " model duration: 16:45 - 18:15
"D3 - Base 2021, AM Peak" model duration: 07:30 - 09:00
"D4 - Base 2021, PM Peak" model duration: 16:45 - 18:15
"D5 - Predicted 2021, AM Peak" model duration: 07:30 - 09:00
"D6 - Predicted 2021, PM Peak" model duration: 16:45 - 18:15

Run using Junctions 8.0.2.316 at 16/03/2016 15:12:44

File summary

File Description

Title	Cockshutts Lane/A6102 Langsett Road N Priority T-Junction
Location	Oughtibridge, Sheffield
Site Number	
Date	11/01/2016
Version	
Status	
Identifier	
Client	CEG
Jobnumber	15-215
Enumerator	RD
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing Layout - Existing 2015, PM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing Layout			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2015, PM Peak	Existing 2015	PM Peak		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	8.82	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm Type
A	A6102 Langsett Road N (South West)		Major
B	Cockshutts Lane		Minor
C	A6102 Langsett Road N (North East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.80		0.00		2.20	96.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.30	6.60	5.30	5.20	✓	3.00	36	42

Pedestrian Crossings

Arm	Crossing Type

A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	596.605	0.095	0.241	0.152	0.345
1	B-C	623.168	0.084	0.212	-	-
1	C-B	629.558	0.214	0.214	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	606.00	100.000
B	ONE HOUR	✓	47.00	100.000
C	ONE HOUR	✓	320.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	64.000	542.000
	B	38.000	0.000	9.000
	C	312.000	8.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.81	0.00	0.19
	C	0.98	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.02	7.70	0.02	A
B-A	0.11	10.32	0.12	B
C-AB	0.02	5.25	0.03	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	6.78	6.72	0.00	524.25	0.013	0.01	6.956	A
B-A	28.61	28.34	0.00	455.87	0.063	0.07	8.415	A
C-AB	8.90	8.84	0.00	694.86	0.013	0.01	5.247	A
C-A	232.02	232.02	0.00	-	-	-	-	-
A-B	48.18	48.18	0.00	-	-	-	-	-
A-C	408.05	408.05	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	8.09	8.08	0.00	504.66	0.016	0.02	7.248	A
B-A	34.16	34.08	0.00	428.55	0.080	0.09	9.123	A
C-AB	11.52	11.50	0.00	709.31	0.016	0.02	5.158	A
C-A	276.15	276.15	0.00	-	-	-	-	-
A-B	57.53	57.53	0.00	-	-	-	-	-
A-C	487.25	487.25	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	9.91	9.89	0.00	477.45	0.021	0.02	7.699	A
B-A	41.84	41.71	0.00	390.78	0.107	0.12	10.313	B
C-AB	15.77	15.74	0.00	729.86	0.022	0.03	5.040	A
C-A	336.56	336.56	0.00	-	-	-	-	-
A-B	70.47	70.47	0.00	-	-	-	-	-
A-C	596.75	596.75	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	9.91	9.91	0.00	477.39	0.021	0.02	7.700	A
B-A	41.84	41.84	0.00	390.78	0.107	0.12	10.316	B
C-AB	15.78	15.78	0.00	729.87	0.022	0.03	5.043	A
C-A	336.55	336.55	0.00	-	-	-	-	-
A-B	70.47	70.47	0.00	-	-	-	-	-
A-C	596.75	596.75	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	8.09	8.11	0.00	504.56	0.016	0.02	7.253	A
B-A	34.16	34.29	0.00	428.56	0.080	0.09	9.133	A
C-AB	11.53	11.56	0.00	709.33	0.016	0.02	5.161	A
C-A	276.14	276.14	0.00	-	-	-	-	-
A-B	57.53	57.53	0.00	-	-	-	-	-
A-C	487.25	487.25	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	6.78	6.79	0.00	524.10	0.013	0.01	6.958	A
B-A	28.61	28.69	0.00	455.88	0.063	0.07	8.428	A
C-AB	8.92	8.94	0.00	694.88	0.013	0.01	5.247	A
C-A	231.99	231.99	0.00	-	-	-	-	-
A-B	48.18	48.18	0.00	-	-	-	-	-
A-C	408.05	408.05	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.2.316 [14 Feb 2013]

