Brailsford Parish Council

Brailsford

A52 Appraisal

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Rev	A
Date	29 July 2016

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1.0 INTRODUCTION

1.1 Background

1.1.1 PTB Transport Planning Ltd has been commissioned by Brailsford Parish Council to provide an assessment of the A52 through Brailsford village.

1.1.2 Our understanding, from the brief provided, is that the primary concerns of Brailsford Parish Council and local residents (following a survey undertaken by the Parish Council) are as follows:

- The speed of vehicles through the village, within the 30mph zone;
- The speed of vehicles approaching the village from Ashbourne, particularly through Commonside;
- The safety of residents and other road users; and
- Traffic management arrangements on the A52, particularly at the junction with Luke Lane and Green Lane.

1.2 Structure of the report

1.2.1 This report is intended to consider the above concerns and relate them to traffic/speed data and Personal Injury Accident (PIA) data obtained within Brailsford village (and on the approaches to the village).

1.2.2 We will also consider those concerns in relation to an appraisal of the highway network, observations of current operation (particularly during peak hours), and future traffic flow forecasts incorporating growth arising from committed and potential future developments.

1.2.3 Following this introduction, the report is set out as follows:

- Chapter 2 – Highway Network and Existing Conditions;
- Chapter 3 – Traffic Count and Speed Data;
- Chapter 4 – Highway Safety;
- Chapter 5 – Committed and Future Development Impacts; and
- Chapter 6 – Potential Improvements and Recommendations.

1.3 Limitations of this report

1.3.1 This report has been undertaken at the request of Brailsford Parish Council, thus should not be entrusted to any third party without written permission from PTB Transport Planning Ltd. However, should any information contained within this report be used by any unauthorised third party, it is done so entirely at their own risk and shall not be the responsibility of PTB Transport Planning Ltd.

1.3.2 This report has been compiled using data from a number of external sources (such as mapping and traffic count information); whilst these sources are considered to be trustworthy, PTB Transport Planning Ltd is not responsible for the accuracy of the data provided.

2.0 HIGHWAY NETWORK AND EXISTING CONDITIONS

2.1 Highway Network

2.1.1 The A52 Main Road is a single carriageway road that varies in width between 6.5m and 7.5m with edge of carriageway white lines generally set some 0.4m from the kerb edge.

2.1.2 The A52 bisects Brailsford village centre and, as a distributor road, carries significant levels of through-traffic on a daily basis (further details are provided in Chapter 3).

2.1.3 The existing footways along each side of the A52 vary in width considerably throughout the village, ranging from 1.0m in width up to 2.5m in width in places (and wider still outside the Rose & Crown Public House).

2.1.4 However, a significant amount of the footway throughout the village is affected by soil creep, which reduces the width available for pedestrians to walk within quite considerably.

2.1.5 Luke Lane and The Green meet the A52 at individual priority junctions some 45m apart (centreline to centreline).

2.1.6 Luke Lane is a single carriageway road that varies in width between 5.5m and 6.5m, with footway provision along much of its length, including new provision associated with the committed Miller Homes development site and Brailsford Church of England Primary School site. The existing footway width varies but is generally above 1.5m, with the new provision at 1.8m.

2.1.7 Visibility at the A52 junction with Luke Lane is adequate in both directions at the stop line, as it is on the outside of the bend from the east and there is a significant verge depth available to the west.

2.1.8 The Green is a single carriageway road of some 5.0m in width, with a single footway of around 1.8m in width which narrows at the junction with the A52 to 1.2m width and further still at a pinch point on the junction radius.

2.1.9 Although this is not ideal for pedestrians, traffic flows along The Green are low, and observations suggest that vehicle speeds are also low; in effect, The Green operates similar to a ‘quiet lane’ where pedestrians could walk within the carriageway quite safely if they chose to do so.

2.1.10 Visibility at the A52 junction with The Green is adequate in both directions at the stop line, but is more restricted on the approach to the junction due to a property boundary wall to the east and existing hedging to the west.

2.1.11 Within the settlement, the A52, Luke Lane and The Green are subject to a 30mph speed limit; to the north of the village, Luke Lane (and then Mercaston Lane) becomes a national speed limit road (60mph), whilst to the east and west of the village the A52 is subject to a 50mph speed limit.

2.1.12 There are 30mph countdown markers along the A52 on both the eastbound and westbound approaches to Brailsford, with 'gateway' entry signs to the village on both sides of the carriageway; however, only the westbound approach to the village has rumble strips and 'dragons teeth' markings within the carriageway to (visually) slow traffic on entry into the village.

2.1.13 It is likely that this has been implemented only for the westbound approach to the village on the basis that it is along a downhill section of the A52 and there is an existing junction with Hall Lane, serving Brailsford Golf Club and some commercial development, as well as providing access to local farms and some dwellings.

2.1.14 In contrast, the eastbound approach to the village is along an uphill section of the A52 with limited access points between Commonside and the entry to Brailsford.

2.1.15 The westbound approach to Brailsford also has a 30mph Vehicle-activated Sign which is located opposite the car park to the Rose and Crown Public House, just west of the A52 junction with Hall Lane.

2.1.16 Photographs of both approaches are provided below.

Photo Set 1 – Westbound approach to Brailsford

Photo Set 2 – Eastbound approach to Brailsford

2.1.17 It is worth noting that our observations of the highway network at several different times of day appear to suggest that the Vehicle-activated Sign to the east of the village is not working, as we didn't observe any activations of the 30mph symbol. We have contacted the Local Highway Authority (LHA) to advise them of this and requested information regarding the activation of such signage, e.g. whether it is related to specific times of day.

2.1.18 Further consideration of the approaches to the village is given in Chapter 6; however, site observations confirmed that the reflective marker posts on both approaches are in poor condition and, in some cases, are no longer in an upright position or have been dislodged from their original position completely.

2.2 Existing Conditions

2.2.1 We have undertaken several morning and evening peak period and off-peak site visits in order to ascertain existing network traffic conditions and to undertake measurements along the roads and footways within Brailsford.

2.2.2 We have also commissioned several independent traffic and speed surveys within Brailsford, details of which are provided in Chapter 3.

2.2.3 Our own observations of the traffic conditions during peak periods have primarily concentrated on the A52 junctions with Luke Lane and The Green, given that the brief specifically identified these junctions.

2.2.4 It should be noted that our observations have been undertaken during the construction period for the consented Miller Homes development site and the Brailsford Church of England Primary School site; therefore, additional HGV traffic is present on the highway network, and in particular at the junction of the A52 with Luke Lane.

2.2.5 As indicated in section 2.1, the A52 bisects Brailsford village and carries a significant amount of through-traffic during peak hours and on a daily basis.

2.2.6 The level of HGV traffic on the A52 is noticeable (further details are provided in Chapter 3) and traffic tends to platoon behind larger vehicles as they travel through the centre of the village.

2.2.7 The Luke Lane approach to the A52 queues intermittently throughout the peak periods, with delays averaging around 20 seconds per vehicle throughout the period and queues averaging one or two vehicles; typically, queues would extend to three or four vehicles for a short period before clearing quickly.

2.2.8 On average, HGVs were observed to take significantly longer than cars to exit Luke Lane onto the A52 (as would be expected due to the difference in acceleration and turning characteristics), thus there were queues observed that extended to six or seven vehicles; however, once the HGV negotiated the junction, the remaining vehicles tended to clear relatively easily.

2.2.9 There were also several occasions within the peak periods where the junction approach from Luke Lane was clear of any queueing vehicles.

2.2.10 In terms of right-turning traffic into Luke Lane, due to the high traffic flow on the A52, any large vehicle waiting to turn right will cause a queue to form behind which we observed can extend significantly at times (in excess of 10 vehicles on some occasions). However, these were very short-lived and intermittent in nature during the periods observed.

2.2.11 The approach to the A52 from The Green was observed to be operating well within capacity during the peak periods, primarily because of the limited level of traffic that uses the junction; conflicts at the stop line can occur when a vehicle attempts to enter The Green whilst a vehicle is exiting, however these are rare and do not significantly affect the capacity of the junction, even during peak periods.

2.2.12 In terms of pedestrian provision and conditions, as detailed in section 2.1 there are several locations across the village where footway provision is heavily compromised by soil creep.

2.2.13 The photographs in Appendix A highlight the numerous areas where soil creep is evident.

2.2.14 Figure 2.1 shows the currently available footway widths and the locations where soil creep impacts on the available pedestrian widths along the A52 through Brailsford.

2.2.15 It should be noted that the colour coding on the figures is our interpretation of footway width standards from relevant guidance; this includes Figure 6.8 of Manual for Streets (MfS), the DfT 'Inclusive Mobility' guidance document and guidance contained within the 6Cs document.

2.2.16 Those documents, taken together, tend to indicate that a footway width in excess of 1.8m will allow comfortable movement for all expected pedestrian users, a 1.5m-1.8m width is comfortable for two pedestrian users to pass one another (including a pedestrian and a wheelchair), a 1.2m-1.4m width will allow access for a pedestrian with child, whilst a 0.9-1.1m width in the minimum acceptable (over short distances) and allows access for a single wheelchair user.

2.2.17 Figure 2.1 shows that although most of the available footway width within Brailsford village would be considered to be generally acceptable, there are significant sections (in particular on the approaches to the village) that are heavily affected by creep, which reduced the available footway width significantly.

2.2.18 Further details regarding potential improvements are provided in Chapter 6.

3.0 TRAFFIC COUNT AND SPEED DATA

3.1 Surveys

3.1.1 In order to further inform our study of traffic conditions on the A52 and within Brailsford, traffic survey data has been obtained as follows:

- Seven-day ATC speed survey on the A52 to west of Brailsford at Commonside – 23rd to 29th February 2016;
- Seven-day ATC speed survey on the A52 to west of Brailsford at existing entry to/exit from village (speed limit change) – 23rd to 29th February 2016;
- Manual classified peak hour turning count at the A52/Luke Lane/The Green junction – Tuesday 22nd March 2016;
- Seven-day ATC speed survey on the A52 to east of Brailsford at existing entry to/exit from village (speed limit change) – 23rd to 29th February 2016;
- Hand-held Radar speed survey to the east and west of the A52/Luke Lane/The Green junction – Tuesday 1st March 2016; and
- Historic Annual Average Daily Flow (AADF) data from the DfT website, on the A52 to the east of Brailsford village – for the period 2000 to 2014.

3.1.2 All of the traffic data obtained is provided as Appendix B to this report; detailed analysis of the data is provided below.

3.2 Traffic Count Data

A52 Main Road/Ashbourne Road

3.2.1 The historic AADF data provides an opportunity to consider the long-term traffic flow fluctuations on the A52; the data is taken from manual 12-hour counts undertaken to the east of Brailsford village (in the vicinity of the existing parking layby). These are then converted to AADFs using the relevant factors.

3.2.2 Table 1 overleaf details the AADF for the period 2000 to 2015.

Table 1 – A52 AADF Data (two-way traffic volumes)

Year	AADF	% Change (on previous year)	% HGVs (includes buses)
2000	10,139	N/A	9.49
2001	10,201	+0.61	9.37
2002	10,644	+4.34	9.09
2003	10,848	+1.92	8.75
2004	10,869	+0.19	8.72
2005	10,878	+0.08	8.44
2006	11,535	+6.04	8.55
2007	11,499	-0.31	9.22
2008	11,141	-3.11	9.28
2009	10,969	-1.54	8.55
2010	10,833	-1.24	8.58
2011	11,149	+2.92	7.43
2012	10,932	-1.95	7.43
2013	10,848	-0.77	7.35
2014	11,096	+2.29	7.39
2015	11,109	+0.12	7.54

Source: DfT Traffic Counts website

3.2.3 Table 1 demonstrates that traffic flows on the A52 have fluctuated both upwards and downwards in the 14 year period between 2000 and 2015.

3.2.4 It is highly likely that the drop in AADF between 2008 and 2010 is representative of the economic recession in the UK at that time, and that subsequent drops in 2012 and 2013 are likely a result of further difficult economic conditions post-recovery from the recession.

3.2.5 The difference in AADF between 2000 and 2015 is 970, which represents overall growth on the A52 in that period of 9.57%.

3.2.6 The data also shows that the percentage of HGVs (which includes buses) has fallen from 9.49% in 2000 to 7.54% in 2015.

3.2.7 As indicated in section 3.1, we have also commissioned independent ATC surveys to the east of Brailsford, at the existing entry to/exit from the village; therefore, only a short distance to the west of the permanent ATC location from which the above DfT data is obtained.

3.2.8 The ATC data obtained recently indicates that average 24-hour traffic flows (including weekends) at the eastern edge of Brailsford are 5,744 westbound and 5,854 eastbound; therefore, two-way the average daily flow is 11,598.

3.2.9 Whilst a direct comparison with the values in Table 1 isn't entirely appropriate, given that the latest data can only provide a single weekly

average; it does give an approximation of the likely flow that would be recorded for 2016 as AADF, on the basis that February is a relevant and approximately neutral month for traffic flows.

3.2.10 The recent ATC data also indicates that the HGV percentage to the east of the village is 12.35%, which is a significant increase compared to the AADF HGV data in Table 1.

3.2.11 Without data for 2016, or a more significant dataset across several different months for 2016, it is difficult to establish with certainty that the week observed is representative of 'normal' conditions on the A52.

3.2.12 The data for the two additional ATC surveys that were commissioned (to the west of the village at the entry/exit, and further west in Commonside) supports the data from the eastern ATC survey.

3.2.13 At the western entry to/exit from the village, the average 24-hour traffic flow observed was 10,394 with an HGV percentage of 12.9%; whilst further west in Commonside, the average 24-hour traffic flow observed was 10,437 with an HGV percentage of 12.6%.

3.2.14 As February is a neutral month in respect of traffic surveys, and should therefore be representative of 'normal' traffic conditions, this potentially shows that there has been a significant increase in the proportion of HGVs using the A52 through Brailsford.

3.2.15 However, it is also worth noting that the surveys will include construction traffic to/from the Miller Homes and Brailsford School sites.

3.2.16 For comparison purposes, it is worth noting that we have previously undertaken analysis for a development site in Baldwins Gate (Staffordshire) which took access from the A53, a similar distributor road bisecting a village.

3.2.17 The observed average 24-hour traffic flow on the A53 in June 2013, taken from a 7-day ATC survey, was 11,785 with an HGV percentage of 4.6%; clearly, a very similar traffic flow but with significantly different HGV content.

3.2.18 Further data obtained from the DfT National Road Traffic Survey statistics indicates that in Q4 2015, the percentage of HGVs on rural A-roads across Great Britain was 6.58%; whilst for the East Midlands, data from November 2015 indicates that percentage of HGVs across all roads (including trunk roads) was 7.66%.

3.2.19 Therefore, the ATC data obtained in February 2016 tends to indicate that the level of HGV traffic passing through Brailsford is significantly higher than would normally be expected for a road of this type in this location.

3.2.20 The peak hour turning count at the junctions of the A52 with Luke Lane and The Green indicates that the percentage of HGVs on the A52 during the

morning and evening peak periods in this location ranges from 7.5% to 9.9% depending on the direction of travel.

3.2.21 Therefore, whilst it is possible that the ATC data has recorded an incorrect (and higher) HGV percentage on the A52, the AADF data suggests it is still well above that recorded at a similar location in Staffordshire.

Luke Lane/A52/The Green

3.2.22 The peak hour turning count commissioned on Tuesday 22nd March 2016 at the A52 junction with Luke Lane and The Green obtained traffic flow data between 07:00 and 10:00 in the morning, and also between 16:00 and 19:00 in the evening.

3.2.23 The data indicates that in the morning peak period, there is a relatively flat peak of traffic on the A52 between 07:00 and 09:00, at which point the traffic flow reduces significantly.

3.2.24 In the evening peak period, there is a slightly more pronounced peak in the traffic flow on the A52 between 17:00 and 18:00 (as a single peak hour, compared to the morning), but again fairly consistent flows over a two-hour period between 16:00 and 18:00, with a drop in traffic between 18:00 and 19:00.

3.2.25 On Luke Lane, the traffic flow in the morning peak period is relatively flat across the entire three hours surveyed, whilst in the evening peak period the flows are consistent between 16:00 and 18:00 before reducing significantly between 18:00 and 19:00.

3.2.26 The data supports our observations of the operation of the junction during the peak periods, which indicated generally consistent low levels of queueing and delay at the junction with some short-lived spikes in both, particularly when large vehicles attempted to turn right into or out of Luke Lane.

3.2.27 Generally speaking, a priority junction will tend to operate with more spare capacity where traffic arrival profiles are relatively flat, as appears to be the case with the Luke Lane approach (bearing in mind we are utilising just a single day of traffic data for this junction); this is because if there is sufficient gap utilisation at the give-way/stop line, queues generally don't extend to the point where they are unable to clear before additional traffic hits the minor arm.

3.2.28 The traffic data for The Green also supports our observations of the junction during the peak periods, with low flows of less than one vehicle per minute at peak times, and generally around one vehicle every two to three minutes.

3.2.29 The traffic flows along The Green are slightly higher between 09:00 and 10:00 in the morning, and between 16:00-17:00 in the afternoon; this is likely to be a result of the operation of Brailsford Medical Centre.

3.2.30 The peak hour turning flows at the junction are shown on Figure 3.1.

3.3 Traffic Speed Data

3.3.1 As stated in Chapter 1, our understanding from the brief is that two of the primary concerns of both Brailsford Parish Council and local residents across Brailsford Village, relate to the speed of traffic approaching the village and the speed of traffic within the village itself.

3.3.2 In order to seek to clarify this, and to potentially address any subsequent issues that arise, seven-day ATC speed surveys were undertaken on the A52 to the east of the village, to the west of the village, and through Commonside.

3.3.3 In addition, hand-held radar surveys were undertaken within the village to the east and west of the A52 junction with Luke Lane/The Green.

3.3.4 The locations of these surveys are included with the traffic and speed data in Appendix B; the results of the speed analysis are summarised as Appendix C to this report.

3.3.5 In terms of methodology, TA 22/81 'Vehicle Speed Measurement on National Roads' is national guidance that should be followed to undertake the appropriate speed calculation exercise.

3.3.6 Appendix 4 of that guidance provides a general checklist for speed measurements and states that a set of readings must include a minimum of 200 vehicles; that the preferred times for readings are 10:00-12:00 and 14:00-16:00; and that generally, a speed assessment should be made outside of peak periods on weekdays, and during "free flow" conditions.

3.3.7 The speeds calculated for speed limit purposes should be 'dry weather' 85th percentile speeds, whilst for carriageway alignment and/or junction improvements (or new junctions), the speeds calculated should be 'wet weather' 85th percentile speeds.

3.3.8 In order to determine the latter, if speed data is obtained during generally dry weather conditions, a deduction of 4kph (2.5mph) is made to speed data from single carriageway roads, with a deduction of 8kph (5mph) made to data from dual carriageway roads.

3.3.9 Our analysis in Appendix C includes traffic flows and speeds for the above time periods (as per guidance), but also shows an assessment taking into account the entire week's worth of count data, for comparison purposes only.

3.3.10 It should be noted that for the period surveyed, the road conditions were generally dry; weather data for the nearest weather station (Battersea Park Way, Derby) is also provided in Appendix C. The hand-held radar survey states that the road surface was dry at the time of the survey and this is supported by the weather data.

3.3.11 To the west of the village, through Commonside, the speed limit is 50mph; the calculated wet weather speeds in this location are as follows:

- TA22/81 – 85th percentile westbound = 49.1mph, eastbound = 48.0mph;
- 7-day – 85th percentile westbound = 49.5mph; eastbound = 49.5mph;
- 7-day – Average westbound = c.45mph; eastbound = c.44.5mph.

3.3.12 At the western entry to/exit from the village, the speed limit changes between 30mph and 50mph; the calculated wet weather speeds in this location are as follows:

- TA22/81 – 85th percentile westbound = 40.8mph, eastbound = 36.7mph;
- 7-day – 85th percentile westbound = 42.5mph; eastbound = 39.5mph;
- 7-day – Average westbound = c.37mph; eastbound = c.32mph.

3.3.13 At the eastern entry to/exit from the village, the speed limit changes between 30mph and 50mph; the calculated wet weather speeds in this location are as follows:

- TA22/81 – 85th percentile westbound = 32.3mph, eastbound = 33.3mph;
- 7-day – 85th percentile westbound = 33.5mph; eastbound = 34.5mph;
- 7-day – Average westbound = c.29mph; eastbound = c.30.5mph.

3.3.14 Within the village, the speed limit is 30mph; the calculated wet weather speeds in this location are as follows:

- West of Luke Lane:
  - 85th percentile westbound = 34.5mph, eastbound = 32.5mph;
  - Average westbound = 30.5mph; eastbound = 28.5mph.
- East of Luke Lane:
  - 85th percentile westbound = 34.5mph, eastbound = 32.5mph;
  - Average westbound = 30.1mph; eastbound = 28.1mph.

3.3.15 Typically, 85th percentile speeds along a road will be higher than the posted speed limit.

3.3.16 In this instance, through Commonside, they are very slightly below the speed limit and average speeds are 10% below the speed limit.

3.3.17 At the western entry to/exit from Brailsford village, the 85th percentile speeds are typical of what might be expected; whilst at the eastern entry to/exit from Brailsford village, the 85th percentile speeds are slightly below what might be expected.

3.3.18 The average speeds in both locations are at or below the prevailing speed limit for the relevant direction of traffic flow.

3.3.19 Within the village, the 85th percentile speeds in each direction are slightly below what might be expected, whilst average speeds in each direction are at or below the posted speed limit.

3.3.20 Therefore, the results of the speed surveys indicate that there is not a speeding issue along the A52 within, or on the approaches to, Brailsford village.

3.3.21 In terms of the difference in traffic speeds between the western and eastern entries to/exits from the village, it is possible that the additional rumble strips and 'dragons teeth' road markings to the east of the village reduce traffic speed more significantly than on the approach to the west of the village.

3.3.22 In addition, the eastern entry to/exit from the village is much more visually enclosed, by existing hedgerow and trees, than on the western side of the village where there is a significant width of open verge along the southern side of the A52 and, even on the northern side of the A52, the footway is set back from the carriageway behind another narrower section of verge.

4.0 HIGHWAY SAFETY

4.1 Personal Injury Accident Data

4.1.1 Personal Injury Accident (PIA) data has been obtained from Derbyshire Constabulary for the latest five-year period available, which is between 1st September 2010 and 31st August 2015, for Luke Lane and the A52 (between Ednaston and the eastern edge of Brailsford).

4.1.2 The PIA data is included as Appendix D to this report.

4.1.3 A summary of the accidents is provided in Table 2 below.

Table 2 – PIAs in/around Brailsford – 1st Sept 2010 to 31st Aug 2015

Location	Severity				Of Which	
	Sl	Ser	Ftl	Tot	Ped	Cyc
Junctions						
Luke Lane/A52	1	-	-	1	-	-
Luke Lane/The Green	-	-	-	-	-	-
A52/Slack Lane	1	-	-	2	-	-
A52/Derby Lane	5	1	1	7	-	-
Links						
Luke Lane	1	-	-	1	-	-
A52 east of Luke Lane	3	2	-	5	1	-
A52 west of Luke Lane	2	3	1	6	-	1
Derby Lane	1	-	-	1	-	-
Total	**14**	**6**	**2**	**22**	**0**	**1**

Notes: Sl are accidents classified as Slight, Ser are serious accidents and Ftl are fatal accidents.
Ped are pedestrians and Cyc are cyclists.

4.1.4 In total, 22 PIAs have been recorded on the local highway network in the latest five year period.

4.1.5 Of these, 14 were classed as slight in severity, six were classed as serious and two were fatal.

4.1.6 In respect of the fatal accidents, one occurred at the Derby Lane junction with the A52 whilst the other occurred on the A52 adjacent to Commonside Farm.

4.1.7 The Derby Lane junction accident occurred when a vehicle overtook another that was stationary and collided with an oncoming vehicle; whilst the fatal accident on the A52 adjacent to Commonside Farm involved a single vehicle as it negotiated the bend.

4.1.8 Further interrogation of the Crashmap website indicates that, prior to 2010, there have been a further three fatal accidents on the A52 to the west of Brailsford either approaching or through Commonside.

4.1.9 These consisted of a single vehicle accident in November 2005, a single vehicle accident in July 2006 and a two vehicle accident in July 2009.

4.1.10 Six serious accidents have also occurred at six separate locations along the A52 in the latest five year period, four of which involved two or more vehicles, one of which involved a single vehicle and a pedestrian, and one of which involved a single vehicle and a pedal cyclist.

4.1.11 In terms of accident clusters, the A52 junction with Derby Lane has seen seven accidents in the latest five year period; the majority of these involved two or more vehicles, whilst three accidents involved an overtaking manoeuvre.

4.1.12 Four of the accidents involved vehicles making turning movements at the junction, with three turning right into Derby Lane and one turning right out of Derby Lane.

4.1.13 On site observations have shown that visibility at the junction is good, however speeds on the A52 in this location are likely to be high as a result of the good visibility, combined with the topography and straight alignment of the A52 past the junction (particularly down the hill from the west).

4.1.14 It is worth noting that causation factors are not provided by Derbyshire Constabulary.

4.1.15 In respect of the frequency of accidents and relating that to traffic flow on the A52 itself, Table 3 below details a comparison of the AADF between 2005 and 2015 (the latest year of AADF data available).

Table 3 – A52 AADF Data (two-way traffic volumes) and Accidents

Year	AADF	Number of Accidents
2005	10,878	5
2006	11,535	10
2007	11,499	2
2008	11,141	6
2009	10,969	7
2010	10,833	1
2011	11,149	1
2012	10,932	2
2013	10,848	8
2014	11,096	5
2015	11,109	5

4.1.16 Although it is widely accepted that only the latest three or five years of accident data is required for analysis, the comparison in Table 3 suggests that there is no direct correlation between increased traffic flows on the A52 and an increase in the number of accidents on the A52 in and around Brailsford since 2005.

4.1.17 It might normally be expected that as traffic flows rise, accident rates will also rise; however, there are also likely to be other factors at play here, including the provision of traffic-calming signage, lining and other measures along the A52 that could have materially affected the accident rates in and around Brailsford.

4.2 Unrecorded Accidents and 'Near Misses'

4.2.1 It is recognised that there are likely to be unrecorded 'collision only' accidents in and around Brailsford, plus a number of 'near misses' that residents may experience from time to time.

4.2.2 However, it is not possible to take account of these formally in any analysis; any technical assessment of accident records and how these relate to highway safety on any road or junction must relate to recorded injury incidents in order to provide an effective and comparable assessment across all locations.

4.2.3 This was highlighted in the Appeal Decision for the (previously mentioned) Baldwins Gate site on the A53 in Staffordshire, where the Appeal Inspector stated in paragraph 45:

"The A53 through Baldwin's Gate is a primary route, albeit not a trunk road. It is heavily trafficked but the accident record does not appear to be unusually high for a village of this type. Residents pointed to a number of unrecorded traffic incidents and the ensuing disruption which they caused but to take undue account of 'unofficial' statistics would not allow a fair comparison to be made nationally."

5.0 COMMITTED AND FUTURE DEVELOPMENT IMPACTS

5.1 Committed Developments

5.1.1 In terms of committed developments, there are two sites within Brailsford that are technically committed in planning terms; these are the Miller Homes residential development (50 dwellings) and the relocation of Brailsford C of E school, both of which are on the western side of Luke Lane.

5.1.2 In terms of traffic flows, these can be taken from the TA report submitted for both sites.

5.1.3 The residential development of 50 dwellings is predicted to generate some 35 AM peak hour and 37 PM peak hour vehicle movements (two-way); whilst the school is predicted to generate some 92 AM peak hour and 9 PM peak hour vehicle movements (two-way).

5.1.4 The vast majority of these trips would impact on the Luke Lane junction with the A52.

5.1.5 The traffic flows associated with these developments are shown on Figures 5.1 and 5.2.

5.2 Future Developments

5.2.1 Although not technically committed at this stage, a planning application has been submitted and is yet to be determined for 367 residential dwellings, a mixed use centre (community facilities/local retail units) and 8 hectares of employment land on the Ashbourne Airfield site.

5.2.2 In terms of traffic flows, these can again be taken from the TA report submitted for the site; the proposal would increase traffic flows along the A52 during the morning and evening peak hours by 130 vehicles in the AM peak hour and 77 vehicles in the PM peak hour (two-way).

5.2.3 The traffic flows associated with the Ashbourne Airfield site are shown on Figure 5.3

5.2.4 In addition to the above, it is understood that further residential development is likely to come forward off Luke Lane in the near future, with potentially an additional 30 dwellings to the rear of the school, plus 75 dwellings to the east of Luke Lane.

5.2.5 Brailsford PC has also advised that Gladman have consulted them on an additional 75 dwellings, with access to be taken directly from the A52 to the west of the village.

5.2.6 The traffic flows associated with all of these developments are shown on Figures 5.4 to 5.6; it should be noted that the traffic generation and distribution associated with these potential residential sites have been based

on the agreed parameters from the approved Miller Homes and School assessments.

5.3 Development Impacts

5.3.1 As indicated in Chapter 2, observations of the A52 junctions with Luke Lane and The Green indicate that the junction currently operates within capacity during the morning and evening peak hours.

5.3.2 On average, low levels of queueing and delay were observed, with some spikes in queues and delays that primarily result from right-turning HGV traffic on both the A52 and Luke Lane.

5.3.3 In terms of the likely impact of the above developments, the TA report for the Miller Homes residential development and the relocated primary school indicated that there would be spare capacity in the junction in the 2018 design year with both developments operational.

5.3.4 This report considers the impact of these developments for a design year of 2021 and applies appropriate background traffic growth to the 2016 flows, as shown on Figure 5.7; the traffic flows with the additional development in place are shown on Figure 5.8.

5.3.5 It should be noted that it is generally accepted that a Ratio of Flow to Capacity (RFC) of around 0.85 is considered to represent a junction operating within capacity and an RFC of 1.00 or above is considered to represent a junction operating at (or over) capacity.

5.3.6 However, the RFC is not the only consideration; junction queues and delays are also considered to be important.

5.3.7 Prior to setting out the results of the capacity analysis at the A52/Luke Lane junction, it should be noted that we would expect the junction to operate within capacity in 2021, but much closer to operational capacity, for the reasons given below.

5.3.8 Firstly, the profiles of traffic along both the A52 and Luke Lane during the peak hours are relatively flat and would not be expected to change, other than for the school development which would likely compress the arrivals and departures (for that element) into a half-hour period in the morning peak hour – please note that we have modelled this profile for the school directly.

5.3.9 As indicated earlier in this report, the flatter the traffic profile, the more likely it is that a priority junction will operate within capacity as any queues that do form tend to clear before additional traffic hits the junction and is required to give-way (subject to total traffic flow on the main road, as this affects gap availability and gap acceptance).

5.3.10 The second reason relates to the modelling of junctions, as they work on ‘mean’ (or average) values – traffic flows, queues, delays, etc. – but

generally using only a single day of 'neutral' traffic flow data, as per national guidance.

5.3.11 This is particularly important when relating the modelling results to conditions observed on-street during the peak periods and is summarised in an extract below by the software developers (TRL) as follows (please note that this technical response relates to queue observations):

"Measuring queues seems to be the obvious way of checking a model, because queue lengths are one of the main outputs from the programs. In fact some traffic engineers, and their customers, insist on such checks being carried out. If so, they should understand the implications of what they are doing. Apart from the practical difficulties of measuring mean queues over successive time intervals there are also mathematical problems to consider.

During peak periods (when the flow/capacity ratios are high) there is a large daily variation in queue lengths even if the average flow for each time segment does not vary from day to day. To take a typical example, a mean queue of 26 pcu would be derived from queues which varied between 5 pcu and 50 pcu from day to day. In fact, on 1 day in 20 the queue would be outside even this large envelope of possible values.

So you can see that many days of queue measurements would have to be taken to obtain a reliable estimate of mean queues. The junction model predictions are based on an infinite number of days!"

(Extract taken from https://trlsoftware.co.uk/support/knowledgebase/articles/131)

5.3.12 As a result, it would be expected that the operation of the Luke Lane junction would show a small amount of spare capacity during peak periods, on average; clearly, under such a scenario, this would include periods when the junction would operate over capacity and periods when there would be a more significant amount of spare capacity in the junction.

5.3.13 In terms of the modelling, this is set out in detail in Appendix E, with Table 4 (overleaf) detailing the results.

Table 4 – PICADY Analysis – A52/Luke Lane Priority Junction

Approach Arm	AM peak			PM peak		
	RFC	Queue	Delay	RFC	Queue	Delay
2016 Base						
Luke Lane	0.52	1	18	0.39	1	14
A52 (E) Right-turn	0.26	1	7	0.38	1	7
2021 Base						
Luke Lane	0.58	1	21	0.44	1	15
A52 (E) Right-turn	0.30	1	7	0.45	2	8
2021 Base + Expected Development						
Luke Lane	0.84	5	61	0.61	2	25
A52 (E) Right-turn	0.41	2	8	0.69	5	13

RFC – Ratio of Flow to Capacity, Mean Max Queue – Passenger Car Unit (PCU), Delay – Seconds per PCU

5.3.14 As expected, the modelling of the junction shows that there is some spare capacity in the AM peak hour, with Luke Lane indicating an RFC of 0.84 and delay of 61 seconds per PCU.

5.3.15 There is more spare capacity in the PM peak hour, with an RFC of 0.61 and delay of 25 seconds per PCU on Luke Lane; whilst the A52 right-turn shows an RFC of 0.69 and delay of 13 seconds per PCU.

5.3.16 It is important to note that the final scenario is with all of the expected development (as identified in section 5.2) in place and the associated traffic on the highway network.

5.3.17 In terms of incremental impacts, each development would introduce a small amount of additional queueing and delay to the junction; however, Table 4 shows the cumulative impact of the developments, if they were all to come forward within the next five years.

5.3.18 It is also worth bearing in mind that the relevant test when considering the transport impacts of an individual development is Paragraph 32 of the NPPF, which states:

"32. All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- *the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
- *safe and suitable access to the site can be achieved for all people; and*
- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development*

should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."

5.3.19 Given that the Luke Lane junction shows, on average, a small amount of spare capacity when modelled, it is likely that the residual cumulative impact of each individual committed/expected development would not be considered to be "severe" in this instance.

6.0 POTENTIAL IMPROVEMENTS AND RECOMMENDATIONS

6.1 Traffic Calming

6.1.1 As detailed in Chapter 3, the traffic speeds on the approach to Brailsford and through the village itself are not excessive given the prevailing speed limits.

6.1.2 Therefore, the implementation of a traffic calming scheme to address an existing speeding issue would not be justified.

6.1.3 Further to this, it is our view that the LHA would not accept traffic calming measures along the A52 (either vertical or horizontal) due to the nature of the road as a distributor route; given the significant daily volumes of traffic (including HGVs), this would be highly likely to create significant long-term maintenance issues.

6.1.4 Even if LHA support could be achieved, a traffic calming scheme through the village would materially impact on the lives of existing residents in terms of environmental impacts, such as noise, vibration and pollution. Therefore, it is unlikely to be favourably received once the wider impacts of such a scheme are taken into account.

6.1.5 In terms of highway safety, although the data in Chapter 4 demonstrates that there have been a number of accidents along the A52 to the east and west of Brailsford Village, there have only been a limited number within the built-up area/30mph zone; as such, it is not considered necessary to address a highway safety issue through the implementation of a traffic calming scheme.

6.2 Entry Features

6.2.1 As stated in Chapter 2, the existing 'gateway' entry features for Brailsford Village are not consistent in terms of their provision, with only the eastern feature having rumble strips and 'dragons teeth' road markings on the approach alongside the countdown markers to the change in the speed limit.

6.2.2 In both locations, the reflective marker posts are in poor condition and, in some cases, are no longer in an upright position or have been dislodged from their original position completely.

6.2.3 Therefore, we would recommend that the gateways are improved to provide a more visible and appropriate entry into the village from both sides; this would generally involve replacing/upgrading all of the reflective marker posts, providing new/upgraded road surface markings such as the speed roundels and potentially different coloured surfacing, plus replacement rumble strips.

6.2.4 To the west of the village, we would recommend that new rumble strips and 'dragons teeth' road markings are provided alongside the countdown markers to provide consistency across both approaches to the village; there

are no residential properties that would be materially impacted by the rumble strips, therefore we would not expect any objections (due to noise impacts) to such a proposal from local residents.

6.2.5 In addition to the above, the Brailsford Village signs could be replaced by a more substantial proposal that would visibly narrow the approach to the village from each side; this would be particularly important to the west of the village as there is significant verge depth on both sides.

6.2.6 Proposals can include actual gates on each side of the carriageway, or in some cases brick/masonry features.

6.2.7 It should be noted that any proposals in these locations would be subject to detailed discussion and agreement with the LHA, as well as confirmation of the extent of adopted highway land alongside the A52.

6.2.8 An example of such a proposal is shown in the photograph below, which is taken from Google Streetview for the village of Dry Drayton near Cambridge.

Photo 3 – Dry Drayton

(Source: Google Streetview)

6.2.9 The central refuge shown above could also be a further feature that could reduce traffic speeds and overtaking manoeuvres on the approaches to the village; the A52 is wide on both approaches to the village, however this would require a detailed design that demonstrates large HGVs could safely pass the refuge in both directions.

6.2.10 To the west of the village, it was noted that the reflective marker posts at the bend within Commonside are also in a poor condition; these should also be replaced as part of an improvement scheme for the village (see photograph overleaf).

Photo 4 – Reflective Marker Post (Commonside)

6.3 Footway Improvements

6.3.1 As detailed in Chapter 2 and shown on Figure 2.1/within Appendix A, there is a significant amount of soil creep evident throughout the village.

6.3.2 Figure 6.1 demonstrates that improvements to the footways, in terms of removing the soil creep and then providing improved edging kerbing at the back of footway (to reduce future intrusion), could significantly improve the pedestrian provision within the village and, in turn, reduce the fear/intimidation that is likely to be experienced by residents walking alongside the A52 on a daily basis.

6.3.3 Under such proposals, the vast majority of the village would have acceptable footway provision.

6.3.4 It should be noted that although soil creep is considered to be a long-term maintenance issue, there have been significant cuts in public spending in recent years, with the Local Authority having identified further cuts to highway maintenance of £1.5m in 2016/17 and a further £1.65m in 2017/18.

6.4 Vehicle Activated Signs

6.4.1 As indicated in Chapter 2, there is an existing Vehicle-activated Sign towards the eastern edge of the village that does not appear to be working at present; we have queried this with the LHA but have not received a response at the time of writing this report.

