

### **Transport Appraisal**

### Technical Note Issue 02 - Land at Walk Mill Lane, Kingswood.

#### CTP-17-588

January 2020

#### 1. Introduction

- 1.1 Cotswold Transport Planning Ltd (CTP) has been appointed by Bloor Homes to provide a Technical Note to provide an overview of the transport strategy for the residential development of approximately 95 dwellings at Land at Walk Mill Lane in Kingswood. The site currently comprises undeveloped agricultural land and employment use.
- 1.2 The development site is being promoted for residential development through the Stroud District Council (SDC) Local Plan Review.
- 1.3 The site is identified in Appendix 3 of the SDC 'Strategic Assessment of Land Availability (SALA), site ref: KIN010, as a site with future development potential. The SALA identifies the site as having the potential to be developed for around 50 dwellings and the existing depot is considered suitable for redevelopment for employment uses, typically comprising a mixture of B1, B2, B8, Community and Other use classes
- 1.4 An illustrative masterplan to develop the site for residential use only (approximately 95 dwellings), which also demonstrates the site location in relation to Walk Mill Lane and the surrounding area is provided at **Appendix A**.
- 1.5 This Technical Note reviews the following:
  - i) Illustrative Masterplan
  - ii) Potential Walking and Cycling Improvements
  - iii) Highway Safety
  - iv) Forecast Trip Generation
  - v) Potential Highway Mitigation

#### 2. Illustrative Masterplan

- 2.1 The Illustrative Masterplan utilises the existing site access from Walk Mill Lane along with the potential for two additional public footpaths on the north western side of the site. The internal layout is proposed to be formed primarily by a standard highway arrangement including segregated footways and carriageways forming a number of cul-de-sacs. Two shared surfaces streets are also proposed to the east and west of the main access road serving a small number of dwellings.
- 2.2 Turning heads are provided where necessary to accommodate the manoeuvring requirements of vehicles accessing the site.
- 2.3 At this stage, vehicle and cycle parking will be provided for each dwelling based on the adopted parking standards contained within Stroud District Local Plan (2015), Appendix 2. However, Stroud District Council have advised that it is likely that for applications going forward, the quantum of parking provision will need to be based on local characteristics, including car ownership levels derived from census data, as per the recommendations in the National Planning Policy Framework (2019).

#### Access

- 2.4 The optimum point of access will involve upgrading the existing industrial access position at the site, off Walk Mill Lane. Walk Mill Lane is a no through road and it is considered that a single priority junction would be appropriate to serve a development of this scale.
- 2.5 In order to determine the existing average 85th percentile vehicle speeds of Walk Mill Lane an independent traffic survey was undertaken by 360TSL using an Automatic Traffic Count (ATC). The ATC was undertaken in the vicinity of the existing access serving the industrial use between Wednesday 12th September and Tuesday 18th September 2018. The recorded 85th percentile of vehicles travelling eastbound and westbound is 25.9mph and the traffic survey results are provided at **Appendix B**.
- 2.6 The required visibility splays based on the 85th percentile of vehicle speeds is 36m in either direction, measured 2.4m back from the edge of carriageway. In order to accommodate the swept path of service vehicles, the access is required to have an overall width of 7.3m with 7m junction radii. The access then tapers to 5.5m with a segregated 2m footway either side. The proposed layout of the access and associated visibility splays are demonstrated on Drawing No **SK01 Rev F** provided at **Appendix C**.

- 2.7 The proposed access can accommodate the swept path of a large refuse vehicle and large estate car and this is demonstrated on **Drawing No SP01 Rev A** provided at **Appendix D**. The swept path of the large refuse vehicle turning right into the access crosses the centre line of the access but it is demonstrated that sufficient width is provided for a large estate car to also turn left from the site access simultaneously whilst the refuse vehicle is undertaking this manoeuvre. Due to the existing width of Walk Mill Lane the refuse vehicle will be required to cross the centre line of Walk Mill Lane to turn left from the proposed access to travel south. The proposed access provides suitable junction visibility to ensure that the refuse vehicles can undertake this manoeuvre when it is safe to do so. It is recognised that whilst service vehicles are required to be safely accommodated that they do not dominate the proposed layout of local roads and on streets with low traffic flows, it may be assumed that they will be able to use the full width of the carriageway to manoeuvre (Manual for Streets Paragraph 6.8).
- 2.8 A new section of footway is proposed to the north east of the proposed site access linking the site into the existing infrastructure. To the south west of the proposed access a new section of footway and uncontrolled pedestrian crossing is proposed with tactile paving and dropped kerbs for pedestrian to cross to the existing footway on the western side of Walk Mill Lane.
- 2.9 It has been demonstrated that the proposed access can safely accommodate both vehicles, pedestrians and cyclists.
- 3. Potential Walking and Cycling Improvements
- 3.1 The Institute of Highways and Transport (IHT) guidance document 'Providing for Journeys on Foot' (published 2000) identifies the following walking distances when planning for journeys to Schools:
  - i) Desirable (500m);
  - ii) Acceptable (1km); and
  - iii) Preferred Maximum (2km).
- 3.2 Paragraph 4.4.1 of Manual for Streets (MfS) states that walkable neighbourhoods are typically characterised as having a range of facilities within ten minutes walking distance (around 800m). However, it states that this is not an upper limit and that walking offers the greatest potential to replace short car trips, particularly those under 2km.

- 3.3 Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car journeys, particularly those under 2km. This is also supported by statistics published in the DfT National Travel Survey 2016, which found that that 80% of all trips of less than 1 mile (1.6km) were made on foot.
- 3.4 In terms of cycling, the Local Transport Note 2/08: Cycle Infrastructure Design, produced by the Department for Transport (DfT), states the following at paragraph 1.5.1: 'In common with other modes, many utility cycle journeys are under three miles (4.8km) although, for commuter journeys, a trip distance of over five miles (8km) is not uncommon.'
- 3.5 The Blue Coat Church of England Primary School is located to the north east of the proposed site in Wotton-under-Edge and is approximately 2km in distance of the recommended maximum walking distance referred to in the IHT guidance Providing for Journeys of Foot and Manual for Streets. The proposed route in **Appendix E** also passes Katharine Lady Berkeley's School (KLB) that is approximately 1km distance from the site.
- To provide an overview of the site's acceptability, mindful that it is being promoted through the review of the Local Plan, consideration has been given to the alternative site (Land South of Wickwar Road) which was identified in the last iterations of the Local Plan, i.e. the Preferred Options document. Land South of Wickwar Road is actually located outside the maximum 2km distance at approximately 2.3km as shown in **Appendix F** and for the purposes of this assessment Bloor Homes reasonably consider this site to be inaccessible by foot to the nearest primary schools with capacity in Wotton-under-Edge. The proposed site is located at approximately 2km from the Blue Coat Church of England Primary School and is within the upper limit of the recommended guidance for walking distance.
- 3.7 An audit of the subject site has been undertaken to identify the barriers to walking, cycling and scooting to enable the identification of proposed improvements for access to the key facilities and services in the area such as Kingswood centre, Kingswood Primary School with access to the junior sports pitches, KLB, Blue Coat Church of England Primary School and beyond to Wotton-under-Edge. It is noted that the route shown on **Appendix E** includes the footway link from Orchard Walk to High Street which cyclists are prevented from using due to cycle prohibition signing and pedestrian guardrails. Cyclists will be required to dismount when using this route for the short section of footway link. There is currently no legislation for non-motorised,

- 'kick scooters' and these can currently be used on all footways and are not defined the same as a bicycle.
- 3.8 For cyclists an alternative route through Hillesley Road to High Street could be used if they did not wish to dismount due to presence of cycle prohibition signing on alternative routes of further distance through Bramley Close and the footway link from the end of Walk Mill Lane to St Mary's Church/High Street. It is noted that it would be more a direct and quicker route to dismount and use the footway link to High Street.
- 3.9 The audit has identified potential deliverable infrastructure improvements to improve the safety and accessibility of the route for both pedestrians, cyclist and scooter users. The proposed improvements do not impede the flow of traffic through Kingswood and are in conformity with the transport policies contained in Kingswood Neighbourhood Development Plan.
- 3.10 **Appendix G** identifies the barriers and illustrations of possible improvements. The improvements shown in **Appendix G** are also summarised in **Table 3.1** with reference to their compatibility and meeting the aims of Core Policies of Stroud District Local Plan policies and the Kingswood Neighbourhood Development Plan.

Location	Potential Walking/cycling Improvements	Planning Policy Stroud District Council Local Plan (SDCLP) and Kingswood Neighbourhood Development Plan (NDP)
Walk Mill Lane Junction Orchard Walk	Tactile paving	SDCLP: Policy EI12 NDP: Policy T1B
Orchard Walk South Western cul-de-sac	Tactile paving and Dropped Kerbs	SDCLP: Policy EI12 NDP: Policy T1B
Orchard Walk Footway Link to High Street	Footway widening, street lighting improvements, accessibility improvements	SDCLP: Policy EI12 NDP: Policy T1B
High Street adj Footway Link to High Street	New Section (15m) of Footway	SDCLP: Policy EI12 NDP: Policy T1B
High Street Junction Golden Lane	Tactile paving	SDCLP: Policy EI12 NDP: Policy T1B
High Street Junction The Walk	Tactile paving	SDCLP: Policy EI12 NDP: Policy T1B
High Street Junction Abbey Road	Tactile paving and Dropped Kerbs	SDCLP: Policy EI12 NDP: Policy T1B
Wotton Road/Tubbs Turf	Zebra Crossing	SDCLP: Policy EI12 NDP: Policy T1A/T1B
Wotton Road adj Katharine Lady Berkeley's School	Widen footway along site frontage	SDCLP: Policy EI12 NDP: Policy T1B
Katharine Lady Berkeley's School Accesses	Tactile Paving	SDCLP: Policy EI12 NDP: Policy T1B
Katharine Lady Berkeley's School	Upgrade Bus Hard Standing Area	SDCLP: Policy El12/El16
Wotton Road north of Katharine Lady Berkeley's School to Junction with New Road	Widened Shared footway/cycleway	SDCLP: Policy EI12 NDP: Policy T1A/T2B
Wotton Road	Upgrade Pelican Crossing to Toucan Crossing	SDCLP: Policy EI12 NDP: Policy T1A/T2B
New Road from Junction with Wotton Road adj to Allotments	Widened Shared footway/cycleway	SDCLP: Policy EI12 NDP: Policy T1A/T2B

Table 3.1: Summary of potential walking and cycling improvements

### Highway Safety Personal Recorded Collisions

- 3.11 Personal Injury Collision (PIC) data has been obtained from 'Crashmap' for Kingswood area along the route Blue Coat Church of England Primary School in Wotton under Edge for the most recent five-year period available. The Crashmap report and collision plot map are included as **Appendix H**. There have been no collisions that have occurred in the vicinity of the application site or site access.
- 3.12 Over the five-year period, four slight collisions have occurred and one serious within the study area.

Slight

3.13 The first most recent slight incident occurred on Sunday 20th August 2017 at 20:38 PM along Wotton Road on a wet/damp road surface. The collision involved a vehicle

- turning right into a private drive with the other vehicle proceeding normally along the carriageway. The driver of vehicle turning right received slight injuries.
- 3.14 The second most recent slight incident occurred on Monday 19th October 2015 at 09:45 AM along Symn Lane near the junction of Orchard Street on a dry road surface. The collision involved a vehicle colliding with a pedestrian crossing the road. The pedestrian received slight injuries.
- 3.15 The third most recent slight incident occurred on Saturday 1st November 2014 at 15:50 PM at the junction of Wotton Road and New Road on a wet/damp road surface. The collision involved a car moving off with a motorcycle proceeding normally along the carriageway. The rider of the motorcycle received slight injuries.
- 3.16 The fourth most recent slight incident occurred on 11th September 2014 at 15:45 PM at the Chestnut Park Estate on a dry road surface. The collision involved a car proceeding normally along the carriageway colliding with a pedestrian crossing. The pedestrian received slight injuries.

Serious

- 3.17 There has been one serious incident that occurred on the 17th December 2015 at 12:00 PM along Old Rectory Road adjacent to the Junction with Charfield Road on a wet/damp road surface. The collision involved a car proceeding normally along the carriageway when it collided with a pedestrian. The pedestrian received serious injuries.
- 3.18 After reviewing the PIC data, the collisions identified can be attributed to driver error, rather than an inherent highway safety concern or geometric feature in the road layout. Therefore, it is not considered that there is an existing highway safety issue on the highway network, within the study area, that could be exacerbated as a result of the proposed development.

#### 4. Forecast Trip Generation

- 4.1 The site is proposed to be developed for 95 dwellings and part of the site is currently occupied by employment use. The site has been identified in the SALA as being suitable to be developed for circa 50 dwellings and the existing Soils HS Limited depot as being redeveloped for employment uses, typically comprising a mix of B1, B2, B8, Community and Other use classes.
- 4.2 Bloor Homes are proposing for the site to be allocated as wholly residential, accommodating circa 95 dwellings and the following paragraphs assess the transport

- impacts of the proposal for the whole site as residential, when compared to the proposed mixed use of the site as identified in the SALA.
- 4.3 When considering residential and employment development, it is generally accepted that the critical periods, in terms of traffic impact on the adjacent highway network, are the weekday morning and evening peak hours, when traffic flows associated with the site combined with the traffic flows on the adjacent highway network are at their greatest. It follows that should the impact of development traffic on the local road network be considered acceptable during these periods then it would also be acceptable during other, less busy, periods of the week.
- 4.4 The TRICS database has been consulted to determine the estimated trip attraction of the proposed site for 95 dwellings when compared with estimates of trip generation for mixed use, as identified in the SALA.

SALA – Proposed Mixed Use

4.5 The SALA identified circa 50 houses and the existing depot to be redeveloped for office, light industrial and warehousing units. The depot has a total site area of 0.6 hectares. In order to assess the trip generation associated with the use of the site as identified in the SALA, the proposed employment use has been proportionally split as 0.2 hectares in size (floor areas for each use have been assumed as 1,500sq.m as it is estimate that approximately 25% of each use area would be for parking and landscaping) for B1 office use, B2 light industrial use and B8 storage and distribution.

B1 Office Use

- 4.6 The TRICS database was carefully considered to accurately reflect the proposed B1 office use of the site trip generation potential.
- 4.7 A summary of the search parameters used to generate the results is provided below:
  - i) Main Land Use: B1 Office use;
  - ii) Regions: Sites in the UK and Ireland (excluding London); and
  - iii) Edge of Town Locations.
- 4.8 **Table 4.1** provides a summary of the calculated vehicle trip rates and the number of trips a proposed B1 office use is expected to attract during AM and PM network peak hours.

	Forecast Trip Generation - Proposed (1,500sq.m B1 Office Use)									
Peak Period	Trip	Rate (per 100s	sq.m)	Estimated Vehicle Trips						
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way				
AM Peak (08:00 - 09:00)	1.997	0.176	2.173	30	3	33				
PM Peak (17:00 - 18:00)	0.096	1.846	1.942	1	28	29				

Table 4.1: Trip rates and the estimated number of trips for proposed B1 office use

B2 Light Industrial

- 4.9 The TRICS database has been interrogated and a summary of the parameters used to generate the results is provided below:
  - i) Main Land Use: Employment areas;
  - ii) Sub Land Use: Industrial Estate;
  - iii) Use Class: B2
  - iv) Regions: Sites in the UK (excluding London) and Ireland; and
  - v) Edge of Town Locations.
- 4.10 **Table 4.2** provides a summary of the calculated vehicle trip rates and the number of trips for the proposed B2 light industrial use of the site is expected to attract during AM and PM network peak hours.

	Forecast Trip Generation - Proposed (1,500sq.m B2 Land Use)									
Peak Period	Trip	Rate (per 100s	q.m)	Estimated Vehicle Trips						
	Arrivals	Departures	Two-way	Arrivals	Departures Two-way					
AM Peak (08:00 - 09:00)	0.516	0.381	0.897	8	6	14				
PM Peak (17:00 - 18:00)	0.216	0.534	0.750	3	8	11				

Table 4.2: Trip rates and estimated number of trips for proposed B2 light industrial use

B8 Warehousing

- 4.11 The TRICS database has been interrogated and a summary of the parameters used to generate the results is provided below:
  - i) Main Land Use: Employment areas;
  - ii) Sub Land Use: Warehousing (commercial);
  - iii) Use Class: B8
  - iv) Regions: Sites in the UK (excluding London) and Ireland; and

- v) Edge of Town Locations.
- 4.12 **Table 4.3** provides a summary of the calculated vehicle trip rates and the number of trips for the proposed B8 light industrial use of the site is expected to attract during AM and PM network peak hours.