Filename: A6102 Langsett Rd N-Orchard St (4).arc8
Path: Y:\2015\15-201 to 15-225\15-215 Oughtibridge Mill, Oughtibridge\Technical\Junction Models
Report generation date: 16/03/2016 15:24:55

Summary of junction performance

	AM Peak			
	Queue (PCU)	**Delay (s)**	**RFC**	**LOS**
	Existing Layout - Existing 2015			
Stream B-C	0.00	0.00	0.00	A
Stream B-A	0.23	9.19	0.19	A
Stream C-A	-	-	-	-
Stream C-B	0.00	0.00	0.00	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2015, AM Peak " model duration: 07:30 - 09:00
"D2 - Existing 2015, PM Peak" model duration: 16:45 - 18:15
"D3 - Base 2021, AM Peak" model duration: 07:30 - 09:00
"D4 - Base 2021, PM Peak" model duration: 16:45 - 18:15
"D5 - Predicted 2021, AM Peak" model duration: 07:30 - 09:00
"D6 - Predicted 2021, PM Peak" model duration: 16:45 - 18:15

Run using Junctions 8.0.2.316 at 16/03/2016 15:24:54

File summary

File Description

Title	A6102 Langsett Road N/Orchard Street Priority T-Junction
Location	Oughtibridge, Sheffield
Site Number	
Date	11/01/2016
Version	
Status	
Identifier	
Client	CEG
Jobnumber	15-215
Enumerator	RD
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing Layout - Existing 2015, AM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing Layout			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2015, AM Peak	Existing 2015	AM Peak		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	One-way from C to A	A,B,C	9.19	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm Type
A	Orchard Street		Major
B	A6102 Langsett Road N (South)		Minor
C	A6102 Langsett Road N (North East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				8.00	6.00	5.30	4.10	3.40	✓	2.00	100	0

Pedestrian Crossings

Arm	Crossing Type

A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	585.852	0.079	0.199	0.125	0.285
1	B-C	526.072	0.060	0.151	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	0.00	100.000
B	ONE HOUR	✓	83.00	100.000
C	ONE HOUR	✓	743.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	83.000	0.000	0.000
	C	743.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.33	0.33	0.33
	B	1.00	0.00	0.00
	C	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.00	0.00	0.00	A
B-A	0.19	9.19	0.23	A
C-A	-	-	-	-
C-B	0.00	0.00	0.00	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	510.14	0.000	0.00	0.000	A
B-A	62.49	61.94	0.00	515.71	0.121	0.14	7.924	A
C-A	559.37	559.37	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	506.38	0.000	0.00	0.000	A
B-A	74.62	74.47	0.00	502.10	0.149	0.17	8.416	A
C-A	667.94	667.94	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	501.01	0.000	0.00	0.000	A
B-A	91.38	91.15	0.00	483.28	0.189	0.23	9.175	A
C-A	818.06	818.06	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	500.95	0.000	0.00	0.000	A
B-A	91.38	91.38	0.00	483.28	0.189	0.23	9.185	A
C-A	818.06	818.06	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	506.28	0.000	0.00	0.000	A
B-A	74.62	74.84	0.00	502.10	0.149	0.18	8.431	A
C-A	667.94	667.94	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	509.96	0.000	0.00	0.000	A
B-A	62.49	62.64	0.00	515.71	0.121	0.14	7.949	A
C-A	559.37	559.37	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.2.316 [14 Feb 2013]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: A6102 Langsett Rd N-Orchard St (4).arc8
Path: Y:\2015\15-201 to 15-225\15-215 Oughtibridge Mill, Oughtibridge\Technical\Junction Models
Report generation date: 16/03/2016 15:25:35

