

Potential Traffic Impacts of Development in the Wool Area

Trip and Queue Analysis

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**DORSET COUNTY COUNCIL,
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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.

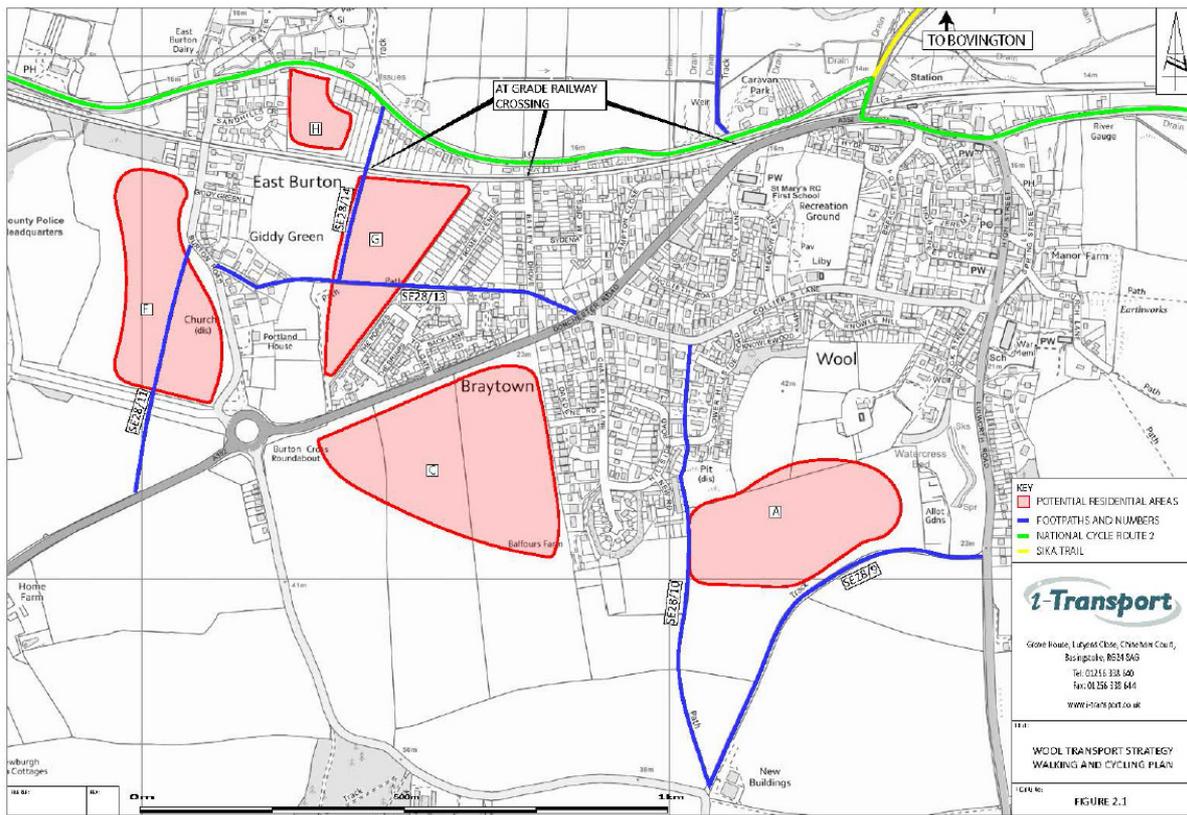


Figure 2.1: Proposed Sites

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

		Approx	Approx	Approx	Approx
		Sq. km	Sq. m	%age	Houses
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
	Total	0.32338	323380	100%	1000

Table 2.1: Site details

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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	95	0.346	346.154	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	95	0.353	353.147	3	95	0.196	195.804	3	95	0.549	548.951
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).

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

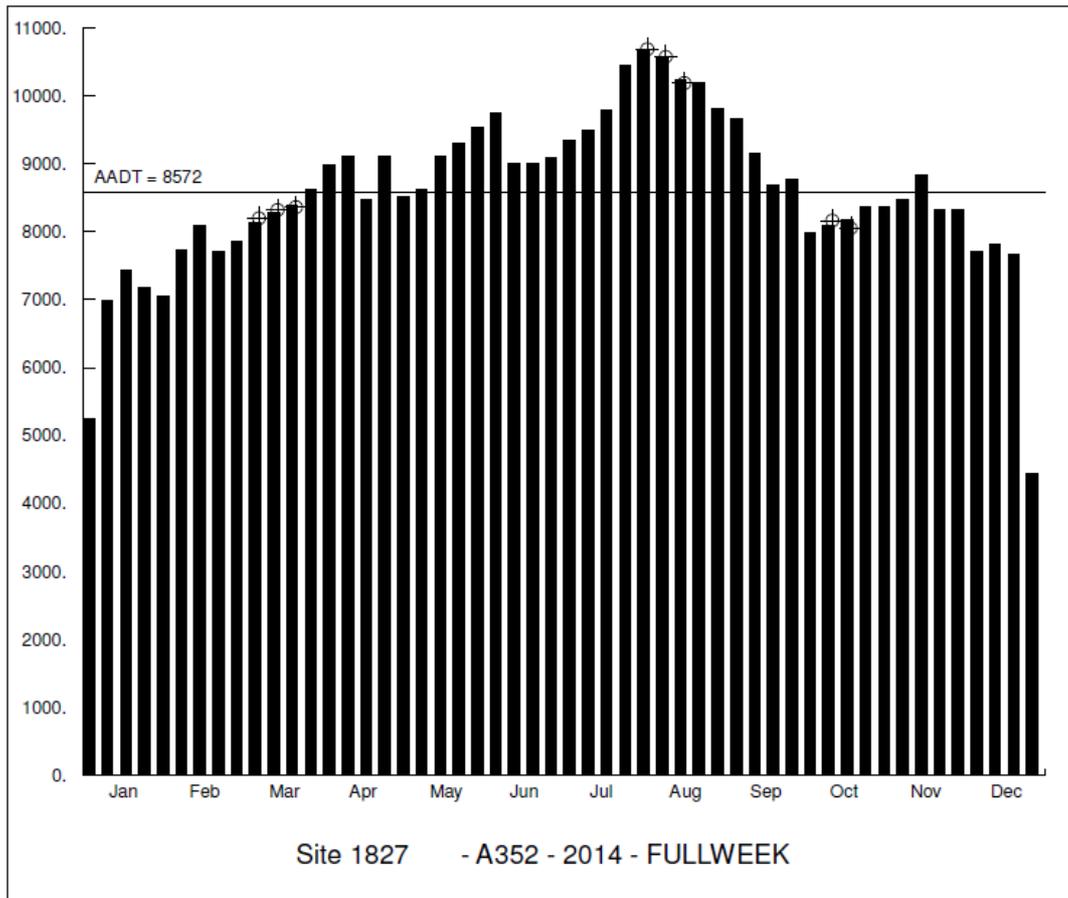


Figure 4.1: AADT – Site 1827 A352 Wool – 2014

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.

English region/Wales	2001 (km)	2011 (km)	
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.

QS702EW - Distance travelled to work	
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
Distance travelled to work	2011
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