	Forecast Trip Generation - Proposed (1,500sq.m B8 Land Use)									
Peak Period	Trip	Rate (per 100s	sq.m)	Estimated Vehicle Trips						
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way				
AM Peak (08:00 - 09:00)	0.258	0.101	0.359	4	2	6				
PM Peak (17:00 -18:00)	0.067	0.195	0.262	1	3	4				

Table 4.3: Trip rates and the estimated number of trips for proposed B8 warehousing use

50 Residential Dwellings

- 4.13 The TRICS database has been interrogated and a summary of the parameters used to generate the results is provided below:
  - i) Main Land Use: Houses Privately Owned;
  - ii) Use Class: C3
  - iii) Regions: Sites in the UK (excluding London) and Ireland; and
  - iv) Edge of Town Locations.
- 4.14 Table 4.4 provides a summary of the calculated vehicle trip rates and the number of trips for the proposed 50 residential dwellings is expected to attract during AM and PM network peak hours.

	Forecast Trip Generation - Proposed (50 dwellings)									
Peak Period	Trip	Rate (per dwel	lling)	Estimated Vehicle Trips (per dwelling)						
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way				
AM Peak (08:00 - 09:00)	0.137	0.431	0.568	7	22	29				
PM Peak (17:00 -18:00)	0.418	0.213	0.631	21	11	32				

Table 4.4: Trip rates and the estimated number of trips for proposed 50 dwellings

- 4.15 The full TRICS outputs for each land use are attached at **Appendix I**.
- 4.16 The total number of trips for the proposed mixed use of the site is set out in **Table**4.5.

Peak Period	Total Vehicle Trips for Proposed SALA Mixed Use					
r can r criou	Arrivals	Departures	Total			
AM Peak (08:00 - 09:00)	49	33	82			
PM Peak (17:00 - 18:00)	26	50	76			

Table 4.5: Total estimated number of trips in the AM and PM network peak periods for proposed mixed use of the site as set out in SALA

95 Residential Dwellings

- 4.17 The proposal for inclusion in the Stroud District Local Plan is for the whole site to be residential, accommodating up to 95 dwellings. On that basis, the same TRICS outputs have been used for the residential use in **Appendix I**.
- 4.18 **Table 4.6** provides a summary of the calculated vehicle trip rates and the number of trips for the proposed 95 residential dwellings is expected to generate during AM and PM network peak hours.

	Forecast Trip Generation - Proposed (95 dwellings)									
Peak Period	Trip	Rate (per dwe	lling)	Estimated Vehicle Trips (per dwelling)						
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way				
AM Peak (08:00 - 09:00)	0.137	0.431	0.568	13	41	54				
PM Peak (17:00 -18:00)	0.418	0.213	0.631	40	20	60				

Table 4.6: Trip rates and the estimated number of trips for proposed 95 dwellings

**Net Trip Impact Summary** 

4.19 In order to consider the overall net trip impact of the uses identified in the SALA and the proposed use of the site as wholly residential, a comparison of the estimated trips, as set out in **Table 4.5**, against the forecast trips of the 95 residential units as set out in **Table 4.6**, is provided in **Table 4.7**.

Time Period	Movements	SALA Mixed Use	95 Residential Units for Stroud District Local Plan	Net Difference between Mixed Use and 95 residential units
	Arrivals	49	13	-36
AM Peak Hour (08:00 - 09:00)	Departures	33	41	+8
	Total	82	54	-28
	Arrivals	26	40	+14
PM Peak Hour (17:00 - 18:00)	Departures	50	20	-20
	Total	76	60	-16

Table 4.7: Difference in Total Vehicle Trips between Mixed use of The Site as identified in the SALA Against Proposed residential only (up to 95 units)

- 4.20 **Table 4.7** identifies that in the AM and PM network peak hours there is likely to be a reduction in vehicle trips with the site wholly as residential when compared to a mixed use.
- 4.21 Notwithstanding that there is an existing use of the site from Soils HS Limited from which any future development trip generation can be off-set against, the total vehicle trip generation of the site for residential use only is identified as 54 and 60 vehicle trips in the respective AM and PM network peak period. This equates to an average of one vehicle trip every minute. This is unlikely to have a material impact on the safety or operation of the local highway network nor could it be considered 'severe'. Furthermore, the number of HGV trips would be significantly reduced.

#### 5. Potential Highway Mitigation

- 5.1 Notwithstanding that the net impact of the proposed vehicle trip generation from 95 dwellings compared against the mixed use land identified in the SALA, the junction of Walk Mill Lane and Hillesley Road has been identified by the Local Highway Authority (LHA) through pre-application discussions as an area where potential mitigation would be beneficial.
- 5.2 It was agreed with the LHA to extend the 20mph speed limit south from its current location and installing traffic calming in the form of speed cushions to ensure that vehicle speeds are kept low to accommodate the increase in vehicular traffic.
- 5.3 It is proposed to extend the existing speed limit to the junction with Weavers Close and install two sets of speed cushions. The first set of speed cushions are located approximately 34m to the south of the centre line of the junction with Walk Mill Lane and Hillesley Road. The second set of speed cushions is proposed 48m south of the

first set of speed cushions. This provides adequate spacing to ensure that speeds are kept below 20mph on the approach to the junction from the south. The layout of the proposed mitigation for Hillesley Road is demonstrated on **Drawing No SK02** provided at **Appendix J**.

- 5.4 It should also be noted that there is no record of any personal injury collisions at the junction to suggest that there any existing highway safety issues. The proposed mitigation at the junction of Walk Mill Lane and Hillesley Road is appropriate to mitigate the vehicle movements through this junction.
- 6. Summary and Conclusion
- 6.1 CTP has been instructed by Bloor Homes to prepare this Technical Note to summarise the proposed transport strategy for the residential development of the site for 95 dwellings.
- 6.2 CTP consider that the proposed development can be served by a safe and suitable access from Walk Mill Lane and this has been demonstrated.
- 6.3 A review of the local highway network and recorded personal injury collision data in the vicinity of the site indicates that there are no existing highway safety issues.
- 6.4 The potential impact of development traffic forecast at the junction of Hillesley Land and Walk Mill Lane has also been addressed in accordance with the pre-application advice received from the LHA.
- The proposed development has the opportunity to promote sustainable forms of transport both within Kingswood and to the neighbouring town of Wotton-under-Edge including the Blue Coat Church of England Primary School. The Audit of the most direct walking, cycling and scooting route to Blue Coat Church of England Primary School has identified barriers and potential improvements that could be made to walking, cycling and scooting. The potential walking, cycling and scooter improvements are compliant with the Kingswood Neighbourhood Development Plan and the Stroud District Local Plan Review.
- The proposed site is located in a more accessible location when compared against the alternative site at Land South of Wickwar Road.
- 6.7 It is therefore concluded that the development proposal will not have an unacceptable impact on highway safety and that the residual cumulative impact on the road network will not be severe and can be safely accommodated.



## Appendix A



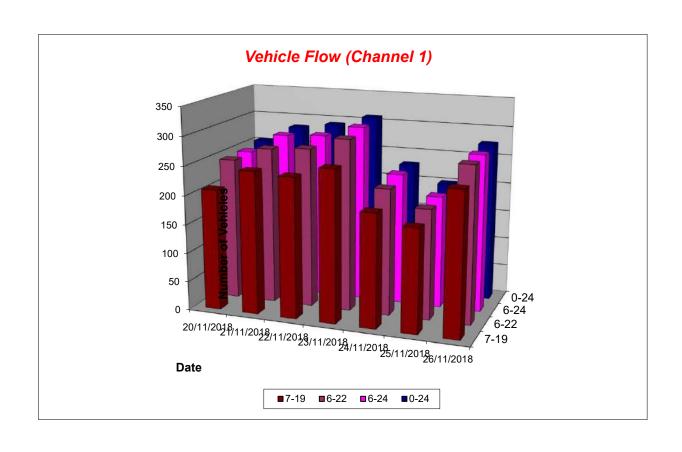


## Appendix B

Channel 1 - Eastbound Vehicle Flow Week 1

	20/11/2018	21/11/2018	22/11/2018	23/11/2018	24/11/2018	25/11/2018	26/11/2018	]	
Hr Ending	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	5 Day Ave	7 Day Ave
1	1	0	2	0	1	3	0	1	1
2	0	0	0	1	0	0	0	0	0
3	1	1	1	1	1	2	0	1	1
4	0	0	0	0	0	0	1	0	0
5	0	0	1	0	0	1	0	0	0
6	5	1	3	3	0	0	3	3	2
7	2	2	1	1	0	0	1	1	1
8	14	15	13	13	2	0	13	14	10
9	15	14	16	20	12	3	14	16	13
10	15	16	13	15	10	8	11	14	13
11	11	18	14	24	13	14	15	16	16
12	11	22	18	12	24	18	11	15	17
13	18	25	21	18	23	22	30	22	22
14	14	22	17	12	22	31	16	16	19
15	22	13	18	17	20	10	20	18	17
16	24	19	19	35	22	20	34	26	25
17	29	36	37	41	20	27	41	37	33
18	21	26	34	26	16	13	27	27	23
19	15	20	22	28	11	11	13	20	17
20	14	7	9	16	13	9	9	11	11
21	10	5	13	8	6	2	10	9	8
22	11	10	10	10	4	2	4	9	7
23	0	9	8	6	4	4	2	5	5
24	1	2	2	2	5	0	0	1	2
					-	-			

7-19	209	246	242	261	195	177	245	241	225
6-22	246	270	275	296	218	190	269	271	252
6-24	247	281	285	304	227	194	271	278	258
0-24	254	283	292	309	229	200	275	283	263



Channel 1 - Eastbound

#### Average Speed

Week 1

	20/11/2018	21/11/2018	22/11/2018	23/11/2018	24/11/2018	25/11/2018	26/11/2018
Hr Ending	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
1	15.5	-	15.5	-	25.5	18.8	-
2	-	-	-	25.5	-	-	-
3	5.0	15.5	15.5	15.5	15.5	15.5	-
4	-	=	-	-	-	-	15.5
5	-	-	15.5	-	-	15.5	-
6	25.5	25.5	22.2	25.5	-	-	18.8
7	20.5	20.5	25.5	15.5	-	-	15.5
8	19.1	18.2	17.0	19.3	15.5	-	15.4
9	17.5	16.2	17.9	18.4	18.8	15.3	21.2
10	17.5	19.2	17.8	16.8	18.5	15.4	18.2
11	14.5	17.7	17.6	16.7	18.6	18.3	18.1
12	18.2	19.6	17.1	21.3	15.9	16.6	18.2
13	19.4	17.9	19.8	18.8	17.7	16.9	18.1
14	16.9	17.8	17.8	18.8	16.8	16.8	18.0
15	17.3	19.3	17.1	17.2	14.9	18.5	20.0
16	19.7	17.1	17.0	18.1	18.2	15.5	20.2
17	18.6	18.3	17.6	17.7	17.0	18.8	19.8
18	21.2	17.4	17.8	19.7	15.4	19.2	18.4
19	18.1	19.0	17.3	17.6	19.1	21.6	19.3
20	19.1	19.8	18.8	19.9	18.4	18.8	18.8
21	18.4	17.5	17.0	20.5	18.8	15.5	20.5
22	20.0	19.5	19.5	23.2	20.5	15.5	12.9
23	-	17.7	18.0	22.2	15.4	18.0	20.5
24	15.5	20.5	20.5	15.5	17.4	-	-
	•	•		•	•	•	•
10-12	16.4	18.8	17.3	18.3	16.8	17.3	18.2
11.10	40.5	10.0	4	4= 0	40.7	40.5	00.4

10-12	16.4	18.8	17.3	18.3	16.8	17.3	18.2
14-16	18.5	18.0	17.1	17.8	16.7	16.5	20.1
0-24	18.6	18.2	17.8	18.7	17.3	17.5	18.9

Average 18.1

Channel 1 - Eastbound

#### 85th Percentile

	20/11/2018	21/11/2018	22/11/2018	23/11/2018	24/11/2018	25/11/2018	26/11/2018
Hr Ending	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
1	-	-	15.6	-	-	26.3	-
2	-	-	-	-	-	-	-
3	-	-	-	-	-	15.5	-
4	-	-	-	_	-	-	-
5	-	-	-	-	-	-	-
6	26.1	-	25.5	25.9	-	_	26.3
7	25.8	25.8	-	-	-	-	-
8	25.8	26.1	25.9	26.4	16.5	-	26.0
9	26.3	16.2	25.8	26.1	25.6	25.6	26.0
10	25.5	25.8	26.4	26.1	25.9	25.6	25.7
11	16.3	25.8	26.5	25.9	25.9	25.8	25.8
12	26.3	26.3	25.9	25.6	16.0	25.6	25.6
13	26.2	26.3	25.8	26.1	25.7	17.0	26.1
14	17.0	26.1	25.7	26.2	26.0	26.0	25.7
15	25.9	26.5	25.7	26.4	15.8	26.2	26.4
16	26.4	26.4	26.1	26.3	26.1	16.0	25.6
17	26.3	25.7	25.9	25.5	17.0	26.3	25.9
18	25.9	26.2	25.9	26.0	15.7	25.6	25.8
19	26.5	26.5	26.2	26.4	26.4	25.7	26.4
20	26.4	25.7	25.8	25.9	26.2	26.2	26.3
21	25.6	26.0	26.1	26.2	26.0	16.0	25.8
22	26.4	25.6	25.7	26.0	25.9	15.9	16.2
23	-	26.5	25.7	26.0	25.6	25.6	25.8
24	-	26.2	26.1	16.0	26.3	-	-
10-12	26.0	25.5	25.6	25.9	26.0	26.2	25.6
10-12	26.0	26.1	26.0	25.0	26.2	16.5	25.0

14-16         26.3         26.1         26.0         25.9         26.3         16.5         25.5           0-24         25.6         25.6         26.4         25.8         26.1         26.0         25.8	-	10-12	26.0	25.5	25.6	25.9	26.0	26.2	25.6
0-24 25.6 25.6 26.4 25.8 26.1 26.0 25.8		14-16			26.0	25.9	26.3		25.5
		0-24	25.6	25.6	26.4	25.8		26.0	25.8

85th %ile 25.9

Channel 1 - Eastbound

#### **Speed Summary**

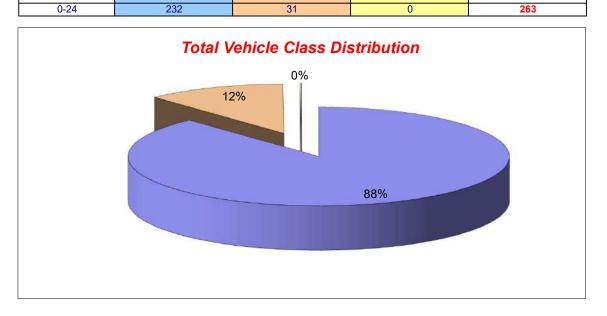
Week 1

	20/11/2018	21/11/2018	22/11/2018	23/11/2018	24/11/2018	25/11/2018	26/11/2018
Speed (MPH)	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
0-30	254	283	292	308	228	198	274
31-45	0	0	0	1	1	2	1
46-60	0	0	0	0	0	0	0
61-	0	0	0	0	0	0	0
			•		•		•
TOTAL	254	283	292	309	229	200	275



