

## TECHNICAL NOTE

**Project No:** ITB10057  
**Project Title:** Land West of Wool  
**Title:** Technical Note – Queue Length Study  
**Ref:** PH/MS/ITB10057 002A TN  
**Date:** 25 August 2015

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### SECTION 1 INTRODUCTION

#### 1.1 Introduction

1.1.1 The Redwood Partnership and The Lulworth Estate has instructed i-Transport LLP to consider the transport implications of promoting sites in Wool, Dorset for residential development in the Purbeck District Local Plan Partial Review.

1.1.2 To support the promotion, i-Transport produced the ‘Wool Transport Strategy and Assessment’ report (*ref: ITB100577-001C, dated 13 March 2015*) to consider the transport implications of residential development in Wool.

1.1.3 The key issue within that report was the impact of development traffic on queue lengths at a level crossing on the A352 in Wool. To deal with this, the report included an assessment of the likely distribution and assignment of development traffic based on empirical evidence. The model concluded that 36% of development traffic will have a destination in the ward of Wool, including 1% of development traffic travelling to Bovington (in the same ward) via the level crossing. Overall it was estimated that 33% of development traffic will use the crossing access destinations east of Wool.

1.1.4 A draft of the report was circulated to Dorset County Council (DCC) in January 2015. In response DCC requested further information to justify the distribution model for the traffic study and, on this basis, the forecast increases in queue length at the level crossing. DCC consider that a greater proportion of development traffic with a destination in the ward of Wool will route to Bovington, as opposed to remaining within Wool village and thus will use the level crossing (*ref: email feedback from DCC on draft and final reports – Appendix A*).

1.1.5 The final version of the report included a sensitivity test aimed at addressing this issue by assigning 10% of development traffic to Bovington instead of 1%; this resulted in a total of 39% of development traffic using the level crossing. However, DCC remain of the view that a potentially higher percentage of development traffic may pass over the crossing. They have prepared a report ('Potential Traffic Impacts of Development in the Wool Area', provided at Appendix B) that identifies that 45% of development traffic will travel to/from settlements east of Wool using the level crossing.

1.1.6 A meeting took place between i-Transport and DCC on 16 July 2015 to discuss and agree the scope of any further evidence to be provided by i-Transport to address the matter. The notes of that meeting are included as Appendix C. At that meeting it was agreed that the issue of queue length at the level crossing was the only outstanding area of disagreement and that the promotion otherwise satisfied the key transport criteria of the NPPF, i.e. that:

- Safe and suitable access can be achieved by all modes;
- Opportunities for travel by sustainable modes are available; and
- The residual cumulative impact of the proposal on the local highway network falls short of 'severe'.

1.1.7 At the meeting DCC requested a revised traffic distribution model based which assigns a greater percentage of development traffic across the level crossing (citing 45% as a broadly acceptable percentage) and on this basis calculates the forecast queue length increases. DCC also suggested further sensitivity testing related to the cumulative impact of residential development at Wool and a fully occupied Dorset Green Technology Park (DGTP).

1.1.8 This technical note clarifies evidence provided to date with respect to traffic distribution and resulting queue lengths at the level crossing. In addition, as requested by DCC, it provides a further sensitivity test aimed at addressing their concerns regarding increases in queue lengths. In summary this report sets out:

- The original calculations of increases in queue length at the level crossing in the Transport Strategy and Assessment the traffic distribution on which they were based (Section 2);

- The calculations of increases in queue length based on the sensitivity test in the Transport Strategy and Assessment and the traffic distribution on which they were based (Section 2);
- Calculations of increases in queue length derived from a further sensitivity test (without prejudice) based on 45% of development traffic using the crossing, and the traffic distribution model from which such a percentage would arise (Section 3); and
- The increases in queue length at the level crossing arising from the cumulative impact of 1,000 residential units at Land West of Wool and DGTP becoming fully occupied (Section 4).
- The total estimated queue lengths resulting from residential development at Wool and DGTP becoming fully occupied.

## **SECTION 2 DISTRIBUTION MODELS AND ESTIMATES OF QUEUE LENGTHS TO DATE**

### **2.1 i-Transport Original Traffic Distribution Model and Estimate of Queue Length**

2.1.1 The original estimates of queue lengths presented by i-Transport was based on a detailed distribution model produced by distributing work based trips (46% of peak hour traffic – *ref* NTS) across the network using empirical travel to work data contained within the census and non-work based trips (54%) using a gravity model. These are industry recognised techniques for distributing development traffic. The study identified that 35.6% of trips would have a destination in the ward of Wool and is included in Appendix D.

2.1.2 The main destinations in Wool ward are the village of Wool, Bovington and DGTP. Table 2.1 below provides a breakdown of how traffic was distributed between these areas in the original traffic assessment.

**Table 2.1 – Summary of Distribution of Trips within Wool Ward**

	A % of Work Trips within Wool	B % of All Work Trips in (A x 39.6%)	C % of all Trips (B x 46%)	D % of Non Work Trips in Wool	E % of Non-Work Trips (D x 32.2%)	F % of All Trips (E x 54%)	% of <u>all</u> dev traffic (C+F)
Wool village	18%	7.1%	3.3%	100%	32.2%	17.4%	<b>20.7%</b>
Bovington	5%	2.0%	0.9%	0%	0.0%	0.0%	<b>0.9%</b>
DGTP	77%	30.5%	14.0%	0%	0.0%	0.0%	<b>14.0%</b>
Wool - Total	100.0%	39.6%	18.2%	100.0%	32.2%	17.4%	<b>35.6%*</b>

Census / Gravity Model

This overall percentage travelling to Wool ward is based on empirical data collection methods including census data which identifies that nearly 40% of residents in the ward of Wool had a work destination within the villages of Wool / Bovington / DGTP and some 30% of non-work trips (e.g. convenience shopping or to schools) will be within the ward.

2.1.3 Figure 2.1 shows that the distribution model was based on some 21% of trips having a destination within Wool village, 1% to Bovington and 14% to DGTP.

2.1.4 Calculations relating to the assignment of trips across the study area are set out in Appendix D while Figure 2.1 illustrates the distribution of development traffic as a percentage and Figure 2.2 illustrates the assignment of peak hour development traffic (number of vehicles). With reference to Figure 2.2, it can be seen that the traffic distribution model was based on 33% of development traffic using the crossing during the morning peak.

2.1.5 Table 2.2 below summarises the increases in weekday network peak hour queue lengths that were identified as a result of the assignment of development traffic.

**Table 2.2: Impact of Development on Queue Length**

	Original Assessment (33% of Development Traffic using Crossing)		
	A352 North of Barrier	A352 South of Barrier	High Street
<b>Morning Peak</b>			
Development Traffic using crossing (vehs per hour)	48	72	41
Vehicles per minute	0.80	1.20	0.68
Additional Queue length (3m50s closure) (vehs)	+3.07	+4.60	+2.62
<b>Evening Peak</b>			
Development Traffic using crossing (vehs per hour)	87	39	24
Vehicles per minute	1.45	0.65	0.40
Additional Queue length (3m50s closure) (vehs)*	+5.56	+2.49	+1.53

Source: Consultant

\*It is agreed that 3 minutes and 50 seconds is the average closure time and an appropriate basis on which to estimate increases in queue length

2.1.6 The analysis demonstrates that the development will result in six additional vehicles on the A352 and two to three on High Street. It is agreed with DCC an increase of this magnitude falls short of 'severe' (*ref meeting notes – Appendix C*).

**2.2 i-Transport Sensitivity Test Distribution Model / Queue Length Estimate**

2.2.1 The sensitivity test distribution model was produced in response to comments on a draft of the Transport Strategy and Assessment by DCC, who consider that a larger percentage of development traffic will route over the crossing to Bovington.

2.2.2 i-Transport contended that trips between the villages of Wool and Bovington are likely to be relatively limited on the basis that:

- i) Bovington is primarily a military camp and therefore many of those working within the camp are likely to also reside there. In-commuting to Bovington can therefore reasonably be expected to be low for the population; and
- ii) Wool village has most of the day to day amenities that residents might frequently make non-work trips to – convenience shopping, two primary schools (180 children), a doctor’s surgery, etc. There are few facilities within Bovington that are not also available in Wool village.

2.2.3 Notwithstanding the above, i-Transport produced a sensitivity test that reassigned the 36% of traffic within Wool ward overall such that an additional 9% of development traffic would route towards Bovington instead of Wool village (and thus use the crossing). The full distribution model is presented in Appendix E. A breakdown of the destinations of trips within the ward of Wool set out in the sensitivity test is provided in Table 2.3.

**Table 2.3 – Summary of Distribution of Trips within Wool Ward – Sensitivity Test**

	A % of Work Trips within Wool	B % of All Work Trips in (A x 39.6%)	C % of all Trips (B x 46%)	D % of Non Work Trips in Wool	E % of Non-Work Trips (D x 32.2%)	F % of All Trips (E x 54%)	%of <u>all</u> dev traffic (C+F)
Wool village	0.0%	0.0%	0.0%	90.0%	29.0%	15.6%	<b>15.6%</b>
Bovington	46.0%	18.2%	8.4%	10.0%	3.2%	1.7%	<b>10.1%</b>
DGTP	54.0%	21.4%	9.8%	0.0%	0.0%	0.0%	<b>9.8%</b>
<b>Wool - Total</b>	<b>100.0%</b>	<b>39.6%</b>	<b>18.2%</b>	<b>100.0%</b>	<b>32.2%</b>	<b>17.4%</b>	<b>35.6%</b>

Census / Gravity Model

- 2.2.4 The distribution model presented by the sensitivity test is considered to represent a robust assessment as it assumes there would be no work trips within the village of Wool whereas there are in fact numerous small to medium employers in the village (two primary schools, shops, garages, etc) where future residents on the sites may work at. Overall, the sensitivity test assumes 16% of development traffic will have a destination within Wool village, 10% in Bovington and 10% in DGTP.
- 2.2.5 The assignment of development traffic is calculated in Appendix E. Figure 2.3 illustrates the traffic distribution across the highway network while Figure 2.4 illustrates the traffic assignment. Figure 2.4 shows that 39% of development traffic will use the traffic level crossing based on the distribution model presented in the sensitivity test.
- 2.2.6 Table 2.4 sets out the increases in weekday network peak hour queue length resulting from the traffic distribution study set out in the sensitivity test.

**Table 2.4: Impact of Development on Queue Length – Sensitivity Test**

	Sensitivity Test (39% of Development Traffic using Crossing)		
	A352 North of Barrier	A352 South of Barrier	High Street
<b>Morning Peak</b>			
Development Traffic using crossing (vehs per hour)	57	84	48
Addition to queue per minute (vph/60)	0.95	1.40	0.50
Additional Queue length (3m50s closure) (vehs)	+3.64	+5.37	+3.07
<b>Evening Peak</b>			
Development Traffic using crossing (vehs per hour)	102	46	27
Addition to queue per minute (vph/60)	1.70	0.77	0.45
Additional Queue length (3m50s closure) (vehs)	+6.50	+2.94	+1.73

Source: Consultant's Estimates

- 2.2.7 Table 2.4 demonstrates that the increases in queue length if 39% of development traffic were to use the level crossing equate to up to seven vehicles on the A352 and three vehicles on High Street. These increases are broadly similar to those if 33% of development traffic use the crossing, i.e. the changes are immaterial (*ref: Table 2.2*). It is agreed with DCC that this would not constitute a 'severe' impact.

## 2.3 Summary of DCC Evidence

- 2.3.1 DCC produced a report (Appendix B) that estimated that 45% of development traffic will travel to settlements to the east using the level crossing (which in turn is based on the percentage of traffic on the A352 in Wool village travelling east during peak periods).
- 2.3.2 The DCC study identified typical average increases in queue length of 5.75 vehicles north of the barrier; 3.95 on the A352 south of the barrier and 2.43 on High Street south of the barrier. It is agreed that the queue lengths estimated by DCC are of a similar scale to those identified by i-Transport and that the increases in queue lengths of the order shown fall far short of 'severe'.

## SECTION 3 FURTHER SENSITIVITY TESTING

- 3.1.1 DCC consider 45% to be a more appropriate estimate of the percentage of development driving over the crossing than the earlier estimates provided by i-Transport, as set out in the feedback from DCC in Appendix A. The feedback of DCC identifies that the reason for the discrepancy is understood to relate to the percentage of development traffic that was assigned to Bovington.
- 3.1.2 As set out previously, Bovington is unlikely to be a significant attractor of traffic from Wool village and that the sensitivity test should be adequate to address DCC's concerns.
- 3.1.3 Notwithstanding the above and at the request of DCC, on a 'without prejudice' basis, a further sensitivity test has been undertaken. The further sensitivity test is based on 45% of development traffic routeing over the crossing. The distribution model and resulting assignment that would yield 45% of development traffic using the crossing is set out in Appendix F. Table 3.1 summarises the distribution of residential development traffic with destinations within Wool ward.

**Table 3.1 – Summary of Distribution of Trips within Wool Ward – Further Sensitivity Test**

	A % of Work Trips within Wool	B % of All Work Trips in (A x 39.6%)	C % of all Trips (B x 46%)	D % of Non Work Trips in Wool	E % of Non-Work Trips (D x 32.2%)	F % of All Trips (E x 54%)	%of <u>all</u> dev traffic (C+F)
Wool village	0.0%	0.0%	0.0%	30%	9.7%	5.2%	<b>5.2%</b>
Bovington	46.0%	18.2%	8.4%	70%	22.5%	12.2%	<b>20.6%</b>
DGTP	54.0%	21.4%	9.8%	0%	0.0%	0.0%	<b>9.8%</b>
Wool - Total		39.6%	18.2%		32.2%	17.4%	<b>35.6%</b>

Census / Gravity Model

3.1.4 Table 3.1 demonstrates that, under the further sensitivity assessment, over 20% of all development traffic will travel to Bovington, compared with only 5% to Wool village. This is based on the majority of both work and non-work trips (e.g. to schools / shops) being made to Bovington instead of Wool village, which as previously stated is unlikely to be the case.

3.1.5 Figure 3.1 illustrates the distribution of development generated trips across the network (as percentages) while Figure 3.2 illustrates the assignment in number of vehicles based on the further sensitivity test. The assignment of development traffic from each site individually is presented in Appendix F. It can be seen that the number of vehicles on the crossing is equivalent to 45% of the total residential development generated traffic. As set out above, it is unlikely that such a high percentage of residents in Wool village will travel to Bovington. In turn it is unlikely that such a high percentage of development traffic will use the crossing. On this basis, the distribution model on which the further sensitivity test is based is extremely robust.

3.1.6 Table 3.2 sets out the queue lengths that would result from the traffic flows identified in Figure 3.2.

**Table 3.2: Impact of Development on Queue Length – Further Sensitivity Test**

	Sensitivity Test (45% of Development Traffic)		
	A352 North of Barrier	A352 South of Barrier	High Street
<b>Morning Peak</b>			
Development Traffic using crossing (vehs per hour)	64	98	54
Vehicles per minute	1.07	1.63	0.90
Queue length (3m50s closure) (vehs)	+4.09	+6.26	+3.45
<b>Evening Peak</b>			
Development Traffic using crossing (vehs per hour)	119	54	31
Vehicles per minute	1.98	0.90	0.52
Queue length (3m50s closure) (vehs)	+7.60	+3.45	+1.98

Source: Consultant's Estimates

3.1.7 The analysis demonstrates that if 45% of development traffic were to use the level crossing then there would be an increase of up to six to eight vehicles on the A352 and two to three vehicles on High Street. Table 3.3 provides a comparison of the increases in queue lengths derived from the three assessments.

**Table 3.3: Impact of Development on Queue Length – Comparison of Assessments**

	Additional Queue Lengths (vehicles) based on 3m50s closure		
	A352 North of Barrier	A352 South of Barrier	High Street
<b>Morning Peak</b>			
Original Assessment - 33% of development traffic	3.07	4.60	2.62
Sensitivity Test – 39% of development traffic	3.64	5.37	3.07
Further Sensitivity Test – 45% of development traffic	4.09	6.26	3.45
<b>Evening Peak</b>			
Original Assessment - 33% of development traffic	5.56	2.49	1.53
Sensitivity Test – 39% of development traffic	6.50	2.94	1.73
Further Sensitivity Test – 45% of development traffic	7.60	3.45	1.98

Source: Consultant's Estimates

3.1.8 Table 3.3 shows that the increases in queue length that would arise if 45% of development traffic were to use the level crossing is similar to that which was estimated by the earlier assessments. DCC has agreed that impacts of queue lengths of the magnitude identified in the earlier studies fall short of the 'severe' level, which is the only reason for preventing development on transport grounds. It therefore follows that the increases will also not be severe, even when modelled under extremely robust parameters (i.e. if most residents of Wool ward with a local destination were to travel across the level crossing to Bovington).

#### **SECTION 4      IMPACT ON CROSSING OF DGTP BECOMING FULLY UTILISIED**

4.1.1 This section provides an estimate of the potential increases in queue lengths arising at the level crossing on the basis of the cumulative impact of DGTP becoming fully occupied and 1,000 homes being built in Wool. The study has been undertaken at the request of DCC following the meeting on 16 July 2015.

4.1.2 DCC's 'Potential Traffic Impacts of Development in the Wool Area' set out the results of a 12 hour entry and exit count undertaken at hourly intervals (0700-1900) on 9 February 2015. This observed 1,962 movements into and out of DGTP (*ref: paragraph 7.6 of report*).

4.1.3 The report advises that the potential trip attraction of all permitted uses on the site, if occupied, would be 3,900 vehicles per day. On this basis, the traffic attraction of the site could potentially increase by 1,938 vehicles per day (*ref: paragraph 7.7 of DCC report*). This suggests that DGTP is currently operating at 50.3% of its total 'capacity'.

4.1.4 The entry and exit counts for the morning and evening peak hour are set out in Table 4.1 below, along with the potential additional traffic flows arising from DGTP if the site were fully occupied.

**Table 4.1 – Observed and Potential Additional Traffic Flow at DGTP.**

Site	Morning Peak			Evening Peak		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
DGTP Observed Traffic Attraction (50.3% occupancy)	354	16	370	23	292	315
DGTP Potential additional Traffic Attraction (49.7% vacant)	350	16	366	23	288	311
Total Traffic Attraction, fully Occupied DGTP	704	32	736	46	580	626

Source: DCC – Paragraph 7.9 and Table 7.2 of ‘Potential Impacts of Development in the Wool Area – ‘Additional Trips to and From DCC’.

4.1.5 Travel to work data contained within the census, as set out in the Wool Transport Strategy and Assessment, identifies that 60% of employees are likely to travel to destinations east of Wool. For robustness, it is assumed that all of these will route over the level crossing. The additional traffic from DGTP on the crossing is set out in Table 4.2 below.

**Table 4.2 – Percentage of Potential Additional Traffic Using Crossing**

Site	Morning Peak			Evening Peak		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
Potential additional Traffic Attraction of DGTP	350	16	366	23	288	311
Potential additional Traffic Attraction of DGTP using Crossing (60% of Potential additional Traffic Attraction of DGTP)	210	9	219	14	173	187

Source: DCC

4.1.6 The impact of the above traffic flows on queue lengths is set out below; arriving traffic will impact on the northern side of the barrier (i.e. inbound commuter movements) and departing traffic the southern side (i.e. outbound commuter movements).

**Table 4.3: Estimated Impact of DGTP Becoming Fully Occupied on Queue Length**

	Sensitivity Test (39% of Development Traffic)		
	A352 North of Barrier	A352 South of Barrier	High Street
<b>Morning Peak</b>			
Development Traffic (vehs per hour)	210	9	0
Vehicles per minute	3.50	0.15	0.00
Additional Queue length (3m50s closure)	13.40	0.58	0.00
<b>Evening Peak</b>			
Development Traffic (vehs per hour)	14	173	0
Vehicles per minute	0.23	2.88	0.00
Additional Queue length (3m50s closure)	0.89	11.05	0.00

Source: Consultant's Estimates

4.1.7 It can be seen from the above that if DGTP were to become fully occupied then queue lengths at the crossing could potentially be increased by up to 11 vehicles north of the barrier during the morning peak and 13 vehicles south of the barrier during the evening peak.

4.1.8 Table 4.4 summarises the cumulative impact of development in Wool and DGTP becoming fully occupied.

**Table 4.4: Impact of DGTP Becoming Fully Occupied on Queue Length**

	Additional Queue Lengths (vehicles)		
	A352 North of Barrier	A352 South of Barrier	High Street
<b>Morning Peak</b>			
1,000 dwellings – 33% of development traffic	3.07	4.60	2.62
1,000 dwellings – 39% of development traffic	3.64	5.37	3.07
1,000 dwellings – 45% of development traffic	4.09	6.26	3.45
DGTP	13.40	0.58	0.00
DGTP + 1,000 Dwellings – 45 % of Development Traffic	17.49	6.84	3.45
<b>Evening Peak</b>			
1,000 dwellings – 33% of development traffic	5.56	2.49	1.53
1,000 dwellings – 39% of development traffic	6.50	2.94	1.73
1,000 dwellings – 45% of development traffic	7.60	3.45	1.98
DGTP	0.89	11.05	0.00
DGTP + 1,000 Dwellings – 45 % of Development Traffic	8.49	14.50	1.98

Source: Consultant's Estimates

4.1.9 Table 4.3 identifies that largest increases cumulative in queue length associated with DGTP and residential development in Wool will be 17 vehicles on the A352 north of the barrier during the morning peak and 15 vehicles south of the barrier during the evening peak, based on 'further sensitivity test' parameters. Of the 17 vehicles on the northern side, only four would be associated with the residential development; while of the 15 vehicles on the southern side, only three would be associated with the residential development. The majority of the queue is associated with DGTP becoming fully occupied which could happen without the need for a further planning permission. It should be noted that the estimates are based on 60% of development traffic using the crossing, rather than the 45% estimated by DCC. The estimates are therefore robust.

4.1.10 The queues associated with DGTP are only estimated to increase queue lengths in the dominant direction of flow for residents of Wool village (i.e. south of the barrier during the morning peak and north during the evening peak) by around one vehicle. For example, the maximum identified increase in queue length associated with residential traffic would increase from eight to nine vehicles if DGTP were fully occupied. The increases in queue length associated with 1,000 dwellings at Wool are lower than those which could potentially occur as a result of DGTP becoming fully occupied and would fall short of 'severe' (*ref: NPPF*), irrespective of occupancy at DGTP.

4.1.11 The Wool Transport Strategy and Assessment report identifies a net inflow of traffic during the daytime, which in turn suggests there is insufficient housing for employees who work in the area. 1,000 homes at Wool provides a genuine opportunity to increase the percentage of employees in Wool who also live there, which in turn will reduce the number car borne trips into Wool and on this basis queue lengths at the level crossing. This is fully in accordance with paragraph 37 of the NPPF which states:

**“Planning policies should aim for a balance of land uses within their area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities.”**

4.1.12 The assessment above takes no account of the potential relocation of employees into new housing at Wool and therefore represents a 'worst case' in terms of increased vehicle queuing. Notwithstanding this, the increases in queue length still fall short of 'severe'.

**SECTION 5 TOTAL QUEUE LENGTHS RESULTING FROM DEVELOPMENT**

5.1.1 This section presents the total queue lengths resulting from residential development at Wool; and the total cumulative queue lengths resulting from residential development at Wool and DGTP becoming fully occupied.

5.1.2 DCC provided queue length surveys undertaken at the crossing on 9 September 2014(Appendix G). This recorded the queues that arose on the approaches to the crossing, each time the barrier was lowered. Table 5.1 below summarises the average peak hour queue lengths; the increase in queue length arising from residential development at Wool based on the further sensitivity (without prejudice) test in Section 3 of this report; and the cumulative queue lengths arising from residential development and DGTP becoming fully occupied.

**Table 5.1: Comparison of Queue Lengths – With and Without Development**

	Additional Queue Lengths – Vehicles		
	A352 North of Barrier	A352 South of Barrier	High Street
<b>Morning Peak</b>			
Observed (without development) Queue Length	31	25	2
1,000 dwellings – 45% of development traffic	4	6	3
DGTP	13	1	0
Queue Length with 1,000 dwellings at Wool	35	31	5
Observed queue with DGTP traffic	44	26	2
Queue Length with 1,000 dwellings and DGTP	48	32	5
<b>Evening Peak</b>			
Observed (without development) Queue Length	45	25	3
1,000 dwellings – 45% of development traffic	7	3	2
DGTP	1	11	0
Queue Length with 1,000 dwellings at Wool	52	28	5
Observed queue with DGTP traffic	46	36	3
Queue Length with 1,000 dwellings and DGTP	53	39	5

Source: Consultant's Estimates

- 5.1.3 Table 5.2 above estimates that the largest average peak hour queue length with development will be 52 vehicles on the A352 north of the barrier during the evening peak, increasing from 45 vehicles without development. Assuming a queueing vehicle is 6m (i.e. allowing for space between vehicles), then the average queue length can be expected to increase from 270m to 312m. This increase in queue length will not extend past any additional junctions that are not already obstructed by the queues.
- 5.1.4 The maximum queue length south of the barrier is expected increase from 25 vehicles to 31 vehicles (or 150m to 186m) during the morning peak. Again, this increase in queue length would not obstruct any additional junctions. This is based on the robust increases in traffic forecast by the further sensitivity test set out in Section 3.
- 5.1.5 If DGTP were fully occupied then the maximum queue would be 46 vehicles (without residential development) and 53 vehicles north of the barrier during the evening peak. This equates to an increase in queue length from 276m to 318m. Again, increases in queues of this magnitude would not result in additional junctions being obstructed by queueing vehicles.
- 5.1.6 South of the barrier (within Wool village), the queue length if DGTP were fully occupied would increase from 36 vehicles (without residential development) to 39 vehicles (with development). This equates to an increase in queue length from 216m to 234m. These increases will not result in the blocking of junctions that are not already obstructed by queuing vehicles.
- 5.1.7 Section 3 demonstrates that increases in queue lengths resulting from 1,000 homes at Wool will not be severe. This section identifies that the resulting queue length, when added to existing queues, will also not be severe as development at Wool will add no more than 8 vehicles (48m) to any queue length during the peak period.
- 5.1.8 Queue length increases associated with residential development at Wool are small in comparison with queue length increases resulting from DGTP becoming fully occupied. However, the resulting total queue lengths would still not result in additional junctions being blocked by queuing vehicles. On this basis, there is no evidence to suggest the impact of 1,000 homes is severe, irrespective of the occupancy level of DGTP.

5.1.9 Again, it should be noted that this assessment takes no account of the genuine opportunity for employees to live in Wool that would arise if residential development were to be provided alongside increased employment at Wool. This has the potential to encourage employees to live in Wool and thus reduce demand for, and queuing at, the level crossing.

## **SECTION 6 SUMMARY**

6.1.1 This technical note provides a further study into the impact on the railway level crossing at Wool of an additional 1,000 homes in the village, as part of a promotion in the Local Plan Partial Review.

6.1.2 DCC have suggested that 45% of development traffic might use the level crossing to travel to destinations east of Wool. This is higher than earlier estimates provided by i-Transport as DCC consider that a higher percentage of local traffic will route over the crossing to Bovington. This is considered unlikely due to the fact that many of the jobs in Bovington are military, with personnel living within Bovington; and because Bovington does not have day-to-day facilities that are not available in Wool. However, on a 'without prejudice' basis, a further sensitivity test has been undertaken, including a supporting distribution model, setting out the impact on the level crossing if 45% of development traffic were to use the level crossing (as opposed to 33% estimated in the original assessment of the Wool Transport Strategy and Assessment Report and 39% in the sensitivity test in that report). The further sensitivity test is based on the majority of traffic with a destination in the ward of Wool travelling to Bovington as opposed to Wool village or DGTP and is therefore extremely robust.

6.1.3 The original assessment in the Wool Transport Strategy and assessment estimated that peak hour queue lengths would increase by up to five or six vehicles on the A352. DCC agree that increases of queue length of the magnitude identified in the Wool Transport Strategy and report and in DCC's own report, 'Potential Traffic Impacts of Development in the Wool Area', fall well short of 'severe'. The further sensitivity test yields similar levels of queue length increase (six to eight vehicles on the A352). On this basis 1,000 homes in Wool will not result in a 'severe' cumulative residual impact, which is identified by the NPPF as the only transport reason for resisting development.

6.1.4 If DGTP were fully occupied, queue lengths could potentially increase by up to 13 additional movements in the ‘tidal’ direction of flow. This could occur without the need for a further planning permission. Residential development at Wool would add a further four vehicles to that queue (based on the further sensitivity test). In the dominant direction of flow for residential traffic, the full occupation of DGTP will only increase queue lengths by one vehicle. Furthermore, the total queue length (i.e. accounting for existing queuing) will not extend past any junctions that are not already obstructed by queueing.

6.1.5 On this basis, the impact of development on queuing at the level crossing is not ‘severe’, irrespective of occupancy at DGTP. This is based on a robust assessment that takes no account of the genuine potential for employees to choose to live in new housing that would be available in Wool as a result of the promotion.

