

Proposed Trip Generation

5.3.6 The proposed development at the Brewery site is anticipated to generate the incremental traffic flows as shown in Table 5-2 overleaf.

AM Peak		PM Peak	
Arriving	Departing	Arriving	Departing
138	91	81	126

Table 5-2: Vehicle trips Generated by the Brewery Development

(Source: Table 4, 'The Brewery, Blandford St Mary, Transport Assessment', 2006)

5.4 Black Lane Housing Development

5.4.1 Persimmon Homes have submitted a planning application to develop 85 homes in Blandford Forum on a 3.11 hectares area of land located off Wimborne Road and Black Lane. The site has the A354 running along its eastern side, the B3082 (Wimborne Road) along its southern side, a school and adult learning centre to its west, and Black Lane to the North. This puts the Persimmon Homes housing development approximately 0.75 miles (1.2km) north-east of the residential development, just off the B3082/A354 roundabout.

5.4.2 A new access point off Wimborne Road has been proposed to serve the new housing development. The new junction will be designed to suit the needs of the development, such as access for refuse vehicles. A possible new pedestrian/cycle way has been discussed that would run along the northern side of Wimborne Road to the junction with Black Lane, and then further along Black Lane.

5.4.3 The existing Wimborne Road/Black Lane junction will also be modified, with the existing turning facility being closed and new crossing facilities installed to make walking to Blandford Forum town centre simpler for pedestrians.

5.4.4 Persimmon Homes' housing will have its own parking either to the side or rear, with some casual parking provision planned to cater for visitors. The houses will also be able to accommodate cycle parking either in sheltered parking area or in secured rear gardens.

Proposed Trip Generation

5.4.5 The proposed development of 85 residential dwellings on Black Lane is anticipated to generate the following number of trips in the AM and PM peak hours.

AM Peak		PM Peak	
Arriving	Departing	Arriving	Departing
22	79	57	35

Table 5-3: Vehicle trips generated by the Black Lane Development

(Source: Table 6.2, Land of Wimborne Road Transport Assessment, May 2001)

5.5 Summary of Additional Traffic from Committed Developments

5.5.1 The sum of committed development trips impacting on the A354/A350/Bournemouth Road Roundabout and the Stour Park/Bournemouth Road/Birch Avenue Roundabout has been determined from distribution diagrams in the committed development TAs and added to the proposed development flows for the purposes of junction assessments. Table 5-4 overleaf shows the number of committed development trips expected to impact on the assessment roundabouts.

A354/A350/Bournemouth Road Roundabout		Stour Park/Bournemouth Road/Birch Avenue Roundabout	
AM	PM	AM	PM
241	240	283	286

Table 5-4: Summary of committed developments trips impacting on assessment roundabouts

6 JUNCTION CAPACITY ASSESSMENTS**6.1 General**

6.1.1 This section of the TA details the results of the junction capacity assessments. Modelling work was originally undertaken in May 2013 on a parameter of 200 dwellings (see Appendix 1). This has since been revised to 350 dwellings and all modelling work undertaken for this report considers the scenario of 350 dwellings. The following junctions were identified in the TA scoping and agreed with DCC to be the junctions most likely to be impacted by the proposed development.

- A354/A350/Bournemouth Road Roundabout - ARCADY
- Stour Park/Bournemouth Road/Birch Avenue Roundabout - ARCADY
- A354 Site Access - PICADY
- A350 Site Access - PICADY

6.1.2 The junctions have been assessed using JUNCTION 8 which is a software package that includes ARCADY (Assessment of Roundabout Capacity and Delay) to assess roundabout capacity and PICADY (Priority Intersection Capacity and Delay) to assess priority junctions.

6.1.3 Junction performance can be measured using Ratio of Flow to Capacity (RFC), with a value of 100% being the maximum theoretical capacity of an approach to a junction. However, in reality, junction performance normally starts to be affected when the RFC reaches 85%. Therefore, for the purposes of this capacity assessment, 85% is considered to indicate the point where junction performance begins to breakdown. However, the requirement for any mitigation must also consider queue lengths which are also an indication of junction performance. For example, the RFC on a particular approach may be above 85% but the queue length may be considered to be acceptable.

6.2 Assessment Years and Development Scenarios

6.2.1 Junction capacity assessments have been undertaken in the AM (08.00-09.00) and PM (17.00-18.00) peak hours for the following years:

- 2013 - Base Year – ARCADY assessments only due to PICADY assessments only being required for new site accesses
- 2014 without development (committed development included) – Application year
- 2014 with development (committed development included) – Application year
- 2025 without development (committed development included) – 10 years post opening year
- 2025 with development (committed development included) – 10 years post opening year

6.3 Background Traffic Growth

6.3.1 Background traffic growth has been calculated using growth factors obtained from the Department for Transport's Trip End Model Presentation Programme (TEMPO) which is the output of their National Trip End Model (NTEM). The growth factors shown in Table 6-1 and Table 6-2 have been adjusted with National Transport Model

6.3.2 The growth factors have also been manually adjusted in accordance with Section 5.7 of TAG Unit 3.15.2 so as to avoid double counting as a result of identified committed development. As the Brewery development and the Black Lane development (committed developments) have been explicitly modelled, the TEMPRO housing predications have been reduced accordingly.

6.3.3 TEMPRO shows that the number of jobs generated between 2013 and 2025 in the Blandford Forum area would only be 22. Due to the small number of jobs forecast, manual adjustments to take account of new jobs generated by the Tesco's extension (65 full-time jobs) have not been made. This will help to ensure a conservative assessment.

2013-2014 TEMPRO Growth Factors			
Peak	Area Description	Area	All purposes: Local Growth Factor
AM	19UE1	Blandford Forum	1.001
PM	19UE1	Blandford Forum	1.002

Table 6-1: 2013-2014 TEMPRO Growth Factors

2013-2025 TEMPRO Growth Factors			
Peak	Area Description	Area	All purposes: Local Growth Factor
AM	19UE1	Blandford Forum	1.096
PM	19UE1	Blandford Forum	1.110

Table 6-2: 2013-2025 TEMPRO Growth Factors

6.4 ARCADY Assessments

6.4.1 The results of the ARCADY junction capacity assessments are presented below. For the purpose of comparison between demand scenarios, the summary results are presented collectively for the AM and PM peak hours. The ARCADY output reports are included as Appendix 6.

A354/A350/Bournemouth Road Roundabout

6.4.2 A summary of the key performance indicators is shown in Table 6-3 below. For ease of reference RFCs below 50% are coloured green, RFC's between 50%-85% are coloured amber and any value above 85% is coloured red.

6.4.3 It can be seen from the summary results in Table 6-3 that the roundabout is forecast to operate within capacity over the assessment period in both the AM and PM peak hours. Traffic generated by the proposed developments is shown to only marginally impact the junction with a difference in RFC values on the A354 western approach in the AM peak, for example, only being 0.1% higher in 2025 than without development.

	AM			PM		
	Max Queue (PCU)	Delay (s) /veh	RFC	Max Queue (PCU)	Delay (s) /veh	RFC
2013 Base Year						
A354 (E)	1.41	4.77	0.57	1.51	5.13	0.60
A350 (S)	1.17	6.80	0.53	1.21	7.09	0.55
A354 (W)	0.59	3.86	0.36	0.56	4.04	0.34
Bournemouth Rd	0.67	4.69	0.40	1.32	6.38	0.57
2014 Without Development						
A354 (E)	1.70	5.44	0.62	1.85	5.98	0.65
A350 (S)	1.64	8.64	0.62	1.67	8.94	0.62
A354 (W)	0.76	4.53	0.42	0.70	4.64	0.39
Bournemouth Rd	0.78	4.99	0.43	1.89	8.01	0.66
2014 With Development						
A354 (E)	1.76	5.58	0.63	2.01	6.37	0.67
A350 (S)	1.96	9.73	0.66	1.91	9.86	0.66
A354 (W)	0.89	4.97	0.46	0.75	4.81	0.41
Bournemouth Rd	0.84	5.27	0.45	2.06	8.58	0.68
2025 Without Development						
A354 (E)	2.24	6.60	0.68	2.67	7.86	0.73
A350 (S)	2.35	11.41	0.70	2.56	12.64	0.72
A354 (W)	0.95	5.24	0.48	0.90	5.46	0.46
Bournemouth Rd	1.08	6.02	0.51	2.84	11.10	0.74
2025 With Development						
A354 (E)	2.32	6.79	0.69	2.94	8.54	0.75
A350 (S)	2.89	13.38	0.74	3.04	14.55	0.76
A354 (W)	1.13	5.84	0.52	0.97	5.70	0.47
Bournemouth Rd	1.16	6.43	0.53	3.17	12.21	0.76

Table 6-3: A354/A350 Roundabout Summary of Key Performance Indicators

Stour Park/Bournemouth Road/Birch Avenue Roundabout

- 6.4.4 Table 6-4 below summarises the key performance indicators for the roundabout. It can be seen that the roundabout is shown to operate within capacity in 2014 but by 2025 (in the 'Without Development' scenario) the RFC values in the PM peak hour for the Bournemouth Road northern and southern approaches would exceed 85% with values of 86% and 105% respectively. Maximum queue lengths on the northern approach would be 34 Passenger Car Units (PCU) and 6 PCUs on the southern approach.
- 6.4.5 In 2025, the modelling shows that RFC values on the Bournemouth Road approaches in the 'without development' scenario will exceed 85%. However, the proposed development traffic is not shown to significantly increase the RFC values and does not specifically cause any arm of the roundabout to exceed capacity.