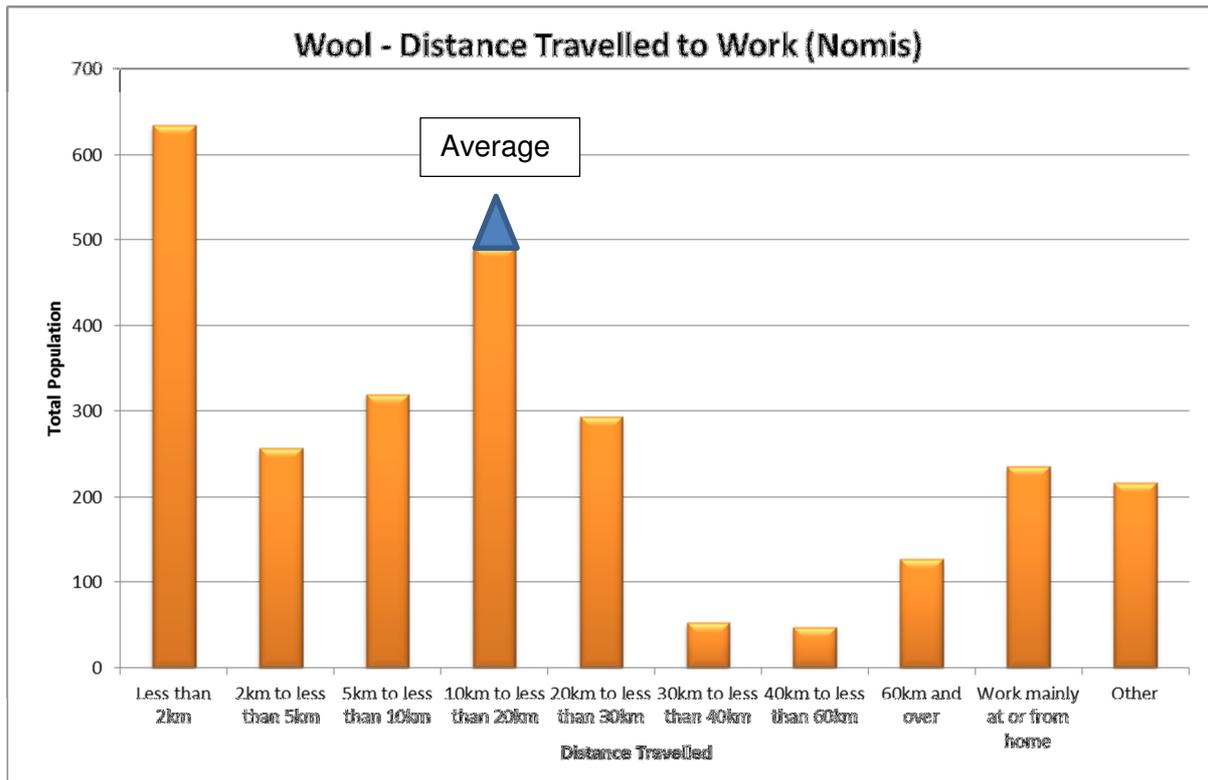


Figure 5.1: Nomis Data

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.

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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. (9th 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.

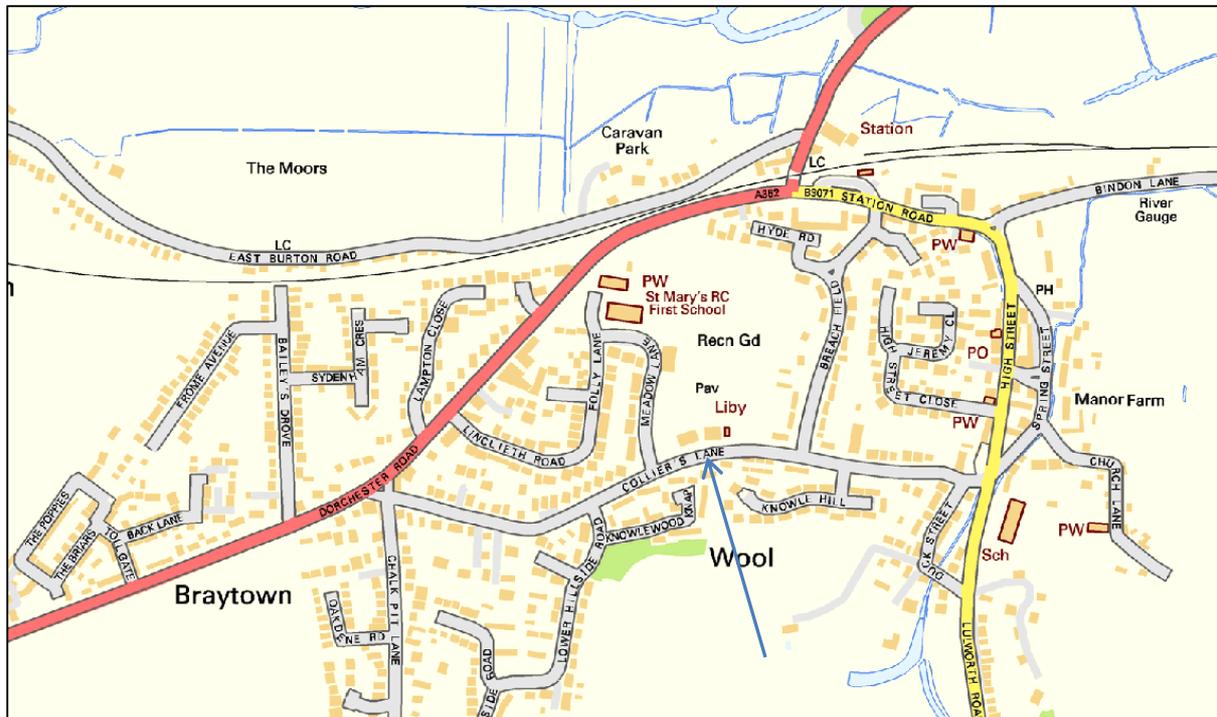


Figure 7.1: Colliers Lane location

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
Totals	977	1	434		985	1	438

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.

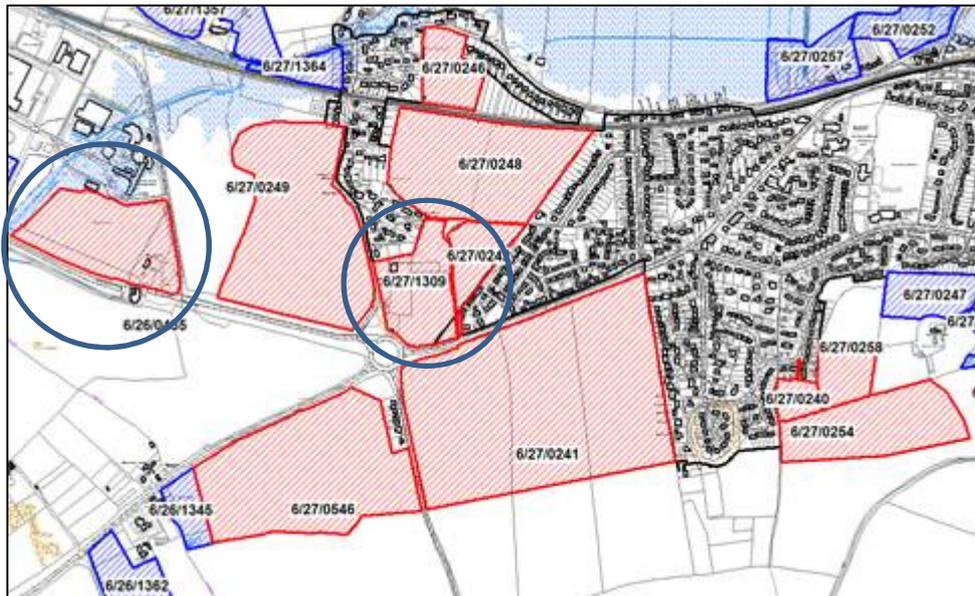


Figure 7.2 – Additional proposed sites for development

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)

