



## **River Academy Reading**

### **Transport Assessment**

Hexa ref: 600353-HEX-00-TP-RP-X-0001-V02

Date: 16<sup>th</sup> December 2021

Revision: V02

| Revision | Description                | Issued | Checked | Date     |
|----------|----------------------------|--------|---------|----------|
| V01      | Draft                      | MP     | JG      | 12/12/21 |
| V02      | Capacity Modelling Updates | MP     | JG      | 16/12/21 |
|          |                            |        |         |          |

| Author                                                                   | Signature                                                                         | Date     |
|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------|
| <b>Matt Price</b><br>BSc MSc CTP FCIHT<br>Transport Planning<br>Director |  | 16/12/21 |

| Checker                                       | Signature                                                                         | Date     |
|-----------------------------------------------|-----------------------------------------------------------------------------------|----------|
| <b>James Garment</b><br>CEng MICE<br>Director |  | 16/12/21 |

This report has been prepared for the sole use of the client only. The liability of Hexa Consulting Limited with respect to the information contained within this report will not extend to any third party.

## Contents

|            |                                                                        |           |
|------------|------------------------------------------------------------------------|-----------|
| <b>1.0</b> | <b>Introduction .....</b>                                              | <b>1</b>  |
| 1.1        | <i>Purpose of this Report .....</i>                                    | <i>1</i>  |
| 1.2        | <i>Scope of this Report.....</i>                                       | <i>1</i>  |
| 1.3        | <i>Structure of this Report .....</i>                                  | <i>2</i>  |
| <b>2.0</b> | <b>Existing Site and Highway Layout .....</b>                          | <b>4</b>  |
| 2.1        | <i>Existing Use .....</i>                                              | <i>6</i>  |
| 2.5        | <i>Surrounding Highway Network.....</i>                                | <i>6</i>  |
| 2.6        | <i>Highway Safety .....</i>                                            | <i>9</i>  |
| <b>3.0</b> | <b>Development Proposals .....</b>                                     | <b>12</b> |
| 3.1        | <i>Proposed Access .....</i>                                           | <i>12</i> |
| 3.2        | <i>Car Parking .....</i>                                               | <i>13</i> |
| 3.3        | <i>Cycle Parking .....</i>                                             | <i>13</i> |
| 3.4        | <i>Highway Alterations .....</i>                                       | <i>13</i> |
| <b>4.0</b> | <b>Accessibility by Sustainable Modes of Travel .....</b>              | <b>15</b> |
| 4.1        | <i>Pedestrian Accessibility .....</i>                                  | <i>15</i> |
| 4.2        | <i>Accessibility by Bicycle .....</i>                                  | <i>17</i> |
| 4.3        | <i>Accessibility by Public Transport.....</i>                          | <i>19</i> |
| 4.4        | <i>Accessibility Summary .....</i>                                     | <i>20</i> |
| <b>5.0</b> | <b>Traffic Forecasting and Highway Impact.....</b>                     | <b>21</b> |
| 5.1        | <i>Trip Generation and Assignment .....</i>                            | <i>21</i> |
| 5.2        | <i>Trip Distribution .....</i>                                         | <i>23</i> |
| 5.3        | <i>Junction Capacity Analysis .....</i>                                | <i>24</i> |
| 5.4        | <i>Baseline Traffic &amp; Future Year Scenarios.....</i>               | <i>24</i> |
| 5.5        | <i>Beresford Road / Cow Lane Mini-Roundabout Arcady Analysis .....</i> | <i>25</i> |
| 5.6        | <i>Rivermead / Richfield Avenue Roundabout Arcady Analysis .....</i>   | <i>27</i> |
| 5.7        | <i>Caversham Bridge Roundabout Arcady Analysis.....</i>                | <i>28</i> |
| 5.8        | <i>Traffic Forecasting Conclusions.....</i>                            | <i>30</i> |
| <b>6.0</b> | <b>Transport Planning Policy.....</b>                                  | <b>32</b> |
| 6.1        | <i>National Planning Policy Framework (NPPF) .....</i>                 | <i>32</i> |
| 6.2        | <i>Emerging &amp; Adopted Local Planning Policy.....</i>               | <i>33</i> |
| 6.3        | <i>Summary .....</i>                                                   | <i>35</i> |

---

**7.0 Summary and Conclusions..... 36**

**Appendix A – Site Masterplan**

**Appendix B – RBC Pre-Application Scoping Note**

**Appendix C – RBC Pre-Application Response**

**Appendix D – Access Design, Swept Path Analysis and Visibility Splays**

**Appendix E – Trip Generation and Distribution Diagrams**

**Appendix F – Arcady Modelling Outputs**

**Appendix G – Traffic Count Data**

---

## 1.0 Introduction

Hexa Consulting have been appointed by Bowmer & Kirkland on behalf of the Department for Education to provide traffic and transportation advice in relation to the proposed development of the River Academy on Richfield Avenue in Reading.

The proposals include the development of a new secondary school and sixth form with capacity for up to 1,500 pupils from the ages of 11 to 18 years and an estimated 156 Full Time Equivalent (FTE) staff members. The proposed development site is on land to the north of Richfield Avenue / Cow Lane and adjacent to the Rivermead Leisure Centre.

The proposed new school shall be accessed from an upgraded Cow Lane / Richfield Avenue access with a segregated pedestrian and cycle access to the east on Richfield Avenue. In addition to the main teaching blocks, the proposals include a new sports hall, outdoor games area, Multi-Use Games Area (MUGA), car park and secure cycle parking facilities.

It is noted that deliveries to the adjacent garden centre are currently routed through the proposed car parking area and these arrangements shall continue in a controlled and coordinated fashion post development. It is also the case that the annual Reading music festival makes use of the site during the school summer holiday periods. Future access to the site for these purposes shall continue to be available to support the festival activities at times when the school is not operational.

The proposed site benefits from excellent level of accessibility by sustainable modes of transport including walking and cycling with segregated off-road cycle lanes within the vicinity of the site. The proposed site masterplan is included as **Appendix A** of this report.

### 1.1 Purpose of this Report

This Transport Assessment (TA) has been prepared in order to consider the development proposals and their potential impact on the surrounding area from a traffic and transportation perspective. It has been developed in response to the pre-application engagement undertaken with highways officers from Reading Borough Council (RBC) and also been used to inform the highway related design aspects of the associated proposals.

### 1.2 Scope of this Report

The contents of the report are consistent with the former DfT's '*Guidance for Transport Assessment*' and locally published planning guidance from RBC. A pre-application meeting was held between

planning officers from RBC and the Client team on the 14<sup>th</sup> October 2021. The response from RBC to the pre-application engagement is included as **Appendix C**.

This TA has been prepared for submission to RBC to detail the likely transport matters which have emerged from the development proposals in the context of a planning submission. In accordance with the National Planning Policy Framework [NPPF], July 2021, it also identifies the expected highways impact of the scheme within the local transport network and considers both local and national policy to ensure that the development adheres to relevant transport policies.

On this basis, this TA contains the following:

- A description of the highway network in the vicinity of the site;
- A review of the accident record in the immediate vicinity of the site for a five-year period;
- A summary of the development proposals including car parking provision;
- A summary of relevant transport planning policy;
- A review of accessibility by all sustainable modes of travel;
- Information regarding traffic generation and trip rates; and
- Analysis on the highway impacts associated with the development proposals.

In addition to this TA, a School Travel Plan (STP) has been prepared and is designed to be read alongside this report. The STP contains a series of measures and schemes which shall be promoted to future staff and students which would lessen their dependency on single occupancy vehicle trips. This would further reduce any potential negative residual highway impacts which may be associated with these development proposals.

### 1.3 Structure of this Report

Following this introduction, **Section 2** of the report provides a comprehensive description of the existing site and its location. This includes the local highway network and facilities for pedestrians, cyclists and public transport users.

**Section 2** also reviews the local area in terms of highways safety by way of obtaining records of incidents adjacent to the site over the most recent five-year period available.

The development proposals summarised in **Section 3**, including the proposed parking provision and access arrangements.

The accessibility of the site by sustainable modes of travel is assessed in **Section 4**.

**Section 5** outlines the traffic forecasting methodology used to establish the likely traffic generation associated with the development proposals including local junction capacity modelling.

Relevant local and national transport policy is summarised in **Section 6**.

The report is summarised and concluded in **Section 7**.

## 2.0 Existing Site and Highway Layout

The proposed site is located approximately 1.3km to the northwest of the centre of Reading off Richmond Avenue and is located at the former Linerboard Golf Club. The northern rectangular section of the site is currently used as an activity centre, with the southern triangular section currently unused, the two sections are separated by a roadway and drainage ditch.

The site is bound by Rivermead Local Green Space, Rivermead Leisure Centre and Caversham Bridge Garden Centre to the east, Rivermead Local Green Space to the north, Cow Lane to the west and Richfield Avenue to the south. The built environment in the immediate vicinity of the site (predominantly to the south and east) is light industrial.

There are currently two pedestrian and vehicular access points to the site which are located to the south and to the east of the site, accessed via Richfield Avenue / Cow Lane and an unnamed access road respectively. The unnamed access road services the Rivermead Leisure Complex to the east of the site.

The site within its local surrounding are demonstrated in **Figure 2.1** and **Figure 2.2** below.

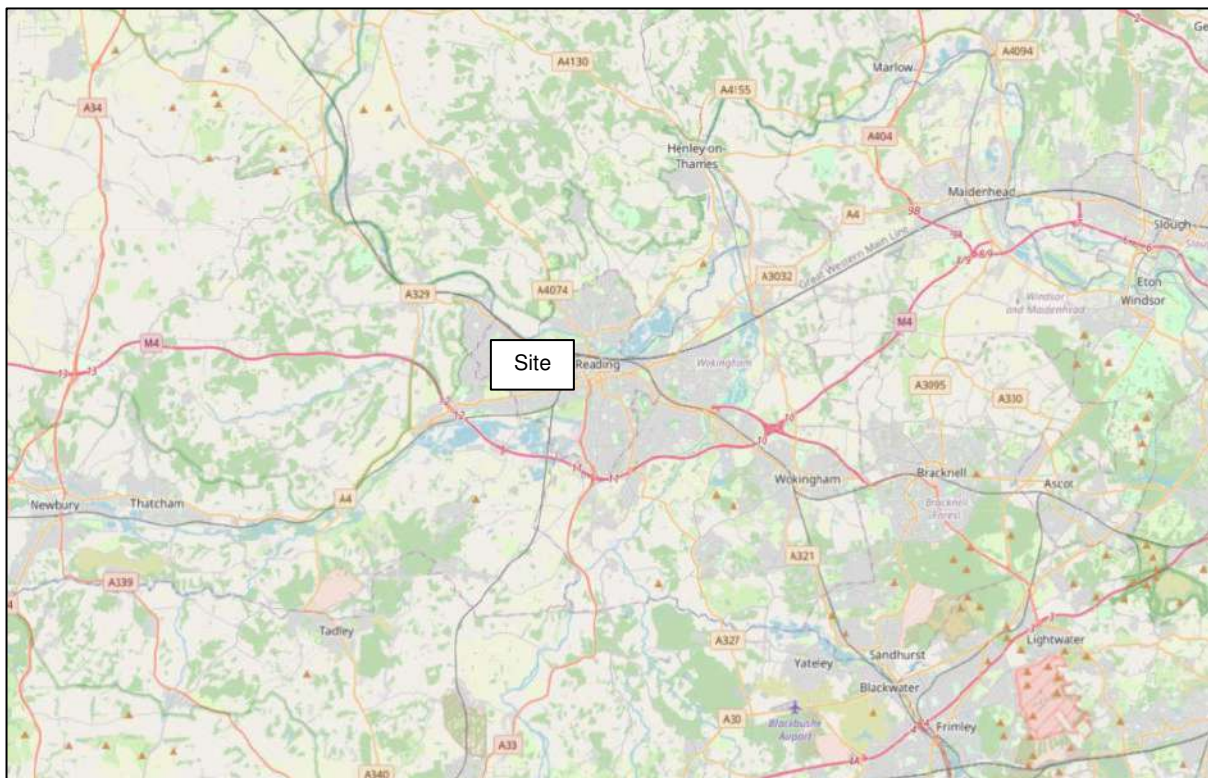


**Figure 2.1 – Site location**



Figure 2.2 – Local site location with approx. site boundary

Figure 2.3 sets out the proposed development layout and formation of an improved site access from Cow Lane. A fuller plan of the development proposals is included as **Appendix A**.

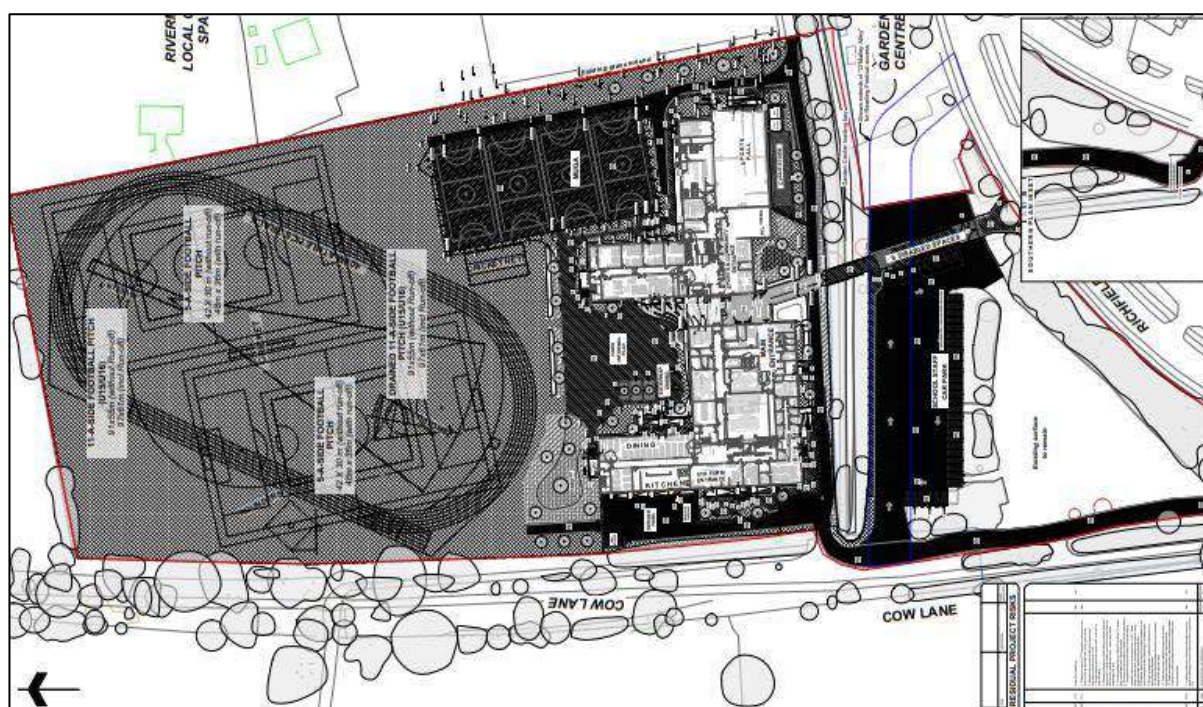


Figure 2.3 – Site layout

## 2.1 Existing Use

The site measures approximately 55,000sqm and is owned by the Local Authority. The northern rectangular section of the site is currently used as an activity centre, with the southern triangular section currently unused, the two sections are separated by a roadway and drainage ditch. The northern section features a semi-enclosed linear block which will require demolition. No other permanent buildings are thought to feature on either section of the site.



**Figure 2.4** – Existing site access to be upgraded from Cow Lane

## 2.5 Surrounding Highway Network

### Richfield Avenue

Richfield Avenue is located to the southeast of the site. The road begins to the south of the site where it transitions into Richfield Avenue from Cow Lane and continues easterly ending at the four-arm roundabout with the Caversham Road (A4155) and Waterman Place. Mid way along Richfield Avenue there is a roundabout which connects to the unnamed leisure centres access road and Tessa Road.

Richfield Avenue is a single carriageway that is approximately 9m wide with traffic lanes separated by diagonal white lines in the middle of the carriageway. The road is subject to a 30mph speed limit and is lined with double yellow lines.



**Figure 2.5** – Richfield Avenue east in vicinity of site access

Fronting the site and in the vicinity of proposed new site entrance there is a good level of pedestrian and cycle infrastructure with wide footway measuring over 2m in width set back from the edge of the carriageway by grassed verges and sections of segregated cycle lanes.

Street lighting is present and surfaces appear reasonably well maintained. There are also a number of pedestrian crossing refuges along the length of Richfield Avenue.

### **Cow Lane**

Cow Lane is located to the south of the site and has recently undergone significant improvements that finished in 2019. Cow Lane begins at the south of the site, continuing southbound ending at the junction with Beresford Road and Portman Road and a mini-roundabout.

The single carriageway road is approximately 10m wide, narrowing to approximately 7m wide towards the bridge south of the site.

Regularly spaced street lighting denotes a 30mph speed limit and given recent improvements, the condition of footways, cycle lanes and wayfinding signage is good. There are also sensibly located zebra crossings and pedestrian refuges located on Cow Lane.



**Figure 2.6** – Cow Lane zebra crossing

### **Caversham Road**

Caversham Road is located approximately 700m east of the site, beginning southeast of the site as the A329 continuing northbound over Caversham bridge transitioning into Bridge Street (A4155), ending at the junction with Church Road (A4074) and Church Street.

Caversham Road connects central Reading to northern Reading over the River Thames and forms part of the strategic road network. Caversham Road within the vicinity of the site is a dual carriageway approximately 11m wide and is subject to a 30mph speed limit. There are on street parking bays along the west side of Caversham road approximately 250m south of the four-arm roundabout with Richfield Avenue and Waterman Place.

Parking restrictions are in place Monday to Saturday between 09:15 and 16:30 with a maximum stay of 30 minutes.



Figure 2.7 – Caversham Road north toward River Thames

## 2.6 Highway Safety

In order to assess if the proposed development will contribute to a worsening of local highway safety concerns, an analysis of the local highway safety and reported incidents has been undertaken.

Personal Injury Accident (PIA) data for the highway network adjacent to the site has been obtained from CrashMap for the most recent five years, the period being 2016 to 2020. The location of these incidents is shown in **Figure 2.9** whilst a breakdown of the information is contained in **Table 2.1**.



Figure 2.8 – CrashMap Personal Injury Accident results

| Junction/Link                    | Slight | Serious | Fatal | Totals    |
|----------------------------------|--------|---------|-------|-----------|
| <b>Cow Lane</b>                  | 5      | 1       | 0     | <b>6</b>  |
| <b>Richfield Avenue</b>          | 3      | 0       | 0     | <b>3</b>  |
| <b>Caversham Road roundabout</b> | 4      | 0       | 0     | <b>4</b>  |
| <b>Total</b>                     | 12     | 1       | 0     | <b>13</b> |

**Table 2.1** – Personal Injury Accident summary

There has been a total of 13 reported incidents within the vicinity of the site within the last five-year period for when data is available. Of the recorded incidents, 12 have been categorised as 'slight' whilst one has been categorised as 'serious'.

Of those incidents reported, only three occurred on Richfield Avenue and none occurred along the direct frontage of the site. The incidents reported on Cow Lane appear to be clustered around the Cardiff Road junction and all were reported in 2017-2018. It is noted that during this time a considerable amount of highway works were taking place and temporary traffic restrictions and control measures were in place. There have been no reported incidents in this area since those works were complete.

The remainder of the locally observed incidents reported at the Caversham Round roundabout and were reported as 'slight'. Given the volume of traffic passing through the roundabout this level of reported incidents is quite typical and not suggestive of poor highway design or maintenance.

Typically, it is accepted that a 'low risk' is immaterial and consideration of mitigation would not be required. Where 'medium risk' ratings are indicated, mitigation is not pre-requisite, but practical solutions should be considered where possible. 'High risk' ratings indicate that mitigation would be desirable, whereas 'very high risk' would require immediate intervention.

|          |         | Incident Frequency          |                                   |                             |                                   |
|----------|---------|-----------------------------|-----------------------------------|-----------------------------|-----------------------------------|
|          |         | > Once a year<br>(Frequent) | Between 1-3 years<br>(Occasional) | Between 4-7 years<br>(Rare) | Between 8-20 years<br>(Very Rare) |
| Severity | Fatal   | Very High                   | High                              | High                        | Medium                            |
|          | Serious | High                        | High                              | Medium                      | Medium                            |
|          | Slight  | High                        | Medium                            | Medium                      | Low                               |
|          | Damage  | Medium                      | Medium                            | Low                         | Low                               |

**Table 2.2** – Institute of Highways & Transportation (IHT) Personal Injury Collision plot

Relating the above to the safety performance and future risk of a collision occurring on the study area highway network, it is evident that there is a medium to high risk associated with the wider study area. It is noted however that the Cow Lane incidents occurred before recent highway improvements we're delivered and the Caversham Bridge roundabout incidents are fairly typical for a network with observed levels of traffic. It is therefore concluded there are no pre-existing highway safety concerns that shall require mitigation.

To help deliver improvements however and better support the school community, the Travel Plan prepared by the school proposes measures to educate pupils on highway safety and also cycle confidence training. These measures will help to ensure that site users are best placed to access the site safely. Appropriate 'School Keep Clear' signage and road markings shall also be introduced to prevent obstructive parking on the frontage of the site.

### 3.0 Development Proposals

The proposals include the development of a new secondary school and sixth form with capacity for up to 1,500 pupils from the ages of 11 to 18 years and an estimated 156 Full Time Equivalent (FTE) staff members. The proposed development site is on land to the north of Richfield Avenue / Cow Lane and adjacent to the Rivermead Leisure Centre.

The proposed new school shall be accessed from an upgraded Cow Lane / Richfield Avenue access with a segregated pedestrian and cycle access to the east on Richfield Avenue. In addition to the main teaching blocks, the proposals include a new sports hall, outdoor games area, Multi-Use Games Area (MUGA), car park and secure cycle parking facilities.

The school day will start at 08:30 for breakfast clubs with the main teaching day commencing at 09:30 and ending at 15:30, Mon-Fri. After-school activity clubs shall be offered each day and these shall run from 15:30 – 16:30.

#### 3.1 Proposed Access

The proposed vehicular access shall be taken from the existing Cow Lane junction, though it shall be upgraded as shown in **Appendix D**. This includes the formalisation of the access and bound surfacing. Dropped kerbs and tactile paving will also be provided alongside newly installed 'School Keep Clear' zigzag road markings and an accompanying Traffic Regulation Order.

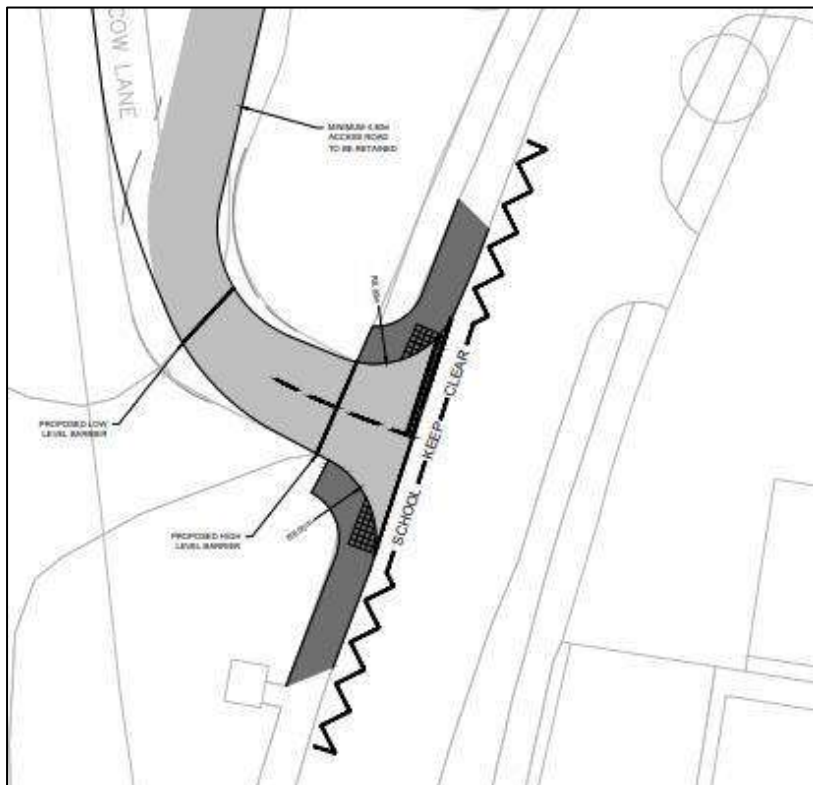


Figure 3.1 – Proposed Cow Lane access

The proposed access shall also be used to serve the adjacent garden centre for their deliveries which occur every 2-3 times per week. For this purpose the swept path analysis included in **Appendix D** also includes the movements of large articulated vehicles. For this purpose the site access shall include two lockable barriers. One low-level barrier shall be used to prevent vehicular access during times when the school site is closed but shall otherwise be open during the teaching day. The second barrier shall be a height restricted HGV barrier that shall remain closed at all times unless the garden centre are taking bulky deliveries outside of school peak periods. In keeping with the current arrangements of the garden centre, their staff shall open and close the height restricted barrier as and when it is required.

**Appendix D** demonstrates how refuse collection and service vehicles can safely access the site to service the proposed development and also that appropriate visibility splays for the 30mph road can be achieved.

In addition to the formalised vehicular access, a segregated pedestrian and cycle access shall also be provided to the site from Richfield Avenue as indicated below. This access shall also benefit from 'School Keep Clear' yellow zigzag road markings and accompanying TRO.

### **3.2 Car Parking**

The proposed scheme includes the provision of 82 car parking spaces of which six shall be for blue badge holders. This figure is deemed an appropriate level of parking to accommodate staff and visitor parking demands given the good levels of accessibility benefiting the site. The provision has also been derived from the RBC Car Parking standards guidance which states that for development in Zone 2, a parking space should be provided for 2 FTE staff members.

In addition to the blue badge holder spaces, an allocation of parking spaces shall also be marked and reserved for car sharers only. This is to promote the uptake of car sharing amongst staff and reduce the site's residual trip generation impacts.

### **3.3 Cycle Parking**

The development proposals include the creation of 120 secure and sheltered cycle parking spaces.

### **3.4 Highway Alterations**

In addition to the improved site vehicular access and the formation of a segregated pedestrian and cycle access, wider improvements to the surrounding highway network are also proposed. It was noted that there are limited crossing facilities along Cow Lane from the segregated R5 cycle path from the east side of Cow Lane to the West side.

Whilst a pedestrian crossing refuge is in place, it is proposed this is upgraded to a Tiger Crossing which would provide a safer and more direct crossing opportunity for school users approaching from the south. This improvement would also be beneficial to wider residents and employees in the local area. The Tiger Crossing is proposed for the location shown in Figure 3.2 below.



**Figure 3.2** – Pedestrian refuge to be upgraded

## 4.0 Accessibility by Sustainable Modes of Travel

A key element of national, regional and local policy is to ensure that new developments are located in areas where sustainable modes of travel are available. It is important to ensure that developments are not isolated but are located close to complementary land uses. This supports the aims of integrating planning and transport, providing more sustainable transport choices, and reducing overall travel and car use.

The accessibility of the proposed development is considered in this context for the following modes of travel:

- Pedestrian Accessibility;
- Accessibility by Cycle; and
- Accessibility by Public Transport.

### 4.1 Pedestrian Accessibility

Research has indicated that acceptable walking distances depend on a number of factors, including the quality of the development, the type of amenity offered, the surrounding area, and other local facilities. The Chartered Institution for Highways and Transportation (CIHT) document entitled '*Providing for Journeys on Foot*' suggests walking distances which are relevant to this planning application. These are reproduced in **Table 4.1**.

|                          | Town Centres (m) | Commuting/School/Sightseeing (m) | Elsewhere/Local Services (m) |
|--------------------------|------------------|----------------------------------|------------------------------|
| <b>Desirable</b>         | 200              | 500                              | 400                          |
| <b>Acceptable</b>        | 400              | 1,000                            | 800                          |
| <b>Preferred Maximum</b> | 800              | 2,000                            | 1,200                        |

**Table 4.1** – CIHT Suggested Acceptable Walking Distances

Figure 4.1 below denotes an 2km isochrone or 25 minute walk from the site and demonstrates that large areas of developed residential suburbs to the west of Reading are accessible within a permitted walking distance from the site. These include Caversham, Battle and Reading West. Also included within the isochrone are Reading West and Reading rail stations.