6.4.2 A TRL report (TRL548) *'Vehicle-activated signs – a large scale evaluation'*, written for the Road Safety Division of the Department for Transport in 2002, concluded the following:

- *"Clearly, drivers can be influenced to reduce speed when they are specifically targeted, with fixed signs alone likely to have less effect.*
- *Vehicle-activated signs appear to be very effective in reducing speeds; in particular, they are capable of reducing the number of drivers who exceed the speed limit and who contribute disproportionately to the accident risk, without the need for enforcement such as safety cameras.*
- *Vehicle-activated signs can be operated at thresholds well below normal police enforcement levels.*
- *There is no evidence that in time, drivers become less responsive to the signs, even over three years.*
- *Operating costs are also low."*

6.4.3 Although Brailsford Village has an existing Vehicle-activated Sign that can be moved between two locations (at the eastern and western edges of the village); our view is that having two Vehicle-activated Signs operational at all times, with the potential to reduce the observed 85th percentile wet-weather speeds through the village even further towards the prevailing speed limit of 30mph, would provide a material benefit to all drivers and residents within Brailsford.

6.4.4 Therefore, we would recommend that discussions are held with the LHA to identify two further locations within the confines of the village where additional Vehicle-activated Signs can be located to ensure that speeds remain as low as feasible through the village in the future.

6.4.5 At this stage, the two locations that appear to be the most suitable are the existing verge between the carriageway and footway on the approach to the junctions of the A52 with Luke Lane and The Green; and at the back of footway adjacent to the existing commercial units on the southern side of the A52, adjacent to the Brailsford Institute.

6.4.6 It should be noted that this provision is not guaranteed, on the basis that the implementation of any Vehicle-activated Signs would need to be in accordance with the LHA Technical Guidance Note, which is provided as Appendix F to this report.

6.4.7 On the basis of the content of the note, it is possible that the two additional Vehicle-activated signs within the village would be Mobile sites (temporary), albeit this would allow the two signs to be moved between the four locations in the future.

6.4.8 Further discussions with the LHA could also determine whether an exception could be made to facilitate a permanent site within the village, should post-implementation surveys indicate a significant benefit.

6.4.9 Notwithstanding the above, in our view the accident data on the A52 provides a strong case for permanent Vehicle-activated Signs on the bend through Commonside, and also at the junction of the A52 with Derby Lane.

6.4.10 The bend through Commonside has seen six PIAs in the previous five years, including two serious accidents and one fatal accident; although technically this would not meet the LHA guidance in Appendix F (which requires six injury collisions in the previous three years), our view is that the severity of accidents here would justify a request for permanent 'hazard warning' Vehicle-activated Signs on both the eastbound and westbound approaches to the bend.

6.4.11 We would recommend that the westbound sign replaces the existing road warning sign TSGD 512 ('Bend Ahead') so as to reduce duplication and clutter, whilst also giving the new Vehicle-activated sign more prominence.

6.4.12 At the A52 junction with Derby Lane, there have been seven PIAs between August 2013 and May 2015, including a serious and a fatal accident; therefore, this location meets the criteria detailed in Appendix F.

6.4.13 However, whilst we would ordinarily recommend making a request for permanent 'hazard warning' Vehicle-activated Signs on both the south-eastbound and north-westbound approaches to the junction, in accordance with TSGD 506.1 ('Side road ahead'); it should be noted that following recent correspondence with the LHA in respect of the A52 and safety along its entire length, the LHA has advised that they have received funding to implement an improvement scheme at the A52/Derby Lane junction.

6.4.14 The email correspondence is provided as Appendix G to this report and confirms that £200,000 of funding was secured in April to widen the junction, incorporate a right-turn lane facility, plus other associated improvements.

6.4.15 The LHA has also recognised that the relocation of statutory undertakers equipment may increase the cost, and therefore may impact on the budget available to deliver a junction improvement here.

6.4.16 Taking into account the above, it is therefore unlikely that a Vehicle-activated Sign proposal would be implemented in this location in the near future; however, there are two further possibilities that could be explored.

6.4.17 Firstly, funding for a Vehicle-activated Sign scheme could be requested to be held for a later date (e.g. a bond over a ten-year period, for example), should the improvement scheme not have the desired effects in terms of the safety of the A52/Derby Lane junction (as also suggested by the LHA).

6.4.18 The second option is to request that developers enter into discussions with the LHA in respect of the proposed junction improvement at the A52/Derby Lane, and (subject to being fairly and reasonably related to the development) discuss meeting any funding shortfall to deliver the LHA's desired junction layout.

6.4.19 The LHA has acknowledged that there is the potential for the £200,000 funding to be lower than the cost of implementing the most suitable and desirable junction in this location; it would therefore be a sensible approach to discuss these proposals with developers in the area in order to achieve the best solution long-term.

6.4.20 As detailed in Appendix F, if in future any new Vehicle-activated signs were determined to be low priority for installation at the County Council's expense, the installation and long-term maintenance can be funded by outside parties (such as the Parish Council, or via a request for developer contributions).

6.5 Pedestrian Crossings

6.5.1 Although there is an existing signalised pedestrian crossing within the village (next to the entrance to the existing primary school), given that the school is moving to Luke Lane it is considered that a further pedestrian crossing location could be identified within the village to assist with movements across the A52.

6.5.2 It is likely, subject to detailed design considerations and confirmation in respect of forward visibility and any conflicts with private driveways/access points, that a suitable pedestrian crossing facility could be delivered in the vicinity of the Luke Lane junction with the A52.

6.5.3 Our view is that this is likely to be the most appropriate location for a new pedestrian crossing facility within the village, both for schoolchildren and also future residents on Luke Lane crossing to/from the local facilities to the south of the village.

6.5.4 In addition, depending on the eventual location of the pedestrian crossing, with appropriate road markings at the Luke Lane junction (such as 'Keep Clear' box junction markings) there is the potential for the crossing facility to improve the operation of the Luke Lane approach to the A52 during peak periods when the crossing is called, as it will provide an additional gap for right-turning vehicles to exit Luke Lane onto the A52.

6.6 Recommendations

6.6.1 Figures 6.1 and 6.2 show the overall scheme of potential improvements for Brailsford.

6.6.2 We would consider it both fair and reasonable to request that such highway improvement proposals are delivered via developer contributions, or

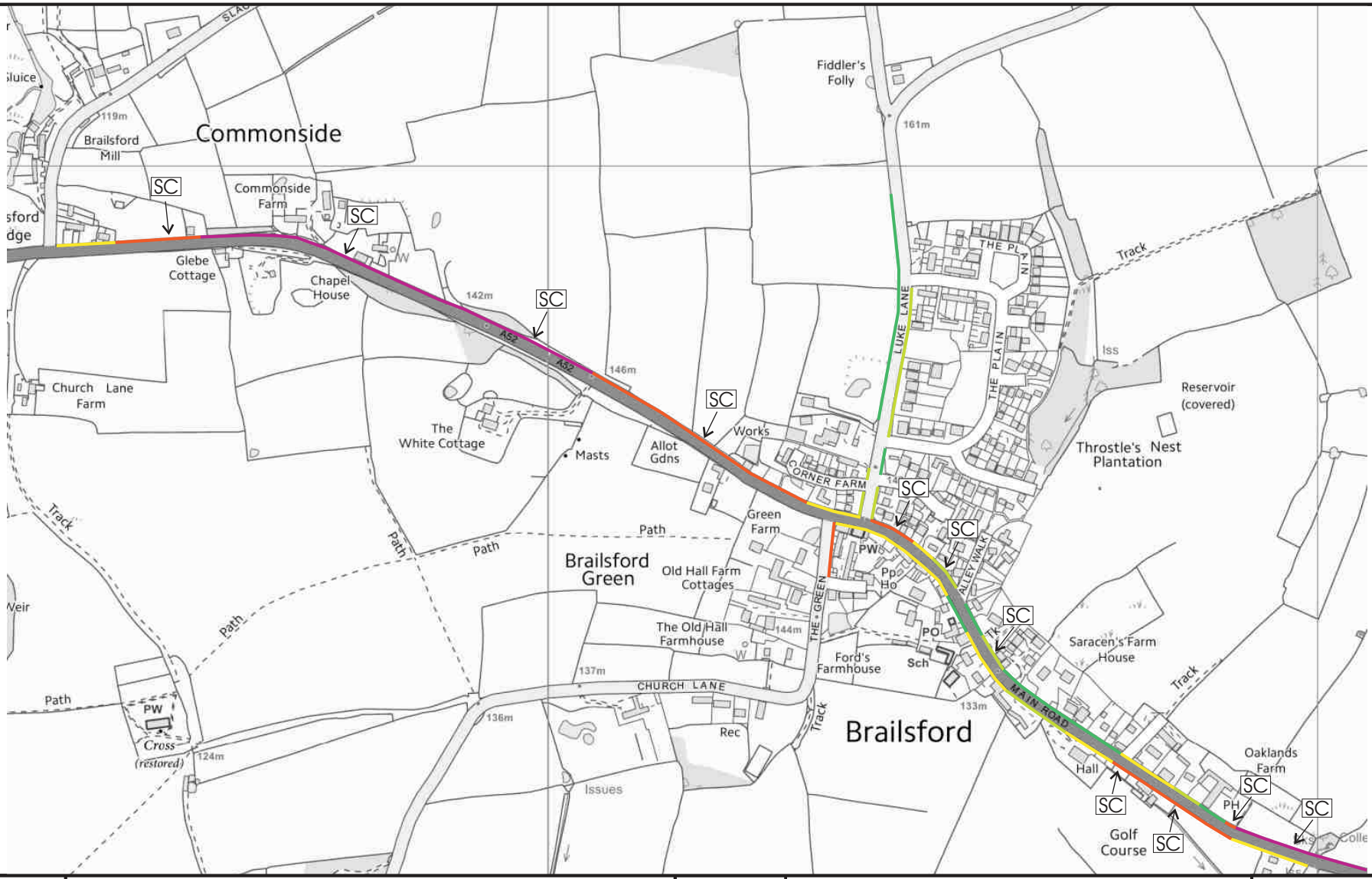
developer-led scheme designs and implementation. They are fairly related to the likely impacts of new development coming forward within Brailsford.

6.6.3 Indeed, given public spending cuts over the next few years, this is likely to be the most suitable and appropriate way of delivering these proposals.

6.6.4 It is important to note that the proposals would be subject to detailed discussion with the local authority (both the Planning Authority and the LHA).

6.6.5 It should also be noted that they could be delivered either via a suitably-worded condition and then Section 278 agreement design and implementation (by the developer); or via a Section 106 agreement, with the LHA designing and implementing the works via an agreed cost mechanism.

FIGURES



Project	Brailsford
Project No	T16512
Figure	2.1
Title	Footway Assessment
Date	5th April 2016

Key

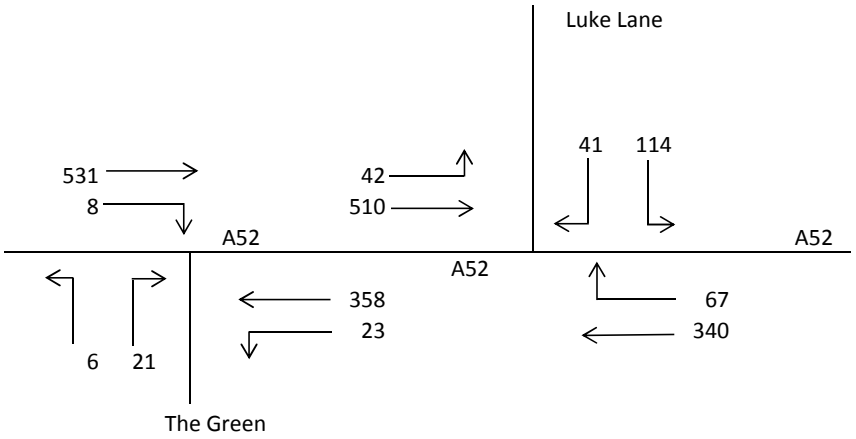
General Footway Width

- >1.8m
- 1.5m to 1.8m
- 1.2m to 1.4m
- 0.9m to 1.1m
- <0.9m

SC Soil Creep

T16512
Brailsford

2016 AM Peak Base Flows (Total Vehicles)
08:00-09:00



2016 PM Peak Base Flows (Total Vehicles)
17:00-18:00

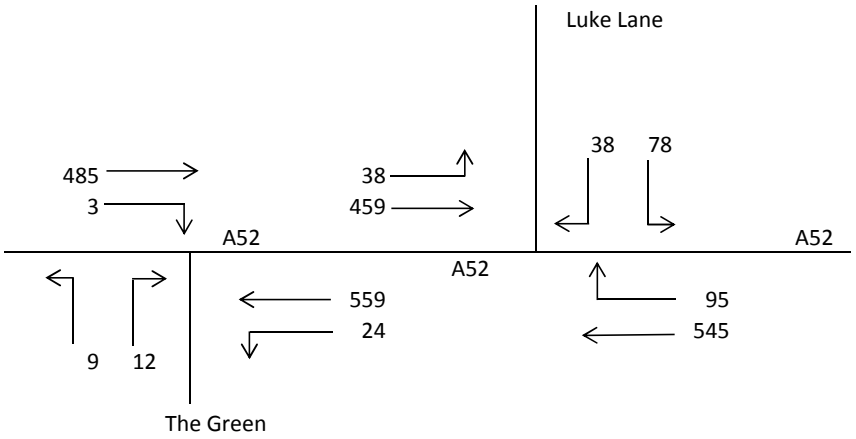
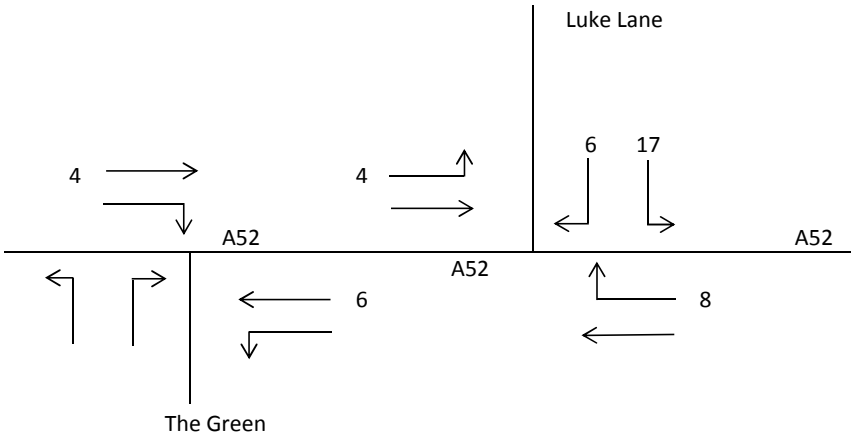


FIGURE 3.1

T16512
Brailsford

Miller Homes - 50 dwellings
08:00-09:00



Miller Homes - 50 dwellings
17:00-18:00

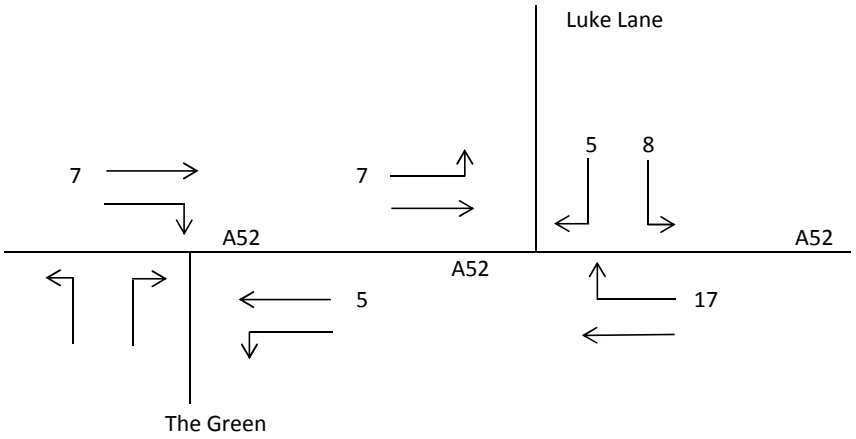
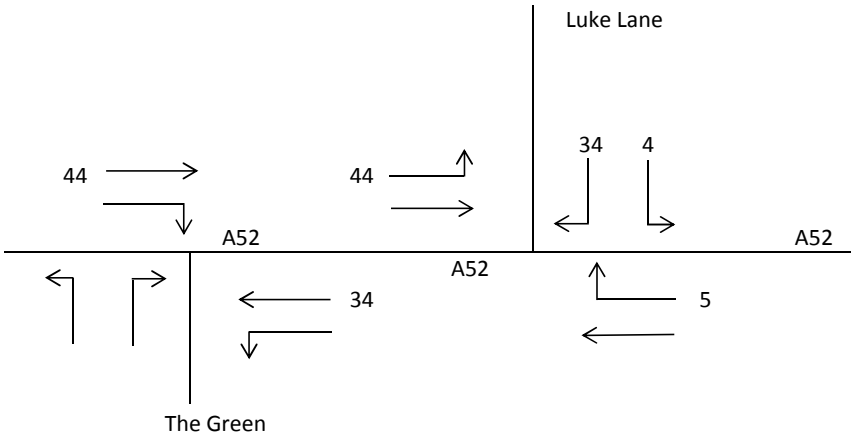


FIGURE 5.1

T16512
Brailsford

Miller Homes - School
08:00-09:00



Miller Homes - School
17:00-18:00

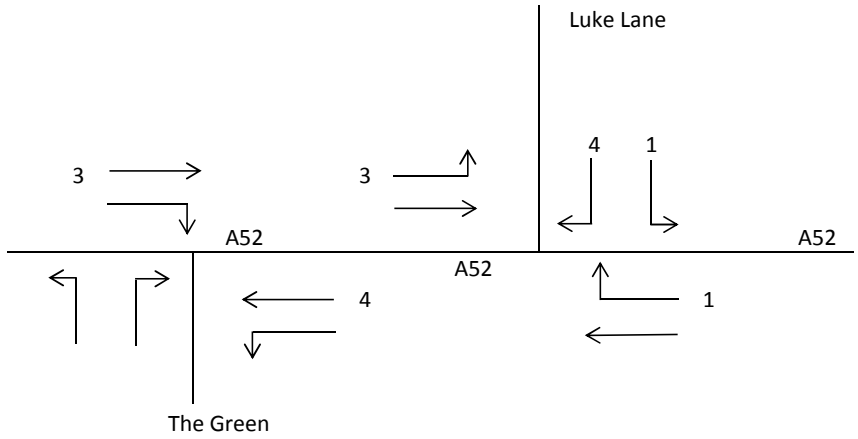
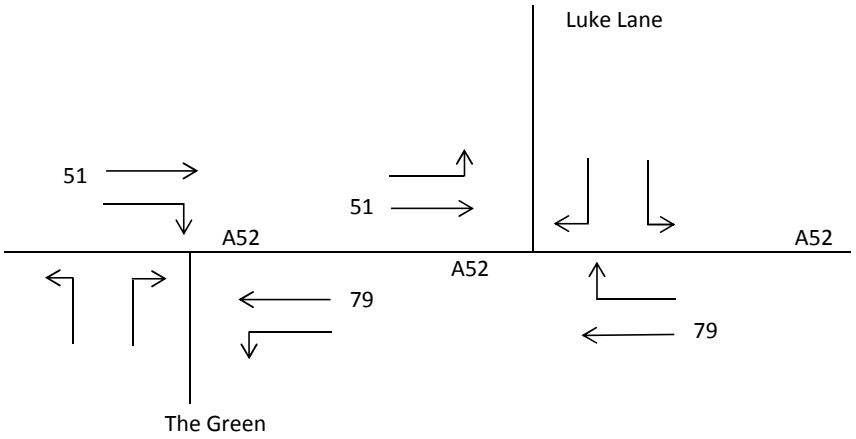


FIGURE 5.2

T16512
Brailsford

Ashbourne Airfield
08:00-09:00



Ashbourne Airfield
17:00-18:00

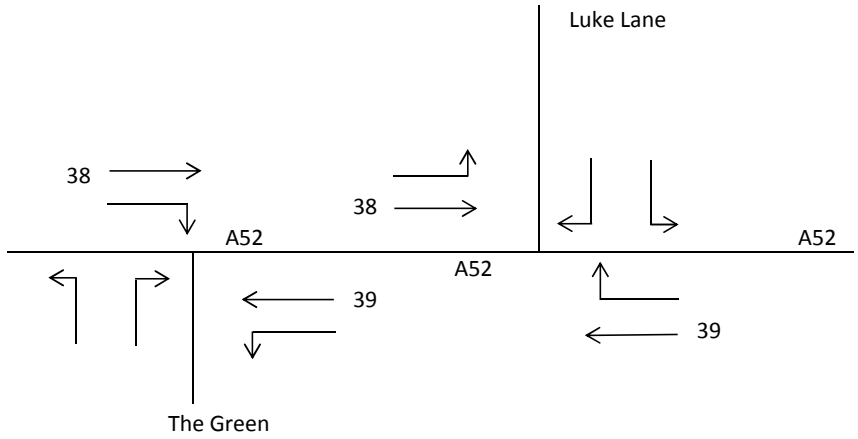
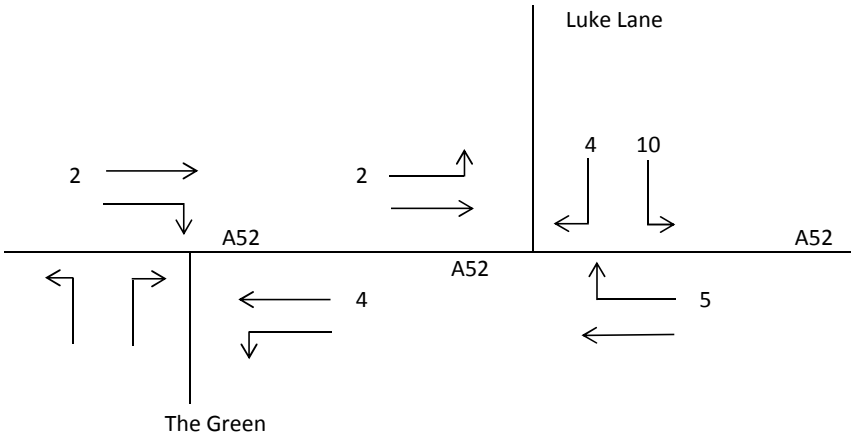


FIGURE 5.3

T16512
Brailsford

Luke Lane - 30 dwellings
08:00-09:00



Luke Lane - 30 dwellings
17:00-18:00

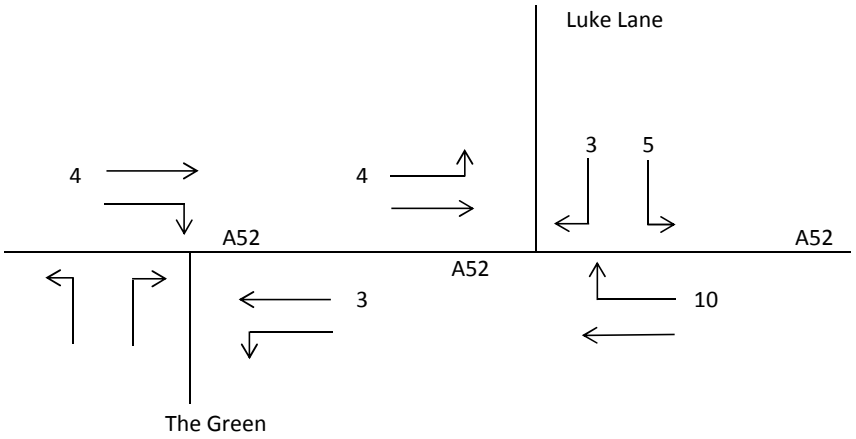
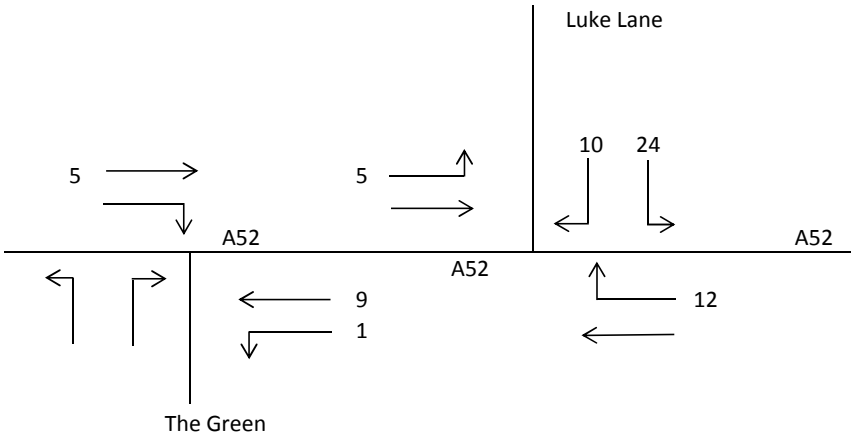


FIGURE 5.4

T16512
Brailsford

Luke Lane - 75 dwellings
08:00-09:00



Luke Lane - 75 dwellings
17:00-18:00

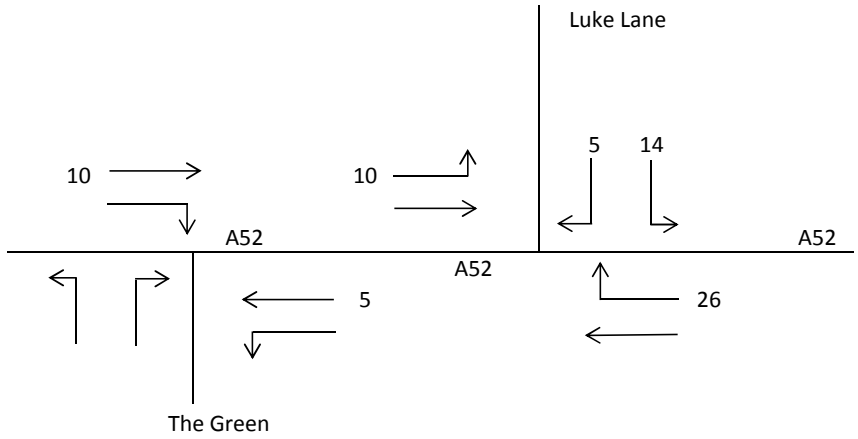
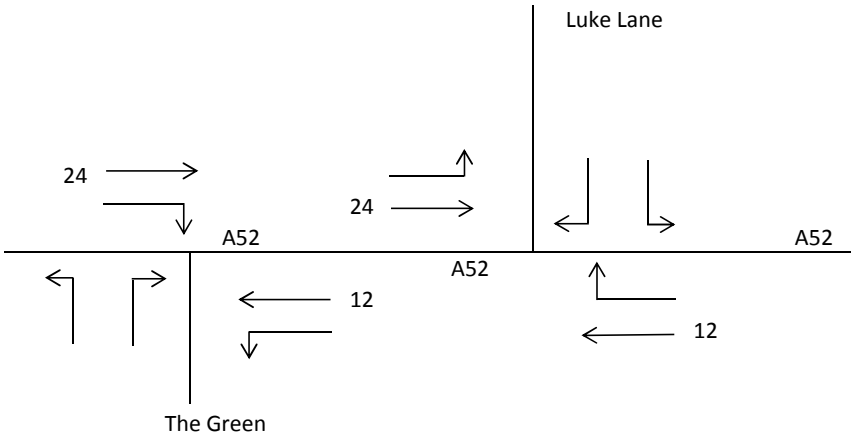


FIGURE 5.5

T16512
Brailsford

A52 - 75 dwellings
08:00-09:00



A52 - 75 dwellings
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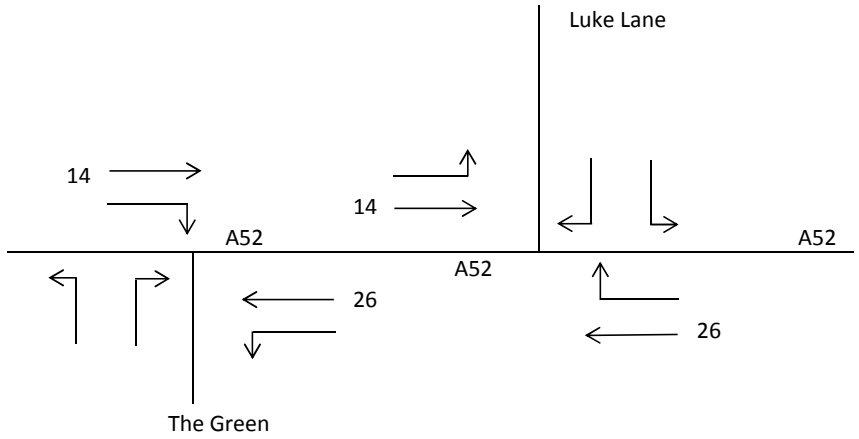
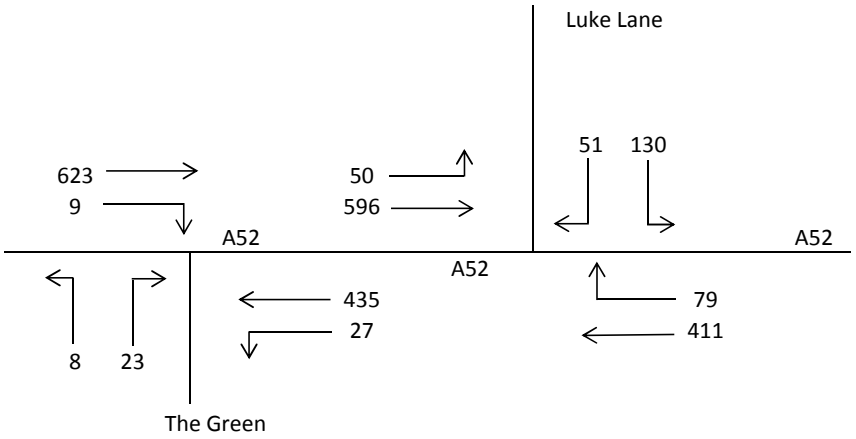


FIGURE 5.6

T16512
Brailsford

2021 AM Peak Base Flows (PCUs)
08:00-09:00



2021 PM Peak Base Flows (PCUs)
17:00-18:00

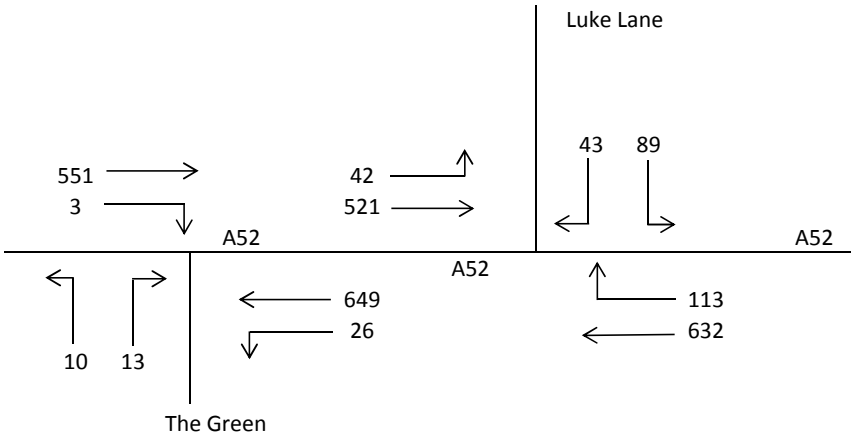


FIGURE 5.7

T16512
Brailsford

2021 AM Peak Base + Expected Development (PCUs)
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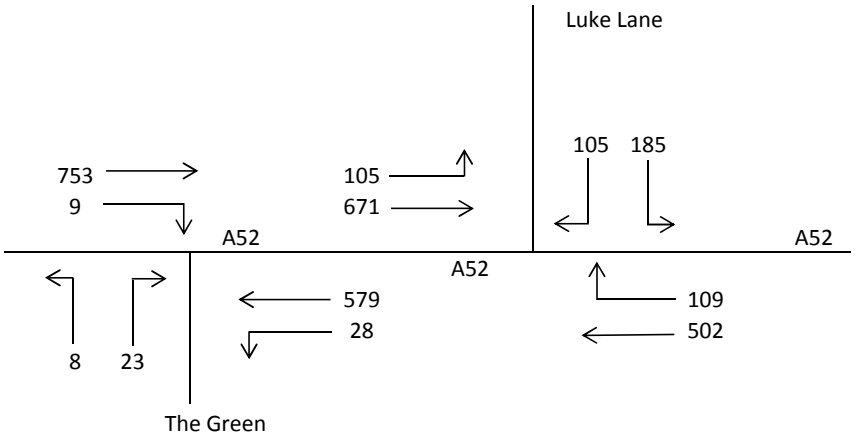


2021 PM Peak Base + Expected Development (PCUs)
17:00-18:00

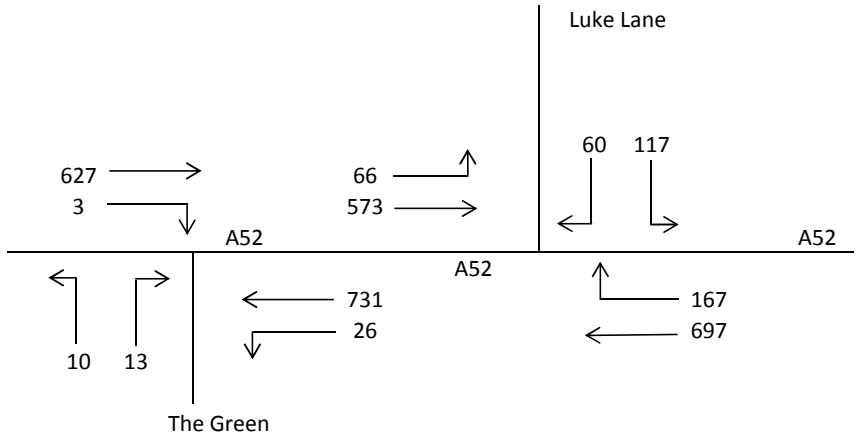
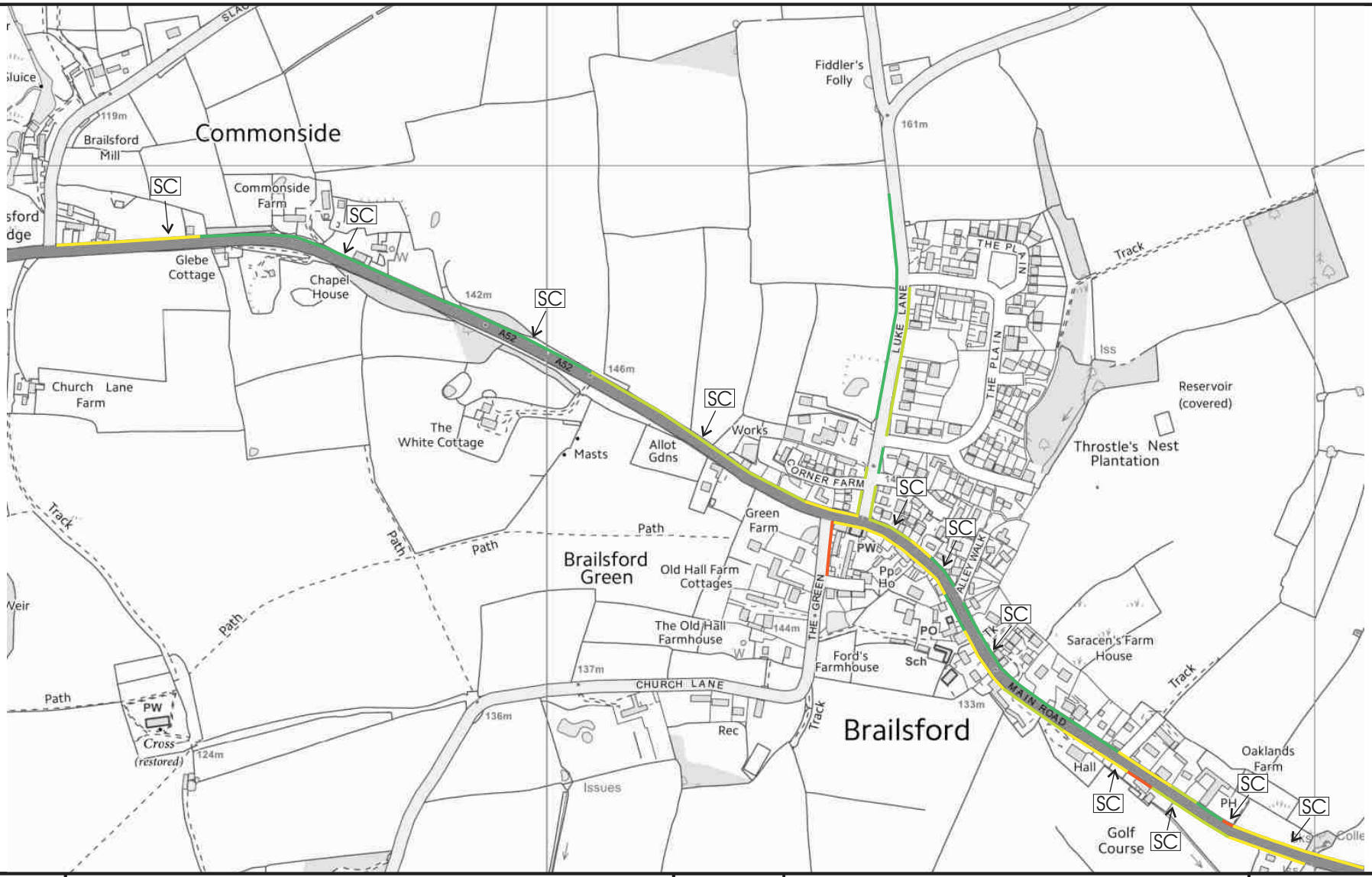


FIGURE 5.8



Project	Brailsford
Project No	T16512
Figure	6.1
Title	Potential Footway Widths
Date	5th April 2016