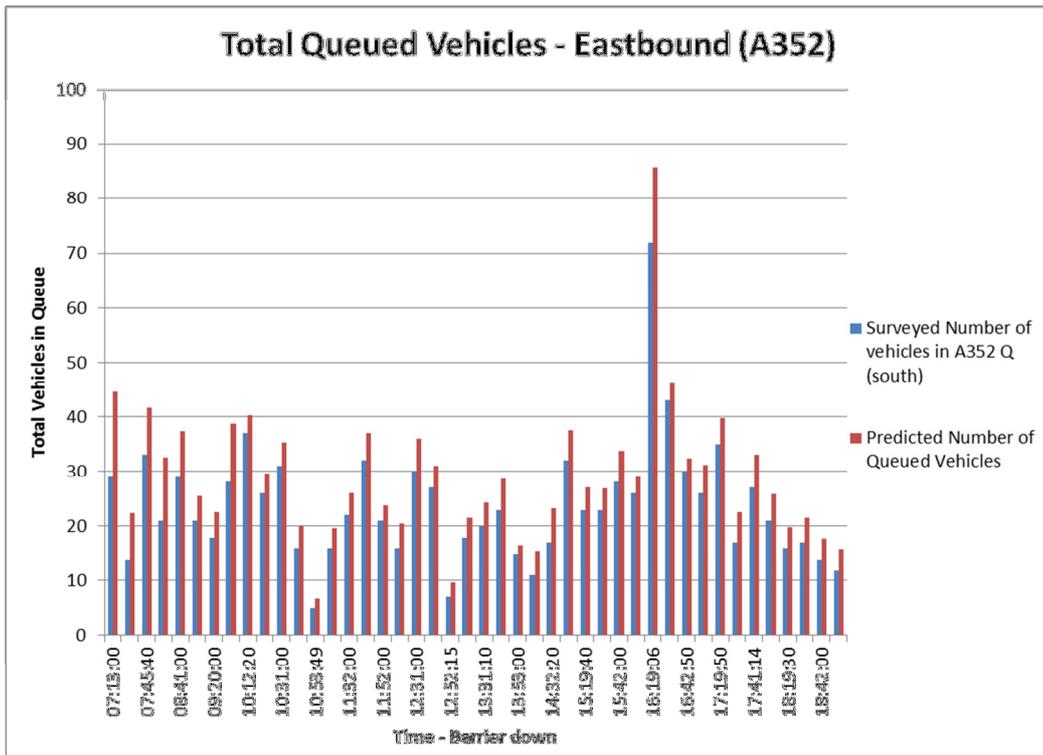


Figure 8.1: Queued Vehicles - Eastbound

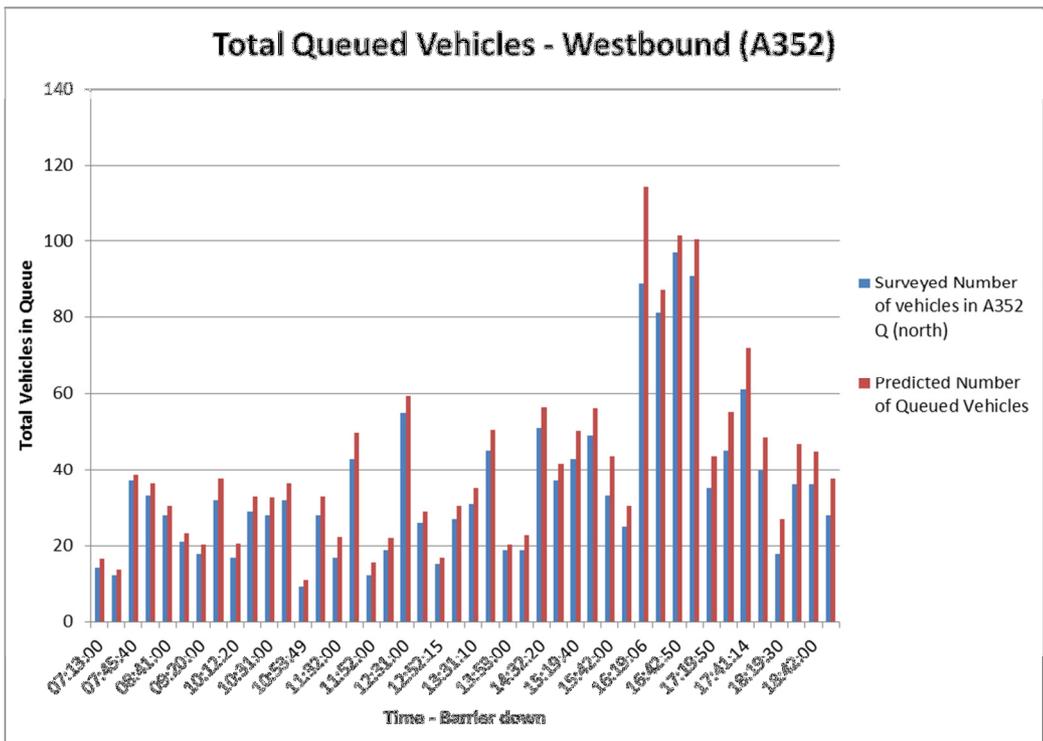


Figure 8.2: Queued Vehicles - Westbound

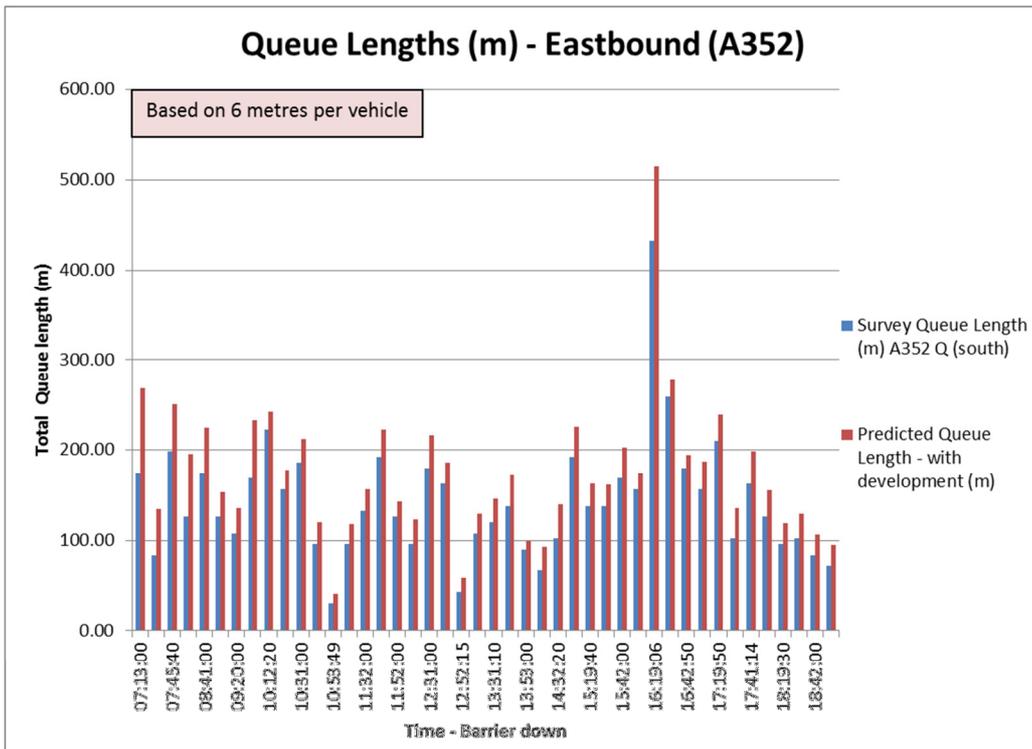


Figure 8.3: Queue Lengths – Eastbound

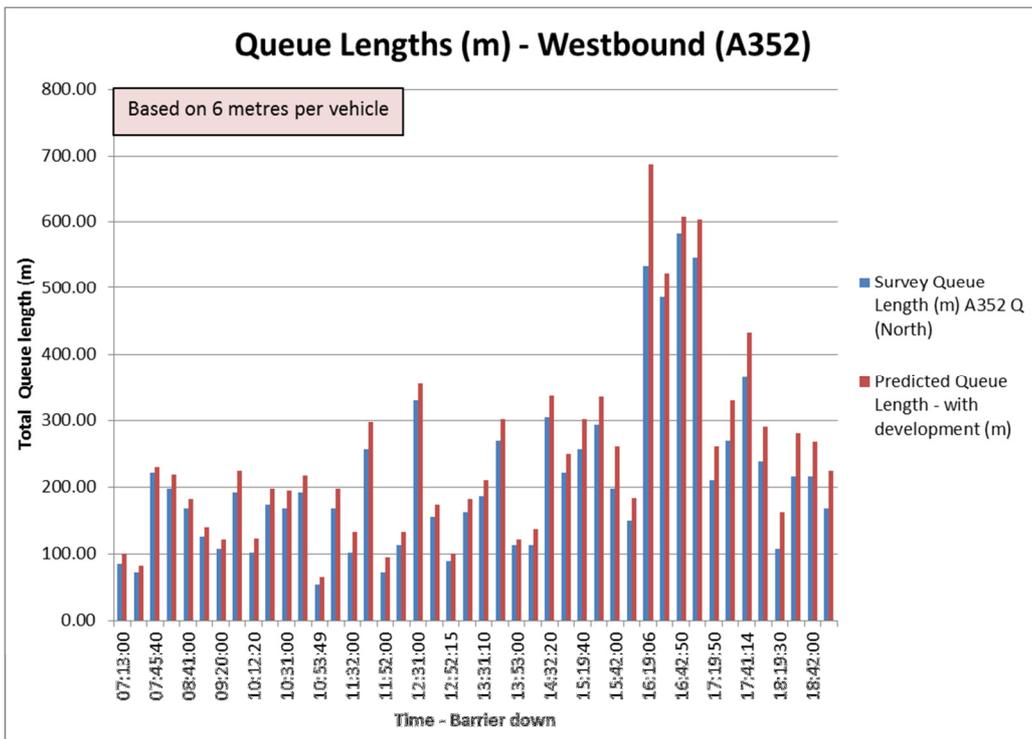


Figure 8.4: Queue Lengths – Westbound

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)

