



LAND SOUTH OF CHARFIELD

Transport Assessment

July 2020



**LAND SOUTH OF CHARFIELD, SOUTH
GLOUCESTERSHIRE**
ADDENDUM TRANSPORT ASSESSMENT
09 July 2020



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ADDENDUM TRANSPORT ASSESSMENT

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Executive Summary

This Transport Assessment Addendum has been prepared to support an Amendment to a current application at Land South of Charfield, South Gloucestershire (application reference R19/2452/O) which was submitted in March 2019 for a mixed-use development including up to 900-950 dwellings and associated infrastructure.

This Amended Scheme proposes to comprise the following:

- A reduction in the red line boundary to the south and to the north east of the church (residential capacity is 525 units);
- Expansion of the reserve site to accommodate a 3FE primary school;
- The retention of the previously proposed neighbourhood centre (with provision for up to 1,800m² commercial floorspace and up to 0.3ha additional employment provision);
- The inclusion of 3 sports pitches; and
- Realignment of the internal estate road to run to the north of the site.

This Transport Assessment Addendum provides updated assessments where necessary but does not revisit aspects of the assessment where no update is required and therefore should be read alongside the original application documentation.

Correspondence with all key stakeholders has been ongoing since the site's inception and this Addendum Transport Assessment takes account of all correspondence, including formal consultation responses received through the original application and continued liaison to support this Amended Scheme.

Local and National Policy

The local and regional policy position has changed since the time of the original application. Key to this is the draft West of England Joint Spatial Plan which was formally withdrawn in late 2019. The Charfield Neighbourhood Plan which contains aspirations of local Charfield residents for growth in the region has also been taken account through this Amended Scheme; having been published as a draft document since the time of the original application.

Existing Site Accessibility

Since the time of the original application, all services within the village remain and there have been recent committed developments, including at MJ Fews, which will increase the villages' existing retail offering. Whilst the site is not dependent on the reopening of Charfield Rail Station, further recent investment by WECA has strengthened its degree of certainty in coming forward as recognised by SGC. The area still has opportunities to improve travel by bus, as well as local walking and cycling improvements.

Site Accesses

The proposed site accesses onto Wotton Road and Little Bristol Lane remain as previously proposed; and these include walking and cycling provision. The site access onto Wotton Road also includes the provision of two pedestrian crossings in the form of pedestrian refuge islands, as well as a new section of footway between the site access and the Pear Tree Inn public house.

Vehicle Trip Generation and Development Impact

As per all previous assessments, the anticipated 'trip rates' are based on a worst-case assessment of local closed cul-de-sacs within the village. On top of base traffic assessments, background traffic

growth has been assessed to the future years of 2023 and 2029 and therefore this approach will likely over-estimate traffic flows. In addition, all nearby Committed Developments have been assessed including those within Charfield and Wickwar. To provide a worst-case, robust assessment, further testing has been undertaken to include 'Sensitivity Testing'. The sensitivity testing includes four Emerging developments (i.e. those which have live planning applications which have not been approved at the time of writing) in the local area. As these developments are not yet approved, they may not come forward; however, it is important to establish the potential future cumulative impact on the surrounding network to ensure a robust assessment.

Updated junction modelling has been undertaken at all local junctions in the vicinity of the site, as previously agreed with South Gloucestershire Council. The results demonstrate that the majority of junctions are able to accommodate development traffic, even taking account of sensitivity testing in the 2029 future year.

Mitigation Proposals

The Amended Scheme includes a number of improvements which will mitigate its' impact on the surrounding highway network, as well as improving the existing situation for residents within the village. As well as the provision of a reserve site for a 3FE primary school, small-scale employment and a local centre which will help to internalise some trips within the site, the transport mitigation and improvement proposals include the following:

- Contribution towards the implementation of a cohesive traffic calming and environmental enhancement scheme through the village on Wotton Road;
- Footway improvements and pedestrian refuge islands on Wotton Road;
- Improvement/mitigation scheme at the Churchend roundabout to the west of the site;
- Contribution towards improvements at The Downs/High Street/Station Road junction in Wickwar;
- Contribution to a new bus service through the village, connecting with Bristol and other key destinations;
- Comprehensive Travel Plan and associated measures;
- Part provision of within the site, or contribution towards, Greenway Route and PRow Improvements;
- Improvement/mitigation scheme, or contribution towards, improvements at the M5 Junction 14; and
- Wider Section 106 obligations for sustainable transport contributions to be used by SGC as appropriate in accordance with the appropriate tests in NPPF.

Summary

The NPPF states that there is a presumption in favour of sustainable development, and that development should only be prevented or refused on transport grounds where there are unacceptable impacts on highway safety, or if the residual, cumulative impacts of development are severe.

The proposed development has been carefully designed in compliance with national and local policy and objectives, and includes a number of suitable mitigation and improvement schemes which will not only mitigate the impacts of this Amended Scheme, but will significantly enhance the existing offering with Charfield in terms of providing a real and genuine modal choice for residents and reducing the reliance on the car. The development is therefore in accordance with policy objectives at a national and local level.

1. Introduction

1.1. Context

- 1.1.1. This Transport Assessment Addendum (TAA) has been prepared by Evoke Transport Planning Consultants Ltd (Evoke) on behalf of CEG and the Charfield Landowners Consortium (CEGCLC) to support an Amendment to a current application at Land South of Charfield, South Gloucestershire. The local planning and highway authority are South Gloucestershire Council (SGC).
- 1.1.2. The current, live planning application at the site (application reference R19/2452/O) was submitted in March 2019 for a mixed-use development including up to 900-950 dwellings, a neighbourhood centre (with provision for up to 1,800m² commercial floorspace and up to 0.3ha additional employment provision), a reserve site for a 2FE primary school (associated with the 900-dwelling scheme option) and housing for the elderly.
- 1.1.3. A Transport Assessment (TA) and Framework Travel Plan (FTP) were prepared by Systra Ltd to support this application. For ease of reference, the current, live planning application for up to 900/950 units and associated uses will be referred to through this TAA as 'original application'. The accompanying transport documents will be referred to as the 'original TA' and 'original FTP'.
- 1.1.4. This TAA has been prepared to support an Amended Application at the site, which is proposed to comprise the following:
- A reduction in the red line boundary to the south and to the north east of the church (residential capacity is now 525 units);
 - Expansion of the reserve site to accommodate a 3FE primary school;
 - The retention of the previously proposed neighbourhood centre (with provision for up to 1,800m² commercial floorspace and up to 0.3ha additional employment provision);
 - The inclusion of 3 sports pitches; and
 - Realignment of the internal estate road to run to the north of the site.
- 1.1.5. Through this report, the Amended proposal of 525 residential units and associated uses will be referred to as the 'Amended Scheme'.

1.2. Purpose of Report

- 1.2.1. This TAA has three key objectives:
- Provide an updated assessment to consider the Amended Scheme which involves a reduction in unit numbers compared with the original application and an increase in the size of the reserve site for a primary school;
 - Provide an update to each section of the assessment where elements have changed since submission of the original application including committed and emerging surrounding developments; and
 - Respond to points raised through formal consultation responses to the original application and subsequent discussions with SGC and Highways England (HE).

1.3. Report Structure

- 1.3.1. For ease of reference to the original TA and to respond to each of the three objectives, this TAA has been prepared with the following structure:

- **Section 2: Consultation to Date.** Summarise consultation and discussion since the time of the original application;
- **Section 3: Policy and Design Guidance.** Review of changes to national, regional and local policy and design guidance since the time of the original application and demonstrate the Amended applications' compliance to policy and design requirements;
- **Section 4: Site Accessibility.** An updated review based on recent changes and as a result of nearby committed developments;
- **Section 5: Existing Highway and Traffic Conditions.** Confirmation of the base traffic assessments and provision of the most recently available Personal Injury Accident analysis;
- **Section 6: Committed Developments and Transport Improvements.** Review of the progress of local committed developments and their associated local highway and transport improvements; and an updated assessment of local emerging developments;
- **Section 7: Proposed Development.** Analysis of the Amended Scheme development proposal in respect of the site access, internal site layout, parking arrangements, servicing and construction traffic;
- **Section 8: Trip Generation Analysis.** Confirmation of the development trip rates and modal share for this Amended Scheme;
- **Section 9: Development Impact.** Updated analysis of the Amended Scheme impact on the local and strategic road network;
- **Section 10: Mitigation Measures.** Details of the proposed improvements implemented through this Amended Scheme; and
- **Section 11: Summary and Conclusions.** Summary of the findings of this TAA.

- 1.3.2. This TAA provides some updated assessments where necessary which supersede the findings of the original TA, which was completed in March 2019. This TAA does not revisit aspects of the assessment where no update is required; and therefore this TAA should be read alongside the original TA.
- 1.3.3. This TAA is also supported by an Addendum Framework Travel Plan (Addendum FTP).

2. Consultation to Date

- 2.1.1. Correspondence with all key stakeholders has been ongoing since the promotion of the site for development within the (now withdrawn) West of England (WoE) Joint Spatial Plan (JSP). Full details are contained in the original TA and can be summarised as:

2.2. WoE JSP Consultation

- Transport Appraisal to support Draft Allocation within Local Plan (January 2016);
- Business Case for the potential reopening of Charfield Rail Station; submitted December 2016 and December 2018 to support Reps to the JSP Transport Topic Paper.

2.3. Consultation with Reference to ‘Up to 900/950-Unit’ Planning Application (March 2019) Pre-App

Consultation with Local Highway Authority

- Pre-Application consultation with SGC including issue of Transport Scoping Notes (May 2017 and June 2018), various meetings, agreement of testing Parameters (September 2018) and joint discussions including with neighbouring emerging developments (January 2019);
- Issue of Transport Scoping Notes in September 2018 to neighbouring Local Authorities Stroud District Council (SDC) and Gloucestershire County Council (GCC).

Consultation with Highways England

- Pre-Application discussions including issue of Transport Scoping Note (September 2017), various meetings, agreement of M5 J14 testing Parameters (September 2018) and further discussions over use of strategic model until submission of application in March 2019.

M5 Junction 14 Working Group

- Working Group established by CEGCLC with the purpose of exploring a long-term mitigation solution at the M5 Junction 14 (J14);
- Working Group chaired by CEGCLC’s transport consultants (Systra at the time of the original application) and attended by HE, SGC, SDC, GCC, PJA Consultants (on behalf of ‘Buckover’) and Clarkebond (on behalf of Bloor Homes). The three consultants (Systra, PJA and Clarkebond) represented the two draft Strategic Development Locations (SDL)s at Buckover and Charfield as set out within the (now withdrawn) JSP.

Stakeholder Engagement

- Ongoing discussions with local bus operator Stagecoach to establish potential bus strategy for the site; in consultation with PJA and Clarkebond on behalf of Buckover and Bloor Homes;
- Ongoing discussions with other local developers (Buckover & Bloor Homes) to ensure a collaborative approach (further detail provided in Chapter 6 of this TAA);
- Attendance at public consultations and regular Charfield Liaison Group meetings.

- 2.3.1. The consultation and feedback from all parties over circa three-years was used to inform development of the site proposals and layout and the transport assessment works and subsequent mitigation proposals on the local and strategic highway network.

2.4. 900-950 Unit Application Formal Consultation

- 2.4.1. Both SGC and HE were formally consulted following submission of the original application in March 2019. Their comments are summarised in Table 1, Table 2 and Table 3, with a brief initial response and reference to further information contained within this TAA. The full consultation responses are included as **Appendix A**.

Table 1 – Summary of SGC Comments (November 2019)

	SGC Comment (November 2019)	Evoke Response	Reference to TAA
Policy and Design Guidance			
JSP	JSP EiP has not concluded, and may not conclude, so this application needs to be considered as standalone	Regional and local policy position has moved forward and this TAA reflects the latest position.	Section 3
Site Accessibility			
Charfield Rail Station	SGC are at Grip Stage 1-4 and WECA have invested 1.2m to take forward. This affords a much higher degree of certainty in the proposals.	Agree. CEGCLC will provide proportionate Sustainable Transport Contributions and SGC can allocate these towards the station reopening if considered suitable, albeit the station re-opening is not required to facilitate this development. It is also understood SGC are currently at GRIP stages 3-4	Section 4
	The Systra Business Case has not been submitted	The Systra Business Case is a public document and has been submitted to SGC through JSP Reps. It has been attached to this TAA for information purposes only as some elements are now superseded. The Business Case demonstrates a positive BCR however.	Appendix C
Accessibility Audit	Walking, Cycling and Horse-Riding Assessment is required	A full accessibility assessment was undertaken through the original TA. This TAA provides an update to local accessibility where changes have occurred since the original TA was submitted in March 2019.	Section 4
Committed Developments			
Renishaw	The recent application at Renishaw needs to be considered	Sensitivity test undertaken through this TAA.	Section 6 & 9
Site Accesses			
Wotton Road Access	There is a concern in relation to the ability of this junction to operate in morning peak hours with congestion on Wotton Road and from the Churchend Roundabout. The calculations of demand relate to the optimistic modal share.	No reduction in vehicle traffic has been made to consider any potential modal shift towards sustainable modes. The vehicle trip rates have been agreed with SGC and are based on surveys of existing residential areas in Charfield. The modelling (using no reduction in traffic) demonstrates that the junction operates efficiently in all future years. The full modelling outputs were submitted to SGC as part of the original TA for scrutiny. The Amended Scheme will see a reduction in vehicle movements as reassessed through this TAA.	Section 7, 8 & 9.
	The queues would impact upon the viability/consistency of the bus services should they travel through the site.	The site access has been designed to accommodate bus services should travel through the site be required.	Section 7.
	Stage 1 RSA is required to reflect proposed design	A stage 1 RSA was provided through the original TA (Appendix O).	-
Little Bristol Lane (LBL) Access	RSA required to reflect proposed design	A stage 1 RSA was provided through the original TA (Appendix O).	-
Other Modelling Assessments			
LBL/ Wotton Road Junction	Additional traffic using this route could impact on junction – this needs to be assessed in line with the modifications agreed in the vicinity with the Barratts development	The junction was tested in line with the modifications agreed in the vicinity with the Barratts development. The junction has been reassessed through this TAA.	Section 9
Mitigation			
Churchend Roundabout	Whilst improvements have been identified, these should be provided on a topographical survey	The design proposed through the original application was updated following the application submission using a topographical survey and provided again to SGC in January 2020. The design has been updated through this TAA to support the Amended Scheme.	Section 10

Bus Travel	Developer relying on enhanced bus services to provide a significant modal shift from the motor car	Whilst a modal shift is expected, no reliance on enhanced bus services is made in the junction assessments; with all transport assessments taking account of no reduction in car travel as a result of such improvements.	Section 7 & 10
	Details in relation to service provision, routing of services, ability to capture existing and future residents is 'sketchy'	Provision of an enhanced bus service has been discussed at length with local bus operators and with nearby emerging developments to ensure a co-ordinated (and therefore viable) approach. A Joint Bus Strategy was submitted to SGC in July 2019. No response has been made by SGC.	
	SGC officers have not agreed, as suggested in the TA, to buses bypassing the site in peak periods. Bus stops should be provided within 400m of each dwelling. A 30-minute frequency is agreed	This discussion was had in a joint meeting with SGC and Bloor Homes' transport representatives in January 2019. The balance between providing a fast and direct service in peak hours needs to be made with the 400m guidance. Further consideration is made through this TAA.	
	Justification should be provided for how the modal shift is expected	Justification provided through original FTP and Joint Bus Strategy.	
	Service assumes that everyone wants to go to Bristol to Work	Demand is shown to be highest towards Bristol but there is no assumption that <i>everyone</i> wants to go to Bristol. It is right that bus services should route to locations of highest demand. There are other existing local services and this service seeks to 'plug a gap' which has been identified by the developer in consultation with local bus operators.	
Wotton Road Traffic Calming	If CEG comes forward on its own there is unlikely to be a cohesive traffic calming scheme along the length of Wotton Road. Need provision of rather than contribution	It was agreed through comprehensive discussions with SGC that a cohesive approach is required between CEG and Bloor Homes; with CEG considering a scheme to the west of the bridge and Bloor to the east (this was SGC's suggestion); The CEG and Bloor Homes scheme complement each other and can be delivered either in isolation or as a cohesive scheme by SGC it is entirely appropriate for SGC as LHA to coordinate the schemes and to take forward the publication of Orders through to implementation. This is discussed further through this TAA.	Section 10
	Consideration of the Charfield Neighbourhood Plan 2019 is required when assessing and designing a traffic calming scheme.	The Charfield Neighbourhood Plan was released in December 2019; eight months after the submission of the 'up to 900-950 unit' application. This document has been assessed through the TAA.	Section 3
Travel Plan	FTP needs more commitment in the event that this is a standalone development	This is a standalone development and is assessed as such through the FTP. No comments have been provided from SGC on the proposed FTP despite being requested.	Section 10
M5 Junction 14			
M5 J14	Detailed engineering drawings have not been provided to allow confirmation if the design genuinely allows a pedestrian route. SGC have not formally reviewed the VISSIM work as yet.	This application is for Outline only. As referenced through the original TA, the footway is provided as a refuge point only over the bridge to improve safety; there is no intention for this to be used as a pedestrian route; indeed there are no footways either side of this junction to continue along and there is no demand for such a route.	Section 9 & 10
	Should extended queuing affect the B4509 which could happen if morning peak hour traffic lights became operational then an objection on severity of impact grounds would be considered	As stated by SGC, no review of the junction mitigation outputs has been undertaken by SGC. It is naïve for the authorities not to consider turning the traffic signals on during the AM peak. There needs to a reasoned assessment of the effect that will have and the ability to balance flows and improve overall capacity and safety at the junction.	

	<p>This improvement is in isolation and appears to solely enable this development without consideration of other developments from Stroud and SGC coming forward</p>	<p>The proposals through the original TA include all required committed developments agreed by SGC, SDC and HE and demonstrate an improvement in the 2031 future year over the existing 2021 Base year (without any committed developments or background growth). The proposals are therefore not in isolation. A sensitivity test was conducted to include the Bloor proposals also.</p> <p>Nonetheless, Evoke (and formally Systra) were instrumental in establishing a joint Working Group (detailed in Section 10) to consider wider improvements at the junction. CEG are supportive in developing a wider scheme that could be implemented in lieu of piecemeal improvements, with all committed and emerging developments contributing towards its delivery in a proportional manner; with government/ external funding to support wider growth in the area. However, this should not prevent the delivery of residential development, particularly when the residential development can deliver sustainable transport improvements in accordance with national policy objectives.</p>	
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Table 2 – HE Consultation Comments (April 2019)

HE Comment (26 th April 2019)	Evoke Response	Reference to TAA (if required)
Initial Response provided prior to JSP Examination in Public and therefore reflected the overarching position of the JSP, taking account of all potential Draft Allocations		
There is a requirement for a plan-led approach to identify the necessary mitigation at M5 J14. This approach is supported by the applicant through their attendance at Working Group Meetings	Agreed, as discussed through the process. However the situation has now changed as reflected in the subsequent comments (Table 3).	Section 3 & 10
Vehicle trip rates and assignment have previously agreed and are accepted	No Comment	
The modelling does not show individual Committed Development and clarification is required	Clarification provided in July 2019 via e-mail. Committed Developments included all of those requested by HE with the flows provided by HE and agreed with SGC and SDC. The Committed Developments have since changed and have been updated through this TAA.	Section 6 & 9
It is accepted that there is no pattern in PIA data at the M5 J14 which suggests that the existing junction arrangement is at fault for any accidents recorded.	Agreed. An updated assessment of PIAs has been undertaken through this TAA.	Section 5
The Framework Travel Plan contains appropriate mechanisms and monitoring to achieve a mode shift away from single occupancy car trips.	Agreed. An Amended FTP has been prepared to support this Amended Scheme.	N/A
<i>In summary, it was recommended that SGC shall not grant planning permission for a period of 6 months to provide sufficient time for the identification of a mitigation solution for the SRN which supports the delivery of the WoE JSP.</i>		

Table 3 – HE Consultation Comments (October 2019)

HE Comment (23 rd October 2019)	Evoke Response	Reference to TAA (if required)
Further comments provided following Inspector response to JSP (September 2019) where uncertainty for the ongoing JSP progress was established by the Inspector(s). ‘On this basis, HE has no other option but to assess the development proposals and any necessary mitigation on its own merits and in accordance with relevant planning policy, in particular NPPF 2019 and DfT Circular 02/2013.’		
There is concern that the correct version of the model has not been used	This point was clarified with HE in discussions dated 1 st April 2020 (detailed in Section 2.6), where it was established that the correct version of the model had been used.	Section 2 & 9
Some amendments have been made to the model which are not agreed with HE	The modelling assessment has been subject to further scrutiny through this TAA.	Section 9
The design appears reasonably satisfactory (subject to minor alterations). A structural survey of the bridge is required.	The mitigation proposal has been subject to further scrutiny through this TAA. A structural survey was undertaken on behalf of PJA which confirms that the existing bridge structure is suitable to support four running lanes, albeit a copy of this report has not been provided	Section 10
<i>In summary, it was recommended that SGC shall not grant planning permission for a period of 6 months to provide sufficient time for the identification of a mitigation solution at M5 J14 in the interests of the safe operation of the SRN.</i>		

- 2.4.3. Since this time, a further consultation response has been provided by HE; dated 22nd April 2020. The April 2020 comments do not provide any further comment to those submitted previously, other than an update which states:

'In relation to the above, Highways England has been liaising with the applicant's transport consultants, Evoke and we understand that further information will be submitted shortly.'

- 2.4.4. In summary, it is recommended that SGC shall not grant planning permission for a period of 6 months (from April 2020) to provide sufficient time for the identification of a mitigation solution at M5 J14 in the interests of the safe operation of the SRN.

2.5. Ongoing Correspondence (since October/November 2019)

- 2.5.1. Since the time of the original application, the following further consultation has been made:
- Provision of a Joint Bus Strategy by CEG, Bloor Homes and Buckover to SGC in January 2020, including details of collaborative working between developers and Stagecoach Buses. Further details are contained in Section 10 of this TA;
 - Provision of an updated modelling assessment and mitigation scheme to SGC in January 2020 at the Churchend Roundabout following receipt of a topographical survey;
 - Various meetings with SGC (including planning and transport officers) to discuss details of the Amended Scheme (including 14th January 2020 and 3rd June 2020);
 - Various meetings, calls and communications with HE to discuss details of the Amended Scheme and improvement requirements at the M5 Junction 14;
 - Ongoing collaboration with Bloor Homes' transport consultant Clarkebond on Bus Strategy, Traffic calming scheme, Churchend Roundabout proposals and other local improvement requirements;
 - Ongoing discussions with other nearby potential developers including at Buckover and at Land West of Thornbury, to seek to provide a collaborative approach for future works to the M5 Junction 14;
 - Submission of a Transport Scoping Note to SGC in April 2020 to aim to agree the scope of this TAA (and associated Addendum FTP).
- 2.5.2. Comments were received from SGC on the Transport Scoping Note on 29th June 2020. Their comments are summarised in Table 4 with a brief initial response and reference to further information contained within this TAA. The full consultation responses are included as **Appendix A**.
- 2.5.3. In summary, the extensive consultation with all key parties conducted over the last 4-5-year period has informed development of the site and the required transport and mitigation works. Various points have previously been agreed with SGC and HE, including trip rates, distribution and junction assessment requirements. Evoke have continued to liaise with all parties following submission of the original application and in preparation for this Amended Scheme. At the time of writing, no response has been received from SGC on the Transport Scoping Note, Joint Bus Strategy or Churchend Roundabout proposals.