	Max Queue (PCU)	Delay (s) /veh	RFC	Max Queue (PCU)	Delay (s) /veh	RFC
2013 Base Year						
Stour Park	1.91	6.49	0.65	2.20	7.49	0.68
Bournemouth Rd (S)	1.84	10.82	0.63	2.00	11.85	0.65
Birch Avenue	1.51	9.93	0.60	1.35	9.85	0.57
Bournemouth Rd (N)	1.37	9.65	0.56	4.20	21.00	0.81
2014 Without Development						
Stour Park	1.86	6.38	0.64	2.21	7.54	0.68
Bournemouth Rd (S)	1.82	10.66	0.62	2.02	11.94	0.65
Birch Avenue	1.49	9.79	0.59	1.36	9.90	0.57
Bournemouth Rd (N)	1.38	9.67	0.56	4.26	21.27	0.81
2014 With Development						
Stour Park	1.96	6.61	0.66	2.33	7.85	0.69
Bournemouth Rd (S)	2.06	11.70	0.65	2.20	12.74	0.67
Birch Avenue	1.75	11.05	0.63	1.45	10.32	0.58
Bournemouth Rd (N)	1.46	10.17	0.58	4.68	23.17	0.82
2025 Without Development						
Stour Park	3.61	10.57	0.78	5.08	14.80	0.84
Bournemouth Rd (S)	4.30	22.10	0.80	6.05	31.25	0.86
Birch Avenue	3.38	19.33	0.77	3.41	21.31	0.78
Bournemouth Rd (N)	2.62	15.90	0.72	34.14	128.88	1.05
2025 With Development						
Stour Park	3.72	10.84	0.79	5.44	15.73	0.85
Bournemouth Rd (S)	5.12	25.67	0.83	7.08	36.01	0.88
Birch Avenue	4.24	23.67	0.82	3.75	23.14	0.79
Bournemouth Rd (N)	2.85	17.24	0.73	39.90	146.88	1.07

Table 6-4: Stour Park/Bournemouth Road Roundabout Key Performance indicators

- 6.4.6 Impact assessments carried out at this junction have identified that in 2025 the junction has a capacity issue on the Bournemouth Road (northern) approach. RFC of 105% and a queue of 34 PCUs (260m) are observed in the PM peak. Once the development impact is loaded onto the network this increases to an RFC of 107% and a queue of 40 PCUs (300m).
- 6.4.7 Evidently there is an existing problem on the Bournemouth Road (northern) approach in the forecast years, no doubt due to the pressure of background growth. The New Plan for North Dorset (2010) states that Blandford St. Mary is planned to accommodate 21% of housing growth in the district, or 1,500 new houses between

2006 and 2026, reflecting Blandford Forum's importance as one of the main centres for growth in the district. More development is still likely to come forward and impact this junction worsening the situation. These concerns will not only be relevant to this site at Blandford St Mary but any other development proposals or plans for this area of Blandford.

- 6.4.8 Although the issue of capacity on the Bournemouth Road (northern) approach is one that needs to be addressed in the future, it is not an issue that should be addressed by this development site. The NPPF states that any improvements to the transport network should be cost effective against the impacts of the development, and that developments should only be refused on transport grounds where this is not the case, where the residual impacts of the development are too severe. It is considered that the kind of improvements required on the Bournemouth Road approach would not be cost effective against the actual impact of development traffic.

6.5 PICADY Assessments

- 6.5.1 PICADY assessments have been undertaken on the two priority junctions that are proposed to provide access to the site. The key junction performance indicators are shown in the tables below. As with the ARCADY assessment, RFC values are coloured according to value. In this instance all RFC's are below 50% and therefore are coloured green.

A354 Site Access

- 6.5.2 Table 6-5 shows that the A354 site access junction would operate within capacity in 2014 and 2025. The modelling shows that there would be no queue to exit or enter the proposed development in the application year or 10 years after opening.

	AM			PM		
	Max Queue (PCU)	Max Delay (s) /veh	Max RFC	Max Queue (PCU)	Max Delay (s) /veh	Max RFC
2014						
Site Access – A354 (West)	0.08	6.72	0.07	0.03	6.21	0.03
Site Access – A354 (East)	0.13	11.25	0.12	0.05	10.20	0.04
Right turn into site access from A354	0.03	6.49	0.02	0.06	6.71	0.06
2025						
Site Access – A354 (West)	0.08	6.97	0.07	0.03	6.43	0.03
Site Access – A354 (East)	0.15	12.41	0.13	0.05	11.21	0.05
Right turn into site access from A354	0.03	6.69	0.03	0.06	6.95	0.06

Table 6-5: A354 Site Access Junction Key Performance Indicators

A350 Site Access

- 6.5.3 Table 6-6 shows the key performance indicators for the A350 site access junction. It can be seen that the modelling does not forecast there to be any capacity problems in either the 2014 or 2025 forecast years. As with the A354 access, the modelling shows that there would be no queues to exit or enter the proposed development.

	AM			PM		
	Max Queue (PCU)	Max Delay (s) /veh	Max RFC	Max Queue (PCU)	Max Delay (s) /veh	Max RFC
2014						
Site Access – A350 (North)	0.10	8.33	0.09	0.04	7.61	0.04
Site Access – A350 (South)	0.19	16.87	0.16	0.07	16.17	0.07
Right Turn into site from A350	0.03	7.48	0.03	0.07	7.81	0.07
2025						
Site Access – A350 (North)	0.11	8.77	0.10	0.04	7.98	0.04
Site Access – A350 (South)	0.22	19.48	0.18	0.09	19.00	0.08
Right Turn into site from A350	0.03	7.79	0.03	0.07	8.18	0.07

Table 6-6: A350 Site Access Junction Key Performance Indicators

6.6 Impact on the Trunk Road

6.6.1 It is considered that the Highways Agency may have concerns regarding the impact of the proposed development on the A31/A350 junction and A31/A354 junction. For this reason a brief assessment has been undertaken to satisfy any concerns.

A31/A350 Junction

6.6.2 This junction is located 7 miles from the proposed development. In the AM peak a total of 13 trips arrive from the south and 37 depart from the site to the south. Assuming all trips used this junction when travelling from or to the site a total of 50 two way trips will impact at the A31/A350 junction in the AM peak. In the PM peak the two way total is 45. However, considering the junction is 7 miles away and there will be a significant dispersion of the traffic between the site and the junction it is not considered that these trips will have an impact on the safe and efficient operation of the A31/A350 junction.

A31/A354 Junction

6.6.3 This junction is located 10 miles from the proposed development. In the AM peak a total of 13 trips arrive from the west and 38 depart from the site to the west. Assuming all trips used this junction when travelling from or to the site a total of 51 two way trips will impact at the A31/A354 junction in the AM peak. In the PM peak the two way total is 44. However, considering the junction is 10 miles away and there will be a significant dispersion of the traffic between the site and the junction to other local roads on the network it is not considered that these trips will have an impact on the safe and efficient operation of the A31/A354 junction.

6.6.4 Further information is not available to inform our assessment above and due to the sites distance from the trunk road junction it is considered that it would be unfair to expect the applicant to undertake extensive surveys to ascertain a detailed impact at either of the trunk road junctions.