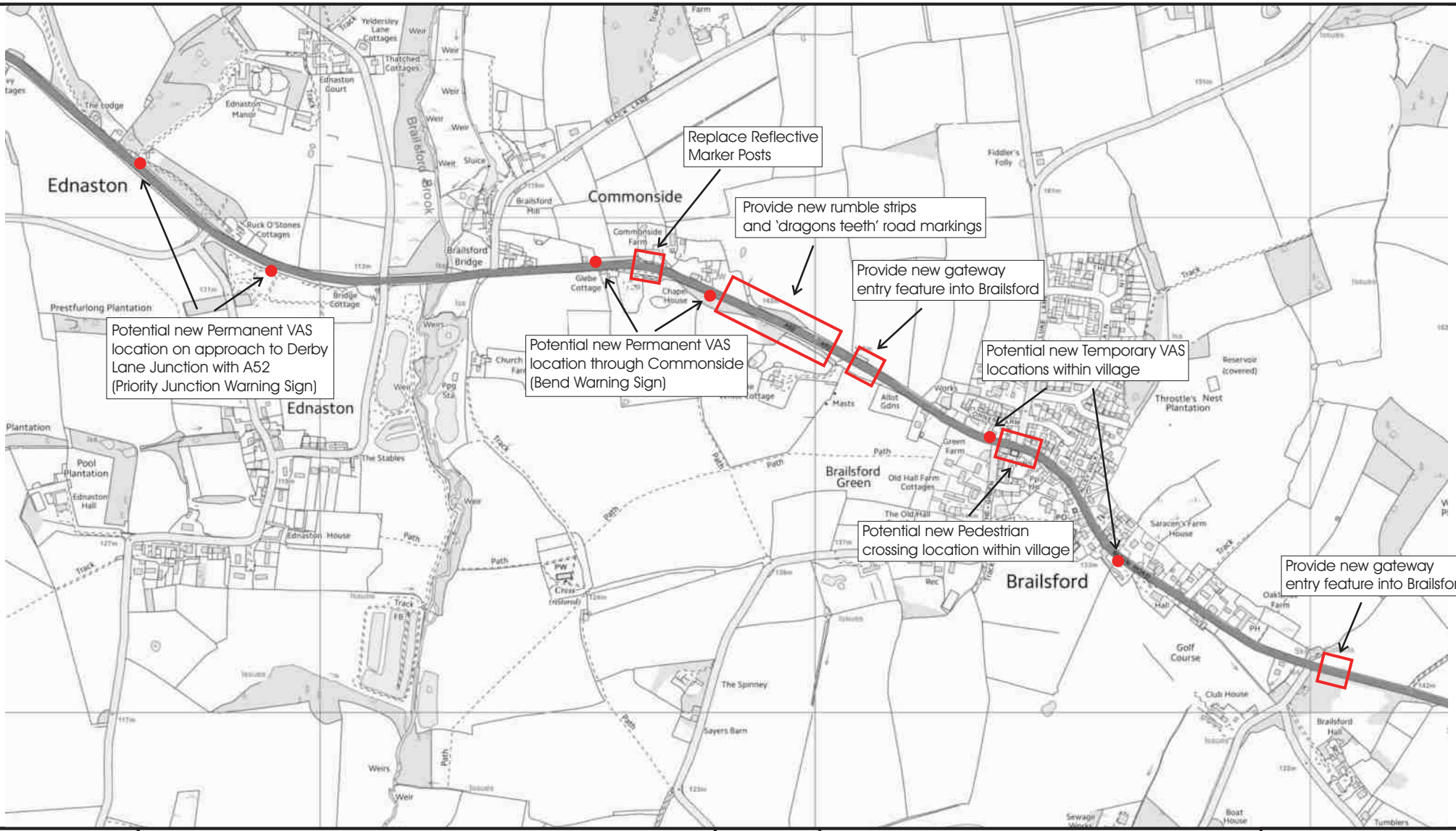
Key

General Footway Width

- >1.8m
- 1.5m to 1.8m
- 1.2m to 1.4m
- 0.9m to 1.1m
- <0.9m

SC Soil Creep

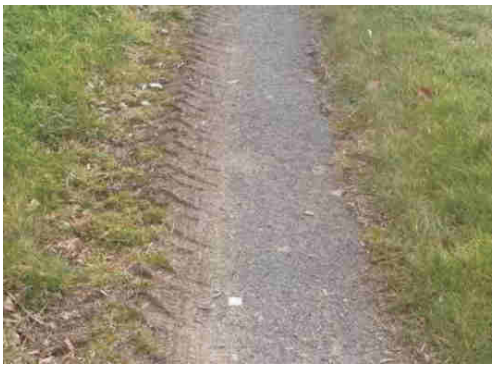
ptb



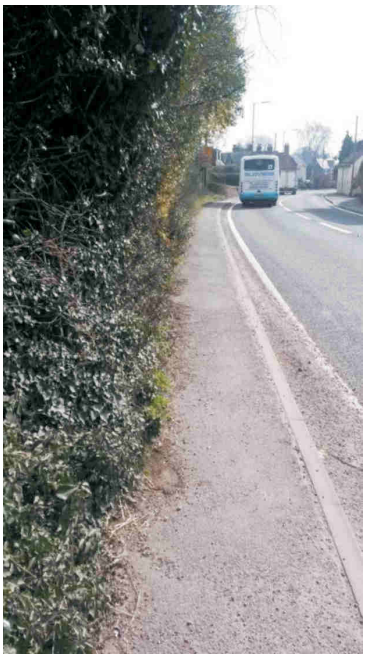
Project	Brailsford
Project No	T16512
Figure	6.2
Title	Potential Highway Improvements
Date	5th April 2016

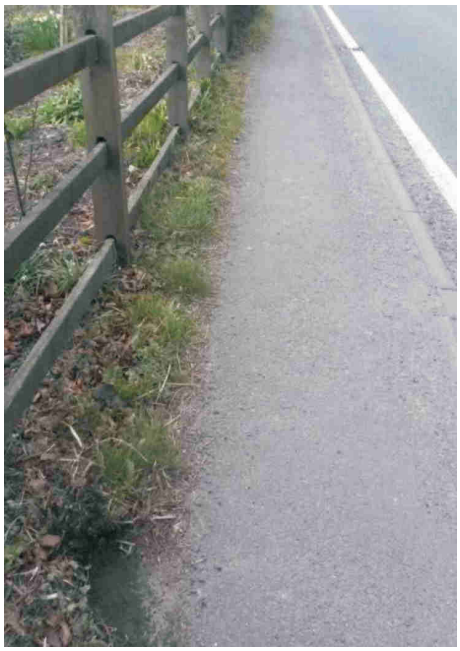
Key

APPENDIX A - PHOTOGRAPHS (SOIL CREEP)




For
1/3 mile
REDUCE
SPEED
NOW





APPENDIX B - TRAFFIC AND SPEED DATA

ROAD DATA SERVICES
Map Sheet

Road Data Services Ltd

Project: Brailsford

Date: February 2016

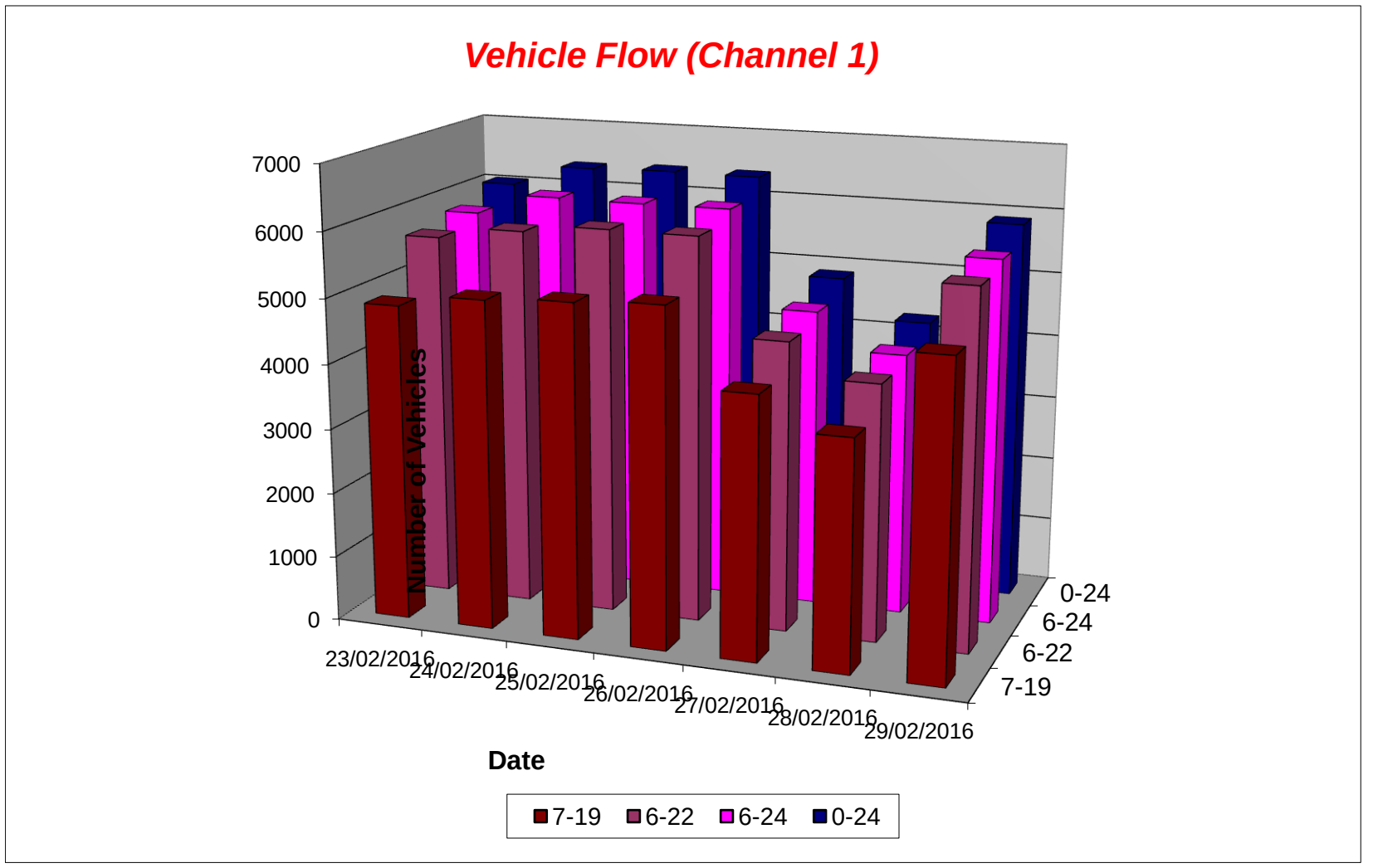
Brailsford ATC, A52 (Eastern Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Vehicle Flow** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday	5 Day Ave	7 Day Ave
1	20	20	19	26	42	29	25	22	26
2	12	14	13	12	29	22	17	14	17
3	12	8	23	17	13	30	8	14	16
4	12	9	16	14	28	19	11	12	16
5	36	45	44	39	40	23	50	43	40
6	151	154	172	167	89	70	160	161	138
7	178	179	193	179	71	36	179	182	145
8	394	391	421	401	146	105	377	397	319
9	353	356	370	372	235	141	389	368	317
10	330	389	341	355	334	258	316	346	332
11	317	377	397	330	377	358	382	361	363
12	316	366	418	409	453	410	312	364	383
13	354	408	323	395	429	421	401	376	390
14	399	407	395	413	406	453	370	397	406
15	395	402	436	470	409	328	361	413	400
16	417	388	444	511	365	316	384	429	404
17	562	503	536	575	370	306	536	542	484
18	618	636	596	589	269	231	567	601	501
19	421	444	460	385	237	203	427	427	368
20	262	252	272	283	186	172	232	260	237
21	171	180	184	166	108	136	152	171	157
22	163	154	165	111	79	89	123	143	126
23	93	231	93	94	83	64	80	118	105
24	52	56	63	73	66	39	36	56	55

7-19	4876	5067	5137	5205	4030	3530	4822	5021	4667
6-22	5650	5832	5951	5944	4474	3963	5508	5777	5332
6-24	5795	6119	6107	6111	4623	4066	5624	5951	5492
0-24	6038	6369	6394	6386	4864	4259	5895	6216	5744



Brailsford ATC, A52 (Eastern Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Average Speed** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	34.4	40.8	41.4	35.9	34.5	39.3	36.3
2	38.0	37.5	35.5	35.8	34.7	38.0	31.9
3	32.8	33.1	37.0	38.4	45.0	39.4	46.8
4	40.8	37.4	37.6	35.5	36.4	50.9	43.3
5	33.0	37.0	37.0	36.6	38.1	40.1	39.6
6	36.6	36.1	37.3	37.6	40.8	41.0	38.1
7	33.4	35.0	34.6	33.2	35.1	35.5	35.0
8	31.8	31.7	32.6	32.2	34.4	35.1	31.5
9	30.1	31.4	31.0	30.6	32.2	32.1	31.4
10	31.6	30.7	31.6	31.0	30.9	32.1	31.9
11	31.2	30.8	31.0	31.1	29.9	31.1	31.6
12	31.0	31.0	30.7	30.1	30.7	31.2	31.9
13	31.7	31.1	30.9	30.0	30.8	31.1	31.0
14	30.9	31.2	31.4	30.4	30.5	30.3	30.4
15	31.1	30.6	30.7	30.2	30.5	31.7	31.1
16	30.9	31.0	30.1	29.7	30.8	31.6	29.9
17	30.5	30.7	29.7	30.9	30.0	31.5	30.0
18	30.4	30.2	30.5	30.9	31.7	32.5	31.0
19	31.6	30.9	31.9	32.2	32.1	31.4	31.6
20	32.1	33.5	31.9	33.6	32.5	33.5	33.5
21	33.6	33.6	33.4	32.8	35.1	34.2	33.6
22	33.0	34.4	32.7	33.8	33.7	34.9	34.2
23	34.2	32.6	33.5	34.6	34.3	36.8	35.3
24	36.7	36.9	36.3	34.6	36.5	35.2	36.3
10-12	31.1	30.9	30.9	30.6	30.3	31.1	31.7
14-16	31.0	30.8	30.4	29.9	30.6	31.7	30.5
0-24	31.6	31.6	31.6	31.4	31.7	32.3	31.8

7 Day Ave	31.7

Channel 1 - Westbound **85th Percentile**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	39.3	49.5	48.3	44.3	42.0	48.0	42.2
2	48.4	41.4	41.6	41.5	42.8	43.9	35.0
3	38.7	38.9	41.7	43.6	51.0	51.7	51.9
4	50.4	42.0	48.8	36.5	43.0	61.9	52.0
5	35.8	44.8	46.0	43.3	46.0	54.3	47.0
6	42.5	42.1	44.4	46.0	52.0	48.7	46.0
7	38.0	40.3	41.0	38.0	43.0	42.0	40.3
8	36.0	36.0	37.0	37.0	42.0	41.0	36.0
9	35.0	35.0	35.0	35.0	36.0	37.0	35.0
10	35.0	35.0	36.0	35.0	35.0	35.0	36.0
11	36.0	35.0	35.0	35.0	34.0	35.0	35.0
12	35.0	35.0	35.0	34.0	35.0	35.0	36.0
13	36.0	35.0	35.0	34.0	35.0	35.0	35.0
14	35.0	35.0	35.0	35.0	35.0	34.0	35.0
15	35.0	35.0	35.0	34.0	35.0	36.0	35.0
16	35.0	35.0	34.0	34.0	35.0	36.0	34.0
17	35.0	35.0	35.0	35.0	35.0	35.0	34.0
18	35.0	35.0	35.0	35.0	37.0	37.0	35.0
19	36.0	35.0	36.0	35.4	36.0	37.0	35.1
20	35.0	39.0	36.0	38.0	36.0	39.0	38.0
21	39.0	38.0	37.6	37.0	40.0	40.8	39.0
22	37.7	40.0	36.0	39.0	39.0	41.6	39.0
23	41.0	38.0	38.0	41.0	39.7	46.0	40.2
24	46.0	49.5	43.8	41.0	43.3	41.0	47.0
10-12	36.0	35.0	35.0	35.0	34.0	35.0	35.0
14-16	35.0	35.0	35.0	34.0	35.0	36.0	35.0
0-24	36.0	36.0	36.0	36.0	36.0	37.0	36.0

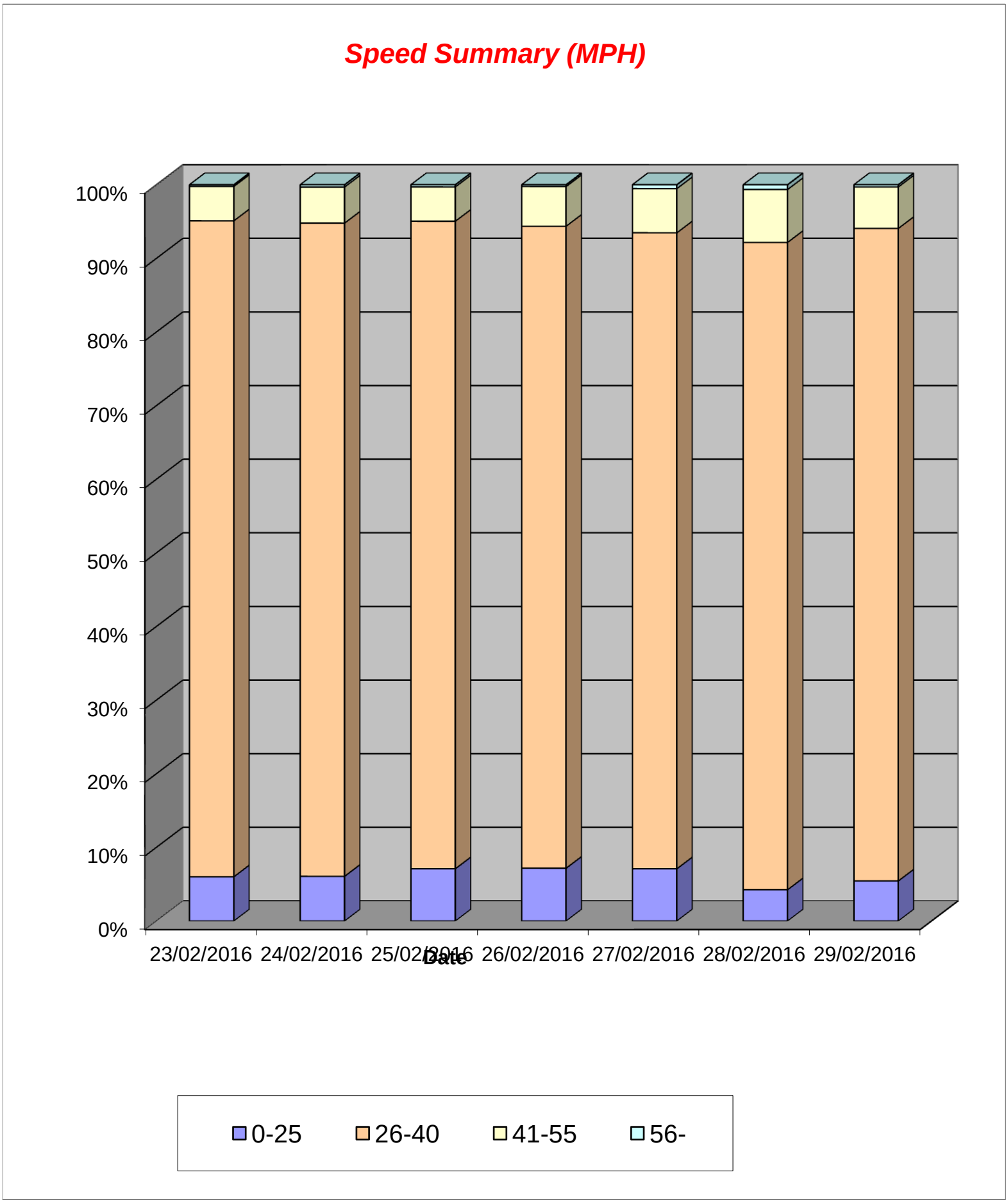
7 Day Ave	36.0

Brailsford ATC, A52 (Eastern Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Speed Summary** **Week 1**

Speed (MPH)	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
0-25	363	387	454	458	345	181	321
26-40	5380	5651	5624	5569	4202	3745	5225
41-55	282	312	298	344	292	306	332
56-	13	19	18	15	25	27	17
TOTAL	**6038**	**6369**	**6394**	**6386**	**4864**	**4259**	**5895**



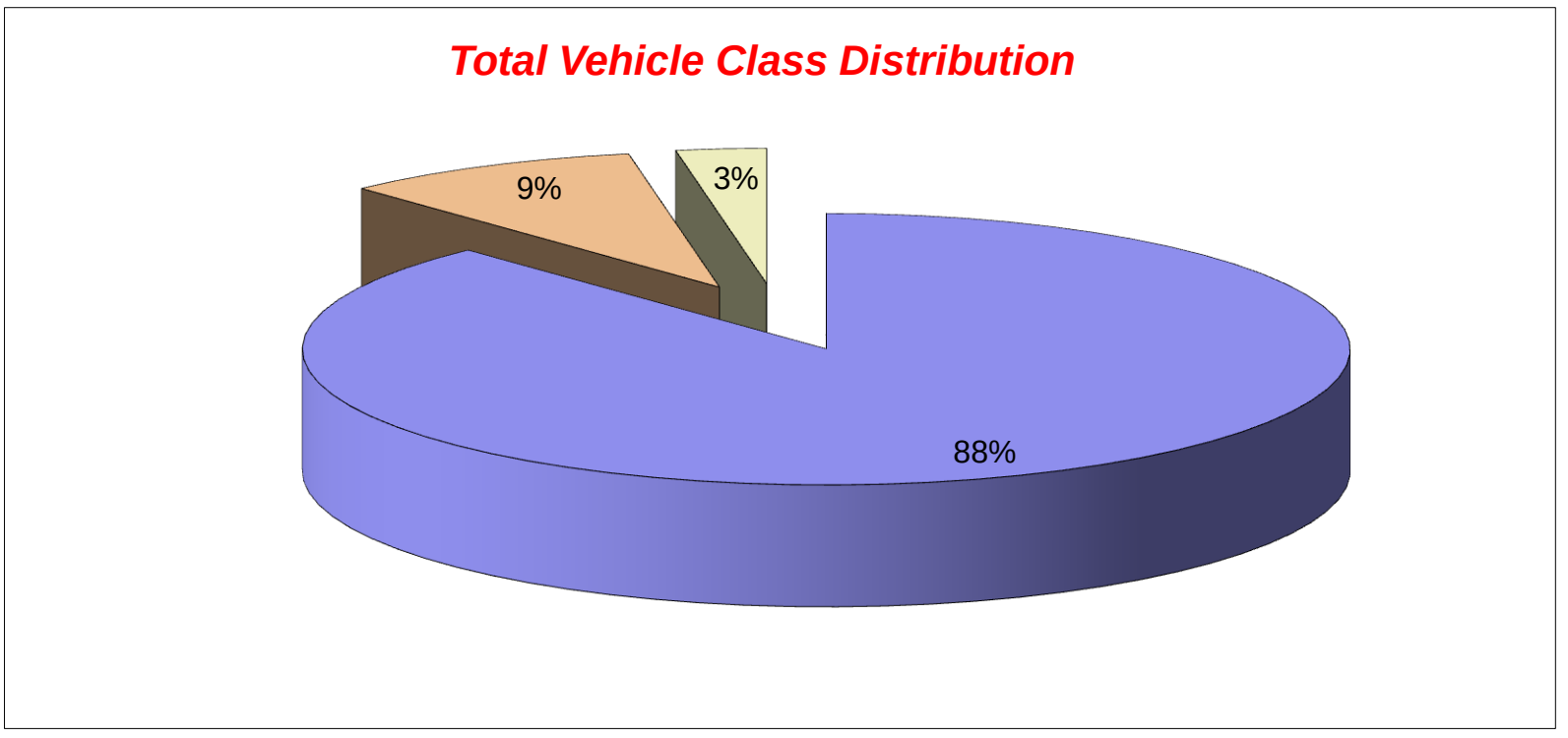
Brailsford ATC, A52 (Eastern Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Vehicle Class** **Week 1**

Classes / Day / Time	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
23/02/2016				
7-19	4182	548	146	4876
6-22	4884	596	170	5650
6-24	5011	608	176	5795
0-24	5209	632	197	6038
24/02/2016				
7-19	4344	565	158	5067
6-22	5029	623	180	5832
6-24	5286	645	188	6119
0-24	5489	669	211	6369
25/02/2016				
7-19	4403	572	162	5137
6-22	5132	635	184	5951
6-24	5271	643	193	6107
0-24	5519	668	207	6394
26/02/2016				
7-19	4502	537	166	5205
6-22	5176	586	182	5944
6-24	5331	595	185	6111
0-24	5549	625	212	6386
27/02/2016				
7-19	3728	267	35	4030
6-22	4127	302	45	4474
6-24	4263	313	47	4623
0-24	4465	341	58	4864
28/02/2016				
7-19	3351	151	28	3530
6-22	3764	166	33	3963
6-24	3861	171	34	4066
0-24	4033	186	40	4259
29/02/2016				
7-19	4124	528	170	4822
6-22	4763	558	187	5508
6-24	4869	565	190	5624
0-24	5118	583	194	5895

Average				
7-19	4091	453	124	4667
6-22	4696	495	140	5332
6-24	4842	506	145	5492
0-24	5055	529	160	5744



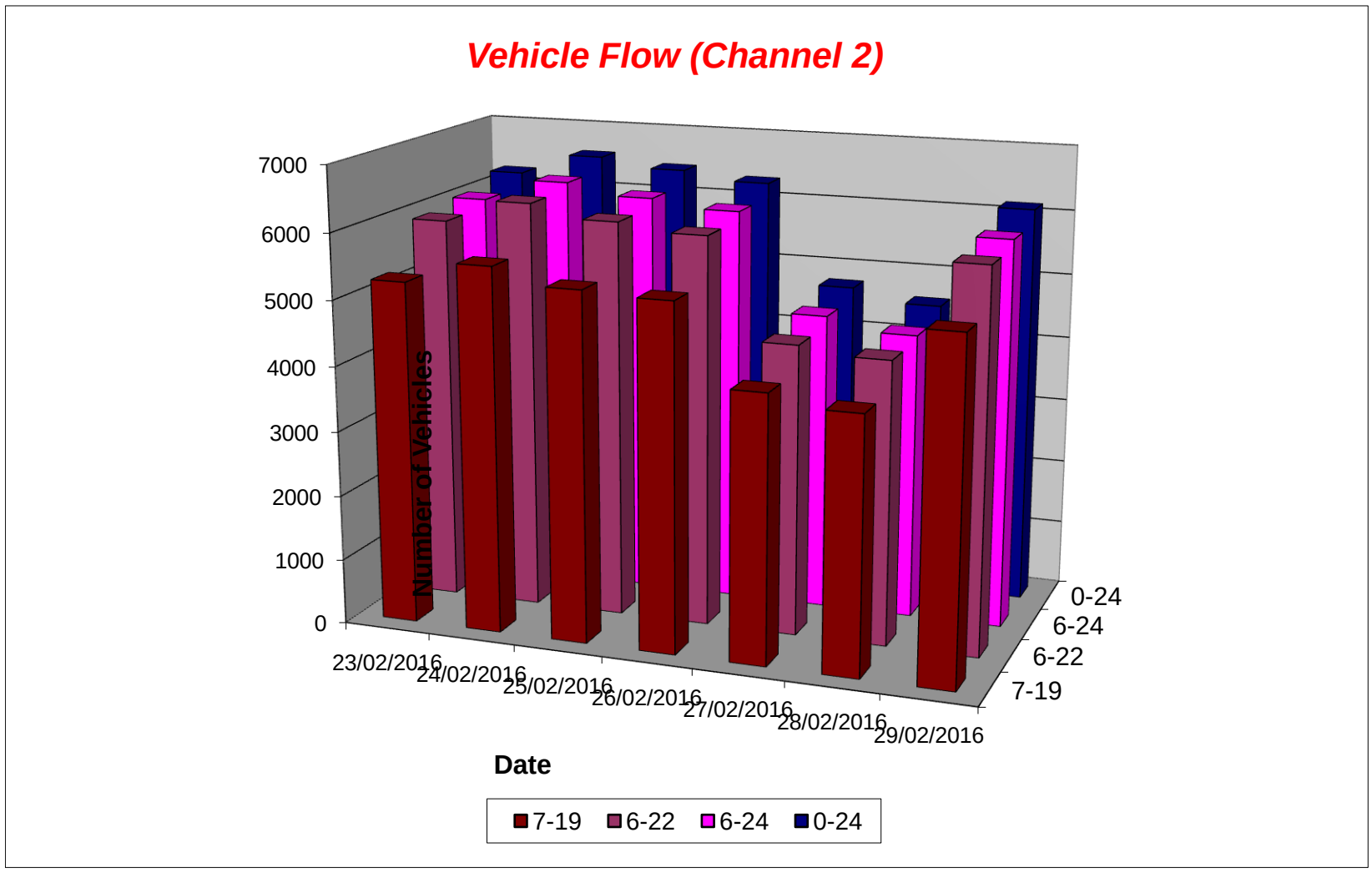
Brailsford ATC, A52 (Eastern Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Vehicle Flow** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday	5 Day Ave	7 Day Ave
1	26	31	25	36	26	47	15	27	29
2	29	38	30	30	40	21	18	29	29
3	7	7	7	15	15	26	11	9	13
4	16	14	21	16	20	22	16	17	18
5	32	28	33	28	17	16	33	31	27
6	100	77	104	86	42	27	109	95	78
7	322	342	334	308	77	57	333	328	253
8	672	690	633	567	156	74	711	655	500
9	659	689	600	545	261	110	607	620	496
10	427	516	480	451	378	268	438	462	423
11	333	356	339	415	420	335	375	364	368
12	327	344	371	379	385	375	358	356	363
13	348	341	362	374	394	409	335	352	366
14	369	373	358	403	389	365	377	376	376
15	419	402	391	473	366	427	400	417	411
16	418	479	476	450	326	464	380	441	428
17	489	483	486	471	426	461	434	473	464
18	484	528	529	451	316	351	481	495	449
19	312	389	320	312	264	271	276	322	306
20	169	178	178	167	131	165	145	167	162
21	110	92	132	139	98	124	98	114	113
22	66	75	96	66	66	88	81	77	77
23	85	63	75	73	77	37	72	74	69
24	20	34	50	47	54	16	37	38	37

7-19	5257	5590	5345	5291	4081	3910	5172	5331	4949
6-22	5924	6277	6085	5971	4453	4344	5829	6017	5555
6-24	6029	6374	6210	6091	4584	4397	5938	6128	5660
0-24	6239	6569	6430	6302	4744	4556	6140	6336	5854



Brailsford ATC, A52 (Eastern Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Average Speed** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	38.7	37.7	35.9	40.0	40.1	41.3	37.7
2	39.8	36.2	41.5	41.4	39.6	34.9	40.8
3	40.1	39.6	36.7	41.6	40.1	41.6	38.6
4	39.0	43.0	42.9	40.5	42.2	45.2	39.9
5	40.0	40.0	37.6	38.6	38.4	39.3	41.7
6	38.4	36.8	36.0	36.6	37.3	37.5	36.5
7	34.4	34.5	35.1	34.5	36.8	40.1	33.7
8	32.1	32.6	33.2	32.2	34.1	34.5	31.9
9	32.4	31.8	32.7	32.3	33.3	35.9	32.2
10	32.0	32.3	32.6	31.8	32.1	33.6	32.4
11	32.9	32.8	33.2	31.7	31.9	33.1	32.6
12	32.7	32.1	32.6	32.2	32.0	32.8	32.6
13	33.1	32.2	32.4	31.3	32.2	32.2	32.1
14	32.7	32.1	32.2	31.0	31.7	31.5	32.5
15	31.4	32.6	32.1	32.2	32.1	32.9	32.3
16	31.8	32.4	31.3	31.7	31.8	32.5	30.8
17	32.8	32.8	32.4	31.8	31.2	31.6	32.3
18	32.7	31.6	31.3	33.2	32.9	31.9	32.1
19	32.6	32.0	32.5	32.9	34.3	33.6	33.4
20	34.2	34.3	34.1	33.6	34.5	33.5	33.8
21	35.0	34.9	34.1	33.9	35.8	34.1	34.0
22	34.7	35.8	33.8	36.3	33.9	36.2	37.0
23	36.0	34.8	37.0	38.1	36.2	37.9	36.4
24	37.5	38.9	37.9	37.9	36.5	36.6	36.4
10-12	32.8	32.5	32.9	32.0	32.0	33.0	32.6
14-16	31.6	32.5	31.7	32.0	32.0	32.7	31.6
0-24	32.9	32.7	32.9	32.6	32.9	33.2	32.7

7 Day Ave	32.8

Channel 2 - Eastbound **85th Percentile**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	45.0	44.5	41.0	46.8	47.5	51.1	41.0
2	49.6	42.0	48.7	52.6	47.2	41.0	47.0
3	48.3	45.3	41.1	47.9	47.6	53.5	45.5
4	46.8	48.3	47.0	53.5	51.6	55.0	46.0
5	46.4	49.0	44.2	45.0	47.8	47.8	50.2
6	47.0	41.6	41.0	43.0	46.9	41.5	42.0
7	39.0	38.0	39.0	38.0	44.0	47.6	38.0
8	35.0	36.0	37.0	35.0	39.0	41.0	35.0
9	36.0	35.0	36.0	36.0	37.0	43.0	36.0
10	35.0	35.0	36.0	35.0	35.0	39.0	36.0
11	37.0	36.0	36.0	35.0	35.0	37.0	36.0
12	36.1	35.6	36.0	36.0	36.4	36.0	37.0
13	37.0	35.0	36.0	35.0	36.0	35.0	35.9
14	35.0	35.2	35.0	35.0	35.0	35.0	36.0
15	35.0	36.0	36.0	36.0	36.0	36.0	36.0
16	36.0	36.0	35.0	35.0	35.3	36.0	35.0
17	36.0	36.0	36.0	36.0	35.0	35.0	37.0
18	35.0	36.0	35.0	37.0	36.8	36.0	36.0
19	36.4	36.0	36.0	37.0	38.0	37.0	37.0
20	37.0	38.0	38.0	37.1	39.0	37.0	38.0
21	40.7	39.0	38.0	37.0	41.5	38.0	39.0
22	41.0	42.0	37.0	42.0	40.3	43.0	44.0
23	40.4	39.7	45.7	47.0	42.0	46.0	44.4
24	51.3	47.0	46.0	44.0	41.0	40.3	43.0
10-12	37.0	36.0	36.0	35.0	35.0	37.0	36.0
14-16	35.0	36.0	36.0	35.0	36.0	36.0	35.0
0-24	37.0	36.0	37.0	37.0	37.0	37.0	36.0

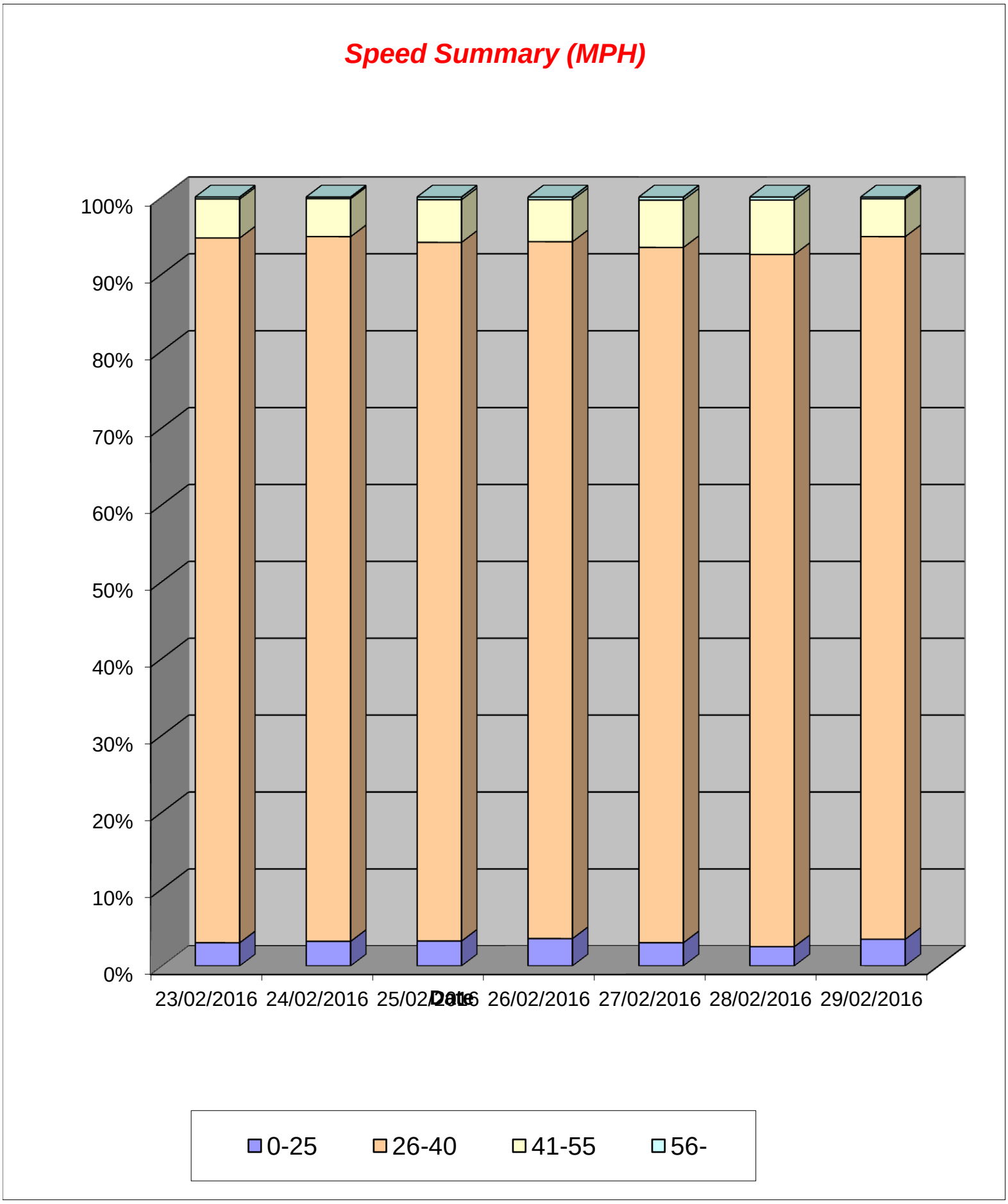
7 Day Ave	37.0

Brailsford ATC, A52 (Eastern Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Speed Summary** **Week 1**

Speed (MPH)	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
0-25	188	210	208	224	143	114	213
26-40	5719	6021	5843	5712	4290	4102	5611
41-55	316	324	357	344	292	322	302
56-	16	14	22	22	19	18	14
TOTAL	**6239**	**6569**	**6430**	**6302**	**4744**	**4556**	**6140**