Table 4 – Summary of SGC Comments (June 2020)

SGC Comment (July 2020)	Evoke Response	Reference to TAA (if required)
On the proposed scheme there is no commercial development which reduces the sustainability of the site.	Commercial development is proposed in line with that previously proposed.	Section 1
<p>Our understanding in transport terms is that with the withdrawal of the JSP, the documentation surrounding it cannot be relied upon.</p> <p>From our [transportation] perspective, Charfield is not considered to be a sustainable location for development because of its distanced location from many key facilities and services meaning more external and less Charfield contained internal journeys will be made.</p> <p>The current public transport provision is poor despite the impression given by the number of bus services, and the surrounding highways do not have specific infrastructure to help cycling, or walking further distances. The hilly topography adds to the challenges for adding to cycling numbers.</p> <p>The proposed re-opening of the train station and services, if successful, would be considered a significant improvement that would provide that missing modal choice option, but its progress is not certain and not something we could link development occupation to by way of a Grampian condition.</p> <p>In the interim, the proposed bus transport improvements require scrutiny to understand the likely modal share and their likely / potential operational commerciality noting that the current bus services in this area are subsidised. Any potential subsidy for which public finances would be needed would need to be known.</p>	<p>JSP associated documentation was withdrawn after preparation of Scoping Note.</p> <p>Argument surrounding sustainable location is unfounded; SGC proposed this location through their own JSP and re-opening of station shows it is a key location for them. Recent retail approval at MJ Fews further improves key facilities.</p> <p>Other applications have been allowed at Appeal with inspectors noting that the location is accessible. The development will assist in providing a critical mass for other services and facilities including public transport</p> <p>We are proposing on-site uses which will further increase accessibility and will be a particular benefit when the station comes along. Provision will include improvements to pedestrian and cycle routes and connections. The school site is a significant benefit to existing residents.</p> <p>The station, whilst not ‘set in stone’, has received significant funding from WECA which shows a good degree of commitment. This site further improves its’ viability.</p> <p>The comments regarding bus provision are s superseded by the Public Transport Strategy (which was provided in July 2019 and again in January 2020).</p>	Section 3, 4
The rural topic papers that informed the PSP (<i>assumed JSP</i>) conclude that Charfield is tier 2 with good accessibility. reviewing the background information makes that calculation unclear as good accessibility is not evident.	The rural topic paper was SGC’s own document which concluded that Charfield had a ‘good’ level of accessibility.	
<p>Associated with this is the potential future provision of a train station whose timetable currently stands at;</p> <ul style="list-style-type: none"> • Station Design commissioned to Network Rail in December 2019 • Outline Business Case commissioned to consultant in December 2019 • Network Rail Feasibility Report (GRIP 2) completion – Summer 2020 • OBC completion - Autumn 2020 • Station Design (GRIP 4) & Planning Application - Summer 2021 • Full Business Case anticipated Summer 2021 • Procurement (GRIP 5) completion – Summer 2022 • Construction, Delivery and Handover (GRIP 8) – Summer/Autumn 2023 	The most up-to-date timescale for station delivery provided by SGC shows a commitment to delivery with the first passengers services being operational at an early stage of residential occupation on site, thereby increasing the accessibility and mode choice for residents.	Section 4

<ul style="list-style-type: none"> Passenger Services – Autumn 2023 for Dec 2023 timetable change 		
<p>The committed developments are as set out for the M5Jn14 development tracker spreadsheet, some of which will affect the Churchend Roundabout.</p> <p>SGC have objected to the Renishaw's development, and as the application has not been determined at the date of this comment, we require this to be considered as a sensitivity. We can agree the trip rates and distribution at source (the Renishaw's entrance), but note and do not agree that traffic disappears without explanation in their TA including half of its westbound traffic generation disappearing within Charfield itself - we would request that its distribution continues to beyond the Churchend Roundabout for assessment purposes..</p>	<p>We have not been provided with the most up-to-date tracker but have included for sensitivity tests in accordance with ES testing.</p> <p>Renishaws has been treated as a sensitivity test; based on their TA (trips have been distributed across our network)</p>	Section 9
<p>Other than the Bloor Homes planning application that is yet to be determined the other planning applications were either unplanned, speculative planning applications won at appeal, where there was no specific public transport or infrastructure charges as at that time these were covered under SGC's CIL regulations.</p>	<p>CIL payments made could have been used to fund PT improvements had SGC so wished to direct funds in that direction.</p>	N/A
<p>SGC would like a roundabout to be considered noting that the technical guidance changed in June 2019 as highlighted on the detailed minutes from 14th January 2020.</p> <p>A roundabout on this entrance to Charfield would have a significant benefit in reducing speeds entering the village as well as leaving it. This would also provide synergy with the Bloors development further along Wotton Road which is also required to have a roundabout as the principle point of access.</p>	<p>A roundabout has been considered on a number of occasions, including recently for the Amended Scheme. Our TAA demonstrates that this is not achievable.</p> <p>This has previously been discussed at length with SGC and previously agreed that our proposed access junctions were suitable. Churchend roundabout provides the entry to the village.</p> <p>An extract from this TAA was issued to SGC on 8th July 2020; detailing the reasons why a roundabout access is not suitable to serve this development in this location.</p>	Section 7
<p>Clarity is required on what level of development the roundabout has been assessed on?</p>	<p>The full development has been used to assess the roundabout, including committed developments and sensitivity tests.</p>	Section 8/9
<p>The Renishaw application is not proposing any improvement to any junction. SGC junctions have not been assessed and their distribution apparently agreed by GCC and HE show traffic disappearing from east to west of Charfield (half disappears).</p>	<p>They should be. However, we have included within assessment.</p>	Section 8/9
<p>Comments from Travel Plan officers are due shortly and will be forwarded on when received.</p> <p>In the absence of certainty of the train station, the proposed modal share needs to be demonstrated rather than plucked out the air. Officers would like to see evidence demonstrating similar modal share targets at similarly located developments and with similar proposed bus services.</p> <p>The purpose of SGC proposed brief is to provide this evidenced understanding of modal share as well as the likely commercial strength of the proposed bus service</p>	<p>Modal share is not 'plucked out of the air' but is based on anticipated bus demand as explained within the original TA, Bus Scoping Note, TP and amended documents. Stagecoach have also advised on significant increases in modal share following the introduction of improved, quality bus services for development in SGC.</p> <p>At the time of writing, no comments have been made by SGC.</p>	N/A
Traffic Calming		
<p>The developer has indicated potential improvements along Wotton Road associated with the development, in reviewing this traffic calming I am mindful that controlling vehicle speed coming into</p>	<p>As above, a roundabout has been considered in detail but is not feasible in this location. However, a traffic calming & environmental enhancement scheme has previously been</p>	Section 3, 10

<p>Charfield is paramount to the success of any scheme. This is why SGC have requested that the entrance from the site onto Wotton Road is changed to a roundabout which is now permitted with the change in regulations. This would both match the approach required by Bloors at the other end of Charfield and also significantly reduce approach speeds into the village and could potentially facilitate a 'softer' more environmental design approach. As such this would need to be revisited to reflect the increased opportunities that a roundabout offers.</p> <p>Moving forward however officers have arranged a walk through site meeting to review what could be achieved with roundabouts as the principle form of traffic calming entering the village with a view to providing guidance to developers about what would be expected in the form of a cohesive joined up approach to traffic calming which does not currently appear to be occurring.</p>	<p>presented to SGC (in coordination with Bloor Homes) which has not been commented upon.</p> <p>Since the time of the original application, the Charfield Neighbourhood Plan has been released (Draft document) which shows that residents would prefer speed cameras and crossing points through the village to control speeds.</p> <p>We have discussed this with SGC and are awaiting their comment.</p>	
M5 J14		
<p>Although Jct 14 is a Highway England issue in terms of any mitigation would need to be agreed by them, the implications of any works on the local highway network also need to be considered. This is a complicated ongoing situation involving HE/SGC/SDC/GCC and developers working together to agree a solution.</p>	<p>As above, we provided SGC with an update note in April 2020 for an internal meeting; and were told we would receive an update following this. On our meeting on 3rd June we requested these comments and have also requested these via e-mail. We have not received any comments from SGC in this regard. I will chase this information again, along with the other outstanding actions from our meeting on 3rd June. We proposed that SGC devise a mechanism to collate contributions from developers towards a coordinated intervention. SDC/GCC/HE should be involved in this conversation. Reference to Renishaws needs to be made also.</p>	
Sustainability		
<p>In terms of sustainability the applicant proposes to increase the public transport options available to residents by provision of an improved bus service as part of this application. We note the referenced agreement (level of improvements; scheme) is between Stagecoach (the bus operator) and the developer, and to take forward would require more detailed understanding and agreement by the local highway authority.</p> <p>The proposed bus route is from Wotton under Edge through Charfield to Thornbury and then continuing the Service 77 route down the A38 to Parkway and is stated as a half hourly bus service.</p> <p>We agree in principle to the need for a frequent service from early morning to late evening on weekdays as well as weekend services would help provide sustainable travel options for those that need to travel outside of Charfield. This would be the case until the proposed train station opens where the service provision could be reviewed as any service is likely to be commercially impacted by the train service.</p> <p>The length and journey time of the route is significant and is not described, nor is the anticipated modal share within this section.</p> <p>However although Stagecoach suggest the route will be commercial in the future, it is unclear how viable this proposal would be in that it appears to rely upon the JSP sites such as Buckover Garden Village going ahead, which in this current climate there is an element of uncertainty that this will occur. As this was part of the JSP which is not now going ahead. This would lead to concerns in relation to the longer term viability of the public transport and hence the sustainability of the site.</p> <p>It is acknowledged that there is proposed to be an element of employment on site which will potentially off-set the impact of some of the dwellings.</p>	<p>The Bus Scoping Note provided in January 2020 provided this information. It has been previously agreed that SGC would review this note and set out all points which required further clarification.</p>	Section 9

<p>Given the change in circumstances relating to the lack of a JSP and that the sites moving forward are essentially unplanned speculative developments, the need for a Sustainable Transport Study brief focussing on Sustainable Transport in/around Charfield. The results of which would be key in determining the sustainability of this site.</p> <p>In terms of mitigation the provision of a viable sustainable public transport infrastructure is key, as is the provision of a cohesive traffic calming and environment enhancement scheme through the village. Until further work identifying the sustainability of the site by virtue of the Sustainable Transport Study Brief mentioned above has been undertaken and completed it is considered that due to the reliance on the package of measures associated with the JSP proposals that are not moving forward that this proposal is unsustainable.</p> <p>A roundabout access solution is required to be the principle point of access and the principle form of traffic calming entering the village.</p> <p>The provision of a roundabout access to the site entrance off Wotton Road would slow vehicles significantly through the village and enable a more environmentally enhanced traffic calming scheme to be considered. Officers will get back to the developer with suggestions once site meetings can move forward and give appropriate guidance at this time.</p>		
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3. Policy and Design Guidance

3.1. Introduction

- 3.1.1. The regional and local policy and guidance position has changed since the time of the original TA this this section provides the latest available position at the time of writing.

3.2. Retained Policy and Guidance (refer to original TA):

- National Planning Policy Framework (February 2019);
- Planning Practice Guidance (PPG) – Travel Plans, Transport Assessments and Statements (March 2014);
- DfT Circular 02/2013: The Strategic Road Network and the Delivery of Sustainable Development (September 2013);
- The Strategic Road Network: Planning for the Future – A Guide to Working with Highways England on Planning Matters (September 2015);
- South Gloucestershire Local Plan Core Strategy 2006-2027 (December 2013);
- South Gloucestershire Policies, Sites and Places DPD (November 2017);
- National Design Guide;
- Manual for Streets (MfS March 2007) and Manual for Streets 2 (MfS2 September 2010);
- South Gloucestershire Council Adoptable Highway Specification.

3.3. Updated Policy and Design Guidance

South Gloucestershire Local Plan Delivery Programme (LPDP) 2020-2023 (April 2020)

- 3.3.1. The South Gloucestershire LPDP identifies which Local Development Documents will be produced, in what order and when. Published in April 2020, it sets out the current policy documents for SGC which currently include the Local Plan Core Strategy and Policies, Sites and Places DPD as set out above.
- 3.3.2. It sets out that, during the next 3-year period, this policy will be replaced by the WECA Spatial Development Strategy and the new South Gloucestershire Local Plan.

West of England (WoE) Joint Spatial Plan (JSP)

- 3.3.3. A letter of response to the JSP Examination, dated 7th April 2020, confirms that the JSP has now been formally withdrawn.
- 3.3.4. SGC's website details that SGC will continue to work with the WoE authorities and other relevant bodies to *'plan positively on strategic cross boundary matters and to progress with work on joint evidence base studies during 2020. Further details on the timetable and work programme will be published in due course.'*

WoE Spatial Development Strategy

- 3.3.5. Following withdrawal of the JSP, as well as changes made to the NPPF in July 2019, the Council is collaborating on the scoping of a potential Spatial Development Strategy (SDS) with WECA and the combined authorities.

South Gloucestershire New Local Plan

- 3.3.6. SGC are currently preparing their new Local Plan to replace their existing Local Plan (2006-2027). The new Local Plan Consultation Document was out for public consultation from 5th February 2018 to 30th April 2018. The new Local Plan was originally intended for adoption in April 2020. At the time of writing, the timetable for progressing the new Local Plan is being updated and will be published in due course.

- 3.3.7. The new Local Plan's spatial strategy sets out the requirement for South Gloucestershire to deliver 32,500 homes by 2036. Referring to the WoE JSP, it envisages that this target will be met partly through *'large scale developments in places across the district, making best use of transport corridors and existing and new services and facilities and employment opportunities.'*
- 3.3.8. One element of the LP strategy is to support the JSP in the delivery of five Strategic Development Locations (SDLs) in South Gloucestershire; including at Charfield. It is assumed that the Local Plan will be updated to reflect the latest position of the now-withdrawn JSP.

Stroud District Local Plan Review

- 3.3.9. SDC are currently in the process of reviewing their current Local Plan (adopted in 2015). Their Draft Plan for Consultation was released in November 2019, setting out the Council's preferred strategy for growth over the next 20 years. According to current timescales, the new Local Plan is anticipated to be adopted by Winter 2021/22.
- 3.3.10. Paragraph 2.34 states that, at this stage, 'the strategy for the south of the District (including growth and infill within settlements at Berkeley, Cam, Dursley, Kingswood, Newtown/Sharpness, Wisloe and Wotton-under-Edge) will require improvements to M5 Junction 14, but may also benefit from public transport and other planned improvements to services and facilities within this wider area.'
- 3.3.11. The SDC Local Plan Review includes an aspiration to provide a 'Greenway' cycle and walking route linking Wotton-under-Edge, Kingswood and Charfield, 'subject to further feasibility work.'

Travelwest Joint Local Transport Plan 4 (JLTP4) 2020-2036 (Published March 2020)

- 3.3.12. The JLTP4 has been prepared by the WECA, working with Bath and North East Somerset, Bristol, North Somerset and South Gloucestershire councils.
- 3.3.13. Climate change is at the core of the JLTP4. The JLTP4 stresses that we will require rapid, far reaching and unprecedented changes in all aspects of society to avoid a climate change disaster and consequently, the WECA and all four local authorities have now declared climate emergencies. Considering this, the JLTP4 is undergoing immediate review to build-up its evidence base.
- 3.3.14. The following paragraphs outline some of the JLTP4's key messages which have been considered through this Amended Scheme:

Effectively Accommodating Development Sites and Associated Trips

- 3.3.15. *'We engage with developers early in the planning process to ensure they design their sites to match the priorities of the local planning authorities and contribute proportionately to identified transport improvements and mitigations. Regular update meetings with developers of strategic sites give the WoE authorities the chance to outline transport network priorities and requirements through site design and help to iron out issues to ensure a smooth planning process.'*
- 3.3.16. *'S106 contributions and Community Infrastructure Levy (CIL) will continue to be used to fund the delivery of mitigations and improvements as soon as possible. Site-specific mitigations will be via the S106 process and the more strategic improvements via CIL.'*

Rural Accessibility and Modal Shift

- 3.3.17. There has been a *'historic lack of investment in transport improvements'* in the region; particularly in rural areas.
- 3.3.18. To ensure that transport is carbon neutral by 2030, there must be a substantial shift towards cleaner and greener and more sustainable forms of transport. The JLTP4 states, *'we will need to maximize every opportunity and work in partnership with sustainable transport organisations, bus*

and rail operators, to encourage and help people switch from cars to cycling, walking and public transport...Through this, we need to be flexible, agile and brave in our approach.'

3.3.19. Technological advances have a huge impact on the transport sector. The rise in internet shopping, more flexible working patterns and the use of telecommunications software *'are leading to fewer journeys being made per person for shopping, commuting and business.'*

3.3.20. The JLTP4 comments that:

- We will require developers to make developments 'bus friendly' by reference to guidance published in 2017.
- We will support developers in the production, delivery and monitoring of travel plans, if required, and secure the contribution of further funds for transport improvements if mode share targets are not met.'

Walking and cycling

3.3.21. The priorities of walking and cycling infrastructure are shaped by investment in strategic infrastructure to develop walking and cycling packages, public realm as well as a Local Cycling and Walking Infrastructure Plan (LCWIP).

3.3.22. Cycle parking needs to accommodate a wide range of bicycle types, including folding, tandem and bike trailers, and be located where there is natural surveillance, wherever possible.

Buses

3.3.23. The JLTP4 states, *'Public transport has a key role to play in enabling modal shift and tackling congestion.'*

3.3.24. A Bus Strategy supports the JLTP4; detailing how further growth in bus patronage will be encouraged through specific proposals. Bus services need to be attractive to different sections of the population in different locations.

'Crucially, this must include services connecting villages and rural areas with at least one of our towns, cities or major transport interchanges.'

- Public transport vehicles should be of high, modern standards to utilise alternative fuels where possible, to minimise emissions and help improve air quality.
- *'We will work with operators and local communities to preserve, support, enhance and promote conventional bus services to meet rural needs, within available resources, both within available resources and through the identification of new funding opportunities.'*

Rail

'Our proposed and well advanced Metrowest programme will deliver by 2023/24:

- *'New station at Charfield funded through the WECA Investment Fund to support housing growth.'*

Traffic Management & Environmental Enhancement

'Vehicle speeds, the volume of traffic and the pollution levels generated on main roads can often feel excessive for residents and impact negatively on those pedestrians, cyclists and equestrians who share the same space.'

3.3.25. *'We will look to ensure that new developments are designed to:*

- *Positively contribute to an area's character and identity, creating or reinforcing local distinctiveness;*

- *Provide safe and welcoming public space that promotes walking, cycling and convenient transition to public transport;*
- *Strengthen physical connections with surrounding areas and key destinations*
- *Create vibrant resilient and healthy communities.'*

3.3.26. *'In neighbourhoods where speeds are identified as a factor in deterring people from walking and cycling, community participation will be encouraged to identify interventions that will support residents in walking and cycling, enhancing accessibility. This may include speed reduction measures, particularly close to local services; more cycle provision to create a wider network of safer routes; and measures to address areas with a high risk or incident of collisions.'*

Strategic Road Network

3.3.27. The SRN is managed by HE. The JLTP4 commits to working *'with HE and neighbouring authorities to find the optimum balance of the use of the SRN for strategic movements and appropriate local accessibility.'*

3.3.28. The JTS, which was co-funded by HE, highlights the need for substantial investment in the SRN including improved motorway junctions. The JLTP4 states that, 'it was hoped' that the RIS2 would include investment in this region, however no investment has been made. Instead, it says

'We will work closely with HE, neighbouring authorities ... and will continue to make the case for new and upgraded junctions on the M4 (new Junction 18a) and M5 (Junctions 14/19/new 21a) and Park & Ride on the M32.'

'To give the economy a stronger boost, unlock housing and relieve communities overwhelmed with traffic, there is a strong case for increasing investment on important roads managed by local authorities'

3.3.29. Transport schemes take time to deliver. The JLTP4 states:

'We will invest early to create network capacity in the short term, whilst continuing to work on the longer term, more ambitious schemes. Priorities and timescales for delivery will depend on available funding and bidding opportunities from Central Government, as well as the timing of new development sites.'

3.3.30. These schemes would be **partly or fully funded** and delivered by Highways England and Network Rail. (including the M5 Junction 14 and Charfield Rail Station).

Funding

3.3.31. Evidence shows that investment in the West of England is lower than in other parts of England. The JLTP4 states:

'Local authorities are responsible for delivering local transport schemes. They receive regular annual transport funding from local sources, including Council Tax, business rates and parking income. However, most transport funding comes from the Department for Transport (DfT) and other arms of central Government.'

'HE is responsible for the Strategic Road Network (SRN). HE receives funding from central Government and sets out its investment priorities in five-year Road Investment Strategies (RIS), which includes local needs such as motorway junctions.'

3.3.32. Crucially, adopted Neighbourhood Plans can secure funding for identified transport and access proposals via the Community Infrastructure Levy (CIL).

3.3.33. The total cost of delivering the schemes set out in the Joint Transport Study (JTS) Transport Vision was estimated to be at least £8.9 billion in future outturn prices. The Devolution Deal for the WoE includes guaranteed funding of £1bn infrastructure investment over 30 years, equating to £30m

a year, *‘which is unprecedented for the area and this certainty of funds will help to unlock further financing opportunities.’*

‘It will be critical for the WoE to make a compelling and collective case for investment, through working in partnership with transport operators and providers, other delivery agencies and wider stakeholders. Our success depends very much on this partnership approach.’

3.3.34. Potential funding sources includes developer contributions of £3,000 per dwelling. It states that this is an assumed average, and that actual figures would vary based on the location and specific site condition. Other assumptions made to support the potential funding for the JTS include:

- *‘Approximately half of total bidding, major scheme, and WECA Gainshare funding will be spent on mitigating the impact of future growth and half will be spent on improving existing conditions and mitigating the impact of existing Core Strategy growth (approx. 60,000 dwellings)’*
- *Highways England fund all improvements on their network including Smart Motorways and new junctions. This assumption is likely to be overly ambitious and a significant local contribution will be needed towards Highways England schemes.’*

Travelwest West of England Bus Strategy Consultation Document (February 2020)

3.3.35. The WoE Bus Strategy has been prepared by WECA to look at how bus services could help tackle congestion and reduce carbon emissions at a regional level. The aim is to see a doubling of bus passenger journeys by 2036.