Channel 1 - Eastbound Vehicle Class Week 1

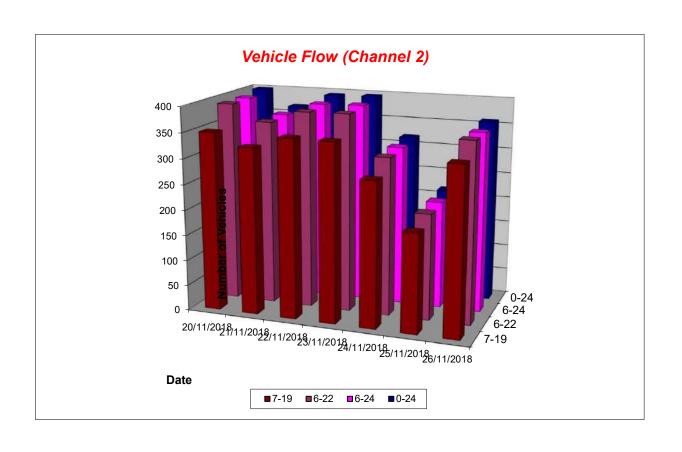
Classes	Car / LGV /	OGV1 / Bus	OGV2	TOTAL
Day / Time	Caravan - 1	- 2,3,5,6,7,12	- 4,8,9,10,11,13	- 1-13
20/11/2018				
7-19	178	30	1	209
6-22	213	32	1	246
6-24	214	32	1	247
0-24	221	32	1	254
21/11/2018				
7-19	210	36	0	246
6-22	233	37	0	270
6-24	244	37	0	281
0-24	246	37	0	283
22/11/2018				
7-19	200	42	0	242
6-22	232	43	0	275
6-24	242	43	0	285
0-24	249	43	0	292
23/11/2018				
7-19	227	34	0	261
6-22	259	37	0	296
6-24	267	37	0	304
0-24	271	38	0	309
24/11/2018				
7-19	177	17	1	195
6-22	198	19	1	218
6-24	207	19	1	227
0-24	209	19	1	229
25/11/2018				
7-19	170	7	0	177
6-22	182	8	0	190
6-24	185	9	0	194
0-24	190	10	0	200
26/11/2018				
7-19	210	35	0	245
6-22	232	37	0	269
6-24	234	37	0	271
0-24	237	38	0	275
Average	400			
7-19	196	29	0	225
6-22	221	30	0	252
6-24	228	31	0	258



Channel 2 - Westbound Vehicle Flow Week 1

	20/11/2018	21/11/2018	22/11/2018	23/11/2018	24/11/2018	25/11/2018	26/11/2018	]	
Hr Ending	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	5 Day Ave	7 Day Ave
1	0	0	1	0	3	4	0	0	1
2	0	0	0	0	0	0	0	0	0
3	0	0	1	1	0	1	0	0	0
4	1	0	0	1	1	0	0	0	0
5	1	0	1	1	0	0	0	1	0
6	5	4	3	3	1	0	7	4	3
7	12	8	11	10	1	0	10	10	7
8	43	46	40	46	13	3	41	43	33
9	46	39	51	38	23	4	40	43	34
10	27	23	32	42	34	28	28	30	31
11	36	31	29	21	30	37	30	29	31
12	24	24	24	26	30	21	21	24	24
13	31	21	19	23	27	18	29	25	24
14	18	37	27	23	27	18	29	27	26
15	23	21	20	17	22	16	21	20	20
16	24	17	25	37	26	17	25	26	24
17	33	27	26	33	15	13	26	29	25
18	25	24	26	28	18	10	19	24	21
19	20	16	30	14	18	8	16	19	17
20	17	16	17	20	10	8	10	16	14
21	8	7	4	4	9	6	5	6	6
22	5	4	4	4	6	1	2	4	4
23	0	1	2	3	1	2	0	1	1
24	0	1	1	1	3	1	0	1	1
7.40	0.50	000	0.40	0.10		100	225		

7-19	350	326	349	348	283	193	325	340	311
6-22	392	361	385	386	309	208	352	375	342
6-24	392	363	388	390	313	211	352	377	344
0-24	399	367	394	396	318	216	359	383	350



Channel 2 - Westbound

#### **Average Speed**

Week 1

	20/11/2018	21/11/2018	22/11/2018	23/11/2018	24/11/2018	25/11/2018	26/11/2018
Hr Ending	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
1	-	-	25.5	-	22.2	20.5	-
2	-	-	-	-	-	-	-
3	-	-	25.5	15.5	-	25.5	-
4	25.5	-	-	15.5	25.5	-	-
5	15.5	-	15.5	15.5	-	-	-
6	11.3	12.9	15.3	15.3	15.5	-	15.4
7	19.7	18.0	20.0	16.5	5.0	-	15.4
8	16.9	18.1	17.5	19.0	17.0	15.5	17.4
9	17.9	18.8	17.2	17.3	18.1	17.9	17.5
10	14.7	17.7	18.3	18.1	16.0	17.6	17.3
11	16.3	15.5	16.8	16.4	16.1	16.3	15.4
12	18.8	18.3	17.5	19.2	15.8	19.6	17.4
13	15.8	18.8	19.2	18.1	16.9	17.7	17.9
14	18.3	19.0	17.3	18.1	15.4	18.8	16.5
15	15.9	18.3	15.4	17.2	16.8	16.8	19.3
16	16.2	15.4	15.8	17.1	15.1	16.0	17.1
17	18.5	17.7	18.9	18.5	16.8	13.8	18.2
18	16.6	19.1	19.2	21.0	16.0	15.4	18.0
19	18.4	16.7	18.4	18.1	16.6	20.5	16.8
20	17.2	17.8	15.5	20.0	16.4	15.4	17.4
21	12.8	18.3	17.9	18.0	19.9	13.8	19.5
22	15.4	12.8	20.5	18.0	23.4	15.5	20.5
23	-	15.5	15.5	22.2	15.5	20.5	-
24	-	15.5	15.5	15.5	22.2	15.5	=
	•			•	•		•
10-12	17.3	16.7	17.2	18.0	15.9	17.5	16.2

Average

Channel 2 - Westbound

0-24

### 85th Percentile

16.6

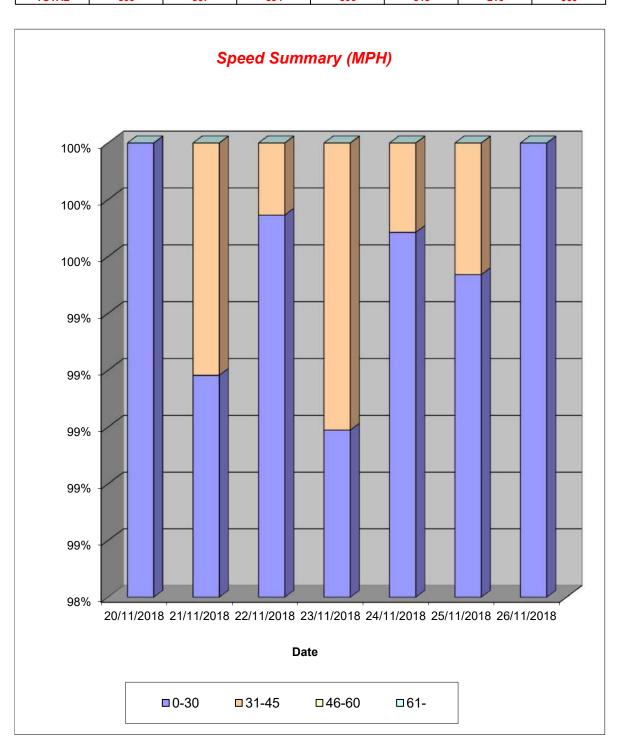
	20/11/2018	21/11/2018	22/11/2018	23/11/2018	24/11/2018	25/11/2018	26/11/2018
Hr Ending	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
1	-	-	-	-	26.1	26.0	-
2	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
6	15.7	15.8	26.0	25.7	-	-	16.3
7	26.0	25.6	25.9	16.6	-	_	15.6
8	25.8	26.0	26.0	25.6	25.9	15.7	26.0
9	25.8	25.7	25.7	25.6	25.8	25.9	26.3
10	15.5	26.5	26.1	26.3	26.5	25.9	26.3
11	26.0	15.6	26.0	25.9	26.3	25.8	25.8
12	25.7	25.5	26.2	26.0	26.2	26.0	26.5
13	26.4	25.8	26.4	25.6	25.9	25.6	26.3
14	26.1	26.0	25.9	25.6	16.2	26.0	26.2
15	26.3	26.4	15.8	25.7	25.8	16.9	26.4
16	26.4	16.0	25.8	25.5	15.9	26.1	26.4
17	25.8	25.9	25.7	26.2	25.9	26.4	25.9
18	26.0	26.3	26.0	26.0	26.4	26.2	25.6
19	25.6	26.3	25.7	26.1	25.6	25.9	16.9
20	26.1	26.2	16.1	25.7	26.1	26.2	26.3
21	15.9	26.2	25.9	26.0	25.8	15.6	26.2
22	26.5	26.5	26.4	26.2	33.1	-	25.9
23	-	-	16.0	26.3	-	26.2	-
24	-	-	-	-	25.6	-	-
10.10	05.0	25.0	00.0	22.4	05.0	05.7	05.5
10-12	25.6	25.9	26.2	26.4	25.9	25.7	25.5
14-16	26.4	26.2	16.2	26.2	16.5	25.7	25.7
0-24	26.1	25.7	26.1	25.6	26.0	25.8	25.7

Channel 2 - Westbound

**Speed Summary** 

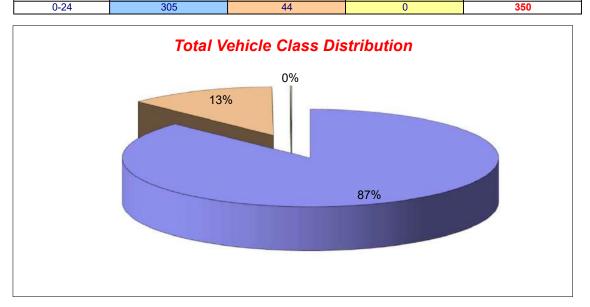
Week 1

	20/11/2018	21/11/2018	22/11/2018	23/11/2018	24/11/2018	25/11/2018	26/11/2018
Speed (MPH)	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
0-30	399	364	393	392	317	215	359
31-45	0	3	1	4	1	1	0
46-60	0	0	0	0	0	0	0
61-	0	0	0	0	0	0	0
		•		•	-	-	
TOTAL	399	367	394	396	318	216	359



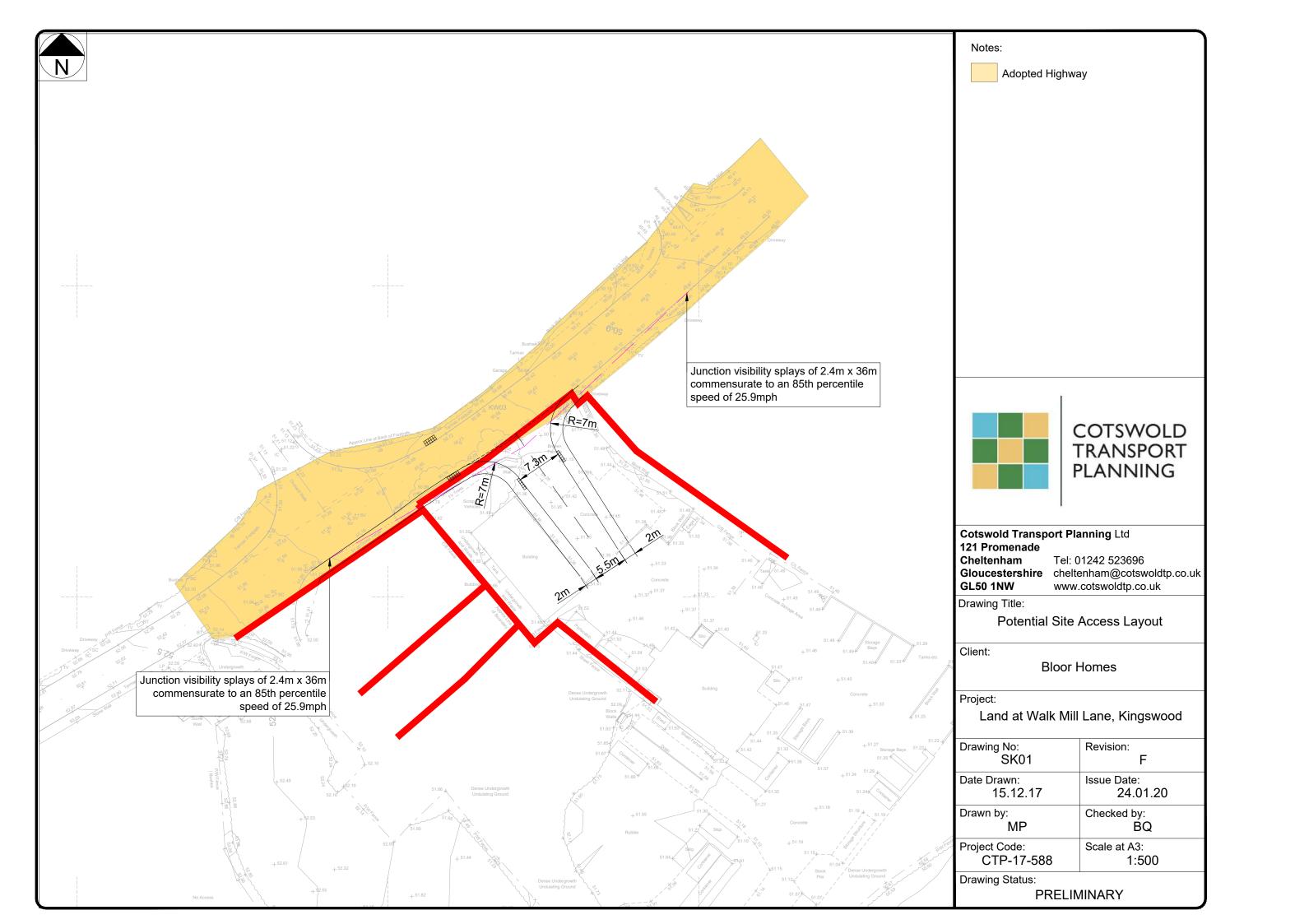
Channel 2 - Westbound Vehicle Class Week 1

Classes		OGV1 / Bus	OGV2	TOTAL
Day / Time	Caravan - 1	- 2,3,5,6,7,12	- 4,8,9,10,11,13	- 1-13
20/11/2018	00.1			
7-19	294	54	2	350
6-22	335	55	2	392
6-24	335	55	2	392
0-24	342	55	2	399
21/11/2018				
7-19	281	44	1	326
6-22	315	45	1	361
6-24	317	45	1	363
0-24	320	46	1	367
22/11/2018				
7-19	290	59	0	349
6-22	322	63	0	385
6-24	325	63	0	388
0-24	331	63	0	394
23/11/2018				
7-19	303	45	0	348
6-22	339	47	0	386
6-24	343	47	0	390
0-24	348	48	0	396
24/11/2018				
7-19	255	28	0	283
6-22	280	29	0	309
6-24	284	29	0	313
0-24	288	30	0	318
25/11/2018				
7-19	181	12	0	193
6-22	195	13	0	208
6-24	198	13	0	211
0-24	202	14	0	216
26/11/2018				
7-19	272	53	0	325
6-22	298	54	0	352
6-24	298	54	0	352
0-24	305	54	0	359
<u> </u>	- 000	U I	•	
Average				
7-19	268	42	0	311
6-22	298	44	0	342
6-24	300	44	0	344
0-24	305	44	0	350