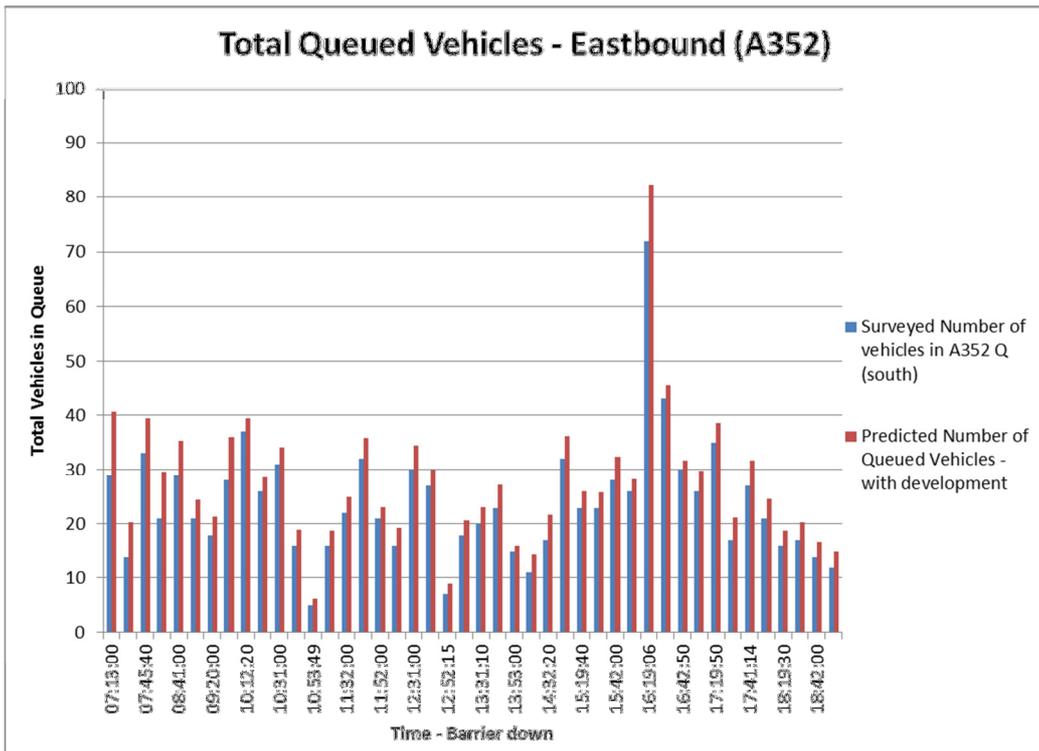


Figure 8.5: Queued vehicles Eastbound

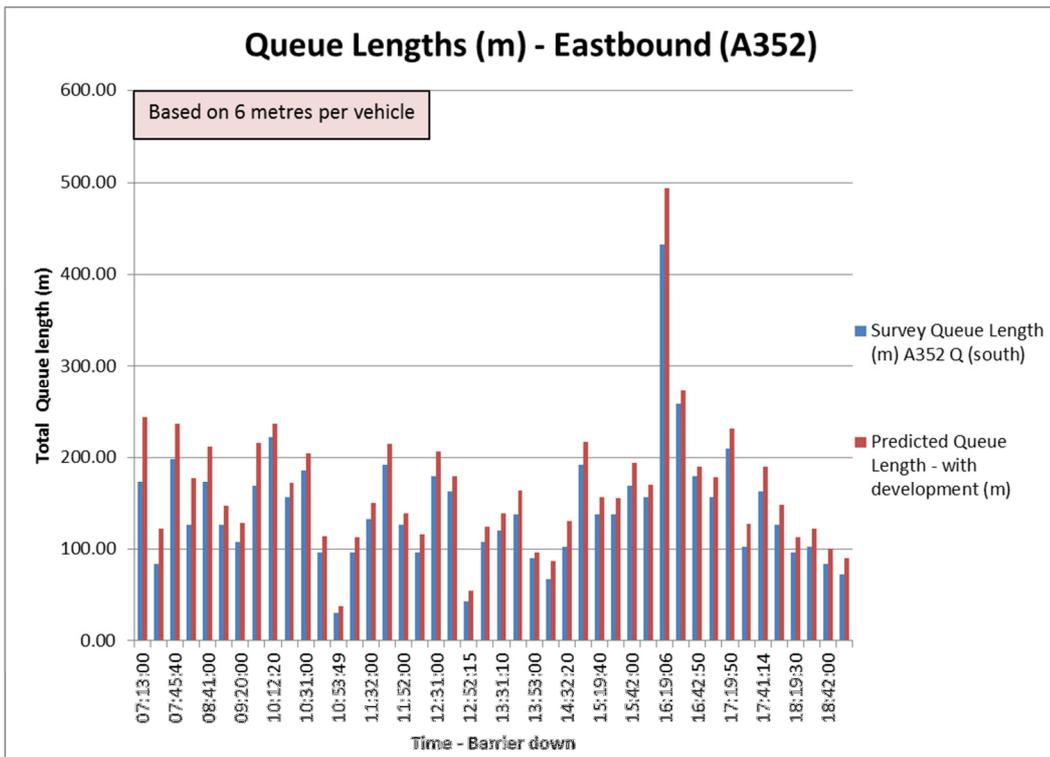


Figure 8.6: Queue Lengths Eastbound

B3071 Lulworth Road – Total Queued Vehicles and Total Queue Lengths

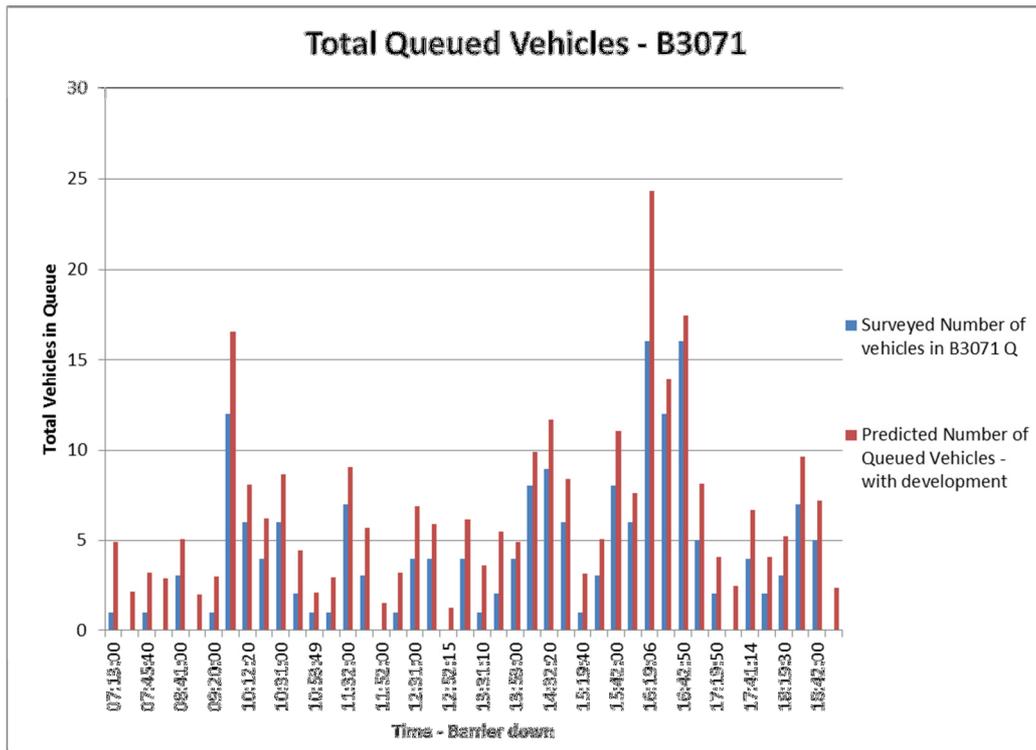


Figure 8.7: Queued vehicles B3071

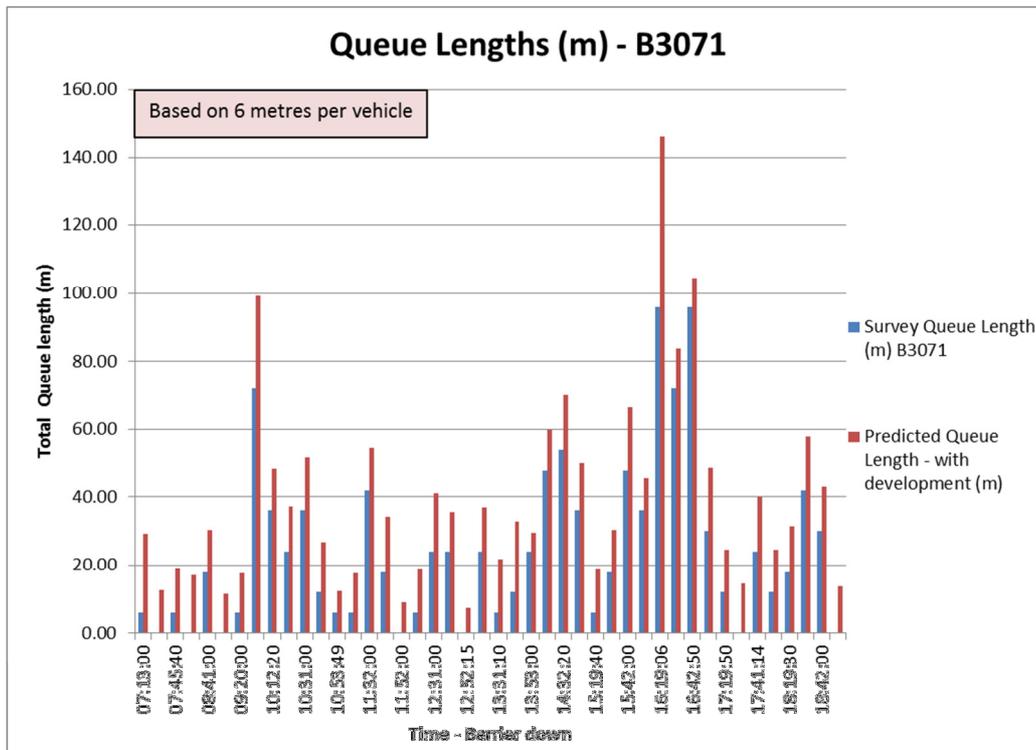


Figure 8.8: Queue Lengths B3071

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)