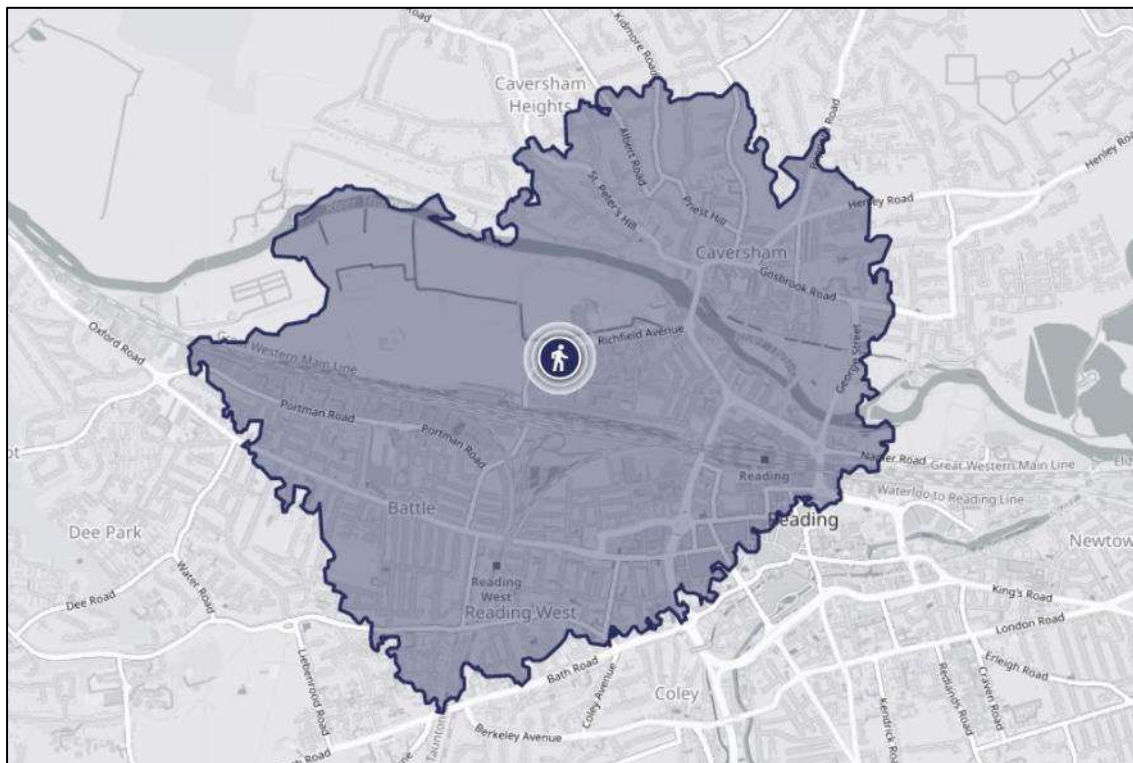


Figure 4.1 – 2km isochrone

Locally, the footways along Richfield Avenue are in good condition with frequent street lighting provided along the length of the road. The southern footway is approximately 2.5m wide lined with a 2.5m wide grass verge. The northern footway is approximately 3m wide lined with a 2m grass verge. The northern footway is also a designated cycle route. Good levels of street lighting and dropped kerbs with tactile paving and pedestrian refuges at appropriate locations.

There are frequent crossing facilities located along Richfield Avenue at 80m to 100m intervals. The majority of crossings provide a refuge island. There is a pelican crossing located 40m west of the four-arm roundabout junction with the Caversham and Waterman with dropped kerbs provided.

Footways along Cow Lane are in good condition and are approximately 3m wide. The eastern footway is also lined with a grass verge ranging in 3m to 6m in width. Approximately 30m south of the site, the eastern footway transitions into a raised segregated footway and cycleway with guard rails, which continues south under the railway bridge. The footway on the west side of the carriageway runs along Cow Lane for approximately 30m and then comes to an end.

There is an uncontrolled crossing located along Cow Lane approximately 40m south of the site. The crossing is benefited by tactile paving and a refuge island though this is proposed to be upgraded into a Tiger Crossing as discussed above.

There is frequent street lighting present along Caversham Road. There are two pelican crossings, both benefited by tactile paving located along Caversham road 50m and 250m south of the roundabout with Richfield Avenue and Waterman Place respectively.

There is a public right of way (PRoW) that can be accessed south of the proposed development site at the site's southernmost access point. The PRoW runs parallel to the east of the site, connecting Cow Lane to the Thames Path.

Thames Path is also a PRoW that runs parallel to the River Thames north of the site connecting to a number of integrated footways located to the east of the site. These footways can be accessed by Richfield Avenue or Caversham Road. These footways pass through the Rivermead Leisure Complex, providing access to the east of the site.



**Figure 4.2 – Cow Lane pedestrian crossing**

## **4.2 Accessibility by Bicycle**

Given the low traffic speeds in the vicinity of the site and the availability of cycle infrastructure such as Advanced Stop Lanes (ASL) at local signalised junctions and dedicated off-road cycle lanes, it is possible to determine that the site is well connected to the wider cycle network and accessible by bike.

**Figure 4.3** below demonstrates that a wide area of Reading and the outlying towns and villages are accessible by cycle within the 30 minute journey time including Sonning Common to the north, Woodley to the east, Whitley Wood to the south and Pangbourne to the west.

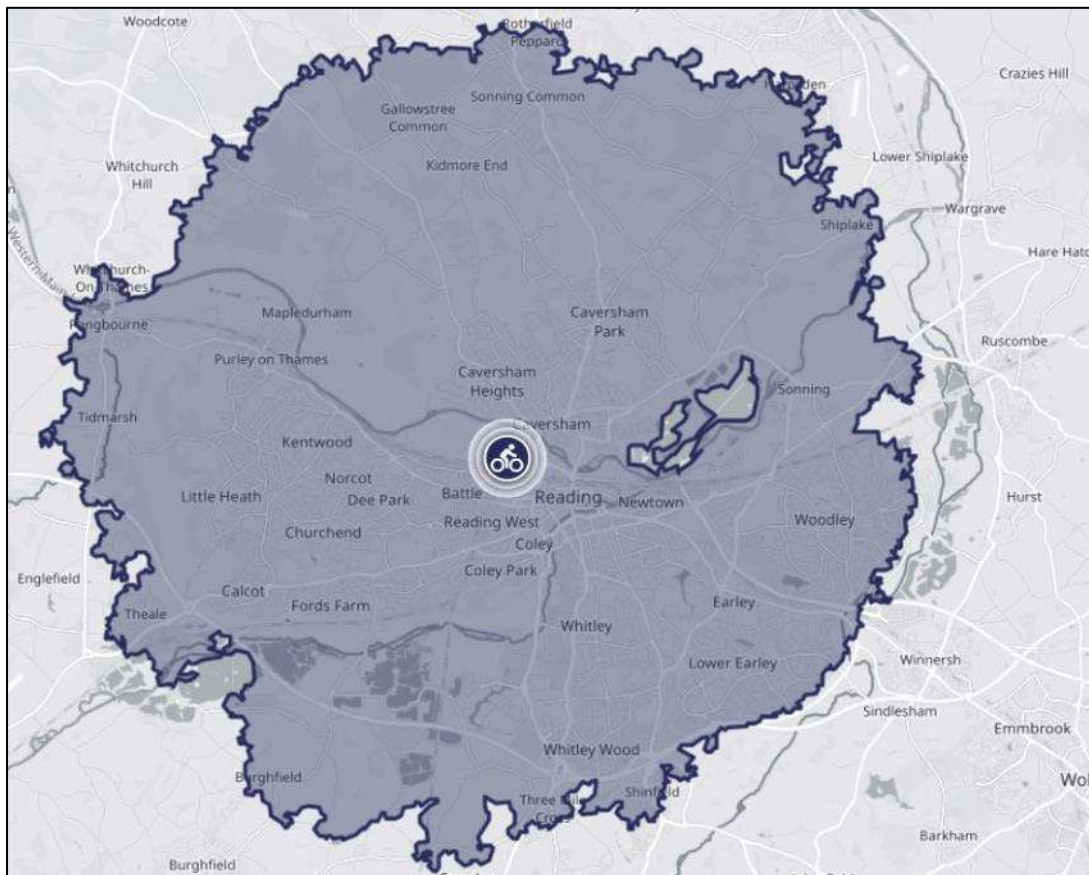


**Figure 4.3 – 30 minute cycle isochrone**

East of the site, Reading's R40 cycle route starts along Richfield Avenue, south of Rivermead leisure centre providing connections to north Reading, Caversham and Emmer Green and the National Cycle Network (NCN) route five. The R40 cycle route also provides a cycle route to Reading Station. There is a shared cycle path that runs southbound along the eastern footway of Caversham Bridge.

South of the site, the linking cycle route continues along Cow Lane intersecting the R5 Reading cycle route along Portman Road. The R5 cycle route connects Reading West Station to Tilehurst Station and Danefield School further west.

Overall the proposed development is served a number of cycle routes within the vicinity of the site that provide connections to areas both north and south of the River Thames and it is considered the site is well connected to the wider cycle network.

### 4.3 Accessibility by Public Transport

The closest bus stop to the site is located along Richfield Avenue which is approximately 250m (three-minutes' walk) east from the site. This stop is served by the 42, 42a and 60a, F10, F11 and F12. It should be noted that the 42a only runs in the evening and the 60a on Sundays.

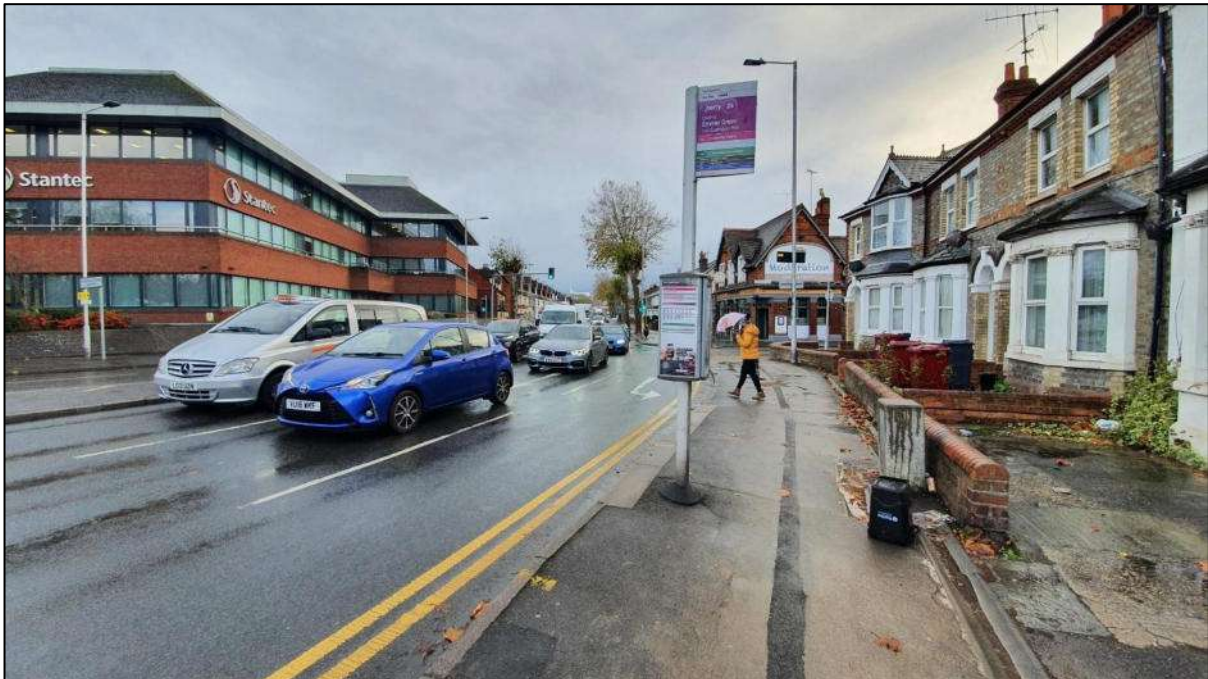


**Figure 4.4** – Caversham Road bus stop

There are also two other bus stops located further east along Caversham Road approximately 750m (nine-minutes' walk) from the site. These bus stops serve an additional three routes. The local bus stops vary between the provision of shelters and also stops with a more simple pole and flag arrangement. The bus routes that serve the aforementioned bus stops are summarised in Table 4.3 below.

A summary of locally available bus services is provided in **Table 4.3** below.

| Bus Route | Stop Location  | From          | To           | AM Peak Frequency | PM Peak Frequency |
|-----------|----------------|---------------|--------------|-------------------|-------------------|
| 42        | Rivermead LC   | Kenavon Drive | Reading      | 1                 | 2                 |
| 22        | The Moderation | Reading       | Reading      | 2                 | 2                 |
| 23        | The Moderation | Caversham     | Reading      | 3                 | 2                 |
| 24        | The Moderation | Reading       | Emmer Green  | 2                 | 2                 |
| 27        | The Moderation | Caversham     | Reading      | 0                 | 1                 |
| 800       | The Moderation | Reading       | High Wycombe | 1                 | 1                 |
| X38       | The Moderation | Reading       | Oxford       | 1                 | 1                 |

**Table 4.3** – Local bus services

The nearest National Rail station to the site is Reading West, located approximately 1km (12- minutes' walk) south of the site. Reading West Station is managed and operated by Great Western Railway. Services are provided from Reading to Newbury and Basingstoke.

Reading Station is located approximately 1.25km (15 minutes' walk) southeast of the site. Reading Station is managed by Network Rail and operated by Great Western Railway, CrossCountry and South Western Railway. Reading Station provides services to London, the Midlands, the north and south west of England.

#### **4.4 Accessibility Summary**

The site is well connected to a large number of destinations and services by good quality and well-maintained pedestrian and cycle infrastructure. The site also benefits from good connectivity to local bus and rail services which collectively offers many for pupils, staff and visitors to access the site without the need to rely upon private vehicles.

## 5.0 Traffic Forecasting and Highway Impact

The following section contains trip generation analysis and impact upon the wider highway network. The proposed scheme will include capacity for up to 1,500 pupils and 156 FTE staff members.

### 5.1 Trip Generation and Assignment

In order to establish the levels of trip generation associated with the proposals. It would be expected that the introduction and implementation of the Travel Plan shall serve to reduce the proportion of single occupancy vehicle trips generated by the site. For the purpose of this assessment however any Travel Plan benefits through a reduction in vehicular trip generation have not been taken into account.

Whilst the proposed catchment area for the school cannot be defined at present, it is anticipated to be no more than 3 miles upon first opening. As the school fills to capacity, increased demand for admission would result in places being allocated to pupils who live the closest. This would therefore result in a tightening of the area from which pupils are drawn over time. In order to establish a baseline modal split for the purposes of assessment, the 2011 census travel to secondary school mode share data for schools across Reading has been used to estimate the mode share of pupils attending River Academy.

|                         | Walk | Cycle | Car/ Van | Bus | Train |
|-------------------------|------|-------|----------|-----|-------|
| % Mode Share            | 42%  | 3%    | 19%      | 27% | 9%    |
| Estimated Pupil Numbers | 630  | 45    | 285      | 405 | 135   |

**Table 5.1** – Pupil trip rate

As shown in **Table 5.1** above, the most popular form of transport are journeys on foot with 42% then bus with 27% of pupils arriving by public bus services. The next most popular mode of travel is car / van with 19% of pupils expected to arrive this way.

When considering the number of car / van trips generated by pupils of the proposed school, UK Government Department for Transport (DfT) statistics drawn from the National Travel Survey show that the median average car occupancy level for educational trips is 2.0. These kinds of trips are defined as those “to school or college, etc. by full time students, students on day-release and part time students following vocational courses”. In the figure provided, escort trips, those “when the traveller has no purpose of his or her own, other than to escort or accompany another person; for example, taking a child to school” are also included.

The DfT data provides that in 37% of educational trips by car there was a single occupant in the vehicle; it therefore follows that for the remaining 63% of car trips that the average car occupancy will be 2.0 or more. As most school pupils cannot drive to school, we have assumed that all trips to school will be a

constituent part of the aforementioned 63%, so we have calculated the average value for this group to use in the traffic diagrams and models.

If total average is 2.0 but we know that for 37% of vehicles the occupancy is 1.0, then the remaining 63% will have a different average result, that we can calculate as follows:  $37 \times 1.0 + 63 \times X = 100 \times 2.0$  then  $X = 2.6$ .

The average occupancy value for cars used by 2 or more travellers is 2.6 thus if we assume that one is the parent it is possible to say that the average number of children per car is 1.6. This figure accounts for siblings / friends / neighbours who would reasonably be expected to share a ride within an informal car share agreement between parents / guardians with children at the same school.

The above car share factor has therefore been built into the calculation below to calculate pupil car trips (as opposed to the number of pupils travelling by car).

|                                        | Walk | Cycle | Car/ Van | Bus | Train |
|----------------------------------------|------|-------|----------|-----|-------|
| <b>% Mode Share</b>                    | 42%  | 3%    | 19%      | 27% | 9%    |
| <b>Estimated Pupil Trip Generation</b> | 630  | 45    | 178      | 405 | 135   |

**Table 5.2** – Pupil trip rate with car share factor applied

Following development and once at full capacity, the school would generate 178 pupil car trips, whilst 630 pupils would walk to the site, 45 would cycle, 405 would catch the bus and the remaining 135 would use the local train services.

When considering staff journeys the 2011 Census Travel To Work data has been interrogated to establish the proposed modal split. The following results in Table 5.3 below show the typical travel to work modal split trends for the Reading 007 Middle Super Output Area (MSOA).

| Mode                                 | Census |
|--------------------------------------|--------|
| Underground, metro, light rail, tram | 0.2%   |
| Train                                | 5.5%   |
| Bus, minibus or coach                | 7.8%   |
| Taxi                                 | 0.4%   |
| Driving a car or van                 | 64.2%  |
| Passenger in a car or van            | 5.0%   |
| Bicycle                              | 4.6%   |
| On foot                              | 12.4%  |

**Table 5.3** – Reading 007 MSA Travel To Work Mode Split

Given the local Car Parking Design Guidance in place which restricts parking spaces for new development to one space per two staff members, it is anticipated this would suppress what would otherwise lead to 'average' levels of travel to work by car amongst River Academy staff.

In order to correct the staff modal split projects the level of car parking available on site has been considered and the following modal split projects developed based upon this.

|                                      | Census | Adjustment | Proposed |
|--------------------------------------|--------|------------|----------|
| Underground, metro, light rail, tram | 0.2%   |            | 0%       |
| Train                                | 5.5%   | 2.3%       | 8%       |
| Bus, minibus or coach                | 7.8%   | 3.3%       | 11%      |
| Taxi                                 | 0.4%   |            | 0%       |
| Driving a car or van                 | 64.2%  | -15.0%     | 49%      |
| Passenger in a car or van            | 5.0%   | 2.1%       | 7%       |
| Bicycle                              | 4.6%   | 2.0%       | 7%       |
| On foot                              | 12.4%  | 5.3%       | 18%      |

**Table 5.4** – Proposed River Academy Staff Mode Split

It is proposed that 49% (76) of staff shall travel to work as a car / van driver with 18% arriving on foot, 19% using public transport and the remainder using cycles or as a car share arrangement.

## 5.2 Trip Distribution

The distribution of the proposed new trips has been derived from Census Population Weighting for Reading MSOAs for pupils, and Location of Usual Residence and Place of Work by Method of Travel to Work data for staff trips.

The number of new trips and distribution across the local highway network are shown in **Appendix E** of this report. These distribution plans also include the allocation of the above trips to the wider network at different times of the school day.

Based on the provision of pre-school breakfast clubs and also after-school activity clubs operated by the Trust at other sites, it is estimated that 20% of pupils shall arrive early for breakfast clubs and 20% of pupils shall stay behind at the end of the school day for post-school activity clubs.

The trip distribution profile is therefore as follows:

- **08:00 – 09:00** – 100% of staff and 20% of pupil arrivals (two-way trips in the case of pupils arriving by car / van)
- **09:00 – 10:00** – 80% of pupils arrivals (two-way in the case of those arriving by car / van)
- **15:30-16:30** – 80% of pupils depart
- **16:30 – 17:30** – 20% of pupils and 100% of staff depart

### 5.3 Junction Capacity Analysis

Based on the pre-application engagement with planning and highways officers from RBC (**Appendix C**), it was requested that this TA investigate the impacts of the proposed development upon local junctions which were:

- Beresford Road / Cow Lane mini-roundabout;
- Rivermead / Richfield Avenue roundabout;
- Caversham Bridge Roundabout.

It is considered necessary to assess the impact of the new access on the free flow of traffic at the above junction locations in order to assess if the residual development trips shall result in an unacceptable level of impacts on the surrounding highway network.

### 5.4 Baseline Traffic & Future Year Scenarios

Manual Classified Counts and Queue Length surveys were commissioned and undertaken at the above junctions and is summarised in **Appendix G**. The surveys were undertaken on Tuesday 30<sup>th</sup> November 2021. No road works were reported in the vicinity of the surveys at the time and weather conditions were acceptable. The above counts have been utilised for modelling the 2021 Baseline scenario.

The 2028 Future Year scenario (including TemPro growing factors) have also been developed to align with the period when the school is expected to reach full capacity given the incremental increases in pupil intake during the intervening period. The Future Year With Development scenario is therefore based around the 2028 scenario but also includes the proposed development trips highlighted above.

Taking the above proposed trip generation levels, turning counts and future year background traffic flows into account, it is possible to undertake a detailed junction capacity modelling assessment of the junctions most likely to be effected.

### 5.5 Beresford Road / Cow Lane Mini-Roundabout Arcady Analysis

To model the impact on this mini-roundabout, this assessment has utilised Junctions 10 and Arcady modelling software. The Junctions 10 models results generated provide a Ratio to Flow capacity (RFC) along with an estimate of the likely traffic queues.

RFC values between 0.00 and 0.85 are generally accepted as representing stable and acceptable operating conditions. Values between 0.85 and 1 and represent variable operation (i.e. possible queues building up at the junction during the period under consideration and increases in vehicular delay moving through the junction). RFC values in excess of 1 represent overloaded conditions (i.e. congested conditions) where traffic queues will propagate through the time period (i.e. a greater number of arrivals than departures).

The results of the Arcady assessment for the Beresford Road / Cow Lane roundabout between 09:00-10:00 and 15:30-16:30 are summarised in Table 5.5 below.

- Arm 1 – Cow Lane
- Arm 2 – Beresford Road
- Arm 3 – Portman Road

|       | AM                                                   |             |           |      |     | PM     |             |           |      |     |
|-------|------------------------------------------------------|-------------|-----------|------|-----|--------|-------------|-----------|------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC  | LOS | Set ID | Queue (PCU) | Delay (s) | RFC  | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |      |     |        |             |           |      |     |
| Arm 1 | D1                                                   | 3.7         | 20.54     | 0.80 | C   | D2     | 32.2        | 131.62    | 1.05 | F   |
| Arm 2 |                                                      | 2.5         | 34.57     | 0.73 | D   |        | 8.0         | 95.80     | 0.94 | F   |
| Arm 3 |                                                      | 7.1         | 28.26     | 0.89 | D   |        | 5.0         | 21.21     | 0.84 | C   |
|       | Existing Layout - 2028 Future Baseline               |             |           |      |     |        |             |           |      |     |
| Arm 1 | D3                                                   | 5.6         | 29.15     | 0.86 | D   | D4     | 63.6        | 246.28    | 1.14 | F   |
| Arm 2 |                                                      | 4.2         | 56.39     | 0.84 | F   |        | 12.7        | 138.46    | 1.00 | F   |
| Arm 3 |                                                      | 13.9        | 51.56     | 0.96 | F   |        | 8.3         | 33.31     | 0.91 | D   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |      |     |        |             |           |      |     |
| Arm 1 | D5                                                   | 8.9         | 43.71     | 0.92 | E   | D6     | 89.0        | 377.74    | 1.20 | F   |
| Arm 2 |                                                      | 8.0         | 96.90     | 0.94 | F   |        | 19.4        | 190.30    | 1.06 | F   |
| Arm 3 |                                                      | 21.5        | 74.54     | 1.00 | F   |        | 11.8        | 45.88     | 0.94 | E   |

**Table 5.5** – Beresford Road / Cow Lane roundabout between 09:00-10:00 and 15:30-16:30 modelling performance

The results of the above modelling work demonstrate that the current operation of the roundabout is stretched beyond its theoretical capacity during the PM period. This is compounded in the Future Year scenario without the development as would be expected once background growth is added.

When considering the Future Year scenario With Development then there is a slight worsening of performance at this junction, however it is considered to be relatively minor in comparison to the existing and future year performance changes.

The full modelling outputs are included as **Appendix F**.

The results of the Arcady assessment for the Beresford Road / Cow Lane roundabout between 08:00-09:00 and 16:30-17:30 are summarised in Table 5.6 below.

|                                                      | AM     |             |           |      |     | PM     |             |           |      |     |
|------------------------------------------------------|--------|-------------|-----------|------|-----|--------|-------------|-----------|------|-----|
|                                                      | Set ID | Queue (PCU) | Delay (s) | RFC  | LOS | Set ID | Queue (PCU) | Delay (s) | RFC  | LOS |
| Existing Layout - 2021 Baseline                      |        |             |           |      |     |        |             |           |      |     |
| Arm 1                                                | D1     | 2.5         | 15.06     | 0.72 | C   | D2     | 54.9        | 204.65    | 1.11 | F   |
| Arm 2                                                |        | 2.0         | 27.64     | 0.68 | D   |        | 6.4         | 80.93     | 0.90 | F   |
| Arm 3                                                |        | 5.2         | 21.53     | 0.85 | C   |        | 3.9         | 16.93     | 0.80 | C   |
| Existing Layout - 2028 Future Baseline               |        |             |           |      |     |        |             |           |      |     |
| Arm 1                                                | D3     | 3.3         | 19.04     | 0.78 | C   | D4     | 93.0        | 393.52    | 1.21 | F   |
| Arm 2                                                |        | 3.1         | 40.09     | 0.77 | E   |        | 9.5         | 111.45    | 0.96 | F   |
| Arm 3                                                |        | 8.9         | 34.87     | 0.92 | D   |        | 5.8         | 24.09     | 0.87 | C   |
| Existing Layout - 2028 Future Baseline + Development |        |             |           |      |     |        |             |           |      |     |
| Arm 1                                                | D5     | 3.6         | 20.09     | 0.79 | C   | D6     | 124.3       | 541.59    | 1.27 | F   |
| Arm 2                                                |        | 4.6         | 55.13     | 0.85 | F   |        | 9.1         | 106.39    | 0.95 | F   |
| Arm 3                                                |        | 13.4        | 50.62     | 0.96 | F   |        | 6.2         | 25.40     | 0.87 | D   |

**Table 5.6** – Beresford Road / Cow Lane roundabout between 08:00-09:00 and 16:30-17:30 modelling performance

As with Table 5.5, there is a worsening of performance on all arms of the junction when considering the changes from existing to future year scenarios. Indeed as is the case during the PM period on Cow Lane, the existing baseline scenario suggests the junction is currently operating beyond theoretical capacity.

The Future Year scenario with development does again contribute to a slight worsening of performance as it the case with the previous time periods modelled, but again the differences between Future Year and Future Year with Development are considered to be minor and for some movements, no change at all.

## 5.6 Rivermead / Richfield Avenue Roundabout Arcady Analysis

The results of the Arcady assessment for the Rivermead / Richfield Avenue roundabout between 09:00-10:00 and 15:30-16:30 are summarised in Table 5.7 below.

