Transport assessment

November 2017

Contents

Chapter one
Introduction

1.1 Mayer Brown Limited has been instructed by Cranfield University to provide highways and transport related assistance in support of the Cranfield University Masterplan.

1.2 The proposed Masterplan is intended to provide an overarching development strategy for the campus, providing a long term framework for physical changes and development opportunities.

1.3 A meeting took place on 11th February 2016 between the development team and Central Bedfordshire Council (CBC), including planning and highways officers. A Technical Charrette took place at Cranfield University on 24th March 2016 at which members of CBC's highways team were present.

Background information and previous work

1.4 In July 2012, Mayer Brown prepared a Junction Modelling Report which considered the implications on a number of off-site junctions of developing the Technology Park for further employment uses.

1.5 At the time, the 2012 Junction Modelling Report considered a development of 65,000sq.m accommodating in the order of 2,750 employees across the commercial floor space.

1.6 Since the 2012 report was prepared, the Cranfield University Masterplan has evolved to reflect the more collaborative relationship between the academic and employment aspects of the campus, which requires a greater emphasis on research and development and laboratory floor space, rather than the traditional employment floor space considered in 2012.

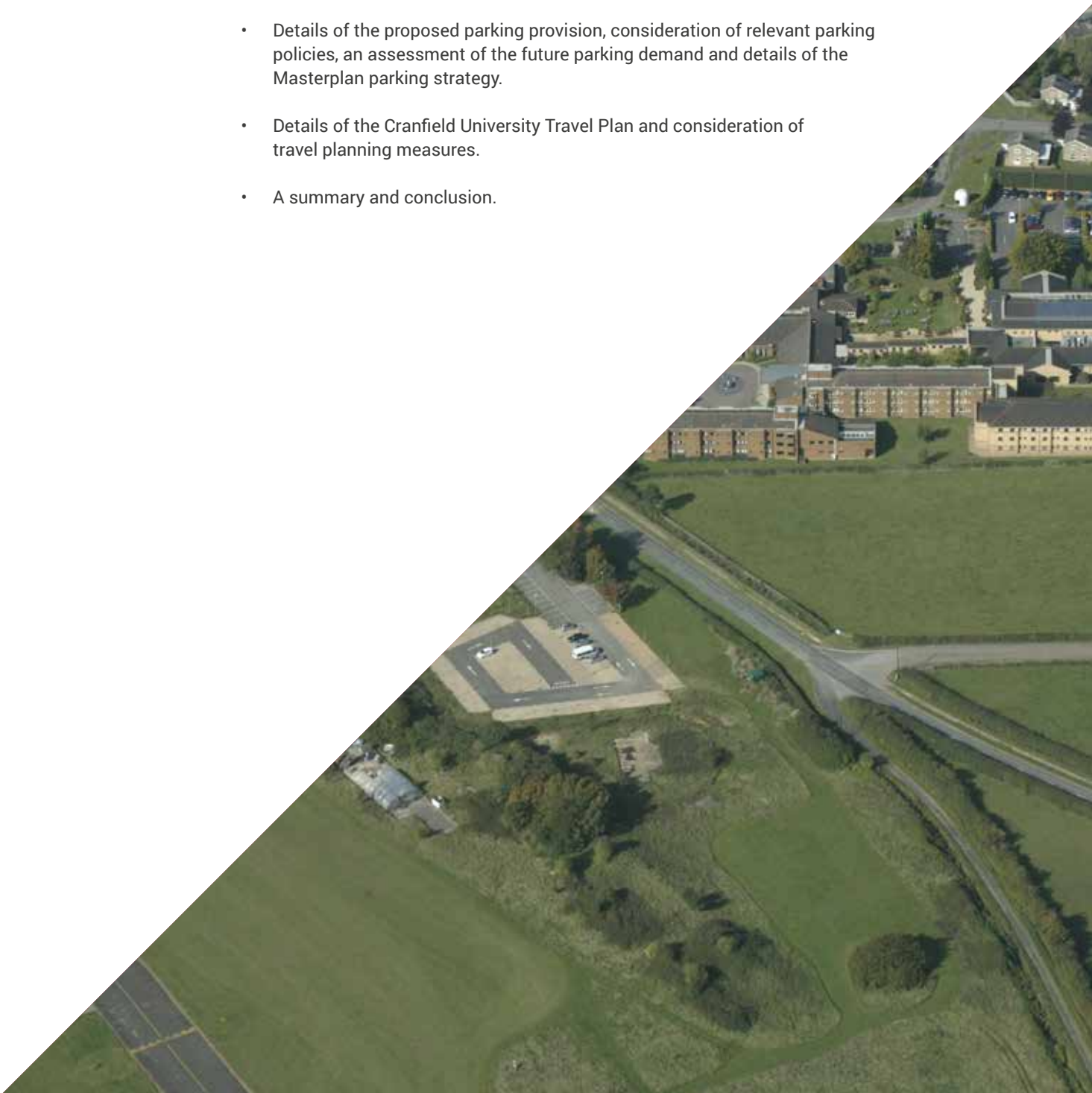
1.7 In addition, CBC has identified a number of regional strategic highway and transport improvements that have been delivered since 2012, or are likely to come forward over the period the Masterplan is being developed which may affect baseline flows on the surrounding network.

1.8 A Modelling Update Report, dated June 2016, was produced which considered the implications of the changes to the Masterplan as well as the strategic improvements being brought forward in the area and provided a commentary on the likely implications of these on the 2012 Modelling Report. It also included reference to the impact of the implementation of a Travel Plan for the site which would aim to encourage a shift away from use of the private car to more sustainable forms of travel. A copy of the Modelling Update Report is included at Appendix A. The Modelling update report concluded that the traffic flows and assessments contained within the 2012 Junction Modelling Report are still representative for the emerging Masterplan. However, the traffic flows associated with the emerging Masterplan are now predicted to be less than previously assessed and therefore a greater quantity of Masterplan floor space could be provided before triggering a need for junction improvements at the Beancroft Road/Marston Hill junction. It is noted that, in accordance with the findings of the 2012 Junction Modelling Report, junction improvements would be required to the Astwood Road/Crawley Road and Salford Road/C70 Cranfield Road junctions prior to construction of any Masterplan floorspace.

Content of Transport assessment

1.9 Further to the work previously undertaken, this Transport Assessment has been produced to support the Cranfield University Masterplan and comprises the following:

- A brief description of the site's location and vehicular access arrangements.
- Details of the proposed Masterplan and phasing.
- Assessment of the existing traffic flows associated with the site.
- Assessment of the trip attraction of the proposed Masterplan and distribution of these trips onto the local highway network.
- Consideration of the traffic impact of the proposed Masterplan.
- Details of the existing parking provision on the site and an assessment of the existing parking demand.
- Details of the proposed parking provision, consideration of relevant parking policies, an assessment of the future parking demand and details of the Masterplan parking strategy.
- Details of the Cranfield University Travel Plan and consideration of travel planning measures.
- A summary and conclusion.



Chapter two
Site location

2.1 Cranfield University and Technology Park are located approximately 2.5km (via the highway network, not as the crow flies) to the west of the village of Cranfield and approximately 18km to the south west of Bedford. The Cranfield University Airport is located on the eastern side of the site. Vehicular access is provided to the University site via three points of access, as follows:

- From the south via University Way.
- From the north via College Road.
- From the west via Folly Lane.

2.2 The location of the site in relation to the local highway network is illustrated in Figure 2.1 and the three vehicular access points are labelled as A, B, and C respectively.

2.3 The M1 motorway runs to the south of the site and access is gained from it to the University via Junction 13 (the A421). From here, the A421 provides access north to Bedford and further north east to the A1. The M1 leads south to Luton and the M25 motorway before heading into London and leads north to Northampton and Leeds. Milton Keynes is located to the south of the M1, approximately 11km from Cranfield University. The location of the site in relation to the wider highway network is illustrated in Figure 2.2.

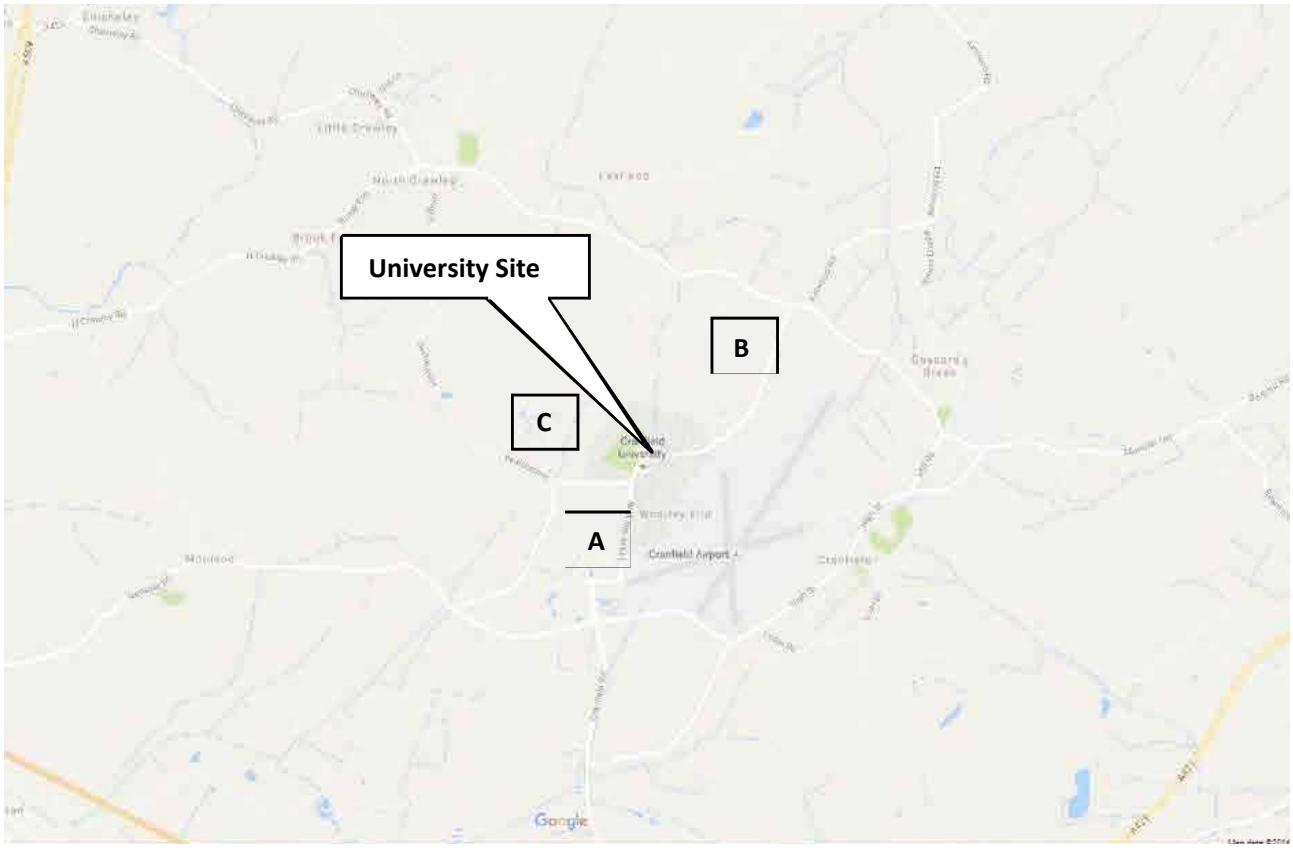


Figure 2.1: Local Site Location

Figure 2.2: Wider Site Location

Chapter three
Masterplan proposals and phasing

Existing University site

3.1 The existing floor areas of the University site, including the Technology Park, are summarised in Table 3.1.

Area	Element	Floor Area (sq.m)	Floor Area (sq.m) Excl. Nissan Centre
Cranfield University	Non-residential	109,938	109,938
	Technology Park	47,176	26,176
	Residential	55,700	55,700
Total		**212,814**	**191,814**

Table 3.1: Existing Site Floor Areas

3.2 The Nissan Technical Centre is located within the Technology Park, on the south western side of the site and has a floor area of 21,000sq.m. The Nissan Technical Centre is a separate entity to the University which is not within Cranfield University ownership.

Masterplan evolution

3.3 The 2012 Junction Modelling Report was prepared on the basis of a development comprising the following:

- 65,000sq.m of employment use and associated parking.
- The provision of 2,750 jobs across the floor space.
- A resulting employment density of 1 person per 23.6sq.m across the new floor space provision.

Proposed Masterplan

3.4 The proposed Masterplan comprises a net increase of 77,000sq.m of floor space across the overall campus resulting in a total floor area of 289,814sq.m. The resulting floor areas for the site are set out in Table 3.2.

Area	Element	Floor Area (sq.m)	Floor area (sq.m) Excl. Nissan Building
Cranfield University	Non-residential + Technology Park	234,114	213,114
	Residential	55,700 + 400 bedrooms	55,700 + 400 bedrooms
Total		**289,814**	**268,814**

Table 3.2: Proposed floor areas

3.5 Construction of the Masterplan would result in a 36% increase in total floor area across the University and Technology Park (including the Nissan Technical Centre). As previously stated, the Nissan Technical Centre has a floor area of 21,000sq.m, excluding the Nissan Centre from the existing floor area would result in the Masterplan increasing the other floor areas across the University and Technology Park by 40%. Given that the Nissan Centre is a separate entity to the University which is not within Cranfield University ownership, it has been excluded from the trip attraction assessment set out within this TA.

Employment densities

3.6 The proposed Masterplan for Cranfield University differs to the development that was considered in the 2012 Junction Modelling Report insomuch as it promotes a scheme which encompasses a significant level of crossover between the academic and employment elements of the site. Consequently, the forthcoming Masterplan incorporates a significant level of research and development floor space compared to that included within the 2012 Junction Modelling Report. This includes more laboratory facilities which are occupied at a lower density than typical employment uses. The estimated occupancy rates for the proposed Masterplan are set out in Table 3.3.

Use	Employment density
Laboratory	1/70sq.m
Small laboratory	1/34sq.m
Teaching accommodation	1/18sq.m
Office accommodation	1/16sq.m

Table 3.3: Anticipated employment densities

3.7 Based on the figures in Table 3.3 and the prevalence of large laboratories in the proposed Masterplan, the development is expected to result in an average density of 1 employee per 32sq.m. On this basis, the proposed additional 77,000sq.m of floor space is anticipated to accommodate 2,406 additional employees, of which 220 will be academics.

3.8 As stated above, the 2012 Junction Modelling Report was based on the provision of 2,750 jobs and an employment density of 1 person per 23.6sq.m across the new floor space. The 2016 Masterplan results in an increase in floor area compared to the 2012 Junction Modelling Report, but it also results in a decrease of employment density to 2406.

Phasing

3.9 The Masterplan will be implemented over five phases which are then further split into short term, medium term and long term projects.

3.10 A copy of the proposed Masterplan is provided as Appendix B.

Chapter four
Existing traffic flows

4.1 As stated in section 3, the Cranfield University Masterplan has evolved to reflect the more collaborative relationship between the academic and employment aspects of the campus, which requires a greater emphasis on research and development and laboratory floor space. Given the change in the Masterplan, the development traffic flows have been reassessed and the existing trips associated with the whole University site (i.e. the University and the Technology Park as a combined entity rather than as independent trip generators) have been considered. The predicted trip attraction of the proposed Masterplan is considered in section 5 of this TA.

4.2 As stated in section 3, the Nissan Technical Centre is excluded from the assessment in this report. The traffic flows associated with this building have been removed (further details are set out below).

Traffic surveys

4.3 In order to determine the existing traffic flows associated with the University site, automatic traffic counters (ATCs) were placed at the three access points to the site, as follows:

- University Way.
- College Road.
- Folly Lane (described as 'Bedfordshire' in the survey results).

4.4 The ATCs were installed by an independent traffic surveillance company, Advanced Transport Research, on Thursday 3rd March 2016 and recorded two-way traffic flows for a 24-hour period. Vehicle types and speeds were also recorded. A copy of the results of the survey is provided at Appendix A (Modelling Update Report: Appendix A).

4.5 In terms of arrivals and departures to the site, the results of the survey identified the following peak hours:

- Weekday AM peak hour: 08:00 to 09:00
- Weekday PM peak hour: 17:00 to 18:00

4.6 The peak hour flows are set out in Table 4.1.

	AM peak			PM peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	1,419	240	1,659	235	1,391	1,626

Table 4.1: Existing peak hour traffic flows

4.7 Table 4.1 shows that the arrivals to the site in the AM peak hour and the departures from the site in the PM peak hour both constitute 86% of the total flows for each time period.

4.8 Table 4.2 breaks down the peak period arrivals and departures to the site by each of the three access points.

Access	AM peak			PM peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
University Way	630	127	757	110	659	769
College Road	666	75	741	88	576	664
Folly Lane	123	38	161	37	156	193
Total	**1,419**	**240**	**1,659**	**235**	**1,391**	**1,626**

Table 4.2: Existing peak hour traffic flows by access point

4.9 Table 4.2 shows that during the AM peak hour, the majority of arrivals to the site are via University Way (44%) and College Road (47%). During the PM peak hour, the majority of departures from the site are via University Way (47%) and College Road (41%).

4.10 In conjunction with the ATC surveys, the vehicular accesses to the Nissan Technical Centre were also surveyed to determine the arrivals and departures associated with that site. The survey was undertaken on Thursday 3rd March 2016 for a 24-hour period. A copy of the results of the survey is provided at Appendix A (Modelling Update Report: Appendix B). Table 4.3 sets out the surveyed traffic flows associated with the Nissan Technical Centre for the AM and PM peak hours of 08:00 to 09:00 and 17:00 to 18:00 respectively.

Nissan Access	AM peak			PM peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Northern access	56	18	74	8	415	423
Southern access (in-only)	109	0	109	7	0	7
Total	**165**	**18**	**183**	**15**	**415**	**430**

Table 4.3: Nissan Technical Centre peak hour traffic flows

4.11 The peak hour flows associated with the Nissan Technical Centre have been removed from the peak period arrivals and departures to the University site by each of the three access points (University Way, College Road and Folly Lane). The resulting flows are set out in Table 4.4.

Access	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
University Way	557	117	674	103	462	565
College Road	589	69	658	82	404	487
Folly Lane	109	35	144	35	109	144
Total	**1,254**	**222**	**1,476**	**220**	**976**	**1,196**

Table 4.4: Existing peak hour traffic flows by access point (excluding Nissan)

Rat-running vehicles

4.12 In conjunction with the automatic traffic count survey, a number of automatic number plate recognition (ANPR) cameras were placed at the three access points to the site in order to establish the existence and level of rat-running vehicles through the site, in particular during the morning and evening peak periods of 07:00 to 10:00 and 16:00 to 19:00 hours respectively. The ANPR cameras were installed at the same locations as the ATCs and collected vehicle registration plates as they entered and exited the site. A copy of the results of the survey is provided at Appendix A (Modelling Update Report: Appendix C).

4.13 In order to determine any rat-running, the ANPR data has been matched based on vehicles travelling between locations within a 15 minute journey time. Table 4.5 sets out a summary of the peak hour arrivals recorded by the ANPR cameras and the number (and percentage) of vehicles identified to be rat-running through the site. Table 4.6 sets out a summary of the peak hour departures recorded by the ANPR cameras and the number (and percentage) of vehicles identified to be rat-running through the site. The number of rat-running vehicles exclude vehicles that enter and exit from the same access road to the site. It is considered that these vehicles could be delivery vehicles or similar. It is noted that the traffic flows recorded by the ANPR cameras differ slightly to the traffic flows recorded by the ATCs. This is not uncommon and is a result of the different surveying methods. The ANPR cameras matched an average of 89% in the AM peak and an average of 83% in the PM peak, which is considered sufficiently accurate to identify the proportion of rat-runners.

Access	AM peak Arrivals			PM peak Arrivals		
	ANPR flow	Rat-run	% Rat-run	ANPR flow	Rat-run	% Rat-run
University Way	524	24	4.6%	109	31	28.4%
College Road	661	73	11.0%	87	25	28.7%
Folly Lane	125	9	7.2%	38	8	21.1%
Total	**1,310**	**106**	**8.1%**	**234**	**64**	**27.4%**

Table 4.5: Peak hour rat-running vehicles – arrivals to the site

Access	AM peak departures			PM peak departures		
	ANPR flow	Rat-run	% Rat-run	ANPR flow	Rat-run	% Rat-run
University Way	128	53	41.4%	685	19	2.8%
College Road	75	29	38.7%	573	30	5.2%
Folly Lane	39	24	61.5%	158	15	9.5%
Total	**242**	**106**	**43.8%**	**1,416**	**64**	**4.5%**

Table 4.6: Peak hour rat-running vehicles – departures from the site

Existing trips (excluding rat-running vehicles)

4.14 The existing peak hour traffic flows for the site (excluding the Nissan traffic flows) have been discounted by the percentage of rat-running vehicles identified from the ANPR survey. The resulting peak hour arrivals and departures to the site by each of the three access points are presented in Table 4.7.

Access	AM peak			PM peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
University Way	531	69	600	74	450	523
College Road	524	43	566	59	383	442
Folly Lane	101	14	114	27	99	126
Total	**1,156**	**125**	**1,281**	**160**	**932**	**1,091**

Table 4.7: Existing peak hour traffic flows by access point (excluding Nissan) excluding rat-running vehicles

4.15 Table 4.7 shows that removal of the identified rat-running vehicles (i.e. vehicles entering and leaving the site within a 15 minute period) results in reductions in the two-way traffic flows by 195 in the AM peak hour and 105 in the PM peak hour.

Existing site trip rates

4.16 The surveyed arrivals and departures for the AM and PM peak hours, excluding traffic flows associated with the Nissan Technical Centre, have been applied to the existing floor area of the site in order to establish trip rates for the overall site, i.e. the University and the Technology Park.

4.17 As detailed in section 3, the existing site has a total floor area of 191,814sq.m. This comprises the University (residential and non-residential floor space) and the Technology Park and excludes the Nissan Technical Centre. This existing floor area and the surveyed two-way trips have been used to calculate two-way vehicular trip rates for the site. The results are set out in Table 4.8. The trip rates exclude the rat-running vehicles and the traffic flows associated with the Nissan Technical Centre.

	Trip rates per 100sq.m	
	AM peak	PM peak
Vehicular trip rate	0.668	0.569

Table 4.8: Peak Hour Trip Rates for Site Excluding Rat-Running Vehicles

4.18 Section 5 of this report sets out an assessment of the predicted vehicular trips associated with the proposed Masterplan based on the vehicular trip rates in Table 4.8

Chapter five
Trip attraction

Masterplan

Evolution

5.1 As stated in section 3, the 2012 Junction Modelling Report was prepared on the basis of a development comprising the following:

- 65,000sq.m of employment use and associated parking.
- The provision of 2,750 jobs across the floor space.
- A resulting employment density of 1 person per 23.6sq.m across the new floor space provision.

5.2 Development traffic flows for the proposals were derived from site specific data obtained from the existing occupiers on the Cranfield Technology Park. These flows were accepted by CBC as an appropriate analogue from which to draw suitable estimations for the proposed development.

5.3 In addition to considering the implications of the Cranfield University development on the local highway network, the 2012 Junction Modelling Report also included provision for the following:

- A committed development, known as Home Farm.
- An allowance for baseline traffic growth to the year 2027, increasing flows by circa 20% from 2011 recorded baseline flows.

Proposed Masterplan

5.4 As stated in section 3, the Masterplan proposals comprise a net increase of 77,000sq.m of floor space across the overall campus. This consists of additional floor area within the University (residential and non-residential floor space) and the Technology Park (excluding the Nissan Technical Centre).

Development traffic flows

5.5 The vehicular trip rates set out in Table 4.8 (calculated from the March 2016 traffic surveys) have been applied to the proposed floor area in order to determine the likely level of trips associated with the Masterplan proposals. The resulting numbers of two- way trips for the AM and PM peak hours are set out in Table 5.1.

	Number of trips (77,000sq.m)	
	AM peak	PM peak
Vehicles	514	438

Table 5.1: Predicted peak hour masterplan trips

5.6 The two-way trips in Table 5.1 have been broken down into arrivals and departures for each peak hour and the results are presented in Table 5.2.

	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	464	50	514	64	374	438

Table 5.2: Predicted Peak Hour Masterplan Trips by Arrivals and Departures

Trip distribution

5.7 Using the predicted peak hour trips in Table 5.2 and the proportions of existing trips by access point detailed in Table 4.7, the predicted peak period arrivals and departures have been further broken down into access point. The results are presented in Table 5.3.

Access	AM peak			PM peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
University Way	213	28	241	30	180	210
College Road	210	17	227	24	154	177
Folly Lane	40	5	46	11	40	51
Total	**464**	**50**	**514**	**64**	**374**	**438**

Table 5.3: Predicted peak hour masterplan trips by access point

Travel plan implementation

5.8 Section 8 sets out details of the Travel Plan (dated 2012 to 2017) that is currently being implemented at Cranfield University. The Travel Plan aims to "Improve the travel options for students, staff and visitors to and from the Cranfield campus, whilst reducing environmental impacts" (paragraph 2.1.1). It is therefore reasonable to assume that the successful implementation of the Travel Plan could reduce the number of vehicular trips to and from the site.

5.9 The Travel Plan sets out mode share targets for 2017 for staff and students, with the 2012 mode share as the starting point. The 2017 targets for staff and student travel are reproduced in Table 5.4. The change in modal split is also shown.

Mode	Staff travel			Student travel		
	2012 Survey	2017 Target	Change	2012 Survey	2017 Target	Change
Car – alone	76%	68%	-8%	30%	25%	-5%
Car – share	14%	17%	+3%	10%	12%	+2%
Motorbike	1%	1%	-	0%	0%	-
Bus	3%	6%	+3%	19%	23%	+4%
Cycling	4%	6%	+2%	10%	12%	+2%
Walking	1%	1%	-	27%	28%	+1%
Other	1%	1%	-	3%	0%	-3%
Total	**100%**	**100%**	**-**	**100%**	**100%**	**-**

Table 5.4: Cranfield university travel plan targets (2017) [Source: Table 7.2, December 2012 Cranfield University travel plan 2012 – 2017, produced by WSP]

5.10 The original targets of the Travel Plan were to reduce single occupancy car travel by 8% for staff trips and 5% for student trips.

5.11 Since the introduction of the Travel Plan, a second travel survey was carried out in 2014 amongst staff and students and a third travel survey was carried out in April 2016. The results of the surveys are set out in Table 5.5, with a comparison to the 2012, 2014, 2016 surveys and 2017 Travel Plan targets.

Mode	Staff travel				Student travel			
	2012 Survey	2014 Survey	2016 Survey	2017 Target	2012 Survey	2014 Survey	2016 Survey	2017 Target
Car – alone	77%	73%	69%	68%	30%	13%	14%	25%
Car – share	14%	11%	14%	17%	10%	6%	5%	12%
Motorbike	1%	1%	1%	1%	0%	0%	0%	0%
Bus	3%	7%	6%	6%	19%	26%	17%	23%
Cycling	4%	5%	5%	6%	11%	9%	10%	12%
Walking	1%	1%	3%	1%	28%	43%	52%	28%
Other	1%	1%	1%	1%	2%	3%	2%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 5.5: Cranfield University travel survey results [Source: Staff Travel 2012 to 2016 Comparison Chart (Page 6) and Student (living offsite) Travel 2012-2016 Comparison Chart (Page 7), Cranfield University – Travel Survey Results May 2016]

5.12 The survey results show that there has been a reduction in single occupancy car travel by both staff and students when comparison with the 2012 travel surveys, although there was a slight increase of 1% recorded between 2014 and 2016 for students.

5.13 A new Travel Plan for the University is to be developed in Spring 2017 prior to the current Travel Plan coming to an end in 2017.

5.14 Since 2013, additional travel mode surveys have also been carried out on site. A summary of the results are provided in Table 5.6.

Mode	Staff and student travel		
	Apr 2013 Survey	Nov 2013 Survey	Feb 2016 Survey
Car – alone	82%	75%	74%
Car – share	6%	7%	11%
Motorbike	0%	0%	0%
Bus	6%	11%	11%
Cycling	3%	4%	3%
Walking (from village)	1%	2%	1%
Taxi	1%	1%	0%
Total	**100%**	**100%**	**100%**

Table 5.6: University Campus Travel Mode Survey Results [Source: Results provided by Gareth Ellis, Energy & Environmental Manager, Cranfield University, at Technical Charrette in March 2016]

5.15 Table 5.6 shows that there has been a reduction in single occupancy car travel. The travel mode surveys also distinguished the number of staff and students walking into the campus from outside the site and the number of staff and students walking from residences within the University site. The results, presented in absolute numbers are provided in Table 5.7.

Mode	Staff and students travel		
	Apr 2013 Survey	Nov 2013 Survey	Feb 2016 Survey
Walking – from village	14	24	9
Walking – from residences	202	375	479
Total surveyed	**1,300**	**1,497**	**1,842**

Table 5.7: University campus travel mode survey results – walking trips

5.16 Table 5.7 shows that whilst the number of staff and students walking into the campus from outside the site has reduced, the number of staff and students walking from residences within the University site has more than doubled.

5.17 It is considered that the successful implementation of the Travel Plan would result in a reduction in the number of vehicles travelling to and from the site. As stated above, the original targets of the Travel Plan were to reduce single occupancy car travel by 8% for staff trips and 5% for student trips. The targets also included increasing car sharing by 3% for staff trips and 2% for student trips. It is considered that the implementation of the Travel Plan would further reduce vehicular trip rates.

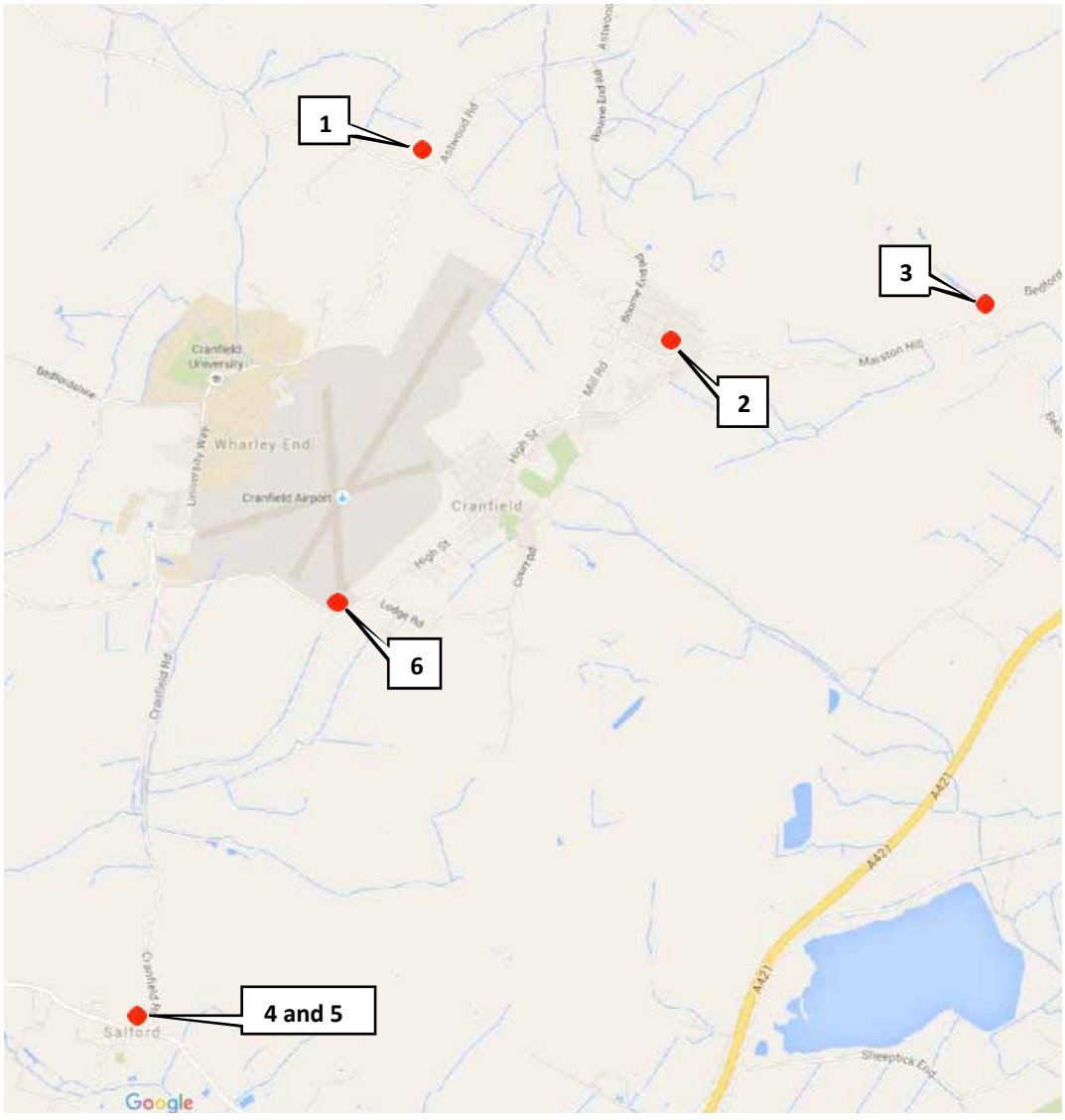
Chapter six
Traffic impact

6.1 This section considers the impact of the proposed Masterplan on the local junctions within the vicinity of the site and the need for any junction capacity improvements in order to accommodate the development. Consideration is also given to the impact of the development on strategic transport infrastructure in the area.

Local junctions

6.2 The locations of the junctions in question are illustrated in Figure 6.1.

Figure 6.1: Local junction locations



6.3 In accordance with the numbering on Figure 6.1, the local junctions considered are as follows:

- Astwood Road/Crawley Road (1).
- Bedford Road/Crane Way (2).
- Beancroft Road/Marston Hill (3).
- Broughton Road/Wavedon Road (4).
- Salford Road/C70 Cranfield Road (5).
- Airfield Way/High Street (6). Junction

Capacity assessments

2012 Junction modelling report

6.4 The 2012 Junction Modelling Report summarised the improvements that would be required to each junction based on three development scenarios. For ease of reference, a copy of this information is provided in Table 6.1 and the junctions are numbered in the table in accordance with paragraph 6.3 above and Figure 6.1.

Scenario	Junction					
	Astwood Rd/ Crawley Rd (1)	Bedford Rd/ Crane Wy (2)	Beancroft Rd/Marston Hill (3)	Broughton Rd/ Wavedon Rd (4)	Salford Rd/ Cranfield Rd (5)	Airfield Wy/ High St (6)
2027 + Committed Development	Fails	OK	OK	OK	Fails	OK
2027 + 18,000sq.m	Roundabout or signals required	OK	OK	OK	Roundabout required	OK
2027 + 30,000sq.m	Roundabout or signals required	OK	Right turn lane required	OK	Roundabout required	OK
2027 + 52,740sq.m	Roundabout or signals required	RFC of 1.037, using ODTAB	Roundabout required	OK	Roundabout required	OK

Table 6.1: Junction improvement requirements – 2012 Junction modelling report [ref: Table 5.17 Table 3.4, Junction modelling report, July 2012]

6.5 The 2012 Junction Modelling Report demonstrated that the following junctions would require improvement works prior to the implementation of the proposed development:

- Astwood Road/Crawley Road (1).
- Salford Road/Cranfield Road (5).

6.6 In terms of the junction improvements required as a result of the Masterplan development, the Beancroft Road/Marston Hill junction is considered the trigger for works. This junction has been predicted to work satisfactorily in 2027 with a development of 18,000sq.m, following which a greater level of development would trigger the need for improvement works.

6.7 Table 6.1 shows that the 2012 Junction Modelling Report demonstrated that the following junctions would be able to cope with the proposed development:

- Bedford Road/Crane Way (2).
- Broughton Road/Wavedon Road (4).
- Airfield Way/High Street (6).

6.8 For comparison purposes, the corresponding number of Masterplan trips associated with the junction improvements identified in the 2012 Junction Modelling Report are set out in Table 6.2.

Masterplan floor area	No. of vehicles – AM peak			No. of vehicles – PM peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
18,000sq.m	205	15	220	14	198	212
30,000sq.m	342	27	369	22	329	351
52,740sq.m	601	43	644	38	579	617

Table 6.2: Junction improvement requirements (by number of trips) – 2012 junction modelling report

Proposed Masterplan

6.9 Based on the trip rates obtained from the March 2016 traffic surveys (excluding the rat-running vehicles and Nissan Technical Centre traffic flows), the number of trips associated with the proposed Masterplan are fewer than those used in the 2012 Junction Modelling Report. As such, a greater quantity of Masterplan floor space could be provided before triggering a need for the local junction improvements. The corresponding level of floor space is set out in Table 6.3.

AM peak			PM peak		
No. Of vehicles	2012 Report floor area	2016 Masterplan equivalent floor area	No. Of vehicles	2012 Report floor area	2016 Masterplan equivalent floor area
220	18,000sq.m	32,953sq.m	212	18,000sq.m	37,260sq,m
369	30,000sq.m	55,271sq.m	351	30,000sq.m	61,690sq.m
644	52,740sq.m	96,463sq.m	617	52,740sq.m	108,441sq.m

Table 6.3: Junction improvement requirements (by floor space) – 2016 Masterplan

6.10 Table 6.3 shows that, based on the trip rates obtained from the March 2016 traffic surveys, a significantly greater quantity of Masterplan floor space could be provided before triggering a need for the local junction improvements. For the most criticaljunction of Beancroft Road/Marston Hill, the required improvements are summarised in Table 6.4.

2012 Report floor area	2016 Masterplan equivalent floor area	Beancroft rd/marston hill
18,000sq.m	32,953sq.m	OK
30,000sq.m	55,271sq.m	Right turn lane required
52,740sq.m	96,463sq.m	Roundabout required

Table 6.4: Beancroft Road/Marston Hill junction improvement requirements

6.11 Table 6.4 shows that a right turn lane is required to accommodate 55,271sq.m of development (an additional 25,271sq.m from the 2012 assessment) and a roundabout is required to accommodate 96,463sq.m of development (an additional 43,723sq.m from the 2012 assessment). The proposed development comprising 77,000sq.m additional development would therefore require a right turn lane to be implemented but would not trigger the need for the junction to be further improved to provide a roundabout.

6.12 For the other junctions being considered, the following statements summarise the junction capacity improvement works that would be required as a result of the construction of the proposed Masterplan. Where no works would be required, this is also noted:

Astwood Road/Crawley Road (1):

- The junction would not work satisfactorily in the future year scenario of 2027 with committed development, i.e. without any Masterplan development.
- The construction of any amount of Masterplan floorspace would trigger the need to undertake junction capacity improvement works in order to accommodate the increase in traffic flows that would result.
- Upgrading of the junction to a roundabout or signalised controlled junction would be required prior to construction of the Masterplan.

Bedford Road/Crane Way (2):

- The junction would be able to cope with the increase in traffic flows that would result from the Masterplan development.
- No junction capacity improvement works would be required to accommodate the total proposed Masterplan floorspace.

Broughton Road/Wavedon Road (4):

- The junction would be able to cope with the increase in traffic flows that would result from the Masterplan development.
- No junction capacity improvement works would be required to accommodate the total proposed Masterplan floorspace.