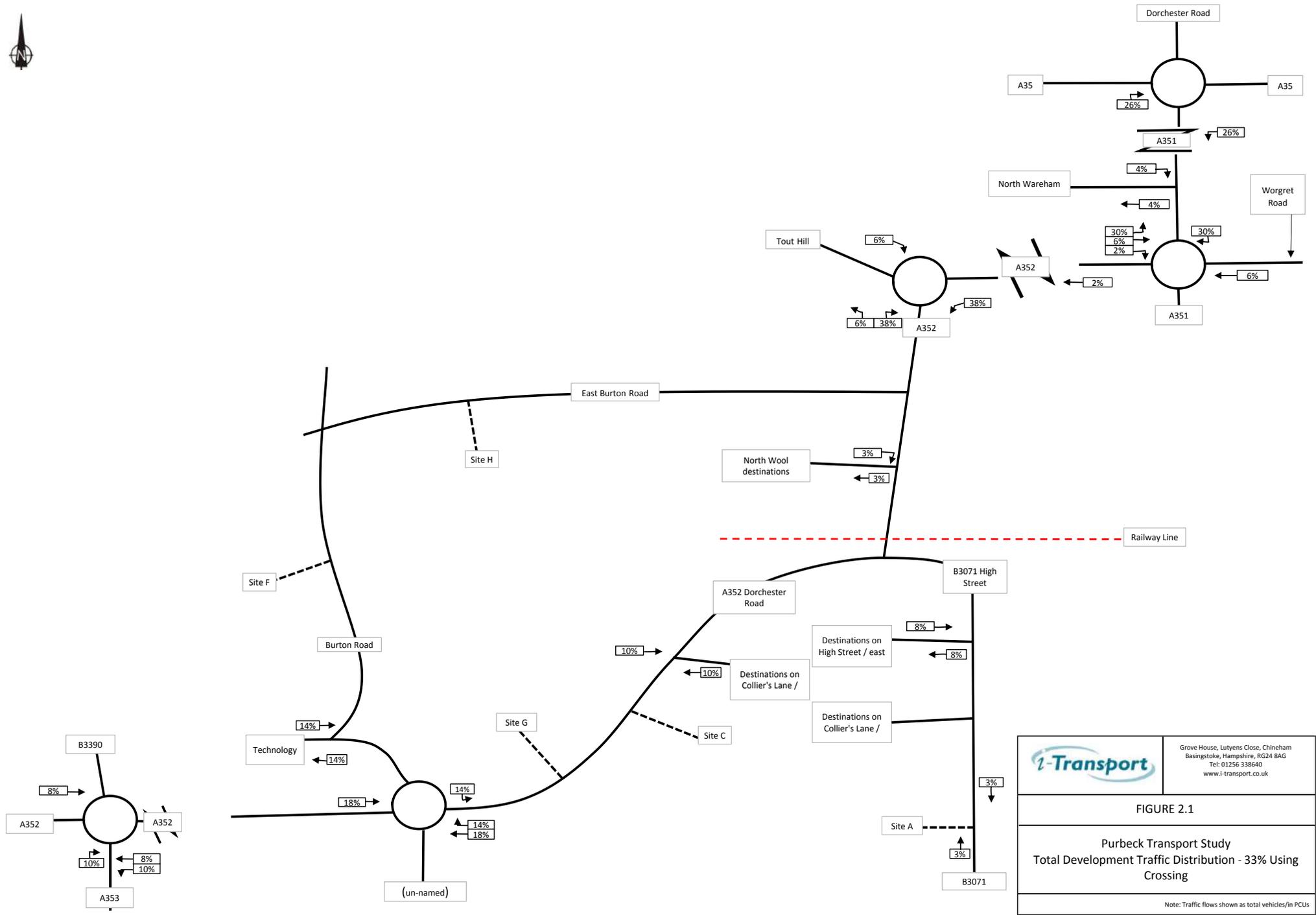
## 6.2 Conclusion

6.2.1 It is agreed with DCC that the impact of 1,000 homes on queue lengths at the crossing in Wool is the only outstanding transport related issue associated with the promotion of land west of Wool for residential development, following submission of a Transport Strategy and Assessment report that demonstrated:

- Safe and suitable access can be achieved by all modes;
- Opportunities for travel by sustainable modes are available; and
- The residual cumulative impact of the proposal on the local highway network falls short of ‘severe’; and
- Wool is a sustainable location for residential development which would be enhanced through a package of local transport improvements.

6.2.2 It has been demonstrated that increases in queue lengths and total queue lengths will fall short of ‘severe’, even assessed based on extremely robust traffic distribution parameters. The cumulative impact of 1,000 homes and DGTP if it were fully occupied also falls short of ‘severe’. There is therefore no highways or transport related reason why residential development should not be allocated to Land West of Wool in the emerging Local Plan Partial Review.

## FIGURES



	Grove House, Lutyens Close, Chineham Basingstoke, Hampshire, RG24 8AG Tel: 01256 338640 www.i-transport.co.uk
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**FIGURE 2.1**

**Purbeck Transport Study**  
**Total Development Traffic Distribution - 33% Using Crossing**

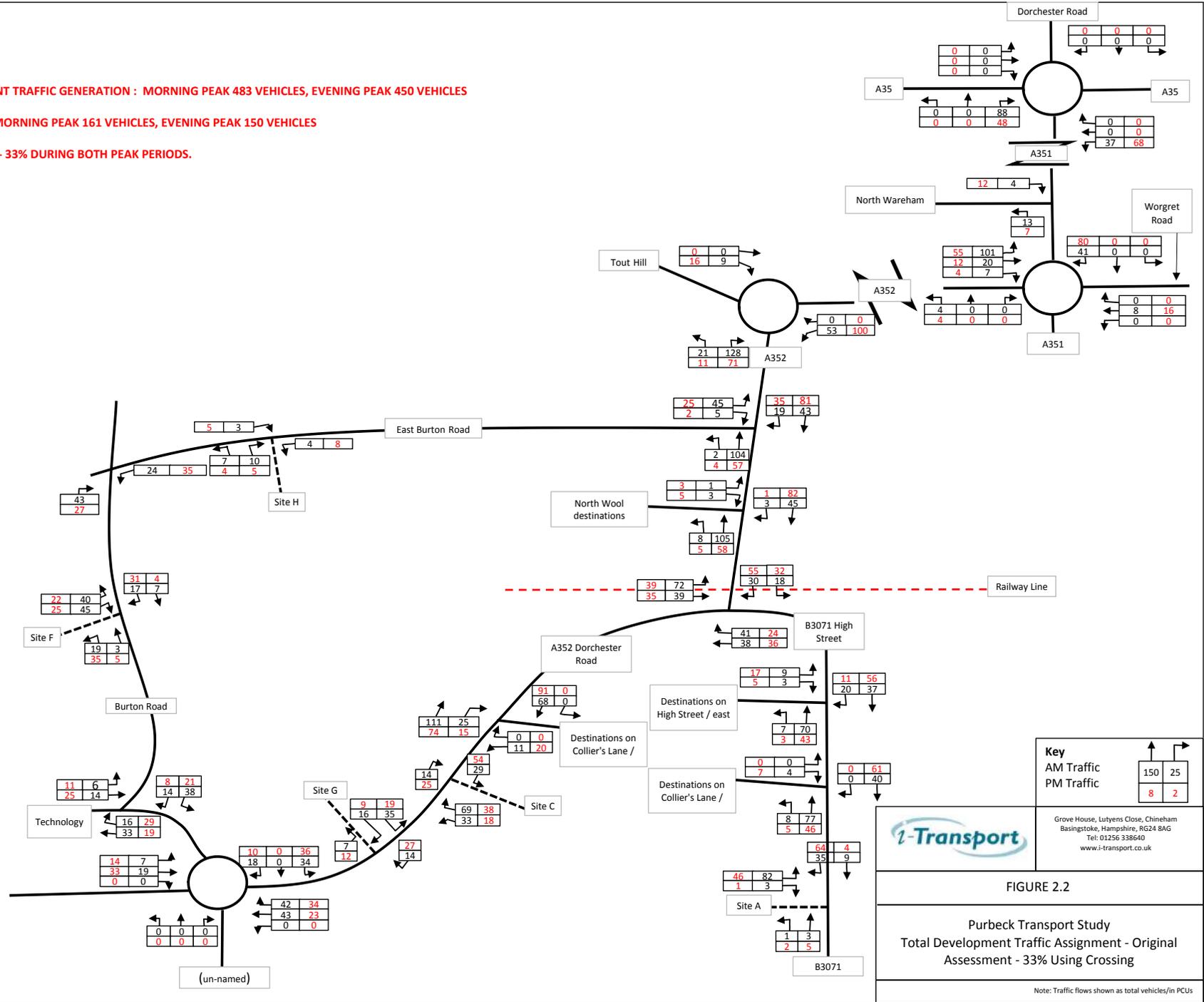
Note: Traffic flows shown as total vehicles/m PCUs

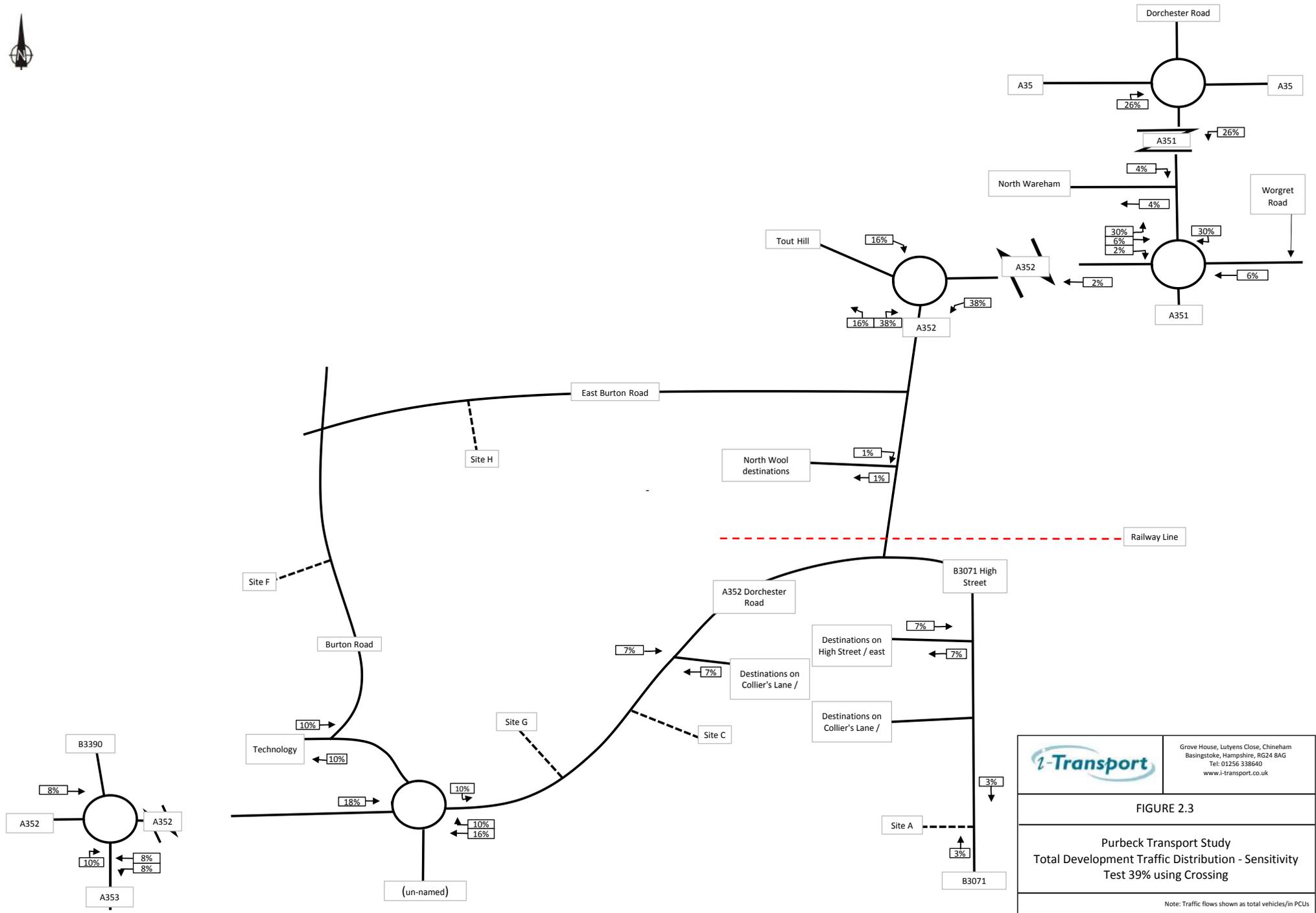


TOTAL DEVELOPMENT TRAFFIC GENERATION : MORNING PEAK 483 VEHICLES, EVENING PEAK 450 VEHICLES

USING CROSSING: MORNING PEAK 161 VEHICLES, EVENING PEAK 150 VEHICLES

% USING CROSSING - 33% DURING BOTH PEAK PERIODS.





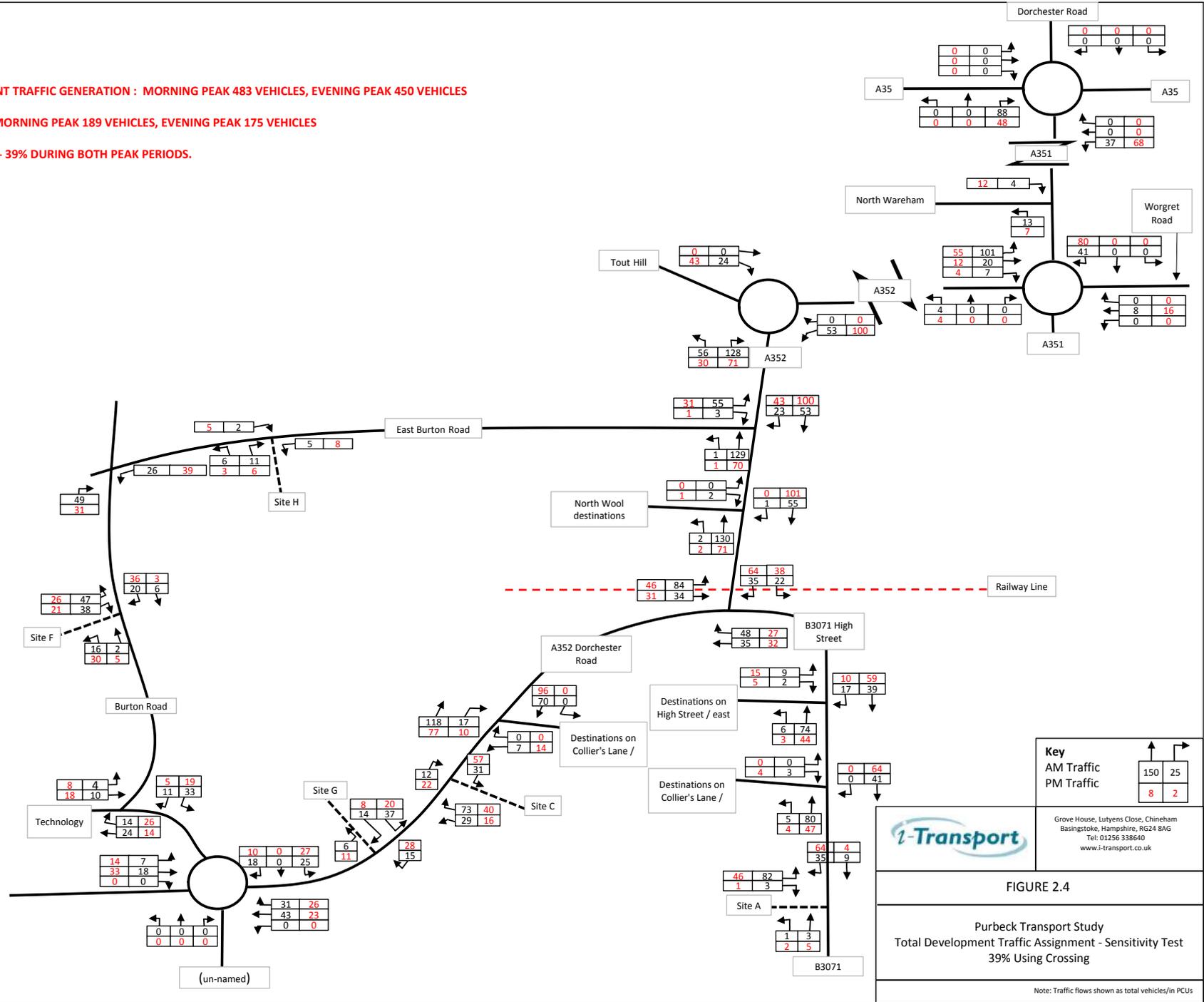
	Grove House, Lutyens Close, Chineham Basingstoke, Hampshire, RG24 8AG Tel: 01256 338640 www.i-transport.co.uk
<b>FIGURE 2.3</b>	
<b>Purbeck Transport Study</b> <b>Total Development Traffic Distribution - Sensitivity</b> <b>Test 39% using Crossing</b>	
Note: Traffic flows shown as total vehicles/m PCUs	

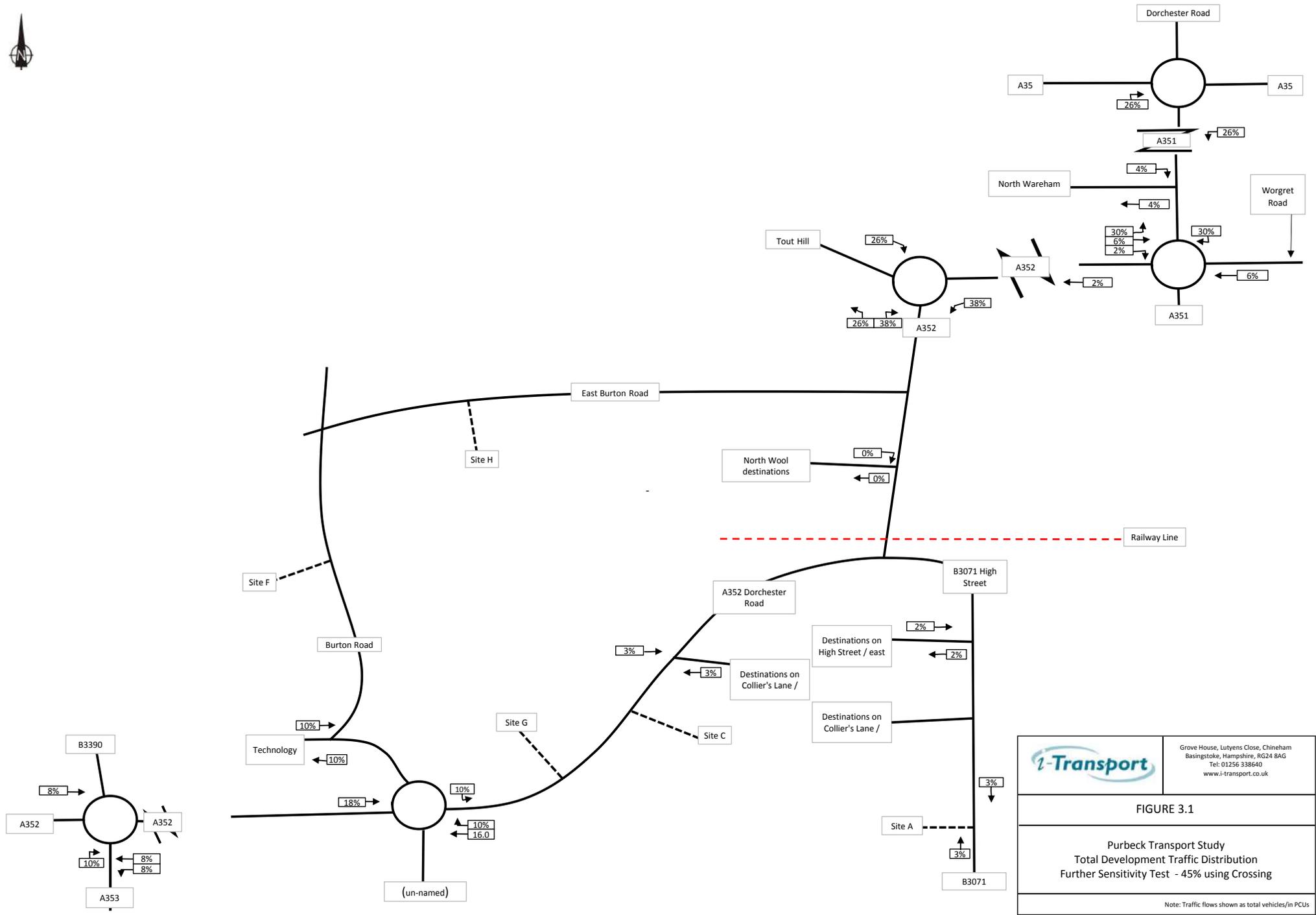


TOTAL DEVELOPMENT TRAFFIC GENERATION : MORNING PEAK 483 VEHICLES, EVENING PEAK 450 VEHICLES

USING CROSSING: MORNING PEAK 189 VEHICLES, EVENING PEAK 175 VEHICLES

% USING CROSSING - 39% DURING BOTH PEAK PERIODS.





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	<b>FIGURE 3.1</b>

**Purbeck Transport Study**  
**Total Development Traffic Distribution**  
**Further Sensitivity Test - 45% using Crossing**

Note: Traffic flows shown as total vehicles/m PCUs



**APPENDIX A**

**Email Feedback from DCC**

## Mark Stead

---

**From:** Tunks, Katherine <k.tunks@dorsetcc.gov.uk>  
**Sent:** 12 February 2015 16:39  
**To:** Mark Stead  
**Cc:** Stephen Tapscott (StephenTapscott@purbeck-dc.gov.uk); Brown, Dave  
**Subject:** RE: Promotion of Land at Wool

Mark,

We have had a look at the report you have written and whilst we generally agree with much of the commentary, we have some significant concerns regarding some of the information used to reach some of your conclusions. We therefore disagree with the assertion in para 5.1.8 that "the traffic study in this report finds that development traffic will not adversely affect queue lengths at the level crossing".

The following outlines our concerns more specifically:

- There is a possibility that the figures may be inaccurate due to Bovington being part of the census population for Wool as the figures state that 47.3% of residents work in Wool. These jobs are not in Wool village.
- The report makes positive comments about the use of the pedestrian level crossings providing good access, but Network Rail will not agree with this. They generally wish to reduce the use of level crossings as far as possible and are likely to require a footbridge over the railway to serve site H.
- Proposed trip rates from TRICS seem a little low, you have used an edge of town location when a village location may have been more appropriate.
- Journey to work data - 39.6% of commuting trips are identified to be within Wool, these jobs cannot be in Wool village as there are not enough places of employment. We question this assumption, are some of them in Bovington? If so this means more cars travelling over the level crossing than is being recognised.
- Traffic Distribution - 35.6% of all trips are shown as being made within Wool. This cannot be correct (see above).
- The increase in level crossing queue length needs to include the traffic credit/committed development for Dorset Green TP, and a re-assessed trip distribution which doesn't show 35% of the new trips only within Wool as this is wrong.

We have undertaken road traffic queue surveys of our own at the level crossing both before and after the recent resignalling works undertaken by Network Rail. This provides us with evidence to show that the traffic delays at the level crossing have worsened. This problem needs resolving and we are working with Network Rail to try and achieve an improvement here. Further work is needed to look at the impact that 1,000 dwellings might have on the network at this location as it is likely to be more significant than shown in your report.

We are sending you these concerns now so that you have time to look again at these issues before the consultation deadline. I hope this helps.

Regards

Kate

---

Kate Tunks  
Principal Transport Planner  
Economy, Planning & Transport Group

Dorset County Council

01305 228534

07920 503447

---

**From:** Mark Stead [mailto:mark.stead@i-transport.co.uk]  
**Sent:** 10 February 2015 14:17  
**To:** Tunks, Katherine  
**Cc:** Tim Hoskinson; Phil Hamshaw; Brown, Dave  
**Subject:** FW: Promotion of Land at Wool

Kate,

I recently sent the attached *draft* transport study to your colleague Dave Brown. It provides transport evidence in respect of the promotion of land at Wool for residential development in part 2 of the Local Plan (for further info, see my email below). I am seeking Dave's feedback or comments on the report; it is our intention that a final version is formally submitted to DCC before the end of the Issues and Options consultation.

I have been advised to send the report through to you as well as I understand that you are involved in the development of local policy. Therefore, please let me know if you also wish to comment on the draft report.

I suggested to Dave Brown that it would be helpful to have any comments before the end of the month to give us a window of opportunity to address any comments. I appreciate it is already the 2<sup>nd</sup> week of February so I would be happy to meet you if you think doing so would be more productive.

Please do not hesitate to contact me if you wish to discuss

Kind regards

Mark

for i-Transport LLP

---

**From:** Mark Stead  
**Sent:** 06 February 2015 11:38  
**To:** 'Brown, Dave'  
**Cc:** Phil Hamshaw  
**Subject:** Promotion of Land at Wool

Dave,

I tried to contact you by telephone as I thought it would be better to introduce myself before sending the below through. Unfortunately I wasn't able to get through.

I understand from a brief earlier correspondence with you that you act as highways officer for Purbeck District. We are acting as transport consultant on behalf of a consortium of landowners who are seeking to promote development of up to 1,000 dwellings in Part 2 of the Purbeck Local Plan. The promotion is identified as Option 4F in the Issues and Options Consultation document.

We are instructed to provide representations aimed at demonstrating that Wool would a suitable location for residential development and I attach a draft of a transport report which seeks to do this. The report sets out the traffic implications at key local junctions on the highway network. Further, noting that queuing at the railway crossing at Wool is identified as a local transport issue, the report sets out how this may change as a result of development. The report outlines a transport strategy for accommodating up to 1,000 homes and concludes that Wool is a suitable location for residential development.

I expect that the team will wish to submit the report as part of its evidence base to support the promotion of land at Wool, probably towards the end of the consultation period on 13<sup>th</sup> March. In the meantime, I would be grateful if you could provide any comments/feedback you have on the report and its conclusions and therefore attach a draft of the report for your information. Figures are also provided. There are quite a lot of appendices so to minimise file size they aren't attached but let me know if you would like to see those and I will send those across also.

Whilst I appreciate you will have plenty of other pressing commitments I would welcome any comments you have by the end of the month so I have a couple of weeks to incorporate any comments you may have. I realise this is short notice so I would be happy to meet you if you think that would be helpful.

Please do not hesitate to contact me if you wish to discuss further.

Many thanks and I look forward to hearing from you in due course.

Kind Regards

**Mark Stead BA (Hons) MSc CMILT MCIHT**

**Principal Consultant**

for i-Transport LLP, Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG

**T: 01256 338640 F: 01256 338644 E: [mark.stead@i-transport.co.uk](mailto:mark.stead@i-transport.co.uk) W: [www.i-transport.co.uk](http://www.i-transport.co.uk)**

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## Mark Stead

---

**From:** Tunks, Kate <k.tunks@dorsetcc.gov.uk>  
**Sent:** 15 June 2015 15:26  
**To:** Mark Stead  
**Cc:** Stephen Tapscott (StephenTapscott@purbeck-dc.gov.uk)  
**Subject:** RE: Land West of Wool - Issues and Options Consultation

Dear Mark,

Sorry for the delay in responding to you, our traffic data and modelling team have now had a chance to compare their work with your report and continue to find anomalies between the two.

Our assumptions are from observed traffic counts on the A352 and recent comprehensive rail crossing survey undertaken on 9th September 2014.

On pages 35 and 36 Of the Wool Transport Study and Assessment

- Table 4.8 States that trips for the development traffic – Commuting and Non Commuting total 35.6 % for trips with a destination within Wool itself
- Also the figure for Wool has an asterix stating this “includes Bovington” - Any trips to Bovington would have to cross the railway and therefore be involved in queues at the level crossing.
- DGTP within Wool may attract some traffic, but overall this 35.6% still seems high as there is very little other employment or services within Wool
- Looking at Table 4.9, the trips generated by the sites that could potentially be involved in queues total 42%

“ What’s actually in Wool”

- Wool CE Primary school – Pupil Roll = 100 attracting traffic at 0815 and 1515
- Some small retail premises
- And to the West - DGTP – that we have taken account for as it is to the West( Not in East bound development but will affect Westbound ( from Wareham etc.)

Our Report

- Currently traffic exiting and entering the development is split 55:45, West and East bound respectively
- 45% of the traffic heads East and joins the queue at barrier down times

In summary, the Trics data and percentage of trips heading east from the development are different but not significantly so. The more significant difference is the amount of “internal” trips in Wool identified in your report as this doesn't take into account the fact that the Bovington trips are travelling over the level crossing and will be adding to queues when the barrier is down.

I hope this helps.

Regards

Kate

---

Kate Tunks  
Transport Planning Team Leader  
Economy, Planning & Transport Group  
Dorset County Council

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07920 503447

---

**From:** Mark Stead [mailto:mark.stead@i-transport.co.uk]  
**Sent:** 26 May 2015 11:03  
**To:** Tunks, Kate  
**Cc:** Tim Hoskinson; Phil Hamshaw  
**Subject:** FW: Land West of Wool - Issues and Options Consultation

Kate

A couple of weeks ago I sent through a copy of our transport evidence in respect of the promotion of land for residential development in Wool. I'm just following up that email to ask if you've had the chance to review the work at all? As mentioned before our clients are keen to work with you to overcome any concerns you may have and we would be more than happy to meet with you if that'd help.

Please don't hesitate to contact me if you have any queries.

Kind regards

Mark

for i-Transport LLP

---

**From:** Mark Stead  
**Sent:** 11 May 2015 15:16  
**To:** 'Tunks, Katherine'  
**Cc:** 'Tim Hoskinson'; Phil Hamshaw  
**Subject:** Land West of Wool - Issues and Options Consultation

Kate

Further to our conversation earlier, please find attached our final Transport Strategy report for the promotion of land west of Wool, which we provided to Purbeck District Council on 13 March 2015 to inform the consultation process. The report has been updated to take on board a draft I provided you via email on 10 February.

The report deals with the comments you made in your response of 12 February 2015 and should also address the points you made in your Response to Purbeck District Council (also attached). Specifically, the report finds that:

- The settlement is served by a range of facilities catering for day to day needs, within reasonable walking or cycling distances and by public transport (notably by train) to other local settlements.
- Development in Wool will not have a material adverse impact on queue length at the level crossing;
- Development of 1,000 homes in Wool will have a broadly similar impact on queueing at the level crossing to planned enlargement at Dorset Green Technology Park;
- There are over 1.5 times as many jobs as there are working residents in Wool and as a result there is a net in-movement of trips to Wool in the morning peak and out-movement in the evening peak. Additional housing can help to address this balance by helping more employees to live in Wool. This could in turn help

reduce impacts at the level crossing. Aspirations to enlarge DGTP thus add further weight to the case in favour of housing.

- A package of sustainable transport measures would help further enhance opportunities for residents to travel by non-car modes of transport;
- On this basis, Wool is a sustainable location for residential development and a development of up to 1,000 homes will not result in a severe impact on the local road network / level crossing.

I noted from the Response that no objection has been given by DCC to a mixed use development comprising up to 900 homes around Moreton station, with the benefits of proximity to the station being acknowledged. Wool also benefits from rail access but also includes many more facilities within the village (hence its classification as a Key Service Village in the 2011 Settlement Strategy). On this basis, we consider Wool should also be viewed as suitable for a residential development.

I trust you find the report addresses the highway authority's concerns. We are keen to work with you to identify solutions to the issues you have raised in advance of the next 'round' of consultation, which I understand will be in the autumn. May I suggest when you've had some time to digest the information in this report that a meeting to discuss DCC's position might be helpful?

In the meantime, please do not hesitate to ask contact me if you have any queries.