- Arm 1 – Rivermead
- Arm 2 – Richfield Ave (E)
- Arm 3 – Tessa Road
- Arm 4 – Richfield Ave (W)

|       | AM                                                   |             |           |      |     | PM     |             |           |      |     |
|-------|------------------------------------------------------|-------------|-----------|------|-----|--------|-------------|-----------|------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC  | LOS | Set ID | Queue (PCU) | Delay (s) | RFC  | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |      |     |        |             |           |      |     |
| Arm 1 | D1                                                   | 0.0         | 4.17      | 0.03 | A   | D2     | 0.0         | 4.06      | 0.03 | A   |
| Arm 2 |                                                      | 1.7         | 7.17      | 0.62 | A   |        | 2.0         | 7.96      | 0.67 | A   |
| Arm 3 |                                                      | 0.2         | 8.54      | 0.18 | A   |        | 0.4         | 10.11     | 0.27 | B   |
| Arm 4 |                                                      | 2.1         | 8.32      | 0.67 | A   |        | 1.7         | 7.13      | 0.62 | A   |
|       | Existing Layout - 2028 Future Baseline               |             |           |      |     |        |             |           |      |     |
| Arm 1 | D3                                                   | 0.0         | 4.39      | 0.04 | A   | D4     | 0.0         | 4.26      | 0.03 | A   |
| Arm 2 |                                                      | 2.0         | 8.16      | 0.66 | A   |        | 2.6         | 9.36      | 0.72 | A   |
| Arm 3 |                                                      | 0.3         | 9.20      | 0.20 | A   |        | 0.4         | 11.32     | 0.31 | B   |
| Arm 4 |                                                      | 2.6         | 9.85      | 0.72 | A   |        | 2.0         | 8.18      | 0.67 | A   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |      |     |        |             |           |      |     |
| Arm 1 | D5                                                   | 0.0         | 4.77      | 0.04 | A   | D6     | 0.0         | 4.62      | 0.03 | A   |
| Arm 2 |                                                      | 2.9         | 10.64     | 0.74 | B   |        | 3.9         | 12.85     | 0.80 | B   |
| Arm 3 |                                                      | 0.3         | 10.40     | 0.22 | B   |        | 0.5         | 13.31     | 0.34 | B   |
| Arm 4 |                                                      | 4.0         | 13.61     | 0.80 | B   |        | 2.9         | 10.71     | 0.75 | B   |

**Table 5.7** – Rivermead / Richfield Avenue roundabout between 09:00-10:00 and 15:30-16:30 modelling performance

The modelling work undertaken finds that all arms of this junction currently operate within the theoretical capacity during these periods. When future year growth, with and without development are considered then the junction continues to operate within acceptable tolerances with only minor increases in queue length and delay projected.

The results of the Arcady assessment for the Rivermead / Richfield Avenue roundabout between 08:00-09:00 and 16:30-17:30 are summarised in Table 5.8 below.

|       | AM                                                   |             |           |      |     | PM     |             |           |      |     |
|-------|------------------------------------------------------|-------------|-----------|------|-----|--------|-------------|-----------|------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC  | LOS | Set ID | Queue (PCU) | Delay (s) | RFC  | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |      |     |        |             |           |      |     |
| Arm 1 | D1                                                   | 0.0         | 4.10      | 0.02 | A   | D2     | 0.1         | 4.15      | 0.07 | A   |
| Arm 2 |                                                      | 1.5         | 6.78      | 0.60 | A   |        | 1.8         | 7.29      | 0.64 | A   |
| Arm 3 |                                                      | 0.2         | 7.81      | 0.13 | A   |        | 0.3         | 9.21      | 0.22 | A   |
| Arm 4 |                                                      | 1.8         | 7.55      | 0.64 | A   |        | 1.7         | 7.37      | 0.62 | A   |
|       | Existing Layout - 2028 Future Baseline               |             |           |      |     |        |             |           |      |     |
| Arm 1 | D3                                                   | 0.0         | 4.31      | 0.03 | A   | D4     | 0.1         | 4.37      | 0.07 | A   |
| Arm 2 |                                                      | 1.8         | 7.61      | 0.64 | A   |        | 2.2         | 8.39      | 0.69 | A   |
| Arm 3 |                                                      | 0.2         | 8.28      | 0.14 | A   |        | 0.3         | 10.15     | 0.25 | B   |
| Arm 4 |                                                      | 2.3         | 8.73      | 0.69 | A   |        | 2.1         | 8.49      | 0.67 | A   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |      |     |        |             |           |      |     |
| Arm 1 | D5                                                   | 0.0         | 4.40      | 0.03 | A   | D6     | 0.1         | 4.61      | 0.08 | A   |
| Arm 2 |                                                      | 2.3         | 8.89      | 0.69 | A   |        | 2.4         | 8.93      | 0.71 | A   |
| Arm 3 |                                                      | 0.2         | 8.87      | 0.15 | A   |        | 0.4         | 10.50     | 0.26 | B   |
| Arm 4 |                                                      | 2.5         | 9.33      | 0.71 | A   |        | 2.6         | 10.17     | 0.73 | B   |

**Table 5.8** – Rivermead / Richfield Avenue roundabout between 08:00-09:00 and 16:30-17:30 modelling performance

As with the 09:00-10:00 and 15:30-16:30 modelling assessment, the modelling work undertaken for 08:00-09:00 and 16:30-17:30 finds that all arms of this junction currently operate within the theoretical capacity during these periods. When future year growth, with and without development are considered then the junction continues to operate within acceptable tolerances with only minor increases in queue length and delay projected.

## 5.7 Caversham Bridge Roundabout Arcady Analysis

The results of the Arcady assessment for the Caversham Bridge roundabout between 09:00-10:00 and 15:30-16:30 are summarised in Table 5.9 below.

- Arm 1 – Caversham Bridge
- Arm 2 – Waterman Place
- Arm 3 – Caversham Road
- Arm 4 – Richfield Avenue

|       | AM                                                   |             |           |               |     | PM     |             |           |               |     |
|-------|------------------------------------------------------|-------------|-----------|---------------|-----|--------|-------------|-----------|---------------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC           | LOS | Set ID | Queue (PCU) | Delay (s) | RFC           | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |               |     |        |             |           |               |     |
| Arm 1 | D1                                                   | 2.9         | 7.79      | 0.74          | A   | D2     | 2.7         | 7.27      | 0.73          | A   |
| Arm 2 |                                                      | 0.7         | 252.30    | 0.49          | F   |        | 0.6         | 197.96    | 0.44          | F   |
| Arm 3 |                                                      | 1.6         | 5.12      | 0.60          | A   |        | 3.2         | 8.47      | 0.76          | A   |
| Arm 4 |                                                      | 1.0         | 3.72      | 0.48          | A   |        | 1.2         | 4.44      | 0.54          | A   |
|       | Existing Layout - 2028 Future Baseline               |             |           |               |     |        |             |           |               |     |
| Arm 1 | D3                                                   | 4.1         | 10.55     | 0.81          | B   | D4     | 3.8         | 9.69      | 0.79          | A   |
| Arm 2 |                                                      | 6.1         | 1425.76   | 9999999999.00 | F   |        | 6.7         | 1426.30   | 9999999999.00 | F   |
| Arm 3 |                                                      | 2.0         | 5.93      | 0.65          | A   |        | 4.8         | 11.81     | 0.83          | B   |
| Arm 4 |                                                      | 1.2         | 4.18      | 0.53          | A   |        | 1.5         | 5.20      | 0.59          | A   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |               |     |        |             |           |               |     |
| Arm 1 | D5                                                   | 5.7         | 14.38     | 0.85          | B   | D6     | 5.0         | 12.71     | 0.84          | B   |
| Arm 2 |                                                      | 6.2         | 1465.39   | 9999999999.00 | F   |        | 6.7         | 1463.13   | 9999999999.00 | F   |
| Arm 3 |                                                      | 2.4         | 7.00      | 0.70          | A   |        | 7.1         | 16.95     | 0.88          | C   |
| Arm 4 |                                                      | 1.5         | 4.74      | 0.59          | A   |        | 1.9         | 6.13      | 0.66          | A   |

**Table 5.9** – Caversham Bridge roundabout between 09:00-10:00 and 15:30-16:30 modelling performance

With the exception of the Waterman Place arm, the current, future and proposed scenarios would each fall within acceptable levels of capacity. There are small incremental increases in projected traffic flows and therefore utilisation of capacity between the future year scenario and future year with development scenario.

The results for the Waterman Place arm have been double checked within the software and junction flows and geometry reviewed to ensure accuracy. The outlying and clearly erroneous projections for the performance of this arm are likely due to the acute disparities between traffic flows on the remaining arms and Waterman Place.

As can be seen from the traffic counts included as **Appendix G**, there are very few observed trips on this arm of the roundabout and no proposed changes as a result of the development proposals. The modelling outputs for this arm are therefore discounted from the broader assessment.

The results of the Arcady assessment for the Caversham Bridge roundabout between 08:00-09:00 and 16:30-17:30 are summarised in Table 5.10 below.

|       | AM                                                   |             |           |               |     | PM     |             |           |               |     |
|-------|------------------------------------------------------|-------------|-----------|---------------|-----|--------|-------------|-----------|---------------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC           | LOS | Set ID | Queue (PCU) | Delay (s) | RFC           | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |               |     |        |             |           |               |     |
| Arm 1 | D1                                                   | 3.3         | 8.49      | 0.77          | A   | D2     | 2.4         | 6.79      | 0.71          | A   |
| Arm 2 |                                                      | 0.5         | 287.34    | 0.40          | F   |        | 0.4         | 115.73    | 0.30          | F   |
| Arm 3 |                                                      | 2.2         | 6.20      | 0.68          | A   |        | 3.0         | 7.98      | 0.75          | A   |
| Arm 4 |                                                      | 1.1         | 4.21      | 0.52          | A   |        | 1.2         | 4.69      | 0.55          | A   |
|       | Existing Layout - 2028 Future Baseline               |             |           |               |     |        |             |           |               |     |
| Arm 1 | D3                                                   | 5.0         | 11.93     | 0.83          | B   | D4     | 3.3         | 8.78      | 0.77          | A   |
| Arm 2 |                                                      | 3.9         | 1411.79   | 9999999999.00 | F   |        | 6.7         | 1419.45   | 9999999999.00 | F   |
| Arm 3 |                                                      | 2.9         | 7.63      | 0.73          | A   |        | 4.5         | 11.03     | 0.82          | B   |
| Arm 4 |                                                      | 1.4         | 4.85      | 0.57          | A   |        | 1.6         | 5.56      | 0.61          | A   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |               |     |        |             |           |               |     |
| Arm 1 | D5                                                   | 5.8         | 13.84     | 0.86          | B   | D6     | 3.7         | 9.83      | 0.79          | A   |
| Arm 2 |                                                      | 3.9         | 1422.89   | 9999999999.00 | F   |        | 6.7         | 1431.64   | 9999999999.00 | F   |
| Arm 3 |                                                      | 3.4         | 8.75      | 0.77          | A   |        | 4.9         | 11.92     | 0.83          | B   |
| Arm 4 |                                                      | 1.5         | 5.03      | 0.58          | A   |        | 1.9         | 6.24      | 0.65          | A   |

**Table 5.10** – Caversham Bridge roundabout between 08:00-09:00 and 16:30-17:30 modelling performance

As was the case with the School Peak Period trip generation times modelled within Table 5.9, the current, future and proposed scenarios would each fall within acceptable levels of capacity. There are small incremental increases in projected traffic flows and therefore utilisation of capacity between the future year scenario and future year with development scenario.

The results for the Waterman Place arm have been double checked within the software and junction flows and geometry reviewed to ensure accuracy. The outlying and clearly erroneous projections for the performance of this arm are likely due to the acute disparities between traffic flows on the remaining arms and Waterman Place.

## 5.8 Traffic Forecasting Conclusions

The assessment of the proposed impact on the local highway network above is based upon a review of the proposed school's vehicular trip generation levels during various periods including school peak (AM and PM) and network peak (AM and PM).

It is concluded that for the Rivermead roundabout and also the Caversham Bridge roundabout, there remains theoretical capacity in each of the baseline year, future year and future year with development scenarios on all arms. It is noted that the proposed development contributes to a slight deterioration of performance however this is less significant than the increases anticipated due to future year growth.

The modelled performance of the Cow Lane / Beresford Road mini-roundabout is notable in that the future year scenario with development suggests all arms will begin operating close to, or beyond their theoretical capacity levels. It is also the case however that the junction currently performs this was and when future year growth is taken into account, will continue to operate beyond theoretical capacity.

When reviewing the future year with development scenario, the RFC increases of 0.06, 0.10 and 0.04 in the AM period for arms 1, 2 and 3 respectively and 0.06, 0.06 and 0.03 in the PM period for arms 1, 2 and 3 respectively are considered to be minor increases.

Similarly when reviewing the traffic count data against the proposed development trip generation data for these arms, 48 additional trips will be allocated to Cow Lane, 23 to Beresford Road and 26 to Portman Road. This ranges from one additional trip every 1.25 minutes to 2.6 minutes and would generally be considered as imperceptible.

The modelling work undertaken does not take into account the natural tendency for drivers to alter their journeys to different routes when levels of delay are experienced in any location. It is therefore considered that the assessment of the Cow Lane roundabout presents a worst case scenario and in reality, the re-distribution / diversion by some drivers plus the impact of the school travel plan shall serve to reduce impacts on this junction from those extrapolated from the modelling work.

It is therefore considered the residual impacts of the proposed development trips can be accommodated within the wider highway network and no further capacity enhancements shall be required.

## 6.0 Transport Planning Policy

When developing the scheme proposals, it is important to understand the national and local transport related planning policies. This section aims to outline the key policies throughout relevant policy and guidance documents.

### 6.1 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) sets out transport planning policy and the Minister for Planning's Foreword lays the foundations for the policy rationale;

*'The purpose of planning is to contribute to the achievement of sustainable development....'*

Paragraph 11 states that at the heart of NPPF is:

*'Plans and decisions should apply a presumption in favour of sustainable development.'*

Paragraph 103 of the NPPF is entitled Promoting Sustainable Transport and outlines the important role that transport policies have to play in facilitating sustainable development. The section states that:

*"Significant development should be focussed on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes".*

Paragraph 109 of the NPPF states that:

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

Paragraph 110 of the NPPF continues to set out the hierarchy of consideration which are to:

- give priority to pedestrian and cycle movements, both within the scheme and neighbouring areas; and second – so far as is possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use ;
- address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- create places that are safe, secure and attractive which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
- allow for the efficient delivery of goods, and access by service and emergency vehicles; and
- be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

In addition to the NPPF, the government has published the National Planning Policy Guidance (NPPG). This document contains a section which clarifies the over-arching principles on Travel Plans, Transport Assessments and Transport Statements.

The guidance on Transport Assessments and Statements reiterates the circumstances in which either document would usually be required. It also clarifies the process for establishing a scope for the assessment, and what the document should contain. The NPPG has been considered in the production of this TA.

The guidance on Travel Plans reinforces the requirement for a Travel Plan, the scope of the document, and need for monitoring to continue the strategy into the future. The NPPG has been considered in the production of the accompanying Travel Plan.

## **6.2 Emerging & Adopted Local Planning Policy**

### **Reading Borough Council, Local Plan 2019**

A Transport Assessment is required where a proposed development is likely to have an impact on the local highway network and related environmental impacts. The Reading Borough Council Local Plan (2019) outlines:

*“All developments will be assessed for their impact upon the transport network, including the local and trunk road and motorway networks and, where relevant, the rail network. Development should provide mitigation measures in line with their impacts on these networks, taking account of levels of development that have already been accepted, and mitigation measures that have already been agreed or implemented. It will be a condition of planning permission that appropriate measures are in place to secure any remedial transport measures required. Where necessary, a transport assessment of the scheme will be required. This will measure the impacts both of the development proposal and of any remedial measures proposed by the developer to address those impacts. Once a satisfactory package of remedial measures has been negotiated, contributions may be sought from developers to secure their delivery.”*

### **Parking Standards**

Revised Parking Standards and Design Supplementary Planning Document (SPD) was adopted on the 31<sup>st</sup> October 2011. This document helps provide good design and efficient land use and sets out maximum and minimum parking standards. These standards are reflected in some of the Council's Core Strategy Policies.

### Car parking

Car parking standards are set in line with a four zone system based on the analysis of the urban environment and transport links. The development site lies within Zone 2, Primary Core Area which is defined as;

*“This zone directly surrounds the Central Core Area and extends to walking distances of 2 kilometres from the centre of Reading. Typically, this zone is well served by public transport, with buses continuing either into or out of the Central Core Area via this zone. Much of this area is within acceptable walking distance (400m) of either the main railway station or Reading West railway station. Walking and cycling in this area tends to be encouraged through the provision of wide and safe footways, with some dedicated or shared cycle ways. The areas within Zone 2 also typically have smaller local centres, providing day-to-day access to retail and some commercial facilities. Future growth in these areas is likely to be more mixed than in the core area, with larger amounts of residential than commercial space.”*

The maximum car parking standards for the proposed development are 1 space per 2 FTE staff. The proposed parking levels are broadly in accordance with this.

With accordance to the newly adopted Local Plan policy TR5:

*“Development should provide car parking and cycle parking that is appropriate to the accessibility of locations within the Borough to sustainable transport facilities, particularly public transport. Development should make the following provision for electric vehicle charging points:*

- *All new houses with dedicated off-street parking should provide charging points;*
- *Within communal car parks for residential or non-residential developments of at least 10 spaces, 10% of spaces should provide an active charging point.”*

Taking the above into consideration, 8 EV charge spaces are to be included as part of the development.

### Cycle parking

For Use Class D1 Secondary Education the guidance states the 1 cycle parking space should be provided 10% of building users (FTE staff and students) up to 500 plus 7% for building users in the range of 501-1000 plus 5% for building user over 1000.

There are proposed to be a total of 1,656 users (students and FTE staff) so this would equate to the provision of 118 cycle parking spaces. The proposed development includes the provision of 120 secure and sheltered cycle parking spaces and it is therefore considered that a generous level of cycle parking is proposed.

## Travel Plans

The Reading Local Plan (2019) policy TR1 outlines the following regarding the requirements for Travel Plans.

*“Proposed development should contribute appropriately to meeting the objectives of the most upto date Local Transport Plan or any successor document, including sub-strategies, specific projects identified and the local action plans. Planning permission will not be granted for major development proposals unless there is a commitment to implement measures to promote and improve sustainable transport facilities, such as through provision to encourage walking, cycling and the use of public transport; and through agreed travel plans, safe routes to local facilities and services, including schools and parks, and similar measures.*

*All development proposals should make appropriate provision for works and contributions to ensure an adequate level of accessibility and safety by all modes of transport from all parts of a development, particularly by public transport, walking and cycling, in accordance with any agreed transport assessment submitted as part of the application.”*

### 6.3 Summary

The development proposals are considered to be consistent with local and national transport planning policy. The site has been identified as a location which benefits from excellent levels of sustainable travel connectivity as per regional and national guidelines. The comparative low levels of existing vehicular trip generation proposed in addition to the implementation of a Travel Plan further support the aims and objectives of applicable local and national planning policies.

The provision of car parking, electric vehicle charging infrastructure and cycle parking is aligned with the local policy requirements and the proposals also include for local pedestrian and cycle infrastructure enhancements. It is therefore considered the proposals are consistent and complementary to local and national planning policy and design guidance.

## 7.0 Summary and Conclusions

Hexa Consulting have been appointed by Bowmer & Kirkland on behalf of the Department for Education to provide traffic and transportation advice in relation to the proposed development of the River Academy on Richfield Avenue in Reading.

The proposals include the development of a new secondary school and sixth form with capacity for up to 1,500 pupils from the ages of 11 to 18 years and an estimated 156 Full Time Equivalent (FTE) staff members. The proposed development site is on land to the north of Richfield Avenue / Cow Lane and adjacent to the Rivermead Leisure Centre.

The proposed new school shall be accessed from an upgraded Cow Lane / Richfield Avenue access with a segregated pedestrian and cycle access to the east on Richfield Avenue. In addition to the main teaching blocks, the proposals include a new sports hall, outdoor games area, Multi-Use Games Area (MUGA), car park and secure cycle parking facilities.

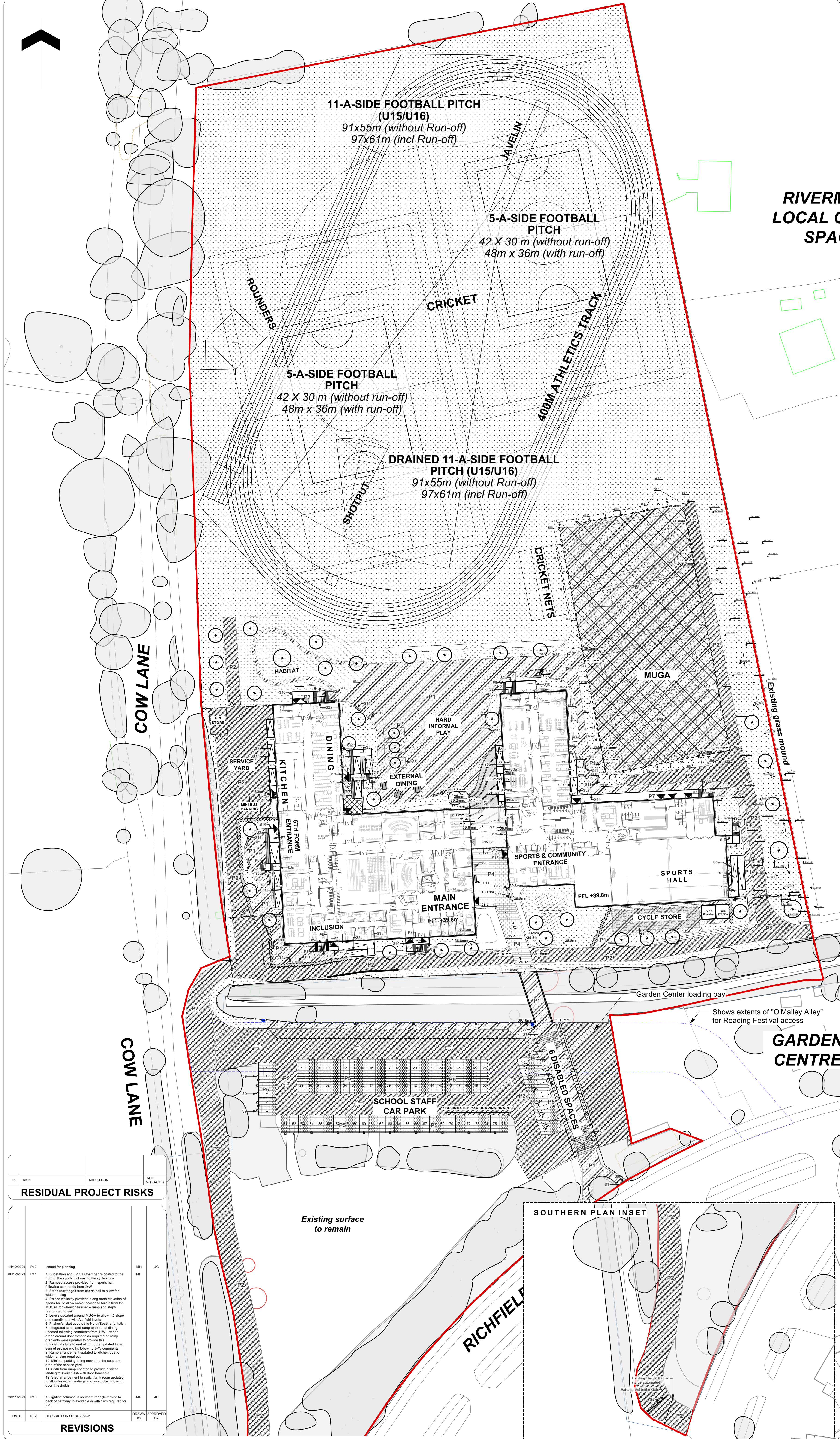
The site is located in an accessible area of Reading which provides good travel opportunities by public transport and also active travel modes. The analysis of the latest PIA data also demonstrates there are no underlying highway safety concerns that could be exasperated by the proposals.

It has been demonstrated that the proposals shall result in a comparatively low level of residual car trips which can be accommodated by the existing local highway network without resulting in severe detrimental impacts.

When considering the local and national planning policy guidance in respect of transport and highway design, it is asserted that these proposals are consistent with the broader aims and objectives of RBC.

Finally, it is therefore concluded that the development proposals should be acceptable to Planning and Highways Officers at RBC and that they may provide their approval in principal for the scheme.

## **Appendix A – Site Masterplan**



**Note**

1. Do not scale from this drawing  
2. To be read in conjunction with Project Risk Register REF: XXX  
3. To be read in conjunction with all other Landscape Architect's drawings

- KEY**
- Application Boundary
  - Existing Trees
  - Proposed Building
  - Ground Floor Cut-Through (First and Second Floor Connection)
  - Building Entrance/Exit Point

- HARD LANDSCAPE**
- P1** PEDESTRIAN TARMAC  
To Engineer's Specification
  - P2** VEHICULAR TARMAC  
To Engineer's Specification
  - P4** PEDESTRIAN BLOCK PAVING  
Pedestal Paving  
200x100x60mm  
Supplier: Tobermore  
Colour: Natural  
Location: Entrance Plaza  
Q24/110A
  - P5** PERMEABLE BLOCK PAVING  
Priora Paving  
200x100x60mm  
Supplier: Marshalls  
Colour: Charcoal with white marker blocks  
Location: Parking Bays  
Q24/110C
  - P6** PERMEABLE TARMAC  
To Engineer's Specification
  - P7** RAISED PLATFORMS  
Concrete raised platforms to steps/ramp access
  - P8** HAZARD WARNING PAVING  
Corduroy Paving  
400x400x50mm  
Supplier: Marshalls  
Colour: Charcoal with white marker blocks  
Location: To top and bottom of steps/crossings  
Q24/320

- SOFT LANDSCAPE**
- PROPOSED GRASS SEED  
Refer to Planting Plan
  - PROPOSED AMENITY PLANTING  
Refer to Planting Plan
  - PROPOSED MEADOW PLANTING  
Refer to Planting Plan
  - PROPOSED RAIN GARDEN PLANTING  
Refer to Planting Plan
  - PROPOSED DRY SWALE  
Refer to Planting Plan
  - PROPOSED TREE PLANTING  
Refer to Planting Plan
  - PROPOSED HEDGE PLANTING  
Refer to Planting Plan

- SITE FURNITURE**
- S1** CYCLE STAND WITH CANOPY  
120 cycle spaces  
Mallford Cycle Hoop and Sheldon Canopy  
Q50/210E & B91/330B
  - S2** STEPS  
Details TBC
  - S2a** HANDRAILS FOR STEPS  
Details TBC
  - S3** RAMP  
Details TBC
  - S3a** HANDRAILS FOR RAMP  
Details TBC
  - S4** PRE-CAST CONCRETE STEP UNITS  
Details TBC
  - S5** RAIN GARDEN WITH INTEGRATED SEATING  
Details TBC
  - S6** PROPOSED VEHICLE GATE  
Details TBC
  - S7** REMOVABLE BOLLARD  
Stainless Steel Bollard  
Supplier: Kensington Systems  
Location: To car park crossings  
Q50/196
  - S8** FIXED BOLLARD  
Stainless Steel Bollard  
Supplier: Kensington Systems  
Location: To car park crossings  
Q50/196A
  - S9** EV CHARGING POINT  
Details TBC
  - S10** BALUSTRADE  
Details TBC
  - S11** BENCH  
Concrete Bench  
Supplier: Langley Designs  
Q50/220A
  - S12** BIN  
Supplier: Langley Designs  
Wood Finish  
Q50/240A
  - S13** DOOR PROTECTION HOOP  
Supplier: Langley Designs  
Product: Mallford Door Barrier  
Q50/210D
  - S15** LIGHTING LOCATION TBC

- FENCING**
- Fencing  
Refer to Fencing Plan
  - Pedestrian Parapet  
Refer to Fencing Plan
  - Single-leaf Gate  
Refer to Fencing Plan
  - Double-leaf Gate  
Refer to Fencing Plan
  - Sliding Gate  
Refer to Fencing Plan

- STRUCTURES**
- W1** Gabion Retaining Wall  
Details TBC

**STATUS**

**S2 - PLANNING**

**ares**  
LANDSCAPE ARCHITECTS

Area Landscape Architects LTD  
Formal House  
60 St Georges Place  
Cheltenham  
GL50 3PN  
t. 01242 700 931  
e. hello@aresdesign.co.uk  
w. ares.eu.com