Salford Road/Cranfield Road (5):

- The junction would not work satisfactorily in the future year scenario of 2027 with committed development, i.e. without any Masterplan development.
- The construction of any amount of Masterplan floorspace would trigger the need to undertake junction capacity improvement works in order to accommodate the increase in traffic flows that would result.
- Upgrading of the junction to a roundabout or would be required prior to the construction of the Masterplan.

Airfield Way/High Street (6):

- The junction would be able to cope with the increase in traffic flows that would result from the Masterplan development.
- No junction capacity improvement works would be required to accommodate the total proposed Masterplan floorspace.

6.13 The proposed highway improvement schemes that are required to support the Masterplan are detailed in Appendix A (Modelling Update: Appendix D) of this report.

Impact on strategic transport infrastructure

6.14 CBC has identified a number of strategic highway and transport improvements which have come forward since 2012, in addition to some infrastructure upgrades presently being developed by the local authority. The schemes identified by CBC comprise:

- A421 – Milton Keynes dualling scheme.
- A421 – Central Bedfordshire dualling scheme.
- East West Rail. (Now due for completion in 2020).
- East Milton Keynes growth.
- M1 Junction 13 capacity.

6.15 A brief summary of each of the proposals identified is set out below along with a commentary on the implication of these on the above traffic impact assessment. It is noted that when considering these highway and transport improvement schemes CBC should have already taken into account the proposed Cranfield University Masterplan as allocated or committed development.

A421 Milton Keynes dualling scheme

Proposal

6.16 The A421 Milton Keynes dualling scheme provides a dual carriageway for the stretch of the A421 between Fen Farm and Eagle Farm roundabouts.

6.17 This scheme is now complete and has been implemented to provide capacity around the major development to the east of Milton Keynes for the Kingston employment area and the Brooklands area.

Implications

6.18 This scheme has a positive impact on the surrounding area. The new section of dualling on the A421 will help to relieve the congestion experienced within the village of Salford by decreasing the number of potential 'rat running' trips through the village centre.

6.19 Consequently, the highway improvements associated with the A421 Milton Keynes dualling scheme are unlikely to have a negative effect on the conclusion of the traffic impact assessment of the proposed Masterplan.

A421 Central Bedfordshire dualling scheme

Proposal

6.20 CBC is still trying to secure total funding for this scheme, which involves extending dualling of the A421 to the M1 Junction 13.

Implications

6.21 When implemented, this scheme will have a positive impact on the surrounding highway network and will potentially decrease the number of 'rat running' movements through the villages of Salford and Cranfield as a result of the continuous dual carriageway link from Milton Keynes to Bedford and the M1 Junction 13.

6.22 It is therefore considered that the highway improvements to the A421 are unlikely to have a negative effect on the conclusion of the traffic impact assessment of the proposed Masterplan.

East West Rail

Proposal

6.23 East West Rail is a major project to establish a strategic railway connecting East Anglia with Central, Southern and Western England. The 'Western Section' is now a committed, funded scheme to reintroduce passenger and freight services between Bedford and Oxford, Milton Keynes and Aylesbury. It involves upgrading and reconstructing sections of existing and 'mothballed' rail track, which is to be delivered by Network Rail.

6.24 The project is being promoted by the East West Rail Consortium – a group of local authorities and businesses with an interest in improving access to and from East Anglia and the Milton Keynes South Midlands growth area.

6.25 The Western Section of East West Rail will see the introduction of three new passenger services, for direct services within the region and connections to national mainline services. The services detailed below are now due to start operating in 2020:

- Bedford to Oxford (continuing to Reading).
- Milton Keynes to Oxford (continuing to Reading).
- Milton Keynes to Aylesbury (continuing to London Marylebone).

Implications

6.26 CBC is looking at the opportunity to provide a transport interchange at Ridgmont station which could provide sustainable transport links to Cranfield University along with increased connection opportunities to Oxford.

6.27 There would be an opportunity for a shuttle bus service from the new rail interchange to Cranfield University and Technology Park which could reduce the number of vehicular trips to and from the development.

6.28 This scheme would benefit the University and could potentially result in a decrease in the number of vehicular trips associated with the Masterplan and a decrease in the baseline flows. It is therefore considered that the East West Rail project is unlikely to have a negative effect on the conclusion of the traffic impact assessment of the proposed Masterplan.

East Milton Keynes growth

Proposal

6.29 The Eastern Expansion Area (EEA) includes the residential development areas of Broughton Gate, with 1,500 homes now largely complete, and Brooklands, 2,500 homes with around 615 complete, along with the employment site at Megna Park.

Implications

6.30 An allowance for the resulting vehicular trips associated with the EEA has been included within the baseline traffic flows reported in the 2012 Junction Modelling Report. TEMPRO growth factors were applied to the 2011 observed traffic flows in order to obtain 2027 baseline traffic flows.

M1 junction 13 capacity

Proposal

6.31 The capacity of the M1 Junction 13 has been identified as a potential issue by CBC.

Implications

6.32 The traffic flows associated with the 2016 Masterplan, detailed in Table 5.2 of this Transport Assessment, are unlikely to be materially different to the traffic flows considered in the 2012 Junction Modelling Report.

6.33 It is therefore considered that the 2016 Masterplan will not have an adverse impact on the operation of the M1 Junction 13.

Summary

6.34 To summarise, it can be seen from Table 6.3 that the proposed Masterplan results in fewer trips per area when compared to the 2012 Masterplan.

6.35 Furthermore, this report has demonstrated that, based on the trip rates obtained from the March 2016 traffic surveys, a greater quantity of Masterplan floor space could be provided before triggering a need for the local junction improvements.

6.36 It can be concluded from the comparison exercise undertaken that the construction of any amount of Masterplan floorspace would trigger the need to undertake junction capacity improvement works at the Astwood Road/Crawley Road junction (1) and Salford Road/Cranfield Road junction (5) in order to accommodate the increase in traffic flows that would result.

6.37 A right turn lane would be required at the Beancroft Road/Marston Hill junction.

6.38 The strategic highway improvement schemes that have been implemented since 2012 and those schemes due to be implemented in the future will have a positive impact on the surrounding highway network and will help to relieve congestion and decrease vehicular traffic flows within the villages of Salford and Cranfield.

Chapter seven
Parking demand

Existing parking

Existing parking provision

7.1 A total of 2,720 parking spaces are currently provided within the Cranfield University site and Technology Park. The specific locations and existing numbers of parking spaces have been assessed via a comprehensive parking survey, details of which are set out within this section of this report.

7.2 Car parking is available in the form of formal car parks throughout the site and informal parking areas. On-street car parking also occurs throughout the site. Car parking is also provided adjacent the residential accommodation blocks.

7.3 Dedicated disabled car parking spaces, motorcycle parking and parking spaces for security vehicles are also provided across the University site and Technology Park. The new sports hall car park also has electric charging facilities available.

Existing parking demand

7.4 In order to determine the existing parking demand and the potential future parking provision required as a result of the proposed Masterplan, a parking beat survey was carried out on the University site. The survey was undertaken by an independent traffic surveillance company, Advanced Transport Research, on Thursday 3rd March 2016 from 07:00 to 19:00 hours. A parking beat survey was undertaken each hour and the number of vehicles parked across the site was recorded. The Cranfield University site and Technology Park were split into approximately even areas for the purpose of surveying. These areas were further sub-divided into smaller sections. The Nissan Technical Centre was not surveyed. A map for each area which illustrate how the sections were delineated is provided at Appendix C. In addition to the parking areas, all roads within the site were surveyed separately in order to identify any vehicles parking illegally on these.

7.5 A copy of the results of the survey, including by area, is provided in Appendix C. The survey recorded the total number of marked parking spaces within the Cranfield University site and Technology Park as 2,720, including 81 disabled parking spaces. This figure includes disabled parking spaces, security parking spaces and permitted available parking on roads within the site. Where spaces were not specifically marked but formal parking clearly occurs, the survey company estimated the total available parking spaces within that area. This figure does not include the ad-hoc parking that occurred on roads (unless parking was specifically permitted).

7.6 The total number of vehicles parked per hourly beat is shown in Table 7.1.

Time	Observed occupancy
07:00	493
08:00	930
09:00	1,984
10:00	2,190
11:00	2,238
12:00	2,247
13:00	2,197
14:00	2,175
15:00	2,030
16:00	1,776
17:00	1,566
18:00	856
19:00	728

Table 7.1: Parking survey results – hourly totals

7.7 Table 7.1 shows that the maximum occupancy occurred at 12:00 hours when 2,247 vehicles were parked across the site. It is noted that these figures include any vehicles parked on a road and not in a marked/permitted parking space.

7.8 The maximum accumulations that occurred in each car parking area are set out in Table 7.2. The total number of vehicles parked is provided along with the total number of vehicles parked on a road and not in a marked/permitted parking space (i.e. not included in the total number of available spaces) in each area.

Area	Time of max. accum.	Max. Accum.	Of which, on- road parking	Total spaces
Area 1	13:00	275	89	206
Area 2	13:00	268	13	290
Area 3 (residential)	12:00	219	20	255
Area 4	11:00	339	13	330
Area 5	12:00	201	0	266
Area 6 (mostly residential)	09:00	147	17	263
Area 7 (mostly residential)	12:00	222	37	247
Car park 8 (Technology Park)	14:00	357	0	476
Car park 9 (Technology Park)	11:00	84	0	181
Car park 10 (Martell House)	11:00	194	0	206
Total	**12:00**	**2,247**	**179**	**2,720**

Table 7.2: Parking survey results by parking area

7.9 Table 7.2 shows that the time of maximum accumulation generally occurred between the hours of 11:00 and 13:00. In areas 1 and 4 the maximum parking accumulation was higher than the total number of marked/permitted parking spaces. This is as a result of vehicles being parked on-road and not in a marked/permitted parking space. It can be seen that on the day of the survey, if all vehicles had parking in marked/permitted parking spaces there would have been 294 spare car parking spaces across the site. Therefore, it can be concluded that there is more than adequate parking provision across the site to accommodate those vehicles currently parked on-road to park in a formal parking space.

Future parking demand and strategy

Proposed parking provision

7.10 The proposed Masterplan includes consolidation of the existing parking facilities across the site to provide three main car parks for the University buildings. These would be located on the outskirts of the campus so that the parking is located away from the main activity and thoroughfare. A separate car parking area would be provided for the new student accommodation. The existing number of parking spaces available on-site will be increased to accommodate the demands resulting from the current Masterplan. The future car parking to be located to the south of the campus will also provide electric charging facilities.

Parking standards and policies

7.11 CBC's Core Strategy and Development Management Policies Development Plan Document (which forms part of the Adopted North Local Development Framework) was adopted in November 2009. Policy CS4 on 'Linking communities – Accessibility and transport' states that "When allocating land for development, priority will be given to development schemes that… make appropriate parking provision, in terms of both the number of spaces and their location, given the need to both encourage sustainable travel patterns and avoid creating congestion caused by excessive on-street parking."

7.12 CBC's Local Transport Plan 3 (LTP) Transport Strategy was adopted in April 2011 and covers the period to 2026. A Parking Strategy forms one of the appendices of the LTP.

7.13 Policy P4, on 'Private Non-Residential Parking Standards' states that "The provision of parking associated with new private non-residential development will be limited to maximum parking standards (except for mobility impaired spaces)… The actual parking provision for developments will be negotiated between the Council and developers, taking account of a range of issues including the mix of land uses, ancillary uses, scale of development and opportunities for sharing parking."

7.14 Appendix C of the Parking Strategy sets out maximum parking standards for non- residential land uses. The standards applicable to the Cranfield University Masterplan are as follows:

- Higher and further education – one space per two staff plus one space per 15 students (total number of students rather than the full-time equivalent).
- A1 food retail less than 1,000sq.m) – one space per 14sq.m.
- B1 business park – one space per 25sq.m.

7.15 No specific parking standard is set for university accommodation. The standard for residential schools and colleges is one space per bed (including staff bed spaces) plus one space per two non-residential and ancillary staff.

7.16 For A1 and B1 land uses, operational parking is required for loading and unloading. For C2 land use (residential institutions and student accommodation), space for an ambulance, minibus or van is required, along with space for one pick-up/drop-off point.

7.17 Section 6 of the Parking Strategy provides guidance on the design of car park provision and includes the following recommendations:

- "Parking and servicing should be carefully located within developments to minimise visual impact."
- "Surface parking should be conceived as part of the overall landscape proposals for the development and should link into the wider area."
- "Parking Provision (public and private) must be appropriately landscaped, surfaced and secure for both vehicles and pedestrians and appropriately accessed to ensure that highway safety and amenity issues do not arise."
- "All parking spaces need to be accessible at all times and areas for circulation and turning must also be kept clear at all times."
- "There should be convenient and safe pedestrian routes between car parks and the main entrances to buildings…"
- The provision of spaces for 'Blue Badge' holders.

Predicted parking demand

7.18 As stated in section 3, the proposed Masterplan comprises a net increase of 77,000sq.m of floor space across the overall campus resulting in a total floor area of 289,814sq.m (including the Nissan Technical Centre). Construction of the Masterplan would result in a 36% increase in total floor area across the University and Technology Park (including the Nissan Technical Centre).

7.19 As previously stated, the Nissan Technical Centre is excluded from the trip attraction assessment in this Transport Assessment and the Nissan car park was not included in the March 2016 parking survey. Excluding the Nissan Centre from the existing floor area of the site would result in the Masterplan increasing the other floor area across the University and Technology Park by 40%.

7.20 The maximum car parking demand following the construction of the Masterplan has been calculated based on the uplift in floor area of the site. The resulting maximum occupancy per hour over a typical day is shown in Table 7.3.

Time	Uplifted parking demand (36%)	Uplifted parking demand (40%)
07:00	670	690
08:00	1,265	1,302
09:00	2,698	2,778
10:00	2,978	3,066
11:00	3,044	3,133
12:00	3,056	3,146
13:00	2,988	3,076
14:00	2,958	3,045
15:00	2,761	2,842
16:00	2,415	2,486
17:00	2,130	2,192
18:00	1,164	1,198
19:00	990	1,019

Table 7.3: Post development parking profile

7.21 Table 7.3 shows that the peak parking accumulation following the development would be 3,056 vehicles parked based on a 36% uplift and 3,146 vehicles parked based on a 40% uplift. As previously stated, the total number of marked/formal spaces currently provided on the site is 2,720. However, this excludes the roads on which vehicle parking occurs informally.

7.22 The level of car parking to be provided as part of the Masterplan proposals will be sufficient to accommodate the peak demand for parking based on the 40% uplift detailed in Table 7.3.

Masterplan parking strategy

7.23 As stated above, the Masterplan includes consolidation of the existing parking facilities to provide new peripheral parking zones for the University buildings.

7.24 It is intended that with the development of the Masterplan, the existing amount of parking across the site would be increased to meet the Masterplan demands. The location of the car parks on the periphery of the site would enable possible expansion, if it was deemed that additional car parking was required. However, for the reasons set out below, it is considered that the 40% increase in car parking provision would be an over estimation of the Masterplan demand.

7.25 A Travel Plan will be implemented at the site which will aim to improve the travel options of students, staff, employees and visitors with particular focus on reducing single occupancy private car use and its associated effects. Potential future Travel Plan measures are set out in section 8 of this Transport Assessment. The future Travel Plan will cover both the University and the Technology Park.

7.26 Construction of the Masterplan would result in a 40% increase in floor area across the site (excluding the Nissan Technical Centre). As shown in Table 7.3, applying this uplift to the existing surveyed car park accumulation would result in a maximum accumulation of 3,146 following construction of the Masterplan. However, the increase in floor area includes new student accommodation. As such, the students will be living on site and will be able to walk or cycle to the University buildings and Technology Park. Consequently, the uplifted parking accumulation is an overestimate of the likely parking demand.

7.27 Table 7.3 assumes no modal shift in travel by staff and students at the University and Technology Park. It is anticipated that the implementation of the Cranfield University Travel Plan 2012 to 2017 (or replacement document) would encourage a shift away from use of the private car to more sustainable forms of travel, including car sharing and cycling. Indeed, one of the six objectives of the Travel Plan is to “Support future planning applications associated with the University” (paragraph 2.2.1). Details of the Travel Plan and potential measures are set out in section 9 of this Transport Assessment.

7.28 Furthermore, the proposals to develop Ridgmont railway station as part of the East West Railway proposals would encourage travel by rail to the site as the station is located approximately 7.3km to the south east of the site. National Rail proposals include the upgrade of the East West line, with services running between Oxford and Bedford, and there is a Government aspiration to reinstate the line between Bedford and Cambridge, linking Oxford with Cambridge.

Chapter eight
Travel planning

8.1 As stated in section 7, the uplifted parking accumulation figures in Table 7.3 assume no modal shift in travel by staff and students at Cranfield University and Technology Park and it is anticipated that the implementation of a comprehensive Travel Plan at the site will encourage a shift away from use of the private car.

Existing travel plan

8.2 Cranfield University is currently implementing a Travel Plan at its Cranfield campus. The Travel Plan, dated December 2012, covers the period from 2012 to 2017. The aim of the Travel Plan is to "Improve the travel options for students, staff and visitors to and from the Cranfield campus, whilst reducing environmental impacts" (paragraph 2.1.1).

8.3 The Travel Plan sets out measures that will be implemented to encourage sustainable travel amongst staff and students. Such measures include:

- Sustainable travel information pack.
- Travel Plan portal on the University intranet.
- Personal travel planning advice.
- Posters and information on noticeboards.
- A Bus User Group.
- Cycle parking and way finding improvements.
- A changing facilities audit.
- A Cycle User Group.
- A review of working practices.
- A car share scheme.

Future travel plan measures

8.4 A number of measures are set out below which could be introduced as part of the implementation of the Travel Plan, with the aim of encouraging a shift away from use of the private car to more sustainable forms of travel.

Travel information

8.5 Staff and students at the University currently receive a sustainable travel information pack upon commencement of employment/study at the site. Similar (or additional) information on travel should also be provided on the University intranet, on noticeboards in communal areas and circulated via email communication.

Walking and cycling

8.6 As part of the development of the Masterplan the routes to/from and within the site for pedestrians and cyclists and cycle routes have been reviewed and are to be improved as required, with the aim of encouraging travel by these modes by making the routes attractive and viable options. Direct, well-signed and non-trafficked routes are considered important.

8.7 The existing level of cycle parking provision across the site is consists of 402 cycle parking spaces. As part of the Masterplan, sufficient cycle parking facilities will be provided to cater for demand. Facilities will be located as conveniently as possible to the entrances to the buildings to which they serve and all University buildings, residential accommodation and Technology Park buildings will have cycle parking facilities. Facilities will be covered and secure.

8.8 A commitment should be made within the Travel Plan to monitor the level of cycle parking as part of the annual travel survey and that, if required, more facilities should be provided.

8.9 Similarly, sufficient changing and storage facilities should be provided to cater for those travelling on foot or by bicycle.

Existing bus services

8.10 There are four existing public bus services that stop at the Cranfield campus and adjacent the Technology Park. These services are summarised in Table 8.1.

Operator	Route	Monday-Saturday			Sat service	Sun service
		First bus	Last bus	Off peak frequency		
Stagecoach 53	Bedford – Kempston – Wootton – Marston Moretaine – Cranfield – Milton Keynes	06:10	19:25	60 mins	60 mins	No
Uno C1/C10/ C11	Bedford – Milton Keynes via Kempston – Cranfield – Kingston	05:52	23:18	30 mins	60 mins	90 mins

Table 8.1: Existing Bus Services

Public transport links

8.11 Cranfield University considers the proposals to develop Ridgmont railway station to be a positive introduction in terms of sustainable travel, and when developing the Travel Plan the University would look for opportunities to link in Ridgmont station with the Uno bus service.

Car use

8.12 Approximately 44 dedicated car parking spaces for car sharers are currently provided on the site. In addition, it is understood that since the introduction of the current Travel Plan, a number of electric vehicle parking spaces have also been installed within site, with a number of these located within the new sports hall car park.

8.13 The University has already signed up to the national car share database, Liftshare, and has set up its own group. Effective ongoing promotion of the scheme to staff, students and employees will be required.

8.14 Taking into account the results of the parking beat survey carried out in March 2016, it is considered that a review be undertaken of the enforcement of parking restrictions and an effective car park management strategy be put into place. The survey showed that there is ample parking to cater for demand but that some parking occurs in non- designated areas (i.e. on-road). The enforcement of parking restrictions could encourage a move towards more sustainable modes of travel, as well as ensure that parking is limited to designated areas only, creating a more pleasant environment within the site.

Working practices

8.15 Possible measures that could be incorporated into the Travel plan for the employment element of the development are:

- flexible working.
- video conferencing.
- increased mileage rates for staff travelling with others for business.

Chapter nine
Summary and conclusion

9.1 Mayer Brown Limited has been instructed by Cranfield University to provide highways and transport related assistance in support of the Cranfield University Masterplan.

9.2 The proposed Masterplan is intended to provide an overarching development strategy for the campus, providing a framework for physical changes and development opportunities over the next 20 to 25 years.

9.3 The proposed Masterplan comprises a net increase of 77,000sq.m of floor space across the overall campus resulting in a total floor area of 289,814sq.m.

9.4 This Transport Assessment has been produced to support the Cranfield University Masterplan and demonstrates the following:

- the Masterplan proposals are predicted to result in an additional 514 vehicle trips during the AM peak and 438 vehicular trips during the PM peak.
- the 2016 Masterplan results in fewer trips per area when compared to the 2012 Masterplan.
- based on the trip rates obtained from the March 2016 traffic surveys, a greater quantity of Masterplan floor space could be provided before triggering a need for the local junction improvements.
- the construction of any amount of Masterplan floorspace would trigger the need to undertake junction capacity improvement works at the Astwood Road/Crawley Road junction (1) and Salford Road/Cranfield Road junction (5) in order to accommodate the increase in traffic flows that would result.
- a right turn lane would be required at the Beancroft Road/Marston Hill junction.
- the strategic highway improvement schemes that have been implemented since 2012 and those schemes due to be implemented in the future will have a positive impact on the surrounding highway network and will help to relieve congestion and decrease vehicular traffic flows within the villages of Salford and Cranfield.
- the level of car parking to be provided as part of the Masterplan proposals will be sufficient to accommodate the peak demand for parking based on the 40% uplift.
- the implementation of a Travel Plan at the site would have the potential to further reduce the number of vehicular trips through a to modal shift away from single occupancy car travel.

9.5 On the basis of the above, it is considered that the transport impacts of the Cranfield University Masterplan are acceptable.

Appendix A
Modelling update report

mayer brown

CRANFIELD UNIVERSITY
MASTERPLAN
CRANFIELD, CENTRAL BEDFORDSHIRE

MODELLING UPDATE REPORT

JUNE 2016

CRANFIELD UNIVERSITY
MASTERPLAN
CRANFIELD, CENTRAL BEDFORDSHIRE

MODELLING UPDATE REPORT

JUNE 2016

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Cranfield University

Masterplan

Cranfield, Central Bedfordshire

Modelling Update Report

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Appendices

1 Introduction

1.1 This report has been prepared by Mayer Brown Limited on behalf of Cranfield University in respect of their forthcoming Masterplan submission to Central Bedfordshire Council.

1.2 In July 2012, Mayer Brown prepared a Junction Modelling Report which considered the implications on a number of off-site junctions of developing the Technology Park for further employment uses.

1.3 At the time, the 2012 Junction Modelling Report considered a development of 65,000sq.m accommodating in the order of 2,750 employees across the commercial floor space.

1.4 Since the 2012 report was prepared, the Cranfield University Masterplan has evolved to reflect the more collaborative relationship between the academic and employment aspects of the campus, which requires a greater emphasis on research and development and laboratory floor space, rather than the traditional employment floor space considered in 2012.

1.5 In addition, Central Bedfordshire Council has identified a number of regional strategic highway and transport improvements that have been delivered since 2012, or are likely to come forward over the period the Masterplan is being developed which may affect baseline flows on the surrounding network.

1.6 This report considers the implications of the changes to the Masterplan as well as the strategic improvements being brought forward in the area and provides a commentary on the likely implications of these on the 2012 Modelling Report. It includes reference to the impact of the implementation of a Travel Plan for the site which would aim to encourage a shift away from use of the private car to more sustainable forms of travel.

1.7 This report is divided into the following sections:

- Masterplan Evolution;
- Baseline Traffic Flows;
- Development Traffic Flows;
- Comparison Between 2016 Masterplan and 2012 Modelling Report;
- Strategic Transport Infrastructure; and
- Summary and Conclusions.

2 Masterplan Evolution

Assessment Criteria

2012 Junction Modelling Report

2.1 As stated in section 1, the 2012 Junction Modelling Report to which this report relates was prepared on the basis of a development comprising the following:

- 65,000sq.m of employment use and associated parking;
- The provision of 2,750 jobs across the floor space; and
- A resulting employment density of 1 person per 23.6sq.m across the new floor space provision.

2.2 Development traffic flows for the proposals were derived from site specific data obtained from the existing occupiers on the Cranfield Technology Park. These flows were accepted by Central Bedfordshire Council as an appropriate analogue from which to draw suitable estimations for the proposed development.

2.3 In addition to considering the implications of the Cranfield University development on the local highway network, the 2012 Junction Modelling Report also included provision for the following:

- A committed development, known as Home Farm; and
- An allowance for baseline traffic growth to the year 2027, increasing flows by circa 20% from 2011 recorded baseline flows.

2016 Emerging Masterplan

2.4 The existing floor areas of the University site are summarised in **Table 2.1**.

Area	Element	Floor Area (sq.m)	Floor Area (sq.m) Excl. Nissan Building
Cranfield University	Non-residential	109,938	109,938
	Residential	55,700	55,700
Technology Park	-	47,176	26,176
Total		**212,814**	**191,814**

Table 2.1: Existing Site Floor Areas

2.5 The 2016 proposals comprise a net increase of 77,000sq.m of floor space across the overall campus, compared to the 65,000sq.m of employment considered in the 2012 Junction Modelling Report. Construction of the Masterplan would therefore result in a 36% increase in total floor area across the University and Technology Park (including the Nissan Technical Centre).

2.6 The Nissan Technical Centre is understood to have a floor area of 21,000sq.m. Excluding the Nissan building from the existing floor area would result in the Masterplan increasing the other floor area across the University and Technology Park by 40%. It is noted that the Nissan Technical Centre is a separate entity to the University which is not within Cranfield University ownership and consequently the proposed Masterplan would not affect this building or area of land. It is therefore excluded from the trip rate calculations within this report.

2.7 The emerging Masterplan for Cranfield University differs to the development that was considered in the 2012 Junction Modelling Report insomuch as it promotes a scheme which encompasses a significant level of crossover between the academic and employment elements of the site.

2.8 Consequently, the emerging Masterplan incorporates a significant level of research and development floor space compared to that included within the 2012 Junction Modelling Report. This includes more laboratory facilities which are occupied at a lower density than typical employment uses. The estimated occupancy rates for the emerging Masterplan are set out in **Table 2.2**.

Use	Employment Density
Laboratory	1/70sq.m
Small Laboratory	1/34sq.m
Teaching Accommodation	1/18sq.m
Office Accommodation	1/16sq.m

Table 2.2: Anticipated Employment Densities – 2016 Masterplan

2.9 Based on the above figures and prevalence of large laboratories in the emerging Masterplan, it is understood that the development is expected to result in an average density of 1 employee per 32sq.m.

2.10 Consequently, the proposed 77,000sq.m of floor space is anticipated to accommodate 2,406 additional employees, of which 220 will be academics.

2.11 While the current proposals represent an increase in floor area compared to the 2012 Junction Modelling Report, they also represent a decrease in the anticipated additional number of employees likely to be on site by 344 (2,750 minus 2,406).

3 Baseline Traffic Flows

3.1 As previously stated, since the preparation of the 2012 Junction Modelling Report, the Cranfield University Masterplan has evolved to reflect the more collaborative relationship between the academic and employment aspects of the campus, which requires a greater emphasis on research and development and laboratory floor space. This is a different proposal to the more traditional employment floor space considered in 2012. The 2012 assessment used development traffic flows which were derived from site specific data obtained from the existing occupiers on the Cranfield Technology Park. Given the change in the Masterplan, it is therefore considered necessary to revisit the development traffic flows and assess the existing trips associated with the whole University site, i.e. the University and the Technology Park as a combined entity rather than as independent trip generators. As stated in section 2, the Nissan Technical Centre is excluded from the assessment. The traffic flows associated with this building have therefore been removed and details are set out within this section.

Traffic Surveys

3.2 In order to determine the existing traffic flows associated with the site, automatic traffic counters (ATC) were placed at the three access points to the site, as follows:

- University Way;
- College Road; and
- Folly Lane (described as 'Bedfordshire' in the survey results).

3.3 The ATCs were installed by an independent traffic surveillance company, Advanced Transport Research, on Thursday 3rd March 2016 and recorded two-way traffic flows for a 24 hour period. Vehicle types and speeds were also recorded. A copy of the results of the survey is provided at **Appendix A** to this report.

3.4 In terms of arrivals and departures to the site, the results of the survey identified the following peak hours:

- Weekday AM peak hour: 08:00 to 09:00
- Weekday PM peak hour: 17:00 to 18:00

3.5 The peak hour flows are set out in **Table 3.1**.

	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	1,419	240	1,659	235	1,391	1,626

Table 3.1: Existing Peak Hour Traffic Flows

3.6 **Table 3.1** shows that the arrivals to the site in the AM peak hour and the departures from the site in the PM peak hour both constitute 86% of the total flows for each time period.

3.7 **Table 3.2** breaks down the peak period arrivals and departures to the site by each of the three access points.

Access	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
University Way	630	127	757	110	659	769
College Road	666	75	741	88	576	664
Folly Lane	123	38	161	37	156	193
Total	**1,419**	**240**	**1,659**	**235**	**1,391**	**1,626**

Table 3.2: Existing Peak Hour Traffic Flows by Access Point

3.8 **Table 3.2** shows that during the AM peak hour, the majority of arrivals to the site are via University Way (44%) and College Road (47%). During the PM peak hour, the majority of departures from the site are via University Way (47%) and College Road (41%).

3.9 In conjunction with the ATC surveys, the vehicular accesses to the Nissan Technical Centre were also surveyed to determine the arrivals and departures associated with that site. The survey was undertaken on Thursday 3rd March 2016 for a 24 hour period. A copy of the results of the survey is provided at **Appendix B** to this report. **Table 3.3** sets out the surveyed traffic flows associated with the Nissan Technical Centre for the AM and PM peak hours of 08:00 to 09:00 and 17:00 to 18:00 respectively.

Nissan Access	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Northern access	56	18	74	8	415	423
Southern access (in-only)	109	0	109	7	0	7
Total	**165**	**18**	**183**	**15**	**415**	**430**

Table 3.3: Nissan Technical Centre Peak Hour Traffic Flows

3.10 The peak hour flows associated with the Nissan Technical Centre have been removed from the peak period arrivals and departures to the University site by each of the three access points (University Way, College Road and Folly Lane). The resulting flows are set out in **Table 3.4**.

Access	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
University Way	557	117	674	103	462	565
College Road	589	69	658	82	404	487
Folly Lane	109	35	144	35	109	144
Total	**1,254**	**222**	**1,476**	**220**	**976**	**1,196**

Table 3.4: Existing Peak Hour Traffic Flows by Access Point (Excluding Nissan)

Rat-Running Vehicles

3.11 In conjunction with the automatic traffic count survey, a number of automatic number plate recognition (ANPR) cameras were placed at the three access points to the site in order to establish the existence and level of rat-running vehicles through the site, in particular during the morning and evening peak periods of 07:00 to 10:00 and 16:00 to 19:00 hours respectively. The ANPR cameras were installed at the same locations as the ATCs and collected vehicle registration plates as they entered and exited the site. A copy of the results of the survey is provided at **Appendix C** to this report.

3.12 In order to determine any rat-running, the ANPR data has been matched based on vehicles travelling between locations within a 15 minute journey time. **Table 3.5** sets out a summary of the peak hour arrivals recorded by the ANPR cameras and the number (and percentage) of vehicles identified to be rat-running through the site. **Table 3.6** sets out a summary of the peak hour departures recorded by the ANPR cameras and the number (and percentage) of vehicles identified to be rat-running through the site. The number of rat-running vehicles exclude vehicles that enter and exit from the same access road to the site. It is considered that these vehicles could be delivery vehicles or similar. It is noted that the traffic flows recorded by the ANPR cameras differ slightly to the traffic flows recorded by the ATCs. This is not uncommon and is a result of the different surveying methods. The ANPR cameras matched an average of 89% in the AM peak and an average of 83% in the PM peak, which is considered sufficiently accurate to identify the proportion of rat-runners.

Access	AM Peak Arrivals			PM Peak Arrivals		
	ANPR Flow	Rat-Run	% Rat-Run	ANPR Flow	Rat-Run	% Rat-Run
University Way	524	24	4.6%	109	31	28.4%
College Road	661	73	11.0%	87	25	28.7%
Folly Lane	125	9	7.2%	38	8	21.1%
Total	**1,310**	**106**	**8.1%**	**234**	**64**	**27.4%**

Table 3.5: Peak Hour Rat-Running Vehicles – Arrivals to the Site

Access	AM Peak Departures			PM Peak Departures		
	ANPR Flow	Rat-Run	% Rat-Run	ANPR Flow	Rat-Run	% Rat-Run
University Way	128	53	41.4%	685	19	2.8%
College Road	75	29	38.7%	573	30	5.2%
Folly Lane	39	24	61.5%	158	15	9.5%
Total	**242**	**106**	**43.8%**	**1,416**	**64**	**4.5%**

Table 3.6: Peak Hour Rat-Running Vehicles – Departures from the Site

Existing Trips Excluding Rat-Running Vehicles

3.13 The existing peak hour traffic flows for the site (excluding the Nissan traffic flows) have been discounted by the percentage of rat-running vehicles identified from the ANPR survey. The resulting peak hour arrivals and departures to the site by each of the three access points are presented in **Table 3.7**.

Access	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
University Way	531	69	600	74	450	523
College Road	524	43	566	59	383	442
Folly Lane	101	14	114	27	99	126
Total	**1,156**	**125**	**1,281**	**160**	**932**	**1,091**

Table 3.7: Existing Peak Hour Traffic Flows by Access Point (Excluding Nissan) Excluding Rat-Running Vehicles

3.14 **Table 3.7** shows that removal of the identified rat-running vehicles (i.e. vehicles entering and leaving the site within a 15 minute period) results in reductions in the two-way traffic flows by 195 in the AM peak hour and 105 in the PM peak hour.

Existing Trip Rates

3.15 The surveyed arrivals and departures for the AM and PM peak hours, excluding traffic flows associated with the Nissan Technical Centre, have been applied to the existing floor area of the site in order to establish trip rates for the overall site, i.e. the University and the Technology Park.

3.16 As shown in **Table 2.1**, the existing site has a total floor area of 191,814sq.m. This comprises the University (residential and non-residential floor space) and the Technology Park and excludes the Nissan Technical Centre. This existing floor area and the surveyed two-way trips have been used to calculate two-way vehicular trip rates

for the site, the results of which are set out in **Table 3.8**. The trip rates exclude the rat-running vehicles and the traffic flows associated with the Nissan Technical Centre.

	Trip Rates per 100sq.m	
	AM Peak	PM Peak
Vehicular trip rate	0.668	0.569

Table 3.8: Peak Hour Trip Rates for Site Excluding Rat-Running Vehicles

3.17 Section 4 of this report sets out an assessment of the predicted vehicular trips that could result from the proposed Masterplan using the vehicular trip rates in **Table 3.8**.

4 Development Traffic Flows

4.1 As stated in section 2, the emerging Masterplan proposals comprise a net increase of 77,000sq.m of floor space across the overall campus. This consists of additional floor area within the University (residential and non-residential floor space) and the Technology Park (and not within the Nissan Technical Centre).

4.2 The vehicular trip rates in **Table 3.8** calculated from the March 2016 traffic surveys have been applied to the proposed floor space in order to determine the likely level of trips associated with the Masterplan proposals. The resulting numbers of two-way trips for the AM and PM peak hours are set out in **Table 4.1**.

	Number of Trips (77,000sq.m)	
	AM Peak	PM Peak
Vehicles	514	438

Table 4.1: Predicted Peak Hour Masterplan Trips

4.3 The two-way trips in **Table 4.1** have been broken down into arrivals and departures for each peak hour and the results are presented in **Table 4.2**.

	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	464	50	514	64	374	438

Table 4.2: Predicted Peak Hour Masterplan Trips by Arrivals and Departures

4.4 Using the proportions of trips in **Table 3.2**, the predicted peak period arrivals and departures have been further broken down into access point. The results are presented in **Table 4.3**.

Access	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
University Way	213	28	241	30	180	210
College Road	210	17	227	24	154	177
Folly Lane	40	5	46	11	40	51
Total	**464**	**50**	**514**	**64**	**374**	**438**

Table 4.3: Predicted Peak Hour Masterplan Trips by Access Point

Travel Plan Implementation

4.5 Cranfield University is currently implementing a Travel Plan at its Cranfield campus. The Travel Plan, dated December 2012 covers the period from 2012 to 2017 and was produced by WSP. The aim of the Travel Plan is to *"Improve the travel options for students, staff and visitors to and from the Cranfield campus, whilst reducing environmental impacts"* (paragraph 2.1.1).

4.6 The Travel Plan sets out measures that will be implemented to encourage sustainable travel amongst staff and students. Such measures include:

- Sustainable travel information pack;
- Travel Plan portal on the University intranet;
- Personal travel planning advice;
- Posters and information on noticeboards;
- A Bus User Group;
- Cycle parking and way finding improvements;
- A changing facilities audit;
- A Cycle User Group;
- A review of working practices; and
- A car share scheme.

4.7 The Travel Plan sets out mode share targets for 2017 for staff and students with the 2012 mode share as the starting point. The 2017 targets for staff and student travel are reproduced in **Table 4.4**. The change in modal split is also presented.

Mode	Staff Travel			Student Travel		
	2012 Survey	2017 Target	Change	2012 Survey	2017 Target	Change
Car – alone	76%	68%	-8%	30%	25%	-5%
Car – share	14%	17%	+3%	10%	12%	+2%
Motorbike	1%	1%	-	0%	0%	-
Bus	3%	6%	+3%	19%	23%	+4%
Cycling	4%	6%	+2%	10%	12%	+2%
Walking	1%	1%	-	27%	28%	+1%
Other	1%	1%	-	3%	0%	-3%
Total	**100%**	**100%**	**-**	**100%**	**100%**	**-**

Table 4.4: Cranfield University Travel Plan Targets (2017)

[Source: Table 7.2, December 2012 Cranfield University Travel Plan 2012 – 2017, produced by WSP]

4.8 The original targets of the Travel Plan were to reduce single occupancy car travel by 8% for staff trips and 5% for student trips.

4.9 Since the introduction of the Travel Plan, a second travel survey was carried out in 2014 amongst staff and students and a new travel survey is now due (as of April 2016). The results of the survey are set out in **Table 4.5**, with comparison to the 2012 survey and 2017 Travel Plan targets.

Mode	Staff Travel			Student Travel		
	2012 Survey	2014 Survey	2017 Target	2012 Survey	2014 Survey	2017 Target
Car – alone	76%	73%	68%	30%	13%	25%
Car – share	14%	12%	17%	10%	8%	12%
Motorbike	1%	1%	1%	0%	0%	0%
Bus	3%	7%	6%	19%	22%	23%
Cycling	4%	5%	6%	10%	8%	12%
Walking	1%	1%	1%	27%	44%	28%
Other	1%	1%	1%	3%	4%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100**	**100%**

Table 4.5: Cranfield University Travel Survey Results

4.10 The survey results show that there has been a reduction in single occupancy car travel by both staff and students.

4.11 A new Travel Plan for the University is to be developed this autumn prior to the current Travel Plan coming to an end in 2017.

