

counting, the frequencies are taken at the nearest available stop for each service. The AM and PM peak for the Weekday are 08:00-09:00 and 17:00- 18:00. On Saturday the peak is 12:00-13:00.

Figure 4.3: Symmetry Park Bus Stops Map



Source: Google Maps ©

Table 4.1: Bus Timetable

Service Number	Route	Monday - Friday					Saturday			
		First	AM Peak	PM Peak	Last	Per Day	First	Peak	Last	Per Day
29	Upper Arcott Bullingdon Prison - Bicester Town Centre Pioneer Square	05:46	1	1	20:16	17	07:02	1	20:16	15
	Bicester Town Centre Pioneer Square - Upper Arcott Bullingdon Prison	06:48	1	1	18:58	13	06:48	1	18:58	13
H5	John Radcliffe Hospital JR Hospital West Wing - Bicester	07:31	1	1	20:46	13	07:31	1	20:46	13

	Town Centre Pioneer Square									
	Bicester Town Centre Pioneer Square - John Radcliffe Hospital JR Hospital West Wing	06:08	1	1	19:28	13	06:08	1	19:28	13
<b>18</b>	High Street - Pioneer Square	08:20	1	-	16:59	5	-	-	-	-
<b>Totals</b>		-	<b>5</b>	<b>4</b>	-	<b>61</b>	-	<b>4</b>	-	<b>54</b>

4.3.3 **Table 4.1** demonstrates that the site is very accessible by bus for commuters, with over 61 buses passing along by the site on weekdays and over 54 buses passing on weekends, which offer regular and convenient opportunities for staff to travel to neighbouring. Services to Bicester Town Centre Pioneer Square offer further and more frequent travel to areas including Kirtlington & Oxford, Bletchingdon, Highfield, Aylesbury, and Banbury Town Centre.

4.3.4 Based on the above, it is therefore concluded that the site benefits from excellent access by bus, offering an attractive mode of transport and a viable alternative to single occupancy car journeys. Given the frequency of the services available, this has the potential to provide a significant alternative to single occupancy car journey.

## 4.4 Access by Rail

4.4.1 There are two rail stations located in Bicester, Bicester North Railway Station and Bicester Village Railway Station.

4.4.2 Both Bicester rail stations are operated by Chiltern Railways and provide connectivity to a number of regional and national destinations including Banbury, Oxford, Stratford, Birmingham and London.

4.4.3 Bicester Village Railway Station is located approximately 3.0km from the proposed site to the south of Bicester town centre. It is accessible by bus from the site with three routes (29, 108 and H5) serving the bus stop on London Road close to Station approach, approximately 130m from the station entrance. It is well served by trains to Oxford and London. The Station has 50 cycle spaces and 223 car parking spaces with accessible spaces. Parking charges apply although free only for blue badge holders.

4.4.4 Bicester North Rail Station is located approximately 4.2km from the proposed site to the north of Bicester town centre. There are 65 cycle parking spaces provided, there is also a pay and display car park with 530 spaces open 24 hours a day; the car park is free only for Blue Badge holders with six accessible spaces provided in front of the station. It is well served by trains to Birmingham and London.

## 4.5 Accessibility by Public Transport

4.5.1 A calculation has been undertaken, using GIS software - Basemap's Visography (TRACC) program, to illustrate the distance that can be travelled within 60 minutes by public transport to and from the proposed development site.

4.5.2 The time includes the walk to the bus stops or railway station and demonstrates that key areas such as Oxford, Banbury, Buckingham, and Berry fields are all within a 60-minute public transport journey.

4.5.3 **Figure 4.4** below provides an extract of the public transport 60-minute catchment area. A copy of the full plan is provided within Figure 3 of **Appendix A**.

Figure 4.4: 60-minute Public Transport Catchment



Source: Google Maps ©

## 4.6 Conclusion

4.6.1 In summary, the proposed development site is located within a sustainable location of Symmetry Park, and is well located to make use of the existing and proposed transport links in addition to pedestrian and cycle routes.

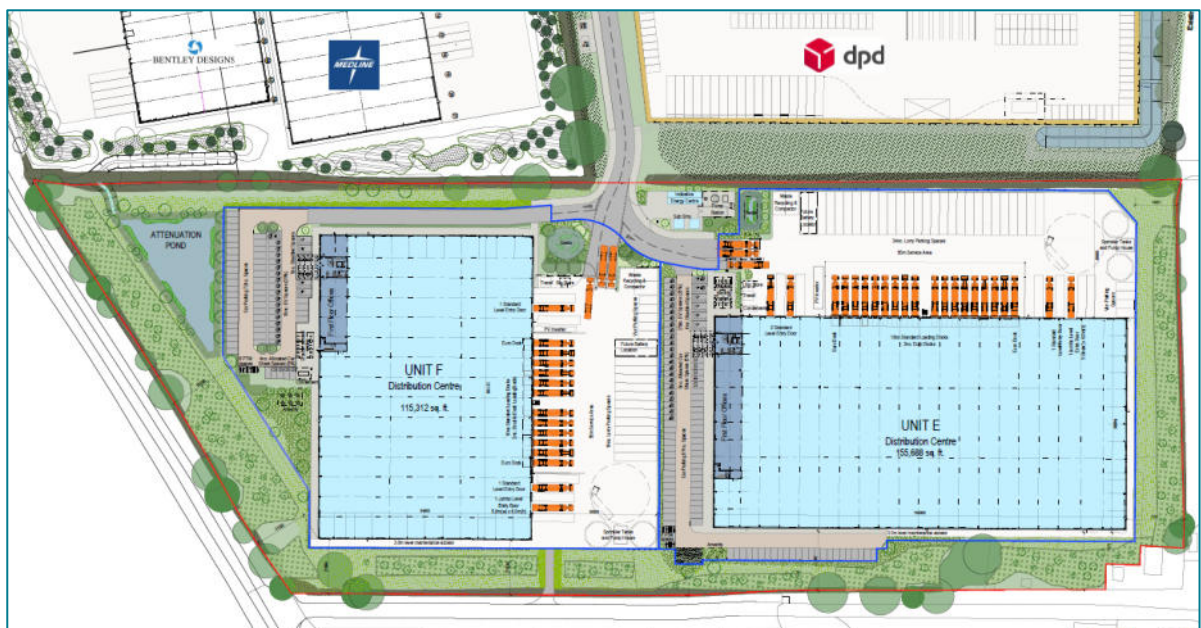
## 5. DEVELOPMENT PROPOSALS

### 5.1 Introduction

5.1.1 The proposed development consists of the construction of two units and associated infrastructure on the land adjacent to Symmetry Park, Bicester Phases 1 and 2. The total floor area proposed consists of 25,856 sqm (GEA) of logistics floor space (Use Class B8), with ancillary office space (Use Class E (g)(i)).

5.1.2 The latest site masterplan prepared by PHP Architects is illustrated in **Figure 5.1**, with a full copy provided in **Appendix C**.

Figure 5.1: Illustrative Proposed Site Layout Plan



Source: PHP Architects

5.1.3 Each unit has the following floorspace:

- » Unit E: 14,836sqm (GEA) of logistics floor space (Use Class B8) which includes (GIA) ancillary office space (Use Class E (g)(i));
- » Unit F: 11,020 sqm (GEA) of logistics floor space (Use Class B8) which includes ancillary office space (Use Class E (g)(i)).