6.7 Summary

- 6.7.1 Junction capacity assessments have been undertaken for the two site access junctions, A354/A350/Bournemouth Road Roundabout and Stour Park/Bournemouth Road/Birch Avenue Roundabout to assess junction capacity/performance with and without proposed development trips in 2014 and 2025.
- 6.7.2 The junction assessments show that the proposed site accesses and the A354/A350/Bournemouth Road Roundabout will operate without capacity issues, with and without proposed development trips, in 2014 and 2025.
- 6.7.3 The Stour Park/Bournemouth Road/Birch Avenue Roundabout, however, is shown to experience capacity problems in the PM peak in 2025 although these capacity problems would not be as a direct result of the proposed development trips.
- 6.7.4 The impact of proposed development trips on the A31 Trunk Road is considered to be negligible due to the distance and dispersion of traffic from the site to the A354/A31 and the A350/A31 junctions.

7 MITIGATION**7.1 General**

7.1.1 This section details the measures identified through this TA to mitigate/reduce the impact of the proposed development on the adjacent highway network. The measures detailed below have been identified in accordance with national, regional and local policies. The measures are therefore consistent with an overriding objective to reduce the need to travel by private vehicle, do not favour highway users, and are commensurate to the scale of the proposed development.

7.1.2 The identified measures fall into either the 'soft' measures category of 'hard' measures category. 'Soft' measures are initiatives that attempt to change travel behaviour such as public transport information in a home welcome pack. 'Hard' measures are physical infrastructure works such as the construction of a shared use footway/cycling facility.

7.2 Soft Measures

7.2.1 The 'soft' measures identified through this TA are detailed in the Travel Plan which accompanies this TA. The proposed soft measures are as follows:

- Welcome Pack – this will detail information on public transport, local cycling and pedestrian routes as well as access to local facilities and amenities
- Travel Plan Coordinator

7.3 Hard Measures

7.3.1 The 'hard' measures identified will contribute to improving pedestrian connectivity within the development site itself and between the development site and Blandford Forum. They will also improve access to and the attractiveness of public transport. The 'hard' measures that could be implemented with this development are as follows:

- A bus lay-by on the A350 designed in conjunction with the proposed site access
- An uncontrolled crossing on the A350 adjacent to the Lower Blandford St Mary, Moose Hall (southbound) bus stop.
- The continuation and improvement of the Sturminster Trailway along the sites frontage of the A350 (including improvements to the existing A354 uncontrolled crossing).
- A signage strategy and lighting improvements to encourage use for pedestrians and cyclists through Langton Meadows

Bus lay-by on the A350

7.3.2 The development proposal includes a bus lay-by scheme designed in conjunction with the A350 site access (see Figure 4-2). The proposed scheme will provide a safer/more attractive and closer alternative to the existing unmarked bus stop located adjacent to Ward's Drive on the eastern corner of the proposed site. A dedicated bus lay-by with a bus shelter will make waiting for buses safer and more comfortable. In addition, removing stopped buses from the highway will reduce the potential hazard caused by vehicles passing stationary buses.

Uncontrolled crossing on the A350

- 7.3.3 An uncontrolled crossing will be provided on the A350 adjacent to the Moose Hall southeast-bound bus stop. The crossing will be designed in accordance with the guidance in Local Transport Note 2/95 'The Design of Pedestrian Crossings'. Dropped kerbs and tactile paving will facilitate the safe movement of pedestrians across the A350 to the southeast-bound bus stop.

Continuation and Improvement to the Sturminster Trailway

- 7.3.4 To encourage walking and cycling from the site and within North Dorset District in general, the development proposal includes a scheme to complete the Sturminster Trailway link between Ward's drive and Blandford St Mary Roundabout. This scheme would be consistent with Policy 16 of the Draft North Dorset Local Plan – 2011 to 2026, Pre-submission Document, November 2013.
- 7.3.5 This will provide a continuous off-road trailway between Spetisbury and Stalbridge. Completion of the Sturminster Trailway around the proposed development site will help to encourage walking and cycling trips to Blandford Forum, thereby reducing the need to travel by car.
- 7.3.6 The proposed scheme, associated with the development, will also include improvements to the existing A354 uncontrolled crossing on the western side of Blandford St Mary Roundabout.¹ The proposed upgrade of the uncontrolled crossing will be undertaken in accordance with the guidance in Local Transport Note 2/95 'The Design of Pedestrian Crossings'. The crossing will be upgraded to the standard specified in Local Transport Note 2/95 to improve pedestrian safety and will also accord with the guidance in the Design Manual for Roads and Bridges (DMRB), TD16/07 'Geometric Design of Roundabouts'. A review of the existing layout of the A354 on the west side of the roundabout shows that there is sufficient space within the highway to accommodate improvements to standard. The proposed scheme would not therefore involve any widening works to the existing carriageway.

Signing strategy

- 7.3.7 The proposed development will include a signing strategy for pedestrians and cyclists from the development to Blandford Forum and the Tesco's superstore. It was observed during the site visit that Blandford Forum was not well sign posted for pedestrians and cyclists. This was particularly the case for the most direct route to Blandford Forum through Langton Meadows. It was also observed that there was no lighting through Langton Meadow. To address these deficiencies and encourage more people to walk and cycle to Blandford forum and nearby facilities and amenities, the development proposal will include a signing and lighting strategy, making it clear to pedestrians and cyclists the route from the proposed development to Blandford Forum.
- 7.3.8 It is proposed that a new signing strategy is introduced at this footpath to clearly show pedestrians how far it is to locations such as the town centre (in minutes) when taking

¹ Notwithstanding that the preferred scheme for crossing the A354 would be an improvement to the existing A354 uncontrolled crossing, it is acknowledged that DCC would not want to rule out other potential options at this stage. Should DCC continue to have reservations of an at-grade crossing of the A354 following their review of this TA, additional consultation on this matter will be undertaken and the most appropriate scheme, therefore, will be included in the TA supporting the full planning application.

this route. In addition lighting will be introduced to make the route more desirable at all times of the day. Path lighting options that could be considered include:

- **Lighting columns** - technology is considered to be advancing at a fast pace, and more conventional light sources are increasingly being replaced by Light Emitting Diodes (LED's), which are more efficient in terms of energy use and more durable, however they could potentially be significantly more expensive than conventional lighting units.
- **Lighting units fitted in bollards** - the bollards spill light down across the path and the lower level of the lighting from these types of units reduces light pollution. More recent developments make use of LED Solar powered versions are also available for use in areas where wiring is not feasible or inconvenient, or where security concerns demand lighting that is off-grid. It should be noted that SCC have indicated that they would not accept responsibility for maintaining this type of low level lighting bollards due to the inherent vandalism likely to occur.
- **Surface mounted solar studs** - used as a brighter alternative to road studs these are increasingly being used as a way of providing lighting on traffic free routes in urban and urban fringe areas. This type of studs is potentially sufficient to make a path more attractive at night, particularly at dusk when there is a small amount of daylight. Whilst waymarking a path with studs in itself offers little in the way of increased personal security, the resultant increase in patronage may make people feel more secure.

7.4 Other possible 'hard' measures

- 7.4.1 It is appreciated that the increased pedestrian movements from the site will increase the demand of the existing dropped kerb crossing on the A354 approach to the junction. Dorset County Council will be consulted with regards to the current Transport Assessment findings and to determine whether they still consider an alternative crossing (footbridge, subway or new at grade crossing) is required on the A354. The cost effectiveness and appropriateness of these options will be influenced by future usage, long term maintenance costs, aesthetics and user friendliness. A Stage 1 Safety Audit of all the crossing options including at grade options would need to be undertaken to determine the relative merits and safety problems posed by each. If following the audit, a footbridge or subway is considered appropriate then this will be included in the future scheme proposals.

8 CONCLUSIONS**8.1 General**

8.1.1 Parsons Brinckerhoff was appointed to undertake a Transport Assessment in order to examine the impact of the St Mary's Hill development on the local highway infrastructure in Blandford St Mary.

8.1.2 The Transport Assessment considered the impact of a proposed development of 350 dwellings on a 27 acre site adjacent to the A354 and A350 and its impact on the highway network in conjunction with the additional impact generated by other committed developments in the area.