Kind regards

Mark

**Mark Stead BA (Hons) MSc CMILT MCIHT**

**Principal Consultant**

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**APPENDIX B**

**DCC Report**

**APPENDIX C**

**Meeting Notes, 16 July  
2015**

# Potential Traffic Impacts of Development in the Wool Area

## Trip and Queue Analysis

Matthew Piles  
Head of Economy

February 2016

**DORSET COUNTY COUNCIL,  
ENVIRONMENT AND THE ECONOMY**

**DOCUMENT STATUS SHEET**

Document Title	<b>Potential Traffic Impacts Of Development In The Wool Area</b>
Author	<b>Mike Moore</b>
Checked	<b>Phil Channer</b>
Authorised for Issue	<b>Phil Channer</b>
Document Reference	<b>T:\Projects\Active Projects as at Go Live Date\9000s\TM9999\J032-Wool Level Crossing\Documents Working\Tm9999_J032_Rev4.docx</b>
Date of original issue	<b>February 2016</b>
Registered Holder	<b>Phil Channer</b>

**RECIPIENTS**

<b>Date</b>	<b>Name/Organisation</b>
<b>10-09-2015</b>	<b>Kate Tunks - DCC</b>
<b>10-09-2015</b>	<b>Anna Lee – Purbeck District Council</b>
<b>4-07-2016</b>	<b>Kate Tunks – DCC – Rev 4 Final</b>

**REVISIONS**

Details of revisions should be recorded manually on this form, which must be kept at the front of the document to which it refers

<b>Rev</b>	<b>Description</b>	<b>Date</b>
<b>4</b>	Amendments to text	04 July 2016

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## 1.0 INTRODUCTION

### Purpose of the Report

- 1.1 To assess the effect of additional traffic from the proposed development and the Dorset Green Technology Park (DGTP) on the A352, in particular the queues at the rail level crossing.

## 2.0 STUDY AREA

- 2.1 The proposed development sites are shown in Figure 2.1 below.

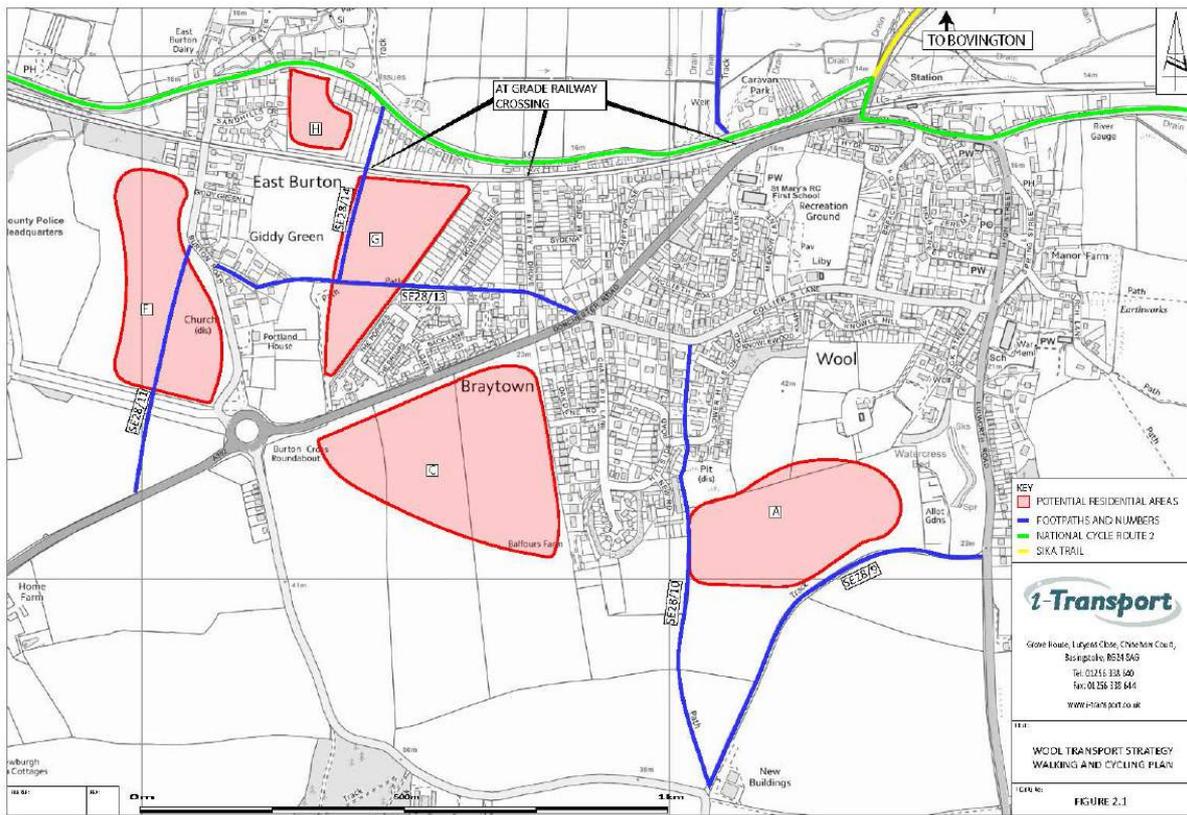


Figure 2.1: Proposed Sites

2.2 The details of proposed development sites are shown in Table 2.1 below.

		<b>Approx</b>	<b>Approx</b>	<b>Approx</b>	<b>Approx</b>
		<b>Sq. km</b>	<b>Sq. m</b>	<b>%age</b>	<b>Houses</b>
A	South East of Wool	0.07845	78450	24%	250
C	South-West of Wool (South of Dorchester Road)	0.1217	121700	38%	300
F	West of Wool (Nr Technology Park)	0.06645	66450	21%	250
G	West of Wool	0.04289	42890	13%	150
H	East Burton, (North of Railway Line)	0.01389	13890	4%	50
	<b>Total</b>	<b>0.32338</b>	<b>323380</b>	<b>100%</b>	<b>1000</b>

**Table 2.1: Site details**

Potential Traffic Impacts Of Development In The Wool Area

**3.0 TRICS DATA**

- 3.1 TRICS (Trip Rate Information Computer System) is a database of trip rates for developments used in the United Kingdom for transport planning purposes specifically to quantify the trip generation of new developments.
- 3.2 Trics was used to ascertain the total number of trips to be expected to and from a single proposed site comprising 1000 dwellings.
- 3.3 Table 3.1 below shows the estimated trips for 1000 dwellings – (N.B. five sites are proposed in the Wool area).

**Estimated TRIP rate value per 1000 DWELLS shown in shaded columns  
BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	3	95	0.059	59.441	3	95	0.339	339.161	3	95	0.398	398.602
08:00 - 09:00	3	95	0.101	101.399	3	<b>95</b>	<b>0.346</b>	<b>346.154</b>	3	95	0.447	447.553
09:00 - 10:00	3	95	0.101	101.399	3	95	0.199	199.301	3	95	0.300	300.700
10:00 - 11:00	3	95	0.147	146.853	3	95	0.136	136.364	3	95	0.283	283.217
11:00 - 12:00	3	95	0.213	213.287	3	95	0.161	160.839	3	95	0.374	374.126
12:00 - 13:00	3	95	0.126	125.874	3	95	0.178	178.322	3	95	0.304	304.196
13:00 - 14:00	3	95	0.133	132.867	3	95	0.136	136.364	3	95	0.269	269.231
14:00 - 15:00	3	95	0.168	167.832	3	95	0.199	199.301	3	95	0.367	367.133
15:00 - 16:00	3	95	0.294	293.706	3	95	0.161	160.839	3	95	0.455	454.545
16:00 - 17:00	3	95	0.259	258.741	3	95	0.140	139.860	3	95	0.399	398.601
17:00 - 18:00	3	<b>95</b>	<b>0.353</b>	<b>353.147</b>	3	95	0.196	195.804	3	<b>95</b>	<b>0.549</b>	<b>548.951</b>
18:00 - 19:00	3	95	0.346	346.154	3	95	0.143	143.357	3	95	0.489	489.511
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			2.300	2300.700			2.334	2335.666			4.634	4636.366

**Table 3.1: Trics data – 1000 dwellings**

## 4.0 TRAFFIC DATA

### Automatic Traffic Count (ATC) Site 1827 A352 Wool

- 4.1 The full details of the traffic count are shown in Appendix A at the end of this report.
- 4.2 The highest figures for Arrivals and Departures have been used in this assessment. These are predicted to be 0800 – 0900 the AM peak for Departures and 1700-1800 the PM peak for Arrivals.
- 4.3 Data from the ATC Site 1827 on Dorchester Road Wool shows traffic is slightly higher westbound at 452 and 401 eastbound in the AM peak.
- 4.4 For the PM peak - Westbound = 392 and Eastbound = 335.
- 4.5 A **55:45** split for West and East bound traffic emerging and entering the site has been adopted for use in any calculations.
- 4.6 **For AM Peak (Departures)** it could be assumed that from the Trics information an additional 346 vehicles could emerge from the proposed site with 190 heading west towards Dorchester etc. The remaining 156 vehicles heading to the east.
- 4.7 With local knowledge some users could avoid some of the potential delays at the rail crossing by using Burton Road where fewer delays might be expected in the event of the barriers being in use. However it is known that this barrier stays down for extended periods since the introduction of the new crossing control systems.
- 4.8 **For the PM peak (Arrivals)** Traffic arriving at the site is 353 - 194 from the West and 159 from the East
- 4.9 This additional traffic emerging from the site heading east could well increase queues approaching the level crossing. Also the additional traffic heading West (from Bere Regis / Wareham) could potentially increase queues.
- 4.10 The predicted rise in traffic flow on the A352 as a result of the development is shown in Table 4.1 for the AM and PM Peaks (08:00 – 09:00 and 17:00 – 18:00).

Potential Traffic Impacts Of Development In The Wool Area

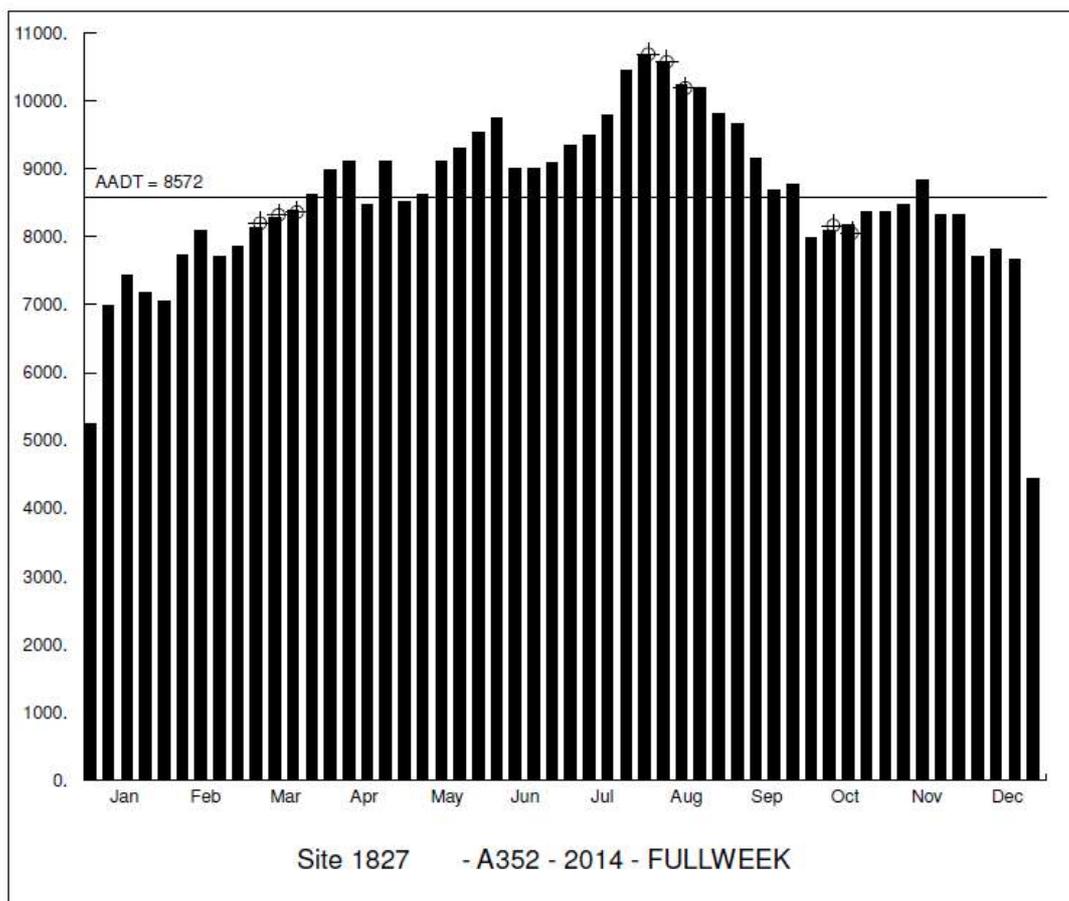
Peak	Direction	Count	Development Trips	Total Trips	Percentage increase
AM Departures	A352 Eastbound (South of crossing)	401	163	564	41%
AM Departures	A352 Westbound (North of crossing)	452	183	635	40%
PM Arrivals	A352 Eastbound (South of crossing)	335	190	525	57%
PM Arrivals	A352 Westbound (North of crossing)	392	163	555	42%

**Table 4.1: Predicted rise in Traffic Flow**

**ADDT information**

4.11 The AADT (Annual Average Daily Traffic) flow for Site 1827 is an estimate of 8600. The estimate is shown in Figure 4.1 below. The vertical axis of the graphic shows the total number of vehicles with the horizontal axis showing the month.

**Annual Histogram of Traffic Estimate**



**Figure 4.1: AADT – Site 1827 A352 Wool – 2014**

**5.0 TRAVEL TO WORK INFORMATION**

**ONS and NOMIS Data**

(Office for National Statistics and Official Labour Market Statistics)  
 (NOMIS - National Online Manpower Information System)

5.1 **Table 5.1** below shows the average distance travelled to work in the South West to be 16.3Km. This distance from Wool reaches Dorchester, the eastern side of Weymouth and Hamworthy to the west of Poole and Bournemouth.

<b>Average distance travelled to work (kilometres), English regions and Wales, 2001 and 2011</b>			
<b>English region/Wales</b>	<b>2001 (km)</b>	<b>2011 (km)</b>	
Wales	14.8	16.7	1.9
South West	14.0	16.3	2.3
South East	14.9	16.6	1.7
London	10.4	11.2	0.8
East	15.9	17.0	1.1
West Midlands	11.9	14.1	2.2
East Midlands	13.2	15.4	2.2
Yorkshire and The Humber	12.9	14.6	1.7
North West	12.5	14.0	1.5
North East	15.7	16.5	0.8

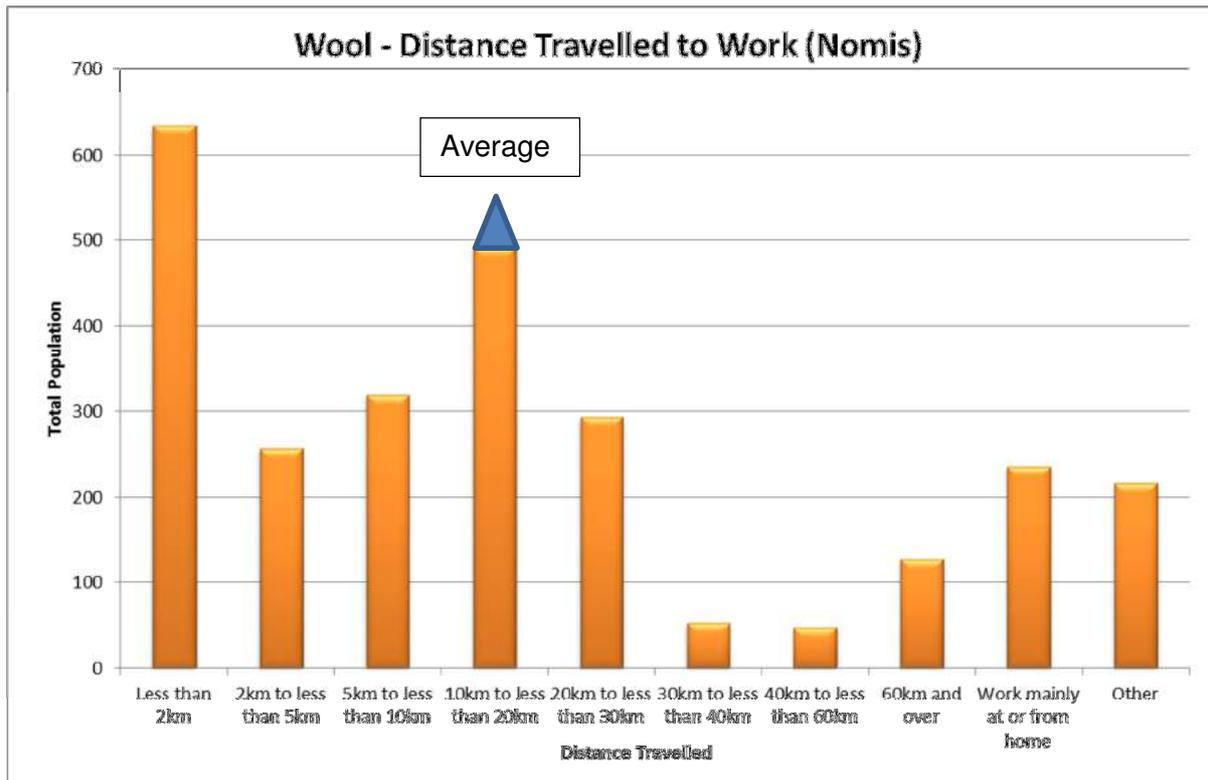
Source: Office for National Statistics

**Table 5.1: Office for National Statistics – Average distance travelled to Work (km)**

5.2 The NOMIS data shown in Table 5.2 - specific to Wool - states the average travel distance to work is 19.1 Kilometres, slightly higher than the national average. Figure 5.1 shows the data graphically.

<b>QS702EW - Distance travelled to work</b>	
ONS Crown Copyright Reserved [from Nomis on 17 February 2015]	
population	All usual residents aged 16 to 74 in employment the week before the census
units	Persons
area type	2011 wards
area name	E05003736 : Wool
rural urban	Total
<b>Distance travelled to work</b>	<b>2011</b>
All categories: Distance travelled to work	2,675
Less than 2km	634
2km to less than 5km	257
5km to less than 10km	320
10km to less than 20km	492
20km to less than 30km	294
30km to less than 40km	52
40km to less than 60km	47
60km and over	127
Work mainly at or from home	235
Other	217
Total distance (km)	42,443.2
Average distance (km)	19.1
In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.	

**Table 5.2 : Nomis Data – Specific to Wool**



**Figure 5.1: Nomis Data**

5.3 The average travel distance to work now takes in Hamworthy, Poole and the West of Bournemouth with Wimborne and Blandford just a little further outside this catchment. Weymouth and Portland also lie within the 19.1 km. See Figure 5.2 below for catchment. Interestingly a high number of short trips of less than 2 km are undertaken.

# Potential Traffic Impacts Of Development In The Wool Area



**Figure 5.2: Catchment**

## 6.0 QUEUE ANALYSIS

### Barrier Time Survey – Wool Level Crossing

- 6.1 A recently conducted survey of barrier times and queue lengths was undertaken at the Wool level crossing. (9<sup>th</sup> September 2014).
- 6.2 This information combined with the Trics output has been used to predict the additional number of vehicles and corresponding increases in queue lengths expected.
- 6.3 It is generally accepted that on average a vehicle occupies 6 metres of road space when in a queued state. This figure has been used in the calculation of surveyed and predicted queue lengths.
- 6.4 The split of emerging traffic from the development has been retained and used where necessary in calculations. (55% Westbound and 45% Eastbound)

## 7.0 SCENARIOS

### Scenario 1:

7.1 All development traffic (1000 dwellings) assumed to use the A352 Dorchester Road.

### Scenario 2:

7.2 75 % of the proposed development trips using Dorchester Road and 25% using the B3071 Lulworth Road and joining the queue on this arm of the Rail crossing junction during barrier down times.

7.3 It is predicted that traffic arriving at the South East of Wool (Site A - see Figure 2.1) site from the West might use Collier's Lane – avoiding potential queues at the rail crossing. Traffic emerging from the site might also use Collier's Lane to join the A352 Westbound. Colliers lane is shown with an arrow in Figure 7.1 below.



Figure 7.1: Colliers Lane location

7.4 For Eastbound traffic the same is possible as the give way on the B3071 to join the A352 Eastbound could cause delays. For the purposes of the exercise it is assumed all East bound traffic uses the B3071.

**Scenario 3:**

- 7.5 To assess the impact on queues for a total of 3,900 two way trips a day (0700-1900) to and from the Dorset Green Technology Park (DGTP) at the level crossing. This is the current traffic credit for DGTP although at present the site is under occupied and the trips are lower. We are using this traffic credit (agreed in 2009) as this is the amount of traffic that could begin to enter and leave the site if occupation levels rose without the need for further planning permission.
- 7.6 Details from traffic count 050077 undertaken during February 2015 show a total of 1962 trips entering and leaving the DGTP between 0700 - 1900. This traffic can be deemed to already be accounted for in any queues at the level crossing. Full details of the count can be found in Appendix B.
- 7.7 Therefore only an additional 1938 trips per day are required to be added to the total trips for the day in order to bring the trips to a total of 3900.
- 7.8 As stated in section 4.0 earlier in this report a **55:45** split for West and Eastbound traffic emerging and entering the site has been adopted for use in any calculations.
- 7.9 Table 7.2 below shows the additional arrivals and departures from the DGTP in hourly intervals that could potentially be involved in the queues at the level crossing.

Period	Total Arrivals	% of Daily total	Additional Arrivals (45%)	Period	Total Departures	% of Daily total	Additional Departures (45%)
07:00	247	25.28%	110	07:00	12	1.22%	5
08:00	354	36.23%	157	08:00	16	1.62%	7
09:00	134	13.72%	60	09:00	16	1.62%	7
10:00	24	2.46%	11	10:00	14	1.42%	6
11:00	28	2.87%	12	11:00	41	4.16%	18
12:00	43	4.40%	19	12:00	60	6.09%	27
13:00	44	4.50%	20	13:00	40	4.06%	18
14:00	22	2.25%	10	14:00	31	3.15%	14
15:00	40	4.09%	18	15:00	154	15.63%	68
16:00	23	2.35%	10	16:00	292	29.64%	130
17:00	14	1.43%	6	17:00	250	25.38%	111
18:00	4	0.41%	2	18:00	59	5.99%	26
<b>Totals</b>	<b>977</b>	<b>1</b>	<b>434</b>		<b>985</b>	<b>1</b>	<b>438</b>

**Table 7.2: Additional trips to and from DGTP**

**Scenario 4:**

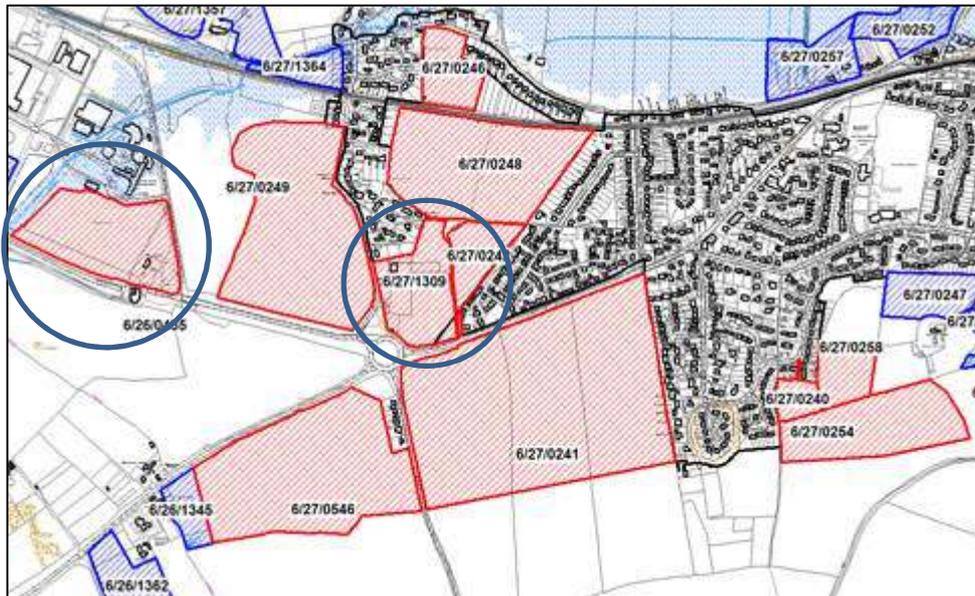
- 7.10 This scenario is a combination of both Scenario 1 and Scenario 3 (Dorset Green Technology Park).

**Scenario 5**

7.11 This scenario adds the predicted trips associated for an additional 200 proposed dwellings to the results from Scenario 4. The sites are as follows:

- Site 6/27/1309 (around 100 units)
- Dorset Green shown as site 6/26/0435 (around 100 units)

7.12 The locations of the additional proposed sites are shown in figure 7.2 below.



**Figure 7.2 – Additional proposed sites for development**

7.13 For consistency the same trip rate calculations have been adopted, but recalculated to a total of 1200 dwellings, an increase of 200 from the previous assessments.

7.14 Due to the location of the 2 sites being in close proximity to the previously assessed development, the same distribution criteria used in the previous scenarios has also been adopted.

## 8.0 RESULTS

### Scenario 1

All development traffic (1000 dwellings) assumed to use the A352 Dorchester Road.

8.1 Table 8.1 below shows Minimum, Maximum, Average Queues and Barrier down times. It must be noted that an extended barrier down time at 16:20 on the day of the survey did cause considerable queues. This extended time was due to a slow “sand” train en route at this time. The frequency of these trains is unknown, but was felt this should be highlighted in the report.

		Surveyed queue (m)	Queue with Development (m)	% Increase (m)	Barrier Time (hh:mm:ss)
Eastbound (South of crossing)	Minimum	30.00	40.23	34%	00:01:26
Eastbound (South of crossing)	Maximum	432.00	514.76	19%	00:13:09
Eastbound (South of crossing)	Average	142.50	174.09	22%	00:03:49
Westbound (North of crossing)	Minimum	54.00	65.01	20%	00:01:26
Westbound (North of crossing)	Maximum	582.00	687.11	18%	00:13:09
Westbound (North of crossing)	Average	212.86	247.43	16%	00:03:49

**Table 8.1: Queue length summary and Barrier down time summary**

8.2 Table 8.2 shows the Minimum, Maximum and Average additional number of vehicles that are predicted to join the queue when the barrier is down.