**CLIENT :**

**Bowmer & Kirkland**

**PROJECT TITLE :**

**River Academy**

**DRAWING TITLE :**

**Landscape General Arrangement Plan**

**DRAWING SCALE :** 1:500  
**PAPER SIZE :** A1

**DRAWN BY :** MH  
**APPROVED BY :** JG

**DRAWN DATE :** 10.09.2021  
**ALA PROJECT CODE :** ALA691

**DRAWING NUMBER :** FS0949-ALA-XX-DZ-RR-L-0002 S2  
**STATUS :** S2  
**REVISION :** P12

| ID                     | RISK | MITIGATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DATE MITIGATED |             |
|------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|
| RESIDUAL PROJECT RISKS |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |             |
| 14/12/2021             | P12  | Issued for planning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MH JG          |             |
| 06/12/2021             | P11  | 1. Substation and LV CT Chamber relocated to the front of the sports hall next to the cycle store<br>2. Ramped access provided from sports hall following comments from JMW<br>3. Steps rearranged from sports hall to allow for wider landing<br>4. Raised walkway provided along north elevation of sports hall to allow easier access to toilets from the MUGAs for wheelchair user - ramp and steps rearranged to suit<br>5. Levels updated around MUGA to allow 1:3 slope and coordinated with Allfield levels<br>6. Pitch/cricket updated to North/South orientation<br>7. Integrated steps and ramp to external dining updated following comments from J+W - wider areas around door thresholds required to ramp gradients were updated to provide this<br>8. External stairs to end of corridor updated to be turn of escape width following J+W comments<br>9. Ramp arrangement updated to kitchen due to wider landing required<br>10. Minibus parking being moved to the southern area of the service yard<br>11. Sixth form ramp updated to provide a wider landing to avoid clash with door threshold<br>12. Step arrangement to switch/tank room updated to allow for wider landings and avoid clashing with door thresholds | MH JG          |             |
| 23/11/2021             | P10  | 1. Lighting columns in southern triangle moved to back of pathway to avoid clash with 14m required for FR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MH JG          |             |
| DATE                   | REV  | DESCRIPTION OF REVISION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | DRAWN BY       | APPROVED BY |
| REVISIONS              |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |             |

## **Appendix B - Highway Scoping Note**

**SCOPING STUDY FOR: River Academy, Richfield Avenue, Reading**

**LOCATION: Leaderboard Golf Centre, Richfield Avenue**

**LOCAL HIGHWAY AUTHORITY: Reading Borough Council (RBC)**

**DATE: 24<sup>th</sup> September 2021**

This note defines the scope of assessment required to appropriately identify and where required, mitigate the residual highways and transport impacts as part of the proposed development of the new River Academy. We have set out the main details and scoping for a Transport Assessment (TA) and Travel Plan (TP) below. We invite Highways Officers at RBC to provide comment.

| Ref | Item                                          | Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Comments |
|-----|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 1   | Level of planning approval sought?            | Full Planning Application for the development of a new Secondary School with Sixth Form.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |
| 2   | Size and description of development proposals | <p>Proposals include the development of a new 8FE Secondary School with Sixth Form with capacity for 1,500 pupils and circa 156 FTE staff members.</p> <p>The proposal would include a new main school building, separate sports block, MUGA, new playing pitches together with car and cycle parking works, new accesses onto the public highway and all ancillary works and landscaping.</p> <p>The control scheme developed includes the provision of 82 car parking spaces (76 staff and 6 visitors) which is based on the 1:2 ratio for RBC Car Parking SPD Zone 2. It is noted however that the northern part of the site falls within zone 4 which would allow for a 1:1 car parking to staff numbers ratio.</p> <p>Cycle parking and electric vehicle charging points shall also be provided in compliance with local planning and design guidance requirements.</p> |          |
| 3   | Description of existing land uses.            | The site is located to the north of Richfield Avenue. The 'southern triangle' on the southern end of the site is an area of bare open land enclosed by established hedgerows and trees with a ditch used for drainage running from west to east. To the east directly adjoining the site is Rivermead Leisure Centre. To the south of the site across Richfield Avenue is a large commercial/ industrial zone.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |

|    |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|----|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 4  | Does the development involve the relocation of an existing use?       | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| 5  | How are existing trips going to be dealt with?                        | <p>Though the site currently generates a small number of trips as part of the Leaderboard Golf use, it is not proposed that these will be calculated and netted off when considering future development proposals. As such the new trips associated with the school proposals shall be consider new trips on the local highway network.</p> <p>It is noted the site is also used as part of the annual Reading Festival though given this event occurs during school holiday periods, it is not considered that the development proposals shall contribute to an intensification of festival related trips.</p> <p>Similarly the principal vehicular site access from Cow Lane shall be shared with the adjacent garden centre to the east. These garden centre trips are already embedded within the local highway network and are not proposed to intensify as part of the development proposals.</p> |  |
| 6  | Are traffic surveys of the existing conditions available or required? | Yes, traffic counts to inform detailed junction capacity modelling proposed for the Richfield Ave / Caversham Rd roundabout and Cow Lane / Portman Rd roundabout. Peak period and inter-peak period turning counts and queue lengths surveys are proposed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 7  | Are further traffic surveys required?                                 | An assessment of local PIA Highway Safety shall be undertaken, along with a detailed review of the site's accessibility by sustainable modes of travel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| 8  | Details of any other developments to be taken into account.           | The garden centre and leisure centre adjacent to the proposed development site benefit from recently consented planning applications. The construction and operational impacts of these consented schemes shall be taken into account when calculating the residual impacts of the proposed school.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 9  | Details of any adjacent highway improvement proposals by others       | None.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 10 | When are the critical periods for assessments?                        | 09:00-10:00 to coincide with school start times at 09:30 and then 15:00-16:00 to coincide with school finish times.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 11 | What will be the trip generation for the proposals?                   | Based upon TRICS data for similarly located and comparable schools. This shall be validated against the 2011 Census data for travel to school in Reading statistics.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 12 | Would traffic from adjacent sites be attracted to the site?           | No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |

|    |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                        |  |
|----|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    | Pass-by traffic?                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                        |  |
| 13 | What is the assumed trip distribution?                                                                        | The school proposes a catchment of circa 1 mile. The principal residential areas within the catchment shall be used to develop a model for calculating trip distribution.                                                                                                                                                                                                              |  |
| 14 | What is the extent of the study area to be considered?                                                        | Broadly 1 mile beyond the proposed development site.                                                                                                                                                                                                                                                                                                                                   |  |
| 15 | Capacity tests required for the proposed and existing junctions                                               | Yes, see response to Item 6.                                                                                                                                                                                                                                                                                                                                                           |  |
| 16 | Are adjacent junctions or links likely to become overloaded from the development traffic?                     | Historic traffic count data has suggested the local area experience the accumulation of highway peak period trips. This shall be assessed as part of future traffic counts.                                                                                                                                                                                                            |  |
| 17 | Is a new or modified highway access likely?                                                                   | Yes, a new and improved shared site access shall be formed from Cow Lane to the south of the site. This shall also be used by the adjacent garden centre for deliveries (outside of school peak periods) and also the Reading Festival organisers (during school holidays).                                                                                                            |  |
| 18 | What are the visibility requirements?<br>Are those requirements met?                                          | Based on MfS, a 30mph speed limit would required 43m visibility splays from a 2.4m set back distance.                                                                                                                                                                                                                                                                                  |  |
| 19 | What level of car parking is required?                                                                        | Current scheme proposes 84 spaces though it is felt this is on the low side of what may be necessary to prevent staff and visitors from parking on Richfield Ave which is protected by double yellow lines.<br><br>The scheme shall also consider the provision of a pupil drop-off and pick up bay in order to mitigate the chances of parents stopping and waiting on Richfield Ave. |  |
| 20 | Are special provisions required for cyclists, pedestrians, mobility impaired individuals or public transport? | This shall be explored as part of the TA development and also within the Travel Plan which is proposed to be written with the Academy and submitted as part of a forthcoming application.                                                                                                                                                                                              |  |
| 21 | Do the proposals comply with NPPF etc?                                                                        | To be determined following undertaking of assessment.                                                                                                                                                                                                                                                                                                                                  |  |
| 22 | Are there any further transport related reports required?                                                     | None.                                                                                                                                                                                                                                                                                                                                                                                  |  |

|    |                                                                      |                                                                                                                                                       |  |
|----|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 23 | Are there any other special circumstances relevant to this proposal? | None.                                                                                                                                                 |  |
| 24 | Are any off-site highways works anticipated?                         | The formation of a new access and possible infrastructure improvements for pedestrian, cyclists and public transport users subject to outcomes of TA. |  |

## **Appendix C – RBC Pre-Application Response**

1. Noted
2. Noted
3. Noted
4. Noted
5. Accepted
6. As has been mentioned during previous pre-application discussions the following junctions will need to be assessed:
  - Cow Lane / Beresford Road / Portman Road Roundabout
  - Richfield Avenue / Rivermead Roundabout
  - Caversham Road / Richfield Avenue / Caversham Bridge Roundabout
  - Caversham Bridge / Church Street / Church Road signalised junction
7. Noted
8. Noted
9. Noted
10. It is noted that the Maiden Erlegh Trusts two other schools in the Reading area open earlier i.e. 8.40 ish, it should therefore be confirmed why the later start time for the proposed school. To facilitate for any fluctuation in start times in the future a sensitivity test should be undertaken for between the hours of 8-9am to ensure that this is not going to create any undue harm to the Highway network.
11. In principle this is fine but it would have been helpful to have seen proposed TRICS data at the pre-application stage. I would also add that this data is based on the fact that it has been stated that the catchment is to be within a mile radius which is significantly reduced from the 3 mile plus radius that was previously identified during the pre-application discussions.
12. Noted
13. Noted, although as stated above I am aware that a 3 mile plus radius has previously been proposed.
14. Noted, although again this is dependant on no changes in the catchment area.
15. Noted, see my response to Item 6 above.
16. Noted
17. No designs of the proposed access have been provided as far as I can see but any redesign of the access must take into account the Public Right of Way that runs north - south along the western boundary of the school. The Public Right of Way must be improved as part of this proposal given the proposed increase in footfall and should not be worsened.
18. Visibility should be assessed in accordance with the Councils Geometric Design Guide for Accesses onto Classified Roads.
19. It is stated that parking in accordance with our standard is on the low side and may result in parking along Richfield Avenue, however as identified Richfield Avenue does have parking restrictions along its length and therefore it is highly unlikely that over spill parking would take place in this location. I am however aware that some areas of unrestricted parking does occur within the commercial zone to the south of the site. Irrespective the site is located within 225m of a bus stop on Richfield Avenue and 800m of a bus stop along Caversham Road with a cycle lane passing along the site frontage, the Highway Authority could not agree to any additional car parking unless justification for the increased demand were provided.

In terms of drop off / pick up bays the Councils standards do not include them for secondary schools and therefore justification would be required for them to be included as they could just encourage the use of the private car to drop off children. The site is located within close proximity to 2 public car parks that could be used for pick up and drop offs.

20. There are no dedicated controlled crossing facilities provided that link the cycle lane through Cow Lane Bridges to the cycle lane on the northern side of Richfield avenue. Given that the proposal will increase both cycle and pedestrian movements in the area the pedestrian refuge island should be upgraded to a tiger crossing.

What provisions have been made for those pedestrians and cyclists that are travelling from the north and in particular from the footpath along the River.

Bus route Buzz 42 is funded by the Council through S106 contributions and is currently in the form of a mini bus, the applicant should assess whether the proposal will result in the current service will exceed existing capacity and if it does a contribution will be required to upgrade the mini bus to a standard single deck bus or provide an additional mini bus to increase capacity.

21. Noted

22. Noted

23. The Highway Authority are not aware of any at this time other than those specified above.

24. The Highway Authority are not aware of any at this time other than those specified above.

#### Additional Comments

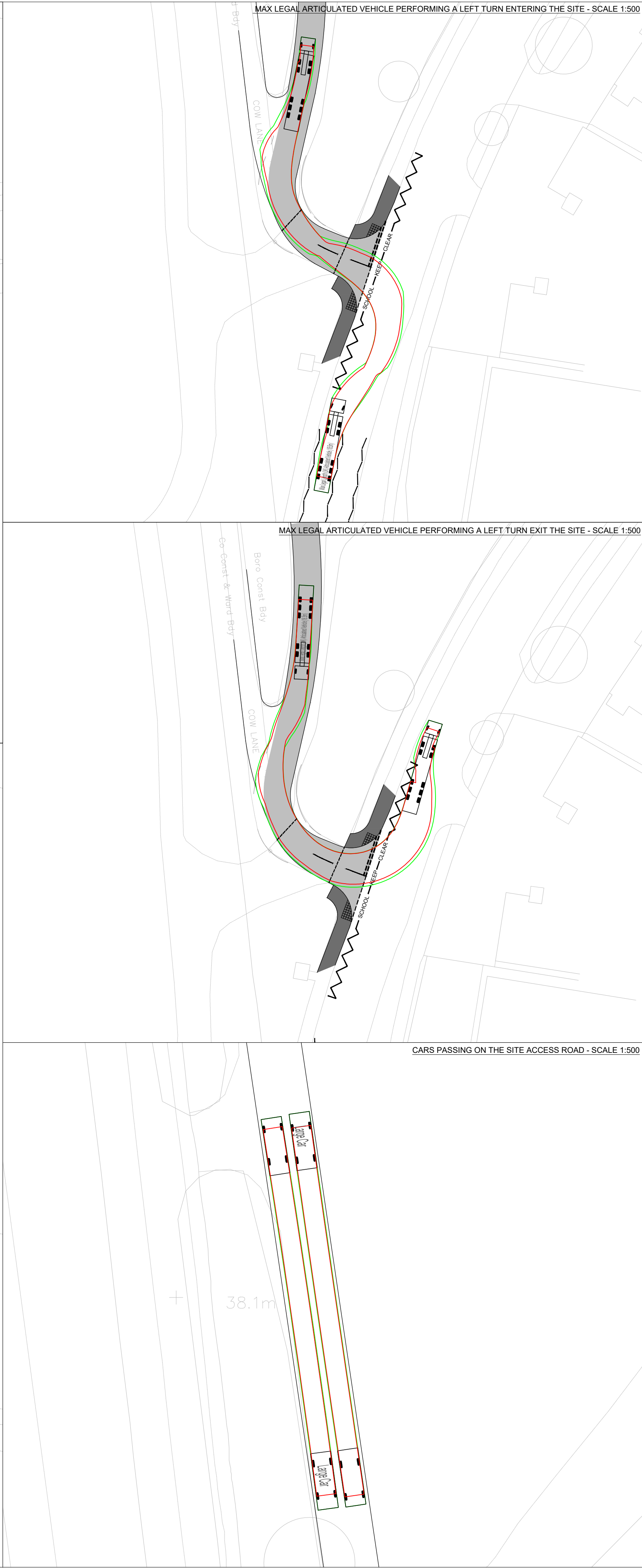
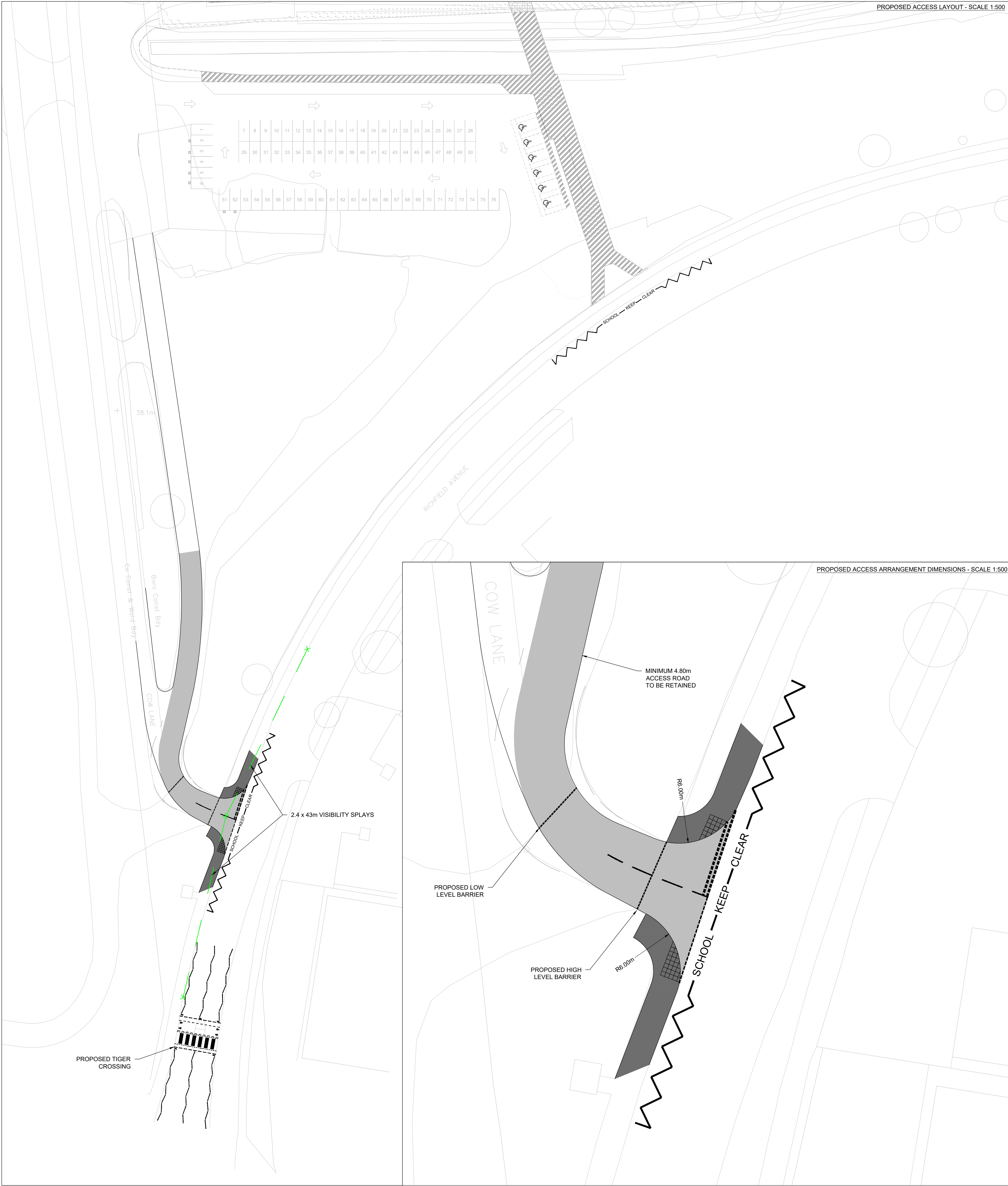
An assessment of pedestrian and cycle desire lines from Richfield Avenue through the school grounds should be undertaken to ensure that suitable and safe access is provided from each access point.

The scheme should include what changes to highway restrictions will be required i.e. the provision of school keep clear markings and these should be illustrated on submitted plans.

Tracking will be required to ascertain that delivery vehicles servicing the school can enter and exit the service yard in forward gear.

Tracking will be required to ascertain that vehicles associated with the adjacent garden centre will be required.

## **Appendix D – Swept Path Analysis & Visibility Splays**



Notes

1.

Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.

2.

This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.

3.

All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.

4.

Any discrepancies noted on site are to be reported to the engineer immediately.

Key Plan

13.6

4.53

1.37

4.78

3.7

1.88

0.39

6.4

7.8

1.4

1.4

2.52

Max 90° Horiz

Max 90° Vert

Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Max Track Width

Lock to lock time

Kerb to Kerb Turning Radius

16.500m

2.550m

3.681m

0.411m

2.500m

6.00s

6.530m

4.988

0.89

2.87

Large Car

Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Track Width

Lock to lock time

Kerb to Kerb Turning Radius

4.988m

1.733m

1.502m

0.287m

1.700m

4.00s

6.200m

P01

14.12.21

Preliminary Issue

ND

AH

Rev

Date

Details of issue / revision

Drw

Rev

Issues & Revisions

hexa

CONSULTING

Client

BOWMER AND KIRKLAND

Project Title

RIVER ACADEMY

Drawing Title

PROPOSED ACCESS ARRANGMENT

Drawn:

N.DAVIE

Reviewed:

M.PRICE

Hexa Ref:

600353

Scale@A1:

AS SHOWN

Purpose of Issue

Planning

Status

S0

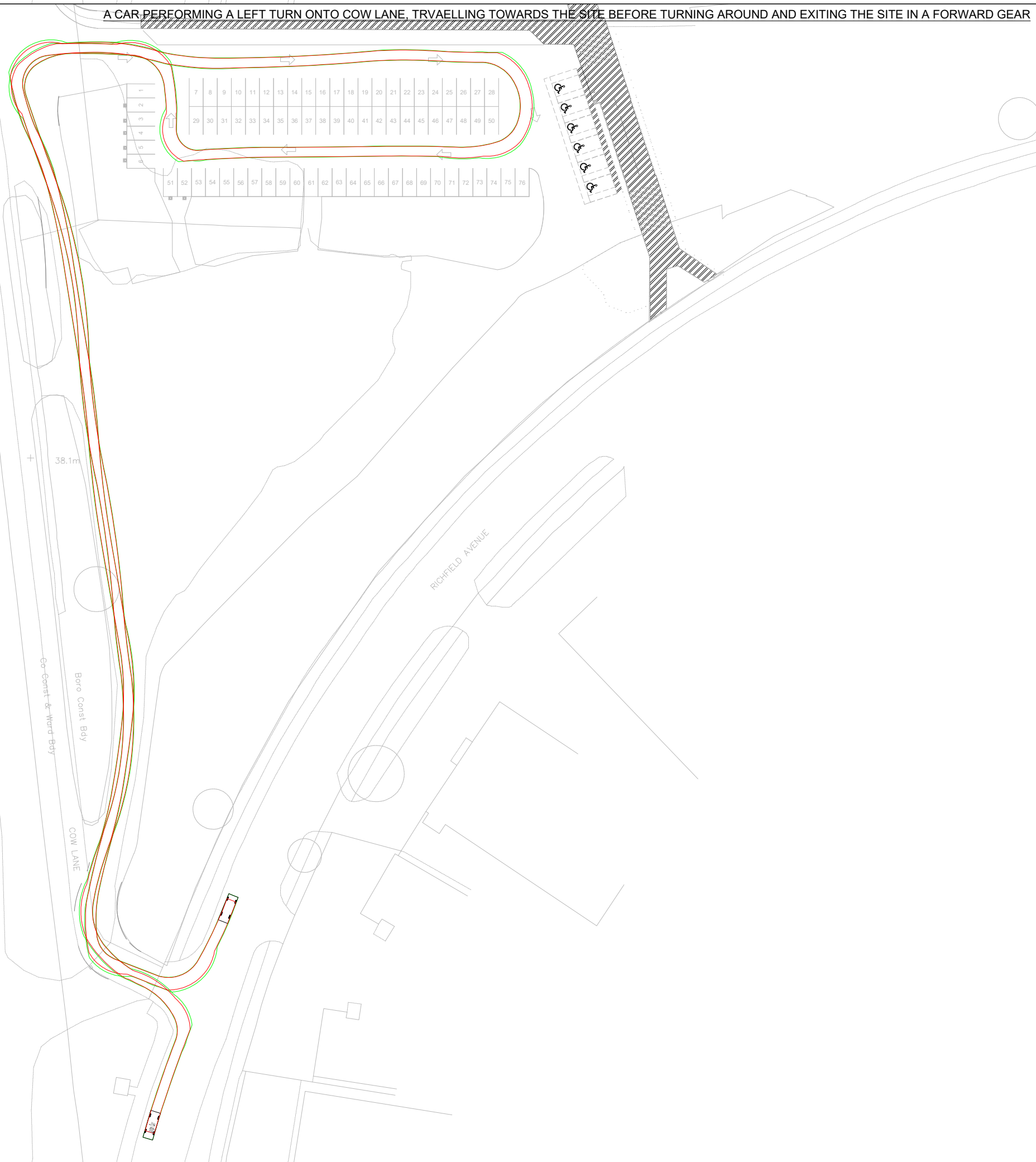
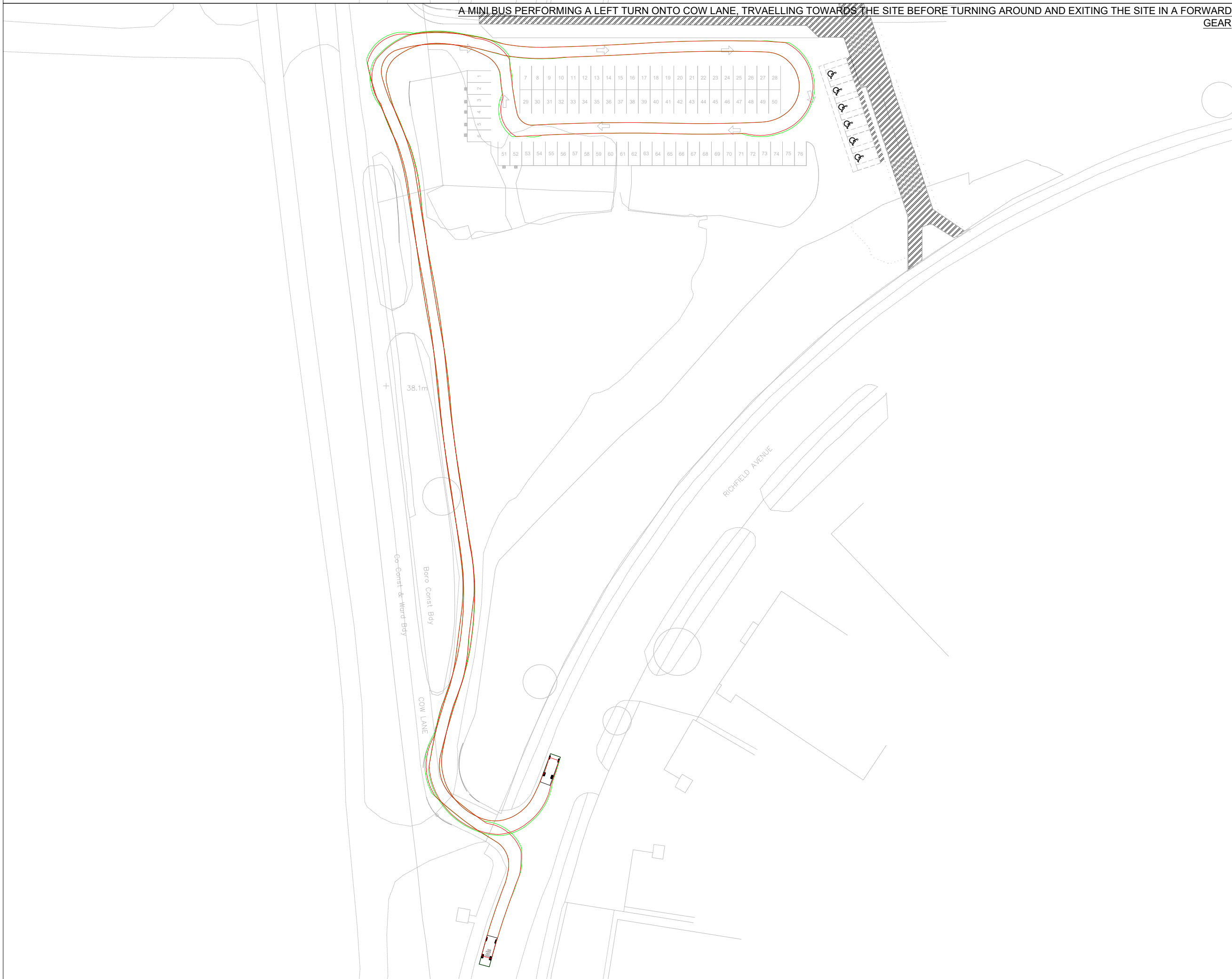
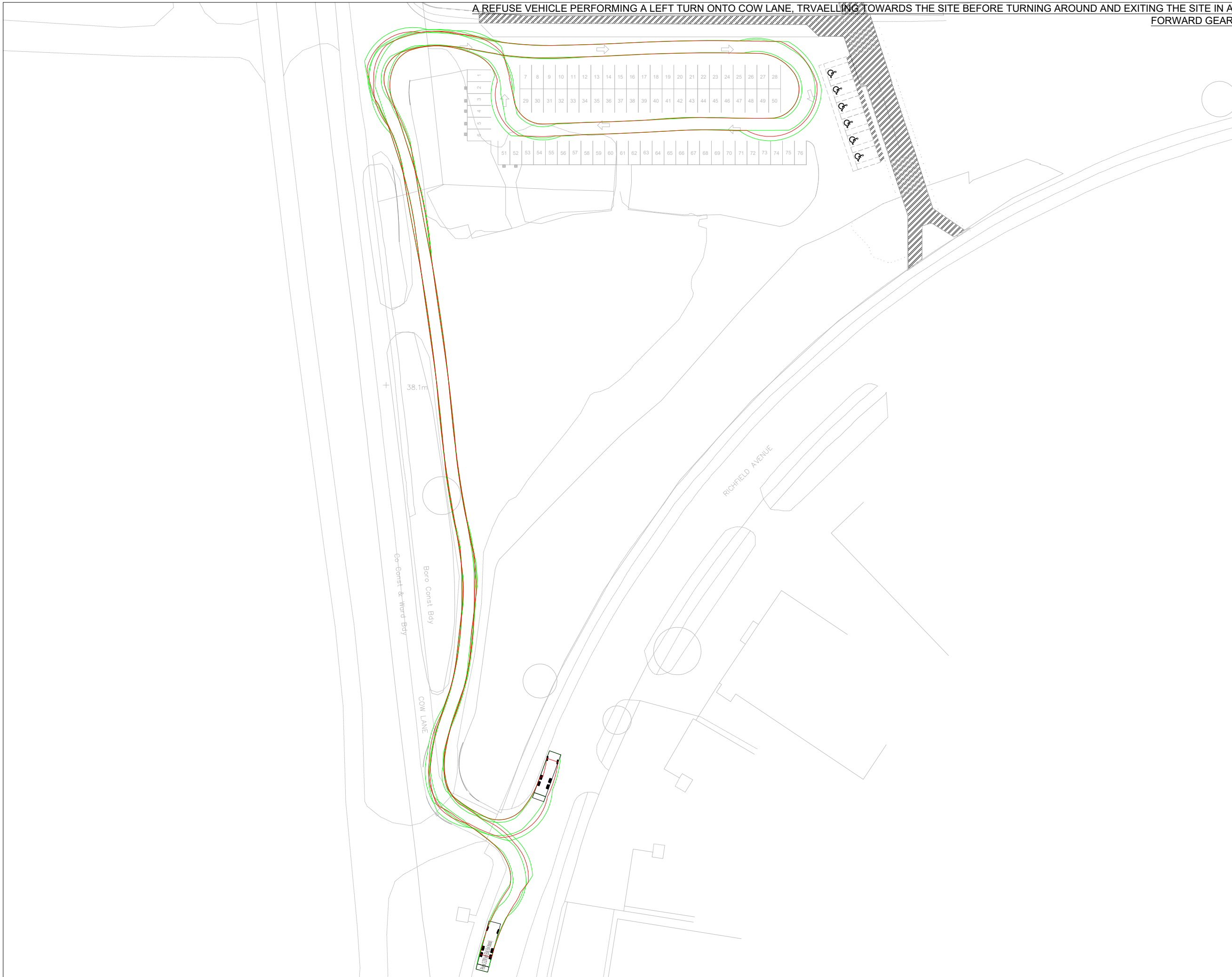
Project - Originator - Zone - Level - Type - Role - Number