3.3.36. The Bus Strategy faces some key challenges, of which those of relevance are summarised as:

- Buses are not practical for many journeys due to low frequencies or lack of coordination, or services that are slow and unreliable;
- The attractiveness of serves is undermined by poor information and complex ticket ‘offers’.

Services in Rural Areas

3.3.37. Services to rural areas have historically been reliant on funding from councils as operators are generally unable to operate them commercially.

3.3.38. For more rural areas, the Bus Strategy aims to provide an improved and easy-to-understand network to give a practical alternative to the car, as services in rural areas tend to be infrequent and indirect.

3.3.39. Options to get rural services to operate more efficiently include:

- Provide more consistent routes and easy-to-understand ‘clock-face’ arrival and departure times;
- Build in interchanges into timetables; with cohesion between other services and rail;
- Transfer hubs to connect a number of key interchanges en-route to the central areas of Bristol and Bath (such as shopping centres and Park & Ride sites);

3.3.40. In some cases, perception of bus travel is poor, particularly for those who do not currently use bus services. Public surveys suggest that offering facilities such as WiFi and USB charging can greatly improve young people’s perception and capture a future market.

3.3.41. New housing estates also need to be carefully designed to ensure that bus routes are fully accessible and prioritised over general traffic. Key routes need to be wide enough for two buses to pass without disruption.

Charfield Neighbourhood Plan 2019-2036 (Version 1.5: December 2019)

3.3.42. The Charfield Neighbourhood Plan has evolved through consultation with local residents, businesses, neighbouring communities, parish and town council and key partners (including schools, doctors and community groups) to set out the aspirations of local people; including standards and aspirations to be met through new development in, or around, the village.

3.3.43. Its vision is:

'[Charfield] should have the infrastructure (e.g. Schools/Healthcare) to support the residents internally before future developments are progressed. This will support a low carbon sustainable future in line with the Climate Emergency declared by Charfield Parish Council.'

3.3.44. Whilst the Plan is not formally adopted policy at the time of writing, it sets out key draft policies which are grouped under several topics. Those policies in relation to transport are summarised, along with how this development addresses each point in transport terms, in Table 5.

Table 5 – Summary of Charfield Neighbourhood Plan

Neighbourhood Plan Policy/Aspiration	Steps taken to Address Policy/Aspiration (transport terms)	Reference within TAA (if applicable)
Policy 001: Electric Charging Points <ul style="list-style-type: none"> All new build homes shall be connected with fast charging points for electric vehicles adjacent to the main car parking space (ideally on the drive of the house). Supplies will be able to be isolated within the house or garage, as well as at the supply point, and will be capable of accepting a range of charging cables. Public parking spaces should also include fast charging points, metered and chargeable to the consumer. 	Electric vehicle charging points will be provided to serve the development. The number, location and type of point will be agreed with SGC at the reserved matters stage and with reference to latest guidance and Building Regulations.	Section 7
Policy 007: Parking Restrictions <p>New developments shall ensure that roads are designed to facilitate emergency service access and enough off-road parking is provided to prevent the need for on-road parking.</p>	<p>The detailed road layout will be agreed through the reserved matters stage but the illustrative masterplan and the access drawings have been designed to ensure that the site can be suitably accessed by emergency vehicles.</p> <p>Off road parking will be provided in accordance with any SGC parking standards in place at the time.</p>	Appendix D
Policy 008: Maintenance of Bus Routes <p>Bus routes through the village should be kept clear by a combination of the enforcement of parking restrictions, and provision of off-road parking. Developers will be responsible for ensuring that a bus service is capable of navigating new development roads.</p>	Through the village along Wotton Road, any traffic calming & environmental enhancement will need to be agreed with SGC and will follow all consultation requirements; which includes with bus companies. The internal spine road has been designed to accommodate buses if required, in accordance with national and local design guidance.	Section 7, 9
Policy 009: Bus Stops <p>Bus stops, both existing and new, should where feasible, incorporate a layby and bus shelter. Developers will be responsible for ensuring that bus stops and shelters are located at appropriate locations within or close to any new development.</p>	Provision through the site, if required, will be in line with SGC and bus operator requirements.	N/A (will be confirmed through Reserved Matters stage)
Policy 010: Pavement Size <p>Pavements and footpaths, where feasible, should be built that are wide enough to enable pushchairs/buggies to pass each other over most of their length and have suitable access for wheelchairs.</p>	Provision will be in line with SGC requirements as well as national design guides such as Manual for Streets. Standards enable sufficient width for passing for the users listed. Wheelchair access will also be provided.	N/A (will be confirmed through Reserved Matters stage)
Policy 011: Footpaths <p>Safe pedestrian and cycle paths should be incorporated into new developments,</p>	The illustrative masterplan shows permeability and interconnectivity to the neighbouring built-up area of	Section 7

including linking up with existing pathways. There should be interconnectivity of footpaths, linking to other parts of the village and to the proposed Greenway.	<p>Charfield. The existing PRoW network has been considered through design of the site and will be discussed in detail with SGC. PROWs will be retained and enhanced where required within the development site.</p> <p>As part of the development it is proposed to provide additional footway from the site to the Pear Tree pub on Wootton Road to provide a continuous link to the village.</p> <p>CEG supports the principle of the Greenway and would be happy to make a financial contribution towards implementation as part of a sustainable transport package.</p>	
Policy 014: Tortworth Footway Foot and cycle connections/improvements towards Tortworth will be sought westward along the Wotton Road to the Tafarn Bach roundabout and along the B4059 or along another viable alternative route. The Parish Council will also work with the District Council, neighbouring Parish, landowners and developers to secure a foot/cycle way to Tortworth where these would lie outside of the plan area.	SGC will advise further on deliverability given that third party land outside the Neighbourhood Plan Area is required for implementation.	N/A
Policy 015: Wotton-Kingswood-Charfield Greenway The Parish Council will work with the District Council, neighbouring Parish, landowners and developers to secure a foot/cycle way to Wotton & Kingswood. Major New development in Charfield should as appropriate accommodate, connect and or make contributions towards to the proposed Greenway.	CEG supports the principle of the Greenway and would be happy to make a financial contribution towards implementation as part of a sustainable transport package.	Section 4, Section 9
Aspirations outside the scope of the Neighbourhood Plan		
01-Traffic Control Traffic control measures that should be put in place: <ul style="list-style-type: none"> Speed limits within the village enforced by cameras. Light controlled pedestrian crossings. 	An initial traffic calming scheme has been developed in consultation with Bloor Homes. No comment has been provided at the time of writing by SGC. The scheme can incorporate pedestrian crossings as required by SGC. If considered suitable by SGC, speed cameras could be provided in lieu of other previously considered measures.	Section 9
02- Access to Wotton Road Side roads where they join Wotton Road should have some form of traffic control to enable traffic to join the main road.	The proposed site access is controlled by way of a right-turn lane; which has been assessed as the most appropriate option in this location. The provision of a right turn lane means that through traffic on Wootton Road will not be unnecessarily delayed by traffic turning into and out of the development.	Section 7
03- Relief Road A secondary route through and around the village also providing a safe cycle/ footpath.	There are questions about deliverability (given the overall cost and issues with regard to the release of third party land). Also, there are concerns about the capacity of both Churchend roundabout and Renishaw roundabout which would require significant upgrades in order to function effectively with the increased amount of traffic. Other issues include the potential impact of the relief road on the setting of listed buildings within Charfield, particularly the Grade I listed St James' Church as well as the potential ecological impacts and loss of habitats and overall environmental impacts. CEG's focus is on measures to improve and manage the traffic flow through the village and the promotion of sustainable travel choices including for pedestrians and cyclists. For example, the planning application proposes an improvement at Churchend Roundabout which will provide additional capacity and reduce queues.	Section 9

3.4. Summary

- 3.4.1. The regional and local policy and guidance position has changed since the time of the original TA. Key to this is that the WoE JSP, which was in progress at the time of the original application (with the inclusion of Charfield as a Strategic Development Location) has now been formally withdrawn and this, along with all associated documents, is under review.
- 3.4.2. Since the time of publishing a number of regional policy documents the four WECA local authorities (including SGC) have declared climate emergencies. Considering this, a number of documents, including the JLTP4, are undergoing immediate review.
- 3.4.3. SGC are currently preparing their new Local Plan which was originally intended for adoption in April 2020; although its draft Spatial Strategy refers to the WoE JSP and therefore requires further review. Neighbouring authority SDC are also in the process of reviewing their Local Plan and have issued their Draft Plan for consultation.
- 3.4.4. The Charfield Neighbourhood Plan has been released since the time of the original application. Whilst not formal policy, it provides a good understanding of local residents' aspirations for new development within the village.
- 3.4.5. Public Transport forms a key part of regional and local policy. A Bus Strategy Consultation Document supports the JLTP4, which considers that *'there has been a historic lack of investment in transport improvements in the region'*, particularly rural areas. The JLTP4 states that to encourage people to switch from cars to cycling, walking and public transport, *'we need to be flexible, agile and brave in our approach.'* With regards to Charfield Rail Station, the JLTP4 states that the station will be delivered by 2023/24. The potential for a Greenway route linking Charfield to Kingswood, Wotton-under-Edge via Renishaw is included within the SDC Local Plan Review and also the Charfield Neighbourhood Plan.
- 3.4.6. In terms of the Strategic Road Network, the JLTP4 states that, *'we will work closely with HE, neighbouring authorities... and will continue to make the case for new and updated junctions'* including at the M5 Junction 14. It says, *'we will invest early to create network capacity in the short term, whilst continuing to work on the longer term, more ambitious schemes.'*
- 3.4.7. This Amended Scheme takes account of the latest policy position at the time of writing with the scheme developed to help to delivery policy objectives and in accordance with local and national design guidance.

4. Existing Site Accessibility

- 4.1.1. This Section of the TAA discusses the site's accessibility with regards access to key services, walking and cycling links and public transport availability.
- 4.1.2. As previously stated, this TAA provides further information where 'Existing Site Accessibility' has changed since the time of the original TA submitted in March 2019 and should therefore be read alongside this document. Where comments have been provided by SGC, these have been reviewed and responded to where necessary.
- 4.1.3. SGC note, in their pre-application response received June 2020, that, *'from our [transportation] perspective, Charfield is not considered to be a sustainable location for development because of its distanced location from many key facilities and services meaning more external and less Charfield contained internal journeys will be made.'*
- 4.1.4. Whilst withdrawn, the JSP previously identified Charfield as a suitable location for development and as such allocated a total of 1,200 new residential homes to the village. Associated documentation (now withdrawn) completed by SGC identified Charfield as a village with a 'good' level of accessibility.
- 4.1.5. Associated with this, a number of recent residential-only applications have been approved, either at committee or at appeal, within the village with no known uplift in local services or improvements to accessibility or bus services. Appeal Inspectors have concluded that Charfield is a sustainable location for development.
- 4.1.6. This site proposes a number of services which will significantly improve accessibility for local residents (both existing and proposed) which includes a site for a primary school, local centre and small-scale employment; as well as mitigation measures which involve improved bus services, improvements to walking and cycling infrastructure, a site-wide Travel Plan and Section 106 contributions which can be allocated as necessary by SGC. These facilities and measures will assist in reducing the need for existing residents to travel out of the village and also to be able to access key facilities by sustainable modes of travel.
- 4.1.7. Whilst not yet formally approved, the reopening of Charfield Rail Station is making significant progress and recent updates from SGC, contained within this Section, demonstrate WECA's and SGC's commitment to its' delivery.
- 4.1.8. It is therefore concluded that SGC's pre-application comments with regards to existing accessibility are unfounded, and that Charfield has, and will continue to have, a 'good' level of accessibility which would improve following development of this site.

4.2. Access to Key Services

- 4.2.1. Table 3.1 of the original TA lists the key local services available within Charfield village, their distance along the shortest walking route from the centre of the site and associated appropriate walking and cycling time. It demonstrates that a number of local services are available within the recommended 15-minute walk, or 4-minute cycle, of the site; including a post office, public house, church, community hall and playing fields, Charfield Primary School and local employment facilities.
- 4.2.2. Since the original application was submitted in March 2019 a further application within the village has been subject to planning permission:

Retail Unit at MJ Fews, Charfield

PT17/4923/O Demolition of existing industrial unit and erection of 1no. building to form retail unit (Class A1) at MJ Fews Ltd, Wotton Road, Charfield.

- 4.2.3. Located 1.1km (a 14-minute walk, or 4-minute cycle) from the centre of the site, this 'change of use' application includes a neighbourhood retail unit (anticipated to be a convenience store) of c.375sqm with a total of 20 car parking spaces (replacing the exiting industrial unit at the site which is served by a total of 15 car parking spaces).
- 4.2.4. A short Transport Statement and Design & Access Statement was prepared by David James & Partners in October 2017 to support the application, detailing the existing site conditions and local pedestrian and footway arrangements. A Revised Transport Statement was prepared by MBC in May 2018 to provide further detail to support the proposals.
- 4.2.5. Following ongoing consultation between the applicant and SGC highway officers, the application received 'no objection' on highway grounds (subject to conditions) and the application was granted outline planning approval in May 2019. The site currently (at the time of writing) has a live planning application for the Reserved Matters associated with the outline application (application ref: P20/00860/RM) for which 'no objection' has been received from SGC highway officers.
- 4.2.6. Charfield Memorial Hall (located 1.0km; a 13-minute walk or 4-minute cycle) has also recently been modernised with some facilities within the centre expanded over Summer 2019; using Section 106 funds taken from the Land South of Wotton Road development (application ref: PT13/4182/O).
- 4.2.7. The site was previously considered to have sufficient access to key local services, with further availability within nearby local settlements, including Wotton-under-Edge. This assertion is supported by the number of other residential developments having been granted planning permission in recent years; as well as the inclusion of Charfield by SGC as an SDL within the (now withdrawn) JSP. The provision of an additional retail facility on the MJ Fewings site and expansion of some community facilities within Charfield Memorial Hall further improves the site's existing accessibility credentials.

4.3. Walking and Cycling

- 4.3.1. The original TA included a detailed assessment of the existing walking and cycling availability within and beyond the village. It provided walking and cycling isochrones (Figure 3.1 and 3.2) and undertook an assessment of the existing pedestrian provision in terms of the availability, widths and crossing facilities along all routes within the village and the surrounding area (Figure 3.3).
- 4.3.2. Following this, the original TA provided a detailed walk-through, supported by on-site imagery taken over numerous site visits for all key routes in and around the village; identifying any deficiencies or areas required for improvement in the existing walking and/or cycling network.
- 4.3.3. Following request from SGC, the original TA also provided a detailed account of the availability and quality of the routes from the site to the neighbouring residential area (joining Hawthorn Close by Public Right of Way (PRoW) OCH16) which could also form one potential future route to Charfield Rail Station, if reopened. Again, this route assessment was supported by on-site imagery and on-site measurements (Section 3.5) which demonstrates that it is entirely suitable for pedestrians.
- 4.3.4. No significant changes have been made to the local walking and cycling network since the time of the original application; other than implementation of the 'future committed improvements' which were outlined within Section 3.3.12 of the original TA. These are summarised as:
- Signal controlled pedestrian crossing adjacent to the petrol station;
 - Replaced pedestrian refuge island on Wotton Road including section of footway between site and school and layby;
 - New zebra crossing adjacent to recently approved Barratt Homes site; and

- Financial contributions for improvements to existing bus stops.

- 4.3.5. It was previously concluded that the local walking network within the village is comprehensive, other than a c.70m section adjacent to the site along Wotton Road; between the proposed site access and the Pear Tree Inn public house. Several formal crossing points are in place with further improvements committed through neighbouring developments including further crossing points and a section of footway on the northern side of Wotton Road (as above).
- 4.3.6. There are no key destinations to the west or east of the village within the recommended walking distance outlined by CIHT; although various PRoW routes are in place across the site and beyond the village to the west and east for leisure purposes.
- 4.3.7. The ability to provide a formal network of cycle routes is constrained due to the width of Wotton Road, although there are some sections of Wotton Road which have existing on-road cycle lanes, demonstrating that the existing area is suitable to support cycle trips.
- 4.3.8. The existing walking and cycling network is therefore continued to be considered suitable to support this development, subject to footway improvements along Wotton Road between the proposed site access and the Pear Tree Inn public house.

4.4. Greenway Route

- 4.4.1. There is a local aspiration to provide a 'Greenway' linking Wotton-under-Edge, Kingswood and Charfield. Through the original TA, it was detailed that Sustrans had been commissioned to undertake a feasibility study to understand the potential to provide this traffic-free route with support from Members and SGC.
- 4.4.2. The route is not further described within any recent SGC policy documentation; however, is noted within the SDC Local Plan for Consultation (November 2019) 'subject to further feasibility work' as detailed within Section 3 of this TAA. Whilst not formal policy, the Charfield Neighbourhood Plan (December 2019) makes reference to the potential route within Policy 015; also detailed in Section 3.
- 4.4.3. The majority of the route falls within third-party land and is therefore subject to agreement from individual landowners. As a result, its' implementation is not certain; however if implemented it would further connect the existing facilities within the village to the wider local area; including the potential Charfield Rail Station and the Renishaw employment site; which is currently (at the time of writing) subject to a live application for a significant expansion of c.33,000sqm floorspace and 845 car parking spaces). This application is further described within Section 6 of this TAA.

4.5. Local Bus Services

- 4.5.1. The original TA set out local bus infrastructure within Section 3.6. To support this TAA, an updated review of the local bus service infrastructure has been undertaken and Table 6 provides a summary of the local bus services in the vicinity of the site. Text coloured blue represents an update from the original TA.

Table 6 – Summary of Local Bus Services

No.	Route	Nearest Stop	Weekday Frequency			Weekend Frequency	
			Frequency	First Bus	Last Bus	Saturday	Sunday
60	Gloucester – Dursley – Wotton-Under-Edge - Thornbury	Charfield Primary School	Every two hours	07:04	17:19	Every two hours	No Service
84	Yate – Wotton-Under-Edge – Yate	Charfield Primary School	Four per day	06:50	16:50	Four per day	No Service
85	Yate – Chipping Sodbury – Wotton-Under-Edge – Chipping Sodbury – Yate	Charfield Primary School	Three per day	11:24	19:24	Three per day	No Service

626	Wotton-Under-Edge – Charfield – Rangeworthy – Winterbourne – Bristol City Centre (School service only)	Charfield Primary School	One per day	06:57	No Service	No Service	No Service
860	Gloucester – Whitminster – Katherine Lady Berkeley – Wotton-Under-Edge (School service only)	Charfield Primary School	One per day	07:47	No Service	No Service	No Service
968	Charfield – The Castle School (School Service only)	Charfield Primary School	One per day	08:09	No Service	No Service	No Service
X6	Sharpness – Berkeley – Stone – Charfield – Katherine Lady Berkeley School (school service only)	Charfield Primary School	One per day	07:50	No Service	No Service	No Service

Source: Traveline South West (27.05.20)

- 4.5.2. Charfield is still served by three main bus services; the 60, 84 and 85. The route of each bus service has not changed, with the main destinations being Yate, Wotton-under-Edge and Chipping Sodbury. The service times have changed since the time of the original application, albeit generally only minor changes by a couple of minutes. The 60 and 84 bus service continue to operate during peak hours and facilitate some commuting trips, with the three key services also facilitating access for shopping and leisure purposes throughout the day.
- 4.5.3. Services continue to operate to The Castle School (taking c.21 minutes) and Katherine Lady Berkeley School (taking c.11 minutes). An additional service now provides an additional route to Katherine Lady Berkeley School.
- 4.5.4. A review of Journey to Work Census data was previously undertaken to assess the demand for travel by commuters to various employment locations. Table 3.4 of the original TA showed that the highest demand for commuter travel was to Bristol (inc. North Bristol) at 36%, with demand also towards Yate, Chipping Sodbury and Wotton-under-Edge.
- 4.5.5. Since the time of the original application the 2011 Census Data remains the most up-to-date source of information available. SGC have noted in various responses that they do not believe that bus demand has changed significantly since the time of the 2011 Census.
- 4.5.6. It is therefore considered that the existing services continue to provide local routes for commuting, school, retail and leisure purposes. The primary demand for commuter services to north Bristol (including UWE) and Bristol City Centre which has the opportunity to be improved by bus provision.

4.6. Local Rail Services

- 4.6.1. The original TA reviewed existing local rail services available from Cam & Dursley station (c.14km from the site) and Yate (13.5km away). Table 3.6 of the original TA detailed the hourly services from both stations towards Bristol Temple Meads and Gloucester. No notable changes have been made to these services since the time of the original application.

Potential Reopening of Charfield Rail Station

- 4.6.2. The original TA outlined the latest position, at the time of writing, of the station's potential to reopen. At the time of writing, a sum of £300,000 had been approved by the WECA to commence 'Grip Stage 3/4' 'Feasibility' which included assessing options for the location of the station and car park, and developing cost estimates and timescales.
- 4.6.3. The reopening of the station had previously been assessed by Systra Ltd within a Feasibility Assessment (December 2016) which had been prepared to support the (now withdrawn) JSP and its' inclusion of the reopening of Charfield Rail Station. The report demonstrated a preliminary cost ratio of 2:37.1, i.e. for every £1.00 invested in the station there is an economic benefit of

£2.37 generated. The report concluded that the reopening of Charfield Rail Station is feasible and can be accommodated without the implementation of the proposed development; however, that further development within Charfield strengthens the case for the station substantially.

4.6.4. SGC stated in their formal pre-application response to the original application that the Feasibility Assessment had not been submitted. This document was prepared in December 2016 to support the JSP and was submitted publicly through Local Plan Representations. It did not form part of the original application documentation. Nonetheless, the Systra 2016 Feasibility Assessment has been appended to this TAA as **Appendix B**. Note that this report is now four-years old and some elements have been superseded by ongoing work undertaken by SGC and by Network Rail (on behalf of SGC). The Systra Feasibility Assessment should therefore be read for information purposes only.

4.6.5. Since the time of the original application WECA approved further funding of £1.2 million to take Charfield Rail Station forward in June 2019. Information obtained from SGC in June 2020 demonstrates the current timescale (at the time of writing):

- Station Design commissioned to Network Rail in December 2019
- Outline Business Case commissioned to consultant in December 2019
- Network Rail Feasibility Report (GRIP 2) completion – Summer 2020
- Outline Business Case completion - Autumn 2020
- Station Design (GRIP 4) & Planning Application - Summer 2021
- Full Business Case anticipated Summer 2021
- Procurement (GRIP 5) completion – Summer 2022
- Construction, Delivery and Handover (GRIP 8) – Summer/Autumn 2023;
- Passenger Services – Autumn 2023 for Dec 2023 timetable change.