Technology Park

4.12 Since 2013, travel surveys have also been carried out amongst the Technology Park employees. A summary of the results of the travel surveys are provided in **Table 4.6**.

Mode	Employee Travel		
	Apr 2013 Survey	Nov 2013 Survey	Feb 2017 Survey
Car – alone	82%	75%	74%
Car – share	6%	7%	11%
Motorbike	0%	0%	0%
Bus	6%	11%	11%
Cycling	3%	4%	3%
Walking (from village)	1%	2%	1%
Taxi	1%	1%	0%
Total	**100%**	**100%**	**100%**

Table 4.6: Technology Park Travel Survey Results

4.13 **Table 4.6** shows that there has been a reduction in single occupancy car travel. The surveys distinguished the number of employees walking into the Technology Park from outside the site and the number of employees walking from residences within the University site. The results, presented in absolute numbers are provided in **Table 4.7**.

Mode	Employee Travel		
	Apr 2013 Survey	Nov 2013 Survey	Feb 2017 Survey
Walking – from village	14	24	9
Walking – from residences	202	375	479
Total surveyed	**1,300**	**1,497**	**1,842**

Table 4.7: Technology Park Travel Survey Results – Walking Trips

4.14 **Table 4.7** shows that whilst the number of employees walking into the Technology Park from outside the site has reduced, the number of employees walking from residences within the University site has more than doubled.

Impact of Travel Plan on Trip Rates

4.15 The successful implementation of the Travel Plan would result in a reduction in the number of vehicles travelling to and from the site. As stated above, the original targets of the Travel Plan were to reduce single occupancy car travel by 8% for staff trips and 5% for student trips. The targets also included increasing car sharing by 3% for staff trips and 2% for student trips. It is considered that the implementation of the Travel Plan would further reduce vehicular trip rates.

5 Traffic Impact

5.1 This section sets out a comparison between the predicted traffic flows associated with the emerging Masterplan and those used in the 2012 Junction Modelling Report. It goes on to consider the impact of the proposed development on the local junctions within the vicinity of the site, based on the assessment in the 2012 report.

Predicted Development Traffic Flows – 2012 Junction Modelling Report

5.2 As set out in section 2, the 2012 Junction Modelling Report considered an employment development of 65,000sq.m on the site. The 2012 report utilised the peak period traffic flows detailed in **Table 5.1** for the purposes of modelling the local highway network.

Use	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	741	52	793	47	714	761

Table 5.1: 2012 Junction Modelling Report Flows, 65,000sq.m 2,750 Employees

[Ref: Table 3.4, Junction Modelling Report, July 2012]

5.3 **Table 5.1** shows that the arrivals to the site in the AM peak hour constitute 93% of the total flows and the departures from the site in the PM peak hour constitute 94% of the total flows.

Predicted Development Traffic Flows – 2016 Emerging Masterplan

5.4 As stated in section 2, the emerging Masterplan proposes a decrease in the anticipated additional number of employees likely to be on site from that considered in the 2012 Junction Modelling Report. It is therefore reasonable to assume that there would also be fewer peak period vehicle trips.

5.5 However, **Table 5.2** sets out a comparison between the predicted peak period traffic flows in the 2012 report and the predicted emerging Masterplan flows based on the trip rates calculated from the March 2016 traffic survey.

	No. of Vehicles – AM Peak			No. of Vehicles – PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
2012 Report	741	52	793	47	714	761
2016 Masterplan	464	50	514	64	374	438
Difference	**-277**	**-2**	**-279**	**+17**	**-340**	**-323**

Table 5.2: Comparison between 2012 Junction Modelling Report and 2016 Masterplan

5.6 **Table 5.2** shows that the emerging Masterplan would result in 35% fewer total AM peak hour trips and 42% fewer total PM peak hour trips in comparison to the predicted flows used in the 2012 Junction Modelling Report. The number of arrivals to the site in the AM peak would be 37% fewer and the number of departures from the site in the PM peak would be 48% fewer.

5.7 **Table 5.2** demonstrates that the emerging 2016 Masterplan is significantly different to the traffic flows considered in the 2012 Junction Modelling Report, as it would actually result in more than a third fewer vehicles in both weekday peak hours.

Junction Improvements

2012 Junction Modelling Report

5.8 The 2012 Junction Modelling Report considered the impact of the proposed development on the following local junctions:

- Astwood Road/Crawley Road (1);
- Bedford Road/Crane Way (2);
- Beancroft Road/Marston Hill (3);
- Broughton Road/Wavedon Road (4);
- Salford Road/C70 Cranfield Road (5); and
- Airfield Way/High Street (6).

5.9 For ease of reference, the locations of these junctions are illustrated in **Figure 5.1** and numbered in the same order as in the above list.

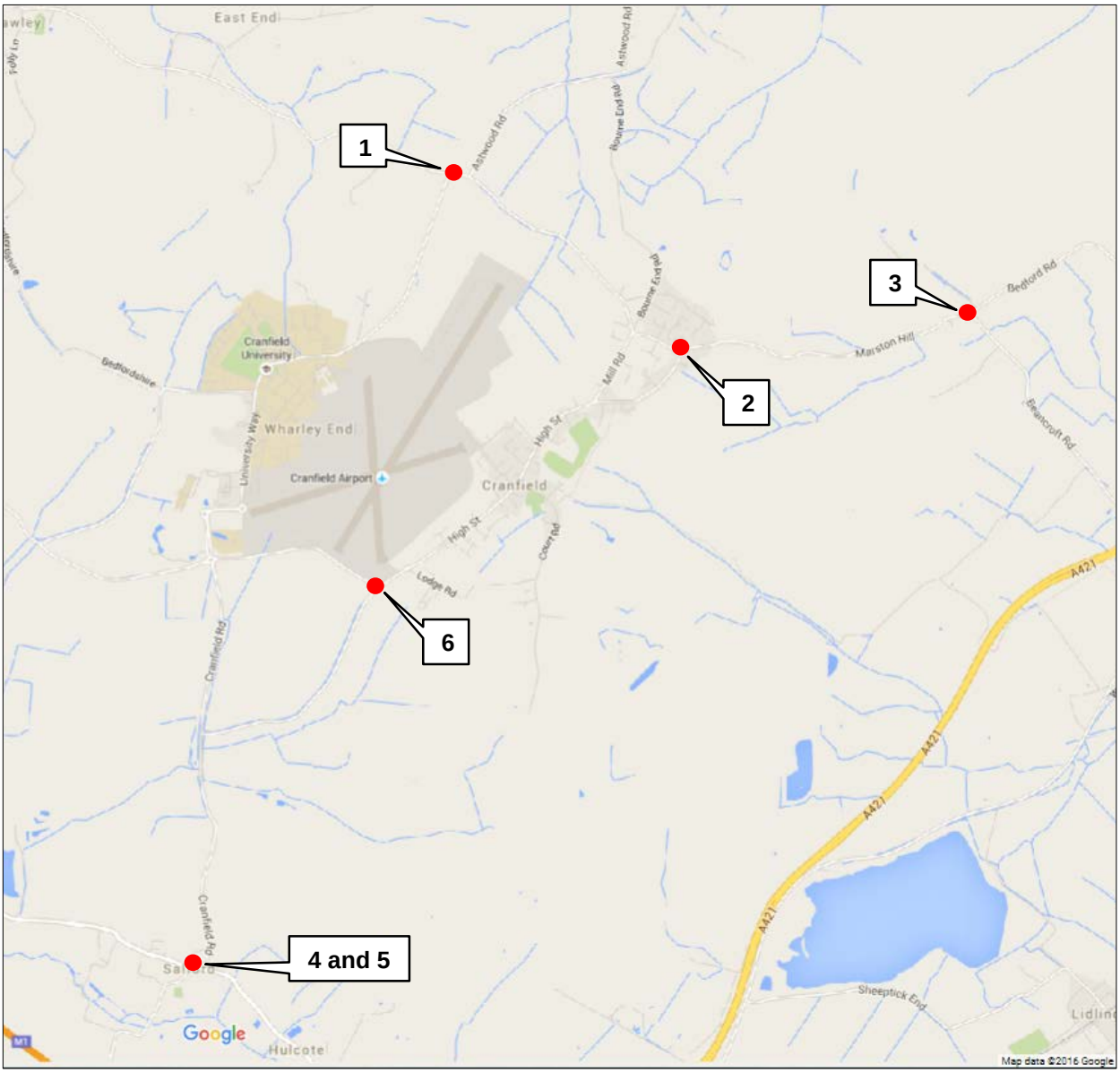


Figure 5.1: Local Junction Locations

5.10 The 2012 Junction Modelling Report, summarised the improvements that would be required to each junction based on three development scenarios. For ease of reference, a copy of this information is provided in **Table 5.3** and the junctions are numbered in the table in accordance with paragraph 5.8 above and **Figure 5.1**.

Scenario	Junction					
	Astwood Rd/Crawley Rd (1)	Bedford Rd/ Crane Wy (2)	Beancroft Rd/Marston Hill (3)	Broughton Rd/ Wavedon Rd (4)	Salford Rd/ Cranfield Rd (5)	Airfield Wy/ High St (6)
2027 + Committed Development	Fails	OK	OK	OK	Fails	OK
2027 + 18,000sq.m	Roundabout or signals required	OK	OK	OK	Roundabout required	OK
2027 + 30,000sq.m	Roundabout or signals required	OK	Right turn lane required	OK	Roundabout required	OK
2027 + 52,740sq.m	Roundabout or signals required	RFC of 1.037, using ODTAB	Roundabout required	OK	Roundabout required	OK

Table 5.3: Junction Improvement Requirements – 2012 Junction Modelling Report

[*Ref: Table 5.17 Table 3.4, Junction Modelling Report, July 2012*]

5.11 In terms of the junction improvements required as a result of the Masterplan development, the Beancroft Road/Marston Hill junction is considered the trigger for works. This junction would work satisfactorily up to a certain level of development, following which a greater level of development would trigger the need for improvement works. **Table 5.3** shows that the 2012 Junction Modelling Report demonstrated that the following junctions would be able to cope with the proposed development:

- Bedford Road/Crane Way (2);
- Broughton Road/Wavedon Road (4); and
- Airfield Way/High Street (6).

5.12 The 2012 Junction Modelling Report demonstrated that the following junctions would require improvement works prior to the implementation of the proposed development.

- Astwood Road/Crawley Road (1); and
- Salford Road/Cranfield Road (5).

5.13 As shown in **Table 5.3**, these junctions were predicted not to work satisfactorily in the future year scenario of 2027 with committed development. The analysis work from the 2012 Junction Modelling Report highlighted that these two junctions suffer from existing congestion problems and they are both shown to be operating at/over capacity during the PM peak without any additional development traffic flows.

5.14 The construction of any amount of Masterplan floorspace would trigger the need to undertake junction capacity improvement works at junctions 1 and 5 in order to accommodate the increase in traffic flows that would result.

5.15 For comparison purposes, the corresponding number of Masterplan trips associated with the junction improvements identified in the 2012 Junction Modelling Report are set out in **Table 5.4**.

Masterplan Floor Area	No. of Vehicles – AM Peak			No. of Vehicles – PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
18,000sq.m	205	15	220	14	198	212
30,000sq.m	342	27	369	22	329	351
52,740sq.m	601	43	644	38	579	617

Table 5.4: Junction Improvement Requirements (by Number of Trips) – 2012 Junction Modelling Report

2016 Masterplan

5.16 Based on the trip rates obtained from the March 2016 traffic surveys (excluding the rat-running vehicles and Nissan Technical Centre traffic flows), the number of trips associated with the emerging Masterplan are fewer than those used in the 2012 Junction Modelling Report. As such, a greater quantity of Masterplan floor space could be provided before triggering a need for the local junction improvements (other than at junctions 1 and 5 as described above). The corresponding level of floor space is set out in **Table 5.5**.

AM Peak			PM Peak		
No. of Vehicles	2012 Report Floor Area	2016 Masterplan Equivalent Floor Area	No. of Vehicles	2012 Report Floor Area	2016 Masterplan Equivalent Floor Area
220	18,000sq.m	32,953sq.m	212	18,000sq.m	37,260sq,m
369	30,000sq.m	55,271sq.m	351	30,000sq.m	61,690sq.m
644	52,740sq.m	96,463sq.m	617	52,740sq.m	108,441sq.m

Table 5.5: Junction Improvement Requirements (by Floor Space) – 2016 Masterplan

5.17 **Table 5.5** shows that based on the trip rates obtained from the March 2016 traffic surveys a significantly greater quantity of Masterplan floor space could be provided before triggering a need for the local junction improvements (other than at junctions 1 and 5). For the most critical junction of Beancroft Road/Marston Hill, the required improvements are summarised in **Table 5.6**.

2012 Report Floor Area	2016 Masterplan Equivalent Floor Area	Beancroft Rd/Marston Hill
18,000sq.m	32,953sq.m	OK
30,000sq.m	55,271sq.m	Right turn lane required
52,740sq.m	96,463sq.m	Roundabout required

Table 5.6: Beancroft Road/Marston Hill Junction Improvement Requirements

5.18 **Table 5.6** shows that a right turn lane is required to accommodate 55,271sq.m of development (an additional 25,271sq.m from the 2012 assessment) and a roundabout is required to accommodate 96,463sq.m of development (an additional 43,723sq.m from the 2012 assessment).

5.19 For the other junctions being considered, the following statements summarise the junction capacity improvement works that would be required as a result of the construction of the proposed Masterplan. Where no works would be required, this is also noted:

Astwood Road/Crawley Road (1):

- The junction would not work satisfactorily in the future year scenario of 2027 with committed development, i.e. without any Masterplan development;
- The construction of any amount of Masterplan floorspace would trigger the need to undertake junction capacity improvement works in order to accommodate the increase in traffic flows that would result; and
- Upgrading of the junction to a roundabout or signalised controlled junction would be required prior to construction of the Masterplan.

Bedford Road/Crane Way (2):

- The junction would be able to cope with the increase in traffic flows that would result from the Masterplan development; and
- No junction capacity improvement works would be required to accommodate the total proposed Masterplan floorspace.

Broughton Road/Wavedon Road (4):

- The junction would be able to cope with the increase in traffic flows that would result from the Masterplan development; and
- No junction capacity improvement works would be required to accommodate the total proposed Masterplan floorspace.

Salford Road/Cranfield Road (5):

- The junction would not work satisfactorily in the future year scenario of 2027 with committed development, i.e. without any Masterplan development;
- The construction of any amount of Masterplan floorspace would trigger the need to undertake junction capacity improvement works in order to accommodate the increase in traffic flows that would result; and
- Upgrading of the junction to a roundabout or would be required prior to the construction of the Masterplan.

Airfield Way/High Street (6):

- The junction would be able to cope with the increase in traffic flows that would result from the Masterplan development; and
- No junction capacity improvement works would be required to accommodate the total proposed Masterplan floorspace.

5.20 The proposed highway improvement schemes that are required to support the Masterplan are detailed in **Appendix D** of this report.

Summary

5.21 To summarise, it can be seen from **Table 5.2** that the 2016 Masterplan would result in significantly fewer vehicular trips than the predicted flows used in the 2012 Junction Modelling Report. In combination with the robust application of 2027 TEMPRO growth factors used in the 2012 Junction Modelling Report, it is considered that the conclusions of the 2012 Junction Modelling Report remain valid in respect of the 2016 Masterplan aspirations.

5.22 Furthermore, this report has demonstrated that, based on the trip rates obtained from the March 2016 traffic surveys, a greater quantity of Masterplan floor space could be provided before triggering a need for the local junction improvements

5.23 It can be concluded from the comparison exercise undertaken that the construction of any amount of Masterplan floorspace would trigger the need to undertake junction capacity improvement works at the Astwood Road/Crawley Road junction (1) and Salford Road/Cranfield Road junction (5) in order to accommodate the increase in traffic flows that would result.

6 Strategic Transport Infrastructure

6.1 Central Bedfordshire Council has identified a number of strategic highway and transport improvements which have come forward since 2012, in addition to some infrastructure upgrades presently being developed by the local authority.

6.2 The schemes identified by the Council comprise:

- A421 – Milton Keynes dualling scheme;
- A421 – Central Bedfordshire dualling scheme;
- East West Rail. (Now due for completion in 2020);
- East Milton Keynes growth; and
- M1 Junction 13 capacity.

6.3 This section of the report provides a brief summary of each of the proposals identified and gives a commentary on the possible implication on the conclusions of the 2012 Junction Modelling Report. It is noted that when considering these highway and transport improvement schemes Central Bedfordshire Council should have already taken into account the proposed Cranfield University development as allocated or committed development.

A421 Milton Keynes Dualling Scheme

Proposal

6.4 The A421 Milton Keynes dualling scheme provides a dual carriageway for the stretch of the A421 between Fen Farm and Eagle Farm roundabouts.

6.5 This scheme is now complete and has been implemented to provide capacity around the major development to the east of Milton Keynes for the Kingston employment area and the Brooklands area.

Implications

6.6 This scheme has a positive impact on the surrounding area. The new section of dualling on the A421 will help to relieve the congestion experienced within the village of Salford by decreasing the number of potential ‘rat running’ trips through the village centre.

6.7 Consequently, the highway improvements associated with the A421 Milton Keynes dualling scheme are unlikely to have a negative effect on the conclusions of the 2012 Junction Modelling Report.

A421 Central Bedfordshire Dualling Scheme

Proposal

6.8 Central Bedfordshire Council is still trying to secure total funding for this scheme, which involves extending dualling of the A421 to the M1 Junction 13.

Implications

6.9 When implemented, this scheme will have a positive impact on the surrounding highway network and will potentially decrease the number of 'rat running' movements through the villages of Salford and Cranfield as a result of the continuous dual carriageway link from Milton Keynes to Bedford and the M1 Junction 13.

6.10 It is therefore considered that the highway improvements to the A421 are unlikely to have a negative effect on the conclusions of the 2012 Junction Modelling Report.

East West Rail

Proposal

6.11 East West Rail is a major project to establish a strategic railway connecting East Anglia with Central, Southern and Western England.

6.12 The 'Western Section' is now a committed, funded scheme to reintroduce passenger and freight services between Bedford and Oxford, Milton Keynes and Aylesbury. It involves upgrading and reconstructing sections of existing and 'mothballed' rail track, which is to be delivered by Network Rail.

6.13 The project is being promoted by the East West Rail Consortium – a group of local authorities and businesses with an interest in improving access to and from East Anglia and the Milton Keynes South Midlands growth area.

6.14 The Western Section of East West Rail will see the introduction of three new passenger services, for direct services within the region and connections to national mainline services.

6.15 The services detailed below are now due to start operating in 2020.

- Bedford to Oxford (continuing to Reading);
- Milton Keynes to Oxford (continuing to Reading); and
- Milton Keynes to Aylesbury (continuing to London Marylebone).

Implications

6.16 Central Bedfordshire Council is looking at the opportunity to provide a transport interchange at Ridgmont station which could provide sustainable transport links to Cranfield University along with increased connection opportunities to Oxford.

6.17 There would be an opportunity for a shuttle bus service from the new rail interchange to Cranfield University and Technology Park which could reduce the number of vehicular trips to and from the development.

6.18 This scheme would benefit the University and could potentially result in a decrease in the number of vehicular trips associated with the 2016 Masterplan and a decrease in the baseline flows when compared to the 2012 Modelling Report.

6.19 It is therefore considered that the East West Rail project is unlikely to have a negative effect on the conclusions of the 2012 Junction Modelling Report.

East Milton Keynes Growth

Proposal

6.20 The Eastern Expansion Area (EEA) includes the residential development areas of Broughton Gate, with 1,500 homes now largely complete, and Brooklands, 2,500 homes with around 615 complete, along with the employment site at Megna Park.

Implications

6.21 An allowance for the resulting vehicular trips associated with the EEA has been included within the baseline traffic flows reported in the 2012 Junction Modelling Report. TEMPRO growth factors have been applied to the 2011 observed traffic flows in order to obtain 2027 baseline traffic flows.

M1 Junction 13 Capacity

Proposal

6.22 The capacity of the M1 Junction 13 has been identified as a potential issue by Central Bedfordshire Council.

Implications

6.23 The traffic flows associated with the emerging 2016 Masterplan, detailed in **Table 4.2** of this report, are unlikely to be materially different to the traffic flows considered in the 2012 Junction Modelling Report.

6.24 It is therefore anticipated that the emerging 2016 Masterplan will not have an adverse impact on the operation of the M1 Junction 13.

7 Summary and Conclusions

7.1 This report has been prepared by Mayer Brown Limited on behalf of Cranfield University in respect of their forthcoming Masterplan submission to Central Bedfordshire Council.

7.2 This report provides an update to the Junction Modelling Report, produced by Mayer Brown Limited in July 2012, which considered the implications on a number of off-site junctions of developing the Technology Park for further employment uses.

7.3 At the time, the 2012 Junction Modelling Report considered a development of 65,000sq.m accommodating in the order of 2,750 employees across the commercial floor space.

7.4 Since the 2012 report was prepared, the Cranfield University Masterplan has evolved to reflect the more collaborative relationship between the academic and employment aspects of the campus, which requires a greater emphasis on research and development and laboratory floor space, rather than the traditional employment floor space considered in 2012.

7.5 It can be seen from **Table 5.2** that the 2016 Masterplan would result in significantly fewer vehicular trips than the predicted flows used in the 2012 Junction Modelling Report. In combination with the robust application of 2027 TEMPRO growth factors used in the 2012 Junction Modelling Report, it is considered that the conclusions of the 2012 Junction Modelling Report remain valid in respect of the 2016 Masterplan aspirations. Furthermore, this report has demonstrated that based on the trip rates obtained from the March 2016 traffic surveys a greater quantity of Masterplan floor space could be provided before triggering a need for the local junction improvements.

7.6 It can be concluded from the comparison exercise undertaken that the construction of any amount of Masterplan floorspace would trigger the need to undertake junction capacity improvement works at the Astwood Road/Crawley Road junction and Salford Road/Cranfield Road junction in order to accommodate the increase in traffic flows that would result.

7.7 Central Bedfordshire Council has identified a number of strategic highway and transport improvements which have come forward since 2012. These schemes have been reviewed and their implication on the conclusions of the 2012 Junction Modelling Report assessed.

7.8 It is considered that the A421 highway improvement schemes have a positive impact on the surrounding area and will help relieve congestion in the villages of Salford and

Cranfield. The Eastern Expansion Area has already been allowed for within the 2012 Modelling Report as the forecast growth associated with this development area forms part of the TEMPRO local growth factor. The proposed transport interchange at Ridgmont railway station would have a positive benefit and could result in a decrease in vehicular trips associated with the University site. The traffic flows associated with the emerging 2016 Masterplan are significantly less than the traffic flows considered in the 2012 Junction Modelling Report, and, as a result there will be no change in terms of impact on the operation of the M1 Junction 13.

7.9 From the evidence contained within this report, it is concluded that the traffic flows and assessments contained within the 2012 Junction Modelling Report are still representative for the emerging 2016 Masterplan. However, the traffic flows associated with the 2016 Masterplan are now predicted to be less than previously assessed and therefore a greater quantity of Masterplan floor space could be provided before triggering a need for junction improvements at the Beancroft Road/Marston Hill junction. It is noted that, in accordance with the findings of the 2012 Junction Modelling Report, junction improvements would be required to the Astwood Road/Crawley Road and Salford Road/C70 Cranfield Road junctions prior to construction of any Masterplan floorspace.

7.10 The implementation of a Travel Plan at the site would have the potential to further reduce the number of vehicular trips through a to modal shift away from single occupancy car travel.

7.11 The highway improvement schemes that have been implemented since 2012 and those schemes due to be implemented in the future will have a positive impact on the surrounding highway network and will help to relieve congestion and decrease vehicular traffic flows within the villages of Salford and Cranfield.

APPENDIX A: ATC Survey Results

Advanced Transport Research

Globals

Report Id	CustomList-2485
Descriptor	Advanced Transport Research
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2016-03-14T10:30:41
Legal	Copyright (c)1997 - 2014 MetroCount
Graphic	header.gif
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Version	4.0.6.0
Metric	Non metric
Speed Unit	mph
Length Unit	ft
Mass Unit	ton

Dataset

Site Name	10846-001a
Site Attribute	Mayer Brown
File Name	Q:\10846 Cranfield\10846-001a 0 2016-03-12 0101.EC0
File Type	Plus
Algorithm	Factory default axle
Description	University Way, Cranfield, Northbound [40M]
Lane	0
Direction	1
Direction Text	1 - North bound, A trigger first.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2016-03-03T05:03:05
Start Time	2016-03-03T05:03:05
Finish Time	2016-03-12T01:02:05
Operator	ATR
Configuration	00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Name	Advanced Transport Research
Title	Advanced Transport Research
Graphic Logo	C:and SettingsDocuments3.21_on_us_logo_cmyk 50.BMP
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	12
Filter Start	2016-03-03T05:04:00
Filter End	2016-03-04T05:00:00
Class Scheme	ARX
Low Speed	0
High Speed	120
Posted Limit	40
Speed Limits	46 55 40 40 40 0 0 0 0 40
Separation	0.000
Separation Type	Headway
Direction	North
Encoded Direction	1

Advanced Transport Research

Column	
Time	24-hour time (0000 - 2359)
Total	Number in time step
Cls 1	Class totals
Cls 2	Class totals
Cls 3	Class totals
Cls 4	Class totals
Cls 5	Class totals
Cls 6	Class totals
Cls 7	Class totals
Cls 8	Class totals
Cls 9	Class totals
Cls 10	Class totals
Fix1	User defined fixed text
Time	24-hour time (0000 - 2359)
Vbin 0 10	Speed bin totals
Vbin 10 15	Speed bin totals
Vbin 15 20	Speed bin totals
Vbin 20 25	Speed bin totals
Vbin 25 30	Speed bin totals
Vbin 30 35	Speed bin totals
Vbin 35 40	Speed bin totals
Vbin 40 45	Speed bin totals
Vbin 45 50	Speed bin totals
Vbin 50 60	Speed bin totals
Vbin 60 70	Speed bin totals
Vbin 70 80	Speed bin totals
Vbin 80 90	Speed bin totals
Vbin 90 100	Speed bin totals
Mean	Average speed
Vpp 85	Percentile speed
]PSL 40	Number exceeding Posted Speed Limit
]PSL% 40	Percent exceeding Posted Speed Limit
]SL1 46 ACPO	Number exceeding Speed Limit 1
]SL1% 46 ACPO	Percent exceeding Speed Limit 1
]SL2 55 DFT	Number exceeding Speed Limit 2
]SL2% 55 DFT	Percent exceeding Speed Limit 2

Advanced Transport Research

Report Id - CustomList-2485
Site Name - 10846-001a
Description - University Way, Cranfield, Northbound [40M]
Direction - North

03 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 40	]PSL% 40	]SL1 46 ACPO	]SL1% 46 ACPO	]SL2 55 DFT	]SL2% 55 DFT
0500	17	0	16	0	1	0	0	0	0	0	0		0500	1	0	5	9	2	0	0	0	0	0	0	0	0	0	20.4	23.3	0	0	0	0	0	0
0600	121	1	111	0	8	0	1	0	0	0	0		0600	0	3	32	69	12	5	0	0	0	0	0	0	0	0	21.8	24.6	0	0	0	0	0	0
0700	666	2	643	2	15	3	0	0	1	0	0		0700	0	6	244	347	60	7	1	1	0	0	0	0	0	0	21.2	24.2	1	0.2	0	0	0	0
0800	630	1	600	1	19	5	1	0	2	1	0		0800	1	20	232	325	48	4	0	0	0	0	0	0	0	0	20.7	23.7	0	0	0	0	0	0
0900	256	2	243	0	8	1	0	0	0	1	1		0900	0	8	82	119	41	5	1	0	0	0	0	0	0	0	21.7	25.7	0	0	0	0	0	0
1000	130	3	104	2	21	0	0	0	0	0	0		1000	0	6	35	59	25	5	0	0	0	0	0	0	0	0	21.8	26.2	0	0	0	0	0	0
1100	94	0	75	0	17	2	0	0	0	0	0		1100	1	5	27	51	9	0	1	0	0	0	0	0	0	0	21	24.2	0	0	0	0	0	0
1200	148	1	120	1	24	1	0	1	0	0	0		1200	0	9	46	73	17	2	0	1	0	0	0	0	0	0	21.2	24.6	1	0.7	0	0	0	0
1300	153	1	138	0	13	1	0	0	0	0	0		1300	1	7	57	74	14	0	0	0	0	0	0	0	0	0	20.4	23.3	0	0	0	0	0	0
1400	110	1	97	0	10	2	0	0	0	0	0		1400	0	4	47	42	17	0	0	0	0	0	0	0	0	0	20.8	25.1	0	0	0	0	0	0
1500	100	0	85	1	13	0	0	0	1	0	0		1500	0	4	38	48	9	1	0	0	0	0	0	0	0	0	20.4	23.5	0	0	0	0	0	0
1600	95	1	77	0	14	2	0	0	1	0	0		1600	1	2	37	38	15	2	0	0	0	0	0	0	0	0	21.2	25.5	0	0	0	0	0	0
1700	110	0	104	0	5	0	0	0	1	0	0		1700	0	5	38	48	17	2	0	0	0	0	0	0	0	0	21.2	25.3	0	0	0	0	0	0
1800	95	0	85	0	8	2	0	0	0	0	0		1800	0	5	40	37	13	0	0	0	0	0	0	0	0	0	20.7	24.6	0	0	0	0	0	0
1900	47	0	39	0	6	2	0	0	0	0	0		1900	0	0	23	20	4	0	0	0	0	0	0	0	0	0	20.1	23.3	0	0	0	0	0	0
2000	30	1	25	0	3	1	0	0	0	0	0		2000	0	2	6	13	4	4	1	0	0	0	0	0	0	0	23.3	30.2	0	0	0	0	0	0
2100	27	0	23	0	3	0	1	0	0	0	0		2100	0	0	9	13	5	0	0	0	0	0	0	0	0	0	21.8	25.9	0	0	0	0	0	0
2200	20	0	20	0	0	0	0	0	0	0	0		2200	0	2	5	11	1	1	0	0	0	0	0	0	0	0	21.3	23.7	0	0	0	0	0	0
2300	4	0	3	0	1	0	0	0	0	0	0		2300	0	0	1	2	1	0	0	0	0	0	0	0	0	0	21.6	-	0	0	0	0	0	0
07-19	**2587**	**12**	**2371**	**7**	**167**	**19**	**1**	**1**	**6**	**2**	**1**		**07-19**	**4**	**81**	**923**	**1261**	**285**	**28**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**24.4**	**2**	**0.1**	**0**	**0**	**0**	**0**
06-22	**2812**	**14**	**2569**	**7**	**187**	**22**	**3**	**1**	**6**	**2**	**1**		**06-22**	**4**	**86**	**993**	**1376**	**310**	**37**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**21.1**	**24.4**	**2**	**0.1**	**0**	**0**	**0**	**0**
06-00	**2836**	**14**	**2592**	**7**	**188**	**22**	**3**	**1**	**6**	**2**	**1**		**06-00**	**4**	**88**	**999**	**1389**	**312**	**38**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**21.1**	**24.4**	**2**	**0.1**	**0**	**0**	**0**	**0**
00-00	**2853**	**14**	**2608**	**7**	**189**	**22**	**3**	**1**	**6**	**2**	**1**		**00-00**	**5**	**88**	**1004**	**1398**	**314**	**38**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**21.1**	**24.4**	**2**	**0.1**	**0**	**0**	**0**	**0**

04 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 40	]PSL% 40	]SL1 46 ACPO	]SL1% 46 ACPO	]SL2 55 DFT	]SL2% 55 DFT
0000	3	0	3	0	0	0	0	0	0	0	0		0000	0	1	1	1	0	0	0	0	0	0	0	0	0	0	17.2	-	0	0	0	0	0	0
0100	3	0	3	0	0	0	0	0	0	0	0		0100	0	0	0	2	1	0	0	0	0	0	0	0	0	0	24.8	-	0	0	0	0	0	0
0200	2	0	2	0	0	0	0	0	0	0	0		0200	0	0	0	2	0	0	0	0	0	0	0	0	0	0	21.1	-	0	0	0	0	0	0
0300	1	0	1	0	0	0	0	0	0	0	0		0300	0	0	0	0	1	0	0	0	0	0	0	0	0	0	25.8	-	0	0	0	0	0	0
0400	9	0	8	0	1	0	0	0	0	0	0		0400	0	0	2	5	1	1	0	0	0	0	0	0	0	0	23.3	-	0	0	0	0	0	0
07-19	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**07-19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	-	-	**0**	**0**	**0**	**0**	**0**	**0**
06-22	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-22**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	-	-	**0**	**0**	**0**	**0**	**0**	**0**
06-00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	-	-	**0**	**0**	**0**	**0**	**0**	**0**
00-00	**18**	**0**	**17**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**		**00-00**	**0**	**1**	**3**	**10**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22.4**	**25.7**	**0**	**0**	**0**	**0**	**0**	**0**

Virtual Day (1)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 40	]PSL% 40	]SL1 46 ACPO	]SL1% 46 ACPO	]SL2 55 DFT	]SL2% 55 DFT
0000	3	0	3	0	0	0	0	0	0	0	0		0000	0	1	1	1	0	0	0	0	0	0	0	0	0	0	17.2	-	0	0	0	0	0	0
0100	3	0	3	0	0	0	0	0	0	0	0		0100	0	0	0	2	1	0	0	0	0	0	0	0	0	0	24.8	-	0	0	0	0	0	0
0200	2	0	2	0	0	0	0	0	0	0	0		0200	0	0	0	2	0	0	0	0	0	0	0	0	0	0	21.1	-	0	0	0	0	0	0
0300	1	0	1	0	0	0	0	0	0	0	0		0300	0	0	0	0	1	0	0	0	0	0	0	0	0	0	25.8	-	0	0	0	0	0	0
0400	9	0	8	0	1	0	0	0	0	0	0		0400	0	0	2	5	1	1	0	0	0	0	0	0	0	0	23.3	-	0	0	0	0	0	0
0500	17	0	16	0	1	0	0	0	0	0	0		0500	1	0	5	9	2	0	0	0	0	0	0	0	0	0	20.4	23.3	0	0	0	0	0	0
0600	121	1	111	0	8	0	1	0	0	0	0		0600	0	3	32	69	12	5	0	0	0	0	0	0	0	0	21.8	24.6	0	0	0	0	0	0
0700	666	2	643	2	15	3	0	0	1	0	0		0700	0	6	244	347	60	7	1	1	0	0	0	0	0	0	21.2	24.2	1	0.2	0	0	0	0
0800	630	1	600	1	19	5	1	0	2	1	0		0800	1	20	232	325	48	4	0	0	0	0	0	0	0	0	20.7	23.7	0	0	0	0	0	0
0900	256	2	243	0	8	1	0	0	0	1	1		0900	0	8	82	119	41	5	1	0	0	0	0	0	0	0	21.7	25.7	0	0	0	0	0	0
1000	130	3	104	2	21	0	0	0	0	0	0		1000	0	6	35	59	25	5	0	0	0	0	0	0	0	0	21.8	26.2	0	0	0	0	0	0
1100	94	0	75	0	17	2	0	0	0	0	0		1100	1	5	27	51	9	0	1	0	0	0	0	0	0	0	21	24.2	0	0	0	0	0	0

1200	148	1	120	1	24	1	0	1	0	0	0	1200	0	9	46	73	17	2	0	1	0	0	0	0	0	0	21.2	24.6	1	0.7	0	0	0	0
1300	153	1	138	0	13	1	0	0	0	0	0	1300	1	7	57	74	14	0	0	0	0	0	0	0	0	0	20.4	23.3	0	0	0	0	0	0
1400	110	1	97	0	10	2	0	0	0	0	0	1400	0	4	47	42	17	0	0	0	0	0	0	0	0	0	20.8	25.1	0	0	0	0	0	0
1500	100	0	85	1	13	0	0	0	1	0	0	1500	0	4	38	48	9	1	0	0	0	0	0	0	0	0	20.4	23.5	0	0	0	0	0	0
1600	95	1	77	0	14	2	0	0	1	0	0	1600	1	2	37	38	15	2	0	0	0	0	0	0	0	0	21.2	25.5	0	0	0	0	0	0
1700	110	0	104	0	5	0	0	0	1	0	0	1700	0	5	38	48	17	2	0	0	0	0	0	0	0	0	21.2	25.3	0	0	0	0	0	0
1800	95	0	85	0	8	2	0	0	0	0	0	1800	0	5	40	37	13	0	0	0	0	0	0	0	0	0	20.7	24.6	0	0	0	0	0	0
1900	47	0	39	0	6	2	0	0	0	0	0	1900	0	0	23	20	4	0	0	0	0	0	0	0	0	0	20.1	23.3	0	0	0	0	0	0
2000	30	1	25	0	3	1	0	0	0	0	0	2000	0	2	6	13	4	4	1	0	0	0	0	0	0	0	23.3	30.2	0	0	0	0	0	0
2100	27	0	23	0	3	0	1	0	0	0	0	2100	0	0	9	13	5	0	0	0	0	0	0	0	0	0	21.8	25.9	0	0	0	0	0	0
2200	20	0	20	0	0	0	0	0	0	0	0	2200	0	2	5	11	1	1	0	0	0	0	0	0	0	0	21.3	23.7	0	0	0	0	0	0
2300	4	0	3	0	1	0	0	0	0	0	0	2300	0	0	1	2	1	0	0	0	0	0	0	0	0	0	21.6	-	0	0	0	0	0	0
07-19	**2587**	**12**	**2371**	**7**	**167**	**19**	**1**	**1**	**6**	**2**	**1**	**07-19**	**4**	**81**	**923**	**1261**	**285**	**28**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**24.4**	**2**	**0.1**	**0**	**0**	**0**	**0**
06-22	**2812**	**14**	**2569**	**7**	**187**	**22**	**3**	**1**	**6**	**2**	**1**	**06-22**	**4**	**86**	**993**	**1376**	**310**	**37**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**21.1**	**24.4**	**2**	**0.1**	**0**	**0**	**0**	**0**
06-00	**2836**	**14**	**2592**	**7**	**188**	**22**	**3**	**1**	**6**	**2**	**1**	**06-00**	**4**	**88**	**999**	**1389**	**312**	**38**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**21.1**	**24.4**	**2**	**0.1**	**0**	**0**	**0**	**0**
00-00	**2871**	**14**	**2625**	**7**	**190**	**22**	**3**	**1**	**6**	**2**	**1**	**00-00**	**5**	**89**	**1007**	**1408**	**317**	**39**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**21.1**	**24.4**	**2**	**0.1**	**0**	**0**	**0**	**0**