5.1.4 Vehicular, pedestrian and cycle access to both units will be off the internal estate road. An emergency access will be created on the eastern boundary.

5.1.5 The detailed floor area breakdown for Phase 3 is shown in **Table 5.1**.



Table 5.1: Schedule of Accommodation

Unit	Distribution	Offices	Total	Site Areas
<b>Unit 06 (Gross Internal)</b>	147,680 sq.ft	8,008 sq.ft	155,688 sq.ft	6.53 acres
	13,720 sqm	744 sqm	14,464 sqm	2.64 hectares
<b>Unit 07 (Gross Internal)</b>	109,382 sq.ft	5,930 sq.ft	115,312 sq.ft	5.37 acres
	10,162 sqm	551 sqm	10,713 sqm	2.17 hectares
<b>Total Development (GEA)</b>			271,000 sq.ft	11.90 acres
			25,177 sqm	4.81 hectares
<b>Gross External Areas</b>		<b>Unit 06</b>	14,836 sqm/ 159,693 sq.ft	
		<b>Unit 07</b>	11,020 sqm/ 118,618 sq.ft	
<b>Gross Development Area</b>				16.51 acres
				6.68 hectares

Source: PHP Architects

## 5.2 Proposed Site Access Arrangement

### *Vehicular Access*

- 5.2.1 The development site is to be accessed via the existing priority T junction arrangement off the A41, which serves the whole Symmetry Park development. From there, the internal layout, featuring 7.3m wide carriageways is to be extended between exiting units D and A2 for both cars and HGVs. Separate access points are provided for cars and HGVs, which lead directly to the car parks and service yards respectively.
- 5.2.2 The service yard accesses are 12.5m and 7.3m wide for units C1 and C2 respectively, with the former including a gatehouse. The car park accesses are 6.0m wide throughout. The service yard entry and the 7.3m wide estate road have been designed with generous corner and bend radii to accommodate simultaneous bi-directional access and egress manoeuvres of heavy-duty vehicles.
- 5.2.3 Swept path analysis has been undertaken with a large car and 16.5m articulated vehicle to demonstrate that the proposed layout is suitable and all access and egress manoeuvres can be performed safely. Particular emphasis is placed on the ability of two vehicles to pass one another at bends and critical pinch points and the ability of the vehicle to negotiate the geometry.
- 5.2.4 The swept path analysis drawings are presented in **Appendix D**.

5.2.5 The analysis demonstrates that the proposed site access layout is favourable for heavy goods vehicles, allowing for safe turning movements. It is Hydrock's view that light and heavy vehicle movements can be sufficiently accommodated under the proposed design, with no safety or operational issues identified.

### Pedestrian and Cycle Access

5.2.6 Pedestrians and cyclists' access will utilise the existing and new road infrastructure in place for the existing employment park. With an approximate 3m wide footway on the eastern side of Morrell Way, extending too the proposed site.

### Proposed Parking

5.2.7 The proposed parking provision for Units E and F is shown in **Table 5.2**.

Table 5.2: Proposed Parking

	Loading Docks	Level Access	HGV Parking	Van Parking	Car Parking	Cycles	PTW
<b>Unit 6</b>	16 inc. 2 euro docks	4 inc. 1 jumbo door	34	4	97, 25% EV, 6% accessible	85	7
<b>Unit 7</b>	10 inc. 2 euro docks	3 inc. 1 jumbo door	19	10	72, 25% EV, 6% accessible	71	6

Source: PHP Architects

5.2.8 As summarised in Section 3, OCC's 'Parking Standards for New Developments' allow for a maximum of 1 space:45sqm for office element and 1 space:300sqm for B8 floorspace.

5.2.9 This is summarised in Table 5.3 against the proposed provision in the Masterplan.

Table 5.3: Parking Provision Comparison

Unit		sqm	Policy	Masterplan
<b>Unit E</b>	Office	744	17	
	Warehouse	13,720	46	
	<b>TOTAL</b>	<b>14,464</b>	<b>63</b>	<b>97</b>
<b>Unit F</b>	Office	551	12	
	Warehouse	10,162	34	
	<b>TOTAL</b>	<b>10,713</b>	<b>46</b>	<b>72</b>

5.2.10 The proposed provision (a total of 169 spaces across a total of 25,177 sqm of development) equates to a ratio of c. 1 space per 149 sqm of floorspace.

5.2.11 Tritax Big Box Developments (TBBD) has undertaken a review of the approved parking ratio on the adjoining phases of Symmetry Park, Bicester, shown in Table 5.4. As can be seen, parking demand for occupiers can vary greatly for logistics depending on the nature of the operator/size of workforce/shift patterns:

Table 5.4: Symmetry Park Parking Ratios

Unit	Sq m	Parking Spaces	Ratio (1 space per x sqm)	Occupier(s)
Unit A1	8,175	75	109	Bentley Designs Ltd
Unit A2	10,191	76	134	Medline Services Ltd
Unit B	15,205	220	69	Ocado Retail Ltd
Unit C	25,198	180	140	Syncreon Technology UK Ltd
Unit D	5,574	178	31	DPD Group UK Ltd

5.2.12 Parking levels for Units E and F therefore reflect a reduction in car parking provision, aligned to the policy objectives of reducing travel by private car, in comparison to the adjoining earlier phases of the scheme.

5.2.13 In TBBD's experience, whilst Occupiers for Units E and F are not known at this stage, for units of this size in this location, it is considered a suitable level of provision that will:

- » Balance being attractive to the flexibility required by occupiers in terms of shift changeover when there is likely to be an overlap in staff arriving for next shift/leaving previous shift which requires additional capacity to manage this peak (warehousing developments such as this typically work in shift patterns and to ensure that there is an appropriate level of parking, flexibility needs to be built into the provision to ensure that when staff are arriving, they have a space to park in whilst other staff finish their shift and leave the site);
- » Not undermine travel by car share/public transport/cycle/other sustainable modes, all of which will be encouraged and supported through the Travel Plan; and
- » Provide sufficient provision on-site to avoid parking along the main estate road/surrounding areas in an uncontrolled manner which may have implications for highway safety, and could be severely detrimental to the safe and effective operation of access routes to and within the site.

5.2.14 In summary, the proposed levels of parking provision provide consistency with the existing units and offer commercial flexibility for any prospective occupiers.

5.2.15 The proposals include provision for accessible spaces and electric vehicle charging points in line with the latest standards, namely:

- » 6% accessible spaces; and
- » 25% electric vehicle charging points.

### *Servicing Vehicles*

- 5.2.16 The servicing requirements of the development have been considered to ensure that the site can successfully be serviced by refuse vehicles. It is envisaged that waste will be collected from each unit directly from the designated refuse collection points illustrated in **Figure 5.1**, with a refuse vehicle entering the site, manoeuvring within and exiting in forward gear. Due to the nature of the development, the frequency of refuse servicing is expected to be modest.