	Additional Queued vehicles (A352) South of Crossing (Eastbound)	Increase of Queued vehicles (A352) North of Crossing (Westbound)
Minimum	1.47	1.43
Maximum	15.56	25.52
Average	5.27	5.76

**Table 8.2: Predicted additional queued vehicles as a result of development**

8.3 Figures 8.1 and 8.2 below show the number of surveyed vehicles queued and total predicted vehicles queued (with development) for both the South (Eastbound) and North (Westbound) approaches to the level crossing. The queues are related to the actual time of day the barrier was first lowered. Figures 8.3 and 8.4 show the corresponding queue lengths. (These are also available as line graphs if required)

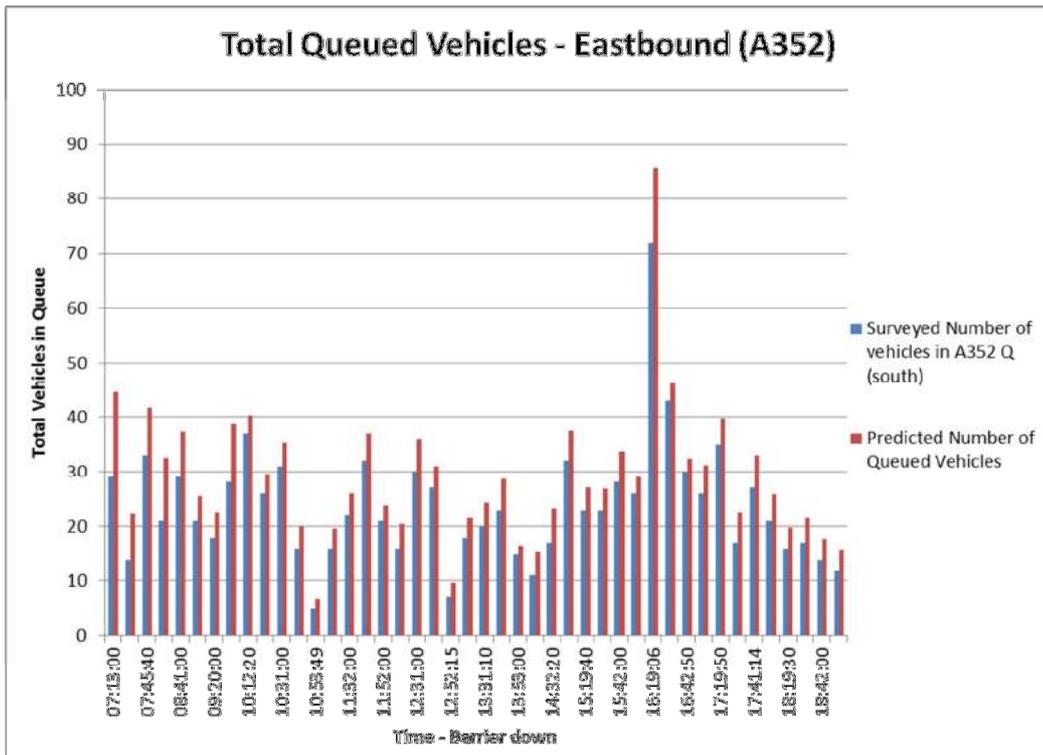


Figure 8.1: Queued Vehicles - Eastbound

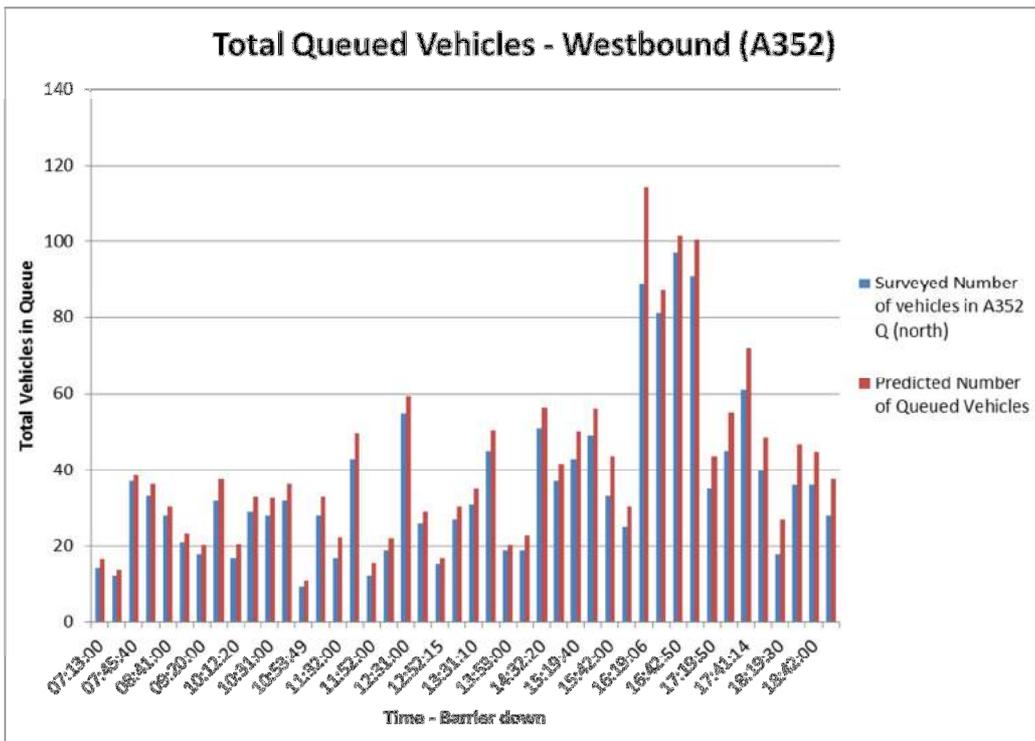


Figure 8.2: Queued Vehicles - Westbound

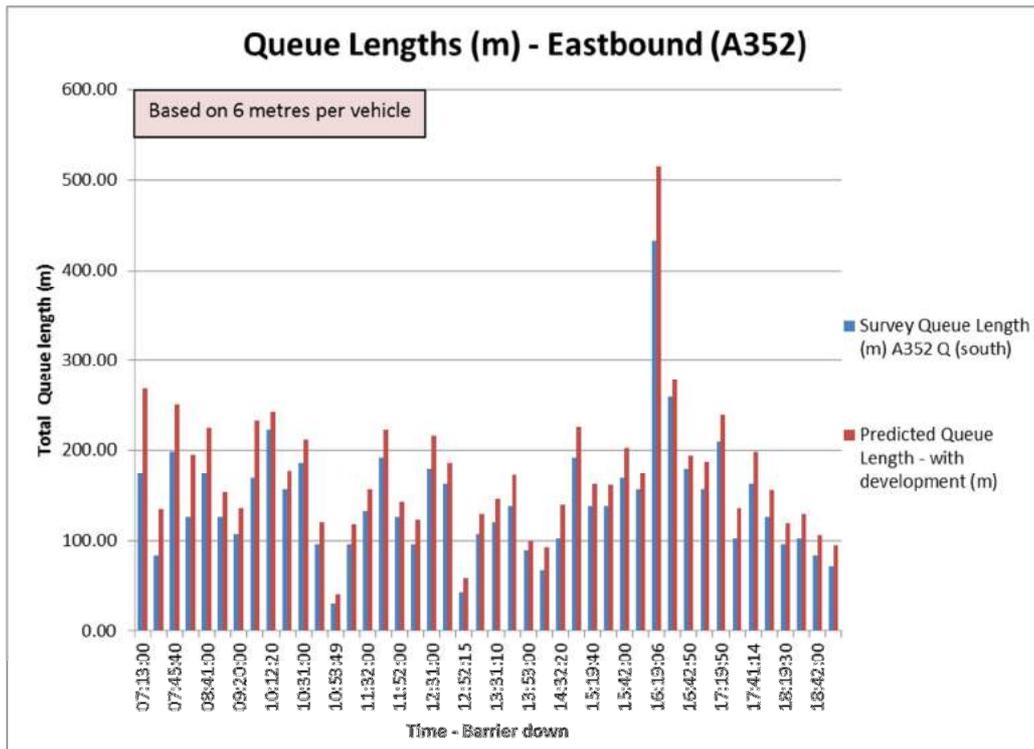


Figure 8.3: Queue Lengths – Eastbound

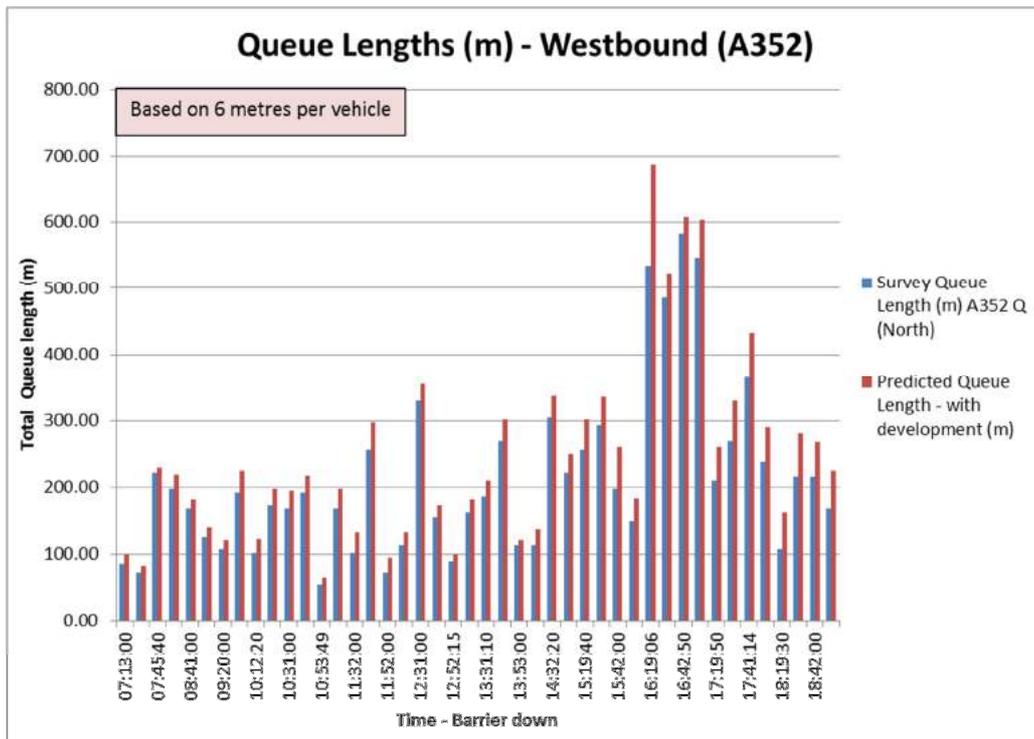


Figure 8.4: Queue Lengths – Westbound

**Scenario 2**

75 % development traffic using A352: 25% using B3071 Lulworth Road

8.4 Table 8.3 below shows Minimum, Maximum, Average Queues and Barrier down times. It must be noted that an extended barrier down time at 16:20 on the day of the survey did cause considerable queues.

		Surveyed queue (m)	Queue with Development (m)	% Increase (m)	Barrier Time (hh:mm:ss)
Eastbound (South of crossing)	Minimum	30.00	37.67	26%	00:01:26
Eastbound (South of crossing)	Maximum	432.00	494.07	14%	00:13:09
Eastbound (South of crossing)	Average	142.50	166.19	17%	00:03:49
Westbound (North of crossing)	Minimum	54.00	65.01	20%	00:01:26
Westbound (North of crossing)	Maximum	582.00	687.11	18%	00:13:09
Westbound (North of crossing)	Average	212.86	247.43	16%	00:03:49
B3071 Eastbound (South of crossing)	Minimum	0.00	7.38	N/a	00:01:26
B3071 Eastbound (South of crossing)	Maximum	96.00	146.17	52%	00:13:09
B3071 Eastbound(South of crossing)	Average	24.68	39.25	59%	00:03:49

**Table 8.3: Queue length summary and Barrier down time summary**

8.5 Table 8.4 shows the Minimum, Maximum and Average additional number of vehicles that are predicted to join the queue when the barrier is down.

	Additional Queued vehicles (A352) South (Eastbound)	Increase of Queued vehicles (B3071)	Additional Queued vehicles (A352) North(Westbound)
Minimum	1.10	0.91	1.43
Maximum	11.67	8.36	25.52
Average	3.95	2.43	5.76

**Table 8.4: Additional vehicles in queue as a result of the development**

- 8.6 Figure 8.5 and 8.6 below show the number of surveyed vehicles queued and total predicted vehicles queued (with development) for the South approach (**Eastbound**) to the level crossing for the A352 and the B3071 approach.
- 8.7 Note – the west bound queues remain the same as previously shown as all traffic wishing to head west or gain access to the development use the same route.
- 8.8 The queues are related to the actual time of day the barrier was first lowered.
- 8.9 Figures 8.7 and 8.8 show the corresponding queue lengths. (These are also available as line graphs if required)

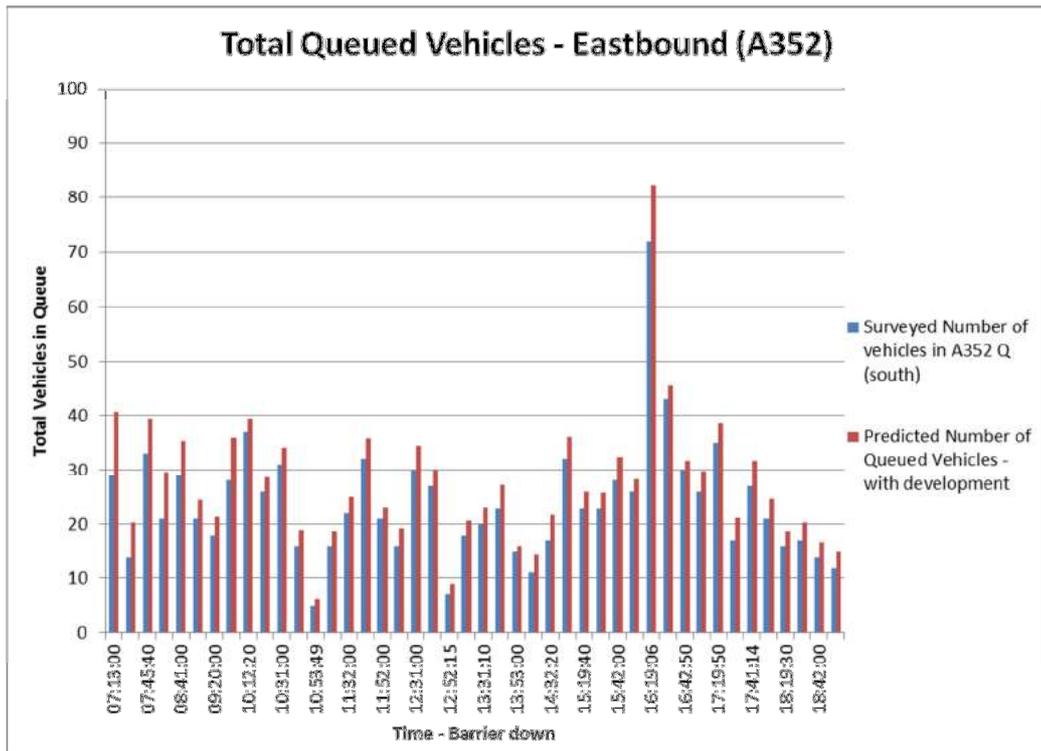


Figure 8.5: Queued vehicles Eastbound

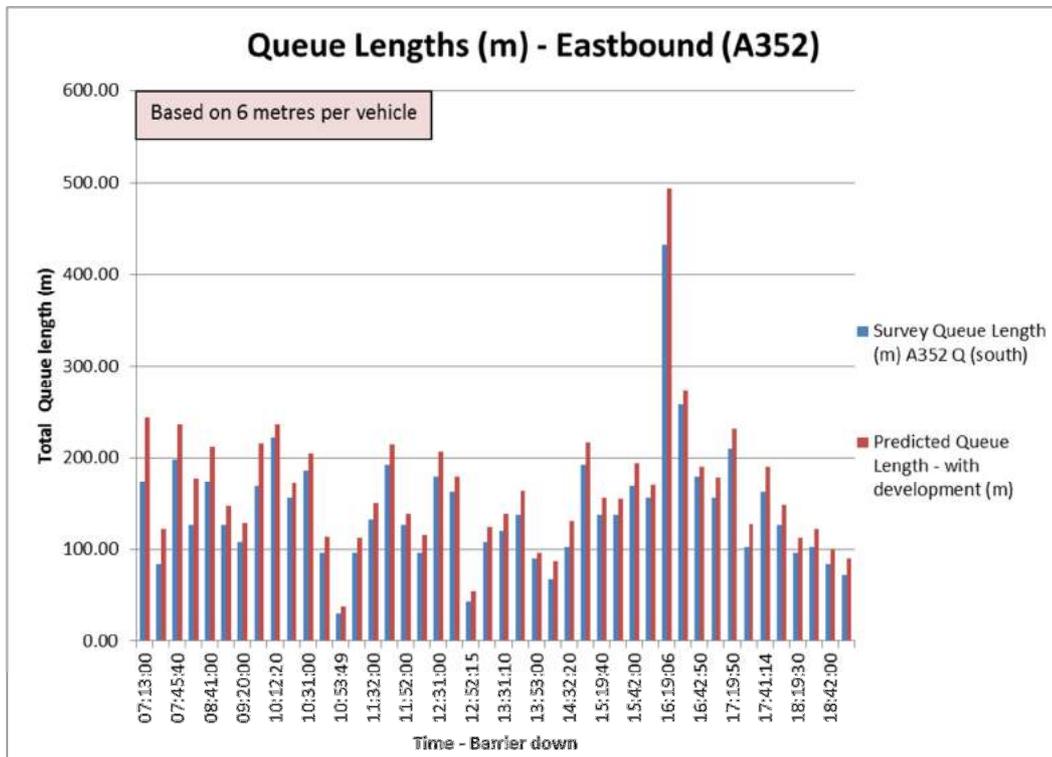
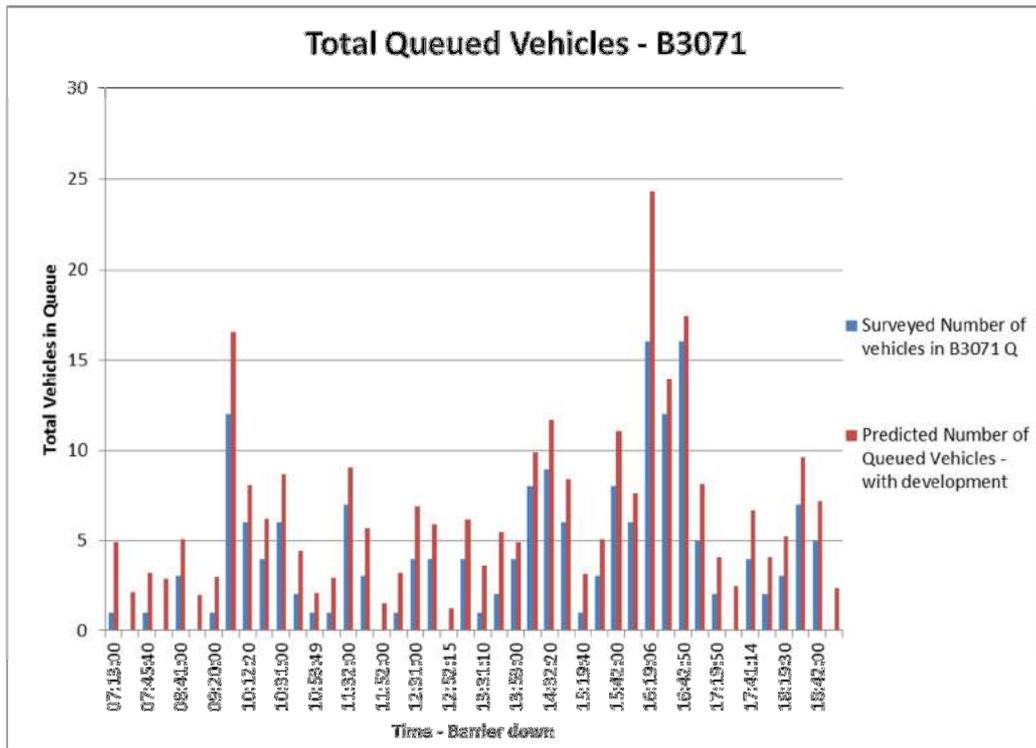
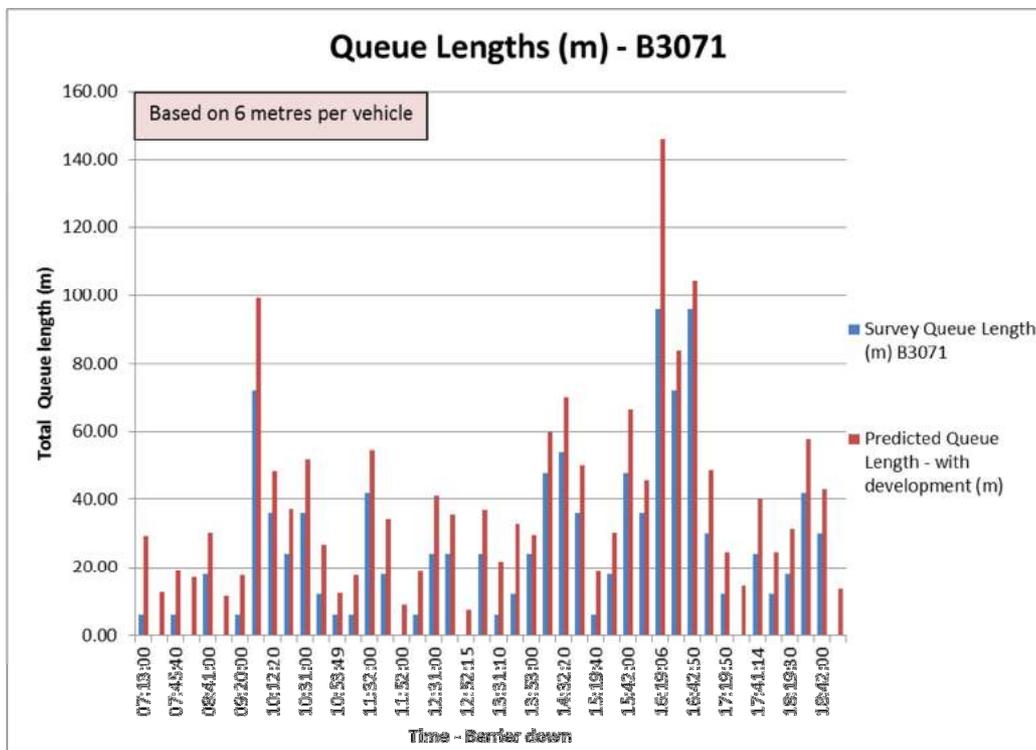


Figure 8.6: Queue Lengths Eastbound

**B3071 Lulworth Road – Total Queued Vehicles and Total Queue Lengths**



**Figure 8.7: Queued vehicles B3071**



**Figure 8.8: Queue Lengths B3071**

**Scenario 3**

Additional traffic only from DGTP using A352

8.10 Table 8.5 below shows Minimum, Maximum, Average Queues and Barrier down times. It must be noted that an extended barrier down time at 16:20 on the day of the survey did cause considerable queues.

		Surveyed queue (m)	Queue with DGTP additional trips (m)	% Increase (m)	Barrier Time (hh:mm:ss)
Eastbound (South of crossing)	Minimum	30.00	31.04	3%	00:01:26
Eastbound (South of crossing)	Maximum	432.00	602.68	40%	00:13:09
Eastbound (South of crossing)	Average	142.50	159.07	12%	00:03:49
Westbound (North of crossing)	Minimum	54.00	55.78	3%	00:01:26
Westbound (North of crossing)	Maximum	582.00	584.30	0%	00:13:09
Westbound (North of crossing)	Average	212.86	224.19	5%	00:03:49

**Table 8.5: Queue length summary and Barrier down time summary**

8.11 Table 8.6 shows the Minimum, Maximum and Average additional number of vehicles that are predicted to join the queue when the barrier is down.

	Additional Queued vehicles (A352) South of Crossing (Eastbound)	Increase of Queued vehicles (A352) North of Crossing (Westbound)
Minimum	0.17	0.10
Maximum	28.45	11.67
Average	2.76	1.89

**Table 8.6: Predicted additional queued vehicles - DGTP additional Traffic**

8.12 Figures 8.9 and 8.10 below show graphically the number of surveyed vehicles queued and total predicted vehicles queued for both the South (**Eastbound**) and North (**Westbound**) approaches to the level crossing. The queues are related to the actual time of day the barrier was first lowered. Figures 8.11 and 8.12 shows the corresponding queue lengths. (These are also available as line graphs if required)

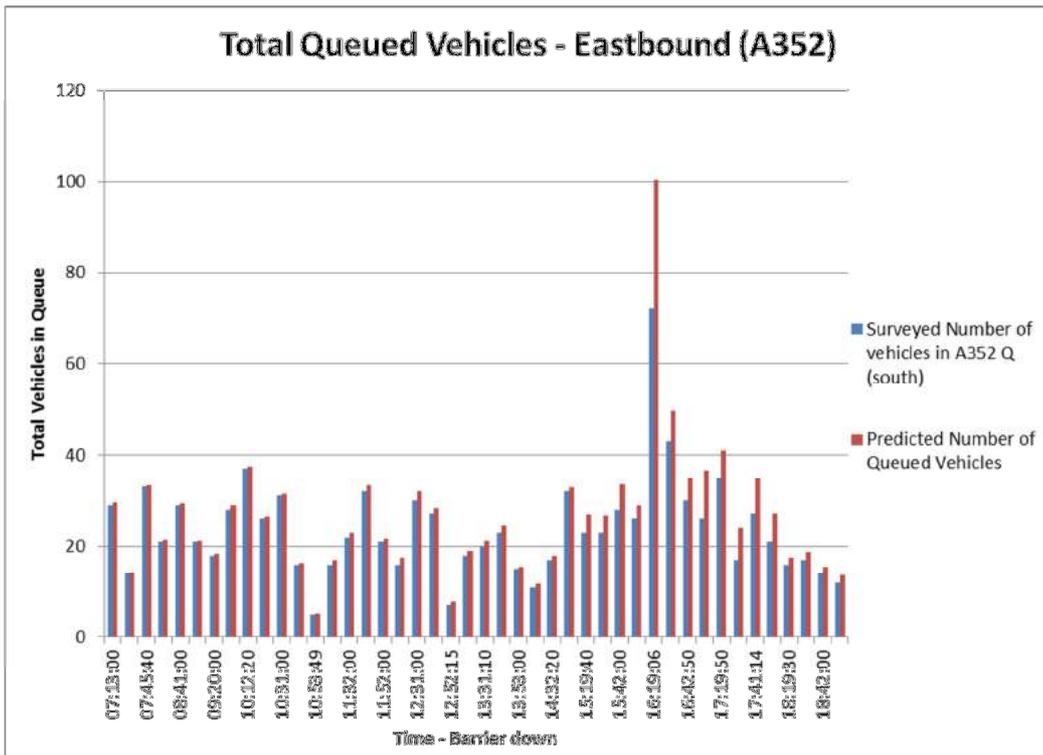


Figure 8.9: Queued Vehicles – Eastbound

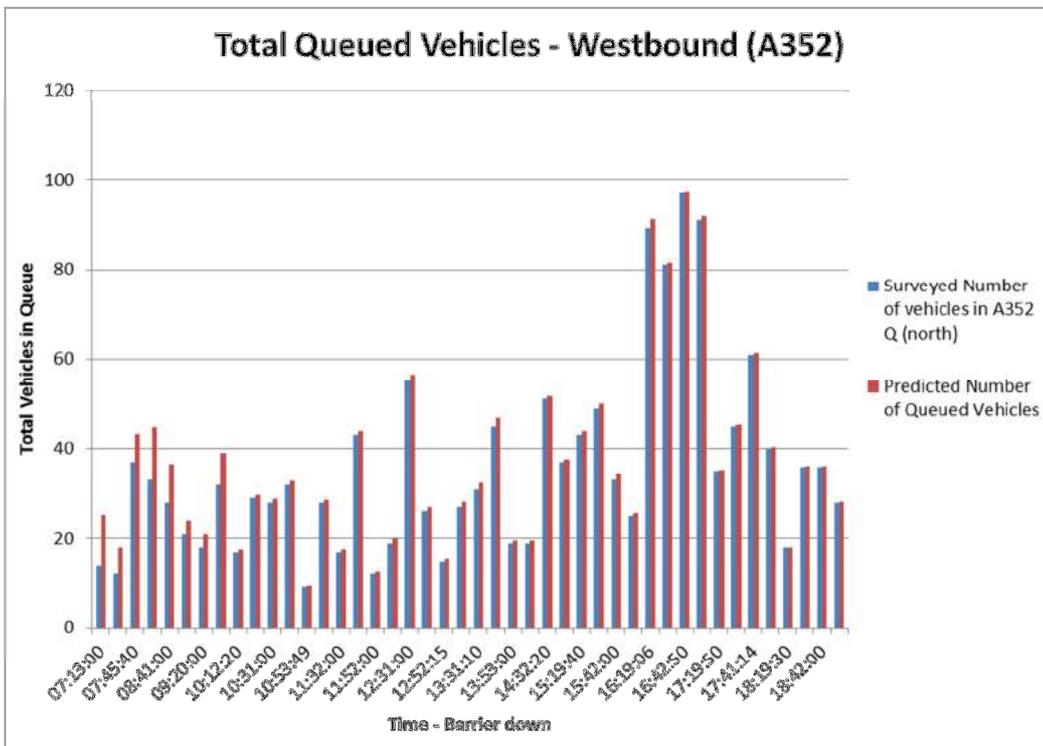


Figure 8.10: Queued Vehicles – Westbound

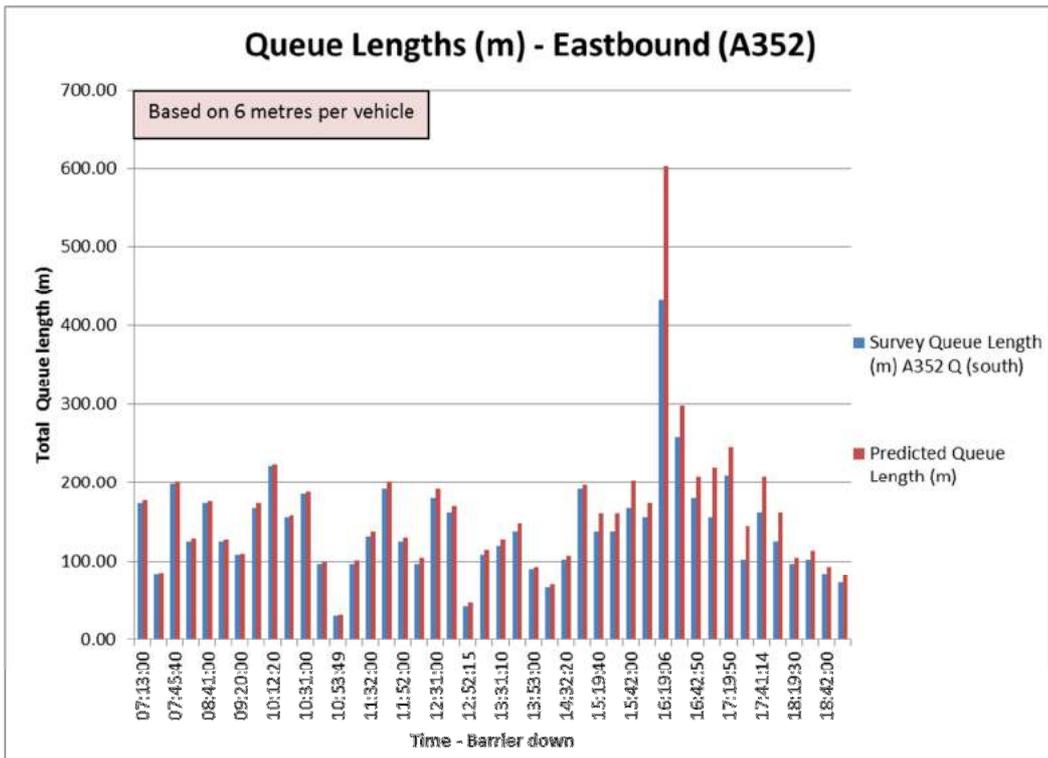


Figure 8.11: Queue Lengths – Eastbound

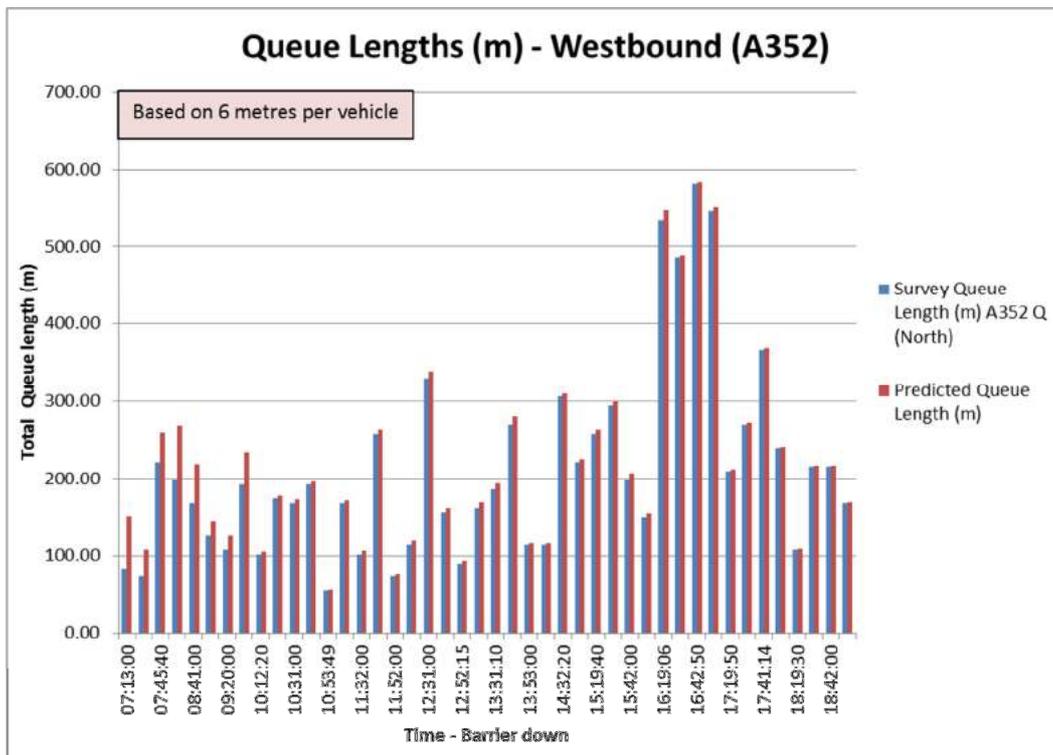


Figure 8.12: Queue Lengths – Westbound

**Scenario 4**

Scenario 1 and Scenario 3 Combined

8.13 Table 8.7 below shows Minimum, Maximum, Average Queues and Barrier down times. It must be noted that an extended barrier down time at 16:20 on the day of the survey did cause considerable queues.

