

A Planning Application by
HINTON PROPERTIES

In respect of
**Phase Two Corinthian Park, Grovefield Way,
Cheltenham**

Transport Assessment

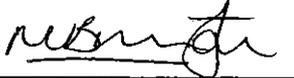
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1 INTRODUCTION

- 1.1 This Transport Assessment (TA) has been prepared by Transport Planning Associates (TPA) on behalf of Hinton Properties, in order to address the highway and transportation issues associated with the development of a mixed use scheme for up to 18,453 square metres (sqm) Gross Floor Area (GFA), comprising B1 employment, A1/A3 Costa Coffee Drive-Thru, A1 Aldi discount food retail and D1 Day Nursery uses, on land to the west of Grovefield Way in Cheltenham. The site location is shown hatched in red on **Figure 1.1**.
- 1.2 The site benefits from a number of extant planning consents that are relevant to the current proposals. These are summarised briefly below.
- 1.3 An outline planning application was granted at appeal in 2007 (10/00468/TIME and 05/00799/OUT), for 22,000sqm B1 employment use with 524 parking spaces on the 16 acres of land now owned by Hinton Properties and edged in blue on **Figure 1.1**. A reserved matters application was subsequently granted permission in 2012 (09/00369/REM) for 22,000sqm B1 use and 700 parking spaces on the same land edge blue on **Figure 1.1**.
- 1.4 A planning application (10/00468/TIME) for the extension of the time limit of planning permission 05/00799/OUT was granted consent in 2012.
- 1.5 A planning application was granted in 2014 (13/01101/FUL) for 4.5 acres of the 16 acre site, to be used for the development of an approximate 7,500sqm GFA BMW and Mini car showroom. This is shown indicatively on **Figure 1.1**. A planning application was granted in 2015 (14/00656/FUL) for a number of amendments to this scheme, including the internal highway layout and customer entrance.
- 1.6 An outline planning application was granted in 2014 (14/01243/OUT) for the remainder (11.5 acres) of the 16 acre site to be used for the development of up to 16,800sqm GFA of B1 Employment use.
- 1.7 A hybrid application was refused in 2017 (16/02208/FUL) for 18,453 square metres (sqm) Gross Floor Area (GFA), comprising B1 employment, A1/A3 Costa Coffee Drive-Thru, A1 Aldi discount food retail and D1 Day Nursery uses. However, there were no objections raised by either Gloucestershire County Council (GCC) or Highways England in relation to highways matters, and it was agreed that the development would not result in any severe impact in comparison to the extant consent.

- 1.8 The following key transportation issues are addressed in this document to support the planning application for the proposed site:
- (i) a site description and an assessment of existing provisions for all modes of travel;
 - (ii) a highway safety analysis;
 - (iii) a trip attraction and comparison exercise; and
 - (iv) a parking exercise to establish appropriate provisions.
- 1.9 This TS concludes that the proposed development will be accessible by foot, by cycle and by local bus services. It also concludes that the development can be accommodated without detriment to the future operation and safety of the local highway network, particularly in the context of the previous planning approvals on the site for B1 employment use and a BMW Mini car showroom.
- 1.10 There are therefore no valid highway or transportation reasons, which should prevent planning permission being granted for the proposed development of this site.

2 SITE LOCATION AND LOCAL HIGHWAY NETWORK

Site Location

- 2.1 The site is located in the ward of Benhall and The Reddings, in the south west area of Cheltenham. It is in an area that comprises residential, employment and retail uses.
- 2.2 The site location and local transport network is shown in **Figure 2.1**. It also shows how the site connects to local bus stops and the cycle network.

Local Highway Network

Grovefield Way / Hatherley Lane

- 2.3 Grovefield Way forms the eastern boundary of the site and connects to Hatherley Lane and the A40 in the north, with Cold Pool Lane and The Reddings in the south. It is a single carriageway road, which is illuminated and subject to a 40mph speed limit.
- 2.4 Grovefield Way connects to Hatherley Lane to the east of the site in a roundabout junction arrangement, which also provides access to the B&Q Superstore and the Arle Court Park and Ride. To the north of the Grovefield Way / Hatherley Lane roundabout, Hatherley Lane forms the southern arm of the partially signalised Arle Court Roundabout on the A40.

A40 – Gloucester Road

- 2.5 The A40 connects Gloucester in the west with Cheltenham in the east and is known locally as Gloucester Road. The A40 is a dual carriageway road in the vicinity of the site, which is subject to the national speed limit of 70mph.
- 2.6 Junction 11 of the M5 motorway is located approximately two kilometres to the west of the site by road and is a grade separated, priority controlled roundabout junction.

Baseline Traffic Flows

- 2.7 An Automatic Traffic Count (ATC) survey was carried out between 6th and 12th July 2016 on Hatherley Lane between the Arle Court roundabout and the Park and Ride roundabout, to record vehicle speeds and flows. This confirmed that the peak period of traffic flows on a Saturday was 1200-1300. The full survey results are included at **Appendix A**.

- 2.8 In addition, since the most recent incident in April 2015, there have been no incidents recorded up to December 2017. School holidays in Gloucestershire County Council catchment, which includes Cheltenham, commenced on Wednesday 26th July 2016, which allows nine (working days) between the end of the survey and the holiday period. It is therefore considered that the survey is representative of term time traffic at this location, and these surveyed flows were accepted as appropriate by GCC and HE as part of the previous submission.
- 2.9 Manual Classified Counts (MCC) were also undertaken on Saturday 9th July 2016 at the Arle Court Roundabout and the Grovefield Way / Hatherley Lane / Park and Ride Roundabout, to record vehicle turning movements and queue lengths for the peak period of 1100 to 1500. The full survey results are included at **Appendix B**.

Highway Safety Analysis

- 2.10 Gloucestershire County Council (GCC) has provided Personal Injury Accident (PIA) data for the most recent five year period between 1st January 2013 and 31st December 2017. This covered a study area comprising Grovefield Way and Hatherley Lane between The Reddings and the Arle Court roundabout, including the Arle Court Roundabout, Grovefield Way / The Reddings Roundabout, and the Grovefield Way / Park and Ride Roundabout. The full data and plans showing the location of the PIAs are included at **Appendix C**.
- 2.11 There have been a total of nine incidents resulting in 10 PIAs in the study area and these are summarised in **Table 2.1**.

Table 2.1 – Classification of PIAs

Summary of personal injury accidents – 01 January 2013 to 31 December 2017				
	Fatal Injuries	Serious Injuries	Slight Injuries	TOTAL
Arle Court Roundabout	0	1	6	7
Grovefield Way / The Reddings Roundabout	0	0	1	1
Hatherley Lane	0	0	2	2
TOTAL	0	1	9	10

- 2.12 The accident data confirms that there have been no PIAs on Grovefield Way in the immediate vicinity of the site between the roundabout junction with Hatherley Lane and the roundabout junction with The Reddings. There was one slight PIA recorded at the Grovefield Way / The Reddings roundabout.
- 2.13 A brief description of the PIAs recorded in the study area is shown in **Table 2.2**.

Table 2.2 – Summary of Accidents – Arle Court Roundabout

NO.	REF	LOCATION	SEVERITY	DATE / TIME / CONDITIONS	DESCRIPTION
01	207896	Arle Court Roundabout (B4063 Arm)	One Slight (Car Driver)	Wednesday 19/06/13 09:00 Light / Dry	Shunt type collision in queuing traffic
02	208509	Arle Court Roundabout (B4063 Arm)	One Slight (Motorcycle Rider)	Wednesday 19/02/14 06:10 Dark / Wet	Emerging vehicle failed to give way to motorcyclist already on roundabout and collision occurred
03	208712	Arle Court Roundabout (Circulatory Carriageway)	One Slight (Car Driver)	Friday 06/06/14 08:45 Light / Dry	Shunt type collision in queuing traffic
04	208842	Arle Court Roundabout (Circulatory Carriageway)	Two Slight (Car Driver & Car Passenger)	Saturday 12/07/2014 18:35 Light / Dry	Shunt type collision in queuing traffic
05	209371	Arle Court Roundabout (Circulatory Carriageway)	One Slight (Car Driver)	Thursday 19/02/15 08:30 Light / Dry	Shunt type collision in queuing traffic
06	209535	Arle Court Roundabout (B4063 Arm)	One Serious (Cyclist)	Wednesday 22/04/15 08:22 Light / Dry	Cyclist pulled out between stationary traffic into path of oncoming car.

2.14 As shown in **Table 2.2**, six incidents (five slight, one serious) occurred at the Arle Court Roundabout during peak periods, with four of these resulting in shunt type collisions in queuing traffic. However, this is a large signalised roundabout with five arms, two of which are dual carriageway with high traffic flows and potentially high vehicle approach speeds, particularly on the western (A40) arm. In addition, since the most recent incident in April 2015, there have been no incidents recorded up to December 2017. It is therefore considered that six incidents in a five year period is not significant.

Table 2.3 – Summary of Accidents – Grovefield Way / The Reddings Roundabout

NO.	REF	LOCATION	SEVERITY	DATE / TIME / CONDITIONS	DESCRIPTION
07	209470	Grovefield Way / The Reddings Roundabout	One Slight (Car Driver)	Tuesday 05/05/15 09:31 Light / Wet	Emerging vehicle failed to give way to another vehicle already on roundabout and collision occurred

2.15 **Table 2.3** shows that there has been one slight incident recorded in the most recent five year period, which appears to have occurred as a result of driver error or misjudgement. It is therefore considered that there is no obvious existing highway safety pattern or problem associated with the Grovefield Way / The Reddings Roundabout.

Table 2.4 – Summary of Accidents – Hatherley Lane

NO.	REF	LOCATION	SEVERITY	DATE / TIME / CONDITIONS	DESCRIPTION
08	208203	Hatherley Lane approximately 80 metres south of Arle Court Roundabout	One Slight (Cyclist)	Tuesday 08/10/13 16:50 Light / Dry	Vehicle emerging from driveway. Cyclist continued from end of cycleway onto pavement and collided with vehicle.
09	209405	Hatherley Lane / Grace Gardens / Unwin Road Roundabout	One Slight (Cyclist)	Thursday 05/02/15 17:30 Light / Wet	Emerging vehicle failed to give way to cyclist already on roundabout and collision occurred

2.16 As set out in **Table 2.4**, there have been two slight incidents recorded on Hatherley Lane, both of which involved cyclists. However, these both appear to have occurred as a result of driver or rider error or misjudgement, and there is no obvious pattern to their locations.

2.17 The traffic attraction associated with the scheme is not considered to be material, as set out in **Chapter 5**, and therefore it is not considered that the development will lead to any significant impact on local highway safety.

Existing Pedestrian and Cyclist Accessibility

2.18 There is a shared footway/cycleway on the southern/eastern side of Grovefield Way, which connects the Arle Court Roundabout in the north with the residential area of Hatherley to the south.

2.19 To the north of the site, the footway/cycleway provides access to existing footways on Hatherley Lane and is extended to the northern arms of the Arle Court roundabout, by means of a subway under the eastern arm of the A40. This also provides access to the eastbound bus stop on the A40, and an uncontrolled at-grade crossing across the Fiddlers Green Lane arm. Footways are provided on Fiddlers Green Lane and the B4063 to the north.