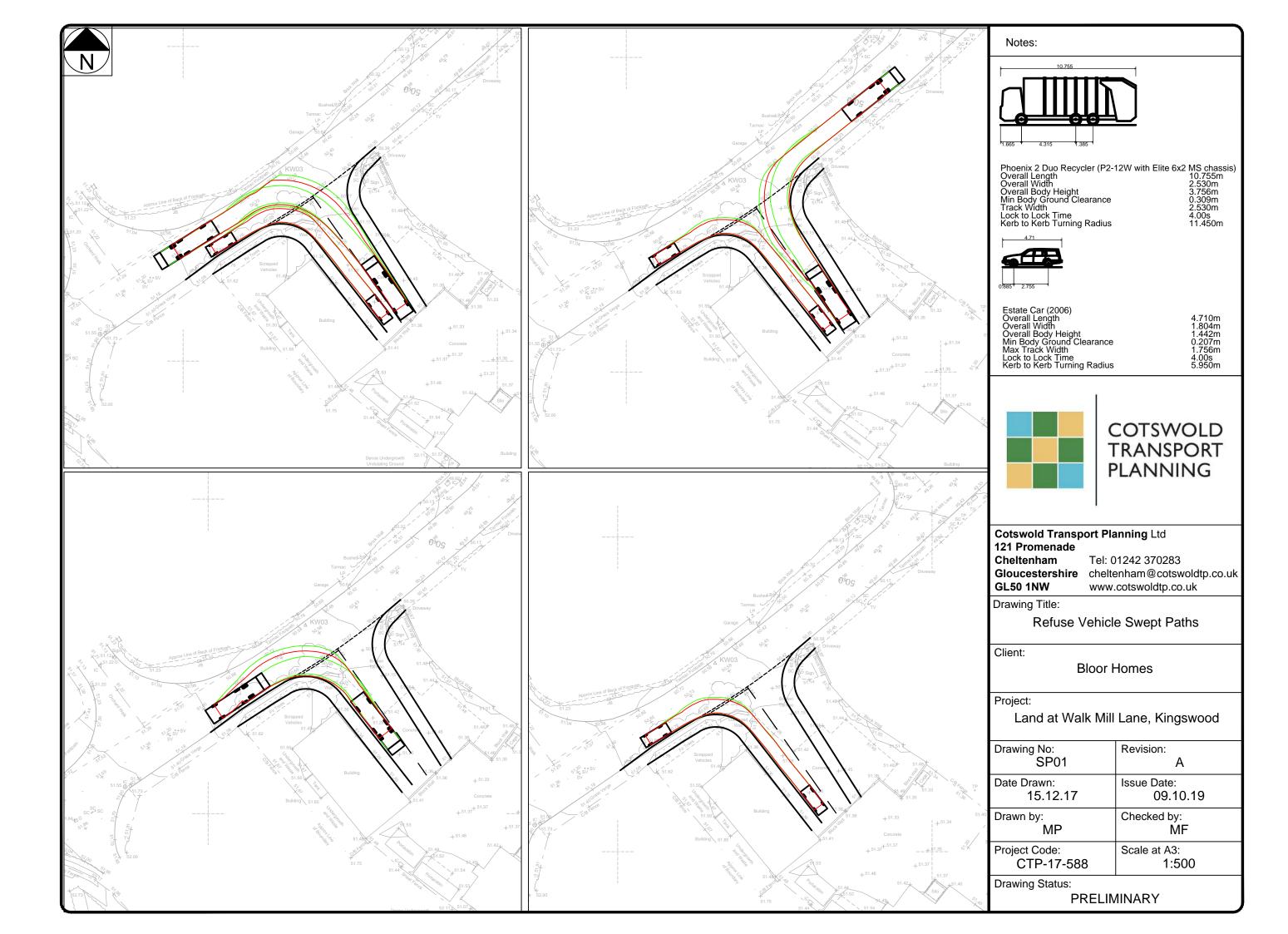


## Appendix C





## Appendix D





## Appendix E







### **Bloor Homes**

Land at Walk Mill Lane, Kingswood, Gloucestershire

Full Route - Walk Mill Lane to Blue Coat Primary School

STATUS:

 SCALE:
 DATE:
 DRAWN:
 CHECKED:
 APPROVED:

 n/a
 24.01.20
 BF
 JM
 BQ

 JOB NO:
 DRAWING NO:
 REVISION:

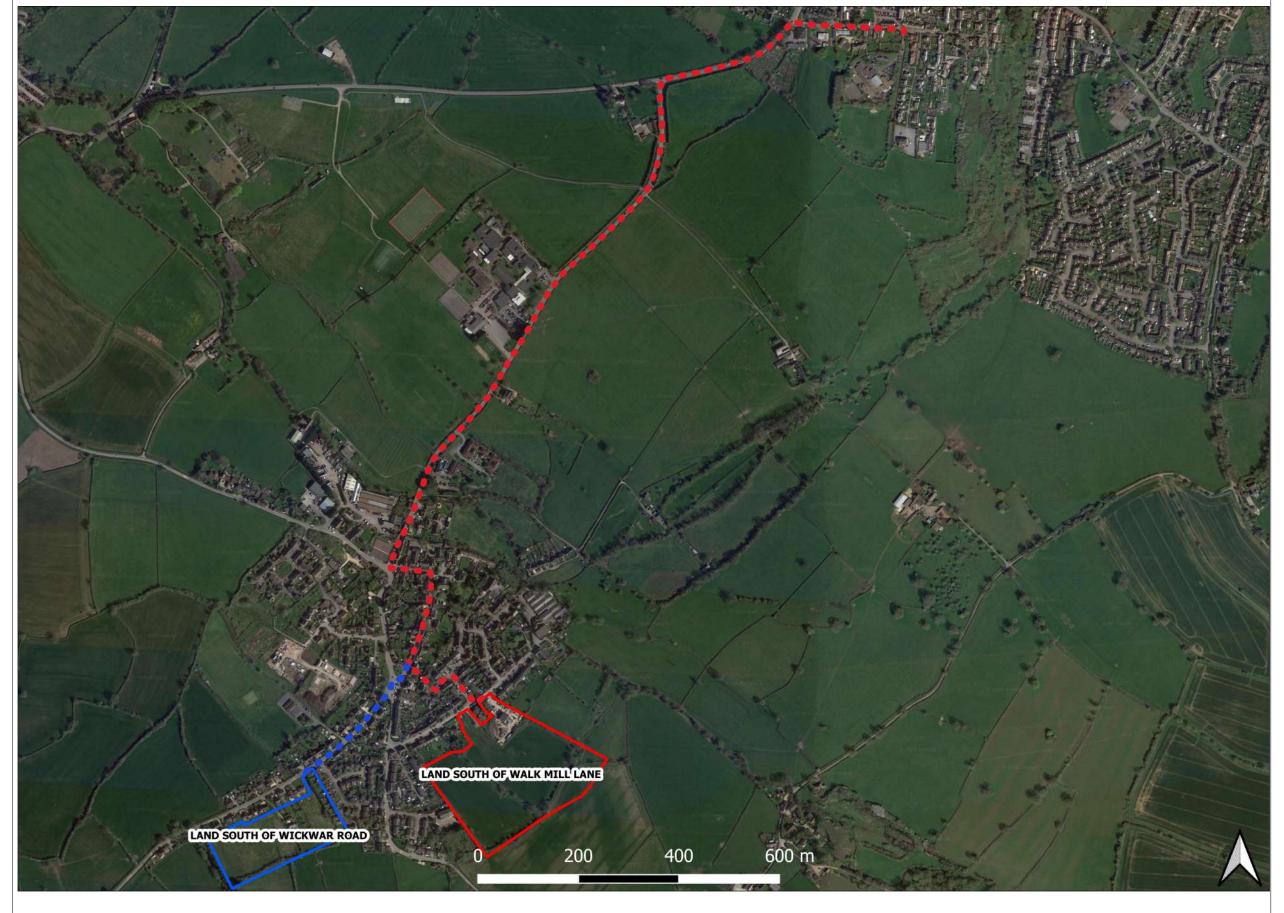
 CTP-17-588
 n/a





## Appendix F









### **Bloor Homes**

Land at Walk Mill Lane, Kingswood, Gloucestershire

Full Route - Walk Mill Lane and Wickwar Road to Blue Coat Primary School

SCALE: CHECKED: 24.01.20 JOB NO: CTP-17-588





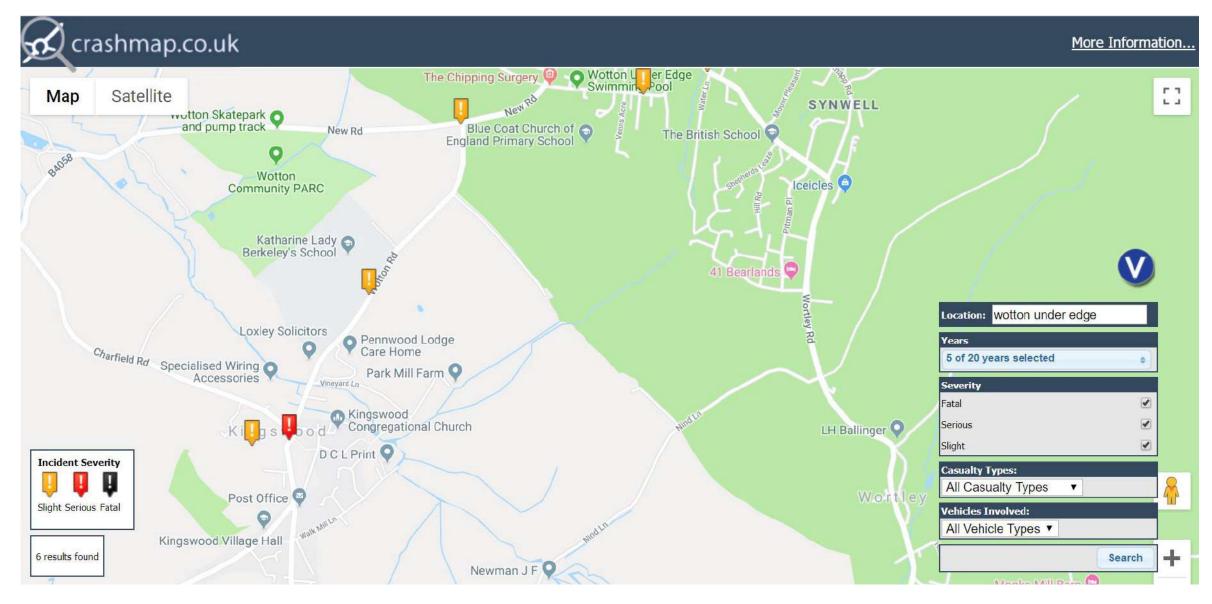
## Appendix G





## Appendix H

# Crashmap Personal Recorded Injury Collisions 5 years





Crash Date: Thursday, September 11, 2014 Time of Crash: 3:45:00 PM Crash Reference: 2014530208992

Highest Injury Severity: Slight Road Number: U0 Number of Casualties: 1

Highway Authority: Gloucestershire Number of Vehicles: 1

**Local Authority:** Stroud District **OS Grid Reference:** 374500 191980

**Weather Description:** Fine without high winds

**Road Surface Description:** Dry

Speed Limit: 30

**Light Conditions:** Daylight: regardless of presence of streetlights

Carriageway Hazards: None

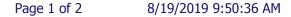
**Junction Detail:** Not at or within 20 metres of junction

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** Single carriageway

**Junction Control:** Not Applicable









## **Vehicles involved**

Vehicle Ref	Vehicle Type		Driver Gender	 Vehicle Maneouvre	First Point of Impact			Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Unknow n	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Other	None	None

## **Casualties**

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Male	11 - 15	In carriageway, crossing elsewhere	Unknown or other





Crash Date: Saturday, November 01, 2014 Time of Crash: 3:50:00 PM Crash Reference: 2014530209362

Highest Injury Severity: Slight Road Number: B4058 Number of Casualties: 1

Highway Authority: Gloucestershire Number of Vehicles: 2

**Local Authority:** Stroud District **OS Grid Reference:** 375170 192998

**Weather Description:** Fine without high winds

**Road Surface Description:** Wet or Damp

**Speed Limit:** 30

**Light Conditions:** Daylight: regardless of presence of streetlights

Carriageway Hazards: None

**Junction Detail:** T or staggered junction

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** Single carriageway

**Junction Control:** Give way or uncontrolled









## **Vehicles involved**

Vehic Ref	le	Vehicle Type		Driver Gender			First Point of Impact			Hit Object - Off Carriageway
	2	Car (excluding private hire)	12	Male	46 - 55	Vehicle is moving off	Front	Commuting to/from work	None	None
		Motorcycle 50cc and under	1	Male	16 - 20	Vehicle proceeding normally along the carriageway, not on a bend	Front	Commuting to/from work	None	None

## **Casualties**

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	16 - 20	Unknown or other	Unknown or other





Crash Date: Thursday, December 17, 2015 Time of Crash: 12:00:00 PM Crash Reference: 2015530037394

**Highest Injury Severity:** Serious **Road Number:** B4060 **Number of Casualties:** 1

Highway Authority: Gloucestershire Number of Vehicles: 1

**Local Authority:** Stroud District **OS Grid Reference:** 374618

**Weather Description:** Raining without high winds

Road Surface Description: Wet or Damp

**Speed Limit:** 30

**Light Conditions:** Daylight: regardless of presence of streetlights

Carriageway Hazards: None

**Junction Detail:** T or staggered junction

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** Single carriageway

**Junction Control:** Give way or uncontrolled







## **Vehicles involved**

Vehicle Ref	Vehicle Type		Driver Gender	 Vehicle Maneouvre	First Point of Impact			Hit Object - Off Carriageway
1	Car (excluding private hire)	8	Male	Vehicle proceeding normally along the carriageway, on a right hand bend	Nearside	Other	None	Wall or fence

## **Casualties**

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Serious	Pedestrian	Female	56 - 65	On footway or verge	Unknown or other





Crash Date: Monday, October 19, 2015 Time of Crash: 9:45:00 AM Crash Reference: 2015530209927

Highest Injury Severity: Slight Road Number: U0 Number of Casualties: 1

Highway Authority: Gloucestershire Number of Vehicles: 1

**Local Authority:** Stroud District **OS Grid Reference:** 375750 193085

**Weather Description:** Fine without high winds

**Road Surface Description:** Dry

Speed Limit: 20

**Light Conditions:** Daylight: regardless of presence of streetlights

Carriageway Hazards: None

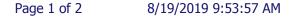
**Junction Detail:** T or staggered junction

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** One way street

**Junction Control:** Give way or uncontrolled









## **Vehicles involved**

Vehicle Ref	Vehicle Type		Driver Gender	 Vehicle Maneouvre	First Point of Impact			Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Male	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

## **Casualties**

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Female	21 - 25	In carriageway, crossing elsewhere	Crossing from driver's nearside





Crash Date: Sunday, August 20, 2017 Time of Crash: 8:38:00 PM Crash Reference: 2017530213155

Highest Injury Severity: Slight Road Number: U0 Number of Casualties: 1

Highway Authority: Gloucestershire Number of Vehicles: 2

**Local Authority:** Stroud District **OS Grid Reference:** 374873

**Weather Description:** Raining without high winds

**Road Surface Description:** Wet or Damp

**Speed Limit:** 30

**Light Conditions:** Darkness: no street lighting

Carriageway Hazards: None

**Junction Detail:** Using private drive or entrance

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** Single carriageway

**Junction Control:** Give way or uncontrolled









## **Vehicles involved**

Vehicle Ref	Vehicle Type		Driver Gender		Vehicle Maneouvre	First Point of Impact	· ·	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Car (excluding private hire)	-1	Male		Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
1	Car (excluding private hire)	7	Female	16 - 20	Vehicle is in the act of turning right	Front	Other	None	None

## **Casualties**

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	16 - 20	Unknown or other	Unknown or other





**B1 Office Employment** 

Page 1 Cotswold Transport Planning Ltd 121 Promenade Cheltenham Licence No: 701101

Calculation Reference: AUDIT-701101-200124-0114

#### TRIP RATE CALCULATION SELECTION PARAMETERS:

: 02 - EMPLOYMENT Category : A - OFFICE

**VEHICLES** 

Selected regions and areas:

02 SOUTH EAST

1 days NORTH

09 DH **DURHAM** 2 days

WALES 10

**CONWY** CO 1 days

ULSTER (REPUBLIC OF IRELAND) 16

MONAGHAN MG 1 days

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

#### Secondary 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: Gross floor area

Actual Range: 2000 to 6186 (units: sqm) Range Selected by User: 178 to 10000 (units: sqm)

Parking Spaces Range: All Surveys Included

## Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 17/06/19

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 1 days Tuesday 1 days Wednesday 2 days 1 days Thursday

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

#### Selected survey types:

Manual count 5 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:

Edge of Town 5

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

## Selected Location Sub Categories:

Industrial Zone 1 Commercial Zone 2 Out of Town 1 No Sub Category

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.