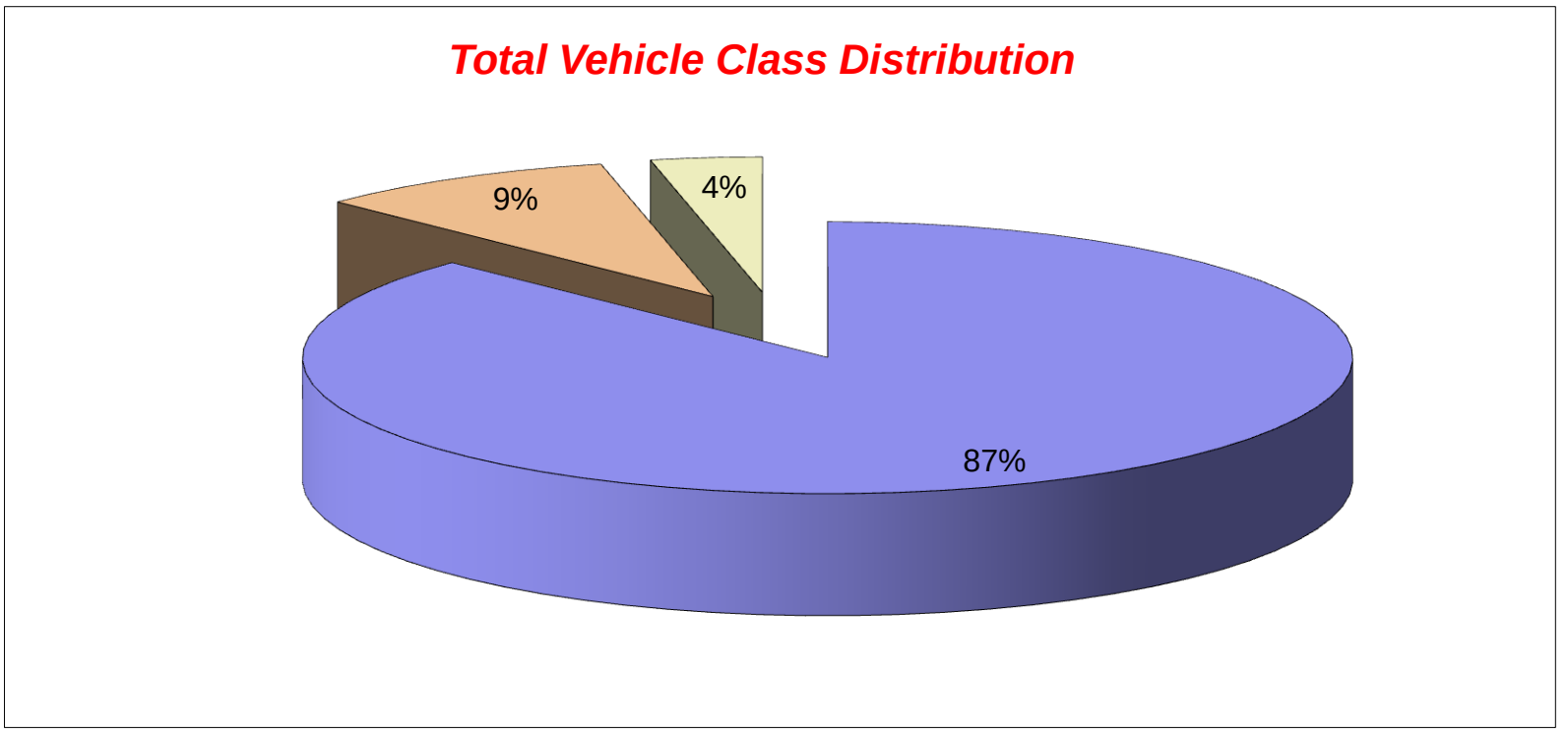
Brailsford ATC, A52 (Eastern Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Vehicle Class** **Week 1**

Classes / Day / Time	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
23/02/2016				
7-19	4525	565	167	5257
6-22	5096	631	197	5924
6-24	5190	639	200	6029
0-24	5332	671	236	6239
24/02/2016				
7-19	4809	596	185	5590
6-22	5391	674	212	6277
6-24	5473	682	219	6374
0-24	5594	711	264	6569
25/02/2016				
7-19	4623	547	175	5345
6-22	5244	628	213	6085
6-24	5357	636	217	6210
0-24	5503	669	258	6430
26/02/2016				
7-19	4592	534	165	5291
6-22	5182	598	191	5971
6-24	5287	608	196	6091
0-24	5416	637	249	6302
27/02/2016				
7-19	3802	236	43	4081
6-22	4140	264	49	4453
6-24	4262	271	51	4584
0-24	4386	291	67	4744
28/02/2016				
7-19	3717	153	40	3910
6-22	4112	179	53	4344
6-24	4157	181	59	4397
0-24	4289	194	73	4556
29/02/2016				
7-19	4471	524	177	5172
6-22	5026	589	214	5829
6-24	5116	596	226	5938
0-24	5254	627	259	6140

Average				
7-19	4363	451	136	4949
6-22	4884	509	161	5555
6-24	4977	516	167	5660
0-24	5111	543	201	5854



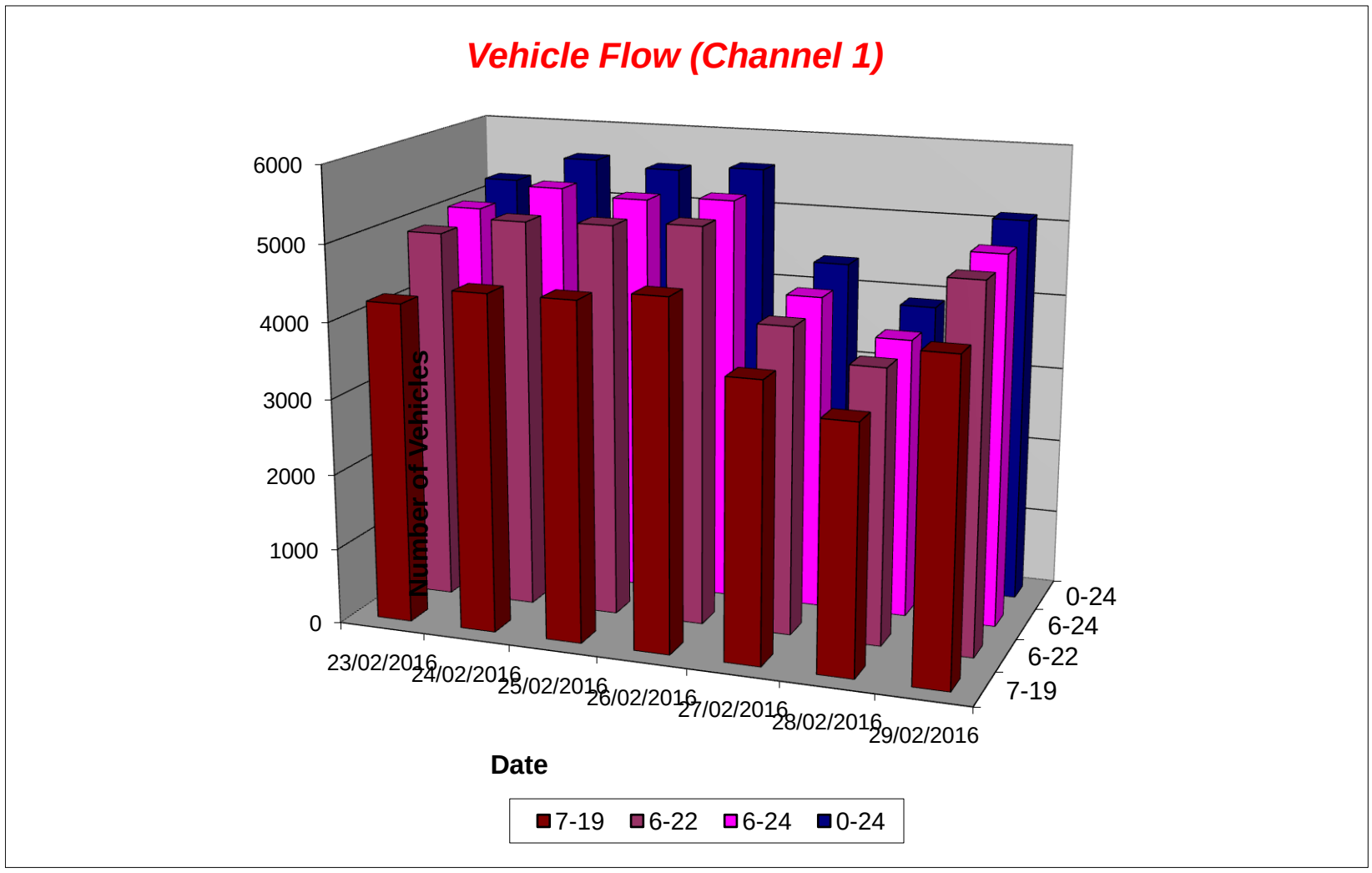
Brailsford ATC, A52 (Middle Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Vehicle Flow** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday	5 Day Ave	7 Day Ave
1	14	19	17	27	30	28	17	19	22
2	12	13	10	11	28	18	18	13	16
3	9	7	19	14	13	25	6	11	13
4	14	10	14	14	27	18	6	12	15
5	30	38	38	29	29	20	35	34	31
6	123	118	115	129	77	69	133	124	109
7	160	158	158	147	56	31	141	153	122
8	304	319	322	310	139	97	291	309	255
9	302	304	315	279	206	138	304	301	264
10	313	311	300	301	300	257	303	306	298
11	303	359	339	306	352	355	341	330	336
12	305	345	377	366	411	389	293	337	355
13	324	351	306	345	393	368	346	334	348
14	308	362	324	392	380	413	331	343	359
15	333	349	373	394	379	311	311	352	350
16	381	356	410	487	317	270	348	396	367
17	475	466	488	515	335	274	464	482	431
18	567	545	490	526	245	206	468	519	435
19	313	381	409	364	204	172	376	369	317
20	238	243	248	254	172	139	216	240	216
21	149	157	159	144	93	126	155	153	140
22	138	135	150	104	70	83	122	130	115
23	81	193	72	71	73	54	61	96	86
24	48	50	61	56	53	26	34	50	47

7-19	4228	4448	4453	4585	3661	3250	4176	4378	4114
6-22	4913	5141	5168	5234	4052	3629	4810	5053	4707
6-24	5042	5384	5301	5361	4178	3709	4905	5199	4840
0-24	5244	5589	5514	5585	4382	3887	5120	5410	5046



Brailsford ATC, A52 (Middle Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Average Speed** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	42.9	43.3	42.3	44.8	44.7	46.1	42.0
2	40.9	43.0	40.4	39.0	41.7	44.5	41.7
3	38.4	40.7	42.8	44.7	50.3	45.3	48.3
4	41.1	39.2	41.6	40.1	42.0	51.5	42.2
5	41.8	41.5	43.5	41.8	43.6	42.8	42.8
6	42.0	43.5	44.4	43.9	45.9	45.6	43.6
7	40.7	41.3	40.9	39.7	42.8	39.6	40.8
8	39.4	39.7	41.0	40.0	40.6	41.5	39.5
9	38.6	40.3	38.4	39.4	39.8	39.4	40.0
10	38.3	39.9	40.6	37.9	38.5	39.2	39.9
11	37.5	38.1	39.0	38.0	38.2	38.7	36.6
12	36.9	37.7	38.4	37.9	38.5	38.5	37.7
13	39.3	38.7	38.0	38.6	39.0	39.2	38.6
14	39.5	38.3	38.5	38.3	38.2	37.2	38.5
15	39.0	38.5	38.7	39.0	37.9	39.1	38.1
16	39.2	39.8	38.5	38.1	39.7	38.7	38.9
17	39.1	39.2	37.9	39.3	38.9	39.0	38.7
18	39.1	39.6	38.5	38.6	39.9	39.5	39.9
19	39.8	39.3	39.4	39.3	40.7	39.5	39.9
20	40.6	41.0	40.5	40.3	41.3	41.4	40.8
21	40.7	40.0	40.8	41.9	42.7	41.2	39.9
22	41.3	43.4	40.7	41.5	41.3	43.0	41.1
23	42.3	41.4	42.6	42.8	43.9	44.0	43.5
24	41.3	41.8	43.4	42.9	43.8	41.1	41.1
10-12	37.2	37.9	38.7	38.0	38.3	38.6	37.1
14-16	39.1	39.1	38.6	38.5	38.7	38.9	38.5
0-24	39.3	39.6	39.4	39.2	39.6	39.5	39.4

7 Day Ave	39.4

Channel 1 - Westbound **85th Percentile**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	52.1	52.3	47.6	51.4	52.0	53.9	47.0
2	47.8	52.6	45.7	43.5	48.0	50.5	48.5
3	46.8	48.2	49.0	52.2	58.2	52.0	54.0
4	48.1	45.3	46.1	47.0	49.1	56.0	48.5
5	49.0	48.9	53.9	51.8	48.8	52.0	51.0
6	48.0	49.0	52.9	51.0	52.0	53.0	51.0
7	46.0	48.0	46.0	47.0	49.3	47.0	48.0
8	44.0	45.0	47.0	45.0	46.0	46.0	44.5
9	44.0	45.0	44.0	44.0	46.0	46.0	44.0
10	43.0	45.0	46.0	43.0	43.0	44.0	45.0
11	42.0	43.0	45.0	43.0	43.0	43.0	43.0
12	41.0	43.0	43.0	43.0	43.0	43.0	43.0
13	44.0	44.0	43.0	43.0	43.0	44.0	44.0
14	44.0	43.0	43.0	44.0	43.0	42.0	43.0
15	43.0	43.0	43.0	44.0	43.0	45.0	43.0
16	44.0	45.0	44.0	43.0	44.0	44.0	44.0
17	44.0	45.0	43.0	44.0	45.0	44.0	44.0
18	44.0	45.0	43.0	44.0	45.0	44.0	45.0
19	44.2	44.0	45.0	44.0	46.6	46.0	46.0
20	46.0	47.0	46.0	46.0	47.0	47.3	46.8
21	46.8	45.0	46.3	47.6	49.0	47.3	45.9
22	46.0	49.0	46.0	47.0	48.0	51.0	46.0
23	47.0	47.0	48.0	51.0	50.0	53.1	52.0
24	49.0	51.0	50.0	49.0	48.2	48.0	47.0
10-12	42.0	43.0	45.0	43.0	43.0	43.0	43.0
14-16	43.1	44.0	44.0	44.0	43.0	44.0	43.0
0-24	44.0	45.0	45.0	45.0	45.0	45.0	45.0

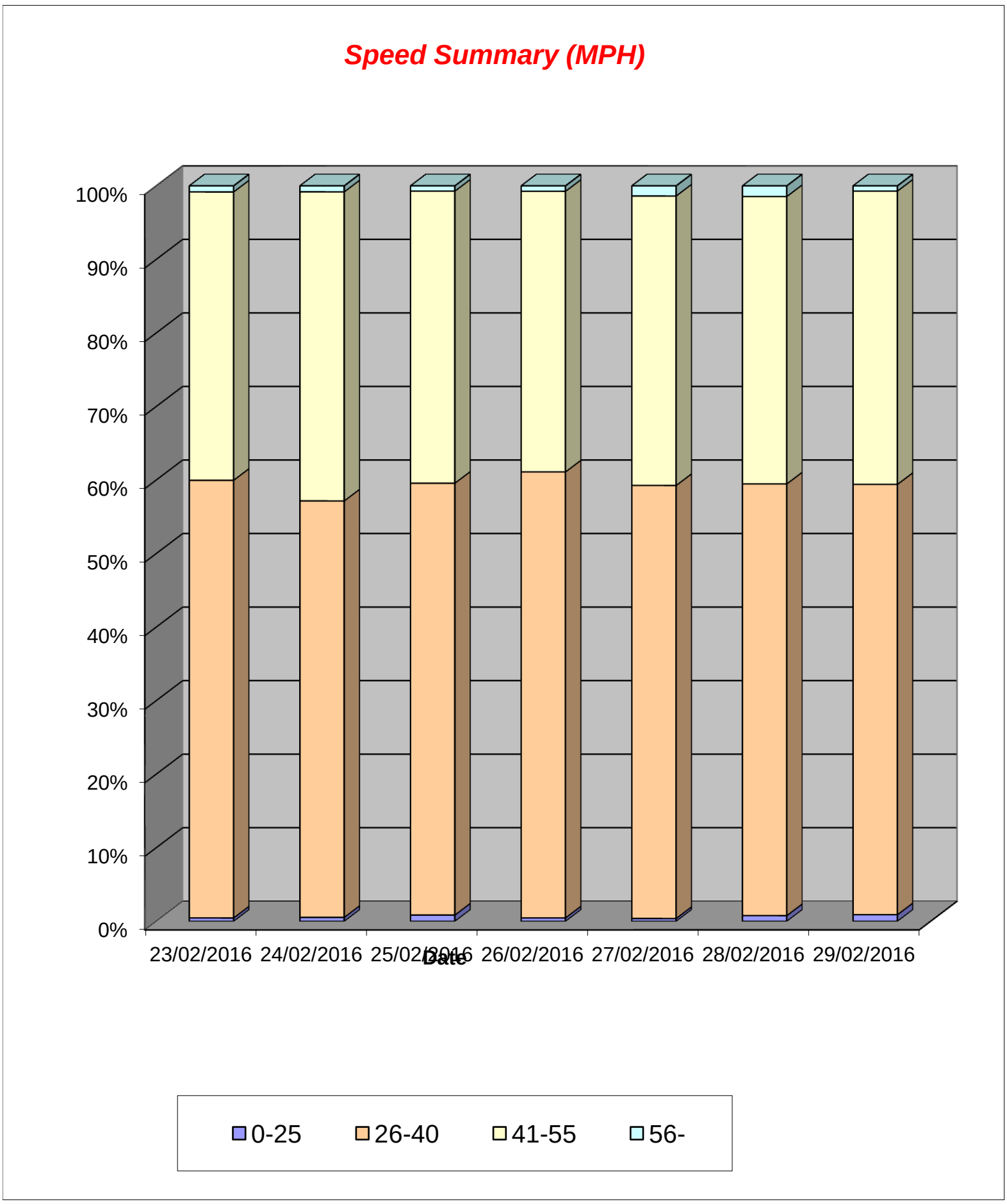
7 Day Ave	45.0

Brailsford ATC, A52 (Middle Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Speed Summary** **Week 1**

Speed (MPH)	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
0-25	24	30	47	26	17	30	46
26-40	3121	3165	3238	3387	2580	2282	2996
41-55	2056	2349	2190	2131	1725	1519	2042
56-	43	45	39	41	60	56	36
TOTAL	**5244**	**5589**	**5514**	**5585**	**4382**	**3887**	**5120**



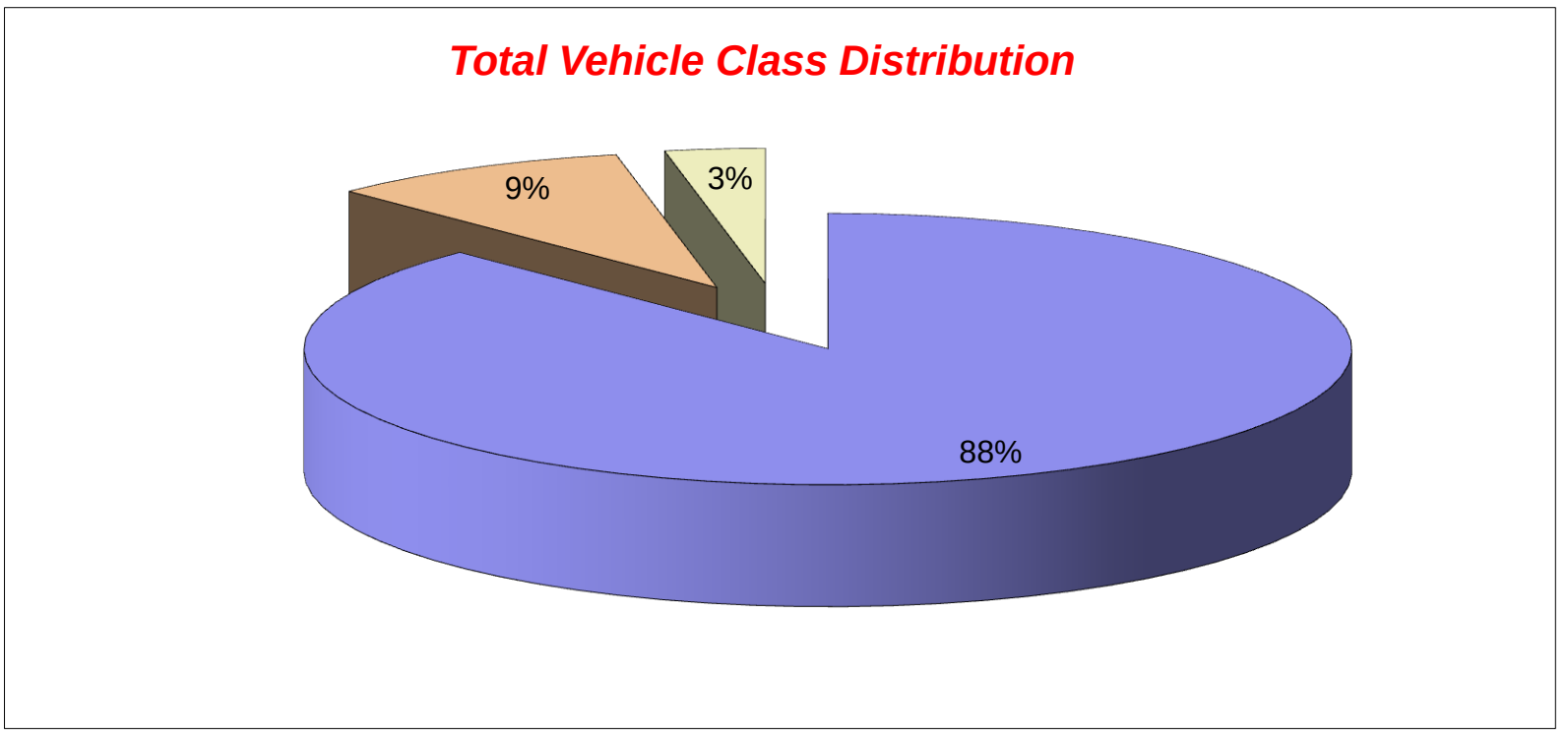
Brailsford ATC, A52 (Middle Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Vehicle Class** **Week 1**

Classes / Day / Time	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
23/02/2016				
7-19	3619	478	131	4228
6-22	4229	527	157	4913
6-24	4346	535	161	5042
0-24	4498	558	188	5244
24/02/2016				
7-19	3794	511	143	4448
6-22	4405	567	169	5141
6-24	4621	586	177	5384
0-24	4769	611	209	5589
25/02/2016				
7-19	3805	500	148	4453
6-22	4441	558	169	5168
6-24	4556	567	178	5301
0-24	4713	593	208	5514
26/02/2016				
7-19	3957	494	134	4585
6-22	4545	536	153	5234
6-24	4661	542	158	5361
0-24	4823	572	190	5585
27/02/2016				
7-19	3387	234	40	3661
6-22	3734	267	51	4052
6-24	3848	276	54	4178
0-24	4014	302	66	4382
28/02/2016				
7-19	3110	116	24	3250
6-22	3465	132	32	3629
6-24	3541	135	33	3709
0-24	3699	149	39	3887
29/02/2016				
7-19	3577	450	149	4176
6-22	4153	483	174	4810
6-24	4239	489	177	4905
0-24	4419	510	191	5120

Average				
7-19	3607	398	110	4114
6-22	4139	439	129	4707
6-24	4259	447	134	4840
0-24	4419	471	156	5046



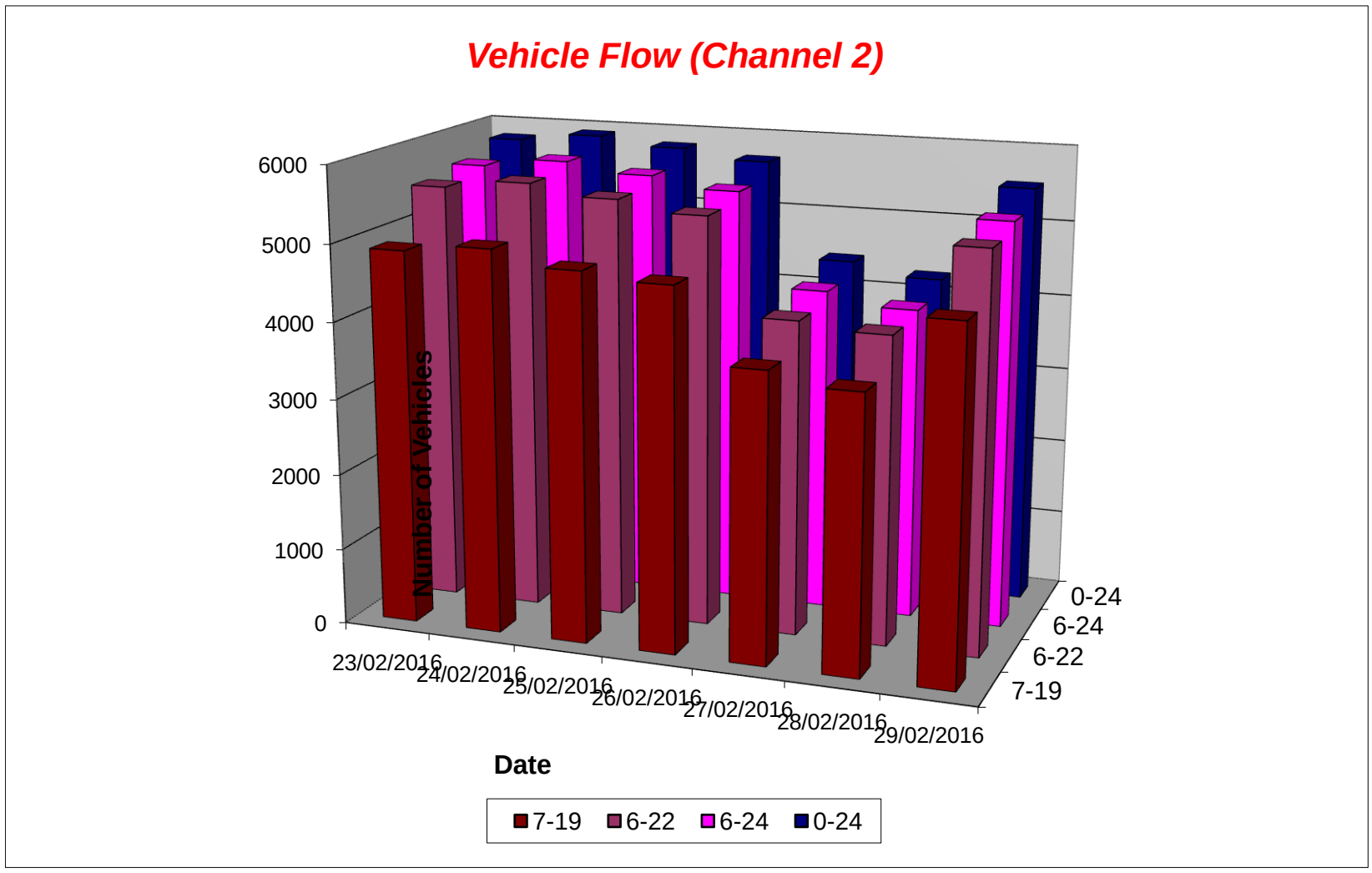
Brailsford ATC, A52 (Middle Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Vehicle Flow** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday	5 Day Ave	7 Day Ave
1	16	20	13	24	24	47	11	17	22
2	25	39	27	32	37	23	18	28	29
3	8	6	7	14	15	23	13	10	12
4	16	13	18	16	24	25	13	15	18
5	26	25	25	27	22	13	33	27	24
6	95	72	99	95	40	30	132	99	80
7	271	309	292	286	74	55	296	291	226
8	569	608	570	519	144	71	592	572	439
9	553	589	519	471	238	103	533	533	429
10	467	460	374	373	330	241	354	406	371
11	312	346	318	367	392	320	344	337	343
12	311	316	352	322	360	338	336	327	334
13	304	330	342	345	380	369	312	327	340
14	313	335	355	358	354	343	336	339	342
15	378	353	350	418	317	386	358	371	366
16	365	394	399	404	308	444	312	375	375
17	421	412	435	404	407	415	387	412	412
18	533	511	521	438	294	317	443	489	437
19	379	354	282	308	253	268	261	317	301
20	172	154	173	155	118	171	161	163	158
21	104	102	137	128	97	109	96	113	110
22	69	65	84	70	59	89	76	73	73
23	81	68	73	73	75	45	78	75	70
24	22	36	45	42	56	15	40	37	37

7-19	4905	5008	4817	4727	3777	3615	4568	4805	4488
6-22	5521	5638	5503	5366	4125	4039	5197	5445	5056
6-24	5624	5742	5621	5481	4256	4099	5315	5557	5163
0-24	5810	5917	5810	5689	4418	4260	5535	5752	5348



Brailsford ATC, A52 (Middle Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Average Speed** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	45.3	40.5	36.1	44.8	40.8	42.7	40.6
2	43.9	40.9	41.6	39.7	45.4	41.4	41.8
3	41.0	46.0	40.6	43.6	41.1	45.5	42.5
4	37.4	41.4	47.3	40.9	44.6	46.2	45.7
5	44.7	39.5	41.9	37.4	41.2	45.9	44.6
6	41.5	39.1	38.6	37.2	42.5	37.0	40.3
7	38.0	36.5	36.2	35.4	41.8	41.6	36.2
8	35.5	34.9	35.3	32.6	39.4	39.7	35.4
9	35.0	33.8	34.2	31.8	37.4	41.3	33.9
10	35.2	31.6	35.2	32.2	35.0	37.3	33.8
11	35.4	35.0	33.4	31.5	35.8	36.1	33.6
12	35.6	34.6	33.2	32.1	36.1	36.7	35.0
13	36.6	35.1	33.1	31.9	34.5	35.5	34.1
14	34.5	34.6	31.4	32.0	34.6	34.6	35.0
15	34.4	34.6	33.4	30.7	35.1	35.3	32.8
16	35.3	34.7	30.8	32.7	34.1	34.5	35.5
17	36.0	36.0	31.3	31.3	33.6	33.7	36.2
18	35.3	34.0	30.5	34.0	36.0	35.5	35.8
19	35.5	34.6	32.4	35.8	38.4	36.2	36.2
20	36.4	37.3	34.6	38.8	39.6	36.8	38.2
21	38.5	38.9	36.8	38.5	39.8	38.5	39.5
22	38.3	37.1	36.3	41.0	38.4	39.4	40.2
23	41.5	38.3	39.2	42.8	40.0	41.5	38.5
24	41.0	43.7	40.0	40.9	40.2	39.6	38.8
10-12	35.5	34.8	33.3	31.8	35.9	36.4	34.3
14-16	34.8	34.7	32.0	31.7	34.6	34.8	34.1
0-24	35.9	35.0	33.6	33.4	36.3	36.3	35.4

7 Day Ave	35.0

Channel 2 - Eastbound **85th Percentile**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	51.3	50.2	41.4	52.6	50.8	52.3	45.5
2	53.0	52.3	49.4	46.4	55.6	49.0	54.0
3	45.0	50.5	48.5	52.3	51.9	55.5	47.6
4	48.5	48.0	57.6	46.0	50.6	55.0	50.6
5	54.5	48.0	51.0	44.0	45.9	57.6	52.6
6	51.0	47.4	48.0	46.9	51.2	40.7	47.0
7	45.0	44.8	43.0	42.0	49.0	48.0	44.0
8	41.0	40.0	40.0	39.0	47.6	48.0	41.0
9	41.0	40.0	40.0	37.0	43.0	49.0	40.0
10	42.0	39.0	40.0	38.0	43.0	44.0	40.0
11	43.0	40.0	40.0	37.0	42.0	43.0	40.0
12	42.0	40.0	39.0	37.0	43.0	42.0	40.0
13	42.0	40.0	39.0	36.4	40.0	41.0	40.0
14	41.0	41.0	37.0	38.0	40.0	40.7	40.0
15	40.0	40.0	39.0	35.0	40.0	42.0	39.0
16	40.4	40.0	36.0	38.0	40.0	40.0	41.4
17	43.0	42.0	37.9	39.0	40.0	40.0	43.0
18	42.0	40.0	35.0	40.0	43.0	42.0	41.0
19	44.0	41.0	39.0	43.0	45.0	42.0	43.0
20	44.0	44.0	40.2	47.0	46.5	43.0	46.0
21	46.0	47.0	44.0	47.0	46.6	46.0	48.0
22	47.0	45.0	43.0	49.0	47.0	48.0	48.0
23	48.0	46.0	46.0	53.2	46.0	51.4	46.0
24	49.9	51.0	47.4	49.9	46.0	44.9	44.2
10-12	43.0	40.0	40.0	37.0	42.0	43.0	40.0
14-16	40.0	40.0	39.0	37.0	40.0	40.0	40.0
0-24	43.0	41.0	40.0	40.0	43.0	43.0	42.0

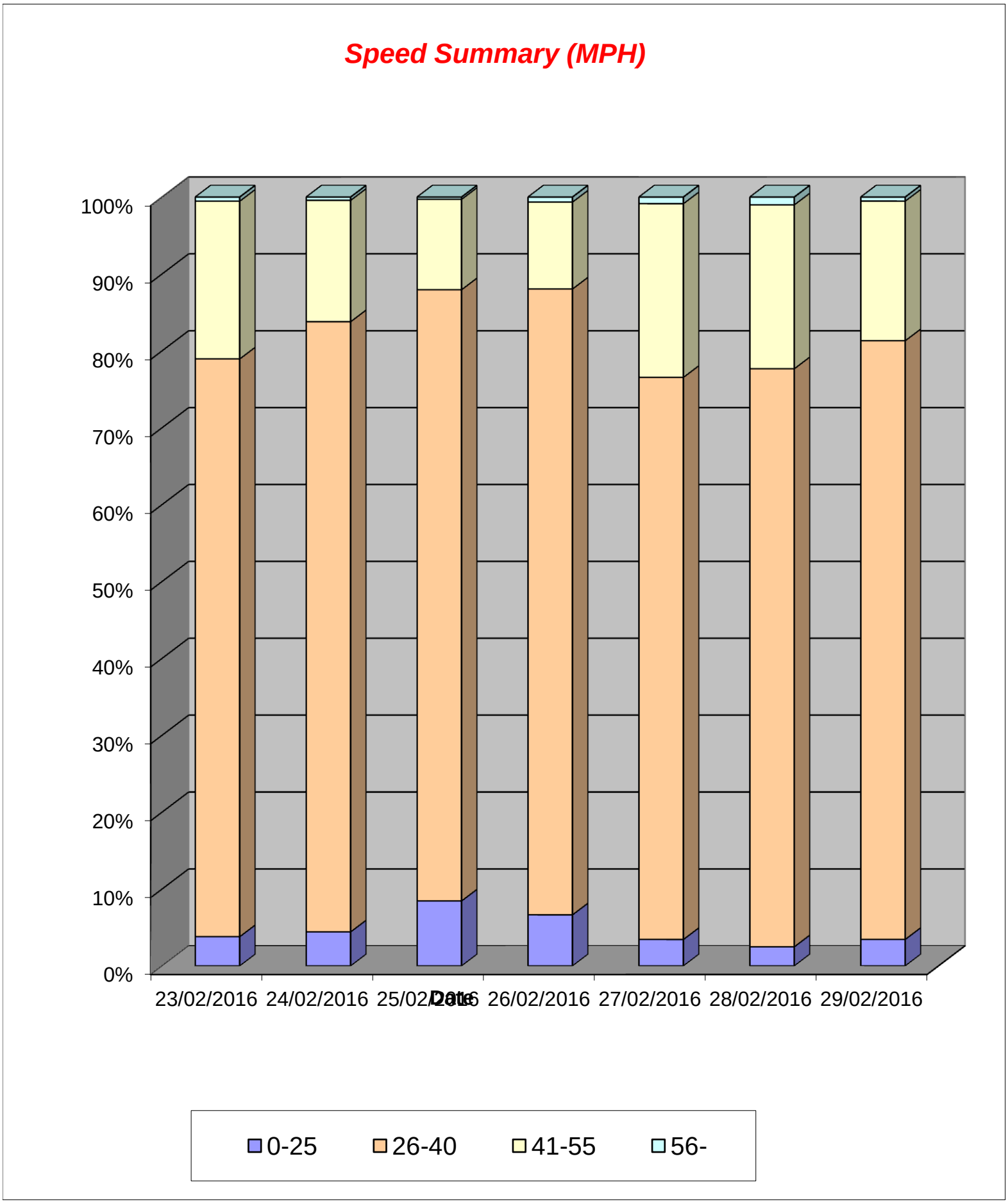
7 Day Ave	42.0

Brailsford ATC, A52 (Middle Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Speed Summary** **Week 1**

Speed (MPH)	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
0-25	221	262	491	378	152	106	191
26-40	4366	4696	4619	4631	3230	3203	4310
41-55	1192	934	683	643	998	908	1005
56-	31	25	17	37	38	43	29
TOTAL	**5810**	**5917**	**5810**	**5689**	**4418**	**4260**	**5535**