		Surveyed queue (m)	Queue with Development and DGTP (m)	% Increase (m)	Barrier Time (hh:mm:ss)
Eastbound (South of crossing)	Minimum	30.00	41.26	38%	00:01:26
Eastbound (South of crossing)	Maximum	432.00	685.44	59%	00:13:09
Eastbound (South of crossing)	Average	142.50	190.66	34%	00:03:49
Westbound (North of crossing)	Minimum	54.00	66.79	24%	00:01:26
Westbound (North of crossing)	Maximum	582.00	700.55	20%	00:13:09
Westbound (North of crossing)	Average	212.86	258.76	22%	00:03:49

**Table 8.7: Queue length summary and Barrier down time summary**

8.14 Table 8.8 shows the Minimum, Maximum, Average additional number of vehicles that are predicted to join the queue when the barrier is down.

	Additional Queued vehicles (A352) South of Crossing (Eastbound)	Increase of Queued vehicles (A352) North of Crossing (Westbound)
Minimum	1.88	1.90
Maximum	42.24	27.76
Average	8.03	7.65

**Table 8.8: Predicted additional queued vehicles**

8.15 Figures 8.13 and 8.14 below show the number of surveyed vehicles queued and total predicted vehicles queued for both the South (**Eastbound**) and North (**Westbound**) approaches to the level crossing. The queues are related to the actual time of day the barrier was first lowered. Figures 8.15 and 8.16 show the corresponding queue lengths. (These are also available as line graphs if required)

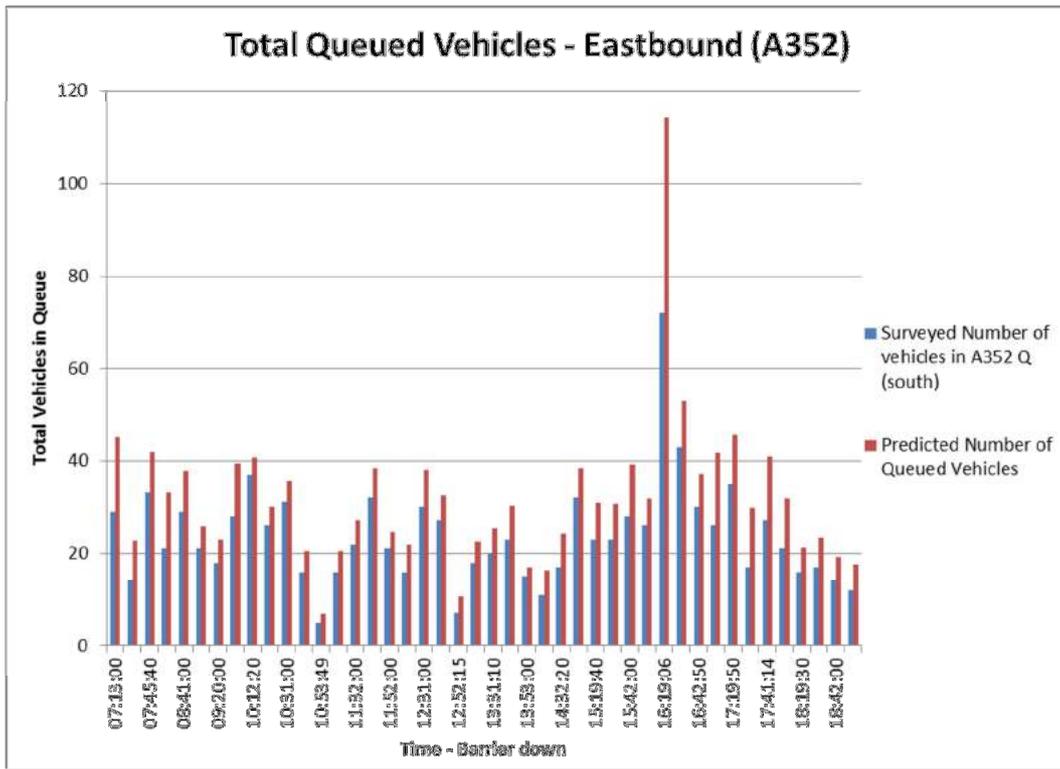


Figure 8.13: Queued Vehicles – Eastbound

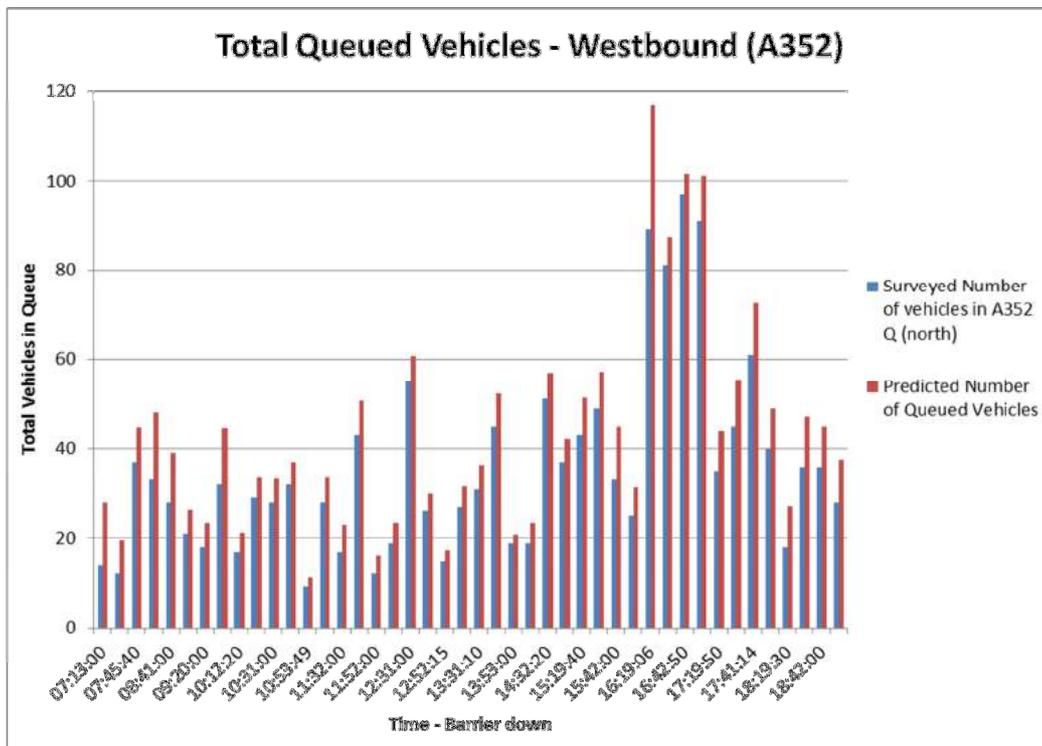


Figure 8.14: Queued Vehicles - Westbound

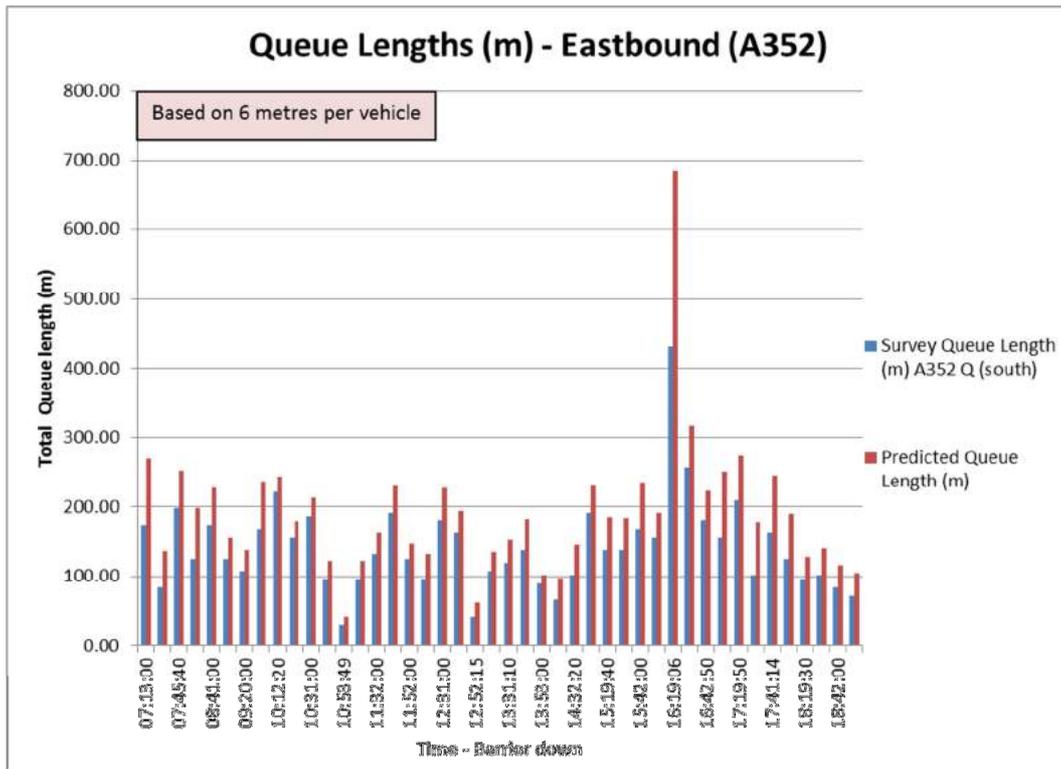


Figure 8.15: Queue Lengths – Eastbound

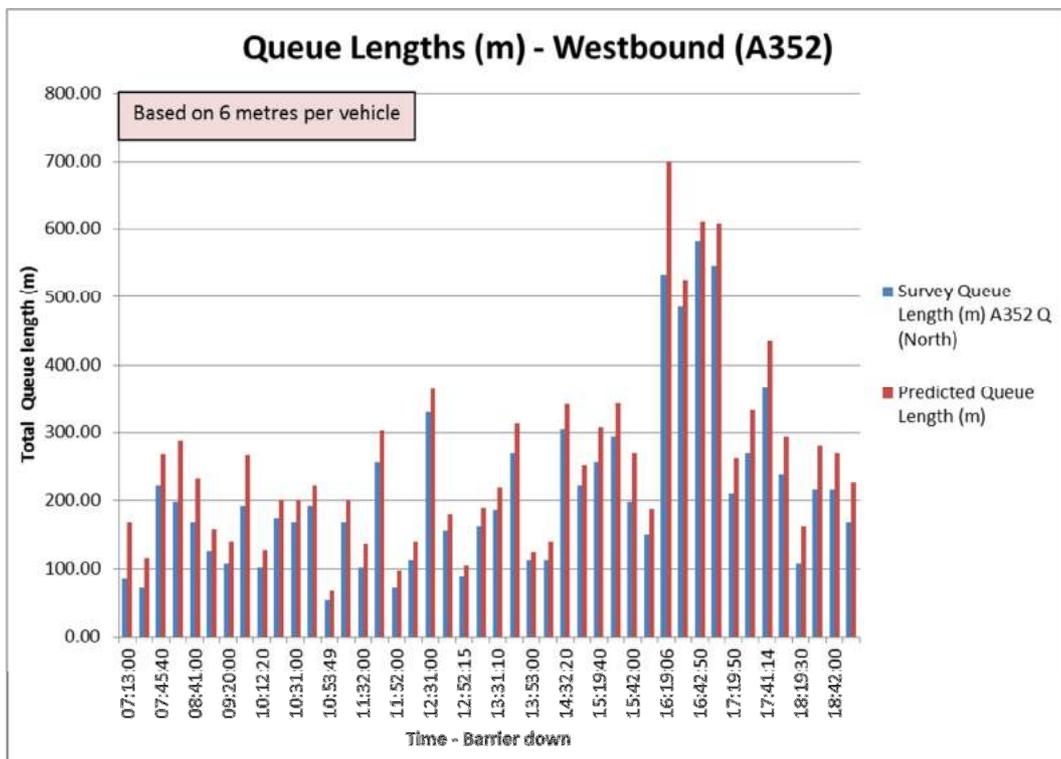


Figure 8.16: Queue Lengths – Westbound

**Scenario 5**

Scenario 4 + 200 Additional Dwellings

8.16 Table 8.9 below shows Minimum, Maximum, Average Queues and Barrier down times. It must be noted that an extended barrier down time at 16:20 on the day of the survey did cause considerable queues.

		Surveyed queue (m)	Scenario 5 queues (m)	% Increase (m)	Barrier Time (hh:mm:ss)
Eastbound (South of crossing)	Minimum	30.00	43.31	44%	00:01:26
Eastbound (South of crossing)	Maximum	432.00	701.99	62%	00:13:09
Eastbound (South of crossing)	Average	142.50	196.98	38%	00:03:49
Westbound (North of crossing)	Minimum	54.00	68.99	28%	00:01:26
Westbound (North of crossing)	Maximum	582.00	731.18	26%	00:13:09
Westbound (North of crossing)	Average	212.86	265.67	25%	00:03:49

**Table 8.9: Queue length summary and Barrier down time summary**

8.17 Table 8.10 shows the Minimum, Maximum, Average additional number of vehicles that are predicted to join the queue when the barrier is down.

	Additional Queued vehicles (A352) South of Crossing (Eastbound)	Increase of Queued vehicles (A352) North of Crossing (Westbound)
Minimum	2.18	2.18
Maximum	45.00	32.86
Average	9.08	8.80

**Table 8.10: Predicted additional queued vehicles**

8.18 Figures 8.17 and 8.18 below show the number of surveyed vehicles queued and total predicted vehicles queued for both the South (**Eastbound**) and North (**Westbound**) approaches to the level crossing. The queues are related to the actual time of day the barrier was first lowered. Figures 8.19 and 8.20 show the corresponding queue lengths.

8.19 In order to see the effects of the additional 200 dwellings the results from **Scenario 4** have also been included on the figures. (These are also available as line graphs if required)

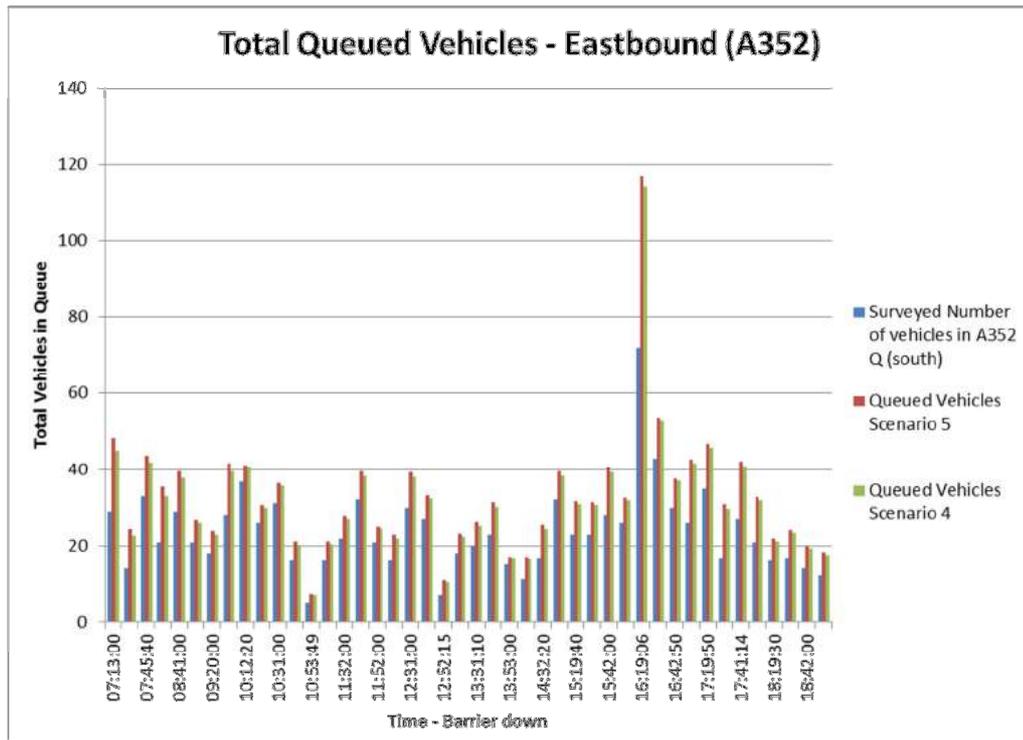


Figure 8.17: Queued Vehicles – Eastbound

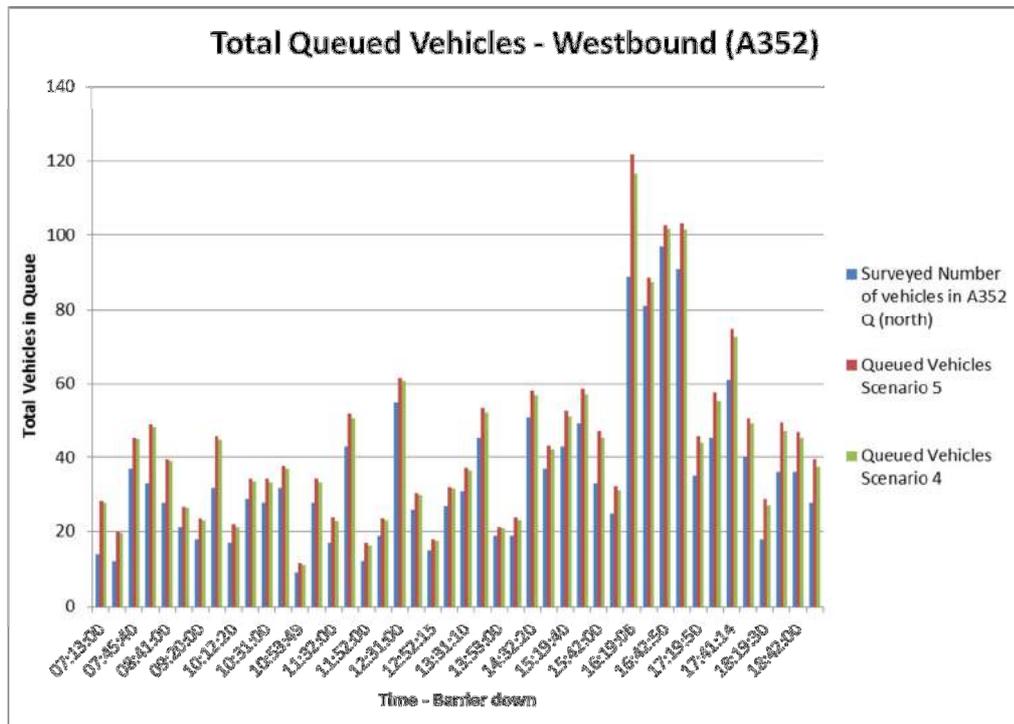


Figure 8.18: Queued Vehicles - Westbound

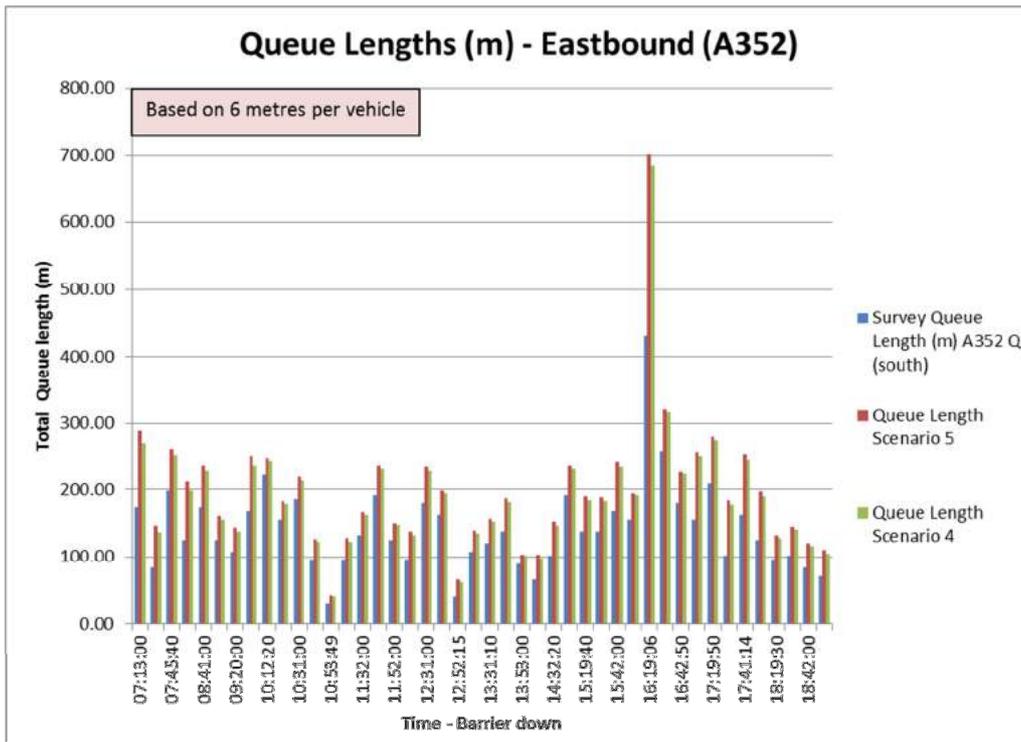


Figure 8.19: Queue Lengths – Eastbound

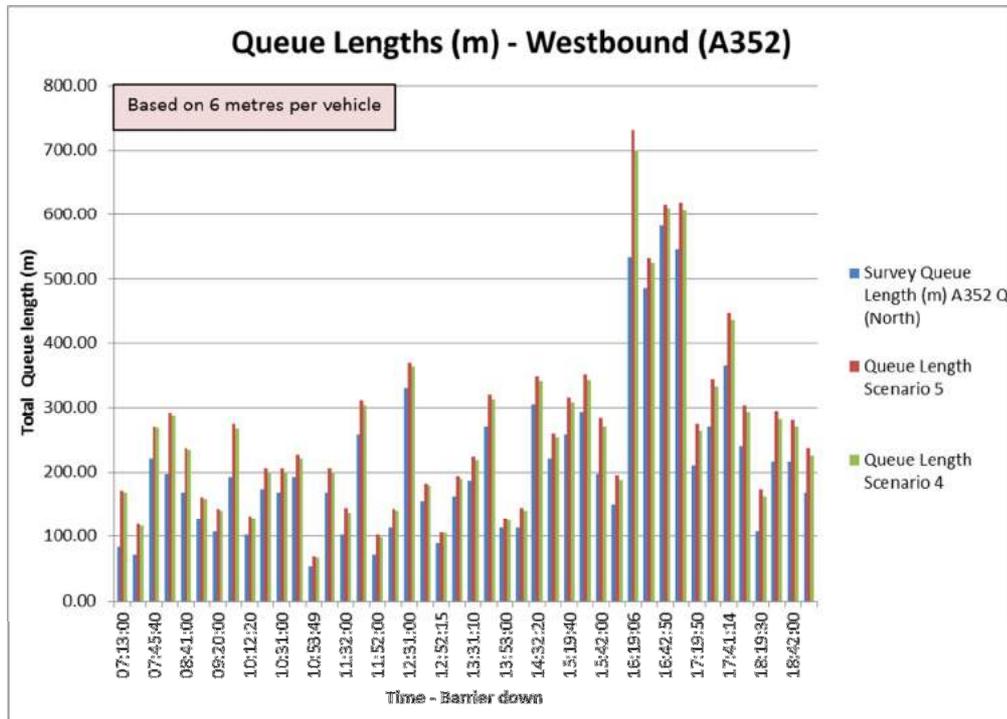


Figure 8.20: Queue Lengths – Westbound

8.20 Figure 8.21 below shows markers at 50 metre intervals back from the stoplines of the rail crossing for each approach. (PDF available A3)

# Potential Traffic Impacts Of Development In The Wool Area



Figure 8.21: 50 metre intervals from Crossing

## 9.0 CONCLUSIONS

- 9.1 The additional traffic generated by the developments and the Dorset Green Technology Park (DGTP) is expected to increase the number of vehicles in the queues at the level crossing.
- 9.2 However, not all traffic generated by the development or DGTP will be 'involved' in the queues as a result of the rail crossing barrier being down.
- 9.3 The extended barrier down time at 16:20 on the day of the survey serves as a good sensitivity test. It can be used to provide an indication of the impact of similar occurrences.
- 9.4 **Scenario 1:** The average number of additional queued vehicles is 5.27 and 5.76 additional vehicles, with the worst case being 15.56 and 25.52 vehicles for the South (**Eastbound**) and North (**Westbound**) approaches respectively.
- 9.5 The average increases in queue length back from the Rail crossing are predicted to be around 40 metres (22%) Eastbound and 40 metres (16%) Westbound.
- 9.6 **Scenario 2:** The average number of additional queued vehicles is 3.95, 5.76 and 2.43, with the worst case being 11.67, 25.52 and 8.36 vehicles for the South (**Eastbound**), North (**Westbound**) and B3071 approaches respectively.
- 9.7 For this scenario the average increases in queue length back from the Rail crossing are predicted to be around 40 metres (20%) Eastbound and 40 metres (16%) Westbound. For the B3071 traffic heading east to Wareham average increases in queue length back from the Rail crossing is predicted to be around 20 metres (59%). *(Note: this is a small queue, 3-4 vehicles)*
- 9.8 **Scenario 3:** The average number of additional queued vehicles is 2.76 and 1.89, with the worst case being 28.45 and 11.67 vehicles for the South (**Eastbound**) and North (**Westbound**) approaches respectively.
- 9.9 The average increases in queue length back from the Rail crossing are predicted to be around 20 metres (12%) Eastbound and 10 metres (5%) Westbound. **Both Negligible**
- 9.10 The effect of the additional traffic from the DGTP appears to have the most noticeable effect on queues during the morning and evening peak periods. The remainder of the day the effects appear to be negligible.
- 9.11 **Scenario 4:** The average number of additional queued vehicles is 8.03 and 7.65, with the worst case being 42.24 and 27.76 vehicles for the South (**Eastbound**) and North (**Westbound**) approaches respectively.
- 9.12 The graphs of total vehicles and queue lengths indicate that this scenario has the greatest effect on queue lengths as would be expected due to having the greatest increase in traffic volumes.
- 9.13 **Scenario 5:** The average number of additional queued vehicles is 9.08 and 8.80, with the worst case being 45.00 and 32.86 vehicles for the South (**Eastbound**) and North (**Westbound**) approaches respectively.

- 9.14 The graphs of total vehicles and queue lengths indicate that with the additional 200 dwellings in this scenario there is only a slight increase queue lengths on both approaches to the level crossing when compared to the Scenario 4.
- 9.15 This study shows that all the scenarios tested will potentially increase queue lengths at the level crossing. However, the overall impact on the highway network is unlikely to be severe. Whilst the Council has no objections in principle to the proposed 1000 dwellings at Wool, plus growth of employment land at the Dorset Enterprise Zone (formerly Dorset Green Enterprise Park), the Council is aware that impacts on the local infrastructure need to be mitigated. Where there is a negative impact on the network, such as increased queue lengths at the level crossing, the developer will be required to initiate mitigation measures such as improving walking, cycling and public transport links to and from the development site, as well as providing affordable options for the level crossing, in order for the development to be acceptable in transport terms. One option is to move Wool Station to the west, closer to the proposed new housing development and Dorset Enterprise Zone. Another option is to extend the existing platform at Wool Station. Both options would reduce barrier downtime and help to reduce queue lengths at the level crossing. At this stage DCC are in preliminary discussions with Network Rail and the train operating company to see if either option would be deliverable.