8.1.3 The Transport Assessment also considered the current facilities for cyclists and pedestrians and the potential need for improvements to ensure adequate connectivity between the development and the Blandford conurbation. The Transport Assessment concluded that with the exception of the Stour Park/Bournemouth Road roundabout, the existing highway infrastructure can accommodate the combined forecast traffic flows generated through general growth, committed development and the proposed development at St Mary's Hill.

8.2 Summary of Key Findings

8.2.1 The Bournemouth Road (northern) approach to Stour Park/Bournemouth Road roundabout exceeds capacity in the 2025 forecast PM peak scenario (with and without the proposed development), although the contributory traffic from the proposed development is only one vehicle every 10 minutes. The capacity issue predicted is due to background growth and committed development impact. The proposed St Marys Hill development impact on the junction is insignificant in comparison. Therefore, no improvements to the existing highway infrastructure are considered necessary apart from the new access junctions associated with the development.

8.2.2 Personal Injury Collision data was obtained for both the A350/A354 and Bournemouth Road/Stour Park roundabouts for a five year period between September 2008 and August 2013. A total of 7 personal injury collisions accidents were observed, none of which were pedestrian related. An analysis of the collision activity at both junctions in comparison to national averages concluded that there was no significant road safety issues with the roundabouts, with the number of collisions recorded being significantly less than the national average.

8.2.3 The impact on the A31 trunk road network (at its junctions with the A354 and A350), from the proposed development will be insignificant due to traffic dispersing between the site and the trunk road.

8.2.4 The pedestrian route from the site to Blandford Forum crosses the A354. The development is suitably located so that Blandford Forum Town Centre and the local amenities are both within convenient walking distance. This coupled with the proposed pedestrian improvements from other committed developments as set in section 5 of this report is likely to improve safety and convenience for pedestrians.

8.2.5 Dorset County Council has expressed concern that the existing pedestrian crossing over the A354 is not adequate for pedestrians to cross due to the strategic nature of the A354. During the site visit in November 2013 it was observed that the crossing point operated safely and efficiently, with cars slowing down before the roundabout

with good visibility on approach to the junction. These observations, coupled with the collision data which showed no collisions involving pedestrians over a five-year period and a less than average number of collisions at the junction, suggests the crossing currently provides safe passage over the A354 towards the town centre.

- 8.2.6 A further investigation of existing pedestrian and cyclist's movements at the junction identified a total of 2 pedestrian movements in the 08:00-09:00 peak and 6 (3 pedestrian and 3 cyclists movements) in the 17:00-18:00 peak hours crossing the arm. The proposed development will generate a total of 67 AM peak and 59 PM peak hour pedestrian trips from the site. Assuming all pedestrian trips used the existing dropped kerb crossing on the A354 this equates to approximately 1 additional trip every minute in each peak hour.
- 8.2.7 The National Planning Policy Framework published in March 2012 by the Department of Communities and Local Government states that any improvements to the transport network should be cost effective against the impacts of the development. Developments should only be refused on transport grounds where this is not the case, where the residual impacts of the development are too severe. It is therefore considered that any mitigation proposals that are not proportionate to the impact of this residential proposal are not justified.

8.3 Summary of Mitigation

- 8.3.1 It is appreciated that the increased pedestrian movements from the site will increase the demand of the existing uncontrolled crossing on the A354 western approach to the junction. Dorset County Council will be consulted with regards to the current Transport Assessment findings and to determine whether they still consider that an alternative crossing (footbridge, subway or new at grade crossing) is required on the A354. Subsequent clarification on the type of crossing proposed will be included in the Formal Transport Assessment.
- 8.3.2 Minor improvements (signing and lighting) will be provided to pedestrian routes from the development to the town centre encouraging walking and cycling as an alternative to other transport modes as well as shared use footway/cycling facilities in various locations. In addition, a bus lay-by will be introduced on the A350 (northbound) enabling public transport users to have a safer boarding and alighting area as well as allowing other traffic to move more freely on the main road. An uncontrolled crossing of the A350 adjacent to the existing southeast-bound bus stop will also be provided.
- 8.3.3 A separate Travel Plan document has also been produced which sets out the various forms of non car travel accessible to and from the site and how this development proposal, and supporting soft mitigation measures, enhance this. The Travel Plan will identify the appointment of a Travel Plan Coordinator who will monitor the performance of the site, ensuring measures are successfully implemented and targets are achieved.

8.4 Recommendations

- 8.4.1 It is concluded that the proposed development and recommended improvements satisfy all the planning policy requirements and therefore show no reason, on transport and highway grounds, why development at St Marys Hill should not receive planning consent.

Appendix 1 – Initial Modelling Work (May 2013)

**PARSONS
BRINCKERHOFF**

June 2013

BLANDFORD FORUM JUNCTION
MODELLING

AIS Ltd

3513028A

FINAL

St Mary's Hill Transport Assessment - APPENDIX 1

Blandford Forum Junction Modelling

3513028A/1/1

Prepared for
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St Mary's Hill Transport Assessment - APPENDIX 1

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1 BACKGROUND

1.1 Introduction

1.1.1 Parsons Brinckerhoff (PB) has been commissioned by Akerman Infrastructure Solutions (AIS) to prepare this report, which assesses the traffic impact of building 200 dwellings on a site to the south of the A350/A354 Blandford St Mary Roundabout, south of Blandford Forum, Dorset.

1.1.2 Study Area

1.1.3 The study area for this report is illustrated in Figure 1.

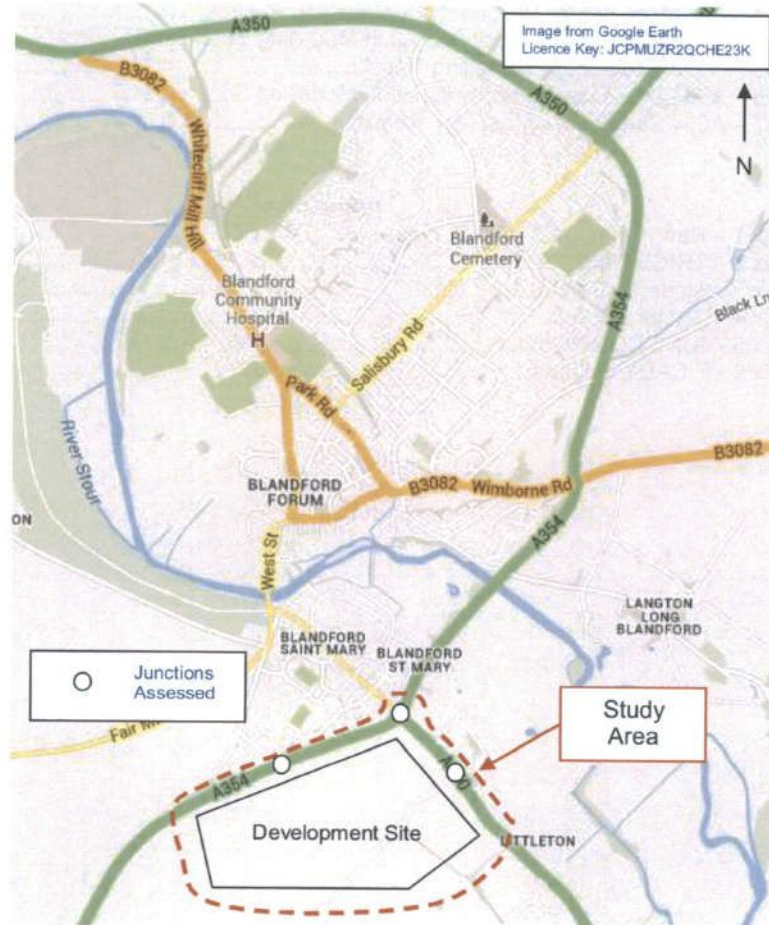


Figure 1 – Report Study Area

1.1.4 For the purposes of assessment the report will consider the traffic impact on the following junctions:

- Blandford St Mary Roundabout (A350/A354 Junction)
- Proposed Site Access onto the A350
- Proposed Site Access onto the A354 Junction

1.2 Scope of Report

1.2.1 The structure of this report will adopt the following format:

- Section 2 – Traffic Assessment
- Section 3 – Traffic Impact Assessment;
- Section 4 – Junction Impact Assessments;
- Section 5 – Summary and Conclusions.

2 TRAFFIC FLOWS

2.1 General

2.1.1 This section of the report outlines the process used to identify and assess the traffic impact of the proposed development.

2.1.2 The traffic impact of the proposed development will be assessed for the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hours for a traffic neutral weekday in a traffic neutral month.