Virtual Week (1)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 40	]PSL% 40	]SL1 46 ACPO	]SL1% 46 ACPO	]SL2 55 DFT	]SL2% 55 DFT
Mon	0	0	0	0	0	0	0	0	0	0	0		Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Tue	0	0	0	0	0	0	0	0	0	0	0		Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Wed	0	0	0	0	0	0	0	0	0	0	0		Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Thu	2853	14	2608	7	189	22	3	1	6	2	1		Thu	5	88	1004	1398	314	38	4	2	0	0	0	0	0	0	21.1	24.4	2	0.1	0	0	0	0
Fri	18	0	17	0	1	0	0	0	0	0	0		Fri	0	1	3	10	3	1	0	0	0	0	0	0	0	0	22.4	25.7	0	0	0	0	0	0
|Sat	0	0	0	0	0	0	0	0	0	0	0		|Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
|Sun	0	0	0	0	0	0	0	0	0	0	0		|Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
--	**2871**	**14**	**2625**	**7**	**190**	**22**	**3**	**1**	**6**	**2**	**1**		**--**	**5**	**89**	**1007**	**1408**	**317**	**39**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**21.1**	**24.4**	**2**	**0.1**	**0**	**0**	**0**	**0**

Grand Total

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 40	]PSL% 40	]SL1 46 ACPO	]SL1% 46 ACPO	]SL2 55 DFT	]SL2% 55 DFT
--	**2871**	**14**	**2625**	**7**	**190**	**22**	**3**	**1**	**6**	**2**	**1**		**--**	**5**	**89**	**1007**	**1408**	**317**	**39**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**21.1**	**24.4**	**2**	**0.1**	**0**	**0**	**0**	**0**

Advanced Transport Research

Globals

Report Id	CustomList-2486
Descriptor	Advanced Transport Research
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2016-03-14T10:32:01
Legal	Copyright (c)1997 - 2014 MetroCount
Graphic	header.gif
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Version	4.0.6.0
Metric	Non metric
Speed Unit	mph
Length Unit	ft
Mass Unit	ton

Dataset

Site Name	10846-001b
Site Attribute	Mayer Brown
File Name	Q:\10846 Cranfield\10846-001b 0 2016-03-12 0105.EC0
File Type	Plus
Algorithm	Factory default axle
Description	University Way, Cranfield, Southbound [40M]
Lane	0
Direction	3
Direction Text	3 - South bound, A trigger first.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2016-03-03T04:55:06
Start Time	2016-03-03T04:55:06
Finish Time	2016-03-12T01:05:06
Operator	ATR
Configuration	00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Name	Advanced Transport Research
Title	Advanced Transport Research
Graphic Logo	C:and SettingsDocuments3.21_on_us_logo_cmyk 50.BMP
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	12
Filter Start	2016-03-03T04:56:00
Filter End	2016-03-04T05:00:00
Class Scheme	ARX
Low Speed	0
High Speed	120
Posted Limit	40
Speed Limits	46 55 40 40 40 0 0 0 0 40
Separation	0.000
Separation Type	Headway
Direction	South
Encoded Direction	4

Advanced Transport Research

Column	
Time	24-hour time (0000 - 2359)
Total	Number in time step
Cls 1	Class totals
Cls 2	Class totals
Cls 3	Class totals
Cls 4	Class totals
Cls 5	Class totals
Cls 6	Class totals
Cls 7	Class totals
Cls 8	Class totals
Cls 9	Class totals
Cls 10	Class totals
Fix1	User defined fixed text
Time	24-hour time (0000 - 2359)
Vbin 0 10	Speed bin totals
Vbin 10 15	Speed bin totals
Vbin 15 20	Speed bin totals
Vbin 20 25	Speed bin totals
Vbin 25 30	Speed bin totals
Vbin 30 35	Speed bin totals
Vbin 35 40	Speed bin totals
Vbin 40 45	Speed bin totals
Vbin 45 50	Speed bin totals
Vbin 50 60	Speed bin totals
Vbin 60 70	Speed bin totals
Vbin 70 80	Speed bin totals
Vbin 80 90	Speed bin totals
Vbin 90 100	Speed bin totals
Mean	Average speed
Vpp 85	Percentile speed
]PSL 40	Number exceeding Posted Speed Limit
]PSL% 40	Percent exceeding Posted Speed Limit
]SL1 46 ACPO	Number exceeding Speed Limit 1
]SL1% 46 ACPO	Percent exceeding Speed Limit 1
]SL2 55 DFT	Number exceeding Speed Limit 2
]SL2% 55 DFT	Percent exceeding Speed Limit 2

Advanced Transport Research

Report Id - CustomList-2486
Site Name - 10846-001b
Description - University Way, Cranfield, Southbound [40M]
Direction - South

03 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 40	]PSL% 40	]SL1 46 ACPO	]SL1% 46 ACPO	]SL2 55 DFT	]SL2% 55 DFT
0400	0	0	0	0	0	0	0	0	0	0	0		0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0500	8	0	5	0	3	0	0	0	0	0	0		0500	1	1	6	0	0	0	0	0	0	0	0	0	0	0	15.9	-	0	0	0	0	0	0
0600	25	0	17	0	8	0	0	0	0	0	0		0600	0	4	11	10	0	0	0	0	0	0	0	0	0	0	18.7	22.8	0	0	0	0	0	0
0700	86	1	67	0	16	0	1	1	0	0	0		0700	0	6	40	33	6	1	0	0	0	0	0	0	0	0	19.9	23.3	0	0	0	0	0	0
0800	127	0	101	3	22	1	0	0	0	0	0		0800	0	7	55	58	6	1	0	0	0	0	0	0	0	0	20.2	23	0	0	0	0	0	0
0900	76	0	58	0	17	1	0	0	0	0	0		0900	3	6	34	29	4	0	0	0	0	0	0	0	0	0	19.2	22.4	0	0	0	0	0	0
1000	79	0	59	1	18	1	0	0	0	0	0		1000	0	5	39	27	8	0	0	0	0	0	0	0	0	0	19.8	22.8	0	0	0	0	0	0
1100	111	0	84	1	22	1	1	0	1	1	0		1100	1	7	57	42	4	0	0	0	0	0	0	0	0	0	19.5	23.3	0	0	0	0	0	0
1200	166	1	144	2	15	4	0	0	0	0	0		1200	1	13	86	62	4	0	0	0	0	0	0	0	0	0	19.4	22.6	0	0	0	0	0	0
1300	177	1	160	0	14	1	1	0	0	0	0		1300	0	12	95	65	4	1	0	0	0	0	0	0	0	0	19.5	22.4	0	0	0	0	0	0
1400	135	0	117	0	17	1	0	0	0	0	0		1400	2	10	66	50	7	0	0	0	0	0	0	0	0	0	19.3	21.9	0	0	0	0	0	0
1500	170	0	155	1	12	1	0	1	0	0	0		1500	0	6	84	69	11	0	0	0	0	0	0	0	0	0	20.1	23	0	0	0	0	0	0
1600	270	6	246	2	15	0	1	0	0	0	0		1600	0	7	115	127	19	2	0	0	0	0	0	0	0	0	20.4	23.7	0	0	0	0	0	0
1700	659	0	634	4	8	0	1	1	11	0	0		1700	2	28	345	253	28	3	0	0	0	0	0	0	0	0	19.7	22.4	0	0	0	0	0	0
1800	359	4	341	2	11	0	0	0	1	0	0		1800	1	9	135	181	30	3	0	0	0	0	0	0	0	0	20.6	23.5	0	0	0	0	0	0
1900	140	0	131	0	9	0	0	0	0	0	0		1900	0	8	59	55	16	2	0	0	0	0	0	0	0	0	20.5	23.9	0	0	0	0	0	0
2000	94	0	88	0	6	0	0	0	0	0	0		2000	0	1	43	34	15	1	0	0	0	0	0	0	0	0	21.3	25.5	0	0	0	0	0	0
2100	77	1	74	0	2	0	0	0	0	0	0		2100	0	4	29	28	13	3	0	0	0	0	0	0	0	0	21.2	26.2	0	0	0	0	0	0
2200	27	0	25	0	2	0	0	0	0	0	0		2200	0	1	7	17	2	0	0	0	0	0	0	0	0	0	21.8	24.4	0	0	0	0	0	0
2300	18	1	16	0	1	0	0	0	0	0	0		2300	0	1	10	6	0	1	0	0	0	0	0	0	0	0	19.9	21.5	0	0	0	0	0	0
07-19	**2415**	**13**	**2166**	**16**	**187**	**11**	**5**	**3**	**13**	**1**	**0**		**07-19**	**10**	**116**	**1151**	**996**	**131**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19.9**	**23**	**0**	**0**	**0**	**0**	**0**	**0**
06-22	**2751**	**14**	**2476**	**16**	**212**	**11**	**5**	**3**	**13**	**1**	**0**		**06-22**	**10**	**133**	**1293**	**1123**	**175**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**23**	**0**	**0**	**0**	**0**	**0**	**0**
06-00	**2796**	**15**	**2517**	**16**	**215**	**11**	**5**	**3**	**13**	**1**	**0**		**06-00**	**10**	**135**	**1310**	**1146**	**177**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**23.3**	**0**	**0**	**0**	**0**	**0**	**0**
00-00	**2804**	**15**	**2522**	**16**	**218**	**11**	**5**	**3**	**13**	**1**	**0**		**00-00**	**11**	**136**	**1316**	**1146**	**177**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**23.3**	**0**	**0**	**0**	**0**	**0**	**0**

04 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 40	]PSL% 40	]SL1 46 ACPO	]SL1% 46 ACPO	]SL2 55 DFT	]SL2% 55 DFT
0000	5	0	5	0	0	0	0	0	0	0	0		0000	0	0	3	1	0	1	0	0	0	0	0	0	0	0	22	-	0	0	0	0	0	0
0100	3	0	3	0	0	0	0	0	0	0	0		0100	0	0	2	1	0	0	0	0	0	0	0	0	0	0	18.5	-	0	0	0	0	0	0
0200	2	0	2	0	0	0	0	0	0	0	0		0200	0	0	0	2	0	0	0	0	0	0	0	0	0	0	22.7	-	0	0	0	0	0	0
0300	3	0	2	0	1	0	0	0	0	0	0		0300	0	0	2	0	0	1	0	0	0	0	0	0	0	0	23.3	-	0	0	0	0	0	0
0400	0	0	0	0	0	0	0	0	0	0	0		0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
07-19	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**07-19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-**	**-**	**0**	**0**	**0**	**0**	**0**	**0**
06-22	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-22**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-**	**-**	**0**	**0**	**0**	**0**	**0**	**0**
06-00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-**	**-**	**0**	**0**	**0**	**0**	**0**	**0**
00-00	**13**	**0**	**12**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**		**00-00**	**0**	**0**	**7**	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21.6**	**23.9**	**0**	**0**	**0**	**0**	**0**	**0**

Virtual Day (Partial days = 1.04167)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 40	]PSL% 40	]SL1 46 ACPO	]SL1% 46 ACPO	]SL2 55 DFT	]SL2% 55 DFT
0000	5	0	5	0	0	0	0	0	0	0	0		0000	0	0	3	1	0	1	0	0	0	0	0	0	0	0	22	-	0	0	0	0	0	0
0100	3	0	3	0	0	0	0	0	0	0	0		0100	0	0	2	1	0	0	0	0	0	0	0	0	0	0	18.5	-	0	0	0	0	0	0
0200	2	0	2	0	0	0	0	0	0	0	0		0200	0	0	0	2	0	0	0	0	0	0	0	0	0	0	22.7	-	0	0	0	0	0	0
0300	3	0	2	0	1	0	0	0	0	0	0		0300	0	0	2	0	0	1	0	0	0	0	0	0	0	0	23.3	-	0	0	0	0	0	0
0400	0	0	0	0	0	0	0	0	0	0	0		0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0500	8	0	5	0	3	0	0	0	0	0	0		0500	1	1	6	0	0	0	0	0	0	0	0	0	0	0	15.9	-	0	0	0	0	0	0
0600	25	0	17	0	8	0	0	0	0	0	0		0600	0	4	11	10	0	0	0	0	0	0	0	0	0	0	18.7	22.8	0	0	0	0	0	0
0700	86	1	67	0	16	0	1	1	0	0	0		0700	0	6	40	33	6	1	0	0	0	0	0	0	0	0	19.9	23.3	0	0	0	0	0	0
0800	127	0	101	3	22	1	0	0	0	0	0		0800	0	7	55	58	6	1	0	0	0	0	0	0	0	0	20.2	23	0	0	0	0	0	0
0900	76	0	58	0	17	1	0	0	0	0	0		0900	3	6	34	29	4	0	0	0	0	0	0	0	0	0	19.2	22.4	0	0	0	0	0	0
1000	79	0	59	1	18	1	0	0	0	0	0		1000	0	5	39	27	8	0	0	0	0	0	0	0	0	0	19.8	22.8	0	0	0	0	0	0

1100	111	0	84	1	22	1	1	0	1	1	0	1100	1	7	57	42	4	0	0	0	0	0	0	0	0	0	19.5	23.3	0	0	0	0	0	0
1200	166	1	144	2	15	4	0	0	0	0	0	1200	1	13	86	62	4	0	0	0	0	0	0	0	0	0	19.4	22.6	0	0	0	0	0	0
1300	177	1	160	0	14	1	1	0	0	0	0	1300	0	12	95	65	4	1	0	0	0	0	0	0	0	0	19.5	22.4	0	0	0	0	0	0
1400	135	0	117	0	17	1	0	0	0	0	0	1400	2	10	66	50	7	0	0	0	0	0	0	0	0	0	19.3	21.9	0	0	0	0	0	0
1500	170	0	155	1	12	1	0	1	0	0	0	1500	0	6	84	69	11	0	0	0	0	0	0	0	0	0	20.1	23	0	0	0	0	0	0
1600	270	6	246	2	15	0	1	0	0	0	0	1600	0	7	115	127	19	2	0	0	0	0	0	0	0	0	20.4	23.7	0	0	0	0	0	0
1700	659	0	634	4	8	0	1	1	11	0	0	1700	2	28	345	253	28	3	0	0	0	0	0	0	0	0	19.7	22.4	0	0	0	0	0	0
1800	359	4	341	2	11	0	0	0	1	0	0	1800	1	9	135	181	30	3	0	0	0	0	0	0	0	0	20.6	23.5	0	0	0	0	0	0
1900	140	0	131	0	9	0	0	0	0	0	0	1900	0	8	59	55	16	2	0	0	0	0	0	0	0	0	20.5	23.9	0	0	0	0	0	0
2000	94	0	88	0	6	0	0	0	0	0	0	2000	0	1	43	34	15	1	0	0	0	0	0	0	0	0	21.3	25.5	0	0	0	0	0	0
2100	77	1	74	0	2	0	0	0	0	0	0	2100	0	4	29	28	13	3	0	0	0	0	0	0	0	0	21.2	26.2	0	0	0	0	0	0
2200	27	0	25	0	2	0	0	0	0	0	0	2200	0	1	7	17	2	0	0	0	0	0	0	0	0	0	21.8	24.4	0	0	0	0	0	0
2300	18	1	16	0	1	0	0	0	0	0	0	2300	0	1	10	6	0	1	0	0	0	0	0	0	0	0	19.9	21.5	0	0	0	0	0	0

Virtual Week (1)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 40	]PSL% 40	]SL1 46 ACPO	]SL1% 46 ACPO	]SL2 55 DFT	]SL2% 55 DFT
Mon	0	0	0	0	0	0	0	0	0	0	0		Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Tue	0	0	0	0	0	0	0	0	0	0	0		Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Wed	0	0	0	0	0	0	0	0	0	0	0		Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Thu	2804	15	2522	16	218	11	5	3	13	1	0		Thu	11	136	1316	1146	177	18	0	0	0	0	0	0	0	0	20	23.3	0	0	0	0	0	0
Fri	13	0	12	0	1	0	0	0	0	0	0		Fri	0	0	7	4	0	2	0	0	0	0	0	0	0	0	21.6	23.9	0	0	0	0	0	0
|Sat	0	0	0	0	0	0	0	0	0	0	0		|Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
|Sun	0	0	0	0	0	0	0	0	0	0	0		|Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
--	2817	15	2534	16	219	11	5	3	13	1	0		--	11	136	1323	1150	177	20	0	0	0	0	0	0	0	0	20	23.3	0	0	0	0	0	0

Grand Total

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 40	]PSL% 40	]SL1 46 ACPO	]SL1% 46 ACPO	]SL2 55 DFT	]SL2% 55 DFT
--	2817	15	2534	16	219	11	5	3	13	1	0		--	11	136	1323	1150	177	20	0	0	0	0	0	0	0	0	20	23.3	0	0	0	0	0	0

Advanced Transport Research

Globals

Report Id	CustomList-2487
Descriptor	Advanced Transport Research
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2016-03-14T10:33:56
Legal	Copyright (c)1997 - 2014 MetroCount
Graphic	header.gif
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Version	4.0.6.0
Metric	Non metric
Speed Unit	mph
Length Unit	ft
Mass Unit	ton

Dataset

Site Name	10846-002
Site Attribute	Mayer Brown
File Name	Q:\10846 Cranfield\10846-002 0 2016-03-12 0126.EC0
File Type	Plus
Algorithm	Factory default axle
Description	College Road, Cranfield [30M]
Lane	0
Direction	6
Direction Text	6 - West bound A]B, East bound B]A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2016-03-03T04:12:43
Start Time	2016-03-03T04:12:43
Finish Time	2016-03-12T01:26:43
Operator	ATR
Configuration	00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Name	Advanced Transport Research
Title	Advanced Transport Research
Graphic Logo	C:and SettingsDocuments3.21_on_us_logo_cmyk 50.BMP
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	12
Filter Start	2016-03-03T04:13:00
Filter End	2016-03-04T05:00:00
Class Scheme	ARX
Low Speed	0
High Speed	120
Posted Limit	30
Speed Limits	35 45 30 30 30 0 0 0 0 30
Separation	0.000
Separation Type	Headway
Direction	East
Encoded Direction	2

Advanced Transport Research

Column	
Time	24-hour time (0000 - 2359)
Total	Number in time step
Cls 1	Class totals
Cls 2	Class totals
Cls 3	Class totals
Cls 4	Class totals
Cls 5	Class totals
Cls 6	Class totals
Cls 7	Class totals
Cls 8	Class totals
Cls 9	Class totals
Cls 10	Class totals
Fix1	User defined fixed text
Time	24-hour time (0000 - 2359)
Vbin 0 10	Speed bin totals
Vbin 10 15	Speed bin totals
Vbin 15 20	Speed bin totals
Vbin 20 25	Speed bin totals
Vbin 25 30	Speed bin totals
Vbin 30 35	Speed bin totals
Vbin 35 40	Speed bin totals
Vbin 40 45	Speed bin totals
Vbin 45 50	Speed bin totals
Vbin 50 60	Speed bin totals
Vbin 60 70	Speed bin totals
Vbin 70 80	Speed bin totals
Vbin 80 90	Speed bin totals
Vbin 90 100	Speed bin totals
Mean	Average speed
Vpp 85	Percentile speed
]PSL 30	Number exceeding Posted Speed Limit
]PSL% 30	Percent exceeding Posted Speed Limit
]SL1 35 ACPO	Number exceeding Speed Limit 1
]SL1% 35 ACPO	Percent exceeding Speed Limit 1
]SL2 45 DFT	Number exceeding Speed Limit 2
]SL2% 45 DFT	Percent exceeding Speed Limit 2

Advanced Transport Research

Report Id - CustomList-2487
Site Name - 10846-002
Description - College Road, Cranfield [30M]
Direction - East

03 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 30	]PSL% 30	]SL1 35 ACPO	]SL1% 35 ACPO	]SL2 45 DFT	]SL2% 45 DFT
0400	2	0	1	0	1	0	0	0	0	0	0		0400	0	1	0	0	0	0	1	0	0	0	0	0	0	0	25.1	-	1	50	1	50	0	0
0500	7	0	4	0	3	0	0	0	0	0	0		0500	0	0	0	0	2	3	2	0	0	0	0	0	0	0	32.3	-	5	71.4	2	28.6	0	0
0600	22	0	17	0	5	0	0	0	0	0	0		0600	0	0	0	1	4	8	6	1	2	0	0	0	0	0	34.1	39.8	17	77.3	9	40.9	2	9.1
0700	58	0	46	0	11	0	1	0	0	0	0		0700	0	0	0	2	9	19	15	7	4	2	0	0	0	0	35.6	42.3	47	81	28	48.3	6	10.3
0800	75	0	63	1	9	1	0	0	0	1	0		0800	0	0	1	2	8	29	20	12	3	0	0	0	0	0	34.9	40.5	64	85.3	35	46.7	3	4
0900	54	0	44	0	9	1	0	0	0	0	0		0900	0	1	0	4	16	19	7	5	2	0	0	0	0	0	32.2	38	33	61.1	14	25.9	2	3.7
1000	48	2	33	0	13	0	0	0	0	0	0		1000	0	1	0	3	8	17	11	5	3	0	0	0	0	0	33.7	40.5	36	75	19	39.6	3	6.3
1100	69	2	48	0	17	1	0	0	0	0	1		1100	0	0	2	2	12	25	22	4	2	0	0	0	0	0	33.4	38.5	53	76.8	28	40.6	2	2.9
1200	119	4	100	0	14	0	0	1	0	0	0		1200	0	2	2	6	22	44	30	7	5	1	0	0	0	0	33.3	38	87	73.1	43	36.1	6	5
1300	128	3	111	0	13	1	0	0	0	0	0		1300	0	3	1	11	26	44	25	11	5	2	0	0	0	0	32.9	39.6	87	68	43	33.6	7	5.5
1400	134	2	118	0	14	0	0	0	0	0	0		1400	0	1	1	11	26	46	38	8	3	0	0	0	0	0	32.8	38	95	70.9	49	36.6	3	2.2
1500	166	3	150	0	13	0	0	0	0	0	0		1500	0	3	4	10	33	62	41	10	1	2	0	0	0	0	32.5	38	116	69.9	54	32.5	3	1.8
1600	261	2	246	0	13	0	0	0	0	0	0		1600	0	2	2	8	49	88	74	29	8	1	0	0	0	0	33.9	39.4	200	76.6	112	42.9	9	3.4
1700	576	7	556	1	11	0	0	0	1	0	0		1700	0	4	3	10	107	263	151	32	6	0	0	0	0	0	33.2	37.8	452	78.5	189	32.8	6	1
1800	263	2	257	0	4	0	0	0	0	0	0		1800	0	1	1	4	43	101	78	24	8	3	0	0	0	0	34.6	39.6	214	81.4	113	43	11	4.2
1900	93	0	91	0	2	0	0	0	0	0	0		1900	2	3	2	3	13	22	28	13	4	3	0	0	0	0	34.3	41.2	70	75.3	48	51.6	7	7.5
2000	67	1	64	0	2	0	0	0	0	0	0		2000	0	0	1	4	6	16	25	14	1	0	0	0	0	0	35.4	41.6	56	83.6	40	59.7	1	1.5
2100	63	3	59	0	1	0	0	0	0	0	0		2100	0	3	0	1	16	22	15	4	2	0	0	0	0	0	32.6	37.8	43	68.3	21	33.3	2	3.2
2200	36	0	36	0	0	0	0	0	0	0	0		2200	0	0	0	2	5	8	14	3	2	2	0	0	0	0	36	42.1	29	80.6	21	58.3	4	11.1
2300	24	1	23	0	0	0	0	0	0	0	0		2300	0	1	0	0	4	10	6	2	1	0	0	0	0	0	33.4	38.7	19	79.2	9	37.5	1	4.2
07-19	**1951**	**27**	**1772**	**2**	**141**	**4**	**1**	**1**	**1**	**1**	**1**		**07-19**	**0**	**18**	**17**	**73**	**359**	**757**	**512**	**154**	**50**	**11**	**0**	**0**	**0**	**0**	**33.5**	**38.7**	**1484**	**76.1**	**727**	**37.3**	**61**	**3.1**
06-22	**2196**	**31**	**2003**	**2**	**151**	**4**	**1**	**1**	**1**	**1**	**1**		**06-22**	**2**	**24**	**20**	**82**	**398**	**825**	**586**	**186**	**59**	**14**	**0**	**0**	**0**	**0**	**33.6**	**38.9**	**1670**	**76**	**845**	**38.5**	**73**	**3.3**
06-00	**2256**	**32**	**2062**	**2**	**151**	**4**	**1**	**1**	**1**	**1**	**1**		**06-00**	**2**	**25**	**20**	**84**	**407**	**843**	**606**	**191**	**62**	**16**	**0**	**0**	**0**	**0**	**33.6**	**38.9**	**1718**	**76.2**	**875**	**38.8**	**78**	**3.5**
00-00	**2265**	**32**	**2067**	**2**	**155**	**4**	**1**	**1**	**1**	**1**	**1**		**00-00**	**2**	**26**	**20**	**84**	**409**	**846**	**609**	**191**	**62**	**16**	**0**	**0**	**0**	**0**	**33.6**	**38.9**	**1724**	**76.1**	**878**	**38.8**	**78**	**3.4**

04 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 30	]PSL% 30	]SL1 35 ACPO	]SL1% 35 ACPO	]SL2 45 DFT	]SL2% 45 DFT
0000	15	0	13	0	2	0	0	0	0	0	0		0000	0	0	1	0	3	6	4	1	0	0	0	0	0	0	32.1	36.9	11	73.3	5	33.3	0	0
0100	5	0	5	0	0	0	0	0	0	0	0		0100	0	0	0	0	2	2	0	1	0	0	0	0	0	0	33.6	-	3	60	1	20	0	0
0200	2	0	2	0	0	0	0	0	0	0	0		0200	0	0	0	0	2	0	0	0	0	0	0	0	0	0	28.3	-	0	0	0	0	0	0
0300	3	1	2	0	0	0	0	0	0	0	0		0300	0	0	1	0	0	0	0	1	1	0	0	0	0	0	35.4	-	2	66.7	2	66.7	1	33.3
0400	1	0	0	0	1	0	0	0	0	0	0		0400	0	0	0	0	0	0	1	0	0	0	0	0	0	0	36.7	-	1	100	1	100	0	0
07-19	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**07-19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	-	-	**0**	**0**	**0**	**0**	**0**	**0**
06-22	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-22**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	-	-	**0**	**0**	**0**	**0**	**0**	**0**
06-00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	-	-	**0**	**0**	**0**	**0**	**0**	**0**
00-00	**26**	**1**	**22**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**		**00-00**	**0**	**0**	**2**	**0**	**7**	**8**	**5**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**32.7**	**38.5**	**17**	**65.4**	**9**	**34.6**	**1**	**3.8**

Virtual Day (Partial days = 1.04167)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 30	]PSL% 30	]SL1 35 ACPO	]SL1% 35 ACPO	]SL2 45 DFT	]SL2% 45 DFT
0000	15	0	13	0	2	0	0	0	0	0	0		0000	0	0	1	0	3	6	4	1	0	0	0	0	0	0	32.1	36.9	11	73.3	5	33.3	0	0
0100	5	0	5	0	0	0	0	0	0	0	0		0100	0	0	0	0	2	2	0	1	0	0	0	0	0	0	33.6	-	3	60	1	20	0	0
0200	2	0	2	0	0	0	0	0	0	0	0		0200	0	0	0	0	2	0	0	0	0	0	0	0	0	0	28.3	-	0	0	0	0	0	0
0300	3	1	2	0	0	0	0	0	0	0	0		0300	0	0	1	0	0	0	0	1	1	0	0	0	0	0	35.4	-	2	66.7	2	66.7	1	33.3
0400	2	0	1	0	1	0	0	0	0	0	0		0400	0	1	0	0	0	0	1	0	0	0	0	0	0	0	29	-	1	66.7	1	66.7	0	0
0500	7	0	4	0	3	0	0	0	0	0	0		0500	0	0	0	0	2	3	2	0	0	0	0	0	0	0	32.3	-	5	71.4	2	28.6	0	0
0600	22	0	17	0	5	0	0	0	0	0	0		0600	0	0	0	1	4	8	6	1	2	0	0	0	0	0	34.1	39.8	17	77.3	9	40.9	2	9.1
0700	58	0	46	0	11	0	1	0	0	0	0		0700	0	0	0	2	9	19	15	7	4	2	0	0	0	0	35.6	42.3	47	81	28	48.3	6	10.3
0800	75	0	63	1	9	1	0	0	0	1	0		0800	0	0	1	2	8	29	20	12	3	0	0	0	0	0	34.9	40.5	64	85.3	35	46.7	3	4
0900	54	0	44	0	9	1	0	0	0	0	0		0900	0	1	0	4	16	19	7	5	2	0	0	0	0	0	32.2	38	33	61.1	14	25.9	2	3.7
1000	48	2	33	0	13	0	0	0	0	0	0		1000	0	1	0	3	8	17	11	5	3	0	0	0	0	0	33.7	40.5	36	75	19	39.6	3	6.3

1100	69	2	48	0	17	1	0	0	0	0	1	1100	0	0	2	2	12	25	22	4	2	0	0	0	0	0	33.4	38.5	53	76.8	28	40.6	2	2.9
1200	119	4	100	0	14	0	0	1	0	0	0	1200	0	2	2	6	22	44	30	7	5	1	0	0	0	0	33.3	38	87	73.1	43	36.1	6	5
1300	128	3	111	0	13	1	0	0	0	0	0	1300	0	3	1	11	26	44	25	11	5	2	0	0	0	0	32.9	39.6	87	68	43	33.6	7	5.5
1400	134	2	118	0	14	0	0	0	0	0	0	1400	0	1	1	11	26	46	38	8	3	0	0	0	0	0	32.8	38	95	70.9	49	36.6	3	2.2
1500	166	3	150	0	13	0	0	0	0	0	0	1500	0	3	4	10	33	62	41	10	1	2	0	0	0	0	32.5	38	116	69.9	54	32.5	3	1.8
1600	261	2	246	0	13	0	0	0	0	0	0	1600	0	2	2	8	49	88	74	29	8	1	0	0	0	0	33.9	39.4	200	76.6	112	42.9	9	3.4
1700	576	7	556	1	11	0	0	0	1	0	0	1700	0	4	3	10	107	263	151	32	6	0	0	0	0	0	33.2	37.8	452	78.5	189	32.8	6	1
1800	263	2	257	0	4	0	0	0	0	0	0	1800	0	1	1	4	43	101	78	24	8	3	0	0	0	0	34.6	39.6	214	81.4	113	43	11	4.2
1900	93	0	91	0	2	0	0	0	0	0	0	1900	2	3	2	3	13	22	28	13	4	3	0	0	0	0	34.3	41.2	70	75.3	48	51.6	7	7.5
2000	67	1	64	0	2	0	0	0	0	0	0	2000	0	0	1	4	6	16	25	14	1	0	0	0	0	0	35.4	41.6	56	83.6	40	59.7	1	1.5
2100	63	3	59	0	1	0	0	0	0	0	0	2100	0	3	0	1	16	22	15	4	2	0	0	0	0	0	32.6	37.8	43	68.3	21	33.3	2	3.2
2200	36	0	36	0	0	0	0	0	0	0	0	2200	0	0	0	2	5	8	14	3	2	2	0	0	0	0	36	42.1	29	80.6	21	58.3	4	11.1
2300	24	1	23	0	0	0	0	0	0	0	0	2300	0	1	0	0	4	10	6	2	1	0	0	0	0	0	33.4	38.7	19	79.2	9	37.5	1	4.2

Virtual Week (1)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 30	]PSL% 30	]SL1 35 ACPO	]SL1% 35 ACPO	]SL2 45 DFT	]SL2% 45 DFT
Mon	0	0	0	0	0	0	0	0	0	0	0		Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Tue	0	0	0	0	0	0	0	0	0	0	0		Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Wed	0	0	0	0	0	0	0	0	0	0	0		Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Thu	2265	32	2067	2	155	4	1	1	1	1	1		Thu	2	26	20	84	409	846	609	191	62	16	0	0	0	0	33.6	38.9	1724	76.1	878	38.8	78	3.4
Fri	26	1	22	0	3	0	0	0	0	0	0		Fri	0	0	2	0	7	8	5	3	1	0	0	0	0	0	32.7	38.5	17	65.4	9	34.6	1	3.8
|Sat	0	0	0	0	0	0	0	0	0	0	0		|Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
|Sun	0	0	0	0	0	0	0	0	0	0	0		|Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
--	**2291**	**33**	**2089**	**2**	**158**	**4**	**1**	**1**	**1**	**1**	**1**		**--**	**2**	**26**	**22**	**84**	**416**	**854**	**614**	**194**	**63**	**16**	**0**	**0**	**0**	**0**	**33.6**	**38.9**	**1741**	**76**	**887**	**38.7**	**79**	**3.4**

Grand Total

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 30	]PSL% 30	]SL1 35 ACPO	]SL1% 35 ACPO	]SL2 45 DFT	]SL2% 45 DFT
--	**2291**	**33**	**2089**	**2**	**158**	**4**	**1**	**1**	**1**	**1**	**1**		**--**	**2**	**26**	**22**	**84**	**416**	**854**	**614**	**194**	**63**	**16**	**0**	**0**	**0**	**0**	**33.6**	**38.9**	**1741**	**76**	**887**	**38.7**	**79**	**3.4**

Advanced Transport Research

Globals

Report Id	CustomList-2487
Descriptor	Advanced Transport Research
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2016-03-14T10:33:01
Legal	Copyright (c)1997 - 2014 MetroCount
Graphic	header.gif
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Version	4.0.6.0
Metric	Non metric
Speed Unit	mph
Length Unit	ft
Mass Unit	ton

Dataset

Site Name	10846-002
Site Attribute	Mayer Brown
File Name	Q:\10846 Cranfield\10846-002 0 2016-03-12 0126.EC0
File Type	Plus
Algorithm	Factory default axle
Description	College Road, Cranfield [30M]
Lane	0
Direction	6
Direction Text	6 - West bound A]B, East bound B]A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2016-03-03T04:12:43
Start Time	2016-03-03T04:12:43
Finish Time	2016-03-12T01:26:43
Operator	ATR
Configuration	00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Name	Advanced Transport Research
Title	Advanced Transport Research
Graphic Logo	C:and SettingsDocuments3.21_on_us_logo_cmyk 50.BMP
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	12
Filter Start	2016-03-03T04:13:00
Filter End	2016-03-04T05:00:00
Class Scheme	ARX
Low Speed	0
High Speed	120
Posted Limit	30
Speed Limits	35 45 30 30 30 0 0 0 0 30
Separation	0.000
Separation Type	Headway
Direction	West
Encoded Direction	8

Advanced Transport Research

Column	
Time	24-hour time (0000 - 2359)
Total	Number in time step
Cls 1	Class totals
Cls 2	Class totals
Cls 3	Class totals
Cls 4	Class totals
Cls 5	Class totals
Cls 6	Class totals
Cls 7	Class totals
Cls 8	Class totals
Cls 9	Class totals
Cls 10	Class totals
Fix1	User defined fixed text
Time	24-hour time (0000 - 2359)
Vbin 0 10	Speed bin totals
Vbin 10 15	Speed bin totals
Vbin 15 20	Speed bin totals
Vbin 20 25	Speed bin totals
Vbin 25 30	Speed bin totals
Vbin 30 35	Speed bin totals
Vbin 35 40	Speed bin totals
Vbin 40 45	Speed bin totals
Vbin 45 50	Speed bin totals
Vbin 50 60	Speed bin totals
Vbin 60 70	Speed bin totals
Vbin 70 80	Speed bin totals
Vbin 80 90	Speed bin totals
Vbin 90 100	Speed bin totals
Mean	Average speed
Vpp 85	Percentile speed
]PSL 30	Number exceeding Posted Speed Limit
]PSL% 30	Percent exceeding Posted Speed Limit
]SL1 35 ACPO	Number exceeding Speed Limit 1
]SL1% 35 ACPO	Percent exceeding Speed Limit 1
]SL2 45 DFT	Number exceeding Speed Limit 2
]SL2% 45 DFT	Percent exceeding Speed Limit 2

Advanced Transport Research

Report Id - CustomList-2487
Site Name - 10846-002
Description - College Road, Cranfield [30M]
Direction - West

03 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 30	]PSL% 30	]SL1 35 ACPO	]SL1% 35 ACPO	]SL2 45 DFT	]SL2% 45 DFT
0400	4	0	3	0	1	0	0	0	0	0	0		0400	0	1	0	0	1	0	1	0	1	0	0	0	0	0	31.8	-	2	50	2	50	1	25
0500	12	0	11	0	1	0	0	0	0	0	0		0500	0	0	0	1	0	6	2	0	3	0	0	0	0	0	36.8	45.4	11	91.7	5	41.7	3	25
0600	73	0	67	0	6	0	0	0	0	0	0		0600	1	0	0	4	11	17	23	11	5	1	0	0	0	0	35.4	42.1	57	78.1	40	54.8	6	8.2
0700	360	3	333	0	21	0	0	1	2	0	0		0700	0	1	15	12	65	129	103	26	6	3	0	0	0	0	33.2	38.7	267	74.2	138	38.3	9	2.5
0800	666	5	630	1	27	0	1	0	1	0	1		0800	0	2	15	54	143	249	166	36	1	0	0	0	0	0	32.2	37.6	452	67.9	203	30.5	1	0.2
0900	256	7	233	0	14	1	1	0	0	0	0		0900	0	7	4	11	43	85	77	24	4	1	0	0	0	0	33.2	38.9	191	74.6	106	41.4	5	2
1000	109	7	92	0	8	1	0	0	0	1	0		1000	0	3	4	8	14	32	22	19	7	0	0	0	0	0	34	40.9	80	73.4	48	44	7	6.4
1100	85	1	72	0	12	0	0	0	0	0	0		1100	1	0	1	8	25	27	19	3	1	0	0	0	0	0	31.4	38.5	50	58.8	23	27.1	1	1.2
1200	99	1	86	0	12	0	0	0	0	0	0		1200	0	1	2	10	31	30	18	7	0	0	0	0	0	0	31	37.4	55	55.6	25	25.3	0	0
1300	113	4	99	0	10	0	0	0	0	0	0		1300	0	2	4	19	40	31	12	5	0	0	0	0	0	0	29.3	34.9	48	42.5	17	15	0	0
1400	74	1	66	0	7	0	0	0	0	0	0		1400	0	1	1	8	20	16	19	8	0	0	1	0	0	0	32.4	39.6	44	59.5	28	37.8	1	1.4
1500	78	3	65	0	10	0	0	0	0	0	0		1500	0	2	1	10	13	34	13	3	1	1	0	0	0	0	31.6	36.9	52	66.7	18	23.1	2	2.6
1600	74	1	65	0	7	1	0	0	0	0	0		1600	0	2	2	9	17	20	19	4	1	0	0	0	0	0	31.4	38	44	59.5	24	32.4	1	1.4
1700	88	0	83	0	5	0	0	0	0	0	0		1700	0	1	3	14	25	25	12	3	4	1	0	0	0	0	30.7	36.2	45	51.1	20	22.7	5	5.7
1800	78	2	71	0	5	0	0	0	0	0	0		1800	0	0	3	9	20	26	18	2	0	0	0	0	0	0	30.8	36.2	46	59	20	25.6	0	0
1900	51	0	47	0	4	0	0	0	0	0	0		1900	0	0	1	9	15	15	6	4	0	1	0	0	0	0	30.5	35.8	26	51	11	21.6	1	2
2000	28	1	24	0	3	0	0	0	0	0	0		2000	0	1	0	2	10	6	6	3	0	0	0	0	0	0	32	38.7	15	53.6	9	32.1	0	0
2100	18	0	17	0	1	0	0	0	0	0	0		2100	0	0	1	2	4	5	5	1	0	0	0	0	0	0	31.6	37.6	11	61.1	6	33.3	0	0
2200	14	0	13	0	1	0	0	0	0	0	0		2200	0	0	0	1	6	5	2	0	0	0	0	0	0	0	30.2	34.7	7	50	2	14.3	0	0
2300	6	0	4	0	2	0	0	0	0	0	0		2300	0	0	0	1	4	1	0	0	0	0	0	0	0	0	27.7	-	1	16.7	0	0	0	0
07-19	**2080**	**35**	**1895**	**1**	**138**	**3**	**2**	**1**	**3**	**1**	**1**		**07-19**	**1**	**22**	**55**	**172**	**456**	**704**	**498**	**140**	**25**	**6**	**1**	**0**	**0**	**0**	**32.2**	**38.3**	**1374**	**66.1**	**670**	**32.2**	**32**	**1.5**
06-22	**2250**	**36**	**2050**	**1**	**152**	**3**	**2**	**1**	**3**	**1**	**1**		**06-22**	**2**	**23**	**57**	**189**	**496**	**747**	**538**	**159**	**30**	**8**	**1**	**0**	**0**	**0**	**32.2**	**38.3**	**1483**	**65.9**	**736**	**32.7**	**39**	**1.7**
06-00	**2270**	**36**	**2067**	**1**	**155**	**3**	**2**	**1**	**3**	**1**	**1**		**06-00**	**2**	**23**	**57**	**191**	**506**	**753**	**540**	**159**	**30**	**8**	**1**	**0**	**0**	**0**	**32.2**	**38.3**	**1491**	**65.7**	**738**	**32.5**	**39**	**1.7**
00-00	**2286**	**36**	**2081**	**1**	**157**	**3**	**2**	**1**	**3**	**1**	**1**		**00-00**	**2**	**24**	**57**	**192**	**507**	**759**	**543**	**159**	**34**	**8**	**1**	**0**	**0**	**0**	**32.2**	**38.3**	**1504**	**65.8**	**745**	**32.6**	**43**	**1.9**