# **APPENDIX A**

# Weekly Volume Report DORSET\_SURVEY 00000001827: 2014-03-01 to 2014-03-25

Site Name 00000001827  
 Site ID 00000001827  
 Grid 383981086647  
 Description DORCHESTER RD WOOL

Setup Setup0305  
 Channel Each Direction  
 Bins Total  
 Time Period 1 hour  
 Exclude data: None

All directions										
	<--	Average of each					-->	Average		Total
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Workday	7 Day	Count
00:00:00	16	16	20	27	20	43	48	19	27	691
01:00:00	7	9	9	13	14	16	26	10	13	335
02:00:00	6	9	8	7	8	15	23	7	11	280
03:00:00	8	11	11	10	8	10	11	10	10	250
04:00:00	16	14	17	15	17	16	16	16	16	392
05:00:00	57	63	55	64	63	36	19	60	51	1245
06:00:00	252	280	266	263	236	103	68	260	210	5111
07:00:00	655	666	629	636	597	172	104	640	496	11978
08:00:00	828	865	874	887	816	304	214	853	683	16576
09:00:00	570	578	592	583	584	476	368	580	535	13243
10:00:00	563	575	594	552	607	630	548	577	581	14524
11:00:00	550	545	574	582	573	690	660	563	595	14970
12:00:00	592	592	639	631	648	608	658	617	622	15557
13:00:00	517	545	572	555	609	624	619	556	575	14430
14:00:00	554	586	596	596	648	616	597	593	597	14933
15:00:00	663	682	729	722	788	579	619	713	681	16207
16:00:00	804	837	873	848	865	590	631	843	776	18365
17:00:00	713	755	763	761	648	532	471	727	663	15645
18:00:00	428	459	489	452	457	403	298	455	425	10091
19:00:00	208	274	272	279	296	258	188	262	251	5983
20:00:00	137	158	157	148	175	146	144	154	151	3623
21:00:00	114	116	122	134	134	118	89	124	118	2803
22:00:00	69	69	88	91	97	100	56	82	81	1935
23:00:00	29	46	35	44	72	75	29	44	46	1123
07-19	7437	7685	7924	7807	7841	6224	5788	7718	7229	176519
06-22	8150	8514	8741	8631	8683	6849	6276	8519	7960	194039
06-24	8248	8628	8865	8766	8852	7024	6361	8645	8087	197097
00-24	8358	8750	8984	8902	8982	7159	6504	8767	8214	200290
am Peak	08:00:00	08:00:00	08:00:00	08:00:00	08:00:00	11:00:00	11:00:00	08:00:00	08:00:00	
Peak Volume	828	865	874	887	816	690	660	853	683	
pm Peak	16:00:00	16:00:00	16:00:00	16:00:00	16:00:00	13:00:00	12:00:00	16:00:00	16:00:00	
Peak Volume	804	837	873	848	865	624	658	843	776	

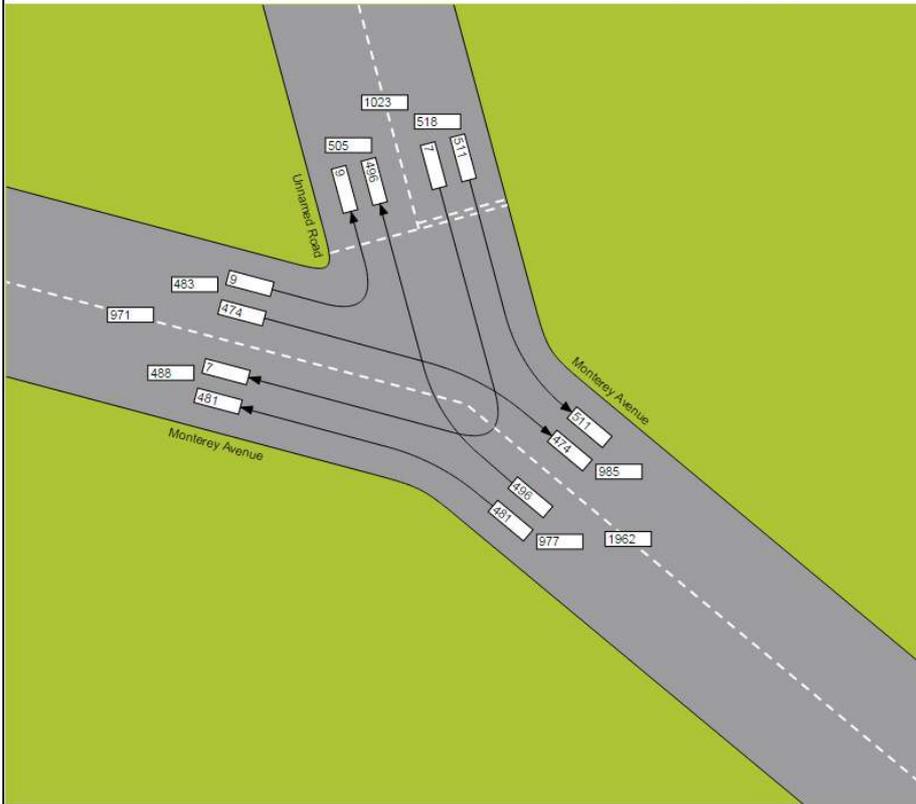


WESTBOUND TO WINFRITH											
	<--	Average of each						-->	Average		Total
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Workday	7 Day	Count	
00:00:00	7	8	9	14	9	26	29	9	15	383	
01:00:00	4	6	6	9	10	9	15	7	8	209	
02:00:00	2	4	4	3	5	6	10	4	5	128	
03:00:00	3	6	5	4	4	6	4	5	5	116	
04:00:00	5	5	7	7	6	6	7	6	6	152	
05:00:00	12	18	16	18	18	14	10	16	15	372	
06:00:00	69	84	78	78	74	48	36	76	67	1637	
07:00:00	280	279	275	270	261	73	45	274	212	5124	
08:00:00	434	462	469	467	429	130	105	452	356	8619	
09:00:00	286	279	296	274	289	232	137	284	256	6310	
10:00:00	259	283	300	252	294	304	189	277	268	6673	
11:00:00	267	276	281	314	298	337	301	286	295	7407	
12:00:00	291	299	314	318	327	315	332	308	313	7831	
13:00:00	263	270	276	271	327	330	315	279	292	7331	
14:00:00	283	302	289	306	344	324	300	303	306	7652	
15:00:00	327	342	363	344	383	302	298	350	336	8005	
16:00:00	389	410	423	422	450	314	298	417	385	9117	
17:00:00	383	417	402	409	355	271	241	392	353	8327	
18:00:00	241	231	262	246	261	214	142	248	228	5389	
19:00:00	113	151	146	155	167	136	94	144	136	3228	
20:00:00	77	88	88	86	94	80	68	86	83	1970	
21:00:00	72	76	70	79	74	66	46	74	69	1633	
22:00:00	39	43	60	59	49	60	29	49	48	1142	
23:00:00	16	29	23	30	44	45	19	28	29	700	
07-19	3704	3850	3950	3891	4017	3145	2704	3870	3600	87785	
06-22	4035	4250	4331	4290	4425	3474	2948	4251	3954	96253	
06-24	4089	4322	4414	4379	4518	3579	2997	4328	4031	98095	
00-24	4122	4369	4462	4434	4569	3648	3072	4374	4085	99455	
am Peak	08:00:00	08:00:00	08:00:00	08:00:00	08:00:00	11:00:00	11:00:00	08:00:00	08:00:00		
Peak Volume	434	462	469	467	429	338	301	452	356		
pm Peak	16:00:00	17:00:00	16:00:00	16:00:00	16:00:00	13:00:00	12:00:00	16:00:00	16:00:00		
Peak Volume	389	417	423	422	450	330	332	417	385		

# **APPENDIX B**

# Potential Traffic Impacts Of Development In The Wool Area

DORSET\_SURVEY - 00000050077 - Monterey Avenue, Wool - Monday, February 9, 2015



### Time Period:

- All times
- AM Peak: 07:30 - 08:30
- PM Peak: 16:30 - 17:30
- 12 hr: 07:00 - 19:00
- Custom:  -

### Classes:

- Car & Taxi
- Light Goods
- OGV 1
- OGV 2
- Motor Cycle
- Bus/Coach
- Cycle

All - None - Toggle

Data prepared by Drakewell Cloud Hosting May 7, 2015 2:27:57 PM.

C2-Cloud Traffic Data ©2003-2015 [Drakewell Ltd.](#)

## **APPENDIX C**

## NOTES OF MEETING

**Project No:** ITB10057  
**Project Title:** Purbeck Transport Study  
**Date/Time:** 16 July 2015, 1400 hours  
**Venue:** Dorset County Council

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**i-Transport LLP**  
Grove House  
Lutyens Close  
Chineham Court  
Basingstoke  
Hampshire  
RG24 8AG  
Tel: 01256 338640  
Fax: 01256 338644  
www.i-transport.co.uk

### Attendees

D Brown - Dorset County Council  
M Moore - Dorset County Council  
V Dominey - Redwood  
T Hoskinson - Savills  
Mark Stead - i-Transport (iT)

Item	Action
<b>1.0 Overview</b>	
1.1	The aim of the meeting was to discuss and, where possible, agree transport matters relating to the promotion of land west of Wool for up to 1,000 houses. TH introduced the scheme and summarised work undertaken to date by Savills.
1.2	Following submission of a transport study by i-Transport, there is agreement between i-Transport and DCC on the following transport matters arising from the proposed development sites: safe and suitable access can be achieved into the sites; Wool is a sustainable location for growth and opportunities for sustainable transport modes are available; and the residual cumulative impact of the scheme on local junctions falls short of 'severe'.
1.3	Following submission of a transport study by i-Transport, the key outstanding issue is the matter of potential increases in queue lengths at the level crossing in Wool as a result of development, and the distribution study from which that derives.
1.4	TH advised that Stephen Tapscott at Purbeck District Council requires submissions resolving outstanding issues at site allocations to be provided by 21 September 2015 if they are to remain in the Local Plan Partial Review allocation process.
<b>2.0 Queue Length Analysis</b>	
2.1	MS explained rationale behind traffic distribution and resulting estimates of increases in queue lengths and compared the increases in queue lengths with those set out in a queue length study produced by DCC.

Item		Action
2.2	All agreed that the queue lengths identified by i-Transport and DCC studies were broadly similar. DB advises that, based on the queue length increases set out to date, it will be difficult to sustain an argument that the traffic impact of 1,000 houses on the crossing will be 'severe' (ref NPPF).	
2.3	However, DB is not satisfied with the traffic distribution exercise; and considers this and the resulting queue length study should be reviewed as necessary.	
2.4	DB suggested that the assessment should consider potential for the cumulative impact on the crossing of 1,000 units at Wool with potential future growth at DGTP taking account of possible 'credit' for unused employment floorspace. DB recommends reviewing the previous TA for the office scheme at DGTP and speaking to Purbeck District Council for further details on this matter.	Note
2.5	DB recommends speaking to Richard Wilson at Purbeck District Council to gain a fuller understanding of the current situation at DGTP and the status of future development aspirations there.	Note
<b>3.0 Actions</b>		
3.1	MS to produce a draft report (to team and DCC) setting out revised increases in traffic at the level crossing and providing an estimate of the increases in queue length, in advance of a meeting between Savills and Purbeck District Council on 11 August 2015. A final copy will be issued in advance of the 21 September deadline.	MS

**Circulation**

Those present plus Kate Tunks, DCC

**Author: MS**

**APPENDIX D**

**Original Distribution and  
Assignment Model**

**CENSUS TRAVEL TO WORK DATA - WOOL RESIDENTS' DESTINATIONS**

Ward of Residence	Ward of Workplace	Ward of Workplace Name	Broad Destination	Broad Direction	Direction out	Location leave	Total	Foot	Underground	Train	Bus	Taxi	Car Driver	Car	Passel	Motorcycle	Bicycle	On Foot	Other
19UGGC	Wool	19UGGC	Wool	Wool	75% TP, 10% Dorchester	75% TP, 10% Dorchester	997	142	0	0	3	11	0	391	47	22	112	226	3
19UGGC	Wool	19UGGF	Wareham	Wareham	East	A352e	133	0	0	7	0	0	103	8	0	0	9	6	0
19UGGC	Wool	19UGGD	West Pookbeck	Crossways	West	B3071s	101	0	0	6	0	0	77	8	3	4	3	0	0
19UGGC	Wool	19UGGB	Winfrih	South West	TP	TP	55	0	0	0	3	0	35	6	0	8	3	0	
19UGGC	Wool	19UHHD	Dorchester North	Dorchester	West	A352w	54	0	3	3	0	0	45	3	0	0	0	0	
19UGGC	Wool	00HFNF	Poole Town	Poole	East	A352e	52	0	0	7	0	0	38	3	0	0	0	0	
19UGGC	Wool	19UGFW	St. Martin	North East	A352e	A35e	31	0	0	0	0	0	15	3	3	0	0	0	
19UGGC	Wool	00HNMV	Central	Bournemouth	East	A352e	24	0	0	0	0	0	15	0	0	0	0	0	
19UGGC	Wool	19UGFE	The Lower Tarrant	Blandford Forum	North	Tout Hill	21	0	0	0	0	0	15	3	0	0	0	0	
19UGGC	Wool	19UGFX	Swanage North	Swanage	South East	A352e	21	0	0	0	0	0	15	0	0	0	0	0	
19UGGC	Wool	00HNFN	Bere Regis	Bere Regis	North	Tout Hill	20	0	0	0	0	0	11	3	0	0	0	0	
19UGGC	Wool	00HPMW	Canford Heath West	Canford Heath	East	A352e	19	0	0	0	0	0	16	3	0	0	0	0	
19UGGC	Wool	19UGFO	Creech Barrow	Swanage	South East	A352e	16	0	0	0	0	0	16	0	0	0	0	0	
19UGGC	Wool	19UGFN	Swanage South	Swanage	South East	A352e	15	0	0	0	0	0	12	3	0	0	0	0	
19UGGC	Wool	19UHJU	Dorchester South	Dorchester	West	A352w	13	0	0	0	0	0	10	3	0	0	0	0	
19UGGC	Wool	00HPMX	Creekmoor	Poole	East	A352e	12	0	0	0	0	0	12	0	0	0	0	0	
19UGGC	Wool	19UFRF	Mescombe Regis	Weymouth	South West	A352w	12	0	0	0	0	0	6	3	0	0	0	0	
19UGGC	Wool	00HPMT	Canford Ciffs	Poole	East	A352e	11	0	0	0	0	0	11	0	0	0	0	0	
19UGGC	Wool	19UGGP	Castle	Swanage	South East	A352e	11	0	0	0	0	0	8	0	0	0	0	0	
19UGGC	Wool	00HPNF	Newtown	Poole	East	A352e	10	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	00HPNC	Oskdale	Poole	East	A352e	10	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	19UHHE	Chickwell	Weymouth	West	A352w	10	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	19UHHT	Owerneigne	Owerneigne	West	A352w	10	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	19UDHA	Wimbome Minster	Wimbome Minster	North East	A352e	9	0	0	0	0	0	9	0	0	0	0	0	
19UGGC	Wool	19UDGL	Ferndown Central	Ferndown	North East	A352e	7	0	0	3	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UDGS	Stapellil	Ferndown	North East	A352e	7	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HNMW	Boscombe East	Bournemouth	East	A352e	6	0	0	3	0	0	3	0	0	0	0	0	
19UGGC	Wool	00HNDN	Littedown and Iford	Bournemouth	East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	00HPMP	Alderney	Poole	East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	00HPMZ	Hamworthy West	Poole	East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	00HPND	Poole	Poole	East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGDF	Corfe Mullen North	Corfe Mullen	North East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGEE	Abbey	Poole	North	Tout Hill	6	0	0	3	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGFT	Lychett Minster and Upton East	Lychett Minster	East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UHHC	Dorchester West	Dorchester	West	A352w	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGJG	Wey Valley	Weymouth	South West	A352w	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGJJ	Kennet	Other - North	Tout Hill	Tout Hill	6	0	0	0	0	0	3	0	0	0	0	3	
19UGGC	Wool	00HNMZ	London	Other - East	Tout Hill	Tout Hill	6	0	0	0	0	0	3	0	0	0	0	3	
19UGGC	Wool	00HPMQ	East Cliff and Springbourne	East Cliff	A352e	A35e	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HPMQ	Brankome East	Poole	East	A352e	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UDGU	Three Cross and Poterne	Wimbome Minster	North East	A352e	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UGJH	West Meors	Wimbome Minster	North East	A352e	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UGEP	Crabome Chase	Blandford Forum	North	Tout Hill	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UHBB	Charmister and Cerne Valley	Dorchester	West	Tout Hill	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HPND	Boscombe West	Bournemouth	East	A352e	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HNNF	Queer's Park	Bournemouth	East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	00HPMU	Canford Heath East	Poole	East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	00HPMY	Hamworthy East	Poole	East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGDE	Corfe Mullen Central	Corfe Mullen	North East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGDF	Parley	Bournemouth	North East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGDT	Stour	Wimbome Minster	North East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGEH	Brandford Hilltop	Blandford Forum	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGEF	Brandford Old Town	Blandford Forum	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGER	Hill Forts	Blandford Forum	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGET	Lydden Vale	Stalbridge	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGEG	Marshall	Stalbridge	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UHEB	Shalesbury Christy's	Shalesbury	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGFF	Langton	Swanage	South East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGFH	Brosdymne	Dorchester	West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UHGG	Dorchester East	Dorchester	West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UHGU	Piddle Valley	Other - West	West	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJF	Puddletown	Puddletown	West	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJW	Tophill West	Weymouth	South West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJX	Washam East	Weymouth	South West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJY	Wyke Regis	Weymouth	South West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	24UGJO	Bolde and Sway	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	24UJHU	Totton North	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJZ	Ashford	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGKA	East Hampshire	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGKB	Eastleigh	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGKC	London	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGKD	Medway Towns	Other - East	North East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGKE	North Stophobie	Other - North	Tout Hill	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGKF	Plymouth	Other - West	South West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGKG	Portsmouth	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGKH	Arun	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGKI	Southampton	Other - East	North East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGKJ	Taunton Deane	Other - West	North West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool</																		

Gravity Model - Traffic Distribution of Non-Work Trips

a	b	c		d	e		f	g	
Destination	Population (Town areas)	Time (mins)	T <sup>2</sup>	P/T <sup>2</sup>	P/T <sup>2</sup> %	Mode share	P/T <sup>2</sup> using cars (% of all users)	P/T <sup>2</sup> % to destination by car	
Wool	2,724	3	9	303	44.77%	49.0%	21.92%	32.3%	Route out of Study Area 50% Dorchester Road, 10% A352 at EBR, 40% High Street
<i>of which</i>									
Wool village	<i>all non work traffic assigned to Wool</i>							32.3%	
Bovington								0.0%	
DGTP								0.0%	
Wareham	7,592	12	144	53	7.80%	78.0%	6.09%	9.0%	90% A352e of A351, 10% A351n
Dorchester	19,060	21	441	43	6.39%	85.5%	5.47%	8.0%	A352 west of A351
Poole	147,645	30	900	164	24.27%	87.2%	21.15%	31.1%	A35e
Blandford Forum	11,694	26	676	17	2.56%	73.5%	1.88%	2.8%	Tout Hill
Bere Regis	1,304	11	121	11	1.59%	55.0%	0.88%	1.3%	Tout Hill
Weymouth	57,691	26	676	85	12.62%	83.8%	10.58%	15.6%	A353s
Total			2,967	676	100.0%	512.0%	67.96%	132.3%	

Route out of Study Area	
Dorchester Road	16.1%
A352 at East Burton Road	3.2%
High Street	12.9%
A352e of A351	8.1%
A351 at north Watreham	0.9%
A352 west of A353	8.0%
A35e	31.1%
Tout Hill	4.1%
A353s	15.6%
B3071s	0.0%
Technology Park	0.0%
A351s	0.0%
Total	100.0%

East at crossing 44.1%

**NB TOUT HILL IS EXIST POINT OF STUDY AREA FOR TRAFFIC ROUTEING TO BOVINGTON**

Summary of Methodology

- a Destinations identified - all are judged to be significant attractors of traffic located within approximately a 30 minute drive from Wool
- b Population established using census data
- c Travel time established using Google Maps
- d A score of the level of traffic attraction is identified by dividing each settlement's population by the square of the journey time
- e The percentage of residents making non-work trips to each town is the score for each town divided by the sum of the scores.
- f As the gravity model is focused on car drivers only, the percentages are multiplied by the mode share of car drivers travelling to each town (established using census data)
- g The resulting percentages are adjusted so that they total 100%. The resulting figures are the estimated percentages of residents making non-work trips to each settlement by car (driver)

**ORIGINAL ASSESSMENT - DISTRIBUTION AND ASSIGNMENT**

PM PEAK	Work trips	0.46	Non-work trips	0.54	
Destination	As % of work trips	As % of all trips	As % of non-work trips	As % of all trips	% all trips
Wool	39.6%	18.2%	32.2%	17.4%	35.6%
<i>Of which</i>					
Wool village	7.1%	3.3%	32.3%	17.4%	20.7%
Bovington	2.0%	0.9%	0.0%	0.0%	0.9%
DGTP	30.5%	14.0%	0.0%	0.0%	14.0%
Wareham	11.9%	5.5%	9.0%	4.9%	10.4%
Crossways	7.2%	3.3%			3.3%
Dorchester	6.6%	3.1%	8.0%	4.3%	7.4%
Poole	12.0%	5.5%	31.1%	16.8%	22.3%
Bournemouth	2.9%	1.4%			1.4%
Swanage	4.8%	2.2%			2.2%
Blandford Forum	2.3%	1.1%	2.8%	1.5%	2.6%
Bere Regis	1.0%	0.5%	1.3%	0.7%	1.2%
Weymouth	2.9%	1.3%	15.6%	8.4%	9.7%
Wimborne Minster	1.9%	0.9%			0.9%
Ferndown	0.7%	0.3%			0.3%
Corfe Mullen	0.8%	0.4%			0.4%
Lytchett Minster	0.3%	0.1%			0.1%
Stalbridge	0.3%	0.1%			0.1%
Shaftesbury	0.3%	0.1%			0.1%
Owermoigne	0.9%	0.4%			0.4%
Other - East	2.2%	1.0%			1.0%
Other - North	0.3%	0.1%			0.1%
Other - West	1.1%	0.5%			0.5%
<b>TOTAL</b>	<b>100.0%</b>	<b>46.0%</b>	<b>100.0%</b>	<b>54.0%</b>	<b>100.0%</b>

PM PEAK	Work trips	0.46	Non-work trips	0.54	
Destination	As % of work trips	As % of all trips	As % of non-work trips	As % of all trips	% all trips
A35e	20.4%	9.4%	31.1%	16.8%	26.20%
Tout Hill	9.2%	4.2%	4.1%	2.2%	6.40%
A351S	5.0%	2.4%	0.0%	0.0%	2.40%
A351 at north Wareham	6.7%	3.1%	0.9%	0.5%	3.60%
A352 E	2.9%	1.3%	8.1%	4.4%	5.70%
B3071s	7.2%	3.3%	0.0%	0.0%	3.30%
Technology Park	30.5%	14.0%	0.0%	0.0%	14.00%
Dorchester Road	3.6%	1.7%	16.1%	8.7%	10.40%
High Street	1.8%	0.8%	12.9%	7.0%	7.80%
A352 at East Burton Road	1.8%	0.8%	3.2%	1.7%	2.50%
A352 west of A353 junction	8.0%	3.7%	8.0%	4.3%	8.00%
A353s	2.9%	1.3%	15.6%	8.4%	9.70%
<b>TOTAL</b>	<b>100%</b>	<b>46.0%</b>	<b>100.0%</b>	<b>54.0%</b>	<b>100.00%</b>

6% OF TRAFFIC ROUTING TO TOUT HILL (INCLUDES TRAFFIC TO BOVINGTON)

**APPENDIX E**

**Sensitivity Test  
Distribution and  
Assignment**

CENSUS TRAVEL TO WORK DATA - WOOL RESIDENTS' DESTINATIONS - SENSITIVITY TEST PRESENTED IN WOOL TRANSPORT STRATEGY AND ASSESSMENT REPORT

Ward of Residence	Ward of Workplace	Ward of Workplace Name	Broad Destination	Broad Direction	Out	In	Total	People	Works	Frd	Underground	Train	Bus	Taxi	Car Driver	Car	Parcel	Motorcycle	Bicycle	On Foot	Other
19UGGC	Wool	19UGGC	Wool	Wool	East	50% TP, 50% T	997	142	0	0	0	3	11	0	931	47	22	112	226	3	
19UGGC	Wool	19UGFZ	Wareham	Wareham	East	A352e	103	0	0	0	7	0	0	0	103	8	0	9	6	0	
19UGGC	Wool	19UGJG	West Pookbeck	Crossways	West	B3071s	101	0	0	0	6	0	0	0	77	8	3	4	3	0	
19UGGC	Wool	19UGGB	Wifrih	South West	TP	TP	55	0	0	0	0	0	0	0	36	6	0	8	3	0	
19UGGC	Wool	19UHMH	Dorchester North	Dorchester	West	A352w	54	0	0	0	3	0	0	0	45	3	0	0	0	0	
19UGGC	Wool	00HFNF	Poole Town	Poole	East	A352e	52	0	0	0	7	0	0	0	39	3	0	0	0	0	
19UGGC	Wool	19UGFW	St. Martin	Wareham	North East	A352e	31	0	0	0	0	0	0	0	15	3	3	0	0	0	
19UGGC	Wool	00HNMY	Central	Bournemouth	East	A352e	24	0	0	0	0	0	0	0	15	0	0	0	0	0	
19UGGC	Wool	19UGEN	The Lower Tarrant	Blandford Forum	North	Tout Hill	21	0	0	0	0	0	0	0	11	3	0	0	0	0	
19UGGC	Wool	19UGFX	Swanage North	Swanage	South East	A352e	21	0	0	0	0	0	0	0	15	0	0	0	0	0	
19UGGC	Wool	00HFMW	Bere Regis	Bere Regis	East	Tout Hill	20	0	0	0	0	0	0	0	11	3	0	0	0	0	
19UGGC	Wool	00HFMW	Carford Heath West	Poole	East	A352e	19	0	0	0	0	0	0	0	16	3	0	0	0	0	
19UGGC	Wool	19UGFO	Creech Barrow	Swanage	South East	A352e	16	0	0	0	0	0	0	0	16	0	0	0	0	0	
19UGGC	Wool	19UGGQ	Swanage South	Swanage	South East	A352e	15	0	0	0	0	0	0	0	11	3	0	0	0	0	
19UGGC	Wool	19UHJU	Dorchester South	Dorchester	West	A352w	13	0	0	0	0	0	0	0	10	3	0	0	0	0	
19UGGC	Wool	00HFMK	Creekmoor	Poole	East	A352e	12	0	0	0	0	0	0	0	12	0	0	0	0	0	
19UGGC	Wool	00HFMF	Mescombe Regis	Weymouth	South West	A352w	12	0	0	0	0	0	0	0	6	3	0	0	0	0	
19UGGC	Wool	00HFMF	Canford Cliffs	Poole	East	A352e	11	0	0	0	0	0	0	0	11	0	0	0	0	0	
19UGGC	Wool	19UGFP	Castle	Swanage	South East	A352e	11	0	0	0	0	0	0	0	8	0	0	0	0	0	
19UGGC	Wool	00HFNW	Newton	Poole	East	A352e	10	0	0	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	00HFNW	Oskadee	Poole	East	A352e	10	0	0	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	19UHHT	Overmoigne	Overmoigne	West	A352w	10	0	0	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	19UHDA	Wimbome Minster	Wimbome Minster	North East	A352e	9	0	0	0	0	0	0	0	9	0	0	0	0	0	
19UGGC	Wool	19UGDJ	Ferndown Central	Ferndown	North East	A352e	7	0	0	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UGDS	Stapellil	Ferndown	North East	A352e	7	0	0	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HNMW	Boscombe East	Bournemouth	East	A352e	6	0	0	0	3	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	00HNDN	Littledown and Iford	Bournemouth	East	A352e	6	0	0	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	00HMPM	Alderney	Poole	East	A352e	6	0	0	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	00HMPZ	Hamworthy West	Poole	East	A352e	6	0	0	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	00HNDN	Canford Heath East	Poole	East	A352e	6	0	0	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGDF	Corfe Mullen North	Corfe Mullen	North East	A352e	6	0	0	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGEE	Abbey	Poole	North	Tout Hill	6	0	0	0	3	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGFT	Lychett Minster and Upton EA	Lychett Minster	East	A352e	6	0	0	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UHHC	Dorchester West	Dorchester	West	A352w	6	0	0	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGJG	Wey Valley	Weymouth	South West	A352w	6	0	0	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGJG	Kennet	Other - North	Tout Hill	Tout Hill	6	0	0	0	0	0	0	0	3	0	0	0	0	3	
19UGGC	Wool	00HNMZ	London	Other - East	Tout Hill	Tout Hill	6	0	0	0	0	0	0	0	3	0	0	0	0	3	
19UGGC	Wool	00HNMZ	East Cliff and Springbourne	Other - East	A352e	A352e	4	0	0	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HMQQ	Brankome East	Poole	East	A352e	4	0	0	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UGDU	Three Cross and Poterne	Wimbome Minster	North East	A352e	4	0	0	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UGDU	West Moors	Wimbome Minster	North East	A352e	4	0	0	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UGEP	Crabome Chase	Blandford Forum	North	Tout Hill	4	0	0	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UHBB	Charmister and Cerne Valley	Dorchester	West	Tout Hill	4	0	0	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HNDN	Boscombe West	Bournemouth	East	A352e	4	0	0	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HNNF	Queer's Park	Bournemouth	East	A352e	4	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	00HPMU	Canford Heath East	Poole	East	A352e	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	00HPMY	Hamworthy East	Poole	East	A352e	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGDE	Corfe Mullen Central	Corfe Mullen	North East	A352e	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGDE	Parley	Bournemouth	North East	A352e	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGDT	Stour	Wimbome Minster	North East	A352e	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGEH	Brandford Hilltop	Blandford Forum	North	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGEF	Blandford Old Town	Blandford Forum	North	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGER	Hill Forts	Blandford Forum	North	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGET	Lydden Vale	Stalbridge	North	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGEG	Marshall	North	Tout Hill	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UHEB	Shalesbury Christy's	Shalesbury	North	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGFF	Langton	Swanage	South East	A352e	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGH	Brosdamne	Dorchester	West	A352w	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UHGG	Dorchester East	Dorchester	West	A352w	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UHGU	Piddle Valley	Other - West	West	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJF	Puddletown	Puddletown	West	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJW	Tophill West	Weymouth	South West	A352w	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJW	Washam East	Weymouth	South West	A352w	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJG	Wyke Regis	Weymouth	South West	A352w	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	24UJGO	Bolde and Sway	Other - East	East	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	24UJHU	Toton North	Other - East	East	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	Ashford	Other - East	East	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	East Hampshire	Other - East	East	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	Eastleigh	Other - East	East	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	London	Other - East	East	Tout Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	Medway Towns	Other - East	North East	Tout Hill	3	0	0	0	0	0	0	0	0	0	0	0	0	3	
19UGGC	Wool	19UGGC	North Stophobie	Other - North	Tout Hill	Tout Hill	3	0	0												

Gravity Model - Traffic Distribution of Non-Work Trips

a	b	c		d		e	f	g	
Destination	Population (Town areas)	Time (mins)	T <sup>2</sup>	P/T <sup>2</sup>	P/T <sup>2</sup> %	Mode share	P/T <sup>2</sup> using cars (% of all users)	P/T <sup>2</sup> % to destination by car	
Wool	2,724	3	9	303	44.77%	49.0%	21.92%	32.3%	Route out of Study Area
of which									Dorchester Road, 10% A352 at EBR, 40% High Street, 10% Tout Hill
Wool village*								29.0%	
Bovington								3.3%	
DGTP								0.0%	
Wareham	7,592	12	144	53	7.80%	78.0%	6.09%	9.0%	90% A352e of A351, 10% A351n
Dorchester	19,060	21	441	43	6.39%	85.5%	5.47%	8.0%	A352 west of A351
Poole	147,645	30	900	164	24.27%	87.2%	21.15%	31.1%	A35e
Blandford Forum	11,694	26	676	17	2.56%	73.5%	1.88%	2.8%	Tout Hill
Bere Regis	1,304	11	121	11	1.59%	55.0%	0.88%	1.3%	Tout Hill
Weymouth	57,691	26	676	85	12.62%	83.8%	10.58%	15.6%	A353s
Total			2,967	676	100.0%	512.0%	67.96%	100.0%	