2.2 Data Collection

2.2.1 Prior to the commencement of this assessment, a manual classified count (MCC) survey was undertaken of the Blandford St Mary Roundabout on the 30th April 2013. The data from this survey has been used as the basis of this assessment. The raw survey data can be found in Appendix 1.

2.2.2 The turning counts at the roundabout are summarised in the table in terms of vehicles in the AM and PM peak hour.

From / To	A354 North	A350 South	A354 South	Bournemouth Road	Total
A354 North	0	390	397	184	971
A350 South	293	0	7	265	565
A354 South	319	0	0	186	505
Bournemouth Road	208	158	105	0	471
Total	820	548	509	635	2512

Table 2-1 - Blandford St Mary Roundabout 2013 AM Peak Hour Turning Count (Vehicles)

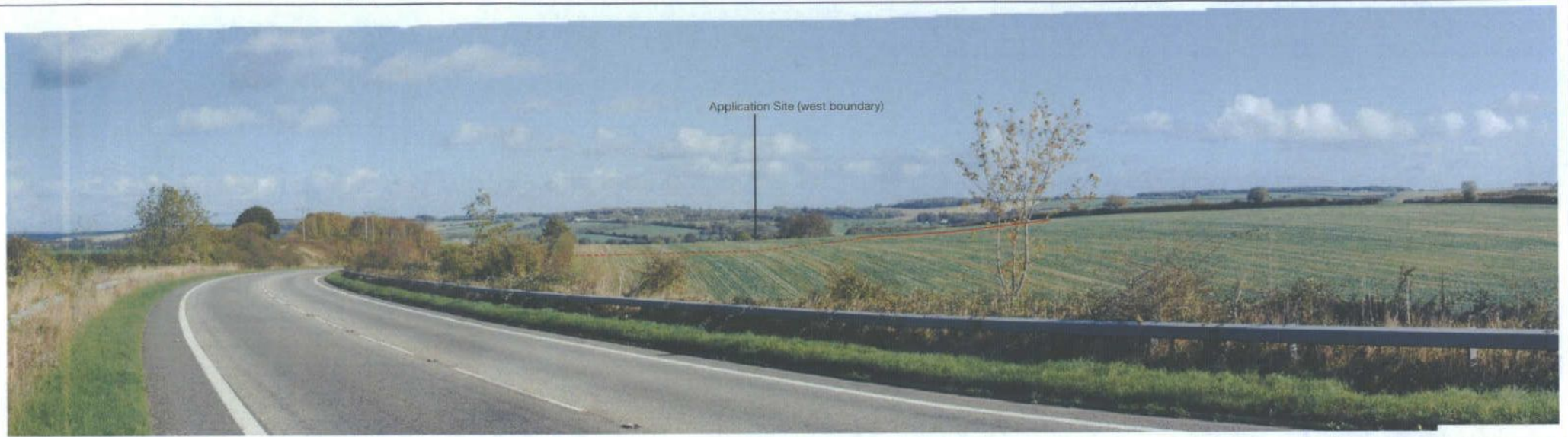
From / To	A354 North	A350 South	A354 South	Bournemouth Road	Total
A354 North	0	379	324	268	971
A350 South	306	0	12	243	561
A354 South	268	19	0	168	455
Bournemouth Road	337	196	149	0	682
Total	911	594	485	679	2669

Table 2-2 - Blandford St Mary Roundabout 2013 PM Peak Hour Turning Count (Vehicles)

2.2.3 Heavy Goods Vehicle proportions for each of the roundabout entries for each peak hour were calculated from the traffic data and can be seen in Table 2-3 and Table 2-4

HGV Proportions	
AM Peak	
A354 North	5%
A350 South	3%
A354 South	4%
Bournemouth Road	2%

Table 2-3 - Blandford St Mary Roundabout 2013 AM Peak Hour HGV Proportions



Project **St Mary's Hill, Blandford St Mary**

Viewpoint No. **1**

Sheet No. **1 of 5**

Viewpoint Data

Scale: 50% of original view size as shown on A3
 Camera: Nikon D80 Digital Camera 50mm lens equivalent
 Height above ground: 1.5m

Viewpoint Location: E387728.70 N104884.71
 Elevation: 80.00m AOD

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Viewpoint No. **2**

Sheet No. **1 of 5**

Viewpoint Data

Scale: 50% of original view size as shown on A3
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 Height above ground: 1.5m

Viewpoint Location: E388233.63 N105228.70
 Elevation: 67.5 m AOD

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Application Site

Project: St Mary's Hill, Blandford St Mary
 Viewpoint No: 3
 Sheet No: 2 of 5

Viewpoint Data

Scale: 50% of original view size as shown on A3
 Camera: Nikon D80 Digital Camera 50mm lens equivalent
 Height above ground: 1.5m
 Viewpoint Location: E388857.43 N105567.94
 Elevation: 40 m AOD

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Application Site

Project: St Mary's Hill, Blandford St Mary
 Viewpoint No: 4
 Sheet No: 2 of 5

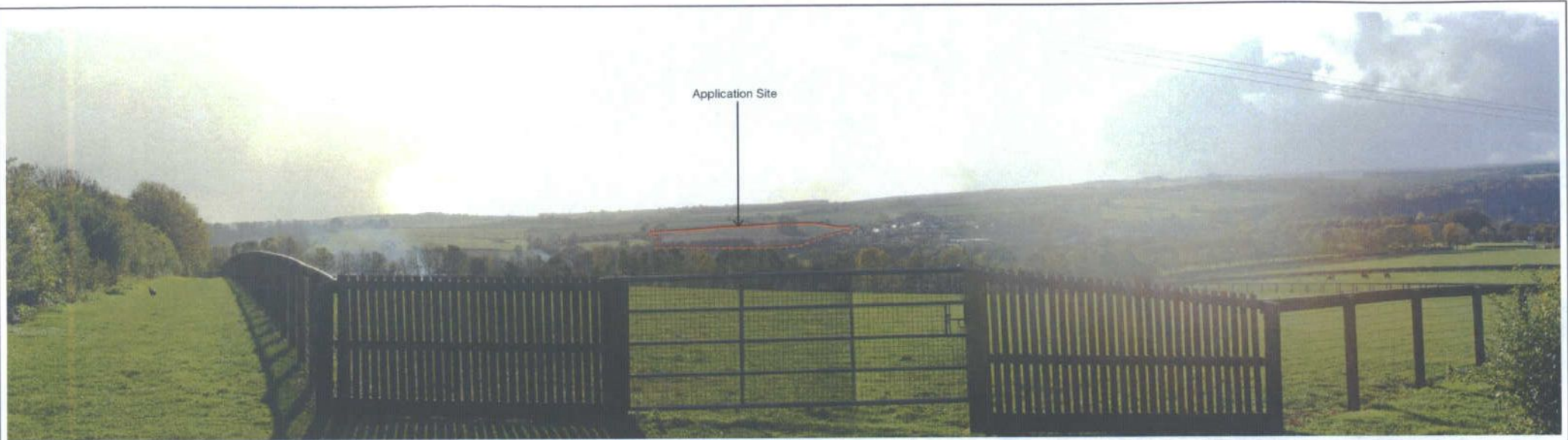
Viewpoint Data

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 Camera: Nikon D80 Digital Camera 50mm lens equivalent
 Height above ground: 1.5m
 Viewpoint Location: E389727.65 N106470.26
 Elevation: 63m AOD

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Viewpoint No **5**

Sheet No. **3 of 5**

Viewpoint Data

Scale: 50% of original view size as shown on A3
 Camera: Nikon D80 Digital Camera 50mm lens equivalent
 Height above ground: 1.5m

Viewpoint Location: E390365.15 N106547.35
 Elevation: 86m AOD

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Project **St Mary's Hill, Blandford St Mary**