## 6. TRIP GENERATION, DISTRIBUTION, & ASSIGNMENT

### 6.1 Trip Generation

6.1.1 Given the numerous planning applications submitted at the site, a number of trip generation methodologies have been followed to establish the traffic arrival and departure volumes for Symmetry Park. These are:

1. Approved B8 (Commercial Warehousing) vehicle trip rates from the 2016 hybrid application (application reference 16/00861/HYBRID). These have been used for Units A1, A2 and C;
2. New B8 (Parcel Distribution Centre) vehicle trip rates. These have been used for Unit D, which is occupied by DPD (application reference 20/00530/F); and
3. Bespoke empirical data pertaining to Ocado's operational characteristics. These were used within the revised application for Unit B to quantify the increase in traffic resulting from the updated service yard proposals (application reference 20/03404/F).

6.1.2 Following the full build out and occupancy of Symmetry Park, Bicester, Hydrock commissioned a series of Automatic Traffic Counter [ATC] surveys at the site in November 2023, alongside new Manual Classified Turning Counts [MCC] at the site access junction. The counters were positioned at the individual unit access points for a period of 14 days and were used to ascertain the trip generation potential of the site.

6.1.3 **Table 6.1** presents the observed traffic generation levels for Symmetry Park.

Table 6.1: Symmetry Park Empirical Trip Generation Summary

Plot	Unit	Occupied By		Trip Rates			
				AM (08:00-09:00)		PM (17:00-18:00)	
				Arr.	Dep.	Arr.	Dep.
A	A1	Bentley Systems	Vehicles	0.092	0.057	0.027	0.057
			HGVs	0.001	0.001	0.000	0.000
	A2	Medline Services	Vehicles	0.058	0.032	0.053	0.061
			HGVs	0.001	0.003	0.004	0.009
B	B	Ocado	Vehicles	0.054	0.086	0.015	0.038
			HGVs	0.048	0.082	0.008	0.016
C	C	DP World	Vehicles	0.077	0.041	0.025	0.041
			HGVs	0.005	0.008	0.001	0.002
D	D	DPD	Vehicles	1.158	0.327	0.756	0.731
			HGVs	0.524	0.101	0.216	0.468

6.1.4 The above trip rates have been empirically derived and are site specific. As such, they are considered more representative of the site and its operational characteristics.

6.1.5 The trip generation volumes associated with the aforementioned five units have been encapsulated in the MCC survey data and result in the following two-way vehicular trips.

- » 202 in the AM peak; and
- » 167 in the PM peak.

6.1.6 Since Symmetry Park is served by a single point of access, the above volumes are all assigned through the priority T-junction off the A41.

## 6.2 Future Trip Generation

6.2.1 To identify what the future stress on the access junction will be, the phase 3 parcels have been considered for future inclusion within the Symmetry Park masterplan.

6.2.2 At this stage, any future proposals are treated as speculative and a B8 (Commercial Warehousing) use is assumed for this plot. Upon review of the new trip rates, it has been determined that those associated with Plots A and C are the most representative of a typical B8 use, given the bespoke operational characteristics of Units B (Ocado) and D (DPD). The trip rates for the three units have been averaged and applied to the assumed quanta of development that could be provided at Phase 3.

6.2.3 The derived trip rates and corresponding trip generation levels for Phase 3 are summarised in **Table 6.2**.

Table 6.2: Trip Generation Summary

Plot		Trip Rates				Trip Generation			
		AM (08:00-09:00)		PM (17:00-18:00)		AM (08:00-09:00)		PM (17:00-18:00)	
		Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Phase 3 (25,177 sqm).	Vehicles	0.073	0.040	0.033	0.050	18	10	8	12
	HGVs	0.002	0.004	0.002	0.004	1	1	0	1

6.2.4 From the table it is evident that the addition of the aforementioned land parcels would generate the following additional two-way vehicle trips:

### 6.2.4.1 Phase 3

- » 30 in the AM peak; and
- » 21 in the PM peak.

6.2.5 The above Trip Generation is presented within the Traffic Flow Figure Diagrams located at the end of the report.

### 6.3 Trip Distribution

- 6.3.1 To assess the percentage of the development traffic impacting on the local highway network, a trip distribution and assignment have been undertaken to route traffic from their likely origin (for inbound trips) and to their likely destination (in the case of outbound trips). This has used methodology agreed upon for Bicester Phase 2 Development.
- 6.3.2 At the proposed site access junction, inbound and outbound distributions have been combined for both light vehicles and HGVs. Separate distributions are not considered necessary due to no overlaps between inbound and outbound traffic occurring.
- » Two distribution profiles have been formed for:
    - » Home-based commuting to/from work trips (Light vehicles); and
    - » Distribution/Freight trips (HGVs);
- 6.3.3 For commute trips, flows for the development site have been distributed at the site access junction using a distribution profile based on the 2011 Journey to Work Census data. For the employment zone which the development site lies in (Cherwell O11), the taken approach resembles a simplified Gravity Model, generating an output in the form of percentage splits for trips produced by surrounding residential zones based on their size and proximity to the development. **Table 6.3** illustrates this.

Table 6.3: 2011 Journey to Work Census Data (E02005931)

Attraction Zone (Development Site)	Production Zone	% Trips
<b>Bicester</b>  <b>E02005931: Cherwell O11</b>	Cherwell	69%
	Aylesbury Vale	12%
	South Northamptonshire	10%
	West Oxfordshire	3%
	Vale of White Horse	2%
	Oxford	1%
	South Oxfordshire	1%
	Combined Other	2%
	Total	100%

- 6.3.4 The full output is provided in **Appendix E** and shows the percentage splits for all 89 census tracts. For statistical accuracy, tracts with a sample size of less than 3 have been omitted from the analysis.
- 6.3.5 Due to the nature of the development, all HGV traffic has been routed along A41 West which offers the most direct route to the strategic road network at M40 Junction 9.

- 6.3.6 This is assumed on the basis that the east bound direction leads towards Aylesbury and does not favour HGV freight movements focused on national distribution. As such, a bi-directional proportions approach is not considered appropriate.
- 6.3.7 Traffic Flow Figure Diagrams show the combined outbound and inbound distribution for both categories of light vehicle trips as well as HGVs, indicating the percentage of development traffic impacting on the junction.
- 6.3.8 The above Trip Distribution is presented within the Traffic Flow Figure Diagrams located at the end of the report.

## 6.4 Traffic Assignment

- 6.4.1 Following the distribution of home-based trips, an all-or-nothing assignment has been performed, to assign traffic to/from the development along the minimum cost paths. The measure of cost used is the time taken to travel from the development to each of the aforementioned zones. Distance based cost is not considered appropriate in this case due to the varying speed-flow characteristic of the local network. The minimum cost routes have been obtained for a neutral day, with the cost measured to the zones' centroid. 20% of the trips are defined as intrazonal, attracted by the development zone (Cherwell O11). For accuracy, these have not been omitted, and the same zonal centroid approach applied.
- 6.4.2 The following routes within the study network have been defined and are illustrated in **Table 6.4** along with the percentage of trips assigned on each route based on the above criteria.