4.6.6. SGC stated in their formal consultation response to the original application that *‘SGC are at Grip Stage 1-4 and WECA have invested £1.2million to take forward. This affords a much higher degree of certainty in the proposals.’*

4.6.7. It is also recognised that the recently published WECA JLTP4 2020-2036 (March 2020; summarised in Section 3 of this TAA) includes reference to the station reopening:

*‘Our proposed and well advanced Metrowest programme will deliver by **2023/24**:*

- *‘New station at Charfield funded through the WECA Investment Fund to support housing growth.’*

4.6.8. If the station were to reopen by 2023/24 as the WECA JLTP4 states, timescales are anticipated to be in line with the anticipated early build-out of this Amended Scheme and therefore the take-up of rail as a mode of travel to and from the site is a realistic prospect for all journey purposes. The station will also provide travel options for existing residents within Charfield and the adjacent environs, thereby helping to reduce vehicle trips on the local and strategic highway network

4.6.9. The fact that WECA have been prepared to commit such a financial sum to the feasibility work for reopening the station demonstrates their commitment to the project. Whereas the delivery of the station cannot be guaranteed this the funding provisions increases the level of certainty of the station coming forward.

4.7. Summary of Site Accessibility

4.7.1. The updated assessment of the site’s existing accessibility credentials notes the following changes since the time of the original application:

- All key services remain in the village, although further retail provision has been recently approved which will further improve the site's accessibility credentials;
- The existing walking and cycling network remains suitable to support this development considering recent and committed improvements to pedestrian footways along Wotton Road and crossing facilities, subject to footway improvements along Wotton Road between the proposed site access and the Pear Tree Inn public house.
- The existing bus services remain as outlined in the original TA, albeit with minor changes to service times and frequencies. There are opportunities to improve the existing bus service provision to make it more reliable, frequent and direct to encourage the uptake of this mode of travel; particularly for commuters travelling to Bristol;
- Whilst the site is not dependent on the reopening of Charfield Rail Station, recent further investment by WECA has strengthened the degree of certainty in its' reopening as recognised by SGC in their consultation response, which will significantly benefit both existing residents of Charfield and future site users in terms of public transport accessibility. The funding also demonstrates WECA's commitment to the station reopening.

4.7.2. Development in this location is still considered suitable to make the best possible use of existing provision and further enhance the local areas' accessibility credentials through on-site uses (including education, retail and employment provision) and footway improvements. The site will also contribute towards key sustainable infrastructure to ensure that walking, cycling and public transport remains a positive option for future residents. The development of 525 dwellings will enhance the overall sustainability credentials of Charfield, a settlement which is already considered to have sustainable benefits.

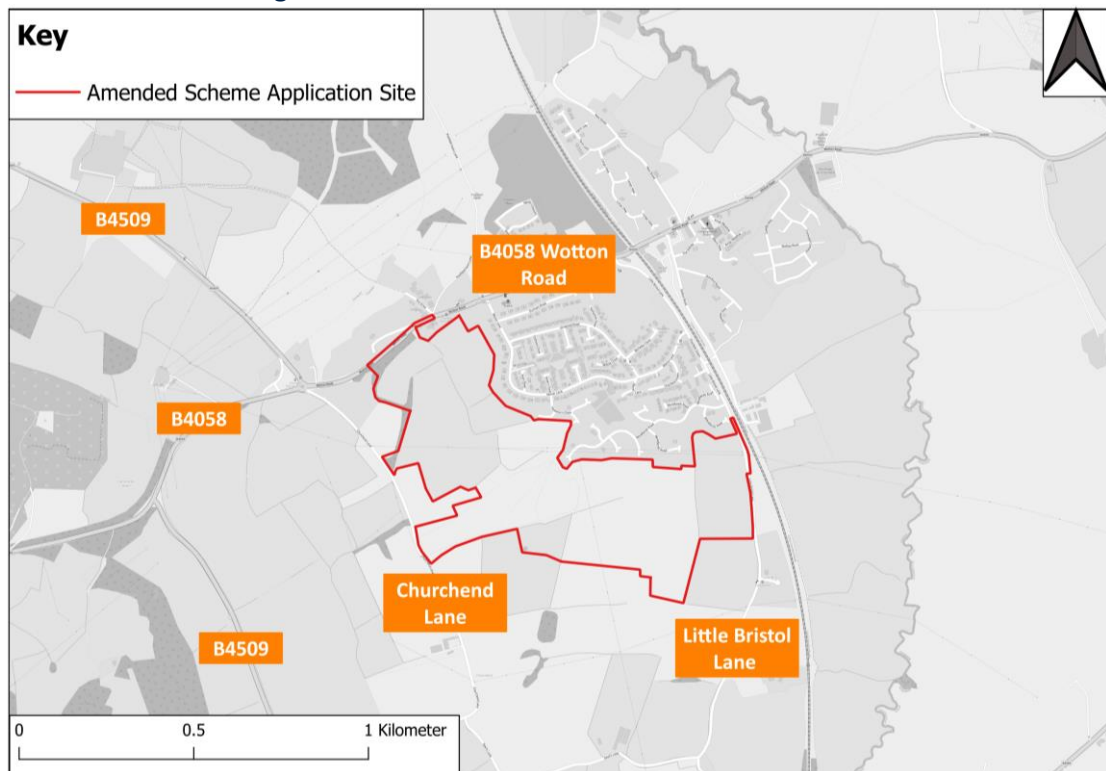
5. Existing Highway and Traffic Conditions

- 5.1.1. This Section of the TAA considers the existing junctions, local and strategic highway network and provides an updated review of Personal Injury Accident analysis in relation to the Amended Scheme.

5.2. Site Location

- 5.2.1. Figure 4.1 of the original TA detailed the existing site location and red line boundary. The red line boundary has been refined through the Amended Scheme, as shown in Figure 1.

Figure 1 Amended Scheme Red Line Plan



5.3. Local and Strategic Highway Network

- 5.3.1. Section 4.3 of the original TA detailed the existing highway conditions around the site; including the B4058 Wotton Road; Little Bristol Lane; Churchend Lane, Devils Lane and the B4509 Tortworth Road as well as the M5 Junction 14 and the A38 further afield. No significant changes have been made to any of the roads surrounding the site since the time of the original application, other than the local pedestrian footway and crossing improvements along Wotton Road as outlined in Section 4.

5.4. Traffic Counts and Speed Surveys

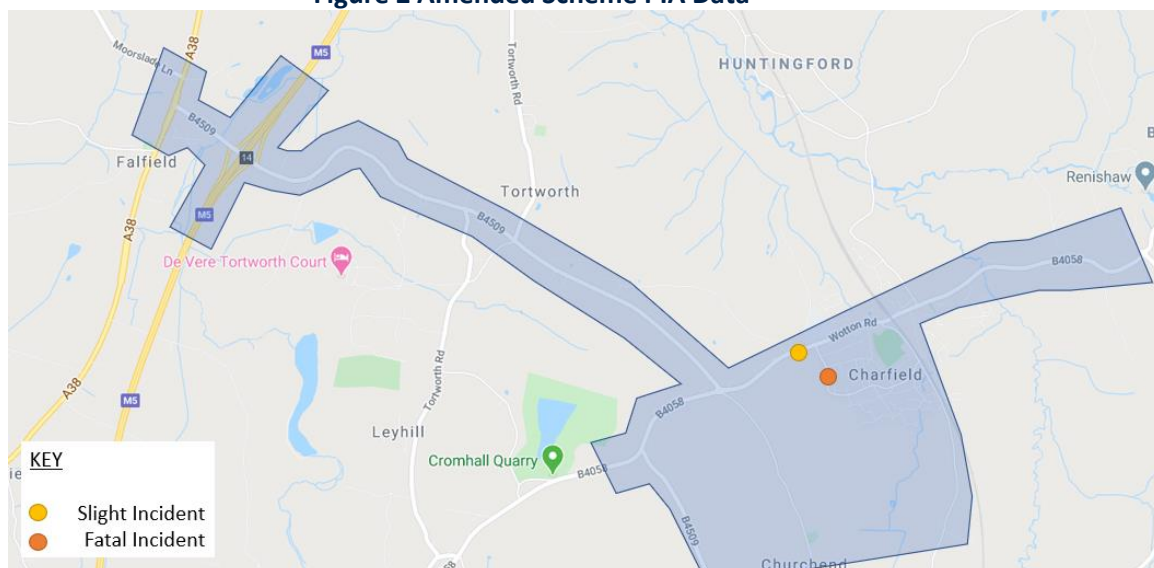
- 5.4.1. Various surveys were undertaken to support the original TA between June 2016 and May 2018. The scope and locations of these surveys were agreed in advance with both SGC and HE. Table 4.1 of the original TA details the average two-way traffic volumes along all local roads in the vicinity of the site whilst Table 4.2 and Table 4.3 provide a summary of the average and 85th percentile speeds along Wotton Road. All survey data was contained within Appendix H of the original TA.

- 5.4.2. In addition, two closed network residential locations of Farm Lees and Woodlands Road were surveyed to assess their trip generation. These results were used to obtain a robust local trip rate for the proposed site as requested by and agreed with SGC.
- 5.4.3. The surveys undertaken through 2016-2018 generally did not include local committed and emerging developments, as the majority of housing growth within Charfield occurred following this date.
- 5.4.4. Section 8 will detail that, as per the previous assessment, any committed developments and background traffic growth will be added to all base recorded traffic flows to achieve a robust baseline traffic assessment when assessing the 2018 Base (retained for consistency with the original application) and the 2023 and 2029 future years.

5.5. Personal Injury Accident (PIA) Analysis

- 5.5.1. The original TA gave an account of the most recently available, at the time of writing, PIA data which had been obtained from 1st August 2013 to 31st July 2018 from SGC. The scope of PIA analysis requirements was agreed with SGC and HE at the original application pre-application stage and continued use was agreed through the most recent Scoping exercise (June 2020)
- 5.5.2. Section 4.6 of the original TA described a total of 24 PIAs across the study area over the five-year period. Given the size of the study area, this number of incidents is considered low; particularly as it includes the M5 Junction 14 and the A38 junction with the B4509. The majority of incidents were shown to be a result of diver or rider error.
- 5.5.3. Whilst no comment was made by SGC through the formal application process, HE stated in their response that *'there is no pattern in PIA data at the M5 J14 which suggests that the existing junction arrangement is at fault for any accidents recorded; of which all were 'slight' in nature and were a result of driver error.'*
- 5.5.4. To support this Amended Scheme, an updated account of PIA incidents has been obtained for the period 1st August 2018 to 29th February 2020 (the latest available data at the time of writing) from SGC. To ensure consistency with the scope of assessment agreed through the original application the same study area was obtained; which includes the whole of Charfield village, the B4058 (to Renishaw to the east) and the length of the B4509 including the M5 J14 and the B4509/A38 junction.
- 5.5.5. A total of two incidents have been recorded in the latest available 18-month period across the study area. Figure 2 demonstrates that the location of these incidents, whilst the full PIA report and plot obtained from SGC is contained within **Appendix C**.

Figure 2 Amended Scheme PIA Data



5.5.6. As demonstrated in Figure 2, both recorded incidents occurred within the village. No recently recorded incidents (at the time of writing) have occurred along the B4059 or at the M5 Junction 14 or the A38 junction with the B4059. No incidents have occurred to the east of the village, or along Little Bristol Lane.

5.5.7. The recorded incidents are summarised as:

Incident 1. 'Slight' (19th October 2018). Incident occurred on the B4058 Wotton Road (outside no. 12).

Vehicle 1 was travelling eastbound down Charfield Hill when it stopped to turn right into driveway. Vehicle 2 approached from behind and collided with the rear of vehicle 1. The passenger of both cars is recorded to have obtained 'slight' injuries.'

Incident 2. 'Fatal' (16th January 2019). Incident occurred on Manor Lane (outside no. 146).

'Vehicle 1 reversed from their driveway onto road. Driver was aware of pedestrian stood on the opposite footway watching the car reverse. Driver became aware of a slight bump and realised that the pedestrian had crossed behind his vehicle and the pedestrian was knocked over sustaining fatal injuries.'

5.5.8. Any PIA incident is regrettable and particularly those recorded as fatal. However, the fatal incident recorded on Manor Lane on 16th January 2019 is considered to have been an unfortunate accident and not as a result of any deficiencies in the local highway or footway network. A further review of this location identifies that Manor Lane is supported by footways on both sides of the carriageway which are provided with suitable lighting, and the nature of the road is such that vehicles that do reverse from their driveways have ample space and visibility to do so safely.

5.5.9. The 'slight' incident recorded on Wotton Road is again regrettable but is considered a result of either failure to indicate by driver 1, or driver 2 driving too close to the vehicle in front.

5.5.10. Overall, a record of just two incidents across the entire study area within an 18-month period, and just 24 total incidents over this area in the preceding five-year period, with no incidents attributed to any deficiencies in the highway network, demonstrates that there is no pattern in the data which may worsen as a result of the proposed development.

5.5.11. There are several changes made recently within Charfield including pedestrian crossings along Wotton Road (described in Section 4) implemented through committed developments which will

further improve safety within the village, along with those proposed through this Amended Scheme.

5.6. Summary of Existing Site Conditions

5.6.1. The updated assessment of the site's existing junctions, local and strategic highway network and provides an updated review of PIA analysis notes the following changes since the time of the original application:

- The site's red line has changed, however there have been no recent, significant changes to the local (or strategic) road conditions in the vicinity of the site;
- The traffic surveys undertaken to establish Base traffic volumes and trip rates have been agreed in advance with SGC;
- An updated assessment of PIA data demonstrates that two PIAs have been recorded since the previous assessment (between 1st August 2018 and 29th February 2020). Both incidents were recorded within the village with no incidents recorded elsewhere. Of these incidents, one was regrettably recorded as 'fatal'; however, neither incident was attributed to any deficiency in the existing highway, pedestrian or cycle network. Whilst any incident is regrettable, no pattern is identified in the data which may worsen as a result of this proposed development.

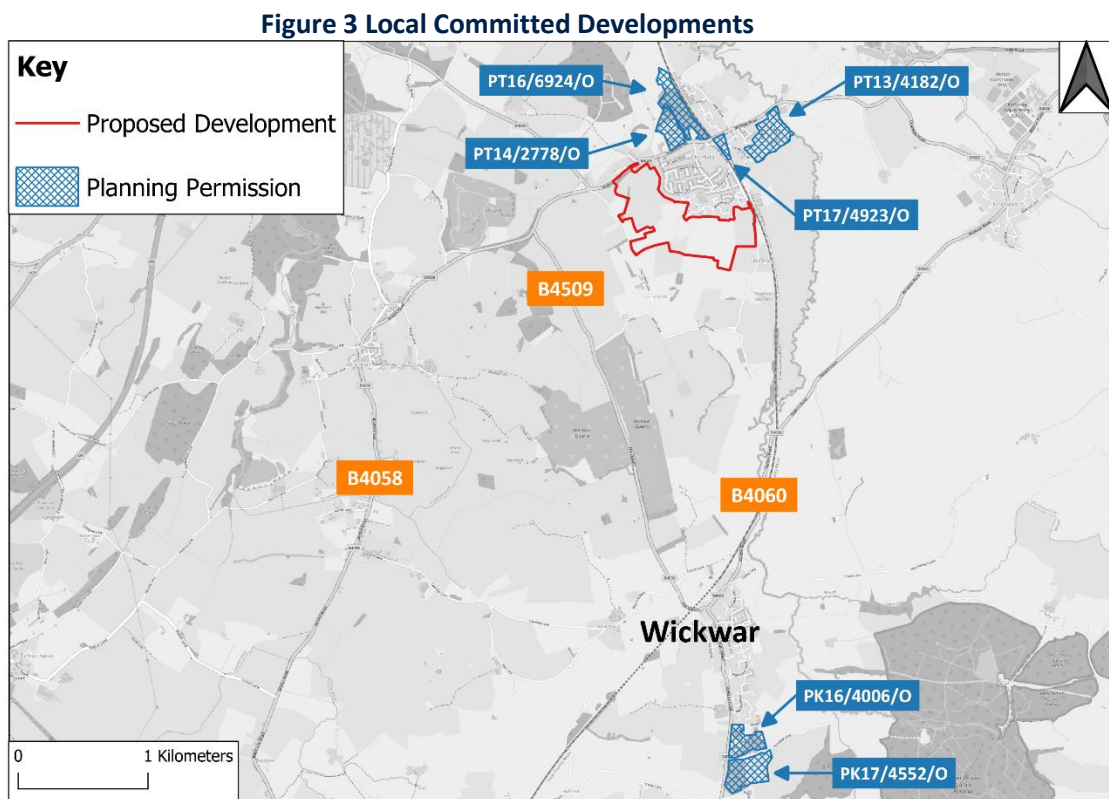
6. Committed Developments and Transport Improvements

6.1. Introduction

- 6.1.1. This Section of the TAA discusses the relevant committed and emerging developments which have been identified through this assessment, considering both 'local' and 'wider' developments and any associated transport improvements.

6.2. Local Committed Developments

- 6.2.1. The Committed Developments required for assessment are detailed in Figure 3. They include an additional development since the time of the original application; at MJ Fews Ltd (application ref: PT17/4923/O) in the centre of Charfield.



Land South of Wotton Road, Charfield (M.J. Fews)

Outline Planning Permission granted 17th May 2019; Reserved Matters validated 28th February 2020. (ref: PT17/4923/O). c.375sq.m A1 Use Class retail unit.

- 6.2.2. The site was originally supported by a brief Transport Statement produced by David James & Partners in October 2017. Following initial responses from SGC a further Transport Statement was produced by MBC in May 2018. It described the traffic impact of the proposals with traffic flow diagrams provided in drawing no. 25275/300. Following further comment, no objection was made on highways grounds; and the site received outline planning approval in May 2019. The site is currently subject to a Reserved Matters application at the time of writing.
- 6.2.3. All other Committed Developments remain as previously agreed with SGC through the original application. A detailed summary is provided in the original TA:
- **Land South of Wotton Road, Charfield** (ref: PT13/4182/O). Allowed at Appeal June 2015. 106 dwellings;

- **Land in Field known as Day House Leaze, Charfield** (ref: PT16/0462/O). Allowed July 2016. 64 dwellings;
- **Land North of Wotton Road, Charfield** (ref: PT16/6924/O). Allowed at Appeal July 2018. 121 dwellings;
- **Land South of Poplar Lane, Wickwar** (ref: PK16/4006/O). Allowed July 2016. 80 dwellings;
- **Land South of Horwood Lane, Wickwar** (ref: PK17/4552/O). Allowed November 2018. 90 dwellings.

6.2.4. Whilst a number of these committed developments have now been either partly or fully occupied, they have been retained for inclusion within all modelling assessments as some base traffic surveys (detailed in Section 5) were undertaken prior to their completion. An element of double counting between these sites and background growth, which is also added to the base traffic flows, is therefore expected; however, provides a robust assessment of the potential traffic impact on the surrounding highway network.

6.2.5. As detailed in Section 4, of these committed developments, a number of local 'accessibility' improvements have been, or are due to be, implemented:

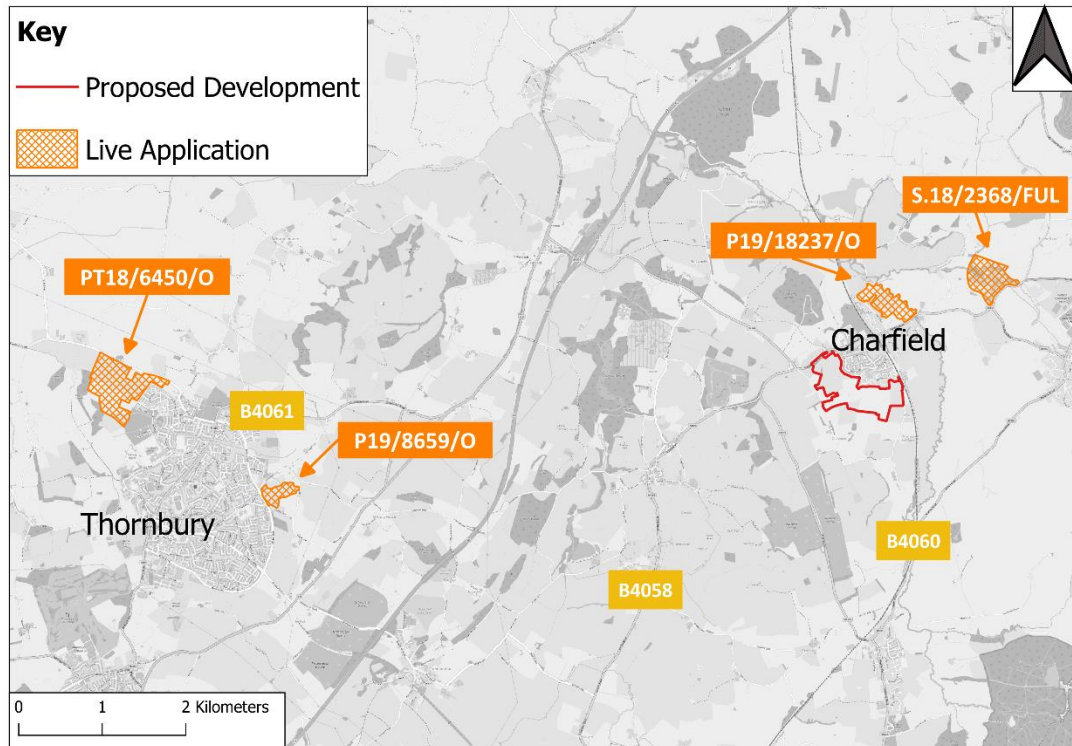
- Land in Field known as Day House Leaze (PT16/0462/O):
 - Replaced pedestrian refuge island on Wotton Road including section of footway between site and school and layby (see drawing number 27365/001/SK03 Rev. E as part of planning application number: PT16/0462/O);
 - Financial contributions for improvements to existing bus stops.
- Land North of Wotton Road (PT16/6924/O)
 - Creation of a right turn lane priority junction to access development including widening of the existing carriageway (see drawing number 10115/500 Rev.A); and
 - Creation of an at grade pedestrian crossing on the western side of the new junction together with the provision of a central traffic island (also drawing number 10115/500 Rev.A).

6.2.6. Whilst recent, local committed developments account for a total of 461 residential dwellings and some small-scale retail, only two (Day House Leaze and Land North of Wotton Road; accounting for a total of 185 dwellings) provided minor junction or transport improvements. None of the above Committed Developments have been required to provide transport improvements or contributions towards mitigation schemes at local junctions or at the M5 J14, or any improvements to sustainable transport opportunities beyond the village including walking, cycling and public transport links.

6.3. Local Emerging Developments (Sensitivity Testing)

6.3.1. Evoke are aware of two current live planning applications in the local area, and another two in nearby Thornbury which have been requested for inclusion within the accompanying Environmental Impact Assessment. To provide a cohesive approach, all four potential developments have been assessed through this TAA as 'sensitivity tests' when considering the cumulative impact of the proposed development on the surrounding road network. They are demonstrated within Figure 4 and summarised in the paragraphs below.

Figure 4 Local Sensitivity Tests



Land North of Wotton Road, Charfield (SGC) (ref: P19/18237/O). Application validated 13th January 2020.