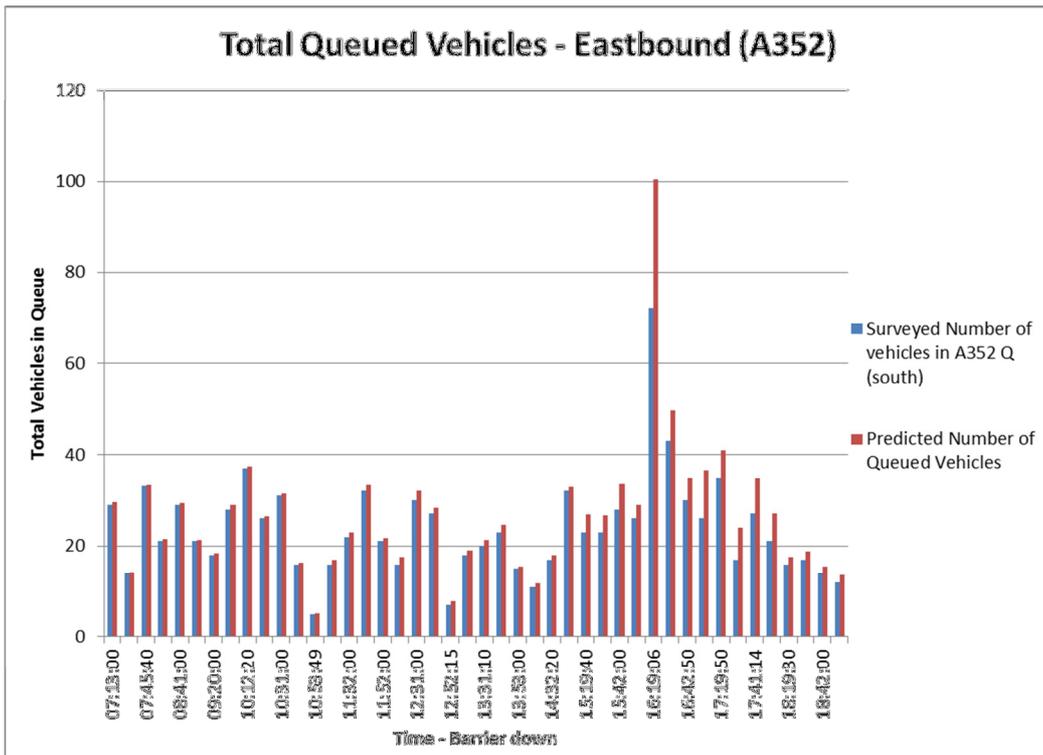


Figure 8.9: Queued Vehicles – Eastbound

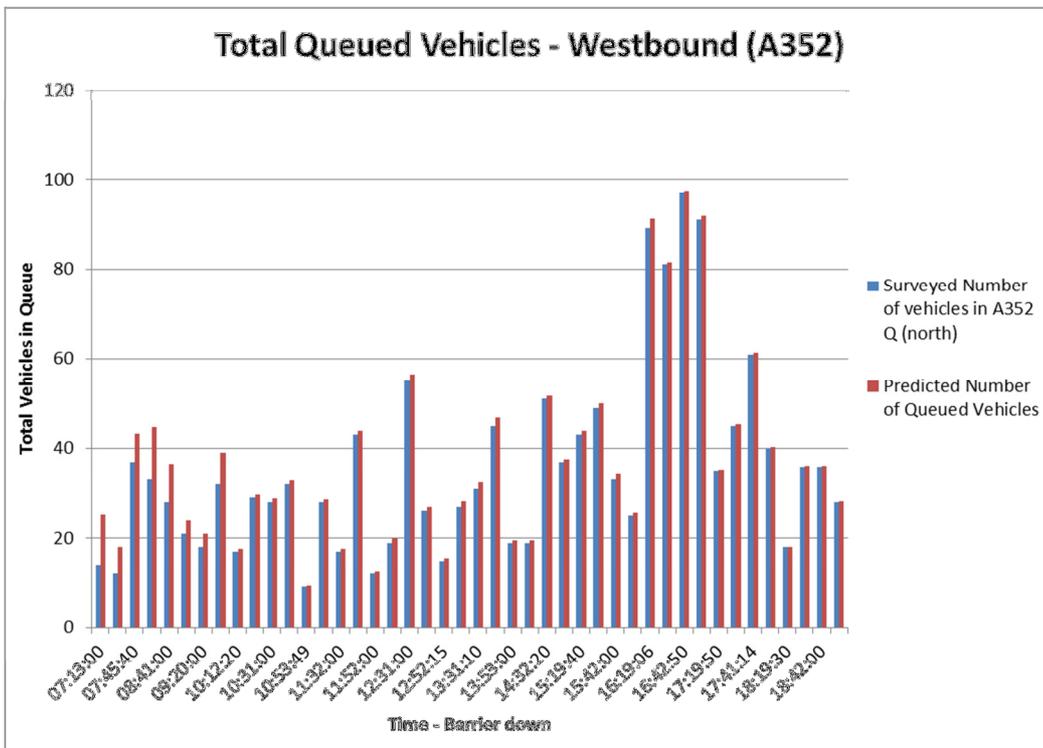


Figure 8.10: Queued Vehicles – Westbound

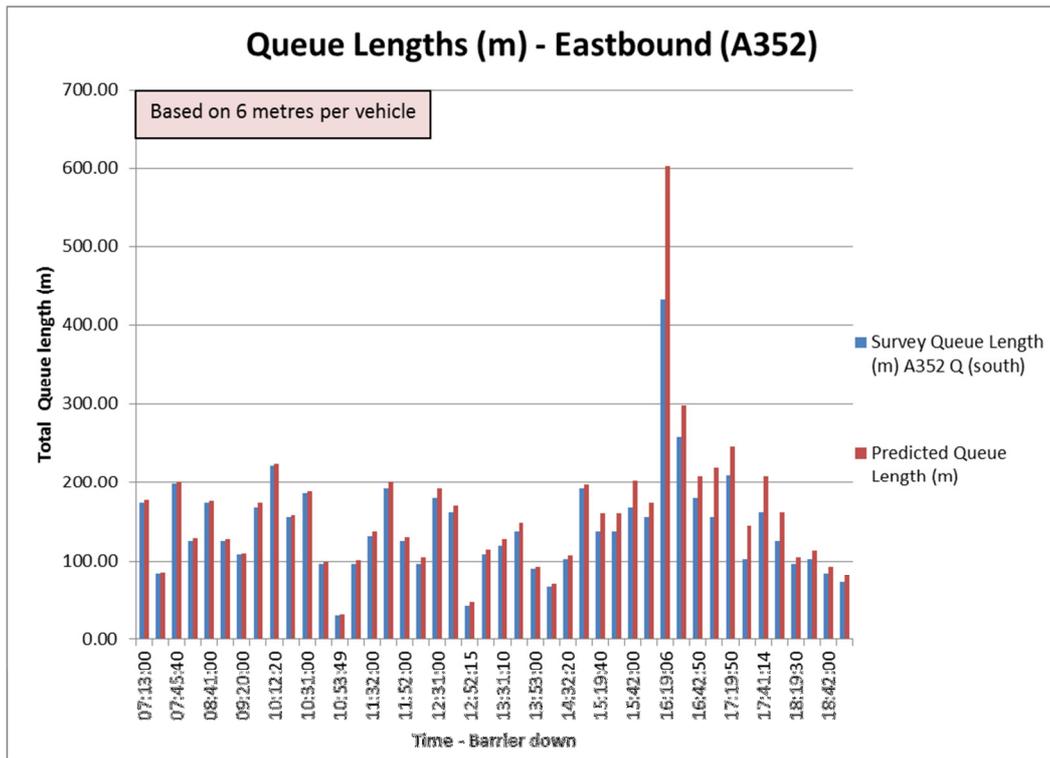


Figure 8.11: Queue Lengths – Eastbound

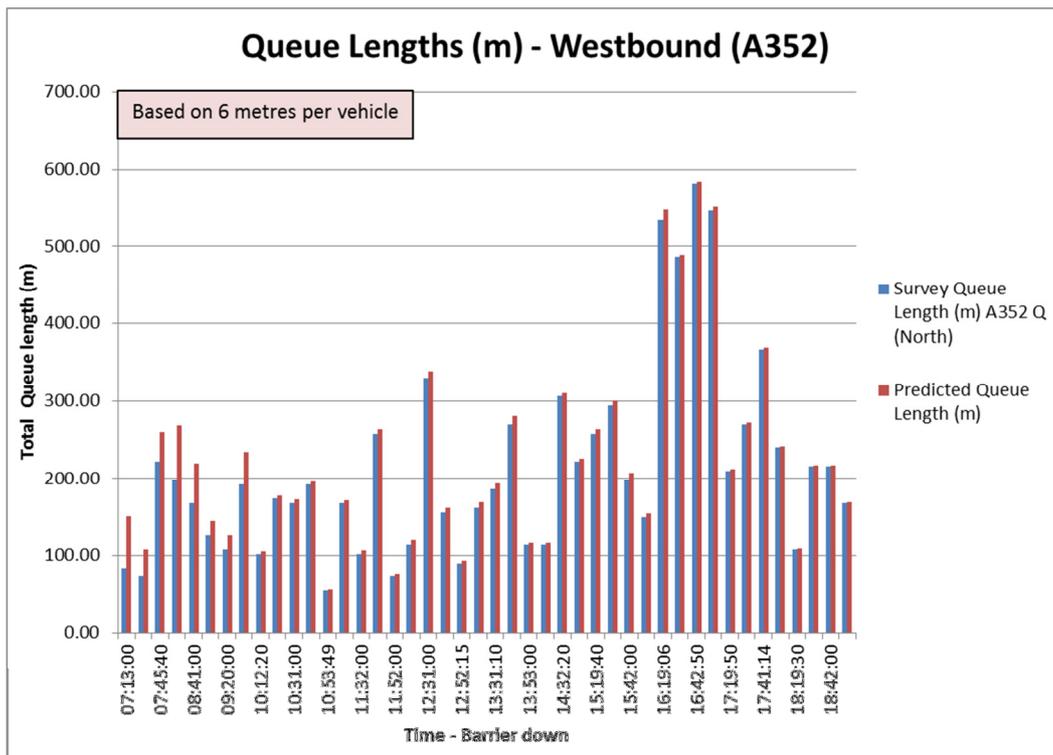


Figure 8.12: Queue Lengths – Westbound

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)