Summary of junction performance

	PM Peak			
	Queue (PCU)	**Delay (s)**	**RFC**	**LOS**
	Existing Layout - Existing 2015			
Stream B-C	0.00	0.00	0.00	A
Stream B-A	0.07	7.20	0.07	A
Stream C-A	-	-	-	-
Stream C-B	0.00	0.00	0.00	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2015, AM Peak" model duration: 07:30 - 09:00
"D2 - Existing 2015, PM Peak " model duration: 16:45 - 18:15
"D3 - Base 2021, AM Peak" model duration: 07:30 - 09:00
"D4 - Base 2021, PM Peak" model duration: 16:45 - 18:15
"D5 - Predicted 2021, AM Peak" model duration: 07:30 - 09:00
"D6 - Predicted 2021, PM Peak" model duration: 16:45 - 18:15

Run using Junctions 8.0.2.316 at 16/03/2016 15:25:35

File summary

File Description

Title	A6102 Langsett Road N/Orchard Street Priority T-Junction
Location	Oughtibridge, Sheffield
Site Number	
Date	11/01/2016
Version	
Status	
Identifier	
Client	CEG
Jobnumber	15-215
Enumerator	RD
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing Layout - Existing 2015, PM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing Layout			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2015, PM Peak	Existing 2015	PM Peak		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	One-way from C to A	A,B,C	7.20	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm Type
A	Orchard Street		Major
B	A6102 Langsett Road N (South)		Minor
C	A6102 Langsett Road N (North East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				8.00	6.00	5.30	4.10	3.40	✓	2.00	100	0

Pedestrian Crossings

Arm	Crossing Type

A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	585.852	0.079	0.199	0.125	0.285
1	B-C	526.072	0.060	0.151	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	0.00	100.000
B	ONE HOUR	✓	34.00	100.000
C	ONE HOUR	✓	350.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	34.000	0.000	0.000
	C	350.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.33	0.33	0.33
	B	1.00	0.00	0.00
	C	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.00	0.00	0.00	A
B-A	0.07	7.20	0.07	A
C-A	-	-	-	-
C-B	0.00	0.00	0.00	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	519.98	0.000	0.00	0.000	A
B-A	25.60	25.40	0.00	552.81	0.046	0.05	6.824	A
C-A	263.50	263.50	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	518.67	0.000	0.00	0.000	A
B-A	30.57	30.52	0.00	546.40	0.056	0.06	6.978	A
C-A	314.64	314.64	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	516.86	0.000	0.00	0.000	A
B-A	37.43	37.37	0.00	537.53	0.070	0.07	7.197	A
C-A	385.36	385.36	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	516.84	0.000	0.00	0.000	A
B-A	37.43	37.43	0.00	537.53	0.070	0.07	7.197	A
C-A	385.36	385.36	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	518.64	0.000	0.00	0.000	A
B-A	30.57	30.62	0.00	546.40	0.056	0.06	6.979	A
C-A	314.64	314.64	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	519.93	0.000	0.00	0.000	A
B-A	25.60	25.64	0.00	552.81	0.046	0.05	6.828	A
C-A	263.50	263.50	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	573.96	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.2.316 [14 Feb 2013]

Filename: Forge Ln-Orchard St (5-1).arc8
Path: Y:\2015\15-201 to 15-225\15-215 Oughtibridge Mill, Oughtibridge\Technical\Junction Models
Report generation date: 16/03/2016 15:28:17

Summary of junction performance

	AM Peak			
	Queue (PCU)	**Delay (s)**	**RFC**	**LOS**
	Existing Layout - Existing 2015			
Stream B-AC	0.05	8.06	0.04	A
Stream C-A	-	-	-	-
Stream C-B	0.00	0.00	0.00	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2015, AM Peak " model duration: 07:30 - 09:00
"D2 - Existing 2015, PM Peak" model duration: 16:45 - 18:15
"D3 - Base 2021, AM Peak" model duration: 07:30 - 09:00
"D4 - Base 2021, PM Peak" model duration: 16:45 - 18:15
"D5 - Predicted 2021, AM Peak" model duration: 07:30 - 09:00
"D6 - Predicted 2021, PM Peak" model duration: 16:45 - 18:15