2.20 To the south of the site, the footway/cycleway connects to existing footways on The Reddings and other residential roads, as well as on Up Hatherley Way, which extends to the A46 Shurdington Road.

2.21 A pelican crossing is provided on Grovefield Way to the immediate south of its junction with North Road West.

2.22 There is a footway on the southern side of North Road West along a 160 metre stretch from its junction with Grovefield Way, but not on the northern side. The remaining length of North Road West has no footways.

2.23 National Cycle Route 41 (NCR41) utilises the existing cycle facilities on Grovefield Way to the north of the site. The route provides a cycle link between Cheltenham, Gloucester and Bristol.

Existing Public Transport Provision

- 2.24 The site is well located in the heart of the Central Severn Vale and on a major public transport corridor that runs between the Principal Urban Areas (PUAs) of Cheltenham and Gloucester on the A40.
- 2.25 Bus services provide the principal form of public transport in the vicinity of the site and the primary bus service provider in the area is Stagecoach in Cheltenham.
- 2.26 Bus stops are located on Grovefield Way approximately 350 metres to the south of the site, on Hatherley Lane approximately 550 metres to the north of the site and on the A40 on the eastern side of the Arle Court Roundabout. The bus stops are also shown on **Figure 2.1**.
- 2.27 A summary of the bus services that operate in the vicinity of the site (frequency per direction) is provided in **Table 2.5** below. The bus stop on Grovefield Way to the south of the site currently serves bus service DR7 which is a Sir Thomas Rich's & Denmark Road Schools service, operating a single return service Monday to Friday. Services J and K stop on Hatherley Lane to the north of the site, with all of the other services stopping at Arle Court Roundabout.

Table 2.5 – Summary of Local Bus Services

SERVICE NUMBER	ROUTE DESCRIPTION	OPERATOR	APPROXIMATE FREQUENCY		
			Monday - Saturday		Sunday
			Daytime	Evening	
M5	Leckhampton – Shurdington – Harterley – Pates Grammer School - All Saints Academy	Marchants Coaches	3 journeys	-	-
97	Gloucester – Longlevens – Innsworth – Churchdown – The Reddings - Cheltenham	Stagecoach West	30 – 60 minutes	1 -2 hours	2 hours
98	Gloucester – Longlevens – Innsworth – Churchdown – The Reddings - Cheltenham	Stagecoach West	30 – 60 minutes	1 -2 hours	2 hours
DR7	Denmark Road – Sir Thomas Rich's Schools – The Reddings – Up Hatherley	Bennetts	1 journey	-	-
J	Cheltenham - Christchurch Road - Benhall - Asda	Marchants Coaches	90 minutes	-	-
K	Cheltenham - Up Hatherley - Morrisons - Asda	Marchants Coaches	90 minutes	-	-

- 2.28 In addition to the services shown in **Table 2.5**, the site is located adjacent to the Arle Court Park and Ride (service 511), which provides services to the centre of Cheltenham at a frequency of every twelve minutes approximately between 0700 and 1900 Monday to Friday and approximately between 0800 and 1800 on Saturdays. The journey time is generally around 12 minutes.

Sustainability of the Site

- 2.29 It is considered that in sustainability terms, the site is in a suitable location in regards to both accessibility by non-car modes of travel, and also its close proximity to residential areas and other services and amenities that may be required on a day to day basis for employees and visitors. This has been confirmed through the planning permissions already granted on this site for B1 employment uses and also the BMW Mini car showroom.
- 2.30 It is concluded that this site is suitably located in an area that would provide the opportunity for staff, customers and visitors to walk or cycle from home and to use local public transport services. It is also concluded that the site has access to a good network of bus services, which will ensure that there is a genuine choice in modes of travel thereby reducing reliance on the private car.

3 DEVELOPMENT PROPOSALS

- 3.1 The development proposals are submitted as a hybrid planning application, with parts of the scheme submitted in outline and parts of the scheme submitted in detail.
- 3.2 The detailed development proposal will broadly comprise the following:
- (i) Two B1 office buildings (6,593sq.m. GFA) with ancillary parking;
 - (ii) A1 / A3 Costa Coffee drive thru (287sq.m. GFA);
 - (iii) A1 Aldi discount food retail (2,037sq.m. GFA); and
 - (iv) D1 day nursery (800sq.m. GFA – anticipated up to 27 employees, as set out at **Appendix D**).
- 3.3 The outline development proposal will broadly comprise the following:
- (i) Two B1 office buildings (8,736sq.m. GFA) with ancillary parking.
- 3.4 The development masterplan is included as part of the submission.

Site Access

- 3.5 The site access road and its junction with Grovefield Way have been agreed in principle with the local highway authority as part of the consented B1 use on the wider site. The site access junction on Grovefield Way and an approximate 160 metre section of the access road has been constructed as part of the BMW Mini car showroom development up to the boundary of the BMW site. This access road will be extended into the application site, as shown on the masterplan at **Appendix D**, to serve the proposed development. This has been agreed with GCC as part of the previous submission.
- 3.6 As set out in **Chapter 5**, it is concluded that there will be no material increase in vehicular trips associated with the proposed development, in comparison to the extant consent. It is therefore considered that the site access proposal is suitable to serve the proposed development.
- 3.7 Swept path assessments are included at **Appendix E**, which demonstrate that the site is accessible by refuse and delivery vehicles.

Car Parking Provision

Detailed Application

- 3.8 A parking accumulation exercise has been conducted and agreed with GCC based on the forecast trip attraction set out at **Chapter 5**. This shows that at any one time the maximum number of spaces in use is 107 for the Aldi, Day Nursery and Costa Coffee. This equates to a requirement for 129 spaces when allowing for an operational capacity of 85%.
- 3.9 Operationally Aldi have advised that they require additional car parking spaces over the 129 spaces indicated by the TRICS parking accumulation. The reason for this is that recent trends in Aldi shopping habits have led to customers using the shop more as a 'destination shop' rather than a 'top-up shop'. This means that, whilst the overall number of movements to the store has not materially changed, the average dwell time of each customer has increased from 30 minutes to 40 minutes. This therefore leads to a higher demand for car parking. Added to this is the coffee drive-thru element of the proposed scheme, where customers may choose to visit before/after shopping at Aldi, thereby further increasing the dwell time and parking demand accordingly.
- 3.10 The B1 element has a maximum parking accumulation of 222 spaces. Unlike the retail element, parking spaces for the offices are often allocated by the management company to each individual occupier, meaning that the employees are aware in advance of whether spaces are likely to be available and can make alternative travel arrangements, if necessary. In addition, Travel Plan measures, can be more easily targeted at office employees than retail customers to reduce vehicle trips.
- 3.11 Planning application reference 09/00369/REM was approved in 2012 for 22,000sqm of B1 Office use with 700 car parking spaces. This equates to a ratio of 1 space per 31sqm. Applying this ratio to the current proposals would equate to a total of 213 spaces for the B1 Office use.
- 3.12 A total of 154 car parking spaces will be provided for the Aldi, Day Nursery and Costa Coffee Drive Thru. A total of 222 car parking spaces will be provided for the two B1 Office buildings. This level of car parking is considered appropriate to serve the development proposals, and this was agreed with GCC as part of the previous submission.

Outline Application

- 3.13 Once the outline application has been approved and a reserved matters application has been submitted, a parking accumulation exercise will be conducted in the same manner as set out above and agreed with GCC for the current detailed application. This will confirm the level of parking to be provided for the outline application. This approach was agreed as appropriate with GCC as part of the previous submission.

Cycle Parking Provision

Detailed Application

- 3.14 Whilst not an adopted document, the GCC Draft Parking and Demand Management Strategy suggests that cycle parking may be provided as follows:
- (i) 1 space per 60sqm for A1 Food Retail – This equates to 34 cycle parking spaces for the proposed Aldi and 6 cycle parking spaces for the Drive Through;
 - (ii) 1 space per 166sqm for B1 Office – this equates to 40 cycle parking spaces for the proposed B1 office buildings; and
 - (iii) 0.15 spaces per employee and 0.15 spaces per student for D1 Day Nursery – this equates to 4 cycle parking spaces for employees of the proposed Day Nursery.
- 3.15 A total of 32 cycle parking spaces for the Aldi, six cycle parking spaces for the Costa Coffee Drive Thru, and 52 cycle parking spaces for the two B1 Office buildings will be provided, in accordance with the strategy above. A total of 16 cycle parking spaces will be provided for the Day Nursery, in excess of the guidelines set out above. This provision has been agreed as appropriate with GCC.

Outline Application

- 3.16 Cycle parking for the outline application will be provided with reference to the GCC Draft Parking and Demand Management Strategy and the level of cycle parking provided for the detailed application above. Once the outline has been approved and a reserved matters application has been submitted, a strategy can be discussed further with GCC.

Servicing

- 3.17 Delivery Management Plans (DMPs) have been submitted with the application which include the necessary details to ensure that there are no highway safety concerns arising from the servicing of the site. It is considered that Servicing Management Plans (SMP) and Delivery Management Plans for each unit can be secured via a suitably worded planning condition and provided before any of the units are operational. The submitted DMPs have been agreed as appropriate with GCC as part of the previous application (16/02208/FUL).

4 TRANSPORTATION PLANNING GUIDANCE

Relevant Transportation Policies

- 4.1 The relevant transportation policies and government guidance are set out in the following documents:
- (i) National Planning Policy Framework (2012);
 - (ii) National Planning Practice Guidance (2014);
 - (iii) Manual for Streets (2007);
 - (iv) Manual for Streets 2 (2010);
 - (v) Manual for Gloucestershire Streets 4th Edition (2016);
 - (vi) Joint Core Strategy between Gloucester City Council, Cheltenham Borough Council and Tewkesbury Borough Council (2017);
 - (vii) Gloucestershire's Local Transport Plan 2015-31 (2016); and
 - (viii) Cheltenham Borough Local Plan 2nd Review (2006).
- 4.2 The main thrust of recent national and local policy guidance is to:
- (i) make effective and efficient use of land;
 - (ii) locate developments within walking and cycling distance of services and facilities and where employment opportunities are accessible by public transport;
 - (iii) reduce car dependency and ensure the levels of traffic is not at an environmentally unacceptable level;
 - (iv) make walking and cycling trips easier; and
 - (v) encourage public transport trips.
- 4.3 Paragraph 32 of the NPPF states that "Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe". This TS demonstrates that the impacts of the development will be less than the previously approved business park development and as such is in line with local and national policy.
- 4.4 The Joint Core Strategy (JCS) between Gloucester City Council, Cheltenham Borough Council and Tewkesbury Borough Council was adopted in late 2017. It is noted that in the adopted JCS, land comprising the committed scheme at Grovefield Way has been withdrawn from the Green Belt.

- 4.5 Furthermore, whilst there is no specific reference to the committed scheme at Grovefield Way being explicitly included within the transport modelling work of the adopted JCS, the site was included within the employment land supply assessment and the baseline model accounts for all committed growth within Gloucestershire. The transport modelling work therefore implicitly allows for traffic associated with committed sites such as at Grovefield Way.

