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CONSTRUCTION CONSULTANTS
HIGHWAYS AND INFRASTRUCTURE
TRAFFIC AND TRANSPORTATION

South Gloucestershire Highway Consultation Response

Land at Sodbury Road, Wickwar

Bloor Homes

QA RECORD:

DOCUMENT REF	7909CR01	Rev	1.1
DRAFTED BY	Chris Brooke	Date	19 December 2022
CHECKED BY	Hadley Dickinson-Lovett	Date	19 December 2022
APPROVED BY	David Knight	Date	19 December 20222

19 DECEMBER 2022

1 INTRODUCTION

1.1.1 This report has been prepared as a response to the highway consultation comments received for an outline planning application at Land at Sodbury Road, Wickwar in South Gloucestershire, application number P22/01300/O. The proposed development consists of 180 dwellings, a local shop and associated infrastructure.

1.1.2 NRP have been retained by Bloor Homes for this project, which was formally being led by the Clarkebond transport team and this ensures a continuation of the original application team following their relocation to NRP.

1.1.3 The structure of this report will follow the clarifications requested in the consultation response, dated 12th April 2022, as well as providing the further details requested during a meeting with South Gloucestershire highways which occurred on the 9th June 2022. The consultation response and the meeting minutes can be found in Appendix A.

2 QUANTUMN OF DEVELOPMENT

2.1.1 It has been noted that the application form describes the net gain of 243 dwellings, 63 more than the described proposed development. The proposed development will consist of 180 dwellings and a local shop of 200sqm. This is the quantum of development that has been used for trip generation and highway assessments.

3 EXISTING FACILITIES

3.1.1 The assessment of local facilities within the Transport Assessment identifies multiple facilities within an acceptable walking and cycling distance of the proposed development site, these have been identified using Google maps to measure the distance of the route on the local walking and cycling facilities. These facilities are accessible in line with PSP 11 of the Local Plan.

3.1.2 As some facilities are located outside of the range of walking and cycling trips, a Travel Plan is proposed to reduce residents' dependency on single occupant car travel and promote sustainable travel modes wherever possible.

3.1.3 A WCHAR assessment now has been undertaken to assess the local routes to and from the proposed development towards the primary school. The assessment also considers the quality of these routes. Several off-site opportunities have been identified and, where appropriate, will be implemented as part of the development. These opportunities include dopped kerbs, and wayfinding posts to the primary school. The WCHAR assessment and mitigation drawing proposed is contained in Appendix B.

4 MODE SHARE

4.1.1 The Travel Planning process at the development will seek to increase the amount of walking and cycling to the local school as part of its proposals to increase the total levels of active travel. By targeting trips that originate at the development, a more accurate understanding of the effects of the travel planning being undertaken can be achieved. As the trips to the school will only form a small part of the total trips, the effect of the proposed development will be both smaller and more liable to outside influence if reviewing from the designation (school).

4.1.2 Through the WCHAR process and report, described above, a safe route to the primary school has been identified and proposals have been suggested to improve this route further with additional dropped kerbs, tactile paving and way signing information.

4.1.3 A shared footway/cycleway is provided on the eastern side of Sodbury Road as part of recent developments in the area and provides safe, off-road facilities for cyclists. Crossing facilities over Sodbury Road are provided as part of the site access arrangement with the crossing provided adjacent to the southern access now upgraded to a zebra crossing arrangement, see Appendix C. There are routes through the residential area to the west of the B4060 that use quiet residential streets for cyclists that are not confident or comfortable with using the highway network.

5 PUBLIC TRANSPORT

5.1.1 The existing bus service that serves the proposed development does comply with all of the definitions of the minimum appropriate public transport service set out within Policy PSP11. The Transport Assessment identifies 44.3% of commuter trips travelling northbound and 55.7% travelling southbound, along the two directions of the 85-service provided by Stagecoach.

5.1.2 The 85-service provides a 20-minute bus ride to Yate train station, passing through Chipping Sodbury High Street and Yate town centre. This will be the main attraction of trips to facilities outside of Wickwar, while the service frequency could be improved the journey time is short and the route is direct.

5.1.3 The service also provides access to Charfield, Kingswood and Wotton-under-Edge to the north of Wickwar, which would be the other desirable destinations in the local area. The bus route is of a high quality and does not need to be improved. The proposed development would, however, make an increased frequency more viable.

5.1.4 In order to further enhance the use of the service the proposed development is proposing the introduction of a southbound bus stop which will be located south of Gulwell Drive, see Appendix C. This will reduce the distance bus users from the development have to travel to reach the nearest current southbound bus stop, located north of Poplar Lane.

5.1.5 The Transport Assessment stated that Yate train station is approximately 7km walking distance from the proposed development. This was incorrectly worded as the station is not within an acceptable walking distance, the station is accessible via a 7km drive, lasting approximately 10 minutes or a 20-minute bus journey on the number 85-service.

6 HIGHWAY IMPACT ASSESSMENT

6.1.1 It has been agreed in a meeting on Thursday 9th June 2022 with South Gloucestershire Council that the 2016 traffic flows used in the TA are more appropriate to undertaking new surveys because while flows are higher, the peaks are lower.

6.1.2 The High Street shuttle signals have been modelled using JCT's LINSIG signalised junction modelling software. The model has been built using signal data provided by South Gloucestershire Council. The results of the model can be seen in Table 6.1 below.

Table 6.1: LINSIG SHUTTLE SIGNAL ASSESSMENT RESULTS

	AM Peak (07:30-08:30)			PM Peak (16:15-17:15)		
	Queue[1]	Delay[2`]	Sat %[3]	Queue[1]	Delay[2]	Sat %[3]
2027 + Committed Development + Proposed Development						
Northbound traffic	12.7	27.7	69.5	9.6	34.6	65.6
Southbound traffic	10.3	35.8	68.7	11.8	26.6	66.0
PRC %		29.4			36.3	

Notes:
1. The maximum mean queue predicted by the model for any 15-minute time period.
2. The maximum mean delay per PCU predicted by the model for any 15-minute time period.
3. The maximum RFC (Ratio of Flow to Capacity) predicted by the model for any 15-minute time period.

7.1.1 The results shown in Table 6.1 shows that the shuttle signals are expected to operate with reserve capacity in 2027 with committed and proposed developments. The outputs from the modelling undertaken are provided in Appendix D.

7.1.2 A Technical Note has been prepared separately that outlines the number of trips that are expected to travel to M5 Junction 14 and this has now been agreed with National Highways with no further assessment required. The Technical Note is provided at Appendix E.

8 MITIGATION

8.1.1 A WCHAR Assessment has been undertaken to identify off site mitigation measures that could be improved. a series of opportunities have been identified that will improve the route to the local primary school. These are identified in Appendix B.

8.1.2 The introduction of a zebra crossing has now been provided on the northern side of the southern access which will provide a direct walking route into the new proposed shop, as well as acting as an additional measure to help maintain the 30mph speed limit on Sodbury Road.

8.1.3 To further re-enforce the 30mph speed limit along Sodbury Road, and past the development, the developer is willing to provide both a new village entrance gateway and road surfacing, which will assist in notifying drivers to the change of environment

8.1.4 Additionally, a new southbound bus stop is proposed south of Gullwel Drive which will reduce the distance residence of the new development and those in the surrounding area must travel to use the bus service.

8.1.5 These improvements can all be seen in the drawing provided in Appendix C.

9 TRAVEL PLAN

9.1.1 Feedback was also provided on the issued Residential Travel Plan dated 22nd February 2022 and these have now been incorporated into a revised Residential Travel Plan dated 01 December 2022. This document is provided at Appendix F.

9.1.2 A movement strategy drawing has also been produced which shows the key routes to local facilities, amenities and the school, as well as the available and different options to the cycling routes to Yate. This is provided at Appendix G.

10 CONCLUSION

10.1.1 This Technical Note has addressed all the comments raised by South Gloucestershire Council in their consultation response dated 12th April 2022 and that there remain no outstanding matters to be addressed.

10.1.2 It is concluded that the site is accessible by sustainable modes of transport including walking, cycling and bus. The improvements identified and proposed further enhance both the sites accessibility and sustainability credentials. This is provided alongside an existing good network of existing footways linking the site to the surrounding area and a range of local facilities are within acceptable walking and cycling distances.

10.1.3 Junction modelling shows that the level of traffic associated with the proposed development will not adversely affect the safe operation of the surrounding highway network for the High Street shuttle signal junction.

10.1.4 It is therefore considered that the proposed development accords with national and local transport policy and there is now no transport or highway reason why planning permission should not be granted.

APPENDIX A: SGC CONSULTATION RESPONSE & MEETING MINUTES 09/06/2022

Claire Hawkes

Subject: FW: P22/01300/O Land At Sodbury Road Wickwar

Application Number:	**P22/01300/O**	Grid Reference:	372484 187898
Date Registered:	22nd March 2022	Consultation Response Date:	12th April 2022
Location:	Land At Sodbury Road Wickwar South Gloucestershire GL12 8PG		
Proposal:	Erection of up to 180 dwellings, a local shop and associated infrastructure (Outline) with access to be determined; all other matters reserved.		
Applicant:	Bloor Homes South West		

We note the outline application is for up to 180 dwellings with a local shop of 200 square metres on just under 8 hectares of agricultural land to the east of the B4060 Sodbury Road. The outline application requires the access to be determined with all other matters to form part of reserve matters applications.

An EIA screening opinion was requested for this site and whilst there were no formal pre-application discussions on the scope of the transport assessment, recommendations for what should be included in the assessment was provided by SGC.

We note that the application form doesn't specify the dwelling sizes by bedroom number, and also shows 243 residential units in terms of net gain which is 63 more than the description above. We would appreciate clarification on this and for the purposes of our comments have taken 180 dwellings to be the proposal.

We note the Transport Assessment dated 7th December 2021; the Residential Travel Plan dated 22nd February 2022 and the Design and Access Statement including its Access and Movement and Facilities and Services sections.

Existing Facilities

The Design and Access Statement includes 9 named facilities within a 15 minute as the crow flies walking distance, appreciating that, as highlighted in para 5.23 of the PSP Local Plan, actual walking distances to these few facilities will be greater and the quality of route needs to be considered. The infrastructure proposals do not suggest additional or separate accesses for pedestrians and cyclists and do not appear to consider infrastructure beyond the site's boundary – i.e. there is no external mitigation proposed.

The facilities within the plans shown in the Design and Access Statement include the primary school; a coffee shop; an inn; a social club; the village hall (labelled as the town hall); as well as two churches; a care home; and playing fields. The facilities are limited to certain activities and do not include several in the range of facilities shown in PSP 11 which is assessed in Table 5.3 of the Transport Assessment, and agreed that these facilities would require modes other than walking or cycling.

The proposed pedestrian route to the primary school is not set out in the assessment and as there is limited potential for non-car travel, the proposed route(s) need to be described and assessed in terms of safe walking route to school criteria as well as its timing should parents or guardians intend continuing their journey to work for example.

Modal Share

We note that the National Travel Survey from 2016 is included in the Transport Assessment where it suggests that nationally on average 51% of primary school pupils walk to school with 41% travelling by car and 5% by bus. We would recommend that in order to understand the likely walking levels from this development to the school, that the school's actual modal share is reviewed given it is a village school that doesn't just serve the village. A safe route needs to be identified including appropriate infrastructure along the route and for crossing the main road.

There is very limited walking infrastructure in Wickwar - limited to its built form and no cycling network in terms of routes with cycling infrastructure to encourage that mode - the Avon Cycleway is mentioned in the Transport Assessment which runs east/ west through the north of Wickwar, however this leisure route in this area is on the highway rather than segregated from traffic, and could not be considered more than a leisure route for experienced cyclists rather than the wider range including less experienced and less confident cyclists that we and central government through its Active Travel England are seeking to encourage.

Public Transport

The Transport Assessment has extracted elements of Policy PSP11 in terms of the [absolute] minimum bus service that could be considered acceptable for development in a rural location, and suggests the bus service to be appropriate. No assessment of available capacity has been made, nor how the service fits in with the predicted demand noting the proposed distribution northbound and southbound from the site.

Noting paragraph 5.25 from Policy PSP 11 of the Local Plan, for such a substantial development the public transport provision is in officers view, in need of significant improvement to have some chance of avoiding car dominated modal share for journeys to and from this development.

> "5.25 The larger the development proposal and, or the larger the reliance on public transport to access key facilities and services, the more frequent and extensive a bus service will be required, in order to avoid a reliance on private car journeys."

The development's location and distance from the majority of facilities is likely to mean car will be the travel mode of choice from this development without improvement to sustainable travel infrastructure and services. The in-frequent and subsidised bus services on the elongated clockwise and anti-clockwise circuits to serve local villages and hamlets does not offer a realistic choice for many journeys. For this scale of development much better public transport provision is needed to encourage a non-car dominated development.

The train station at Yate is also referenced including its services. The TA suggests it is "*approximately 7km walking distance to the south of the development*", though in reality it is not walkable as there is no infrastructure to safely walk towards the boundary of Yate where there are footways. We would like this questionable reference to be clarified.

Highway Impact Assessments

A number of assessments have been provided for the site, using traffic survey information from the Horwood application carried out in 2016. This information is considered to be too old and requires new surveys. Any assessment requires the modelling files to be provided for review, together with any calculations (plans confirming geometries; where relevant signal settings; intergreen times etc.)

The consented development in Wickwar is the only information considered by the applicant. A review of influencing developments is needed including the North Yate New Neighbourhood which continues on its build programme.

The High Street shuttle working has been simplistically assessed with PICADY. This signalised shuttle working requires a validated base model that replicates the queuing found in morning and evening peaks for the development traffic to be considered further. The current form of assessment is considered inadequate and its results misleading.

The motorway junction 14 of the M5 has not been assessed, and it is required to be. National Highways may require this in their response.

Mitigation

We note that the developments sole mitigation is a travel plan. In order for the development to be acceptable in transport planning terms, it needs to demonstrate its sustainability credentials, and there is inadequate information provided on this suggesting that the site is not sustainable without mitigation.

Summary

We have reservations, similar to those raised on the now consented developments to the west of the B4060, which are that Wickwar has limited facilities meaning that for the majority of needs, future residents will need to travel, and that travel from this development which is distanced from the centre of Wickwar is likely to be dominated by car-based travel without significant improvement to the bus services and walking and cycling infrastructure, and ideally with other development uses coming forward in the future to help offer local facilities to contain travel movement.

The assessment provided does not include sufficient technical information in terms of highway impact appraisal, and requires further information on sustainable travel options and likely use. We therefore cannot determine the application without additional information and place a holding objection to the proposal.

Kind Regards

Myles

Myles Kidd B.Eng. (Hons) MCIHT, CMILT, MTPS

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MEETING MINUTES

Land at Sodbury Road, Wickwar
SGC Transport Meeting
14.00 Thursday 09th June 2022
Online via Teams

Reference	7909MM01	Rev	1.0
Drafted by	Hadley Dickinson-Lovett	Date	13/06/2022
Approved by	Hadley Dickinson-Lovett	Date	13/06/2022

Attendees	**Company/Organisation**	**Initials**
Hadley Dickinson-Lovett	NRP	HDL
David Knight	NRP	DK
Claire Hambleton	Bloor Homes	CH
Claire Hawkes	Turley	CH
Jonathan Dodd	Bloor Homes	JD
Myles Kidd	South Gloucestershire Council	MK
Apologies	**Company/Organisation**	**Initials**
None		

Item	Notes	Initials
	DK opened the meeting and introductions were undertaken CH gave an outline of the scheme and its status. CH advised that there is a Design Review Panel taking place on the 29th June and that the project team were keen to resolve any issues. DK began with the traffic surveys that were used in the application and that these were taken from the two previously agreed application on the eastern side of Sodbury Road and growth accordingly. The reason being was that the pandemic was still influencing travel patterns and it wasn't possible to carry out new surveys at the time the application was submitted. DK noted that these counts were on the boarder of acceptability in terms of age but that counts post the pandemic may not provide any useful information, given traffic flows have yet to settle in the wake of the end of the pandemic. Schemes elsewhere have seen reduction of 10-20% in the peak hours. MK accepted that the data was on the borderline of being outdated but also accepted that traffic flows now are different and that profiles have changed where although traffic flows are higher, the peaks are lower and the inter peak has seen the biggest increase. MK stated that the age of the traffic flows is not of particular concern and were not the most important issue, with that being the sites sustainability. DK appreciated that traffic flows were not of the greatest concern but based on MK view was it necessary to undertake additional counts. MK stated that traffic flows still had not settled and that the data used for the application may provide more reasonable assessment DK confirmed with MK that based on this that no new traffic counts were required. MK raised that the shuttle working signals in the town centre were not modelled and that queueing at this location is of a concern. DK mentioned the assessments undertaken followed those undertaken at the approved sites on the eastern side of Sodbury Road and that an assessment at these signals was not undertaken and this scheme followed for consistency. MK stated that SGC did not agree to the other two schemes not assessing the impact at this location DK explained that a new count was undertaken in this location and therefore an assessment at this junction can be undertaken so will review its appropriateness. DK moved on to the impact at Jct 14 of the M5 and that previous work had been done assessing the vehicles reaching this part of the network and that these were minimal and approximately 20 vehs in each peak and that the trip generation and distribution was agreed. MK also accepted that the trip generation and distribution undertaken was acceptable. DK moved onto the access proposals and outlined what was being provided. MK acknowledged he hadn't reviewed them in detail and that this would be undertaken by his engineers but that the principle was accepted and reasonable for planning purposes.	

	DK also reiterated that they operated fine in capacity terms. DK raised the sites sustainability and that improvements to walking and cycling were looked at but that options were limited. Additional footways from the southern access to the bus stop and a connection to the shared footway and cycleway on the eastern side are provided. The travel plan will also provide 'way-finding' to key locations such as school, Town Centre etc. MK stated that there are limited facilities in Wickwar but that a safe route to school should be identified (WCHAR). DK explained that the development will deliver a farm shop on-site. JD asked MK whether there was anything in particular that was missing in Wickwar which makes it unsustainable MK replied that there are limited 'day to day ' activities but as well as limited employment, noting that working from home will assist, but there are also limited retail and leisure facilities, reference was also made to PSP11. DK replied that these amenities are covered in the TA and that many of those noted facilities are in line with PSP11. DK raised the current bus services and MK stated that this was an infrequent service and that WECA are looking to improve this service but that its costing are approximately 2.5 million pounds. DK queried how this figure was derived and was there a report of findings MK replied that it had come from an officer at WECA and that he would discuss and provide relevant information MK feels that the current service is not appropriate for 90 dwellings and that more would exuberate the problem. MK stated that he appreciated that it will be difficult to mitigate out of the issue of sustainability and appreciated that any measure needs to be commensurate for the level of development MK stated that the CIL 123 list prevented SGC from requesting contributions previously (from the other developments) but that this was lifted in 2019. DK moved onto highway safety and that there are no issues to report on MK agreed and that the traffic calming should help but time will tell DK then moved onto submitted Travel Plan and that this was undertaken as per the agreed Travel Plan for the Charfield site. MK reported that this had been issued to the TP and was awaiting feedback but there should be no issues. JD asked whether the issue of traffic counts being re-done was required. MK stated that traffic flows still had not settled and that the data used for the application may provide more reasonable assessment JD confirmed that the application will remain as per the existing traffic flows used. HDL pressed MK on what could the site deliver that would change the view that Wickwar is an unstainable location for development given that improvements are being provided in terms of footway and cycle connections	MK

	MK replied that the bus services was of critical importance and that a contribution could be an option to improve that view as the current services are subsidised and that this doesn't necessarily ensure the routes future. JD responded that any information and any request for such a contribution would be useful and appreciated and that this could then be reviewed by the team.	

APPENDIX B: WALKING, CYCLING AND HORSE-RIDING ASSESSMENT REPORT

CONSTRUCTION CONSULTANTS
HIGHWAYS AND INFRASTRUCTURE
TRAFFIC AND TRANSPORTATION
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Walking, Cycling & Horse-Riding Assessment

Land West of Sodbury Road, Wickwar

Bloor Homes

14 DECEMBER 2022

Land West of Sodbury Road, Wickwar

Bloor Homes

QA RECORD:

DOCUMENT REF	7909WCHAR01	Rev	1.1
DRAFTED BY	Morgan Carter	Date	14 December 2022
CHECKED BY	Hadley Dickinson-Lovett	Date	14 December 2022
APPROVED BY	David Knight	Date	14 December 2022
ELECTRONIC LOCATION	B:\Projects\7909 Land at Sodbury Road Wickwar\Deliverables\Reports\WCHAR		

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1 INTRODUCTION

1.1 Overview

1.1.1 This Walking, Cycling & Horse-riding Assessment and Review (WCHAR) has been prepared at the design stage and relates to Land West of Sodbury Road, Wickwar. It has been produced with reference to the requirements set out in DMRB GG142 Walking, Cycling and Horse-Riding Assessment and Review.

1.1.2 GG142 sets out procedures to undertake WCHAR for highway schemes and includes requirements and advice to be used in the assessment and review of walking, cycling and horse-riding opportunities. The purpose is to facilitate the inclusion of all walking, cycling and horse-riding modes in the design process from the earliest stage, enabling the design team to identify potential opportunities for improved facilities and integration with the local and national network(s) throughout the design process.

1.1.3 Given that a residential development is the scheme under consideration the assessment will focus on the walking/cycling routes to and from the proposed onsite primary school. It aims to identify the most appropriate and safe route to be followed after the development is built.

1.1.4 Given the assessment is focusing specifically on access to the primary school the movements are likely to be undertaken predominantly by children, between the ages of 4 to 11, and parents/carers. It is anticipated that the mode for these movements will be undertaken by walking and occasionally cycling. The assessment will exclude equestrians (as they are not anticipated to be generated by the new development).

1.1.5 This WCHAR Assessment has been carried out by:

- Hadley Dickinson-Lovett BSc (Hons) MSc MCIHT
- Morgan Carter BSc (Hons)

2 WCHAR ASSESSMENT

2.1 Review of walking, cycling & Horse-riding policies and strategies

2.1.1 This chapter describes the planning and transport policy and guidance relevant to the proposed development that has been referred to in the undertaking of this Transport Assessment. These are:

- Planning for walking, CIHT (2015);
- Designing for walking, CIHT (2015);
- Planning for cycling, CIHT (2014);
- Providing for journeys on foot (2000)
- Manual for Streets 1 and 2 (MfS and MfS2)

2.2 Planning for Walking (2015)

2.2.1 The Planning for Walking was published in March 2015 to aid in the development of the focus of walking in and around the UK. It sets out characteristics, behaviour and trends of walking, as well as the benefits for health, planning and economic purposes. This aided in the decision making for what should be including for improvements at the development site.

2.2.2 Section 4 sets out the challenges that pedestrians face across the UK network, a brief summary is as follow:

"Pedestrians can face challenges caused by a combination of poor planning for pedestrians, poor maintenance and management of pedestrian routes, conflicts with motor vehicles and lack of personal security. Problems cited include inadequate footway maintenance, dog fouling, splashing by drivers, cul-de-sac that turn suburban areas into mazes, lack of benches and public lavatories, lack of signs for visitors on foot, steep gradients and/or steps, fear of road accidents, obstructions on footways including parked cars, cycling on pavements, inadequate green time at signal-controlled crossings, graffiti and fear of assault. These problems have not changed over several decades."

2.2.3 Section 5 sets out an understanding of pedestrian networks and how they should be connected across town and villages, this is as follow:

"Pedestrian routes should connect all parts of a town, including its centre, to one another and link with footpaths running into the countryside to adjacent settlements. Paths along riverbanks, canal towpaths, paths across open spaces, bridges of all kinds and diverse shortcuts complete such networks. The Department of the Environment Northern Ireland guidelines Creating Places (2000) lists priorities for pedestrian routes in residential developments as to be as direct as practicable in relation to local facilities, bus stops and railway halts; to provide attractive routes and accommodate conveniently and safely the numbers of pedestrians and cyclists likely to use the routes; to minimise the hazards associated with vehicular traffic; to enhance the appearance of developments by providing space for planting; and to have the easiest practicable gradients (taking into account the special needs of people whose mobility is impaired)."

2.3 Designing for Walking (2015)

2.3.1 Designing for Walking was published in March 2015 to aid the development of sustainable routes with a focus on safe and fit for purpose pedestrian facilities. This aided the decision making for what should be included for improvements at the development.

2.3.2 Section 4 – Basic Design Considerations states the following:

"Footways and footpaths should be aligned as directly as possible between the main trip origins and destinations. People prefer to see the place to which they are walking. While gentle curves will probably be followed, sharp curves will not be followed readily unless physical barriers deter the taking of shortcuts."

2.3.3 This is the concept that should be followed for all future development within Wickwar to upgrade existing problems to reach this now industry standard.