Viewpoint No **6**

Sheet No. **3 of 10**

Viewpoint Data

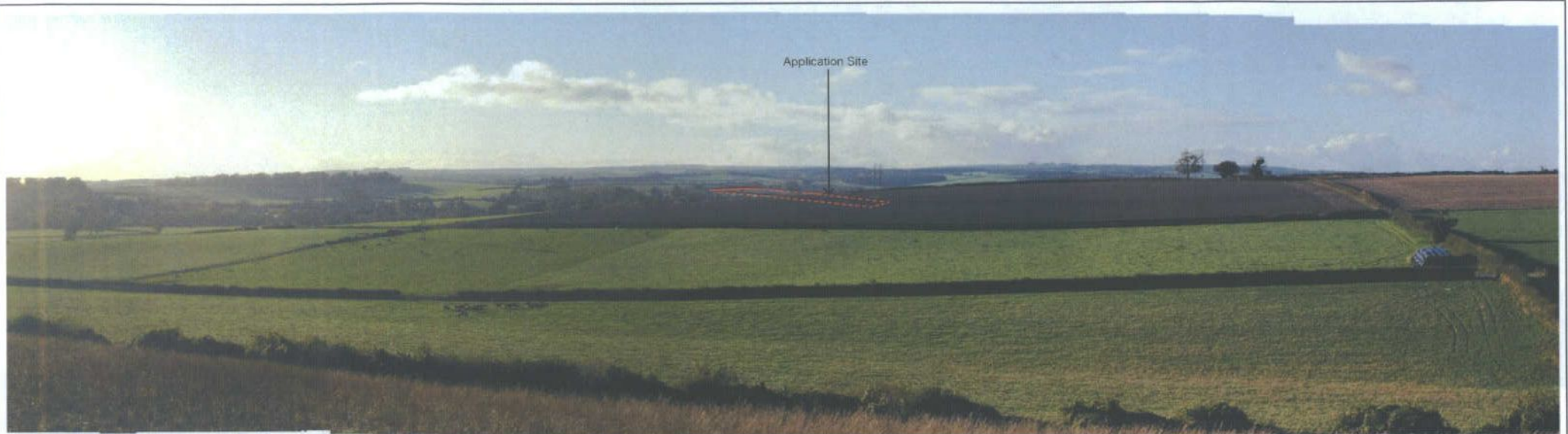
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 Camera: Nikon D80 Digital Camera 50mm lens equivalent
 Height above ground: 1.5m

Viewpoint Location: E391484.42 N105713.85
 Elevation: 100m AOD

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Project **St Mary's Hill, Blandford St Mary**

Viewpoint No. **7**

Sheet No. **1 of 10**

Viewpoint Data

Scale: 50% of original view size as shown on A3
 Camera: Nikon D80 Digital Camera 50mm lens equivalent
 Height above ground: 1.5m

Viewpoint Location: E391727.74 N104857.69
 Elevation: 75m AOD

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Project **St Mary's Hill, Blandford St Mary**

Viewpoint No. **8**

Sheet No. **1 of 10**

Viewpoint Data

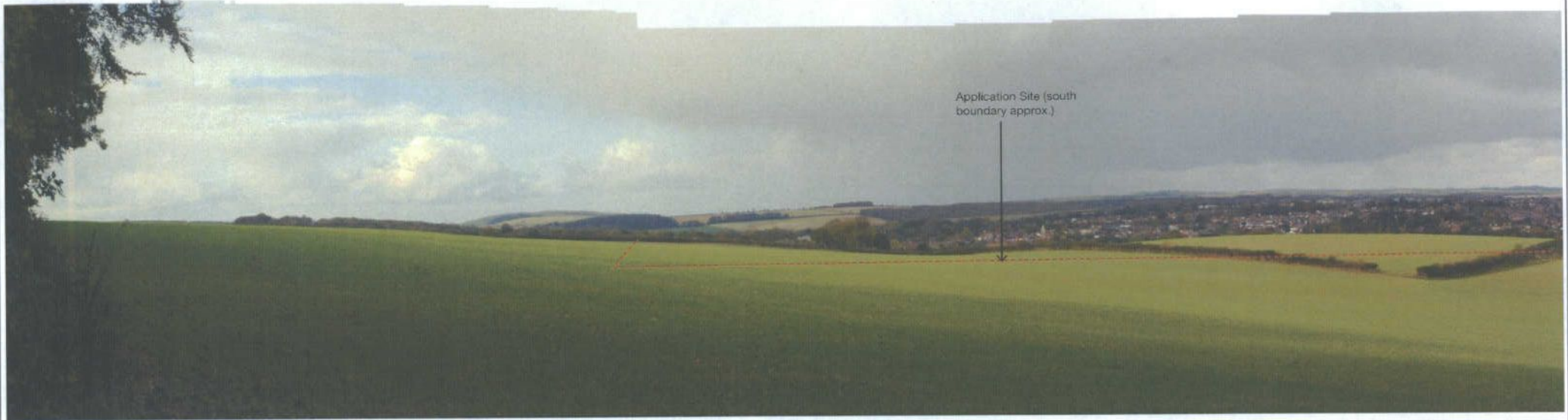
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 Camera: Nikon D80 Digital Camera 50mm lens equivalent
 Height above ground: 1.5m

Viewpoint Location: E389305.53 N103933.92
 Elevation: 80m AOD

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Project St Mary's Hill, Blandford St Mary

Viewpoint No. 9

Sheet No. 5 of 5

Viewpoint Data

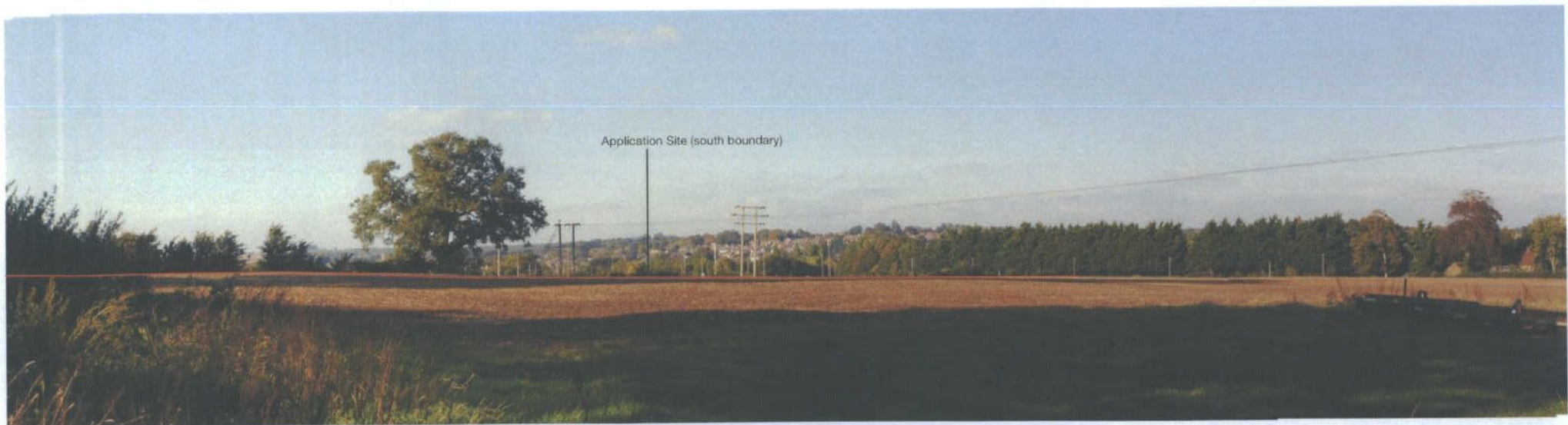
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 Camera: Nikon D80 Digital Camera 50mm lens equivalent
 Height above ground: 1.5m

Viewpoint Location: E388837.86 N104284.53
 Elevation: 81m AOD

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Project St Mary's Hill, Blandford St Mary

Viewpoint No. 10

Sheet No. 5 of 5

Viewpoint Data

Scale: 50% of original view size as shown on A3
 Camera: Nikon D80 Digital Camera 50mm lens equivalent
 Height above ground: 1.5m