The Suitability of the Development Proposal

- 4.6 It is considered that the development proposals are in accordance with the transportation policies of local and national planning guidance because they will make efficient use of the site and there are sustainable travel options available as a viable alternative to private car use.

5 FORECAST DEVELOPMENT TRAFFIC

Previous Planning Applications

- 5.1 In order to assess the likely impact of the forecast development traffic, it is considered appropriate for a comparison to be made against previously consented schemes on the site. A brief summary of the relevant planning consents and their associated traffic forecasts is set out below.

2005 Application & 2007 Appeal

- 5.2 Trip rates were obtained from the TRICS 2004(b) database for The Oxford Business Park South in Oxford (33,105sq.m, 1793 employees & 1750 parking spaces) as it was considered the most comparable to the proposals at Grovefield Way at the time.
- 5.3 The Transport Assessment work forecast that there could be 320 vehicular trips associated with the Business Park in the AM peak and 267 vehicular trips in the PM peak. This approach was agreed at appeal.

2009 Reserved Matters Application

- 5.4 Further work was carried out by TPA for the reserved matters application. The work forecast that there could be 719 vehicular trips associated with the Business Park in the AM peak and 666 vehicular trips in the PM peak.

2012 Extension of Time Application

- 5.5 Further work was carried out by TPA as part of the extension of time application (10/00468/TIME). Trip rates were obtained from the TRICS 2011(b) database for The Oxon Business Park in Shrewsbury. This site was not included in the 2004 version of the TRICS database. This site was considered to have similar characteristics to the proposed development at Grovefield Way (i.e. 17,197sq.m, edge of town location, 612 parking spaces) and was considered to be more applicable than the previously used Oxford Business Park site.
- 5.6 The updated trip calculations forecast that the Business Park could generate 578 vehicle trips in the AM peak and 603 in the PM peak. This was fewer than was agreed for the 2009 consented application and was subsequently agreed as appropriate.

2013 BMW Showroom Application

- 5.7 TPA carried out additional work as part of the application for 4.5 acres of the 16 acre site to be used for a 7,500sqm GFA BMW and Mini Car Showroom. Trip forecasts carried out as part of the Transport Assessment indicated that the proposals would result in a net reduction in vehicle trips compared to the extant consent.

2014 Business Park Outline Application

- 5.8 Further work was carried out by TPA for an outline application (14/01323/OUT) for the remaining 11.5 acres of the 16 acre site as a 16,800sqm B1 Business Park. Trip rates were obtained from the TRICS 2014 database for the Oxon Business Park in Shrewsbury which was still considered to be the most appropriate site available within the TRICS database at that time.

Summary of Previous Planning Applications

- 5.9 The overall consented development of the site comprises the following:
- (i) 4.5 acres – consented 7,500sqm BMW Car Showroom (13/01101/FUL); and
 - (ii) 11.5 acres – consented 16,800sqm B1 Business Park (14/01243/OUT).
- 5.10 A hybrid application was refused in 2017 (16/02208/FUL) for 18,453 square metres (sqm) Gross Floor Area (GFA), comprising B1 employment, A1/A3 Costa Coffee Drive-Thru, A1 Aldi discount food retail and D1 Day Nursery uses. However, there were no objections raised by either Gloucestershire County Council (GCC) or Highways England in relation to highways matters, and it was agreed that the development would not result in a severe impact in comparison to the extant consent.
- 5.11 The current proposals would replace the consented 16,800sqm B1 Business Park with the quantum of development set out at **Chapter 3**.

Forecast Vehicle Trips

- 5.12 The proposed development two way vehicular trips have been derived from the TRICS 2016 database and agreed as appropriate with GCC and HE as part of the previous submission. The full TRICS reports are included at **Appendix F**. Trip rates have been extrapolated for the various land uses for surveys carried out within England and Wales, and within Edge of Town and Suburban locations. The categories used for each land use are summarised as follows:

Detailed Application

- (i) B1 Office element – based on Offices up to 20,000sqm GFA since 2008 and without Travel Plans in operation;
- (ii) A1 Discount Food Retail store element – based on Discount Food Stores up to 2,000sqm GFA since 2000 (due to lack of more recent weekend survey data) and without Travel Plans in operation;
- (iii) A5 Costa Coffee Drive Thru element – based on Fast Food Drive Through sites up to 800sqm GFA since 2008 and without Travel Plans in operation; and
- (iv) D1 Day Nursery element – based on Nursery sites up to 50 employees since 2008 and without Travel Plans in operation.

TRICS data for nurseries of up to 50 staff demonstrates that there is no clear correlation between GFA and either the number of employees or the number of pupils. As the number of employees and pupils will be directly linked to the number of trips, it is considered that these are a more appropriate denominator for the proposed development trip rates than the GFA. As the resultant total trips are higher when assessing for the number of employees as opposed to number of pupils, the number of employees has been adopted as the trip rate parameter. This approach and resultant total trips has been agreed as appropriate with GCC and HE as part of the previous submission.

Outline Application

- (v) B1 Office element – based on Offices up to 20,000sqm GFA since 2008 and without Travel Plans in operation.

5.13 **Table 5.1** sets out the forecast two way vehicular trip attraction for the site, including those associated with the extant BMW car showroom element.

Table 5.1 Total Forecast Two-Way Vehicular Trips.

Scenario		Total Two-Way Vehicular Trips		
		AM Peak (0800-0900)	PM Peak (1700-1800)	Saturday peak (1200-1300)
Detailed	A. Proposed Two B1 Offices Employment Use (6,593sq.m)	151	127	Not Applicable
	B. Proposed A5 Costa Coffee Drive Thru (287sq.m)	52	46	157
	C. Proposed A1 Aldi Discount Food Use (2,037sq.m)	35	157	248
	D. Proposed D1 Day Nursery Use (800sq.m)	57	47	Not Applicable
Outline	E. Proposed Two B1 Offices employment Use (8,736sq.m)	200	168	Not Applicable
	F. Extant BMW Car Showroom (13/01101/FUL)	111	111	88
Traffic Accumulation (A+B+C+D+E+F) for proposed development		606	656	493

5.14 **Table 5.1** shows that the overall development of the site could be associated with up to 606 vehicle trips in the AM peak, 656 vehicle trips in the PM peak and 493 vehicle trips in the Saturday peak.

Reduction for Linked and Pass-by Trips

5.15 Linked trips are defined within the DfT document 'Guidance on Transport Assessment'. Whilst this is no longer a current document, it is still considered to be appropriate for the purpose of definition. Linked trips are defined as follows:

"Linked Trips – These are trips that will have a multiple destinations either within the proposed development site. Examples include trips to food and non-food retail, between both the development site and existing adjacent sites or between the development site and an established town centre. Where there is a high probability that there will be a proportion of linked trips between two uses on a development, it is customary only to 'count' those trips once for the development as a whole, and not effectively double-count them by attributing two visits and departures affecting the sections of highway network being assessed."

5.16 The proposed redevelopment consists of retail, employment, education and leisure land uses which will invariably result in a degree of linked trips between them. There is also significant potential for linked trips associated with the adjacent BMW and Mini car showroom.

- 5.17 In addition, a significant proportion of traffic attracted to a retail development will already exist on the local public highway network and vehicular trips to such a new facility will consist of an element of existing trips diverting from their previous destinations in order to access the new facility. A proportion of those diverted trips will have already passed the location of the new facility and cannot therefore be described as new traffic on the adjacent highway network.
- 5.18 TRICS report 14/1, which relates to linked, pass-by and diverted trips, makes reference to a number of research reports carried out between 1996 and 2011 which suggest levels of pass-by and diverted trips generally varying between 20-70%.
- 5.19 As such, it is considered reasonable for a 30% reduction to be applied to the food retail store trips to account for linked, pass-by and diverted trips. In reality, it is considered likely that this figure would be higher, particularly during the weekday peak periods. This has been agreed as appropriate with GCC and HE as part of the previous submission.
- 5.20 In addition it is considered unlikely that a Costa Coffee Drive Thru would be a major primary trip attractor, and that the majority of trips associated with this are likely to be linked trips associated with the adjacent uses. It is therefore considered reasonable for a 50% reduction to be applied to the Costa Coffee trips, which in reality would provide a very robust assessment. This has been agreed as appropriate with GCC and HE as part of the previous submission.
- 5.21 **Table 5.2** shows the number of trips associated with the proposed mixed use redevelopment given the reductions for linked trips and pass-by trips.

Table 5.2 Total Forecast Two-Way Vehicular Trips including trip discounts

Scenario		Total Two-Way Vehicular Trips		
		AM Peak (0800-0900)	PM Peak (1700-1800)	Saturday peak (1200-1300)
Detailed	A. Proposed Two B1 Offices Employment Use (6,593sq.m)	151	127	Not Applicable
	B. Proposed A5 Costa Coffee Drive Thru (287sq.m) (with 50% linked trip discount)	26	23	79
	C. Proposed A1 Aldi Discount Food Use (2,037sq.m) (with 30% linked trip discount)	25	110	174
	D. Proposed D1 Day Nursery Use (800sq.m)	57	47	Not Applicable
Outline	E. Proposed Two B1 Offices employment Use (8,736sq.m)	200	168	Not Applicable
	F. Extant BMW Car Showroom (13/01101/FUL)	111	111	88
Traffic Accumulation (A+B+C+D+E+F) for proposed development		570	586	341

- 5.22 **Table 5.2** shows that the overall development of the site could be associated with up to 570 vehicle trips in the AM peak, 586 vehicle trips in the PM peak and 341 vehicle trips in the Saturday peak, once trip discounts are taken into account.

Comparison of Proposed and Extant Trips

- 5.23 A comparison assessment between the vehicular trips associated with the consented schemes on the site and the proposed development has been carried out. This has been assessed for both the most recently consented scheme (14/01323/OUT) and the 2009 consented reserved matters scheme (09/00369/REM), which displays the highest level of consented vehicle trip attraction at the site. The results are summarised below on **Table 5.3**.

Table 5.3 – Vehicle Trip Comparison for Extant and Proposed

Scenario		Total Two-Way Vehicular Trips			
		AM Peak (0800-0900)	PM Peak (1700-1800)	Saturday peak (1200-1300)	
Extant consents	A. 2014 Outline Application (14/01323/OUT) 16,800sqm Business Park + BMW Car Showroom	552	571	88	
	B. 2009 Reserved Matters Application (09/00369/REM) 22,000sqm Business Park	719	666	Not Applicable	
C. Proposed Development (including Trip Discounts)		570	586	341	
Traffic Difference between proposed and consented uses		C-A	18	15	253
		C-B	-149	-80	341

- 5.24 **Table 5.3** shows that the proposed development could result in up to 18 additional vehicle trips during the weekday AM peak period and 15 additional vehicle trips during the weekday PM peak period compared to the most recently consented scheme on the site. This equates to less than one additional vehicle every three minutes during the peak periods.
- 5.25 However, in comparison to the 2009 consented scheme, the proposed development could result in up to 149 fewer vehicle trips during the weekday AM peak period and 80 fewer vehicle trips during the weekday PM peak period.
- 5.26 As such, it is considered that the proposed development will not have a material impact on the operation or safety of the local highway network during the weekday peak periods and capacity assessments are not necessary. This has been agreed as appropriate with GCC and HE as part of the previous submission.