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Licence No: 701101

Cotswold Transport Planning Ltd 121 Promenade Cheltenham

Secondary Filtering selection:

Use Class:

B1 5 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 1 mile:

 1,000 or Less
 1 days

 1,001 to 5,000
 1 days

 5,001 to 10,000
 2 days

 10,001 to 15,000
 1 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
 1 days

 50,001
 to 75,000
 1 days

 75,001
 to 100,000
 1 days

 100,001
 to 125,000
 2 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
 2 days

 1.1 to 1.5
 2 days

 1.6 to 2.0
 1 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 1 days No 4 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 5 days

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

Cotswold Transport Planning Ltd 121 Promenade Cheltenham Licence No: 701101

LIST OF SITES relevant to selection parameters

1 CO-02-A-01 GOVERNMENT OFFICES CONWY

NARROW LANE LLANDUDNO JUNCTION

Edge of Town

Commercial Zone
Total Gross floor area:

Gross floor area: 6186 sqm
Survey date: WEDNESDAY 28/03/18 Survey Type: MANUAL

2 DH-02-A-02 CONSTRUCTION COMPANY DURHAM

DURHAM ROAD NEAR DURHAM BOWBURN Edge of Town Industrial Zone

Total Gross floor area: 2000 sqm

Survey date: TUESDAY 27/11/12 Survey Type: MANUAL

3 DH-02-A-03 ENGINEERING COMPANY DURHAM

ALDERMAN BEST WAY

DARLINGTON

Edge of Town No Sub Category

Total Gross floor area: 3530 sqm

Survey date: THURSDAY 18/10/18 Survey Type: MANUAL

4 KC-02-A-07 KCC HIGHWAYS REG. KENT

KAVELIN WAY

ASHFORD

HENWOOD IND. ESTATE

Edge of Town Commercial Zone

Total Gross floor area: 2525 sqm

Survey date: MONDAY 05/12/11 Survey Type: MANUAL

5 MG-02-A-02 OFFICES MONAGHAN

ARMAGH ROAD MONAGHAN

Edge of Town Out of Town

Total Gross floor area: 3205 sqm

Survey date: WEDNESDAY 16/11/16 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Friday 24/01/20 Page 4 Licence No: 701101

Cotswold Transport Planning Ltd 121 Promenade Cheltenham

> TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE **VEHICLES**

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

		ARRIVALS		[	DEPARTURES			TOTALS	
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 00:30			7.10.10		2777	710.70			
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	5	3489	0.235	5	3489	0.052	5	3489	0.287
07:30 - 08:00	5	3489	0.430	5	3489	0.080	5	3489	0.510
08:00 - 08:30	5	3489	0.780	5	3489	0.052	5	3489	0.832
08:30 - 09:00	5	3489	0.906	5	3489	0.011	5	3489	0.917
09:00 - 09:30	5	3489	0.797	5	3489	0.109	5	3489	0.906
09:30 - 10:00	5	3489	0.390	5	3489	0.115	5	3489	0.505
10:00 - 10:30	5	3489	0.235	5	3489	0.138	5	3489	0.373
10:30 - 11:00	5	3489	0.212	5	3489	0.097	5	3489	0.309
11:00 - 11:30	5	3489	0.160	5	3489	0.109	5	3489	0.269
11:30 - 12:00	5	3489	0.149	5	3489	0.132	5	3489	0.281
12:00 - 12:30	5	3489	0.195	5	3489	0.258	5	3489	0.453
12:30 - 13:00	5	3489	0.321	5	3489	0.332	5	3489	0.653
13:00 - 13:30	5	3489	0.350	5	3489	0.258	5	3489	0.608
13:30 - 14:00	5	3489	0.310	5	3489	0.212	5	3489	0.522
14:00 - 14:30	5	3489	0.218	5	3489	0.149	5	3489	0.367
14:30 - 15:00	5	3489	0.166	5	3489	0.212	5	3489	0.378
15:00 - 15:30	5	3489	0.149	5	3489	0.212	5	3489	0.430
	5	3489	0.149	5	3489	0.235	5	3489	0.430
15:30 - 16:00									
16:00 - 16:30	5	3489	0.149	5	3489	0.522	5	3489	0.671
16:30 - 17:00	5	3489	0.115	5	3489	0.716	5	3489	0.831
17:00 - 17:30	5	3489	0.097	5	3489	1.066	5	3489	1.163
17:30 - 18:00	5	3489	0.034	5	3489	0.785	5	3489	0.819
18:00 - 18:30	5	3489	0.023	5	3489	0.527	5	3489	0.550
18:30 - 19:00	5	3489	0.011	5	3489	0.224	5	3489	0.235
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			6.558			6.672			13.230

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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Licence No: 701101

Cotswold Transport Planning Ltd 121 Promenade Cheltenham

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#### Parameter summary

Trip rate parameter range selected: 2000 - 6186 (units: sqm)
Survey date date range: 01/01/11 - 17/06/19
Number of weekdays (Monday-Friday): 5

Number of Saturdays:

Number of Sundays:

Surveys automatically removed from selection:

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.

Cotswold Transport Planning Ltd 121 Promenade Cheltenham

Licence No: 701101

Calculation Reference: AUDIT-701101-200124-0154

#### TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT Category : D - INDUSTRIAL ESTATE

**VEHICLES** 

Selected regions and areas:

02 SOUTH EAST EX ESSEX 1 days 03 SOUTH WEST DV DEVON 1 days

DV DEVON 06 WEST MI DLANDS

WO WORCESTERSHIRE
07 YORKSHIRE & NORTH LINCOLNSHIRE

WY WEST YORKSHIRE 1 days

08 NORTH WEST

LC LANCASHIRE 1 days

12 CONNAUGHT

RO ROSCOMMON 1 days

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

#### Secondary 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.

1 days

Parameter: Gross floor area

Actual Range: 2030 to 4876 (units: sqm) Range Selected by User: 552 to 5000 (units: sqm)

Parking Spaces Range: All Surveys Included

#### Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 06/11/18

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 1 days Tuesday 1 days Friday 4 days

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

Selected survey types:

Manual count 6 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:

Edge of Town

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.

Selected Location Sub Categories:

Industrial Zone 4
Commercial Zone 1
No Sub Category 1

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.

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Cotswold Transport Planning Ltd 121 Promenade Cheltenham Licence No: 701101

Secondary Filtering selection:

Use Class:

 Not Known
 1 days

 B1
 2 days

 B2
 3 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 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	2 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	1 days
75,001 to 100,000	1 days
125,001 to 250,000	4 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	2 days
1.1 to 1.5	3 days
1.6 to 2.0	1 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:

No 6 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.

<u>PTAL\_Rating:</u>

No PTAL Present 6 days

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

Cotswold Transport Planning Ltd 121 Promenade Cheltenham Licence No: 701101

LIST OF SITES relevant to selection parameters

1 DV-02-D-07 INDUSTRIAL ESTATE DEVON

BITTERN ROAD

**EXETER** 

SOWTON IND. ESTATE

Edge of Town Industrial Zone

Total Gross floor area: 3600 sqm

Survey date: MONDAY 03/07/17 Survey Type: MANUAL

2 EX-02-D-03 INDUSTRIAL ESTATE ESSEX

WYNCOLLS ROAD

COLCHESTER

SEVERALLS INDUSTRIAL PK

Edge of Town Industrial Zone

Total Gross floor area: 4876 sqm

Survey date: FRIDAY 18/05/18 Survey Type: MANUAL

3 LC-02-D-07 INDUSTRIAL ESTATE LANCASHIRE

CHAIN CAUL WAY

**PRESTON** 

ASHTON-ON-RIBBLE Edge of Town

Industrial Zone

Total Gross floor area: 4700 sqm

Survey date: FRIDAY 17/11/17 Survey Type: MANUAL

4 RO-02-D-01 INDUSTRIAL ESTATE ROSCOMMÓN

ÁTHLONE ROAD ROSCOMMON ARDSALLAGH MÓRE Edge of Town No Sub Category

Total Gross floor area: 2030 sqm

Survey date: FRIDAY 27/04/18 Survey Type: MANUAL WO-02-D-01 INDUSTRIAL ESTATE WORCESTERSHIRE

SANDY LANE

STOURPORT-ON-SEVERN

Edge of Town Commercial Zone

Total Gross floor area: 2758 sqm

Survey date: FRIDAY 23/05/14 Survey Type: MANUAL WY-02-D-06 INDUSTRIAL ESTATE (PART) WEST YORKSHIRE

PIONEER WAY CASTLEFORD

Edge of Town Industrial Zone

Total Gross floor area: 4328 sqm

Survey date: TUESDAY 23/05/17 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE **VEHICLES** 

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES		TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 00:30	7						3		
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	6	3715	0.153	6	3715	0.045	6	3715	0.198
07:30 - 08:00	6	3715	0.133	6	3715	0.108	6	3715	0.196
08:00 - 08:30	6	3715	0.278	6	3715	0.108	6	3715	0.507
08:30 - 09:00	6	3715	0.274	6	3715	0.233	6	3715	0.390
09:00 - 09:30	6	3715	0.242	6	3715	0.146	6	3715	0.390
09:30 - 10:00	6	3715	0.170	6	3715	0.121	6	3715	0.291
10:00 - 10:30	6	3715	0.230	6	3715	0.134	6	3715	0.393
10:30 - 10:30	6	3715	0.144	6	3715	0.153	6	3715	0.200
		3715	0.200		3715	0.133		3715	0.413
11:00 - 11:30 11:30 - 12:00	6	3715	0.175	6	3715	0.305	6	3715	0.561
		3715	0.256		3715	0.305		3715	0.457
12:00 - 12:30	6	3715		6			6		
12:30 - 13:00	6		0.233	6	3715	0.247	6	3715	0.480
13:00 - 13:30 13:30 - 14:00	6	3715 3715	0.251 0.170	6	3715 3715	0.242	6	3715 3715	0.493 0.345
						0.175 0.251			
14:00 - 14:30	6	3715	0.184	6	3715		6	3715	0.435
14:30 - 15:00	6	3715	0.153	6	3715	0.211	6	3715	0.364
15:00 - 15:30	6	3715	0.184	6	3715	0.161	6	3715	0.345
15:30 - 16:00	6	3715	0.220	6	3715	0.166	6	3715	0.386
16:00 - 16:30	6	3715	0.179	6	3715	0.224	6	3715	0.403
16:30 - 17:00	6	3715	0.157	6	3715	0.301	6	3715	0.458
17:00 - 17:30	6	3715	0.108	6	3715	0.350	6	3715	0.458
17:30 - 18:00	6	3715	0.108	6	3715	0.184	6	3715	0.292
18:00 - 18:30	6	3715	0.027	6	3715	0.103	6	3715	0.130
18:30 - 19:00	6	3715	0.027	6	3715	0.049	6	3715	0.076
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00			4.46			1.56			0.000
Total Rates:			4.424			4.504			8.928

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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Cotswold Transport Planning Ltd 121 Promenade Cheltenham

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#### Parameter summary

Trip rate parameter range selected: 2030 - 4876 (units: sqm) Survey date date range: 01/01/11 - 06/11/18 Number of weekdays (Monday-Friday): 6

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.

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Cotswold Transport Planning Ltd 121 Promenade Cheltenham Licence No: 701101

Calculation Reference: AUDIT-701101-200124-0129

#### TRIP RATE CALCULATION SELECTION PARAMETERS:

: 02 - EMPLOYMENT

Category : F - WAREHOUSING (COMMERCIAL)

**VEHICLES** 

Selected regions and areas:

04 EAST ANGLIA SF **SUFFOLK** 1 days 09 NORTH СВ **CUMBRIA** 1 days 10 WALES **BRIDGEND** 1 days BG WR **WREXHAM** 1 days 11 **SCOTLAND MIDLOTHIAN** 1 days ML

14 **LEINSTER** 

LOUTH LU

1 days GREATER DUBLIN

15 DUBLIN DL 1 days

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

#### Secondary 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: Gross floor area

750 to 9000 (units: sqm) Actual Range: Range Selected by User: 190 to 10000 (units: sqm)

Parking Spaces Range: All Surveys Included

### Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 29/03/19

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 1 days 2 days Tuesday Wednesday 1 days 1 days Thursday Friday 2 days

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

Selected survey types:

7 days Manual count 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:

5 Edge of Town Free Standing (PPS6 Out of Town) 2

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.

Selected Location Sub Categories:

Industrial Zone 6 No Sub Category

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.

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Cotswold Transport Planning Ltd 121 Promenade Cheltenham Licence No: 701101

Secondary Filtering selection:

Use Class:

B8 7 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 1 mile:

 1,000 or Less
 3 days

 5,001 to 10,000
 3 days

 15,001 to 20,000
 1 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
 2 days

 25,001 to 50,000
 2 days

 50,001 to 75,000
 1 days

 75,001 to 100,000
 2 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
 1 days

 1.1 to 1.5
 5 days

 2.1 to 2.5
 1 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:

No 7 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 7 days

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

121 Promenade Cotswold Transport Planning Ltd Cheltenham Licence No: 701101

## LIST OF SITES relevant to selection parameters

BG-02-F-01 LOGISTICS COMPANY **BRI DGEND** 

PARC CRESCENT BRIDGEND WATERTON IND. EST. Edge of Town Industrial Zone

3050 sqm Total Gross floor area:

Survey date: MONDAY 13/10/14 Survey Type: MANUAL

CB-02-F-01 DOMINO'S PIZZA **CUMBRIA** 

**COWPER ROAD PENRITH** 

GILWILLY IND. ESTATE

Edge of Town Industrial Zone

Total Gross floor area: 2950 sqm

Survey date: TUESDAY 10/06/14 Survey Type: MANUAL

DL-02-F-02 **DISTRIBUTION CEN DUBLIN** 

TURVEY AVENUE

**DUBLIN** DONABATE

Free Standing (PPS6 Out of Town)

Industrial Zone

Total Gross floor area: 3950 sqm

Survey date: THURSDAY 29/09/11 Survey Type: MANUAL

LU-02-F-01 PACKAGING COMPANY LOUTH

MATTHEWS LANE DROGHEDA LAGAVOOREN Edge of Town No Sub Category

5350 sqm Total Gross floor area:

Survey date: FRIDAY 19/06/15 Survey Type: MANUAL

5 ML-02-F-01 WINDOWS MI DLOTHI AN

UNIT 53 DALKEITH

MAYFIELD IND. ESTATE

Edge of Town Industrial Zone

Total Gross floor area: 750 sqm

Survey date: WEDNESDAY 04/05/11 Survey Type: MANUAL SUFFOLK

SF-02-F-03 **ROAD HAULAGE** 

**CENTRAL AVENUE IPSWICH** WARREN HEATH Edge of Town

Industrial Zone

Total Gross floor area: 4700 sqm

Survey date: FRIDAY 18/09/15 Survey Type: MANUAL

WR-02-F-01 WAREHOUSE **WREXHAM** 

UNIT 1-2 PACIFIC PARK **NEAR WREXHAM** WREXHAM IND. ESTATE

Free Standing (PPS6 Out of Town)

Industrial Zone

Total Gross floor area: 9000 sqm

Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Cotswold Transport Planning Ltd

121 Promenade Cheltenham

Licence No: 701101

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL) VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

		ARRIVALS			DEPARTURES			TOTALS	
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 00:30				<i>J</i> .					
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	1	2950	0.000	1	2950	0.000	1	2950	0.000
05:30 - 06:00	1	2950	0.102	1	2950	0.000	1	2950	0.102
06:00 - 06:30	1	2950	0.102	1	2950	0.000	1	2950	0.102
06:30 - 07:00	1	2950	0.034	1	2950	0.000	1	2950	0.034
	6	4833	0.102	6	4833	0.034	6		0.130
07:00 - 07:30								4833	
07:30 - 08:00	7	4250	0.091	7	4250	0.044	7	4250	0.135
08:00 - 08:30	7	4250	0.097	7	4250	0.047	7	4250	0.144
08:30 - 09:00	7	4250	0.161	7	4250	0.054	7	4250	0.215
09:00 - 09:30	7	4250	0.061	7	4250	0.044	7	4250	0.105
09:30 - 10:00	7	4250	0.054	7	4250	0.050	7	4250	0.104
10:00 - 10:30	7	4250	0.061	7	4250	0.084	7	4250	0.145
10:30 - 11:00	7	4250	0.057	7	4250	0.047	7	4250	0.104
11:00 - 11:30	7	4250	0.064	7	4250	0.061	7	4250	0.125
11:30 - 12:00	7	4250	0.037	7	4250	0.057	7	4250	0.094
12:00 - 12:30	7	4250	0.047	7	4250	0.024	7	4250	0.071
12:30 - 13:00	7	4250	0.057	7	4250	0.050	7	4250	0.107
13:00 - 13:30	7	4250	0.087	7	4250	0.111	7	4250	0.198
13:30 - 14:00	7	4250	0.071	7	4250	0.047	7	4250	0.118
14:00 - 14:30	7	4250	0.067	7	4250	0.067	7	4250	0.134
14:30 - 15:00	7	4250	0.091	7	4250	0.061	7	4250	0.152
15:00 - 15:30	7	4250	0.071	7	4250	0.084	7	4250	0.155
15:30 - 16:00	7	4250	0.044	7	4250	0.094	7	4250	0.138
16:00 - 16:30	7	4250	0.067	7	4250	0.074	7	4250	0.141
16:30 - 17:00	7	4250	0.047	7	4250	0.128	7	4250	0.175
17:00 - 17:30	7	4250	0.057	7	4250	0.104	7	4250	0.161
17:30 - 18:00	7	4250	0.010	7	4250	0.091	7	4250	0.101
18:00 - 18:30	7	4250	0.030	7	4250	0.047	7	4250	0.077
18:30 - 19:00	7	4250	0.040	7	4250	0.037	7	4250	0.077
19:00 - 19:30	1	2950	0.169	1	2950	0.102	1	2950	0.271
19:30 - 20:00	1	2950	0.034	1	2950	0.102	1	2950	0.136
20:00 - 20:30	1	2950	0.034	1	2950	0.034	1	2950	0.068
20:30 - 21:00	1	2950	0.068	1	2950	0.102	1	2950	0.170
21:00 - 21:30	,				-:				2
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			2.074			1.919			3.993
Total Rates:			2.074			1.919			3.99

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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Licence No: 701101

Cotswold Transport Planning Ltd 121 Promenade Cheltenham

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#### Parameter summary

Trip rate parameter range selected: 750 - 9000 (units: sqm) Survey date date range: 01/01/11 - 29/03/19

Number of weekdays (Monday-Friday): 7
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.