2.3.4 Furthermore, it also sets out details of footways and footpath widths that are as follow:

"Designers should be aware that, based on the established standard of providing sufficient width for wheelchairs/mobility scooters or double buggies to pass, pedestrians require an absolute minimum obstacle-free width of 1.8m and a desirable minimum width of 2.0m.

On high-speed roads and those with a regular or high flow of Heavy Goods Vehicles (HGVs), it is preferable to allow an additional minimum of 0.6m to allow for vehicle overhangs and pedestrian "kerb shyness." Street furniture will normally be in this area. There may also be an "unusable" area of approximately 0.25 to 0.5m at the back of the footway if the footway is The following effective design widths, which are clear and generally unobstructed, are recommended:

- *Absolute minimum width: 1.8m*
- *Desirable minimum width: 2.0m*
- *Preferred width 2.6m (especially adjacent to high-speed roads)*

It is not suggested that footways with widths less than 1.8m should never be provided, as it is clear that existing narrow footways do provide a level of pedestrian amenity. A 1.5m-wide footway (kerb face to back of footway) may be better than no footway at all."

2.3.5 Section 4 also sets how and what tactile surfaces are required in which areas:

- correct tactile surface for the situation should be used. For example, grid-pattern blister is always used at pedestrian crossings. If placed at the top of a flight of stairs, for example, it could be very misleading or dangerous;
- Red grid-pattern blisters should only ever be used at controlled crossings, zebra, pelican, puffin, toucan, or signalised junctions where "green men" are provided;
- Tactile areas should always have a "twin" opposite and have blisters aligned properly when used to denote crossing points to allow users to find the opposite footway and avoid becoming stranded in an area with traffic;
- Tactile paving should not direct users into an obstruction;
- When used in conjunction with segregated pedestrian and cycling facilities (but at the same level), the alignment of the ladder/tram-line tactile paving should be orientated so that cyclists are on the tram-line side and pedestrians on the ladder side (cyclists on the wrong side would feel a rumble from the ladder);
- When being used in conjunction with a speed table as a crossing point, grid-pattern blister paving should be provided wherever the kerb is flush with the carriageway;
- When paving needs to be cut to fit the alignment, small pieces of paving should not be left as they are most likely to fail and become a trip hazard; and
- If tactile paving is used near an area at risk from vehicle overrun, then consideration should be given to laying it on a heavy-duty base or even using rubber/composite paviours.

2.3.6 Section 4 also sets out the potential issues with the historic layout of villages, this is as follows:

- Lack of footway widths or footways and often lack of space for all competing demands on the street,
- Speed and volume of traffic (when on main routes) and the impact on walking,
- Providing for parking in areas with few off-street opportunities and the impact on pedestrians, and
- The balance of the choice of materials to fit in with historic areas, which are robust and walking friendly

2.4 Planning for cycling (2014)

2.4.1 The Planning for Cycling was published in October 2014 to aid in the development of sustainable routes with a focus on safe and fit for purpose cyclist facilities. It is the cyclist equivalent and amalgamation of Planning for walking and designing for walking.

2.4.2 Section 4 sets out the current challenges for cyclists across the UK and why only 2% of all trips in the UK are made by bike, which is one of the lowest in Europe. The information is as follow:

"Despite the benefits of cycling, many barriers, both real and perceived, also exist. Surveys in London identified seven major factors that discourage people from cycling: (i) danger, (ii) effort, (iii) poor cycling environment, (iv) weather, (v) cycle theft, (vi) lack of information and skills and (vii) culture/attitude/ credibility; and of these, the first three were most frequently mentioned). Research in the Cycling Demonstration Towns has shown a complex interplay between the different factors; and the behavioural changes that prompt people to take up cycling are often linked to important life events such as changing schools or jobs or moving to a new location."

2.4.3 Section 7 sets out the overall principles for creating a wider cycle network, these are as follow:

"The development of cycle networks is mainly concerned with appropriately managing existing highway, right-of-way and permissive routes and creating new links within the existing network to close gaps, with the overall aim of creating a coherent and complete network with a consistent and adequate level of service for cycle traffic. Consideration needs to be given to the management of routes in terms of their attractiveness and comfort for cycle users, and this will extend to undertaking measures to manage motor traffic volumes and speeds."

2.4.4 Section 7 continues to state the following:

2.4.5 Network planning should therefore be concerned with creating direct cycle routes that provide comfortable passage for all types and ages of cycle user. This will usually be via a combination of:

- routes dedicated to cycle traffic that are free from motorised traffic;
- routes with mixed traffic of appropriate speed and volume;
- routes with higher volumes and speeds of motor traffic, which have well designed segregated space for cycle traffic.

2.4.6 In a similar manner, cycle infrastructure planning should ensure appropriateness in all details and adhere to the following five principles, originally expounded by the Dutch (CROW, 2007) and repeated in much guidance around the world:

- Coherence: Infrastructure for cycle traffic needs to form a coherent whole and provide connections that link origins and destinations; key elements include way-finding and consistency of quality of route.
- Directness: A cycle user needs to be offered the most direct route possible and particularly routes which are shorter and quicker than by car.
- Attractiveness: Cycling infrastructure should be well designed to fit in with the surroundings and engender feelings of personal security.
- Safety: Infrastructure should be designed to offer space to cycle users to reduce their feelings of vulnerability from all potential threats.
- Comfort: Infrastructure should reduce delay at particular locations and the consequential additional effort required to recover normal cycle speed; similarly, infrastructure should provide smooth surfaces with no discrete discontinuities such as kerb aces.

2.5 Providing for Journeys on foot (2000)

2.5.1 The guidance of Providing for Journeys on Foot was published in 2000 and parts have been superseded by the above documents. However, it still forms the fundamental for the safe route for sustainable users.

Section 3 sets out deterrents for walking, these are as follow:

- Land use patterns that are unsuited to walking
- Unpleasant pedestrian environments
- Danger from vehicular traffic
- Personal security fears
- Inconvenient pedestrian facilities

2.5.2 One of the key aspects of the Wickwar site is the current narrow footways in places. The following has been set out for service measurement:

2.5.3 *"Pedestrians are very efficient users of space. Because they can move in close proximity to one another, a relatively narrow footway can have a very high pedestrian flow capacity. However, although people might be able to make progress, conditions that would be acceptable at a football match would not be considered acceptable on a residential street. Simple capacity is therefore only part of the requirement and must be combined with a concept of the level of service."*

2.6 Manual for Streets 1 and 2 (MfS and MfS2)

2.6.1 The Manual for Streets (MfS) provides the design guidance for development in residential areas, focussed upon function rather than absolute standards, allowing designers to approach highway and access provision in a less prescriptive manner. It is also based on a new set of technical and research reports considering in particular driver behaviour as it is affected by the travel environment, rather than allowing drivers to dominate the environment.

2.6.2 MfS2 is a 'companion guide' to the MfS that identifies how the principles of design set out in the MfS can be applied to other urban locations. It identifies the MfS as the starting point for all highway design affecting non-trunk roads, although its application on inter urban routes is less likely to provide acceptable arrangements.

3 EXISTING ACCESSIBILITY

3.1 Highway Safety

3.1.1 Recorded Personal Injury Collisions (PICs) for the five-year period 01/10/2015 to 31/11/2020 have been obtained from South Gloucestershire Council. These PIC collision reports have been assessed for the highway network of interest. The area of interest is defined by three junctions and their approaches, as well as the links contained by these junctions

3.1.2 These junctions and links are as follows:

- Junction – The Downs/ Station Road/ High Street;
- Junction - B4060/Amberley Way Roundabout;
- Junction - B4060/Frith Lane
- Link – High Street between the Downs/ Station Road/ High Street junction and the B4060/ Amberley Way roundabout;

3.1.3 PICs are classed as fatal, serious or slight and comprise of one or more casualties. A summary of PIC's by junction and link is provided in Table 3.1.

Table 3.1. Recorded Personal Injury Collisions (PICS) 1st February 2015 – 31st January 2020

Reference Date	Description	Location	Casualties		
			Fa	Se	Sl
Link – High Street between the Downs/Station Road/High Street junction and the B4060/Amberley Way roundabout					
181804920 01/06/2018	Vehicle 1 was travelling northbound towards Wotton Under Edge on Wickwar High Street in a line of slow moving vehicles. Vehicle ahead stopped to let another vehicle turn out of Buthay Lane. Driver 1 stopped in the line of vehicles, but vehicle 2 travelling behind failed to stop and collided with the rear of vehicle 1.	B4060 High Street	0	0	5
Junction – The Downs/Station Road/High Street					
181807204 24/10/2018	Vehicle 1 (cyclist) was northbound on B4060 Station Road when Vehicle 2 entered Station Road from B4059 The Downs, failing to stop for Rider 1. Vehicle 2 collided with Rider 1 knocking them from their bike.	The Downs/Station Road junction	0	1	0
Junction – B4060/Amberley Way Roundabout					
181807461 05/11/2018	Vehicle 1 turns right from the B4060 into Amberley Way but oncoming Vehicle 2 travelling southbound towards Yate failed to stop and collided with the nearside of Vehicle 1. (Exact location unknown)	B4060/Amberley Way mini roundabout	0	0	2
Junction – The Downs/Station Road/High Street					
191903420 22/02/2019	Vehicle 1 turned left from the access to Arnolds Field Estate onto B4059 The Downs and collided with nearside of Vehicle 2 which was travelling westbound away from Wickwar.	The Downs, on the approach to the junction with Station Road/High Street	0	0	1
		Totals	0	1	8
				9	

Notes: 1. Fa = Fatal, Se = Serious, Sl = Slight

3.1.4 A total of nine people have suffered personal injury as a result of the four recorded accidents on the highway network of interest during the specified time period. Of these accidents, there were eight slight casualties and one serious casualty. There were no fatal casualties.

3.1.5 Full collision records are included at Appendix A.

3.2 Walking Network

3.2.1 The proposed development will be accessible to pedestrians via Sodbury Road (B4060)/High Street both from the east and west of the site.

3.2.2 Footways are provided on the western and eastern side of Sodbury Road in various lengths and widths. South of Horwood Lane a footpath/cycleway approximately 3m in width provides a safe and direct route for pedestrians off the B4060. Further south of Poplar Lane the pedestrian facilities are limited due to no footway and a speed limit of 40mph.

3.2.3 On the western side heading northbound a footway is provided from the proposed development site extending into Wickwar Village centre. This path is approximately 1m in width with parts narrowing down to 0.4m due to adjacent grass verges and a stone wall being allowed to converge in to the usable footway space.

3.2.4 On the eastern side heading northbound the footway extends only as far as the Citreon dealership. Access for the mobility impaired is limited due to no dropped kerb or tactile paving at the Poplar Lane/Sodbury Road junction and the Amberley Way/Sodbury Road junction. Existing pedestrian cut throughs provide access to Amberley Way from Sodbury Road and to Inglestone Road from the High Street.

3.2.5 The pedestrian facilities to the north-east of the development on Amberley Way, Burleigh Way and Inglestone Road generally provide a direct, safe and amenable route to Alexander Hosea Primary School. This network provides two pedestrian cut-throughs between Amberley Way and Burleigh Way and two between Inglestone Road and the Primary school.

3.2.6 The primary school and the village centre are within an acceptable walking distance of the new households of approximately 900m. Walking distances are shortened by existing Public Right of Ways and pedestrian/cycle paths built adjacent to new development.

3.3 Cycling Network

3.3.1 The proposed development will be accessible to cyclists from Sodbury Road with an existing cycle path extending 100m between the front of both the Horwood Lane and Polar Lane developments. The towpath is in excellent condition, built as part of the new development on the eastern side of the B4060. It has adequate street lighting and is free of vehicle traffic.

3.3.2 There are limited dedicated cycle facilites provided northbound of the proposed development on Sodbury Road/High Street with cyclists using the carriageway. The street network to the east following Amberley Way, Burleigh Way and Inglestone Road provides several pedestrian/cycle paths up to 3m in width and are considered to have low traffic volumes and speeds allowing cyclists to use the roads safely.

3.4 Bus Services

3.4.1 There are a total of four bus services running through Wickwar that run regularly throughout the day. The existing bus services in the locality of the proposed site are summarised in Table 3.2.

Table 3.2 Summary of Existing Bus Services

Service	Day	First Bus	Services per Day (approximate frequency [1])	Last Bus
84 – Stagecoach				
Yate – Wotton-under-Edge Circular Clockwise	Weekday	06:35	8 (2 hrs)	19:35
	Saturday	06:35	8 (2 hrs)	19:35
	Sunday		No Service	
85 - Stagecoach				
Yate – Wotton-under-Edge Circular Anti-clockwise	Weekday	08:28	6 (2 hrs)	19:38
	Saturday	08:38	6 (2 hrs)	19:38
	Sunday		No Service	
860 – Stagecoach (College Service)				
Chipping Sodbury – Cirencester College	Weekday	07:33	1 (Daily)	07:33
	Saturday		No Service	
	Sunday		No Service	
58 – Taylors Travel (School Service)				
Old Sodbury – Katherine Lady Berkeley School	Weekday	07:10	1 (Daily)	07:10
	Saturday		No Service	
	Sunday		No Service	

3.4.2 The 84 service operated by Stagecoach runs from Wotton-under-Edge through Charfield towards Cromhall then Wickwar before terminating in Yate. The 85 service starts in Yate before heading to Chipping Sodbury then Hawksbury Upton, Hillesley, and finally Wotton-under-Edge. The other services through the village serve education.

3.4.3 These bus services are available from the proposed site but it is not anticipated that they will be used to travel to the primary school.

4 SCHEME DESCRIPTION

4.1 Proposed Development

4.1.1 The site is currently an undeveloped field immediately adjacent to the B4060 on its eastern side. It is bounded by Firth Lane to the south; by open agricultural land to the west; and by buildings associated with South Farm. The development area can be identified in the Masterplan, contained in Appendix B, focusing on the surrounding road network of B4060.

4.1.2 The development will comprise of 180 residential dwellings and a farm shop of 500m.

4.2 Access Arrangements

4.2.1 There are two proposed access points from the B4060 Sodbury Road to the development with both access points being simple priority junctions:

- The northern access - A left turn approximately 40m south of the junction of Sodbury Road with Amberley Way
- The southern access - At the location of the current field access approximately 100m from the junction of Sodbury Road with Frith Lane.

4.2.2 The proposed accesses will be simple priority junctions shown on Drawings B05313-SK04 and B05313-SK05 contained within the associated Transport Assessment submitted to support the planning application.

4.2.3 Sodbury Road is subject to 30mph speed limits providing access to the existing and proposed development site and the small village of Wickwar by connecting with the High Street.

5 ASSESSMENT SCOPE AND SITE VISIT

5.1 Site visit

5.1.1 The site visit was undertaken by the assessment team (Hadley Dickinson-Lovett and Morgan Carter) on Monday 20th June 2022. The weather was clear and dry, and the site visit lasted approximately 2 hours.

5.2 Assessment Scope

5.2.1 A total of three routes following the pedestrian and cyclist desire lines have been assessed. These were walked from the development site to Alexander Hosea Primary School for the purpose of understanding the safest routes and opportunities for access. These routes are detailed below.

- Route 1 – From the proposed development site walking North along east side of existing B4060 pedestrian/cycle paths to then follow existing footpaths on the west side of Amberley Way, Burleigh Way and Inglestone Road for an approximate total distance of 800m.
- Route 2 – From the proposed development site walking North along existing B4060 Sodbury Road to then use the existing pedestrian footpath east of Wilcox Citroen and follow Burleigh Way into Inglestone Road for an approximate total distance of 950m.
- Route 3 - From the proposed development site walking North along existing B4060 Sodbury Road to then follow existing footpaths through Inglestone Road for an approximate total distance of 900m.

5.2.2 The selected routes are shown by Figure 5.1 with photograph evidence shown in Appendix C.

5.2.3 For the routes to be suitable for non-motorised users they should:

- not give rise to road safety or personal safety concerns;
- directly facilitate the desired journey without undue deviation or difficulty;
- link origins and destinations;
- be attractive and comfortable to use;
- be accessible to disabled users and people with children and pushchairs; and
- be continuous and not subject to severance or fragmentation.

6 NON-MOTORISED USER ACTIVITY

6.1 Vehicular Traffic Flows

6.1.1 To understand the two-way vehicular traffic volumes using Amberley Way, as this has been identified as the most appropriate route to the school, a manual classified count (MCC) which was undertaken on Tuesday 22nd March 2016 at the Amberley Way/ Sodbury Way mini-roundabout junction has been reviewed.

6.1.2 The number of vehicles recorded entering and exiting into Amberley Way is as follows:

B4060 Sodbury Road / Amberley Way

- AM Peak Period (0800 to 0900) = 60 two-way vehicles; and
- PM Peak hour (1700 to 1800) = 64 two-way vehicles.

6.1.3 The results of the review into traffic using Amberley Way shows that during a typical school morning (0800-0900am) traffic using Amberley way is minimal (60 two-way vehicle movements). Although the end of the school day (1500-1600) was not recorded as part of the survey, the PM peak hour, which is anticipated to be busier than school end time, recorded a similar number of two-way vehicle movements to that of the AM peak (64 two-way movements).

6.1.4 It is therefore considered that Amberley way is lightly trafficked, and it is an appropriate route to be used for school children accessing the school from the development site.

7 USER OPPORTUNITIES

7.1.1 The opportunities highlighted below are relevant to Route 1 as this has been assessed as the most appropriate proposed safe school route and should be considered by the wider design team throughout the progression of the scheme design in addition to any further opportunities that may arise through the ongoing development of the design phases.

7.1.2 The aims of undertaking a WCHAR Assessment are:

- To gain an appropriate understanding of all relevant existing facilities for pedestrians, cyclists and equestrian (users) in the local area;
- To provide background user information that can be referred to throughout the design process; and
- To identify opportunities for improvement for users.

7.1.3 It is considered that each of these requirements has been met within this report. The opportunities are broken down into pedestrian, cyclist and equestrian specific opportunities.

7.1.4 The location of relevant issues is shown on Figure 6.1

7.2 Pedestrian Specific Opportunity 1

7.2.1 No crossing point provided on the eastern side of Sodbury Road over Poplar Lane junction forcing users to walk along the road. Providing dropped kerbs and tactile paving would provide a safe crossing point, however, it is unlikely that users accessing the school from the site would use this path, which is accessed from the southern site access, and instead they would emerge from the northern access. It is therefore considered that this opportunity is not appropriate to relate to the development.

7.3 Pedestrian Specific Opportunity 2

7.3.1 Narrowing footway along the west side of Sodbury Road for 49.4m until approximately 15m before the Sodbury Road/Amberley Way roundabout. Provision of footway widening would benefit users, but it is not anticipated to be necessary given the low volume of pedestrians.

7.4 Pedestrian Specific Opportunity 3

7.4.1 Tactile paving slightly obstructed by adjacent wall narrowing the entire pavement at Amberley Way roundabout crossing point. Overall, it is considered that this is a highway maintenance issue, and the appropriate Highway Authority department would need to maintain the tactile paving correctly.

7.5 Pedestrian Specific Opportunity 4

7.5.1 No dropped kerbs or tactile paving across the Amberley Way roundabout with Sodbury Road. Providing dropped kerbs and tactile paving will benefit all users.

7.6 Pedestrian Specific Opportunity 5

7.6.1 No dropped kerbs or tactile paving across the junction at 58 Amberley Way. Providing dropped kerbs and tactile paving will benefit all users.

7.7 Pedestrian Specific Opportunity 6

7.7.1 No dropped kerbs or tactile paving provided between Burleigh Way or Inglestone Road. Providing dropped kerbs and tactile paving will benefit all users.

7.8 Pedestrian Specific Opportunities 7

7.8.1 The overall route to Primary school is unclear due to a lack of signposting. Providing wayfinding signs to encourage pedestrians to walk on this route will benefit all users. These can be introduced at Sodbury Road/Amberley Way roundabout; Amberley Way/Burleigh Way junction and; Burleigh Way/Inglestone Road junction.

7.9 Cyclist Specific Opportunities 1

7.9.1 A new cycleway has been proposed by the developer of the Poplar Land and Horwood Lane developments between Frith Lane and "The Fence Yard" on Sodbury Road. This should allow cyclists to use this section of the road comfortably and safely.

7.9.2 Consideration should also be given to the on-carriageway facilities across the road network if there is an opportunity to do so to ensure that cyclists preferring to use the road are not disadvantaged.

7.10 Equestrian Specific Opportunities

7.10.1 No dedicated opportunities for improvement for equestrians have been identified.

8 ASSESSMENT TEAM STATEMENT

8.1.1 We certify that we have examined the scheme details with the specific purpose of identifying any issues that could improve conditions for non-motorised users together with the associated actions taken.

8.1.2 The walking, cycling and horse-riding review was undertaken by the following team:

Assessment Team Leader

David Knight BEng (Hons) CTPP FCILT MCIHT

Assessment Team Member

Hadley Dickinson-Lovett BSc (Hons) MCIHT

Assessment Team Member

Morgan Carter BSc (Hons)

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Client

Bloor Homes

Project

Land at Sodbury Road, Wickwar

Notes

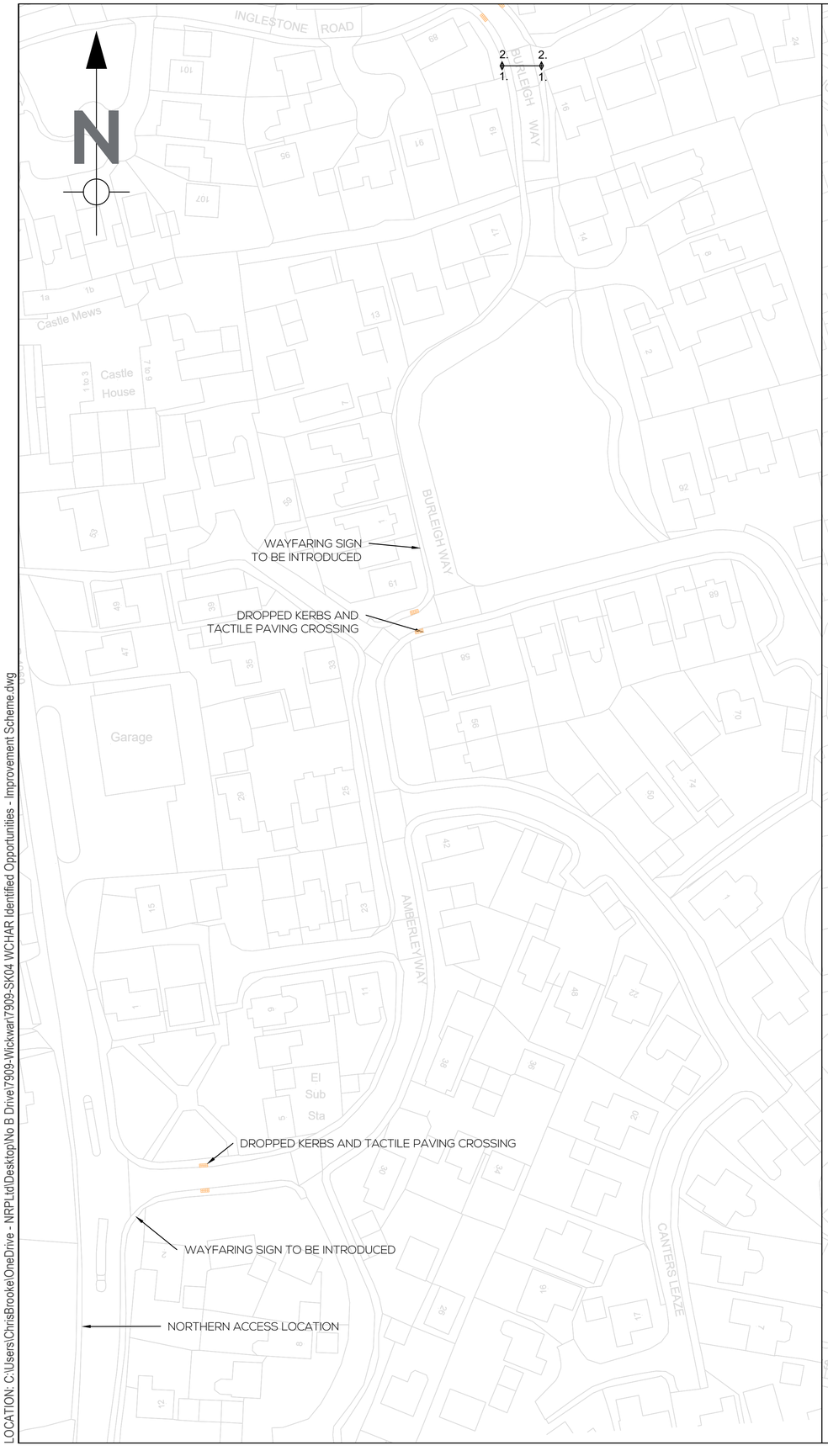
Key

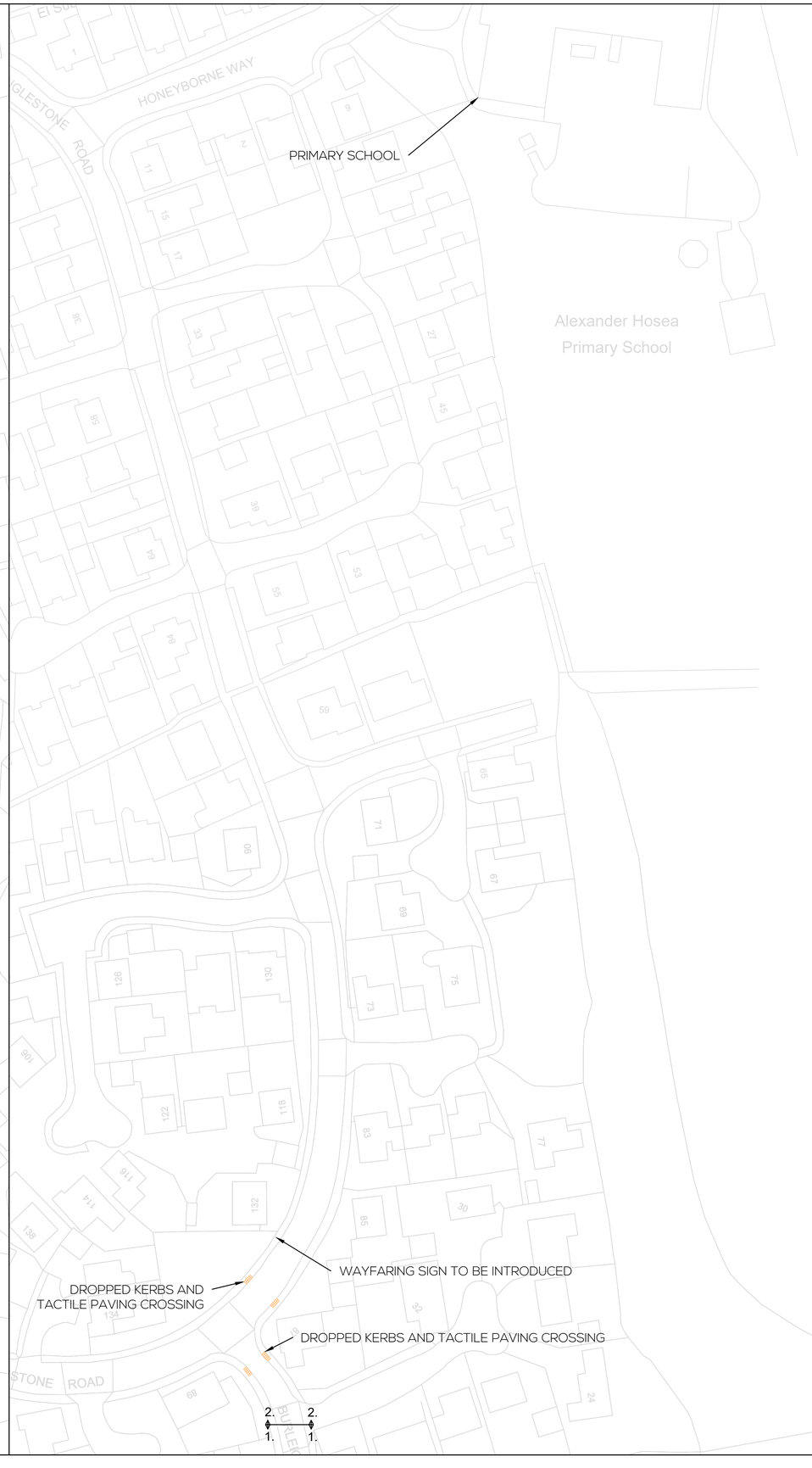
- Route 1
- Route 2
- Route 3

Title

Figure 5.1: Routes to School

Scale	Drawing No.	REV
NTS	7909-101	0.1





NOTES:

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REV	DATE	DRAWN	REV'D	APP'D	NOTES

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CLIENT
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PROJECT
LAND AT SODBURY ROAD, WICKWAR

DRAWN	DESIGNED	REVIEWED	DATE	APPROVED	DATE
	CWB	HDL	28.10.22	DAK	28.10.22

TITLE
WCHAR IDENTIFIED OPPORTUNITIES -
IMPROVEMENTS SCHEME

SCALE	DRAWING No	REV
NTS	7909-SK04	1.0

A1

LOGIN NAME: CHRIS BROOKE
LOCATION: C:\Users\ChrisBrooke\OneDrive - NRPLtd\Desktop\No B Drive\7909-Wickwar\7909-SK04 WCHAR Identified Opportunities - Improvement Scheme.dwg

APPENDIX A: DETAILS OF RECORDED PERSONAL INJURY COLLISIONS

181804920 SLIGHT 372426/188388 01/06/2018 16:45

LOCATION B4060 High Street at Junction with Buthay Lane, Wickwar

DESCRIPTION V1 WAS TRAV N/B TOWARDS WOOTON UNDER EDGE ON WICKWAR HIGH STREET IN A LINE OF SLOW MOVING VEHS. AN U/K VEH AHEAD STOPPED TO LET ANOTHER VEH TURN OUT OF BUTHAY LANE. D1 STOPPED INT HE LINE OF VEHS, BUT V2 TRAV BEHIND FTS AND COLLIDED WITH THE REAR OF V1.

VEHICLES		DRIVER		CASUALTIES			VEH	SEX	AGE
1	Car	Female	30	1	Driver/Rider	SLIGHT	1	Female	30
2	Car	Male	75	2	Passenger	SLIGHT	1	Female	31
				3	Passenger	SLIGHT	1	Male	64
				4	Passenger	SLIGHT	1	Male	34
				5	Passenger	SLIGHT	1	Male	33

181807204 SERIOUS 372329/188687 24/10/2018 17:15

LOCATION B4059 The Downs at Junction with B4060 Station Road

DESCRIPTION V1 (CYC) WAS N/B ON B4060 STATION ROAD WHEN V1 ENTERED STATION FROM FROM B4059 THE DOWN, FAILING TO STOP FOR R1. V1 COLLIDED WITH R1 KNCOKING THEM FROM THEIR BIKE.

VEHICLES		DRIVER		CASUALTIES			VEH	SEX	AGE
1	Pedal Cycle	Male	50	1	Driver/Rider	SERIOUS	1	Male	50
2	Car	Female	65						

181807461 SLIGHT 372511/187883 05/11/2018 17:50

LOCATION B4060 Sodbury Road, at its Junction with Amberley Way, Wickwar

DESCRIPTION V1 T/RIGHT FROM THE B4060 INTO AMBERLEY ROAD BUT O/C V2 TRAV S/B TOWARDS YATE FAILED TO STOP AND COLLIDED WITH THE N/S OF V1. (EXACT LOCATION UNKNOWN)

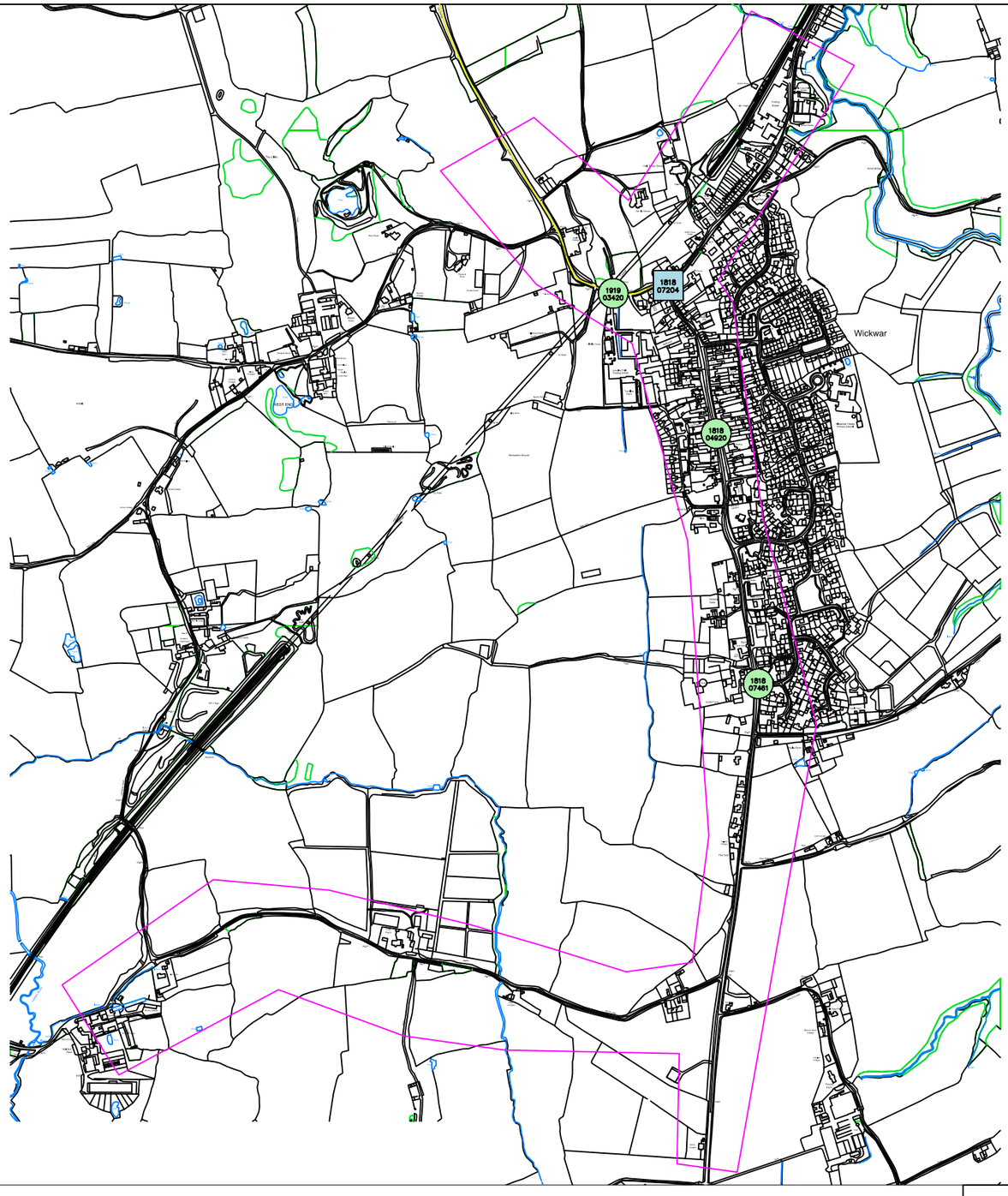
VEHICLES		DRIVER		CASUALTIES			VEH	SEX	AGE
1	Car	Female	44	1	Driver/Rider	SLIGHT	1	Female	44
2	Car	Not known	20	2	Passenger	SLIGHT	1	Male	11

191903420 SLIGHT 372218/188671 22/02/2019 14:30

LOCATION Arnold Field Estate access, at its Junction with B4059 The Downs, Wickwar

DESCRIPTION V1 TURNED LEFT FROM THE ACCESS TO ARNOLDS FIELD ESTATE ONTO B4059 THE DOWNS AND COLLIDED WITH N/S OF V2 WHICH WAS TRAVELLING W/B AWAY FROM WICKWAR.

VEHICLES		DRIVER		CASUALTIES			VEH	SEX	AGE
1	Car	Male	30	1	Passenger	SLIGHT	1	Female	73
2	Car	Male	73						



Rev	Description	Drawn	App'd	Date

South Gloucestershire Council

DEPARTMENT OF ENVIRONMENT AND COMMUNITY SERVICES

DIRECTOR
Nigel Riglar

STREETCARE TRANSPORT & WASTE
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Project
EDR131 B4060 Wickwar

Title
Injury Collision Record
01/10/2015 to 30/09/2020*
(*Provisional)

Scale @ A3	NTS				
Drawn	DS	Checked		Approved	
Date		Date		Date	

Dwg No.	Parish	Scheme	Number	Rev.
	–	–		-

Acad Ref C:\Users\ds6\appdata\local\temp\AcPublish_2444\EDR Plot.dwg : Plotted by ds6 on Dec 17, 2020 - 3:20pm

APPENDIX B: MASTERPLAN

KEY

- Site Boundary (7.89 ha/19.51 ac)
- Residential Development (4.49 ha/11.10 ac)
- Area reserved for potential shop extents (0.15 ha/0.37 ac)
- Open Space including Informal Recreational and Natural & semi - natural urban green space (3.25 ha/8.04 ac)
- Allotments (0.09 ha/0.22 ac)
- Provision for Children and Young People LAP & LEAP (0.11 ha/0.28 ac)
- PROW (public rights of way)
- Primary Roads
- Areas of boundary to be bolstered with additional Planting
- Existing Hedgerow
- Existing Trees
- Proposed Pumping Station
- 1 Proposed Access Points
- 2 Proposed LAP (local area of play)
- 3 Proposed LEAP (local equipped area of play)
- 4 Proposed attenuation basin
- 5 Proposed swale
- 6 Proposed Rain Garden
- 7 Opportunity to provide new PROW link
- 8 Opportunity for views to Holy Trinity Church

c.180 homes @ 40dph net

CLIENT:
Bloor Homes

PROJECT:
Land at Wickwar

DRAWING:
Framework Masterplan

PROJECT NUMBER:
BLOA3039

DRAWING NUMBER:
3001

CHECKED BY:
CD

REVISION:
L

STATUS:
Post-Submission

DATE:
01/12/2022

SCALE:
1:2500 @ A3

Turley

APPENDIX C: SITE VISIT PHOTOS

Route 1: B4060 pedestrian/cycle paths to then follow existing footpaths on the west side of Amberley Way, Burleigh Way and Inglestone Road

Route 2: B4060 Sodbury Road to then use the existing pedestrian footpath east of Wilcox Citroen and follow Burleigh Way into Inglestone Road

Route 3: B4060 Sodbury Road to then follow existing footpaths through Inglestone Road

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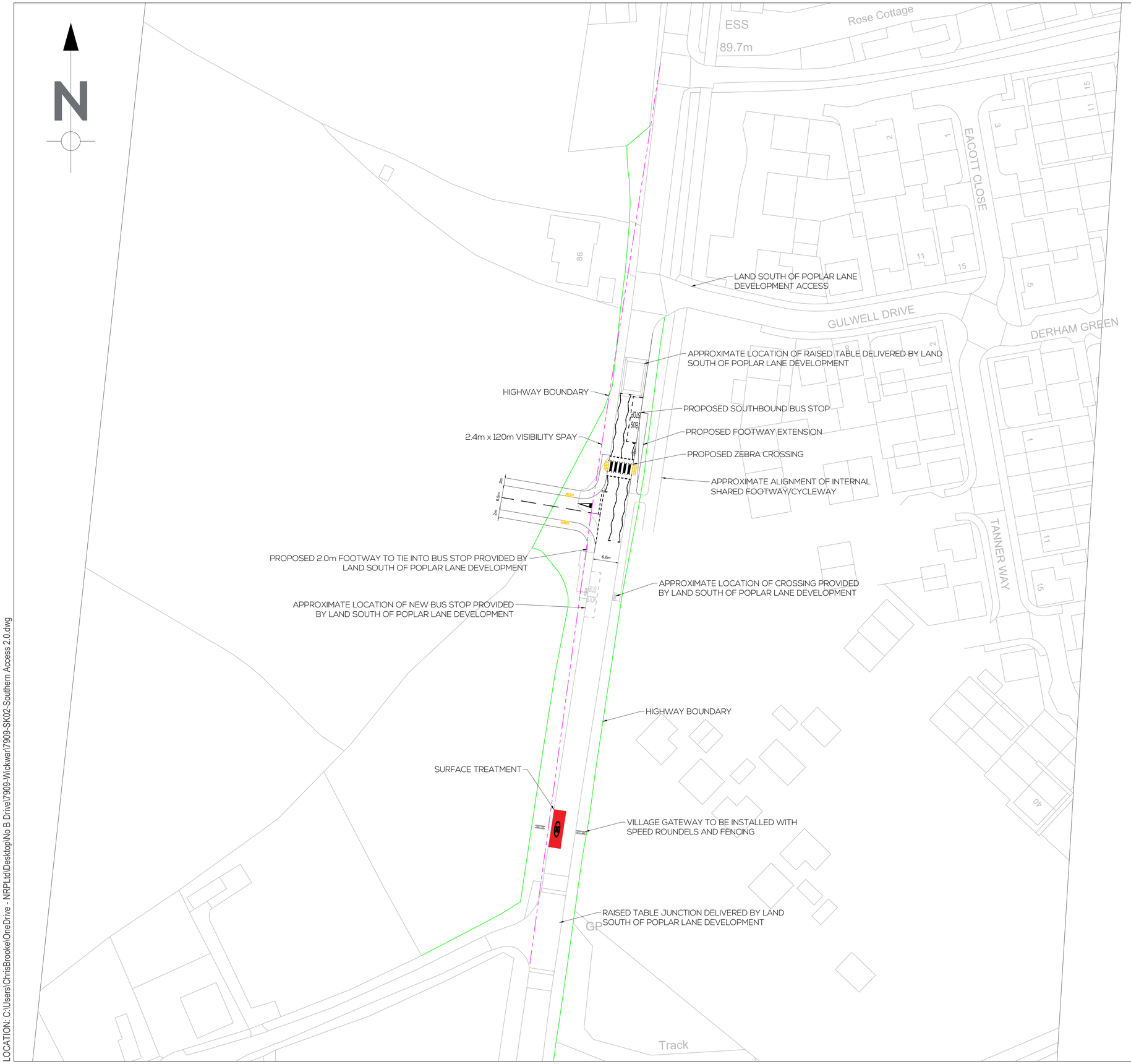
APPENDIX C: UPDATED SOUTHERN ACCESS DRAWING



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REV	DATE	DRAWN	REV'D	APP'D	NOTES
2.0	21.10.22	CWB	HDL	HDL	REVISED FOLLOWING CLIENT REVIEW

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CLIENT
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PROJECT
SOUTH FARM, WICKWAR

DRAWN	DESIGNED	REVIEWED	DATE	APPROVED	DATE
CWB	CWB	DAK	04.10.22	DAK	04.10.22

TITLE
PROPOSED SOUTHERN ACCESS

SCALE	DRAWING No	REV
1:500	7909-SK02	2.0

A1

LOGIN NAME: CHRIS BROOKE
LOCATION: C:\Users\ChrisBrooke\OneDrive - NRPLtd\Desktop\No B Drive\7909-Wickwar\7909-SK02-Southern Access 2.0.dwg

Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	High Street Shuttle Signals - Wickwar.lsg3x
Author:	
Company:	
Address:	

Scenario 1: 'Scenario 1' (FG1: '27+CD+PD AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

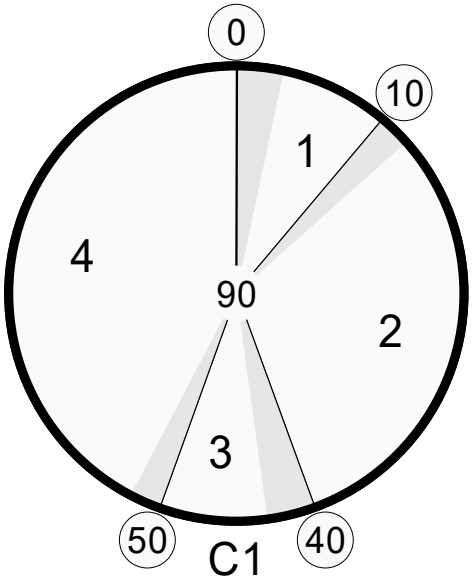
APPENDIX D: LINSIG RESULTS -SHUTTLE SIGNALS

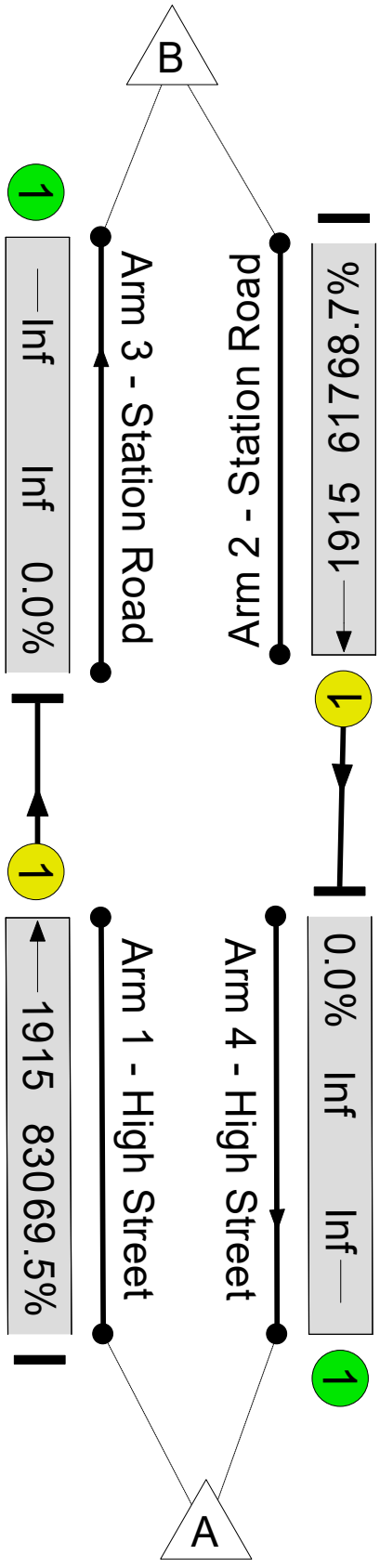
Basic Results Summary

Unnamed Junction

PRC: 29.4 %

Total Traffic Delay: 8.7 pcuHr





Basic Results Summary

Network Results

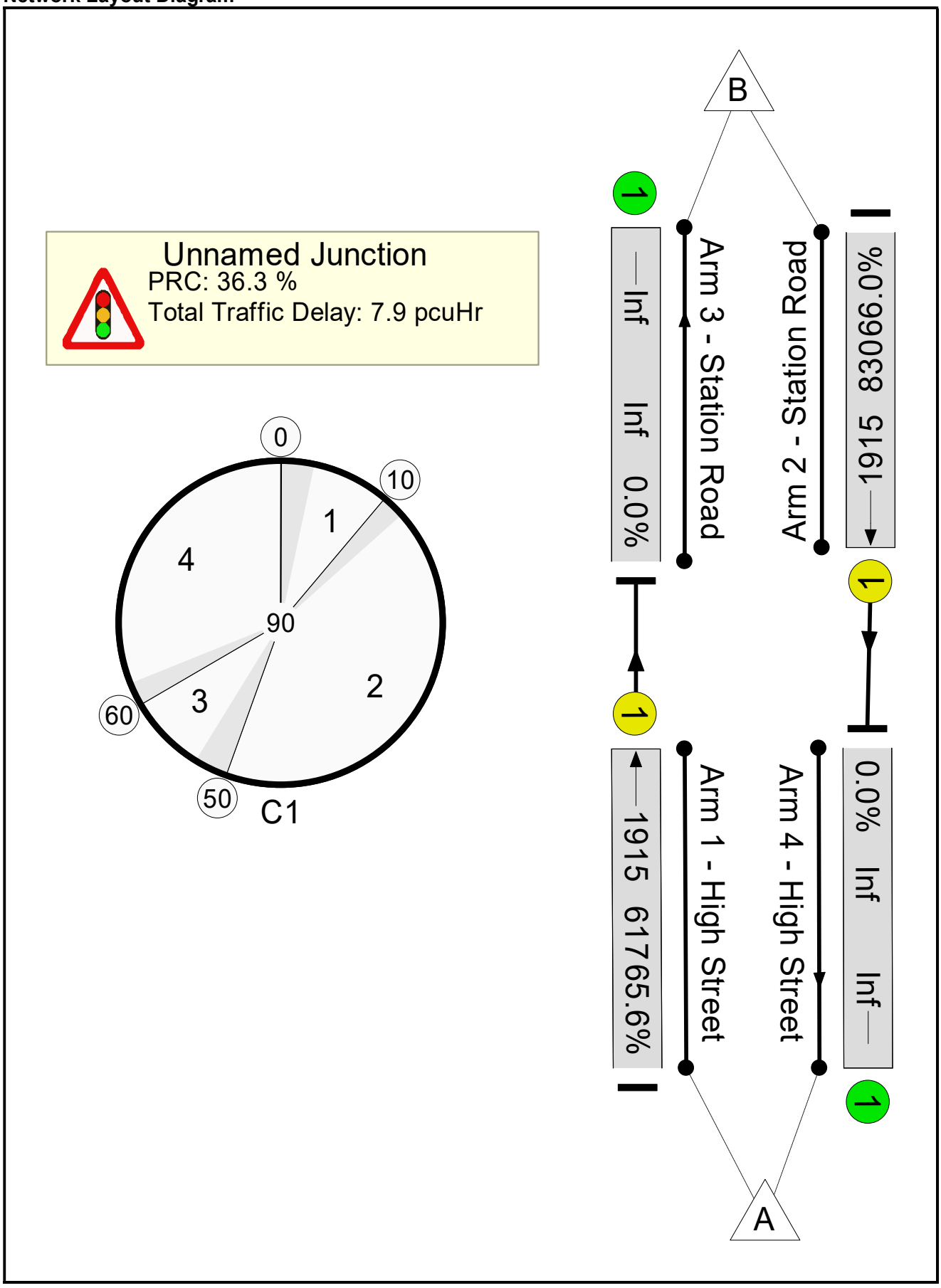
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**69.5%**	**0**	**0**	**0**	**8.7**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**69.5%**	**0**	**0**	**0**	**8.7**	-	-
1/1	High Street Ahead	U	B		1	38	-	577	1915	830	69.5%	-	-	-	4.4	27.7	12.7
2/1	Station Road Ahead	U	A		1	28	-	424	1915	617	68.7%	-	-	-	4.2	35.8	10.3

C1

PRC for Signalled Lanes (%): 29.4 | Total Delay for Signalled Lanes (pcuHr): 8.66 | Cycle Time (s): 90

PRC Over All Lanes (%): 29.4 | Total Delay Over All Lanes(pcuHr): 8.66

Basic Results Summary
Scenario 2: 'New Scenario' (FG2: '27+CD+PD PM', Plan 1: 'Network Control Plan 1')
Network Layout Diagram



Basic Results Summary

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**66.0%**	**0**	**0**	**0**	**7.9**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**66.0%**	**0**	**0**	**0**	**7.9**	-	-
1/1	High Street Ahead	U	B		1	28	-	405	1915	617	65.6%	-	-	-	3.9	34.6	9.6
2/1	Station Road Ahead	U	A		1	38	-	548	1915	830	66.0%	-	-	-	4.0	26.6	11.8

C1

PRC for Signalled Lanes (%): 36.3
PRC Over All Lanes (%): 36.3

Total Delay for Signalled Lanes (pcuHr): 7.94
Total Delay Over All Lanes(pcuHr): 7.94

Cycle Time (s): 90

APPENDIX E: M5 JUNCTION 14 TRAFFIC ASSESSMENT REPORT

NRP
NORMAN ROURKE PRYME

CONSTRUCTION CONSULTANTS
HIGHWAYS AND INFRASTRUCTURE
TRAFFIC AND TRANSPORTATION

M5 Junction 14 Vehicle Trips

Land at Sodbury Road, Wickwar

Bloor Homes

11 July 2022

Land at Sodbury Road, Wickwar

Bloor Homes

QA RECORD:

DOCUMENT REF	7909-TN01	Rev	1.0
DRAFTED BY	Chris Brooke	Date	11 July 2022
CHECKED BY	Hadley Dickinson-Lovett	Date	11 July 2022
APPROVED BY	David Knight	Date	11 July 2022
ELECTRONIC LOCATION	B:\Projects\7909 Land At Sodbury Road, Wickwar\Deliverables\Reports\7909-TN01-J14 Vehicle Trips\7909-TN01-J14 Vehicle Trips.Docx		

CONTENTS

1 INTRODUCTION

1.1 Introduction

1.1.1 This Technical Note has been produced for officers of National Highways (NH) to determine whether it is considered that generated trips associated with the proposed development at Land off Sodbury Road, Wickwar, will have a material impact on Junction 14 of the M5. This Technical Note will cover:

- Trip distribution according to Travel to Work/Place of Work Census Data;
- Trip rates and trips, derived from the TRICS database; and
- Trips through Junction 14 of the M5.