- 5.27 With regards to the Saturday peak period, it is forecast that there could be up to 341 additional vehicle trips associated with the proposed scheme in comparison to the extant consents. An assessment has been carried out to determine the likely impact of the proposals at the Arle Court roundabout during the Saturday peak period.
- 5.28 2016 baseline traffic flows during the Saturday peak period have been obtained for the Arle Court Roundabout and Park and Ride Roundabout, as set out in **Chapter 2**. An ATC survey was also carried out on Hatherley Lane between the two roundabouts, and this has been used to determine a peak hour flow conversion factor between the Saturday peak period (1200-1300) and the weekday peak periods (0800-0900 and 1700-1800).
- 5.29 In order to determine the impact of the proposed development, an assessment of the baseline flows in addition to the consented development flows during the weekday peak period has been compared to the baseline flows in addition to the proposed development flows during the Saturday peak period. This has been assessed for traffic travelling to or from the Grovefield Way arm of the Park and Ride roundabout, which would serve the site. The traffic flow comparison is set out in **Table 5.4** below.

Table 5.4 – Vehicle Trip Comparison of Weekday and Saturday peaks

Scenario		Total Two-Way Vehicular Trips on Grovefield Way		
		AM Peak (0800-0900)	PM Peak (1700-1800)	Saturday peak (1200-1300)
A. Base Traffic		906	946	918
Extant Consents	B. 2014 Outline Application (14/01323/OUT) 16,800sqm Business Park + BMW Car Showroom	552	571	88
	C. 2009 Reserved Matters Application (09/00369/REM) 22,000sqm Business Park	719	666	Not Applicable
D. Proposed Development (Saturday)		Not Applicable	Not Applicable	341
Total Traffic		A+B+D	1,458	1,517
		A+C+D	1,625	1,612

- 5.30 **Table 5.4** confirms that the proposed development in addition to the baseline traffic flows during the Saturday peak period will result in fewer vehicle movements compared to those previously agreed as acceptable for both the weekday AM and PM peak periods. It is therefore considered that the existing junctions are suitable to accommodate the proposals during the Saturday peak period and capacity assessments are not necessary. This was agreed as appropriate with GCC as part of the previous submission.

- 5.31 Notwithstanding this, the previous application was refused against officer recommendation, with the impact of development traffic at weekends cited as a reason for refusal. A further assessment of operation of the Arle Court roundabout during the peak period of operation of the proposed development on a Saturday has therefore been carried out at **Chapter 7**.

6 SCOPE AND METHODOLOGY OF TRAFFIC ANALYSIS

Background

- 6.1 This chapter outlines the methodology adopted to assess the impact of the proposed mixed use development at the Arle Court Roundabout.

Assessment Scenarios

- 6.2 As traffic associated with the proposed development will not have a material impact on the operation of the local highway network during the weekday AM and PM peak hours (as agreed with HE and GCC), the assessment considers the Saturday peak hour (1200-1300) only. The assessment will therefore address the previous application's reason for refusal, as set out in **paragraph 5.31**.
- 6.3 As set out in **Chapter 2**, Manual Classified Counts (MCC) were undertaken on Saturday 9th July 2016 at the Arle Court Roundabout and the Park and Ride Roundabout, to record vehicle turning movements and queue lengths for the Saturday peak period of 1100 to 1500.
- 6.4 The 2016 base traffic flows at the Arle Court Roundabout have been growthed to 2018 and to a design year of 2023, using TEMPRO 7.2. Growth factors have been adjusted for the National Transport Model within TEMPRO selecting 'Urban Principal' as the road type and Cheltenham 010 as the geographic location.
- 6.5 A design year of 2023 has been selected as five years following the year of registration of the planning application, in accordance with guidance contained in the DfT's Guidance on Transport Assessment. Whilst this document has now been archived, it is still considered to provide an appropriate reference in relation to the assessment period, and this has previously been applied for other schemes in Gloucestershire.
- 6.6 A summary of the calculated growth factors is provided below in **Table 6.1**.

Table 6.1 - TEMPRO 7.2 Average Growth Factors

Years	Growth Factor
	Saturday Peak Hour
2016 - 2018	1.0217
2016 - 2023	1.0802

Trip Distribution

- 6.7 The forecast traffic associated with the mixed use development has been derived from multi-modal surveys contained in the TRICS database, as set out in **Chapter 5**. Development trips have primarily been distributed according to the surveyed vehicle movements at the Park and Ride roundabout, which serves an existing A1 Retail Park. From this distribution, the percentage of development trips that route through the Arle Court roundabout have been distributed in accordance with the surveyed vehicle movements at that junction.
- 6.8 Traffic flow diagrams have been produced for the following Saturday peak scenarios:
- **Figure 6.1** - 2016 Survey
 - **Figure 6.2** - 2018 Baseline
 - **Figure 6.3** - 2023 Baseline
 - **Figure 6.4** - Development and Committed Development Traffic Distribution
 - **Figure 6.5** - 2018 Baseline plus Committed Development Traffic
 - **Figure 6.6** - 2023 Baseline plus Committed Development Traffic
 - **Figure 6.7** - 2018 Baseline plus Development and Committed Development Traffic
 - **Figure 6.8** - 2023 Baseline plus Development and Committed Development Traffic

Junction Capacity Assessments

- 6.9 As set out in **paragraph 6.2**, junction capacity assessments at the Arle Court Roundabout have been completed for the Saturday peak (1200-1300). This peak period has been selected as it is forecast to represent the busiest weekend hour of operation of the proposed development.
- 6.10 As the roundabout is signalised, its operation has been modelled using the Department for Transport (DfT) approved computer program 'LinSig 3'. The outputs from LinSig relate to the Degree of Saturation (DoS), Practical Reserve Capacity (PRC), average queue length in 'Passenger Car Units' (PCUs) and delay in seconds per vehicle. The DoS gives the main indicator of the junction's performance, which is calculated from the maximum degree of saturation on a link. A junction is considered to be at theoretical capacity when the DoS is 100 percent or greater.
- 6.11 Existing traffic signal data for the junction provided by GCC has been applied to ensure that the model can replicate the current operation. The data includes phases, intergreen times, stages, stage sequences, prohibited moves and phase delays.
- 6.12 Queue length surveys recorded as part of the MCC traffic surveys have been used to calibrate the base models. The average queue lengths recorded within the Saturday peak hour are compared against the mean max queue length within the models.
- 6.13 The proposed site will also have a Travel Plan whereby it is considered that a target for a 10% percent reduction in vehicle trips is achievable. The development traffic modelled within the

junction assessments does not account for this reduction and as such is considered to be a robust assessment.

7 TRAFFIC IMPACT ASSESSMENT

Baseline Model Validation

7.1 The 2016 baseline assessment of the Arle Court Roundabout has been validated against surveyed queue lengths, as shown in the traffic surveys included at **Appendix B**. A summary of the validation is shown in **Table 7.1**. For the purpose of this TA, the arms of the junction are labelled as follows:

- (i) Arm 1 – Fiddler’s Green Lane;
- (ii) Arm 2 – B4063;
- (iii) Arm 3 – A40 (W);
- (iv) Arm 4 – Hatherley Lane; and
- (v) Arm 5 – A40 Gloucester Road (E).

Table 7.1 – Arle Court Roundabout Saturday Peak Hour (1200-1300) Base Validation

TIME	ARM 1		ARM 2			ARM 3			ARM 4			ARM 5		
	FIDDLER'S GREEN LN		B4063			A40 (W)			HATHERLEY LN			A40 GLOUCESTER RD		
	LANE 1	LANE 2	LANE 1	LANE 2	LANE 3	LANE 1	LANE 2	LANE 3	LANE 1	LANE 2	LANE 3	LANE 1	LANE 2	LANE 3
Surveyed Queues														
12:00	5	0	0	1	1	5	3	1	3	10	1	6	3	1
12:05	2	0	2	2	0	3	3	5	3	11	1	10+	10+	0
12:10	3	0	2	1	1	3	4	3	3	5	3	10+	5	1
12:15	0	0	3	0	1	8	2	1	1	13+	0	10+	10+	1
12:20	0	0	1	1	2	4	3	3	11+	8	2	10+	10+	4
12:25	2	0	3	1	0	9	9	3	4	8	1	6	5	0
12:30	1	2	2	1	0	10	10	2	2	2	2	10+	3	2
12:35	0	0	1	0	3	9	2	2	3	10	0	7	5	2
12:40	3	0	2	0	2	6	2	2	4	7	0	10+	10+	0
12:45	1	1	1	1	0	5	2	4	9	2	3	7	3	4
12:50	0	0	2	1	2	5	1	1	4	3	0	6	6	1
12:55	2	3	3	0	1	6	1	2	4	2	1	7	6	1
Avg	2	1	2	1	1	6	4	2	4	7	1	8	6	1
Max	5	3	3	2	3	10	10	5	11	13	3	10	10	4
Min	0	0	0	0	0	3	1	1	1	2	0	6	3	0
Modelled Queues														
MMQ	0.6	0.2	0.7			5.3	6.3		0.3	3.1		11.8	12.8	
GEH vs Max Queue	3.6	2.2	2.5			1.7	2.7		4.5	4.2		0.5	0.3	
Back of Uniform Queue	0.4	0.5	0.7			4.9	5.6		0	2.6		10.2	10.9	
GEH vs Avg Queue	2.0	1.3	1.1			0.5	0.2		2.8	2.3		0.7	1.3	

- 7.2 The surveyed queues, which were measured at five minute intervals, varied from one period to the next, with a wide variation in some cases as shown in **Table 7.1**. However, it is considered that the junction model appropriately reflects this model, with the MMQ generally falling within the range of surveyed queues. It also reflects that the A40 (arms 3 and 5) were surveyed to have the most consistent queue present.
- 7.3 In addition, as shown in **Table 7.1**, a GEH calculation has been carried out to compare the modelled MMQ with the surveyed maximum queue, as well as the modelled Back of Uniform Queue with the surveyed average queue. These show that all modelled queues have a GEH of less than five, and can therefore be considered to be validated in accordance with WebTAG guidance.

Capacity Assessment Results

- 7.4 **Table 7.2** summarises the results of the capacity assessment for the Arle Court Roundabout. The full LinSig report is included at **Appendix G**.