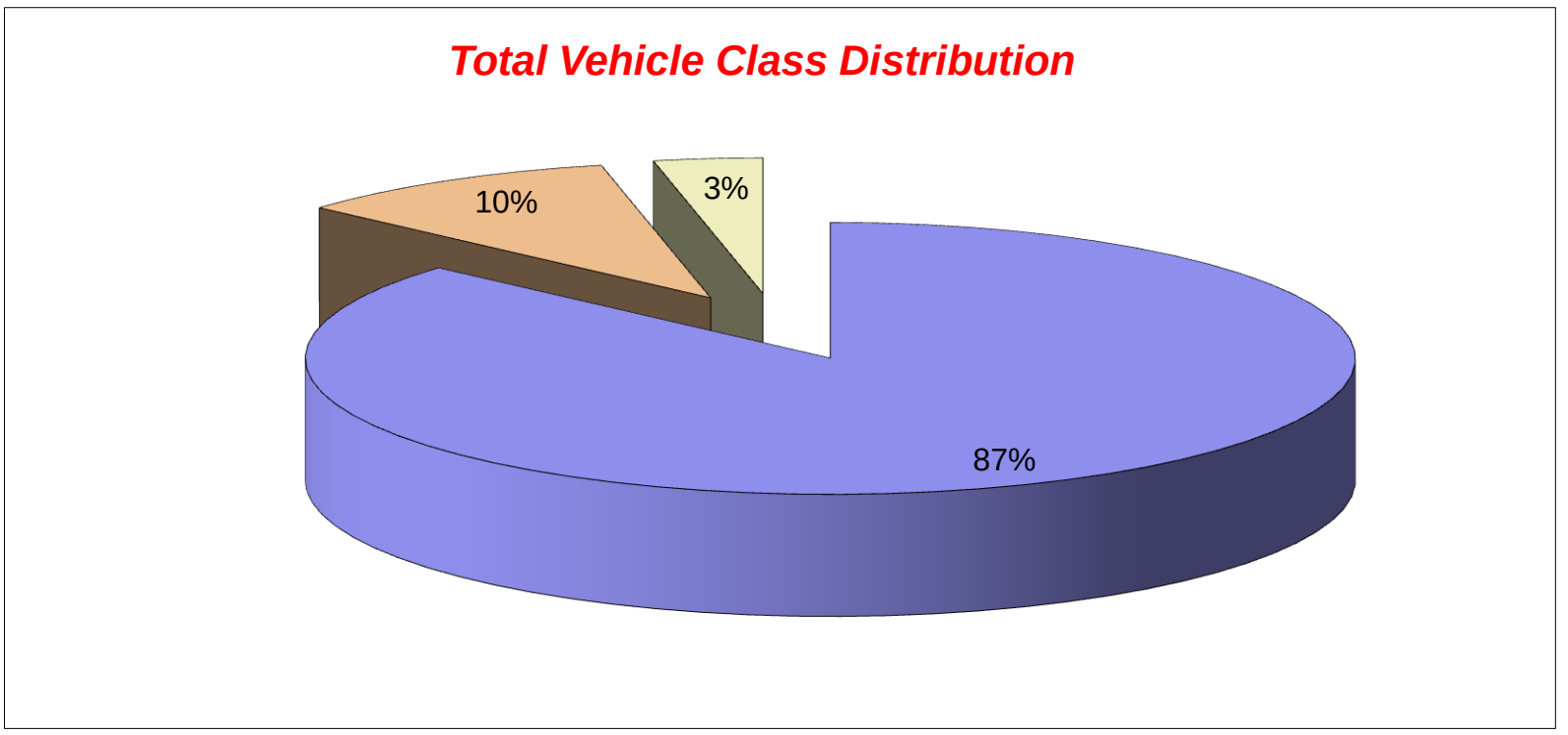
Brailsford ATC, A52 (Middle Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Vehicle Class** **Week 1**

Classes / Day / Time	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
23/02/2016				
7-19	4183	558	164	**4905**
6-22	4699	631	191	**5521**
6-24	4791	639	194	**5624**
0-24	4919	666	225	**5810**
24/02/2016				
7-19	4274	560	174	**5008**
6-22	4791	646	201	**5638**
6-24	4878	655	209	**5742**
0-24	4982	683	252	**5917**
25/02/2016				
7-19	4127	535	155	**4817**
6-22	4700	613	190	**5503**
6-24	4806	619	196	**5621**
0-24	4923	651	236	**5810**
26/02/2016				
7-19	4055	528	144	**4727**
6-22	4608	597	161	**5366**
6-24	4709	605	167	**5481**
0-24	4844	636	209	**5689**
27/02/2016				
7-19	3450	276	51	**3777**
6-22	3768	301	56	**4125**
6-24	3891	308	57	**4256**
0-24	4027	327	64	**4418**
28/02/2016				
7-19	3401	171	43	**3615**
6-22	3796	196	47	**4039**
6-24	3851	198	50	**4099**
0-24	3990	209	61	**4260**
29/02/2016				
7-19	3906	498	164	**4568**
6-22	4444	565	188	**5197**
6-24	4543	573	199	**5315**
0-24	4730	598	207	**5535**

Average				
7-19	3914	447	128	**4488**
6-22	4401	507	148	**5056**
6-24	4496	514	153	**5163**
0-24	4631	539	179	**5348**

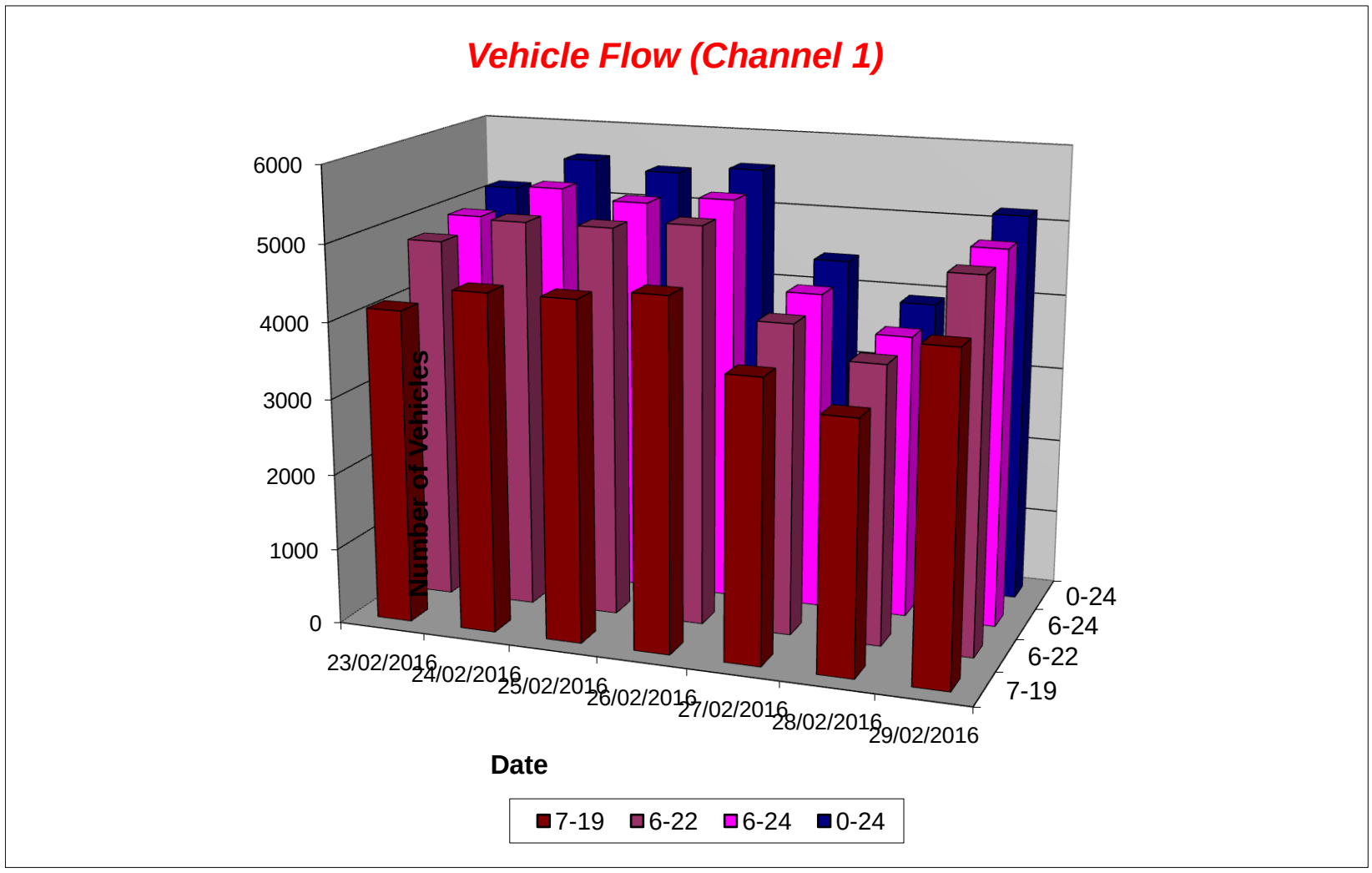


Brailsford ATC, A52 (Western Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Vehicle Flow** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday	5 Day Ave	7 Day Ave
1	14	19	18	23	27	26	18	18	21
2	12	13	10	12	29	17	17	13	16
3	9	6	19	16	13	26	6	11	14
4	14	10	13	15	25	18	6	12	14
5	32	37	36	27	35	20	34	33	32
6	120	117	121	114	76	66	130	120	106
7	156	152	158	140	59	30	138	149	119
8	296	311	340	327	132	100	299	315	258
9	300	321	313	305	223	141	341	316	278
10	302	302	305	310	307	249	300	304	296
11	299	343	338	297	350	362	351	326	334
12	308	329	376	372	411	398	286	334	354
13	312	358	300	344	393	370	357	334	348
14	302	356	327	386	367	413	338	342	356
15	330	347	361	405	387	329	324	353	355
16	369	361	403	470	324	279	342	389	364
17	461	480	472	504	351	281	469	477	431
18	546	548	526	516	238	200	482	524	437
19	312	400	402	364	209	176	367	369	319
20	226	237	227	256	170	138	212	232	209
21	152	159	156	143	97	122	146	151	139
22	136	132	133	103	69	83	121	125	111
23	82	193	69	74	73	53	60	96	86
24	47	52	54	55	56	26	34	48	46
7-19	4137	4456	4463	4600	3692	3298	4256	4382	4129
6-22	4807	5136	5137	5242	4087	3671	4873	5039	4708
6-24	4936	5381	5260	5371	4216	3750	4967	5183	4840
0-24	5137	5583	5477	5578	4421	3923	5178	5391	5042



Brailsford ATC, A52 (Western Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Average Speed** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	47.1	50.8	51.3	32.8	51.8	50.5	49.8
2	48.9	50.3	48.1	33.5	49.7	54.8	47.2
3	49.7	47.3	53.4	37.0	57.6	52.2	56.5
4	52.9	49.6	51.5	33.1	53.3	59.4	53.3
5	50.0	53.4	51.9	32.6	56.3	56.1	53.2
6	50.4	52.1	52.8	29.7	56.6	54.8	51.8
7	49.4	48.8	48.3	25.2	49.8	49.8	49.1
8	47.1	47.7	48.5	26.2	50.1	49.1	47.7
9	46.9	47.5	45.7	24.5	48.1	48.0	46.9
10	46.0	47.0	46.9	26.4	47.3	48.1	45.8
11	45.7	45.8	30.3	26.4	46.4	46.9	45.0
12	46.3	45.9	24.6	26.3	46.6	46.2	45.2
13	47.5	46.7	24.1	25.5	47.7	47.2	46.8
14	45.3	46.4	25.1	27.1	44.6	45.7	47.6
15	47.3	47.4	26.8	26.2	47.1	47.9	47.6
16	46.9	48.1	25.1	26.8	48.4	46.5	47.1
17	47.0	47.7	27.2	27.9	47.1	47.5	47.6
18	47.2	48.4	26.2	35.5	47.9	47.9	48.5
19	46.7	47.3	26.9	46.3	49.0	46.2	47.6
20	48.8	48.9	27.2	48.8	48.7	49.0	49.4
21	49.8	48.2	29.2	50.1	49.7	50.2	48.8
22	49.2	51.3	31.1	50.5	48.6	51.4	48.2
23	50.9	50.5	30.1	51.1	50.9	51.2	50.8
24	52.3	53.3	32.9	52.4	52.9	48.7	50.5
10-12	46.0	45.9	27.3	26.4	46.5	46.5	45.1
14-16	47.1	47.8	25.9	26.5	47.7	47.3	47.3
0-24	47.3	47.8	32.0	31.4	47.9	47.7	47.5

7 Day Ave	42.6

Channel 1 - Westbound **85th Percentile**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	54.1	57.3	56.5	46.4	57.0	57.3	58.4
2	54.1	57.2	53.3	40.0	55.8	60.2	52.0
3	52.0	51.5	60.8	44.8	67.8	58.0	59.0
4	57.6	52.7	57.8	40.0	59.0	69.0	61.3
5	54.4	62.0	58.8	40.1	65.0	67.2	56.2
6	56.0	58.0	62.0	44.0	65.3	62.3	59.0
7	55.0	53.0	55.0	39.2	55.3	58.7	55.0
8	53.0	52.0	54.0	36.1	55.0	54.2	52.0
9	52.0	53.0	52.2	34.0	54.0	53.0	52.0
10	51.0	53.0	53.0	37.0	52.0	52.8	51.0
11	50.0	51.0	44.0	35.0	50.0	52.0	51.0
12	52.0	51.0	33.0	39.0	52.0	52.0	51.0
13	52.4	52.0	33.0	37.0	52.0	52.0	52.0
14	51.0	52.0	34.0	38.0	52.0	51.2	52.0
15	52.0	52.0	39.0	35.0	52.0	53.0	52.0
16	52.0	53.0	35.0	35.0	53.0	51.3	52.0
17	52.0	53.0	35.0	40.0	53.0	53.0	52.0
18	52.0	53.0	34.0	47.0	53.0	53.0	54.0
19	52.4	52.0	36.0	51.0	53.0	52.0	52.0
20	54.0	54.0	39.0	55.0	54.7	55.0	54.0
21	56.0	53.0	41.8	55.0	55.0	56.0	54.0
22	55.0	56.0	44.0	56.7	54.8	56.0	54.0
23	57.0	56.0	44.2	58.0	58.2	58.0	57.2
24	61.0	65.0	43.0	58.9	58.8	55.3	57.0
10-12	50.0	51.0	44.0	35.0	50.0	52.0	51.0
14-16	52.0	52.0	37.0	35.0	52.0	52.0	52.0
0-24	53.0	53.0	47.0	46.0	53.0	53.0	53.0

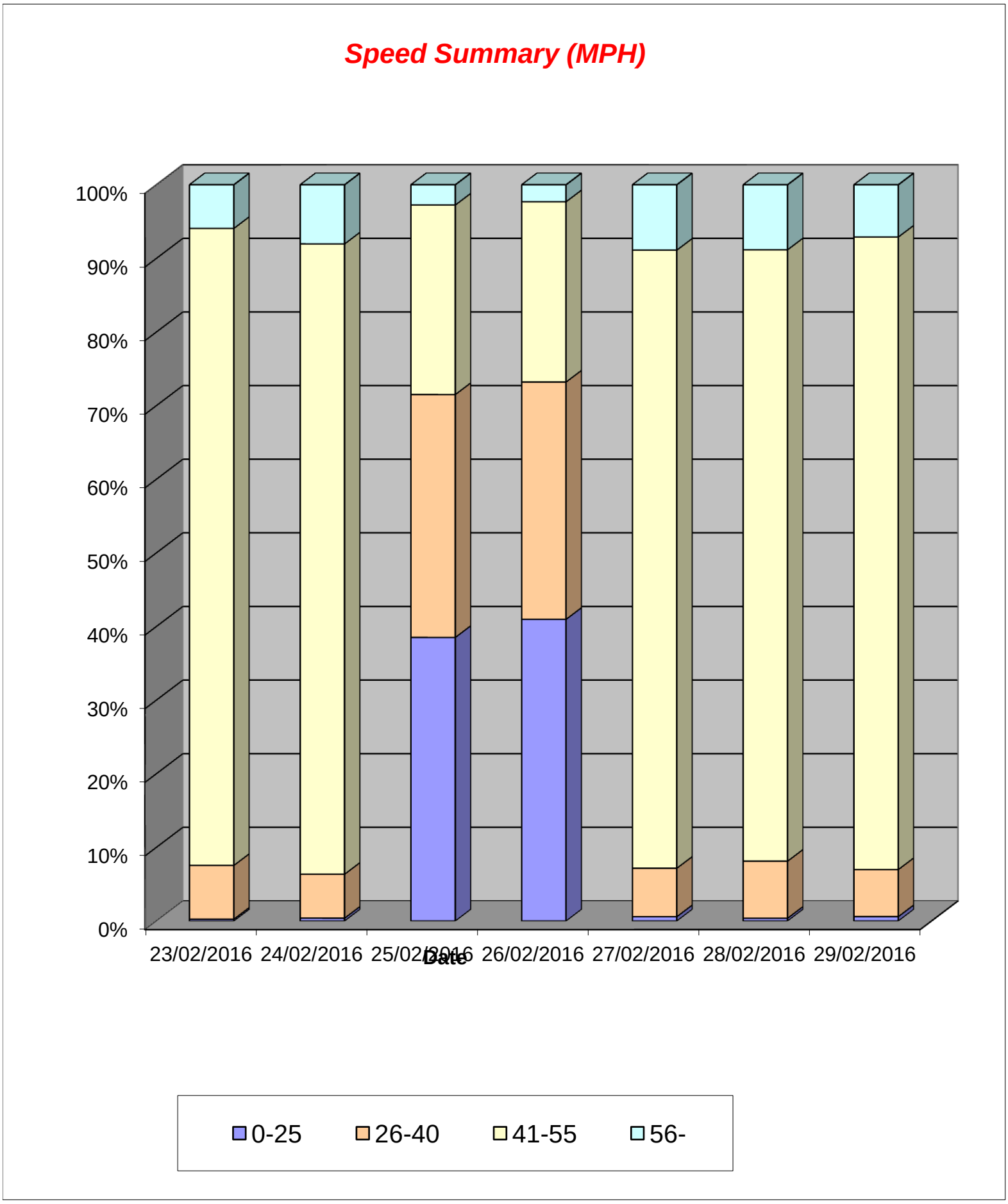
7 Day Ave	52.0

Brailsford ATC, A52 (Western Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound | **Speed Summary** | **Week 1**

Speed (MPH)	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
0-25	13	22	2110	2286	26	15	31
26-40	375	333	1807	1798	291	304	331
41-55	4445	4780	1410	1366	3712	3258	4449
56-	304	448	150	128	392	346	367
TOTAL	**5137**	**5583**	**5477**	**5578**	**4421**	**3923**	**5178**



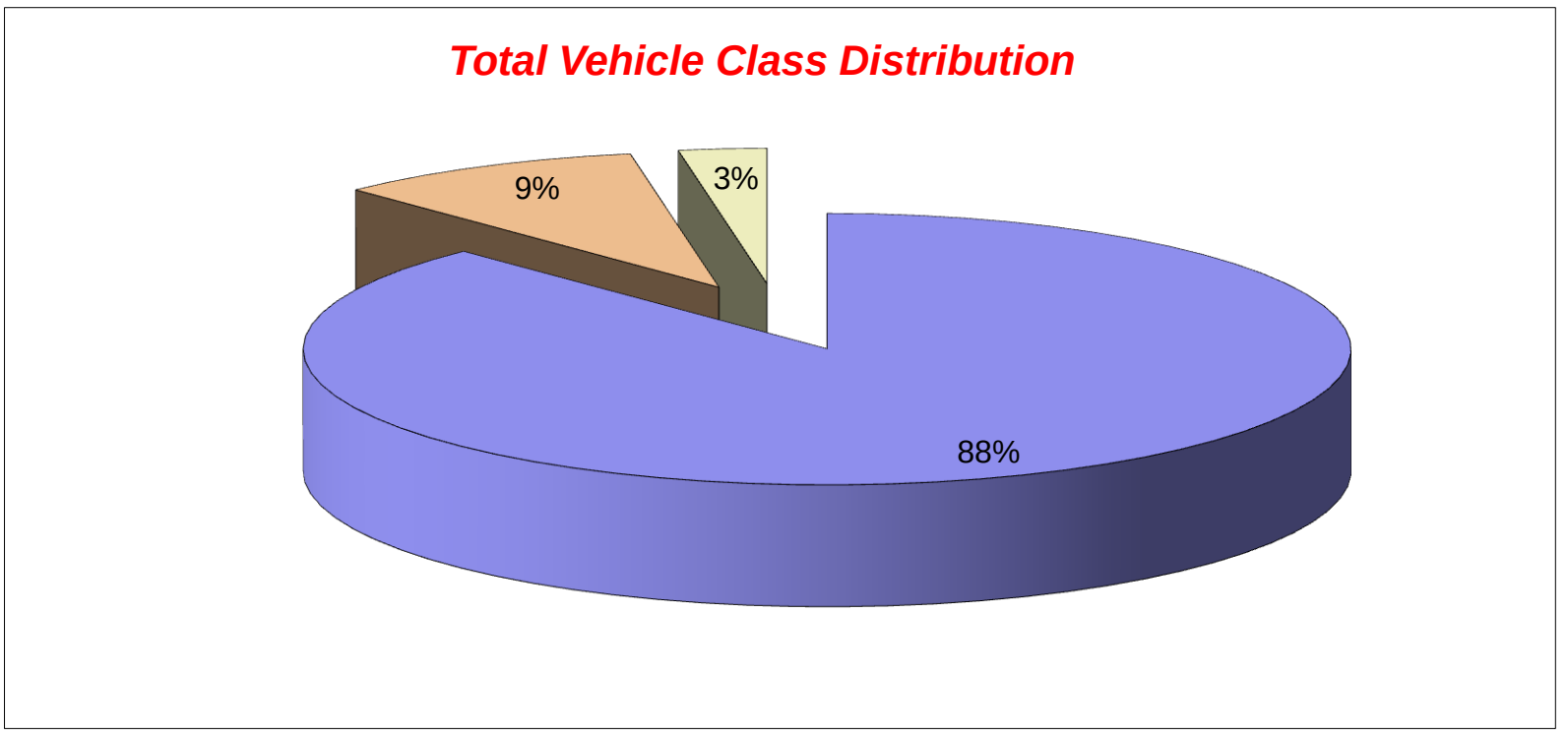
Brailsford ATC, A52 (Western Site)

Produced by Road Data Services Ltd.

Channel 1 - Westbound **Vehicle Class** **Week 1**

Classes / Day / Time	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
23/02/2016				
7-19	3516	496	125	4137
6-22	4114	547	146	4807
6-24	4231	555	150	4936
0-24	4382	582	173	5137
24/02/2016				
7-19	3774	552	130	4456
6-22	4375	610	151	5136
6-24	4593	630	158	5381
0-24	4738	656	189	5583
25/02/2016				
7-19	3881	467	115	4463
6-22	4495	513	129	5137
6-24	4602	519	139	5260
0-24	4766	543	168	5477
26/02/2016				
7-19	4083	418	99	4600
6-22	4677	452	113	5242
6-24	4797	458	116	5371
0-24	4959	477	142	5578
27/02/2016				
7-19	3389	262	41	3692
6-22	3740	297	50	4087
6-24	3858	306	52	4216
0-24	4023	334	64	4421
28/02/2016				
7-19	3124	148	26	3298
6-22	3468	167	36	3671
6-24	3545	168	37	3750
0-24	3698	182	43	3923
29/02/2016				
7-19	3596	517	143	4256
6-22	4155	553	165	4873
6-24	4239	559	169	4967
0-24	4418	581	179	5178

Average				
7-19	3623	409	97	4129
6-22	4146	448	113	4708
6-24	4266	456	117	4840
0-24	4426	479	137	5042

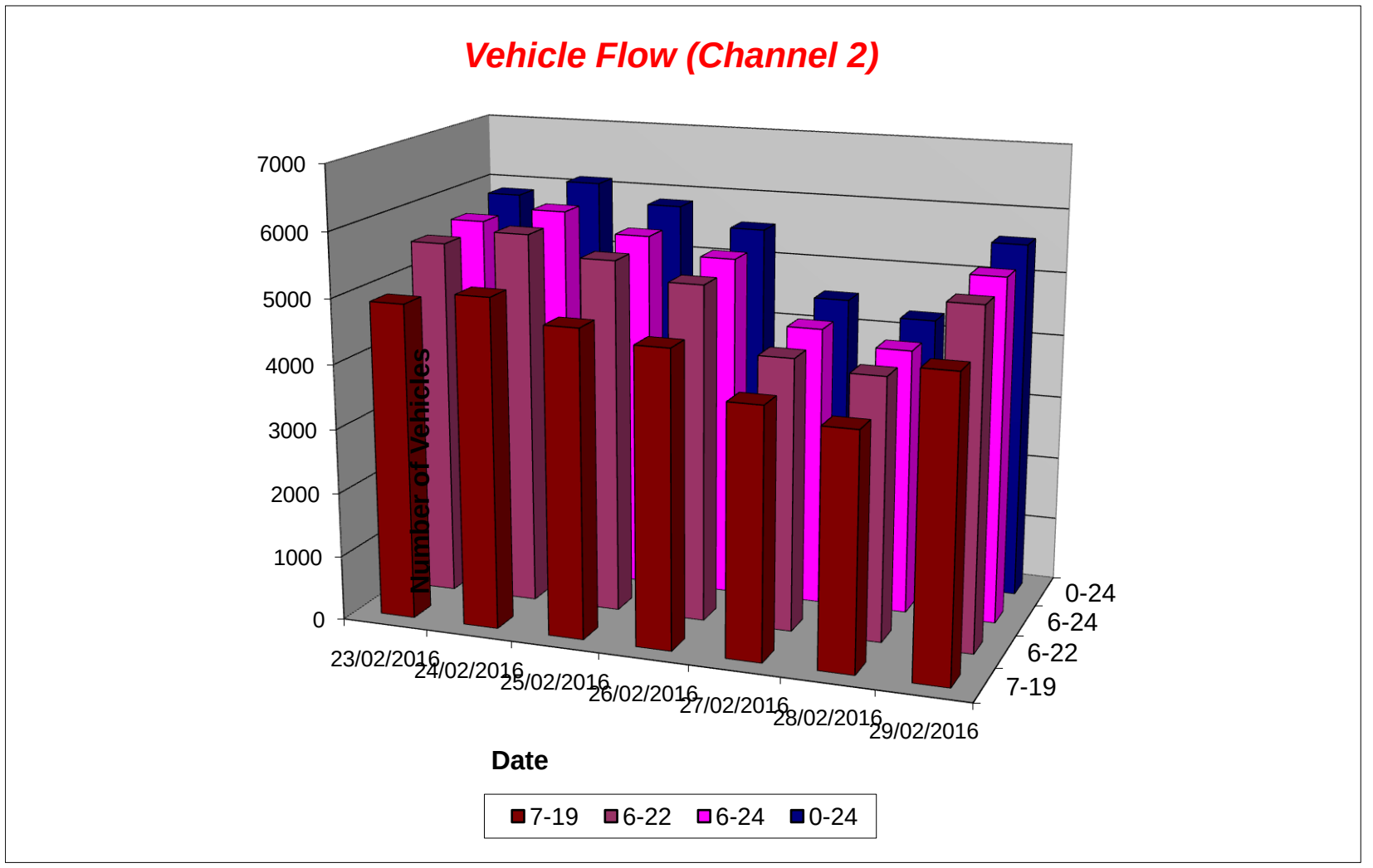


Brailsford ATC, A52 (Western Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Vehicle Flow** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday	5 Day Ave	7 Day Ave
1	11	25	16	26	26	45	12	18	23
2	29	40	30	31	36	24	20	30	30
3	8	6	9	16	15	26	10	10	13
4	16	15	18	18	26	26	14	16	19
5	32	34	34	31	16	13	38	34	28
6	102	107	127	84	43	28	129	110	89
7	295	351	329	278	76	55	287	308	239
8	567	608	582	509	149	70	589	571	439
9	551	588	521	471	241	112	548	536	433
10	466	472	400	373	341	246	355	413	379
11	314	350	306	345	399	320	344	332	340
12	310	353	346	323	369	353	341	335	342
13	300	335	312	313	393	365	313	315	333
14	324	337	349	344	356	348	337	338	342
15	396	370	325	390	332	382	356	367	364
16	360	398	393	389	310	448	319	372	374
17	413	426	433	391	417	417	389	410	412
18	524	522	512	410	310	325	441	482	435
19	377	350	282	322	254	262	270	320	302
20	178	158	166	159	120	173	164	165	160
21	111	101	135	128	97	116	105	116	113
22	69	67	92	72	60	83	78	76	74
23	82	74	72	74	74	45	81	77	72
24	23	39	46	48	58	15	43	40	39
7-19	4902	5109	4761	4580	3871	3648	4602	4791	4496
6-22	5555	5786	5483	5217	4224	4075	5236	5455	5082
6-24	5660	5899	5601	5339	4356	4135	5360	5572	5193
0-24	5858	6126	5835	5545	4518	4297	5583	5789	5395



Brailsford ATC, A52 (Western Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Average Speed** **Week 1**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	51.5	50.2	47.1	39.9	51.5	50.5	51.7
2	55.7	51.5	53.8	41.4	57.3	53.2	55.1
3	52.8	52.3	56.4	44.8	48.5	54.7	53.2
4	50.6	51.9	53.3	37.6	52.9	55.7	53.9
5	54.2	51.8	54.4	37.3	49.6	50.7	53.3
6	52.2	51.9	49.5	35.5	52.7	48.8	51.6
7	48.5	47.5	48.7	36.0	53.8	52.3	48.7
8	47.3	47.1	47.5	33.3	50.8	51.0	46.9
9	45.8	47.1	46.7	32.5	49.1	50.5	46.8
10	46.1	44.2	46.5	32.4	47.2	48.7	46.4
11	46.1	47.7	34.6	32.3	47.4	47.4	44.1
12	46.5	46.2	31.0	32.8	47.5	47.8	46.3
13	47.2	46.8	33.6	32.9	46.7	47.5	47.3
14	46.8	46.0	29.8	33.5	46.0	45.8	46.2
15	44.9	46.4	32.1	32.6	47.2	46.6	45.1
16	44.8	46.5	30.6	33.7	47.0	45.1	46.9
17	45.9	46.9	33.4	32.1	46.2	45.4	46.9
18	46.8	46.0	33.5	37.7	47.6	46.8	47.6
19	47.8	47.7	32.5	47.6	49.6	48.1	48.2
20	47.9	49.5	33.2	50.5	51.5	48.5	49.6
21	50.5	50.5	36.4	49.7	50.7	51.6	51.7
22	48.5	49.1	38.0	52.8	50.1	51.0	51.7
23	52.3	50.3	37.8	53.3	50.2	51.0	50.5
24	53.6	53.5	37.3	51.0	52.2	51.2	49.3
10-12	46.3	46.9	32.7	32.5	47.4	47.6	45.2
14-16	44.9	46.5	31.3	33.1	47.1	45.8	46.0
0-24	46.9	47.0	38.1	36.0	48.0	47.5	47.3

7 Day Ave	44.2

Channel 2 - Eastbound **85th Percentile**

Hr Ending	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
1	57.0	56.2	52.0	46.8	56.5	58.4	61.0
2	65.0	57.9	62.7	49.5	66.0	67.0	64.2
3	57.9	61.5	67.8	52.5	56.9	64.0	61.9
4	59.8	57.8	60.1	46.4	58.3	61.3	59.6
5	63.8	57.1	62.1	44.5	58.3	61.2	61.5
6	57.0	59.1	56.0	45.0	60.7	55.0	59.8
7	54.0	54.0	54.0	45.0	62.0	60.9	55.0
8	50.0	51.0	52.0	39.0	57.0	57.0	51.0
9	50.0	51.0	52.0	39.0	55.0	59.0	52.0
10	50.0	51.0	51.0	38.0	53.0	55.0	50.0
11	51.0	52.0	44.0	39.0	53.3	53.0	50.0
12	51.0	50.2	38.0	40.0	53.0	53.0	50.0
13	52.0	50.0	39.0	39.0	52.0	53.0	51.0
14	51.0	50.0	36.0	39.6	50.8	52.0	51.0
15	50.0	50.0	39.0	39.0	52.0	50.0	50.0
16	50.0	51.0	35.0	39.0	51.7	50.0	51.0
17	51.0	52.0	39.0	39.0	50.0	50.0	52.0
18	52.0	50.0	39.0	45.0	52.0	53.0	53.0
19	54.0	53.0	37.0	54.0	55.0	54.0	54.0
20	56.0	54.0	40.0	57.3	59.0	55.0	55.6
21	56.0	56.0	43.0	57.0	58.0	59.5	62.0
22	55.8	56.0	45.0	60.1	60.2	60.0	61.0
23	58.0	58.0	43.4	66.0	57.0	59.4	58.0
24	63.8	58.3	45.0	59.0	59.5	57.9	54.7
10-12	51.0	52.0	44.0	39.0	53.3	53.0	50.0
14-16	50.0	50.0	37.0	39.0	52.0	50.0	50.0
0-24	52.0	52.0	49.0	45.0	54.0	53.0	53.0

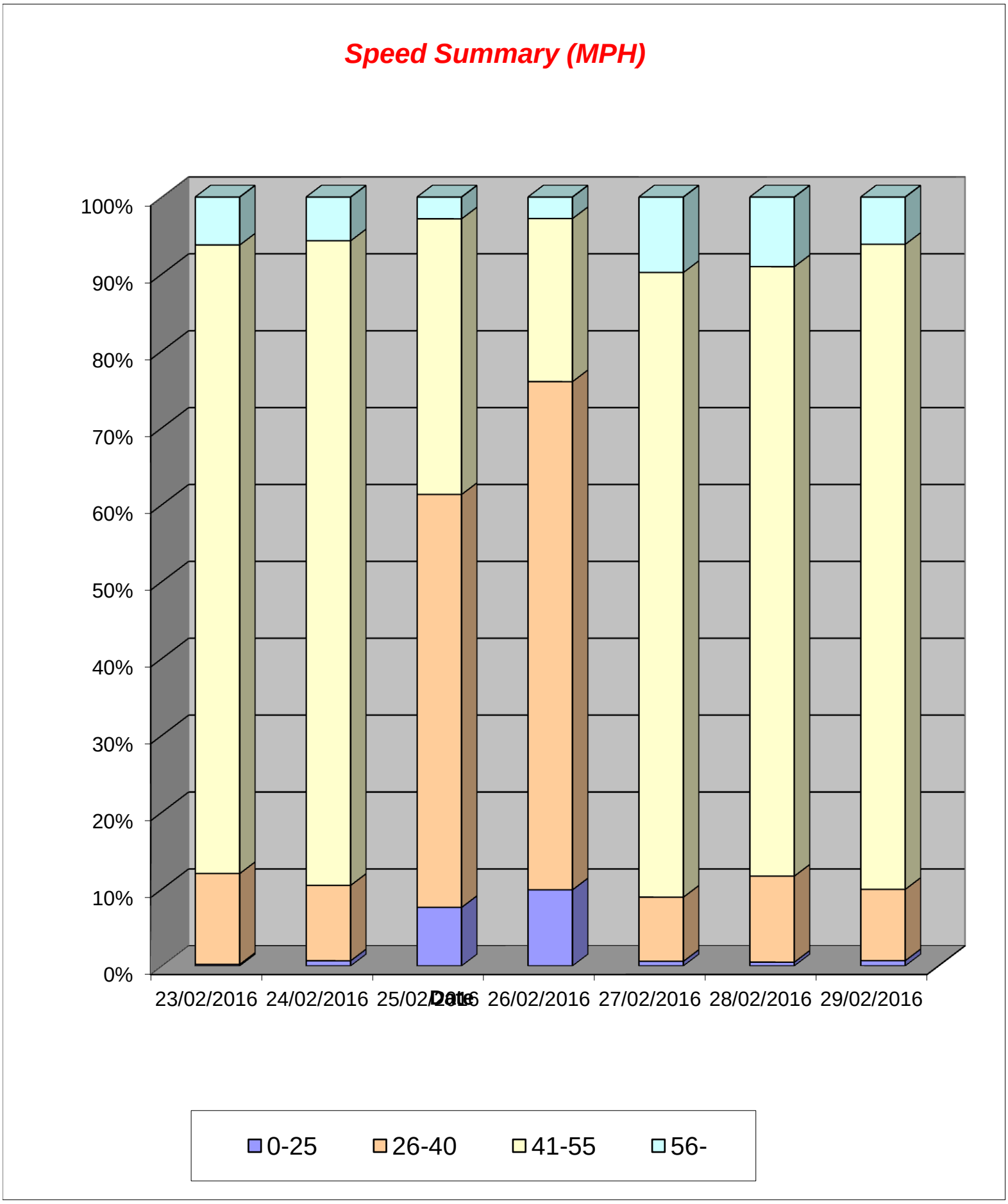
7 Day Ave	52.0

Brailsford ATC, A52 (Western Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Speed Summary** **Week 1**

Speed (MPH)	23/02/2016 Tuesday	24/02/2016 Wednesday	25/02/2016 Thursday	26/02/2016 Friday	27/02/2016 Saturday	28/02/2016 Sunday	29/02/2016 Monday
0-25	12	41	444	549	27	21	38
26-40	692	601	3134	3665	377	481	518
41-55	4789	5136	2092	1176	3671	3406	4684
56-	365	348	165	155	443	389	343
TOTAL	**5858**	**6126**	**5835**	**5545**	**4518**	**4297**	**5583**



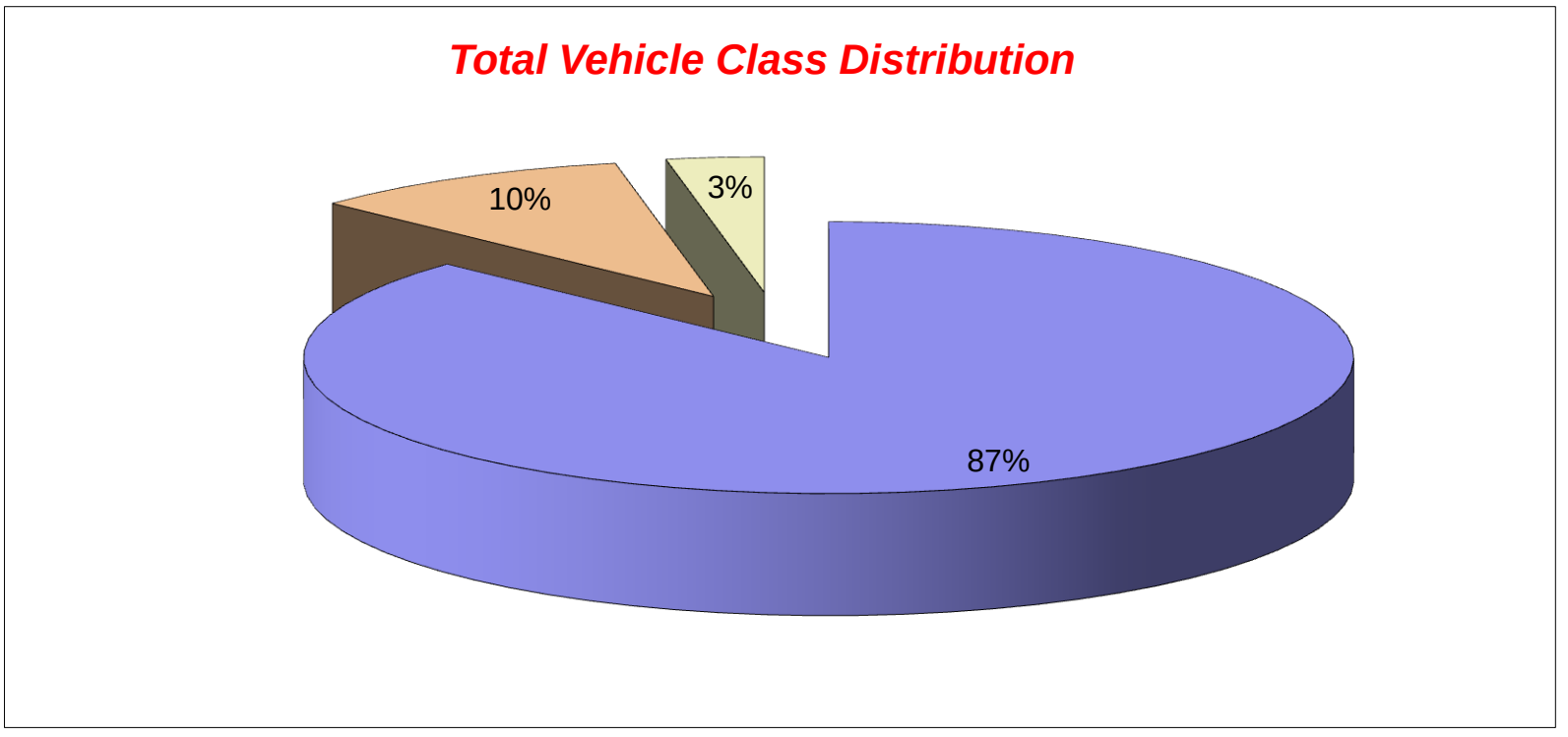
Brailsford ATC, A52 (Western Site)

Produced by Road Data Services Ltd.