Route out of Study Area	
Dorchester Road	12.9%
A352 at East Burton Road	3.2%
High Street	12.9%
A352e of A351	8.1%
A351 at north Watreham	0.9%
A352 west of A353	8.0%
A35e	31.1%
Tout Hill	7.3%
A353s	15.6%
B3071s	0.0%
Technology Park	0.0%
A351s	0.0%
Total	100.0%

Assumes 10% of traffic with non work destination in Wool ward will travel to Bovington, the rest to Wool village

Summary of Methodology

- a Destinations identified - all are judged to be significant attractors of traffic located within approximately a 30 minute drive from Wool
- b Population established using census data
- c Travel time established using Google Maps
- d A score of the level of traffic attraction is identified by dividing each settlement's population by the square of the journey time
- e The percentage of residents making non-work trips to each town is the score for each town divided by the sum of the scores.
- f As the gravity model is focused on car drivers only, the percentages are multiplied by the mode share of car drivers travelling to each town (established using census data)
- g The resulting percentages are adjusted so that they total 100%. The resulting figures are the estimated percentages of residents making non-work trips to each settlement by car (driver)

**Summary of Traffic Distribution and Assignment - Sensitivity Test**

<b>PM PEAK</b>	Work trips		Non-work trips		
		<b>0.46</b>		<b>0.54</b>	
Destination	As % of work trips	As % of all trips	As % of non-work trips	As % of all trips	% all trips
Wool	39.6%	18.2%	32.2%	17.4%	35.60%
<i>of which</i>					
Wool village	0.0%	0.0%	29.0%	15.7%	15.70%
Bovington	18.2%	8.4%	3.2%	1.7%	10.10%
DGTP	21.4%	9.8%	0.0%	0.0%	9.80%
Wareham	11.9%	5.5%	9.0%	4.9%	10.40%
Crossways	7.2%	3.3%			3.30%
Dorchester	6.6%	3.1%	8.0%	4.3%	7.40%
Poole	12.0%	5.5%	31.1%	16.8%	22.30%
Bournemouth	2.9%	1.4%			1.40%
Swanage	4.8%	2.2%			2.20%
Blandford Forum	2.3%	1.1%	2.8%	1.5%	2.60%
Bere Regis	1.0%	0.5%	1.3%	0.7%	1.20%
Weymouth	2.9%	1.3%	15.6%	8.4%	9.70%
Wimborne Minster	1.9%	0.9%			0.90%
Ferndown	0.7%	0.3%			0.30%
Corfe Mullen	0.8%	0.4%			0.40%
Lytchett Minster	0.3%	0.1%			0.10%
Stalbridge	0.3%	0.1%			0.10%
Shaftesbury	0.3%	0.1%			0.10%
Owermoigne	0.9%	0.4%			0.40%
Other - East	2.2%	1.0%			1.00%
Other - North	0.3%	0.1%			0.10%
Other - West	1.1%	0.5%			0.50%
<b>TOTAL</b>	<b>100.0%</b>	<b>46.0%</b>	<b>100.0%</b>	<b>54.0%</b>	<b>100.0%</b>

NB - Wool = Whole of Wool Ward

<b>PM PEAK</b>	Work trips		Non-work trips		
		<b>0.46</b>		<b>0.54</b>	
Destination	As % of work trips	As % of all trips	As % of non-work trips	As % of all trips	% all trips
A35e	20.4%	9.4%	31.1%	16.8%	26.20%
Tout Hill	25.5%	11.7%	7.3%	3.9%	15.60%
A351S	5.0%	2.4%	0.0%	0.0%	2.40%
A351 at north Wareham	6.7%	3.1%	0.9%	0.5%	3.60%
A352 E	2.9%	1.3%	8.1%	4.4%	5.70%
B3071s	7.2%	3.3%	0.0%	0.0%	3.30%
Technology Park	21.4%	9.9%	0.0%	0.0%	9.90%
Dorchester Road	0.0%	0.0%	12.9%	7.0%	7.00%
High Street	0.0%	0.0%	12.9%	7.0%	7.00%
A352 at East Burton Road	0.0%	0.0%	3.2%	1.7%	1.70%
A352 west of A353 junction	8.0%	3.7%	8.0%	4.3%	8.00%
A353s	2.9%	1.3%	15.6%	8.4%	9.70%
<b>TOTAL</b>	<b>100%</b>	<b>46.0%</b>	<b>100.0%</b>	<b>54.0%</b>	<b>100.10%</b>

9% MORE TRAFFIC ROUTEING TO TOUT HILL - I.E. TO BOVINGTON- THAN IN ORIGINAL ASSESSMENT

**APPENDIX F**

**Further Sensitivity Test  
Distribution and  
Assignment**

**CENSUS TRAVEL TO WORK DATA - WOOL RESIDENTS' DESTINATIONS - FURTHER SENSITIVITY TEST**

Ward of Residence	Ward of Workplace	Ward of Workplace Name	Broad Direction	Direction out	Location leave	Total People	Works	Frd	Underground	Train	Bus	Taxi	Car Driver	Car Passenger	Motorcycle	Bicycle	On Foot	Other	
19UGGC	Wool	19UGGC	Wool	Wool	50% TP, 50% T	997	142	0	0	0	3	11	0	391	47	22	112	226	3
19UGGC	Wool	19UGZF	Wareham	East	A352e	133	0	0	0	7	0	0	103	8	0	9	6	0	
19UGGC	Wool	19UGJF	West Pookbeck	West	B3071s	101	0	0	0	6	0	0	77	8	3	4	3	0	
19UGGC	Wool	19UGGB	Wifrih	South West	TP	55	0	0	0	0	3	0	36	6	0	8	3	0	
19UGGC	Wool	19UHHD	Dorchester North	Dorchester	A352w	54	0	0	0	3	0	0	45	3	0	0	0	0	
19UGGC	Wool	00HFN	Poole Town	Poole	A352e	52	0	0	0	7	0	0	39	3	0	0	0	0	
19UGGC	Wool	19UGFW	St. Martin	Wareham	A352e	31	0	0	0	0	0	0	25	3	3	0	0	0	
19UGGC	Wool	00HNM	Central	Bournemouth	East	A352e	24	0	0	0	0	0	15	0	0	0	0	0	
19UGGC	Wool	19UGEN	The Lower Tarrant	Blandford Forum	North	Tout Hill	21	0	0	0	0	0	11	3	0	3	0	0	
19UGGC	Wool	19UGFX	Swanage North	Swanage	South East	A352e	21	0	0	0	0	0	15	0	0	0	0	0	
19UGGC	Wool	00HNF	Bere Regis	Bere Regis	Tout Hill	20	0	0	0	0	0	0	11	3	0	3	0	0	
19UGGC	Wool	00HPMW	Canford Heath West	Poole	East	A352e	19	0	0	0	0	0	16	3	0	0	0	0	
19UGGC	Wool	19UGFO	Creech Barrow	Swanage	South East	A352e	16	0	0	0	0	0	16	0	0	0	0	0	
19UGGC	Wool	19UGGJ	Swanage South	Swanage	South East	A352e	15	0	0	0	0	0	11	3	0	0	0	0	
19UGGC	Wool	19UHJ	Dorchester South	Dorchester	West	A352w	13	0	0	0	0	0	10	3	0	0	0	0	
19UGGC	Wool	00HPMK	Creekmoor	Poole	East	A352e	12	0	0	0	0	0	12	0	0	0	0	0	
19UGGC	Wool	19UJFF	Mescombe Regis	Weymouth	South West	A352w	12	0	0	0	0	0	6	3	0	0	0	0	
19UGGC	Wool	00HPMT	Canford Ciffs	Poole	East	A352e	11	0	0	0	0	0	11	0	0	0	0	0	
19UGGC	Wool	19UGFP	Castle	Swanage	South East	A352e	11	0	0	0	0	0	8	0	0	3	0	0	
19UGGC	Wool	00HPNF	Newtown	Poole	East	A352e	10	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	00HPNC	Oskdale	Poole	East	A352e	10	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	19UHHE	Chickwell	Weymouth	West	A352w	10	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	19UHHT	Owerneigne	Owerneigne	West	A352w	10	0	0	0	0	0	10	0	0	0	0	0	
19UGGC	Wool	19UDHA	Wimbome Minster	Wimbome Minster	North East	A352e	9	0	0	0	0	0	9	0	0	0	0	0	
19UGGC	Wool	19UDGL	Ferndown Central	Ferndown	North East	A352e	7	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UDGS	Stapellil	Ferndown	North East	A352e	7	0	0	0	0	0	4	0	0	0	3	0	
19UGGC	Wool	00HNMW	Boscombe East	Bournemouth	East	A352e	6	0	0	3	0	0	3	0	0	0	0	0	
19UGGC	Wool	00HPND	Littledown and Iford	Bournemouth	East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	00HPMP	Alderney	Poole	East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	00HPMZ	Hamworthy West	Poole	East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	00HPND	Poole	Poole	A352e	6	0	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGDF	Corfe Mullen North	Corfe Mullen	North East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGEE	Abbey	Poole	North	Tout Hill	6	0	0	0	3	0	3	0	0	0	0	0	
19UGGC	Wool	19UGFT	Lychett Minster and Upton EA	Lychett Minster	East	A352e	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UHHC	Dorchester West	Dorchester	West	A352w	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGJG	Wey Valley	Weymouth	South West	A352w	6	0	0	0	0	0	6	0	0	0	0	0	
19UGGC	Wool	19UGJH	Kennet	Other - North	Tout Hill	6	0	0	0	0	0	0	3	0	0	0	3	0	
19UGGC	Wool	00HNMZ	London	Other - East	Tout Hill	6	0	0	0	0	0	0	3	0	0	0	3	0	
19UGGC	Wool	00HPMQ	East Cliff and Springbourne	Other - East	A352e	4	0	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HPMQ	Brankome East	Poole	East	A352e	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UDGU	Three Cross and Poterne	Wimbome Minster	North East	A352e	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UGJL	West Moors	Wimbome Minster	North East	A352e	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UGEP	Crabome Chase	Blandford Forum	North	Tout Hill	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	19UHIB	Charmister and Cerne Valley	Dorchester	West	Tout Hill	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HPND	Boscombe West	Bournemouth	East	A352e	4	0	0	0	0	0	4	0	0	0	0	0	
19UGGC	Wool	00HNFN	Queer's Park	Bournemouth	East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	00HPMU	Canford Heath East	Poole	East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	00HPMY	Hamworthy East	Poole	East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UDGE	Corfe Mullen Central	Corfe Mullen	North East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJF	Parley	Bournemouth	North East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGDT	Stour	Wimbome Minster	North East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGEH	Brandford Hilltop	Blandford Forum	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJG	Brandford Old Town	Blandford Forum	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGER	Hill Forts	Blandford Forum	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGET	Lydden Vale	Stalbridge	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGEG	Marshall	Stalbridge	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UHEB	Shalesbury Christy's	Shalesbury	North	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGFR	Langton	Swanage	South East	A352e	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGHC	Brosdayne	Dorchester	West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UHGG	Dorchester East	Dorchester	West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UHJH	Piddle Valley	Other - West	West	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJF	Puddletown	Puddletown	West	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJW	Tophill West	Weymouth	South West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJF	Washam East	Weymouth	South West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGJF	Wyke Regis	Weymouth	South West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	24UJGU	Bolde and Sway	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	24UJHU	Toton North	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	Ashford	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	East Hampshire	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	Eastleigh	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	London	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	Medway Towns	Other - East	North East	Tout Hill	3	0	0	0	0	0	0	0	0	0	3	0	
19UGGC	Wool	19UGGC	Plymouth	Other - West	South West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	Portsmouth	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	Alan	Other - East	East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	Southampton	Other - East	North East	Tout Hill	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	Taunton Deane	Other - West	North West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	West Devon	Other - West	West	A352w	3	0	0	0	0	0	3	0	0	0	0	0	
19UGGC	Wool	19UGGC	London	Other - East	East</														

Gravity Model - Traffic Distribution of Non-Work Trips

FURTHER SENSITIVITY TEST

a	b	c		d		e		f		g	
Destination	Population (Town areas)	Time (mins)	T <sup>2</sup>	P/T <sup>2</sup>	P/T <sup>2</sup> %	Mode share	P/T <sup>2</sup> using cars (% of all users)	P/T <sup>2</sup> % to destination by car			
Wool	2,724	3	9	303	44.77%	49.0%	21.92%	32.3%	Route out of Study Area		
of which	% Dorchester Road, 0% A352 at EBR, 15% High Street, 70% Tout Hill										
Wool village*	This assumes 70% of non-work based traffic with a destination in Wool ward will route to Bovington							9.7%			
Bovington	with only 30% routing to Wool							22.5%			
DGTP								0.0%			
Wareham	7,592	12	144	53	7.80%	78.0%	6.09%	9.0%	90% A352e of A351, 10% A351n		
Dorchester	19,060	21	441	43	6.39%	85.5%	5.47%	8.0%	A352 west of A351		
Poole	147,645	30	900	164	24.27%	87.2%	21.15%	31.1%	A35e		
Blandford Forum	11,694	26	676	17	2.56%	73.5%	1.88%	2.8%	Tout Hill		
Bere Regis	1,304	11	121	11	1.59%	55.0%	0.88%	1.3%	Tout Hill		
Weymouth	57,691	26	676	85	12.62%	83.8%	10.58%	15.6%	A353s		
Total			2,967	676	100.0%	512.0%	67.96%	100.0%			

Route out of Study Area	
Dorchester Road	4.8%
A352 at East Burton Road	0.0%
High Street	4.8%
A352e of A351	8.1%
A351 at north Watreham	0.9%
A352 west of A353	8.0%
A35e	31.1%
Tout Hill	26.6%
A353s	15.6%
B3071s	0.0%
Technology Park	0.0%
A351s	0.0%
Total	100.0%

Assumes 10% of traffic with non work destination in Wool ward will travel to Bovington, the rest to Wool village

Summary of Methodology

- a Destinations identified - all are judged to be significant attractors of traffic located within approximately a 30 minute drive from Wool
- b Population established using census data
- c Travel time established using Google Maps
- d A score of the level of traffic attraction is identified by dividing each settlement's population by the square of the journey time
- e The percentage of residents making non-work trips to each town is the score for each town divided by the sum of the scores.
- f As the gravity model is focused on car drivers only, the percentages are multiplied by the mode share of car drivers travelling to each town (established using census data)
- g The resulting percentages are adjusted so that they total 100%. The resulting figures are the estimated percentages of residents making non-work trips to each settlement by car (driver)

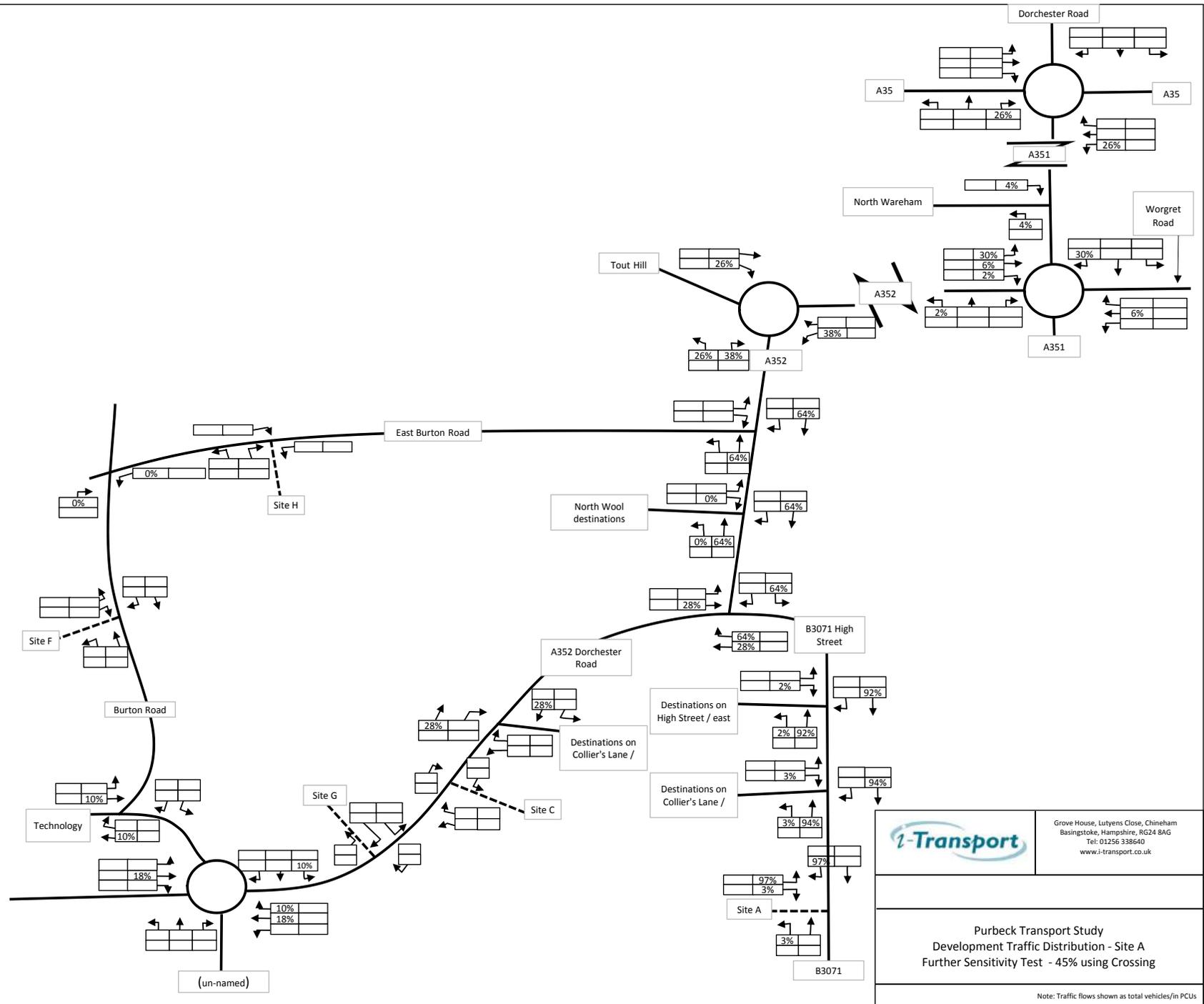
Summary of Traffic Distribution and Assignment - FURTHER Sensitivity Test

PM PEAK	Work trips		Non-work trips		
		0.46		0.54	
Destination	As % of work trips	As % of all trips	As % of non-work trips	As % of all trips	% all trips
Wool	39.6%	18.2%	32.2%	17.4%	35.60%
<i>of which</i>					
Wool village	0.0%	0.0%	9.7%	5.2%	5.20%
Bovington	18.2%	8.4%	22.5%	12.2%	20.60%
DGTP	21.4%	9.8%	0.0%	0.0%	9.80%
Wareham	11.9%	5.5%	9.0%	4.9%	10.40%
Crossways	7.2%	3.3%			3.30%
Dorchester	6.6%	3.1%	8.0%	4.3%	7.40%
Poole	12.0%	5.5%	31.1%	16.8%	22.30%
Bournemouth	2.9%	1.4%			1.40%
Swanage	4.8%	2.2%			2.20%
Blandford Forum	2.3%	1.1%	2.8%	1.5%	2.60%
Bere Regis	1.0%	0.5%	1.3%	0.7%	1.20%
Weymouth	2.9%	1.3%	15.6%	8.4%	9.70%
Wimborne Minster	1.9%	0.9%			0.90%
Ferndown	0.7%	0.3%			0.30%
Corfe Mullen	0.8%	0.4%			0.40%
Lytchett Minster	0.3%	0.1%			0.10%
Stalbridge	0.3%	0.1%			0.10%
Shaftesbury	0.3%	0.1%			0.10%
Owermoigne	0.9%	0.4%			0.40%
Other - East	2.2%	1.0%			1.00%
Other - North	0.3%	0.1%			0.10%
Other - West	1.1%	0.5%			0.50%
<b>TOTAL</b>	<b>100.0%</b>	<b>46.0%</b>	<b>100.0%</b>	<b>54.0%</b>	<b>100.0%</b>

NB - Wool = Whole of Wool Ward

PM PEAK	Work trips		Non-work trips		
		0.46		0.54	
Destination	As % of work trips	As % of all trips	As % of non-work trips	As % of all trips	% all trips
A35e	20.4%	9.4%	31.1%	16.8%	26.20%
Tout Hill	25.5%	11.7%	26.6%	14.4%	<b>26.10%</b>
A351S	5.0%	2.4%	0.0%	0.0%	2.40%
A351 at north Wareham	6.7%	3.1%	0.9%	0.5%	3.60%
A352 E	2.9%	1.3%	8.1%	4.4%	5.70%
B3071s	7.2%	3.3%	0.0%	0.0%	3.30%
Technology Park	21.4%	9.9%	0.0%	0.0%	9.90%
Dorchester Road	0.0%	0.0%	4.8%	2.6%	2.60%
High Street	0.0%	0.0%	4.8%	2.6%	2.60%
A352 at East Burton Road	0.0%	0.0%	0.0%	0.0%	0.00%
A352 west of A353 junction	8.0%	3.7%	8.0%	4.3%	8.00%
A353s	2.9%	1.3%	15.6%	8.4%	9.70%
<b>TOTAL</b>	<b>100%</b>	<b>46.0%</b>	<b>99.9%</b>	<b>54.0%</b>	<b>100.10%</b>

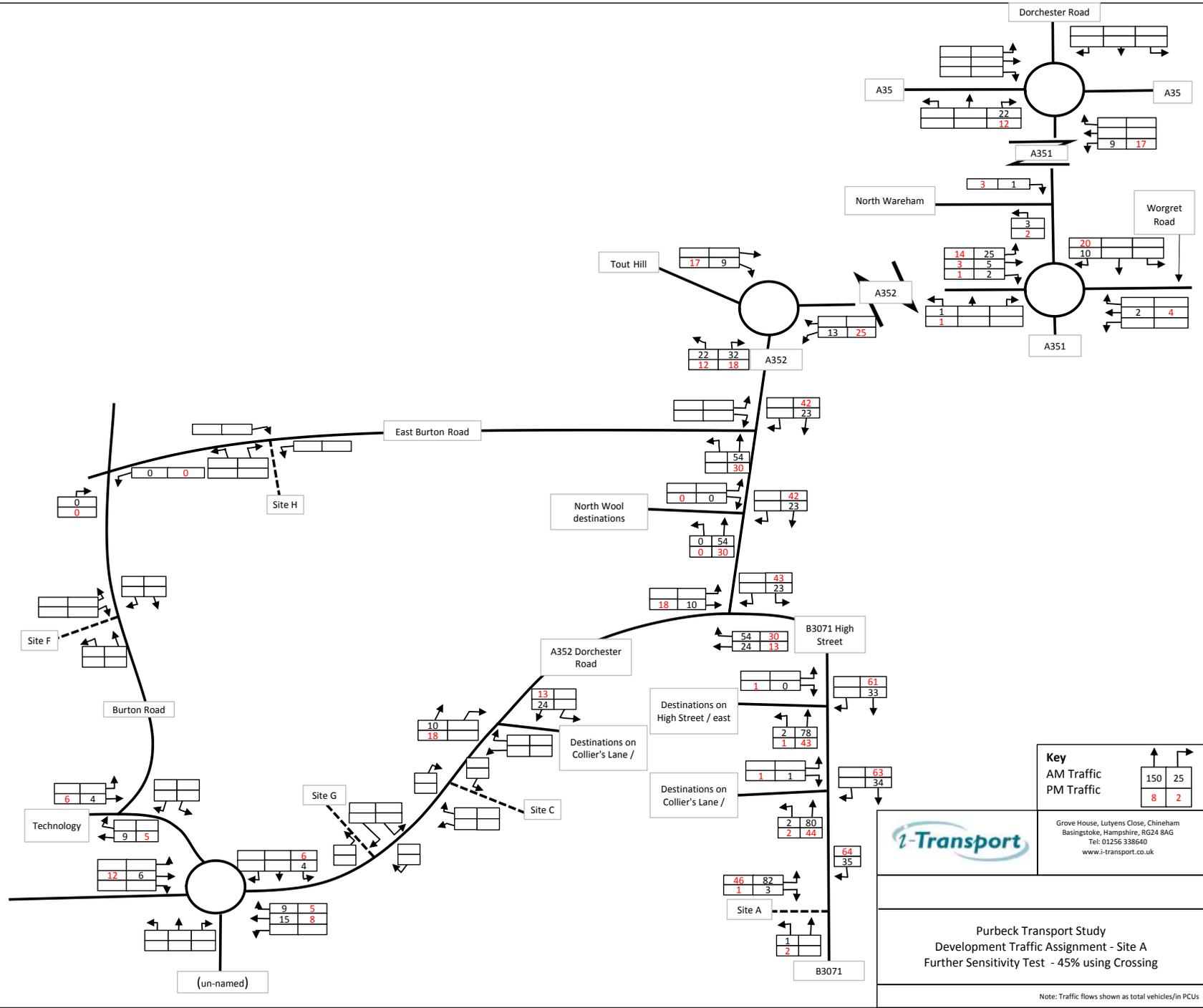
26.1% OF DEVELOPMENT TRAFFIC ROUTING TO TOUT HILL - IE TO BOVINGTON - 10% MORE THAN EARLIER SENSITIVITY TEST

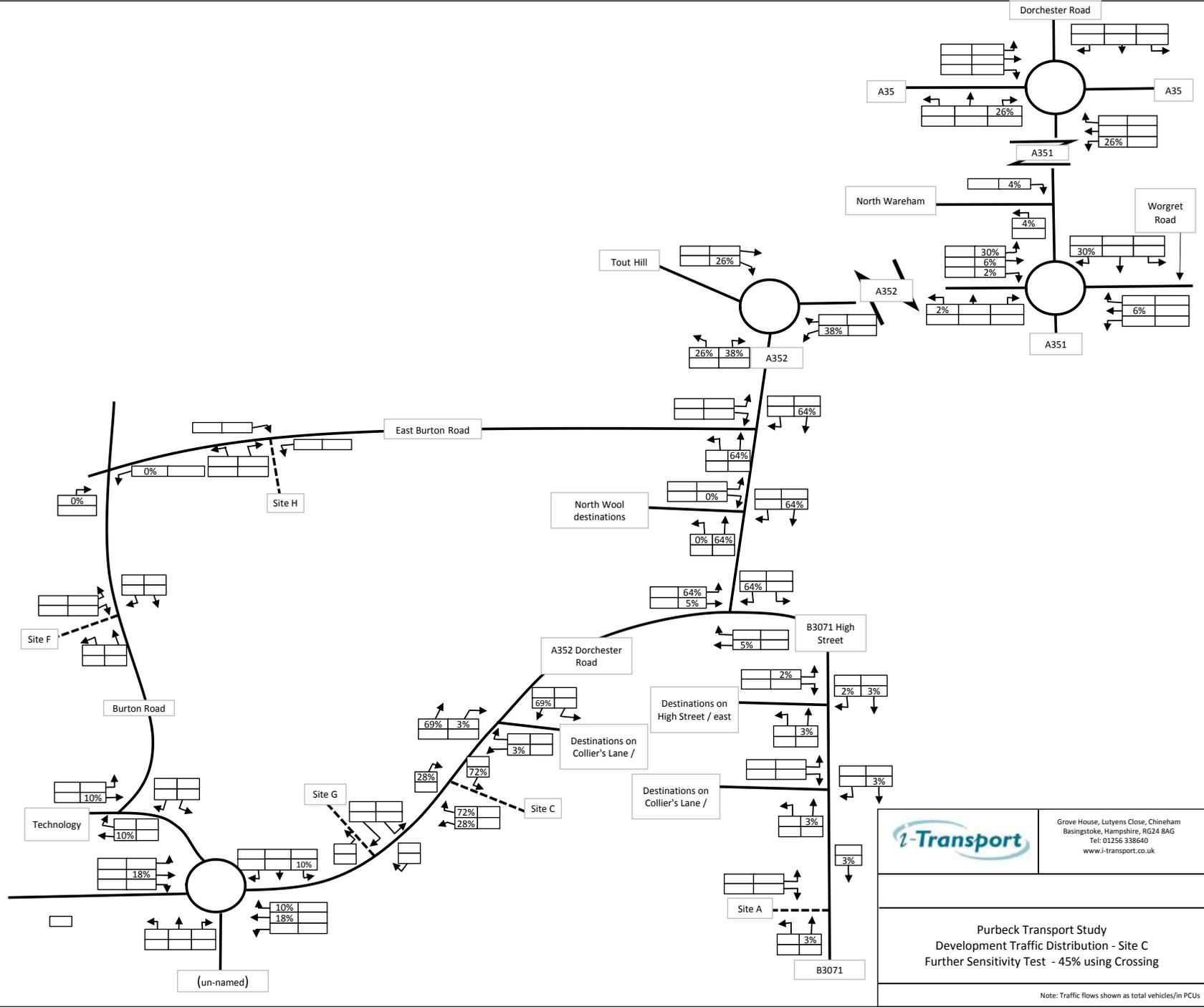


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Purbeck Transport Study  
Development Traffic Distribution - Site A  
Further Sensitivity Test - 45% using Crossing