Cotswold Transport Planning Ltd 121 Promenade Cheltenham Licence No: 701101

Calculation Reference: AUDIT-701101-200124-0148

#### TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL

Category : A - HOUSES PRIVATELY OWNED

VEHICLES

Selected regions and areas:

02 SOUTH EAST **EAST SUSSEX** 2 days IW ISLE OF WIGHT 1 days 04 EAST ANGLIA NF NORFOLK 3 days SF SUFFOLK 1 days WEST MIDLANDS 06 SHROPSHIRE 2 days SH 07 YORKSHIRE & NORTH LINCOLNSHIRE NY NORTH YORKSHIRE 3 days NORTH WEST 80 СН CHESHIRE 2 days CONNAUGHT 12 ROSCOMMON RO 1 days 14 **LEINSTER** CARLOW 1 days CC WC WICKLOW 1 days GREATER DUBLIN 15 DL DUBLIN 1 days ULSTER (REPUBLIC OF IRELAND) 16 CV CAVAN 2 days DN DONEGAL 3 days 17 **ULSTER (NORTHERN I RELAND)** DOWN DO 1 days TY **TYRONE** 1 days

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

#### Secondary 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: Number of dwellings Actual Range: 6 to 134 (units: ) Range Selected by User: 4 to 150 (units: )

Parking Spaces 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: 01/01/11 to 25/09/19

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
 4 days

 Wednesday
 8 days

 Thursday
 5 days

 Friday
 3 days

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

Selected survey types:

Manual count 25 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:

Edge of Town 24 Free Standing (PPS6 Out of Town) 1

This data displays the number of surveys per main location category within the selected set. The main location categories

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Licence No: 701101

Cotswold Transport Planning Ltd 121 Promenade Cheltenham

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 25 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 1 mile:

1,000 or Less	2 days
1,001 to 5,000	8 days
5,001 to 10,000	6 days
10,001 to 15,000	9 days

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

#### Population within 5 miles:

2 days
9 days
6 days
3 days
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	6 days
1.1 to 1.5	18 days
1.6 to 2.0	1 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 4 days No 21 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 25 days

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

Cotswold Transport Planning Ltd 121 Promenade Cheltenham Licence No: 701101

LIST OF SITES relevant to selection parameters

CARLOW CC-03-A-01 **DETACHED HOUSES** 

R417 ANTHY ROAD

Edge of Town

**CARLOW** 

Residential Zone

Total Number of dwellings: 23

Survey date: WEDNESDAY 25/05/16 Survey Type: MANUAL

CH-03-A-09 **TERRACED HOUSES CHESHI RE** 

GREYSTOKE ROAD MACCLESFIELD HURDSFIELD Edge of Town

Residential Zone

Total Number of dwellings: 24

Survey date: MONDAY 24/11/14 Survey Type: MANUAL

CH-03-A-10 SEMI-DETACHED & TERRACED **CHESHI ŘE** 

MEADOW DRIVE NORTHWICH BARNTON Edge of Town Residential Zone

Total Number of dwellings: 40

Survey date: TUESDAY 04/06/19 Survey Type: MANUAL

CV-03-A-02 DETACHED & SEMI DETACHED CAVAN

R212 DUBLIN ROAD

CAVAN

**KILLYNEBBER** Edge of Town

No Sub Category

Total Number of dwellings: 80

Survey date: MONDAY 22/05/17 Survey Type: MANUAL

**DETACHED HOUSES** CV-03-A-03 CAVAN

R212 DUBLIN ROAD

CAVAN

PULLAMORE NEAR Edge of Town

No Sub Category

Total Number of dwellings: 37

Survey date: MONDAY 22/05/17 Survey Type: MANUAL

DL-03-A-10 SEMI DETACHED & DETACHED **DUBLIN** 

R124 MALAHIDE SAINT HELENS Edge of Town Residential Zone

Total Number of dwellings: 65

Survey date: WEDNESDAY 20/06/18 Survey Type: MANUAL

DETACHED/SEMI-DETACHED DN-03-A-03 DONEGAL

THE GRANGE LETTERKENNY GLENCAR IRISH Edge of Town Residential Zone

Total Number of dwellings: 50

Survey date: MONDAY 01/09/14 Survey Type: MANUAL

DN-03-A-04 SEMI-DETACHED **DONEGAL** 

**GORTLEE ROAD** LETTERKENNY **GORTLEE** Edge of Town

Residential Zone

Total Number of dwellings: 83

Survey date: FRIDAY 26/09/14 Survey Type: MANUAL

DN-03-A-06 **DETACHED HOUSING DONEGAL** 

GLENFIN ROAD BALLYBOFEY

Edge of Town Residential Zone

Total Number of dwellings:

Survey date: WEDNESDAY 10/10/18 Survey Type: MANUAL Cotswold Transport Planning Ltd 121 Promenade Cheltenham Licence No: 701101

LIST OF SITES relevant to selection parameters (Cont.)

10 DO-03-A-03 DETACHED/SEMI DETACHED DOWN

OLD MILL HEIGHTS BELFAST

DUNDONALD Edge of Town Residential Zone

Total Number of dwellings: 79

Survey date: WEDNESDAY 23/10/13 Survey Type: MANUAL

11 ES-03-A-02 PRIVATE HOUSING EAST SUSSEX

SOUTH COAST ROAD

**PEACEHAVEN** 

Edge of Town Residential Zone

Total Number of dwellings: 37

Survey date: FRIDAY 18/11/11 Survey Type: MANUAL

12 ES-03-A-04 MIXED HOUSES & FLATS EAST SUSSEX

NEW LYDD ROAD

**CAMBER** 

Edge of Town Residential Zone

Total Number of dwellings: 134

Survey date: FRIDAY 15/07/16 Survey Type: MANUAL

13 IW-03-A-01 DETACHED HOUSES ISLE OF WIGHT

MEDHAM FARM LANE

NEAR COWES MEDHAM

Free Standing (PPS6 Out of Town)

Out of Town

Total Number of dwellings: 72

Survey date: TÜESDAY 25/06/19 Survey Type: MANUAL

14 NF-03-A-03 DETACHED HOUSES NORFOLK

HALING WAY THETFORD

> Edge of Town Residential Zone

Total Number of dwellings: 10

Survey date: WEDNESDAY 16/09/15 Survey Type: MANUAL

15 NF-03-A-04 MI XED HOUSES NORFOLK

NORTH WALSHAM ROAD NORTH WALSHAM

Edge of Town Residential Zone

Total Number of dwellings: 70

Survey date: WEDNESDAY 18/09/19 Survey Type: MANUAL

16 NF-03-A-05 MIXED HOUSES NORFOLK

HEATH DRIVE

HOLT

Edge of Town Residential Zone

Total Number of dwellings: 40

Survey date: THURSDAY 19/09/19 Survey Type: MANUAL

17 NY-03-A-07 DETACHED & SEMI DET. NORTH YORKSHIRE

CRAVEN WAY BOROUGHBRIDGE

Edge of Town No Sub Category

Total Number of dwellings: 23

Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

Cotswold Transport Planning Ltd 121 Promenade Cheltenham Licence No: 701101

NORTH YORKSHIRE

LIST OF SITES relevant to selection parameters (Cont.)

18 NY-03-A-10 HOUSES AND FLATS

BOROUGHBRIDGE ROAD

**RIPON** 

Edge of Town No Sub Category

Total Number of dwellings: 71

Survey date: TÜESDAY 17/09/13 Survey Type: MANUAL
NY-03-A-11 PRIVATE HOUSING NORTH YORKSHIRE

HORSEFAIR

BOROUGHBRIDGE

Edge of Town Residential Zone

Total Number of dwellings: 23

Survey date: WEDNESDAY 18/09/13 Survey Type: MANUAL

20 RO-03-A-03 DETACHED HOUSES ROSCOMMON

N61 BOYLE GREATMEADOW Edge of Town No Sub Category

Total Number of dwellings: 23

Survey date: THURSDAY 25/09/14 Survey Type: MANUAL

21 SF-03-A-05 DETACHED HOUSES SUFFOLK

VALE LANE

**BURY ST EDMUNDS** 

Edge of Town

Residential Zone

Total Number of dwellings: 18

Survey date: WEDNESDAY 09/09/15 Survey Type: MANUAL

22 SH-03-A-05 SEMI-DETACHED/TERRACED SHROPSHIRE

SANDCROFT TELFORD SUTTON HILL Edge of Town Residential Zone

Total Number of dwellings: 54

Survey date: THURSDAY 24/10/13 Survey Type: MANUAL

23 SH-03-A-06 BUNGALOWS SHROPSHIRE

ELLESMERE ROAD SHREWSBURY

> Edge of Town Residential Zone

Total Number of dwellings: 16

Survey date: THURSDAY 22/05/14 Survey Type: MANUAL

24 TY-03-A-02 SEMI DETACHED & BUNGALOWS TYRONE

SANDHOLES ROAD COOKSTOWN DERRYLORAN Edge of Town Industrial Zone

Total Number of dwellings: 101

Survey date: THURSDAY 14/03/19 Survey Type: MANUAL

25 WC-03-A-01 DETACHED HOUSES WICKLOW

STATION ROAD WICKLOW

CORPORATION MURRAGH

Edge of Town No Sub Category

Total Number of dwellings: 50

Survey date: MONDAY 28/05/18 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Cotswold Transport Planning Ltd

121 Promenade

Cheltenham

Licence No: 701101

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

**VEHICLES** 

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	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	25	49	0.071	25	49	0.282	25	49	0.353
08:00 - 09:00	25	49	0.137	25	49	0.431	25	49	0.568
09:00 - 10:00	25	49	0.195	25	49	0.210	25	49	0.405
10:00 - 11:00	25	49	0.164	25	49	0.171	25	49	0.335
11:00 - 12:00	25	49	0.154	25	49	0.204	25	49	0.358
12:00 - 13:00	25	49	0.203	25	49	0.183	25	49	0.386
13:00 - 14:00	25	49	0.219	25	49	0.207	25	49	0.426
14:00 - 15:00	25	49	0.205	25	49	0.233	25	49	0.438
15:00 - 16:00	25	49	0.318	25	49	0.238	25	49	0.556
16:00 - 17:00	25	49	0.330	25	49	0.202	25	49	0.532
17:00 - 18:00	25	49	0.418	25	49	0.213	25	49	0.631
18:00 - 19:00	25	49	0.288	25	49	0.199	25	49	0.487
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.702			2.773			5.475

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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#### Parameter summary

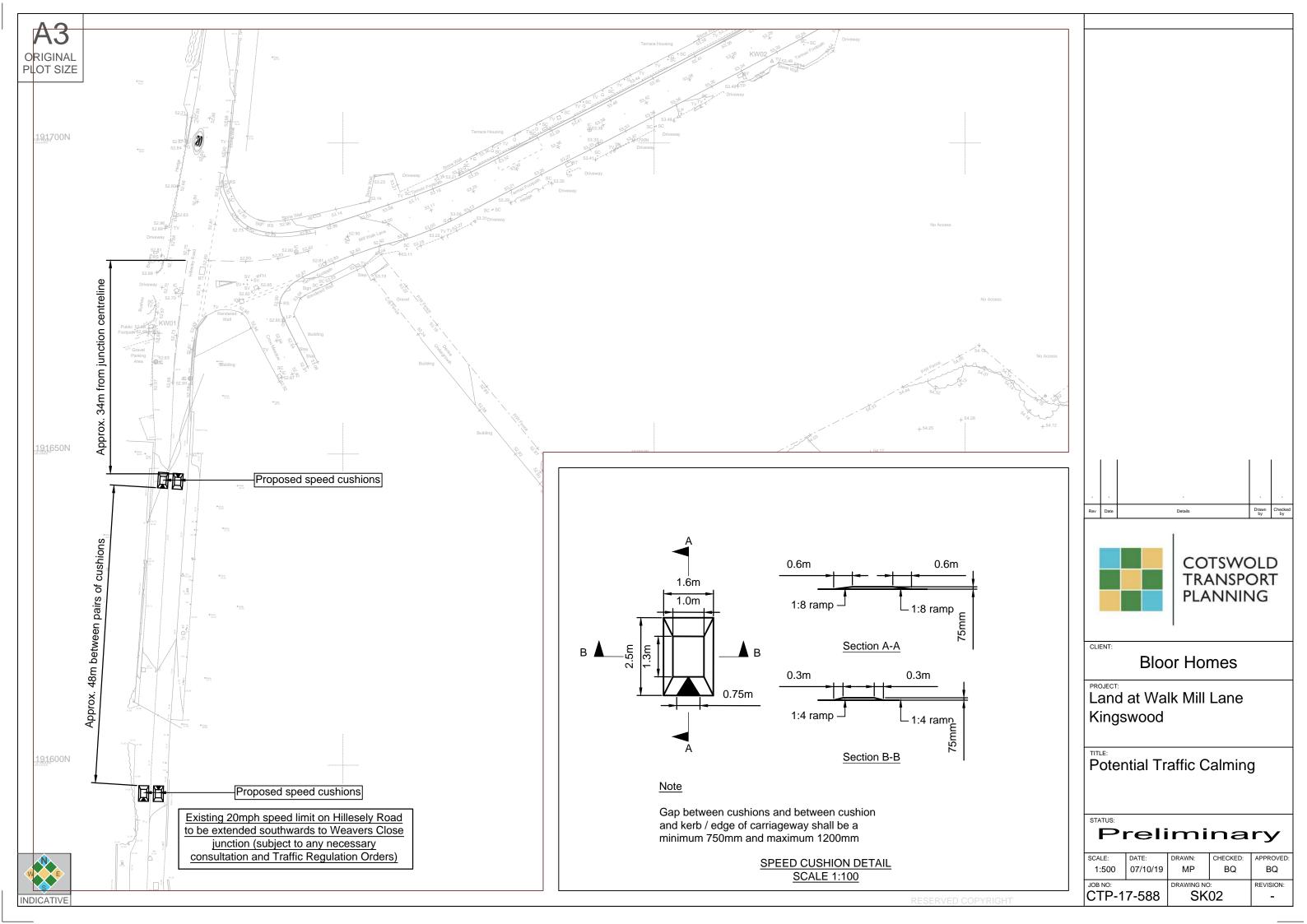
Trip rate parameter range selected: 6 - 134 (units: )
Survey date date range: 01/01/11 - 25/09/19

Number of weekdays (Monday-Friday): 25
Number of Saturdays: 0
Number of Sundays: 0
Surveys automatically removed from selection: 2
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.