Run using Junctions 8.0.2.316 at 16/03/2016 15:28:17

File summary

File Description

Title	Orchard Street (North)/Forge Lane/Orchard Street (South) Priority T-Junction
Location	Oughtibridge, Sheffield
Site Number	
Date	11/01/2016
Version	
Status	
Identifier	
Client	CEG
Jobnumber	15-215
Enumerator	RD
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing Layout - Existing 2015, AM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing Layout			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2015, AM Peak	Existing 2015	AM Peak		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	One-way from A to C	A,B,C	8.06	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm Type
A	Orchard Street (North)		Major
B	Forge Lane		Minor
C	Orchard Street (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.90										0	21

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None

C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	483.091	0.065	0.164	0.103	0.235
1	B-C	630.778	0.071	0.181	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	826.00	100.000
B	ONE HOUR	✓	19.00	100.000
C	ONE HOUR	✓	0.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	8.000	818.000
	B	0.000	0.000	19.000
	C	0.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.00	0.00	1.00
	C	0.33	0.33	0.33

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	8.06	0.05	A
C-A	-	-	-	-
C-B	0.00	0.00	0.00	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	14.30	14.19	0.00	519.13	0.028	0.03	7.127	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	471.77	0.000	0.00	0.000	A
A-B	6.02	6.02	0.00	-	-	-	-	-
A-C	615.83	615.83	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	17.08	17.05	0.00	497.46	0.034	0.04	7.493	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	451.94	0.000	0.00	0.000	A
A-B	7.19	7.19	0.00	-	-	-	-	-
A-C	735.37	735.37	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.92	20.87	0.00	467.49	0.045	0.05	8.059	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	424.51	0.000	0.00	0.000	A
A-B	8.81	8.81	0.00	-	-	-	-	-
A-C	900.63	900.63	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.92	20.92	0.00	467.49	0.045	0.05	8.061	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	424.51	0.000	0.00	0.000	A

A-B	8.81	8.81	0.00	-	-	-	-	-
A-C	900.63	900.63	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	17.08	17.12	0.00	497.46	0.034	0.04	7.494	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	451.94	0.000	0.00	0.000	A
A-B	7.19	7.19	0.00	-	-	-	-	-
A-C	735.37	735.37	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	14.30	14.33	0.00	519.13	0.028	0.03	7.133	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	471.77	0.000	0.00	0.000	A
A-B	6.02	6.02	0.00	-	-	-	-	-
A-C	615.83	615.83	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.2.316 [14 Feb 2013]

Filename: Forge Ln-Orchard St (5-1).arc8
Path: Y:\2015\15-201 to 15-225\15-215 Oughtibridge Mill, Oughtibridge\Technical\Junction Models
Report generation date: 16/03/2016 15:28:55

Summary of junction performance

	PM Peak			
	Queue (PCU)	**Delay (s)**	**RFC**	**LOS**
	Existing Layout - Existing 2015			
Stream B-AC	0.02	6.61	0.02	A
Stream C-A	-	-	-	-
Stream C-B	0.00	0.00	0.00	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2015, AM Peak" model duration: 07:30 - 09:00
"D2 - Existing 2015, PM Peak " model duration: 16:45 - 18:15
"D3 - Base 2021, AM Peak" model duration: 07:30 - 09:00
"D4 - Base 2021, PM Peak" model duration: 16:45 - 18:15
"D5 - Predicted 2021, AM Peak" model duration: 07:30 - 09:00
"D6 - Predicted 2021, PM Peak" model duration: 16:45 - 18:15