1.1.2 The development proposals are for up to 180 residential dwellings. Trip generation has been carried out on the robust assumption that all dwellings are private.

2 DATA

2.1 Trip distribution

2.1.1 In order to derive the trip distribution for the proposed development, 2011 Census data was queried for WF01BEW 'Location of Usual Residence and Place of Work', which uses Middle Super Output Areas (MSOA). The origin of all journeys was "02003092, South Gloucestershire 03" which was considered the closest representative area (Charfield, Wickwar and Iron Acton). All MSOAs were considered potential destinations. Data rows were deleted if they contained no trips to those destinations. Of the remainder, strategic routes were assigned a percentage distribution.

2.1.2 The number of journeys to work via each of the strategic routes were totalled, to give the results shown in Table 2.1.

Table 2.1: Journeys to work from site, by route

Route	% Journeys
B4509 The Down (M5 J14)	28.2
B4509 The Downs (Other Routes)	13.2
B4060 (North)	11.0
B4060 (South)	47.6

2.1.3 The B4509 forms part of the route from Wickwar to Junction 14 of the M5. The B4509 serves both the M5 and other locations so these trips have been separated to motorway trips and all other routes.

2.1.4 The trip distribution calculation file is available in Appendix A.

2.2 Trip Generation

2.2.1 To derive the trip rates for the proposed development, the TRICS database was queried using the following parameters:

- Houses – privately owned
- Greater London and Greater Dublin excluded
- Range 4-300 units
- Monday to Thursday only
- Locations: Suburban Area
- Location sub-categories: Residential Zone only

2.2.2 The full TRICS report is included at Appendix B, whilst the results are summarised in Table 2.2 below.

Table 2.2: TRICS-based Peak Hour Trip Rates and Trips

	Trip Rates			Trips		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak	0.127	0.401	0.528	23	72	95
PM Peak	0.382	0.179	0.561	69	32	101

2.3 Trips through M5 Junction 14

2.3.1 The total trips as set out in Section 2.2 have been assigned to Junction 14 accordance with the percentage distribution provided in Section 2.1. This results in the trip assignments as presented in Table 2.3.

Table 2.3: TRICS-based Peak Hour Trip Rates and Trips

	Arrivals	Departures
AM Peak	6	20
PM Peak	19	9

2.4 Summary

2.4.1 Based on the TRICS trip rates and the calculated distribution, the proposed development is predicted to generate a total of 26 two-way movements in the AM peak and 28 two-way movements in the PM peak. The number of vehicular movements associated with the proposed development will therefore have a negligible impact on Junction 14 of the M5 and its surround road network.

APPENDIX A: WF01BEW – 'LOCATION OF USUAL RESIDENCE AND PLACE OF WORK'

WF01BEW - Location of usual residence and place of work (OA level)

population	All usual residents ages 16 and over in employment the week before the censu
units	Persons
date	2011

place of work : 2011 super output area - middle layer	currently residing in E02003092 : South Gloucestershire 003	B4060 South	B4060 Station Road	The Downs (Other)	The Downs (M5J14)	%
Total	**3,013**	**47.55%**	**11.01%**	**13.23%**	**28.21%**	**100.00%**
E02003092 : South Gloucestershire 003	434	4.80%	4.80%	4.80%		
E02004665 : Stroud 015	187		6.21%			
E02003106 : South Gloucestershire 017	178	5.91%				
E02003043 : Bristol 032	132	2.19%			2.19%	
E02003108 : South Gloucestershire 019	98	3.25%				
E02003091 : South Gloucestershire 002	96			3.19%		
E02003095 : South Gloucestershire 006	85	2.82%				
E02003097 : South Gloucestershire 008	81	2.69%				
E02003090 : South Gloucestershire 001	74				2.46%	
E02006887 : Bristol 054	68	1.13%			1.13%	
E02003094 : South Gloucestershire 005	62				2.06%	
E02003100 : South Gloucestershire 011	58				1.92%	
E02003113 : South Gloucestershire 024	57	1.89%				
E02003093 : South Gloucestershire 004	53			0.88%	0.88%	
E02004662 : Stroud 012	50			0.83%	0.83%	
E02003099 : South Gloucestershire 010	43	1.43%				
E02003107 : South Gloucestershire 018	40	0.66%		0.66%		
E02003098 : South Gloucestershire 009	38				1.26%	
E02003015 : Bristol 004	36	0.60%			0.60%	
E02003019 : Bristol 008	23				0.76%	
E02003036 : Bristol 025	22	0.37%			0.37%	
E02003102 : South Gloucestershire 013	22	0.73%				
E02004664 : Stroud 014	22			0.73%		
E02003024 : Bristol 013	21	0.70%				
E02003034 : Bristol 023	21	0.70%				
E02003096 : South Gloucestershire 007	21	0.70%				
E02003110 : South Gloucestershire 021	19	0.63%				
E02003118 : South Gloucestershire 029	19	0.63%				
E02002991 : Bath and North East Somerset 007	17	0.56%				

E02006889 : Bristol 056	17	0.28%		0.28%
E02003115 : South Gloucestershire 026	17	0.56%		
E02004655 : Stroud 005	17			0.56%
E02003105 : South Gloucestershire 016	16	0.53%		
E02004625 : Cotswold 011	16		0.53%	
E02003101 : South Gloucestershire 012	15	0.50%		
E02003121 : South Gloucestershire 032	15	0.50%		
E02004639 : Gloucester 004	15			0.50%
E02004656 : Stroud 006	15		0.25%	0.25%
E02003037 : Bristol 026	14	0.23%		0.23%
E02004660 : Stroud 010	14		0.46%	
E02003032 : Bristol 021	13	0.22%		0.22%
E02004644 : Gloucester 009	13			0.43%
E02003025 : Bristol 014	12	0.20%		0.20%
E02003014 : Bristol 003	11	0.37%		
E02003017 : Bristol 006	11	0.18%		0.18%
E02003041 : Bristol 030	11	0.18%		0.18%
E02003052 : Bristol 041	11	0.18%		0.18%
E02003114 : South Gloucestershire 025	11	0.37%		
E02004642 : Gloucester 007	11			0.37%
E02004661 : Stroud 011	11		0.37%	
E02006492 : Rugby 001	10			0.33%
E02003103 : South Gloucestershire 014	10	0.33%		
E02004653 : Stroud 003	10			0.33%
E02001097 : Manchester 053	9			0.30%
E02002992 : Bath and North East Somerset 008	9	0.30%		
E02003117 : South Gloucestershire 028	9	0.30%		
E02003119 : South Gloucestershire 030	9	0.30%		
E02004621 : Cotswold 007	9	0.30%		
E02002251 : Calderdale 008	8			0.27%
E02002987 : Bath and North East Somerset 003	8	0.27%		
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E02003111 : South Gloucestershire 022	8	0.27%		
E02003116 : South Gloucestershire 027	8	0.27%		
E02006660 : Wiltshire 018	8	0.27%		
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E02002994 : Bath and North East Somerset 010	6	0.20%		
E02003013 : Bristol 002	6	0.10%		0.10%
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E02003016 : Bristol 005	5	0.08%		0.08%
E02003027 : Bristol 016	5	0.08%		0.08%
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E02006679 : Wiltshire 021	1	0.03%	
E02006688 : Wiltshire 036	1	0.03%	
E02006690 : Wiltshire 039	1	0.03%	
E02006694 : Wiltshire 044	1	0.03%	
E02004134 : East Devon 006	1		0.03%
E02004162 : Exeter 014	1		0.03%
E02004189 : South Hams 001	1		0.03%
E02004201 : Teignbridge 001	1		0.03%
E02004277 : West Dorset 009	1		0.03%
E02004288 : Weymouth and Portland 008	1		0.03%
E02004601 : Cheltenham 002	1		0.03%
E02004610 : Cheltenham 011	1		0.03%
E02004612 : Cheltenham 013	1		0.03%
E02004614 : Cheltenham 015	1		0.03%
E02004619 : Cotswold 005	1	0.03%	
E02004623 : Cotswold 009	1	0.03%	
E02004634 : Forest of Dean 009	1		0.03%
E02004643 : Gloucester 008	1		0.03%
E02004646 : Gloucester 011	1		0.03%
E02004648 : Gloucester 013	1		0.03%
E02004669 : Tewkesbury 004	1		0.03%
E02006047 : Mendip 001	1		0.03%
E02006052 : Mendip 006	1		0.03%
E02006056 : Mendip 010	1		0.03%
E02006061 : Sedgemoor 001	1		0.03%
E02006062 : Sedgemoor 002	1		0.03%
E02006069 : Sedgemoor 009	1		0.03%
E02006071 : Sedgemoor 011	1		0.03%
E02006080 : South Somerset 006	1		0.03%
E02006116 : West Somerset 004	1		0.03%
W02000068 : Flintshire 011	1		0.03%
W02000072 : Flintshire 015	1		0.03%
W02000418 : Carmarthenshire 027	1		0.03%
W02000240 : The Vale of Glamorgan 004	1		0.03%
W02000250 : The Vale of Glamorgan 014	1		0.03%
W02000251 : The Vale of Glamorgan 015	1		0.03%
W02000391 : Cardiff 025	1		0.03%
W02000392 : Cardiff 026	1		0.03%
W02000398 : Cardiff 032	1		0.03%
W02000423 : Cardiff 049	1		0.03%
W02000285 : Merthyr Tydfil 003	1		0.03%
W02000312 : Caerphilly 023	1		0.03%
W02000335 : Torfaen 013	1		0.03%
W02000360 : Newport 014	1		0.03%
W02000364 : Newport 018	1		0.03%

S

APPENDIX B: TRICS REPORTS

Calculation Reference: AUDIT-102301-210202-0212

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	HF	HERTFORDSHIRE	1 days
	KC	KENT	2 days
	SC	SURREY	1 days
	WS	WEST SUSSEX	3 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
06	WEST MIDLANDS		
	ST	STAFFORDSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NE	NORTH EAST LINCOLNSHIRE	1 days
11	SCOTLAND		
	FA	FALKIRK	1 days
13	MUNSTER		
	WA	WATERFORD	1 days
16	ULSTER (REPUBLIC OF IRELAND)		
	DN	DONEGAL	1 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	2 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 146 to 432 (units:)
Range Selected by User: 100 to 650 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 08/10/20

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

Selected survey days:

Monday	5 days
Tuesday	3 days
Wednesday	6 days
Thursday	3 days

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

Selected survey types:

Manual count	17 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	13

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	17 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	4 days
10,001 to 15,000	8 days
20,001 to 25,000	4 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	3 days
50,001 to 75,000	4 days
75,001 to 100,000	4 days
100,001 to 125,000	1 days
125,001 to 250,000	5 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	10 days
1.6 to 2.0	3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	6 days
No	11 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	17 days

This data displays the number of selected surveys with PTAL Ratings.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.068	17	237	0.295	17	237	0.363
08:00 - 09:00	17	237	0.127	17	237	0.401	17	237	0.528
09:00 - 10:00	17	237	0.148	17	237	0.188	17	237	0.336
10:00 - 11:00	17	237	0.128	17	237	0.161	17	237	0.289
11:00 - 12:00	17	237	0.129	17	237	0.148	17	237	0.277
12:00 - 13:00	17	237	0.178	17	237	0.163	17	237	0.341
13:00 - 14:00	17	237	0.168	17	237	0.172	17	237	0.340
14:00 - 15:00	17	237	0.193	17	237	0.205	17	237	0.398
15:00 - 16:00	17	237	0.277	17	237	0.182	17	237	0.459
16:00 - 17:00	17	237	0.294	17	237	0.172	17	237	0.466
17:00 - 18:00	17	237	0.382	17	237	0.179	17	237	0.561
18:00 - 19:00	17	237	0.320	17	237	0.200	17	237	0.520
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.412			2.466			4.878

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	146 - 432 (units:)
Survey date date range:	01/01/12 - 08/10/20
Number of weekdays (Monday-Friday):	17
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.002	17	237	0.002	17	237	0.004
08:00 - 09:00	17	237	0.004	17	237	0.004	17	237	0.008
09:00 - 10:00	17	237	0.003	17	237	0.002	17	237	0.005
10:00 - 11:00	17	237	0.002	17	237	0.002	17	237	0.004
11:00 - 12:00	17	237	0.003	17	237	0.003	17	237	0.006
12:00 - 13:00	17	237	0.003	17	237	0.003	17	237	0.006
13:00 - 14:00	17	237	0.003	17	237	0.002	17	237	0.005
14:00 - 15:00	17	237	0.003	17	237	0.003	17	237	0.006
15:00 - 16:00	17	237	0.005	17	237	0.004	17	237	0.009
16:00 - 17:00	17	237	0.004	17	237	0.005	17	237	0.009
17:00 - 18:00	17	237	0.001	17	237	0.001	17	237	0.002
18:00 - 19:00	17	237	0.002	17	237	0.003	17	237	0.005
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.035			0.034			0.069

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.001	17	237	0.001	17	237	0.002
08:00 - 09:00	17	237	0.003	17	237	0.002	17	237	0.005
09:00 - 10:00	17	237	0.003	17	237	0.002	17	237	0.005
10:00 - 11:00	17	237	0.003	17	237	0.004	17	237	0.007
11:00 - 12:00	17	237	0.001	17	237	0.001	17	237	0.002
12:00 - 13:00	17	237	0.002	17	237	0.004	17	237	0.006
13:00 - 14:00	17	237	0.002	17	237	0.001	17	237	0.003
14:00 - 15:00	17	237	0.002	17	237	0.003	17	237	0.005
15:00 - 16:00	17	237	0.002	17	237	0.003	17	237	0.005
16:00 - 17:00	17	237	0.002	17	237	0.001	17	237	0.003
17:00 - 18:00	17	237	0.001	17	237	0.001	17	237	0.002
18:00 - 19:00	17	237	0.001	17	237	0.001	17	237	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.023			0.024			0.047

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.001	17	237	0.001	17	237	0.002
08:00 - 09:00	17	237	0.002	17	237	0.002	17	237	0.004
09:00 - 10:00	17	237	0.001	17	237	0.001	17	237	0.002
10:00 - 11:00	17	237	0.001	17	237	0.001	17	237	0.002
11:00 - 12:00	17	237	0.000	17	237	0.000	17	237	0.000
12:00 - 13:00	17	237	0.000	17	237	0.000	17	237	0.000
13:00 - 14:00	17	237	0.001	17	237	0.001	17	237	0.002
14:00 - 15:00	17	237	0.001	17	237	0.001	17	237	0.002
15:00 - 16:00	17	237	0.002	17	237	0.002	17	237	0.004
16:00 - 17:00	17	237	0.000	17	237	0.000	17	237	0.000
17:00 - 18:00	17	237	0.001	17	237	0.001	17	237	0.002
18:00 - 19:00	17	237	0.000	17	237	0.000	17	237	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.010			0.010			0.020

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.003	17	237	0.006	17	237	0.009
08:00 - 09:00	17	237	0.004	17	237	0.013	17	237	0.017
09:00 - 10:00	17	237	0.001	17	237	0.002	17	237	0.003
10:00 - 11:00	17	237	0.002	17	237	0.003	17	237	0.005
11:00 - 12:00	17	237	0.002	17	237	0.003	17	237	0.005
12:00 - 13:00	17	237	0.004	17	237	0.004	17	237	0.008
13:00 - 14:00	17	237	0.002	17	237	0.002	17	237	0.004
14:00 - 15:00	17	237	0.003	17	237	0.003	17	237	0.006
15:00 - 16:00	17	237	0.006	17	237	0.004	17	237	0.010
16:00 - 17:00	17	237	0.011	17	237	0.006	17	237	0.017
17:00 - 18:00	17	237	0.010	17	237	0.006	17	237	0.016
18:00 - 19:00	17	237	0.007	17	237	0.007	17	237	0.014
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.055			0.059			0.114

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.084	17	237	0.437	17	237	0.521
08:00 - 09:00	17	237	0.163	17	237	0.690	17	237	0.853
09:00 - 10:00	17	237	0.192	17	237	0.278	17	237	0.470
10:00 - 11:00	17	237	0.168	17	237	0.229	17	237	0.397
11:00 - 12:00	17	237	0.171	17	237	0.215	17	237	0.386
12:00 - 13:00	17	237	0.246	17	237	0.228	17	237	0.474
13:00 - 14:00	17	237	0.235	17	237	0.243	17	237	0.478
14:00 - 15:00	17	237	0.273	17	237	0.289	17	237	0.562
15:00 - 16:00	17	237	0.465	17	237	0.263	17	237	0.728
16:00 - 17:00	17	237	0.493	17	237	0.254	17	237	0.747
17:00 - 18:00	17	237	0.594	17	237	0.262	17	237	0.856
18:00 - 19:00	17	237	0.490	17	237	0.305	17	237	0.795
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.574			3.693			7.267

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.013	17	237	0.024	17	237	0.037
08:00 - 09:00	17	237	0.022	17	237	0.050	17	237	0.072
09:00 - 10:00	17	237	0.020	17	237	0.028	17	237	0.048
10:00 - 11:00	17	237	0.021	17	237	0.026	17	237	0.047
11:00 - 12:00	17	237	0.020	17	237	0.021	17	237	0.041
12:00 - 13:00	17	237	0.025	17	237	0.016	17	237	0.041
13:00 - 14:00	17	237	0.022	17	237	0.024	17	237	0.046
14:00 - 15:00	17	237	0.027	17	237	0.031	17	237	0.058
15:00 - 16:00	17	237	0.045	17	237	0.030	17	237	0.075
16:00 - 17:00	17	237	0.048	17	237	0.024	17	237	0.072
17:00 - 18:00	17	237	0.035	17	237	0.022	17	237	0.057
18:00 - 19:00	17	237	0.030	17	237	0.040	17	237	0.070
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.328			0.336			0.664

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.000	17	237	0.009	17	237	0.009
08:00 - 09:00	17	237	0.001	17	237	0.016	17	237	0.017
09:00 - 10:00	17	237	0.001	17	237	0.006	17	237	0.007
10:00 - 11:00	17	237	0.001	17	237	0.002	17	237	0.003
11:00 - 12:00	17	237	0.002	17	237	0.002	17	237	0.004
12:00 - 13:00	17	237	0.002	17	237	0.002	17	237	0.004
13:00 - 14:00	17	237	0.003	17	237	0.004	17	237	0.007
14:00 - 15:00	17	237	0.002	17	237	0.002	17	237	0.004
15:00 - 16:00	17	237	0.017	17	237	0.005	17	237	0.022
16:00 - 17:00	17	237	0.011	17	237	0.003	17	237	0.014
17:00 - 18:00	17	237	0.007	17	237	0.002	17	237	0.009
18:00 - 19:00	17	237	0.009	17	237	0.003	17	237	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.056			0.056			0.112

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL RAIL PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.001	17	237	0.005	17	237	0.006
08:00 - 09:00	17	237	0.000	17	237	0.007	17	237	0.007
09:00 - 10:00	17	237	0.000	17	237	0.003	17	237	0.003
10:00 - 11:00	17	237	0.000	17	237	0.002	17	237	0.002
11:00 - 12:00	17	237	0.000	17	237	0.001	17	237	0.001
12:00 - 13:00	17	237	0.000	17	237	0.001	17	237	0.001
13:00 - 14:00	17	237	0.001	17	237	0.000	17	237	0.001
14:00 - 15:00	17	237	0.000	17	237	0.000	17	237	0.000
15:00 - 16:00	17	237	0.003	17	237	0.001	17	237	0.004
16:00 - 17:00	17	237	0.002	17	237	0.000	17	237	0.002
17:00 - 18:00	17	237	0.005	17	237	0.001	17	237	0.006
18:00 - 19:00	17	237	0.004	17	237	0.000	17	237	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.016			0.021			0.037

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL COACH PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.000	17	237	0.000	17	237	0.000
08:00 - 09:00	17	237	0.000	17	237	0.002	17	237	0.002
09:00 - 10:00	17	237	0.000	17	237	0.000	17	237	0.000
10:00 - 11:00	17	237	0.000	17	237	0.000	17	237	0.000
11:00 - 12:00	17	237	0.000	17	237	0.000	17	237	0.000
12:00 - 13:00	17	237	0.000	17	237	0.000	17	237	0.000
13:00 - 14:00	17	237	0.000	17	237	0.000	17	237	0.000
14:00 - 15:00	17	237	0.001	17	237	0.000	17	237	0.001
15:00 - 16:00	17	237	0.001	17	237	0.000	17	237	0.001
16:00 - 17:00	17	237	0.000	17	237	0.000	17	237	0.000
17:00 - 18:00	17	237	0.000	17	237	0.000	17	237	0.000
18:00 - 19:00	17	237	0.000	17	237	0.000	17	237	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.002			0.002			0.004

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.001	17	237	0.014	17	237	0.015
08:00 - 09:00	17	237	0.001	17	237	0.025	17	237	0.026
09:00 - 10:00	17	237	0.001	17	237	0.010	17	237	0.011
10:00 - 11:00	17	237	0.001	17	237	0.004	17	237	0.005
11:00 - 12:00	17	237	0.002	17	237	0.003	17	237	0.005
12:00 - 13:00	17	237	0.002	17	237	0.004	17	237	0.006
13:00 - 14:00	17	237	0.003	17	237	0.004	17	237	0.007
14:00 - 15:00	17	237	0.003	17	237	0.002	17	237	0.005
15:00 - 16:00	17	237	0.021	17	237	0.006	17	237	0.027
16:00 - 17:00	17	237	0.013	17	237	0.004	17	237	0.017
17:00 - 18:00	17	237	0.012	17	237	0.003	17	237	0.015
18:00 - 19:00	17	237	0.014	17	237	0.004	17	237	0.018
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.074			0.083			0.157