Table 7.2 – Arle Court Roundabout Saturday Peak Hour (1200-1300) LinSig Output

Capacity	Arm	Scenario					
		2018 Baseline	2018 Baseline plus Committed Development	2018 Baseline plus Committed Development and Development	2023 Baseline	2023 Baseline plus Committed Development	2023 Baseline plus Committed Development and Development
DoS (%)	Arm 1	23.9	24.7	26.0	25.9	26.3	27.9
	Arm 2	26.6	27.0	28.3	28.4	28.5	30.2
	Arm 3	62.3	63.7	73.8	72.4	78.0	83.1
	Arm 4	47.3	48.6	52.5	53.3	54.6	58.8
	Arm 5	77.8	78.5	81.7	81.9	82.7	87.6
MMQ (PCU)	Arm 1	1	1	1	1	1	1
	Arm 2	1	1	1	1	1	2
	Arm 3	9	10	12	12	14	16
	Arm 4	4	4	5	5	5	6
	Arm 5	18	19	20	21	21	24
Overall Junction PRC (%)		15.7	14.7	9.7	9.9	8.9	2.8
Total Junction Delay (pcuHr)		29.4	30.7	35.5	35.3	37.6	43.6

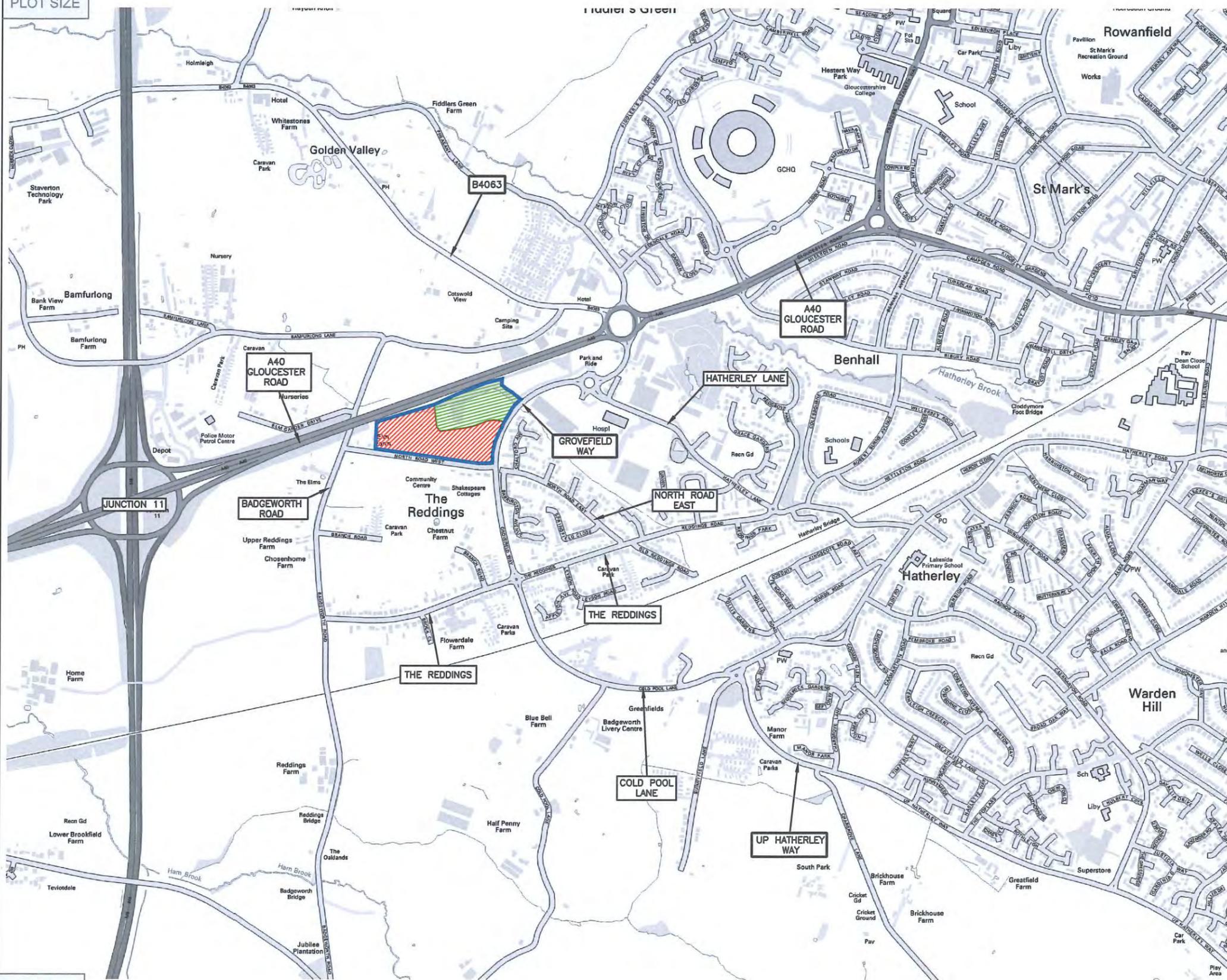
- 7.7 The results demonstrate that the Arle Court Roundabout is forecast to operate well within theoretical capacity during the Saturday peak hour (1200-1300). The addition of development traffic has no material impact on the performance of the junction in comparison to the committed situation, with a maximum increase in the queue length of three PCUs in the 2023 design year.

8 CONCLUSIONS

- 8.1 This Transport Assessment (TA) has been prepared by Transport Planning Associates (TPA) on behalf of Hinton Properties, in order to address the highway and transportation issues associated with the development of a mixed use scheme for up to 18,453 square metres (sqm) Gross Floor Area (GFA), comprising B1 employment, A1/A3 Costa Coffee Drive-Thru, A1 Aldi discount food retail and D1 Day Nursery uses, on land to the west of Grovefield Way in Cheltenham.
- 8.2 The site is located within easy walking distance of neighbouring residential areas and close to a public transport bus route. It therefore provides the opportunity for future employees and visitors to walk cycle or use public transport facilities to access the site as a genuine alternative to the car and it therefore complies with the broad objectives of transportation policy.
- 8.3 This report demonstrates that the forecast trip attraction for the current proposal will be less than that calculated for the previous business park proposals on the site. It also confirms that the traffic associated with the current proposal will be less than the previously consented uses on the site. The traffic associated with the proposed development is therefore not forecast to have a material impact on the operation and safety of the local highway network, as agreed with GCC and HE as part of the previous submission. Junction capacity assessments have also confirmed that the development will not have a material impact on the operation of the Arle Court roundabout during the Saturday peak hour.
- 8.4 The proposed parking provision and internal layout is considered to be appropriate to cater for operational requirements and the forecast maximum parking demand.
- 8.5 There are therefore no valid highway or transportation reasons, which should prevent the proposed development of the site.

FIGURES

A3
ORIGINAL
PLOT SIZE



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KEY

- Land owned by Client
- Approximate site boundary
- BMW site (consented as part of 13/01101/FUL)

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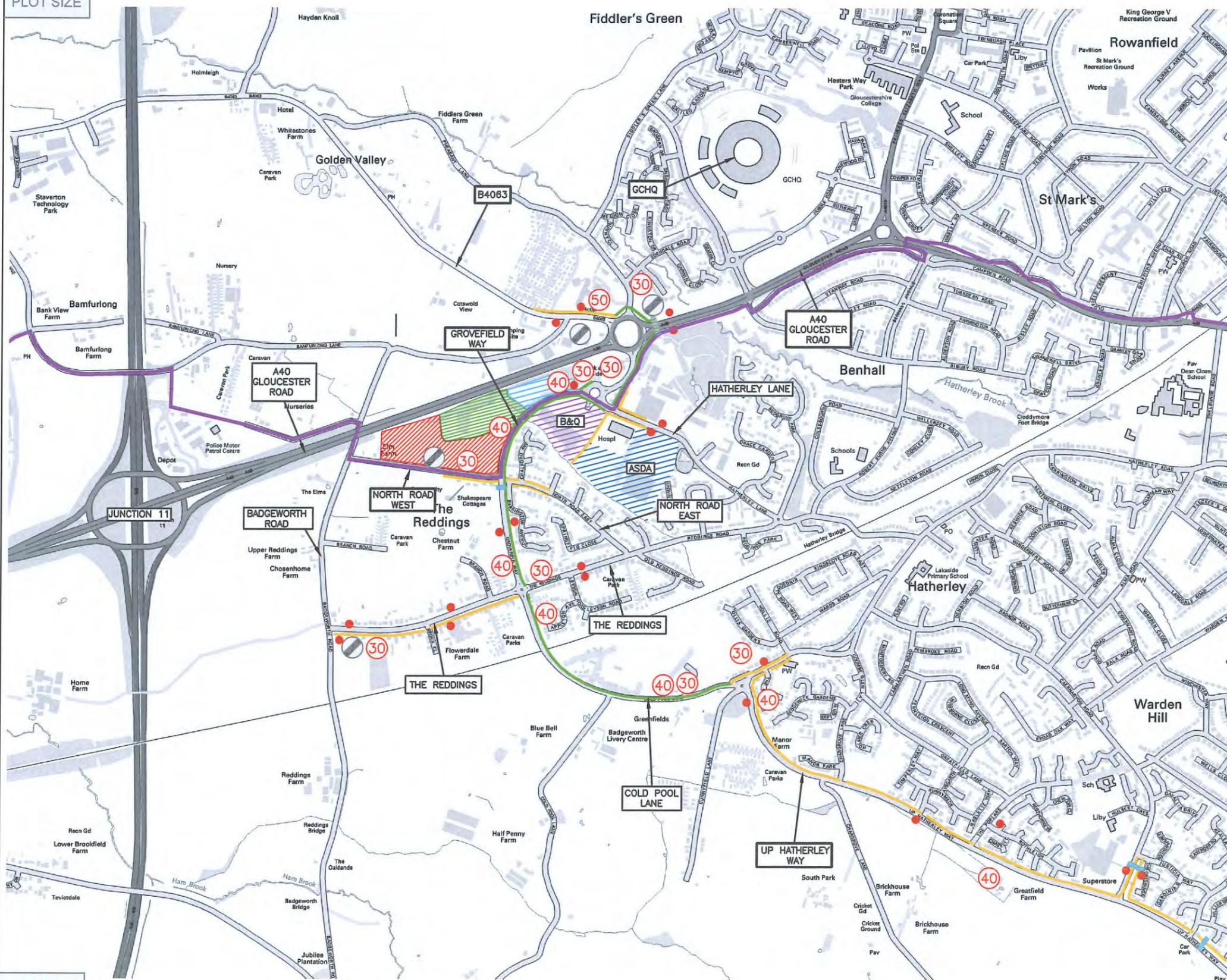
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**PHASE 2 CORINTHIAN PARK,
GROVEFIELD WAY,
CHELTENHAM**

TITLE:
Site Boundaries

STATUS:
INFORMATION

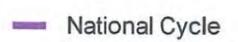
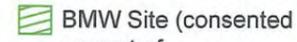
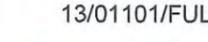
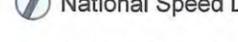
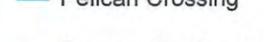
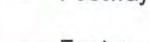
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JOB NO: 1605-13		DRAWING NO: Figure 1.1		REVISION:

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KEY

-  Site Location
-  National Cycle Network - Route 41
-  BMW Site (consented as part of 13/01101/FUL)
-  Subway
-  30 Speed Limit
-  Bus Stop
-  National Speed Limit
-  Park and Ride Site
-  Pelican Crossing
-  Footway/Cycleway
-  Footway