Table 6.4: Assigned Flows

Route	Description	% of Trips Assigned
A	A41 East	8%
B	A41 West	92%
<b>Total</b>		100%

- 6.4.3 For HGV trips, all traffic has been assigned along A41 West for the reasons mentioned above.
- 6.4.4 The inbound and outbound distributions have been combined to yield the total development traffic loaded onto the network for both lights and HGVs. Furthermore, the assigned flows have been converted to PCUs using a factor of 2.9 for HGVs. This is consistent with the recommend factor for OGV2 in TAG and is therefore considered robust in the assessment.
- 6.4.5 The above Trip Assignment is presented within the Traffic Flow Figure Diagrams located at the end of the report.

## 6.5 Committed Developments

- 6.5.1 14 committed developments had been previously requested and utilised for assessing the access junction, of which 10 flow models were obtained to extract traffic flow values from.
- 6.5.2 In March 2024 due to the passage of time, four additional committed developments were requested by OCC, although traffic flow data could not be obtained for 3 of the developments.
- 6.5.3 **Table 6.5** below provides further detail on each of the committed developments considered.

Table 6.5: Committed Developments Considered

	Committed Development Site		Proposal
	Planning Ref.	Name	
Previously Considered	16/01268/OUT	Wretchwick Green	1,500 dwellings, up to 7ha of employment land for B1 and B8 uses, a local centre with retail and community use to include A1 and/ or A2 and/ or A3 and/ or A4 and/ or A5 and/ or D1 and/ or D2 and/ or B1, up to a 3 Form Entry Primary School
	21/01224/OUT	Bicester Motion	24,030 sqm of Commercial, Business and Services uses (Class E), Light Industrial (Class B2) and Local Community and Learning Uses (Class F).
	11/01494/OUT	Graven Hill	1,900 homes, two form entry primary school, 660 sqm community hall, 1,858 sqm food store, 2,160 sqm E office space, hotel/pub/restaurant and local retail/community uses.
	21/01454/FULL	Graven Hill Health Hub	3,200 sqm Health Care Hub and 150 sqm pharmacy
	22/01829/OUT	Graven Hill D1 Employment Site	9 new warehouse buildings totalling 104,008 sqm of B8 Storage and Distribution Use
	22/01144/FULL	Tritax J9 Development	53,839 sqm of B2 commercial development
	21/03558/OUT	Gavray Drive	250 dwellings
	22/03513/FULL	Bicester Village	2,780 sqm GEA of retail floor space, in addition to vehicle and cycle parking



	17/02534/OUT	Bicester Office Park	60,000 sq.m (GEA) of flexible Class B1(a) office / Class B1(b) research & development floorspace
	16/02586/OUT	Bicester Gateway Phase 1	14,972 sqm GEA of B1 employment use, plus a14 bedroom hotel
	20/00293/OUT	Bicester Gateway Phase 1b	4,413 sqm GlA of B1 office space, up to 273 residential units (C3), 177 sqm GlA of café space (A3), 794 sqm GlA mixed-use co-working hub, multi-story car park and amenity space
	19/01740/HYBRID	Bicester Gateway Phase 2	Up to 9,450 sqm of B1 office space, plus 1.65ha for Health & Racquet
	22/01976/OUT	Ambrosden 75 Dwellings	75 Dwellings
	19/02550/FULL	Great Wolf Resort, Chesterton	Redevelopment of golf course and construction of a new leisure resort incorporating waterpark, family entertainment centre, 498-bedroom hotel, conferencing facilities and restaurants with associated parking and landscaping
<b>Additionally Requested by OCC in March 2024</b>	22/02866/OUT	Ambrosden 120 Dwellings	120 Dwellings
	14/02121/OUT	Himley Village	Up to 1,700 dwellings, retirement village (C2), flexible commercial floorspace (A1, A2, A3, A4, A5, B1, C1 and D1), social and community facilities (D1), land to accommodate energy centre and new primary school (up to 2FE) (D1)
	21/04275/OUT	NW Bicester	Up to 3,100 dwellings, residential and care accommodation(C2); mixed use local centre, employment area (B2, B8, E(g)), learning and non-residential institutions (F1) including primary school
	22/02455/OUT	Ambrosden 55 Dwellings	55 dwellings

6.5.4 Furthermore, the above Committed Developments are presented within the Traffic Flow Figure Diagrams located at the end of the report.

## 7. Access Junction Operation

### 7.1 Base Traffic Data Overview

7.1.1 In addition to the above calculations, it is important to recognise the current and future base traffic flows used in the assessment of junction performance. New MCC traffic surveys were undertaken on Wednesday 8th November between the hours of 07:00-10:00 and 15:30-19:00. These have informed the new baseline flows for assessment.

7.1.2 The base flows have then been factored using TEMPro database version 8.1, in conjunction with the NRTP 2022 dataset to ascertain the 2029 base flows. Finally, a list of committed development sites has been agreed with Oxfordshire County Council [OCC], with the associated trips loaded onto the network to derive the 2028 forecast flows

### 7.2 Assessment Scenarios

7.2.1 To assess the impact of the development proposals, the following assessment scenarios have been formulated:

1. 2029 Base + Committed Developments AM Peak & PM Peak
2. 2029 Base + Committed Developments + Proposed Phase 3 Units 6 & 7 Development AM Peak & PM Peak

### 7.3 Percentage Traffic Impact at Junctions

7.3.1 **Table 7.1** shows the total percentage impact of the development at each of the junctions within the study network against the future base. A threshold of 5% or increase of 30 trips have been defined as an indication of whether detailed junction modelling is warranted.

Table 7.1: Development Traffic Impact at Junctions

	2029 Base + Committed		2029 Base + Committed + Development		% Impact		Increase		Assess for Capacity
	AM	PM	AM	PM	AM	PM	AM	PM	
<b>1</b>	1996	2014	2026	2035	1%	1%	30	21	YES
<b>2</b>	2683	2691	2708	2712	1%	1%	25	21	NO
<b>3</b>	2593	2531	2617	2548	1%	1%	24	17	NO
<b>4</b>	4856	5018	4880	5035	0%	0%	24	17	NO

7.3.2 The table suggests that the only junction requiring a detailed capacity assessment is the site access:

## 7.4 Modelling Results Summary

- 7.4.1 The existing access junction was designed by Peter Brett Associates and delivered as part of the 2016 hybrid permission. It takes the form of a priority T-junction arrangement featuring a ghost island, channelising island on the minor arm, 15.0m compound corner radii and 4.5m traffic lanes on the minor arm.
- 7.4.2 The junction has been modelled using the industry standard software package Junctions 9 (PICADY module). An hourly flow profile has been applied for the selected AM and PM peak hours and the modelling results presented in terms of Ratio of Flow to Capacity (RFC) and PCU queue lengths.
- 7.4.3 RFC values between 0.00 and 0.85 are generally accepted as representing stable and acceptable operating conditions. Values between 0.85 and 1.0 represent variable operation (i.e. possible queues building up at the junction and increases in vehicular delay, both queuing and geometric, moving through the junction). Values in excess of 1.0 represent oversaturated conditions (i.e. congestion).
- 7.4.4 The modelling results are summarised in **Table 7.1**, with the full outputs presented in **Appendix F**.