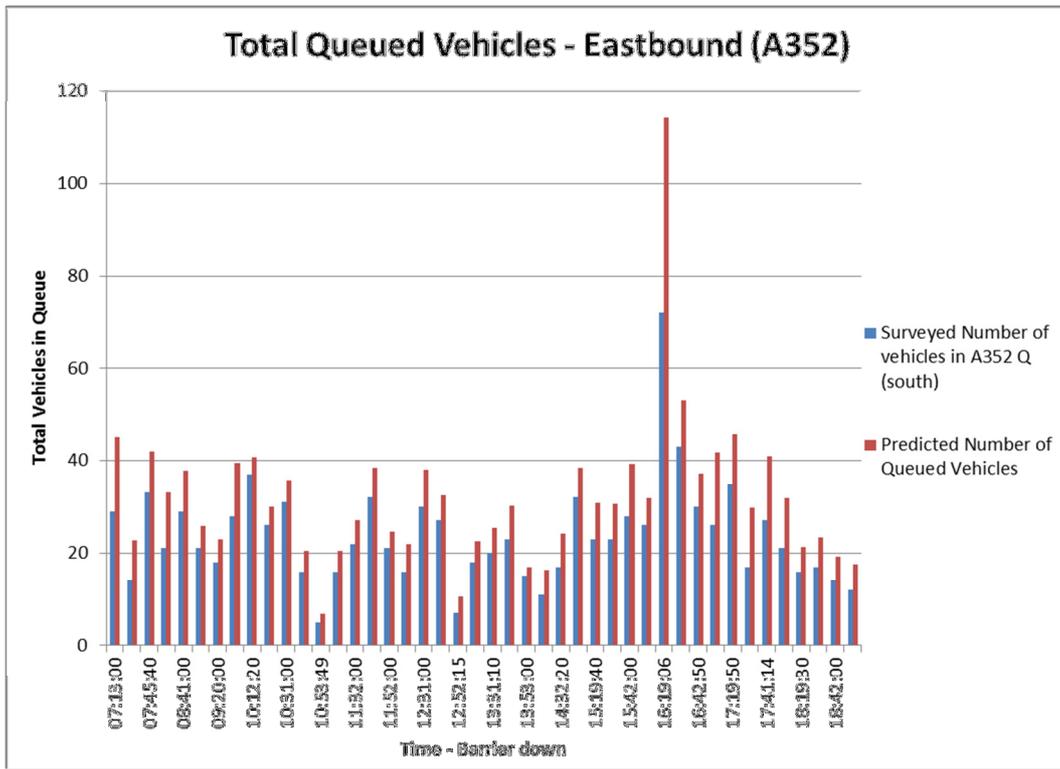


Figure 8.13: Queued Vehicles – Eastbound

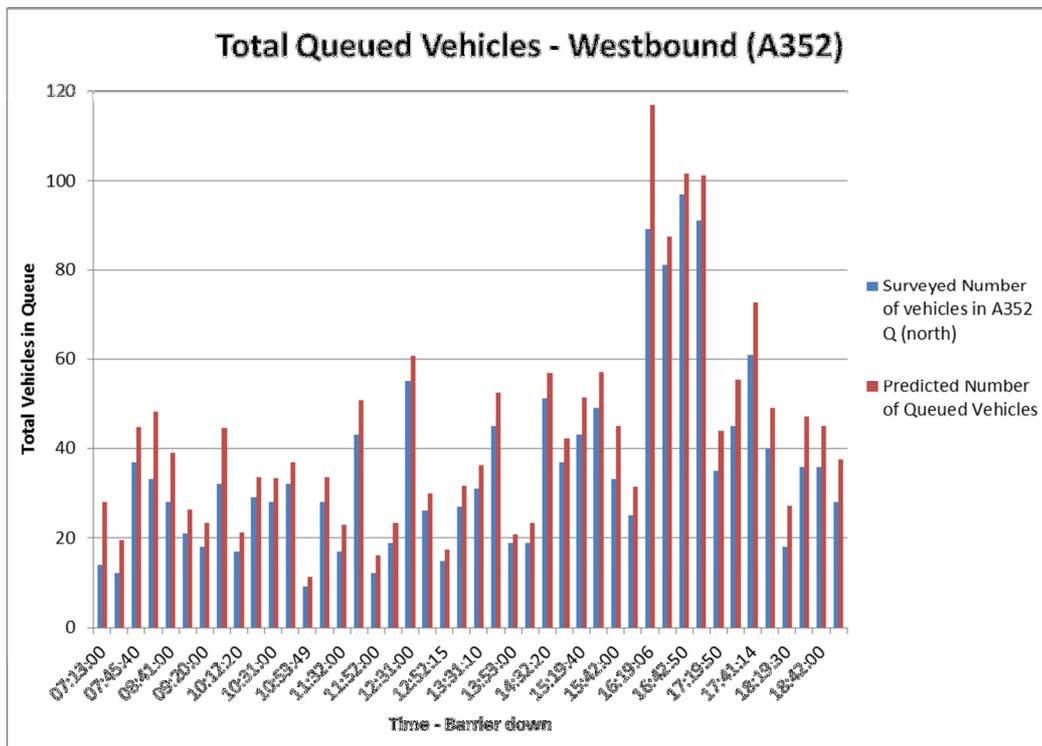


Figure 8.14: Queued Vehicles - Westbound

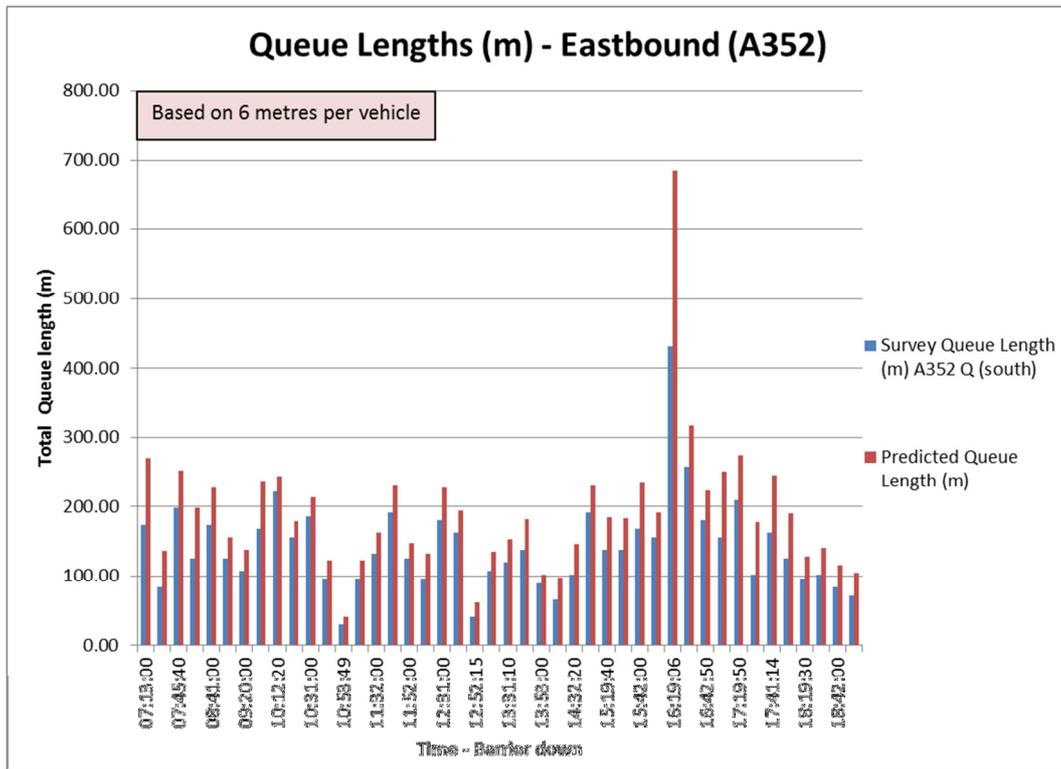


Figure 8.15: Queue Lengths – Eastbound

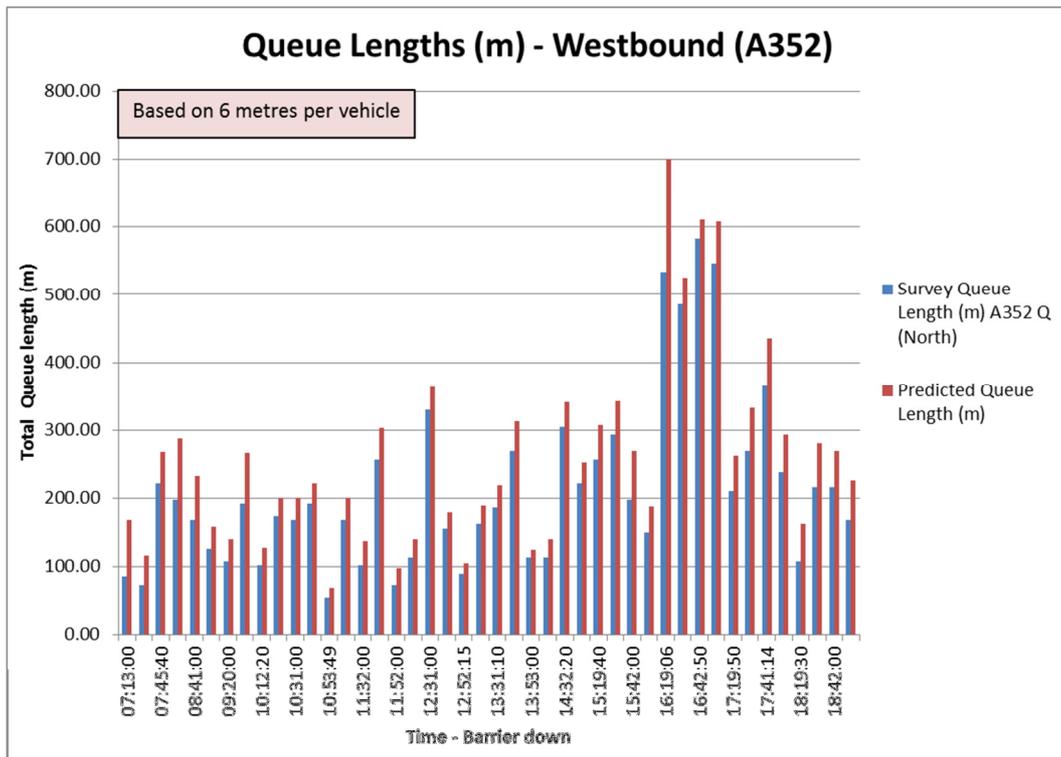


Figure 8.16: Queue Lengths – Westbound

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)