600353-HEX-00-00-DR-TP-0500

Rev

P01

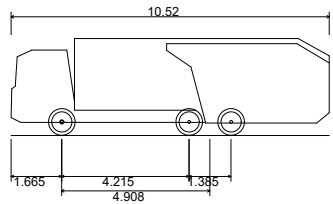
© Copyright Hexa Consulting Ltd



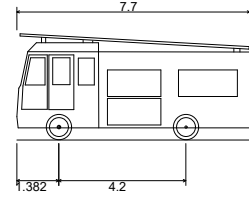
Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

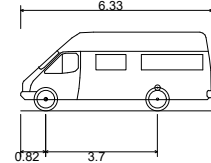
Key Plan



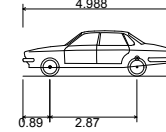
Phoenix 2-23W (with Elite 2 6x4 chassis)  
Overall Length 10.520m  
Overall Width 2.530m  
Overall Body Height 3.211m  
Min Body Ground Clearance 0.416m  
Track Width 2.530m  
Lock to lock time 4.00s  
Kerb to Kerb Turning Radius 9.950m



Dennis Sabre Fire Tender (LWB)  
Overall Length 7.700m  
Overall Width 2.430m  
Overall Body Height 3.512m  
Min Body Ground Clearance 0.397m  
Track Width 2.380m  
Lock to lock time 5.00s  
Kerb to Kerb Turning Radius 7.400m



Mini Bus  
Overall Length 6.330m  
Overall Width 2.192m  
Overall Body Height 2.801m  
Min Body Ground Clearance 0.374m  
Track Width 2.192m  
Lock to lock time 4.00s  
Kerb to Kerb Turning Radius 6.450m



Large Car  
Overall Length 4.988m  
Overall Width 1.793m  
Overall Body Height 1.502m  
Min Body Ground Clearance 0.287m  
Track Width 1.700m  
Lock to lock time 4.00s  
Kerb to Kerb Turning Radius 6.200m

|     |          |                             |     |     |
|-----|----------|-----------------------------|-----|-----|
| P01 | 03.12.21 | Preliminary Issue           | ND  | MP  |
| Rev | Date     | Details of issue / revision | Drw | Rev |

Issues & Revisions

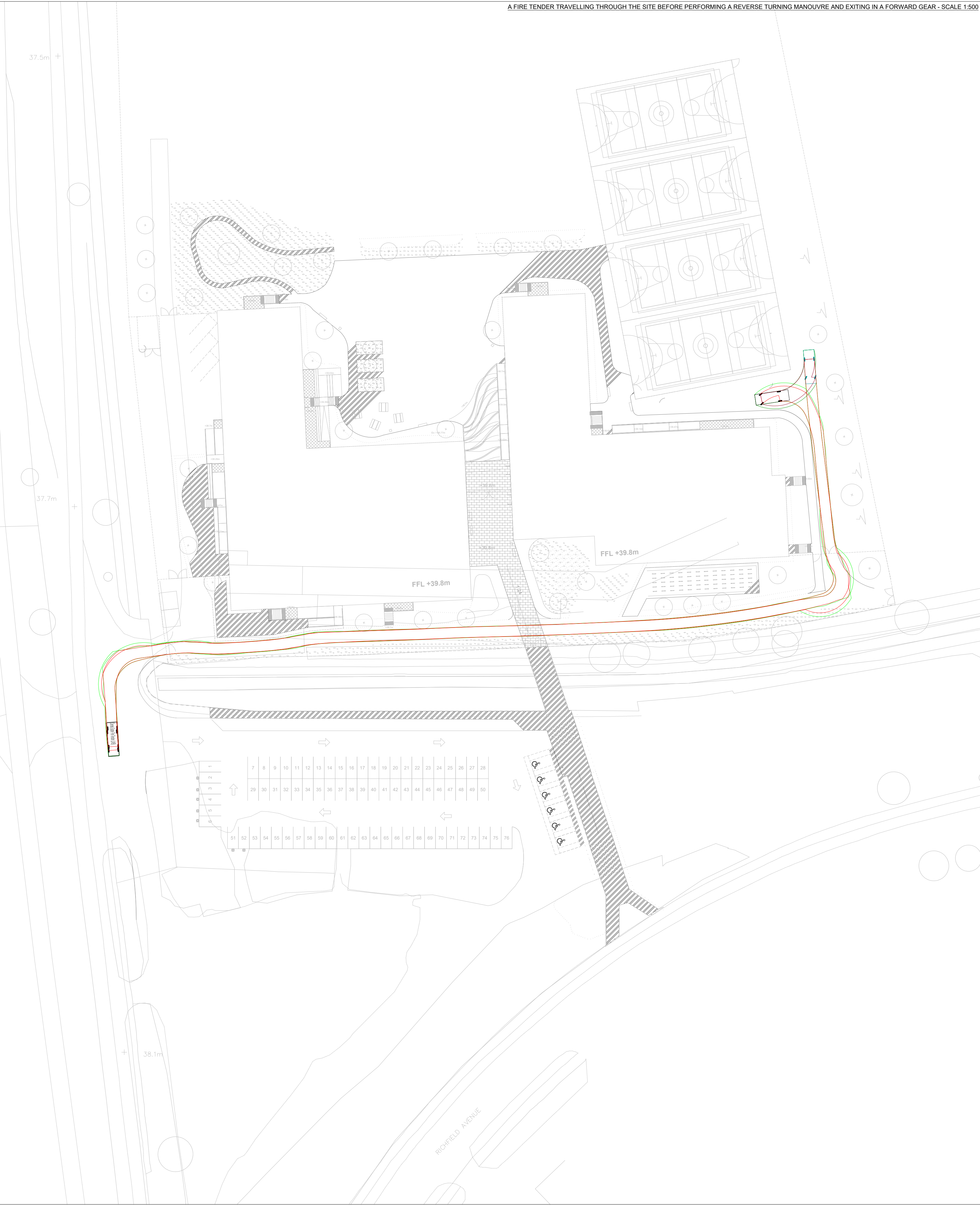


Client  
**BOWMER AND KIRKLAND**

Project Title  
**RIVER ACADEMY**

Drawing Title  
**OPERATIONAL VEHICLE  
SWEEP-PATH ANALYSIS**

|                                                            |         |           |            |
|------------------------------------------------------------|---------|-----------|------------|
| Drawn:                                                     | N.DAVIE | Reviewed: | M.PRICE    |
| Hexa Ref:                                                  | 600353  | Scale@A1: | 1:750      |
| Purpose of Issue                                           |         |           | Status     |
| <b>Work in Progress</b>                                    |         |           | <b>S0</b>  |
| Project - Originator - Zone - Level - Type - Role - Number |         |           | Rev        |
| <b>600353-HEX-00-00-DR-TP-0200</b>                         |         |           | <b>P01</b> |



### Notes

- Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
- This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
- All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
- Any discrepancies noted on site are to be reported to the engineer immediately.

### Key Plan

Phoenix 2-23W (with Elite 2 6x4 chassis)

|                             |         |
|-----------------------------|---------|
| Overall Length              | 10.520m |
| Overall Width               | 2.350m  |
| Overall Body Height         | 2.530m  |
| Min Body Ground Clearance   | 0.416m  |
| Track Width                 | 2.530m  |
| Lock to lock time           | 4.05m   |
| Kerb to Kerb Turning Radius | 9.950m  |

Dennis Sabre Fire Tender (LWB)

|                             |        |
|-----------------------------|--------|
| Overall Length              | 7.700m |
| Overall Width               | 2.430m |
| Overall Body Height         | 3.510m |
| Min Body Ground Clearance   | 0.387m |
| Track Width                 | 2.380m |
| Lock to lock time           | 5.00m  |
| Kerb to Kerb Turning Radius | 7.400m |

|     |          |                             |     |     |
|-----|----------|-----------------------------|-----|-----|
| P01 | 07.12.21 | Preliminary Issue           | ND  | MP  |
| Rev | Date     | Details of issue / revision | Drw | Rev |

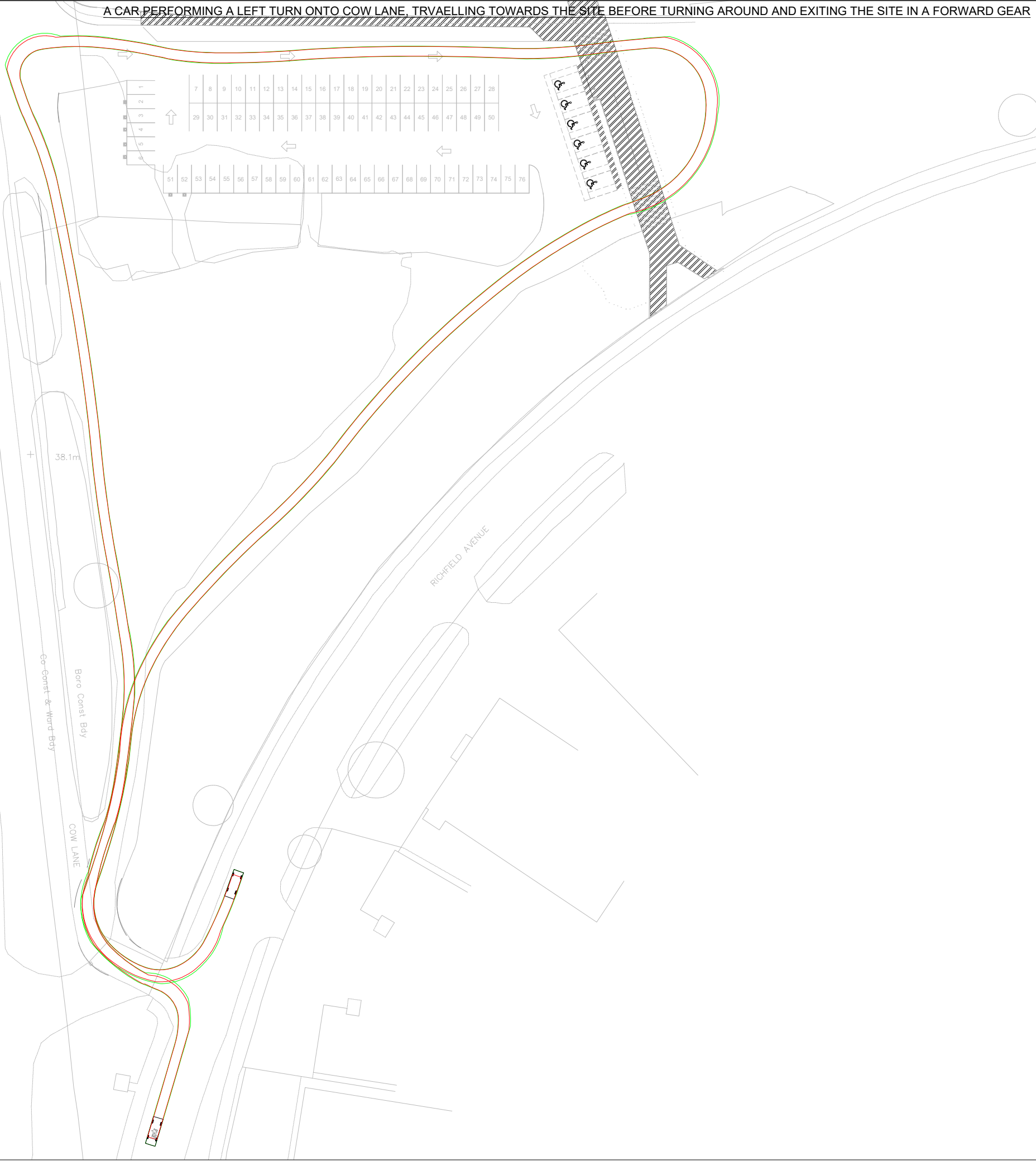
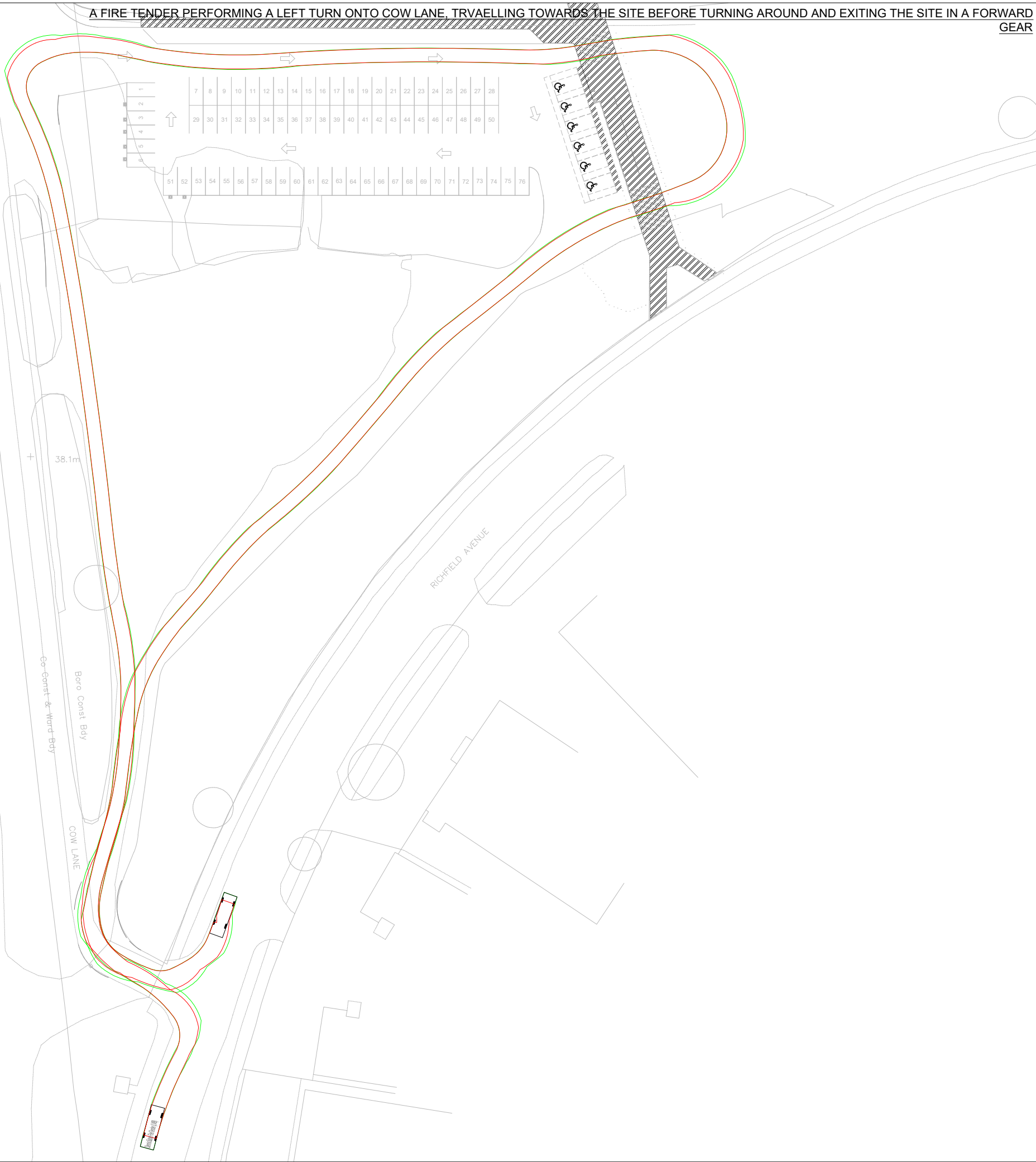
### Issues & Revisions

Client  
**BOWMER AND KIRKLAND**

Project Title  
**RIVER ACADEMY**

Drawing Title  
**SERVICING VEHICLE  
SWEPT-PATH ANALYSIS**

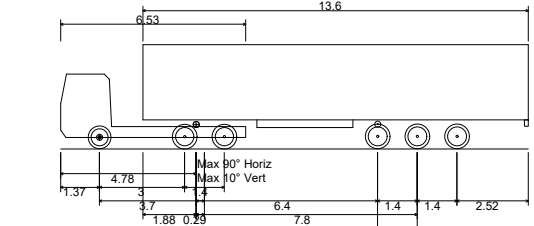
|                                                                                                  |         |           |                     |
|--------------------------------------------------------------------------------------------------|---------|-----------|---------------------|
| Drawn:                                                                                           | N.DAVIE | Reviewed: | M.PRICE             |
| Hexa Ref:                                                                                        | 600353  | Scale@A1: | AS SHOWN            |
| Purpose of Issue<br><b>Work in Progress</b>                                                      |         |           | Status<br><b>S0</b> |
| Project - Originator - Zone - Level - Type - Role - Number<br><b>600353-HEX-00-00-DR-TP-0300</b> |         |           | Rev<br><b>P01</b>   |



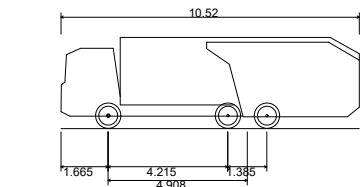
Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

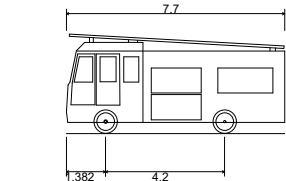
Key Plan



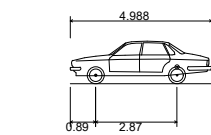
Max Legal Length (UK) Articulated Vehicle (16.5m)  
Overall Length 16.500m  
Overall Width 2.530m  
Overall Body Height 3.661m  
Min Body Ground Clearance 0.411m  
Max Track Width 2.530m  
Lock to lock time 6.00s  
Kerb to Kerb Turning Radius 6.530m



Phoenix 2-23W (with Elite 2 6x4 chassis)  
Overall Length 10.520m  
Overall Width 2.430m  
Overall Body Height 3.211m  
Min Body Ground Clearance 0.416m  
Track Width 2.530m  
Lock to lock time 4.00s  
Kerb to Kerb Turning Radius 9.950m



Dennis Sabre Fire Tender (LWB)  
Overall Length 7.700m  
Overall Width 2.430m  
Overall Body Height 3.121m  
Min Body Ground Clearance 0.397m  
Track Width 2.530m  
Lock to lock time 5.00s  
Kerb to Kerb Turning Radius 7.400m



Large Car  
Overall Length 4.989m  
Overall Width 1.793m  
Overall Body Height 1.502m  
Min Body Ground Clearance 0.287m  
Track Width 1.700m  
Lock to lock time 4.00s  
Kerb to Kerb Turning Radius 6.200m

|     |          |                             |     |     |
|-----|----------|-----------------------------|-----|-----|
| P01 | 07.12.21 | Preliminary Issue           | ND  | MP  |
| Rev | Date     | Details of issue / revision | Drw | Rev |

Issues & Revisions

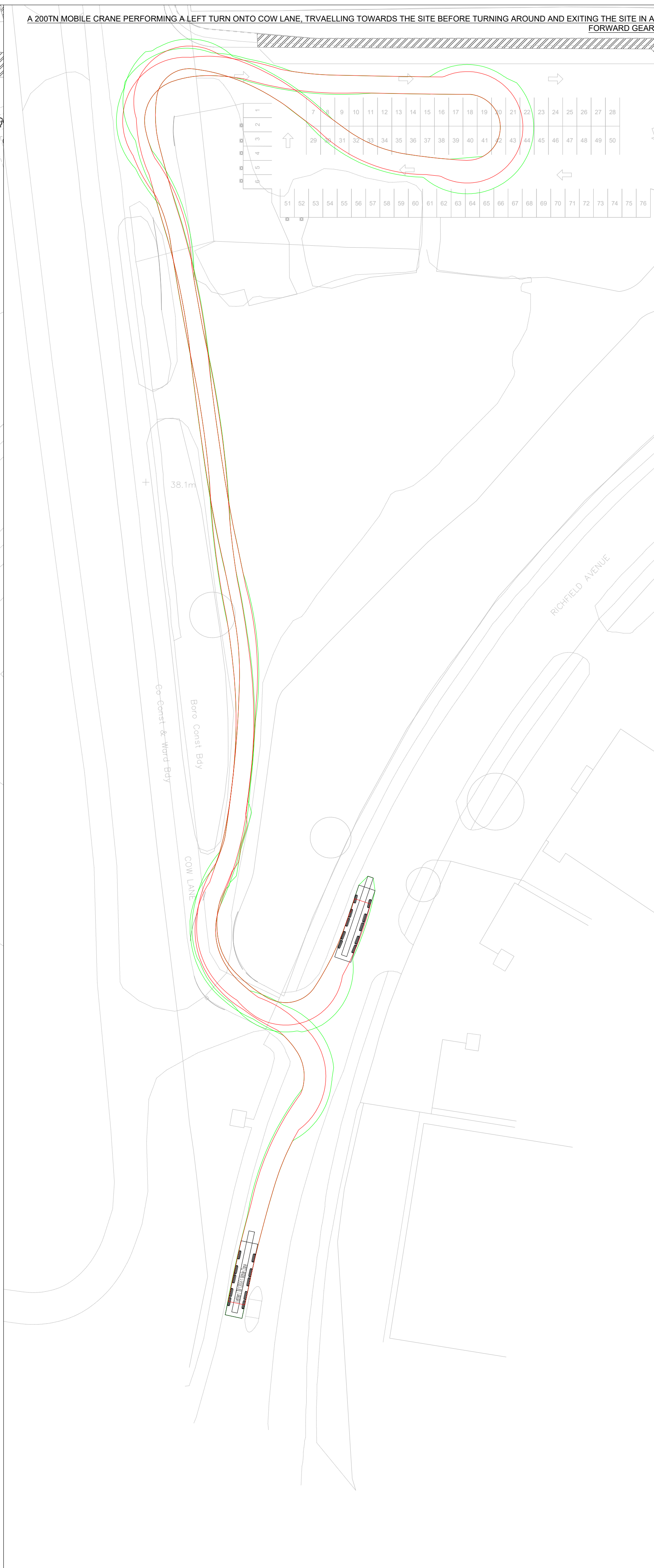
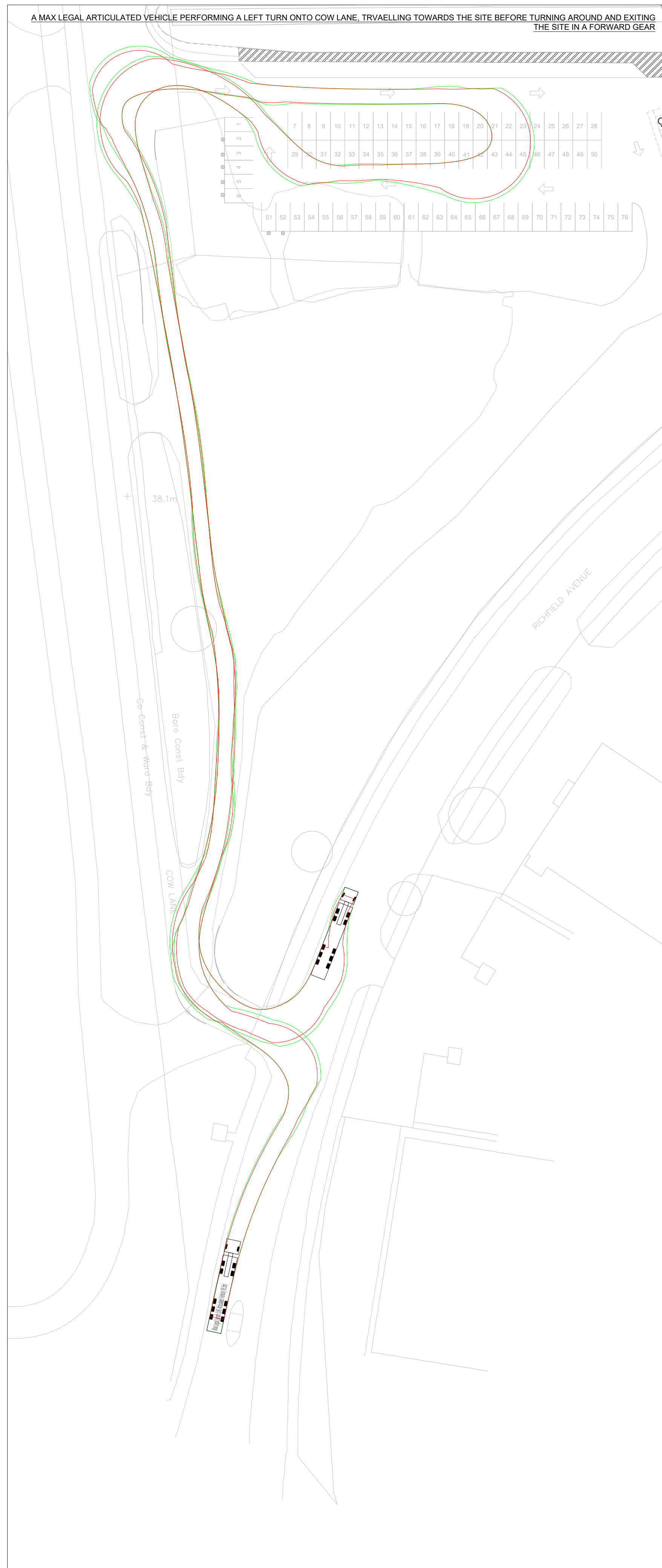


Client  
**BOWMER AND KIRKLAND**

Project Title  
**RIVER ACADEMY**

Drawing Title  
**GARDEN CENTRE  
OPERATIONAL VEHICLE  
SWEEP-PATH ANALYSIS**

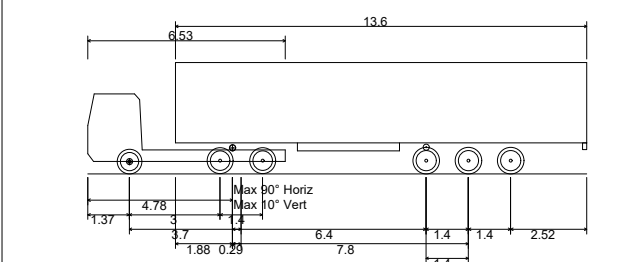
|                                                            |         |           |            |
|------------------------------------------------------------|---------|-----------|------------|
| Drawn:                                                     | N.DAVIE | Reviewed: | M.PRICE    |
| Hexa Ref:                                                  | 600353  | Scale@A1: | 1:750      |
| Purpose of Issue                                           |         |           | Status     |
| <b>Work in Progress</b>                                    |         |           | <b>S0</b>  |
| Project - Originator - Zone - Level - Type - Role - Number |         |           | Rev        |
| <b>600353-HEX-00-00-DR-TP-0300</b>                         |         |           | <b>P01</b> |