Viewpoint Location: E388856.01 N105069.82
 Elevation: 50m AOD

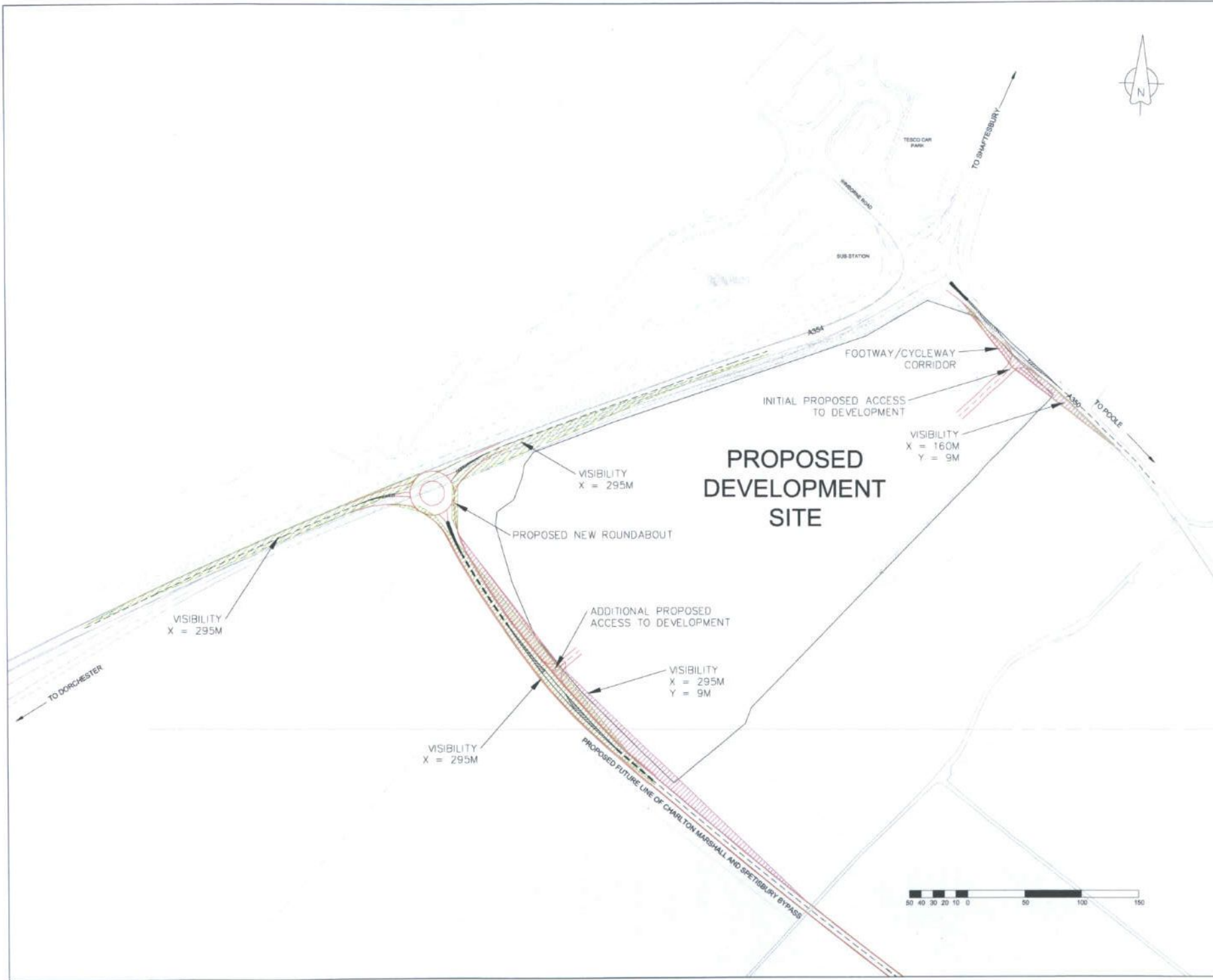
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- Notes**
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 2. PROPOSED ROUNDABOUT GEOMETRY BASED ON 2010 TRAFFIC FLOW DATA. GEOMETRY MAY CHANGE TO REFLECT FUTURE TRAFFIC GROWTH AND DEVELOPMENT GENERATED TRAFFIC.



Rev	Date	Description

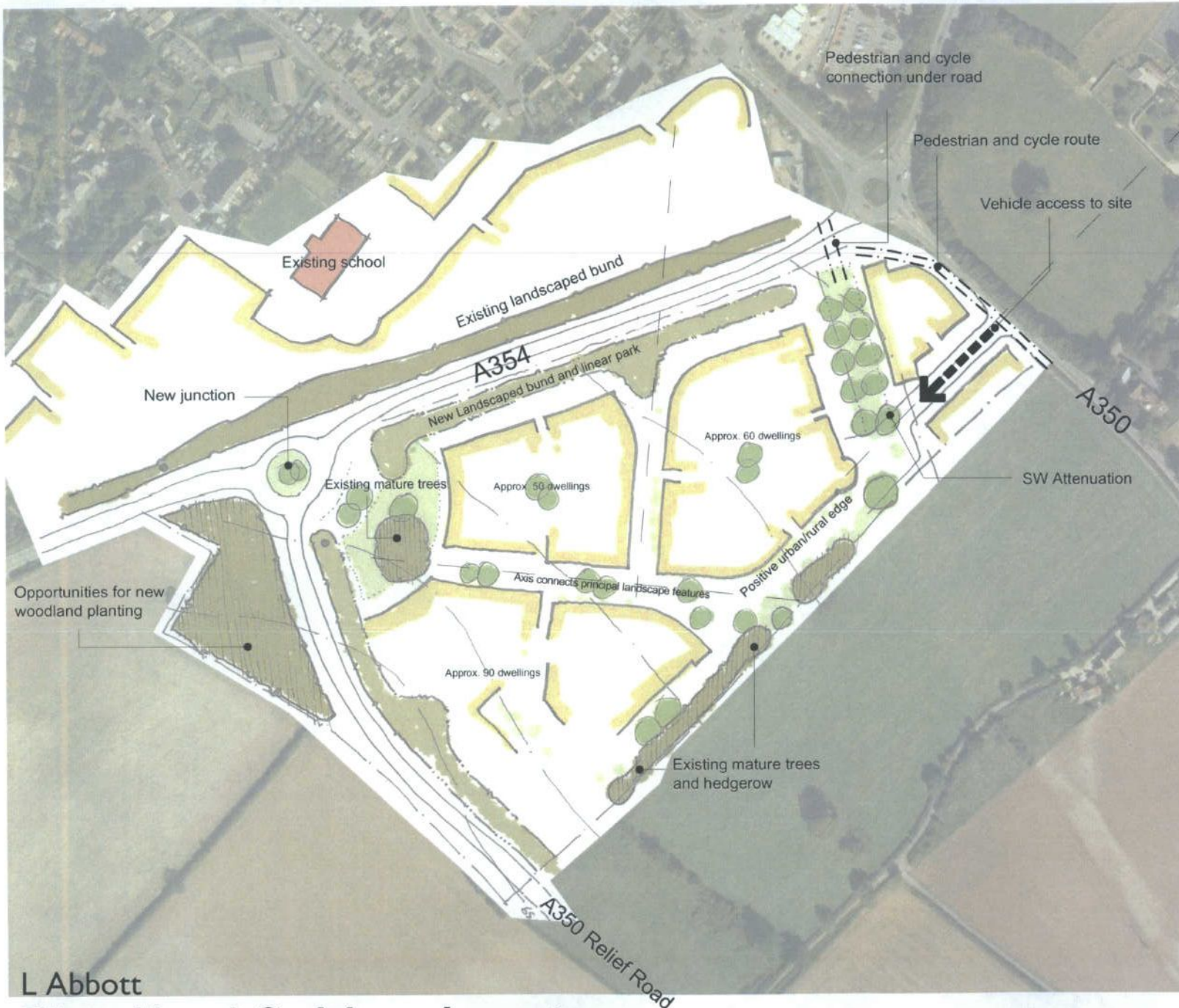
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L Abbott
Blandford St Mary Junction

Sketch Layout - 200 dwellings

Rev	Date	Amendment
D	18.12.12	General Revision
C	17.12.12	General Revision
B	13.12.12	General Revision
A	12.12.12	General Revision

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MORGAN CAREY ARCHITECTS with MCA Lawray

Date Dec 12 Drawing File: 12169-A.dwg
 Scale@A3 1:2500 12169.03 D

HGV Proportions	
PM Peak	
A354 North	2%
A350 South	1%
A354 South	8%
Bournemouth Road	0%

Table 2-4 - Blandford St Mary Roundabout 2013 PM Peak Hour HGV Proportions

2.3 Proposed Development

2.3.1 The study is based on the provision of 200 dwellings on the site to the south of the Blandford St Mary junction. A map showing the location of the proposed development is visible in Figure 1.

2.4 Trip Rates

2.4.1 In order to predict the amount of traffic expected to be generated as a result of the proposed development, a trip rate was derived from the TRICS 2013(a) v6.11.2 database.