- 6.3.2. Hybrid application for up to 250 dwellings and community/employment uses (0.28ha for B1a or D1/D2 uses). The first phase (107 dwellings) is submitted in full (all matters to be determined) with the remainder in outline (access to be determined with all other matters reserved). Referred to through this TAA as 'Bloor Homes' application
- 6.3.3. The Bloor Homes application was previously treated as a sensitivity test when assessing the capacity of local and wider junctions through the original application despite no application having been submitted at the time of writing.
- 6.3.4. It is noted that the Bloor Homes TA does not include the CEGCLC site as a sensitivity test; nor does it include the two Committed Developments in Wickwar which SGC requested inclusion of for this original application or the Renishaw application (sensitivity test). It is also noted that the assessment of the M5 Junction 14 does not include the committed developments requested for assessment by HE through their development tracker.
- 6.3.5. CEGCLC were aware of this potential emerging application through its' involvement in the WoE JSP draft allocation for Charfield and as a result a collaborative approach was taken wherever possible between the landowners, client teams and consultants. This included:
 - A joint public consultation held by CEGCLC and Bloor Homes on 19th May 2018;
 - Joint meetings between Systra (representing CEGCLC at the time of the original application), Clarkebond (representing Bloor Homes) and SGC highway and planning officers;
 - Regular Charfield Liaison Group meetings with members of the public, attended by SGC and both client and transport consultant teams;
 - Development of an integrated traffic calming scheme to ensure a cohesive approach;
 - Collaborated Bus Strategy which involved national bus operator Stagecoach Buses and another nearby potential development;

- Collaboration of funding for the establishment of a potential mitigation scheme at the Churchend Roundabout;
 - Collaboration of testing of the M5 Junction 14, and potential mitigation schemes (also combined with another nearby potential development);
 - Sharing of data including trip rates and topographical survey information;
 - Use of sensitivity testing by Systra to include the potential Bloor Homes development; and
 - Provision of wider sustainability and accessibility improvements within the village.
- 6.3.6. Following submission of the original application collaboration continued and CEGCLC and Bloor Homes prepared further evidence to support the Joint Bus Strategy which was prepared alongside Stagecoach Buses and Buckover which was submitted to SGC in July 2019.
- 6.3.7. In addition, ongoing liaison between all parties continued following withdrawal of the JSP and submission of the Bloor Homes application in January 2020 to the present date (June 2020).
- [New Mills, Renishaw Plc. \(SDC\) Application validated 1st November 2018 with amended information submitted in March 2020 \(including TA Addendum\) \(ref: S.18/2368/FUL\).](#)
- 6.3.8. The application proposes to create 845 car parking spaces and 11,039sq.m of new B1(b) floorspace.
- 6.3.9. Cotswold Transport Planning (CTP) produced a TA in March 2018 which detailed low trip generation as a result of the proposals; offset by the apparent staff working patterns of which some are outside of network peak hours. It was recognised by CTP that there are no walking or cycling links from the site to any nearby villages with no access to bus stops and the Travel Plan for the site identified no targets for increasing walking, cycling or public transport to/ from the site.
- 6.3.10. GCC highway comments state that, *'it is considered distances from the surrounding settlements are too great to warrant new pedestrian and cycle links.'* It also accepts the proposed, limited, trip generation assumptions.
- 6.3.11. Highways England, in their response dated 26th March 2019, offered no objection to the proposals and state that they, 'are of the view that the development in question would lead to an increase in vehicle demand at M5 Junction 14 which could not be considered to constitute a material impact. Whilst we are aware that the operation of M5 Junction 14 is constrained at peak times, the impact of the proposal is unlikely to be perceptible as and such we would find it difficult to sustain an objection.'
- 6.3.12. As the adjacent local highway authority, SGC provided comments to this proposal as the site, being on the boundary of SDC and SGC, has the potential to impact on SGC's highway network. SGC, in their response dated 22nd October 2019, stated that the proposals are not suitably justified in the transport assessments with the proposals including a 79% increase of car parking (compared to existing use which is at 95% capacity).
- 6.3.13. SGC considered that the impact of the Renishaw extension on the village of Charfield, Wickwar and on the M5 Junction 14 is under-estimated by CTP and that the Travel Plan 'lacks a genuine intention to reduce car travel as it concentrates solely on car based travel and the proposal provides a surplus of car parking space.'
- 6.3.14. Following this, a TA Addendum was provided by CTP in March 2020 and a response provided by SGC on 26th March 2020. The SGC response again expressed significant concern over the anticipated trip generation, distribution, impact at local junctions and at the M5 Junction 14 and Renishaw's failure to provide any walking, cycling or public transport improvements and thus rely solely on car based travel.
- 6.3.15. At the time of writing, no further comments have been publicly made by CTP, GCC or SDC.

Land West of Park Farm, Butt Lane. Outline application, validated 21st December 2018 (ref: PT18/6450/O)

- 6.3.16. Up to 630 dwellings and land for a retail/community hub (Use Classes A1/A2/D1). An amended scheme with a full suite of supporting information was submitted in January 2020 including a 1FE primary school and a marginal reduction in capacity (to 595 dwellings), along with other layout/design changes;
- 6.3.17. A Revised Transport Assessment was produced in December 2019 by Peter Brett Associates (PBA) (now Stantec), which included an assessment of the development's impact at the M5 Junction 14; considering 86-87 two-way movements in the AM and PM Peak periods respectively.
- 6.3.18. PBA propose a small-scale mitigation scheme at the M5 J14 which involves the extension of the northbound off-slip to provide a two-lane exit of approximately 350m. HE have detailed in their latest response (28th January 2020) that the site should not be granted planning permission for a period of six months to allow for modelling assessments to be finalised. However, no details of the proposed mitigation scheme, including any proposed drawings, have been made publicly available at this time.

Land at Crossways, Morton Way. Outline application validated 16th July 2019 (ref: P19/8659/O)

- 6.3.19. Up to 80 dwellings and up to 1ha of B1/B2/B8 employment. The TA, prepared by Jubb in July 2019, provided details of the trip generation and distribution of traffic; of which it anticipated that 7.4% would travel north/south along the A38 (N). No assessment was made of potential impact at the M5 Junction 14.
- 6.3.20. At the time of writing, no publicly available comments have been received from SGC or HE.

6.4. Wider Developments (for testing of M5 J14)

- 6.4.1. Through the original application, use of a list of wider committed developments was compiled and agreed between SGC, SDC and HE. The purpose of this list was specifically for use when testing the impacts of nearby committed and emerging developments at the M5 J14.
- 6.4.2. As well as the above committed developments, the list also contained traffic generation assessments from committed developments from further afield.
- 6.4.3. An updated list of Committed Developments has been requested by Evoke for inclusion within further modelling to be undertaken through this Amended Scheme. At the time of writing, no final updated list has been provided.

6.5. Summary of Committed Developments

- 6.5.1. Since the time of the original application, the following changes have been made;
- A further 'Committed Development' has been approved since the time of the original application; at MJ Fews, Charfield;
 - The revised assessment of Committed Developments therefore includes those previously assessed in addition to MJ Fews. All committed development traffic has been added to base surveys and background traffic growth allowing for a robust assessment;
 - A further four developments in the local area have been considered as 'Sensitivity Tests' due to them (at the time of writing) being live planning applications but not committed.
 - The wider committed developments for use for testing of the M5 Junction 14 has been requested by Evoke. No details have been provided at the time of writing.

7. Proposed Development

- 7.1.1. This Section of the TAA details the proposed Amended Scheme in terms of development details, vehicle and non-vehicle access, internal site layout, delivery and servicing arrangements, car and cycle parking provision and anticipated construction methodologies.
- 7.1.2. As previously stated, this TAA provides further information where the scheme proposals have changed since the time of the original TA submitted in March 2019 and should therefore be read alongside this document. Where comments have been provided by SGC, these have been reviewed and responded to where necessary.

7.2. Development Details

- 7.2.1. This Amended Scheme comprises the following:
- A reduction in the red line boundary to the south and to the north east of the church (residential capacity is 525 units);
 - Expansion of the reserve site to accommodate a 3FE primary school;
 - The retention of the previously proposed neighbourhood centre (with provision for up to 1,800m² commercial floorspace and up to 0.3ha additional employment provision);
 - The inclusion of 3 sports pitches; and
 - Realignment of the internal estate road to run to the north of the site.

7.3. Vehicular Site Access Arrangements

- 7.3.1. The proposed site access arrangements for the Amended Scheme have not changed since the time of the original application. As such, the site is proposed to be accessed via two points of vehicular access; onto the B4058 Wotton Road to the north and onto Little Bristol Lane to the east which will also provide pedestrian and cycle access into the site.

SGC Consultation Response to Live Application

- 7.3.2. SGC noted in their formal consultation response to the live application (full response included as **Appendix A**):
- There is a concern in relation to the ability of this junction [site access onto Wotton Road] to operate in morning peak hours with congestion on Wotton Road and from the Churchend Roundabout. The calculations of demand relate to the optimistic modal share;
 - The queues would impact upon the viability/consistency of the bus services should they travel through the site;
 - A Stage 1 RSA is required to reflect the proposed site access designs.
- 7.3.3. SGC have also provided additional comment on the Wotton Road site access proposals following a meeting with SGC (planning and highways) and Evoke on 14th January 2020, where they stated:
- ‘Post meeting note: SGC note that C116 replaced TD16/07 in July 2019 and no longer references the issue of siting roundabouts on long descents, implying that this location could be suitable for a roundabout.’*
- 7.3.4. The most recent pre-application comments, provided in June 2020, again request that a roundabout should be considered; citing that it would have a significant benefit in reducing speeds entering and exiting the village.
- 7.3.5. The following paragraphs respond directly to each of the points made by SGC.

Site Access Form onto Wotton Road

- 7.3.6. The proposed site access onto Wotton Road was assessed at length through the original application through detailed analysis of the existing site and local area conditions, safety considerations, topography, anticipated trip generation and other factors including pedestrian safety permeability. National guidance DMRB TD 16/07: Geometric Design of Roundabouts was considered; as being (at the time of writing) the relevant design guidance.
- 7.3.7. C116: Geometric Design of Roundabouts replaced TD16/07 in July 2019 as referenced by SGC. The new guidance does not provide recommendations for the siting of roundabouts, however there are other factors in determining the junction form which were previously considered and are not referenced by SGC. These have been previously described, alongside the issue of junction siting, in the original TA and are summarised as:
- Forward visibility in accordance with Table 3.43, C116 cannot be achieved on the eastern arm (Wotton Road East); as previously demonstrated in Appendix L of the original TA;
 - A roundabout to access the site could be located further west to improve forward visibility, however there are other design issues which includes accommodating the existing access on the opposite side of Wotton Road which mean that a roundabout is unfeasible;
 - If a roundabout were to be located further west, Wotton Road is then on an incline and significant earthworks would be required to create a relatively level plateau for the junction;
 - A roundabout in this location would require changes to the route of the existing PRoW;
 - Provision of a roundabout further west would result in less distance between the access and the Churchend Roundabout resulting in potential impacts on both safety and capacity at both junctions.
- 7.3.8. The proposed junction form, as a ghost-island right-turn lane has the following benefits:
- The proposed junction arrangement would result in a c.260m distance between the site access and the Churchend Roundabout with a right-turn lane providing storage capacity for turning vehicles of 50m in length; thus there would be no impact from the junction on the Churchend Roundabout; or on through-flow of traffic on Wotton Road (as shown through junction modelling);
 - The proposed junction has been designed in accordance with all relevant design requirements and includes a right-turn lane of 3.6m in width with a 50m long storage capacity to accommodate 9 vehicles;
 - Visibility is achievable at 2.4m x 90m in both directions; above the requirements for a 30mph road of 2.4m x 43m (in accordance with Manual for Streets);
 - The proposed site access has been subject to capacity modelling and is suitable to support the previously proposed level of development of 950 units (and associated uses) as well as this Amended Scheme;
 - The proposed site access has been designed in terms of geometries and capacity to facilitate bus movements through the site if required;
 - Two pedestrian refuge islands are included within the design to facilitate crossing on Wotton Road (a roundabout would not result in any increase in pedestrian crossing capability);
 - The proposed access design incorporates the existing PRoW with no re-routing required;
 - The proposed access design is considered the most appropriate with regards to this specific location; resulting in the least intrusive earthwork or construction traffic control measures compared with a roundabout on Wotton Road.

Capacity of Proposed Junctions

- 7.3.9. The capacity of the proposed junctions arrangements onto Wotton Road and Little Bristol Lane were assessed in detail through the original TA which concluded that both junctions could sufficiently accommodate up to 900-950 units and associated uses, as well as buses running

through the site (if required). No reduction in trip generation was made through any analysis of the potential impact at either junction (despite being suggested by SGC) and therefore all assessments were considered an extremely robust account of the potential future capacity. SGC's reference to an 'optimistic modal share' is therefore an incorrect assumption.

- 7.3.10. The capacity of both proposed junctions has been re-assessed for this Amended Scheme within Section 9 of this TAA, again taking no account of any potential reduction in traffic through modal shift to other transport modes. It demonstrates that the proposed site accesses continue to operate well within their theoretical capacity; even taking account of future traffic growth, committed developments and sensitivity testing.

Road Safety Audits

- 7.3.11. Stage 1 Road Safety Audits (RSA1) were undertaken by a third-party to support the original application, as referenced through Section 7.6 of the original TA. The RSA1s were attached to the original TA as Appendix O. The RSA1s confirmed that there are no material safety issues with either proposed access arrangement.
- 7.3.12. As per national guidance, SGC's policy on the 'Road Safety Audit of highway improvement Schemes' (September 2015) requires that an RSA1 is undertaken on completion of draft plans or preliminary designs. An RSA Stage 2 should then be undertaken during or on completion of detailed design.
- 7.3.13. The guidance states that *'Stage 1, 1/2, and Stage 2 RSAs should be repeated if the scheme design materially changes, if there are many minor changes which together impact on road safety, or if the previous finalised RSA for the relevant stage is more than 5 years old.'*
- 7.3.14. The RSA1s were undertaken to support the preliminary site access designs in March 2017. Since this date, there have been no material (or many minor) changes which impact on road safety; and the RSA1s are less than five-years old. The RSA1s are therefore considered suitable for continued use.
- 7.3.15. A Stage 2 RSA will be completed during or on completion of detailed design in accordance with SGC's guidance.

Summary of Site Access Arrangements

- 7.3.16. Whilst a reduction of unit numbers through the Amended Scheme will result in less impact at either site access in terms of capacity, both proposed site accesses have been retained as previously proposed to ensure their long-term viability and to continue to allow for future routing of buses through the site if required. The proposed site access onto Wotton Road continues to include two pedestrian refuge islands to facilitate crossing on Wotton Road.
- 7.3.17. The proposed site access arrangements, in their current form, are considered the most suitable accesses to support the proposed Amended Scheme of 525 units. The preliminary designs, undertaken through the original TA and included as Appendix M and N, are included for ease of reference in **Appendix E**, with the RSA1s included for ease of reference in **Appendix E**.
- 7.3.18. The capacity of the site access arrangements has been reassessed based on the Amended Scheme and is found in Section 9 of this TAA.

7.4. Non-Vehicular Access

- 7.4.1. As per vehicle access to the site, the proposed non-vehicular site accesses remain as previously proposed. No comment has been made by SGC through the original application and it is therefore understood that these non-vehicular access arrangements are considered acceptable.
- 7.4.2. The proposed non-vehicular access arrangements include:

- Access from Wotton Road to include a new, 3m wide footway/cycleway between the site access and the Pear Tree Inn public house c.70m to the east. A drawing was contained within Appendix K of the original TA and is again attached to this TAA as **Appendix F** for ease of reference;
- Access from Little Bristol Lane will also be provided with a 2m wide footway on either side of the carriageway to tie into the existing footway network; as demonstrated within Appendix N of the original TA and again attached to this TAA as **Appendix D**;
- A high-quality network of footways; both alongside the carriageway and off road, will be provided through the site;
- Retention of existing PRowWs crossing the site, as demonstrated in the illustrative masterplan. These will be retained and, where required, upgraded or improved. These include a route through the site to link to Hawthorn Close, which would provide access to existing residents to the east of the village with a direct route to the neighbourhood centre, school, potential bus route and other facilities within the site. Further discussion will be held with SGC's highways and PRow Officers through the Reserved Matters stage.

7.4.3. With provision of various walking and cycling routes within the site including adjacent to carriageway, off-road and PRowWs, the development is considered permeable by non-car modes; successfully integrating with the village and providing benefits to both existing and future residents of Charfield.

7.5. Internal Site Layout

7.5.1. The proposed spine road travels through the centre of the site from Wotton Road, will pass the neighbourhood centre and reserve school site, and continue through the residential area to join with the access onto Little Bristol Lane. The precise route of the spine road is subject to change and is demonstrated indicatively on the illustrative masterplan.

7.5.2. The spine road will measure 6.75m wide (with localised widening on bends where required) and has been designed in accordance with SGC's Adoptable Highway Specification and Manual for Streets guidance to accommodate a bus route through the site if required.

7.5.3. The route has been designed to have the potential to accommodate traffic calming features; the precise nature of which would be discussed with SGC at the Reserved Matters stage.

7.5.4. Pedestrians and cyclists will be prioritised with 3m wide shared footway/cycleways on either side of the carriageway. Off the spine road, secondary/tertiary routes within the site will be suitably designed in accordance with relevant design guidance. The internal road layout will be refined through the Reserved Matters stage.

7.6. Delivery and Servicing Arrangements

7.6.1. As per the original application, this Amended Scheme is for outline only, with all matters Reserved except for access. The internal site layout will be designed to suitably accommodate delivery and servicing vehicles to the proposed dwellings, school, neighbourhood centre and employment with sufficient parking and space for turning provided in accordance with SGC's local guidance and national design requirements.

7.6.2. Swept-path analysis of the internal site layout will be undertaken through the Reserved Matters stage to demonstrate that all potential vehicles to access the site can enter, navigate and exit the site safely and in forward gear.

7.7. Car and Cycle Parking Provision

7.7.1. The provision of car parking (including electric vehicles) and cycles (including electric cycle charging and electric scooters), as discussed through the original TA (Section 7.9) will be

determined through the Reserved Matters stage and will be provided in accordance with SGC's requirements at the relevant time.

7.8. Construction

- 7.8.1. The original TA (Section 7.10) provided an overview of the likely construction requirements; including routes, times of operation, methods to seek to reduce the number of heavy vehicles and limit the number of construction personnel travelling to and from the site by single-occupancy car.
- 7.8.2. The consideration of a Construction Steering Group (CSG) was outlined to coordinate construction sites in the area to help to minimise the number of vehicles on the road network and maintain safe working practices within the village.
- 7.8.3. The construction requirements for this development would be similar for this Amended Scheme; although the reduction in dwellings means that the anticipated build programme will be shorter than previously anticipated (of circa 6-years compared with circa 8-10 years previously anticipated) with fewer construction workers required on site any one time. Therefore, the concentration of vehicle movements during this period will result in less of an impact than previously anticipated.
- 7.8.4. A Construction Traffic Management Plan (CTMP) would be conditioned at the Reserved Matters stage which will provide full details to minimise the impact of the construction stage with any mitigation measures set out where required.

7.9. Summary

- 7.9.1. The following changes have been made to the Amended Scheme since the time of the original application:
 - The proposed development schedule seeks a reduction in the red line boundary to provide residential capacity of 525 units, the provision of a 3FE primary school (an increase of 1FE from that previously proposed) and the retention of the previously proposed neighbourhood centre and employment provision;
 - The vehicle and pedestrian site access proposals have not changed and will ensure long-term viability of the site, permeability and the potential for buses to route along the proposed spine road if required;
 - The internal spine road is indicatively shown on the proposed masterplan, and will be subject to refinement at the Reserved Matters stage;
 - The proposed servicing and car and cycle parking arrangements will be considered in full and agreed with SGC through the Reserved Matters stage;
 - Details of construction will be assessed in full through a CTMP and agreed with SGC; including any mitigation measures to reduce the impact of construction traffic on the surrounding road network.

8. Trip Generation Analysis

- 8.1.1. This Section describes the anticipated trip generation and distribution of vehicles and other modes used to access the development, such as buses, walking and cycling for this Amended Scheme.

8.2. Vehicular Trip Generation and Internalisation

- 8.2.1. This Amended Scheme includes a local centre, additional employment and a reserve site for a 3FE primary school, which will ensure that a large proportion of trips would be undertaken by walking and cycling within the site, rather than the private car.
- 8.2.2. The village currently offers a range of local services including three pubs, a school and a small number of retail and community uses (including the recently approved shop at MJ Fews Ltd and the improved facilities at Charfield Memorial Hall). The additional services provided by the site will further improve the villages' accessibility credentials and will result in a large proportion of existing trips also being taken off the network.
- 8.2.3. Nonetheless, no reduction in existing or future trips has been made to the trips on the existing road network as a result of the provision of new facilities and improvements within the village, although the proposed development will result in a reduction of existing trips due to:
- Reserve site for a 3FE primary school which will provide additional capacity for the village, meaning that children may no longer need to travel to Tortworth Primary School or other local schools as the existing village school is reaching its' capacity;
 - Neighbourhood centre, meaning that existing residents will no longer need to travel to Wotton-under-Edge or other villages for some services;
 - Small-scale employment, which will allow for a proportion of residents to work much closer to home; and
 - Contribution towards a new bus service which will route between Charfield and Bristol, meaning that some longer trips (for commuting and retail, education and leisure purposes for example) can be made by public transport rather than the private car, when this method of travel has previously been unrealistic for some journeys.
- 8.2.4. The following trip generation assumptions are therefore considered a robust indication of the future levels of traffic within the village.

8.3. Residential Trip Rates

- 8.3.1. The residential trip rates for this Amended Scheme have been taken from those previously agreed with both SGC and HE through the original. These rates used ATC surveys at two closed network locations within the village as described through the original TA. These agreed trip rates, with the anticipated trip generation for this Amended Scheme including 525 residential units, is summarised in Table 7.

Table 7 – Residential Trip Generation

	AM (0800-0900)			PM (1700-1800)		
	In	Out	Total	In	Out	Total
Trip Rate per Unit	0.113	0.447	0.560	0.427	0.186	0.612
Trip Generation (525 Units)	59	235	294	224	98	321

- 8.3.2. As shown in Table 7 the locally derived trip generation assessment indicates that the residential aspect of the Amended Scheme is likely to generate up to 294 two-way vehicle trips in the AM

Peak period and up to 321 two-way vehicle trips in the PM Peak period. These figures take account of no reduction in vehicle trips as a result of any internalisation or anticipated modal shift.