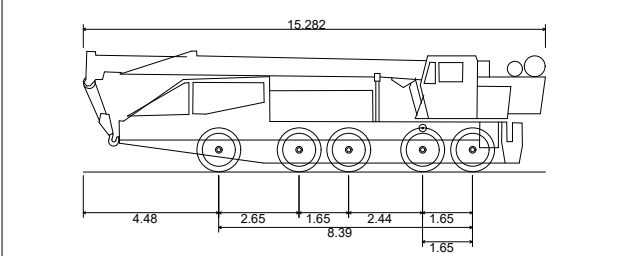
Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

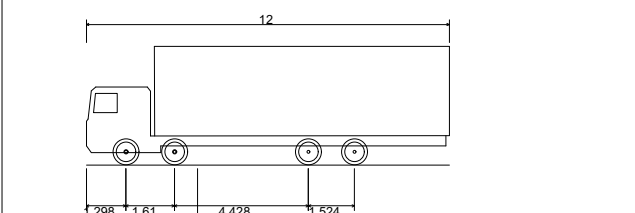
## Key Plan



|                                                   |         |
|---------------------------------------------------|---------|
| Max Legal Length (UK) Articulated Vehicle (16.5m) |         |
| Overall Length                                    | 16.500m |
| Overall Width                                     | 2.550m  |
| Overall Body Height                               | 3.681m  |
| Min Body Ground Clearance                         | 0.411m  |
| Max Track Width                                   | 2.500m  |
| Lock to lock time                                 | 6.00s   |
| Kerb to Kerb Turning Radius                       | 6.530m  |



|                                    |         |
|------------------------------------|---------|
| Liebherr LTM 1200-5.1 Mobile Crane |         |
| Overall Length                     | 15.282m |
| Overall Width                      | 3.000m  |
| Overall Body Height                | 4.000m  |
| Min Body Ground Clearance          | 0.300m  |
| Track Width                        | 3.000m  |
| Lock to lock time                  | 4.00s   |
| Kerb to Kerb Turning Radius        | 9.775m  |



|                             |         |
|-----------------------------|---------|
| Rigid Truck                 |         |
| Overall Length              | 12.000m |
| Overall Width               | 2.500m  |
| Overall Body Height         | 3.928m  |
| Min Body Ground Clearance   | 0.412m  |
| Track Width                 | 2.471m  |
| Lock to lock time           | 6.00s   |
| Kerb to Kerb Turning Radius | 11.900m |

|     |          |                             |     |     |
|-----|----------|-----------------------------|-----|-----|
|     |          |                             |     |     |
| P01 | 02.12.21 | Preliminary Issue           | ND  | MP  |
| Rev | Date     | Details of issue / revision | Drw | Rev |

## Issues & Revisions



Client

**BOWMER AND KIRKLAND**

Project Title

**RIVER ACADEMY**

Drawing Title

# CONSTRUCTION VEHICLE SWEEP-PATH ANALYSIS

|                                                            |         |           |            |
|------------------------------------------------------------|---------|-----------|------------|
| Drawn:                                                     | N.DAVIE | Reviewed: | M.PRICE    |
| Hexa Ref:                                                  | 600353  | Scale@A1: | 1:500      |
| Purpose of Issue                                           |         |           | Status     |
| <b>Work in Progress</b>                                    |         |           | <b>S0</b>  |
| Project - Originator - Zone - Level - Type - Role - Number |         |           | Rev        |
| <b>600353-HEX-00-00-DR-TP-0100</b>                         |         |           | <b>P01</b> |

**Appendix E – Trip Generation & Distribution**

**KEY**  

←

↑

→

x

x

x

x

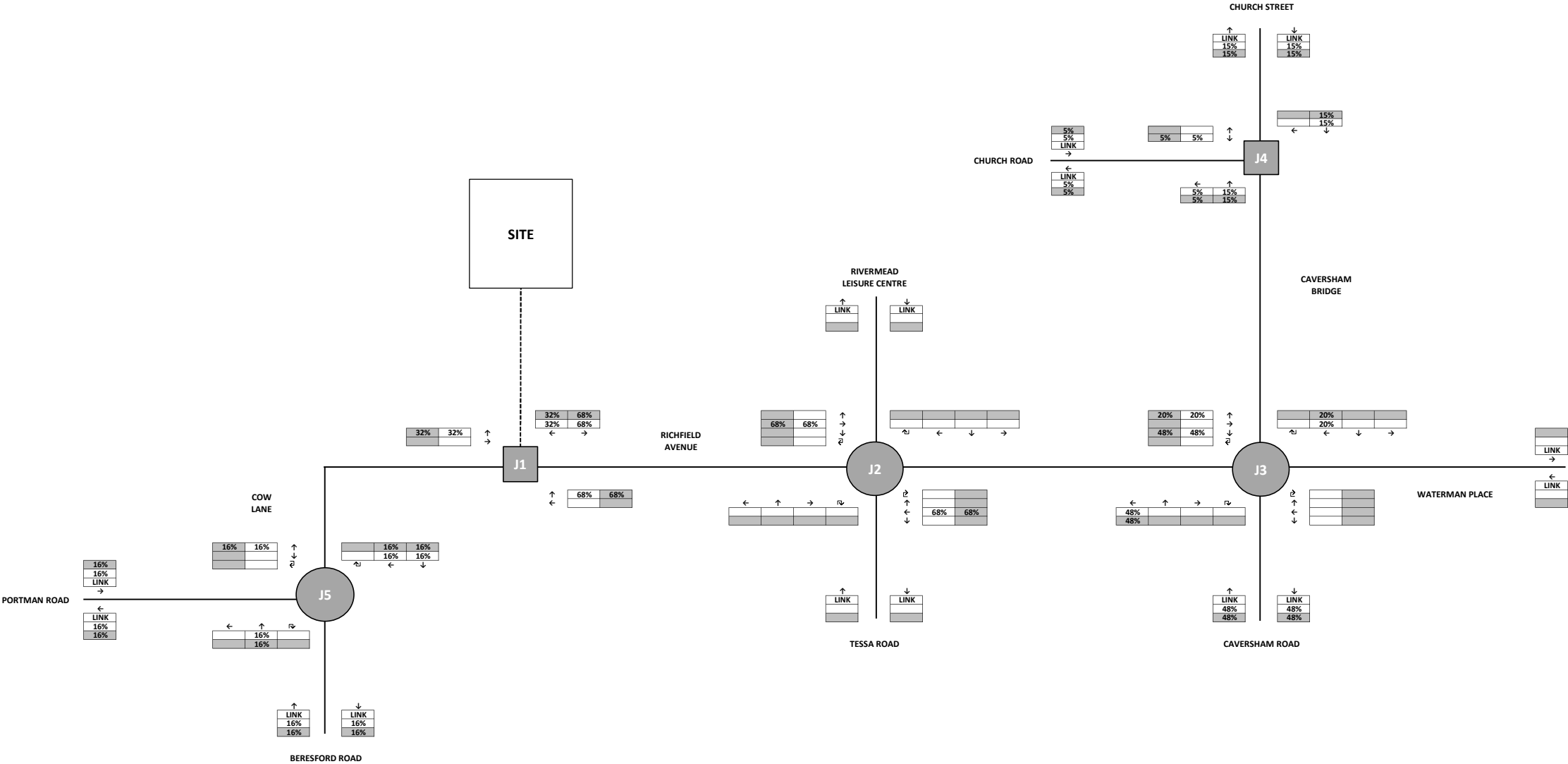
x

x

= Turnpike Movement  
 = Weekday AM Network Peak Hour Flows  
 = Weekday PM Network Peak Hour Flows

Notes:

|                    |     |
|--------------------|-----|
| A - Beresford Road | 16% |
| B - Portman Road   | 16% |
| C - Caversham Road | 48% |
| D - Church Road    | 5%  |
| E - Church Street  | 15% |



**KEY**  

←

↑

→

x

x

x

x

x

x

= Turnpike Movement  
 = Weekday AM Network Peak Hour Flows  
 = Weekday PM Network Peak Hour Flows

**Notes:**  
 AM School Peak - 09:00 - 10:00  
 PM School Peak - 15:30 - 16:30

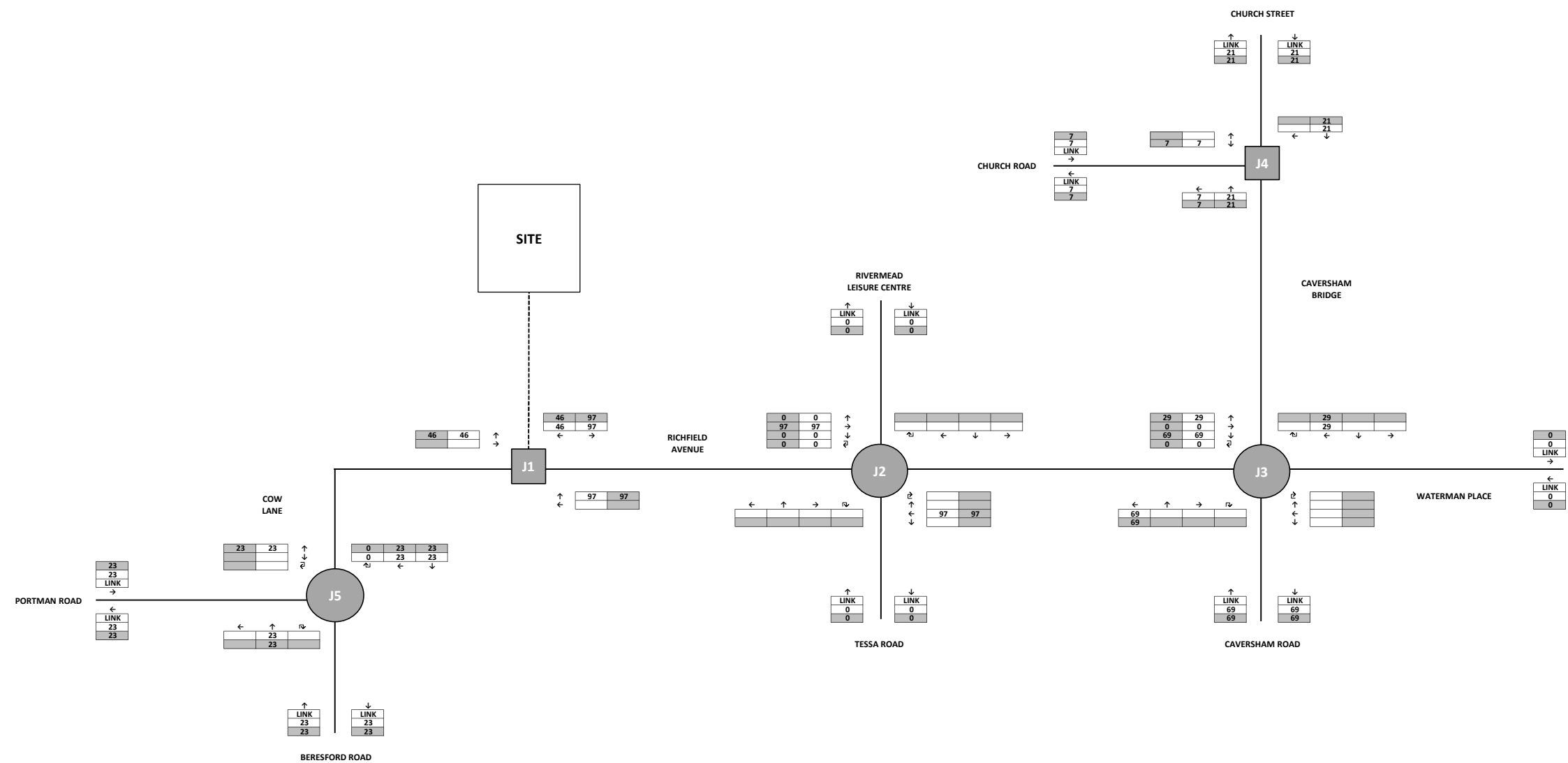
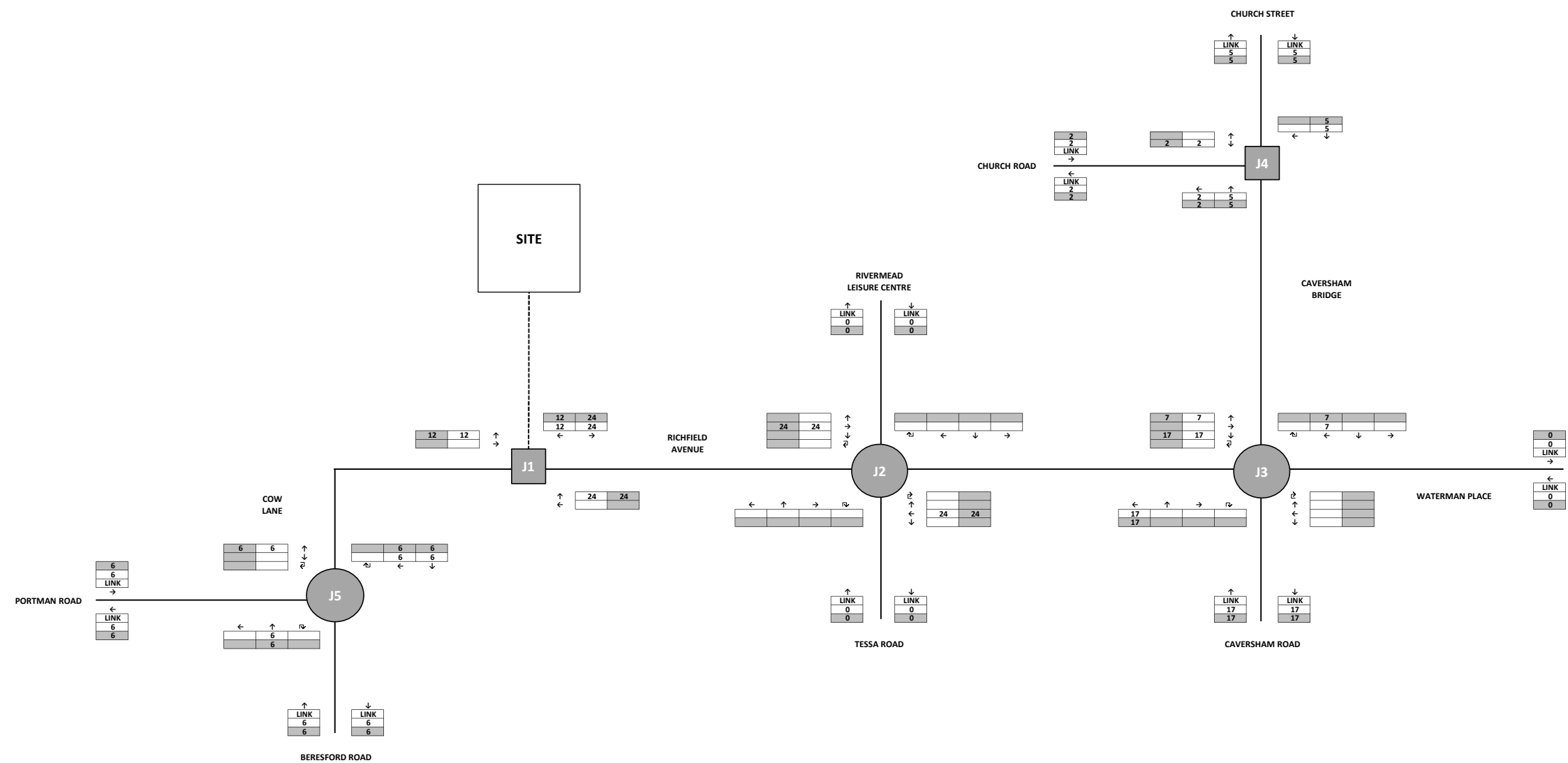
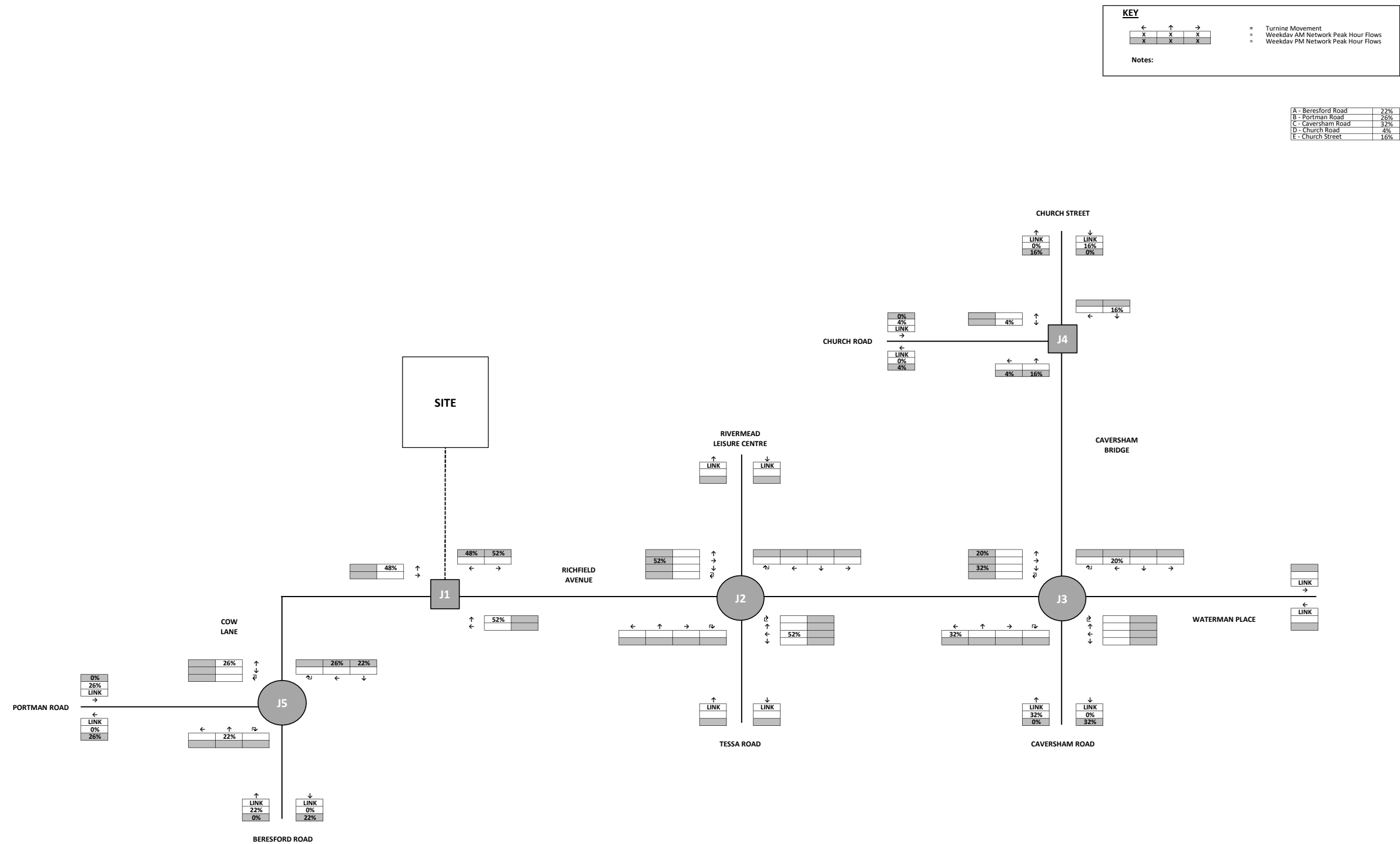


FIGURE 2  
 PUPIL DEVELOPMENT TRIP ASSIGNMENT (SCHOOL PEAK)  
 RIVER ACADEMY, READING  
 JOB NUMBER: 600353  
 DRAWN BY: AH





**KEY**  

←

↑

→

×

×

×

Turnpike Movement

Weekday AM Network Peak Hour Flows

Weekday PM Network Peak Hour Flows

**Notes:**  

Pre AM School Peak - 08:00 - 09:00

Post PM School Peak - 16:30 - 17:30

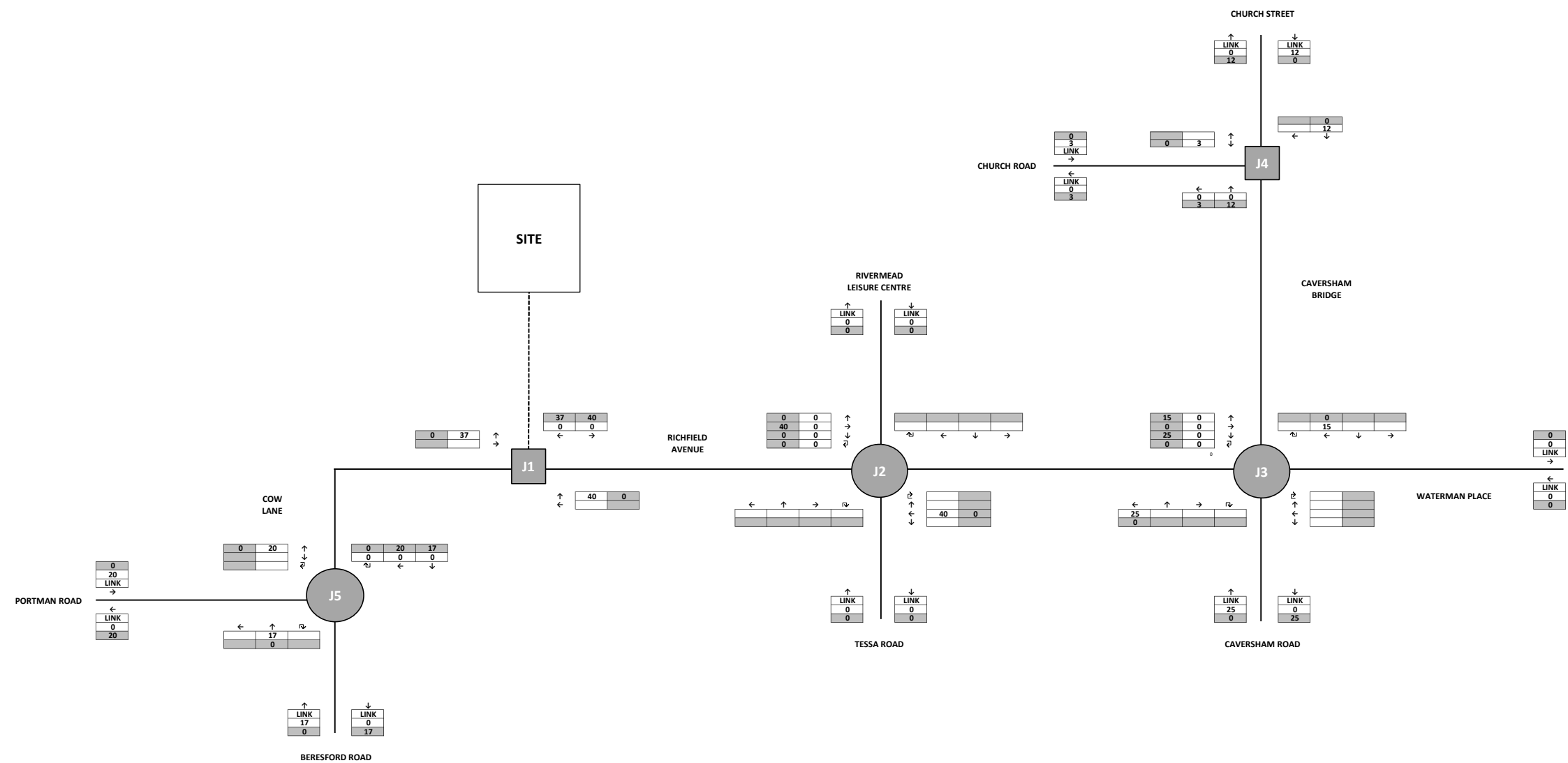


FIGURE 5  
STAFF DEVELOPMENT TRIP ASSIGNMENT  
RIVER ACADEMY, READING  
JOB NUMBER: 600353  
DRAWN BY: AH

**KEY**  

←

↑

→

←

↑

→

×

×

×

×

×

×

Turnpike Movement

Weekday AM Network Peak Hour Flows

Weekday PM Network Peak Hour Flows

**Notes:**  

Pre AM School Peak - 08:00 - 09:00

Post PM School Peak - 16:30 - 17:30

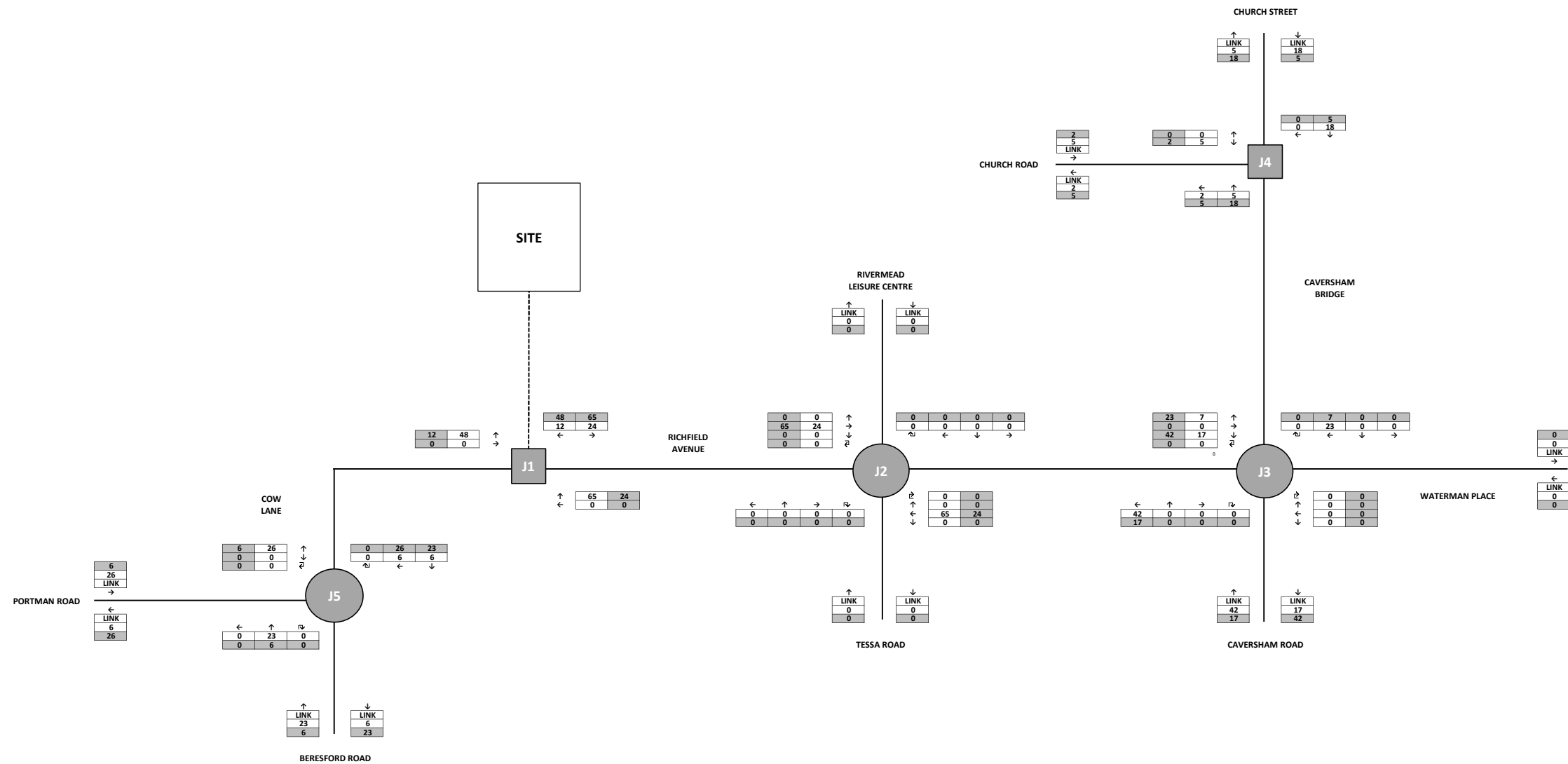


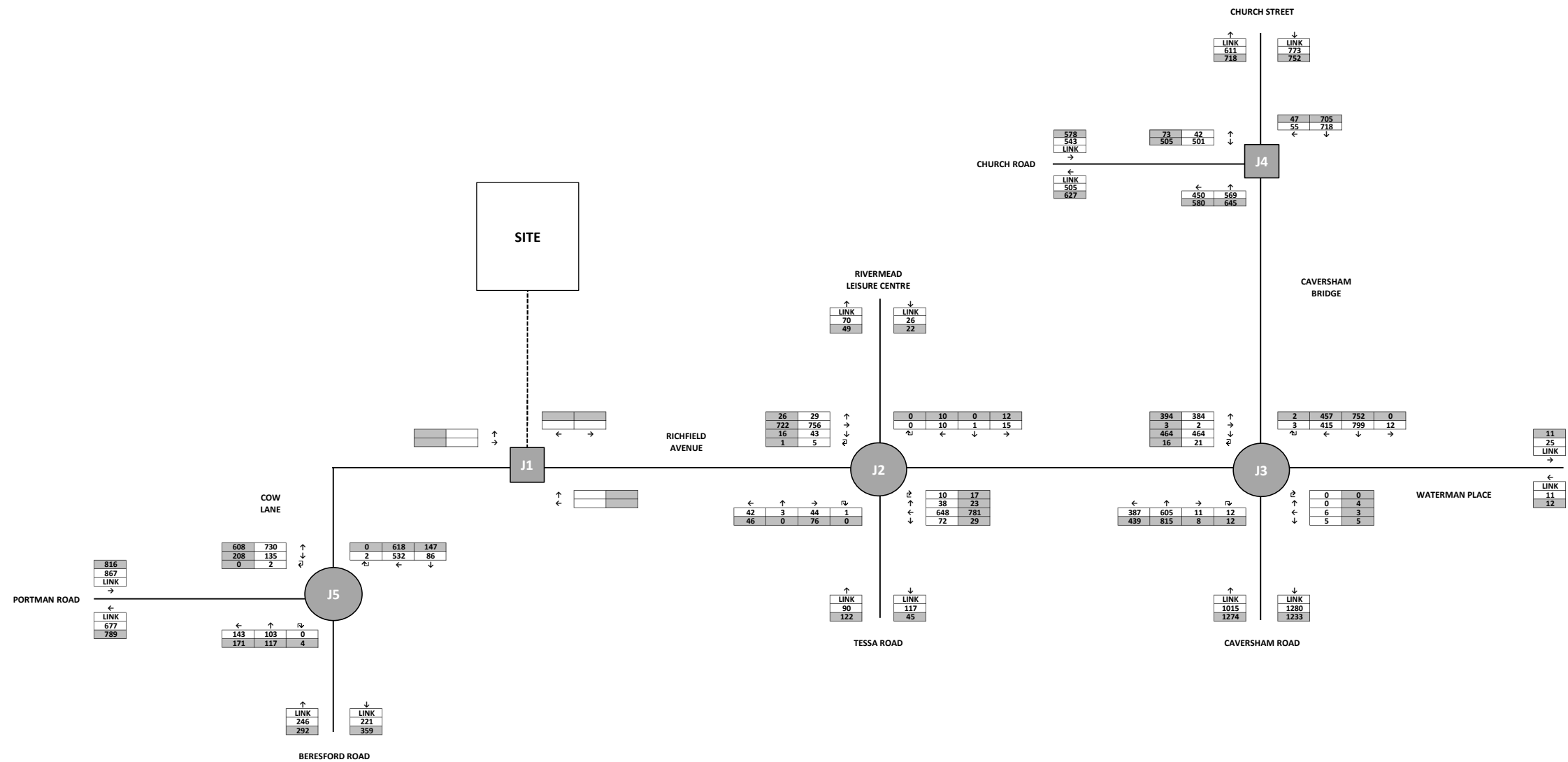
FIGURE 6  
 PRE / POST SCHOOL PEAK DEVELOPMENT TRIPS COMBINED  
 RIVER ACADEMY, READING  
 JOB NUMBER: 600353  
 DRAWN BY: AH