Table 7.2 Existing Junction Arrangement - Model Results Summary

Scenario	Arm	AM		PM	
		RFC	Queue Length (PCUs)	RFC	Queue Length (PCUs)
<b>2029 Base + Committed</b>	Left out of Site Access	0.09	0	0.11	0
	Right out of Site Access	0.58	2	0.49	1
	A41 East	0.08	0	0.06	0
<b>2029 Base + Committed + Dev (Phase Units 6 &amp; 7)</b>	Left out of Site Access	0.13	0	0.12	0
	Right out of Site Access	0.74	3	0.59	1
	A41 East	0.08	0	0.06	0

- 7.4.5 From the above results, it is evident that junction can be expected to operate below capacity across all scenarios.
- 7.4.6 Individually, the addition of Phase 3 (units 6 & 7) has little impact on capacity and queuing and the junction is shown to operate under stable and largely free-flow conditions.

## 8. SUMMARY AND CONCLUSION

### 8.1 Summary

- 8.1.1 Hydrock has been instructed by Tritax Big Box Developments Ltd to prepare a TS in support of a full planning application for a proposed employment development at Symmetry Park, Bicester.
- 8.1.2 The proposals comprise a full planning permission for the Phase 3 development which includes a two-unit development, unit 6 and unit 7, comprising a Gross Internal Area (GIA) of 25,177 sqm (25,856 sqm GEA).
- 8.1.3 The development site is to be accessed via the existing priority T junction arrangement off the A41, which serves the whole Symmetry Park development. From there, the internal layout, featuring 7.3m wide carriageways is to be extended past Unit B to provide direct access to Plot C for both cars and HGVs. Separate accesses are provided for cars and HGVs, which lead directly to the car parks and service yards respectively.
- 8.1.4 Pedestrian and cycle access can be taken via the same route and through the introduction of new and revised sections of the 10.0m 'Green Corridor' featuring a 3.0m wide shared pedestrian/cycle routes.
- 8.1.5 The sustainability assessment shows that the site is accessible by non-car modes and benefits from facilities for pedestrians and cyclists. The provision of the new shared footway/cycleway, along with ample cycle parking and pedestrian connections will significantly boost the sustainability credentials of the site. The ability to readily access wider destinations by walking and cycling provides a key advantage in offering a real alternative to car travel (e.g. for journeys to work) and as such promotes the aim of reducing car travel.
- 8.1.6 The site layout review and swept path analysis have demonstrated that the proposed arrangement is suitable and all turning, access, egress, parking and servicing manoeuvres can be performed safely.
- 8.1.7 The undertaken accident analysis concluded that the road safety record within the local highway network is modest and does not give rise to material concern. It is therefore Hydrock's view that it will not be exacerbated by the proposed development.
- 8.1.8 The trip generation and traffic impact analysis indicate that the development impact on the highway network against the previous consent is negative and hence detailed highway capacity analysis is not considered necessary.
- 8.1.9 The development is considered compliant with national and regional policy including OCC's Parking Standards, by being suitably located to benefit from existing and proposed walking and cycling routes and according with the recommended design requirements.
- 8.1.10 NPPF (February 2023 - paragraph 109) states that:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

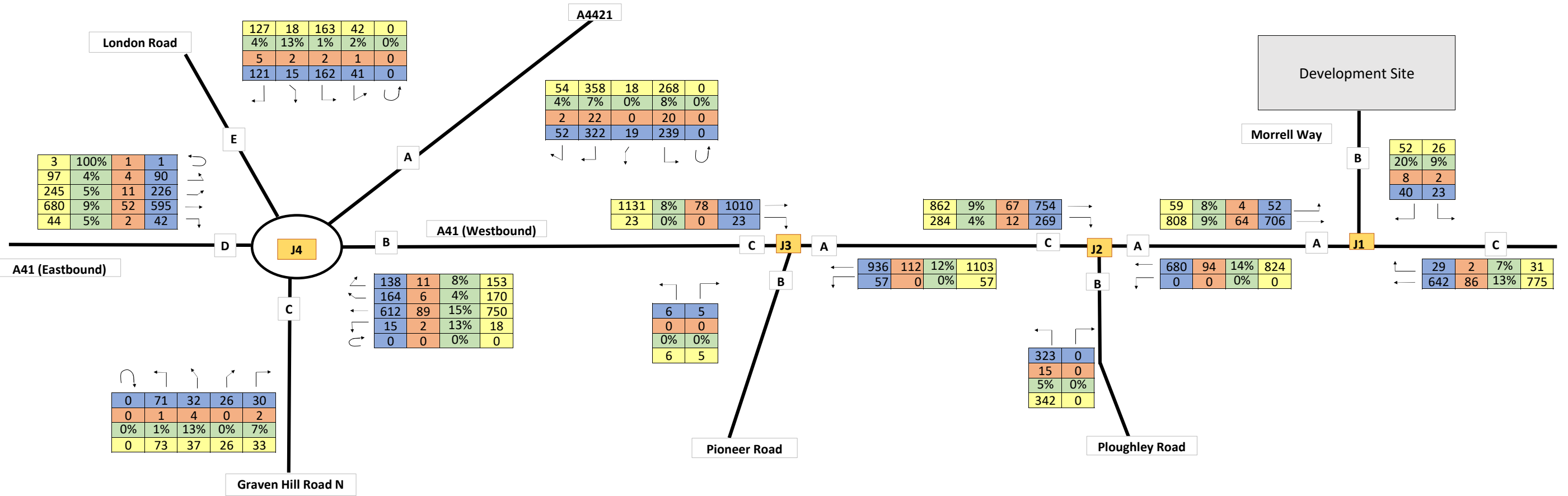
- 8.1.11 The traffic impact assessment shows that the proposed development would not have a "severe" impact on the local highway network.

## 8.2 Conclusion

- 8.2.1 Having undertaken a comprehensive analysis of the development site and after reviewing planning policies, it has been demonstrated by this TS that the proposed development accords with highway design recommendations and sustainable values and hence there is no basis for highway and transportation objections to the proposals.
- 8.2.2 The impacts of the proposed development are not severe and therefore the presumption in favour of the development is not outweighed by any highways or traffic related issues.



Traffic Survey were undertaken on Wednesday 8th November 2023  
 Survey period was 0700 - 1000 and 1530 -1900



Notes:  
 AM Peak  
 07:30 - 08:30

Total Vehicles  
 HGV Total  
 HGV %  
 PCU



Weekday AM Peak Hour - 2023 Base Flows (PCUs)