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.101	17	237	0.480	17	237	0.581
08:00 - 09:00	17	237	0.191	17	237	0.778	17	237	0.969
09:00 - 10:00	17	237	0.215	17	237	0.318	17	237	0.533
10:00 - 11:00	17	237	0.192	17	237	0.262	17	237	0.454
11:00 - 12:00	17	237	0.196	17	237	0.243	17	237	0.439
12:00 - 13:00	17	237	0.276	17	237	0.252	17	237	0.528
13:00 - 14:00	17	237	0.262	17	237	0.274	17	237	0.536
14:00 - 15:00	17	237	0.307	17	237	0.325	17	237	0.632
15:00 - 16:00	17	237	0.537	17	237	0.303	17	237	0.840
16:00 - 17:00	17	237	0.565	17	237	0.288	17	237	0.853
17:00 - 18:00	17	237	0.651	17	237	0.294	17	237	0.945
18:00 - 19:00	17	237	0.541	17	237	0.356	17	237	0.897
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.034			4.173			8.207

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL CARS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.044	17	237	0.217	17	237	0.261
08:00 - 09:00	17	237	0.083	17	237	0.272	17	237	0.355
09:00 - 10:00	17	237	0.090	17	237	0.120	17	237	0.210
10:00 - 11:00	17	237	0.079	17	237	0.100	17	237	0.179
11:00 - 12:00	17	237	0.084	17	237	0.090	17	237	0.174
12:00 - 13:00	17	237	0.103	17	237	0.097	17	237	0.200
13:00 - 14:00	17	237	0.102	17	237	0.099	17	237	0.201
14:00 - 15:00	17	237	0.114	17	237	0.126	17	237	0.240
15:00 - 16:00	17	237	0.176	17	237	0.106	17	237	0.282
16:00 - 17:00	17	237	0.194	17	237	0.105	17	237	0.299
17:00 - 18:00	17	237	0.256	17	237	0.108	17	237	0.364
18:00 - 19:00	17	237	0.229	17	237	0.129	17	237	0.358
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.554			1.569			3.123

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL LGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.013	17	237	0.022	17	237	0.035
08:00 - 09:00	17	237	0.015	17	237	0.022	17	237	0.037
09:00 - 10:00	17	237	0.021	17	237	0.020	17	237	0.041
10:00 - 11:00	17	237	0.018	17	237	0.017	17	237	0.035
11:00 - 12:00	17	237	0.014	17	237	0.019	17	237	0.033
12:00 - 13:00	17	237	0.021	17	237	0.016	17	237	0.037
13:00 - 14:00	17	237	0.018	17	237	0.021	17	237	0.039
14:00 - 15:00	17	237	0.018	17	237	0.017	17	237	0.035
15:00 - 16:00	17	237	0.020	17	237	0.019	17	237	0.039
16:00 - 17:00	17	237	0.020	17	237	0.018	17	237	0.038
17:00 - 18:00	17	237	0.027	17	237	0.015	17	237	0.042
18:00 - 19:00	17	237	0.016	17	237	0.015	17	237	0.031
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.221			0.221			0.442

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL MOTOR CYCLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.000	17	237	0.002	17	237	0.002
08:00 - 09:00	17	237	0.000	17	237	0.002	17	237	0.002
09:00 - 10:00	17	237	0.000	17	237	0.001	17	237	0.001
10:00 - 11:00	17	237	0.000	17	237	0.000	17	237	0.000
11:00 - 12:00	17	237	0.000	17	237	0.001	17	237	0.001
12:00 - 13:00	17	237	0.000	17	237	0.000	17	237	0.000
13:00 - 14:00	17	237	0.001	17	237	0.001	17	237	0.002
14:00 - 15:00	17	237	0.002	17	237	0.001	17	237	0.003
15:00 - 16:00	17	237	0.001	17	237	0.001	17	237	0.002
16:00 - 17:00	17	237	0.002	17	237	0.002	17	237	0.004
17:00 - 18:00	17	237	0.002	17	237	0.001	17	237	0.003
18:00 - 19:00	17	237	0.001	17	237	0.001	17	237	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.009			0.013			0.022

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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APPENDIX F: RESIDENTIAL TRAVEL PLAN - UPDATED

NORMAN ROURKE PRYME

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Residential Travel Plan

Land at Sodbury Road, Wickwar

Bloor Homes

14 DECEMBER 2022

Land at Sodbury Road, Wickwar

Bloor Homes

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1 INTRODUCTION

1.1 Background

1.1.1 This Residential Travel Plan (RTP) has been prepared by NRP on behalf of Bloor Homes to support a planning application for residential development at South Farm, Wickwar. The proposed development will comprise up to 180 residential dwellings and a 500m² farm shop.

1.1.2 The proposed development site is located on the western side of the B4060, to the south of the B4060/Amberley mini roundabout.

1.1.3 The site location is shown in Figure 1.1

1.1.4 The proposed site layout is shown at Appendix A.

1.2 Overview

1.2.1 The RTP has been developed with reference to national and local policy and relevant guidance. It builds on the opportunities that exist for sustainable travel at the proposed development and sets out the measures that will be delivered to meet the objectives and targets identified. An Action Plan is included which sets out when measures are to be introduced, by whom, and when monitoring and review is required. The Plan has been scoped in consultation with South Gloucestershire Council (SGC).

1.2.2 The implementation of this RTP will help improve the sustainability of the proposed development and support healthy active travel.

1.3 Sustainability

1.3.1 Sustainable development was defined by the Brundtland Commission (1987) as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs".* Sustainability is a process that strives for constant improvement and is expressed in terms of three pillars; Economy, Society and Environment.

1.3.2 Current studies indicate that carbon dioxide (CO_2) is one of the important greenhouse gases and that its emission from the combustion of fossil fuels is one of the major causes of global warming. The UK Government has committed to achieving a 50% reduction in greenhouse gas emissions by 2027 and an 80% reduction by 2050. In the UK 26% of all emissions and 90% of transport emissions come from road transport.

1.3.3 Everybody can play a part in reducing these greenhouse gas emissions, especially when choosing to use a sustainable mode of transport. The National Planning Policy Framework 2012 defines this as "*any efficient, safe and accessible means of transport with overall low impact on the environment, including walking and cycling, low and ultra-low emission vehicles, car sharing and public transport."* Driving alone or Single Occupancy Vehicle (SOV) travel is the least sustainable way to reach a destination when compared to the following:

- Walking and Cycling – by far the greenest modes of travel with minimal emissions;
- Bus or Train – mass transit systems offer a far greener mode of travel per passenger than SOVs; and
- Car Sharing – two or more people sharing a car generates half or less of the emissions from a SOV.

1.3.4 The impact of SOV travel, and indeed car sharing, can be reduced if the vehicle has low emissions such as hybrid or electric vehicles

1.4 Transport and Health

1.4.1 Transport provides access to education, employment, leisure and shopping opportunities and can facilitate physical activity as part of everyday life through walking, cycling and public transport use. However, since the 1970s travel by bus, on foot and by bicycle has declined and travel by car has increased replacing those active journeys. Car and other road traffic threaten health through road traffic accidents and air pollution and also through physical inactivity. Choosing to cycle, walk or use public transport to services and facilities will have positive benefits to an individual's health, fitness and wellbeing.

1.4.2 The Government, through the National Health Service, recommends that everybody should exercise to:

- Reduce the risk of heart attack and chances of survival;
- Reduce the risk of developing long-term diseases;
- Increase life expectancy and improve quality of life in later years;
- Increase confidence;
- Improve appearance – body fat is reduced, muscle definition is improved, and skin improves in appearance as more oxygen is delivered to body tissue;
- Improve posture;
- Provide natural pain relief; and
- Have a positive effect on breathing, blood supply, muscles, and bones.

1.4.3 The National Institute for Health and Care Excellence (NICE) recommends

- Ensuring that people can easily access local services on foot or bicycle; and
- Ensuring that new development prioritise physically active lives, including walking and cycling.

1.4.4 The NICE 2012 guidance 'Walking and Cycling: Local measures to promote walking and cycling as forms of travel or recreation' recommends:

- Providing specific support for people at a transition point in their lives e.g. when they are changing house;
- Creating a supporting environment to encourage and sustain walking and cycling; and
- Addressing infrastructure and planning issues to encourage local facilities and services are easily accessible by bicycle and make changes to existing roads, where necessary, to reduce traffic speeds.

1.5 Structure of Report

1.5.1 This Residential Travel Plan is set out as follows:

- Chapter 2 provides a summary of the relevant national and local policy and travel planning guidance;
- The proposed development is described in Chapter 3;
- The accessibility of the site to local facilities by different sustainable travel modes is described in Chapter 4;
- Chapter 5 discusses the existing national and local travel trends;
- Chapter 6 sets out how the travel planning process will be managed at the development;
- The objectives, targes and indicators for the travel plan are set out in Chapter 7;
- Chapter 8 describes the travel plan measures to be implemented at the development; and
- Chapter 9 provides details on the implementation of the travel plan and how it will be monitored and reviewed and includes the Action Plan.

1.6 Limitations

1.6.1 The information, views and conclusions drawn concerning the site are based, in part, on information supplied to NRP by other parties. NRP has proceeded in good faith on the assumption that this information is accurate. NRP accepts no liability for any inaccurate conclusions, assumptions or actions taken resulting from any inaccurate information supplied to NRP from others.

2 TRAVEL PLAN POLICY AND GUIDANCE

2.1 Introduction

2.1.1 This chapter describes the travel planning policy and guidance relevant to the proposed site that has been referred to in the development of this Residential Travel Plan as follows:

- National Planning Policy Framework 2019;
- NPPF Planning Practice Guidance: Travel plans, transport assessments and statements in decision taking 2014;
- South Gloucestershire Local Plan: Core Strategy adoption December 2013
- Making Travel Plans Work 2002;
- Making Residential Travel Plans Work 2005;
- Making Personal Travel Planning Work 2007;
- The Essential Guide to Travel Planning 2007;
- Behavioural Insights Toolkit, Social Research and Evaluation Division, Department for Transport (DfT) 2011;
- Making the Connection: The Plug-in Vehicle Infrastructure Strategy 2011; and
- Driving the Future Today – A strategy for ultra-low emission vehicles in the UK 2013.

2.2 National Planning Policy Framework (2021)

2.2.1 Transport The National Planning Policy Framework (NPPF) was first published in March 2012 and replaced the previous national planning policies that were set out in the various Planning Policy Guidance Notes and Statements. Regarding transport, the NPPF replaced policy contained within PPG13 (Transport).

2.2.2 The NPPF was revised in February 2019 to include reforms previously announced through the Housing White Paper, the planning for the right homes in the right places consultation and the draft revised National Planning Policy Framework consultation.

2.2.3 The NPPF has been revised again in July 2021 to focus more on '*well-designed, beautiful and safe places.*' The document supports walking and cycling and wants to ensure that all large-scale development is supported by the necessary and required infrastructure and facilities to provide a genuine choice of transport modes, aiming to promote sustainable transport, whilst still recognising that opportunities vary between rural and urban areas.

2.2.4 The NPPF sets out a presumption in favour of sustainable development that recognises the importance of transport policies in facilitating sustainable development.

2.2.5 Paragraphs 104 and 105 set out the transport issues that should be considered at the earliest stages of planning:

2.2.6 "Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- *the potential impacts of development on transport networks can be addressed;*
- *opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- *opportunities to promote walking, cycling and public transport use are identified and pursued;*
- *the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- *patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.*

2.2.7 *The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making."*

2.2.8 Paragraph 110 sets out the transport requirements for allocations or applications:

2.2.9 *"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:*

- *appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- *safe and suitable access to the site can be achieved for all users; and*
- *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."*

2.2.10 Paragraphs 111 and 112 state that developments should not be prevented on highways grounds unless the cumulative impacts are severe:

2.2.11 *"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.*

2.2.12 *Within this context, applications for development should:*

- *give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations."*

2.2.13 Paragraph 113 states the requirement for significant developments to produce Travel Plans and Transport Statements or Transport Assessments:

2.2.14 *"All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed."*

2.3 NPPF Planning Practice Guidance: Travel plans, transport assessments and statements in decision taking 2014

- Travel Plans, Transport Assessments and Statements can positively contribute to:
- Encouraging sustainable travel;
- Lessening traffic generation and its detrimental impacts;
- Reducing carbon emissions and climate impacts;
- Creating accessible, connected, inclusive communities;
- Improving health outcomes and quality of life;
- Improving road safety; and
- Reducing the need for new development to increase existing road capacity or provide new roads.

2.3.1 In determining whether a travel plan is required local planning authorities are asked to take account of a number of relevant matters including any travel plan policies in the local plan, the scale of the development, the intensity of transport use and the availability of public transport.

2.3.2 Travel plans should identify the specific required outcomes, targets and measures and set out clear future monitoring and management arrangements. They should be scoped at pre-application stage and address all journeys from the proposed development.

2.3.3 Travel plans should benchmark travel data, provide travel forecasts and include proposals to reduce the need to travel as well as proposals for improved public transport services and walking and cycling facilities. They should be monitored until the objectives and targets are met.

2.4 South Gloucestershire Local Plan: Core Strategy adoption December 2013

2.4.1 The South Gloucestershire Core Strategy is the key planning policy document for South Gloucestershire, setting out the location and type of development in the District. The Local Plan Core Strategy 2006-2027 supersedes the remaining 'saved' policies of the previous Local Plan 2006.

2.4.2 With reference to Travel Plans the report states in policy CS7 – Strategic Transport infrastructure that the council will continue to work to promote Travel Plans. In policy CS8 – Improving accessibility, the strategy states that the active promotion of Green Travel Plans will help achieve the goal of proving sustainable travel options.

2.5 Making Travel Plans Work 2002

2.5.1 Making Travel Plans Work provides guidance on good practice and success factors associated with travel plans based on the review of the experience of 20 organisations.

2.5.2 The review showed that on average the proportion of commuter journeys made by car driver was reduced by 18% as a result of the travel plan initiatives.

2.5.3 The research identified that effective travel plans are based on:

- Building partnerships with the local authority and public transport operators;
- Identifying site opportunities and barriers;
- Encouraging progressive change;
- Gaining ownership of the plan;
- Raising the profile of travel initiatives;
- Reaching key groups;
- Influencing the travel culture; and
- A focus on results.

2.5.4 All of these elements have been included in the development of this Residential Travel Plan.

2.6 Making Residential Travel Plans Work 2005

2.6.1 This Travel Plan has been prepared with reference to the process set out in the Department for Transport Guidance *Making Residential Travel Plans Work*. The summary guide states that:

2.6.2 *"A Residential Travel Plan is a package of measures designed to reduce car use originating from new housing by supporting alternative forms of transport and reducing the need to travel in the first place. They are an important tool to help deliver accessible, sustainable communities and offer clear benefits to all the parties involved – public, private and the community. They involve meeting the access needs of residents in a new way and require partnerships between developers, local communities and new residents."*

- The potential benefits of Residential Travel Plans include:
- Reducing the need for car use with reduced traffic, congestion, air pollution and accidents;
- Improving accessibility and travel choices for reaching local facilities;
- Improving public transport provision;
- Supporting child friendly housing layouts;
- Improving access by the wider community to the residential development by sustainable modes of transport;
- Representing good practice and providing an educational tool to help change perceptions about non-car travel; and
- Increasing the marketability of the development

2.6.3 The main objectives of Residential Travel Plans are:

- Address resident's needs for access to a full range of facilities for work, education, health, leisure, recreation and shopping;
- Reduce traffic generated by the development to a level below that would occur without the Residential Travel Plan;
- Promote healthy lifestyles and sustainable vibrant communities;
- Encourage good urban design principles; and
- Address specific issues identified in the Transport Assessment.

2.6.4 Making Residential Travel Plans Work introduced the 'Travel Plan Pyramid' which sets the basis of a successful travel plan. The Travel Plan is based on the location of the development with relation to relevant facilities. The design of the site and its layout will contribute to its success. A Coordinator is required to deliver the plan and its measures. A promotional strategy will ensure that its benefits are maximised.

2.7 Making Personal Travel Planning Work 2007

2.7.1 Personal Travel Planning (PTP) is a well-established technique in the UK and overseas than encourages people to make more sustainable travel choices. It seeks to overcome the habitual use of the car, enabling more journeys to be made on foot, by bicycle, bus, train or by car sharing. This is done by through the provision of information, incentives and motivation directly to individuals. PTP has mostly been carried out in residential areas and within the UK the Department for Transport publication *Making Personal Travel Planning Work* reports that it has typically reduced car driver trips amongst the targeted population by 11%.

2.8 The Essential Guide to Travel Planning 2007

2.8.1 The Essential Guide to Travel Planning was produced by the National Business Travel Network and Department for Transport and provides guidance on developing and implementing travel plans and references a number of case studies. It provides a particular focus on the business case for organisations.

2.8.2 This Residential Travel Plan references the guidance contained in the Essential Guide as it applies to the context of a new residential community.

2.9 Behavioural Insights Toolkit, Social Research and Evaluation Division, Dft 2011

2.9.1 This toolkit provides a practical tool for the application of behavioural insights in the development of policies or initiatives in the transport context. It has a step by step process of review and development and is structured around a checklist of questions to consider at each stage.

2.10 Making the Connection: The Plug-in Vehicle Infrastructure Strategy 2011

2.10.1 The UK Government considers that a shift to ultra-low emission vehicles presents unique environmental and economic opportunities for the UK. Reducing transport emissions requires a range of different technologies and solutions and to help support this transition, the Government is committed to growing the market for plug-in vehicles in the UK. This is due to the contribution that they, and other low and ultra-low carbon technologies, can make across economic and environmental priorities – climate change, green growth, energy security, decarbonising the electricity system and air quality.

2.10.2 The strategy sees the majority of recharging taking place at home, at night, after the peak in electricity demand. Home recharging should be supported by workplace recharging for commuters and fleets, with a targeted amount of public infrastructure where it will be most used.

2.11 Driving the Future Today – A strategy for ultra-low emission vehicles in the UK 2013

2.11.1 The UK Government has a vision that by 2050 almost every car and van in the UK will be an ultra-low emission vehicle (ULEV) and the UK will be a key automotive manufacturer in this area. It wants to see a network of supporting infrastructure that ensures ULEVs are an attractive customer proposition. A significant funding commitment of over £500 million from 2015 until 2020 has been identified to continue to support the growing market for ULEVs.

- A number of work streams have been identified as follows:
- Supporting the early market to give certainty to investors and grants to consumers;
- Shaping the required infrastructure funding the installation of charge points;
- Securing the right regulatory and fiscal measures;
- Investing in the UK automotive capability; and
- Preparing the energy sector requiring a rollout of smart meters in homes by 2020.

3 PROPOSED DEVELOPMENT

3.1 Introduction

3.1.1 This chapter considers the proposed development addressing the following matters:

- The existing nature and use of the site and any existing access arrangements;
- The development proposals and the proposed layout;
- The proposed access arrangements; and
- The proposed car and cycle parking arrangements.

3.2 Existing Site Use

3.2.1 The proposed development site is currently an undeveloped field on the western side of the B4060, located on the southern periphery of Wickwar

3.2.2 Wickwar is a village of approximately 2,000 residents located 7.3km north of Yate and 6.8km south of Wotton-under-Edge.

3.2.3 It is located 7.4km south of Junction 14 of the M5, which links the West Midlands with the Southwest.

3.3 Proposed Development

3.3.1 The proposed development will comprise up to 180 residential dwellings and a 500m² farm shop, as Phase 1 of a wider overall development. The site is predicted to open in 2022 with a Travel Plan Coordinator in position before first occupation. The buildout rate of the development is approximately 60 units per year.

3.3.2 This Residential Travel Plan is proposed to run for five years from first occupation.

3.4 Proposed Access

Northern Access – Priority T-junction

3.4.1 The northern access to the proposed development site will be a simple priority T-junction located approximately 40m south of the B4060/Amberley Way mini roundabout.

3.4.2 The proposed access is shown on Drawing 7909-SK01.

Southern Access – Priority T-junction

3.4.3 The southern access to the proposed development site will also be a simple priority T-junction located approximately 120m south of Horwood Lane.

3.4.4 The proposed access is shown on Drawing 7909-SK02.

3.5 Site Design

3.5.1 The proposed masterplan layout is included at Appendix A. The site layout has been designed to ensure the street layout supports sustainable travel. Streets have been designed to be low speed and the network is permeable for pedestrians and cyclists. The existing Public Right of Way (PRoW) will be retained along its current alignment and will be tied into the developments pedestrian network, where possible.

3.6 Proposed Parking Arrangements

Car Parking

3.6.1 SGC Local Plan – Policies, Sites and Places Plan (2017) sets out the following car parking standards for residential developments as set out in Table 3.1.

Table 3.1: South Gloucestershire Parking Standards

Use	Per	Car Parking	Cycle Parking
1-bed dwelling	Unit	1	1
2-bed dwelling	Unit	1.5	2
3-bed dwelling	Unit	2	2
4-bed dwelling	Unit	2	2
5+-bed dwelling	Unit	3	2
Retail	Unit	-	2 at entrance +1/8 employees

3.6.2 Retail car parking standards have not been provided by SGC, however cycle parking standards have, and will be provided.

4 BASELINE SUSTAINABILITY AUDIT

4.1 Introduction

4.1.1 This chapter described the site accessibility by walking, cycling and public transport to establish the distances to relevant local facilities. Guidance on the acceptable walking and cycling distances is also provided and how the development site fairs in relation to these.

4.2 Walking Network

4.2.1 The site is situated at the southern end of Wickwar village, thus the greatest demand from pedestrians and cyclists will be routes to and from the village centre to the north. The most direct route is via Sodbury Road/High Street.

4.2.2 Section 106 funding has been made available for improvements in Wickwar Village. A scheme has been designed to address issues raised in the past by the local Councillor, the Parish Council and residents.

4.2.3 The scheme comprises several elements including:

- Zebra crossing north of Amberley Way.
- Extended 20mph zone through the High Street/Station Road, between Inglestone Road and Chase Lane.
- Series of speed tables on High Street/Station Road, between Inglestone Road and Chase Lane.
- Pedestrian refuge on High Street in vicinity of the Youth Club.
- Waiting restrictions on High Street between Inglestone Road and Back Lane.
- Junction improvements at High Street/Back Lane, and High Street/Buthay Lane, to improve visibility.
- Footway build-outs at Station Road/The Downs/High Street, to provide safer crossings for pedestrians.

4.2.4 The scheme is designed to reduce vehicle speeds through Wickwar, and to provide safe crossing points where footways terminate such that pedestrians need to cross the road to take up their journey on the opposite side. Parking restrictions are to improve visibility for pedestrians and drivers, and reducing speeds on the southbound approach to Station Road/Chase Lane junction will assist drivers exiting the side road.

4.2.5 Additionally, improvements will be funded by the developers of the Poplar Lane and Horwood Lane developments, as follows:

- A new foot/cycleway between Firth Lane and 'The Fence Yard' on Sodbury Road;
- Footway improvements between the Horwood site and the village centre, including across the frontage of the Citroen dealership;
- New bus stop; and
- Traffic calming measures on Sodbury Road.

4.3 Cycling Network

4.3.1 There are limited cycle facilities provided by the immediate street network with cyclists expected to use the carriageway of the roads themselves. However, the provision of a new foot/cycleway along the frontage of both the Horwood Lane and Poplar Lane developments will provide some dedicated road space for cyclists.

4.3.2 National Cycle Network (NCN) Route 410 passes in the vicinity of the site and can be accessed at the Station Road/The Downs junction at the northern end of Wickwar. This is located approximately 1.2km north of the proposed development site.

4.4 Accessibility Criteria

4.4.1 When assessing the accessibility of a site for pedestrians an average walking speed of 1.4 m/s can be assumed, which equates to approximately 400 metres in 5 minutes, or 3 mph. (Source: The Chartered Institution of Highway and Transportation (CIHT) publication 'Guidelines for Providing Journeys on Foot, 2000). This document also contains a table of suggested walking distances for different purposes. Table 3.4 recreates this table:

Table 4.1: Suggested Walking Distances

	Town centres	Commuting/Schools	Elsewhere
Acceptable	200m	500m	400m
Desirable	400m	1000m	800m
Maximum	800m	2000m	1200m

Source: CIHT 'Guidelines for Providing for Journeys on Foot'

4.4.2 The desirable maximum walking distance to the nearest bus stop is considered to be 400m (CIHT Guidelines for Planning for Public Transport in Developments).

4.4.3 The DfT Manual for Streets (2007) describes the walkable neighbourhood as:

4.4.4 'Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (up to about 800 m) walking distance of residential areas which residents may access comfortably on foot. However, this is not an upper limit and walking offers the greatest potential to replace short car trips, particularly those under 2 km. MfS encourages a reduction in the need to travel by car through the creation of mixed-use neighbourhoods with interconnected street patterns, where daily needs are within walking distance of most residents.'