8.4. Education and Neighbourhood Centre Trips

Education Trips

- 8.4.1. The Amended Scheme includes a reserve site for a 3FE primary school. According to latest available data (2019), the average primary school class size in England is 27.1 pupils and therefore each year may include up to 81 pupils. Across the primary school (ages 4-11), a total of up to 569 pupils are therefore expected.
- 8.4.2. Increasing capacity within Charfield means that new school places will be located within 1.2km of every property in Charfield. This is an appropriate distance for all trips to be made by walking when assessed against the IHT's Guidelines for Providing for Journeys on Foot (2000).
- 8.4.3. The existing Charfield Primary School is currently approaching capacity, and it is understood that some existing pupils travel outside of the village to access primary schools in the wider area. The closest primary school (Tortworth Primary) is located 2.6km away from Charfield Primary School and therefore the majority of parents would need to drive their children; particularly due to the limited footway provision along the route between Charfield and Tortworth Primary.
- 8.4.4. Increasing capacity within the village would therefore provide a wider benefit to the existing residents of Charfield, as well as to the new development and would be ideally located to ensure that travel on foot is a viable option for pupils and their parents.
- 8.4.5. If any vehicular trips are associated with the school, it is anticipated that these would be displaced by the loss of vehicular traffic as a result of pupils currently needing to travel to Tortworth Primary School, and to ensure a robust assessment, no discount has been made for any trips on the network.
- 8.4.6. Whilst it was previously agreed with both SGC and HE through the original application that there are likely to be no net vehicle trips associated with the school, it was also agreed that, in order to provide a robust assessment, a sensitivity test could be applied to ensure that possible trips (for example by staff) are taken into account.
- 8.4.7. As per the previous assessment, an assumption has been made of 100% of staff travelling to the school by car. Based on the size of the school, an assumption has been made that each class (21 classes for a 3FE primary school) would have one teacher (21 teachers). An additional 21 staff have also been assumed for support staff (including teaching assistants, admin staff, maintenance staff etc.); therefore a total of 42 staff.
- 8.4.8. In reality, as described above, few staff are anticipated to arrive by car and if staff did need to drive, their trips to/from the school would be displaced by the reduction in other trips which would be taken off the network (from the reduced need to travel further to the Tortworth Primary School for example). It is also important to note that teachers are less likely to enter/exit the school during network peak hours of 0800-0900 and 1700-1800 as hours of work differ.
- 8.4.9. To ensure that any vehicle trips associated with the school would be limited, there are a number of measures which will be put in place through the Reserved Matters planning application. These include appropriate parking to ensure that no overspill occurs on the surrounding road network, but that single-occupancy vehicle travel is discouraged. A School Travel Plan will also be provided which will provide a host of measures to encourage the uptake of, and promote, sustainable modes of travel. The Travel Plan would have specific targets to reduce single-occupancy vehicle travel which will be monitored by SGC.

- 8.4.10. Nonetheless, to ensure a robust assessment, an account has been made for 42 staff trips entering the school in the network AM peak and an additional 42 staff trips exiting the school in the PM peak period. This approach is consistent with the previous application as detailed in the original TA.

Neighbourhood Centre Trips

- 8.4.11. As per the original application, a neighbourhood centre is proposed on site. Whilst the precise uses are to be confirmed, it is likely to include flexible commercial uses which could include use class A1-A3, B1 and C1. This could include a small convenience store and a small number of independent shops such as a pharmacy, a takeaway or hairdresser for example as well as some community use.
- 8.4.12. Due to its small and local nature, it is anticipated that the neighbourhood centre will serve local residents and people employed at the office space. Some trips may be made by people already passing through Charfield and would not be 'new' trips on the network.
- 8.4.13. Steps would also be taken to ensure ease of access for pedestrians along their desire line from the existing residential dwellings to the east which will further ensure that the neighbourhood centre is accessible by foot or cycle for existing residents.
- 8.4.14. It was previously agreed through the original that no additional vehicle trips would be generated by the local centre, particularly in peak hours, that would be 'new' to the road network. As this Amended Scheme proposes no change to the GFA of the proposed neighbourhood centre, it is assumed that this approach will continue to be accepted.

8.5. Employment Trips

- 8.5.1. Commuting or business trips account for 18% of all trips within the National Travel Survey (2017). The provision of small-scale employment (of 0.3ha B1 Office space) at the site will help to create opportunities for people to live within walking and cycling distance of their employment location.
- 8.5.2. It was previously agreed through the original application that limited vehicle trips are likely to be generated by the employment use. A further assessment of Census 2011 'Distance Travelled to Work' data demonstrated that 9% of residents in South Gloucestershire work mainly from home, with 15% of residents travelling less than 2km to work.
- 8.5.3. Nonetheless, it was previously agreed that an assessment would still be made of the maximum potential employment trips to ensure a robust assessment. The TRCS database was used to establish the maximum potential vehicular trip generation; based on data for B1 Office use classes.
- 8.5.4. These previously agreed trip rates (with both SGC and HE), with the anticipated trip generation for this Amended Scheme including 0.3ha employment use, is summarised in Table 8.

Table 8 – Employment Trip Generation

	AM (08:00-09:00)			PM (17:00-18:00)		
	In	Out	Total	In	Out	Total
Trip Rates (Weighted Average) per Unit	2.477	0.2	2.677	0.16	2.729	2.889
Trip Generation (3,000m ² Office)	74	6	80	5	82	87

- 8.5.5. It is important to note that the trip rates anticipated for the employment use (as above) are significantly higher than those agreed with GCC/HE by Renishaws through their expansion

proposal, which equated to two-way trip rates of circa 1.5 trips per 100sqm in the AM and PM Peak periods.

8.6. Total Vehicle Trips

8.6.1. When assessing this Amended Scheme the following assumptions have been made;

- Residential trips based on surveys undertaken within Charfield which are considered extremely robust. Approach previously agreed with SGC and HE through the original application.
- No reduction in trip generation has been made for any potential modal shift as a result of the Travel Plan measures or proposed bus service, potential rail station re-opening or the walking and cycling improvements within the village; despite such reductions being reasonably expected;
- A vehicular trip generation assumption has been made for the reserve school site, despite no additional increase in vehicle trips anticipated due to its village location and the displacement of school trips from Tortworth Primary School;
- No net trip generation in the Peak hours is anticipated by the neighbourhood centre, as the purpose of these facilities is to serve the local community. Any vehicular trips that do occur are anticipated to be 'pass-by' trips (i.e. those that would already be on the network);
- Whilst there is anticipated to be a proportion of employment trips which are under 2km from the site and therefore could be undertaken by walking/cycling or public transport, account has been made for 100% of trips to ensure a robust assessment.

8.6.2. Taking into account the above assumptions, which have been previously agreed through the original application, Table 9 summarises the total proposed trip generation for the Amended Scheme.

Table 9 – Total Trip Generation

	AM (08:00-09:00)			PM (17:00-18:00)		
	In	Out	Total	In	Out	Total
Residential Trip Generation (525 Units)	59	235	294	224	98	321
3FE Reserve School Site	42	0	42	0	42	42
3,000m ² Office Use	74	6	80	5	82	87
TOTAL Trip Generation (525 Units)	175	241	416	229	222	450
Comparison to original application						
TOTAL Trip Generation (950 Units)	181	431	612	411	259	668
Comparison	-6	-190	-196	-182	-37	-218

8.6.3. The proposed Amended Scheme is anticipated to generate a maximum of 416 two-way vehicle trips in the AM Peak and 450 two-way vehicle trips in the PM Peak. When comparing this to the previous assessment, a reduction of 196 two-way trips are expected in the AM peak period, and a reduction of 218 two-way trips are expected in the PM Peak period.

8.6.4. It should again be noted that no reduction in anticipated trip generation for any of the proposed site uses has been made as a result of any potential modal shift away from the private car to other modes. The SGC formal consultation comments in this regard are therefore incorrect.

8.7. Trip Distribution

- 8.7.1. The distribution of trips generated by the Amended Scheme follows the same methodology as previously agreed through the original application with both SGC and HE. The trip distribution diagrams are attached at **Appendix G**, considering the same distribution percentages as previously agreed and applied to the updated unit numbers.

8.8. Summary

- 8.8.1. The following changes have been made to the trip generation and distribution assumptions since the time of the original application:
- The Amended Scheme includes 525 residential units and the anticipated trip generation has been calculated using the same methodology as previously agreed. No reduction has been made to trip generation figures as a result of any internalisation or anticipated modal shift;
 - The Amended Scheme includes provision of a reserve site for a 3FE primary school. Whilst no increase in trip generation as a result of a school is expected due to its' purpose to serve the local area, its accessibility by walking and cycling to all residents within the village and the displacement of existing trips to Tortworth Primary School (thus taking traffic off the wider road network) an assumption has been made that 100% of staff will travel to and from the school by single-occupancy car to provide a robust assessment;
 - No net trip generation in the Peak hours is anticipated by the neighbourhood centre, as the purpose of these facilities is to serve the local community. Any vehicular trips that do occur are anticipated to be 'pass-by' trips (i.e. those that would already be on the network);
 - Whilst there is anticipated to be a proportion of employment trips which are under 2km from the site and therefore could be undertaken by walking/cycling or public transport, account has been made for 100% of trips to ensure a robust assessment.
 - Trip Distribution percentages follow the same methodology as previously agreed with SGC and HE through the original application; with updated distribution diagrams provided to reflect the Amended Scheme;
 - Overall, the trip generation assessment considers a 'worst-case' assessment whereby no reduction has been made for internalisation or modal shift away from the private car.

9. Development Impact

9.1. Introduction

- 9.1.1. This Section assesses the potential impact of the Amended Scheme on the surrounding highway network, considering the updated trip generation assumptions discussed in Section 8; taking no account of any modal shift away from the private car as a result of internalisation or the proposed mitigation or Travel Plan.
- 9.1.2. The potential impact of development traffic on the surrounding road network evaluated through this Section can therefore be considered a ‘worst-case’ assessment. In reality, the impact is likely to be lower than forecast through this TAA.

9.2. Forecast Years and Traffic Growth

- 9.2.1. The methodology for establishing potential local background traffic growth had previously been agreed with SGC and HE through the original application as an average of four local MSOAs (including the MSOA in which the site is located), which are South Gloucestershire 001, South Gloucestershire 003, Stroud 012 and Stroud 015.
- 9.2.2. As per the previous assessment the 2016 and 2017 traffic flows have been growthed up to 2018 to establish a baseline year; which has been retained for consistency. This approach was agreed by SGC in their pre-application response received June 2020. Revised forecast years of 2023 and 2029 have been assessed given the amended build-out rate compared with the original application. The updated TEMPRO NTM growth rates (an average of the four local MSOAs) are presented in Table 10.

Table 10 – TEMPRO Traffic Growth Rates (Average of four MSOAs)

Growth Period	Road Type	Weekday AM	Weekday PM	Average Weekday
2018-2023	All roads	1.0685	1.0775	1.0782
2018-2029	All roads	1.1214	1.1386	1.1421

- 9.2.3. As for the previous assessment, it should be noted that the TEMPRO database calculates future year traffic flows based on ‘localised’ NTM growth rates and includes growth from Committed Developments. An element of the TEMPRO growth is as a result of development in the local area and therefore accounting for Committed Developments on top of the growth will result in a degree of double counting.

9.3. Local Committed and Emerging Developments

- 9.3.1. The Committed Developments assessed in addition to background traffic growth have been summarised in Section 6.
- 9.3.2. An additional ‘Sensitivity Test’ has been undertaken to include the four additional live planning applications (at the time of writing) which are also described within Section 6.
- 9.3.3. The trip generation for each Committed and Emerging development has been taken from their respective Transport Assessments. Where traffic flows do not extend to junctions within the study area, traffic flows have been established using patterns taken from nearby developments (for example trips taken from Crossways have been distributed in the same way as for Land West of Park Farm due to their proximity) or using base survey distribution information.
- 9.3.4. The trip generation for each Committed Development and sensitivity test can be found within the distribution diagrams included as **Appendix G**.

9.4. Junction Assessments

- 9.4.1. For consistency, the junctions assessed through the original application have been retained and re-tested to establish the potential impact of this amended scheme. They are outlined in Table 11.

Table 11 – Junctions Required for Re-Testing

Junction	
1	Site Access onto Wotton Road
2	Site Access onto Little Bristol Lane
3	B4058 Wotton Road/ Little Bristol Lane
4	B4509/B4058 Wotton Road/Churchend Lane Roundabout
5	B4058 Wotton Road/B4509 Priority Junction
6	B4509 The Downs/B4060 Station Road/High Street Priority T-Junction
7	M5 Junction 14 and A38 Junction with B4509 (combined Assessment)

9.5. Junction Capacity Assessments

- 9.5.1. For consistency, the operational assessment parameters for all local junction assessments have been retained as per the previous applications. This includes:

- % Impact Assessment at the B4509 The Downs/B4060 Station Road/High Street Priority T-Junction
- Use of Junctions 9 for all other junction assessments;
- Use of previously assessed junction geometries;

- 9.5.2. The remainder of this Chapter presents the results of the updated local junction capacity modelling assessments undertaken in the following scenarios:

- Base + Committed Development: 2018, 2023, 2029;
- Base + Committed Development + Proposed Development: 2023, 2029;
- Base + Committed Development + Proposed Development + Sensitivity Test; 2029

- 9.5.3. Where the site accesses are assessed, these have been re-modelled using the '+ Proposed Development' scenarios only.

9.6. Junction 1: Primary Site Access onto Wotton Road

- 9.6.1. The results of the updated modelling assessment are summarised in Table 12 with the full Junctions 9 outputs found at **Appendix H**.

Table 12 – Updated Capacity Assessment: Site Access onto Wotton Road

Arm	Arm Name	AM Peak			PM Peak		
		RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2023 Base + Committed Development + Proposed Development							
B-C	Site Access – Wotton Rd East	0.33	1	11.04	0.32	1	9.28
B-A	Site Access – Wotton Road West	0.15	0	22.53	0.13	0	19.36
C-AB	Wotton Road	0.31	0	10.67	0.27	0	8.56
2029 Base + Committed Development + Proposed Development							
B-C	Site Access – Wotton Rd East	0.34	1	11.61	0.33	1	9.53
B-A	Site Access – Wotton Road West	0.16	0	25.54	0.14	0	21.06
C-AB	Wotton Road	0.32	1	11.13	0.27	0	8.74
2029 Base + Committed Development + Proposed Development + Sensitivity Test							
B-C	Site Access – Wotton Rd East	0.37	1	13.06	0.35	1	10.39
B-A	Site Access – Wotton Road West	0.21	0	35.73	0.18	0	27.80
C-AB	Wotton Road	0.34	1	12.19	0.28	0	9.32

- 9.6.2. The results demonstrate that the proposed site access onto Wotton Road is suitable to accommodate this Amended Scheme; with a maximum RFC of 0.37 and associated average queue length of 1 vehicle (in the AM Peak period on the site access arm) in the '2029 Future year with proposed development & Sensitivity Test' scenario. The site access on Wotton Road therefore has sufficient capacity to accommodate the proposed development as well as background growth, committed developments and potential emerging developments.

9.7. Junction 2: Secondary Site Access onto Little Bristol Lane

- 9.7.1. The results of the updated modelling assessment are summarised in Table 13, with the full Junctions 9 outputs found at **Appendix H**.

Table 13 – Updated Capacity Assessment: Site Access onto Little Bristol Lane

Arm	Arm Name	AM Peak			PM Peak		
		RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2023 Base + Committed Development + Proposed Development							
B-AC	Site Access – Little Bristol Lane	0.10	0	5.00	0.04	0	4.60
C-AB	Little Bristol Lane	0.03	0	5.57	0.12	0	5.57
2029 Base + Committed Development + Proposed Development							
B-AC	Site Access – Little Bristol Lane	0.10	0	5.02	0.04	0	4.61
C-AB	Little Bristol Lane	0.03	0	5.57	0.13	0	5.55
2029 Base + Committed Development + Proposed Development + Sensitivity Test							
B-AC	Site Access – Little Bristol Lane	0.10	0	5.02	0.04	0	4.61
C-AB	Little Bristol Lane	0.03	0	5.57	0.13	0	5.54

- 9.7.2. Table 13 demonstrates that the proposed site access onto Little Bristol Lane is suitable to accommodate this Amended Scheme; with no average queues on any arm, in any scenario. The site access on Little Bristol Lane therefore has sufficient capacity to accommodate the proposed development as well as background growth, committed developments and potential emerging developments.

9.8. Junction 3: B4058 Wotton Road/Little Bristol Lane

- 9.8.1. The results of the updated modelling assessment are summarised in Table 14, with the full Junctions 9 outputs found at **Appendix H**.
- 9.8.2. Although SGC's formal consultation comments to the original application states that the junction needed to be assessed in line with the modifications agreed through the Barratts development, the original TA undertook two assessments; of the existing junction arrangement and of the future arrangement which was approved for the Land North of Wotton Road development for 121 dwellings (ref: PT16/6924/O),
- 9.8.3. This 'future' arrangement has now been implemented in accordance with drawing number 10115/500 Rev.A which includes the provision of a right-turn lane/reservoir on Wotton Road and the widening of Wotton Road in the vicinity of the junction. This updated modelling therefore reflects the recently improved junction arrangement.

Table 14 – Updated Capacity Assessment: B4058 Wotton Road/Little Bristol Lane

Arm	Arm Name	AM Peak			PM Peak		
		RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2018 Base + Committed Development							
B-AC	Little Bristol Lane – Wotton Road	0.31	0	13.17	0.18	0	10.87
C-AB	Wotton Road	0.05	0	8.04	0.15	0	8.15
2023 Base + Committed Development							
B-AC	Little Bristol Lane – Wotton Road	0.35	1	14.62	0.21	0	11.79
C-AB	Wotton Road	0.05	0	8.26	0.16	0	8.38
2029 Base + Committed Development							
B-AC	Little Bristol Lane – Wotton Road	0.39	1	16.34	0.23	0	12.65
C-AB	Wotton Road	0.06	0	8.52	0.18	0	8.58
2029 Base + Committed Development + Sensitivity Test							
B-AC	Little Bristol Lane – Wotton Road	0.44	1	20.62	0.26	0	14.94
C-AB	Wotton Road	0.06	0	9.08	0.19	0	8.96
2023 Base + Committed Development + Proposed Development							
B-AC	Little Bristol Lane – Wotton Road	0.53	1	19.13	0.35	1	17.13
C-AB	Wotton Road	0.09	0	8.66	0.30	1	9.35
2029 Base + Committed Development + Proposed Development							
B-AC	Little Bristol Lane – Wotton Road	0.57	1	22.37	0.32	1	14.25
C-AB	Wotton Road	0.10	0	8.93	0.31	1	9.54
2029 Base + Committed Development + Proposed Development + Sensitivity Test							
B-AC	Little Bristol Lane – Wotton Road	0.65	2	31.18	0.32	1	14.61
C-AB	Wotton Road	0.10	0	9.53	0.31	1	9.19

- 9.8.4. The updated modelling assessment for this Amended Scheme, based upon the recently improved junction arrangement (through the Barratts application) demonstrates that the junction has sufficient capacity to accommodate this Amended Scheme. A maximum RFC of 0.65 is demonstrated on the Little Bristol Lane/Wotton Road arm in the AM Peak in the 2029 future year (including background traffic growth, Committed Developments and Sensitivity Tests); with an associated average queue length of two vehicles. The Wotton Road/Little Bristol Lane junction therefore has sufficient capacity to accommodate the proposed development.

9.9. Junction 4: 'Churchend Roundabout'

- 9.9.1. A capacity test of this junction was undertaken through the original application and initial results were contained within the original TA, based on OS mapping and on-site measurements. Following application submission, a topographical survey was undertaken at the junction which gives a much more detailed account of existing junction geometries. The Churchend Roundabout modelling assessment (and subsequent mitigation proposals) were therefore updated using the topographical survey and provided to SGC in January 2020.
- 9.9.2. This assessment showed that the junction approaches its' theoretical capacity in 2021 (with Committed Developments) in the AM Peak on the Wotton Road East arm; without the inclusion of the proposed development. With the inclusion of the proposed development and the potential Bloor Homes site, the junction capacity was further reduced, worsened by background traffic growth. It was concluded that a mitigation scheme was required at this junction.
- 9.9.3. To support this Amended Scheme, a further capacity assessment has been undertaken to include the revised future years, updated Committed Developments, Sensitivity Testing and the Amended Scheme proposals; based upon the geometries obtained from the topographical survey.
- 9.9.4. SGC requested clarity within their pre-application response of June 2020 over what level of development the roundabout has been tested on. All tests comprise the full proposed Amended Scheme of 525 Units (previous tests for the original application comprised the full development also) in addition to the other commitments and sensitivity tests detailed above with the full Junctions 9 outputs found at **Appendix H**.

Table 15 – Updated Capacity Assessment: Churchend Roundabout

Arm	Arm Name	AM Peak			PM Peak		
		RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2018 Base + Committed Development							
A	B4058 Wotton Road East	0.92	10	41.29	0.61	2	9.37
B	Churchend Lane	0.04	0	11.70	0.03	0	7.50
C	B4058 West	0.50	1	8.02	0.42	1	5.76
D	B4509	0.52	1	6.17	0.66	2	8.57
2023 Base + Committed Development							
A	B4058 Wotton Road East	0.99	19	75.33	0.66	2	10.80
B	Churchend Lane	0.04	0	12.97	0.04	0	8.07
C	B4058 West	0.54	1	8.79	0.46	1	6.26
D	B4509	0.55	1	6.68	0.71	2	10.21
2029 Base + Committed Development							
A	B4058 Wotton Road East	1.06	43	142.73	0.69	2	12.20
B	Churchend Lane	0.05	0	13.96	0.04	0	8.51
C	B4058 West	0.54	1	8.79	0.46	1	6.26
D	B4509	0.55	1	6.68	0.71	2	10.21
2029 Base + Committed Development + Sensitivity Test							
A	B4058 Wotton Road East	1.17	93	317.46	0.79	4	17.59
B	Churchend Lane	0.05	0	14.24	0.05	0	9.64
C	B4058 West	0.60	2	10.22	0.53	1	7.70
D	B4509	0.65	2	8.77	0.86	6	20.63
2023 Base + Committed Development + Proposed Development							
A	B4058 Wotton Road East	1.22	120	428.36	0.87	6	27.72
B	Churchend Lane	0.05	0	13.83	0.07	0	10.87
C	B4058 West	0.61	2	10.49	0.55	1	8.15
D	B4509	0.65	2	8.77	0.86	6	20.63
2029 Base + Committed Development + Proposed Development							
A	B4058 Wotton Road East	1.30	166	599.50	0.91	8	36.98
B	Churchend Lane	0.06	0	14.24	0.07	0	11.65
C	B4058 West	0.64	2	11.45	0.58	1	8.85
D	B4509	0.69	2	9.87	0.90	8	28.19
2029 Base + Committed Development + Proposed Development + Sensitivity Test							
A	B4058 Wotton Road East	1.41	259	896.35	1.00	21	79.05
B	Churchend Lane	0.06	0	14.35	0.08	0	13.06
C	B4058 West	0.66	2	11.96	0.63	2	10.38
D	B4509	0.76	3	12.47	0.98	18	59.04

- 9.9.5. The updated modelling undertaken through this Amended Scheme demonstrates that the existing roundabout is approaching its' theoretical capacity in the 2018 Base (including Committed Development) without the proposed development in the AM peak period; with an RFC of 0.92 on the Wotton Road East arm.
- 9.9.6. The Wotton Road East arm of the junction falls over its' theoretical capacity between 2023 and 2029; without the inclusion of the proposed development. By 2029, the Base scenario (including Committed Developments) shows an RFC of 1.06 on this arm; with an associated queue length of 43 vehicles in the AM Peak period. The junction continues to operate within capacity in the PM

Peak period. This pattern follows that of the previous modelling assessments for the original application.