04 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 30	]PSL% 30	]SL1 35 ACPO	]SL1% 35 ACPO	]SL2 45 DFT	]SL2% 45 DFT
0000	3	0	3	0	0	0	0	0	0	0	0		0000	0	0	0	2	1	0	0	0	0	0	0	0	0	0	24.8	-	0	0	0	0	0	0
0100	2	0	2	0	0	0	0	0	0	0	0		0100	0	0	0	1	0	0	1	0	0	0	0	0	0	0	31.2	-	1	50	1	50	0	0
0200	5	0	5	0	0	0	0	0	0	0	0		0200	0	0	0	0	2	2	0	1	0	0	0	0	0	0	32.6	-	3	60	1	20	0	0
0300	2	1	1	0	0	0	0	0	0	0	0		0300	0	1	0	0	0	0	0	1	0	0	0	0	0	0	29.1	-	1	50	1	50	1	50
0400	13	1	10	0	2	0	0	0	0	0	0		0400	0	1	0	3	0	2	3	4	0	0	0	0	0	0	32.8	41.8	9	69.2	7	53.8	0	0
07-19	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**07-19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-**	**-**	**0**	**0**	**0**	**0**	**0**	**0**
06-22	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-22**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-**	**-**	**0**	**0**	**0**	**0**	**0**	**0**
06-00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-**	**-**	**0**	**0**	**0**	**0**	**0**	**0**
00-00	**25**	**2**	**21**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**		**00-00**	**0**	**2**	**0**	**6**	**3**	**4**	**4**	**5**	**1**	**0**	**0**	**0**	**0**	**0**	**31.4**	**41.4**	**14**	**56**	**10**	**40**	**1**	**4**

Virtual Day (Partial days = 1.04167)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 30	]PSL% 30	]SL1 35 ACPO	]SL1% 35 ACPO	]SL2 45 DFT	]SL2% 45 DFT
0000	3	0	3	0	0	0	0	0	0	0	0		0000	0	0	0	2	1	0	0	0	0	0	0	0	0	0	24.8	-	0	0	0	0	0	0
0100	2	0	2	0	0	0	0	0	0	0	0		0100	0	0	0	1	0	0	1	0	0	0	0	0	0	0	31.2	-	1	50	1	50	0	0
0200	5	0	5	0	0	0	0	0	0	0	0		0200	0	0	0	0	2	2	0	1	0	0	0	0	0	0	32.6	-	3	60	1	20	0	0
0300	2	1	1	0	0	0	0	0	0	0	0		0300	0	1	0	0	0	0	0	1	0	0	0	0	0	0	29.1	-	1	50	1	50	1	50
0400	9	1	7	0	2	0	0	0	0	0	0		0400	0	1	0	2	1	1	2	2	1	0	0	0	0	0	32.6	-	6	64.7	5	52.9	1	5.9
0500	12	0	11	0	1	0	0	0	0	0	0		0500	0	0	0	1	0	6	2	0	3	0	0	0	0	0	36.8	45.4	11	91.7	5	41.7	3	25
0600	73	0	67	0	6	0	0	0	0	0	0		0600	1	0	0	4	11	17	23	11	5	1	0	0	0	0	35.4	42.1	57	78.1	40	54.8	6	8.2
0700	360	3	333	0	21	0	0	1	2	0	0		0700	0	1	15	12	65	129	103	26	6	3	0	0	0	0	33.2	38.7	267	74.2	138	38.3	9	2.5
0800	666	5	630	1	27	0	1	0	1	0	1		0800	0	2	15	54	143	249	166	36	1	0	0	0	0	0	32.2	37.6	452	67.9	203	30.5	1	0.2
0900	256	7	233	0	14	1	1	0	0	0	0		0900	0	7	4	11	43	85	77	24	4	1	0	0	0	0	33.2	38.9	191	74.6	106	41.4	5	2
1000	109	7	92	0	8	1	0	0	0	1	0		1000	0	3	4	8	14	32	22	19	7	0	0	0	0	0	34	40.9	80	73.4	48	44	7	6.4

1100	85	1	72	0	12	0	0	0	0	0	0	1100	1	0	1	8	25	27	19	3	1	0	0	0	0	0	31.4	38.5	50	58.8	23	27.1	1	1.2
1200	99	1	86	0	12	0	0	0	0	0	0	1200	0	1	2	10	31	30	18	7	0	0	0	0	0	0	31	37.4	55	55.6	25	25.3	0	0
1300	113	4	99	0	10	0	0	0	0	0	0	1300	0	2	4	19	40	31	12	5	0	0	0	0	0	0	29.3	34.9	48	42.5	17	15	0	0
1400	74	1	66	0	7	0	0	0	0	0	0	1400	0	1	1	8	20	16	19	8	0	0	1	0	0	0	32.4	39.6	44	59.5	28	37.8	1	1.4
1500	78	3	65	0	10	0	0	0	0	0	0	1500	0	2	1	10	13	34	13	3	1	1	0	0	0	0	31.6	36.9	52	66.7	18	23.1	2	2.6
1600	74	1	65	0	7	1	0	0	0	0	0	1600	0	2	2	9	17	20	19	4	1	0	0	0	0	0	31.4	38	44	59.5	24	32.4	1	1.4
1700	88	0	83	0	5	0	0	0	0	0	0	1700	0	1	3	14	25	25	12	3	4	1	0	0	0	0	30.7	36.2	45	51.1	20	22.7	5	5.7
1800	78	2	71	0	5	0	0	0	0	0	0	1800	0	0	3	9	20	26	18	2	0	0	0	0	0	0	30.8	36.2	46	59	20	25.6	0	0
1900	51	0	47	0	4	0	0	0	0	0	0	1900	0	0	1	9	15	15	6	4	0	1	0	0	0	0	30.5	35.8	26	51	11	21.6	1	2
2000	28	1	24	0	3	0	0	0	0	0	0	2000	0	1	0	2	10	6	6	3	0	0	0	0	0	0	32	38.7	15	53.6	9	32.1	0	0
2100	18	0	17	0	1	0	0	0	0	0	0	2100	0	0	1	2	4	5	5	1	0	0	0	0	0	0	31.6	37.6	11	61.1	6	33.3	0	0
2200	14	0	13	0	1	0	0	0	0	0	0	2200	0	0	0	1	6	5	2	0	0	0	0	0	0	0	30.2	34.7	7	50	2	14.3	0	0
2300	6	0	4	0	2	0	0	0	0	0	0	2300	0	0	0	1	4	1	0	0	0	0	0	0	0	0	27.7	-	1	16.7	0	0	0	0

Virtual Week (1)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 30	]PSL% 30	]SL1 35 ACPO	]SL1% 35 ACPO	]SL2 45 DFT	]SL2% 45 DFT
Mon	0	0	0	0	0	0	0	0	0	0	0		Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Tue	0	0	0	0	0	0	0	0	0	0	0		Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Wed	0	0	0	0	0	0	0	0	0	0	0		Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Thu	2286	36	2081	1	157	3	2	1	3	1	1		Thu	2	24	57	192	507	759	543	159	34	8	1	0	0	0	32.2	38.3	1504	65.8	745	32.6	43	1.9
Fri	25	2	21	0	2	0	0	0	0	0	0		Fri	0	2	0	6	3	4	4	5	1	0	0	0	0	0	31.4	41.4	14	56	10	40	1	4
|Sat	0	0	0	0	0	0	0	0	0	0	0		|Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
|Sun	0	0	0	0	0	0	0	0	0	0	0		|Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
--	**2311**	**38**	**2102**	**1**	**159**	**3**	**2**	**1**	**3**	**1**	**1**		**--**	**2**	**26**	**57**	**198**	**510**	**763**	**547**	**164**	**35**	**8**	**1**	**0**	**0**	**0**	**32.2**	**38.5**	**1518**	**65.7**	**755**	**32.7**	**44**	**1.9**

Grand Total

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 30	]PSL% 30	]SL1 35 ACPO	]SL1% 35 ACPO	]SL2 45 DFT	]SL2% 45 DFT
--	**2311**	**38**	**2102**	**1**	**159**	**3**	**2**	**1**	**3**	**1**	**1**		**--**	**2**	**26**	**57**	**198**	**510**	**763**	**547**	**164**	**35**	**8**	**1**	**0**	**0**	**0**	**32.2**	**38.5**	**1518**	**65.7**	**755**	**32.7**	**44**	**1.9**

Advanced Transport Research

Globals

Report Id	CustomList-2488
Descriptor	Advanced Transport Research
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2016-03-14T10:35:49
Legal	Copyright (c)1997 - 2014 MetroCount
Graphic	header.gif
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Version	4.0.6.0
Metric	Non metric
Speed Unit	mph
Length Unit	ft
Mass Unit	ton

Dataset

Site Name	10846-003
Site Attribute	Mayer Brown
File Name	Q:\10846 Cranfield\10846-003 0 2016-03-12 0116.EC0
File Type	Plus
Algorithm	Factory default axle
Description	Bedfordshire, Cranfield, west of West Rd [60M]
Lane	0
Direction	6
Direction Text	6 - West bound A]B, East bound B]A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2016-03-03T04:29:46
Start Time	2016-03-03T04:29:46
Finish Time	2016-03-12T01:16:46
Operator	ATR
Configuration	00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Name	Advanced Transport Research
Title	Advanced Transport Research
Graphic Logo	C:and SettingsDocuments3.21_on_us_logo_cmyk 50.BMP
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	12
Filter Start	2016-03-03T04:30:00
Filter End	2016-03-04T05:00:00
Class Scheme	ARX
Low Speed	0
High Speed	120
Posted Limit	60
Speed Limits	68 75 60 60 60 0 0 0 0 60
Separation	0.000
Separation Type	Headway
Direction	East
Encoded Direction	2

Advanced Transport Research

Column	
Time	24-hour time (0000 - 2359)
Total	Number in time step
Cls 1	Class totals
Cls 2	Class totals
Cls 3	Class totals
Cls 4	Class totals
Cls 5	Class totals
Cls 6	Class totals
Cls 7	Class totals
Cls 8	Class totals
Cls 9	Class totals
Cls 10	Class totals
Fix1	User defined fixed text
Time	24-hour time (0000 - 2359)
Vbin 0 10	Speed bin totals
Vbin 10 15	Speed bin totals
Vbin 15 20	Speed bin totals
Vbin 20 25	Speed bin totals
Vbin 25 30	Speed bin totals
Vbin 30 35	Speed bin totals
Vbin 35 40	Speed bin totals
Vbin 40 45	Speed bin totals
Vbin 45 50	Speed bin totals
Vbin 50 60	Speed bin totals
Vbin 60 70	Speed bin totals
Vbin 70 80	Speed bin totals
Vbin 80 90	Speed bin totals
Vbin 90 100	Speed bin totals
Mean	Average speed
Vpp 85	Percentile speed
]PSL 60	Number exceeding Posted Speed Limit
]PSL% 60	Percent exceeding Posted Speed Limit
]SL1 68 ACPO	Number exceeding Speed Limit 1
]SL1% 68 ACPO	Percent exceeding Speed Limit 1
]SL2 75 DFT	Number exceeding Speed Limit 2
]SL2% 75 DFT	Percent exceeding Speed Limit 2

Advanced Transport Research

Report Id - CustomList-2488
Site Name - 10846-003
Description - Bedfordshire, Cranfield, west of West Rd [60M]
Direction - East

03 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 60	]PSL% 60	]SL1 68 ACPO	]SL1% 68 ACPO	]SL2 75 DFT	]SL2% 75 DFT
0400	3	0	2	0	1	0	0	0	0	0	0		0400	0	1	0	0	2	0	0	0	0	0	0	0	0	0	22	-	0	0	0	0	0	0
0500	3	0	3	0	0	0	0	0	0	0	0		0500	0	0	0	0	1	1	1	0	0	0	0	0	0	0	32.7	-	0	0	0	0	0	0
0600	20	0	18	0	2	0	0	0	0	0	0		0600	0	0	0	2	6	10	2	0	0	0	0	0	0	0	30.7	34	0	0	0	0	0	0
0700	60	0	56	0	3	0	0	0	0	0	1		0700	0	0	0	4	29	23	4	0	0	0	0	0	0	0	29.8	32.9	0	0	0	0	0	0
0800	123	0	113	0	4	5	0	0	0	1	0		0800	0	0	0	1	36	68	15	3	0	0	0	0	0	0	31.7	34.9	0	0	0	0	0	0
0900	70	2	66	0	2	0	0	0	0	0	0		0900	0	2	0	4	17	39	6	2	0	0	0	0	0	0	30.7	33.6	0	0	0	0	0	0
1000	45	1	34	0	10	0	0	0	0	0	0		1000	0	0	0	0	16	22	7	0	0	0	0	0	0	0	31.6	34.7	0	0	0	0	0	0
1100	44	0	30	1	10	1	1	0	0	0	1		1100	0	0	1	4	21	14	4	0	0	0	0	0	0	0	29.1	32.9	0	0	0	0	0	0
1200	36	0	30	0	4	2	0	0	0	0	0		1200	0	1	2	4	15	12	2	0	0	0	0	0	0	0	28.4	32.2	0	0	0	0	0	0
1300	44	0	41	0	2	1	0	0	0	0	0		1300	0	0	0	2	27	8	7	0	0	0	0	0	0	0	30.2	34.2	0	0	0	0	0	0
1400	33	0	29	0	4	0	0	0	0	0	0		1400	0	0	0	3	9	14	6	1	0	0	0	0	0	0	31.1	35.3	0	0	0	0	0	0
1500	33	0	29	1	2	1	0	0	0	0	0		1500	0	1	0	8	13	6	5	0	0	0	0	0	0	0	28.4	33.6	0	0	0	0	0	0
1600	27	1	23	0	2	0	1	0	0	0	0		1600	0	0	1	6	11	7	1	0	1	0	0	0	0	0	27.9	31.8	0	0	0	0	0	0
1700	37	1	32	0	3	0	1	0	0	0	0		1700	0	1	1	3	15	16	1	0	0	0	0	0	0	0	28.3	31.3	0	0	0	0	0	0
1800	39	0	36	0	1	2	0	0	0	0	0		1800	0	0	1	5	17	11	4	1	0	0	0	0	0	0	29.1	34.2	0	0	0	0	0	0
1900	26	1	23	0	1	0	0	0	0	0	1		1900	0	0	3	3	10	10	0	0	0	0	0	0	0	0	27.8	33.3	0	0	0	0	0	0
2000	23	0	21	0	1	1	0	0	0	0	0		2000	0	0	0	5	9	6	3	0	0	0	0	0	0	0	29	33.8	0	0	0	0	0	0
2100	18	0	17	0	1	0	0	0	0	0	0		2100	0	0	0	2	12	3	1	0	0	0	0	0	0	0	28.2	30	0	0	0	0	0	0
2200	9	0	8	0	1	0	0	0	0	0	0		2200	0	0	1	3	4	1	0	0	0	0	0	0	0	0	25.3	-	0	0	0	0	0	0
2300	9	0	9	0	0	0	0	0	0	0	0		2300	0	0	0	0	3	5	1	0	0	0	0	0	0	0	30.5	-	0	0	0	0	0	0
07-19	**591**	**5**	**519**	**2**	**47**	**12**	**3**	**0**	**0**	**1**	**2**		**07-19**	**0**	**5**	**6**	**44**	**226**	**240**	**62**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**30.1**	**34**	**0**	**0**	**0**	**0**	**0**	**0**
06-22	**678**	**6**	**598**	**2**	**52**	**13**	**3**	**0**	**0**	**1**	**3**		**06-22**	**0**	**5**	**9**	**56**	**263**	**269**	**68**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**29.9**	**34**	**0**	**0**	**0**	**0**	**0**	**0**
06-00	**696**	**6**	**615**	**2**	**53**	**13**	**3**	**0**	**0**	**1**	**3**		**06-00**	**0**	**5**	**10**	**59**	**270**	**275**	**69**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**29.9**	**34**	**0**	**0**	**0**	**0**	**0**	**0**
00-00	**702**	**6**	**620**	**2**	**54**	**13**	**3**	**0**	**0**	**1**	**3**		**00-00**	**0**	**6**	**10**	**59**	**273**	**276**	**70**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**29.9**	**34**	**0**	**0**	**0**	**0**	**0**	**0**

04 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 60	]PSL% 60	]SL1 68 ACPO	]SL1% 68 ACPO	]SL2 75 DFT	]SL2% 75 DFT
0000	2	0	2	0	0	0	0	0	0	0	0		0000	0	0	0	1	0	1	0	0	0	0	0	0	0	0	27.4	-	0	0	0	0	0	0
0100	4	0	4	0	0	0	0	0	0	0	0		0100	0	0	1	0	3	0	0	0	0	0	0	0	0	0	25.1	-	0	0	0	0	0	0
0200	1	0	1	0	0	0	0	0	0	0	0		0200	0	0	0	0	1	0	0	0	0	0	0	0	0	0	28.6	-	0	0	0	0	0	0
0300	1	0	1	0	0	0	0	0	0	0	0		0300	0	0	0	0	0	1	0	0	0	0	0	0	0	0	31.6	-	0	0	0	0	0	0
0400	2	0	2	0	0	0	0	0	0	0	0		0400	0	0	0	0	1	1	0	0	0	0	0	0	0	0	28.9	-	0	0	0	0	0	0
07-19	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**07-19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	-	-	**0**	**0**	**0**	**0**	**0**	**0**
06-22	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-22**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	-	-	**0**	**0**	**0**	**0**	**0**	**0**
06-00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	-	-	**0**	**0**	**0**	**0**	**0**	**0**
00-00	**10**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**00-00**	**0**	**0**	**1**	**1**	**5**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**27.3**	-	**0**	**0**	**0**	**0**	**0**	**0**

Virtual Day (Partial days = 1.04167)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 60	]PSL% 60	]SL1 68 ACPO	]SL1% 68 ACPO	]SL2 75 DFT	]SL2% 75 DFT
0000	2	0	2	0	0	0	0	0	0	0	0		0000	0	0	0	1	0	1	0	0	0	0	0	0	0	0	27.4	-	0	0	0	0	0	0
0100	4	0	4	0	0	0	0	0	0	0	0		0100	0	0	1	0	3	0	0	0	0	0	0	0	0	0	25.1	-	0	0	0	0	0	0
0200	1	0	1	0	0	0	0	0	0	0	0		0200	0	0	0	0	1	0	0	0	0	0	0	0	0	0	28.6	-	0	0	0	0	0	0
0300	1	0	1	0	0	0	0	0	0	0	0		0300	0	0	0	0	0	1	0	0	0	0	0	0	0	0	31.6	-	0	0	0	0	0	0
0400	3	0	2	0	1	0	0	0	0	0	0		0400	0	1	0	0	2	1	0	0	0	0	0	0	0	0	24.8	-	0	0	0	0	0	0
0500	3	0	3	0	0	0	0	0	0	0	0		0500	0	0	0	0	1	1	1	0	0	0	0	0	0	0	32.7	-	0	0	0	0	0	0
0600	20	0	18	0	2	0	0	0	0	0	0		0600	0	0	0	2	6	10	2	0	0	0	0	0	0	0	30.7	34	0	0	0	0	0	0
0700	60	0	56	0	3	0	0	0	0	0	1		0700	0	0	0	4	29	23	4	0	0	0	0	0	0	0	29.8	32.9	0	0	0	0	0	0
0800	123	0	113	0	4	5	0	0	0	1	0		0800	0	0	0	1	36	68	15	3	0	0	0	0	0	0	31.7	34.9	0	0	0	0	0	0
0900	70	2	66	0	2	0	0	0	0	0	0		0900	0	2	0	4	17	39	6	2	0	0	0	0	0	0	30.7	33.6	0	0	0	0	0	0
1000	45	1	34	0	10	0	0	0	0	0	0		1000	0	0	0	0	16	22	7	0	0	0	0	0	0	0	31.6	34.7	0	0	0	0	0	0

1100	44	0	30	1	10	1	1	0	0	0	1	1100	0	0	1	4	21	14	4	0	0	0	0	0	0	0	29.1	32.9	0	0	0	0	0	0
1200	36	0	30	0	4	2	0	0	0	0	0	1200	0	1	2	4	15	12	2	0	0	0	0	0	0	0	28.4	32.2	0	0	0	0	0	0
1300	44	0	41	0	2	1	0	0	0	0	0	1300	0	0	0	2	27	8	7	0	0	0	0	0	0	0	30.2	34.2	0	0	0	0	0	0
1400	33	0	29	0	4	0	0	0	0	0	0	1400	0	0	0	3	9	14	6	1	0	0	0	0	0	0	31.1	35.3	0	0	0	0	0	0
1500	33	0	29	1	2	1	0	0	0	0	0	1500	0	1	0	8	13	6	5	0	0	0	0	0	0	0	28.4	33.6	0	0	0	0	0	0
1600	27	1	23	0	2	0	1	0	0	0	0	1600	0	0	1	6	11	7	1	0	1	0	0	0	0	0	27.9	31.8	0	0	0	0	0	0
1700	37	1	32	0	3	0	1	0	0	0	0	1700	0	1	1	3	15	16	1	0	0	0	0	0	0	0	28.3	31.3	0	0	0	0	0	0
1800	39	0	36	0	1	2	0	0	0	0	0	1800	0	0	1	5	17	11	4	1	0	0	0	0	0	0	29.1	34.2	0	0	0	0	0	0
1900	26	1	23	0	1	0	0	0	0	0	1	1900	0	0	3	3	10	10	0	0	0	0	0	0	0	0	27.8	33.3	0	0	0	0	0	0
2000	23	0	21	0	1	1	0	0	0	0	0	2000	0	0	0	5	9	6	3	0	0	0	0	0	0	0	29	33.8	0	0	0	0	0	0
2100	18	0	17	0	1	0	0	0	0	0	0	2100	0	0	0	2	12	3	1	0	0	0	0	0	0	0	28.2	30	0	0	0	0	0	0
2200	9	0	8	0	1	0	0	0	0	0	0	2200	0	0	1	3	4	1	0	0	0	0	0	0	0	0	25.3	-	0	0	0	0	0	0
2300	9	0	9	0	0	0	0	0	0	0	0	2300	0	0	0	0	3	5	1	0	0	0	0	0	0	0	30.5	-	0	0	0	0	0	0

Virtual Week (1)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 60	]PSL% 60	]SL1 68 ACPO	]SL1% 68 ACPO	]SL2 75 DFT	]SL2% 75 DFT
Mon	0	0	0	0	0	0	0	0	0	0	0		Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Tue	0	0	0	0	0	0	0	0	0	0	0		Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Wed	0	0	0	0	0	0	0	0	0	0	0		Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Thu	702	6	620	2	54	13	3	0	0	1	3		Thu	0	6	10	59	273	276	70	7	1	0	0	0	0	0	29.9	34	0	0	0	0	0	0
Fri	10	0	10	0	0	0	0	0	0	0	0		Fri	0	0	1	1	5	3	0	0	0	0	0	0	0	0	27.3	-	0	0	0	0	0	0
|Sat	0	0	0	0	0	0	0	0	0	0	0		|Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
|Sun	0	0	0	0	0	0	0	0	0	0	0		|Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
--	712	6	630	2	54	13	3	0	0	1	3		--	0	6	11	60	278	279	70	7	1	0	0	0	0	0	0	29.8	33.8	0	0	0	0	0	0

Grand Total

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 60	]PSL% 60	]SL1 68 ACPO	]SL1% 68 ACPO	]SL2 75 DFT	]SL2% 75 DFT
--	712	6	630	2	54	13	3	0	0	1	3		--	0	6	11	60	278	279	70	7	1	0	0	0	0	0	0	29.8	33.8	0	0	0	0	0	0

Advanced Transport Research

Globals

Report Id	CustomList-2488
Descriptor	Advanced Transport Research
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2016-03-14T10:34:46
Legal	Copyright (c)1997 - 2014 MetroCount
Graphic	header.gif
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Version	4.0.6.0
Metric	Non metric
Speed Unit	mph
Length Unit	ft
Mass Unit	ton

Dataset

Site Name	10846-003
Site Attribute	Mayer Brown
File Name	Q:\10846 Cranfield\10846-003 0 2016-03-12 0116.EC0
File Type	Plus
Algorithm	Factory default axle
Description	Bedfordshire, Cranfield, west of West Rd [60M]
Lane	0
Direction	6
Direction Text	6 - West bound A]B, East bound B]A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2016-03-03T04:29:46
Start Time	2016-03-03T04:29:46
Finish Time	2016-03-12T01:16:46
Operator	ATR
Configuration	00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Name	Advanced Transport Research
Title	Advanced Transport Research
Graphic Logo	C:and SettingsDocuments3.21_on_us_logo_cmyk 50.BMP
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	12
Filter Start	2016-03-03T04:30:00
Filter End	2016-03-04T05:00:00
Class Scheme	ARX
Low Speed	0
High Speed	120
Posted Limit	60
Speed Limits	68 75 60 60 60 0 0 0 0 60
Separation	0.000
Separation Type	Headway
Direction	West
Encoded Direction	8

Advanced Transport Research

Column	
Time	24-hour time (0000 - 2359)
Total	Number in time step
Cls 1	Class totals
Cls 2	Class totals
Cls 3	Class totals
Cls 4	Class totals
Cls 5	Class totals
Cls 6	Class totals
Cls 7	Class totals
Cls 8	Class totals
Cls 9	Class totals
Cls 10	Class totals
Fix1	User defined fixed text
Time	24-hour time (0000 - 2359)
Vbin 0 10	Speed bin totals
Vbin 10 15	Speed bin totals
Vbin 15 20	Speed bin totals
Vbin 20 25	Speed bin totals
Vbin 25 30	Speed bin totals
Vbin 30 35	Speed bin totals
Vbin 35 40	Speed bin totals
Vbin 40 45	Speed bin totals
Vbin 45 50	Speed bin totals
Vbin 50 60	Speed bin totals
Vbin 60 70	Speed bin totals
Vbin 70 80	Speed bin totals
Vbin 80 90	Speed bin totals
Vbin 90 100	Speed bin totals
Mean	Average speed
Vpp 85	Percentile speed
]PSL 60	Number exceeding Posted Speed Limit
]PSL% 60	Percent exceeding Posted Speed Limit
]SL1 68 ACPO	Number exceeding Speed Limit 1
]SL1% 68 ACPO	Percent exceeding Speed Limit 1
]SL2 75 DFT	Number exceeding Speed Limit 2
]SL2% 75 DFT	Percent exceeding Speed Limit 2

Advanced Transport Research

Report Id - CustomList-2488
Site Name - 10846-003
Description - Bedfordshire, Cranfield, west of West Rd [60M]
Direction - West

03 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 60	]PSL% 60	]SL1 68 ACPO	]SL1% 68 ACPO	]SL2 75 DFT	]SL2% 75 DFT
0400	4	1	3	0	0	0	0	0	0	0	0		0400	2	1	0	0	0	1	0	0	0	0	0	0	0	0	11	-	0	0	0	0	0	0
0500	3	0	3	0	0	0	0	0	0	0	0		0500	0	0	0	0	1	2	0	0	0	0	0	0	0	0	31.9	-	0	0	0	0	0	0
0600	9	0	6	0	3	0	0	0	0	0	0		0600	0	0	0	2	4	0	3	0	0	0	0	0	0	0	29.9	-	0	0	0	0	0	0
0700	22	0	16	0	4	0	0	0	2	0	0		0700	0	0	0	0	5	7	4	5	1	0	0	0	0	0	35	41.2	0	0	0	0	0	0
0800	38	0	33	0	4	0	0	0	0	0	1		0800	0	0	0	0	4	14	14	6	0	0	0	0	0	0	35.4	39.8	0	0	0	0	0	0
0900	23	0	18	0	4	0	0	0	0	0	1		0900	0	0	0	3	5	7	5	3	0	0	0	0	0	0	32.5	37.6	0	0	0	0	0	0
1000	29	2	20	1	4	0	0	0	0	1	1		1000	1	2	0	1	7	10	5	2	1	0	0	0	0	0	31.2	37.8	0	0	0	0	0	0
1100	25	0	21	0	4	0	0	0	0	0	0		1100	0	0	0	0	6	10	8	1	0	0	0	0	0	0	33.1	36.7	0	0	0	0	0	0
1200	37	0	27	0	10	0	0	0	0	0	0		1200	0	1	0	5	6	18	6	1	0	0	0	0	0	0	30.8	35.3	0	0	0	0	0	0
1300	49	1	42	0	6	0	0	0	0	0	0		1300	0	1	2	2	13	17	10	4	0	0	0	0	0	0	31.8	37.4	0	0	0	0	0	0
1400	39	1	32	1	5	0	0	0	0	0	0		1400	0	0	1	5	10	11	5	6	1	0	0	0	0	0	32.1	40	0	0	0	0	0	0
1500	52	0	50	0	2	0	0	0	0	0	0		1500	0	0	1	3	9	18	16	3	2	0	0	0	0	0	33.6	39.1	0	0	0	0	0	0
1600	65	2	57	1	5	0	0	0	0	0	0		1600	0	1	2	2	10	22	20	8	0	0	0	0	0	0	33.6	38.7	0	0	0	0	0	0
1700	156	1	151	0	3	0	0	0	0	0	1		1700	0	0	1	3	41	44	47	17	3	0	0	0	0	0	33.8	38.9	0	0	0	0	0	0
1800	79	0	74	0	5	0	0	0	0	0	0		1800	0	0	0	0	14	24	25	11	3	2	0	0	0	0	35.8	40.9	0	0	0	0	0	0
1900	45	1	42	0	2	0	0	0	0	0	0		1900	1	1	2	5	9	15	7	3	2	0	0	0	0	0	31.3	38.9	0	0	0	0	0	0
2000	26	1	23	0	2	0	0	0	0	0	0		2000	0	0	0	1	4	5	10	3	1	2	0	0	0	0	36.7	42.5	0	0	0	0	0	0
2100	35	1	31	0	3	0	0	0	0	0	0		2100	0	0	0	0	8	18	5	2	1	1	0	0	0	0	33.7	38.5	0	0	0	0	0	0
2200	19	0	18	0	1	0	0	0	0	0	0		2200	0	0	0	0	5	5	7	2	0	0	0	0	0	0	34.8	39.4	0	0	0	0	0	0
2300	4	0	4	0	0	0	0	0	0	0	0		2300	0	0	0	0	2	1	0	1	0	0	0	0	0	0	32.6	-	0	0	0	0	0	0
07-19	**614**	**7**	**541**	**3**	**56**	**0**	**0**	**0**	**2**	**1**	**4**		**07-19**	**1**	**5**	**7**	**24**	**130**	**202**	**165**	**67**	**11**	**2**	**0**	**0**	**0**	**0**	**33.5**	**39.4**	**0**	**0**	**0**	**0**	**0**	**0**
06-22	**729**	**10**	**643**	**3**	**66**	**0**	**0**	**0**	**2**	**1**	**4**		**06-22**	**2**	**6**	**9**	**32**	**155**	**240**	**190**	**75**	**15**	**5**	**0**	**0**	**0**	**0**	**33.4**	**39.4**	**0**	**0**	**0**	**0**	**0**	**0**
06-00	**752**	**10**	**665**	**3**	**67**	**0**	**0**	**0**	**2**	**1**	**4**		**06-00**	**2**	**6**	**9**	**32**	**162**	**246**	**197**	**78**	**15**	**5**	**0**	**0**	**0**	**0**	**33.5**	**39.4**	**0**	**0**	**0**	**0**	**0**	**0**
00-00	**759**	**11**	**671**	**3**	**67**	**0**	**0**	**0**	**2**	**1**	**4**		**00-00**	**4**	**7**	**9**	**32**	**163**	**249**	**197**	**78**	**15**	**5**	**0**	**0**	**0**	**0**	**33.3**	**39.4**	**0**	**0**	**0**	**0**	**0**	**0**

04 March 2016

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 60	]PSL% 60	]SL1 68 ACPO	]SL1% 68 ACPO	]SL2 75 DFT	]SL2% 75 DFT
0000	1	0	1	0	0	0	0	0	0	0	0		0000	0	0	0	0	1	0	0	0	0	0	0	0	0	0	27.6	-	0	0	0	0	0	0
0100	3	0	3	0	0	0	0	0	0	0	0		0100	0	0	0	0	0	2	0	1	0	0	0	0	0	0	35.4	-	0	0	0	0	0	0
0200	0	0	0	0	0	0	0	0	0	0	0		0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0
0300	3	0	3	0	0	0	0	0	0	0	0		0300	0	0	0	0	0	3	0	0	0	0	0	0	0	0	32.8	-	0	0	0	0	0	0
0400	1	0	1	0	0	0	0	0	0	0	0		0400	0	0	0	0	0	1	0	0	0	0	0	0	0	0	31.3	-	0	0	0	0	0	0
07-19	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**07-19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-**	**-**	**0**	**0**	**0**	**0**	**0**
06-22	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-22**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-**	**-**	**0**	**0**	**0**	**0**	**0**
06-00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**06-00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-**	**-**	**0**	**0**	**0**	**0**	**0**
00-00	**8**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**00-00**	**0**	**0**	**0**	**0**	**1**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**32.9**	**-**	**0**	**0**	**0**	**0**	**0**	**0**

Virtual Day (Partial days = 1.04167)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 60	]PSL% 60	]SL1 68 ACPO	]SL1% 68 ACPO	]SL2 75 DFT	]SL2% 75 DFT
0000	1	0	1	0	0	0	0	0	0	0	0		0000	0	0	0	0	1	0	0	0	0	0	0	0	0	0	27.6	-	0	0	0	0	0	0
0100	3	0	3	0	0	0	0	0	0	0	0		0100	0	0	0	0	0	2	0	1	0	0	0	0	0	0	35.4	-	0	0	0	0	0	0
0200	0	0	0	0	0	0	0	0	0	0	0		0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0
0300	3	0	3	0	0	0	0	0	0	0	0		0300	0	0	0	0	0	3	0	0	0	0	0	0	0	0	32.8	-	0	0	0	0	0	0
0400	3	1	2	0	0	0	0	0	0	0	0		0400	1	1	0	0	0	1	0	0	0	0	0	0	0	0	15.1	-	0	0	0	0	0	0
0500	3	0	3	0	0	0	0	0	0	0	0		0500	0	0	0	0	1	2	0	0	0	0	0	0	0	0	31.9	-	0	0	0	0	0	0
0600	9	0	6	0	3	0	0	0	0	0	0		0600	0	0	0	2	4	0	3	0	0	0	0	0	0	0	29.9	-	0	0	0	0	0	0
0700	22	0	16	0	4	0	0	0	2	0	0		0700	0	0	0	0	5	7	4	5	1	0	0	0	0	0	35	41.2	0	0	0	0	0	0
0800	38	0	33	0	4	0	0	0	0	0	1		0800	0	0	0	0	4	14	14	6	0	0	0	0	0	0	35.4	39.8	0	0	0	0	0	0
0900	23	0	18	0	4	0	0	0	0	0	1		0900	0	0	0	3	5	7	5	3	0	0	0	0	0	0	32.5	37.6	0	0	0	0	0	0
1000	29	2	20	1	4	0	0	0	0	1	1		1000	1	2	0	1	7	10	5	2	1	0	0	0	0	0	31.2	37.8	0	0	0	0	0	0

1100	25	0	21	0	4	0	0	0	0	0	0	1100	0	0	0	0	6	10	8	1	0	0	0	0	0	0	33.1	36.7	0	0	0	0	0	0
1200	37	0	27	0	10	0	0	0	0	0	0	1200	0	1	0	5	6	18	6	1	0	0	0	0	0	0	30.8	35.3	0	0	0	0	0	0
1300	49	1	42	0	6	0	0	0	0	0	0	1300	0	1	2	2	13	17	10	4	0	0	0	0	0	0	31.8	37.4	0	0	0	0	0	0
1400	39	1	32	1	5	0	0	0	0	0	0	1400	0	0	1	5	10	11	5	6	1	0	0	0	0	0	32.1	40	0	0	0	0	0	0
1500	52	0	50	0	2	0	0	0	0	0	0	1500	0	0	1	3	9	18	16	3	2	0	0	0	0	0	33.6	39.1	0	0	0	0	0	0
1600	65	2	57	1	5	0	0	0	0	0	0	1600	0	1	2	2	10	22	20	8	0	0	0	0	0	0	33.6	38.7	0	0	0	0	0	0
1700	156	1	151	0	3	0	0	0	0	0	1	1700	0	0	1	3	41	44	47	17	3	0	0	0	0	0	33.8	38.9	0	0	0	0	0	0
1800	79	0	74	0	5	0	0	0	0	0	0	1800	0	0	0	0	14	24	25	11	3	2	0	0	0	0	35.8	40.9	0	0	0	0	0	0
1900	45	1	42	0	2	0	0	0	0	0	0	1900	1	1	2	5	9	15	7	3	2	0	0	0	0	0	31.3	38.9	0	0	0	0	0	0
2000	26	1	23	0	2	0	0	0	0	0	0	2000	0	0	0	1	4	5	10	3	1	2	0	0	0	0	36.7	42.5	0	0	0	0	0	0
2100	35	1	31	0	3	0	0	0	0	0	0	2100	0	0	0	0	8	18	5	2	1	1	0	0	0	0	33.7	38.5	0	0	0	0	0	0
2200	19	0	18	0	1	0	0	0	0	0	0	2200	0	0	0	0	5	5	7	2	0	0	0	0	0	0	34.8	39.4	0	0	0	0	0	0
2300	4	0	4	0	0	0	0	0	0	0	0	2300	0	0	0	0	2	1	0	1	0	0	0	0	0	0	32.6	-	0	0	0	0	0	0