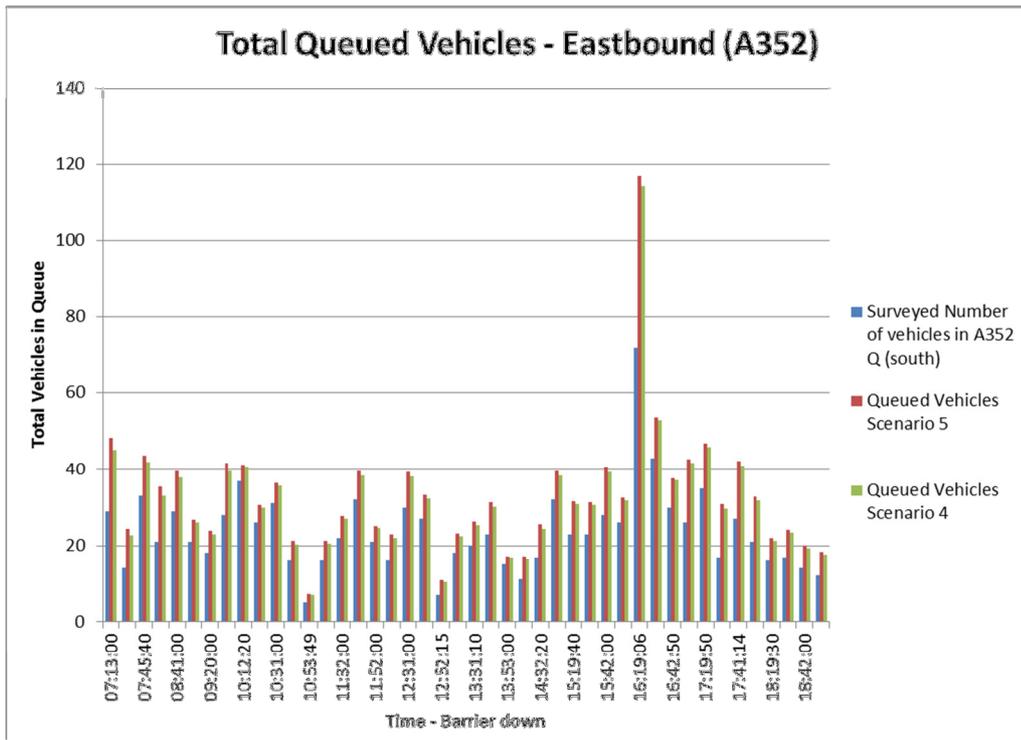


Figure 8.17: Queued Vehicles – Eastbound

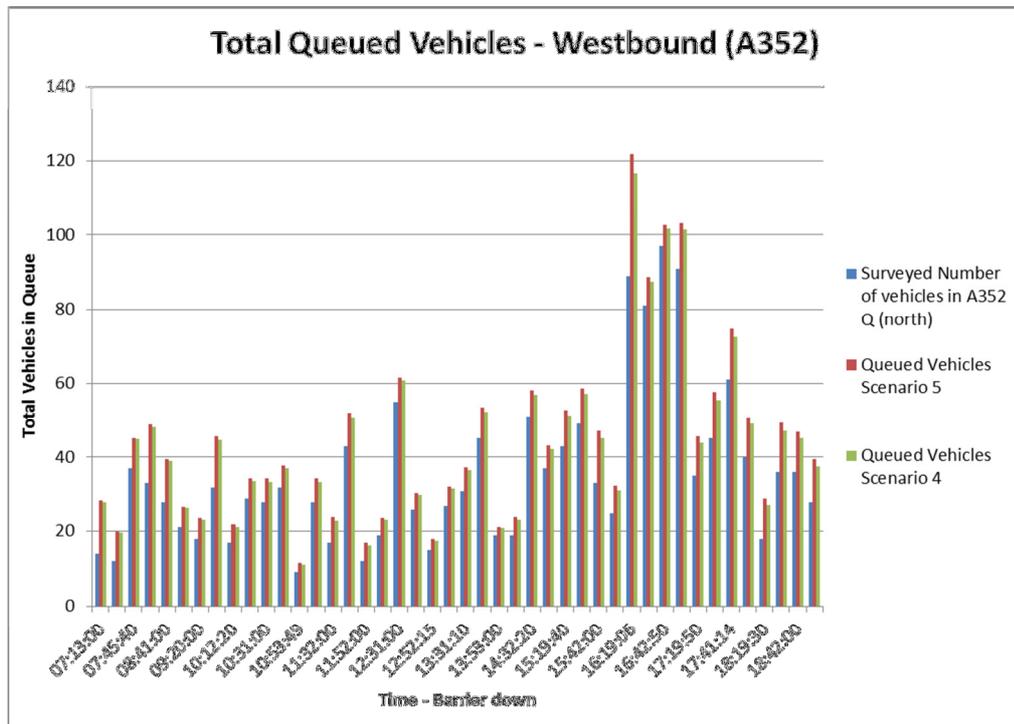


Figure 8.18: Queued Vehicles - Westbound

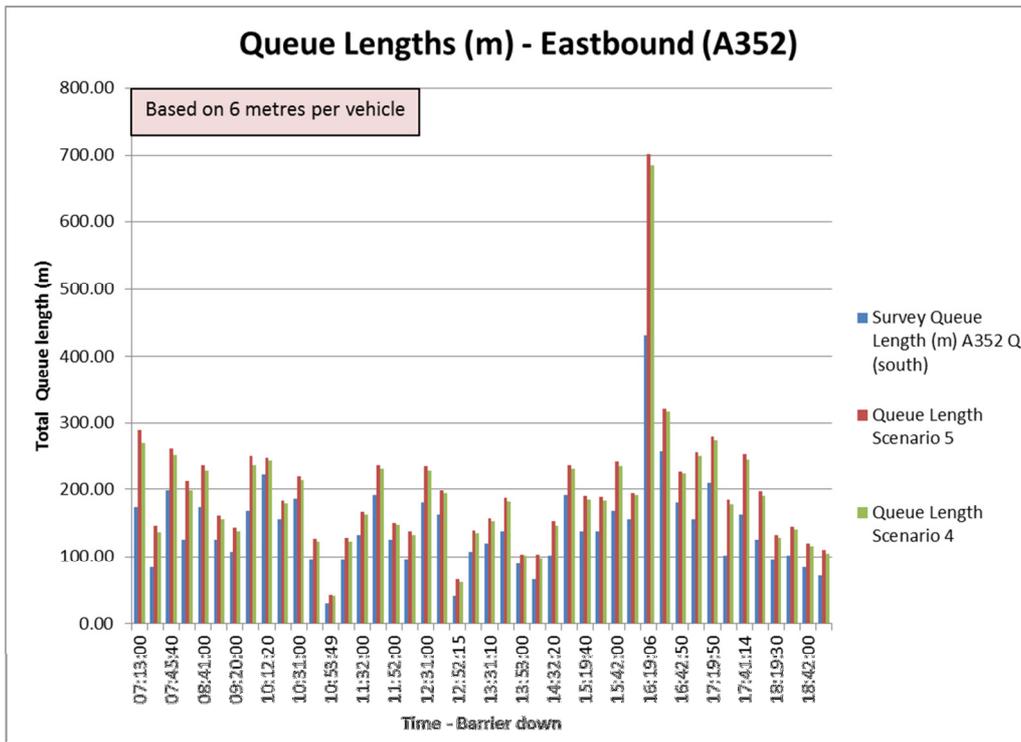


Figure 8.19: Queue Lengths – Eastbound

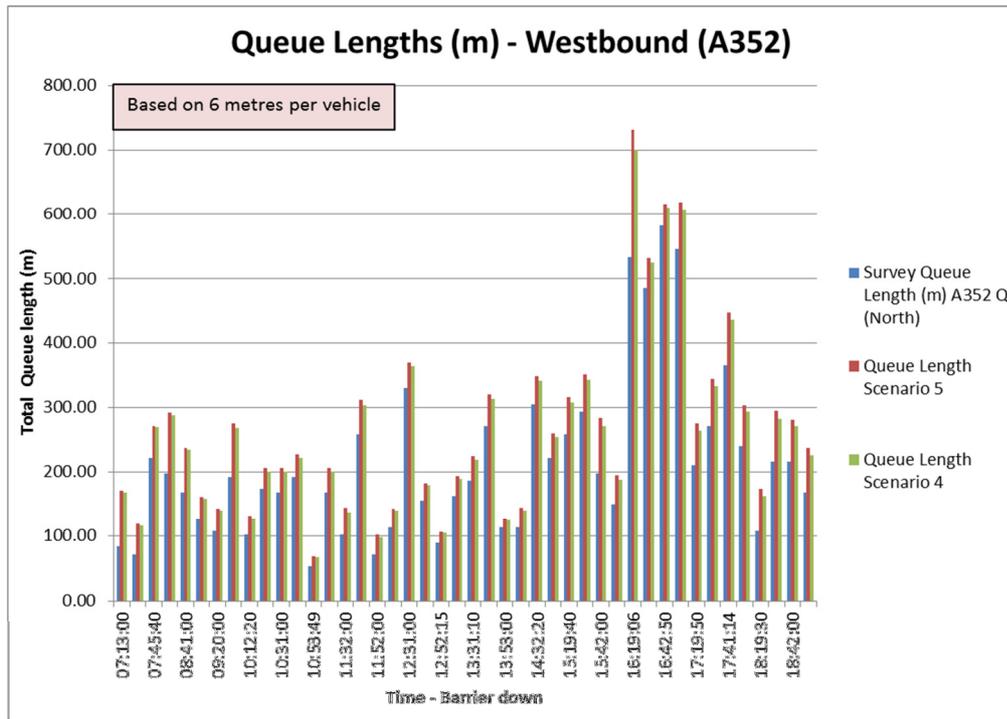


Figure 8.20: Queue Lengths – Westbound

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