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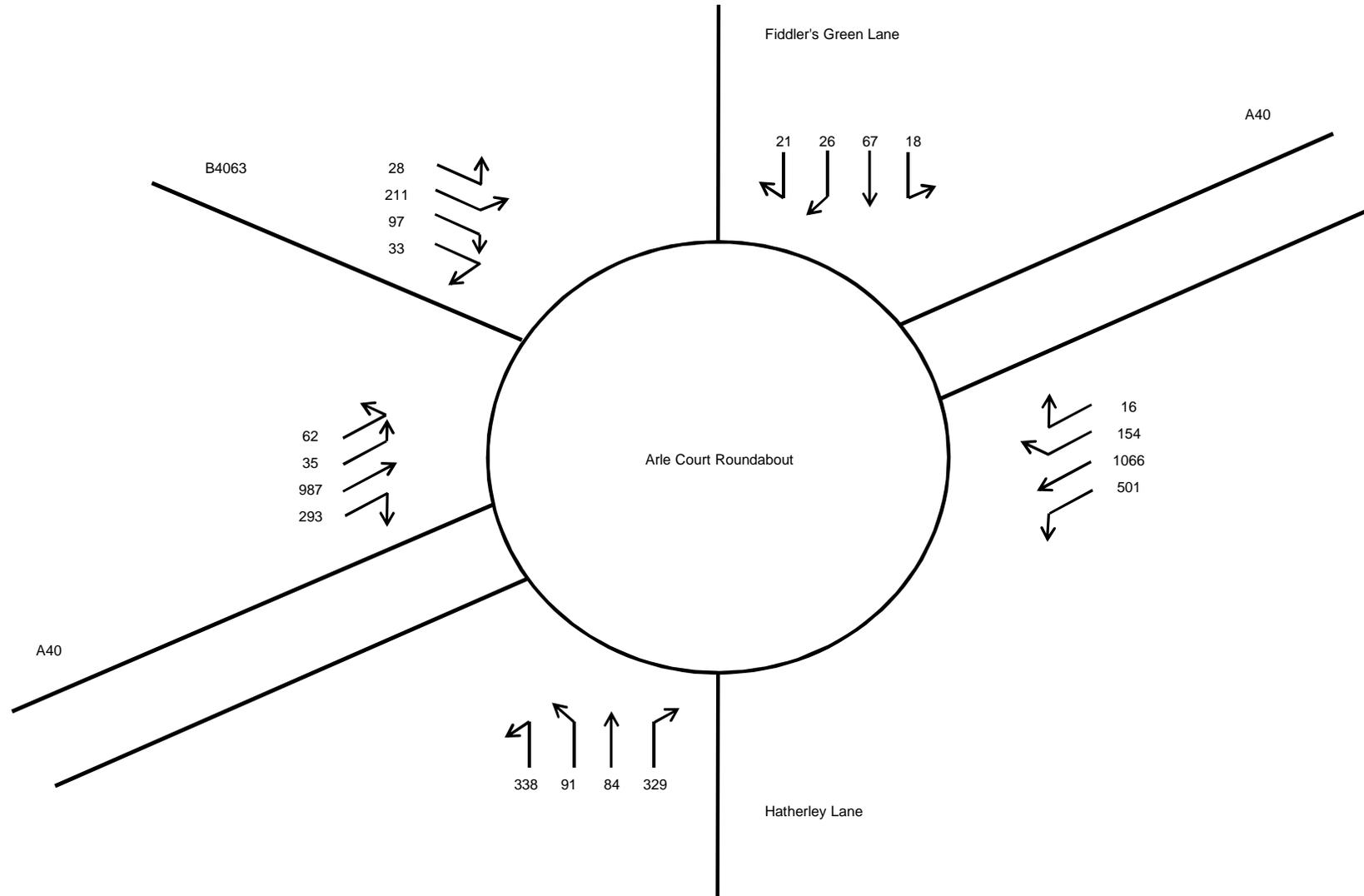
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PROJECT:
**PHASE 2 CORINTHIAN PARK,
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CHELTENHAM**

TITLE:
**Local Transportation
Network**

STATUS:
INFORMATION

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**2016 Survey
Saturday Peak (1200-1300)**

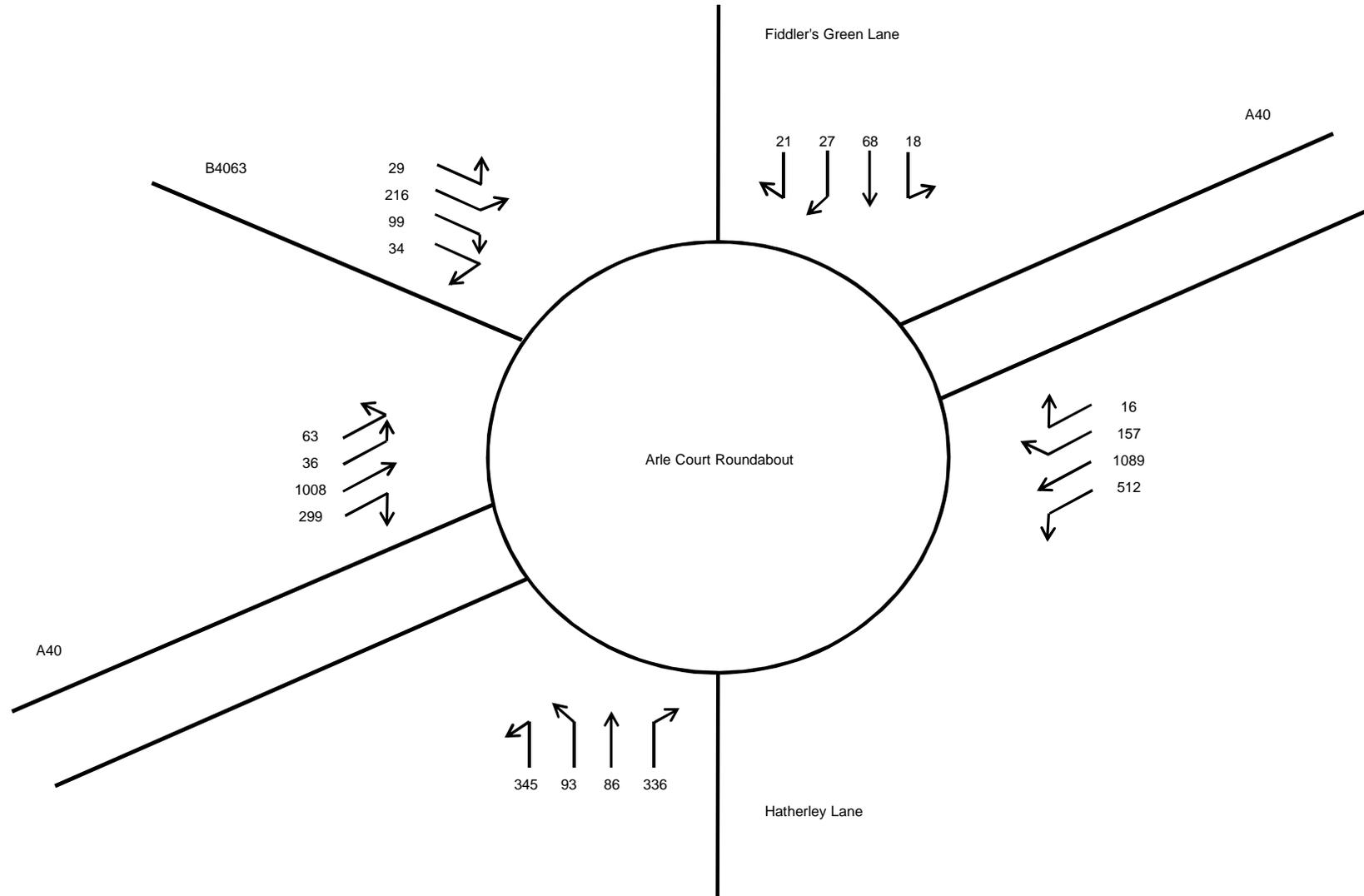
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Corinthian Park, Grovefield Way, Cheltenham

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Project No: 1605-13	Figure No: 6.1	Revision: -
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**2018 Baseline
Saturday Peak (1200-1300)**

Date: 03/04/18	Status: INFORMATION	Scale: NTS
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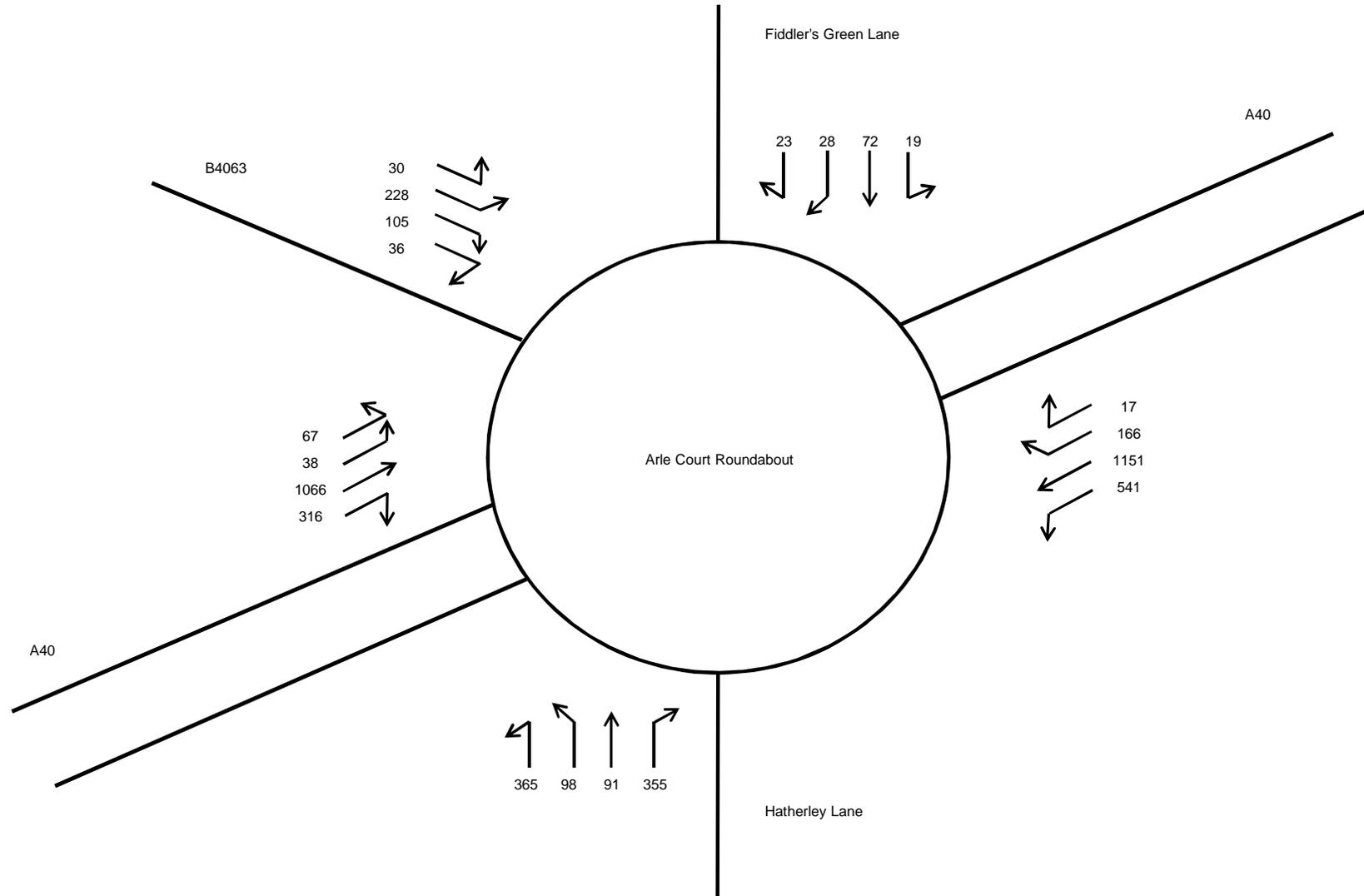
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Project No: 1605-13	Figure No: 6.2	Revision: -
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2023 Baseline
Saturday Peak (1200-1300)