Channel 2 - Eastbound **Vehicle Class** **Week 1**

Classes / Day / Time	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
23/02/2016				
7-19	4160	585	157	4902
6-22	4717	655	183	5555
6-24	4815	660	185	5660
0-24	4948	692	218	5858
24/02/2016				
7-19	4387	564	158	5109
6-22	4974	637	175	5786
6-24	5075	646	178	5899
0-24	5251	671	204	6126
25/02/2016				
7-19	4080	539	142	4761
6-22	4691	618	174	5483
6-24	4798	624	179	5601
0-24	4972	655	208	5835
26/02/2016				
7-19	3907	519	154	4580
6-22	4452	589	176	5217
6-24	4563	597	179	5339
0-24	4702	628	215	5545
27/02/2016				
7-19	3567	270	34	3871
6-22	3891	295	38	4224
6-24	4012	304	40	4356
0-24	4145	323	50	4518
28/02/2016				
7-19	3451	160	37	3648
6-22	3845	184	46	4075
6-24	3899	187	49	4135
0-24	4040	199	58	4297
29/02/2016				
7-19	3969	496	137	4602
6-22	4519	558	159	5236
6-24	4623	566	171	5360
0-24	4810	591	182	5583

Average				
7-19	3932	448	117	4496
6-22	4441	505	136	5082
6-24	4541	512	140	5193
0-24	4695	537	162	5395



Brailsford Speed Survey, A52 Western Site

Road Data Services Ltd.

Speed Limit 30

Weather **Tuesday 1st March 2016**

All speeds are recorded from free flowing vehicles

Overcast **11:00 - 15:30**

Westbound

	Speeds(mph)		Speeds(mph)		Speeds(mph)		Speeds(mph)
1	23	51	31	101	33	151	36
2	26	52	31	102	33	152	36
3	26	53	31	103	33	153	36
4	26	54	31	104	33	154	36
5	26	55	31	105	33	155	36
6	26	56	31	106	33	156	36
7	26	57	31	107	33	157	36
8	26	58	31	108	33	158	36
9	26	59	31	109	33	159	36
10	27	60	31	110	33	160	36
11	27	61	31	111	33	161	36
12	27	62	31	112	33	162	36
13	27	63	31	113	33	163	37
14	27	64	32	114	33	164	37
15	27	65	32	115	33	165	37
16	27	66	32	116	33	166	37
17	27	67	32	117	34	167	37
18	28	68	32	118	34	168	37
19	28	69	32	119	34	169	37
20	28	70	32	120	34	170	37
21	28	71	32	121	34	171	37
22	28	72	32	122	34	172	37
23	28	73	32	123	34	173	37
24	28	74	32	124	34	174	37
25	28	75	32	125	34	175	37
26	28	76	32	126	34	176	37
27	28	77	32	127	34	177	37
28	28	78	32	128	35	178	37
29	28	79	32	129	35	179	37
30	28	80	32	130	35	180	38
31	28	81	32	131	35	181	38
32	28	82	32	132	35	182	38
33	29	83	32	133	35	183	38
34	29	84	32	134	35	184	38
35	29	85	32	135	35	185	38
36	29	86	32	136	35	186	38
37	29	87	32	137	36	187	38
38	30	88	32	138	36	188	38
39	30	89	32	139	36	189	38
40	30	90	32	140	36	190	38
41	31	91	32	141	36	191	38
42	31	92	32	142	36	192	39
43	31	93	32	143	36	193	39
44	31	94	33	144	36	194	39
45	31	95	33	145	36	195	39
46	31	96	33	146	36	196	39
47	31	97	33	147	36	197	39
48	31	98	33	148	36	198	40
49	31	99	33	149	36	199	41
50	31	100	33	150	36	200	44

Eastbound

	Speeds(mph)		Speeds(mph)		Speeds(mph)		Speeds(mph)
1	23	51	29	101	30	151	34
2	24	52	29	102	30	152	34
3	24	53	29	103	30	153	34
4	25	54	29	104	30	154	34
5	25	55	29	105	30	155	34
6	25	56	29	106	30	156	34
7	26	57	29	107	30	157	34
8	26	58	29	108	31	158	34
9	26	59	29	109	31	159	34
10	26	60	29	110	31	160	34
11	26	61	29	111	31	161	34
12	26	62	29	112	31	162	34
13	26	63	29	113	31	163	34
14	26	64	29	114	31	164	34
15	26	65	29	115	31	165	35
16	27	66	29	116	31	166	35
17	27	67	29	117	31	167	35
18	27	68	29	118	32	168	35
19	27	69	29	119	32	169	35
20	27	70	30	120	32	170	35
21	27	71	30	121	32	171	35
22	27	72	30	122	32	172	35
23	27	73	30	123	32	173	35
24	27	74	30	124	32	174	35
25	27	75	30	125	32	175	35
26	27	76	30	126	32	176	35
27	27	77	30	127	32	177	35
28	27	78	30	128	33	178	35
29	27	79	30	129	33	179	35
30	28	80	30	130	33	180	35
31	28	81	30	131	33	181	35
32	28	82	30	132	33	182	35
33	28	83	30	133	33	183	35
34	28	84	30	134	33	184	35
35	28	85	30	135	33	185	35
36	28	86	30	136	33	186	35
37	28	87	30	137	33	187	35
38	28	88	30	138	33	188	35
39	28	89	30	139	33	189	35
40	28	90	30	140	33	190	35
41	28	91	30	141	33	191	36
42	28	92	30	142	33	192	36
43	28	93	30	143	33	193	37
44	28	94	30	144	33	194	38
45	28	95	30	145	34	195	38
46	28	96	30	146	34	196	38
47	28	97	30	147	34	197	38
48	28	98	30	148	34	198	38
49	28	99	30	149	34	199	38
50	28	100	30	150	34	200	39

ROAD SURFACE - DRY

Average Westbound	33.0
85th%ile Westbound	37.0
% > Speed Limit Westbound	80.0
% > Speed Limit + 15mph Westbound	0.0

Average Eastound	31.0
85th%ile Eastbound	35.0
% > Speed Limit Eastbound	46.5
% > Speed Limit + 15mph Eastbound	0.0

Brailsford Speed Survey, A52 Eastern Site

Road Data Services Ltd.

Speed Limit 30

Weather **Tuesday 1st March 2016**

All speeds are recorded from free flowing vehicles

Overcast **11:30 - 15:30**

Westbound

	Speeds(mph)		Speeds(mph)		Speeds(mph)		Speeds(mph)
1	19	51	31	101	33	151	36
2	22	52	31	102	33	152	36
3	22	53	31	103	33	153	36
4	24	54	31	104	33	154	36
5	24	55	31	105	33	155	36
6	25	56	31	106	33	156	36
7	25	57	31	107	33	157	36
8	26	58	31	108	33	158	36
9	26	59	31	109	33	159	36
10	26	60	31	110	33	160	36
11	26	61	31	111	33	161	36
12	26	62	31	112	33	162	36
13	26	63	31	113	33	163	36
14	26	64	31	114	33	164	36
15	26	65	31	115	33	165	36
16	27	66	31	116	33	166	36
17	27	67	31	117	33	167	37
18	27	68	31	118	34	168	37
19	27	69	31	119	34	169	37
20	27	70	31	120	34	170	37
21	27	71	31	121	34	171	37
22	27	72	31	122	34	172	37
23	27	73	31	123	34	173	37
24	27	74	31	124	34	174	37
25	28	75	31	125	34	175	37
26	28	76	31	126	34	176	37
27	28	77	32	127	34	177	37
28	28	78	32	128	34	178	37
29	28	79	32	129	34	179	37
30	28	80	32	130	34	180	37
31	28	81	32	131	34	181	37
32	28	82	32	132	34	182	37
33	28	83	32	133	34	183	37
34	28	84	32	134	34	184	38
35	29	85	32	135	34	185	38
36	29	86	32	136	34	186	38
37	29	87	32	137	34	187	38
38	29	88	32	138	34	188	38
39	29	89	32	139	34	189	38
40	30	90	32	140	34	190	38
41	30	91	32	141	34	191	38
42	30	92	32	142	35	192	38
43	31	93	32	143	35	193	38
44	31	94	32	144	35	194	39
45	31	95	33	145	35	195	39
46	31	96	33	146	35	196	39
47	31	97	33	147	35	197	40
48	31	98	33	148	36	198	40
49	31	99	33	149	36	199	42
50	31	100	33	150	36	200	42

Eastbound

	Speeds(mph)		Speeds(mph)		Speeds(mph)		Speeds(mph)
1	20	51	28	101	30	151	34
2	22	52	28	102	30	152	34
3	22	53	28	103	30	153	34
4	22	54	28	104	30	154	34
5	23	55	28	105	30	155	34
6	23	56	28	106	30	156	34
7	23	57	28	107	30	157	34
8	23	58	28	108	30	158	34
9	24	59	28	109	31	159	34
10	24	60	29	110	31	160	34
11	24	61	29	111	31	161	34
12	25	62	29	112	31	162	34
13	25	63	29	113	31	163	34
14	25	64	29	114	31	164	34
15	26	65	29	115	31	165	34
16	26	66	29	116	32	166	34
17	26	67	29	117	32	167	34
18	26	68	29	118	32	168	35
19	26	69	29	119	32	169	35
20	26	70	29	120	32	170	35
21	26	71	29	121	32	171	35
22	26	72	29	122	32	172	35
23	26	73	29	123	32	173	35
24	26	74	29	124	32	174	35
25	26	75	30	125	32	175	35
26	26	76	30	126	32	176	35
27	26	77	30	127	32	177	35
28	26	78	30	128	32	178	35
29	27	79	30	129	32	179	35
30	27	80	30	130	32	180	35
31	27	81	30	131	33	181	35
32	27	82	30	132	33	182	35
33	27	83	30	133	33	183	35
34	27	84	30	134	33	184	35
35	27	85	30	135	33	185	35
36	27	86	30	136	33	186	36
37	27	87	30	137	33	187	36
38	27	88	30	138	33	188	36
39	27	89	30	139	33	189	36
40	27	90	30	140	33	190	36
41	27	91	30	141	33	191	37
42	27	92	30	142	33	192	37
43	28	93	30	143	33	193	37
44	28	94	30	144	33	194	37
45	28	95	30	145	33	195	37
46	28	96	30	146	33	196	37
47	28	97	30	147	33	197	37
48	28	98	30	148	34	198	37
49	28	99	30	149	34	199	38
50	28	100	30	150	34	200	38

ROAD SURFACE - DRY

Average Westbound	32.6
85th%ile Westbound	37.0
% > Speed Limit Westbound	79.0
% > Speed Limit + 15mph Westbound	0.0

Average Eastound	30.6
85th%ile Eastbound	35.0
% > Speed Limit Eastbound	46.0
% > Speed Limit + 15mph Eastbound	0.0

APPENDIX C - SPEED ANALYSIS

Battersea Park Way **IDERBY93** About this PWS | Report

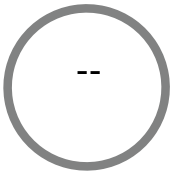
Forecast for Derby, UK > 52.923 -1.525 > 95 m

PWS viewed 7 times since March 1, 2016

Current Conditions

5.8 °C

Feels Like **5.8** °C



Wind from **--**

Dew Point:
6 °C

Humidity:
100%

Precip Rate:
0 mm/hr

Precip Accum:
0 mm

Pressure:
1002.59 hPa

UV:
3

Solar:
--

Soil Moisture:
--

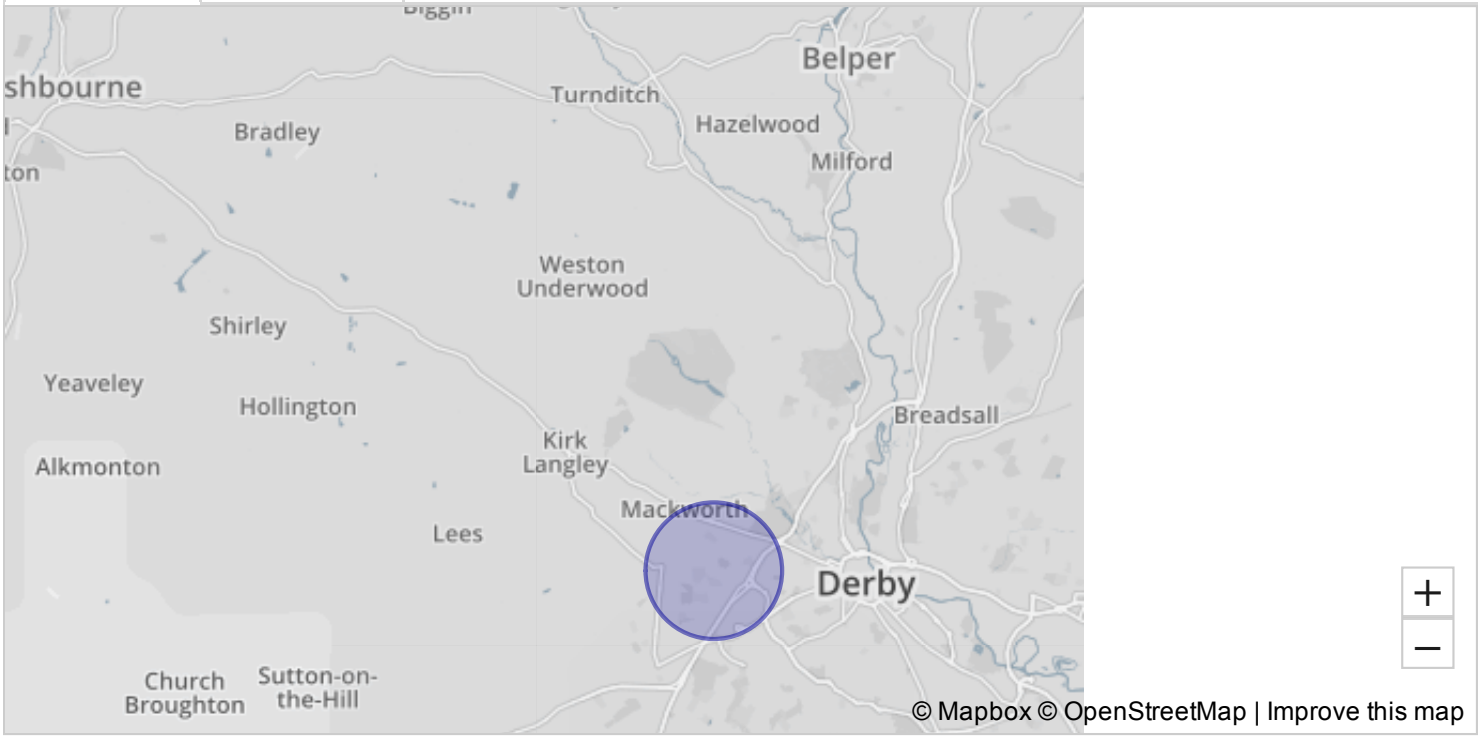
Soil Temp:
--

Leaf Wetness:
--

6:43 AM 7:37 PM

Waning Gibbous | 62% Illuminated

Satellite | Webcam | Icon



View WunderMap

Weather History for Derby, [IDERBY93]

Weekly Mode

February 29

2016

View

Previous Next

Summary

February 22, 2016 - February 29, 2016

	High	Low	Average
Temperature	**7.8** °C	**-0.3** °C	**3.9** °C
Dew Point	**7.8** °C	**-1.7** °C	**1.9** °C
Humidity	**100**%	**67**%	**87.1**%
Precipitation	**1.3** mm	--	--

	High	Low	Average
Wind Speed	**0** km/h	--	**0** km/h
Wind Gust	**0** km/h	--	--
Wind Direction	--	--	**North**
Pressure	**1023.9** hPa	**1000.2** hPa	--

Graphs | **Table**

Download

Weather History Table

February 22, 2016 - February 29, 2016

Feb 22	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.
12:01 AM	7.8 °C	7.8 °C	100 %	--	-- kph	-- kph	1000.2 hPa	0 mm	0 mm
12:41 AM	7.5 °C	7.5 °C	100 %	--	-- kph	-- kph	1000.6 hPa	0 mm	0 mm
1:21 AM	7.1 °C	7.1 °C	100 %	--	-- kph	-- kph	1000.9 hPa	0 mm	0 mm
2:02 AM	6.8 °C	6.8 °C	100 %	--	-- kph	-- kph	1001.2 hPa	0 mm	0 mm
2:42 AM	6.8 °C	6.8 °C	100 %	--	-- kph	-- kph	1001.2 hPa	0 mm	0 mm
3:33 AM	6.6 °C	6.6 °C	100 %	--	-- kph	-- kph	1001.6 hPa	0 mm	0 mm
4:13 AM	6.4 °C	6.4 °C	100 %	--	-- kph	-- kph	1001.6 hPa	0 mm	0 mm
4:53 AM	6.3 °C	6.3 °C	100 %	--	-- kph	-- kph	1001.9 hPa	0 mm	0 mm
5:34 AM	6.3 °C	6.3 °C	100 %	--	-- kph	-- kph	1002.3 hPa	0 mm	0 mm
6:14 AM	6.2 °C	6.2 °C	100 %	--	-- kph	-- kph	1002.3 hPa	0 mm	0 mm
6:54 AM	5.9 °C	5.9 °C	100 %	--	-- kph	-- kph	1002.3 hPa	0 mm	0 mm
7:35 AM	5.7 °C	5.7 °C	100 %	--	-- kph	-- kph	1002.6 hPa	0 mm	0 mm
8:16 AM	5.7 °C	5.7 °C	100 %	--	-- kph	-- kph	1002.9 hPa	0 mm	0 mm

9:06 AM	**5.7** °C	**5.7** °C	**100** %	--	-- kph	-- kph	**1003.3** hPa	**0** mm	**0** mm
9:46 AM	**6.1** °C	**6.1** °C	**100** %	--	-- kph	-- kph	**1003.3** hPa	**0** mm	**0** mm
10:27 AM	**6** °C	**6** °C	**100** %	--	-- kph	-- kph	**1003.9** hPa	**0** mm	**0** mm
10:57 AM	**6** °C	**6** °C	**100** %	--	-- kph	-- kph	**1003.6** hPa	**0** mm	**0** mm
11:57 AM	**6.7** °C	**6.7** °C	**100** %	--	-- kph	-- kph	**1003.9** hPa	**0** mm	**0** mm
12:38 PM	**6.6** °C	**6.6** °C	**100** %	--	-- kph	-- kph	**1003.6** hPa	**0** mm	**0** mm
1:18 PM	**6.8** °C	**6.8** °C	**100** %	--	-- kph	-- kph	**1003.6** hPa	**0** mm	**0** mm
1:48 PM	**7.3** °C	**6.3** °C	**93** %	--	-- kph	-- kph	**1003.6** hPa	**0** mm	**0** mm
2:29 PM	**7.5** °C	**6.4** °C	**93** %	--	-- kph	-- kph	**1003.9** hPa	**0** mm	**0** mm
3:17 PM	**7.5** °C	**7.1** °C	**97** %	--	-- kph	-- kph	**1003.9** hPa	**0** mm	**0** mm
4:07 PM	**7.2** °C	**7.1** °C	**99** %	--	-- kph	-- kph	**1003.6** hPa	**0** mm	**0** mm
4:29 PM	**7** °C	**7** °C	**100** %	--	-- kph	-- kph	**1003.9** hPa	**0** mm	**0** mm
5:10 PM	**6.6** °C	**6.6** °C	**100** %	--	-- kph	-- kph	**1004.3** hPa	**0** mm	**0** mm
5:50 PM	**6.1** °C	**6.1** °C	**100** %	--	-- kph	-- kph	**1005** hPa	**0** mm	**0** mm
6:41 PM	**5.7** °C	**5.7** °C	**100** %	--	-- kph	-- kph	**1005** hPa	**0** mm	**0** mm
7:21 PM	**5.4** °C	**5.4** °C	**100** %	--	-- kph	-- kph	**1006** hPa	**0** mm	**0** mm
8:42 PM	**5.3** °C	**5.3** °C	**100** %	--	-- kph	-- kph	**1006.3** hPa	**0** mm	**0** mm
9:26 PM	**5.2** °C	**5.2** °C	**100** %	--	-- kph	-- kph	**1006.3** hPa	**0** mm	**0** mm
10:16 PM	**5.2** °C	**5.2** °C	**100** %	--	-- kph	-- kph	**1006.3** hPa	**0** mm	**0** mm
10:57 PM	**5** °C	**5** °C	**100** %	--	-- kph	-- kph	**1007** hPa	**0** mm	**0** mm
11:37 PM	**4.6** °C	**4.6** °C	**100** %	--	-- kph	-- kph	**1007** hPa	**0** mm	**0** mm

Feb 23	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.
12:07 AM	4.5 °C	4.5 °C	100 %	--	-- kph	-- kph	1007.3 hPa	0 mm	0 mm
12:37 AM	4.3 °C	4.3 °C	100 %	--	-- kph	-- kph	1007.3 hPa	0 mm	0 mm
1:18 AM	4.3 °C	4.3 °C	100 %	--	-- kph	-- kph	1007.3 hPa	0 mm	0 mm
2:08 AM	4.2 °C	4.2 °C	100 %	--	-- kph	-- kph	1007.7 hPa	0 mm	0 mm
2:49 AM	3.9 °C	3.9 °C	100 %	--	-- kph	-- kph	1008 hPa	0 mm	0 mm
3:29 AM	3.5 °C	3.5 °C	100 %	--	-- kph	-- kph	1008 hPa	0 mm	0 mm
4:09 AM	3.5 °C	3.5 °C	100 %	--	-- kph	-- kph	1008.4 hPa	0 mm	0 mm
4:50 AM	3.5 °C	3.5 °C	100 %	--	-- kph	-- kph	1008.4 hPa	0 mm	0 mm
5:46 AM	3.5 °C	3.5 °C	100 %	--	-- kph	-- kph	1009 hPa	0 mm	0 mm
6:18 AM	3.7 °C	3.7 °C	100 %	--	-- kph	-- kph	1009.4 hPa	0 mm	0 mm
7:14 AM	4 °C	4 °C	100 %	--	-- kph	-- kph	1010 hPa	0 mm	0 mm
7:54 AM	3.8 °C	3.8 °C	100 %	--	-- kph	-- kph	1010.7 hPa	0 mm	0 mm
8:34 AM	3.9 °C	3.9 °C	100 %	--	-- kph	-- kph	1011.7 hPa	0 mm	0 mm
9:15 AM	4.1 °C	4.1 °C	100 %	--	-- kph	-- kph	1012.1 hPa	0 mm	0 mm
10:05 AM	4.4 °C	4.4 °C	100 %	--	-- kph	-- kph	1012.8 hPa	0 mm	0 mm
10:56 AM	4.8 °C	4.8 °C	100 %	--	-- kph	-- kph	1013.1 hPa	0 mm	0 mm
11:36 AM	5.1 °C	5.1 °C	100 %	--	-- kph	-- kph	1013.4 hPa	0 mm	0 mm
1:07 PM	6.3 °C	6.3 °C	100 %	--	-- kph	-- kph	1013.4 hPa	0 mm	0 mm
1:47 PM	6.7 °C	6.6 °C	99 %	--	-- kph	-- kph	1013.8 hPa	0 mm	0 mm
2:18 PM	6.9 °C	6.4 °C	97 %	--	-- kph	-- kph	1013.8 hPa	0 mm	0 mm
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-- kph	1013.8	[illegible]	[illegible]

2:57 PM	**7** °C	**6.7** °C	**98** %	--	-- kph	kph	hPa	**0** mm	**0** mm
3:36 PM	**6.7** °C	**6.1** °C	**96** %	--	-- kph	-- kph	**1014.1** hPa	**0** mm	**0** mm
4:17 PM	**6.4** °C	**5.7** °C	**95** %	--	-- kph	-- kph	**1014.4** hPa	**0** mm	**0** mm
4:57 PM	**6** °C	**5.3** °C	**95** %	--	-- kph	-- kph	**1014.8** hPa	**0** mm	**0** mm
5:29 PM	**5.6** °C	**4.9** °C	**95** %	--	-- kph	-- kph	**1015.1** hPa	**0** mm	**0** mm
6:00 PM	**5.2** °C	**4.2** °C	**93** %	--	-- kph	-- kph	**1015.5** hPa	**0** mm	**0** mm
6:40 PM	**4.7** °C	**3.7** °C	**93** %	--	-- kph	-- kph	**1015.8** hPa	**0** mm	**0** mm
7:20 PM	**4.3** °C	**3.7** °C	**96** %	--	-- kph	-- kph	**1015.8** hPa	**0** mm	**0** mm
8:11 PM	**3.7** °C	**3.3** °C	**97** %	--	-- kph	-- kph	**1015.8** hPa	**0** mm	**0** mm
8:51 PM	**3.4** °C	**2.9** °C	**97** %	--	-- kph	-- kph	**1015.8** hPa	**0** mm	**0** mm
9:32 PM	**2.9** °C	**2.4** °C	**97** %	--	-- kph	-- kph	**1016.1** hPa	**0** mm	**0** mm
10:12 PM	**2.6** °C	**2.2** °C	**97** %	--	-- kph	-- kph	**1016.1** hPa	**0** mm	**0** mm
11:08 PM	**2.2** °C	**1.8** °C	**97** %	--	-- kph	-- kph	**1015.8** hPa	**0** mm	**0** mm
11:47 PM	**1.9** °C	**1.3** °C	**96** %	--	-- kph	-- kph	**1015.8** hPa	**0** mm	**0** mm

Feb 24	**Temperature**	**Dew Point**	**Humidity**	**Wind**	**Speed**	**Gust**	**Pressure**	**Precip. Rate.**	**Precip. Accum.**
12:27 AM	**1.5** °C	**0.7** °C	**94** %	--	-- kph	-- kph	**1016.1** hPa	**0** mm	**0** mm
12:57 AM	**1.2** °C	**0.3** °C	**94** %	--	-- kph	-- kph	**1016.1** hPa	**0** mm	**0** mm
1:19 AM	**0.9** °C	**0.1** °C	**94** %	--	-- kph	-- kph	**1016.1** hPa	**0** mm	**0** mm
2:00 AM	**0.7** °C	**0** °C	**95** %	--	-- kph	-- kph	**1015.5** hPa	**0** mm	**0** mm
2:40 AM	**0.6** °C	**-0.3** °C	**94** %	--	-- kph	-- kph	**1015.5** hPa	**0** mm	**0** mm
3:21 AM	**0.2** °C	**-0.7** °C	**94** %	--	-- kph	-- kph	**1015.1** hPa	**0** mm	**0** mm
4:01 AM	**0.1** °C	**-0.6** °C	**95** %	--	-- kph	--	**1015.1**	**0** mm	**0** mm

						kph	hPa		
4:51 AM	**0** °C	**-0.7** °C	**95** %	--	-- kph	-- kph	**1015.1** hPa	**0** mm	**0** mm
5:42 AM	**-0.1** °C	**-0.8** °C	**95** %	--	-- kph	-- kph	**1014.8** hPa	**0** mm	**0** mm
6:22 AM	**-0.2** °C	**-0.9** °C	**95** %	--	-- kph	-- kph	**1014.4** hPa	**0** mm	**0** mm
7:07 AM	**-0.3** °C	**-1** °C	**95** %	--	-- kph	-- kph	**1014.8** hPa	**0** mm	**0** mm
7:47 AM	**-0.2** °C	**-0.9** °C	**95** %	--	-- kph	-- kph	**1014.8** hPa	**0** mm	**0** mm
8:27 AM	**0** °C	**-0.7** °C	**95** %	--	-- kph	-- kph	**1014.8** hPa	**0** mm	**0** mm
9:07 AM	**0.2** °C	**-0.4** °C	**96** %	--	-- kph	-- kph	**1014.4** hPa	**0** mm	**0** mm
9:28 AM	**0.6** °C	**0.1** °C	**96** %	--	-- kph	-- kph	**1014.4** hPa	**0** mm	**0** mm
9:58 AM	**1** °C	**0.4** °C	**96** %	--	-- kph	-- kph	**1014.4** hPa	**0** mm	**0** mm
10:48 AM	**1.7** °C	**1** °C	**95** %	--	-- kph	-- kph	**1014.1** hPa	**0** mm	**0** mm
11:27 AM	**2.3** °C	**1.4** °C	**94** %	--	-- kph	-- kph	**1013.8** hPa	**0** mm	**0** mm
11:57 AM	**2.7** °C	**2.1** °C	**96** %	--	-- kph	-- kph	**1013.8** hPa	**0** mm	**0** mm
12:37 PM	**3.5** °C	**2.6** °C	**94** %	--	-- kph	-- kph	**1013.4** hPa	**0** mm	**0** mm
12:59 PM	**4.4** °C	**3.2** °C	**92** %	--	-- kph	-- kph	**1012.8** hPa	**0** mm	**0** mm
1:30 PM	**4.6** °C	**3.3** °C	**91** %	--	-- kph	-- kph	**1012.4** hPa	**0** mm	**0** mm
2:15 PM	**5.3** °C	**3.2** °C	**86** %	--	-- kph	-- kph	**1011.7** hPa	**0** mm	**0** mm
2:55 PM	**5.6** °C	**3.3** °C	**85** %	--	-- kph	-- kph	**1011.7** hPa	**0** mm	**0** mm
3:36 PM	**5.1** °C	**2.6** °C	**84** %	--	-- kph	-- kph	**1011.4** hPa	**0** mm	**0** mm
4:16 PM	**4.9** °C	**2.4** °C	**84** %	--	-- kph	-- kph	**1011.4** hPa	**0** mm	**0** mm
4:56 PM	**4.3** °C	**2** °C	**85** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm
5:36 PM	**3.9** °C	**1.4** °C	**84** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm

6:17 PM	**3.4** °C	**1.1** °C	**85** %	--	-- kph	-- kph	**1011.4** hPa	**0** mm	**0** mm
7:08 PM	**2.8** °C	**0.8** °C	**87** %	--	-- kph	-- kph	**1011.7** hPa	**0** mm	**0** mm
7:57 PM	**3.3** °C	**1.3** °C	**87** %	--	-- kph	-- kph	**1011.7** hPa	**0** mm	**0** mm
8:29 PM	**3.3** °C	**1.3** °C	**87** %	--	-- kph	-- kph	**1011.7** hPa	**0** mm	**0** mm
8:59 PM	**3.1** °C	**1.3** °C	**88** %	--	-- kph	-- kph	**1011.7** hPa	**0** mm	**0** mm
9:39 PM	**3** °C	**1.2** °C	**88** %	--	-- kph	-- kph	**1011.7** hPa	**0** mm	**0** mm
10:30 PM	**2.7** °C	**0.9** °C	**88** %	--	-- kph	-- kph	**1011.4** hPa	**0** mm	**0** mm
11:12 PM	**2.3** °C	**0.7** °C	**89** %	--	-- kph	-- kph	**1011.4** hPa	**0** mm	**0** mm
11:53 PM	**2.3** °C	**0.7** °C	**89** %	--	-- kph	-- kph	**1011.4** hPa	**0** mm	**0** mm

Feb 25	**Temperature**	**Dew Point**	**Humidity**	**Wind**	**Speed**	**Gust**	**Pressure**	**Precip. Rate.**	**Precip. Accum.**
12:33 AM	**2.4** °C	**0.8** °C	**89** %	--	-- kph	-- kph	**1011.4** hPa	**0** mm	**0** mm
1:13 AM	**2.3** °C	**0.8** °C	**90** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm
1:53 AM	**1.9** °C	**0.7** °C	**92** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm
2:34 AM	**1.9** °C	**0.9** °C	**93** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm
3:14 AM	**1.8** °C	**0.8** °C	**93** %	--	-- kph	-- kph	**1010.7** hPa	**0** mm	**0** mm
3:54 AM	**1.9** °C	**1.1** °C	**94** %	--	-- kph	-- kph	**1010.7** hPa	**0** mm	**0** mm
4:35 AM	**2.1** °C	**1.2** °C	**94** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm
5:15 AM	**1.7** °C	**0.8** °C	**94** %	--	-- kph	-- kph	**1011.4** hPa	**0** mm	**0** mm
5:55 AM	**1.3** °C	**0.4** °C	**94** %	--	-- kph	-- kph	**1011.7** hPa	**0** mm	**0** mm
6:47 AM	**0.9** °C	**0.2** °C	**95** %	--	-- kph	-- kph	**1011.7** hPa	**0** mm	**0** mm
7:27 AM	**0.6** °C	**-0.1** °C	**95** %	--	-- kph	-- kph	**1012.1** hPa	**0** mm	**0** mm

7:56 AM	**0.6** °C	**-0.1** °C	**95** %	--	-- kph	-- kph	**1012.1** hPa	**0** mm	**0** mm
8:40 AM	**0.9** °C	**0.1** °C	**94** %	--	-- kph	-- kph	**1012.1** hPa	**0** mm	**0** mm
9:20 AM	**1.2** °C	**0.2** °C	**93** %	--	-- kph	-- kph	**1012.4** hPa	**0** mm	**0** mm
10:01 AM	**1.7** °C	**0.2** °C	**90** %	--	-- kph	-- kph	**1012.4** hPa	**0** mm	**0** mm
10:41 AM	**2.3** °C	**0.2** °C	**86** %	--	-- kph	-- kph	**1012.8** hPa	**0** mm	**0** mm
11:21 AM	**3** °C	**0.2** °C	**82** %	--	-- kph	-- kph	**1012.4** hPa	**0** mm	**0** mm
12:02 PM	**3.5** °C	**-0.2** °C	**77** %	--	-- kph	-- kph	**1012.4** hPa	**0** mm	**0** mm
12:52 PM	**3.7** °C	**-1.1** °C	**71** %	--	-- kph	-- kph	**1012.1** hPa	**0** mm	**0** mm
1:53 PM	**4.5** °C	**-0.7** °C	**69** %	--	-- kph	-- kph	**1011.7** hPa	**0** mm	**0** mm
2:43 PM	**5** °C	**-0.4** °C	**68** %	--	-- kph	-- kph	**1011.4** hPa	**0** mm	**0** mm
3:57 PM	**4.9** °C	**-0.3** °C	**69** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm
5:08 PM	**4.5** °C	**0.1** °C	**73** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm
5:48 PM	**4.3** °C	**0.3** °C	**75** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm
6:38 PM	**4.2** °C	**0.3** °C	**76** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm
7:09 PM	**4.1** °C	**0.4** °C	**77** %	--	-- kph	-- kph	**1011.1** hPa	**0** mm	**0** mm
8:07 PM	**4.1** °C	**0.4** °C	**77** %	--	-- kph	-- kph	**1010.7** hPa	**0** mm	**0** mm
8:29 PM	**4** °C	**0.3** °C	**77** %	--	-- kph	-- kph	**1010.7** hPa	**0** mm	**0** mm
9:10 PM	**3.9** °C	**0.4** °C	**78** %	--	-- kph	-- kph	**1010.4** hPa	**0** mm	**0** mm
9:50 PM	**3.9** °C	**0.6** °C	**79** %	--	-- kph	-- kph	**1010.4** hPa	**0** mm	**0** mm
10:35 PM	**3.9** °C	**0.8** °C	**80** %	--	-- kph	-- kph	**1009.7** hPa	**0** mm	**0** mm
11:16 PM	**3.8** °C	**0.8** °C	**81** %	--	-- kph	-- kph	**1009.4** hPa	**0** mm	**0** mm

Feb 26	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.
12:06 AM	3.8 °C	1 °C	82 %	--	-- kph	-- kph	1009.4 hPa	0 mm	0 mm
12:47 AM	3.7 °C	0.9 °C	82 %	--	-- kph	-- kph	1008.7 hPa	0 mm	0 mm
1:17 AM	3.7 °C	0.9 °C	82 %	--	-- kph	-- kph	1008.7 hPa	0 mm	0 mm
2:38 AM	3.6 °C	0.7 °C	81 %	--	-- kph	-- kph	1007.7 hPa	0 mm	0 mm
3:08 AM	3.5 °C	0.6 °C	81 %	--	-- kph	-- kph	1007.3 hPa	0 mm	0 mm
3:48 AM	3.5 °C	0.4 °C	80 %	--	-- kph	-- kph	1007 hPa	0 mm	0 mm
4:48 AM	3.5 °C	0.2 °C	79 %	--	-- kph	-- kph	1006.7 hPa	0 mm	0 mm
5:27 AM	3.5 °C	0.2 °C	79 %	--	-- kph	-- kph	1006.3 hPa	0 mm	0 mm
5:49 AM	3.5 °C	0.2 °C	79 %	--	-- kph	-- kph	1006 hPa	0 mm	0 mm
6:30 AM	3.4 °C	0.1 °C	79 %	--	-- kph	-- kph	1005.6 hPa	0 mm	0 mm
7:11 AM	3.4 °C	0.1 °C	79 %	--	-- kph	-- kph	1006 hPa	0 mm	0 mm
7:51 AM	3.3 °C	0 °C	79 %	--	-- kph	-- kph	1005.6 hPa	0 mm	0 mm
8:31 AM	3.5 °C	0.1 °C	78 %	--	-- kph	-- kph	1005.6 hPa	0 mm	0 mm
9:12 AM	3.9 °C	0.1 °C	76 %	--	-- kph	-- kph	1005.6 hPa	0 mm	0 mm
9:52 AM	4.2 °C	0.2 °C	75 %	--	-- kph	-- kph	1005.6 hPa	0 mm	0 mm
10:32 AM	4.5 °C	0.3 °C	74 %	--	-- kph	-- kph	1005.3 hPa	0 mm	0 mm
11:12 AM	4.8 °C	0.4 °C	73 %	--	-- kph	-- kph	1005 hPa	0 mm	0 mm
11:53 AM	5.4 °C	0.8 °C	72 %	--	-- kph	-- kph	1004.6 hPa	0 mm	0 mm
12:33 PM	5.7 °C	0.9 °C	71 %	--	-- kph	-- kph	1004.3 hPa	0 mm	0 mm
2:07 PM	5.8 °C	0.8 °C	70 %	--	-- kph	-- kph	1003.6 hPa	0 mm	0 mm