# Appendix J







## **Bloor Homes**

Land at Walk Mill Lane, Kingswood

Technical Note

September 2019





# Walking, Cycling and Scooter Infrastructure Assessment Audit: Technical Note Issue 01A – Land at Walk Mill Lane, Kingswood.

CTP-17-588

September 2019

#### Introduction

- 1.1 Cotswold Transport Planning Ltd (CTP) has been appointed by Bloor Homes Western to provide a Technical Note to summarise an audit of the potential walking, cycling and scooter infrastructure improvements required to facilitate safe and suitable access between the development site at Walk Mill Lane in Kingswood and Blue Coat Church of England Primary School, Wotton-under-Edge.
- 1.2 The development site is being promoted for residential development through the Stroud District Local Plan Review. A site location plan demonstrating the most direct route for walking, cycling and scooting from the site to Blue Coat Church of England Primary School is included at Appendix A.

#### Potential walking and cycling improvements

- 1.3 The Institute of Highways and Transport (IHT) guidance document 'Providing for Journeys on Foot' (published 2000) identifies the following walking distances when planning for journeys to Schools:
  - i) Desirable (500m);
  - ii) Acceptable (1km); and
  - iii) Preferred Maximum (2km).
- 1.4 Paragraph 4.4.1 of Manual for Streets (MfS) states that walkable neighbourhoods are typically characterised as having a range of facilities within ten minutes walking distance (around 800m). However, it states that this is not an upper limit and that walking offers the greatest potential to replace short car trips, particularly those under 2km.



- 1.5 Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car journeys, particularly those under 2km. This is also supported by statistics published in the DfT National Travel Survey 2016, which found that that 80% of all trips of less than 1 mile (1.6km) were made on foot.
- 1.6 In terms of cycling, the Local Transport Note 2/08: Cycle Infrastructure Design, produced by the Department for Transport (DfT), states the following at paragraph 1.5.1: 'In common with other modes, many utility cycle journeys are under three miles (4.8km) although, for commuter journeys, a trip distance of over five miles (8km) is not uncommon.'
- 1.7 The Blue Coat Church of England Primary School is located to the north east of the proposed site in Wotton-under-Edge and is approximately 2km in distance of the recommended maximum walking distance referred to in the IHT guidance Providing for Journeys of Foot and Manual for Streets. The proposed route in **Appendix A** also passes Katharine Lady Berkeley's School that is approximately 1km distance from the site.
- 1.8 To provide an overview of the site's acceptability, mindful that it is being promoted through the review of the Local Plan, consideration has been given to the alternative site (Land South of Wickwar Road) which was identified in the last iterations of the Local Plan, i.e. the Preferred Options document. Land South of Wickwar Road is actually located outside the maximum 2km distance at approximately 2.45km as shown in **Appendix B** and for the purposes of this assessment Bloor Homes reasonably consider this site to be inaccessible by foot to the nearest primary schools with capacity in Wotton-under-Edge
- 1.9 An audit of the subject site has been undertaken to identify the barriers to walking, cycling and scooting. It is noted that the route shown on **Appendix A** includes the footway link from Orchard Walk to High Street which cyclists are prevented from using due to cycle prohibition signing and pedestrian guardrails. Cyclists will be required to dismount when using this route for the short section of footway link. There is currently no legislation for non-motorised, 'kick scooters' and these can currently be used on all footways and are not defined the same as a bicycle.
- 1.10 For cyclists an alternative route through Hillesley Road to High Street could be used if they did not wish to dismount due to presence of cycle prohibition signing on alternative routes of further distance through Bramley Close and the footway link from the end of Walk Mill Lane to



- St Mary's Church/High Street. It is noted that it would be more a direct and quicker route to dismount and use the footway link to High Street.
- 1.11 The audit has identified potential deliverable infrastructure improvements to improve the safety and accessibility of the route for both pedestrians, cyclist and scooter users. The proposed improvements do not impede the flow of traffic through Kingswood and are in conformity with the transport policies contained in Kingswood Neighbourhood Development Plan.
- 1.12 **Appendix C** identifies the barriers and illustrations of possible improvements. The improvements shown in **Appendix C** are also summarised in **Table 1** with reference to their compatibility and meeting the aims of Core Policies of Stroud District Local Plan policies and the Kingswood Neighbourhood Development Plan.

Location	Potential Walking/cycling Improvements	Planning Policy Stroud District Council Local Plan (SDCLP) and Kingswood Neighbourhood Development		
		Plan (NDP)		
Walk Mill Lane Junction Orchard Walk	Tactile paving	SDCLP: Policy EI12 NDP: Policy T1B		
Orchard Walk South Western cul- de-sac	Tactile paving and Dropped Kerbs	SDCLP: Policy EI12 NDP: Policy T1B		
Orchard Walk Footway Link to High Street	Footway widening, street lighting improvements, accessibility improvements	SDCLP: Policy EI12 NDP: Policy T1B		
High Street adj Footway Link to High Street	New Section (15m) of Footway	SDCLP: Policy EI12 NDP: Policy T1B		
High Street Junction Golden Lane	Tactile paving	SDCLP: Policy EI12 NDP: Policy T1B		
High Street Junction The Walk	Tactile paving	SDCLP: Policy EI12 NDP: Policy T1B		
High Street Junction Abbey Road	Tactile paving and Dropped Kerbs	SDCLP: Policy EI12 NDP: Policy T1B		
Wotton Road/Tubbs Turf	Zebra Crossing	SDCLP: Policy EI12 NDP: Policy T1A/T1B		
Wotton Road adj Katharine Lady Berkeley's School	Widen footway along site frontage	SDCLP: Policy EI12 NDP: Policy T1B		
Katharine Lady Berkeley's School Accesses	Tactile Paving	SDCLP: Policy EI12 NDP: Policy T1B		
Katharine Lady Berkeley's School	Upgrade Bus Hard Standing Area	SDCLP: Policy EI12/EI16		
Wotton Road north of Katharine Lady Berkeley's School to Junction with New Road	Widened Shared footway/cycleway	SDCLP: Policy EI12 NDP: Policy T1A/T2B		
Wotton Road	Upgrade Pelican Crossing to Toucan Crossing	SDCLP: Policy EI12 NDP: Policy T1A/T2B		
New Road from Junction with Wotton Road adj to Allotments	Widened Shared footway/cycleway	SDCLP: Policy EI12 NDP: Policy T1A/T2B		

Table 1: Summary of potential walking and cycling improvements



#### Highway Safety Personal Recorded Collisions

- 1.13 Personal Injury Collision (PIC) data has been obtained from 'Crashmap' for Kingswood area along the route Blue Coat Church of England Primary School in Wotton under Edge for the most recent five-year period available. The Crashmap report and collision plot map are included as **Appendix D**. There have been no collisions that have occurred in the vicinity of the application site or site access.
- 1.14 Over the five-year period, four slight collisions have occurred and one serious within the study area.

Slight

- 1.15 The first most recent slight incident occurred on Sunday 20<sup>th</sup> August 2017 at 20:38 PM along Wotton Road on a wet/damp road surface. The collision involved a vehicle turning right into a private drive with the other vehicle proceeding normally along the carriageway. The driver of vehicle turning right received slight injuries.
- 1.16 The second most recent slight incident occurred on Monday 19<sup>th</sup> October 2015 at 09:45 AM along Symn Lane near the junction of Orchard Street on a dry road surface. The collision involved a vehicle colliding with a pedestrian crossing the road. The pedestrian received slight injuries.
- 1.17 The third most recent slight incident occurred on Saturday 1<sup>st</sup> November 2014 at 15:50 PM at the junction of Wotton Road and New Road on a wet/damp road surface. The collision involved a car moving off with a motorcycle proceeding normally along the carriageway. The rider of the motorcycle received slight injuries.
- 1.18 The fourth most recent slight incident occurred on 11<sup>th</sup> September 2014 at 15:45 PM at the Chestnut Park Estate on a dry road surface. The collision involved a car proceeding normally along the carriageway colliding with a pedestrian crossing. The pedestrian received slight injuries.

Serious

1.19 There has been one serious incident that occurred on the 17<sup>th</sup> December 2015 at 12:00 PM along Old Rectory Road adjacent to the Junction with Charfield Road on a wet/damp road



surface. The collision involved a car proceeding normally along the carriageway when it collided with a pedestrian. The pedestrian received serious injuries.

#### Summary

1.20 After reviewing the PIC data, the collisions identified can be attributed to driver error, rather than an inherent highway safety concern or geometric feature in the road layout. Therefore, it is not considered that there is an existing highway safety issue on the highway network, within the study area, that could be exacerbated as a result of the proposed development.

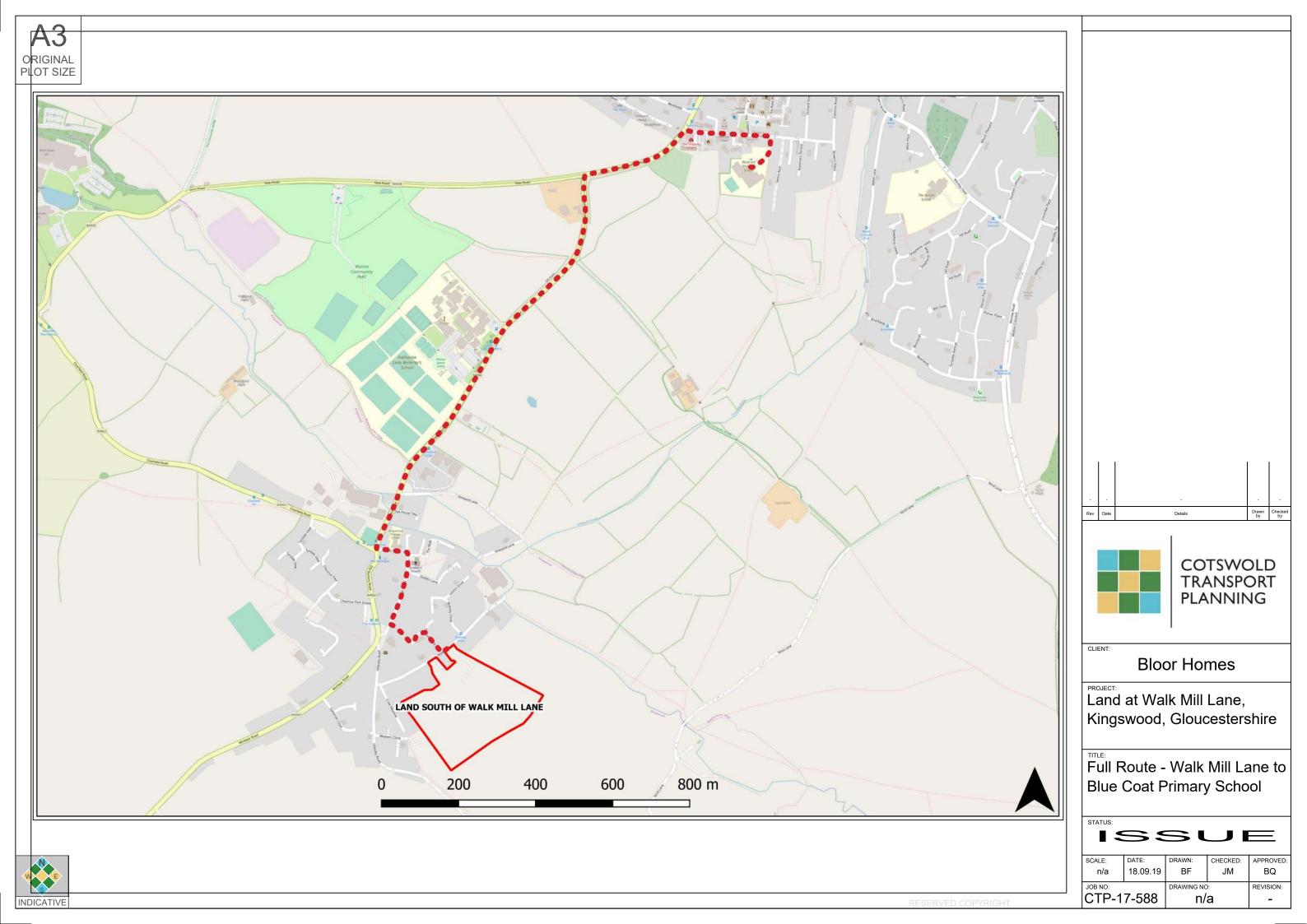
#### Conclusion

- 1.21 The Audit of the most direct walking, cycling and scooting route to Blue Coat Church of England Primary School has identified barriers and potential improvements that could be made to walking, cycling and scooting.
- 1.22 The potential walking, cycling and scooter improvements are compliant with the Kingswood Neighbourhood Development Plan and the Stroud District Local Plan Review.



## $Appendix\,A$

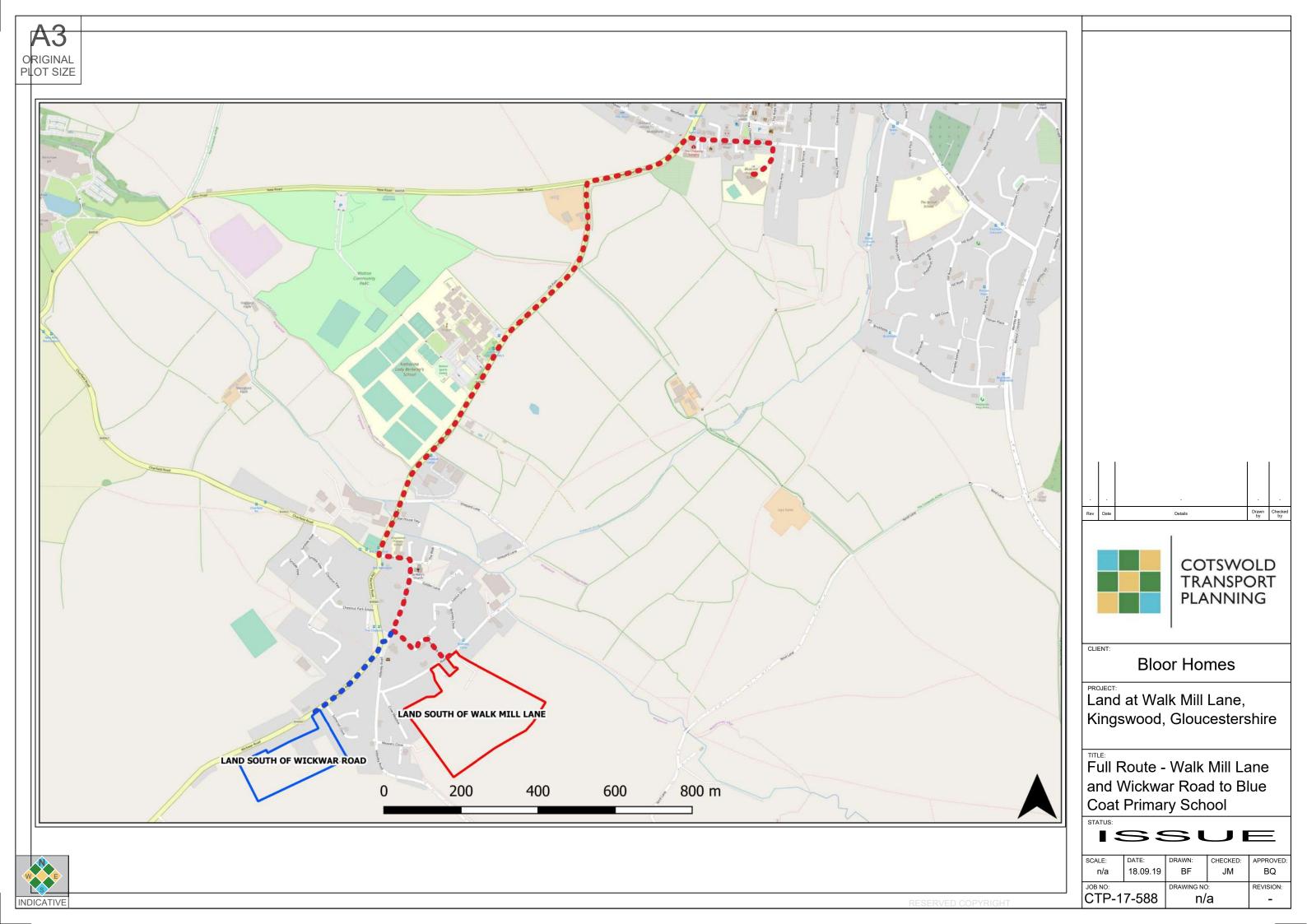
Site Location Plan Route to Blue Coat Church of England Primary School