2.4.2 A multi-modal trip rate was derived from the aggregate trip rate for sites of a similar nature within the 'Mixed Private / Non-Private Housing' category in the TRICS database. Full details on the sites selected from the TRICS database and assumptions made can be found in Appendix 2. Average trip rates from the proxy sites have been used. A summary of the peak hour person trip rates is illustrated in Table 2-5.

TRICS Person Trip Rates - Mixed Private / Non-Private Housing			
Time	Arrivals	Departures	Total
08:00 - 09:00	0.210	0.642	0.852
17:00 - 18:00	0.498	0.254	0.752

Table 2-5 – Peak hour person trip rates

2.5 Modal Split

2.5.1 The modal split for the proposed development was established in order to calculate the vehicle trip generation by mode from the person trip rates. Travel to work census data for the Portman ward (2011) was used to calculate the modal split for residential development. The Portman ward covers the whole of the development site in addition to south and western areas of Blandford. A map showing the ward is illustrated in Figure 2. The raw mode split data from the census is detailed in Appendix 3.



Figure 2 – Portman Ward

2.5.2 The mode split for the Portman ward is displayed in Figure 3.

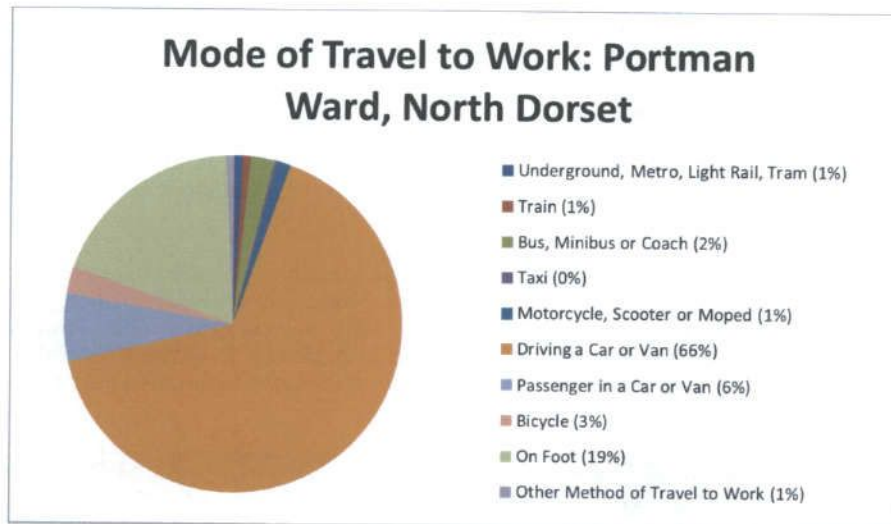


Figure 3 – Travel to work mode split data

2.5.3 The total number of car based trips from the site was calculated by combining the Underground, Metro, Light Rail, Tram, Train and Driving a Car or Van categories as all of these journeys are initially assumed to be made by car (e.g. a trip to the train station). It is possible that journeys made by train could be initially made via cycle, bus etc however in order for the assessment process to be robust it has been assumed that these journeys would initially be undertaken by car.

2.5.4 Using the above approach, the total proportion of car trips to and from the proposed development site has been calculated to be 68%, with 74% of all trips being made by car or van once car or van passengers have been taken into account.

2.6 Trip Generation

2.6.1 The vehicular impact of the committed developments was calculated using the person trip rates and modal split identified in 2.4 and 2.5 respectively.

2.6.2 As the development proposal is for residential dwellings only, it has been assumed that there are no Heavy Goods Vehicle (HGV) movements associated with the site.

2.6.3 The resulting vehicle trips and are summarised in Table 2-6.

New Trips - Proposed Development			
AM Peak Hour		PM Peak Hour	
In	Out	In	Out
28	85	66	33

Table 2-6 – Proposed Development Trips

2.7 Traffic Growth

2.7.1 Growth factors were generated using TEMpro version 6.2 and National Trip End Model (NTEM) dataset versions 6.2 for 2013-2014 and 2013-2029.

2.7.2 As committed development has not been explicitly modelled the traffic growth figures from TEMpro have not been adjusted.

2.7.3 Table 2-7 summarises the resulting TEMpro growth rates for Blandford Forum from 2013 – 2014.

2013-2014	Area Description	Area	All purposes: Local Growth Figure
AM Peak Hour	19UE1	Blandford Forum	1.001
PM Peak Hour	19UE1	Blandford Forum	1.002

Table 2-7 Background Growth Factors 2013 - 2014

2.7.4 Table 2-8 summarises the resulting TEMpro growth rates for Blandford Forum from 2013 – 2029.

2013-2029	Area Description	Area	All purposes: Local Growth Figure
AM Peak Hour	19UE1	Blandford Forum	1.177
PM Peak Hour	19UE1	Blandford Forum	1.200

Table 2-8 – Background Growth Factors 2013 - 2029

2.7.5 The TEMpro growth factors were applied to the existing traffic on the highway network in the future year scenarios, no provision has been made to increase the traffic associated with the proposed development.

2.7.6 The TEMpro calculations for the forecast years have been included in Appendix 4.

2.8 Trip Assignment

2.8.1 In terms of traffic distribution, it has been assumed that 50% of trips use a proposed site access on to the A350 and 50% use a proposed site access onto the A354.

2.8.2 Beyond the site access locations, traffic has been distributed according to proportion of traffic travelling in each direction on the A354/A350 during each peak hour. Traffic through the Blandford St Mary junction has been distributed proportionately according to the traffic survey.

- 2.8.3 Distributing the traffic from the site proportionately with the heaviest traffic flow is the most robust method of assessing the site's vehicular impact. As the greatest traffic volume is assigned to movements already experiencing the greatest demand, therefore providing a worst-case-scenario assessment.

3 TRAFFIC FORECAST FLOWS

3.1 General

3.1.1 This section of the report details the impact of the traffic associated with the proposed development on the highway network adjacent to the proposed development site.

3.1.2 The Without Development scenario in each year details the traffic impact without the development proposals. The With Development scenario details the vehicular impact with the development proposals constructed.

3.2 Impact on Surrounding Highway Network

3.2.1 The traffic flows on the adjacent highway network for each modelled scenario are illustrated below.

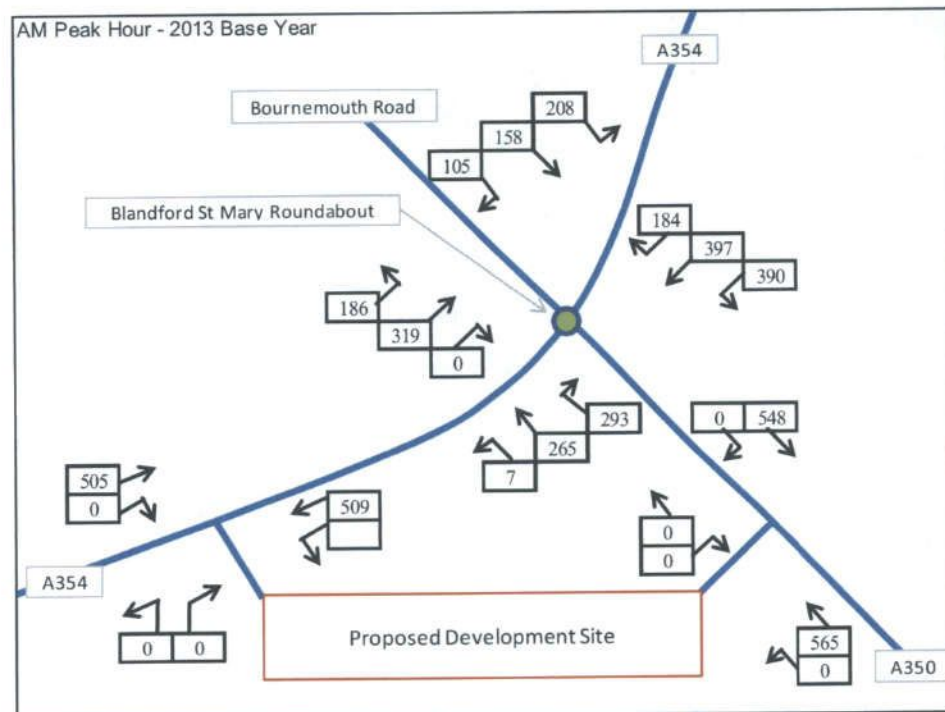


Figure 4 - 2013 AM Peak Hour Base Year Traffic Flows (Vehicles)