2:47 PM	5.9 °C	1.1 °C	71 %	--	-- kph	-- kph	1002.9 hPa	0 mm	0 mm
3:39 PM	5.5 °C	0.5 °C	70 %	--	-- kph	-- kph	1002.9 hPa	0 mm	0 mm
4:20 PM	5.4 °C	0.4 °C	70 %	--	-- kph	-- kph	1002.6 hPa	0 mm	0 mm
5:00 PM	5.2 °C	0.2 °C	70 %	--	-- kph	-- kph	1002.3 hPa	0 mm	0 mm
6:00 PM	4.5 °C	-0.3 °C	71 %	--	-- kph	-- kph	1002.6 hPa	0 mm	0 mm
6:51 PM	4.3 °C	-0.3 °C	72 %	--	-- kph	-- kph	1002.9 hPa	0 mm	0 mm
7:41 PM	4 °C	-0.6 °C	72 %	--	-- kph	-- kph	1003.3 hPa	0 mm	0 mm
8:21 PM	3.5 °C	-0.9 °C	73 %	--	-- kph	-- kph	1003.3 hPa	0 mm	0 mm
9:02 PM	3.6 °C	-0.6 °C	74 %	--	-- kph	-- kph	1003.3 hPa	0 mm	0 mm
9:42 PM	3.5 °C	-0.5 °C	75 %	--	-- kph	-- kph	1003.6 hPa	0 mm	0 mm
10:22 PM	3.5 °C	-0.3 °C	76 %	--	-- kph	-- kph	1003.6 hPa	0 mm	0 mm
11:17 PM	3.5 °C	-0.2 °C	77 %	--	-- kph	-- kph	1003.6 hPa	0 mm	0 mm
11:48 PM	3.5 °C	-0.2 °C	77 %	--	-- kph	-- kph	1003.9 hPa	0 mm	0 mm

Feb 27	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.
12:29 AM	3.5 °C	0.1 °C	78 %	--	-- kph	-- kph	1003.9 hPa	0 mm	0 mm
1:17 AM	3.5 °C	0.2 °C	79 %	--	-- kph	-- kph	1004.3 hPa	0 mm	0 mm
1:47 AM	3.5 °C	0.2 °C	79 %	--	-- kph	-- kph	1004.3 hPa	0 mm	0 mm
2:19 AM	3.3 °C	0.2 °C	80 %	--	-- kph	-- kph	1004.6 hPa	0 mm	0 mm
3:00 AM	3.3 °C	0.2 °C	80 %	--	-- kph	-- kph	1004.6 hPa	0 mm	0 mm
3:40 AM	3.2 °C	0.3 °C	81 %	--	-- kph	-- kph	1004.6 hPa	0 mm	0 mm
4:20 AM	3.1 °C	0.2 °C	81 %	--	-- kph	-- kph	1005 hPa	0 mm	0 mm
5:01 AM	3.1 °C	0 °C	80 %	--	-- kph	--	1005.3	0 mm	0 mm

5:01 AM	3.1 °C	0 °C	80 %	--	-- kph	kph	hPa	0 mm	0 mm
5:43 AM	2.8 °C	-0.3 °C	80 %	--	-- kph	-- kph	1005.6 hPa	0 mm	0 mm
6:47 AM	2.2 °C	-0.6 °C	82 %	--	-- kph	-- kph	1006.3 hPa	0 mm	0 mm
7:09 AM	2 °C	-0.6 °C	83 %	--	-- kph	-- kph	1006.7 hPa	0 mm	0 mm
8:00 AM	2.1 °C	-0.5 °C	83 %	--	-- kph	-- kph	1007 hPa	0 mm	0 mm
8:40 AM	2.6 °C	0 °C	83 %	--	-- kph	-- kph	1008 hPa	0 mm	0 mm
10:31 AM	3.8 °C	1 °C	82 %	--	-- kph	-- kph	1008.7 hPa	0 mm	0 mm
11:11 AM	4.6 °C	1.6 °C	81 %	--	-- kph	-- kph	1008.7 hPa	0 mm	0 mm
11:51 AM	5 °C	1.7 °C	79 %	--	-- kph	-- kph	1009 hPa	0 mm	0 mm
12:42 PM	5.8 °C	1.9 °C	76 %	--	-- kph	-- kph	1009 hPa	0 mm	0 mm
1:22 PM	6.2 °C	1.9 °C	74 %	--	-- kph	-- kph	1009 hPa	0 mm	0 mm
2:02 PM	6.4 °C	2.1 °C	74 %	--	-- kph	-- kph	1009 hPa	0 mm	0 mm
2:43 PM	6.6 °C	2.1 °C	73 %	--	-- kph	-- kph	1009.4 hPa	0 mm	0 mm
3:23 PM	6.2 °C	1.6 °C	72 %	--	-- kph	-- kph	1009.4 hPa	0 mm	0 mm
4:14 PM	5.6 °C	1.6 °C	75 %	--	-- kph	-- kph	1010 hPa	0 mm	0 mm
5:04 PM	5.3 °C	1.4 °C	76 %	--	-- kph	-- kph	1010.4 hPa	0 mm	0 mm
5:44 PM	5 °C	1.5 °C	78 %	--	-- kph	-- kph	1010.7 hPa	0 mm	0 mm
6:45 PM	4.6 °C	1.6 °C	81 %	--	-- kph	-- kph	1011.7 hPa	0 mm	0 mm
7:25 PM	4.4 °C	1.6 °C	82 %	--	-- kph	-- kph	1012.1 hPa	0 mm	0 mm
8:06 PM	4 °C	1.4 °C	83 %	--	-- kph	-- kph	1012.4 hPa	0 mm	0 mm
8:46 PM	4 °C	1.6 °C	84 %	--	-- kph	-- kph	1012.8 hPa	0 mm	0 mm
9:26 PM	4.2 °C	1.6 °C	83 %	--	-- kph	-- kph	1013.4 hPa	0 mm	0 mm

10:17 PM	4.2 °C	1.7 °C	84 %	--	-- kph	-- kph	1013.8 hPa	0 mm	0 mm
11:17 PM	4.2 °C	1.7 °C	84 %	--	-- kph	-- kph	1013.8 hPa	0 mm	0 mm
11:57 PM	4 °C	1.6 °C	84 %	--	-- kph	-- kph	1014.1 hPa	0 mm	0 mm

Feb 28	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.
12:18 AM	3.7 °C	1.3 °C	84 %	--	-- kph	-- kph	1014.4 hPa	0 mm	0 mm
1:08 AM	3.5 °C	1.1 °C	84 %	--	-- kph	-- kph	1014.4 hPa	0 mm	0 mm
1:29 AM	3.2 °C	0.9 °C	85 %	--	-- kph	-- kph	1014.4 hPa	0 mm	0 mm
2:01 AM	2.8 °C	0.6 °C	85 %	--	-- kph	-- kph	1014.4 hPa	0 mm	0 mm
2:41 AM	2.4 °C	0.2 °C	85 %	--	-- kph	-- kph	1014.4 hPa	0 mm	0 mm
3:25 AM	2.2 °C	0.1 °C	86 %	--	-- kph	-- kph	1015.1 hPa	0 mm	0 mm
4:06 AM	2.1 °C	0.2 °C	87 %	--	-- kph	-- kph	1015.1 hPa	0 mm	0 mm
4:46 AM	2.1 °C	0.3 °C	88 %	--	-- kph	-- kph	1015.5 hPa	0 mm	0 mm
5:26 AM	2.1 °C	0.3 °C	88 %	--	-- kph	-- kph	1016.1 hPa	0 mm	0 mm
6:07 AM	2.1 °C	0.5 °C	89 %	--	-- kph	-- kph	1016.5 hPa	0 mm	0 mm
9:57 AM	3.9 °C	2.1 °C	88 %	--	-- kph	-- kph	1018.8 hPa	0 mm	0 mm
10:38 AM	4.2 °C	2.1 °C	86 %	--	-- kph	-- kph	1019.5 hPa	0 mm	0 mm
11:08 AM	4.5 °C	2.2 °C	85 %	--	-- kph	-- kph	1019.5 hPa	0 mm	0 mm
11:47 AM	5.2 °C	2.9 °C	85 %	--	-- kph	-- kph	1019.5 hPa	0 mm	0 mm
12:17 PM	5.7 °C	2.9 °C	82 %	--	-- kph	-- kph	1019.5 hPa	0 mm	0 mm
12:59 PM	6.3 °C	2.6 °C	77 %	--	-- kph	-- kph	1019.5 hPa	0 mm	0 mm
1:49 PM	6.6 °C	2.3 °C	74 %	--	-- kph	-- kph	1019.5 hPa	0 mm	0 mm

2:30 PM	6.7 °C	2.4 °C	74 %	--	-- kph	-- kph	1019.5 hPa	0 mm	0 mm
3:20 PM	6.3 °C	1.4 °C	71 %	--	-- kph	-- kph	1019.5 hPa	0 mm	0 mm
4:00 PM	6.5 °C	1.8 °C	72 %	--	-- kph	-- kph	1019.5 hPa	0 mm	0 mm
5:01 PM	6 °C	0.8 °C	69 %	--	-- kph	-- kph	1020.2 hPa	0 mm	0 mm
5:51 PM	5 °C	-0.2 °C	69 %	--	-- kph	-- kph	1020.9 hPa	0 mm	0 mm
6:42 PM	4.3 °C	0.1 °C	74 %	--	-- kph	-- kph	1021.6 hPa	0 mm	0 mm
7:22 PM	3.9 °C	0.1 °C	76 %	--	-- kph	-- kph	1021.9 hPa	0 mm	0 mm
8:02 PM	3.5 °C	0.1 °C	78 %	--	-- kph	-- kph	1021.9 hPa	0 mm	0 mm
8:42 PM	3.1 °C	-0.2 °C	79 %	--	-- kph	-- kph	1022.2 hPa	0 mm	0 mm
9:28 PM	2.8 °C	-0.3 °C	80 %	--	-- kph	-- kph	1022.6 hPa	0 mm	0 mm
10:14 PM	2.4 °C	-0.5 °C	81 %	--	-- kph	-- kph	1022.9 hPa	0 mm	0 mm
10:54 PM	2.2 °C	-0.6 °C	82 %	--	-- kph	-- kph	1023.2 hPa	0 mm	0 mm
11:35 PM	2 °C	-0.6 °C	83 %	--	-- kph	-- kph	1023.2 hPa	0 mm	0 mm

Feb 29	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.
12:25 AM	1.6 °C	-0.8 °C	84 %	--	-- kph	-- kph	1023.2 hPa	0 mm	0 mm
1:05 AM	1.5 °C	-0.7 °C	85 %	--	-- kph	-- kph	1023.2 hPa	0 mm	0 mm
1:46 AM	1.6 °C	-0.7 °C	85 %	--	-- kph	-- kph	1023.2 hPa	0 mm	0 mm
2:26 AM	1.4 °C	-0.7 °C	86 %	--	-- kph	-- kph	1022.6 hPa	0 mm	0 mm
3:06 AM	1.2 °C	-0.9 °C	86 %	--	-- kph	-- kph	1022.9 hPa	0 mm	0 mm
3:46 AM	1 °C	-1.1 °C	86 %	--	-- kph	-- kph	1022.9 hPa	0 mm	0 mm
4:07 AM	0.8 °C	-1.3 °C	86 %	--	-- kph	-- kph	1022.6 hPa	0 mm	0 mm

4:47 AM	**0.6** °C	**-1.3** °C	**87** %	--	-- kph	-- kph	**1023.2** hPa	**0** mm	**0** mm
5:46 AM	**0.4** °C	**-1.5** °C	**87** %	--	-- kph	-- kph	**1023.2** hPa	**0** mm	**0** mm
6:16 AM	**0.3** °C	**-1.6** °C	**87** %	--	-- kph	-- kph	**1023.2** hPa	**0** mm	**0** mm
6:57 AM	**0.2** °C	**-1.6** °C	**88** %	--	-- kph	-- kph	**1023.2** hPa	**0** mm	**0** mm
7:57 AM	**0.5** °C	**-1.3** °C	**88** %	--	-- kph	-- kph	**1023.6** hPa	**0** mm	**0** mm
8:37 AM	**1** °C	**-0.6** °C	**89** %	--	-- kph	-- kph	**1023.9** hPa	**0** mm	**0** mm
8:58 AM	**1.4** °C	**-0.2** °C	**89** %	--	-- kph	-- kph	**1023.6** hPa	**0** mm	**0** mm
9:47 AM	**2.1** °C	**0.6** °C	**90** %	--	-- kph	-- kph	**1023.6** hPa	**0** mm	**0** mm
10:17 AM	**2.8** °C	**1.5** °C	**91** %	--	-- kph	-- kph	**1023.2** hPa	**0** mm	**0** mm
11:34 AM	**4.4** °C	**2.9** °C	**90** %	--	-- kph	-- kph	**1023.2** hPa	**0** mm	**0** mm
12:14 PM	**5.1** °C	**3.4** °C	**89** %	--	-- kph	-- kph	**1022.2** hPa	**0** mm	**0** mm
12:55 PM	**5.6** °C	**3.4** °C	**86** %	--	-- kph	-- kph	**1022.2** hPa	**0** mm	**0** mm
1:35 PM	**5.9** °C	**3.4** °C	**84** %	--	-- kph	-- kph	**1021.6** hPa	**0** mm	**0** mm
2:15 PM	**6.3** °C	**3.4** °C	**82** %	--	-- kph	-- kph	**1021.9** hPa	**0** mm	**0** mm
2:56 PM	**6.3** °C	**3.3** °C	**81** %	--	-- kph	-- kph	**1021.6** hPa	**0** mm	**0** mm
3:36 PM	**6.4** °C	**3.2** °C	**80** %	--	-- kph	-- kph	**1021.2** hPa	**0** mm	**0** mm
4:16 PM	**6.3** °C	**2.9** °C	**79** %	--	-- kph	-- kph	**1020.2** hPa	**0** mm	**0** mm
4:57 PM	**6** °C	**2.7** °C	**79** %	--	-- kph	-- kph	**1019.9** hPa	**0** mm	**0** mm
5:37 PM	**5.7** °C	**2.3** °C	**79** %	--	-- kph	-- kph	**1018.8** hPa	**0** mm	**0** mm
6:32 PM	**5.3** °C	**2.2** °C	**80** %	--	-- kph	-- kph	**1018.2** hPa	**0** mm	**0** mm
7:13 PM	**5.2** °C	**2.2** °C	**81** %	--	-- kph	-- kph	**1018.5** hPa	**0** mm	**0** mm

7:53 PM	**5.2** °C	**2.4** °C	**82** %	--	-- kph	-- kph	**1017.8** hPa	**0** mm	**0** mm
8:33 PM	**5.2** °C	**2.4** °C	**82** %	--	-- kph	-- kph	**1017.5** hPa	**0** mm	**0** mm
9:14 PM	**5.1** °C	**2.9** °C	**86** %	--	-- kph	-- kph	**1016.8** hPa	**0** mm	**0** mm
9:56 PM	**4.5** °C	**4.1** °C	**97** %	--	-- kph	-- kph	**1016.1** hPa	**0.3** mm	**0.3** mm
10:36 PM	**4.2** °C	**4.2** °C	**100** %	--	-- kph	-- kph	**1015.5** hPa	**0.8** mm	**0.8** mm
11:16 PM	**4.1** °C	**4.1** °C	**100** %	--	-- kph	-- kph	**1014.4** hPa	**0.8** mm	**1.3** mm
11:47 PM	**4** °C	**4** °C	**100** %	--	-- kph	-- kph	**1013.8** hPa	**0.5** mm	**1.3** mm

T16512
Brailsford PC

A52 Speed Survey (Western Site)
(Weekday 10am-12pm/2pm-4pm)

Speed Limit	50mph (at Commonside)

Direction	Volume	Speed	Total	Direction	Volume	Speed	Total
Westbound	299	50.0	14950.0	Eastbound	314	51.0	16014.0
	308	52.0	16016.0		310	51.0	15810.0
	330	52.0	17160.0		396	50.0	19800.0
	369	52.0	19188.0		360	50.0	18000.0
	343	51.0	17493.0		350	52.0	18200.0
	329	51.0	16779.0		353	50.2	17720.6
	347	52.0	18044.0		370	50.0	18500.0
	361	53.0	19133.0		398	51.0	20298.0
	351	51.0	17901.0		344	50.0	17200.0
	286	51.0	14586.0		341	50.0	17050.0
	324	52.0	16848.0		356	50.0	17800.0
	342	52.0	17784.0		319	51.0	16269.0
Total	3989		205882.0	Total	4211		212661.6

(Note: Thursday 25/02 and Friday 26/02 data not used due to apparent errors in speed data from 10am on 25/02 through to 7pm on 26/02, when speeds were significantly lower)

Weighted 85th Percentile Speed =	51.6	Weighted 85th Percentile Speed =	50.5
Wet Weather Reduction	2.5	Wet Weather Reduction	2.5
Wet Weather 85th Percentile Speed =	**49.1**	**Wet Weather 85th Percentile Speed =**	**48.0**

7-day - Westbound		7-day - Eastbound	
Weighted 85th Percentile Speed =	52.0	Weighted 85th Percentile Speed =	52.0
Wet Weather Reduction	2.5	Wet Weather Reduction	2.5
Wet Weather 85th Percentile Speed =	49.5	Wet Weather 85th Percentile Speed =	49.5

Average Weekday Westbound Speeds are c. 45mph
(Wet Weather 24 hours)

Average Weekday Eastbound Speeds are c. 44.5mph
(Wet Weather 24 hours)

ALL SPEEDS SHOWN ARE MPH

T16512
Brailsford PC

A52 Speed Survey (Middle Site)
(Weekday 10am-12pm/2pm-4pm)

Speed Limit	30/50mph (at entry/exit to Village)

Direction	Volume	Speed	Total	Direction	Volume	Speed	Total
Westbound	303	42.0	12726.0	Eastbound	312	43.0	13416.0
	305	41.0	12505.0		311	42.0	13062.0
	333	43.0	14319.0		378	40.0	15120.0
	381	44.0	16764.0		365	40.4	14746.0
	359	43.0	15437.0		346	40.0	13840.0
	345	43.0	14835.0		316	40.0	12640.0
	349	43.0	15007.0		353	40.0	14120.0
	356	45.0	16020.0		394	40.0	15760.0
	339	45.0	15255.0		318	40.0	12720.0
	377	43.0	16211.0		352	39.0	13728.0
	373	43.0	16039.0		350	39.0	13650.0
	410	44.0	18040.0		399	36.0	14364.0
	306	43.0	13158.0		367	37.0	13579.0
	366	43.0	15738.0		322	37.0	11914.0
	394	44.0	17336.0		418	35.0	14630.0
	487	43.0	20941.0		404	38.0	15352.0
	341	43.0	14663.0		344	40.0	13760.0
	293	43.0	12599.0		336	40.0	13440.0
	311	43.0	13373.0		358	39.0	13962.0
	348	44.0	15312.0		312	41.4	12916.8
Total	7076		306278.0	Total	7055		276719.8

Weighted 85th Percentile Speed =	43.3	Weighted 85th Percentile Speed =	39.2
Wet Weather Reduction	2.5	Wet Weather Reduction	2.5
Wet Weather 85th Percentile Speed =	**40.8**	**Wet Weather 85th Percentile Speed =**	**36.7**

7-day - Westbound		7-day - Eastbound	
Weighted 85th Percentile Speed =	45.0	Weighted 85th Percentile Speed =	42.0
Wet Weather Reduction	2.5	Wet Weather Reduction	2.5
Wet Weather 85th Percentile Speed =	42.5	Wet Weather 85th Percentile Speed =	39.5

Average Weekday Westbound Speeds are c. 37mph
(Wet Weather 24 hours)

Average Weekday Eastbound Speeds are c. 32mph
(Wet Weather 24 hours)

ALL SPEEDS SHOWN ARE MPH

T16512
Brailsford PC

A52 Speed Survey (Eastern Site)
(Weekday 10am-12pm/2pm-4pm)

Speed Limit	30/50mph (at entry/exit to Village)

Direction	Volume	Speed	Total	Direction	Volume	Speed	Total
Westbound	317	36.0	11412.0	Eastbound	333	37.0	12321.0
	316	35.0	11060.0		327	36.1	11804.7
	395	35.0	13825.0		419	35.0	14665.0
	417	35.0	14595.0		418	36.0	15048.0
	377	35.0	13195.0		356	36.0	12816.0
	366	35.0	12810.0		344	35.6	12246.4
	402	35.0	14070.0		402	36.0	14472.0
	388	35.0	13580.0		479	36.0	17244.0
	397	35.0	13895.0		339	36.0	12204.0
	418	35.0	14630.0		371	36.0	13356.0
	436	35.0	15260.0		391	36.0	14076.0
	444	34.0	15096.0		476	35.0	16660.0
	330	35.0	11550.0		415	35.0	14525.0
	409	34.0	13906.0		379	36.0	13644.0
	470	34.0	15980.0		473	36.0	17028.0
	511	34.0	17374.0		450	35.0	15750.0
	382	35.0	13370.0		375	36.0	13500.0
	312	36.0	11232.0		358	37.0	13246.0
	361	35.0	12635.0		400	36.0	14400.0
	384	34.0	13056.0		380	35.0	13300.0
Total	7832		272531.0	Total	7885		282306.1

Weighted 85th Percentile Speed =	34.8	Weighted 85th Percentile Speed =	35.8
Wet Weather Reduction	2.5	Wet Weather Reduction	2.5
Wet Weather 85th Percentile Speed =	**32.3**	**Wet Weather 85th Percentile Speed =**	**33.3**

7-day - Westbound		7-day - Eastbound	
Weighted 85th Percentile Speed =	36.0	Weighted 85th Percentile Speed =	37.0
Wet Weather Reduction	2.5	Wet Weather Reduction	2.5
Wet Weather 85th Percentile Speed =	33.5	Wet Weather 85th Percentile Speed =	34.5

Average Weekday Westbound Speeds are c. 29mph
(Wet Weather 24 hours)

Average Weekday Eastbound Speeds are c. 30.5mph
(Wet Weather 24 hours)

ALL SPEEDS SHOWN ARE MPH

T16512
Brailsford PC

A52 Speed Survey (Centre of Brailsford to West of Luke Lane)
(Weekday 11am-3.30pm)

Speed Limit	30mph

Direction	85th Dry Speed	Wet Weather Reduction	**85th Wet Speed**
Westbound	37.0	2.5	**34.5**
Eastbound	35.0	2.5	**32.5**

Direction	Average Dry Speed	Wet Weather Reduction	Average Wet Speed
Westbound	33.0	2.5	30.5
Eastbound	31.0	2.5	28.5

ALL SPEEDS SHOWN ARE MPH

A52 Speed Survey (Centre of Brailsford to East of Luke Lane)
(Weekday 11.30am-3.30pm)

Speed Limit	30mph

Direction	85th Dry Speed	Wet Weather Reduction	**85th Wet Speed**
Westbound	37.0	2.5	**34.5**
Eastbound	35.0	2.5	**32.5**

Direction	Average Dry Speed	Wet Weather Reduction	Average Wet Speed
Westbound	32.6	2.5	30.1
Eastbound	30.6	2.5	28.1

APPENDIX D - ACCIDENT DATA

Brailsford

Selected Range of Accidents between dates 01/09/2010 and 31/08/2015
Selected using Manual Selection

SCALE	1 : 14170
DATE	01/02/2016
DRAWING No.	
DRAWN BY	Alison Morse

alison.morse.5144@derbyshire.pnn.police.uk

Details of Personal Injury Accidents for Period - **01/09/2010** **to** **31/08/2015** (60) months

Selection: **Notes:**

Selected using Build Query :

Police Ref. / Road No. / 2nd Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
B000387/10	Wednesday 17/11/2010 0734hrs	BRAILSFORD A52 PAINTERS LANE 800 MTRS N/W BRAILSFORD	Veh 1	Goods < 3.5t	Going ahead	SE to NW	
			Veh 2	Car	Stopping	SE to NW Dri	M 38 Slight
R1: A 52			Veh 3	Car	Stopping	SE to NW	
E 424,839	Wet/Damp						
N 341,829	Fine without high winds						
	50 mph						
	LC sk						
B000338/11	Friday 07/10/2011 2044hrs	BRAILSFORD A52 MAIN RD LOC N/V	Veh 1	Car	Going ahead LH bend	N to SE Dri	F 65 Slight
			Veh 2	Other M/veh	Going ahead RH bend	SE to N	
R1: A 52	Darkness: street lights present a						
E 425,620	Wet/Damp						
N 341,309	Fine without high winds						
	30 mph						
B000670/12	Friday 04/05/2012 1015hrs	BRAILSFORD A52 PAINTERS LANE AT COMMONSIDE LOC N/V	Veh 1	Car	O/take m/veh o/side	SE to NW Dri	M Serious
			Veh 2	Car	Going ahead	NW to SE Dri	F 18 Slight
R1: A 52			Veh 3	Car	Going ahead	SE to NW	
			Veh 4	Car	Going ahead	NW to SE Dri	F 45 Slight
E 424,873	Dry						
N 341,815	Unknown						
	50 mph						
B002565/12	Tuesday 18/12/2012 0823hrs	EDNASTON A52 PAINTERS LANE J/W DERBY LANE	Veh 1	Car	Going ahead	NW to SE Dri	F 19 Slight
			Veh 2	Car	Wait go ahead held	NW to SE Dri	F 31 Slight
R1: A 52			Veh 3	Car	Wait go ahead held	NW to SE Dri	F 28 Slight
R2: C 160							
E 423,762	Wet/Damp						
N 341,987	Fine without high winds						
	50 mph						
B000698/13	Sunday 07/04/2013 1515hrs	BRAILSFORD A52 LOC N/V	Veh 1	Car	Stopping	NW to SE	
			Veh 2	Car	Wait go ahead held	NW to SE Dri	M 52 Slight
R1: A 52			Veh 2	Car	Wait go ahead held	NW to SE FSP	F 19 Slight
			Veh 2	Car	Wait go ahead held	NW to SE RSP	F 19 Slight
E 425,034	Dry						
N 341,735	Fine without high winds						
	50 mph						

Details of Personal Injury Accidents for Period - **01/09/2010** **to** **31/08/2015** (60) months

Selection: **Notes:**

Selected using Build Query :

Police Ref. / Road No. / 2nd Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class						Casualties: Sex / Age / Sev
B000670/13	Sunday	BRAILSFORD A52 MAIN RD ON BEND NR ROSE & CROWN PH	Veh 1	Car	Going ahead LH bend	N to SE	Dri		F 69 Slight
	21/04/2013		Veh 2	Car	Going ahead RH bend	SE to N	Dri		M 22 Serious
R1: A 52	1547hrs		Veh 2	Car	Going ahead RH bend	SE to N	FSP		F 23 Serious
E 425,886	Dry								
N 341,136	Fine without high winds								
	30 mph								
B000714/13	Sunday	BRAILSFORD A52 MAIN RD J/W ROSE & CROWN PH CAR PARK	Veh 1	Car	Going ahead	S to N			
	28/04/2013		Veh 2	Car	Wait go ahead held	S to N	Dri		F 24 Slight
R1: A 52	1430hrs		Veh 3	Car	Wait to turn right	S to N			
R2: U									
E 425,872	Dry								
N 341,144	Fine without high winds								
	30 mph								
0000513/13	Tuesday	Brailsford A52 Main Road	Veh 1	Car	Stopping	NW to SE	Dri		M 28 Slight
	28/05/2013		Veh 1	Car	Stopping	NW to SE	FSP		M 55 Slight
R1: A 52	1356hrs		Veh 2	Other M/veh	Parked	0 to 0			
E 425,584	Wet/Damp								
N 341,344	Raining without high winds								
	30 mph								
0001386/13	Sunday	Brailsford A52 Painters Lane at j/w UC, Mill Lane	Veh 1	Car	Going ahead	E to W			
	07/07/2013		Veh 2	Car	Wait to turn right	E to N	FSP		F 40 Slight
R1: A 52	1030hrs								
R2: U									
E 424,362	Dry								
N 341,887	Unknown								
	50 mph								
0001730/13	Saturday	SHIRLEY Common A52 PAINTERS LANE at j/w C160, DERBY LANE	Veh 2	Car	O/take m/veh o/side	NW to SE			
	03/08/2013		Veh 3	Goods > 7.5t	Change lane to left	NW to E			
R1: A 52	0827hrs		Veh 1	Car	Wait to turn right	NW to SW	Dri		F 34 Slight
R2: C 160									
E 423,767	Dry								
N 341,985	Fine without high winds								
	50 mph								

Details of Personal Injury Accidents for Period - **01/09/2010** **to** **31/08/2015** (60) months

Selection: **Notes:**

Selected using Build Query :

Police Ref. / Road No. / 2nd Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
0002113/13	Saturday 24/08/2013 1259hrs	Ednaston A52 Painters Lane at j/w C160, Derby Lane	Veh 3	Car	Going ahead	SE to NW Dri	M 52 Serious
			Veh 3	Car	Going ahead	SE to NW RSP	F 49 Fatal
R1: A 52			Veh 3	Car	Going ahead	SE to NW FSP	M 68 Serious
R2: C 160			Veh 3	Car	Going ahead	SE to NW RSP	F 61 Serious
E 423,769	Dry		Veh 2	Car	Wait go ahead held	NW to SE Dri	F 52 Slight
N 341,983	Fine without high winds		Veh 2	Car	Wait go ahead held	NW to SE FSP	F Slight
	50 mph		Veh 1	Car	O/take s/veh o/side	NW to SE Dri	M 49 Slight
0004253/13	Thursday 12/12/2013 1150hrs	Ednaston A52 Painters lane at j/w C160, derby lane	Veh 1	M/C > 500 cc	O/take on n/side	NW to SE Dri	M 41 Slight
			Veh 2	Goods < 3.5t	Stopping	NW to SE	
R1: A 52							
R2: C 160							
E 423,754	Wet/Damp						
N 341,996	Fine without high winds						
	50 mph						
0006327/14	Wednesday 09/04/2014 0645hrs	brailsford A52 Main road at j/w C78, Luke Lane	Veh 3	Car	Wait to turn right	SE to NE Dri	M 59 Slight
			Veh 1	Car	Going ahead	SE to NW Dri	M 25 Slight
R1: A 52			Veh 2	Car	Wait go ahead held	SE to NW Dri	M 56 Slight
R2: C 78							
E 425,416	Dry						
N 341,537	Fine without high winds						
	30 mph						
0006938/14	Tuesday 13/05/2014 1727hrs	Brailsford A52 Painter's Lane at j/w C160, Derby Lane	Veh 2	Car	Wait go ahead held	NW to SE Dri	M 84 Slight
			Veh 4	Car	Going ahead	SE to NW	
R1: A 52			Veh 1	Car	Going ahead	NW to SE	
R2: C 160			Veh 3	Car	Wait to turn right	NW to SW Dri	F 60 Slight
E 423,776	Dry						
N 341,980	Fine without high winds						
	50 mph						
0007085/14	Sunday 18/05/2014 1510hrs	Brailsford A52 Main Road nr. Lampost (number not known)	Veh 1	Car	Going ahead	SE to NW RSP	F 50 Slight
			Veh 1	Car	Going ahead	SE to NW RSP	F 50 Slight
R1: A 52			Veh 1	Car	Going ahead	SE to NW RSP	F 21 Slight
			Veh 2	Car	Going ahead	NW to SE FSP	M 62 Serious
E 425,267	Dry						
N 341,593	Fine without high winds						
	30 mph						

Details of Personal Injury Accidents for Period - **01/09/2010** **to** **31/08/2015** (60) months

Selection: **Notes:**

Selected using Build Query :

Police Ref. / Road No. / 2nd Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
0007364/14	Thursday 05/06/2014 2215hrs	Brailsford A52 Painters Lane	Veh 2 Pedal cycle Going ahead W to E Dri				M 44 Serious
R1: A 52			Veh 1 Car Going ahead W to E				
	Darkness: no street lighting						
E 424,504	Dry						
N 341,902	Fine without high winds						
	50 mph						
0010127/14	Thursday 30/10/2014 1756hrs	Ednaston A52 Painter's Lane at j/w C160, Derby Lane	Veh 2 Car Turning right NW to SW				
R1: A 52			Veh 1 Car Going ahead NW to SE Dri				M 24 Slight
R2: C 160	Darkness: no street lighting						
E 423,777	Dry						
N 341,980	Fine without high winds						
	50 mph						
0011474/15	Friday 02/01/2015 1627hrs	BRAILSFORD A52	Veh 1 Car Going ahead SE to NW Ped				F 70 Serious
R1: A 52	Darkness: street lights present a						
E 425,562	Dry						
N 341,376	Fine without high winds						
	30 mph						
0012602/15	Wednesday 04/03/2015 1742hrs	brailsford A52 Painters Lane at j/w C160, derby lane	Veh 2 Car Going ahead SE to NW Dri				F 19 Slight
R1: A 52			Veh 1 Car Turning right SW to SE Dri				M 80 Serious
R2: C 160							
E 423,774	Dry						
N 341,981	Fine without high winds						
	50 mph						
0013801/15	Tuesday 12/05/2015 1841hrs	Ednaston C160 Derby Lane	Veh 2 Car Going ahead RH bend E to NW				
R1: C 160			Veh 1 Car Going ahead LH bend NW to E Dri				F 41 Slight
E 423,640	Dry						
N 341,925	Fine without high winds						
	60 mph						

Details of Personal Injury Accidents for Period - **01/09/2010** **to** **31/08/2015** (60) months

Selection: **Notes:**

Selected using Build Query :

			Vehicles					Casualties		
Police Ref.	Day	Location Description	Veh No / Type / Manv / Dir / Class					Sex / Age / Sev		
	Date									
Road No.	Time									
2nd Road No.	D/L									
Grid Ref.	R.S.C									
	Weather									
	Speed									
	Account of Accident									
0013978/15	Thursday	Brailsford C78 Luke Lane	Veh 1	Car	U turn	S	to S	Ped	F	Slight
	21/05/2015									
R1: C 78	1150hrs									
E 425,462	Dry									
N 341,793	Fine without high winds									
	30 mph									
0015274/15	Sunday	BRAILSFORD A52 PAINTERS LANE	Veh 1	Car	Going ahead LH bend	SE	to W	Dri	M	19 Fatal
	09/08/2015									
R1: A 52	0610hrs									
E 424,604	Dry									
N 341,907	Fine without high winds									
	50 mph									

APPENDIX E - JUNCTIONS 8 OUTPUT – PICADY MODELLING

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: T16512 Luke Lane.arc8
Path: G:\General\Projects\T16512 Brailsford PC\Junction Assessments\Picady
Report generation date: 26/04/2016 15:10:29

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Existing Situation - 2016 Base							
Stream B-AC	1.10	18.04	0.52	C	0.65	13.50	0.39	B
Stream C-AB	0.71	7.03	0.26	A	1.26	7.35	0.38	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	Existing Situation - 2021 Base							
Stream B-AC	1.39	21.13	0.58	C	0.80	15.46	0.44	C
Stream C-AB	0.88	7.15	0.30	A	1.67	7.95	0.45	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	Existing Situation - 2021 Base + Expected Development							
Stream B-AC	4.69	60.65	0.84	F	1.52	24.90	0.61	C
Stream C-AB	1.50	7.83	0.41	A	4.50	13.46	0.69	B
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2016 Base, AM " model duration: 08:00 - 09:00
"D2 - 2016 Base, PM" model duration: 17:00 - 18:00
"D3 - 2021 Base, AM" model duration: 08:00 - 09:00
"D4 - 2021 Base, PM" model duration: 17:00 - 18:00
"D9 - 2021 Base + Expected Development, AM" model duration: 08:00 - 09:00
"D10 - 2021 Base + Expected Development, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.6.541 at 26/04/2016 15:10:26

File summary

Title	A52-Luke Lane Junction
Location	Brailsford
Site Number	
Date	25/04/2016
Version	
Status	(new file)
Identifier	
Client	Brailsford PC
Jobnumber	T16512
Enumerator	James Parker
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perTimeSegment	s	-Min	perMin

Existing Situation - 2016 Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Situation	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2016 Base, AM	2016 Base	AM		DIRECT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		12.90	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A52 W		Major
B	B	Luke Lane		Minor
C	C	A52 E		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.40										30	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.389	0.090	0.228	0.143	0.326
1	B-C	165.668	0.097	0.246	-	-
1	C-B	157.969	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/TS)	Flow Scaling Factor (%)
A	DIRECT	✓	N/A	100.000
B	DIRECT	✓	N/A	100.000
C	DIRECT	✓	N/A	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/TS)	DirectDemandEntryFlowInPCU (PCU/TS)	Direct Demand Exit Flow (PCU/TS)	Direct Demand Pedestrian Flow (Ped/TS)
08:00-08:15	A	166.00	166.00		
08:00-08:15	B	55.00	55.00		
08:00-08:15	C	132.00	132.00		
08:15-08:30	A	182.00	182.00		
08:15-08:30	B	42.00	42.00		
08:15-08:30	C	95.00	95.00		
08:30-08:45	A	132.00	132.00		
08:30-08:45	B	35.00	35.00		
08:30-08:45	C	100.00	100.00		
08:45-09:00	A	118.00	118.00		
08:45-09:00	B	35.00	35.00		
08:45-09:00	C	127.00	127.00		