Date:

03/04/18

Status:

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Scale:

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AJS

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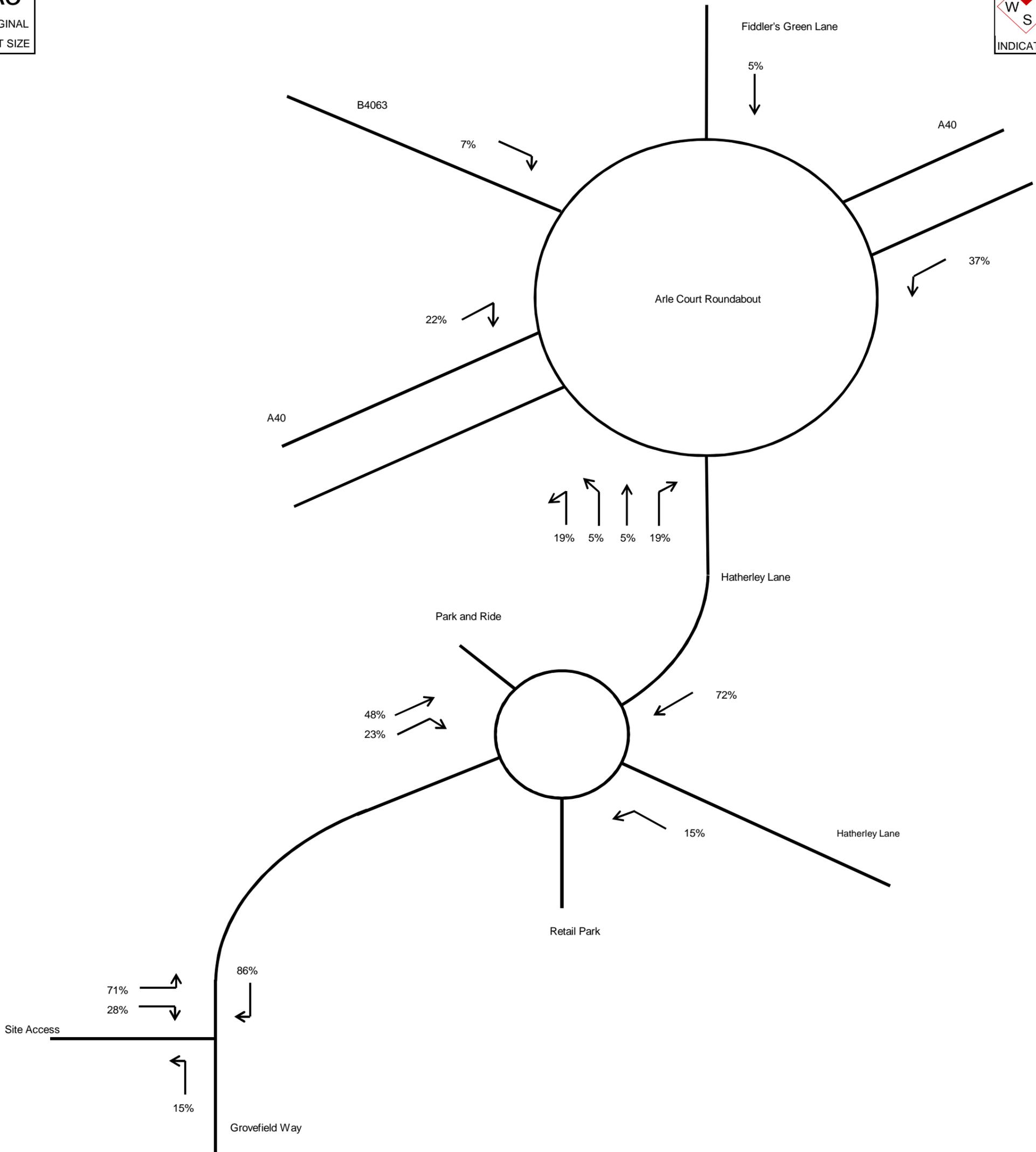
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Figure No:

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Development and Committed Development Traffic Distribution

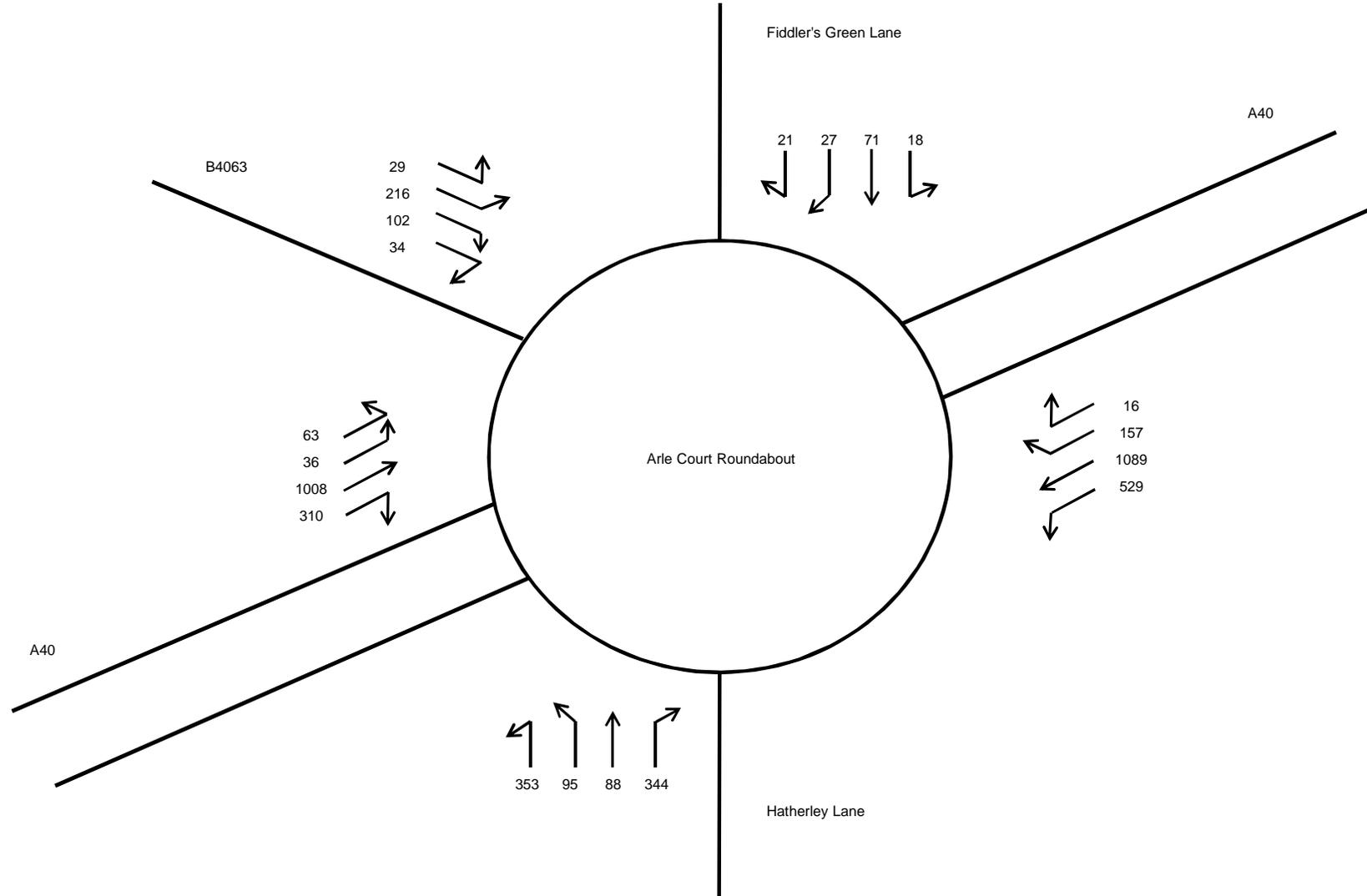
Corinthian Park, Grovefield Way, Cheltenham

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AJS	MB	MB
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**2018 Baseline plus Committed Development Traffic
Saturday Peak (1200-1300)**

Date:

03/04/18

Status:

INFORMATION

Scale:

NTS

Corinthian Park, Grovefield Way, Cheltenham

Prepared By:

AJS

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MB

Approved By:

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Project No:

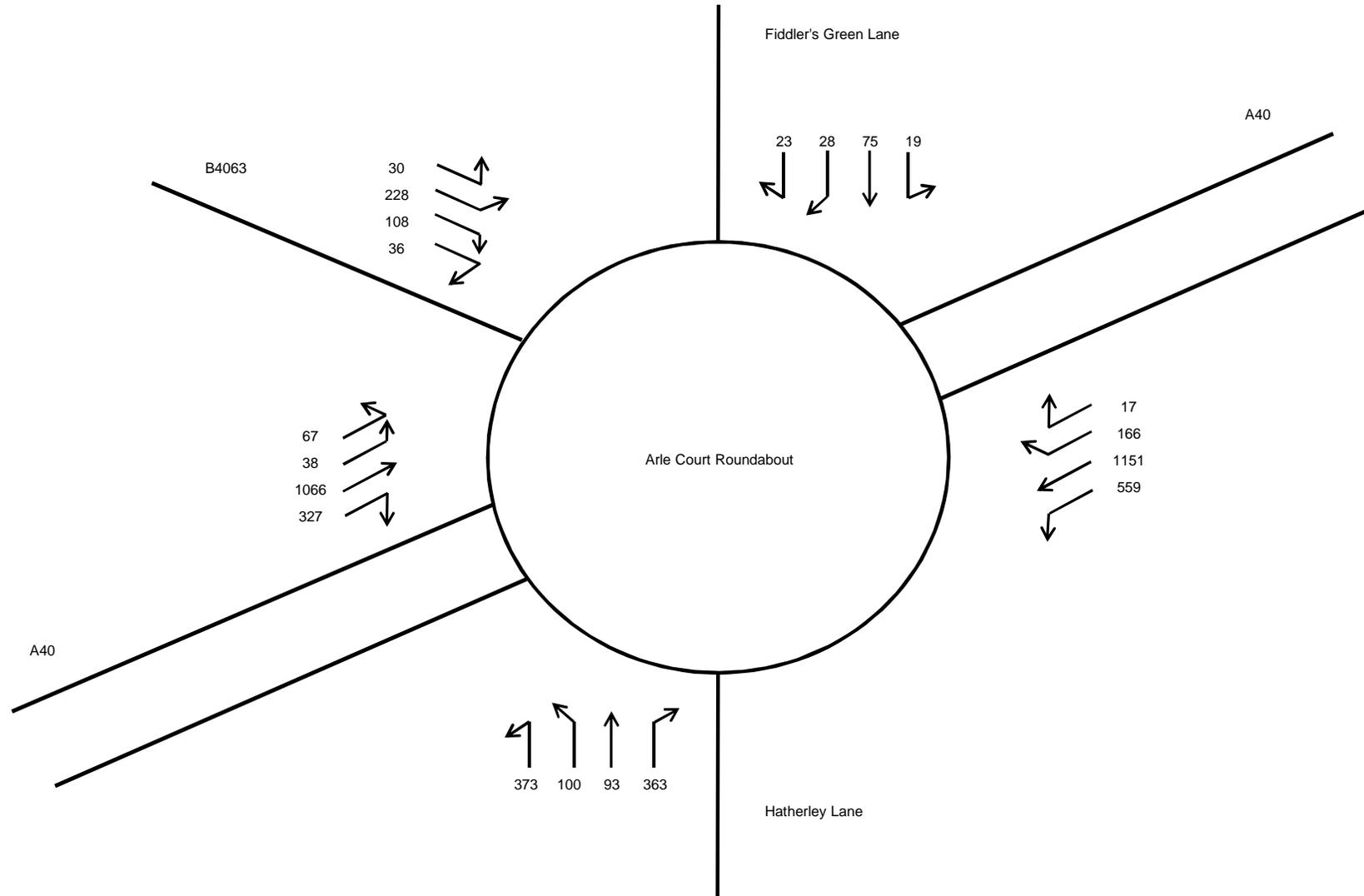
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Figure No:

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Revision:

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**2023 Baseline plus Committed Development Traffic
Saturday Peak (1200-1300)**

Date:

03/04/18

Status:

INFORMATION

Scale:

NTS

Corinthian Park, Grovefield Way, Cheltenham

Prepared By:

AJS

Checked By:

MB

Approved By:

MB

Hinton Properties Ltd

Project No:

1605-13

Figure No:

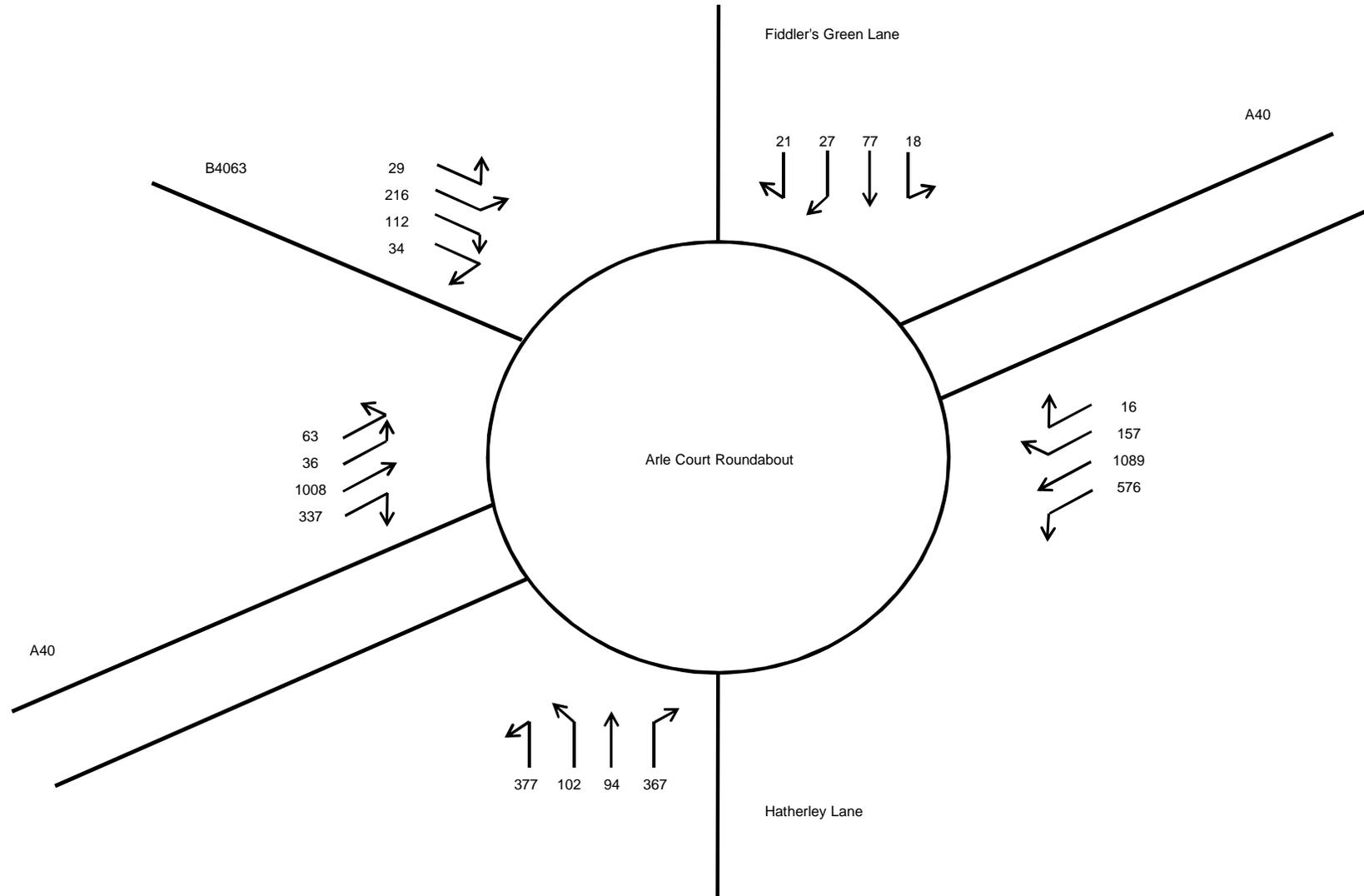
6.6

Revision:

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**2018 Baseline plus Development and Committed Development Traffic
Saturday Peak (1200-1300)**

Corinthian Park, Grovefield Way, Cheltenham

Hinton Properties Ltd

Date:

03/04/18

Status:

INFORMATION

Scale:

NTS

Prepared By:

AJS

Checked By:

MB

Approved By:

MB

Project No:

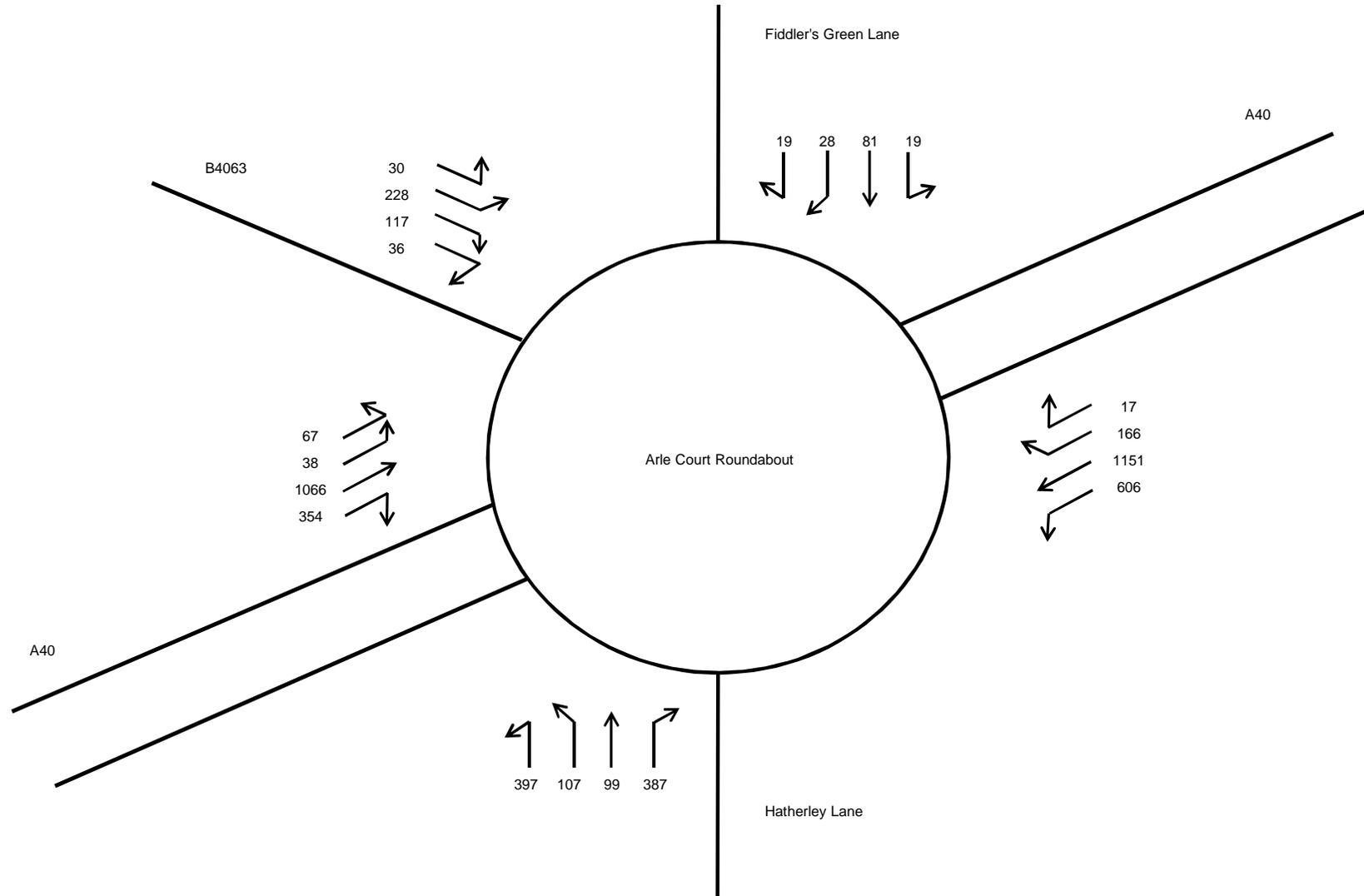
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Figure No:

6.7

Revision:

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**2023 Baseline plus Development and Committed Development Traffic
Saturday Peak (1200-1300)**

Date:

03/04/18

Status:

INFORMATION

Scale:

NTS

Corinthian Park, Grovefield Way, Cheltenham

Prepared By:

AJS

Checked By:

MB

Approved By:

MB

Hinton Properties Ltd

Project No:

1605-13

Figure No:

6.8

Revision:

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