Cycling Distances

4.4.5 The CIHT notes that three quarters of journeys by all modes are less than five miles (8km) and half are less than two miles (3.2km). These are distances that can be cycled comfortably by a reasonably fit person. Based on an average cycling speed of 4.0m/s (14.4kph), 8 kilometres can be cycled in just over half an hour and 3.2 kilometres can be cycled in less than 15 minutes. It is also generally accepted that cycling has the potential to substitute for short car trips, particularly those less than 5km.

Distances to Local Facilities

4.4.6 The site is located approximately 2km from the centre of Banwell and 3km from Worle in a principally rural setting. This means that there are not a huge number of facilities that can be reached from the site by foot according the above criteria. Critical to creating a sustainable development is therefore the provision of certain facilities by the development itself as well as appropriate cycle and bus links.

4.5 Walking and Cycling Distances and Times

4.5.1 There are a variety of local facilities within walking and cycling distance of the development site. These key facilities as well as their distances and walking and cycling times from the proposed development are shown by Table 4.2. Walking and cycling speeds have been taken from CIHT Guidance.

Table 4.2: Local Facilities within Walking and Cycling Distance

Facility	Distance (metres)	Walking time (minutes)	Cycling time (minutes)
Public transport			
New Bus Stop	100	1	1
Bus Stop – Poplar Lane	300	4	1
Education			
Alexander Hosea Primary School	1,100	13	5
Brimsham Green School (Secondary)	5,700	-	-
Employment			
Charlton House Residential and Retirement Home	800	10	3
Everybody's Hairdressers	1,000	12	4
AE Wilcox	1,100	13	5
Alderley Plc	1,400	17	6
Xblue Consulting Ltd	1,400	17	6
Health			
North Yate Pharmacy	5,100	-	-
Wellington Road Family Practice	5,500	-	-
Leisure			
Sport			
Wickwar Playing Fields	900	11	4
Food and Drink			
Wickwar Social Club	1,000	12	4
Wickwar Coffee Shop	1,050	13	4
The Buthay Inn	1,100	13	5
Other			
Popplecot Flowers	650	8	3
Popplecot Pottery Studio	750	9	3

The Old Stables Guest House	750	9	3
Wickwar Congregational Church	950	11	4
Retail			
Waitrose	5,500	-	-
Proposed Development			
Farm Shop	250	3	1

Note: Assumes average walking speed of 1.4m/s and average cycling speed of 4.0m/s.

Education

4.5.2 The National Travel Survey (NTS) 2016 identifies the modal split of trips to school made by school age children. For the 5-10 year old group (primary school pupils) it has been identified that 51% walk to school, 41% travel by car and just 5% travel by bus. For the 11-16 year old group (secondary school pupils) it has been identified that 39% walk to school, 26% travel by car and 27% travel by bus. Walking is the main mode of transport for trips under one mile for both primary and secondary school pupils, whereas for trips of over two miles the predominant mode of transport becomes the car for primary school children and the bus for secondary school children.

4.5.3 Alexander Hosea Primary School is the closest primary school to the development, located approximately 1.1km away. Brimsham Green School is the closest secondary school, located in Yate, to the south.

Employment

4.5.4 The modal split of commuter trips is set out by NTS 2016. Car travel is the predominant mode and accounts for 64% of all commuter trips whilst rail accounts for 7%, walking for 11%, bus for 8% with 10% for other modes. Commuting trips typically take longer than trips for other purposes with the average commuter trip taking 30 minutes.

4.5.5 There are several employment opportunities in Wickwar within walking and cycling distance of the development site.

Health

4.5.6 Trips for personal business and escort account for 18% of all trips (NTS 2016). Personal business includes visits to services or medical consultations whilst escort trips are those made to accompany somebody else.

4.5.7 The closest pharmacy and GP Doctor's surgery are both located in Yate, to the south of Wickwar.

Leisure

4.5.8 Leisure trips account for 32% of all trips with a higher proportion of all trips for leisure purposes on weekends than weekdays (NTS 2016). Just under half of all leisure trips are to visit friends whilst the remainder are for purposes such as entertainment, sport, holidays or day trips.

4.5.9 There is a range of places to eat and drink within Wickwar. Wickwar Social Club, Wickwar Coffee Shop and The Buthay Inn are all located on the High Street, approximately one kilometre walking distance to the north of the development site.

Shopping

4.5.10 Shopping trips account for 19% of all trips with 64% of these being made by car, 25% by walking and 7% by bus (NTS 2016). The average person makes between 3-4 shopping trips per week.

4.5.11 The closest shop to the development is in Yate to the south, 5.5km away. However, as part of the proposed development there will be a convenience store within the site. This will therefore be the closest shop, located approximately 250m from the centre of the development.

Summary

4.5.12 In summary, it is evident that there are a range of destinations and facilities within walking and cycling distance of the proposed development. Future residents of the proposed development can be expected to walk and cycle to these local facilities.

4.5.13 The 400m, 800m and 2km walking isochrones are shown by Figure 4.1.

4.5.14 The 3.2km and 5km cycling isochrones are shown by Figure 4.2.

4.6 Bus Services

4.6.1 Wickwar is served by bus with school and college bus services and a circular service which offers a link to Yate, where connecting buses offer services to Bristol and Bath.

4.6.2 The existing bus services in the locality of the proposed site are summarised in Table 4.3.

Table 4.3: Summary of Existing Bus Services

Service	Day	First Bus	Services per day (approximate frequency[1])	Last Bus
84 - Stagecoach				
Yate – Wotton-under-Edge Circular Clockwise	Weekday	06:35	8 (2 hrs)	19:35
	Saturday	06:35	8 (2 hrs)	19:35
	Sunday		No Service	
85 - Stagecoach				
Yate – Wotton-under-Edge Circular Anti-clockwise	Weekday	08:28	6 (2 hrs)	19:38
	Saturday	08:38	6 (2 hrs)	19:38
	Sunday		No Service	
860 – Stagecoach (College Service)				
Chipping Sodbury – Cirencester College	Weekday (Tuesday)	07:33	1 (Daily)	07:33
	Saturday		No Service	
	Sunday		No Service	

S8 – Taylors Travel (School Service)

Old Sodbury – Katherine Lady Berkeley School	Weekday	07:10	1 (Daily)	07:10
	Saturday		No Service	
	Sunday		No Service	

Note: [1] Frequency may vary slightly throughout the day e.g. during peak/off peak periods.

*Bank holiday service may vary.

4.7 Rail Services

4.7.1 Yate Station is located approximately 7km distance to the south of the development. Yate Railway Station offers direct trains northbound towards Gloucester and southbound towards Bristol Temple Meads.

4.7.2 A summary of rail services is shown in Table 4.4.

Table 4.4: Summary of Existing Services

Service	Day	First Train	Services per day (approximate frequency[1])	Last Train
From Yate Station				
Northbound (towards Bristol Temple Meads)	Weekday	06:31	18 (60 mins)	22:36
	Saturday	06:43	16 (60 mins)	21:59
	Sunday	09:58	6 (2 hrs)	21:07
Southbound (towards Gloucester)	Weekday	06:31	17 (60 mins)	23:09
	Saturday	06:42	16 (60 mins)	22:27
	Sunday	09:39	7 (2 hrs)	22:49

Note: [1] Frequency may vary slightly throughout the day e.g. during peak/off peak periods.

*Bank holiday service may vary.

4.7.3 Direct rail services from Yate Station offer the following typical journey times to principal destinations, with reference to the published timetable. Variations in typical journey time depend on the time of day and number of calling points:

- Bristol Temple Meads = 21-26 minutes
- Gloucester = 28-32 minutes

4.7.4 As well as direct rail services to the above destinations, connecting services offer additional access to the wider rail network, particularly from Bristol Temple Meads where there are direct services to London Paddington and Birmingham New Street.

4.7.5 Yate station offers a variety of facilities including cycle parking, ramped access for wheelchair users and pushchairs, ticket office and ticket machines and bench seating and several waiting areas.

4.7.6 A local rail network map is included at Appendix B.

5 TRANSPORT DATA

5.1 Introduction

5.1.1 This chapter provides details of the anticipated travel behaviour of the future users of the proposed development with reference to existing travel patterns and trends. It is divided into sub-sections that provide:

- The anticipated modal split of trips originating from the proposed development;
- The anticipated car ownership levels at the proposed development; and
- The anticipated trip generation of the proposed development.

5.2 Mode Shares

5.2.1 The 2011 Census *'QS703EW - Method of Travel to Work'* data has been analysed for the one Output Area – middle layer which covers the urban settlement of Wickwar to determine the likely modal split of commuter trips from the proposed development. This output area has been selected to be consistent with the Land off Sodbury Road Transport Assessment which has already received planning consent. The results are summarised by Table 5.1.

Table 5.1: 2011 Census "QS703EW – Method of Travel to Work" – Wickwar Residents

Mode of Travel	2011 Output Areas: E02003087 and E02006845		
	Persons	Percentage	Adjusted
Not in employment	1,896	32.1%	Discounted
Works mainly at or from home	667	11.3%	Discounted
Underground, metro, light rail or tram	3	0.1%	Added to Train
Train	31	0.5%	1.0%
Bus, minibus or coach	52	0.9%	1.6%
Taxi or minicab	3	0.1%	0.1%
Motorcycle, scooter or moped	34	0.6%	1.0%
Driving a car or van	2,822	47.7%	84.3%
Passenger in a car or a van	161	2.7%	4.8%
Bicycle	67	1.1%	2.0%
On foot	156	2.6%	4.7%

Other	19	0.3%	0.6%
Total	5,911	100.0%	100.0%

5.2.2 The figures have been adjusted to remove those people who are either not in employment or work mainly at or from home to show the modal split of those who do commute to work. If two people occupy a vehicle when car sharing, single occupancy vehicles represent 79.5% of the total.

5.2.3 The adjusted figures show that 84.3% of those who commute to work do so driving a car or van which is higher than the national average for England & Wales which is 60.7%. The sustainable modes of travel which are on foot, cycling (including motorcycles) and public transport equate to 10.3% of all journeys to work when combined which is lower than the England & Wales national average of 32.7%.

5.2.4 Full details of the 2011 Census *'QS703EW - Method of Travel to Work'* query are included at Appendix C.

5.3 Car Ownership

5.3.1 The 2011 census *'QS416EW - Car or Van Availability'* data has been analysed for the one Output Area – middle layer which covers the urban settlement of Wickwar to determine the likely level of car ownership of residents of the proposed development. This output area has been selected to be consistent with the Land off Sodbury Road Transport Assessment which has already received planning consent. The results summarised by Table 5.2.

Table 5.2: 2011 Census "Car or Van Availability" – Ownership Data

Number of Vehicles	2011 output areas: E02003092		
	Count	Percentage	Cars or Vans
No car or van	156	5.6%	156
1 car or van	815	29.1%	815
2 cars or vans	1,226	43.8%	1,226
3 cars or vans	393	14.0%	393
4 cars or vans	211	7.5%	211
Total	2,801	100.0%	2,801

5.3.2 The level of car or van ownership in Wickwar is slightly higher than the national average. The percentage of households without access to a car or van is 5.6% compared to 25.6% for England & Wales. Over half (65.3%) of households have access to two or more cars or vans which is higher than the England & Wales national average (32.2%).

5.3.3 This census information provides useful baseline data and some indication of how future residents will travel to work and the likely levels of car ownership. It should be noted however, that the census does not include modal split information for other important journeys that are made from a residential site such as the school run, etc.

5.3.4 The average number of cars or vans per household in Wickwar is 1.89.

5.3.5 Full details of the 2011 Census *'QS416EW - Car or Van Availability'* query are included at Appendix D.

5.4 Trip Generation

5.4.1 Trip were derived from these traffic surveys, they have been used to produce the anticipated trip generation of the proposed development. The AM and PM peak hours trip rates and trip generation is shown by Table 5.3.

Table 5.3: Residential Vehicle Trip Generation (180 dwellings)

Time Period	Trip Rate per Dwelling			Number of Trips		
	Arrivals	Departures	Total	Arrivals	Departures	Total
AM Peak Hour (0800-0900)	0.127	0.401	0.528	23	72	95
PM Peak Hour (1700-1800)	0.382	0.179	0.561	69	32	101

5.4.2 The proposed development is anticipated to generate 79 residential trips in the AM peak hour and 84 residential trips in the PM peak hour.

Table 5.4: Farm Shop Vehicle Trip Generation (500m^2)

Time Period	Trip Rate per 100m^2			Number of Trips		
	Arrivals	Departures	Total	Arrivals	Departures	Total
AM Peak Hour (0800-0900)	8.459	7.428	15.887	42	37	79
PM Peak Hour (1700-1800)	10.953	10.248	21.183	55	51	106

5.4.3 The proposed farm shop is anticipated to generate 79 trips in the AM peak hour and 106 in the PM peak hour.

6 TRAVEL PLAN MANAGEMENT

6.1 Travel Plan Coordinator

6.1.1 A Travel Plan Co-ordinator (TPC) will be appointed to promote, implement, and monitor the Travel Plan. The role will include offering Travel Plan information and advice to all residents and the promotion of Travel Plan measures.

6.1.2 A contact name for the nominated TPC will be provided to the Travel Plan Officer at SGC as soon as it is known. The TPC will be appointed at least three months prior to first occupation and the role will be provided for the duration of the identified five-year period.

6.1.3 The TPC will have committed time set aside each month to dedicate to Travel Plan work although the role is not considered to be 'full time' and is therefore likely to be performed by a person with other professional duties.

6.1.4 The responsibilities of the TPC are many and varied and include:

- Leading on the delivery of the Residential Travel Plan;
- Being the 'human face' of the Residential Travel Plan acting as a point of contact for residents;
- Playing a central role on the steering group;
- Liaison with the South Gloucestershire Council Travel Plan Officer to obtain literature promoting sustainable travel;
- Promoting individual measures in the travel plan;
- Liaison with Public Transport Operators
- Ensuring that the Action Plan is being implemented; and
- Coordinating the monitoring and review of the Residential Travel Plan.

6.1.5 The TPC will also be responsible for initiating a travel survey of new residents to understand existing travel behaviour and modal split. The results of the survey will inform the Travel Plan by enabling appropriate long term targets to be set. The travel survey will be undertaken when 50 occupations have taken place so that a meaning mode share can be identified.

6.1.6 The TPC will regularly liaise with the sales team to understand the buildout of the development and answer any questions that they might have, as well as to keep them informed on the progress of the travel plan and any upcoming events.

6.2 Steering Group

6.2.1 A Steering Group will be established to manage the implementation of the travel plan. The Steering Group will include a member of the SGC Travel Planning Team and several other stakeholders will be invited, such as local residents and bus operation companies. The terms of reference for the steering group are included at Appendix E.

6.3 Funding

6.3.1 A budget has been set aside by the developer to fund the implementation.

7 OBJECTIVES, TARGETS AND INDICATORS

7.1 Objectives

7.1.1 A set of specific objectives have been set for the Travel Plan. These are the high level aims giving direction and focus and have been identified with reference to relevant issues and circumstances associated with the development. The objectives are listed in Table 7.1.

7.2 Targets

7.2.1 Corresponding targets have been identified and these represent the measurable goals which can be assessed to determine whether the specific objectives have been met. Targets come in two forms. 'Action-Type' targets are non-quantifiable targets and take the form of actions which need to be achieved. 'Aim-Type' targets provide a quantifiable result.

7.2.2 All targets should be SMART:

- Specific;
- Measurable;
- Achievable;
- Realistic; and
- Time-bound.

7.2.3 Aim type' targets are provided as proposed percentage point changes and include a core target to reduce the level of single occupancy vehicles travelling The Targets are listed in Table 7.1.

7.3 Indicators

7.3.1 The indicators are the elements that will be monitored to identify whether the targets have been met and the objectives achieved. The indicators are listed in Table 7.1.

Table 7.1: Summary of Objectives, Targets and Indicators

Objectives	Targets	Indicators
"Action-Type" Targets		
Appoint a Travel Plan Coordinator	Three months prior to first occupation.	South Gloucestershire Council to be notified in writing within one month of appointment
Produce a Welcome Pack	All packs to be ready for distribution at opening of sales office	Pack designed and details agreed with South Gloucestershire council
Undertake a baseline Household Travel Survey	To be undertaken within six months of first occupation of the development or when 50 dwellings are occupied whichever is first	Baseline survey report agreed with South Gloucestershire Council

"Aim-Type" Targets				
To reduce the number of Individuals driving alone to and from the development.	Year 1	Year 3	Year 5	Household Travel Survey
	-2.5%	-5%	-10%	
Increase the level of sustainable transport to local facilities	+0.5%	+1.5%	+3%	Household Travel Survey
Achieve a minimum response rate to the baseline Household Travel Survey	30%			Household Travel Survey
Residents will be aware of the Travel Plan	70% of contacted residents will be aware of Travel Plan and PTP sessions			Household Travel Survey
Residents will claim the Smarter Travel Voucher	Minimum of 70% of residents aware of the scheme and a minimum of 40% uptake			Household Travel Survey and TPC records

8 TRAVEL PLAN MEASURES

8.1 Introduction

8.1.1 This chapter sets out the measures that will be implemented at the proposed development. They are identified with respect to the following categories:

- Reducing the Need to Travel;
- Walking;
- Cycling;
- Public Transport;
- Personal Travel Planning;
- Car Travel; and
- Marketing and Promotion.

8.2 Reducing the Need to Travel

Home Working

8.2.1 Every home will be fitted with phone lines which enable a broadband connection. This could be used for home working purposes. A home working guide will be available for all residents.

Internet Shopping

8.2.2 Internet shopping and supermarket home delivery will be promoted within the Travel Information Packs.

8.3 Walking

8.3.1 The advantages of walking include:

- Health and wellbeing;
- Fitness; and
- Saving money.

Walking Infrastructure

8.3.2 The development includes a permeable network of footways which will encourage people to walk to local and nearby facilities.

Wayfinding

8.3.3 Pedestrian signing will be provided at the northern access point showing walking distance and time to the village centre. This will help to encourage local walking.

Provision of Information

8.3.4 Each household will also be provided with information promoting the health and environmental benefits of walking as opposed to driving a car. Maps showing local walking routes to key facilities in the village centre will be provided as part of the Travel Information Pack.

8.4 Cycling

8.4.1 The advantages of cycling include:

- Convenience and reliability;
- Fitness and enjoyment; and
- Saving money.

Cycle Parking

8.4.2 Cycle Parking will be provided in line with South Gloucestershire's Local Plan – Polices, Sites and Places Plan (2017) which states that a minimum provision of one cycle parking space per dwelling is required for residential developments and that it needs to be accommodated in a garage (that can also store a car alongside the bicycle) or shed or a secure undercover storage area.

Cycle Shop Discount

8.4.3 The TPC will seek to negotiate a discount at a local cycle store entitling residents to discounted purchase of cycling equipment.

Bicycle User Groups

8.4.4 In the Baseline Travel Survey there will be a question asking if residents would be interested in joining a bicycle user group. Information on local bicycle user groups will sent to the residents if they would like to have it.

Cycle Training

8.4.5 Cycle training will be offered to residents in the Travel Information Pack that they will receive upon occupation. The travel information pack will advertise a trained cycling instructor that will implement the cycling lessons.

Bile maintenance sessions

8.4.6 Bike maintenance sessions will be held annually and advertised in the Travel Information Pack and advertised on the notice board. The annual events will be free to residents and administered by a trained professional.

Provision of Information

8.4.7 Each household will also be provided with information promoting the health and environmental benefits of cycling as opposed to driving a car. Maps showing local cycling routes to key facilities in the village centre will be provided as part of the Travel Information Pack.

8.5 Public Transport

8.5.1 There are several benefits to the individual in using public transport:

- Being able to relax, read or work;
- Traffic free routes (with rail or where bus priority exists);
- A chance to meet with neighbours and friends; and
- No need to park.
- Reducing congestion and pollution

Information Provision

8.5.2 Local bus and rail service timetables and route maps will be included within the Welcome Pack as will information about facilities at local bus stops and train stations.

8.6 Personal Travel Planning

Personalised Travel Planning Initiative

8.6.1 Each individual household will be offered one virtual meeting/personal visit from the TPC (free of charge) to discuss any travel issues that they may have and provide advice on the various modes of transport available locally. The TPC will endeavour to deal with all reasonable requests from residents and try to obtain any information necessary. The TPC will keep a record of PTP sessions and will provide an update in the monitoring and evaluation report. A target has been set that 70% of surveyed residents should be aware of the PTP and results of the survey will be included in the annual monitoring and evaluation report.

8.7 Car Travel

Car Sharing

8.7.1 Car sharing (also known as lift sharing or ride sharing) involves two or more people travelling in the same car together. Car sharing is mostly used for commuter trips, but it can also be used for leisure trips to events. Car sharing has been observed to work best where the sharers live in the same area, work consistent hours and commute a significant distance. There are several benefits to the individual over driving alone as follows:

- Saving money;
- Helping to reduce congestion and pollution;
- Potentially easier parking at the destination;
- Time to relax without the stress of driving in congested travel conditions; and
- An opportunity to connect with people of shared interests or lifestyles.

8.7.2 Car sharing can be carried out in a number ways with sharers usually agreeing protocol in advance:

- Sharers take turns in driving their cars and no financial transaction takes place;
- The driver charges for the cost of the share of the petrol; and
- The driver charges based on a mileage rate to cover petrol, depreciation and wear and tear.

8.7.3 To promote car sharing, information about the travel west car share scheme (www.travelwest.info/drive/car-sharing) will be included within the Welcome Pack and the TPC will keep an informal database of interested residents. This scheme provides a local matching service for all those who live, work and travel in and around South Gloucestershire as well as longer journeys to other locations outside the county. The development matches you up with potential partners as a driver or passenger and once matched, you can choose to journey share as little or as often as you like. This scheme could be further extended to the Saxon Gate housing development and Wickwar, with support from SGC and the Parish Council.

8.7.4 The welcome pack will also include details of the Join my Journey website (https://www.joinmyjourney.org/) and if the resident's place of work is a registered business then they will be contacted to provide a link to the website with accompanying information to allow them the opportunity to join

8.7.5 During the annual residents travel survey the schools that are being attended will be surveyed and residents whose children are attending the same school will be contacted to discuss the potential of joining a car share buddy scheme for journeys to school. And encouraged to attend the car share meetings.

8.7.6 Regular car share meetings will also be promoted through advertising and the travel survey and arranged by the TPC to enable potential sharers to meet, become acquainted and discuss travel arrangements. For safety meetings car sharing will remain a formal activity throughout the Travel Plan. At least once a year a car sharing meeting will occur on a weekend where residents can meet before committing to either car share schemes.

8.7.7 Evaluation of the car share elements of the Travel Plan will be included in the Monitoring and Evaluation report.

Car Club

8.7.1 There are Car Clubs in London, Edinburgh and Bristol and numerous other locations across the UK. There are some 185,000 Car Club Members with over 3,000 cars being used.

8.7.2 There are a number of benefits to the individual in being a member of a car club as follows:

- Convenience – no need to own a car;
- Save money – someone driving less that 6-8000 miles per year could typically save up to £3500 per year;
- Reduce their carbon footprint.

8.7.3 Car clubs are easy to use for members and follow the following process:

- Book – the car is booked online or by phone up to minutes before it is required and can be used from an hour up to a weekend;
- Unlock – car club vehicles are parked in designated parking bays and are accessed via smart card;
- Drive – The car club vehicle is driven for the period booked and then returned to the same parking location.
- Pay - The hourly rate tends to be typically £4-5 and payment is taken from the individual's account.

8.7.4 The 2013/14 Car Plus survey for England and Wales demonstrated the following benefits:

- 65% of members travelled less than 500 miles in the previous 12 months;
- 10% of members had sold/disposed of a car in the previous 12 months;
- 28% said they would have bought a car had they not joined a car club;
- The UK car club fleet saves over 2700 tonnes of carbon per year; and
- Car club vehicles produce 33% less carbon than the national average car.

8.7.5 Car clubs work best when there is both a resident and working population that can take advantage of the vehicles. The TPM will investigate the potential for the introduction of a commercially viable car club at the development.

Electric Vehicle Charging Points

8.7.6 Electric Vehicles and (EVs) and plug in hybrid vehicles are increasingly popular and the Government forecasts that 2020 they will make up 12% of vehicles sold in the UK.

8.7.7 According to zap-map.com there are currently over 39,700 UK charging connectors at nearly 14,500 UK locations (as at March 2021). The number of charging points is growing rapidly. Charging points are defined by power and hence charging speed. There are three charging speeds as follows:

- Slow charging (up to 3KW) – best suited to 6-8 hours overnight;
- Fast charging (7-22KW) – recharging some models in 3-4 hours; and
- Rapid charging (43-50KW) – achieving an 80% charge in 30 minutes.