Note: Traffic flows shown as total vehicles/m PCUs

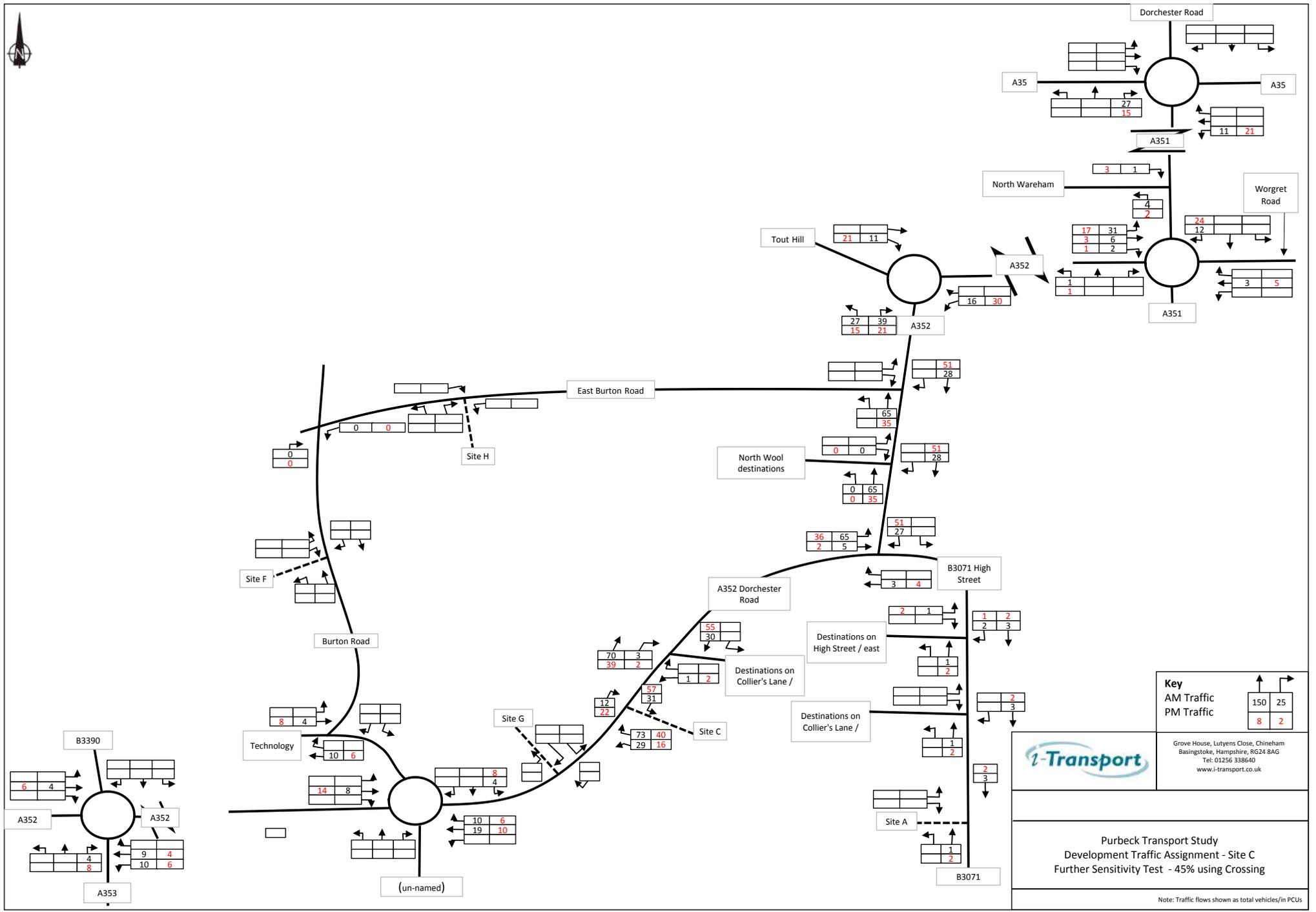




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Purbeck Transport Study  
Development Traffic Distribution - Site C  
Further Sensitivity Test - 45% using Crossing

Note: Traffic flows shown as total vehicles/m PCUs



**Key**

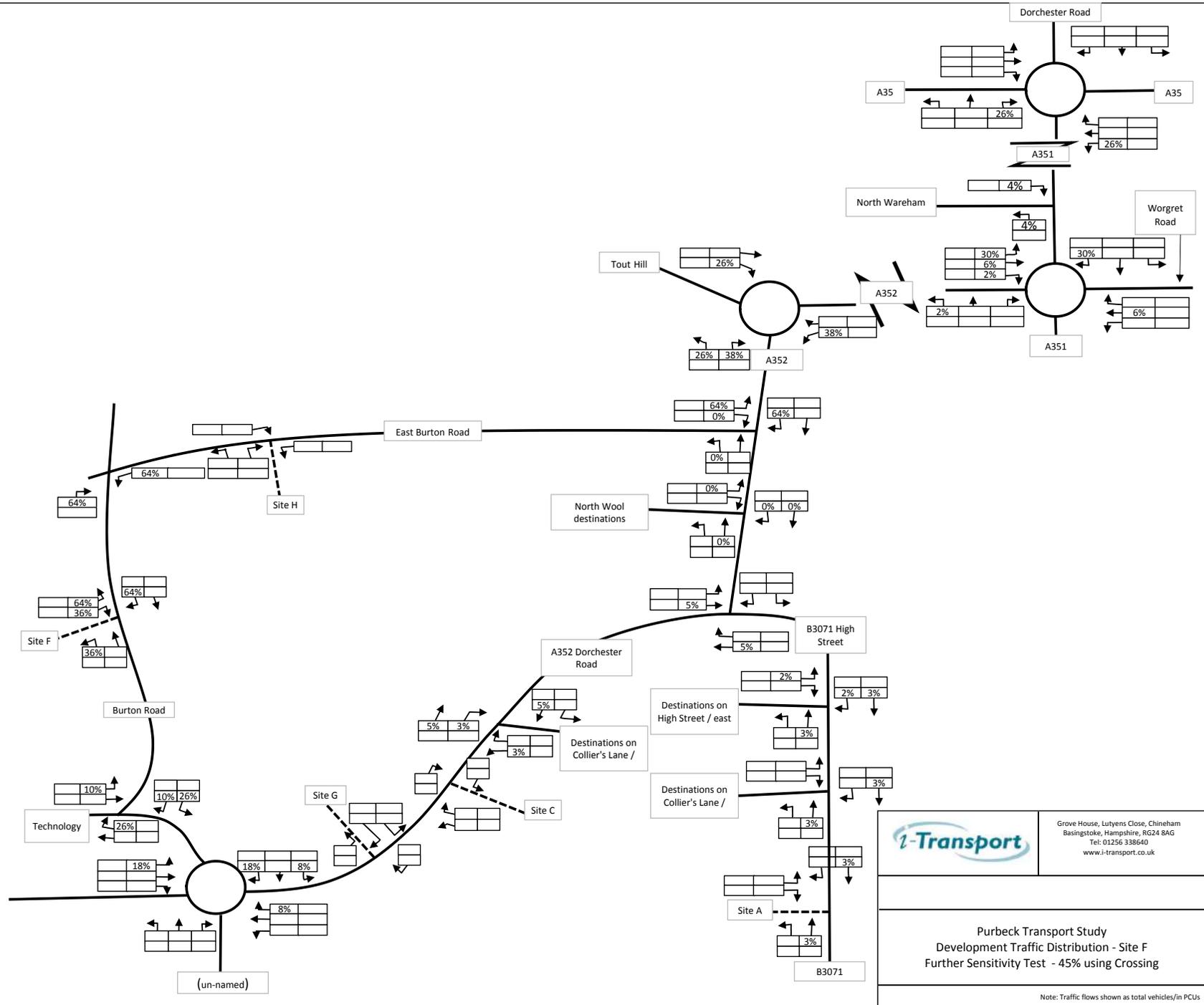
AM Traffic	↑	↓
PM Traffic	150	25
	8	2

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Purbeck Transport Study  
Development Traffic Assignment - Site C  
Further Sensitivity Test - 45% using Crossing

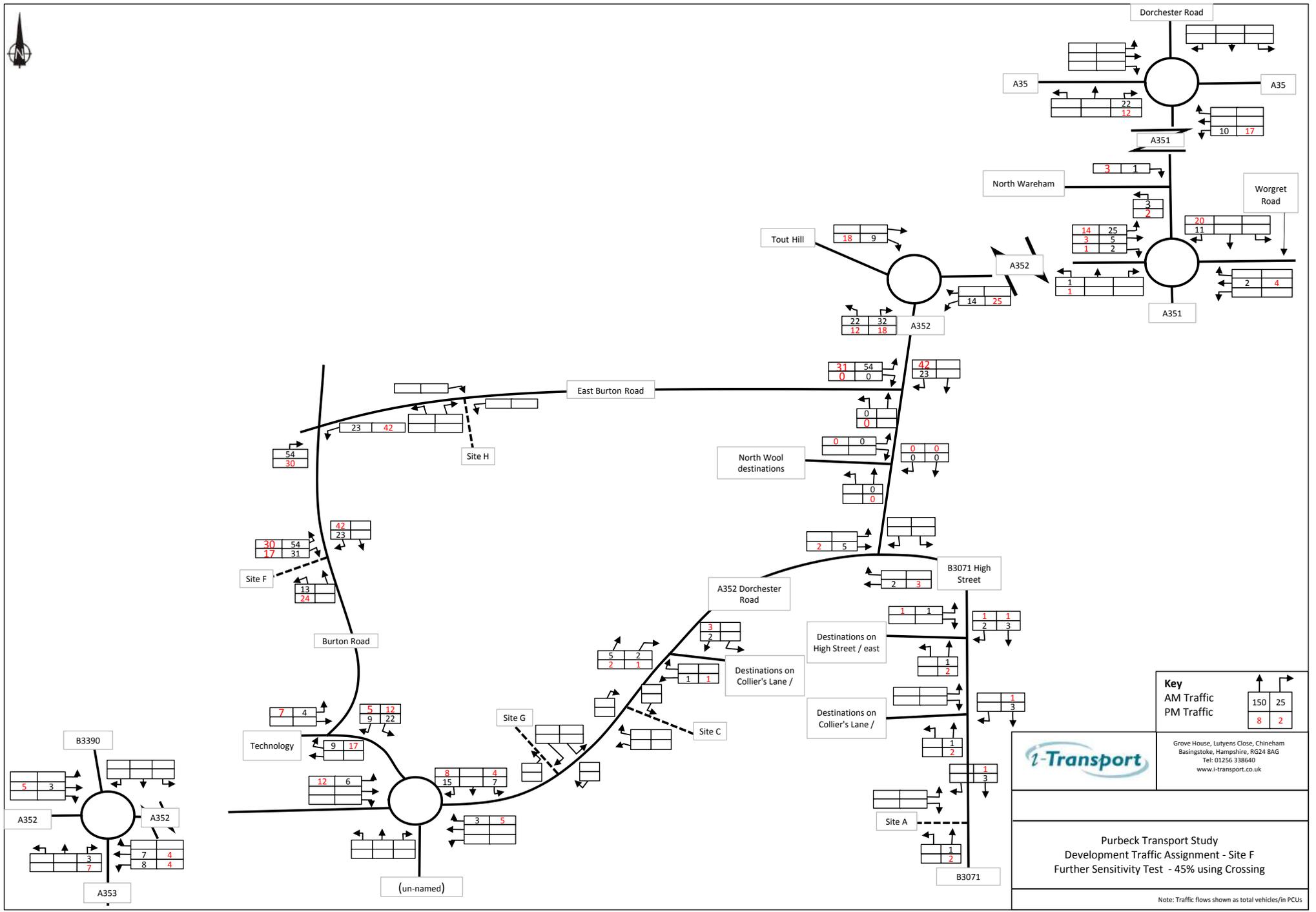
Note: Traffic flows shown as total vehicles/m PCUs



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Purbeck Transport Study  
Development Traffic Distribution - Site F  
Further Sensitivity Test - 45% using Crossing

Note: Traffic flows shown as total vehicles/m PCUs

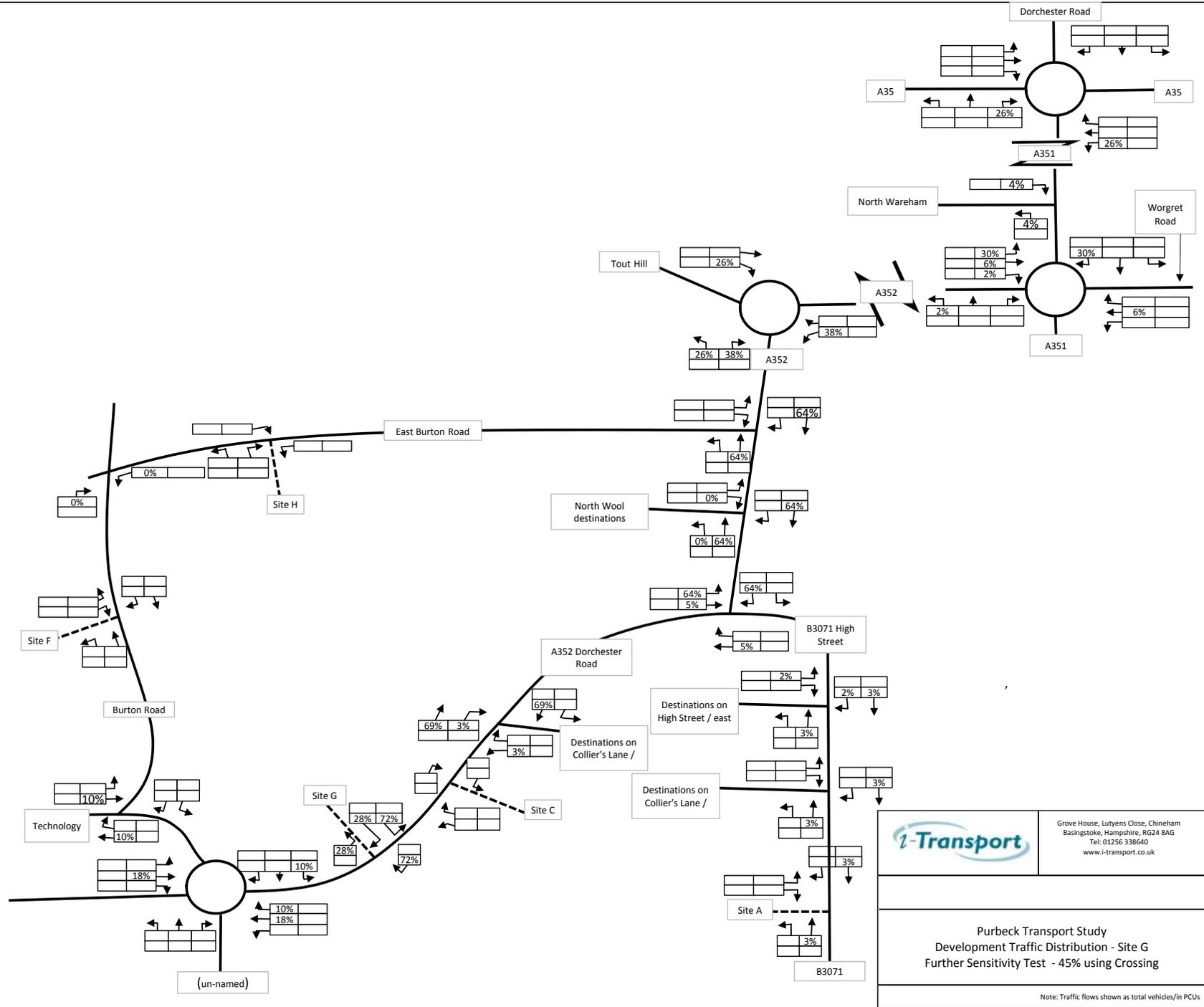


<b>Key</b>	
AM Traffic	150 25
PM Traffic	8 2

I-Transport  
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 Basingstoke, Hampshire, RG24 8AG  
 Tel: 01256 338640  
 www.i-transport.co.uk

Purbeck Transport Study  
 Development Traffic Assignment - Site F  
 Further Sensitivity Test - 45% using Crossing

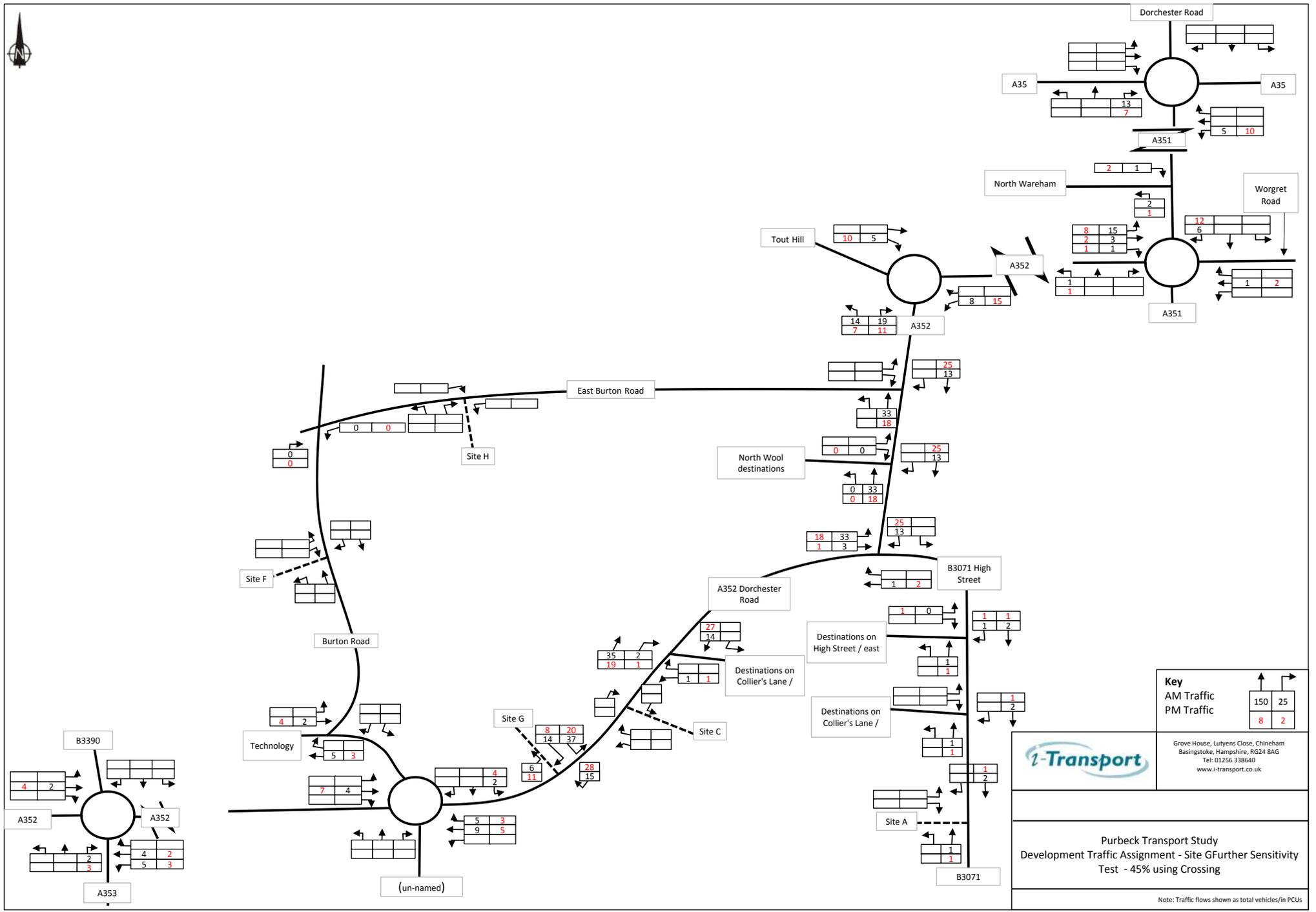
Note: Traffic flows shown as total vehicles/m PCUs



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Purbeck Transport Study  
Development Traffic Distribution - Site G  
Further Sensitivity Test - 45% using Crossing

Note: Traffic flows shown as total vehicles/m PCUs



**Key**

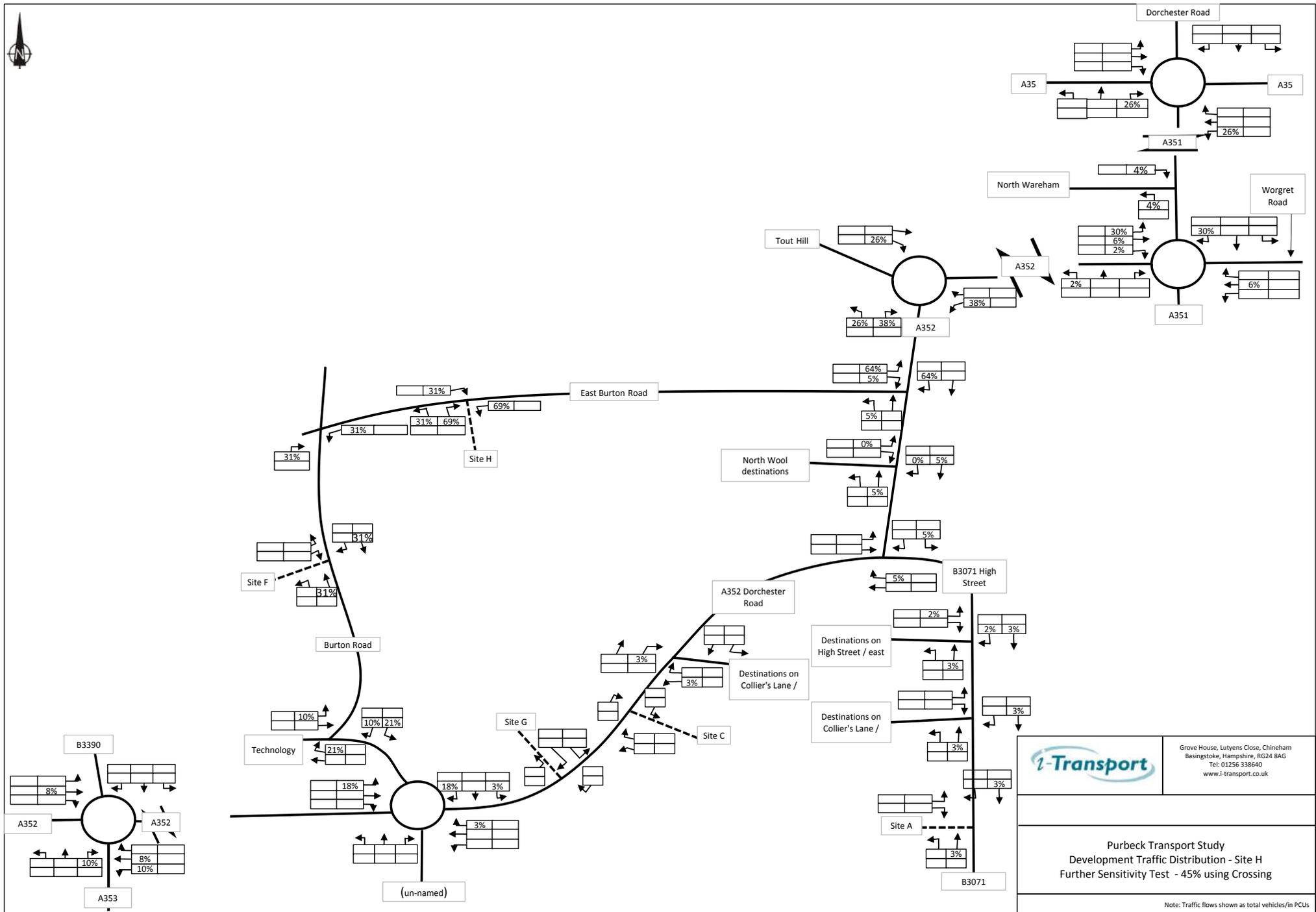
AM Traffic	150	25
PM Traffic	8	2

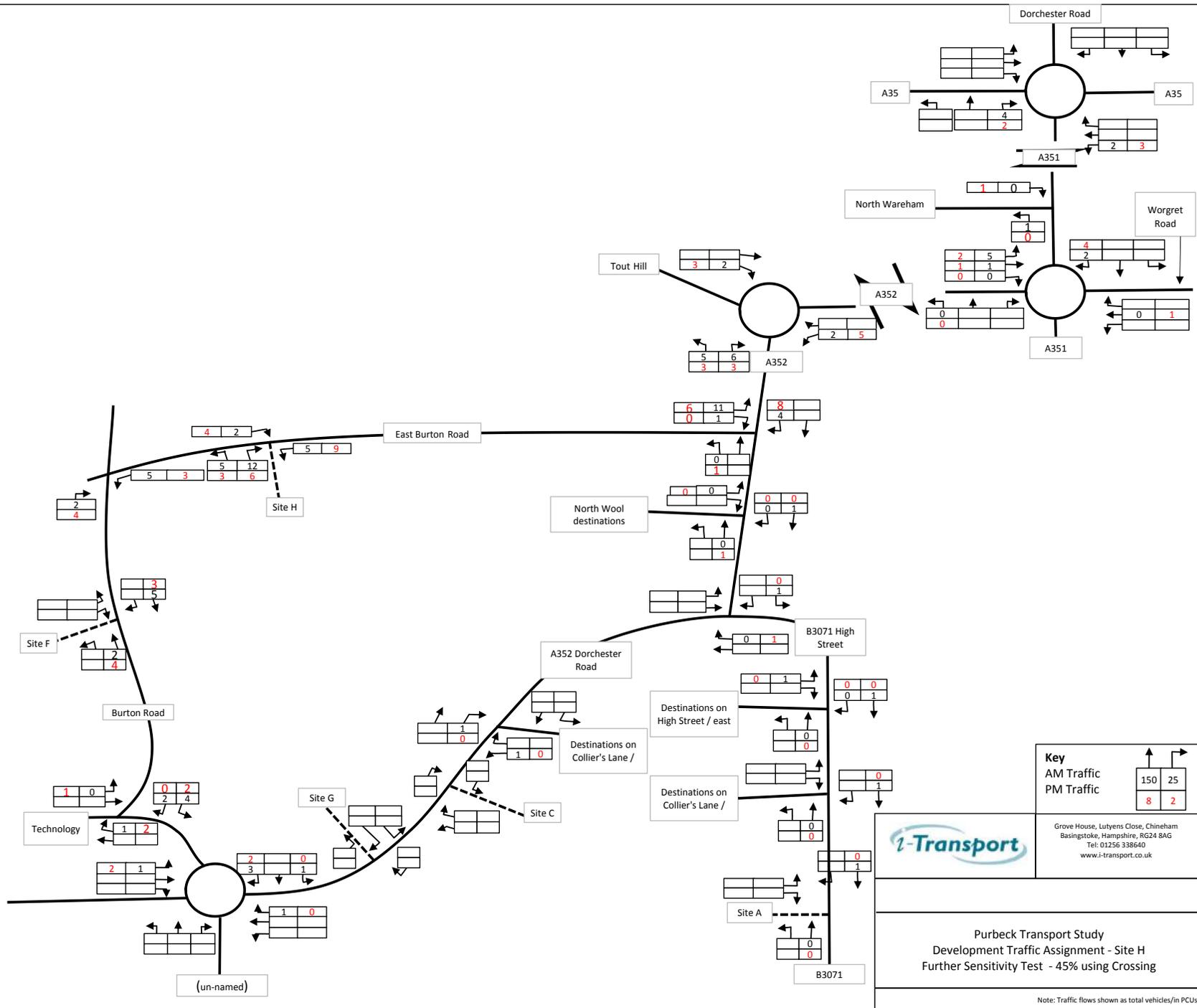
**i-Transport**

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Purbeck Transport Study  
 Development Traffic Assignment - Site G Further Sensitivity  
 Test - 45% using Crossing

Note: Traffic flows shown as total vehicles/m PCUs





**Key**

AM Traffic	150	25
PM Traffic	8	2

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 Tel: 01256 338640  
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**Purbeck Transport Study**  
 Development Traffic Assignment - Site H  
 Further Sensitivity Test - 45% using Crossing

Note: Traffic flows shown as total vehicles/m PCUs

**APPENDIX G**

**Queue Length Survey**

COUNT 14089 HOURS : 07:00 - 19:00

DAY Thursday 9th MONTH September YEAR 2014

INTERVAL Train Times JOB No DC5113J173

ROUTE No A352 LOCATION Wool Level Crossing

From London						
To London						
Train Departure Time	Time Barrier First Lowered	Length of Time Barrier Closed	Number of vehicles in A352 Q (south)	Number of vehicles in B3071 Q	Number of vehicles in A352 Q (north)	Number of vehicles into East Burton Road Q
07:17:00	07:13:00	00:06:07	29	1	14	2
07:20:00	07:13:00					
07:44:00	07:41:38	00:03:18	14	0	12	2
07:50:00	07:45:40	00:03:25	33	1	37	0
08:18:00	08:15:10	00:04:27	21	0	33	0
08:20:00	08:15:10					
08:44:00	08:41:00	00:03:15	29	3	28	2
08:45:00	08:41:00					
09:15:00	09:13:10	00:03:04	21	0	21	2
09:20:00	09:20:00	00:03:02	18	1	18	3
09:44:00	09:41:00	00:07:10	28	12	32	2
09:45:00	09:41:00					
10:15:00	10:12:20	00:03:15	37	6	17	1
10:20:00	10:18:30	00:03:30	26	4	29	2
10:35:00	10:31:00	00:04:09	31	6	28	2
10:45:00	10:41:12	00:03:53	16	2	32	1
10:55:00	10:53:49	00:01:40	5	1	9	0
11:20:00	11:19:00	00:03:01	16	1	28	2
11:35:00	11:32:00	00:03:19	22	7	17	3
11:45:00	11:43:15	00:04:15	32	3	43	0
11:55:00	11:52:00	00:02:22	21	0	12	3
12:20:00	12:19:20	00:03:22	16	1	19	0
12:35:00	12:31:00	00:04:30	30	4	55	0
12:45:00	12:41:30	00:03:01	27	4	26	4
12:55:00	12:52:15	00:01:56	7	0	15	0
13:20:00	13:19:10	00:03:25	18	4	27	1
13:35:00	13:31:10	00:04:07	20	1	31	1
13:45:00	13:41:00	00:05:29	23	2	45	2
13:55:00	13:53:00	00:01:26	15	4	19	1
14:20:00	14:19:20	00:03:04	11	8	19	1
14:35:00	14:32:20	00:04:12	17	9	51	2
14:45:00	14:41:00	00:03:43	32	6	37	4
14:55:00	14:54:00	00:00:12	6	1	12	0
15:20:00	15:19:40	00:03:20	23	1	43	0
15:35:00	15:32:30	00:03:14	23	3	49	6
15:45:00	15:42:00	00:04:49	28	8	33	4
15:55:00	15:52:30	00:02:30	26	6	25	2
16:20:00	16:19:06	00:13:09	72	16	89	5
16:35:00	16:36:30	00:03:04	43	12	81	4
16:45:00	16:42:50	00:02:15	30	16	97	8
16:55:00	16:50:44	00:04:54	26	5	91	7
17:20:00	17:19:50	00:03:15	35	2	35	2
17:37:00	17:34:30	00:03:49	17	0	45	2
17:45:00	17:41:14	00:04:12	27	4	61	6
17:55:00	17:52:45	00:03:15	21	2	40	2
18:20:00	18:19:30	00:03:30	16	3	18	6
18:39:00	18:36:41	00:04:11	17	7	36	1
18:45:00	18:42:00	00:03:26	14	5	36	1
18:55:00	18:52:34	00:03:38	12	0	28	3
<b>AVERAGE</b>		<b>00:03:44</b>	<b>23</b>	<b>4</b>	<b>35</b>	<b>2</b>