# Appendix B

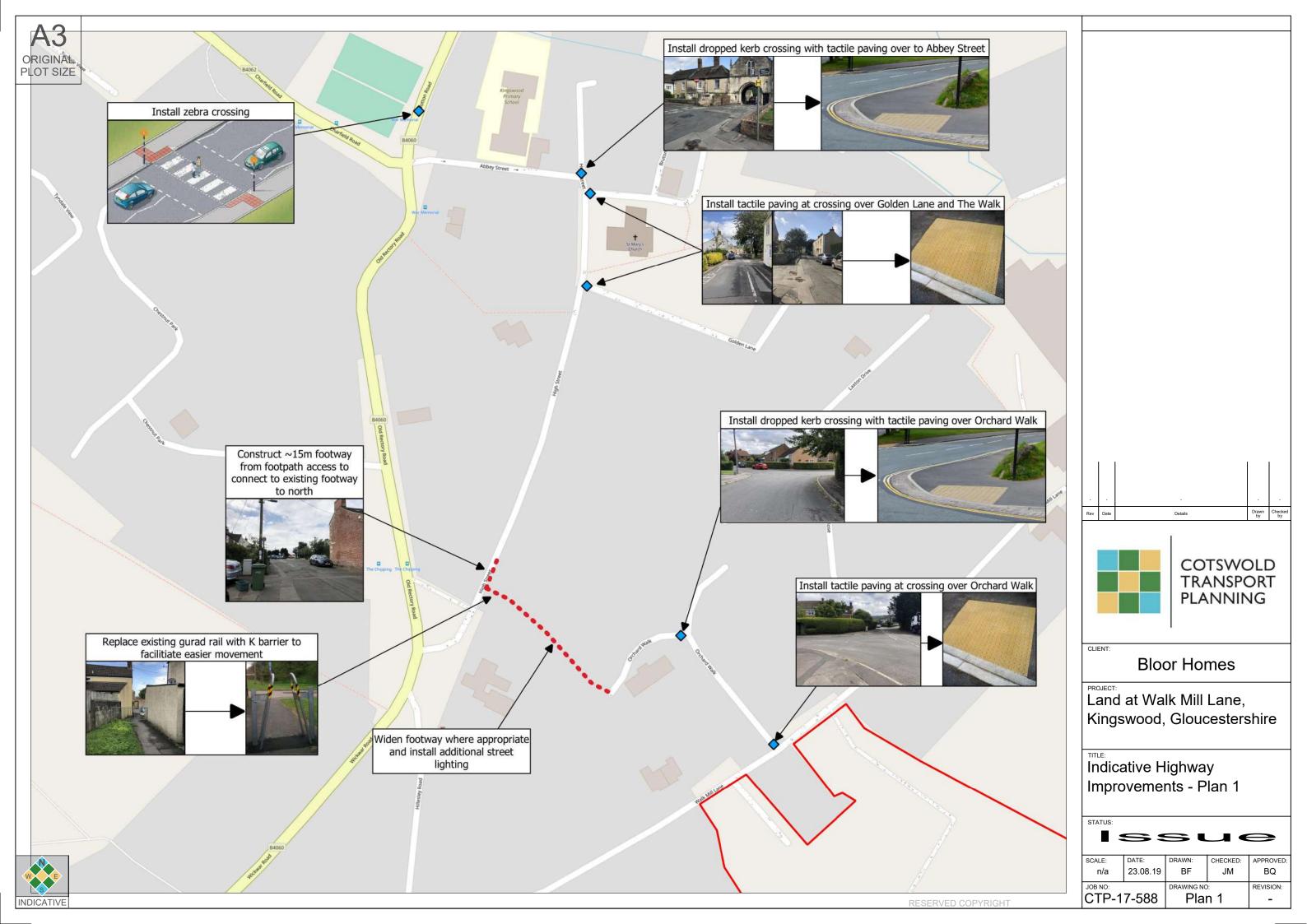
Location Plan Site Accessibility Overview



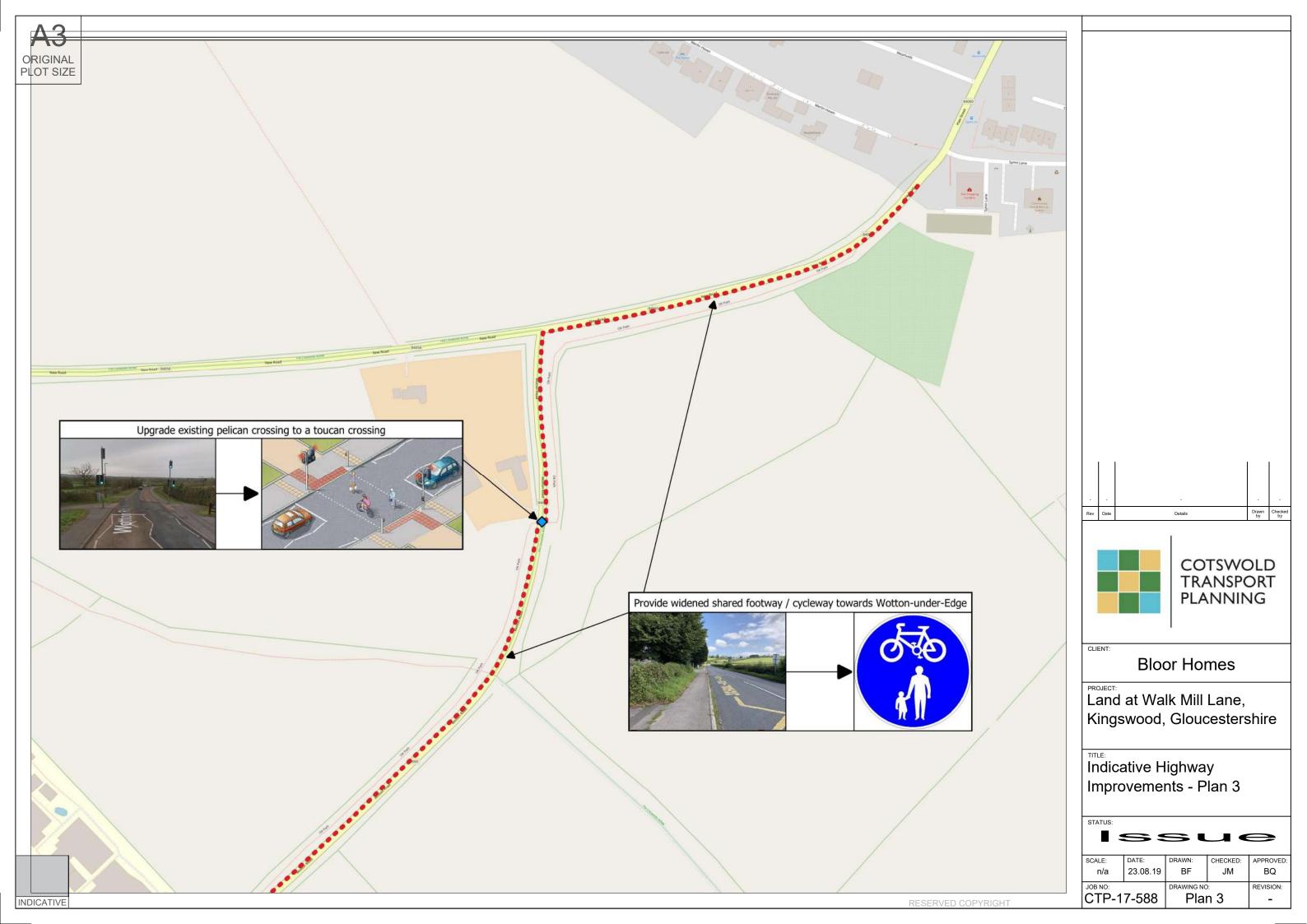


# Appendix C

Potential Walking & Cycling Improvements





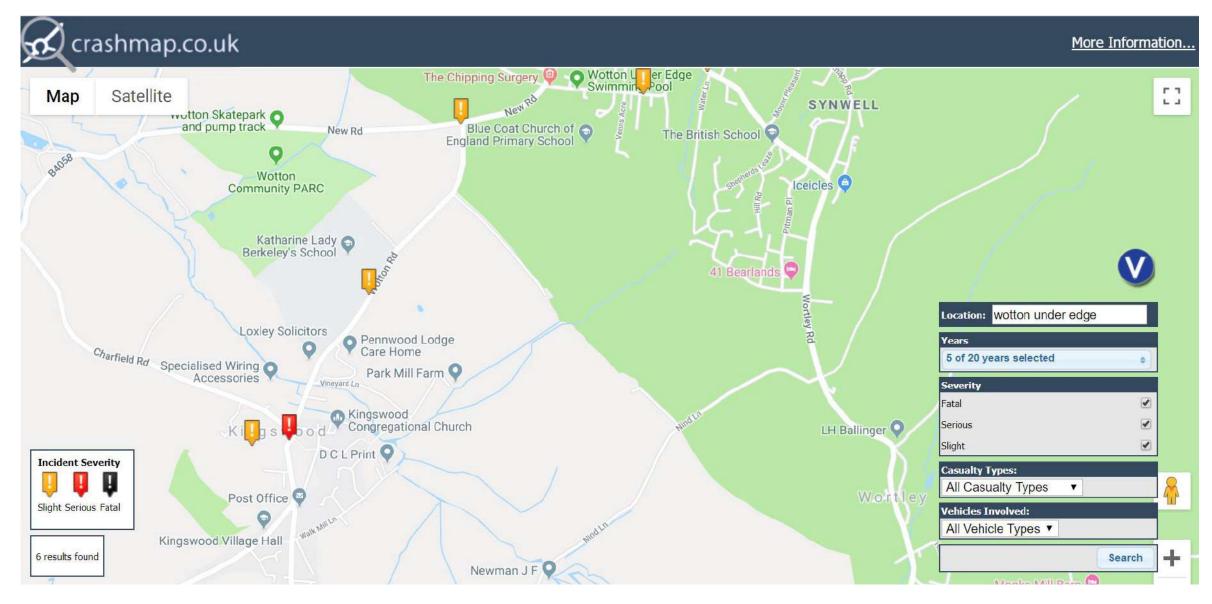




# Appendix D

Personal Injury Collisions

# Crashmap Personal Recorded Injury Collisions 5 years





Crash Date: Thursday, September 11, 2014 Time of Crash: 3:45:00 PM Crash Reference: 2014530208992

Highest Injury Severity: Slight Road Number: U0 Number of Casualties: 1

Highway Authority: Gloucestershire Number of Vehicles: 1

**Local Authority:** Stroud District **OS Grid Reference:** 374500 191980

**Weather Description:** Fine without high winds

**Road Surface Description:** Dry

Speed Limit: 30

**Light Conditions:** Daylight: regardless of presence of streetlights

Carriageway Hazards: None

**Junction Detail:** Not at or within 20 metres of junction

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** Single carriageway

**Junction Control:** Not Applicable









Vehicle Ref	hicle Vehicle Type Vehicle Driver Driver Age Vehic f Age Gender Band		Vehicle Maneouvre	First Point of Impact			Hit Object - Off Carriageway		
1	Car (excluding private hire)	-1	Unknow n		Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Other	None	None

### **Casualties**

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Male	11 - 15	In carriageway, crossing elsewhere	Unknown or other





Crash Date: Saturday, November 01, 2014 Time of Crash: 3:50:00 PM Crash Reference: 2014530209362

Highest Injury Severity: Slight Road Number: B4058 Number of Casualties: 1

Highway Authority: Gloucestershire Number of Vehicles: 2

**Local Authority:** Stroud District **OS Grid Reference:** 375170 192998

**Weather Description:** Fine without high winds

**Road Surface Description:** Wet or Damp

**Speed Limit:** 30

**Light Conditions:** Daylight: regardless of presence of streetlights

Carriageway Hazards: None

**Junction Detail:** T or staggered junction

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** Single carriageway

**Junction Control:** Give way or uncontrolled









Vehicle Ref	Vehicle Type		Driver Gender		Vehicle Maneouvre	First Point of Impact			Hit Object - Off Carriageway
2	Car (excluding private hire)	12	Male	46 - 55	Vehicle is moving off	Front	Commuting to/from work	None	None
1	Motorcycle 50cc and under	1	Male		Vehicle proceeding normally along the carriageway, not on a bend	Front	Commuting to/from work	None	None

### **Casualties**

Ì	Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
	1	1	Slight	Driver or rider	Male	16 - 20	Unknown or other	Unknown or other





Crash Date: Thursday, December 17, 2015 Time of Crash: 12:00:00 PM Crash Reference: 2015530037394

**Highest Injury Severity:** Serious **Road Number:** B4060 **Number of Casualties:** 1

Highway Authority: Gloucestershire Number of Vehicles: 1

**Local Authority:** Stroud District **OS Grid Reference:** 374618

**Weather Description:** Raining without high winds

Road Surface Description: Wet or Damp

**Speed Limit:** 30

**Light Conditions:** Daylight: regardless of presence of streetlights

Carriageway Hazards: None

**Junction Detail:** T or staggered junction

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** Single carriageway

**Junction Control:** Give way or uncontrolled







Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	 Vehicle Maneouvre	First Point of Impact			Hit Object - Off Carriageway
1	Car (excluding private hire)	8	Male	Vehicle proceeding normally along the carriageway, on a right hand bend	Nearside	Other	None	Wall or fence

### **Casualties**

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Serious	Pedestrian	Female	56 - 65	On footway or verge	Unknown or other





Crash Date: Monday, October 19, 2015 Time of Crash: 9:45:00 AM Crash Reference: 2015530209927

Highest Injury Severity: Slight Road Number: U0 Number of Casualties: 1

Highway Authority: Gloucestershire Number of Vehicles: 1

**Local Authority:** Stroud District **OS Grid Reference:** 375750 193085

**Weather Description:** Fine without high winds

**Road Surface Description:** Dry

Speed Limit: 20

**Light Conditions:** Daylight: regardless of presence of streetlights

Carriageway Hazards: None

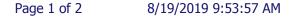
**Junction Detail:** T or staggered junction

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** One way street

**Junction Control:** Give way or uncontrolled









Vehicle Ref	hicle Vehicle Type Vehicle Driver Driver Age Vehicle M f Age Gender Band		Vehicle Maneouvre	First Point of Impact			Hit Object - Off Carriageway		
1	Car (excluding private hire)	-1	Male		Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

### **Casualties**

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Female	21 - 25	In carriageway, crossing elsewhere	Crossing from driver's nearside





Crash Date: Sunday, August 20, 2017 Time of Crash: 8:38:00 PM Crash Reference: 2017530213155

Highest Injury Severity: Slight Road Number: U0 Number of Casualties: 1

Highway Authority: Gloucestershire Number of Vehicles: 2

**Local Authority:** Stroud District **OS Grid Reference:** 374873

**Weather Description:** Raining without high winds

**Road Surface Description:** Wet or Damp

**Speed Limit:** 30

**Light Conditions:** Darkness: no street lighting

Carriageway Hazards: None

**Junction Detail:** Using private drive or entrance

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** Single carriageway

**Junction Control:** Give way or uncontrolled









''  .			Driver Gender		Vehicle Maneouvre	First Point of Impact	· ·	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Car (excluding private hire)	-1	Male		Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
1	Car (excluding private hire)	7	Female	16 - 20	Vehicle is in the act of turning right	Front	Other	None	None

### **Casualties**

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	16 - 20	Unknown or other	Unknown or other





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