8.7.8 Most commercial and public charging points are fast charging with rapid charging being a new development.

8.7.9 Electric vehicle charging points will be provided in all garages. Rapid electric vehicle charging points will be provided in communal car parks.

8.7.10 Several national and regional public charging networks exist. The closest charging points in the local area are at Wilcox MG and Wilcox Citroen to the north and Morrisons in Yate to the south.

8.7.11 Information on domestic electric vehicle charging points and any available grants will be provided to residents in the Travel Information Pack.

8.8 Marketing and Promotion

Travel Information Pack

8.8.1 A Residents Welcome Pack will be provided to each household on occupation that includes maps and timetables and vouchers.

8.8.2 The Welcome Pack will include the following:

- A Travel Leaflet including a site centred map showing bus routes and stops and local foot and cycle paths and useful travel information;
- Smarter Travel Voucher;
- Bus timetables;
- Rail timetables;
- Station Facilities;
- Cycle maps;
- Local walking maps;
- Information on electric vehicles and charging points.
- Car sharing information;
- Car club information
- Information on best smartphone travel apps; and
- Relevant contact details.

Smarter Travel Voucher

8.8.3 A Smart Travel Voucher (STV) up to the value of £100 will be offered to each dwelling. The vouchers will be redeemable against expenditure associated with walking, cycling and bus travel and must be claimed within 12 months of occupation. Only one Smarter Travel Voucher and claim per household. Residents are allowed to claim their voucher at any time during the time that the Travel Plan is active.

Notice Board

8.8.4 Travel information will also be made available on a notice boards in a communal area of the development. This information will include walking and cycling routes as well as public transport information.

Newsletters

8.8.5 An annual newsletter will be delivered to all occupied properties. The Newsletter will provide updates on the implementation of the plan, travel survey results and local travel issues and matters. The newsletter will be delivered annually for five years.

Promotion of Events

8.8.6 Regular sustainable travel events will be organised throughout the year and will coincide with national travel events such as:

- Walk to Work Week (April);
- Bike Week (June); and
- Car Free Day (September).

8.8.7 Responses from the travel surveys will be used to develop events. The number of people who attended will be recorded and any feedback will also be recorded, details of which events are chosen and why will be used in the monitoring report.

Website

8.8.8 This development will have a dedicated Travel Planning Webpage that residents can go to for information and updated. The webpage will contain, among other things:

- The TPC contact details
- A copy of the Travel Information Guide
- Copies of all materials provided in the Travel Information Packs
- Smarter Travel Voucher, claims process and terms & conditions
- Details of the free Personalised Travel Planning Sessions and how to claim
- An overview and copy of the Travel Plan for the Development
- Details of monitoring and resident travel surveys (including copies of the surveys)
- Dates of Events
- Travel Plan Action Plan for the current year
- Dates of TP Steering Group Meetings and how to get involved
- Details of all the TP measures being delivered at the Development

Travelwest

8.8.9 A wide range of travel information is available on the www.travelwest.info website. There is also a bespoke journey planner. This will be promoted in the Travel Information Pack.

9 IMPLEMENTATION, MONITORING AND EVALUATION

9.1 Overview

9.1.1 The Residential Travel Plan will be implemented in accordance with the Action Plan set out below. The developer will fund and undertake the implementation of the RTP.

9.2 Action Plan

9.2.1 This RTP will be implemented in accordance with the Action Plan set out below.

Table 9.1: Action Plan

Measure	Timescale	To be implemented by	Comments
Travel Plan Management			
Appoint a Travel Plan Coordinator	Three months prior to first occupation.	Bloor Homes	TPC will be trained and have sufficient resources to carry out duties
Steering Group	To be established within one month of appointment of TPC and meet three times a year	Bloor Homes	See terms of Reference for details
Household Travel Surveys and reporting.	Questionnaires to be distributed to each household at same time of year	Travel Plan Coordinator	Conducted at 50th occupation or 50% occupation
Reducing the Need to Travel			
Home Working	With distribution of Welcome Pack	Travel Plan Coordinator	
Internet Shopping	With distribution of Welcome Pack	Travel Plan Coordinator	
Walking			
Walking Infrastructure	As part of development build-out	Bloor Homes	Network of routes in the development
Wayfinding	Prior to first occupation	Bloor Homes	

Provision of information	Ready for distribution of the Travel Information Pack	Travel Plan Coordinator	
Cycling			
Cycle Parking	To be designed and provided in the development	Bloor Homes	
Cycle shop discount	Within one year of first occupation	Travel Plan Coordinator	
Bicycle user group	Implemented following household travel survey	Travel Plan Coordinator	
Cycle Training	Offered in Travel Information Pack	Travel Plan Coordinator	
Bike maintenance sessions	Annually occurring	Travel Plan Coordinator	
Provision of information	Ready for distribution of the Welcome Pack	Travel Plan Coordinator	
Public Transport			
Provision of information	Ready for distribution of the Welcome Pack	Travel Plan Coordinator	To be obtained from relevant authorities, organisations and service providers
Car Travel			
Car Share details	Ready for distribution of the Welcome Pack	Travel Plan Coordinator	
Car Club	Viability to be assessed within one year of first occupation of development	Travel Plan Manager	
Electric Vehicle Charging Points	To be delivered as part of the residential build out.	Bloor Homes	
Marketing and Promotion			

Travel Information Pack	To distribute packs to all occupied dwellings following completion of sale	Travel Plan Coordinator	Welcome Pack contents to be collated and printed before being delivered to each household.
Smarter Travel Voucher	To be included in Welcome Packs	Travel Plan Coordinator	One per household, redeemed within six months
Newsletter	Annually for five years	Travel Plan Coordinator	Newsletter to be designed by TPC then printed and delivered to each occupied household
Notice Board	To be provided prior to first occupation the notice board will be checked every three months by the TPC.	Bloor Homes	To be provided in communal area
Promotion of events	Annually	Travel Plan Coordinator	To be promoted within newsletters and on the notice board
Personal Travel Planning	Within two weeks of request for a visit	Travel Plan Coordinator	PTP initiative to be promoted in the Travel Information Pack
Creation of Travel Plan Website	Before first occupation	Travel Plan Coordinator	
Liaising with the Sales office	Every three months in line with checking the notice board	Travel Plan Coordinator	Opportunity to update each other on the occupation of the development and progress of the
Travelwest	To be promoted in Travel information Packs	Travel Plan Coordinator	

9.3 Monitoring and Evaluation

9.3.1 A Household Travel Survey of the travel characteristics of residents will be carried out when 50 units have been occupied. This survey will provide baseline travel data to inform the travel plan targets. An example of the baseline Household Travel Survey Form is included at Appendix F.

9.3.2 The form that will be used will be agreed in advance with SGC. It is important to note that monitoring is an issue with smaller residential developments where a good response rate is needed to make the data, particularly mode share data, collected meaningful. Consequently, the survey examines the travel habits of household occupants to increase the data pool.

9.3.3 Monitoring surveys will be carried out annually for the 5 year travel plan period after the baseline surveys were collected. This will be conducted at the same time of year to determine changes in travel habits and whether the identified targets have been met. The monitoring Household Survey Questionnaire will explore the take-up and success of the travel plan measures. The household travel survey will be agreed with SGC prior to use and may be amended. Monitoring surveys will be carried out using online surveying tools such as Survey Monkey. Information on the surveys will be posted to each address, an incentive for completing the survey will be offered.

9.4 Monitoring Reports

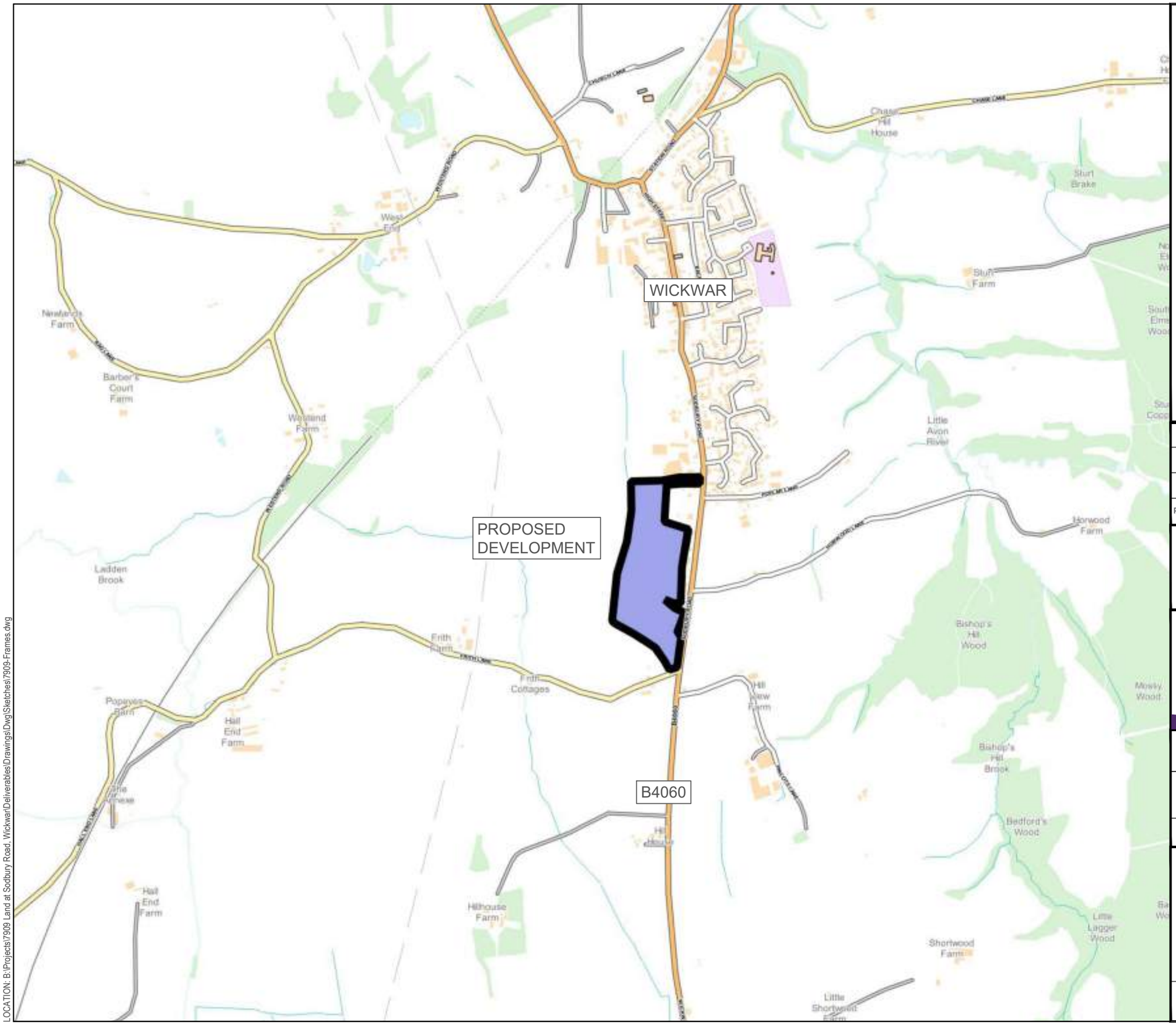
9.4.1 Monitoring reports will be submitted to South Gloucestershire Council and include the following elements:

- Details of monitoring results including analysis and results of the Household Travel Survey;
- A list of anonymised occupied dwellings, house number and street name, that will show which properties have claimed a STV and the free PTP sessions. It will also show the results of the questions relating to awareness of STV Scheme, the Travel Plan and the PTP Sessions.
- Details of progress made since previous report including commentary on implementation of measures, success of events and minutes of steering group meetings; and
- An assessment of whether the Travel Plan targets are on track.

9.5 Completion of Travel Plan Initiative

9.5.1 The RTP initiative will be completed five years after the baseline surveys have been carried out and on agreement of the final monitoring report by South Gloucestershire Council (SGC). The Residential Travel Plan will be handed over to a local community group to continue on a voluntary basis if there is interest to do so. If not, the initiative will cease.

FIGURES



NOTES:

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THIS DRAWING IS ONLY TO BE USED AT THE SIZE AND SCALE STATED BELOW.
ANY DISCREPANCIES ARE TO BE REPORTED TO THE DESIGNER NAMED BELOW.

REV	DATE	DRAWN	REV'D	APP'D	NOTES

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CLIENT
Bloor Homes

PROJECT
Land at Sodbury Road, Wickwar

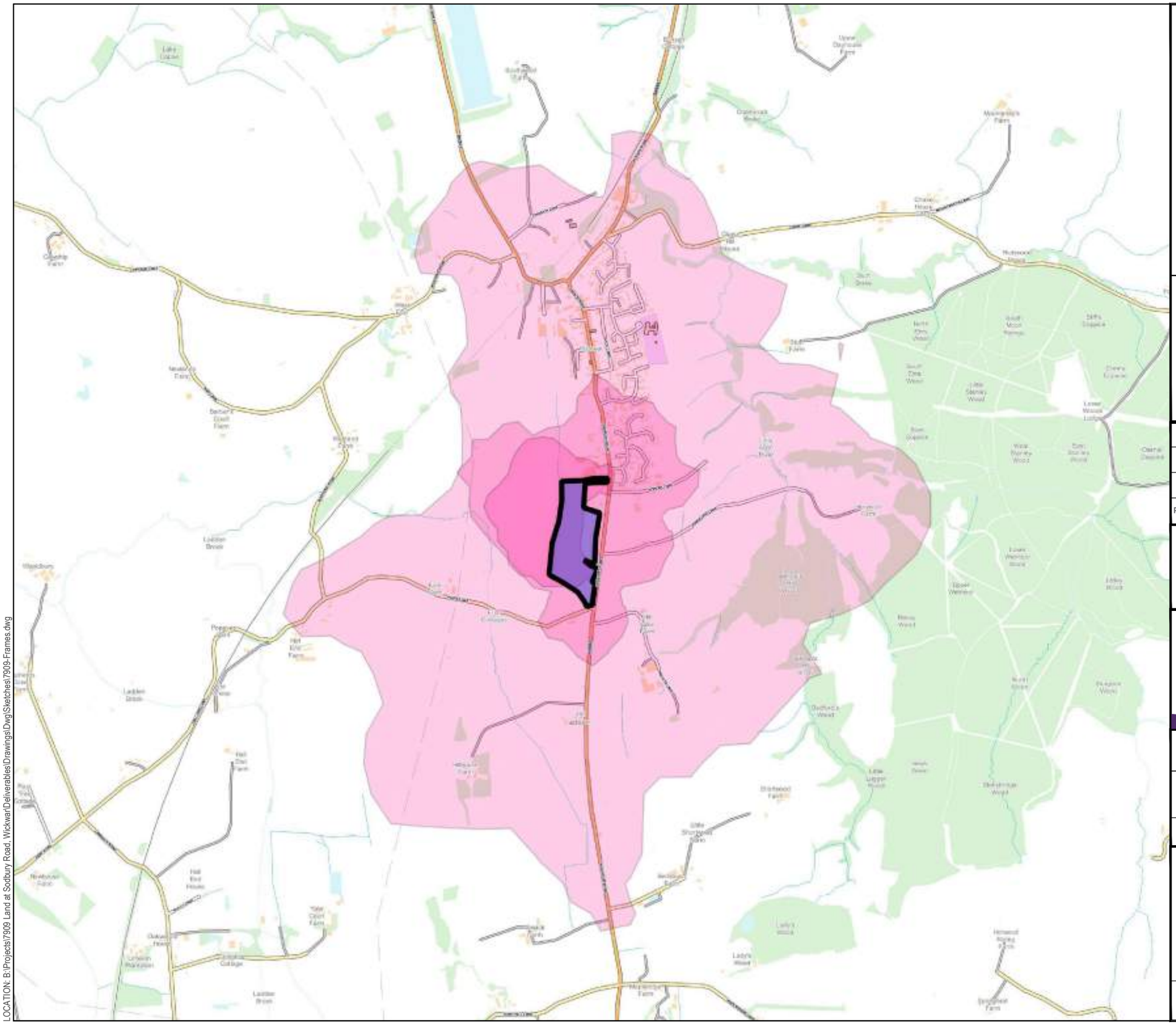
DRAWN	DESIGNED	REVIEWED	DATE	APPROVED	DATE
MC	MC	HDL	14.12.22	DAK	14.12.22

TITLE
SITE LOCATION PLAN

SCALE	DRAWING No	REV
NTS	FIGURE 1.1	1.0

A3

LOGIN NAME: MORGAN CARTER
LOCATION: B:\Projects\7909 Land at Sodbury Road, Wickwar\Deliverables\Drawings\Dwg\Sketches\7909-Frames.dwg



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KEY

- 400m Isochrone
- 800m Isochrone
- 2km Isochrone

REV	DATE	DRAWN	REV'D	APP'D	NOTES

DRAWING STATUS

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PROJECT
Land at Sodbury Road, Wickwar

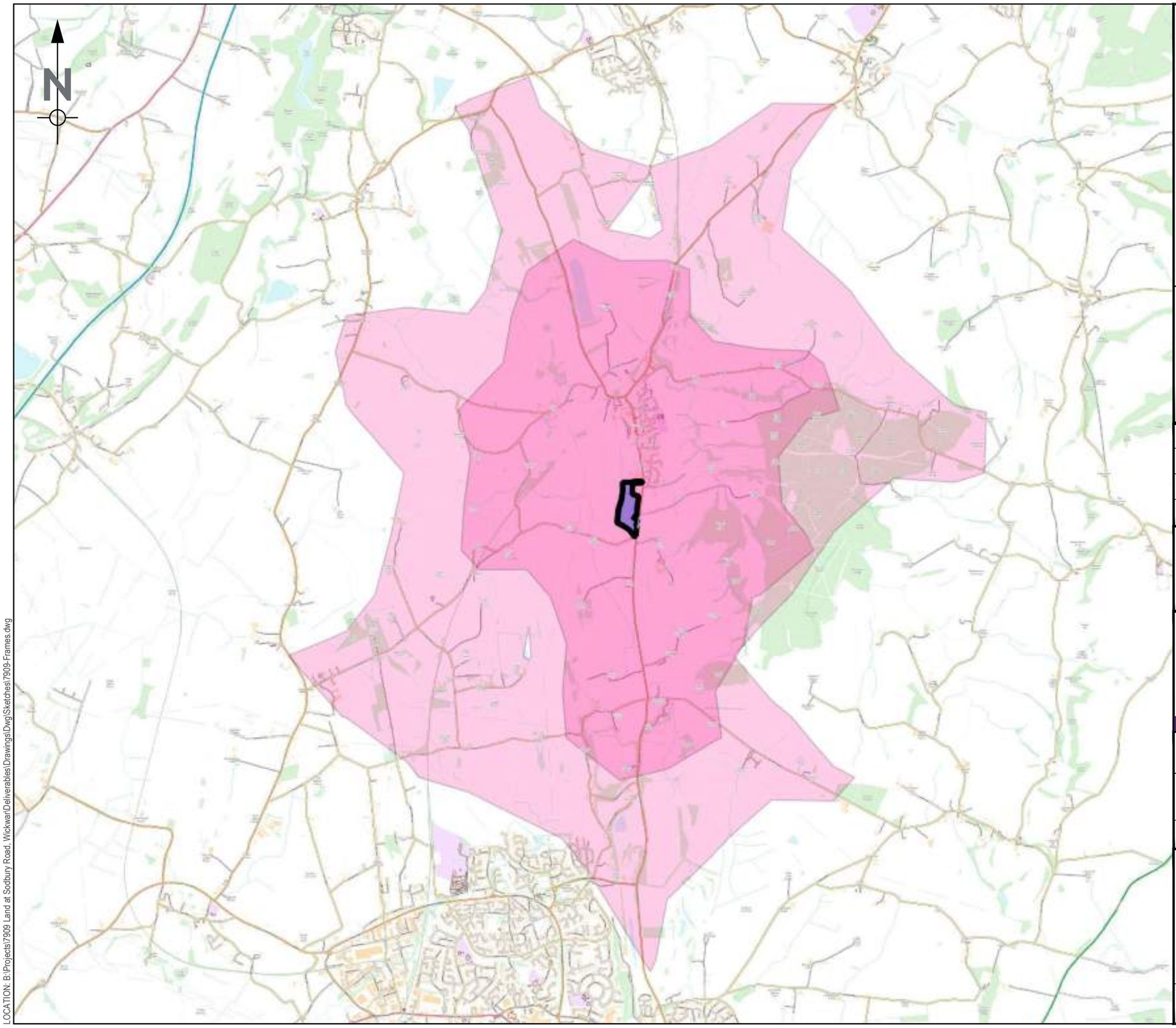
DRAWN	DESIGNED	REVIEWED	DATE	APPROVED	DATE
MC	MC	HDL	14.12.22	DAK	14.12.22

TITLE
WALKING ISOCHRONES

SCALE	DRAWING No	REV
NTS	FIGURE 4.1	1.0

A3

LOGIN NAME: MORGAN CARTER
LOCATION: B:\Projects\7909 Land at Sodbury Road, Wickwar\Deliverables\Drawings\Dwg\Sketches\7909-Frames.dwg



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KEY

3.2km Isochrone

5km Isochrone

REV	DATE	DRAWN	REV'D	APP'D	NOTES

DRAWING STATUS

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CLIENT
Bloor Homes

PROJECT
Land at Sodbury Road, Wickwar

DRAWN	DESIGNED	REVIEWED	DATE	APPROVED	DATE
MC	MC	HDL	14.12.22	DAK	14.12.22

TITLE
CYCLING ISOCHRONES

SCALE	DRAWING No	REV
NTS	Figure 4.2	1.0

A3

APPENDICES

APPENDIX A: SITE LAYOUT PLAN

KEY

- Site Boundary (7.89 ha/19.51 ac)
- Residential Development (4.49 ha/11.10 ac)
- Area reserved for potential shop extents (0.15 ha/0.37 ac)
- Open Space including Informal Recreational and Natural & semi - natural urban green space (3.25 ha/8.04 ac)
- Allotments (0.09 ha/0.22 ac)
- Provision for Children and Young People LAP & LEAP (0.11 ha/0.28 ac)
- PROW (public rights of way)
- Primary Roads
- Areas of boundary to be bolstered with additional Planting
- Existing Hedgerow
- Existing Trees
- Proposed Pumping Station
- 1 Proposed Access Points
- 2 Proposed LAP (local area of play)
- 3 Proposed LEAP (local equipped area of play)
- 4 Proposed attenuation basin
- 5 Proposed swale
- 6 Proposed Rain Garden
- 7 Opportunity to provide new PROW link
- 8 Opportunity for views to Holy Trinity Church

c.180 homes @ 40dph net

CLIENT:
Bloor Homes

PROJECT:
Land at Wickwar

DRAWING:
Framework Masterplan

PROJECT NUMBER:
BLOA3039

DRAWING NUMBER:
3001

CHECKED BY:
CD

REVISION:
L

STATUS:
Post-Submission

DATE:
01/12/2022

SCALE:
1:2500 @ A3

Turley

APPENDIX B : TRAIN STATION FACILITIES

Yate Station

Onward Travel Information

Buses

Rail replacement buses starting/terminating at Yate: Station car park.
All other buses: Bus stops on the main road.

Local area map

Main destinations by bus (Data correct at July 2020)

DESTINATION	BUS ROUTES	BUS STOP
Alderley	84, 85	B
Bristol City Centre	Y1, Y2, Y4 Y3	A C
Bristol Parkway station	Y6	A
Charfield	84, 85	B
Chipping Sodbury	84, 85, Y1, Y2 (Evenings only), Y6	B
Coalpit Heath	86, Y1, Y2, Y4, Y6	A
Cribbs Causeway	Y6 622 (All journeys from stop C, except 16:37 & 18:07 Monday to Friday)	A C A
Downend	Y2	A
Eastville (Bristol City)	Y2, Y4	A
Emersons Green	86	A
Filton College	Y6	A
Fishponds	Y2	A
Frampton Cotterell (St Peters Church)	Y4, Y6 Y3	A C
Frenchay (Hospital & Bristol Road)	Y4	A
Hawkesbury Upton	84, 85	B
Henfield (South Gloucestershire)	86	A
Hillesley	84, 85	B
Horton	84, 85	B
Iron Acton	Y3	C
Kingswood (Gloucestershire)	84, 85	B
Kingswood (South Gloucestershire)	86	A
Little Stoke	Y6	A
Lyde Green	86	A
Mangotsfield	86	A
New Cheltenham	86	A
Ram Hill (Greenacres Park)	86	A
Rangeworthy	622 (All journeys from stop C, except 16:37 & 18:07 Monday to Friday)	C A
Southmead Hospital	Y6	A
Stapleton (Bristol City)	Y4	A
Thornbury	622 (All journeys from stop C, except 16:37 & 18:07 Monday to Friday)	C A
Tytherington	622 (All journeys from stop C, except 16:37 & 18:07 Monday to Friday)	C A
Wickwar	84, 85	B
Winterbourne	Y4, Y6 Y3	A C
Wotton-under-Edge	84, 85	B
Yate (South via Shire Way)	Y1, Y2	B
Yate (Town Centre)	15 minute walk from this Station 84, 85, 86, Y1, Y2, Y4 (Evenings only), Y6	B

Notes

Bus routes Y1, Y2, Y4 and Y6 operate daily services.