**KEY**  

|   |   |   |
|---|---|---|
| ← | ↑ | → |
| x | x | x |
| x | x | x |

= Turnpike Movement  
 = Weekday AM Network Peak Hour Flows  
 = Weekday PM Network Peak Hour Flows

**Notes:**  
 AM School Peak - 09:00 - 10:00  
 PM School Peak - 15:30 - 16:30



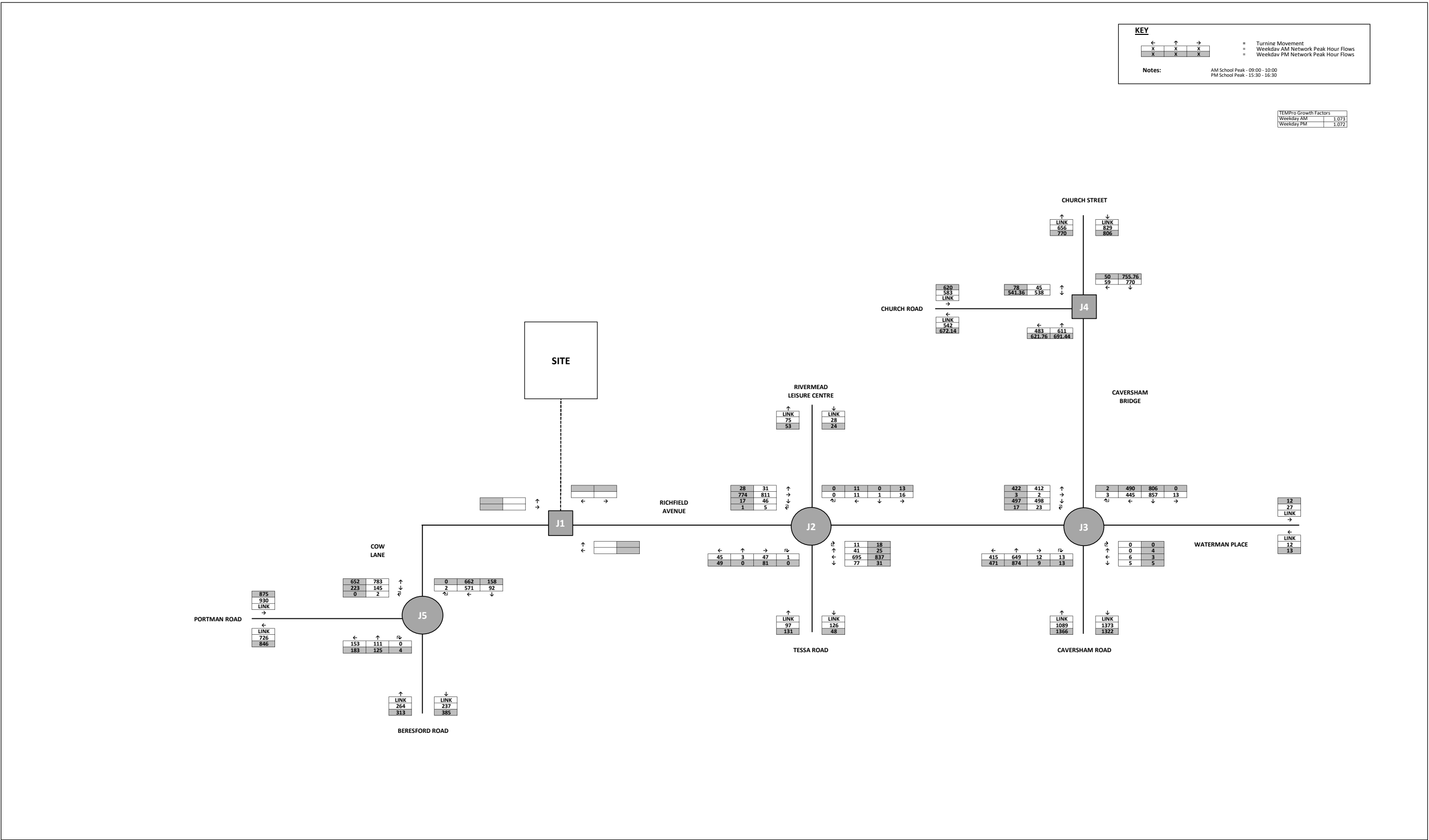


**FIGURE 8**  
FUTURE YEAR 2028 BASELINE FLOWS (SCHOOL PEAK)  
**RIVER ACADEMY, READING**  
JOB NUMBER: 600353  
DRAWN BY: AH

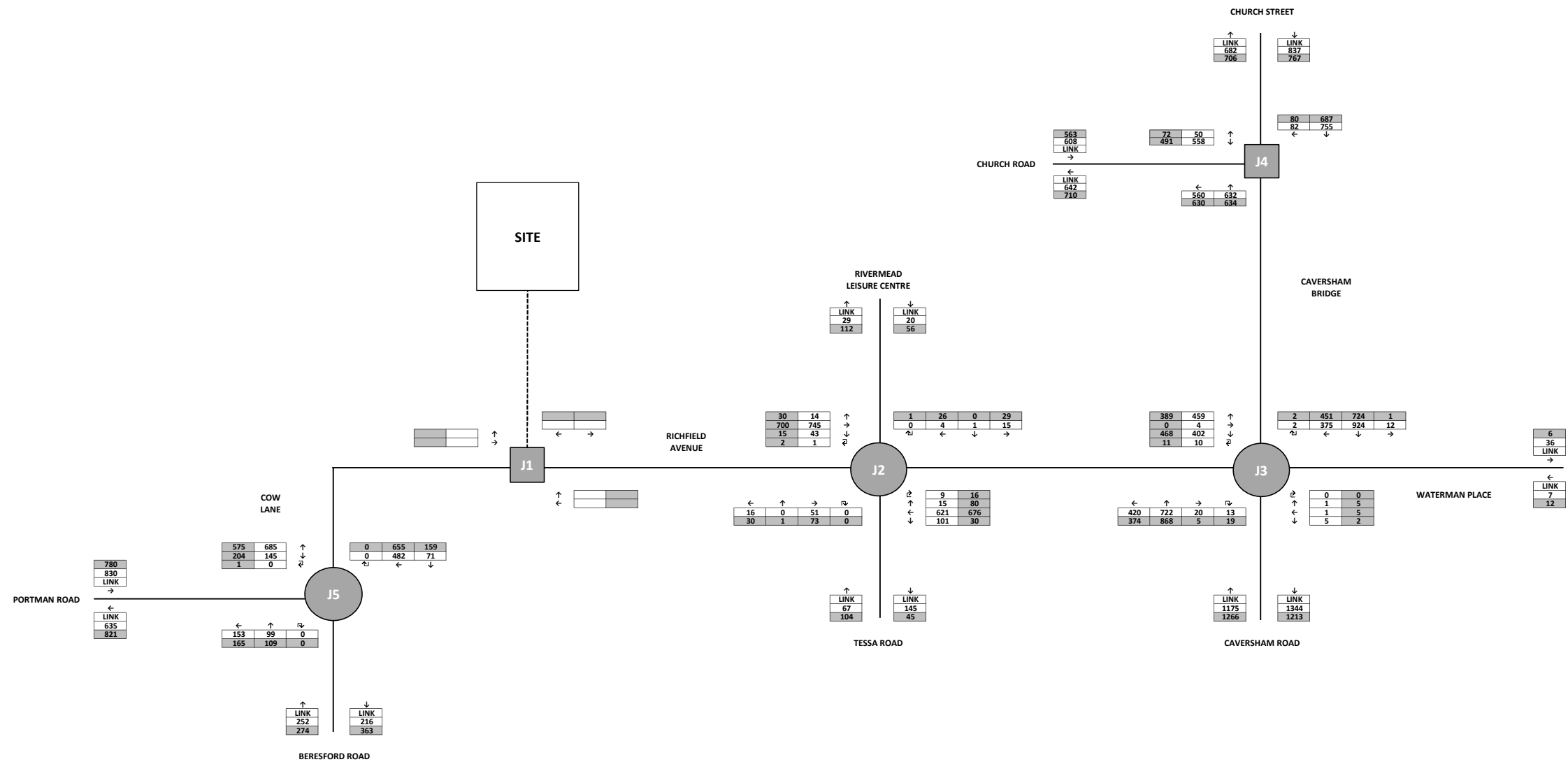


**KEY**  

|   |   |   |
|---|---|---|
| ← | ↑ | → |
| x | x | x |
| x | x | x |

= Turnpike Movement  
 = Weekday AM Network Peak Hour Flows  
 = Weekday PM Network Peak Hour Flows

**Notes:**  
 Pre AM School Peak - 08:00 - 09:00  
 Post PM School Peak - 16:30 - 17:30



**KEY**  

←

↑

→

←

↑

→

Turnpike Movement

Weekday AM Network Peak Hour Flows

Weekday PM Network Peak Hour Flows

**Notes:**  

Pre AM School Peak - 08:00 - 09:00

Post PM School Peak - 16:30 - 17:30

|                       |       |
|-----------------------|-------|
| TEMPro Growth Factors |       |
| Weekday AM            | 1.073 |
| Weekday PM            | 1.072 |

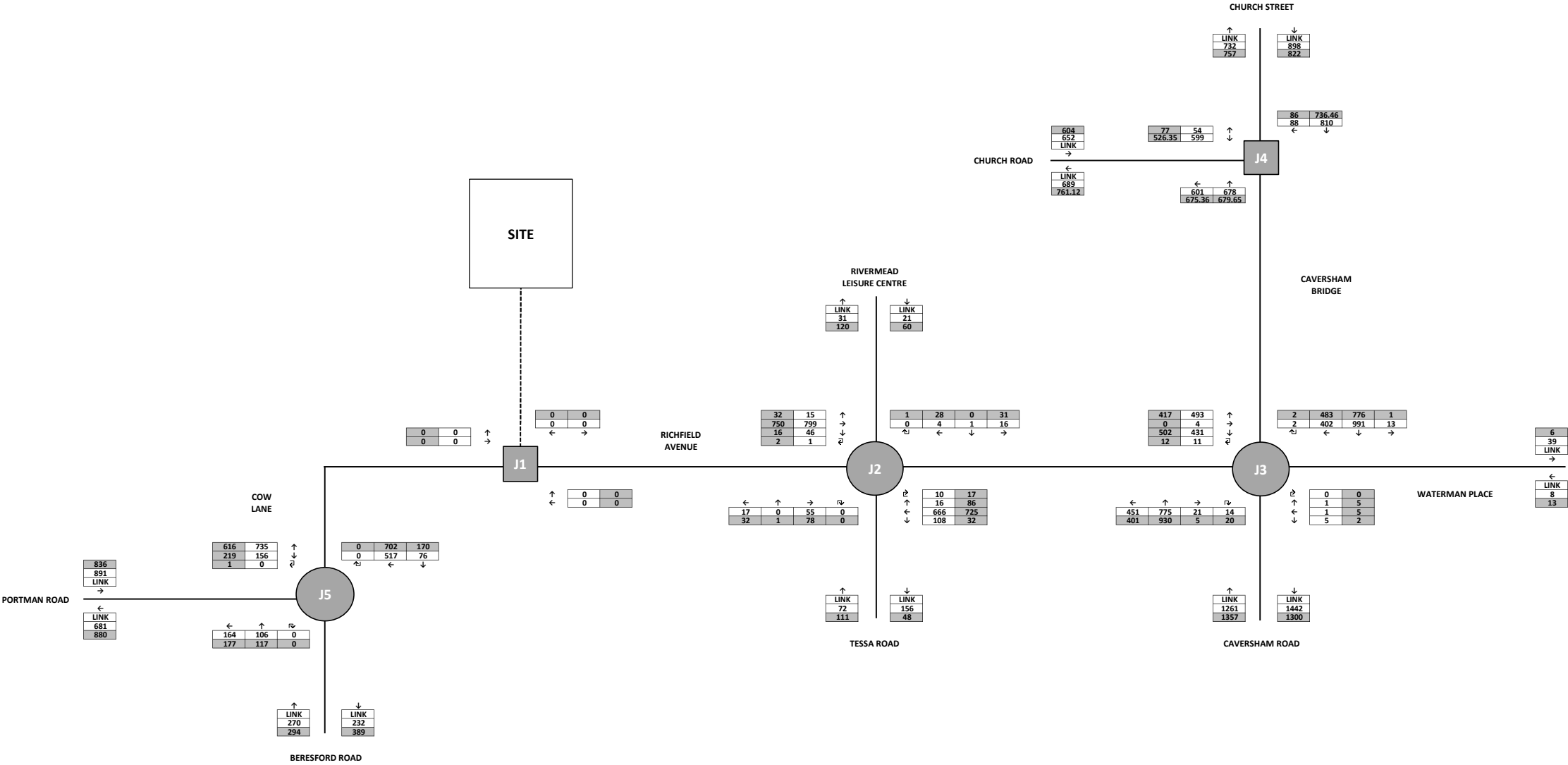


FIGURE 11  
 FUTURE YEAR 2028 BASELINE FLOWS (PRE / POST SCHOOL PEAK)  
 RIVER ACADEMY, READING  
 JOB NUMBER: 600353  
 DRAWN BY: AH

**KEY**  

←

↑

→

×

×

×

Turnine Movement

Weekdav AM Network Peak Hour Flows

Weekdav PM Network Peak Hour Flows

**Notes:**  

AM School Peak - 09:00 - 10:00

PM School Peak - 15:30 - 16:30

|                       |       |
|-----------------------|-------|
| TEMPro Growth Factors |       |
| Weekday AM            | 1.073 |
| Weekday PM            | 1.072 |

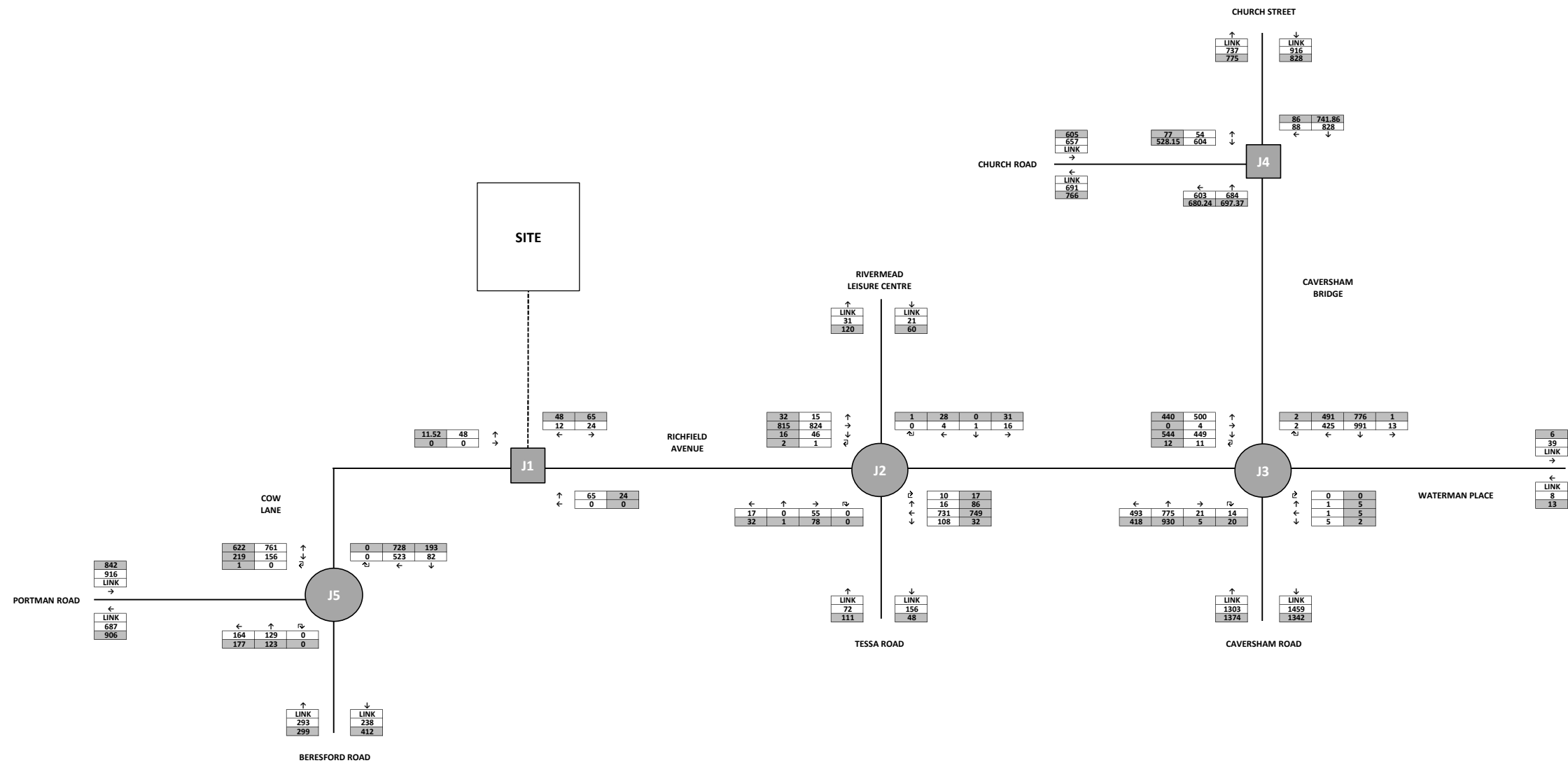


FIGURE 12  
 2028 FUTURE YEAR + DEVELOPMENT TRAFFIC (PRE / POST SCHOOL PEAK)  
 RIVER ACADEMY, READING  
 JOB NUMBER: 600353  
 DRAWN BY: AH

**Appendix F – Arcady Modelling Outputs**

| Junctions 10                                                                                                                                                     |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| ARCADY 10 - Roundabout Module                                                                                                                                    |  |  |  |  |  |  |  |  |  |
| Version: 10.0.1.1519                                                                                                                                             |  |  |  |  |  |  |  |  |  |
| © Copyright TRL Software Limited, 2021                                                                                                                           |  |  |  |  |  |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL Software:<br>+44 (0)1344 379777 software@trl.co.uk trlsoftware.com           |  |  |  |  |  |  |  |  |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution |  |  |  |  |  |  |  |  |  |

**Filename:** Rivermead Roundabout Pre-Post Peak ARCADY.j10

**Path:** S:\Shared Folders\Projects\600353 - River Academy Reading\5 - TP\4 - Working\ARCADY\Rivermead Richfield

**Report generation date:** 14/12/2021 20:21:23

- »Existing Layout - 2021 Baseline, AM
- »Existing Layout - 2021 Baseline, PM
- »Existing Layout - 2028 Future Baseline, AM
- »Existing Layout - 2028 Future Baseline, PM
- »Existing Layout - 2028 Future Baseline + Development, AM
- »Existing Layout - 2028 Future Baseline + Development, PM

#### Summary of junction performance

|       | AM                                                   |             |           |      |     | PM     |             |           |      |     |
|-------|------------------------------------------------------|-------------|-----------|------|-----|--------|-------------|-----------|------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC  | LOS | Set ID | Queue (PCU) | Delay (s) | RFC  | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |      |     |        |             |           |      |     |
| Arm 1 | D1                                                   | 0.0         | 4.10      | 0.02 | A   | D2     | 0.1         | 4.15      | 0.07 | A   |
| Arm 2 |                                                      | 1.5         | 6.78      | 0.60 | A   |        | 1.8         | 7.29      | 0.64 | A   |
| Arm 3 |                                                      | 0.2         | 7.81      | 0.13 | A   |        | 0.3         | 9.21      | 0.22 | A   |
| Arm 4 |                                                      | 1.8         | 7.55      | 0.64 | A   |        | 1.7         | 7.37      | 0.62 | A   |
|       | Existing Layout - 2028 Future Baseline               |             |           |      |     |        |             |           |      |     |
| Arm 1 | D3                                                   | 0.0         | 4.31      | 0.03 | A   | D4     | 0.1         | 4.37      | 0.07 | A   |
| Arm 2 |                                                      | 1.8         | 7.61      | 0.64 | A   |        | 2.2         | 8.39      | 0.69 | A   |
| Arm 3 |                                                      | 0.2         | 8.28      | 0.14 | A   |        | 0.3         | 10.15     | 0.25 | B   |
| Arm 4 |                                                      | 2.3         | 8.73      | 0.69 | A   |        | 2.1         | 8.49      | 0.67 | A   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |      |     |        |             |           |      |     |
| Arm 1 | D5                                                   | 0.0         | 4.40      | 0.03 | A   | D6     | 0.1         | 4.61      | 0.08 | A   |
| Arm 2 |                                                      | 2.3         | 8.89      | 0.69 | A   |        | 2.4         | 8.93      | 0.71 | A   |
| Arm 3 |                                                      | 0.2         | 8.87      | 0.15 | A   |        | 0.4         | 10.50     | 0.26 | B   |
| Arm 4 |                                                      | 2.5         | 9.33      | 0.71 | A   |        | 2.6         | 10.17     | 0.73 | B   |

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

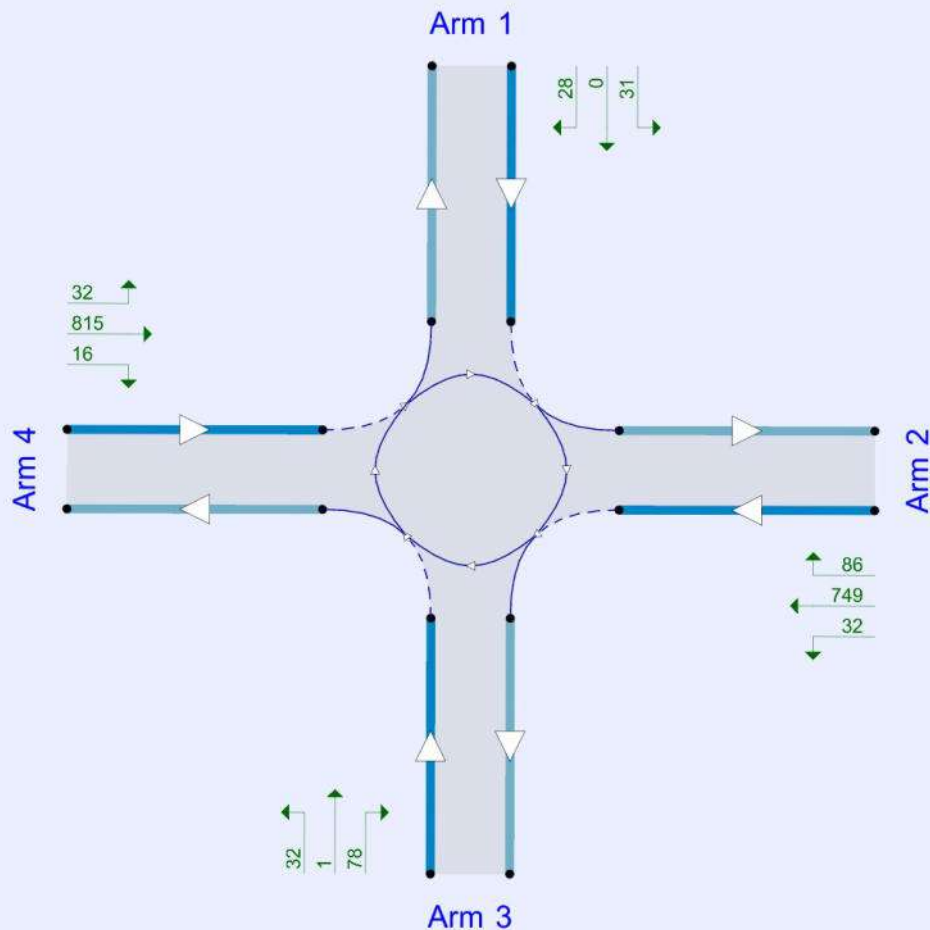
## File summary

### File Description

|                    |                                         |
|--------------------|-----------------------------------------|
| <b>Title</b>       | Rivermead / Richfield Avenue Roundabout |
| <b>Location</b>    | Reading                                 |
| <b>Site number</b> |                                         |
| <b>Date</b>        | 14/12/2021                              |
| <b>Version</b>     |                                         |
| <b>Status</b>      | Preliminary                             |
| <b>Identifier</b>  |                                         |
| <b>Client</b>      |                                         |
| <b>Jobnumber</b>   | 600353                                  |
| <b>Enumerator</b>  |                                         |
| <b>Description</b> |                                         |

### Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

## Analysis Options

| Calculate Queue Percentiles | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|-----------------------------|-----------------------------|---------------|-----------------------------|-----------------------|
|                             |                             | 0.85          | 36.00                       | 20.00                 |

## Demand Set Summary

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline                      | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |
| D2 | 2021 Baseline                      | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |
| D3 | 2028 Future Baseline               | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |
| D4 | 2028 Future Baseline               | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |

## Analysis Set Details

| ID | Name            | Network flow scaling factor (%) |
|----|-----------------|---------------------------------|
| A1 | Existing Layout | 100.000                         |

# Existing Layout - 2021 Baseline, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 7.17               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 7.17              | A           |