Turning Proportions

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.000	13.000	153.000
	B	13.000	0.000	42.000
	C	108.000	24.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.00	0.08	0.92
	B	0.24	0.00	0.76
	C	0.82	0.18	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.000	18.000	164.000
	B	13.000	0.000	29.000
	C	78.000	17.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.00	0.10	0.90
	B	0.31	0.00	0.69
	C	0.82	0.18	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.000	8.000	124.000
	B	10.000	0.000	25.000
	C	85.000	15.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.29	0.00	0.71
	C	0.85	0.15	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.000	7.000	111.000
	B	11.000	0.000	24.000
	C	110.000	17.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.31	0.00	0.69
	C	0.87	0.13	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.095	1.082
	B	1.146	1.000	1.053
	C	1.121	1.090	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	9.5	8.2
	B	14.6	0.0	5.3
	C	12.1	9.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.52	18.04	1.10	C	41.75	167.00	42.12	15.13	0.70	42.13	15.14
C-AB	0.26	7.03	0.71	A	36.56	146.24	28.34	11.63	0.47	28.35	11.63
C-A	-	-	-	-	76.94	307.76	-	-	-	-	-
A-B	-	-	-	-	11.50	46.00	-	-	-	-	-
A-C	-	-	-	-	138.00	552.00	-	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	55.00	55.00	53.90	0.00	106.44	0.517	0.00	1.10	18.041	C
C-AB	52.41	52.41	51.70	0.00	198.31	0.264	0.00	0.71	6.790	A
C-A	79.59	79.59	79.59	0.00	-	-	-	-	-	-
A-B	13.00	13.00	13.00	0.00	-	-	-	-	-	-
A-C	153.00	153.00	153.00	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	42.00	42.00	42.33	0.00	102.20	0.411	1.10	0.77	16.234	C
C-AB	30.98	30.98	31.27	0.00	173.39	0.179	0.71	0.42	7.033	A
C-A	64.02	64.02	64.02	0.00	-	-	-	-	-	-
A-B	18.00	18.00	18.00	0.00	-	-	-	-	-	-
A-C	164.00	164.00	164.00	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	35.00	35.00	35.28	0.00	114.31	0.306	0.77	0.49	12.338	B
C-AB	27.33	27.33	27.42	0.00	187.86	0.145	0.42	0.34	6.207	A
C-A	72.67	72.67	72.67	0.00	-	-	-	-	-	-
A-B	8.00	8.00	8.00	0.00	-	-	-	-	-	-
A-C	124.00	124.00	124.00	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	35.00	35.00	35.00	0.00	113.56	0.308	0.49	0.48	12.361	B
C-AB	35.52	35.52	35.43	0.00	207.71	0.171	0.34	0.43	5.783	A
C-A	91.48	91.48	91.48	0.00	-	-	-	-	-	-
A-B	7.00	7.00	7.00	0.00	-	-	-	-	-	-
A-C	111.00	111.00	111.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	15.03	1.00	18.041	C	B
C-AB	10.45	0.70	6.790	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	12.18	0.81	16.234	C	B
C-AB	6.38	0.43	7.033	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.63	0.51	12.338	B	B
C-AB	5.02	0.33	6.207	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.28	0.49	12.361	B	B
C-AB	6.49	0.43	5.783	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Existing Situation - 2016 Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Situation	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2016 Base, PM	2016 Base	PM		DIRECT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		9.20	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A52 W		Major
B	B	Luke Lane		Minor
C	C	A52 E		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.40										30	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.389	0.090	0.228	0.143	0.326
1	B-C	165.668	0.097	0.246	-	-
1	C-B	157.969	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/TS)	Flow Scaling Factor (%)
A	DIRECT	✓	N/A	100.000
B	DIRECT	✓	N/A	100.000
C	DIRECT	✓	N/A	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/TS)	DirectDemandEntryFlowInPCU (PCU/TS)	Direct Demand Exit Flow (PCU/TS)	Direct Demand Pedestrian Flow (Ped/TS)
17:00-17:15	A	132.00	132.00		
17:00-17:15	B	44.00	44.00		
17:00-17:15	C	185.00	185.00		
17:15-17:30	A	161.00	161.00		
17:15-17:30	B	32.00	32.00		
17:15-17:30	C	163.00	163.00		
17:30-17:45	A	123.00	123.00		
17:30-17:45	B	24.00	24.00		
17:30-17:45	C	191.00	191.00		
17:45-18:00	A	104.00	104.00		
17:45-18:00	B	22.00	22.00		
17:45-18:00	C	148.00	148.00		

Turning Proportions

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.000	12.000	120.000
	B	9.000	0.000	35.000
	C	162.000	23.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.00	0.09	0.91
	B	0.20	0.00	0.80
	C	0.88	0.12	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.000	9.000	152.000
	B	8.000	0.000	24.000
	C	130.000	33.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.25	0.00	0.75
	C	0.80	0.20	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.000	7.000	116.000
	B	10.000	0.000	14.000
	C	160.000	31.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.42	0.00	0.58
	C	0.84	0.16	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.000	11.000	93.000
	B	13.000	0.000	9.000
	C	131.000	17.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.59	0.00	0.41
	C	0.89	0.11	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.026	1.048
	B	1.053	1.000	1.051
	C	1.070	1.095	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.6	4.8
	B	5.3	0.0	5.1
	C	7.0	9.5	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.39	13.50	0.65	B	30.50	122.00	26.83	13.20	0.45	26.84	13.20
C-AB	0.38	7.35	1.26	A	70.50	282.00	58.42	12.43	0.97	58.43	12.43
C-A	-	-	-	-	101.25	405.00	-	-	-	-	-
A-B	-	-	-	-	9.75	39.00	-	-	-	-	-
A-C	-	-	-	-	120.25	481.00	-	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	44.00	44.00	43.35	0.00	113.60	0.387	0.00	0.65	13.353	B
C-AB	67.31	67.31	66.43	0.00	242.06	0.278	0.00	0.88	5.529	A
C-A	117.69	117.69	117.69	0.00	-	-	-	-	-	-
A-B	12.00	12.00	12.00	0.00	-	-	-	-	-	-
A-C	120.00	120.00	120.00	0.00	-	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	32.00	32.00	32.16	0.00	102.45	0.312	0.65	0.49	13.496	B
C-AB	82.93	82.93	82.59	0.00	215.47	0.385	0.88	1.22	7.346	A
C-A	80.07	80.07	80.07	0.00	-	-	-	-	-	-
A-B	9.00	9.00	9.00	0.00	-	-	-	-	-	-
A-C	152.00	152.00	152.00	0.00	-	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	24.00	24.00	24.14	0.00	97.22	0.247	0.49	0.35	12.974	B
C-AB	90.98	90.98	90.94	0.00	243.34	0.374	1.22	1.26	6.425	A
C-A	100.02	100.02	100.02	0.00	-	-	-	-	-	-
A-B	7.00	7.00	7.00	0.00	-	-	-	-	-	-
A-C	116.00	116.00	116.00	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	22.00	22.00	22.05	0.00	99.76	0.221	0.35	0.30	12.192	B
C-AB	40.78	40.78	41.55	0.00	225.82	0.181	1.26	0.49	5.303	A
C-A	107.22	107.22	107.22	0.00	-	-	-	-	-	-
A-B	11.00	11.00	11.00	0.00	-	-	-	-	-	-
A-C	93.00	93.00	93.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.10	0.61	13.353	B	B
C-AB	12.88	0.86	5.529	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.61	0.51	13.496	B	B
C-AB	18.52	1.23	7.346	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	5.48	0.37	12.974	B	B
C-AB	19.27	1.28	6.425	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.65	0.31	12.192	B	B
C-AB	7.74	0.52	5.303	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Existing Situation - 2021 Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Situation	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2021 Base, AM	2021 Base	AM		DIRECT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		14.41	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A52 W		Major
B	B	Luke Lane		Minor
C	C	A52 E		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.40										30	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.389	0.090	0.228	0.143	0.326
1	B-C	165.668	0.097	0.246	-	-
1	C-B	157.969	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/TS)	Flow Scaling Factor (%)
A	DIRECT	✓	N/A	100.000
B	DIRECT	✓	N/A	100.000
C	DIRECT	✓	N/A	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/TS)	DirectDemandEntryFlowInPCU (PCU/TS)	Direct Demand Exit Flow (PCU/TS)	Direct Demand Pedestrian Flow (Ped/TS)
08:00-08:15	A	179.00	179.00		
08:00-08:15	B	59.00	59.00		
08:00-08:15	C	143.00	143.00		
08:15-08:30	A	196.00	196.00		
08:15-08:30	B	45.00	45.00		
08:15-08:30	C	102.00	102.00		
08:30-08:45	A	143.00	143.00		
08:30-08:45	B	38.00	38.00		
08:30-08:45	C	108.00	108.00		
08:45-09:00	A	128.00	128.00		
08:45-09:00	B	38.00	38.00		
08:45-09:00	C	137.00	137.00		

Turning Proportions

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.000	14.000	165.000
	B	14.000	0.000	45.000
	C	117.000	26.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.00	0.08	0.92
	B	0.24	0.00	0.76
	C	0.82	0.18	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.000	19.000	177.000
	B	14.000	0.000	31.000
	C	84.000	18.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.00	0.10	0.90
	B	0.31	0.00	0.69
	C	0.82	0.18	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.000	9.000	134.000
	B	11.000	0.000	27.000
	C	92.000	16.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.29	0.00	0.71
	C	0.85	0.15	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.000	8.000	120.000
	B	12.000	0.000	26.000
	C	119.000	18.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.32	0.00	0.68
	C	0.87	0.13	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.095	1.082
	B	1.146	1.000	1.053
	C	1.121	1.090	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	9.5	8.2
	B	14.6	0.0	5.3
	C	12.1	9.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.58	21.13	1.39	C	45.00	180.00	51.40	17.13	0.86	51.42	17.14
C-AB	0.30	7.15	0.88	A	41.63	166.51	33.76	12.17	0.56	33.77	12.17
C-A	-	-	-	-	80.87	323.49	-	-	-	-	-
A-B	-	-	-	-	12.50	50.00	-	-	-	-	-
A-C	-	-	-	-	149.00	596.00	-	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	59.00	59.00	57.61	0.00	102.08	0.578	0.00	1.39	21.133	C
C-AB	61.05	61.05	60.17	0.00	202.58	0.301	0.00	0.88	6.998	A
C-A	81.95	81.95	81.95	0.00	-	-	-	-	-	-
A-B	14.00	14.00	14.00	0.00	-	-	-	-	-	-
A-C	165.00	165.00	165.00	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	45.00	45.00	45.45	0.00	98.01	0.459	1.39	0.94	18.541	C
C-AB	34.66	34.66	35.04	0.00	175.19	0.198	0.88	0.49	7.148	A
C-A	67.34	67.34	67.34	0.00	-	-	-	-	-	-
A-B	19.00	19.00	19.00	0.00	-	-	-	-	-	-
A-C	177.00	177.00	177.00	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	38.00	38.00	38.37	0.00	110.74	0.343	0.94	0.58	13.497	B
C-AB	30.77	30.77	30.87	0.00	190.75	0.161	0.49	0.39	6.235	A
C-A	77.23	77.23	77.23	0.00	-	-	-	-	-	-
A-B	9.00	9.00	9.00	0.00	-	-	-	-	-	-
A-C	134.00	134.00	134.00	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	38.00	38.00	38.00	0.00	110.09	0.345	0.58	0.57	13.473	B
C-AB	40.04	40.04	39.93	0.00	212.11	0.189	0.39	0.50	5.791	A
C-A	96.96	96.96	96.96	0.00	-	-	-	-	-	-
A-B	8.00	8.00	8.00	0.00	-	-	-	-	-	-
A-C	120.00	120.00	120.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	18.63	1.24	21.133	C	C
C-AB	12.85	0.86	6.998	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	15.03	1.00	18.541	C	B
C-AB	7.51	0.50	7.148	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.10	0.61	13.497	B	B
C-AB	5.85	0.39	6.235	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.63	0.58	13.473	B	B
C-AB	7.55	0.50	5.791	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Existing Situation - 2021 Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Situation	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2021 Base, PM	2021 Base	PM		DIRECT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		10.07	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A52 W		Major
B	B	Luke Lane		Minor
C	C	A52 E		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.40										30	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.389	0.090	0.228	0.143	0.326
1	B-C	165.668	0.097	0.246	-	-
1	C-B	157.969	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/TS)	Flow Scaling Factor (%)
A	DIRECT	✓	N/A	100.000
B	DIRECT	✓	N/A	100.000
C	DIRECT	✓	N/A	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/TS)	DirectDemandEntryFlowInPCU (PCU/TS)	Direct Demand Exit Flow (PCU/TS)	Direct Demand Pedestrian Flow (Ped/TS)
17:00-17:15	A	143.00	143.00		
17:00-17:15	B	48.00	48.00		
17:00-17:15	C	201.00	201.00		
17:15-17:30	A	175.00	175.00		
17:15-17:30	B	35.00	35.00		
17:15-17:30	C	177.00	177.00		
17:30-17:45	A	134.00	134.00		
17:30-17:45	B	26.00	26.00		
17:30-17:45	C	207.00	207.00		
17:45-18:00	A	113.00	113.00		
17:45-18:00	B	24.00	24.00		
17:45-18:00	C	160.00	160.00		

Turning Proportions

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.000	13.000	130.000
	B	10.000	0.000	38.000
	C	176.000	25.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.00	0.09	0.91
	B	0.21	0.00	0.79
	C	0.88	0.12	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.000	10.000	165.000
	B	9.000	0.000	26.000
	C	141.000	36.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.26	0.00	0.74
	C	0.80	0.20	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.000	8.000	126.000
	B	11.000	0.000	15.000
	C	173.000	34.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.42	0.00	0.58
	C	0.84	0.16	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.000	12.000	101.000
	B	14.000	0.000	10.000
	C	142.000	18.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.58	0.00	0.42
	C	0.89	0.11	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.026	1.048
	B	1.053	1.000	1.051
	C	1.070	1.095	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.6	4.8
	B	5.3	0.0	5.1
	C	7.0	9.5	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.44	15.46	0.80	C	33.25	133.00	32.89	14.84	0.55	32.90	14.84
C-AB	0.45	7.95	1.67	A	84.30	337.21	75.73	13.47	1.26	75.74	13.48
C-A	-	-	-	-	101.95	407.79	-	-	-	-	-
A-B	-	-	-	-	10.75	43.00	-	-	-	-	-
A-C	-	-	-	-	130.50	522.00	-	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	48.00	48.00	47.20	0.00	109.05	0.440	0.00	0.80	15.114	C
C-AB	82.06	82.06	80.93	0.00	251.08	0.327	0.00	1.13	5.703	A
C-A	118.94	118.94	118.94	0.00	-	-	-	-	-	-
A-B	13.00	13.00	13.00	0.00	-	-	-	-	-	-
A-C	130.00	130.00	130.00	0.00	-	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	35.00	35.00	35.19	0.00	96.60	0.362	0.80	0.61	15.459	C
C-AB	98.65	98.65	98.18	0.00	221.20	0.446	1.13	1.60	7.948	A
C-A	78.35	78.35	78.35	0.00	-	-	-	-	-	-
A-B	10.00	10.00	10.00	0.00	-	-	-	-	-	-
A-C	165.00	165.00	165.00	0.00	-	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	26.00	26.00	26.19	0.00	91.63	0.284	0.61	0.43	14.504	B
C-AB	109.81	109.81	109.74	0.00	250.99	0.438	1.60	1.67	6.952	A
C-A	97.19	97.19	97.19	0.00	-	-	-	-	-	-
A-B	8.00	8.00	8.00	0.00	-	-	-	-	-	-
A-C	126.00	126.00	126.00	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	24.00	24.00	24.07	0.00	96.38	0.249	0.43	0.36	13.109	B
C-AB	46.69	46.69	47.78	0.00	232.12	0.201	1.67	0.58	5.312	A
C-A	113.31	113.31	113.31	0.00	-	-	-	-	-	-
A-B	12.00	12.00	12.00	0.00	-	-	-	-	-	-
A-C	101.00	101.00	101.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.14	0.74	15.114	C	B
C-AB	16.54	1.10	5.703	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.59	0.64	15.459	C	B
C-AB	24.34	1.62	7.948	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.68	0.45	14.504	B	B
C-AB	25.59	1.71	6.952	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	5.49	0.37	13.109	B	B
C-AB	9.26	0.62	5.312	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Existing Situation - 2021 Base + Expected Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Situation	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2021 Base + Expected Development, AM	2021 Base + Expected Development	AM		DIRECT	08:00	09:00	60	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		34.91	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A52 W		Major
B	B	Luke Lane		Minor
C	C	A52 E		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.40										30	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.389	0.090	0.228	0.143	0.326
1	B-C	165.668	0.097	0.246	-	-
1	C-B	157.969	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/TS)	Flow Scaling Factor (%)
A	DIRECT	✓	N/A	100.000
B	DIRECT	✓	N/A	100.000
C	DIRECT	✓	N/A	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/TS)	DirectDemandEntryFlowInPCU (PCU/TS)	Direct Demand Exit Flow (PCU/TS)	Direct Demand Pedestrian Flow (Ped/TS)
08:00-08:15	A	201.00	201.00		
08:00-08:15	B	78.00	78.00		
08:00-08:15	C	171.00	171.00		
08:15-08:30	A	219.00	219.00		
08:15-08:30	B	64.00	64.00		
08:15-08:30	C	131.00	131.00		
08:30-08:45	A	187.00	187.00		
08:30-08:45	B	75.00	75.00		
08:30-08:45	C	139.00	139.00		
08:45-09:00	A	172.00	172.00		
08:45-09:00	B	75.00	75.00		
08:45-09:00	C	168.00	168.00		

Turning Proportions

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.000	17.000	184.000
	B	19.000	0.000	59.000
	C	139.000	32.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.00	0.08	0.92
	B	0.24	0.00	0.76
	C	0.81	0.19	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.000	23.000	196.000
	B	19.000	0.000	45.000
	C	107.000	24.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.30	0.00	0.70
	C	0.82	0.18	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.000	34.000	153.000
	B	33.000	0.000	42.000
	C	114.000	25.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.00	0.18	0.82
	B	0.44	0.00	0.56
	C	0.82	0.18	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.000	33.000	139.000
	B	34.000	0.000	41.000
	C	141.000	27.000	0.000

Turning Proportions (PCU) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.45	0.00	0.55
	C	0.84	0.16	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.095	1.082
	B	1.146	1.000	1.053
	C	1.121	1.090	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	9.5	8.2
	B	14.6	0.0	5.3
	C	12.1	9.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.84	60.65	4.69	F	73.00	292.00	217.61	44.71	3.63	219.45	45.09
C-AB	0.41	7.83	1.50	A	69.41	277.63	65.30	14.11	1.09	65.34	14.12
C-A	-	-	-	-	82.84	331.37	-	-	-	-	-
A-B	-	-	-	-	26.75	107.00	-	-	-	-	-
A-C	-	-	-	-	168.00	672.00	-	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	78.00	78.00	73.86	0.00	93.04	0.838	0.00	4.14	43.985	E
C-AB	88.94	88.94	87.44	0.00	214.98	0.414	0.00	1.50	7.828	A
C-A	82.06	82.06	82.06	0.00	-	-	-	-	-	-
A-B	17.00	17.00	17.00	0.00	-	-	-	-	-	-
A-C	184.00	184.00	184.00	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	64.00	64.00	65.24	0.00	90.19	0.710	4.14	2.90	40.383	E
C-AB	56.13	56.13	56.72	0.00	188.84	0.297	1.50	0.91	7.638	A
C-A	74.87	74.87	74.87	0.00	-	-	-	-	-	-
A-B	23.00	23.00	23.00	0.00	-	-	-	-	-	-
A-C	196.00	196.00	196.00	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	75.00	75.00	73.80	0.00	90.58	0.828	2.90	4.10	52.624	F
C-AB	58.68	58.68	58.70	0.00	199.38	0.294	0.91	0.89	7.131	A
C-A	80.32	80.32	80.32	0.00	-	-	-	-	-	-
A-B	34.00	34.00	34.00	0.00	-	-	-	-	-	-
A-C	153.00	153.00	153.00	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	75.00	75.00	74.42	0.00	89.51	0.838	4.10	4.69	60.650	F
C-AB	73.88	73.88	73.67	0.00	221.49	0.334	0.89	1.09	6.788	A
C-A	94.12	94.12	94.12	0.00	-	-	-	-	-	-
A-B	33.00	33.00	33.00	0.00	-	-	-	-	-	-
A-C	139.00	139.00	139.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	47.91	3.19	43.985	E	D
C-AB	21.76	1.45	7.828	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	47.85	3.19	40.383	E	D
C-AB	13.84	0.92	7.638	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	55.19	3.68	52.624	F	D
C-AB	13.10	0.87	7.131	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	66.66	4.44	60.650	F	E
C-AB	16.60	1.11	6.788	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Existing Situation - 2021 Base + Expected Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Situation	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2021 Base + Expected Development, PM	2021 Base + Expected Development	PM		DIRECT	17:00	18:00	60	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		16.13	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A52 W		Major
B	B	Luke Lane		Minor
C	C	A52 E		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.40										30	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.389	0.090	0.228	0.143	0.326
1	B-C	165.668	0.097	0.246	-	-
1	C-B	157.969	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/TS)	Flow Scaling Factor (%)
A	DIRECT	✓	N/A	100.000
B	DIRECT	✓	N/A	100.000
C	DIRECT	✓	N/A	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/TS)	DirectDemandEntryFlowInPCU (PCU/TS)	Direct Demand Exit Flow (PCU/TS)	Direct Demand Pedestrian Flow (Ped/TS)
17:00-17:15	A	163.00	163.00		
17:00-17:15	B	59.00	59.00		
17:00-17:15	C	231.00	231.00		
17:15-17:30	A	194.00	194.00		
17:15-17:30	B	46.00	46.00		
17:15-17:30	C	208.00	208.00		
17:30-17:45	A	153.00	153.00		
17:30-17:45	B	37.00	37.00		
17:30-17:45	C	238.00	238.00		
17:45-18:00	A	132.00	132.00		
17:45-18:00	B	35.00	35.00		
17:45-18:00	C	191.00	191.00		

Turning Proportions

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.000	19.000	144.000
	B	14.000	0.000	45.000
	C	192.000	39.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.24	0.00	0.76
	C	0.83	0.17	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.000	16.000	178.000
	B	13.000	0.000	33.000
	C	158.000	50.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.00	0.08	0.92
	B	0.28	0.00	0.72
	C	0.76	0.24	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.000	14.000	139.000
	B	15.000	0.000	22.000
	C	190.000	48.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.00	0.09	0.91
	B	0.41	0.00	0.59
	C	0.80	0.20	0.00

Turning Counts / Proportions (PCU/ TS) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.000	18.000	114.000
	B	19.000	0.000	16.000
	C	159.000	32.000	0.000

Turning Proportions (PCU) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.00	0.14	0.86
	B	0.54	0.00	0.46
	C	0.83	0.17	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.026	1.048
	B	1.053	1.000	1.051
	C	1.070	1.095	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.6	4.8
	B	5.3	0.0	5.1
	C	7.0	9.5	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.61	24.90	1.52	C	44.25	177.00	66.26	22.46	1.10	66.30	22.48
C-AB	0.69	13.46	4.50	B	145.78	583.11	196.95	20.27	3.28	197.01	20.27
C-A	-	-	-	-	71.22	284.89	-	-	-	-	-
A-B	-	-	-	-	16.75	67.00	-	-	-	-	-
A-C	-	-	-	-	143.75	575.00	-	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	59.00	59.00	57.48	0.00	97.27	0.607	0.00	1.52	23.003	C
C-AB	146.85	146.85	144.04	0.00	260.20	0.564	0.00	2.81	8.350	A
C-A	84.15	84.15	84.15	0.00	-	-	-	-	-	-
A-B	19.00	19.00	19.00	0.00	-	-	-	-	-	-
A-C	144.00	144.00	144.00	0.00	-	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	46.00	46.00	46.20	0.00	84.47	0.545	1.52	1.32	24.904	C
C-AB	159.36	159.36	158.04	0.00	232.13	0.687	2.81	4.13	13.460	B
C-A	48.64	48.64	48.64	0.00	-	-	-	-	-	-
A-B	16.00	16.00	16.00	0.00	-	-	-	-	-	-
A-C	178.00	178.00	178.00	0.00	-	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	37.00	37.00	37.42	0.00	81.93	0.452	1.32	0.90	21.458	C
C-AB	180.70	180.70	180.33	0.00	262.13	0.689	4.13	4.50	12.401	B
C-A	57.30	57.30	57.30	0.00	-	-	-	-	-	-
A-B	14.00	14.00	14.00	0.00	-	-	-	-	-	-
A-C	139.00	139.00	139.00	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	35.00	35.00	35.19	0.00	88.06	0.397	0.90	0.71	17.970	C
C-AB	96.20	96.20	99.26	0.00	243.08	0.396	4.50	1.44	6.944	A
C-A	94.80	94.80	94.80	0.00	-	-	-	-	-	-
A-B	18.00	18.00	18.00	0.00	-	-	-	-	-	-
A-C	114.00	114.00	114.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	20.13	1.34	23.003	C	C
C-AB	40.11	2.67	8.350	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	20.55	1.37	24.904	C	C
C-AB	63.08	4.21	13.460	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	14.39	0.96	21.458	C	C
C-AB	69.95	4.66	12.401	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.19	0.75	17.970	C	B
C-AB	23.81	1.59	6.944	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

APPENDIX F - TECHNICAL GUIDANCE NOTE ON VEHICLE-ACTIVATED SIGNS

Agenda Item No. 4.8

DERBYSHIRE COUNTY COUNCIL

MEETING OF CABINET MEMBER – HIGHWAYS AND TRANSPORT

15 May 2012

Report of the Strategic Director – Environmental Services

TECHNICAL GUIDANCE NOTE ON VEHICLE ACTIVATED SIGNS

(1) **Purpose of the Report** To seek the Cabinet Member's approval to technical guidance to provide clarity on the use of Vehicle Activated Signs (VAS) within Derbyshire.

(2) **Information and Analysis** The reduction of casualties from road collisions continues to be a priority at national and local level. Despite a trend of gradual improvement, these remain a significant problem and, although there was a reduction of 17% from 2010, 330 people were killed or seriously injured on Derbyshire's roads in 2011. In order to ensure that casualty numbers continue to reduce, the County Council works directly and through the Derby and Derbyshire Road Safety Partnership on a range of interventions involving engineering measures, education, training and publicity.

VASs, which display a warning message triggered by the characteristics of an approaching vehicle (such as its speed), are a valuable road safety engineering tool. They have been developed to address the problems of exceeding speed limits, to encourage drivers to approach hazards, such as bends or junctions, at a safe speed, and to provide hazard warnings where conventional signing has not been effective. Analysis of existing sites within Derbyshire shows that, where VASs have been installed as a response to known collision problems, they have resulted in immediate and ongoing improvements in the casualty record. Their use at targeted sites is therefore well founded.

Derbyshire still has relatively few VASs with approximately 50 in place and, at the current level of use, there is no reason to believe that the effectiveness of the signage will reduce significantly over time. However, there is a concern that an increase in usage will reduce the overall effectiveness of VASs as road users become more familiar with them.

VASs are popular with local communities and many requests are received from parish/town councils for their installation as a solution to known or

perceived road safety problems. Their relatively low cost has led to an increase over time in parishes requesting permission to install, and to fund, their own signs where County Council funding cannot be justified. Whilst this desire for VASs is understandable, and will be reflected as far as possible in County Council programmes, the use of VASs in these circumstances has the potential to lead both to the proliferation of signage and to reduced effectiveness. It is therefore considered that a protocol is needed which can be used both to determine the priorities for County Council investment in VAS and to inform other bodies about where signs will be deployed and where installation is likely to be refused.

Attached, as Appendix 1 to this report, is a proposed Technical Guidance Note which sets out the circumstances under which VASs are likely to be approved and installed, and the type of sign suitable for different circumstances. Importantly, it also sets out requirements for ongoing monitoring and, where appropriate, removal. If approved, this guidance will assist interested parties to understand the applicability of VASs to their local road safety concerns. It will also assist officers in responding to these concerns and in considering the suitability of VASs as a local solution.

(3) **Financial Considerations** VASs, where funded by the County Council, are provided through Highways and Transport Capital Programmes, as approved through Environmental Services Department Service Plans.

In preparing this report the relevance of the following factors has been considered: legal, prevention of crime and disorder, equality and diversity, human resources, environmental, health, property and transport considerations.

(4) **Key Decision** No.

(5) **Call-In** Is it required that call-in be waived in respect of the decisions proposed in the report? No.

(6) **Background Papers** Analysis of the effectiveness of VASs in Derbyshire is available from the Environmental Services Department. Officer contact details - Jim Seymour, extension 38557.

(7) **OFFICER'S RECOMMENDATION** That the Cabinet Member approves the Technical Guidance Note on Vehicle Activated Signs which forms Appendix 1 of this report.

Ian Stephenson
Strategic Director – Environmental Services

Draft

Derbyshire County Council

Technical Guidance Note on Vehicle Activated Signs

1. Introduction

The intention of this guidance is to supplement the County Council's Local Transport Plan Investment Protocol (October 2011). This, through Policy IP83, dictates that infrastructure, which creates a net increase for the authority to maintain, should be used sparingly, and in policy IP42 it identifies Vehicle Activated Signs (VAS) specifically, as falling into this category, but with detailed policy to be developed. This guidance puts in place the more detailed procedures to be followed in considering the installation of permanent, temporary or mobile VAS. It will be reviewed as and when required by any revision of the Investment Protocol.

2. Technical Guidance

1) Permanent and Temporary VAS - Inclusion in County Council Programmes

a) VAS should be considered at sites that have a collision history associated with inappropriate speed, or a hazard, that has not been satisfactorily remedied by standard signing. Other signing means must have been tried and have failed; the site must have been subject to a recent speed survey to determine justification for a VAS installation.

b) VAS displaying a speed limit should be located at sites which have a history of a minimum of 6 injury collisions within 1km over the previous 3 years, and where speed has been a factor in all or some.

c) VAS displaying a speed limit should be located at sites where the results of traffic surveys show the 85th percentile[1] speed is at least 10% over limit +2mph measured over 7 days.

d) Hazard warning VAS should be located at sites which have a history of a minimum of 6 injury collisions within 1km over the previous 3 years, and where the hazard has been the cause.

e) Requests for VAS that meet these criteria should be prioritised on the basis of a calculated estimate of casualty reduction benefits.

f) The flexibility of temporary VAS means they are the preferred option but the decision on which type of VAS to be used should be made on a case by case basis. To retain effectiveness, temporary VAS should remain on site for no longer than 3 months, and should not be redeployed at the same site within 6 months.

g) Any proposal for VAS to be funded through County Council programmes but which does not meet the above criteria must be justified through an Exception Report in Service Plan preparation processes for permanent installations or via a Cabinet Member report for temporary installations.

(1) 85th percentile is the speed at which up to 85 per cent of the traffic is travelling.

2) Installation and Monitoring Criteria

a) VAS warning of a hazard should be set to operate at the 50th percentile[2] speed measured before installation. However, discretion may be used to change this depending on the road conditions.

b) VAS displaying a speed limit should normally be set to operate at the speed limit + 2mph. However, discretion may be used to change this depending on the road conditions.

c) The section of road in advance of the VAS must be straight over a reasonable distance to maximise visibility to the sign.

d) There should be little or no vegetation or street furniture that will block the view of the sign or affect the working of the radar equipment.

e) There must be sufficient footway or roadside verge to install the sign. There must be reasonable access to a power supply.

f) The sign should, wherever possible, not be intrusive to nearby residential properties and early consultation should be sought to establish residents' views. If the sign is proposed within the Peak District National Park, early consultation with the National Park Authority should be sought.

g) VAS displaying a speed limit should be located between 100 and 200 metres beyond the start of the posted speed limit sign, except in urban areas with street lighting where a 30mph speed limit operates and where repeater signs are not allowed.

h) VAS warning of a hazard should be located between 50 and 100 metres in advance of that hazard.

i) Permanent VAS should be routinely inspected every six months and provided with regular maintenance, such as cleaning the sign face, removing any obstructing foliage and ensuring that the vehicle detection system is functioning correctly.

j) All VAS installations should be monitored for effectiveness by regular analysis of speed data and collision records. Any that are considered ineffective should be removed.

3) Permanent and Temporary VAS - Funding by Borough, District or Parish/Town Councils

Where a local council has requested a VAS which meets criteria for inclusion in the County Council's programmes but is a low priority for installation at the County Council's expense, then the local council may fund the installation. It must undertake to be responsible for all costs, including long-term maintenance for the life of the installation, and removal if required. All selection, installation and monitoring criteria above will apply, with the exception of criteria 1) e) and g).

4) Mobile VAS

Mobile VAS may be deployed in locations which would not meet the criteria for permanent or temporary sites. Decisions on where they may be deployed, and the length of deployment, should be taken through established selection and consultation procedures of the sign's owner, either the County Council or Derby and Derbyshire Road Safety Partnership. The owner may seek contributions to costs from the local council requesting the installation. In no circumstances should mobile VAS be deployed for longer than the three month limit applying to temporary installations.

(2) 50th percentile is the speed at which up to 50 per cent of the traffic is travelling.

APPENDIX G - LHA EMAIL CORRESPONDENCE

James Parker

From: Tranter,Simon (Economy, Transport & Environment) [Simon.Tranter@derbyshire.gov.uk]
Sent: 27 April 2016 09:23
To: James Parker
Cc: Alcock,Steve (Economy, Transport & Environment)
Subject: RE: A52 between Derby and Ashbourne

Dear James,
I would hope the junction improvement will address the collision history and the widening will address the conflict types that have occurred here. If this is not successful we would only then look at other solutions such as interactive signs.
Hope this helps,
Simon

Simon Tranter | Principal Engineer
Head of the Traffic and Safety Service

Economy, Transport and Communities | Derbyshire County Council
County Hall, Matlock, Derbyshire, DE4 3AG

From: James Parker [mailto:James@ptbtransport.co.uk]
Sent: 27 April 2016 09:18
To: Tranter,Simon (Economy, Transport & Environment)
Cc: Alcock,Steve (Economy, Transport & Environment)
Subject: Re: A52 between Derby and Ashbourne

Thanks Simon.

I've noted that the junction would meet the DCC technical guidance for VAS warning sign provision (6 accidents in last 3 years).

Would that be part of the improvement proposal, or is that separately funded (appreciating the fact that it could be funded by a local council, such as the Parish, if it wasn't a high priority for the County Council)?

Regards

James

Sent from Samsung Mobile

-------- Original message --------
From: "Tranter,Simon (Economy, Transport & Environment)"
Date:27/04/2016 09:13 (GMT+00:00)
To: James Parker
Cc: "Alcock,Steve (Economy, Transport & Environment)"

Subject: RE: A52 between Derby and Ashbourne

Dear James,
Yes it's the one with two laybys positioned on the Ashbourne side of the junction and the side road is Derby Lane. We don't have any drawings yet as it's still early days. The only worry about a scheme is perhaps the need to relocate statutory undertakers equipment which is always expensive. I have asked our design team to make these investigations and enquiries soon so we know what can be achieved with the budget available.
Hope this helps,
Regards,
Simon

Simon Tranter | Principal Engineer
Head of the Traffic and Safety Service

Economy, Transport and Communities | Derbyshire County Council
County Hall, Matlock, Derbyshire, DE4 3AG

From: James Parker [mailto:James@ptbtransport.co.uk]
Sent: 27 April 2016 08:28
To: Tranter,Simon (Economy, Transport & Environment)
Cc: Alcock,Steve (Economy, Transport & Environment); ETE Netmanadmin (Economy, Transport & Environment)
Subject: Re: A52 between Derby and Ashbourne

Apologies Simon but is the junction you refer to, the one with Derby Lane?

(I had also noted that the recent accident record was not good here)

Sent from Samsung Mobile

-------- Original message --------
From: "Tranter,Simon (Economy, Transport & Environment)"
Date:27/04/2016 08:14 (GMT+00:00)
To: James Parker
Cc: "Alcock,Steve (Economy, Transport & Environment)" , "ETE Netmanadmin (Economy, Transport & Environment)"
Subject: RE: A52 between Derby and Ashbourne

Dear James,

There have been numerous road safety measures along the A52 over the years and I share the parishes desire to keep the route as safe as possible as I do with every road in Derbyshire. As you'll appreciate putting signs up is not always the answer and does often have a damaging effect upon the street scene and the environment. Bearing this in mind, the County Council has an environmental signing code of practice which means we give very careful thought to all our signing nowadays but saying that we would not hesitate to provide signing if we felt that its positively contributed to road safety and there were budgets available for the works. I would have to be convinced that putting up the signs you've mentioned actually make a difference to the safety along the route. The ones I have seen around are usually done in association with speed cameras along routes and in my opinion drivers will only

slow down for the cameras but not for the signs. The only criteria would be the Traffic Signs and General Directions 2016 and the associated guidance in the relevant Traffic Signs Manual and of course Derbyshire's own environmental signing code of practice which is a DCC policy document.

For your information, a recent trawl of injury collisions along the route has identified a problem at the Painters Lane junction with the A52 near Ednaston. This was therefore put forward as a safety scheme and I am pleased to say funding was secured earlier this month for £200,000 to widened the junction and incorporate a right turn facility and other associated improvements to the junction.

I hope this helps,

Regards,

Simon

Simon Tranter | Principal Engineer
Head of the Traffic and Safety Service

Economy, Transport and Communities | Derbyshire County Council
County Hall, Matlock, Derbyshire, DE4 3AG

Admin – add to confirm – reply email sent status

From: James Parker [mailto:James@ptbtransport.co.uk]
Sent: 26 April 2016 14:15
To: Tranter,Simon (Economy, Transport & Environment)
Subject: A52 between Derby and Ashbourne

Dear Simon,

I've been given your name by one of your colleagues in the DDRSP.

I am currently commissioned by Brailsford Parish Council to look at their village and the operation of the A52, including safety statistics/PIAs etc.

During my discussions with them recently, they enquired as to the process to get route safety signs put in place along the length of the A52 (as they have concerns about the entire length, not just the part that passes through Brailsford, Ednaston and Commonside) – they are thinking along the lines of the signs that state *"X number of accidents in last 3 years"* (or similar to this).

Could you clarify the criteria by which such a signage scheme is identified and implemented? I'm simply looking to inform them what the process would be and why this could (or could not) apply to the A52 at this stage.

I look forward to hearing from you in due course.

Regards,

James Parker
Director

PTB Transport Planning Ltd
DDI. 0121 661 4870
M. 07792 970487
W. www.ptbtransport.co.uk

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