Virtual Week (1)

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 60	]PSL% 60	]SL1 68 ACPO	]SL1% 68 ACPO	]SL2 75 DFT	]SL2% 75 DFT
Mon	0	0	0	0	0	0	0	0	0	0	0		Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Tue	0	0	0	0	0	0	0	0	0	0	0		Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Wed	0	0	0	0	0	0	0	0	0	0	0		Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
Thu	759	11	671	3	67	0	0	0	2	1	4		Thu	4	7	9	32	163	249	197	78	15	5	0	0	0	0	33.3	39.4	0	0	0	0	0	0
Fri	8	0	8	0	0	0	0	0	0	0	0		Fri	0	0	0	0	1	6	0	1	0	0	0	0	0	0	32.9	-	0	0	0	0	0	0
|Sat	0	0	0	0	0	0	0	0	0	0	0		|Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
|Sun	0	0	0	0	0	0	0	0	0	0	0		|Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
--	**767**	**11**	**679**	**3**	**67**	**0**	**0**	**0**	**2**	**1**	**4**		**--**	**4**	**7**	**9**	**32**	**164**	**255**	**197**	**79**	**15**	**5**	**0**	**0**	**0**	**0**	**33.3**	**39.4**	**0**	**0**	**0**	**0**	**0**	**0**

Grand Total

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 60	Vbin 60 70	Vbin 70 80	Vbin 80 90	Vbin 90 100	Mean	Vpp 85	]PSL 60	]PSL% 60	]SL1 68 ACPO	]SL1% 68 ACPO	]SL2 75 DFT	]SL2% 75 DFT
--	**767**	**11**	**679**	**3**	**67**	**0**	**0**	**0**	**2**	**1**	**4**		**--**	**4**	**7**	**9**	**32**	**164**	**255**	**197**	**79**	**15**	**5**	**0**	**0**	**0**	**0**	**33.3**	**39.4**	**0**	**0**	**0**	**0**	**0**	**0**

Automatic Traffic Counts Classification Scheme

Length	Axles & Groups		Vehicle Type	ARX Classification			
Type	**Axles**	**Groups**	**Description**	**Class**		**Parameters**	**Dominant Vehicle**
Short up to 5.5m	**Light Vehicles**						
	2	1 or 2	Very Short Bicycle or Motorcycle	MC	1	d(1) < 1.7 and axles = 2	
	2	1 or 2	Short Saloon, Hatchback, Estate, 4WD, Pick-Up, Light Van, Bicycle, Motorcycle, etc.	SV	2	d(1) > 1.7m. d(1) < = 3.2m and axles = 2	
Medium 5.5m to 14.5m	3, 4 or 5	3	Short - Towing Trailer, Caravan, Boat, etc.	SVT	3	groups = 3, d(1) > 2.1m. d(1) < = 3.2m. d(2) > = 2.1m and axles = 3,4,5	
	Heavy Vehicles						
	2	2	Two Axle Truck or Bus	TB2	4	d(1) > 3.2m and axles = 2	
	3	2	Three Axle Truck or Bus	TB3	5	axles = 3 and groups = 2	
	> 3	2	Four Axle Truck	T4	6	d(1) > 3.2m. axles = 3 and groups = 3	
Long 11.5m to 19.0m	3	3	Three Axle Articulated Three axle articulated vehicle or rigid vehicle and trailer	ART3	7	d(1) > 3.2m. Axles = 3 and groups = 3	
	4	> 2	Four Axle Articulated Four axle articulated vehicle or rigid vehicle and trailer	ART4	8	d(2) < 2.1m or d(1) < 2.1m or d(1) > 3.2m axles = 5 and groups < 2	
	5	> 2	Five Axle Articulated Five axle articulated vehicle or rigid vehicle and trailer	ART5	9	axles = 6 and groups > 2 or axles 6 and groups = 3	
	> = 6	> 2	Six Axle Articulated Six (or more) axle articulated vehicle or rigid vehicle and trailer	ART6	10	axles = 6 and groups >2 or axles > 6 and groups = 3	
	Ungrouped classes						
			Unclassifiable Vehicle		13		
			Unclassifiable Axle Event		0		

APPENDIX B: Nissan Technical Centre Survey Results

advanced transport research

Job Number & Name: 10846 Cranfield University

Site Number/Name: Nissan Access

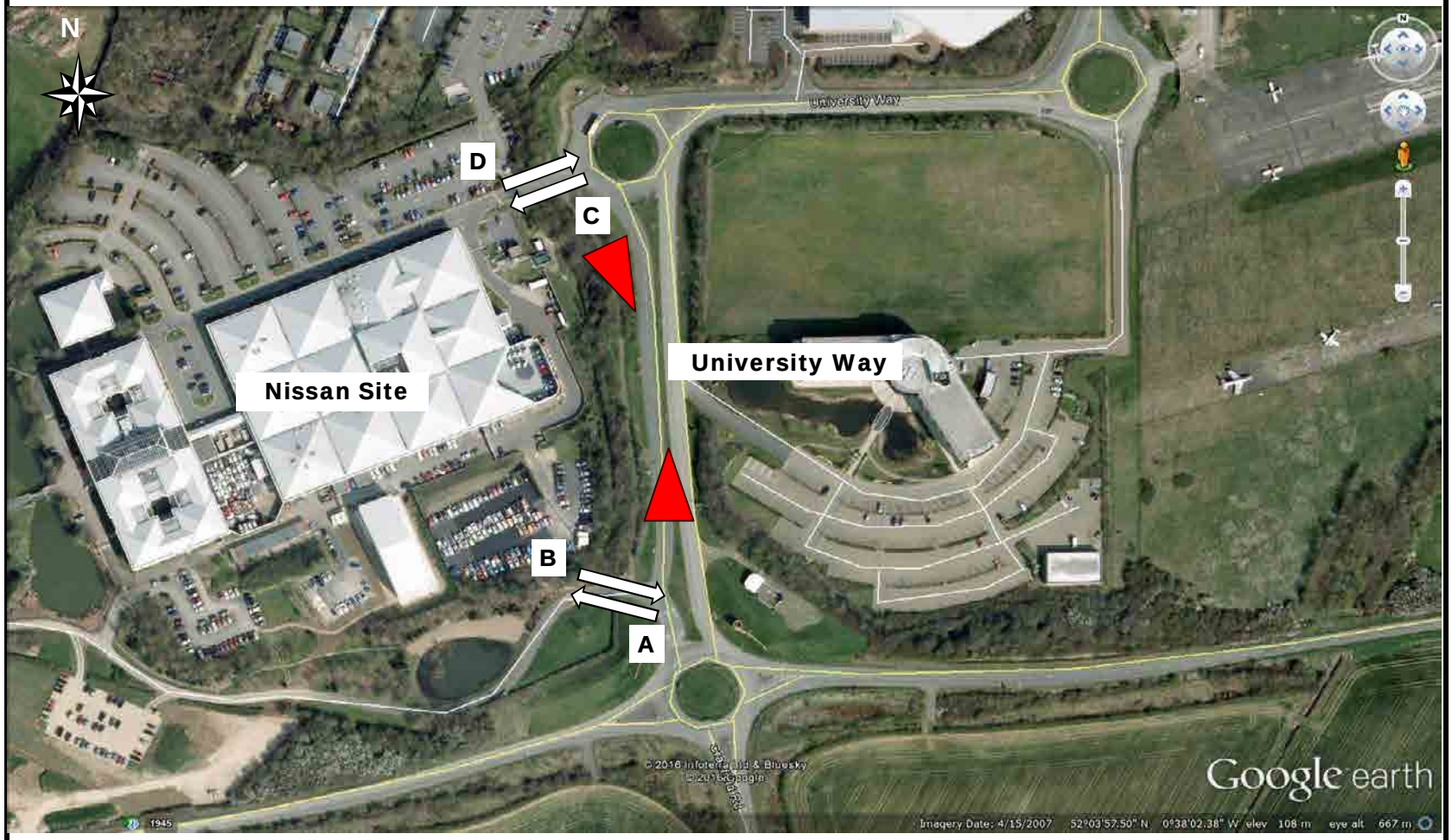
Client: Mayer Brown

Date: 03/03/2016

Weather: Cloudy, Dry

Comments: None

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield University**
Nissan Access	*Client:*	**Mayer Brown**
Site Plan	*Date:*	**Thursday 03 Mar 2016**



Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield University**
Nissan Access	*Client:*	**Mayer Brown**
Classified Counts	*Date:*	**Thursday 03 March 2016**

	Movement A							Movement B							Movement C							Movement D						
Times	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**
05:00 - 05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 - 05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	2	0	0	0	0	0	0
05:30 - 05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 - 06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**
06:00 - 06:15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 - 06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0
06:30 - 06:45	2	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 - 07:00	8	1	0	0	0	0	0	0	0	0	0	0	0	0	46	0	1	0	0	0	5	0	1	0	0	0	0	0
Hourly Total	**12**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**80**	**1**	**1**	**0**	**0**	**0**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
07:00 - 07:15	13	0	0	0	0	0	0	0	0	0	0	0	0	0	39	0	0	0	0	0	0	1	1	1	0	0	0	0
07:15 - 07:30	25	0	0	0	0	0	0	0	0	0	0	0	0	0	73	1	0	0	0	0	1	0	0	0	0	0	0	0
07:30 - 07:45	55	0	0	0	0	0	0	0	0	0	0	0	0	0	104	4	0	0	0	1	1	1	0	0	0	0	0	0
07:45 - 08:00	148	2	0	0	0	0	0	0	0	0	0	0	0	0	123	2	0	1	0	0	2	5	1	0	0	0	0	0
Hourly Total	**241**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**339**	**7**	**0**	**1**	**0**	**1**	**4**	**7**	**2**	**1**	**0**	**0**	**0**	**0**
08:00 - 08:15	66	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	5	0	0	0	0	0	0
08:15 - 08:30	19	0	0	0	0	0	0	0	0	0	0	0	0	0	12	2	1	0	0	0	0	5	1	0	0	0	0	0
08:30 - 08:45	16	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	1	0	0	0	0	0
08:45 - 09:00	8	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	1	0	1	0	0	0	0
Hourly Total	**109**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**52**	**3**	**1**	**0**	**0**	**0**	**0**	**15**	**2**	**1**	**0**	**0**	**0**	**0**
09:00 - 09:15	11	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0	1	2	0	0	0	0	0	0
09:15 - 09:30	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	3	1	0	0	0	0	0
09:30 - 09:45	5	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	7	1	0	1	0	0	0
09:45 - 10:00	7	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0
Hourly Total	**27**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**2**	**0**	**0**	**0**	**0**	**1**	**14**	**2**	**0**	**1**	**0**	**0**	**0**
10:00 - 10:15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	6	1	0	0	0	0	0
10:15 - 10:30	4	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	4	2	1	0	0	0	0

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield University**
Nissan Access	*Client:*	**Mayer Brown**
Classified Counts	*Date:*	**Thursday 03 March 2016**

	Movement A							Movement B							Movement C							Movement D						
Times	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**
10:30 - 10:45	2	0	0	0	0	0	0	0	1	0	0	0	0	0	4	1	0	0	0	0	0	3	1	0	0	0	0	0
10:45 - 11:00	5	3	0	0	0	0	0	0	1	0	0	0	0	0	1	2	1	0	0	0	0	1	1	0	0	0	0	0
Hourly Total	**13**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**9**	**6**	**1**	**0**	**0**	**0**	**0**	**14**	**5**	**1**	**0**	**0**	**0**	**0**
11:00 - 11:15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	9	1	0	0	0	0	0
11:15 - 11:30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	1	0	0	0	0	0
11:30 - 11:45	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	6	1	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	3	0	0	0	0	0	0
Hourly Total	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**2**	**0**	**1**	**0**	**0**	**0**	**22**	**3**	**0**	**0**	**0**	**0**	**0**
12:00 - 12:15	3	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	10	1	0	0	0	0	0
12:15 - 12:30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	1	0	0	0	0	12	1	1	0	0	0	0
12:30 - 12:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	8	1	0	0	0	0	0
12:45 - 13:00	5	1	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	4	0	1	0	0	0	0
Hourly Total	**9**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**4**	**1**	**0**	**0**	**0**	**0**	**34**	**3**	**2**	**0**	**0**	**0**	**0**
13:00 - 13:15	5	1	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	12	3	0	0	0	0	0
13:15 - 13:30	6	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	3	0	0	0	0	0	0
13:30 - 13:45	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	8	1	0	0	0	0	0
13:45 - 14:00	0	1	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	8	1	0	0	0	0	0
Hourly Total	**13**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**31**	**5**	**0**	**0**	**0**	**0**	**0**
14:00 - 14:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	6	2	0	0	0	0	0
14:15 - 14:30	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	6	1	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	6	0	0	0	0	0	0
14:45 - 15:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	9	1	0	0	0	0	0
Hourly Total	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**2**	**0**	**0**	**0**	**0**	**0**	**27**	**4**	**0**	**0**	**0**	**0**	**0**
15:00 - 15:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	1	0	0	0	0	0
15:15 - 15:30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	8	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	10	1	0	0	0	0	0
15:45 - 16:00	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	13	1	0	0	0	0	1

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield University**
Nissan Access	*Client:*	**Mayer Brown**
Classified Counts	*Date:*	**Thursday 03 March 2016**

	Movement A							Movement B							Movement C							Movement D						
Times	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**
Hourly Total	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**2**	**0**	**0**	**0**	**0**	**0**	**44**	**3**	**0**	**0**	**0**	**0**	**1**
16:00 - 16:15	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	17	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	12	1	0	0	0	0	0
16:30 - 16:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	14	0	0	0	0	0	0
16:45 - 17:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	2	0	0	0	0	0
Hourly Total	**6**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**63**	**3**	**0**	**0**	**0**	**0**	**0**
17:00 - 17:15	5	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	189	4	0	0	0	0	3
17:15 - 17:30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	98	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	63	0	0	0	0	1	0
17:45 - 18:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	59	1	0	0	0	0	0
Hourly Total	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**409**	**5**	**0**	**0**	**0**	**1**	**3**
18:00 - 18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89	1	0	0	0	0	1
18:15 - 18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	1
18:30 - 18:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	0	0	0	0	0	3
18:45 - 19:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	1
Hourly Total	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**215**	**1**	**0**	**0**	**0**	**0**	**6**
19:00 - 19:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0
19:15 - 19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	20	0	0	0	0	0	0
19:30 - 19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	20	0	0	0	0	0	0
19:45 - 20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	18	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**87**	**0**	**0**	**0**	**0**	**0**	**0**
20:00 - 20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0
20:15 - 20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0
20:30 - 20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
20:45 - 21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**35**	**0**	**0**	**0**	**0**	**0**	**0**
21:00 - 21:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield University**
Nissan Access	*Client:*	**Mayer Brown**
Classified Counts	*Date:*	**Thursday 03 March 2016**

	Movement A							Movement B							Movement C							Movement D						
Times	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**
21:15 - 21:30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
21:30 - 21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	11	0	0	0	0	0	0
21:45 - 22:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
Hourly Total	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**0**
22:00 - 22:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15 - 22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
22:30 - 22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45 - 23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
23:00 - 23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
23:15 - 23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30 - 23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
23:45 - 00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**
00:00 - 00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
00:15 - 00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
00:30 - 00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45 - 01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
01:00 - 01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 - 01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 - 01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 - 02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
02:00 - 02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 - 02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 - 02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield University**
Nissan Access	*Client:*	**Mayer Brown**
Classified Counts	*Date:*	**Thursday 03 March 2016**

	Movement A							Movement B							Movement C							Movement D						
Times	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**	**Cars**	**LGV**	**OGV1**	**OGV2**	**PSV**	**M/B**	**Cyc**
02:45 - 03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
03:00 - 03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 - 03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 - 03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 - 04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
04:00 - 04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 - 04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 - 04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 - 05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

APPENDIX C: ANPR Survey Results

advanced transport research

Job Number & Name: 10846 Cranfield

Site Number/Name: Cranfield University

Client: Mayer Brown

Date: 03/03/2016

Weather: Cloudy, Dry

Comments: None

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Site Plan	*Date:*	**Thursday 03 March 2016**

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Flow Counts	*Date:*	**Thursday 03 March 2016**

TIME	001		002		003		004		005		006	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
07:00	12	4	56	2	5	0	45	4	3	1	12	1
07:15	13	1	84	2	17	4	61	2	2	1	16	1
07:30	13	3	128	4	13	1	102	4	7	4	20	0
07:45	41	1	163	1	17	3	147	3	7	0	26	1
08:00	30	1	107	3	14	0	134	3	9	0	27	0
08:15	26	3	134	4	18	2	150	2	6	0	29	2
08:30	35	6	124	3	20	2	182	3	14	1	33	1
08:45	25	2	145	4	16	3	187	0	8	1	33	0
09:00	12	1	102	2	18	0	110	4	4	1	28	0
09:15	20	5	53	2	14	1	62	4	7	2	14	0
09:30	18	2	32	2	9	1	29	2	3	1	15	1
09:45	14	3	28	3	9	2	32	0	5	0	9	0
TOTAL	**259**	**32**	**1156**	**32**	**170**	**19**	**1241**	**31**	**75**	**12**	**262**	**7**

16:00	62	0	25	5	64	2	12	0	14	1	4	0
16:15	49	4	17	2	53	1	25	0	16	1	5	1
16:30	72	0	20	3	81	0	14	1	12	1	8	1
16:45	77	2	13	0	55	1	20	1	20	1	11	0
17:00	244	1	29	2	176	0	20	2	49	1	7	0
17:15	145	3	35	3	132	3	26	0	38	0	6	0
17:30	178	2	17	3	175	2	15	0	40	0	7	1
17:45	112	0	19	1	83	2	22	2	30	0	16	1
18:00	124	2	28	1	101	1	19	0	25	0	7	1
18:15	87	3	20	3	56	0	18	0	23	1	16	0
18:30	89	1	23	2	62	0	27	0	20	0	10	0
18:45	50	0	13	2	37	0	10	2	12	0	5	0
TOTAL	**1289**	**18**	**259**	**27**	**1075**	**12**	**228**	**8**	**299**	**6**	**102**	**5**

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
ANPR Comparison	*Date:*	**Thursday 03 March 2016**

TIME	001			002			003			004			005			006		
	Count	ANPR	%	Count	ANPR	%	Count	ANPR	%	Count	ANPR	%	Count	ANPR	%	Count	ANPR	%
07:00	16	11	69%	58	47	81%	5	5	100%	49	44	90%	4	3	75%	13	10	77%
07:15	14	13	93%	86	75	87%	21	16	76%	63	61	97%	3	3	100%	17	16	94%
07:30	16	15	94%	132	116	88%	14	14	100%	106	89	84%	11	11	100%	20	15	75%
07:45	42	25	60%	164	153	93%	20	16	80%	150	141	94%	7	7	100%	27	23	85%
08:00	31	20	65%	110	84	76%	14	14	100%	137	137	100%	9	7	78%	27	26	96%
08:15	29	27	93%	138	99	72%	20	16	80%	152	147	97%	6	6	100%	31	31	100%
08:30	41	34	83%	127	97	76%	22	22	100%	185	176	95%	15	15	100%	34	28	82%
08:45	27	25	93%	149	107	72%	19	17	89%	187	185	99%	9	8	89%	33	32	97%
09:00	13	10	77%	104	92	88%	18	17	94%	114	114	100%	5	5	100%	28	27	96%
09:15	25	25	100%	55	48	87%	15	13	87%	66	65	98%	9	9	100%	14	14	100%
09:30	20	17	85%	34	25	74%	10	10	100%	31	29	94%	4	4	100%	16	16	100%
09:45	17	16	94%	31	21	68%	11	10	91%	32	31	97%	5	5	100%	9	8	89%
TOTAL	**291**	**238**	**82%**	**1188**	**964**	**81%**	**189**	**170**	**90%**	**1272**	**1219**	**96%**	**87**	**83**	**95%**	**269**	**246**	**91%**
16:00	62	48	77%	30	23	77%	66	60	91%	12	8	67%	15	11	73%	4	3	75%
16:15	53	41	77%	19	19	100%	54	53	98%	25	19	76%	17	17	100%	6	4	67%
16:30	72	60	83%	23	21	91%	81	69	85%	15	13	87%	13	12	92%	9	5	56%
16:45	79	62	78%	13	11	85%	56	53	95%	21	20	95%	21	20	95%	11	11	100%
17:00	245	182	74%	31	29	94%	176	151	86%	22	19	86%	50	48	96%	7	6	86%
17:15	148	115	78%	38	30	79%	135	131	97%	26	24	92%	38	38	100%	6	6	100%
17:30	180	139	77%	20	10	50%	177	119	67%	15	9	60%	40	37	93%	8	5	63%
17:45	112	103	92%	20	16	80%	85	82	96%	24	21	88%	30	29	97%	17	12	71%
18:00	126	97	77%	29	25	86%	102	96	94%	19	18	95%	25	25	100%	8	8	100%
18:15	90	72	80%	23	23	100%	56	55	98%	18	17	94%	24	24	100%	16	12	75%
18:30	90	66	73%	25	21	84%	62	59	95%	27	21	78%	20	20	100%	10	9	90%
18:45	50	39	78%	15	15	100%	37	32	86%	12	10	83%	12	12	100%	5	1	20%
TOTAL	**1307**	**1024**	**78%**	**286**	**243**	**85%**	**1087**	**960**	**88%**	**236**	**199**	**84%**	**305**	**293**	**96%**	**107**	**82**	**77%**

Advanced Transport Research

Cranfield University

ANPR Comparison

TIME	001	002	003	004	005	006
	%	%	%	%	%	%
07:00	69%	81%	###	90%	75%	77%
07:15	93%	87%	76%	97%	###	94%
07:30	94%	88%	###	84%	###	75%
07:45	60%	93%	80%	94%	###	85%
08:00	65%	76%	###	###	78%	96%
08:15	93%	72%	80%	97%	###	###
08:30	83%	76%	###	95%	###	82%
08:45	93%	72%	89%	99%	89%	97%
09:00	77%	88%	94%	###	###	96%
09:15	###	87%	87%	98%	###	###
09:30	85%	74%	###	94%	###	###
09:45	94%	68%	91%	97%	###	89%
Total	82%	81%	90%	96%	95%	91%

16:00	77%	77%	91%	67%	73%	75%
16:15	77%	###	98%	76%	###	67%
16:30	83%	91%	85%	87%	92%	56%
16:45	78%	85%	95%	95%	95%	###
17:00	74%	94%	86%	86%	96%	86%
17:15	78%	79%	97%	92%	###	###
17:30	77%	50%	67%	60%	93%	63%
17:45	92%	80%	96%	88%	97%	71%
18:00	77%	86%	94%	95%	###	###
18:15	80%	###	98%	94%	###	75%
18:30	73%	84%	95%	78%	###	90%
18:45	78%	###	86%	83%	###	20%
Total	78%	85%	88%	84%	96%	77%

advanced transport research

Job Number & Name: 10846 Cranfield

Site Number/Name: Cranfield University

Client: Mayer Brown

Date: 03/03/2016

Weather: Cloudy, Dry

Comments: None

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Site Plan	*Date:*	**Thursday 03 March 2016**

Advanced Transport Research
Cranfield University

Matching Matrix: 0700 - 0715	Matching Matrix: 0715 - 0730	Matching Matrix: 0730 - 0745	Matching Matrix 0745 - 0800

Job Number & Name: **10846 Cranfield**
Client: **Mayer Brown**
Date: **Thursday 03 March 2016**

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	4	1	0	5	58	8.6%
004 (College Road)	7	2	3	12	49	24.5%
006 (Bedfordshire)	0	0	0	0	13	0.0%
Total	11	3	3	34		
Manual Count	16	5	4		145	
	68.8%	60.0%	75.0%			23.4%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	3	5	0	8	86	9.3%
004 (College Road)	4	2	1	7	63	11.1%
006 (Bedfordshire)	2	2	0	4	17	23.5%
Total	9	9	1	38		
Manual Count	14	21	3		204	
	64.3%	42.9%	33.3%			18.6%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	4	3	1	8	132	6.1%
004 (College Road)	10	2	8	20	106	18.9%
006 (Bedfordshire)	0	2	0	2	20	10.0%
Total	14	7	9	60		
Manual Count	16	14	11		299	
	87.5%	50.0%	81.8%			20.1%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	5	1	8	164	4.9%
004 (College Road)	14	6	3	23	150	15.3%
006 (Bedfordshire)	1	0	0	1	27	3.7%
Total	17	11	4	64		
Manual Count	42	20	7		410	
	40.5%	55.0%	57.1%			15.6%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	1		3	56	5.4%
004 (College Road)	6	2	3	11	45	24.4%
006 (Bedfordshire)				0	12	0.0%
Total	8	3	3	28		
Manual Count	12	5	3		133	
	66.7%	60.0%	100.0%			21.1%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	4		6	84	7.1%
004 (College Road)	4	2	1	7	61	11.5%
006 (Bedfordshire)	2	2		4	16	25.0%
Total	8	8	1	34		
Manual Count	13	17	2		193	
	61.5%	47.1%	50.0%			17.6%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	3	2	1	6	128	4.7%
004 (College Road)	10	2	7	19	102	18.6%
006 (Bedfordshire)		2		2	20	10.0%
Total	13	6	8	54		
Manual Count	13	13	7		283	
	100.0%	46.2%	114.3%			19.1%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	5	1	8	163	4.9%
004 (College Road)	14	6	3	23	147	15.6%
006 (Bedfordshire)	1			1	26	3.8%
Total	17	11	4	64		
Manual Count	41	17	7		401	
	41.5%	64.7%	57.1%			16.0%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2			2	2	100.0%
004 (College Road)	1			1	4	25.0%
006 (Bedfordshire)				0	1	0.0%
Total	3	0	0	6		
Manual Count	4	0	1		12	
	75.0%	#DIV/0!	0.0%			50.0%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1	1		2	2	100.0%
004 (College Road)				0	2	0.0%
006 (Bedfordshire)				0	1	0.0%
Total	1	1	0	4		
Manual Count	1	4	1		11	
	100.0%	25.0%	0.0%			36.4%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1	1		2	4	50.0%
004 (College Road)			1	1	4	25.0%
006 (Bedfordshire)				0	0	#DIV/0!
Total	1	1	1	6		
Manual Count	3	1	4		16	
	33.3%	100.0%	25.0%			37.5%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	1	0.0%
004 (College Road)				0	3	0.0%
006 (Bedfordshire)				0	1	0.0%
Total	0	0	0	0		
Manual Count	1	3	0		9	
	0.0%	0.0%	#DIV/0!			0.0%

Advanced Transport Research
Cranfield University

Matching Matrix: 0800 - 0815	Matching Matrix: 0815 - 0830	Matching Matrix: 0830 - 0845	Matching Matrix 0845 - 0900

Job Number & Name: **10846 Cranfield**
Client: **Mayer Brown**
Date: **Thursday 03 March 2016**

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	5	4	0	9	110	8.2%
004 (College Road)	11	4	8	23	137	16.8%
006 (Bedfordshire)	1	3	2	6	27	22.2%
Total	17	11	10	76		
Manual Count	31	14	9		328	
	54.8%	78.6%	111.1%			23.2%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	6	6	0	12	138	8.7%
004 (College Road)	15	3	4	22	152	14.5%
006 (Bedfordshire)	0	1	0	1	31	3.2%
Total	21	10	4	70		
Manual Count	29	20	6		376	
	72.4%	50.0%	66.7%			18.6%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	9	1	12	127	9.4%
004 (College Road)	16	7	7	30	185	16.2%
006 (Bedfordshire)	1	2	1	4	34	11.8%
Total	19	18	9	92		
Manual Count	41	22	15		424	
	46.3%	81.8%	60.0%			21.7%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1	4	0	5	149	3.4%
004 (College Road)	8	7	4	19	187	10.2%
006 (Bedfordshire)	1	0	4	5	33	15.2%
Total	10	11	8	58		
Manual Count	27	19	9		424	
	37.0%	57.9%	88.9%			13.7%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	4	4		8	107	7.5%
004 (College Road)	10	4	8	22	134	16.4%
006 (Bedfordshire)	1	3	2	6	27	22.2%
Total	15	11	10	72		
Manual Count	30	14	9		321	
	50.0%	78.6%	111.1%			22.4%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	3	6		9	134	6.7%
004 (College Road)	15	3	4	22	150	14.7%
006 (Bedfordshire)		1		1	29	3.4%
Total	18	10	4	64		
Manual Count	26	18	6		363	
	69.2%	55.6%	66.7%			17.6%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	7	1	10	124	8.1%
004 (College Road)	13	7	6	26	182	14.3%
006 (Bedfordshire)	1	1	1	3	33	9.1%
Total	16	15	8	78		
Manual Count	35	20	14		408	
	45.7%	75.0%	57.1%			19.1%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1	2		3	145	2.1%
004 (College Road)	8	7	4	19	187	10.2%
006 (Bedfordshire)	1		4	5	33	15.2%
Total	10	9	8	54		
Manual Count	25	16	8		414	
	40.0%	56.3%	100.0%			13.0%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1			1	3	33.3%
004 (College Road)	1			1	3	33.3%
006 (Bedfordshire)				0	0	#DIV/0!
Total	2	0	0	4		
Manual Count	1	0	0		7	
	200.0%	#DIV/0!	#DIV/0!			57.1%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	3			3	4	75.0%
004 (College Road)				0	2	0.0%
006 (Bedfordshire)				0	2	0.0%
Total	3	0	0	6		
Manual Count	3	2	0		13	
	100.0%	0.0%	#DIV/0!			46.2%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)		2		2	3	66.7%
004 (College Road)	3		1	4	3	133.3%
006 (Bedfordshire)		1		1	1	100.0%
Total	3	3	1	14		
Manual Count	6	2	1		16	
	50.0%	150.0%	100.0%			87.5%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)		2		2	4	50.0%
004 (College Road)				0	0	#DIV/0!
006 (Bedfordshire)				0	0	#DIV/0!
Total	0	2	0	4		
Manual Count	2	3	1		10	
	0.0%	66.7%	0.0%			40.0%

Advanced Transport Research
Cranfield University

Matching Matrix: 0900 - 0915	Matching Matrix: 0915 - 0930	Matching Matrix: 0930 - 0945	Matching Matrix 0945 - 1000
			Job Number & Name: **10846 Cranfield**
			Client: **Mayer Brown**
			Date: **Thursday 03 March 2016**

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	8	5	2	15	104	14.4%
004 (College Road)	3	3	2	8	114	7.0%
006 (Bedfordshire)	0	3	0	3	28	10.7%
Total	11	11	4	52		
Manual Count	13	18	5		282	
	84.6%	61.1%	80.0%			18.4%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	3	1	1	5	55	9.1%
004 (College Road)	4	0	3	7	66	10.6%
006 (Bedfordshire)	2	1	1	4	14	28.6%
Total	9	2	5	32		
Manual Count	25	15	9		184	
	36.0%	13.3%	55.6%			17.4%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	0	1	3	34	8.8%
004 (College Road)	4	1	0	5	31	16.1%
006 (Bedfordshire)	0	0	1	1	16	6.3%
Total	6	1	2	18		
Manual Count	20	10	4		115	
	30.0%	10.0%	50.0%			15.7%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1	1	0	2	31	6.5%
004 (College Road)	6	0	1	7	32	21.9%
006 (Bedfordshire)	0	0	1	1	9	11.1%
Total	7	1	2	20		
Manual Count	17	11	5		105	
	41.2%	9.1%	40.0%			19.0%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	8	5	2	15	102	14.7%
004 (College Road)	3	3	2	8	110	7.3%
006 (Bedfordshire)		3		3	28	10.7%
Total	11	11	4	52		
Manual Count	12	18	4		274	
	91.7%	61.1%	100.0%			19.0%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1	1	1	3	53	5.7%
004 (College Road)	3		2	5	62	8.1%
006 (Bedfordshire)	2	1	1	4	14	28.6%
Total	6	2	4	24		
Manual Count	20	14	7		170	
	30.0%	14.3%	57.1%			14.1%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2			2	32	6.3%
004 (College Road)	3	1		4	29	13.8%
006 (Bedfordshire)			1	1	15	6.7%
Total	5	1	1	14		
Manual Count	18	9	3		106	
	27.8%	11.1%	33.3%			13.2%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1	1		2	28	7.1%
004 (College Road)	6		1	7	32	21.9%
006 (Bedfordshire)			1	1	9	11.1%
Total	7	1	2	20		
Manual Count	14	9	5		97	
	50.0%	11.1%	40.0%			20.6%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	2	0.0%
004 (College Road)				0	4	0.0%
006 (Bedfordshire)				0	0	#DIV/0!
Total	0	0	0	0		
Manual Count	1	0	1		8	
	0.0%	#DIV/0!	0.0%			0.0%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2			2	2	100.0%
004 (College Road)	1		1	2	4	50.0%
006 (Bedfordshire)				0	0	#DIV/0!
Total	3	0	1	8		
Manual Count	5	1	2		14	
	60.0%	0.0%	50.0%			57.1%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)			1	1	2	50.0%
004 (College Road)	1			1	2	50.0%
006 (Bedfordshire)				0	1	0.0%
Total	1	0	1	4		
Manual Count	2	1	1		9	
	50.0%	0.0%	100.0%			44.4%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	3	0.0%
004 (College Road)				0	0	#DIV/0!
006 (Bedfordshire)				0	0	#DIV/0!
Total	0	0	0	0		
Manual Count	3	2	0		8	
	0.0%	0.0%	#DIV/0!			0.0%

Advanced Transport Research
Cranfield University

Matching Matrix: 1600 - 1615	Matching Matrix: 1615 - 1630	Matching Matrix: 1630 - 1645	Matching Matrix 1645 - 1700

Job Number & Name: **10846 Cranfield**
Client: **Mayer Brown**
Date: **Thursday 03 March 2016**

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	5	8	0	13	30	43.3%
004 (College Road)	4	0	0	4	12	33.3%
006 (Bedfordshire)	0	1	0	1	4	25.0%
Total	9	9	0	36		
Manual Count	62	66	15		189	
	14.5%	13.6%	0.0%			19.0%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	8	2	12	19	63.2%
004 (College Road)	3	5	1	9	25	36.0%
006 (Bedfordshire)	1	1	0	2	6	33.3%
Total	6	14	3	46		
Manual Count	53	54	17		174	
	11.3%	25.9%	17.6%			26.4%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	3	8	2	13	23	56.5%
004 (College Road)	2	3	0	5	15	33.3%
006 (Bedfordshire)	2	2	0	4	9	44.4%
Total	7	13	2	44		
Manual Count	72	81	13		213	
	9.7%	16.0%	15.4%			20.7%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	0	1	3	13	23.1%
004 (College Road)	5	2	2	9	21	42.9%
006 (Bedfordshire)	0	3	1	4	11	36.4%
Total	7	5	4	32		
Manual Count	79	56	21		201	
	8.9%	8.9%	19.0%			15.9%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	7		9	25	36.0%
004 (College Road)	4			4	12	33.3%
006 (Bedfordshire)		1		1	4	25.0%
Total	6	8	0	28		
Manual Count	62	64	14		181	
	9.7%	12.5%	0.0%			15.5%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	8	2	12	17	70.6%
004 (College Road)	3	5	1	9	25	36.0%
006 (Bedfordshire)	1	1		2	5	40.0%
Total	6	14	3	46		
Manual Count	49	53	16		165	
	12.2%	26.4%	18.8%			27.9%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	3	8	2	13	20	65.0%
004 (College Road)	2	3		5	14	35.7%
006 (Bedfordshire)	2	2		4	8	50.0%
Total	7	13	2	44		
Manual Count	72	81	12		207	
	9.7%	16.0%	16.7%			21.3%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2		1	3	13	23.1%
004 (College Road)	5	2	2	9	20	45.0%
006 (Bedfordshire)		2	1	3	11	27.3%
Total	7	4	4	30		
Manual Count	77	55	20		196	
	9.1%	7.3%	20.0%			15.3%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	3	1		4	5	80.0%
004 (College Road)				0	0	#DIV/0!
006 (Bedfordshire)				0	0	#DIV/0!
Total	3	1	0	8		
Manual Count	0	2	1		8	
	#DIV/0!	50.0%	0.0%			100.0%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	2	0.0%
004 (College Road)				0	0	#DIV/0!
006 (Bedfordshire)				0	1	0.0%
Total	0	0	0	0		
Manual Count	4	1	1		9	
	0.0%	0.0%	0.0%			0.0%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	3	0.0%
004 (College Road)				0	1	0.0%
006 (Bedfordshire)				0	1	0.0%
Total	0	0	0	0		
Manual Count	0	0	1		6	
	#DIV/0!	#DIV/0!	0.0%			0.0%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	0	#DIV/0!
004 (College Road)				0	1	0.0%
006 (Bedfordshire)		1		1	0	#DIV/0!
Total	0	1	0	2		
Manual Count	2	1	1		5	
	0.0%	100.0%	0.0%			40.0%

Advanced Transport Research
Cranfield University

Matching Matrix: 1700 - 1715	Matching Matrix: 1715 - 1730	Matching Matrix: 1730 - 1745	Matching Matrix 1745 - 1800
			Job Number & Name: 10846 Cranfield
			Client: Mayer Brown
			Date: Thursday 03 March 2016

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	5	9	2	16	31	51.6%
004 (College Road)	5	4	2	11	22	50.0%
006 (Bedfordshire)	0	2	1	3	7	42.9%
Total	10	15	5	60		
Manual Count	245	176	50		531	
	4.1%	8.5%	10.0%			11.3%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	4	10	3	17	38	44.7%
004 (College Road)	8	3	2	13	26	50.0%
006 (Bedfordshire)	0	3	0	3	6	50.0%
Total	12	16	5	66		
Manual Count	148	135	38		391	
	8.1%	11.9%	13.2%			16.9%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	0	1	1	2	20	10.0%
004 (College Road)	1	2	0	3	15	20.0%
006 (Bedfordshire)	1	1	1	3	8	37.5%
Total	2	4	2	16		
Manual Count	180	177	40		440	
	1.1%	2.3%	5.0%			3.6%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1	4	1	6	20	30.0%
004 (College Road)	3	1	4	8	24	33.3%
006 (Bedfordshire)	1	0	0	1	17	5.9%
Total	5	5	5	30		
Manual Count	112	85	30		288	
	4.5%	5.9%	16.7%			10.4%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	4	9	2	15	29	51.7%
004 (College Road)	4	4	2	10	20	50.0%
006 (Bedfordshire)		2	1	3	7	42.9%
Total	8	15	5	56		
Manual Count	244	176	49		525	
	3.3%	8.5%	10.2%			10.7%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	3	10	3	16	35	45.7%
004 (College Road)	8	3	2	13	26	50.0%
006 (Bedfordshire)		3		3	6	50.0%
Total	11	16	5	64		
Manual Count	145	132	38		382	
	7.6%	12.1%	13.2%			16.8%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)		1	1	2	17	11.8%
004 (College Road)	1	2		3	15	20.0%
006 (Bedfordshire)	1	1	1	3	7	42.9%
Total	2	4	2	16		
Manual Count	178	175	40		432	
	1.1%	2.3%	5.0%			3.7%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1	3	1	5	19	26.3%
004 (College Road)	3	1	4	8	22	36.4%
006 (Bedfordshire)	1			1	16	6.3%
Total	5	4	5	28		
Manual Count	112	83	30		282	
	4.5%	4.8%	16.7%			9.9%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1			1	2	50.0%
004 (College Road)	1			1	2	50.0%
006 (Bedfordshire)				0	0	#DIV/0!
Total	2	0	0	4		
Manual Count	1	0	1		6	
	200.0%	#DIV/0!	0.0%			66.7%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	1			1	3	33.3%
004 (College Road)				0	0	#DIV/0!
006 (Bedfordshire)				0	0	#DIV/0!
Total	1	0	0	2		
Manual Count	3	3	0		9	
	33.3%	0.0%	#DIV/0!			22.2%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	3	0.0%
004 (College Road)				0	0	#DIV/0!
006 (Bedfordshire)				0	1	0.0%
Total	0	0	0	0		
Manual Count	2	2	0		8	
	0.0%	0.0%	#DIV/0!			0.0%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)		1		1	1	100.0%
004 (College Road)				0	2	0.0%
006 (Bedfordshire)				0	1	0.0%
Total	0	1	0	2		
Manual Count	0	2	0		6	
	#DIV/0!	50.0%	#DIV/0!			33.3%