Bus routes 84, 85, 86 and 622 operate Mondays to Saturdays services. No Sunday services.

Bus route Y3 operates Mondays to Fridays services. No Saturday or Sunday services.

Bus interchange points at Cribbs Causeway, Kingswood and Yate Town may be used to access services across a wider area.

For bus times and days of operation please see bus stop timetables or contact Traveline.

Direct trains operate to this destination from this station

Taxis

Yate Station has no taxi rank or cab office. Advance booking is essential, please consider using the following local operators: (Inclusion of this number doesn't represent any endorsement of the taxi firm)

Grabacab
01454 313 883

Yate Premier Taxis
01454 323 232

Chipping Sodbury Taxis 07891 190 984

Further information about all onward travel

Local Cycle Info

Travelwest.info
For more information about cycle routes.

National Cycle Info

sustrans.org.uk
Sustrans is the UK's leading sustainable transport charity.

Bus Times

See timetable displays at bus stops.

traveline public transport info
www.traveline.info
0871 200 22 33
calls cost 12p per minute plus your phone company's access charge

NextBuses.mobi

Download on the App Store

Find the bus times for your stop.
Search for a bus stop by entering a postcode, street & town or a stop name & town.

PlusBus

plusbus.info
A discount price 'bus pass' that you buy with your train ticket. It gives you unlimited bus travel around your chosen town, on participating buses.

National Rail Enquiries

Online

nationalrail.co.uk

NRE App

Free National Rail Enquiries app for iOS and Android

Social Media

facebook.com/nationalrailenq
@nationalrailenq

Alert Me

You can sign up to Alert Me messages on the National Rail Enquiries website where you can receive train and platform notifications directly to your smart phone.
nationalrail.co.uk/alertme

Contact Centre

03457 48 49 50
Calls cost no more than calls to geographic numbers (01 or 02) and may be recorded.

PlusBike

nationalrail.co.uk/plusbike
For more information.

GWR | Great Western Railway

National Rail
Britain's train companies working together

This poster shows details of popular destinations and main, frequent bus routes. Additional services may run, so please check with Traveline or see posters at local bus stops. Whilst considerable care has been taken to ensure the information contained on this poster is correct and accurate, National Rail cannot accept responsibility for any loss or inconvenience caused by any errors or omissions, or for loss, damage, injury or inconvenience relating to the cancellation, alteration, delay or diversion of a service. For any feedback, please e-mail comments@onwardtravelposters.com

Scan this code with your mobile to take this poster with you.

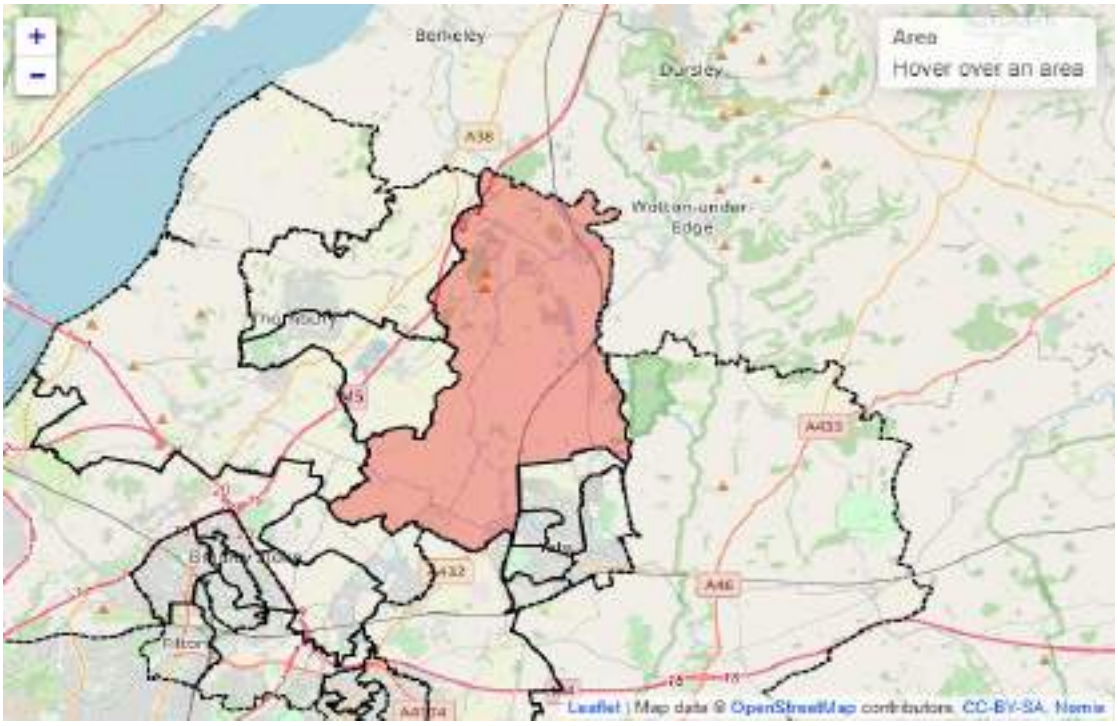
V11.0 - FAB - Valid from July 2020

Correct as of February 2020

APPENDIX C : QS703EW – METHOD OF TRAVEL TO WORK

QS703EW - Method of Travel to Work (2001 specification)

population	All usual residents aged 16 to 74
units	Persons
area type	2011 super output areas - middle layer
area name	E02003092 : South Gloucestershire 003



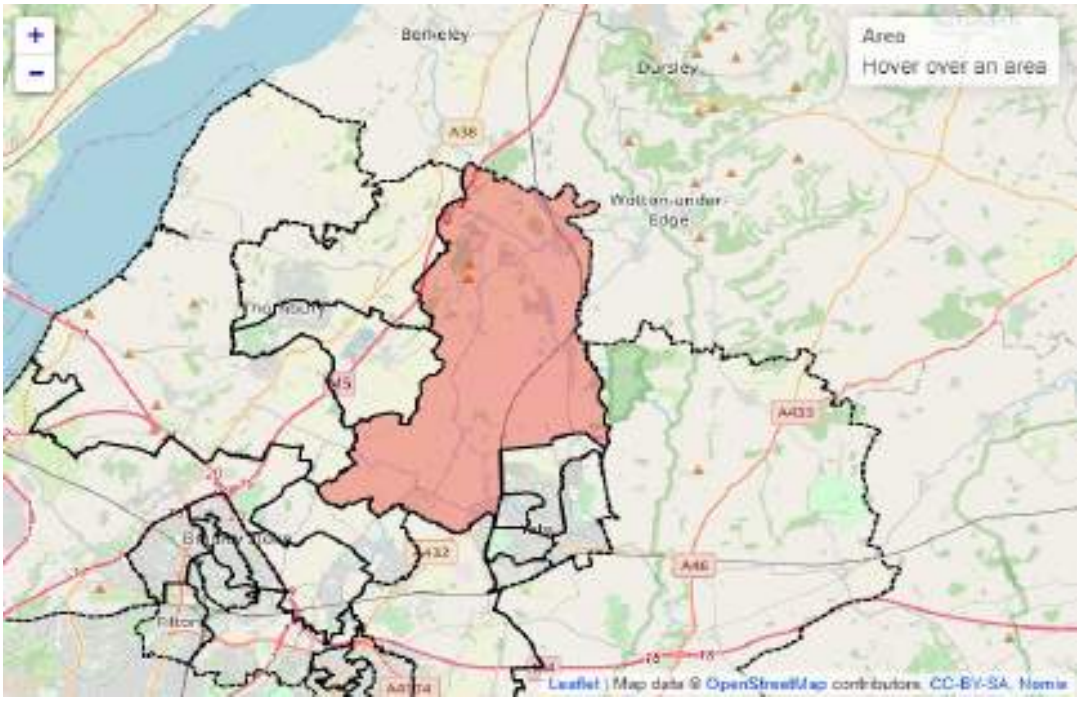
Method of Travel to Work	2011	%	Adjusted	Adjusted %
All categories: Method of tra	5,911	100.0%	3,348	100.0%
Work mainly at or from hom	667	11.3%	Discounted	
Underground, metro, light ra	3	0.1%	Added to Train	
Train	31	0.5%	34	1.0%
Bus, minibus or coach	52	0.9%	52	1.6%
Taxi	3	0.1%	3	0.1%
Motorcycle, scooter or mope	34	0.6%	34	1.0%
Driving a car or van	2,822	47.7%	2,822	84.3%
Passenger in a car or van	161	2.7%	161	4.8%
Bicycle	67	1.1%	67	2.0%
On foot	156	2.6%	156	4.7%
Other method of travel to wo	19	0.3%	19	0.6%
Not in employment	1,896	32.1%	Discounted	

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

APPENDIX D: QS416EW – CAR OR VAN AVAILABILITY

QS416EW - Car or van availability

population	All households; All cars or vans
units	Households
area type	2011 super output areas - middle layer
area name	E02003092 : South Gloucestershire 003
rural urban	Total



Cars	2011	%		No. Cars or vans
All categories: Car or van availa	2,801	100.0%		5290
No cars or vans in household	156	5.6%	0	0
1 car or van in household	815	29.1%	1	815
2 cars or vans in household	1,226	43.8%	2	2452
3 cars or vans in household	393	14.0%	3	1179
4 or more cars or vans in house	211	7.5%	4	844

Cars or vans per household	1.89

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

APPENDIX E: STEERING GROUP TERMS OF REFERENCE

Steering Group

Draft Terms of Reference

Purpose

The Streering Group is the body appointed by Bloor Homes to be responsible for the implementation of the Travel Plan process for the residential development at South Farm.

Objectives

The objectives of the Steering Group will be to:

- Manage the implementation of the Travel Plan
- Oversee the monitoring of the Travel Plan
- Achieve the Travel Plan targets at all intervals

Duties and Roles

The Steering Group shall:

- Manage the development and implementation process.
- Ensure that all stakeholders are consulted and represented and involve the community in the travel planning process.
- Ensure that the Travel Plan is communicated to all residents, staff and users and is implemented to an agreed timetable.
- Monitor the effectiveness of the travel plan.
- Identify any problems with implementation and measures and propose improvements

Membership

Membership of the steering group shall include:

- Travel Plan Coordinator;
- Representative from the Developer;
- Local Authority Travel Planning Officer;
- Residents Representative (eg from residents association if established);
- Employer's Representative (from employment organisations);
- Schools Representative; and
- Bus Operator representative.

Quorum and Chairmanship

The group shall choose one member to be the Chairman. Three members of the group (including their nominated deputies) shall constitute a quorum. In the absence of the Chairman the group may choose a Chairman from within its own membership.

Review of the Terms of Reference

These Terms of Reference shall be reviewed and if necessary amended at the discretion of the Chairman with the agreement of all group members.

Meetings

Meetings will take place three times per year in April, August and December for each year of construction and be held in private.

Agenda Items

At each meeting, the agenda will include the following items:

- Minutes of Last Meeting (All).
- Construction and Planning process (Developer's Report) – overview of progress on site and number and nature of occupations since last meeting. Update on key timescales.
- Travel Plan Coordinator's Report – update from TPC on actions and issues over last three months.
- Local Authority Report – Update on Initiatives, proposals and issues affecting travel associated with the site from LA viewpoint.
- Bus Operation – Bus Operator update and user views on service operation.
- Any Other Business (AOB).

Record of Meetings

Notes of the group meetings will be taken by the Travel Plan Coordinator and will be agreed as an accurate record at each subsequent meeting signed by the chairman.

APPENDIX F: HOUSEHOLD TRAVEL SURVEY QUESTIONNAIRE

Please be assured that all your answers will remain CONFIDENTIAL

NORMAN ROURKE PRYME

HOUSEHOLD TRAVEL SURVEY

What is it about?

(Housebuilder) is introducing a range of measures to increase travel opportunities from the ..... development by public transport, cycling and walking.

How does this survey help?

This survey is needed, to establish current travel patterns and understand the potential for the proposed measures. Your response is important and will help us to maximise the potential of the initiative.

How do you take part?

Please complete this form and return it in the pre-paid envelope provided by..... **You do not have to give your identity,** however if you want to be entered into the FREE PRIZE draw to win .....please provide your name and email address below.

Name: _____

Email Address: _____

This is a tick box form and is quick and easy to complete. ☑

ABOUT YOUR HOUSEHOLD

1. How many people live in your household

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 6+ ☐

2. How many are adults?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 4+ ☐

3. How many working persons are there in the household?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 4+ ☐

4. How many cars does your household have?

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐

5. How many of these cars are electric, low emission or ultra low emission vehicles (Co2 emissions lessthan 120 g/km)? _____

THIS IS A TICK BOX FORM AND IS QUICK AND EASY TO COMPLETE

6. Where are the cars parked? (Please tick appropriately for each vehicle.)

Garage	☐	On the street	☐
Outside dwelling	☐	On another street in the development	☐
Parking bay	☐	On another street outside the development	☐

7. How many bicycles does your household have?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 6+ ☐

8. Does anyone in your household have any mobility difficulty which affects your transport choice?

Yes	☐	No	☐

ABOUT YOUR TRAVEL

9. Are you:

Male	☐	Female	☐

10. What is your age?

18 - 25 ☐ 26 - 35 ☐ 36 - 45 ☐ 46 - 55 ☐ 56 - 65 ☐ 65+ ☐

11. What is your employment status?

Employed Full Time	☐	Unemployed	☐
Employed Part Time	☐	Retired	☐
Full - time student	☐	Other	☐

PLEASE ANSWER QUESTIONS 12 TO 16 IF YOU ARE EMPLOYED, OTHERWISE GO TO QUESTION 18.

12. Where do you usually work?

At Home	☐	Destination D	☐
Destination A	☐	Destination E	☐
Destination B	☐	Destination F	☐
Destination C	☐	Destination G	☐

13. How many days do you travel to your usual workplace?

1 or 2 days ☐ 3 or 4 days ☐ 5 or more days ☐

14. What is your primary means of travelling to work?

Car (as driver on own)	☐	Cycle	☐
Car (as driver with passenger/s)	☐	On foot	☐
Car (as passenger)	☐	Motorcycle	☐
Train	☐	Other	☐
Bus	☐		

THIS IS A TICK BOX FORM AND IS QUICK AND EASY TO COMPLETE

15. If you drive to work where do you park? (If you do not drive please leave blank)

Employers Car Park - Guaranteed space	☐	Residential Street	☐
Employers Car Park - Car share space	☐	Other Street	☐
Employers Car Park - Other	☐	Public Car Park	☐

16. If train is your primary means of travelling to work, how do you travel to the station? (If you do not use the train please leave blank.)

Bus	☐	Lift with someone travelling with you	☐
Taxi	☐	Lift with someone travelling elsewhere	☐
Cycle	☐	Drive	☐

TRAVEL TO SCHOOL/COLLEGE

PLEASE ANSWER QUESTIONS 17-19 IF THERE ARE CHILDREN OF SCHOOL AGE IN THE HOUSEHOLD,

17. How many children of school age (4 - 18 years of age live in the household.)

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 4+ ☐

18. Which Schools/ College's do they attend? (Please put number of children in relevant boxes)

School A	☐	School B	☐
School C	☐	School D	☐
School E	☐	Other	☐

19. How do the children travel to School/College? (Please put relevant number of children in relevant boxes)

Car (Lift from member of household)	☐	Bus	☐
Car (Lift from friend)	☐	Train	☐
On foot	☐	Other	☐
Cycle	☐		

Questions continue on the next page.

20. How often do you use local facilities? (Please tick relevant box for each destination)

	Never	Less than once a month	1 or 2 times a month	1 or 2 times a week	3 or 4 times a week	More often
Facility A	☐	☐	☐	☐	☐	☐
Facility B	☐	☐	☐	☐	☐	☐
Facility C	☐	☐	☐	☐	☐	☐
Facility D	☐	☐	☐	☐	☐	☐
Facility E	☐	☐	☐	☐	☐	☐

TRAVEL TO LOCAL FACILITIES

21. How do you usually travel to local facilities? (Please tick relevant box for each destination)

	Car on own	Car with others	On foot	Cycle	Bus	M/C	Taxi
Facility A	☐	☐	☐	☐	☐	☐	☐
Facility B	☐	☐	☐	☐	☐	☐	☐
Facility C	☐	☐	☐	☐	☐	☐	☐
Facility D	☐	☐	☐	☐	☐	☐	☐
Facility E	☐	☐	☐	☐	☐	☐	☐

22. Do you do some of your shopping via the internet?

Yes ☐ No ☐

23. Which of these measures are of benefit to you? (Please tick those that are of interest.)

Measure A	☐	Measure F	☐
Measure B	☐	Measure G	☐
Measure C	☐	Measure H	☐
Measure D	☐	Measure I	☐
Measure E	☐	Measure J	☐

24. Do you have any comments to make about travel and transport in the local area.

THANK YOU FOR YOUR TIME

Please be assured that all your answers will remain CONFIDENTIAL

NORMAN ROURKE PRYME

To be completed by additional adult in the household.

HOUSEHOLD TRAVEL SURVEY - INSERT A

If you would like to be entered into the FREE PRIZE draw to win .....
Please provide your name and email address:

Name: _____

Email: _____

A1. Are you: Male ☐ Female ☐

A2. What is your age?

18 - 25 ☐ 26 - 35 ☐ 36 - 45 ☐ 46 - 55 ☐ 56 - 65 ☐ 65+ ☐

A3. What is your employment status?

Employed Full Time	☐	Unemployed	☐
Employed Part Time	☐	Retired	☐
Full - time student	☐	Other	☐

PLEASE ANSWER QUESTIONS A4 TO A9 IF YOU ARE EMPLOYED, OTHERWISE GO TO QUESTION A9.

A4. Where do you usually work?

At Home	☐	Destination D	☐
Destination A	☐	Destination E	☐
Destination B	☐	Destination F	☐
Destination C	☐	Destination G	☐

A5. How many days do you travel to your usual workplace?

1 or 2 days ☐ 3 or 4 days ☐ 5 or more days ☐

A6. What is your primary means of travelling to work?

Car (as driver on own)	☐	Cycle	☐
Car (as driver with passenger/s)	☐	On foot	☐
Car (as passenger)	☐	Motorcycle	☐
Train	☐	Other	☐
Bus	☐		

A7. If you drive to work where do you park? (If you do not drive please leave blank)

Employers Car Park - Guaranteed space	☐	Residential Street	☐
Employers Car Park - Car share space	☐	Other Street	☐
Employers Car Park - Other	☐	Public Car Park	☐

THIS IS A TICK BOX FORM AND IS QUICK AND EASY TO COMPLETE

A8. If train is your primary means of travelling to work, how do you travel to the station? (If you do not use the train please leave blank.)

Bus	☐	Lift with someone travelling with you	☐
Taxi	☐	Lift with someone travelling elsewhere	☐
Cycle	☐	Drive	☐

A9. How often do you use local facilities? (Please tick relevant box for each destination)

	Never	Less than once a month	1 or 2 times a month	1 or 2 times a week	3 or 4 times a week	More often
Facility A	☐	☐	☐	☐	☐	☐
Facility B	☐	☐	☐	☐	☐	☐
Facility C	☐	☐	☐	☐	☐	☐
Facility D	☐	☐	☐	☐	☐	☐
Facility E	☐	☐	☐	☐	☐	☐

A10. How do you usually travel to local facilities? (Please tick relevant box for each destination)

	Car on own	Car with others	On foot	Cycle	Bus	M/C	Taxi
Facility A	☐	☐	☐	☐	☐	☐	☐
Facility B	☐	☐	☐	☐	☐	☐	☐
Facility C	☐	☐	☐	☐	☐	☐	☐
Facility D	☐	☐	☐	☐	☐	☐	☐
Facility E	☐	☐	☐	☐	☐	☐	☐

A12. Which of these measures are of benefit to you? (Please tick those that are of interest.)

Measure A	☐	Measure F	☐
Measure B	☐	Measure G	☐
Measure C	☐	Measure H	☐
Measure D	☐	Measure I	☐
Measure E	☐	Measure J	☐

A13. Do you have any comments to make about travel and transport in the local area.

THANK YOU FOR YOUR TIME

NORMAN ROURKE PRYME

CONSTRUCTION CONSULTANTS
HIGHWAYS AND INFRASTRUCTURE
TRAFFIC AND TRANSPORTATION

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APPENDIX G: MOVEMENT STRATEGY

Title	Key	Project
Movement Strategy - Walking and Cycling to Local Amenities	Walking and Cycling Route to Local Amenities Walking and Cycling Route to School Proposed Southern Access Proposed Northern Access	**Land at Sodbury Road, Wickwar** Client: **Bloor Homes**

Scale	Drawing No.	REV
NTS	7909-102	1.1

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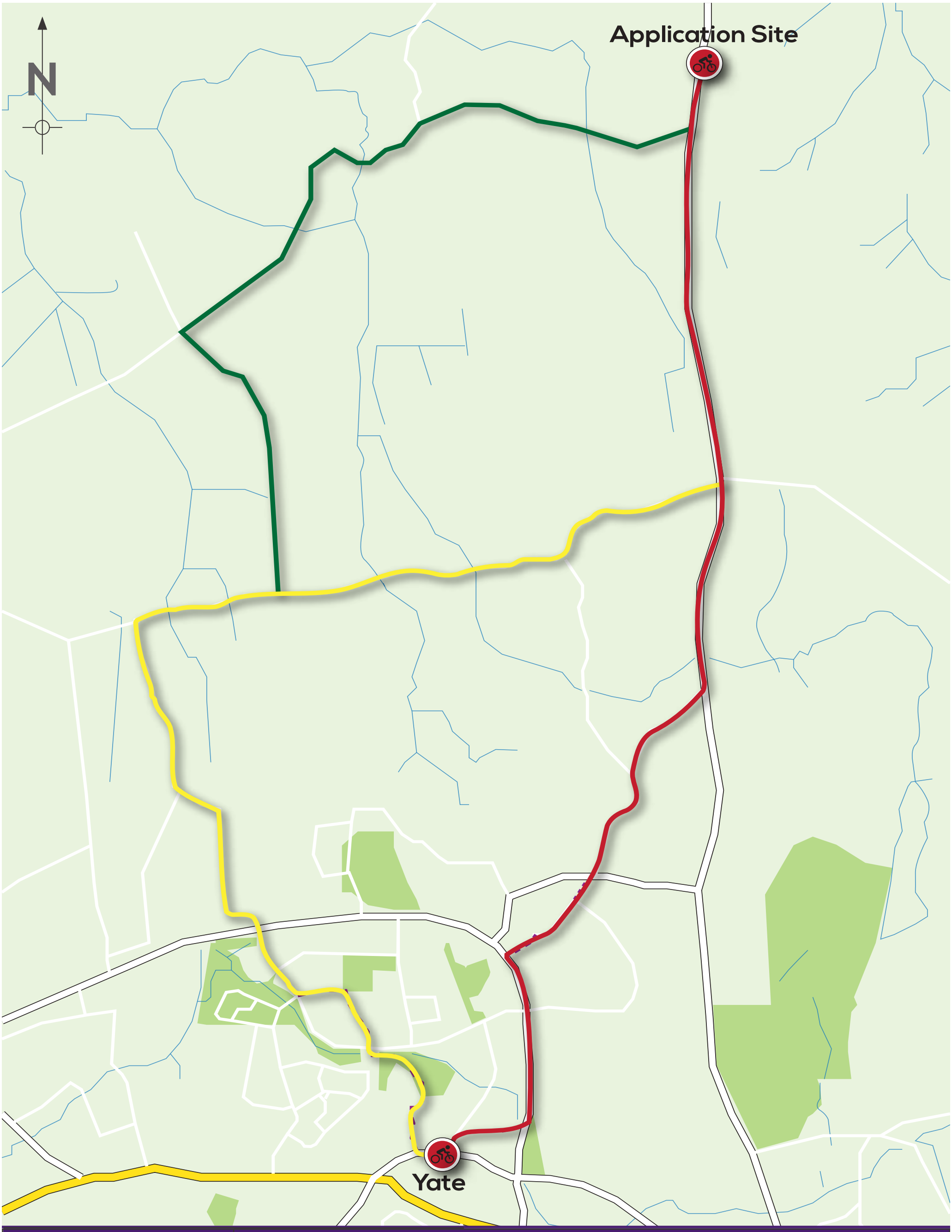

Title	Key	Project
Cycle Route to Yate from Application Site	19 Minutes (Fastest Route) 25 Minutes (Alternative Route) 26 Minutes (Low Traffic Route)	Land at Sodbury Road, Wickwar Client: Bloor Homes

Scale	Drawing No.	REV
NTS	7909-103	1.1

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