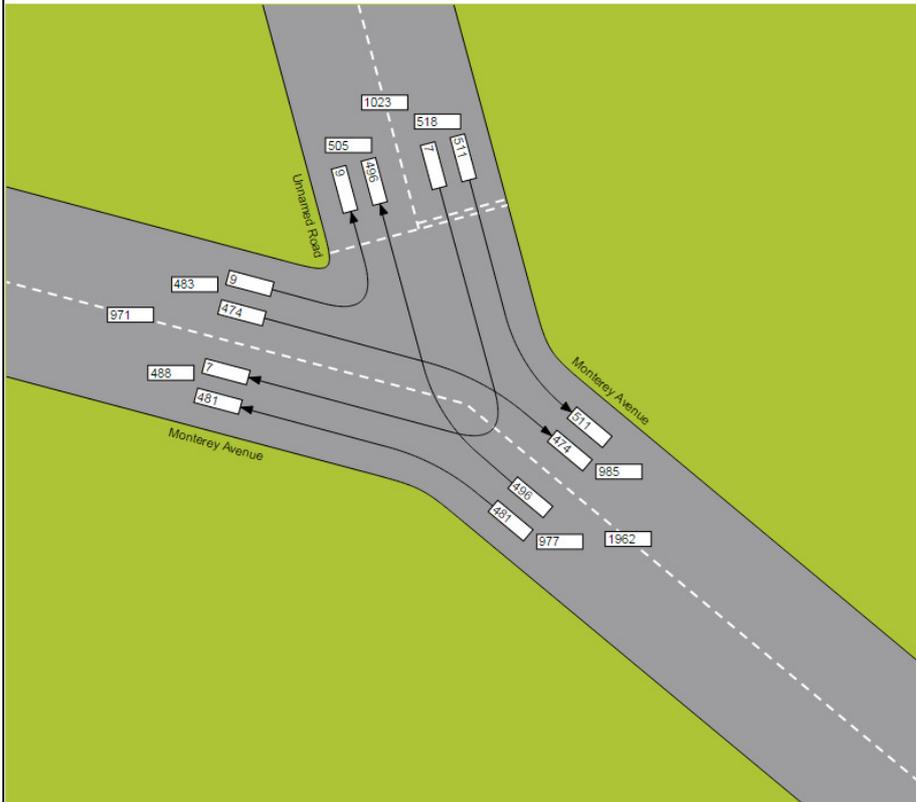
All directions										
	<--	Average of each					-->	Average		Total
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Workday	7 Day	Count
00:00:00	16	16	20	27	20	43	48	19	27	691
01:00:00	7	9	9	13	14	16	26	10	13	335
02:00:00	6	9	8	7	8	15	23	7	11	280
03:00:00	8	11	11	10	8	10	11	10	10	250
04:00:00	16	14	17	15	17	16	16	16	16	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.](#)