Advanced Transport Research
Cranfield University

Matching Matrix: 1800 - 1815	Matching Matrix: 1815 - 1830	Matching Matrix: 1830 - 1845	Matching Matrix 1845 - 1900
		Job Number & Name:	**10846 Cranfield**
		Client:	**Mayer Brown**
		Date:	**Thursday 03 March 2016**

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	0	9	2	11	29	37.9%
004 (College Road)	2	4	0	6	19	31.6%
006 (Bedfordshire)	0	2	1	3	8	37.5%
Total	2	15	3	40		
Manual Count	126	102	25		309	
	1.6%	14.7%	12.0%			12.9%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	4	3	9	23	39.1%
004 (College Road)	0	2	2	4	18	22.2%
006 (Bedfordshire)	0	3	1	4	16	25.0%
Total	2	9	6	34		
Manual Count	90	56	24		227	
	2.2%	16.1%	25.0%			15.0%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	0	7	2	9	25	36.0%
004 (College Road)	5	1	1	7	27	25.9%
006 (Bedfordshire)	1	1	2	4	10	40.0%
Total	6	9	5	40		
Manual Count	90	62	20		234	
	6.7%	14.5%	25.0%			17.1%

All Vehicles

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	2	0	4	15	26.7%
004 (College Road)	3	1	1	5	12	41.7%
006 (Bedfordshire)	0	0	1	1	5	20.0%
Total	5	3	2	20		
Manual Count	50	37	12		131	
	10.0%	8.1%	16.7%			15.3%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)		9	2	11	28	39.3%
004 (College Road)	2	4		6	19	31.6%
006 (Bedfordshire)		2	1	3	7	42.9%
Total	2	15	3	40		
Manual Count	124	101	25		304	
	1.6%	14.9%	12.0%			13.2%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	4	3	9	20	45.0%
004 (College Road)		2	2	4	18	22.2%
006 (Bedfordshire)		3	1	4	16	25.0%
Total	2	9	6	34		
Manual Count	87	56	23		220	
	2.3%	16.1%	26.1%			15.5%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)		7	2	9	23	39.1%
004 (College Road)	5	1	1	7	27	25.9%
006 (Bedfordshire)	1	1	2	4	10	40.0%
Total	6	9	5	40		
Manual Count	89	62	20		231	
	6.7%	14.5%	25.0%			17.3%

Class 1 (Car & LGV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)	2	2		4	13	30.8%
004 (College Road)	3	1	1	5	10	50.0%
006 (Bedfordshire)			1	1	5	20.0%
Total	5	3	2	20		
Manual Count	50	37	12		127	
	10.0%	8.1%	16.7%			15.7%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	1	0.0%
004 (College Road)				0	0	#DIV/0!
006 (Bedfordshire)				0	1	0.0%
Total	0	0	0	0		
Manual Count	2	1	0		5	
	0.0%	0.0%	#DIV/0!			0.0%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	3	0.0%
004 (College Road)				0	0	#DIV/0!
006 (Bedfordshire)				0	0	#DIV/0!
Total	0	0	0	0		
Manual Count	3	0	1		7	
	0.0%	#DIV/0!	0.0%			0.0%

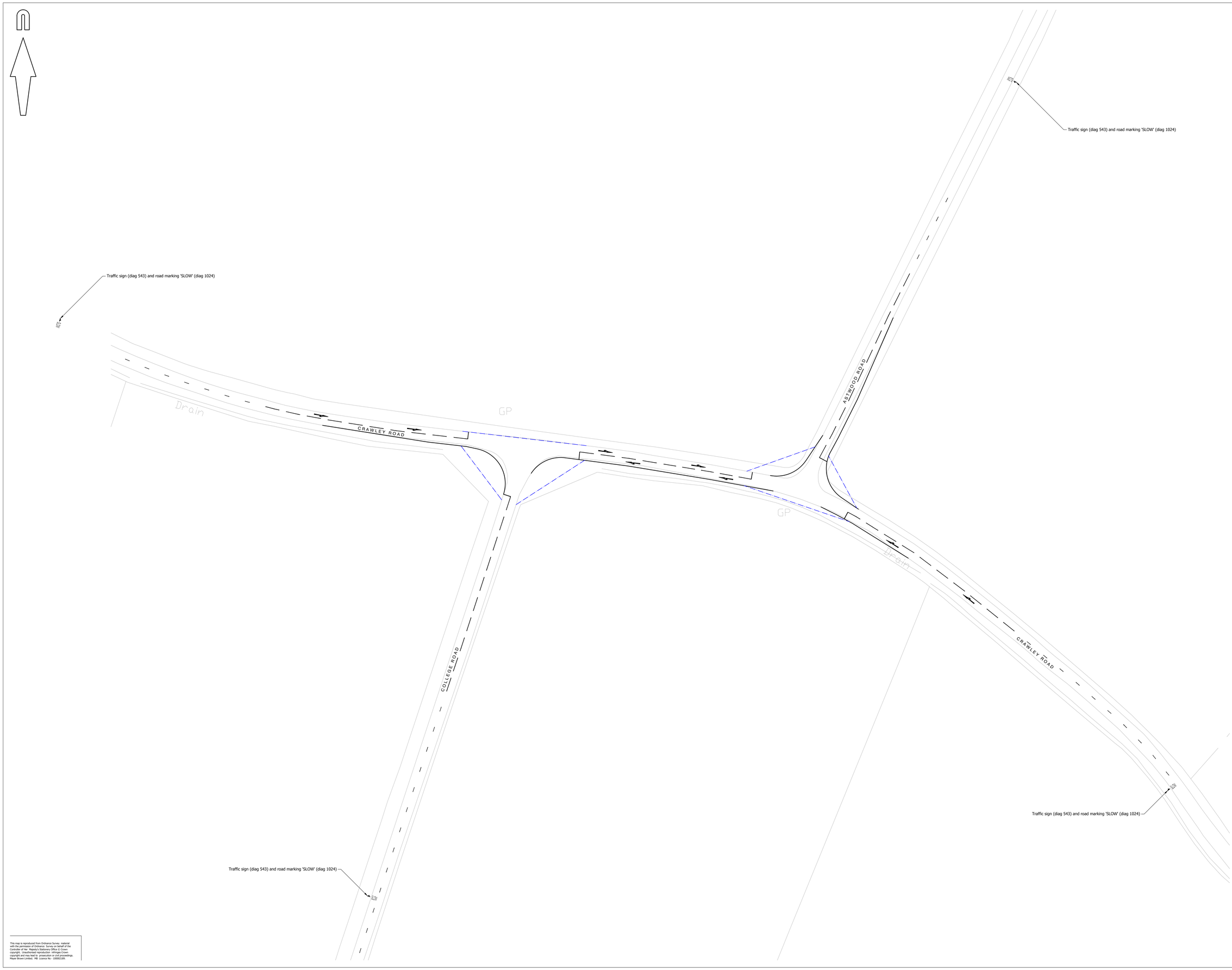
Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	2	0.0%
004 (College Road)				0	0	#DIV/0!
006 (Bedfordshire)				0	0	#DIV/0!
Total	0	0	0	0		
Manual Count	1	0	0		3	
	0.0%	#DIV/0!	#DIV/0!			0.0%

Class 2 (HGV & PSV)

From	To 001 (University Way)	To 003 (College Road)	To 005 (Bedfordshire)	Total	Manual Count	
002 (University Way)				0	2	0.0%
004 (College Road)				0	2	0.0%
006 (Bedfordshire)				0	0	#DIV/0!
Total	0	0	0	0		
Manual Count	0	0	0		4	
	#DIV/0!	#DIV/0!	#DIV/0!			0.0%

APPENDIX D: Proposed highway Improvement Schemes



KEY

EXISTING KERB LINE

PROPOSED KERB/EDGING LINE

rev.	amendment	checked	date
A	Indicative hatching removed	MP	13/12/12

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CRANFIELD UNIVERSITY

project
CRANFIELD TECHNOLOGY PARK

scale	1:500 @ A0	drawn by	MP	checked by	AS
date	DECEMBER 2011	cad file	MASTER.DWG		

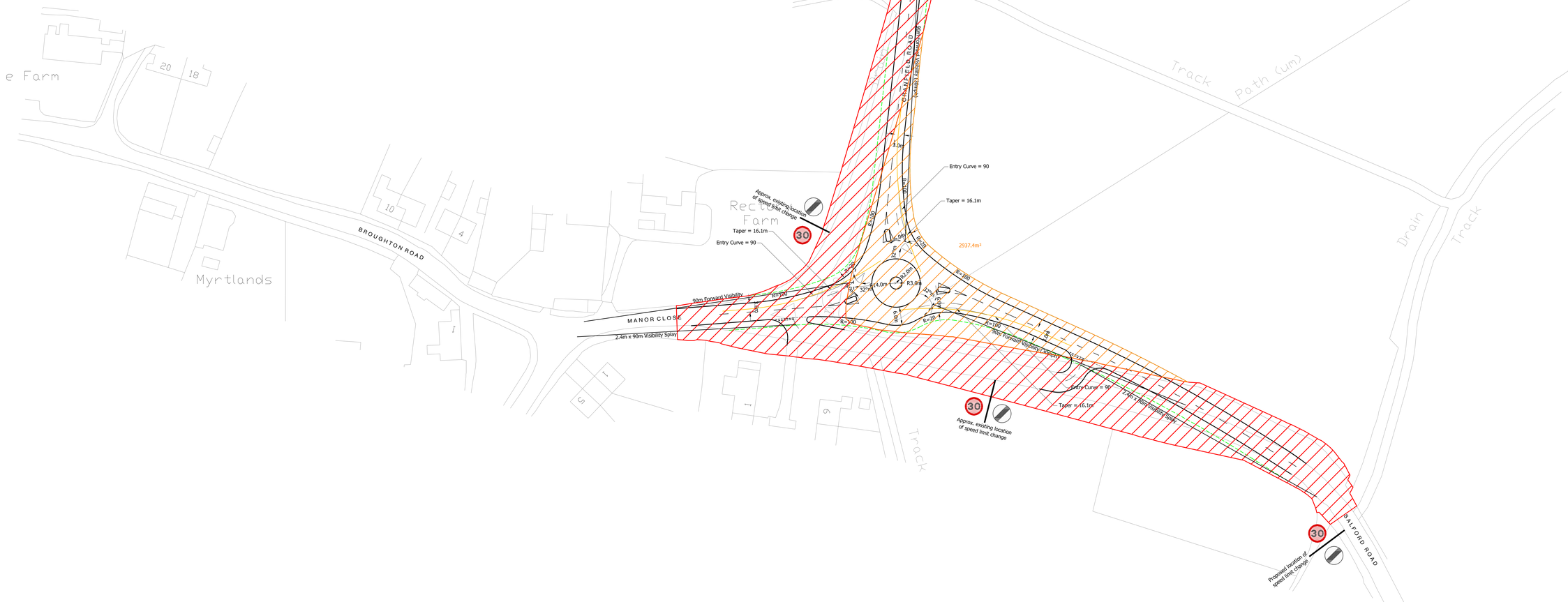
title
PROPOSED SIGNAL JUNCTION LAYOUT
ASTWOOD ROAD JUNCTION

drawing number	rev.
TCCRANFIELD.1/01	A

A0 ORIGINAL

KEY

- EXISTING KERB LINE
- PROPOSED KERB/EDGING LINE
- PROPOSED VERGE/MARGIN
- KNOWN EXTENT OF PUBLIC HIGHWAY
- ANTICIPATED LAND REQUIRED FOR PROPOSED HIGHWAY WORKS



PRELIMINARY
NOT FOR CONSTRUCTION

rev.	amendment	checked	date
C	Areas of indicative verge/margin amended. (OJN)	AB	16/10/2013
B	Dimensions added to visibility splays. (DR)	AP	22/02/2013
A	Indicative hatching removed. (MP)	AP	13/12/2012

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project
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scale	drawn by	checked by
1:500	MP	AS

date	cad file
DECEMBER 2011	MASTER.DWG

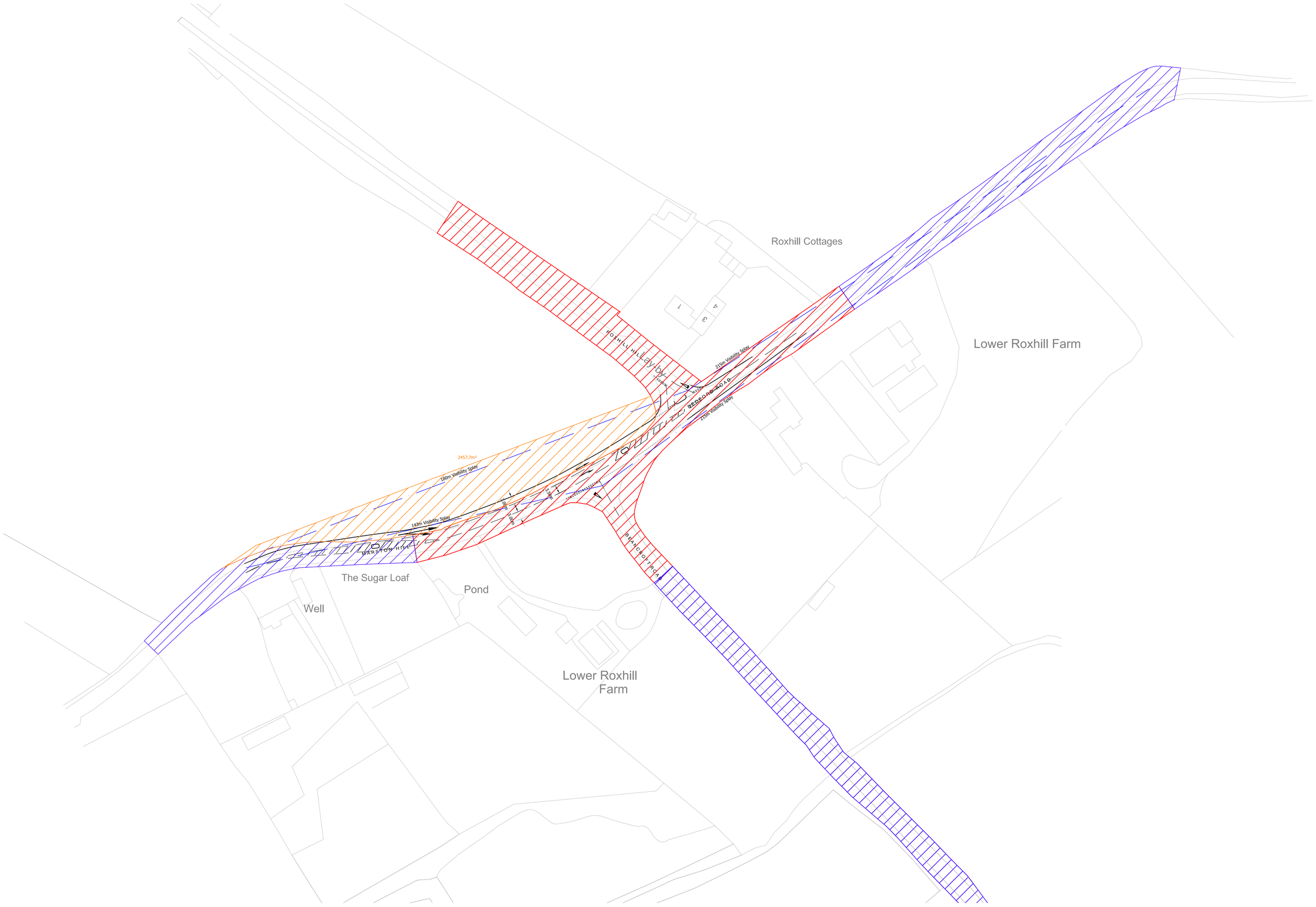
title
PROPOSED ROUNDABOUT LAYOUT
CRANFIELD ROAD / SALFORD ROAD

drawing number	rev.
TCCRANFIELD.1/02	C

A0 ORIGINAL

KEY

- EXISTING KERB LINE
- PROPOSED KERB/EDGING LINE
- KNOWN EXTENT OF PUBLIC HIGHWAY
- ASSUMED EXTENT OF PUBLIC HIGHWAY
- ANTICIPATED LAND REQUIRED FOR PROPOSED HIGHWAY WORKS



PRELIMINARY
NOT FOR CONSTRUCTION

rev.	amendment	checked	date
C	Hatching Added. (OJN)	AP	29/10/2013
B	Drawing changed to A0. (OJN)	AP	28/10/2013
A	Indicative hatching removed. (MP)	AP	13/12/2012

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project
CRANFIELD TECHNOLOGY PARK

scale	drawn by	checked by
1:500	DAR	AB

date	cad file
DECEMBER 2011	MASTER.DWG

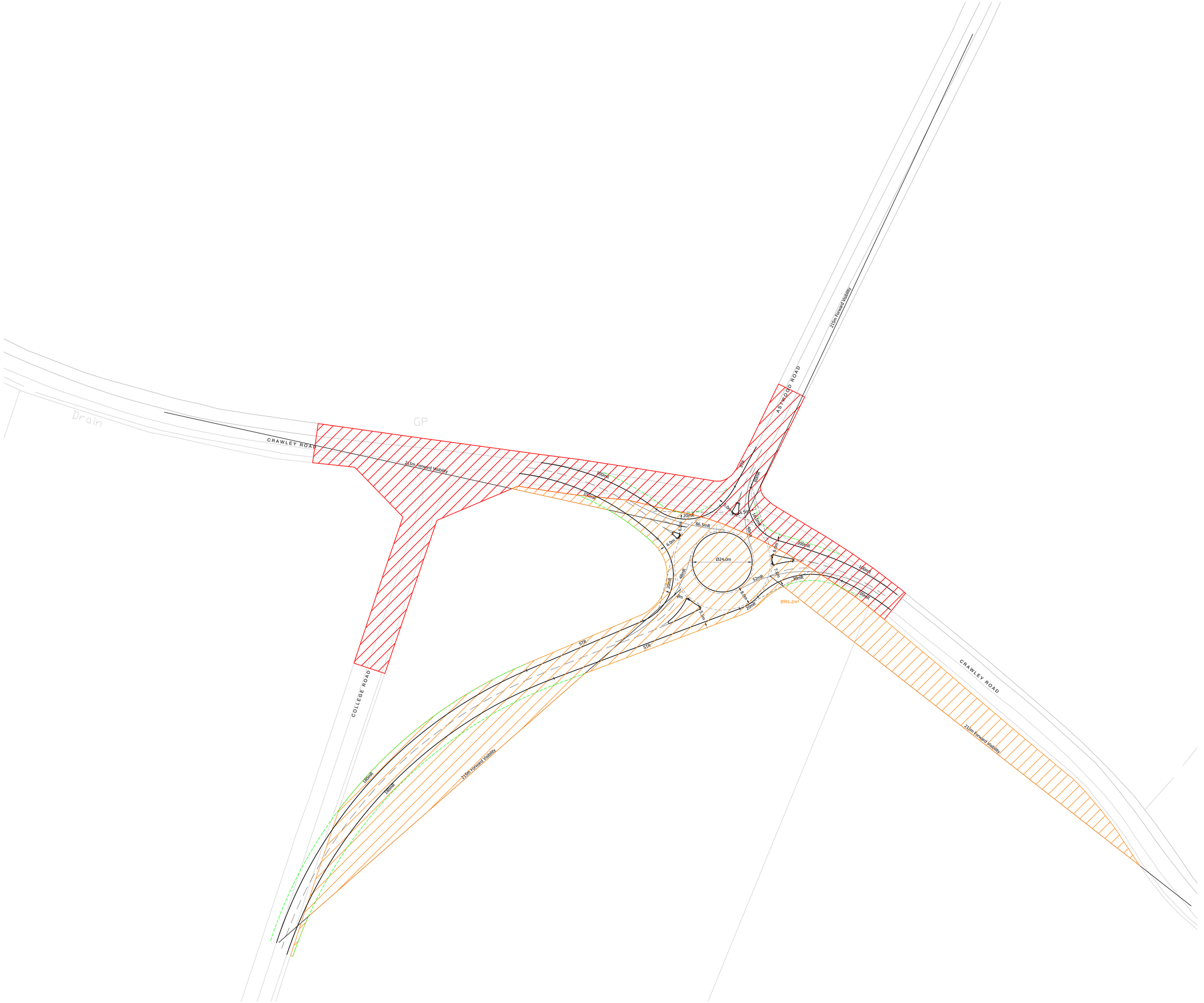
title
PROPOSED RIGHT TURN LANE
MARSTON HILL / BEANCROFT ROAD

drawing number	rev.
TCCRANFIELD.1/03	C

A0 ORIGINAL

KEY

- EXISTING KERB LINE
- PROPOSED KERB/EDGING LINE
- PROPOSED VERGE/MARGIN
- KNOWN EXTENT OF PUBLIC HIGHWAY
- ANTICIPATED LAND REQUIRED FOR PROPOSED HIGHWAY WORKS



PRELIMINARY
NOT FOR CONSTRUCTION

rev.	amendment	checked	date
B	Areas of indicative verge/margin amended. (OJN)	AB	16/10/2013
A	Indicative hatching removed. (MP)	AP	13/12/2012

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project
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scale	drawn by	checked by
1:500	DAR	AB

date	cad file
DECEMBER 2012	MASTER.DWG

title
PROPOSED ROUNDABOUT LAYOUT
CRAWLEY ROAD / ASTWOOD ROAD

drawing number	rev.
TCCRANFIELD.1/04	B

rev.	amendment	checked	date
A	Indicative hatching removed	MP	13/12/12

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client
CRANFIED UNIVERSITY

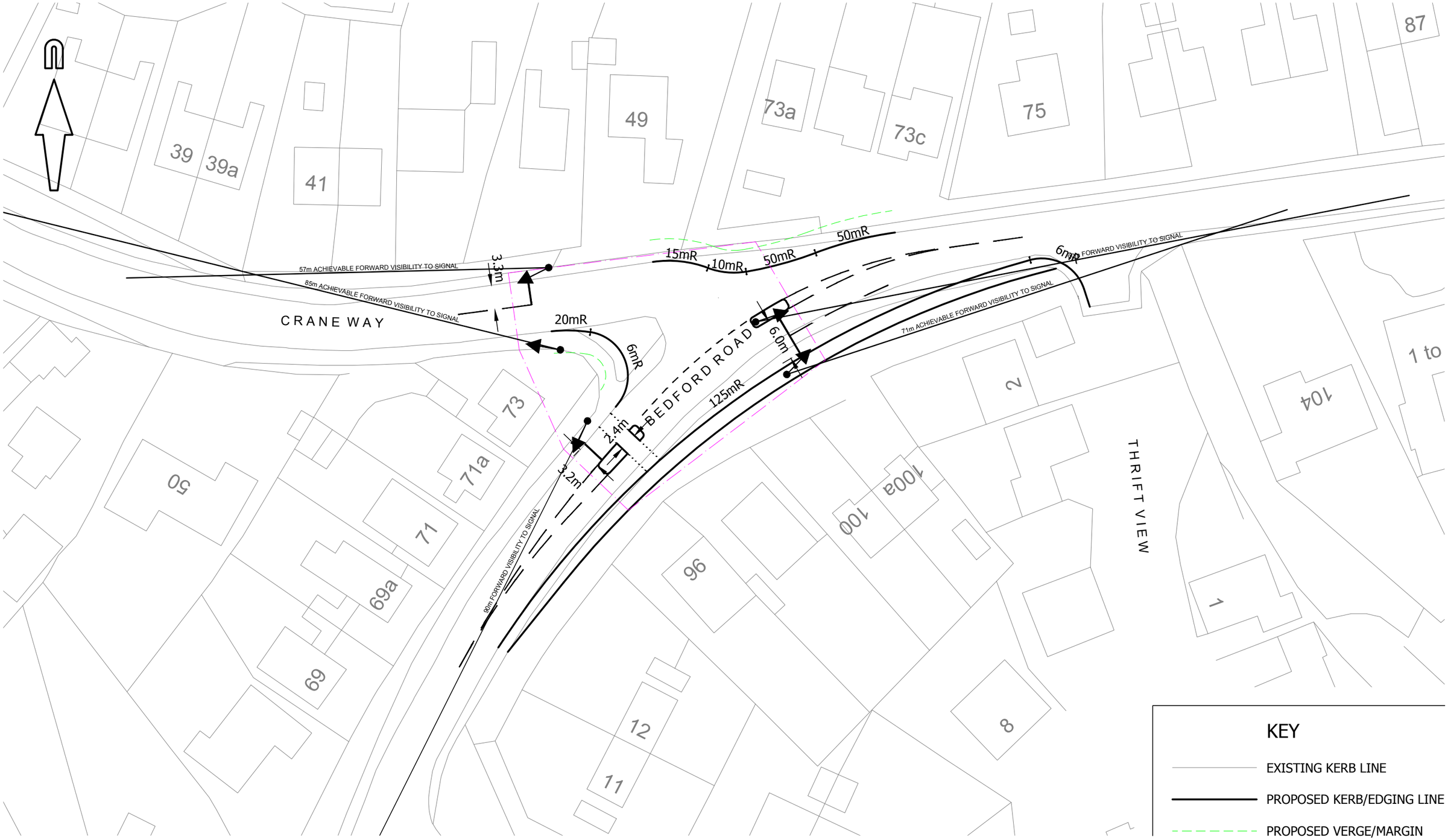
project
CRANFIELD TECHNOLOGY PARK

scale	drawn by	checked by
1:500 @ A1	DAR	AB

date	cad file
DECEMBER 2012	MASTER.DWG

title
PROPOSED ROUNDABOUT JUNCTION
MARSTON HILL / BEANCROFT ROAD

drawing number	rev.
TCCRANFIELD.1/05	A



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client
CRANFIED UNIVERSITY

project
CRANFIELD TECHNOLOGY PARK

title
PROPOSED SIGNAL JUNCTION

scale	1:500@A3	drawn by	DAR	checked by	AB
date	DECEMBER 2012	cad file	MASTER.DWG		

drawing number
TCCRANFIELD.1/06

rev.
A

APPENDIX B: 2016 Masterplan


Indicative Masterplan
Proposed New Building
Long Term Development
Key Public Realm
Strategic Parking Locations
Main Boulevard
Airfield
Airfield
Airfield
Cranfield University
Playing Field
Cranfield Technology Park
Mitchell Hall
Cranfield Conference Centre
School of Management
The Crescent
Bayley Gate Farm
The Granary
Wharley End Farm
Innovation Centre
Sports Centre
West End
Client:
CRANFIELD UNIVERSITY
JOB:
CRANFIELD MASTERPLAN
DRAWING TITLE:
DRAFT PROPOSED MASTERPLAN
DATE:
21 JAN 2016
DRAWING NO:
CU-100-MP-01
REV:
H
TurnberryConsulting
41-43 Maddox Street
London
W1S 2PD
Tel: 02074936693 Fax: 020 7493 2393
Metres

APPENDIX C: Parking Survey

advanced transport research

Job Number & Name: 10846 Cranfield

Site Number/Name: Cranfield University

Client: Mayer Brown

Date: 03/03/2016

Weather: Cloudy, Dry

Comments: Some parking outside of marked bays. All parking in the university has been recorded - split up into smaller sections for ease on site.

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Parking Beats	*Date:*	**Thursday 03 March 2016**

			Number of parked vehicles													
Area		**Type of Bay**	**07:00**	**08:00**	**09:00**	**10:00**	**11:00**	**12:00**	**13:00**	**14:00**	**15:00**	**16:00**	**17:00**	**18:00**	**19:00**	**Number of Marked Bays + Notes**	**Bays**
Car Park 10	**Martell House Car Park**	Normal	14	68	168	181	190	188	180	151	142	127	97	37	16	6 disabled bays in total, only disabled bays marked! All other bays unmarked.	200
		Disabled User	0	1	2	3	4	4	3	3	4	4	3	1	0		6

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Parking Beats	*Date:*	**Thursday 03 March 2016**

				Number of parked vehicles														
Area			**Type of Bay**	**07:00**	**08:00**	**09:00**	**10:00**	**11:00**	**12:00**	**13:00**	**14:00**	**15:00**	**16:00**	**17:00**	**18:00**	**19:00**	**Number of Marked Bays + Notes**	**Bays**
Car Park 8 & 9	**Car Park 9**	**Conway House**	Normal	0	1	22	27	31	30	22	21	20	18	17	6	0		58
			Disabled User	0	0	1	2	2	2	2	1	2	2	2	1	1		5
		Medway Court	Normal	0	15	47	52	50	49	47	50	48	39	30	4	6		110
			Disabled User	0	0	2	2	1	1	0	0	1	1	1	1	2		8
			on Road	0	0	0	0	0	0	0	0	0	1	1	0	0		0
		Construction Area	Normal	0	0	0	0	0	0	0	0	0	0	0	0	0		0
			Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	University Way			0	0	0	0	0	0	0	0	0	0	0	0	0		0
	Car Park 8	**Invar Systems**	Normal	2	7	29	31	32	31	28	29	24	21	60	6	1		67
			Disabled User	0	0	0	0	0	1	1	1	1	1	1	1	1	* = one car parked on road opposite trent house off of university house	1
			On Road	0	0	0	0	0	0	0	0	0	0	0	0	1*		0
		Derwent House	Normal	0	18	79	100	100	99	100	101	93	90	77	20	1		131
			Disabled User	0	0	0	1	2	3	1	2	0	0	1	0	0		6
		Innovation Centre	Normal	17	69	200	216	214	210	198	220	208	173	144	33	14		258
			Disabled User	0	1	2	3	3	1	2	4	4	4	3	2	1		13

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Parking Beats	*Date:*	**Thursday 03 March 2016**

			Number of parked vehicles													
Area		**Type of Bay**	**07:00**	**08:00**	**09:00**	**10:00**	**11:00**	**12:00**	**13:00**	**14:00**	**15:00**	**16:00**	**17:00**	**18:00**	**19:00**	**Number of Marked Bays + Notes**	**Bays**
Area 1	**University Way**		0	0	0	0	0	0	0	0	0	0	0	0	0		0
	East Section	Normal	2	11	11	19	21	21	18	20	18	15	14	13	12		22
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		on Road	3	0	22	23	24	25	28	25	24	22	16	8	15		0
	Central Section	Normal	5	21	99	113	116	108	107	106	97	80	70	34	25		118
		Disabled User	0	0	0	1	0	0	0	0	0	0	0	0	0		1
		on Road	0	0	3	8	9	10	12	10	9	7	10	4	3		0
	West Section	Normal	8	22	58	58	49	60	61	56	52	44	41	17	8		65
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		on Road	17	37	34	44	42	41	49	53	39	36	36	16	20		0

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Parking Beats	*Date:*	**Thursday 03 March 2016**

			Number of parked vehicles													
Area		**Type of Bay**	**07:00**	**08:00**	**09:00**	**10:00**	**11:00**	**12:00**	**13:00**	**14:00**	**15:00**	**16:00**	**17:00**	**18:00**	**19:00**	**Number of Marked Bays + Notes**	**Bays**
Area 2	**University Way**		0	0	0	0	0	0	0	0	0	0	0	0	0		0
	East Section	Normal	11	15	103	111	101	96	111	100	77	90	89	50	102		120
		Disabled User	0	0	1	1	1	1	1	1	1	1	1	0	0		5
		on Road	0	0	1	7	9	11	13	12	13	7	7	4	5		0
	Central Avenue	Normal	12	20	44	48	48	52	45	50	42	19	30	22	33		52
		Disabled User	0	0	0	0	1	0	0	0	0	0	0	1	0		1
		on Road	0	0	1	0	0	0	0	0	0	0	0	0	0		0
	West Section	Normal	20	24	79	96	97	98	98	97	99	71	67	33	24		110
		Disabled User	0	0	0	1	1	0	0	1	1	1	1	0	0		2
		on Road	0	0	1	1	0	0	0	0	0	0	0	0	0		0

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Parking Beats	*Date:*	**Thursday 03 March 2016**

			Number of parked vehicles														
Area		**Type of Bay**	**07:00**	**08:00**	**09:00**	**10:00**	**11:00**	**12:00**	**13:00**	**14:00**	**15:00**	**16:00**	**17:00**	**18:00**	**19:00**	**Number of Marked Bays + Notes**	**Bays**
Area 3	**East Section**	Normal	10	53	71	76	74	75	71	71	65	69	25	18	11	5 Disabled, 75 Bays, 1 M/C Bay	75
		Disabled User	0	1	1	0	0	0	1	1	1	0	1	0	0		5
		on Road	0	4	7	6	8	8	5	5	6	3	3	2	2		0
		Security Spaces	2	2	1	1	1	1	0	2	1	2	2	2	2	2 Security Bays	2
	College Road		1	2	0	1	6	8	7	4	5	5	5	4	3	Approx 10 spaces	10
	Lanchester Road		0	0	0	0	0	0	0	0	0	0	0	0	0		0
	Lanchester Hall	Normal	45	57	78	87	85	84	86	81	76	76	68	69	55	87 Bays, 5 Disabled	87
		Disabled User	1	1	1	1	1	1	1	1	1	0	0	0	0		5
		on Road	7	7	7	7	7	7	7	7	8	7	7	7	7		0
	Access Road	Bays but not marked	0	5	10	7	10	11	10	13	9	4	6	7	4	Lanchester Access Side - No marked Bays on road (cars parked) , 1 M/B Bay, 1 Disabled Bay, 40 Bays	41
	The Drive	Normal	17	17	16	16	17	16	16	15	17	17	17	17	14	1 Disabled, 17 Bays, No marked bays - Bottom of the road little car Park not marked.	17
		Disabled User	0	0	0	0	0	0	0	1	1	1	1	1	1		1
		on Road	0	0	4	5	5	5	3	5	3	3	3	2	1		0
	West Road		3	3	3	3	3	3	3	2	2	3	3	3	3	12 Marked Bays on Road, 3 Parking Areas - nothing marked,	12

Advanced Transport Research		*Job Number & Name:*	**10846 Cranfield**
Cranfield University		*Client:*	**Mayer Brown**
Parking Beats		*Date:*	**Thursday 03 March 2016**

			Number of parked vehicles														
Area		**Type of Bay**	**07:00**	**08:00**	**09:00**	**10:00**	**11:00**	**12:00**	**13:00**	**14:00**	**15:00**	**16:00**	**17:00**	**18:00**	**19:00**	**Number of Marked Bays + Notes**	**Bays**
Area 4	**Airport**	Normal	6	33	46	46	48	43	42	40	42	41	28	4	3		48
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		on Road	3	3	3	4	4	4	4	4	4	4	3	2	2		0
	East Section	Normal	20	40	86	92	108	95	95	100	98	79	57	25	14		110
		Disabled User	1	1	1	1	4	1	0	1	1	1	1	0	0		4
		on Road	2	2	12	9	7	10	12	12	8	5	2	0	0		0
	Central Avenue	Normal	2	12	29	31	33	31	29	31	33	21	18	9	2		33
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		on Road	1	0	0	1	2	4	3	4	1	1	1	2	1		0
	West Section	Normal	5	37	126	130	132	129	126	130	117	96	73	28	19		132
		Disabled User	0	2	1	1	1	0	0	1	0	0	0	0	0		3
		on Road	0	0	0	0	0	0	4	0	3	0	0	0	0		0

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Parking Beats	*Date:*	**Thursday 03 March 2016**

			Number of parked vehicles													
Area	**Type of Bay**		**07:00**	**08:00**	**09:00**	**10:00**	**11:00**	**12:00**	**13:00**	**14:00**	**15:00**	**16:00**	**17:00**	**18:00**	**19:00**	**Number of Marked Bays + Notes**	**Bays**
Area 5	**College Road**		0	0	0	0	0	0	0	0	0	0	0	0	0		0
	East Section	Normal	22	27	109	121	141	153	139	139	133	115	101	52	37		214
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		2
		on Road	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	Central Avenue		0	0	0	0	0	0	0	0	0	0	0	0	0		0
	West Section	Normal	2	15	35	36	40	40	36	34	35	29	25	12	9		40
		Disabled User	0	0	0	1	1	0	2	1	0	0	0	0	0		2
		on Road	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	South Section	Normal	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0	Construction Site - no car park	0
		on Road	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		Additional marked on map	0	0	0	9	8	8	6	9	9	9	6	1	0	8 bays, 2 cars can fit on gravel total = 10	8

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Parking Beats	*Date:*	**Thursday 03 March 2016**