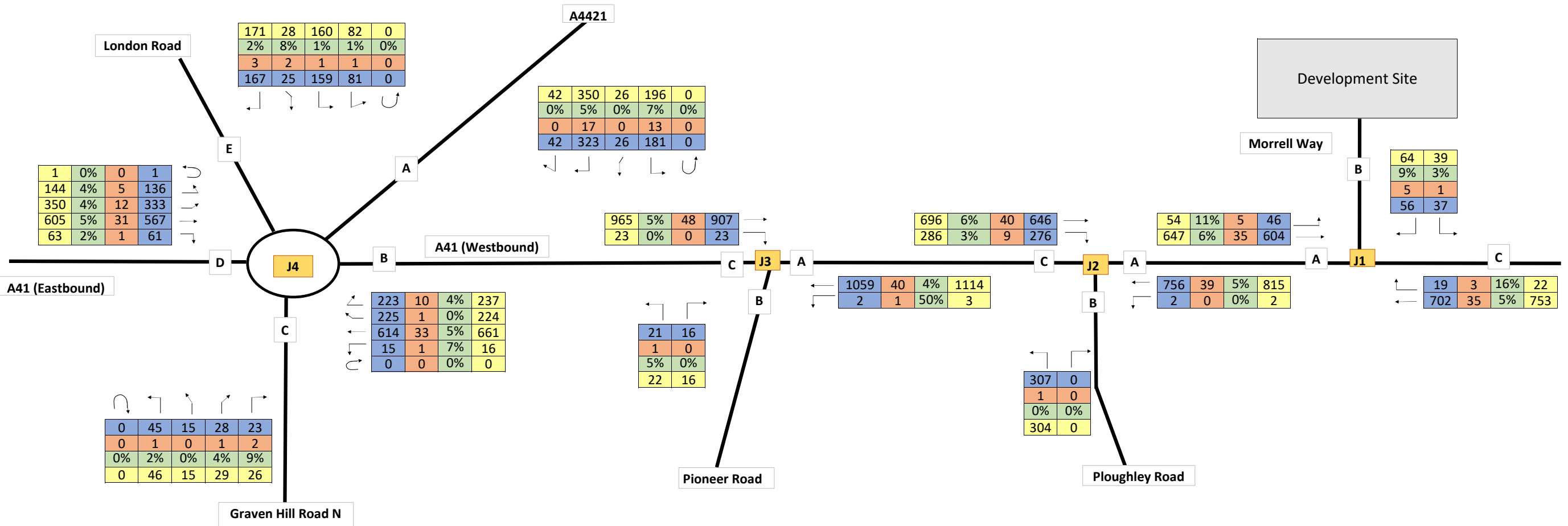
Proposed Development, Bicester Phase 3, Bicester

28 August 2024

Job Number - 22281-TMBI

Figure 1

Traffic Survey were undertaken on Wednesday 8th November 2023  
 Survey period was 0700 - 1000 and 1530 -1900



Notes:  
 PM Peak  
 16:15 - 17:15

- Total Vehicles
- HGV Total
- HGV %
- PCU



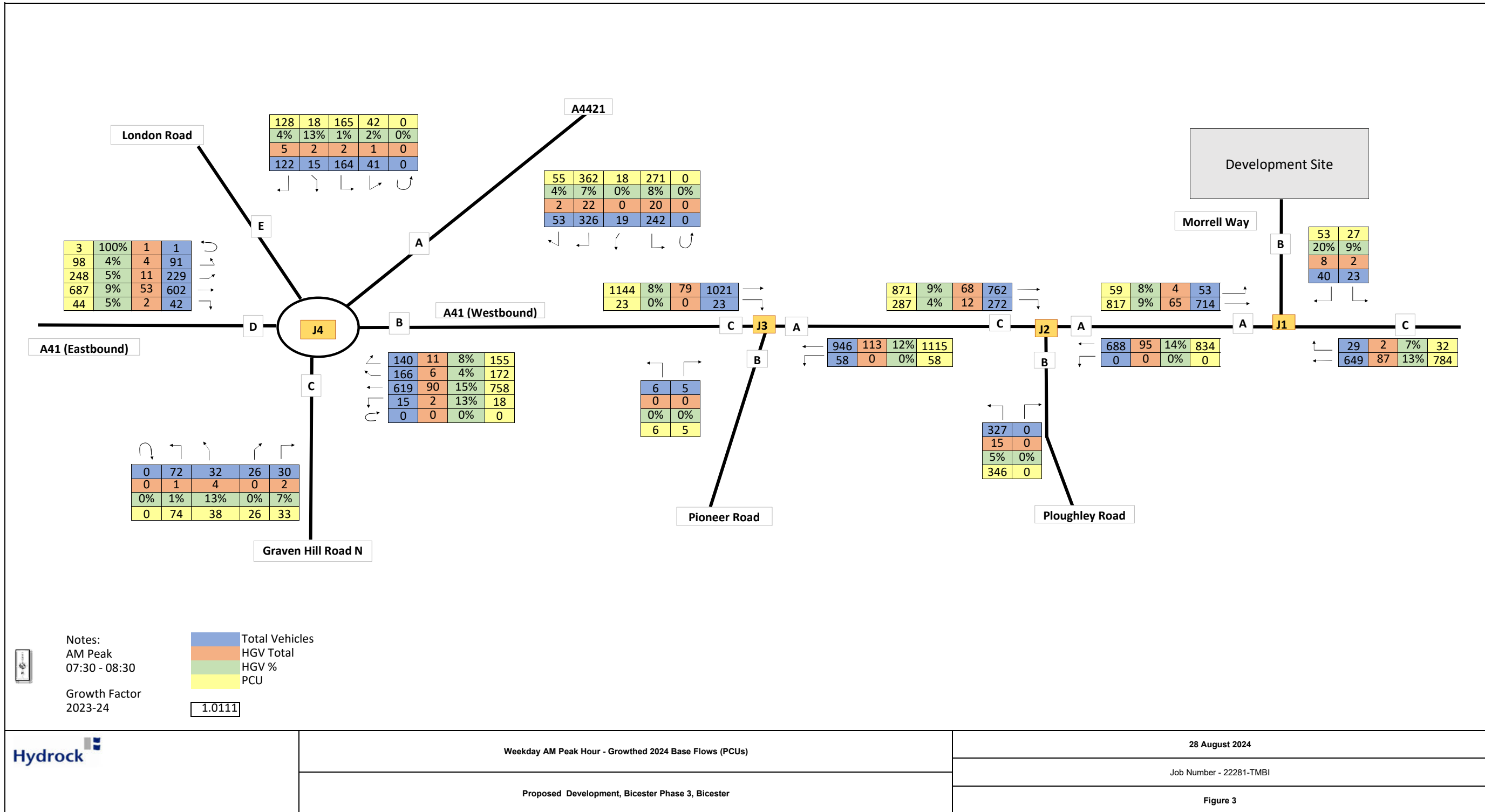
Weekday PM Peak Hour - 2023 Base Flows (PCUs)