Run using Junctions 8.0.2.316 at 16/03/2016 15:28:55

File summary

File Description

Title	Orchard Street (North)/Forge Lane/Orchard Street (South) Priority T-Junction
Location	Oughtibridge, Sheffield
Site Number	
Date	11/01/2016
Version	
Status	
Identifier	
Client	CEG
Jobnumber	15-215
Enumerator	RD
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing Layout - Existing 2015, PM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Existing Layout			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2015, PM Peak	Existing 2015	PM Peak		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	One-way from A to C	A,B,C	6.61	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm Type
A	Orchard Street (North)		Major
B	Forge Lane		Minor
C	Orchard Street (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.90										0	21

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None

C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	483.091	0.065	0.164	0.103	0.235
1	B-C	630.778	0.071	0.181	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	384.00	100.000
B	ONE HOUR	✓	10.00	100.000
C	ONE HOUR	✓	0.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	8.000	376.000
	B	0.000	0.000	10.000
	C	0.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.02	0.98
	B	0.00	0.00	1.00
	C	0.33	0.33	0.33

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.02	6.61	0.02	A
C-A	-	-	-	-
C-B	0.00	0.00	0.00	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	7.53	7.48	0.00	579.22	0.013	0.01	6.296	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	526.46	0.000	0.00	0.000	A
A-B	6.02	6.02	0.00	-	-	-	-	-
A-C	283.07	283.07	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	8.99	8.98	0.00	569.22	0.016	0.02	6.425	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	517.23	0.000	0.00	0.000	A
A-B	7.19	7.19	0.00	-	-	-	-	-
A-C	338.02	338.02	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	11.01	10.99	0.00	555.38	0.020	0.02	6.612	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	504.48	0.000	0.00	0.000	A
A-B	8.81	8.81	0.00	-	-	-	-	-
A-C	413.98	413.98	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	11.01	11.01	0.00	555.38	0.020	0.02	6.612	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	504.48	0.000	0.00	0.000	A

A-B	8.81	8.81	0.00	-	-	-	-	-
A-C	413.98	413.98	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	8.99	9.01	0.00	569.22	0.016	0.02	6.425	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	517.23	0.000	0.00	0.000	A
A-B	7.19	7.19	0.00	-	-	-	-	-
A-C	338.02	338.02	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	7.53	7.54	0.00	579.22	0.013	0.01	6.296	A
C-A	0.00	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	526.46	0.000	0.00	0.000	A
A-B	6.02	6.02	0.00	-	-	-	-	-
A-C	283.07	283.07	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.2.316 [14 Feb 2013]

For sales and distribution information, program advice and maintenance, contact TRL:
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Filename: Orchard St-Station Ln-Low Rd-Bridge Hill (5-2).arc8
Path: Y:\2015\15-201 to 15-225\15-215 Oughtibridge Mill, Oughtibridge\Technical\Junction Models
Report generation date: 16/03/2016 15:31:24

Summary of junction performance

	AM Peak			
	Queue (PCU)	**Delay (s)**	**RFC**	**LOS**
	Existing Layout - Existing 2015			
Stream B-ACD	1.69	16.61	0.63	C
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream A-D	0.00	0.00	0.00	A
Stream D-AB	0.74	17.65	0.43	C
Stream D-BC	0.70	15.88	0.41	C
Stream C-D	-	-	-	-
Stream C-A	-	-	-	-
Stream C-B	0.00	0.00	0.00	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2015, AM Peak " model duration: 07:30 - 09:00
"D2 - Existing 2015, PM Peak" model duration: 16:45 - 18:15
"D3 - Base 2021, AM Peak" model duration: 07:30 - 09:00
"D4 - Base 2021, PM Peak" model duration: 16:45 - 18:15
"D5 - Predicted 2021, AM Peak" model duration: 07:30 - 09:00
"D6 - Predicted 2021, PM Peak" model duration: 16:45 - 18:15

Run using Junctions 8.0.2.316 at 16/03/2016 15:31:24

File summary

File Description

Title	Orchard Street/Station Lane/Low Road/Bridge Hill Priority Crossroads Junction
Location	Oughtibridge, Sheffield
Site Number	
Date	11/01/2016
Version	
Status	
Identifier	
Client	CEG
Jobnumber	15-215
Enumerator	RD
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units