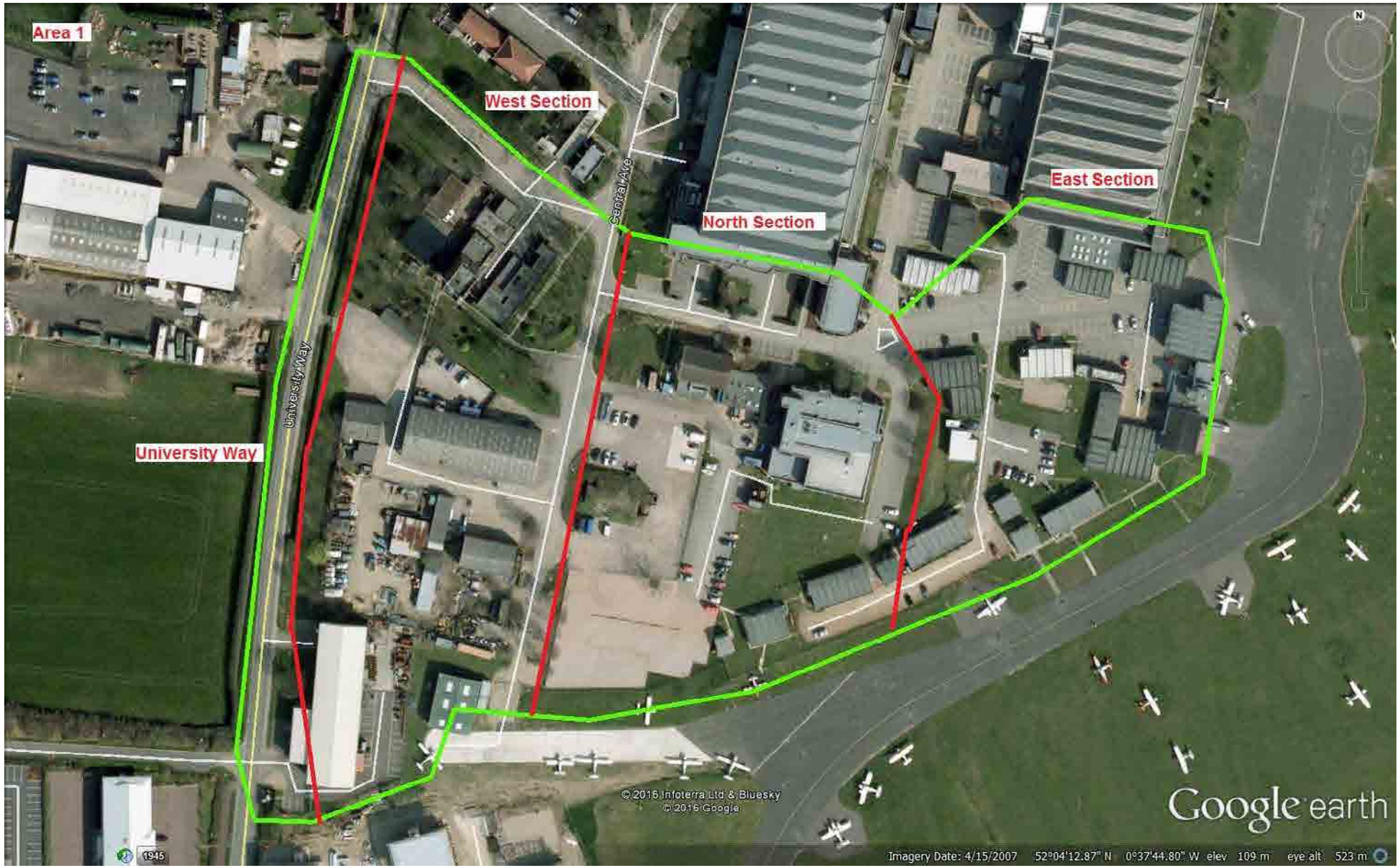
			Number of parked vehicles													
Area	**Type of Bay**		**07:00**	**08:00**	**09:00**	**10:00**	**11:00**	**12:00**	**13:00**	**14:00**	**15:00**	**16:00**	**17:00**	**18:00**	**19:00**	**Number of Marked Bays + Notes**	**Bays**
Area 6	**Duncan Road**		0	0	1	1	1	2	1	0	0	1	1	0	0		0
	East Section	Normal	52	51	44	42	44	45	46	40	52	53	48	56	52		58
		Disabled User	1	1	1	1	1	1	0	0	0	0	0	1	1		1
		on Road	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	North Section	Normal	17	27	44	46	45	44	46	46	41	44	40	41	37		156
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		3
		on Road	1	2	4	3	2	4	6	5	2	2	2	3	2		0
	West Section	Normal	10	33	32	29	28	29	26	27	22	18	14	9	8		32
		Disabled User	1	0	0	0	0	1	1	0	1	0	0	1	1		1
		on Road	0	0	3	0	0	0	0	0	0	0	0	0	0		0
	Handley Page Close		0	0	0	1	1	0	0	0	1	1	1	0	0		0
	Reynolds Close		1	1	0	1	1	1	1	0	2	1	1	1	1		0
	Henson Close		1	3	3	4	4	4	4	4	4	4	4	1	0		0
	Stringfellow Hall	Normal	6	6	9	9	9	9	8	7	7	9	8	9	7		10
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		2
		on Road	6	6	6	6	5	6	4	3	4	4	4	5	3		0

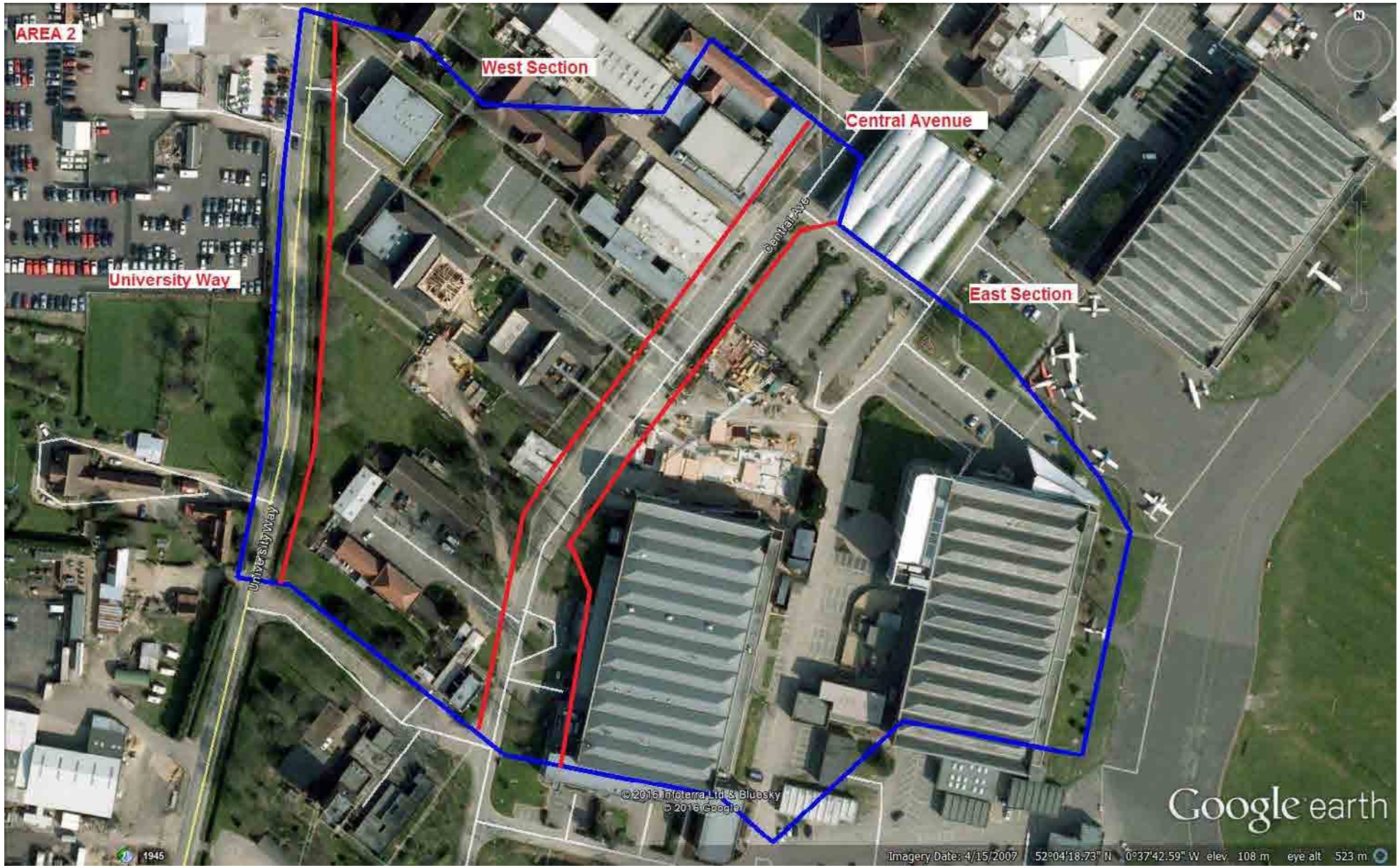
Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Parking Beats	*Date:*	**Thursday 03 March 2016**

			Number of parked vehicles													
Area	**Type of Bay**		**07:00**	**08:00**	**09:00**	**10:00**	**11:00**	**12:00**	**13:00**	**14:00**	**15:00**	**16:00**	**17:00**	**18:00**	**19:00**	**Number of Marked Bays + Notes**	**Bays**
Area 7	**College Road**		0	0	1	1	1	2	3	2	0	1	1	5	2		0
	Mitchell Hall	Normal	74	61	67	67	68	77	79	77	78	62	54	58	57		112
		Disabled User	0	0	0	1	1	1	0	0	0	0	0	0	0		2
		on Road	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	South Section	Normal	3	20	36	58	55	57	58	56	48	49	49	30	29		58
		Disabled User	1	0	0	1	0	2	0	2	0	1	1	0	0	Parked vechicles on road include vehicles parked behind bar and restaurant but in no marked bays - See photo	2
		on Road	2	2	2	2	4	4	5	5	2	1	4	2	3		0
	The Green		0	0	5	6	6	6	5	4	2	1	1	1	0		0
	Prince Phillip Avenue	Normal	0	0	4	5	5	5	4	4	1	1	1	0	1		5
		on Road	3	3	5	8	6	8	7	7	8	7	7	4	4		0
	Royce Road		0	0	0	1	0	0	0	0	0	0	0	0	0		0
	North Section	Normal	23	26	24	20	21	25	23	23	22	18	19	17	16		30
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0	4 vans parked in area off Duncan Rd see Photo	0
		on Road	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	The Crescent	Normal	6	10	13	14	8	6	6	6	7	5	5	6	5		15
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		on Road	8	6	6	6	12	14	14	14	14	13	11	10	8		0

Advanced Transport Research	*Job Number & Name:*	**10846 Cranfield**
Cranfield University	*Client:*	**Mayer Brown**
Parking Beats	*Date:*	**Thursday 03 March 2016**

			Number of parked vehicles													
Area		**Type of Bay**	**07:00**	**08:00**	**09:00**	**10:00**	**11:00**	**12:00**	**13:00**	**14:00**	**15:00**	**16:00**	**17:00**	**18:00**	**19:00**	**Number of Marked Bays + Notes**	**Bays**
	Mitchell Road (West part)	Normal	8	9	11	10	10	9	8	8	8	8	7	7	6		13
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		on Road	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	East Road	Normal	4	4	4	3	3	3	4	4	3	4	4	4	3		8
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		on Road	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	Mitchell Road (East part)	Normal	0	0	0	0	0	0	0	0	0	0	0	0	0		2
		Disabled User	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		on Road	4	5	3	3	3	3	3	3	3	3	4	4	2		0
	Duncan Road		0	0	0	0	0	0	0	0	0	0	0	0	0		0
	Total per beat		**493**	**930**	**1984**	**2190**	**2238**	**2247**	**2197**	**2175**	**2030**	**1776**	**1566**	**856**	**728**	Total bays	**2720**
	Total parking usage		18%	34%	73%	81%	82%	83%	81%	80%	75%	65%	58%	31%	27%		
	Unrestricted bays		428	839	1837	2010	2045	2040	1982	1966	1846	1619	1414	759	636	Unrestricted bays	2629
	Disabled permit bays		5	8	13	21	24	20	15	21	19	17	17	10	8	Disabled permit bays	81
	On Road		60	83	134	159	169	187	200	188	165	140	135	87	84	On Road	10


Area 1
West Section
North Section
East Section
University Way
University Way
Central Ave
© 2016 Infoterra Ltd & Bluesky
© 2016 Google
Google earth
1945
Imagery Date: 4/15/2007 52°04'12.87" N 0°37'44.80" W elev 109 m eye alt 523 m


AREA 2
West Section
Central Avenue
University Way
East Section
Central Ave
University Way
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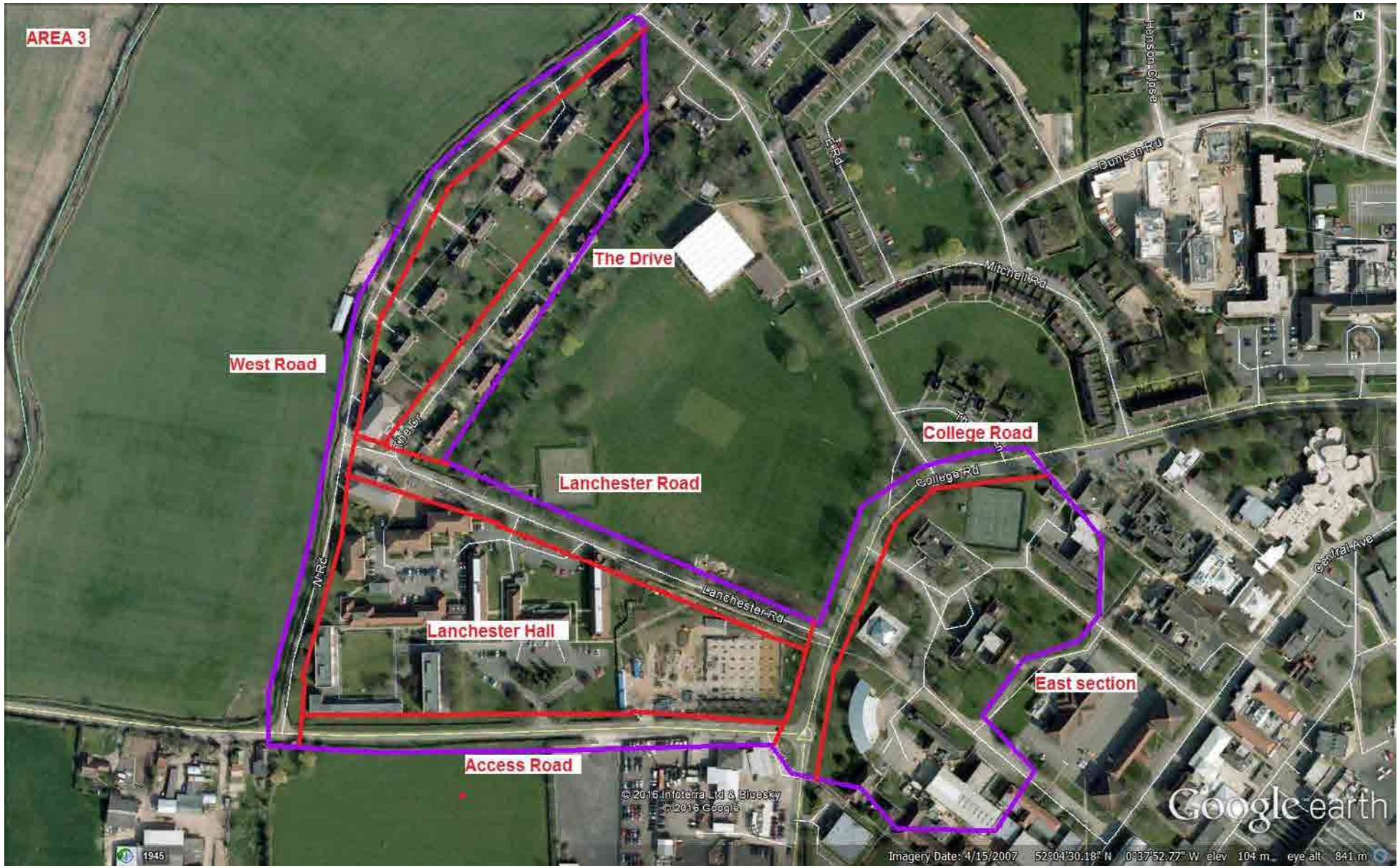
Google earth
1945
Imagery Date: 4/15/2007 52°04'18.73" N 0°37'42.59" W elev 108 m eye alt 523 m


AREA 3
West Road
The Drive
Lanchester Road
College Road
East section
Access Road
Lanchester Hall
Mitchell Rd
Duncan Rd
Henson Close
College Rd
Central Ave
Lanchester Rd
N Rd
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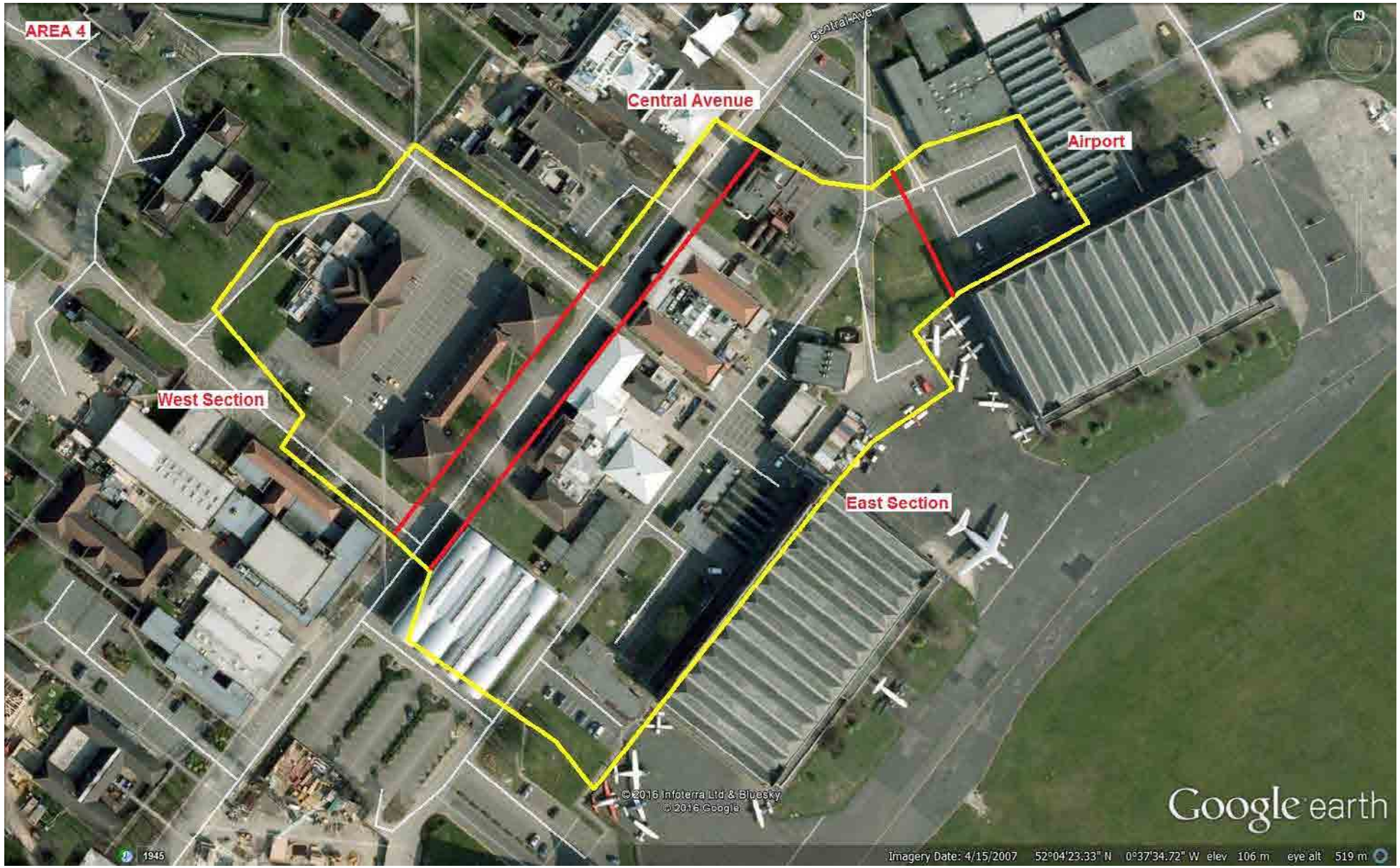
Google earth
Imagery Date: 4/15/2007 52°04'30.18" N 0°37'52.77" W elev 104 m eye alt 841 m


AREA 4
Central Avenue
Airport
West Section
East Section
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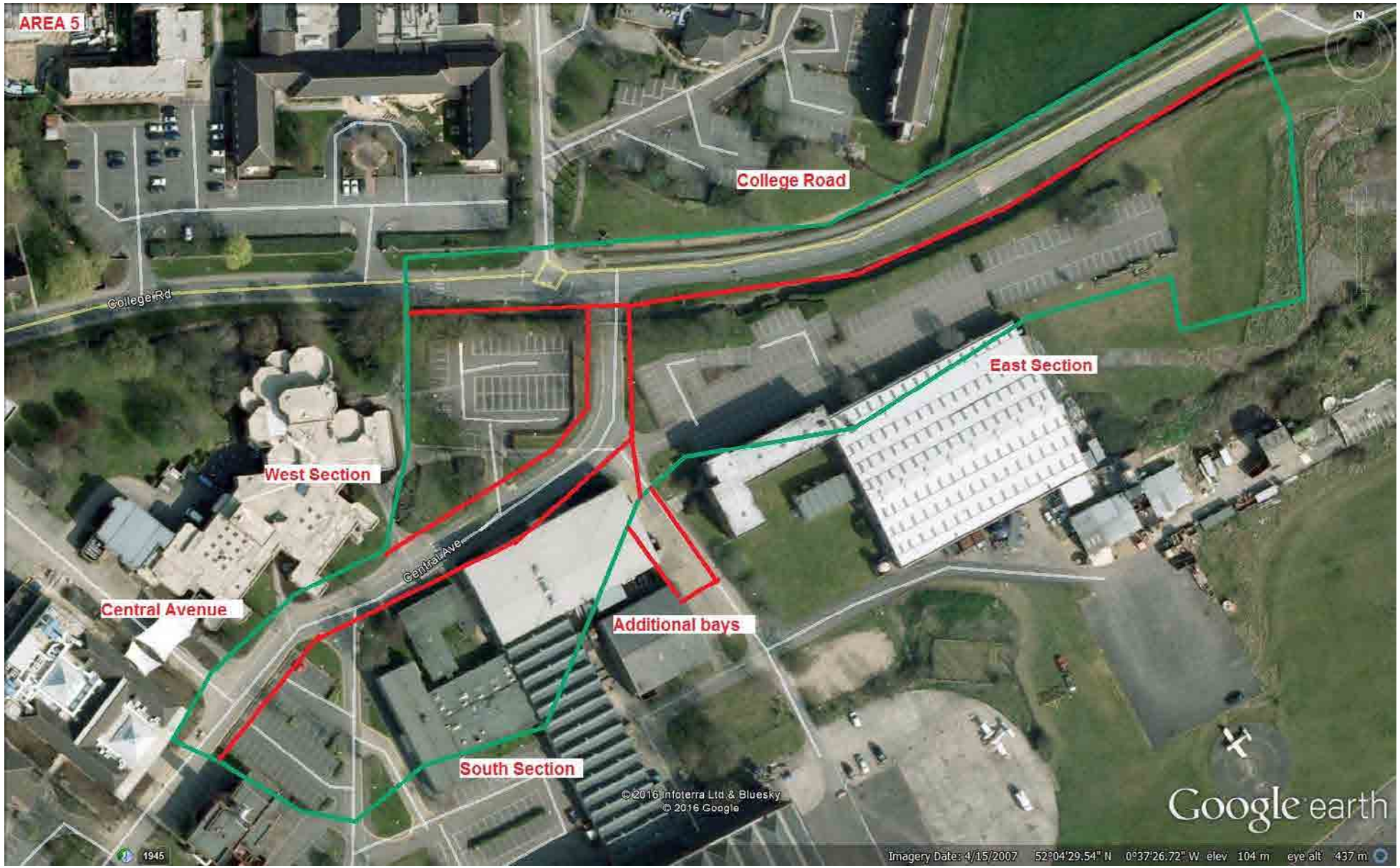
© 2016 Google
Google earth
1945
Imagery Date: 4/15/2007 52°04'23.33" N 0°37'34.72" W elev 106 m eye alt 519 m


AREA 5
College Road
College Rd
East Section
West Section
Central Ave
Central Avenue
Additional bays
South Section
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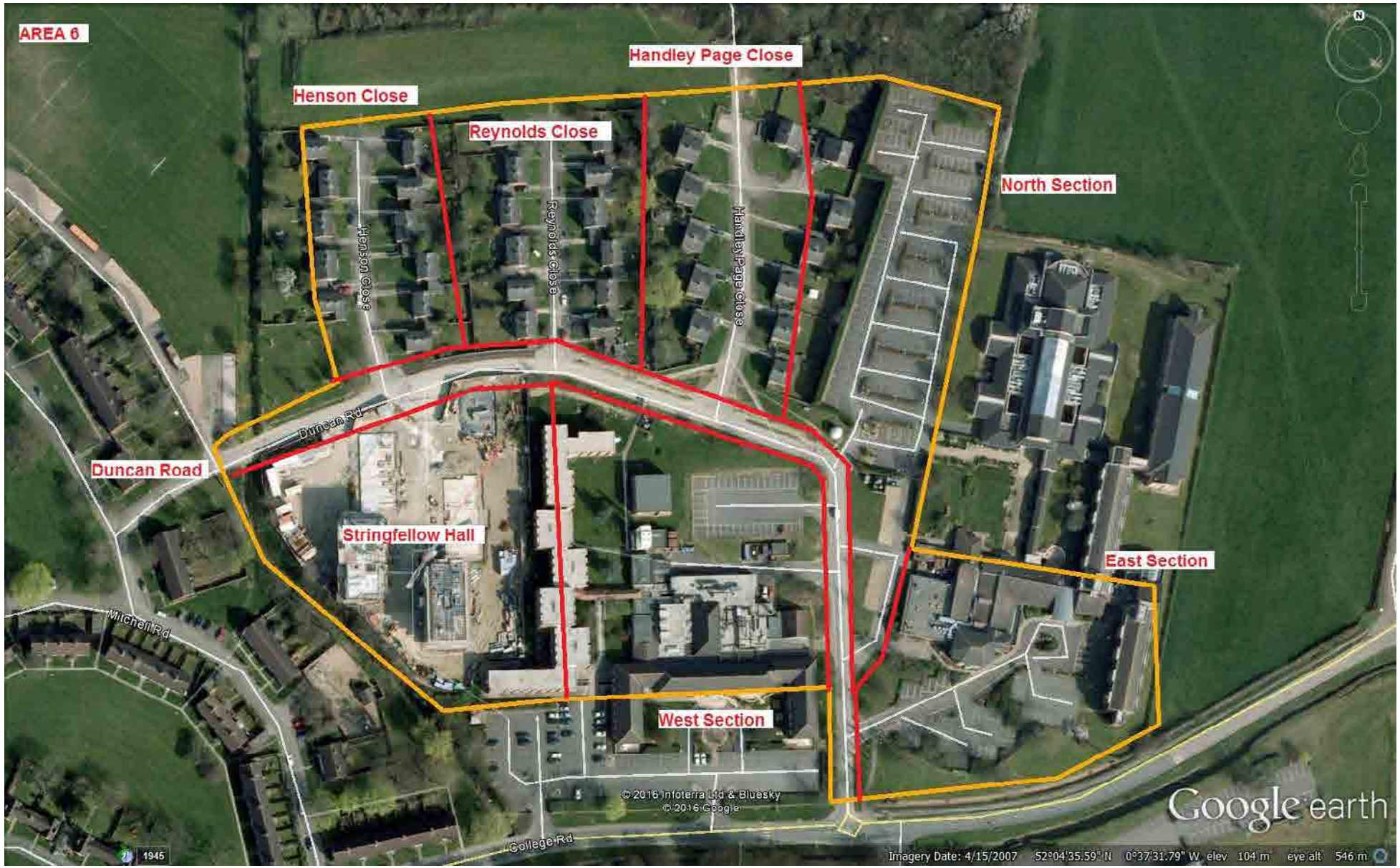
Google earth
1945
Imagery Date: 4/15/2007 52°04'29.54" N 0°37'26.72" W elev 104 m eye alt 437 m


AREA 6
Handley Page Close
Henson Close
Reynolds Close
North Section
Henson Close
Reynolds Close
Handley Page Close
Duncan Rd
Duncan Road
Stringfellow Hall
East Section
Mitchell Rd
West Section
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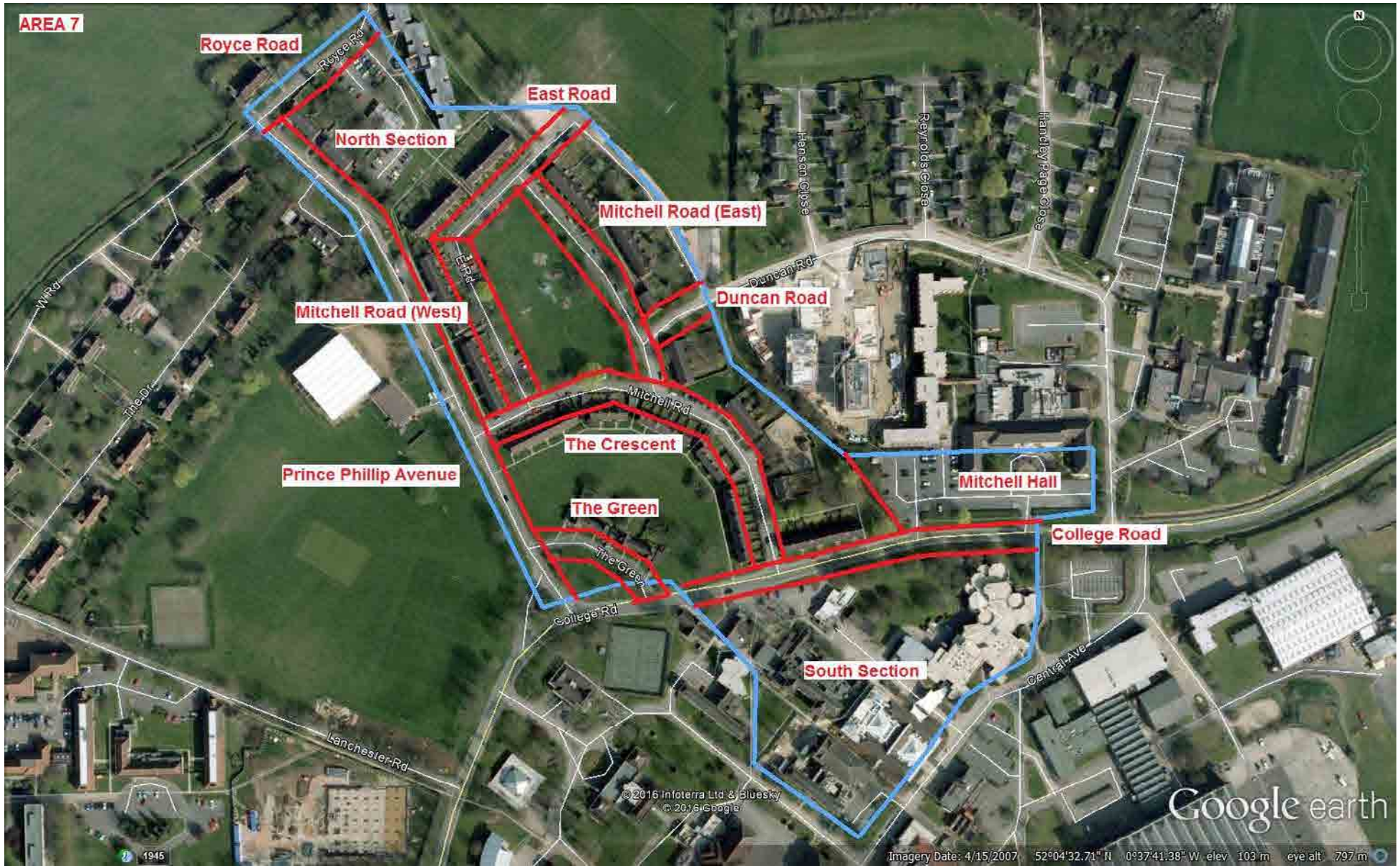
© 2016 Google
College Rd
1945
Google earth
Imagery Date: 4/15/2007 52°04'35.59" N 0°37'31.79" W elev 104 m eye alt 546 m


AREA 7
Royce Road
East Road
North Section
Mitchell Road (East)
Duncan Road
Mitchell Road (West)
Prince Phillip Avenue
The Crescent
Mitchell Hall
The Green
College Road
South Section
Royce Rd
Hensman Close
Reynolds Close
Handley Page Close
Duncan Rd
Mitchell Rd
The Green
College Rd
Central Ave
Lanchester Rd
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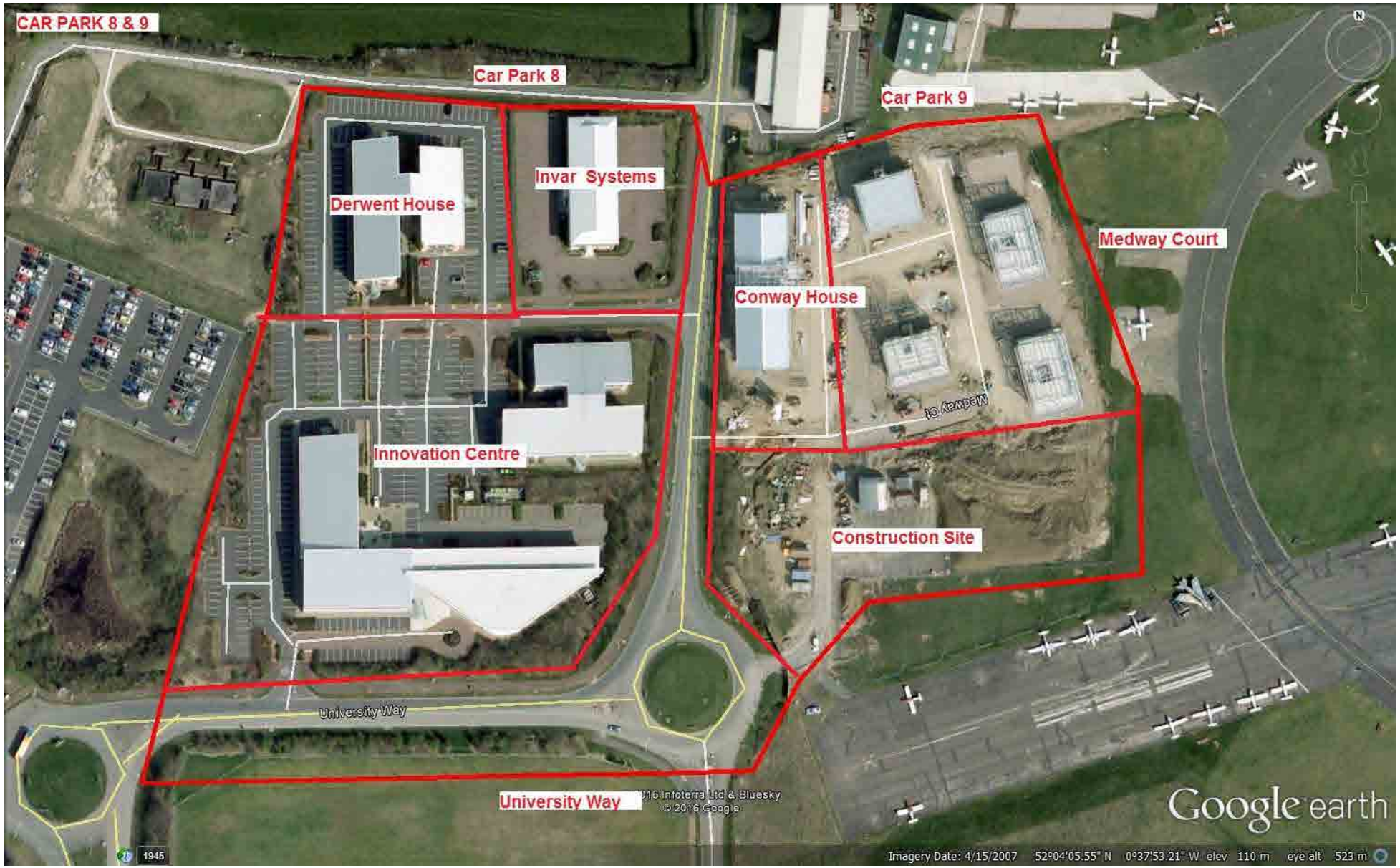
Imagery Date: 4/15/2007 52°04'32.71" N 0°37'41.38" W elev 103 m eye alt 797 m


CAR PARK 8 & 9
Car Park 8
Car Park 9
Derwent House
Invar Systems
Medway Court
Conway House
Medway Ct
Innovation Centre
Construction Site
University Way
University Way
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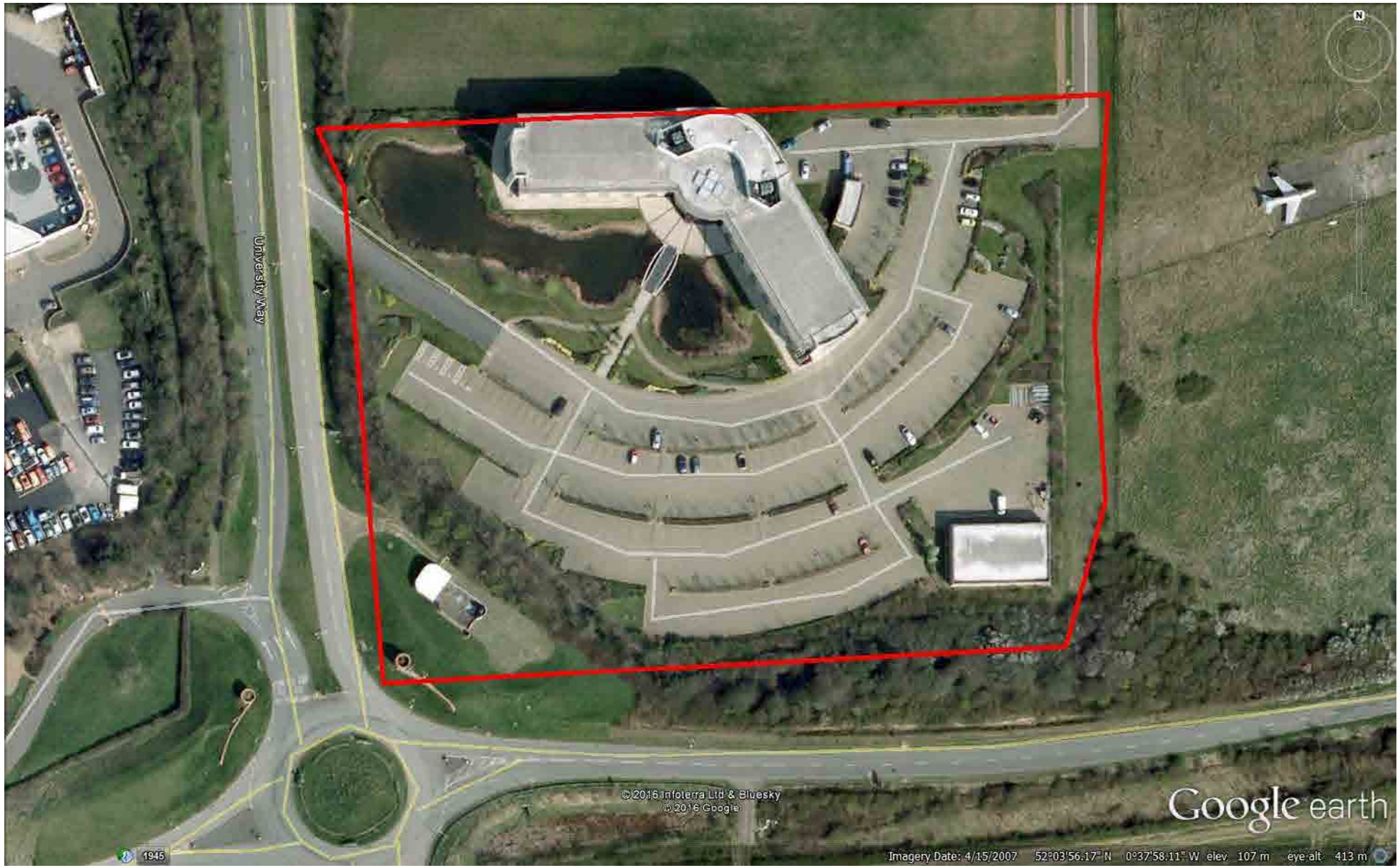
Google earth
1945
Imagery Date: 4/15/2007 52°04'05.55" N 0°37'53.21" W elev 110 m eye alt 523 m


Univesity Way
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Google earth
1945
Imagery Date: 4/15/2007 52°03'56.17" N 0°37'58.11" W elev 107 m eye alt 413 m

Turnberry

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