Proposed Development, Bicester Phase 3, Bicester

28 August 2024

Job Number - 22281-TMBI

Figure 2



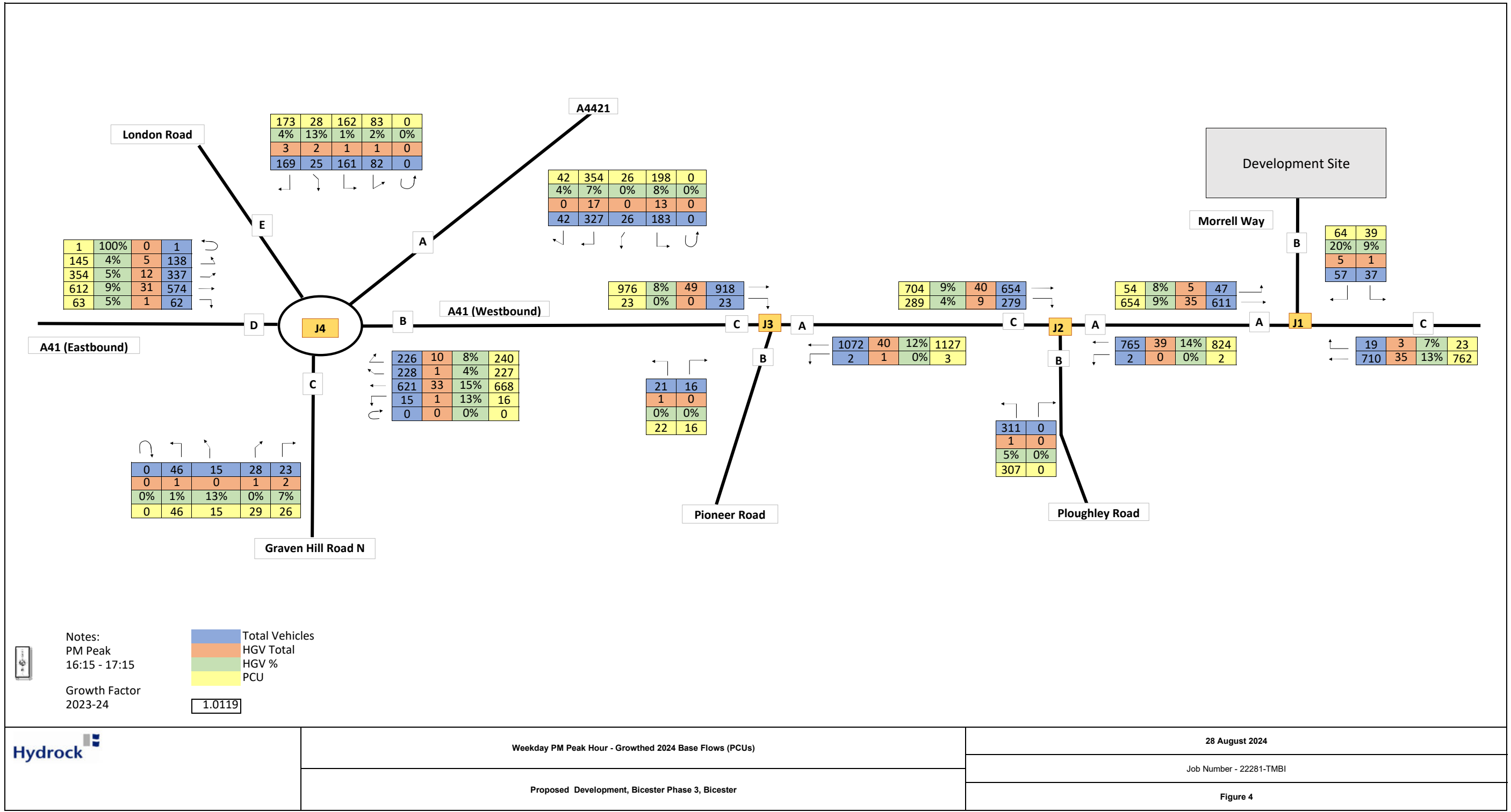
Weekday AM Peak Hour - Growthed 2024 Base Flows (PCUs)

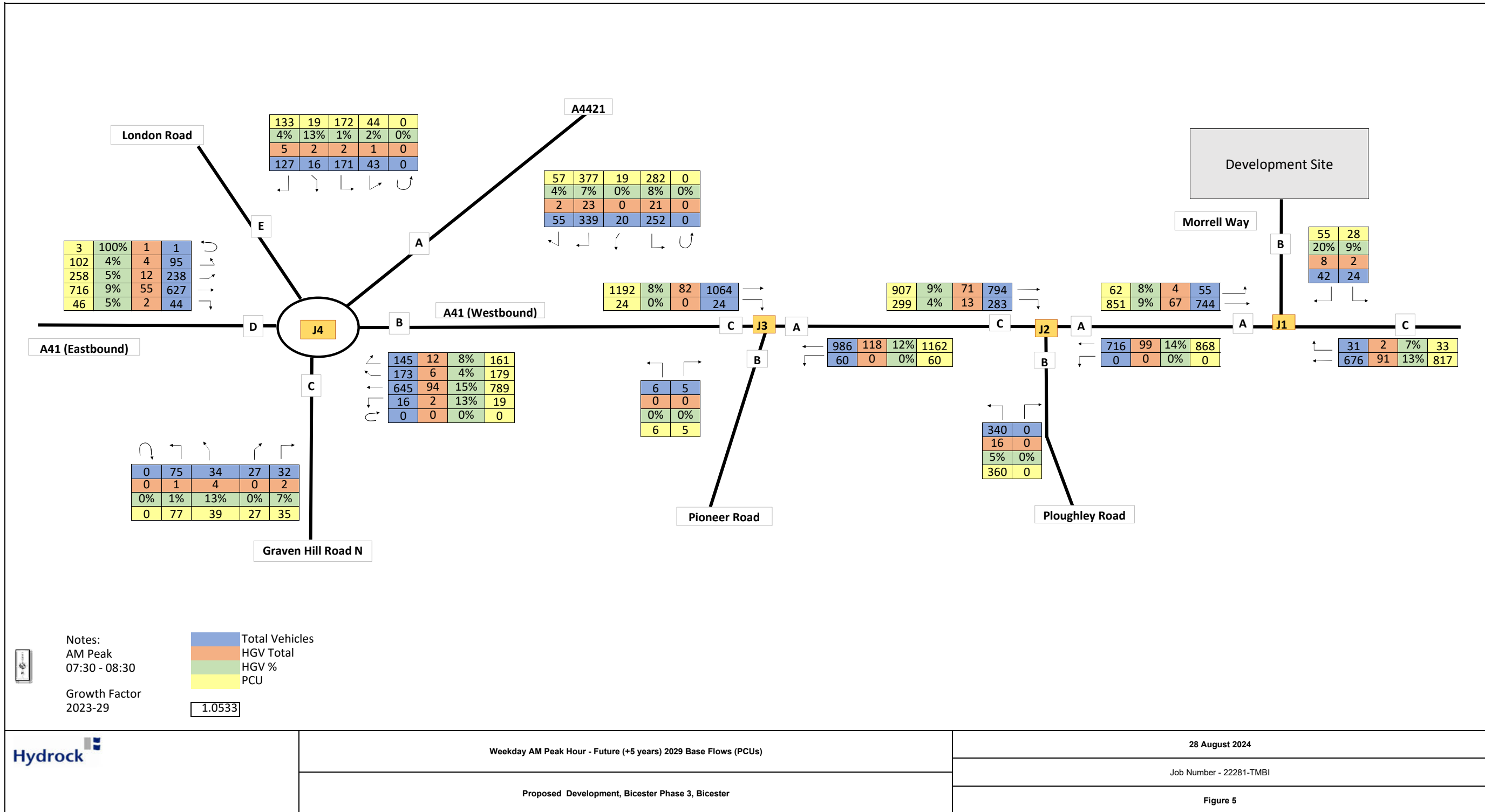
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Job Number - 22281-TMBI

Figure 3





Weekday AM Peak Hour - Future (+5 years) 2029 Base Flows (PCUs)