- 9.9.7. It is extremely important to note that, once an RFC approaches 1.0, any modelling results must be treated with caution, and queue lengths and delays can increase exponentially thereafter. The Junctions 9 user helpguide recognises this and explains that ARCADY and PICADY should be used as an aid only to junction design.
- 9.9.8. As a result the data demonstrates that the addition of the Amended Scheme has the potential to further reduce capacity on this arm of the junction. In the 2029 future year, the Wotton Road East arm is demonstrated to have an RFC of 1.30 with associated queue of 166 vehicles (albeit noting exponential queueing once the RFC exceeds 1.0). The 2029 future year scenario (including the proposed development) also sees the B4509 arm of the junction begin to approach its' theoretical capacity in the PM Peak period with an RFC of 0.90 and associated queue length of 8 vehicles.
- 9.9.9. The results show that, with the inclusion of the Sensitivity Tests (which have not received planning permission at the time of writing) the capacity is worsened across the junction; with the Wotton Road East arm of the junction also shown to reach its' theoretical capacity in the PM Peak period.
- 9.9.10. As a result of the Wotton Road East arm experiencing capacity constraints in the Baseline scenarios, which worsen as a result of the proposed development (and again on inclusion of sensitivity testing), it is considered that improvements are required at the junction to accommodate the development traffic as well as future background and committed/emerging development growth. The proposed mitigation strategy at the junction is detailed in Section 10 of this TAA.

9.10. Junction 5: B4058 Wotton Road/B4509 Priority Junction

- 9.10.1. The results of the updated modelling assessment are summarised in Table 16 with the full Junctions 9 outputs found at **Appendix H**.

Table 16 – Updated Capacity Assessment: B4058 Wotton Road/B4509 Priority Junction

Arm	Arm Name	AM Peak			PM Peak		
		RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2018 Base + Committed Development							
B-C	B4509-Wotton Road West	0.11	0	15.08	0.06	0	8.18
B-A	B4509-Wotton Road East	0.76	3	29.08	0.60	2	17.12
C-AB	Wotton Road West	0.07	0	5.77	0.06	0	5.75
2023 Base + Committed Development							
B-C	B4509-Wotton Road West	0.15	0	19.59	0.06	0	8.31
B-A	B4509-Wotton Road East	0.82	4	36.85	0.63	2	18.20
C-AB	Wotton Road West	0.07	0	5.69	0.06	0	5.44
2029 Base + Committed Development							
B-C	B4509-Wotton Road West	0.23	0	30.74	0.07	0	8.72
B-A	B4509-Wotton Road East	0.87	6	49.76	0.66	2	19.75
C-AB	Wotton Road West	0.08	0	5.66	0.07	0	5.40
2029 Base + Committed Development + Sensitivity Test							
B-C	B4509-Wotton Road West	0.30	0	42.48	0.07	0	9.45
B-A	B4509-Wotton Road East	0.89	7	56.87	0.70	2	22.51
C-AB	Wotton Road West	0.08	0	5.71	0.07	0	5.41
2023 Base + Committed Development + Proposed Development							
B-C	B4509-Wotton Road West	0.39	1	66.77	0.07	0	9.45
B-A	B4509-Wotton Road East	0.91	8	63.42	0.71	2	23.46
C-AB	Wotton Road West	0.07	0	5.84	0.07	0	5.51
2029 Base + Committed Development + Proposed Development							
B-C	B4509-Wotton Road West	0.89	3	264.47	0.08	0	10.79
B-A	B4509-Wotton Road East	0.97	12	94.41	0.75	3	27.04
C-AB	Wotton Road West	0.08	0	5.72	0.07	0	5.47
2029 Base + Committed Development + Proposed Development + Sensitivity Test							
B-C	B4509-Wotton Road West	1.00	3	292.93	0.09	0	12.57
B-A	B4509-Wotton Road East	0.99	15	109.77	0.79	4	32.15
C-AB	Wotton Road West	0.08	0	5.87	0.07	0	5.48

- 9.10.2. Table 16 demonstrates that the existing junction operates within its theoretical capacity in the 2018 and 2023 (+ Committed Development) scenarios; although begins to approach capacity in the 2029 future year with an RFC of 0.87 on the B4509-Wotton Road arm in the AM Peak period.
- 9.10.3. With the addition of development traffic, the junction continues to operate within its' theoretical capacity to the 2029 future year scenario (including Committed Development) with a maximum RFC of 0.97 on the B4509-Wotton Road arm and associated average queue length of 12 vehicles.
- 9.10.4. With the addition of Sensitivity Testing, the B4509-Wotton Road arm reaches its' theoretical capacity in the 2029 future year. It is anticipated that the increase in delay is due to the increase in east-west movements along the B4058.
- 9.10.5. The modelling demonstrates that the junction is not anticipated to reach capacity until 2029 with the addition of background growth, committed developments and sensitivity testing. Since the sensitivity tests have not been subject to planning permission, with this development demonstrating a minor increase in delay only, this development is not considered to have a 'severe' impact on the operation of the junction. It may be that improvements are needed in future if all Sensitivity Tests are approved. If so, these developments will need to provide appropriate contribution or mitigation measures at this junction.

9.11. Junction 6: The Downs/ Station Road/ High Street Priority Junction

- 9.11.1. As described through the original TA (section 9.13) it was agreed at the pre-application stage that the development is not directly responsible for any improvement requirements at this junction; rather that the developer should provide a contribution towards wider improvements. The level of contribution will be agreed with SGC through the Reserved Matters stage and is further detailed in Section 10 of this TAA.

9.12. M5 Junction 14 and A38

- 9.12.1. Through the original application this junction was subject to detailed analysis using HE's VISSIM model. The formal consultation comments provided by HE on the original application (dated 23rd October 2019) suggest that the correct model had not previously been used; although HE later confirmed that the model used was correct at the time of preparation of the original application.
- 9.12.2. The Base modelling undertaken through the original application demonstrated that the existing junction currently has capacity in the AM and PM Peak period. However, it showed that once queues began to build up as a result of background traffic growth in the AM Peak, the junction becomes 'locked up' which exacerbates queueing on all arms of the junction.
- 9.12.3. When adding Committed Developments (those previously agreed through the original application) the additional traffic is such that traffic extends to the mainline carriageway from the M5 South Off-slip in the AM peak period.
- 9.12.4. As previously identified, there are a number of further developments which have been allowed by HE following submission of the original application. These developments have been allowed with no improvements or contributions towards improvements at the M5 Junction 14.
- 9.12.5. There are also a number of other developments which are currently subject to live planning applications which have the potential to impact on the operation of the M5 Junction 14 but are not certain to proceed and cannot be considered as committed developments. These include those treated as Sensitivity Tests through this TAA.
- 9.12.6. An updated list of Committed Developments has been requested by Evoke for inclusion within further modelling to be undertaken through this Amended Scheme. An initial, draft list was provided by HE to Evoke on 22nd May 2020, which Evoke reviewed and commented upon on 26th

May 2020 with some changes proposed as a result of changes in committed developments and slight discrepancies in data. At the time of writing, no final updated list has been provided.

- 9.12.7. Any updated modelling will therefore follow this TAA as a separate submission to the Amended Scheme planning application and discussions will continue with HE and SGC re this junction. There is also a need for HE and SGC to adopt a consistent approach and consider measures and contributions that can be implemented by other schemes. The benefit of ongoing discussion to agree an approach to the solution is that it enables SGC to agree their position. Further details of potential mitigation solutions have been considered within Section 10 of this TAA.

9.13. Summary

- 9.13.1. The updated modelling assessments can be summarised as:

- Both proposed site accesses continue to operate well within their theoretical capacity in all scenarios; including when considering Sensitivity Testing;
- The newly improved Wotton Road/ Little Bristol Lane junction has been shown to operate well within its' theoretical capacity in all scenarios; including when considering Sensitivity Testing;
- The Churchend Roundabout currently operates within its' theoretical capacity, however, exceeds capacity between 2023 and 2029; without the inclusion of the proposed development. The Amended Scheme reduces capacity further, as does Committed Development and Sensitivity Tests. As a result, improvements are required at this junction to accommodate the development traffic as well as future background and committed/emerging development growth;
- The Wotton Road/ B4509 junction currently operates within its' theoretical capacity, reaching capacity in the 2029 future year with the inclusion of Sensitivity Testing. Since the sensitivity tests have not been subject to planning permission, with this development demonstrating a minor increase in delay only, this development is not considered to have a 'severe' impact on the operation of the junction;
- As previously agreed with SGC through the original application, the developer is not directly responsible for improvement requirements at The Downs/Station Road/High Street Priority junction in Wickwar; although a contribution towards improvements will be agreed with SGC through the Reserved Matters stage and is further detailed in Section 10 of this TAA.
- The M5 Junction 14 was extensively modelled through the original application which demonstrated future year capacity constraints without the addition of the proposed development. Since this time, a number of other Committed and Emerging developments have come forward which have the potential to further impact on the capacity of this junction. An updated list of such developments has been requested but has not (at the time of writing) been provided. Therefore, any further junction modelling at the M5 J14 will follow this TAA as a separate document. Discussions with HE and SGC will continue.

10. Mitigation

- 10.1.1. This Section outlines the proposed improvements which will be implemented, or contributed towards, as part of this Amended Scheme. Of these, some have been partially commented upon by SGC (or HE where relevant) through the original application.

10.2. Proposed On-Site Uses

- 10.2.1. The site will provide a number of on-site facilities to serve the proposed developments and the wider community. This includes a reserve site for a 3FE primary school, small-scale employment, sports pitches and a neighbourhood centre comprising small-scale retail and community uses. Provision of such facilities will embed the site into the local community and will take existing and potential future trips off the load road network as existing and future residents are able to travel less by car to these facilities further afield.

10.3. Footway Improvements and Pedestrian Refuge Islands on Wotton Road

- 10.3.1. Pedestrian crossing points and a section of footway between the site access and the Pear Tree Inn public house (approximately 70m length) were detailed in full through the original TA (Section 10.2). Drawing number ST17021-11 demonstrated the proposals, which can be accommodated within the highway boundary.
- 10.3.2. Whilst the Amended Scheme seeks to reduce the proposed unit numbers (and therefore potential pedestrian/cycle movements) the previously proposed pedestrian improvements along Wotton Road continue to be proposed to ensure that pedestrian safety is maintained and improved along Wotton Road. This includes the provision of the previously proposed crossing points which will allow pedestrians to safely wait within the refuge islands to cross Wotton Road, without impacting on the free-flow of traffic along this section.
- 10.3.3. No comments were provided by SGC through the original application and it is therefore understood that this proposed mitigation scheme is found acceptable.
- 10.3.4. For ease of reference, the previously proposed drawing is included as **Appendix F**.

10.4. Contribution to New Bus Service

- 10.4.1. The provision of new or improved bus services through Charfield has been discussed at length through the development of this application; from initial appraisal and draft allocation within the WoE JSP (now withdrawn) through the original planning application process.
- 10.4.2. Until September 2019 (after submission of the original application) this site formed part of a wider SDL within Charfield which had been identified and promoted by SGC, which included this site and the Bloor Homes development.
- 10.4.3. A nearby site was also promoted through the Draft JSP as a draft allocation; of approximately 3000 residential units and accompanying uses (of which approximately 1,500 dwellings would be constructed within the Draft JSP timeframe to 2036). This is referred to as 'Buckover'.
- 10.4.4. As such, the three nearby potential developments sought to instigate a collaborative approach to provision of a wide-ranging, wide reaching and commercially viable bus service which would connect the northern fringe of Bristol into the City Centre.
- 10.4.5. At the time of the original application (March 2019) a joint bus strategy was being developed; and therefore the original TA provided an overarching summary of the key messages; to be further developed through the progress of the application and the JSP.

Joint Position Statement (May 2019)

- 10.4.6. A Bus Strategy Joint Position Statement was compiled by Systra (representing CEG at the time), PJA on behalf of Buckover and Clarkebond on behalf of Bloor Homes. The aim of the Statement was to assist with the SDL submissions to the JSP to demonstrate that a comprehensive, viable bus service could be delivered which could generate a realistic modal shift away from the private car in accordance with the Draft JSP. For the CEG site it also provided further detail to support the already-submitted planning application.
- 10.4.7. The Statement was a culmination of detailed, ongoing engagement with Stagecoach West. This included a number of meetings undertaken throughout 2017-2019. The collaborative approach was also supported by various joint public workshops, public liaison group meetings, sharing of information, a joint meeting with the developer representatives and SGC and regular 'Working Group' meetings and conference calls.
- 10.4.8. The Statement provided detail of the existing bus infrastructure and service demand for both Buckover and Charfield. Both locations found that existing services were infrequent; albeit services to/from Charfield were more wide-ranging. Both locations showed that the highest demand for existing Journey to Work Census (2011) data was into the centre of Bristol (at 38% from Buckover and 36% from Charfield). Whilst Buckover does have existing bus services to/from Bristol, these have a frequency of just two per day. Charfield has no direct services into Bristol.
- 10.4.9. The potential number of units generated through these SDLs (approximately 3,200 within the plan period) and other existing demand in the area would have generated viability for a new service into the northern fringe of Bristol.
- 10.4.10. The Statement details the following points in further detail:
- Service likely to route between Wotton-under-Edge, Kingswood, Charfield, Falfield, Buckover, Almondsbury, Aztek West, Bristol Parkway and UWE;
 - It was established that the service should be directed along Wotton Road initially (rather than passing through the CEG site) to ensure that its fast and direct nature was maintained;
 - Due to this, the distance to bus stops for some prospective residents would be greater than the generally accepted 400m; although Stagecoach predict that a fast and direct service would still be more attractive with a slightly longer walking distance. The quality of the service provided is more important than a threshold distance from a bus stop,
 - Measures to encourage take-up were discussed, including provision of cycle racks at bus stops and the service standard. It was proposed that this service could be developed as a 'Gold' Brand service; to include on-board Wi-Fi and extended leg room, among other amenities;
 - Bus Service would likely be subject to a period of pump-priming before being taken over by a bus operator. Upon occupation of the 500th unit (of the total SDLs in Charfield and Buckover) a review of the service route and frequency would be triggered and changes would be made as required;
 - In the long term, it was established that a service up to 20 minutes could be viable, with a half-hourly provision by 2036 (including at weekends)
 - The potential to connect with the future station was also considered, in turn increasing the viability of both methods of public transport.
- 10.4.11. The Joint Position Statement was provided to SGC in July 2019 and January 2020. The Statement is included as **Appendix I**.

SGC Consultation Response

- 10.4.12. SGC issued their formal consultation response to the original application in November 2019. With regards to the bus proposals, it states:

- Developer relying on enhanced bus services to provide a significant modal shift away from the private car, although details in relation to service provision, routing of the services, ability to capture both existing and proposed residents is sketchy and needs firming up so that the impact of the development can be assessed.
- Currently the TA and FTP indicate a potential bus route which serves the proposed development albeit partially at times of the day.
- Details of its frequency and its influence on existing services and the wider Charfield development need to be indicated and to ensure that the existing populations are not penalised or disadvantaged.
- This site should be policy compliant in terms of public transport provision, which requires bus stops within 400metres, and a service frequency that is relevant for the scale of development, which 30 minutes is agreed to be.

10.4.13. Further comments have also been provided in SGC's pre-application response issued in June 2020. They are included in full at **Appendix A** and are summarised below:

- To take forward, we would require a more detailed understanding and agreement by the local highway authority;
- We agree in principle to the need for a frequency service. This would be the case until the proposed train station opens where the service provision could be reviewed;
- The length and journey time of the route is not described, nor is the anticipated modal share;
- It is unclear how viable this proposal would be in that it appears to rely upon the JSP sites;
- There is a need for a Sustainable Transport Study Brief focusing on sustainable transport in/around Charfield;
- In terms of mitigation the provision of a viable sustainable public transport infrastructure is key. Until further work identifying the sustainability of the site by virtue of the Sustainable Transport Study Brief mentioned above has been completed it is considered that this proposal is unsustainable.'

Amended Scheme

10.4.14. Through this Amended Scheme, further detailed correspondence has been undertaken with Stagecoach West and Bloor Homes to understand the potential viability. It is understood from Stagecoach West that the bus service is still considered viable and has an opportunity to be provided in some form.

10.4.15. The purpose of the Bus Joint Position Statement (**Appendix I**) was to provide sufficient detail to demonstrate that a new bus service was feasible and could be financially viable. It is acknowledged that there is further work to be undertaken; particularly with the withdrawal of the JSP.

10.4.16. If SGC are to undertake a full study to understand existing and future demand, it must be acknowledged that much of the feasibility work has been undertaken; and CEGCLC are happy for this information to be used and evolved by SGC if they feel that further information is required.

10.4.17. It is noted that the reopening of Charfield Rail Station will impact on the viability of a bus service; and that the reopening of a station would create a significant modal shift away from the private car. The timescales of the station reopening have been provided as noted in Section 4; with passengers anticipated by 2023. Any bus service will need to take account of this future change, but it is considered that a more frequent bus service could further increase the stations' viability;

with residents from neighbouring Wotton-under-Edge being able to access the station by bus for example; further reducing single occupancy vehicle trips on the surrounding road network.

- 10.4.18. The significant improvement to public transport availability within the village as a result of rail and bus services would result in a modal shift away from the private car which is significant, and noticeable during peak hours. The impact of traffic on the M5 J14 needs to be considered in this regard. With reference to the government's climate change agenda and SGC's declaration of a climate emergency, the need to provide improvements at the M5 Junction 14 needs to be balanced with the potential to significantly improve sustainable modes of transport instead, providing substantial highway capacity is contrary to the climate change agenda.
- 10.4.19. It is anticipated that discussions will be ongoing following submission of this Amended Scheme, with the proposed bus service continuing to develop in consultation with SGC, bus operators and Bloor Homes as a coordinated approach is required rather than individual developments seeking to implement their own bus service improvements. This will achieve a more efficient and cost-effective service provision able to maximise patronage.
- 10.4.20. The consideration of the rail station, and impact on the M5 J14 needs to be considered in detail with SGC. CEGCLC are supportive of the principle of a Public Transport Brief; provided that it takes account of existing work undertaken by the applicants' consultants and provided that provision of such a service is balanced against the need to undertake improvement works at the M5 Junction 14.

10.5. Part Provision/Contribution Towards Greenway Route and PRow Improvements

- 10.5.1. This site has ample opportunities to improve the existing walking and cycling network in and around the village and connect the proposed on-site amenities (including school, employment and local centre) to the existing residents within the village.
- 10.5.2. The existing PRowS crossing the site have been incorporated into the proposed site masterplan, and will be further considered at the reserved matters stage.
- 10.5.3. As previously described, it is understood that a feasibility study towards the implementation of a Greenway Route between Charfield, Kingswood and Wotton-under-Edge is currently being undertaken by Sustrans. Whilst the route is within third-party ownership, it is understood that SGC are supportive of its proposals and it is anticipated that some sustainable transport contributions from this development could be used to progress this scheme; as agreed with SGC and determined through the Section 106 agreement.

10.6. Comprehensive Travel Plan and Associated Measures

- 10.6.1. A FTP was prepared to support the original application, setting out a range of measures to actively encourage new residents to use sustainable modes of travel. Indicative targets were presented which included a 5% modal shift from car to bus as a result of the proposed new bus service.
- 10.6.2. Whilst SGC did not provide full comments on the FTP, HE noted in their response (dated 26th April 2019) that 'The Framework Travel Plan contains appropriate mechanisms and monitoring to achieve a mode shift away from single occupancy car trips.'
- 10.6.3. An updated FTP has been provided to support this proposed development; although it should be noted that as a result of no comments having been provided by SGC, the proposed travel plan measures, targets and monitoring proposals remain as previously proposed.

10.7. Contribution towards Traffic Calming in Charfield

- 10.7.1. A potential traffic calming and environmental enhancement scheme was proposed through the original TA (Section 10.4 and Appendix V). This was developed seeking to accommodate the views of local residents through the Charfield Liaison Group meetings, feedback through public

consultation and national design guidance. As discussed with SGC at a meeting held in January 2019, the scheme was developed in coordination with Bloor Homes' transport consultant: Clarkebond.

- 10.7.2. The aim of the scheme was to provide an in-depth assessment (based on the above consultation) with detailed on-site considerations of the existing constraints and opportunities. Through this, a potential scheme was developed for the western and central portion of the village (with the eastern portion of the village considered by Clarkebond on behalf of Bloor). This follows the approach requested by SGC.
- 10.7.3. SGC have provided broad comments in relation to traffic calming in their pre-application response dated June 2020. As detailed in Section 2 (and **Appendix A**), they request that a roundabout is provided to access the site from Wotton Road.
- 10.7.4. It has previously been established in Section 7 that a roundabout is not feasible as a form of access onto Wotton Road for a number of reasons, which have previously been discussed at length with SGC.
- 10.7.5. The previous traffic calming scheme presented through the original TA is still considered relevant; in the absence of any detailed comments/opinion having been provided by SGC. Since the time of the original TA and traffic calming scheme, the Draft Charfield Neighbourhood Plan has been released which, as detailed in Section 3, describes that Wotton Road should not be subject to chicanes or speed bumps (which this scheme does not propose). Instead, it requests that speed cameras and signal-controlled crossings are used to enforce the 30mph speed limit.
- 10.7.6. Also relevant is the WoE JLTP4 (also summarised in Section 3) which seeks that new developments 'positively contribute to an area's character and identity', and 'provide safe and welcoming space' and 'vibrant, resilient and healthy communities'. It states that community participation will be encouraged to enhance accessibility, which may include 'speed reduction measures, particularly close to local services'.
- 10.7.7. The previously submitted traffic calming scheme responds directly to the WoE JLTP4 aims and improves the area's character and identity through consideration of gateway features, localised road narrowing, upgraded materials, tightened junction radii, and pocket parks through the village. It was developed following consultation with the local community and includes speed reduction measures (including formalisation of the 20mph zone and road narrowing) close to the local centre including adjacent to Charfield Primary School.
- 10.7.8. Speed cameras were not previously proposed as they are generally considered ineffective by local authorities. Nonetheless, if agreed by SGC in consultation with residents, it may be most appropriate to provide a speed camera at each end of the village in lieu of the previously proposed scheme.
- 10.7.9. Any traffic calming scheme will require full consultation with key players including the police and local residents prior to being finalised and will be subject to TROs which will need to be implemented by SGC.
- 10.7.10. It was intended that CEGCLC provide a financial contribution towards the implementation of this scheme. Due to the complexities and timescale differences between the Bloor Homes development and this proposed application it was considered most suitable for SGC to collate appropriate funds from both developments and implement the scheme themselves, including the formal consultation with local residents. The scheme submitted with the application illustrates the types of measures that could be implemented in order to achieve the key aim traffic calming aims and provide an environmental enhancement to the settlement. These measures can be refined if necessary, during the consultation process.

10.7.11. It is concluded that the draft Traffic Calming & Environmental Enhancement scheme previously proposed should be retained for consideration at this stage by SGC. Should SGC consider that other measures would be more suited to the village, including those suggested in the Neighbourhood Plan, they should advise of these measures for consideration by CEGCLC. Any traffic calming scheme is expected to be 'signed off' and implemented by SGC and CEGCLC will provide an appropriate contribution towards such a scheme. The financial contribution will be determined following consultation with SGC.

10.7.12.

10.8. Chuchend Roundabout

10.8.1. Through the 'up to 900-950 Unit application' various potential mitigation schemes were considered. The mitigation scheme proposed included the reconstruction of the roundabout to provide an elongated design with a two-lane circulatory carriageway.

10.8.2. The Amended Scheme includes a reduction in unit numbers from 900-950 units to 525 units. The resulting traffic impact at the junction from development traffic is significantly reduced from the previous application. However, it is recognised that there are still capacity constraints at the junction and therefore mitigation is required.

10.8.3. The proposed mitigation scheme has been re-designed (using the topographical survey) to mitigate against the Amended Scheme's impact at the junction. The mitigation scheme also accounts for sensitivity testing including the Bloor Homes development and the Renishaw expansion, which have not been approved at the time of writing.

10.8.4. The mitigation scheme includes the increase in capacity along the Wotton Road East and the Wotton Road West arms, with an increase in lanes from the Wotton Road West arms from one to two. The proposed mitigation scheme is included as **Appendix J**.

10.8.5. Capacity testing for this amended scheme has been undertaken, with a summary of the results contained in Table 17 and the full modelling outputs contained in **Appendix K**.

Table 17 – Summary of Proposed Mitigation at Churchend Roundabout

Arm	Arm Name	AM Peak			PM Peak		
		RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2018 Base + Committed Development							
A	B4058 Wotton Road East	0.66	2	7.67	0.43	1	4.53
B	Churchend Lane	0.04	0	11.94	0.03	0	7.50
C	B4058 West	0.40	1	5.25	0.34	1	4.03
D	B4509	0.52	1	6.17	0.66	2	8.58
2023 Base + Committed Development							
A	B4058 Wotton Road East	0.70	2	8.70	0.46	1	4.85
B	Churchend Lane	0.04	0	13.51	0.04	0	8.07
C	B4058 West	0.43	1	5.60	0.37	1	4.27
D	B4509	0.55	1	6.68	0.71	2	10.21
2029 Base + Committed Development							
A	B4058 Wotton Road East	0.75	3	10.58	0.49	1	5.13
B	Churchend Lane	0.06	0	16.26	0.04	0	8.51
C	B4058 West	0.47	1	6.25	0.39	1	4.47
D	B4509	0.59	1	7.31	0.75	3	11.94
2029 Base + Committed Development + Sensitivity Test							
A	B4058 Wotton Road East	0.82	4	14.93	0.55	1	5.90
B	Churchend Lane	0.08	0	21.87	0.05	0	9.65
C	B4058 West	0.50	1	6.93	0.42	1	4.94
D	B4509	0.65	2	8.77	0.82	6	16.46
2023 Base + Committed Development + Proposed Development							
A	B4058 Wotton Road East	0.86	6	18.38	0.61	2	6.75
B	Churchend Lane	0.09	0	24.63	0.07	0	10.91
C	B4058 West	0.52	1	7.34	0.43	1	5.14
D	B4509	0.65	2	8.77	0.86	6	20.65
2029 Base + Committed Development + Proposed Development							
A	B4058 Wotton Road East	0.91	9	26.94	0.64	2	7.29
B	Churchend Lane	0.14	0	34.46	0.07	0	11.73
C	B4058 West	0.56	1	8.31	0.46	1	5.43
D	B4509	0.69	2	9.86	0.90	8	28.22
2029 Base + Committed Development + Proposed Development + Sensitivity Test							
A	B4058 Wotton Road East	0.99	22	59.85	0.70	2	8.69
B	Churchend Lane	0.23	0	64.00	0.08	0	13.70
C	B4058 West	0.66	2	9.46	0.50	1	6.10
D	B4509	0.76	3	12.47	0.98	18	59.20

- 10.8.6. The results show that the proposed mitigation scheme significantly improves capacity at this junction in all scenarios, to a point where the junction performs within its' theoretical capacity for all future years, with the addition of the proposed development, background traffic growth, Committed Development traffic and all Sensitivity Testing in the 2029 future year.
- 10.8.7. The proposed mitigation scheme results in a decreased queue of 237 vehicles on the Wotton Road East arm in the Am Peak period in the 2029 future year (with Sensitivity Testing), and a decrease in queue length of 19 vehicles in the PM Peak period on this arm.

- 10.8.8. Rather than RFCs of significantly more than 1.0 in the 2029 Base + Committed Development, the proposed scheme can accommodate the proposed development and sensitivity tests, whilst still falling below an RFC of 1.0 in the 2029 future year.
- 10.8.9. It is therefore considered that the proposed mitigation scheme more-than accommodates this proposed development; as well as Committed and Emerging Developments (including Bloor Homes and Renishaw).
- 10.8.10. The precise delivery mechanisms will need to be agreed with SGC through the Reserved Matters stage. As previously proposed, it is considered most appropriate for this development and the Bloor Homes development to contribute towards the junctions' delivery, also using contributions obtained from other Committed Developments, with the scheme implemented by SGC. Alternatively, if the Bloor scheme does not come forward, this scheme could be implemented with contributions from this development along with contributions recovered from other developments via Section 106 as they come forward.

10.9. Contribution towards The Downs/High Street/Station Road junction improvements

- 10.9.1. As previously described, this junction currently experiences capacity constraints and it has previously been agreed through the original application that a contribution will be provided by the developer towards potential improvements to be developed by SGC. The precise level of contribution will be discussed and agreed with SGC at the Reserved Matters stage.

10.10. Improvement, Mitigation or Contribution to M5 Junction 14

- 10.10.1. The original TA provided a detailed consideration of options to mitigate the proposed development's potential impact at the junction in isolation from other schemes. This allows for demonstration that the proposed development does not have 'an unacceptable impact on highway safety', or a 'severe, residual, cumulative impact on the road network' in accordance with the NPPF (para 109).
- 10.10.2. A scheme was developed which mitigated against the development (up-to 900/950-units)' impact at the junction whilst improving the junctions' performance to perform better in the 2031 future year than in the 2021 future year with no development, effectively providing a betterment and nil detriment. The scheme comprised the following:
- Increasing the existing two running lanes on the bridge to four;
 - Providing an additional lane approach to the slip on each approach to the junction;
 - 2m wide footway to act as a buffer and increase safety for bridge users;
 - Movement of stop lines to provide more stacking space on the bridge; and
 - Turning the signals on in both the AM and PM Peak periods (rather than the current situation where signals are switched off in the AM Peak).
- 10.10.3. This 'interim' mitigation scheme is included as **Appendix K**.
- [Wider Working Group](#)
- 10.10.4. CEGCLC have also been involved in the instigation and co-ordination of an M5 J14 Working Group which is attended by representatives from HE, SGC, SDC, GCC and three local developments which were originally included within the (now withdrawn) WoE JSP SDLs of Charfield and Buckover.
- 10.10.5. The aim is to work collaboratively between the local and strategic highway authorities across borders, alongside development to consider a long-term improvement solution which delivered wider benefits and the potential delivery methods to accommodate all potential future growth in the area (testing to 2036 in line with the end of the JSP period at the time).
- 10.10.6. Two options for potential 'long-term' improvements were considered, including a gyratory or a teardrop solution. Both options provided significant additional capacity, with the teardrop

solution having the benefit of being cost effective and able to be delivered in phases in accordance with development (and contribution) phasing. The preferred option by HE, SGC, SDC and GCC was the two-bridge gyratory option which required land outside of the current control of the local or strategic highway authority. As this land was under ownership of the Tortworth Estate (represented by PJA who formed part of the group on behalf of Buckover), securing this additional land to facilitate this improvement was considered by all parties a realistic option for HE which was much more favourable in terms of costs, timescale and procedurally than a Compulsory Purchase Order (CPO) route. This improvement option also had the benefit of providing greater capacity than required through initial modelling and could therefore accommodate growth beyond the end of the JSP period (at the time) of 2036. The level of capacity exceeded that required to accommodate the three SDLs (and other committed developments). The intention was to present this design as an agreed position to the JSP Inspector demonstrating that a wider solution could be provided at the junction should they deem it necessary and desirable.

- 10.10.7. The next step would have been for the Local Authorities and HE to continue to work collaboratively on the potential funding options for the wider scheme. This could have included bidding for potential Government funding (for example via HIF, RIS) and also to devise a mechanism to collate contributions from nearby emerging developments (including but not limited to the up-to 900/950-unit application); proportional to individual impact at the junction. It was accepted in the JSP evidence base that this infrastructure would not be entirely developer funded. It is noted that SGC had not bid for public funding for improvements at this junction in the past and it is not considered a priority in the authority area.

Proposed Improvement Scheme (through Original Application)

- 10.10.8. Development of this Amended Scheme can assist in bringing forward improvement works at the junction, if considered an appropriate allocation of contributions by SGC. It is also clear however that other committed and emerging developments have a role to play in both the traffic impact and, ultimately, mitigation requirements, at the M5 J14. It is also key to note that this Amended Scheme would have less of an impact at the junction than the previous up-to 900/950-unit development even when taking account of the Bloor Homes scheme (a total of c.760-775 units).
- 10.10.9. In light of the government's climate change agenda and SGC's declaration of a climate emergency, It may be considered more appropriate to direct funding away from major improvements to the strategic road network and instead concentrate funding into the delivery of public transport, walking and cycling links which will improve the health and wellbeing of residents.
- 10.10.10. Prior to, and since March 2020, the impact of lockdown as a result of the pandemic of COVID 19 has shown significant changes in travel behaviour and travel habits. Working from home statistics have risen from 12% to 43% and whilst this level of 43% may not be sustained, travel habits and organisational changes will ensure that higher levels of working from home/working flexibly will be normalised. This change in travel patterns will reduce 'background' traffic impact on the local and strategic road network and will provide more capacity for growth in the region.
- 10.10.11. **Changing transport technologies:** The electrification of fleet, autonomous vehicles and shared mobility will all influence travel choices. The extent of this is currently unknown and the DfT recognise this in its RTF18 report.
- 10.10.12. **Age and gender differences:** People are living longer and so some of the population growth is from ageing. These people are using the car more but have different trip patterns from those who work. The gender gap in how much people are travelling has closed and, most significantly, younger people are far less likely to have a driving license and subsequently drive less than previous generations. It is important not to assume that future generations will follow the same patterns of previous generations as they age. Younger generations are travelling 20% less (17-34 years) and 35-64 year olds are travelling 10% less.

- 10.10.13. We need to ensure that we understand and communicate this uncertainty in line with the latest transport and societal trends and the changing policy agendas.
- 10.10.14. This development accords with future aspirations through provision of on-site facilities, walking and cycling improvements and contribution towards a much-needed bus service; all of which will take existing (and future) traffic off the local road network which will in turn have a positive impact on capacity at the M5 J14. In addition, delivery of the station would further boost the local areas' sustainability credentials and result in reduced vehicle traffic on the strategic road network.
- 10.10.15. Whilst this TAA has assessed the highest potential trip generation using a robust set of parameters and taking account of no internalisation or modal shift, the future of travel needs to be taken into account prior to delivery of a large-scale junction intervention which may be unnecessary or will encourage car traffic which is against policy aspirations. It is for SGC and HE to determine the level of intervention required taking account of future changes in travel behaviour and the policy aspirations.

11. Summary and Conclusions

11.1. Context

- 11.1.1. This TAA has been prepared by Evoke on behalf of CEGCLC to support an Amendment to a current application at Land South of Charfield, South Gloucestershire.
- 11.1.2. The current, live planning application at the site was submitted in March 2019 for a mixed-use development including up to 900-950 dwellings, a neighbourhood centre with additional employment provision, a reserve site for a 2FE primary school (associated with the 900-dwelling scheme option) and housing for the elderly. A TA and FTP were prepared by Systra Ltd to support this application.
- 11.1.3. This Amended Application at the site comprises the following:
- A reduction in the red line boundary to the south and to the north east of the church (residential capacity is now 525 units);
 - Expansion of the reserve site to accommodate a 3FE primary school;
 - The retention of the previously proposed neighbourhood centre (with provision for up to 1,800m² commercial floorspace and up to 0.3ha additional employment provision);
 - The inclusion of 3 sports pitches; and
 - Realignment of the internal estate road to run to the north of the site.
- 11.1.4. This TAA provides some updated assessments where necessary which supersede the findings of the original TA, which was completed in March 2019. This TAA does not revisit aspects of the assessment where no update is required.

11.2. Consultation

- 11.2.1. Extensive consultation with all key parties conducted over the last 4-5 year period has informed development of the site and the required transport and mitigation works. Through the original application SGC and HE have been formally consulted and their comments have been considered and responded to through this TAA.
- 11.2.2. Various key parameters have previously been agreed with SGC and HE, including trip rates, distribution and junction assessment requirements and continued use of these parameters has been used to support this Amended Scheme for consistency, however at the time of writing, no response has been received from SGC on the Transport Scoping Note, Joint Bus Strategy or Churchend Roundabout proposals. Nevertheless, a robust set of assessments have been undertaken.

11.3. Policy and Design Guidance

- 11.3.1. The regional and local policy and guidance position has changed since the time of the original TA but the overall thrust and aspirations remain. This Amended Scheme takes account of the latest policy position at the time of writing with the scheme developed to help to delivery policy objectives and in accordance with local and national design guidance. The thrust of policy is towards sustainable transport and a choice of modes of travel.
- 11.3.2. The WoE JSP was in progress at the time of the original application (with the inclusion of Charfield as a Strategic Development Location) but has now been formally withdrawn and this, along with all associated documents, is under review. In addition, since the time of publishing a number of regional policy documents the four WECA local authorities (including SGC) have declared climate emergencies. Considering this, a number of documents, including the JLTP4, are undergoing immediate review.

- 11.3.3. SGC are currently preparing their new Local Plan which was originally intended for adoption in April 2020; although its draft Spatial Strategy refers to the WoE JSP and therefore requires further review. Neighbouring authority SDC are also in the process of reviewing their Local Plan and have issued their Draft Plan for consultation.
- 11.3.4. The Charfield Neighbourhood Plan has been released since the time of the original application. Whilst not formal policy, it provides a good understanding of local residents' aspirations for new development within the village and this TAA considers some of its' key aspirations including regarding the traffic calming proposals.

11.4. Site Accessibility

- 11.4.1. An updated assessment of the site's existing accessibility credentials has been undertaken which demonstrates that all key services, walking and cycling provision and public transport availability remains as previously assessed demonstrating that the site is and can be made accessible by a range of modes of travel.
- 11.4.2. In addition, there are a number of recent changes which further improve the site locations' existing accessibility; including a recently approved application for a new retail store, improvements to community facilities and recent footway and pedestrian crossing facilities through the village in association with nearby committed developments. Recent further investment by WECA has also strengthened the degree of certainty for the reopening of Charfield Rail Station which will enhance the sustainability credentials of the site and the village overall, dovetailing with the potential timescale for occupation of dwellings.
- 11.4.3. Development in this location is still considered suitable to make the best possible use of existing provision and further enhance the local areas' accessibility credentials through on-site uses (including education, retail and employment provision) and footway improvements. The site will also contribute towards key sustainable infrastructure to ensure that walking, cycling and public transport remains a positive option for future residents.

11.5. Existing Site Conditions

- 11.5.1. An updated assessment of the site's existing junctions, local and strategic highway network demonstrates no recent, significant changes in the vicinity of the site, and the traffic surveys undertaken to establish Base traffic volumes and trip rates were previously agreed with SGC.
- 11.5.2. An updated assessment of PIA data demonstrates that two PIAs have been recorded since the previous assessment. Of these incidents, one was regrettably recorded as 'fatal'; however, neither incident was attributed to any deficiency in the existing highway, pedestrian or cycle network. Whilst any incident is regrettable, no pattern is identified in the data which may worsen as a result of this proposed development.

11.6. Committed Developments and Transport Improvements

- 11.6.1. All Committed Developments that were previously tested through the original application have been included within this revised assessment, with a further Committed Development also included (at M.J. Fews) to ensure a robust assessment.
- 11.6.2. A further four developments in the local area have been considered as 'Sensitivity Tests' due to them (at the time of writing) being live planning applications but not committed, therefore there is no guarantee that they will come forward. The inclusion of these developments allows for a further robust review of the potential future conditions on the local road network.
- 11.6.3. The wider committed developments for use for testing of the M5 Junction 14 has been requested by Evoke from HE having reviewed and commented on the previous version. No details have been provided at the time of writing.

11.7. Proposed Development

- 11.7.1. This Amended Scheme seeks a reduction in the red line boundary to provide residential capacity of 525 units, the provision of a 3FE primary school (an increase of 1FE from that previously proposed) and the retention of the previously proposed neighbourhood centre and employment provision.
- 11.7.2. The vehicle and pedestrian site access proposals have not changed. The access location and junction form are the most appropriate accesses for a development of this nature. The accesses have been designed to ensure long-term viability of the site, permeability and the potential for buses to route along the proposed spine road if required.
- 11.7.3. The internal spine road is indicatively shown on the proposed masterplan, and will be subject to refinement at the Reserved Matters stage. The proposed servicing and car and cycle parking arrangements will also be considered in full and agreed with SGC through the Reserved Matters stage.
- 11.7.4. Details of construction will be assessed in full through a CTMP and agreed with SGC; including any mitigation measures to reduce the impact of construction traffic on the surrounding road network.

11.8. Trip Generation Assessment

- 11.8.1. The anticipated trip generation associated with the Amended Scheme has been calculated using the same methodology as previously agreed. No reduction has been made to trip generation figures as a result of any internalisation or anticipated modal shift.
- 11.8.2. The Amended Scheme includes provision of a reserve site for a 3FE primary school. Whilst no increase in trip generation as a result of a school is expected due to its' purpose to serve the local area, its accessibility by walking and cycling to all residents within the village and the displacement of existing trips to Tortworth Primary School (thus taking traffic off the wider road network) an assumption has been made that 100% of staff will travel to and from the school by single-occupancy car to provide a robust assessment. The inclusion of the school on site will assist in internalising trips within the site.
- 11.8.3. No net trip generation in the peak hours is anticipated by the neighbourhood centre, as the purpose of these facilities is to serve the local community. Any vehicular trips that do occur are anticipated to be 'pass-by' trips (i.e. those that would already be on the network). The local centre will also assist in internalising trips within the site.
- 11.8.4. Whilst there is anticipated to be a proportion of employment trips which are under 2km from the site (and indeed from within the site itself) and therefore could be undertaken by walking/cycling or public transport, account has been made for 100% of trips to ensure a robust assessment.
- 11.8.5. Trip Distribution percentages follow the same methodology as previously agreed with SGC and HE through the original application; with updated distribution diagrams provided to reflect the Amended Scheme.
- 11.8.6. Overall, the trip generation assessment considers a 'worst-case' assessment whereby no reduction has been made for internalisation or modal shift away from the private car. Notwithstanding this the amended scheme will see a reduction in the trips associated with development. This represents a significant reduction. The development's impacts will therefore be reduced.

11.9. Local Junction Modelling Assessments

- 11.9.1. Updated junction assessments have been undertaken of all local junctions to account for this Amended Scheme.

- 11.9.2. Both proposed site accesses continue to operate well within their theoretical capacity in all scenarios; including when considering Sensitivity Testing. The newly improved Wotton Road/Little Bristol Lane junction is also shown to operate well within its' theoretical capacity in all scenarios; including when considering Sensitivity Testing;
- 11.9.3. The Churchend Roundabout currently operates within its' theoretical capacity, however, exceeds capacity between 2023 and 2029; without the inclusion of the proposed development. Improvements are required at this junction to accommodate the development traffic as well as future background and committed/emerging development growth.
- 11.9.4. The Wotton Road/ B4509 junction currently operates within its' theoretical capacity, reaching capacity in the 2029 future year with the inclusion of Sensitivity Testing. Since the sensitivity tests have not been subject to planning permission, with this development demonstrating a minor increase in delay only, this development is not considered to have a 'severe' impact on the operation of the junction.

11.10. Proposed Mitigation

- 11.10.1. A package of mitigation measures are proposed through this Amended Scheme which will both mitigate against the sites' impact on the local highway network; and provide substantial sustainable transport benefits to the local area including for local residents. These include:
- Footway Improvements and Pedestrian Refuge Islands on Wotton Road
 - Contribution towards New Bus Service (level to be agreed with SGC);
 - Part Provision/Contribution Towards Greenway Route and PRoW Improvements
 - Comprehensive Travel Plan and Associated Measures
 - Contribution towards the implementation of a Traffic Calming scheme in Charfield
 - Improvement/mitigation scheme at the Churchend Roundabout to the west of the site which will increase capacity and reduce queuing at the junction;
 - Contribution towards improvements at The Downs/High Street/Station Road junction in Wickwar;
 - Improvement, Mitigation or Contribution to M5 Junction 14; and
 - Wider Section 106 obligations for sustainable transport contributions.
- 11.10.2. The mitigation proposals are able to be implemented and will be subject to further discussion and agreement with SGC (and where relevant HE).
- 11.10.3. Regarding the M5 J14, this assessment has shown that there are solutions which exist which can be implemented; including those entirely within the highway boundary, however this is subject to agreement from SGC who may not want to deliver improvements due to the government's climate change agenda and changing travel patterns. If SGC want a scheme, there is one that can be delivered, with contributions from others (including developments within neighbouring authority areas where they generate vehicle trips at the junction), entirely within the highway boundary. A coordinated approach is needed moving forward; with some level of development able to be implemented prior to any intervention. Use of a Grampian condition will allow discussions to continue in this ever-evolving situation as it is essential that housing is delivered in advance of any junction improvements, this can also assist in the early delivery of sustainable transport improvements.

11.11. Summary

- 11.11.1. This Amended Scheme has been carefully designed in compliance with national policy objectives and with consideration to emerging local policy and SGC's recently declared climate emergency.
- 11.11.2. The development includes the provision of a number of suitable mitigation and improvement schemes which not only mitigate against the proposals, but encourage users away from the

private car and onto other more sustainable modes of travel in line with policy objectives; as well as enhancing the existing accessibility offering within Charfield.

- 11.11.3. Discussions with SGC and HE are expected to continue beyond application submission, however there are no transport reasons why this scheme should not be found acceptable. This development complies with paragraph 109 of the NPPF and other national and local guidance, including the draft Neighbourhood Plan