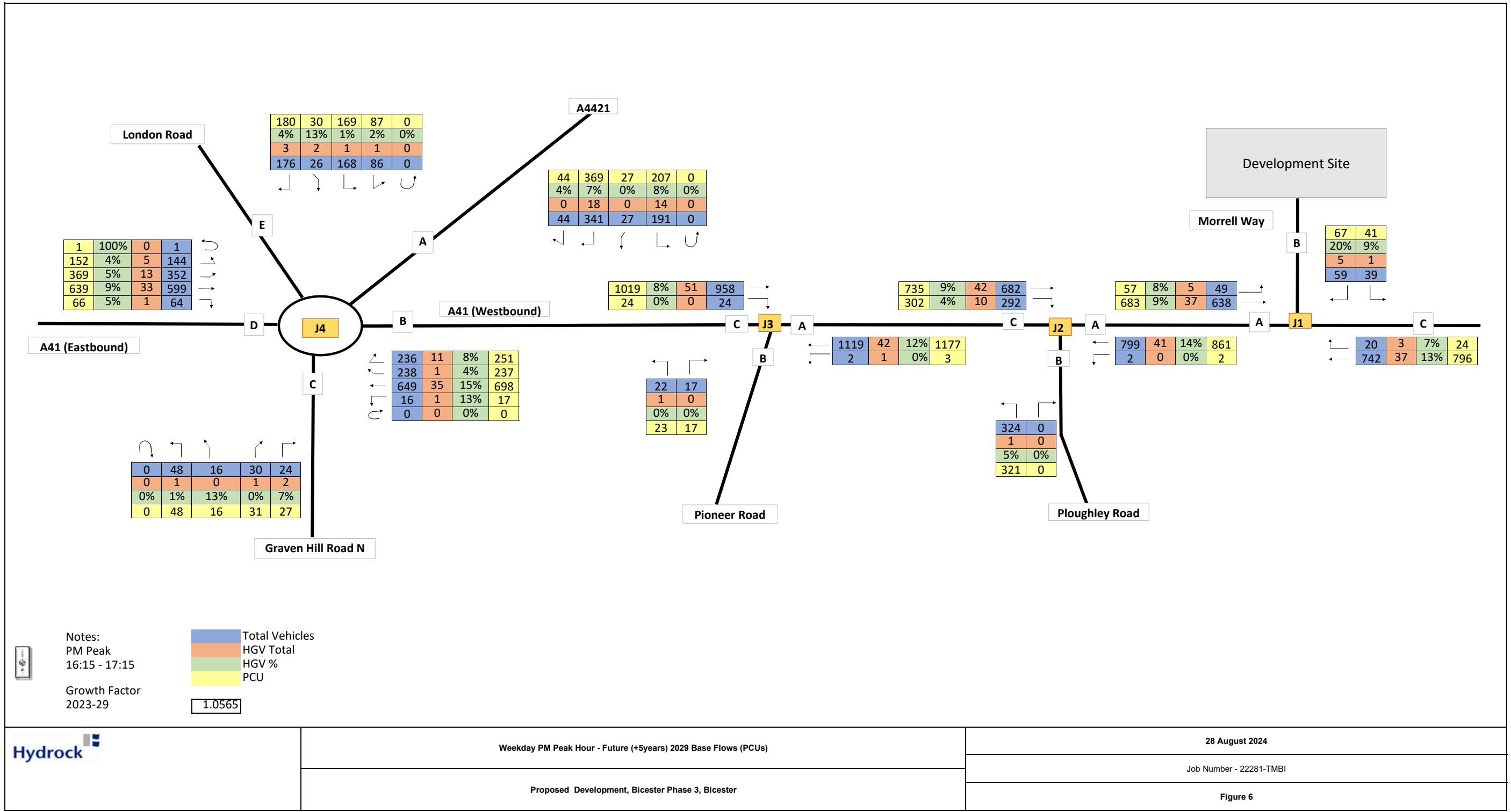
28 August 2024

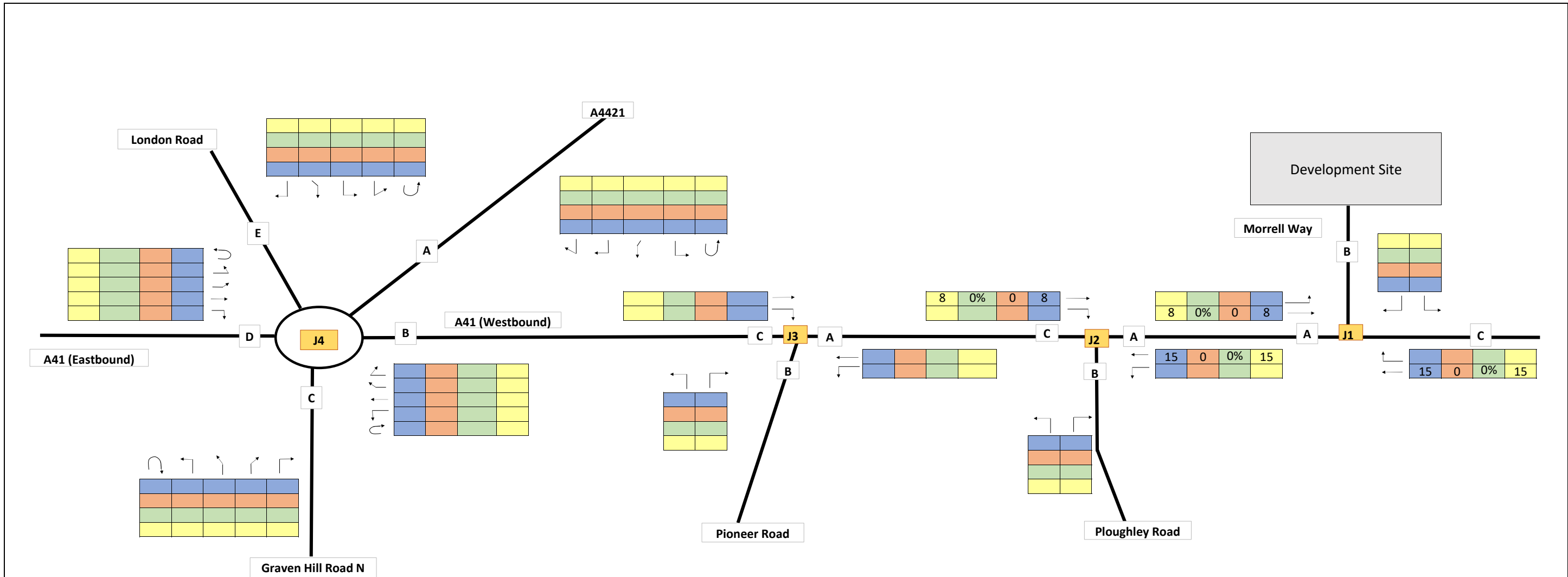
Proposed Development, Bicester Phase 3, Bicester

Job Number - 22281-TMBI

Figure 5







Notes:  
AM Peak  
07:30 - 08:30

■ Total Vehicles  
■ HGV Total  
■ HGV %  
■ PCU



Ambrosden 75 dwellings - 2201976OUT (AM)

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28 August 2024

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Figure 7