## Arms

### Arms

| Arm | Name                 | Description | No give-way line |
|-----|----------------------|-------------|------------------|
| 1   | Rivermead            |             |                  |
| 2   | Richfield Avenue (E) |             |                  |
| 3   | Tessa Road           |             |                  |
| 4   | Richfield Avenue (W) |             |                  |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Entry only | Exit only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|------------|-----------|
| 1   | 3.67                             | 5.52                | 12.6                            | 32.3                 | 24.0                              | 40.0                               |            |           |
| 2   | 3.40                             | 6.09                | 12.0                            | 8.5                  | 27.0                              | 29.0                               |            |           |
| 3   | 3.53                             | 3.53                | 0.0                             | 4.6                  | 24.0                              | 24.5                               |            |           |
| 4   | 4.00                             | 6.22                | 4.3                             | 24.0                 | 24.0                              | 39.0                               |            |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|-----|-------------|--------------------------|
| 1   | 0.610       | 1469                     |
| 2   | 0.581       | 1410                     |
| 3   | 0.456       | 915                      |
| 4   | 0.600       | 1433                     |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 20                      | 100.000            |
| 2   |            | ✓            | 746                     | 100.000            |
| 3   |            | ✓            | 67                      | 100.000            |
| 4   |            | ✓            | 803                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |     |     |
|------|----|----|-----|-----|-----|
|      | 1  | 2  | 3   | 4   |     |
| From | 1  | 0  | 15  | 1   | 4   |
|      | 2  | 15 | 9   | 101 | 621 |
|      | 3  | 0  | 51  | 0   | 16  |
|      | 4  | 14 | 745 | 43  | 1   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |    |   |   |
|------|----|---|----|---|---|
|      | 1  | 2 | 3  | 4 |   |
| From | 1  | 0 | 0  | 0 | 0 |
|      | 2  | 2 | 0  | 5 | 5 |
|      | 3  | 0 | 14 | 0 | 5 |
|      | 4  | 0 | 5  | 4 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.02    | 4.10          | 0.0             | A       |
| 2   | 0.60    | 6.78          | 1.5             | A       |
| 3   | 0.13    | 7.81          | 0.2             | A       |
| 4   | 0.64    | 7.55          | 1.8             | A       |

### Main Results for each time segment

#### 07:45 - 08:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 15                    | 636                       | 1081              | 0.014 | 15                  | 0.0             | 3.375     | A                             |
| 2   | 562                   | 37                        | 1389              | 0.404 | 559                 | 0.7             | 4.535     | A                             |
| 3   | 50                    | 487                       | 693               | 0.073 | 50                  | 0.1             | 6.253     | A                             |
| 4   | 605                   | 56                        | 1400              | 0.432 | 601                 | 0.8             | 4.707     | A                             |

### 08:00 - 08:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 18                    | 762                       | 1004              | 0.018 | 18                  | 0.0             | 3.648     | A                             |
| 2   | 671                   | 44                        | 1384              | 0.484 | 670                 | 1.0             | 5.275     | A                             |
| 3   | 60                    | 583                       | 649               | 0.093 | 60                  | 0.1             | 6.829     | A                             |
| 4   | 722                   | 67                        | 1393              | 0.518 | 721                 | 1.1             | 5.602     | A                             |

### 08:15 - 08:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 22                    | 932                       | 901               | 0.024 | 22                  | 0.0             | 4.096     | A                             |
| 2   | 821                   | 54                        | 1379              | 0.596 | 819                 | 1.5             | 6.721     | A                             |
| 3   | 74                    | 714                       | 590               | 0.125 | 74                  | 0.2             | 7.791     | A                             |
| 4   | 884                   | 82                        | 1384              | 0.639 | 881                 | 1.8             | 7.470     | A                             |

### 08:30 - 08:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 22                    | 935                       | 899               | 0.024 | 22                  | 0.0             | 4.104     | A                             |
| 2   | 821                   | 54                        | 1378              | 0.596 | 821                 | 1.5             | 6.775     | A                             |
| 3   | 74                    | 716                       | 589               | 0.125 | 74                  | 0.2             | 7.808     | A                             |
| 4   | 884                   | 83                        | 1384              | 0.639 | 884                 | 1.8             | 7.552     | A                             |

### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 18                    | 766                       | 1002              | 0.018 | 18                  | 0.0             | 3.661     | A                             |
| 2   | 671                   | 44                        | 1384              | 0.485 | 673                 | 1.0             | 5.322     | A                             |
| 3   | 60                    | 586                       | 648               | 0.093 | 60                  | 0.1             | 6.851     | A                             |
| 4   | 722                   | 68                        | 1393              | 0.518 | 725                 | 1.1             | 5.675     | A                             |

### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 15                    | 641                       | 1078              | 0.014 | 15                  | 0.0             | 3.387     | A                             |
| 2   | 562                   | 37                        | 1388              | 0.405 | 563                 | 0.7             | 4.578     | A                             |
| 3   | 50                    | 490                       | 691               | 0.073 | 51                  | 0.1             | 6.275     | A                             |
| 4   | 605                   | 57                        | 1399              | 0.432 | 606                 | 0.8             | 4.767     | A                             |

# Existing Layout - 2021 Baseline, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 7.34               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 7.34              | A           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D2 | 2021 Baseline | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 56                      | 100.000            |
| 2   |            | ✓            | 802                     | 100.000            |
| 3   |            | ✓            | 104                     | 100.000            |
| 4   |            | ✓            | 747                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |    |     |
|------|----|----|-----|----|-----|
| From |    | 1  | 2   | 3  | 4   |
|      | 1  | 1  | 29  | 0  | 26  |
|      | 2  | 80 | 16  | 30 | 676 |
|      | 3  | 1  | 73  | 0  | 30  |
|      | 4  | 30 | 700 | 15 | 2   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
| From |    | 1 | 2 | 3 | 4 |
|      | 1  | 0 | 0 | 0 | 0 |
|      | 2  | 0 | 0 | 5 | 1 |
|      | 3  | 0 | 2 | 0 | 2 |
|      | 4  | 0 | 2 | 2 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.07    | 4.15          | 0.1             | A       |
| 2   | 0.64    | 7.29          | 1.8             | A       |
| 3   | 0.22    | 9.21          | 0.3             | A       |
| 4   | 0.62    | 7.37          | 1.7             | A       |

### Main Results for each time segment

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 42                    | 604                       | 1101              | 0.038 | 42                  | 0.0             | 3.399     | A                             |
| 2   | 604                   | 33                        | 1391              | 0.434 | 601                 | 0.8             | 4.587     | A                             |
| 3   | 78                    | 600                       | 641               | 0.122 | 78                  | 0.1             | 6.505     | A                             |
| 4   | 562                   | 128                       | 1356              | 0.415 | 560                 | 0.7             | 4.587     | A                             |

#### 16:30 - 16:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 50                    | 723                       | 1028              | 0.049 | 50                  | 0.1             | 3.681     | A                             |
| 2   | 721                   | 40                        | 1387              | 0.520 | 720                 | 1.1             | 5.441     | A                             |
| 3   | 93                    | 719                       | 587               | 0.159 | 93                  | 0.2             | 7.427     | A                             |
| 4   | 672                   | 153                       | 1341              | 0.501 | 670                 | 1.0             | 5.459     | A                             |

#### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 62                    | 885                       | 930               | 0.066 | 62                  | 0.1             | 4.147     | A                             |
| 2   | 883                   | 48                        | 1382              | 0.639 | 880                 | 1.8             | 7.214     | A                             |
| 3   | 115                   | 879                       | 514               | 0.223 | 114                 | 0.3             | 9.165     | A                             |
| 4   | 822                   | 188                       | 1321              | 0.623 | 820                 | 1.6             | 7.289     | A                             |

#### 17:00 - 17:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 62                    | 887                       | 928               | 0.066 | 62                  | 0.1             | 4.155     | A                             |
| 2   | 883                   | 48                        | 1382              | 0.639 | 883                 | 1.8             | 7.289     | A                             |
| 3   | 115                   | 882                       | 513               | 0.223 | 114                 | 0.3             | 9.211     | A                             |
| 4   | 822                   | 188                       | 1320              | 0.623 | 822                 | 1.7             | 7.367     | A                             |

#### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 50                    | 727                       | 1026              | 0.049 | 50                  | 0.1             | 3.691     | A                             |
| 2   | 721                   | 40                        | 1387              | 0.520 | 724                 | 1.1             | 5.507     | A                             |
| 3   | 93                    | 723                       | 586               | 0.160 | 94                  | 0.2             | 7.471     | A                             |
| 4   | 672                   | 154                       | 1341              | 0.501 | 674                 | 1.0             | 5.524     | A                             |

**17:30 - 17:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 42                    | 608                       | 1098              | 0.038 | 42                  | 0.0             | 3.411     | A                             |
| 2   | 604                   | 33                        | 1391              | 0.434 | 605                 | 0.8             | 4.639     | A                             |
| 3   | 78                    | 604                       | 639               | 0.122 | 79                  | 0.1             | 6.546     | A                             |
| 4   | 562                   | 129                       | 1356              | 0.415 | 564                 | 0.7             | 4.638     | A                             |

# Existing Layout - 2028 Future Baseline, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 8.15               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 8.15              | A           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D3 | 2028 Future Baseline | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 21                      | 100.000            |
| 2   |            | ✓            | 800                     | 100.000            |
| 3   |            | ✓            | 72                      | 100.000            |
| 4   |            | ✓            | 861                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |     |     |
|------|----|----|-----|-----|-----|
|      | 1  | 2  | 3   | 4   |     |
| From | 1  | 0  | 16  | 1   | 4   |
|      | 2  | 16 | 10  | 108 | 666 |
|      | 3  | 0  | 55  | 0   | 17  |
|      | 4  | 15 | 799 | 46  | 1   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |    |   |   |
|------|----|---|----|---|---|
|      | 1  | 2 | 3  | 4 |   |
| From | 1  | 0 | 0  | 0 | 0 |
|      | 2  | 2 | 0  | 5 | 5 |
|      | 3  | 0 | 14 | 0 | 5 |
|      | 4  | 0 | 5  | 4 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.03    | 4.31          | 0.0             | A       |
| 2   | 0.64    | 7.61          | 1.8             | A       |
| 3   | 0.14    | 8.28          | 0.2             | A       |
| 4   | 0.69    | 8.73          | 2.3             | A       |

### Main Results for each time segment

#### 07:45 - 08:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 16                    | 682                       | 1053              | 0.015 | 16                  | 0.0             | 3.469     | A                             |
| 2   | 602                   | 39                        | 1387              | 0.434 | 599                 | 0.8             | 4.771     | A                             |
| 3   | 54                    | 522                       | 677               | 0.080 | 54                  | 0.1             | 6.450     | A                             |
| 4   | 648                   | 61                        | 1397              | 0.464 | 645                 | 0.9             | 4.993     | A                             |

#### 08:00 - 08:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 19                    | 817                       | 971               | 0.019 | 19                  | 0.0             | 3.781     | A                             |
| 2   | 719                   | 47                        | 1383              | 0.520 | 718                 | 1.1             | 5.666     | A                             |
| 3   | 65                    | 625                       | 630               | 0.103 | 65                  | 0.1             | 7.114     | A                             |
| 4   | 774                   | 73                        | 1390              | 0.557 | 772                 | 1.3             | 6.099     | A                             |

#### 08:15 - 08:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 23                    | 999                       | 860               | 0.027 | 23                  | 0.0             | 4.302     | A                             |
| 2   | 881                   | 57                        | 1377              | 0.640 | 878                 | 1.8             | 7.529     | A                             |
| 3   | 79                    | 765                       | 566               | 0.140 | 79                  | 0.2             | 8.252     | A                             |
| 4   | 948                   | 89                        | 1380              | 0.687 | 944                 | 2.2             | 8.589     | A                             |

#### 08:30 - 08:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 23                    | 1003                      | 857               | 0.027 | 23                  | 0.0             | 4.314     | A                             |
| 2   | 881                   | 57                        | 1377              | 0.640 | 881                 | 1.8             | 7.611     | A                             |
| 3   | 79                    | 767                       | 565               | 0.140 | 79                  | 0.2             | 8.277     | A                             |
| 4   | 948                   | 89                        | 1380              | 0.687 | 948                 | 2.3             | 8.735     | A                             |

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 19                    | 823                       | 967               | 0.020 | 19                  | 0.0             | 3.798     | A                             |
| 2   | 719                   | 47                        | 1383              | 0.520 | 722                 | 1.2             | 5.740     | A                             |
| 3   | 65                    | 629                       | 628               | 0.103 | 65                  | 0.1             | 7.142     | A                             |
| 4   | 774                   | 73                        | 1389              | 0.557 | 778                 | 1.3             | 6.209     | A                             |

**09:00 - 09:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 16                    | 688                       | 1050              | 0.015 | 16                  | 0.0             | 3.483     | A                             |
| 2   | 602                   | 39                        | 1387              | 0.434 | 604                 | 0.8             | 4.829     | A                             |
| 3   | 54                    | 526                       | 675               | 0.080 | 54                  | 0.1             | 6.482     | A                             |
| 4   | 648                   | 61                        | 1397              | 0.464 | 650                 | 0.9             | 5.068     | A                             |

# Existing Layout - 2028 Future Baseline, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 8.41               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 8.41              | A           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D4 | 2028 Future Baseline | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 60                      | 100.000            |
| 2   |            | ✓            | 860                     | 100.000            |
| 3   |            | ✓            | 111                     | 100.000            |
| 4   |            | ✓            | 800                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |     |
|------|----|----|-----|-----|
|      | 1  | 2  | 3   | 4   |
| From | 1  | 31 | 0   | 28  |
|      | 2  | 86 | 17  | 725 |
|      | 3  | 1  | 78  | 32  |
|      | 4  | 32 | 750 | 16  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      | 1  | 2 | 3 | 4 |
| From | 1  | 0 | 0 | 0 |
|      | 2  | 0 | 0 | 5 |
|      | 3  | 0 | 2 | 0 |
|      | 4  | 0 | 2 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.07    | 4.37          | 0.1             | A       |
| 2   | 0.69    | 8.39          | 2.2             | A       |
| 3   | 0.25    | 10.15         | 0.3             | B       |
| 4   | 0.67    | 8.49          | 2.1             | A       |

### Main Results for each time segment

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 45                    | 646                       | 1075              | 0.042 | 45                  | 0.0             | 3.494     | A                             |
| 2   | 647                   | 35                        | 1389              | 0.466 | 644                 | 0.9             | 4.857     | A                             |
| 3   | 84                    | 643                       | 622               | 0.134 | 83                  | 0.2             | 6.807     | A                             |
| 4   | 602                   | 137                       | 1351              | 0.446 | 599                 | 0.8             | 4.859     | A                             |

#### 16:30 - 16:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 54                    | 774                       | 997               | 0.054 | 54                  | 0.1             | 3.816     | A                             |
| 2   | 773                   | 42                        | 1385              | 0.558 | 772                 | 1.3             | 5.909     | A                             |
| 3   | 100                   | 771                       | 564               | 0.177 | 100                 | 0.2             | 7.906     | A                             |
| 4   | 719                   | 164                       | 1335              | 0.539 | 718                 | 1.2             | 5.932     | A                             |

#### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 66                    | 947                       | 892               | 0.074 | 66                  | 0.1             | 4.359     | A                             |
| 2   | 947                   | 52                        | 1380              | 0.686 | 943                 | 2.1             | 8.263     | A                             |
| 3   | 122                   | 942                       | 486               | 0.252 | 122                 | 0.3             | 10.079    | B                             |
| 4   | 881                   | 201                       | 1313              | 0.671 | 877                 | 2.0             | 8.362     | A                             |

#### 17:00 - 17:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 66                    | 950                       | 890               | 0.074 | 66                  | 0.1             | 4.370     | A                             |
| 2   | 947                   | 52                        | 1380              | 0.686 | 947                 | 2.2             | 8.392     | A                             |
| 3   | 122                   | 946                       | 484               | 0.253 | 122                 | 0.3             | 10.147    | B                             |
| 4   | 881                   | 201                       | 1312              | 0.671 | 881                 | 2.1             | 8.494     | A                             |

#### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 54                    | 779                       | 994               | 0.054 | 54                  | 0.1             | 3.833     | A                             |
| 2   | 773                   | 42                        | 1385              | 0.558 | 777                 | 1.3             | 6.009     | A                             |
| 3   | 100                   | 776                       | 561               | 0.178 | 100                 | 0.2             | 7.970     | A                             |
| 4   | 719                   | 165                       | 1334              | 0.539 | 723                 | 1.2             | 6.034     | A                             |

**17:30 - 17:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 45                    | 651                       | 1072              | 0.042 | 45                  | 0.0             | 3.508     | A                             |
| 2   | 647                   | 35                        | 1389              | 0.466 | 649                 | 0.9             | 4.925     | A                             |
| 3   | 84                    | 648                       | 619               | 0.135 | 84                  | 0.2             | 6.859     | A                             |
| 4   | 602                   | 138                       | 1350              | 0.446 | 604                 | 0.8             | 4.924     | A                             |

# Existing Layout - 2028 Future Baseline + Development, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 9.05               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 9.05              | A           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 21                      | 100.000            |
| 2   |            | ✓            | 865                     | 100.000            |
| 3   |            | ✓            | 72                      | 100.000            |
| 4   |            | ✓            | 886                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |     |     |
|------|----|----|-----|-----|-----|
|      | 1  | 2  | 3   | 4   |     |
| From | 1  | 0  | 16  | 1   | 4   |
|      | 2  | 16 | 10  | 108 | 731 |
|      | 3  | 0  | 55  | 0   | 17  |
|      | 4  | 15 | 824 | 46  | 1   |

## Vehicle Mix

### Heavy Vehicle Percentages

| From | To |   |    |   |   |
|------|----|---|----|---|---|
|      |    | 1 | 2  | 3 | 4 |
|      | 1  | 0 | 0  | 0 | 0 |
|      | 2  | 2 | 0  | 5 | 5 |
|      | 3  | 0 | 14 | 0 | 5 |
|      | 4  | 0 | 5  | 4 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.03    | 4.40          | 0.0             | A       |
| 2   | 0.69    | 8.89          | 2.3             | A       |
| 3   | 0.15    | 8.87          | 0.2             | A       |
| 4   | 0.71    | 9.33          | 2.5             | A       |

### Main Results for each time segment

#### 07:45 - 08:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 16                    | 701                       | 1042              | 0.015 | 16                  | 0.0             | 3.507     | A                             |
| 2   | 651                   | 39                        | 1387              | 0.469 | 648                 | 0.9             | 5.079     | A                             |
| 3   | 54                    | 570                       | 655               | 0.083 | 54                  | 0.1             | 6.687     | A                             |
| 4   | 667                   | 61                        | 1397              | 0.478 | 663                 | 0.9             | 5.118     | A                             |

#### 08:00 - 08:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 19                    | 840                       | 957               | 0.020 | 19                  | 0.0             | 3.836     | A                             |
| 2   | 778                   | 47                        | 1383              | 0.562 | 776                 | 1.3             | 6.203     | A                             |
| 3   | 65                    | 684                       | 603               | 0.107 | 65                  | 0.1             | 7.464     | A                             |
| 4   | 796                   | 73                        | 1390              | 0.573 | 795                 | 1.4             | 6.326     | A                             |

#### 08:15 - 08:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 23                    | 1026                      | 843               | 0.027 | 23                  | 0.0             | 4.389     | A                             |
| 2   | 952                   | 57                        | 1377              | 0.692 | 949                 | 2.3             | 8.739     | A                             |
| 3   | 79                    | 836                       | 534               | 0.148 | 79                  | 0.2             | 8.834     | A                             |
| 4   | 976                   | 89                        | 1380              | 0.707 | 971                 | 2.4             | 9.141     | A                             |

#### 08:30 - 08:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 23                    | 1030                      | 841               | 0.028 | 23                  | 0.0             | 4.402     | A                             |
| 2   | 952                   | 57                        | 1377              | 0.692 | 952                 | 2.3             | 8.890     | A                             |
| 3   | 79                    | 839                       | 533               | 0.149 | 79                  | 0.2             | 8.872     | A                             |
| 4   | 976                   | 89                        | 1380              | 0.707 | 975                 | 2.5             | 9.325     | A                             |

**08:45 - 09:00**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 19                    | 846                       | 953               | 0.020 | 19                  | 0.0             | 3.852     | A                             |
| 2   | 778                   | 47                        | 1383              | 0.562 | 781                 | 1.4             | 6.321     | A                             |
| 3   | 65                    | 688                       | 601               | 0.108 | 65                  | 0.1             | 7.506     | A                             |
| 4   | 796                   | 73                        | 1389              | 0.573 | 801                 | 1.4             | 6.459     | A                             |

**09:00 - 09:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 16                    | 707                       | 1038              | 0.015 | 16                  | 0.0             | 3.520     | A                             |
| 2   | 651                   | 39                        | 1387              | 0.470 | 653                 | 0.9             | 5.155     | A                             |
| 3   | 54                    | 575                       | 653               | 0.083 | 54                  | 0.1             | 6.725     | A                             |
| 4   | 667                   | 61                        | 1397              | 0.478 | 669                 | 1.0             | 5.200     | A                             |

# Existing Layout - 2028 Future Baseline + Development, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 9.45               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 9.45              | A           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 60                      | 100.000            |
| 2   |            | ✓            | 884                     | 100.000            |
| 3   |            | ✓            | 111                     | 100.000            |
| 4   |            | ✓            | 865                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |    |     |
|------|----|----|-----|----|-----|
|      | 1  | 2  | 3   | 4  |     |
| From | 1  | 31 | 0   | 28 |     |
|      | 2  | 86 | 17  | 32 | 749 |
|      | 3  | 1  | 78  | 0  | 32  |
|      | 4  | 32 | 815 | 16 | 2   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      | 1  | 2 | 3 | 4 |   |
| From | 1  | 0 | 0 | 0 | 0 |
|      | 2  | 0 | 0 | 5 | 1 |
|      | 3  | 0 | 2 | 0 | 2 |
|      | 4  | 0 | 2 | 2 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.08    | 4.61          | 0.1             | A       |
| 2   | 0.71    | 8.93          | 2.4             | A       |
| 3   | 0.26    | 10.50         | 0.4             | B       |
| 4   | 0.73    | 10.17         | 2.6             | B       |

### Main Results for each time segment

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 45                    | 695                       | 1046              | 0.043 | 45                  | 0.0             | 3.597     | A                             |
| 2   | 666                   | 35                        | 1389              | 0.479 | 662                 | 0.9             | 4.974     | A                             |
| 3   | 84                    | 661                       | 614               | 0.136 | 83                  | 0.2             | 6.909     | A                             |
| 4   | 651                   | 137                       | 1351              | 0.482 | 647                 | 0.9             | 5.189     | A                             |

#### 16:30 - 16:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 54                    | 832                       | 962               | 0.056 | 54                  | 0.1             | 3.966     | A                             |
| 2   | 795                   | 42                        | 1385              | 0.574 | 793                 | 1.3             | 6.123     | A                             |
| 3   | 100                   | 792                       | 554               | 0.180 | 100                 | 0.2             | 8.076     | A                             |
| 4   | 778                   | 164                       | 1335              | 0.583 | 776                 | 1.4             | 6.541     | A                             |

#### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 66                    | 1017                      | 849               | 0.078 | 66                  | 0.1             | 4.597     | A                             |
| 2   | 973                   | 52                        | 1380              | 0.705 | 969                 | 2.3             | 8.770     | A                             |
| 3   | 122                   | 968                       | 474               | 0.258 | 122                 | 0.3             | 10.416    | B                             |
| 4   | 952                   | 201                       | 1313              | 0.725 | 948                 | 2.6             | 9.917     | A                             |

#### 17:00 - 17:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 66                    | 1022                      | 846               | 0.078 | 66                  | 0.1             | 4.614     | A                             |
| 2   | 973                   | 52                        | 1380              | 0.705 | 973                 | 2.4             | 8.934     | A                             |
| 3   | 122                   | 972                       | 472               | 0.259 | 122                 | 0.4             | 10.496    | B                             |
| 4   | 952                   | 201                       | 1312              | 0.726 | 952                 | 2.6             | 10.174    | B                             |

**17:15 - 17:30**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 54                    | 839                       | 957               | 0.056 | 54                  | 0.1             | 3.987     | A                             |
| 2   | 795                   | 42                        | 1385              | 0.574 | 799                 | 1.4             | 6.243     | A                             |
| 3   | 100                   | 798                       | 551               | 0.181 | 100                 | 0.2             | 8.149     | A                             |
| 4   | 778                   | 165                       | 1334              | 0.583 | 782                 | 1.4             | 6.710     | A                             |

**17:30 - 17:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 45                    | 701                       | 1042              | 0.043 | 45                  | 0.0             | 3.614     | A                             |
| 2   | 666                   | 35                        | 1389              | 0.479 | 667                 | 0.9             | 5.051     | A                             |
| 3   | 84                    | 667                       | 611               | 0.137 | 84                  | 0.2             | 6.964     | A                             |
| 4   | 651                   | 138                       | 1350              | 0.482 | 653                 | 1.0             | 5.279     | A                             |

| Junctions 10                                                                                                                                                     |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| ARCADY 10 - Roundabout Module                                                                                                                                    |  |  |  |  |  |  |  |  |  |
| Version: 10.0.1.1519                                                                                                                                             |  |  |  |  |  |  |  |  |  |
| © Copyright TRL Software Limited, 2021                                                                                                                           |  |  |  |  |  |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL Software:                                                                    |  |  |  |  |  |  |  |  |  |
| +44 (0)1344 379777 software@trl.co.uk trlsoftware.com                                                                                                            |  |  |  |  |  |  |  |  |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution |  |  |  |  |  |  |  |  |  |

**Filename:** Caversham Road Roundabout Peak ARCADY.j10

**Path:** S:\Shared Folders\Projects\600353 - River Academy Reading\5 - TP\4 - Working\ARCADY\Caversham Road Roundabout

**Report generation date:** 14/12/2021 21:21:34

- »Existing Layout - 2021 Baseline, AM
- »Existing Layout - 2021 Baseline, PM
- »Existing Layout - 2028 Future Baseline, AM
- »Existing Layout - 2028 Future Baseline, PM
- »Existing Layout - 2028 Future Baseline + Development, AM
- »Existing Layout - 2028 Future Baseline + Development, PM

#### Summary of junction performance

|       | AM                                                   |             |           |              |     | PM     |             |           |              |     |
|-------|------------------------------------------------------|-------------|-----------|--------------|-----|--------|-------------|-----------|--------------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC          | LOS | Set ID | Queue (PCU) | Delay (s) | RFC          | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |              |     |        |             |           |              |     |
| Arm 1 | D1                                                   | 2.9         | 7.79      | 0.74         | A   | D2     | 2.7         | 7.27      | 0.73         | A   |
| Arm 2 |                                                      | 0.7         | 252.30    | 0.49         | F   |        | 0.6         | 197.96    | 0.44         | F   |
| Arm 3 |                                                      | 1.6         | 5.12      | 0.60         | A   |        | 3.2         | 8.47      | 0.76         | A   |
| Arm 4 |                                                      | 1.0         | 3.72      | 0.48         | A   |        | 1.2         | 4.44      | 0.54         | A   |
|       | Existing Layout - 2028 Future Baseline               |             |           |              |     |        |             |           |              |     |
| Arm 1 | D3                                                   | 4.1         | 10.55     | 0.81         | B   | D4     | 3.8         | 9.69      | 0.79         | A   |
| Arm 2 |                                                      | 6.1         | 1425.76   | 999999999.00 | F   |        | 6.7         | 1426.30   | 999999999.00 | F   |
| Arm 3 |                                                      | 2.0         | 5.93      | 0.65         | A   |        | 4.8         | 11.81     | 0.83         | B   |
| Arm 4 |                                                      | 1.2         | 4.18      | 0.53         | A   |        | 1.5         | 5.20      | 0.59         | A   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |              |     |        |             |           |              |     |
| Arm 1 | D5                                                   | 5.7         | 14.38     | 0.85         | B   | D6     | 5.0         | 12.71     | 0.84         | B   |
| Arm 2 |                                                      | 6.2         | 1465.39   | 999999999.00 | F   |        | 6.7         | 1463.13   | 999999999.00 | F   |
| Arm 3 |                                                      | 2.4         | 7.00      | 0.70         | A   |        | 7.1         | 16.95     | 0.88         | C   |
| Arm 4 |                                                      | 1.5         | 4.74      | 0.59         | A   |        | 1.9         | 6.13      | 0.66         | A   |

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

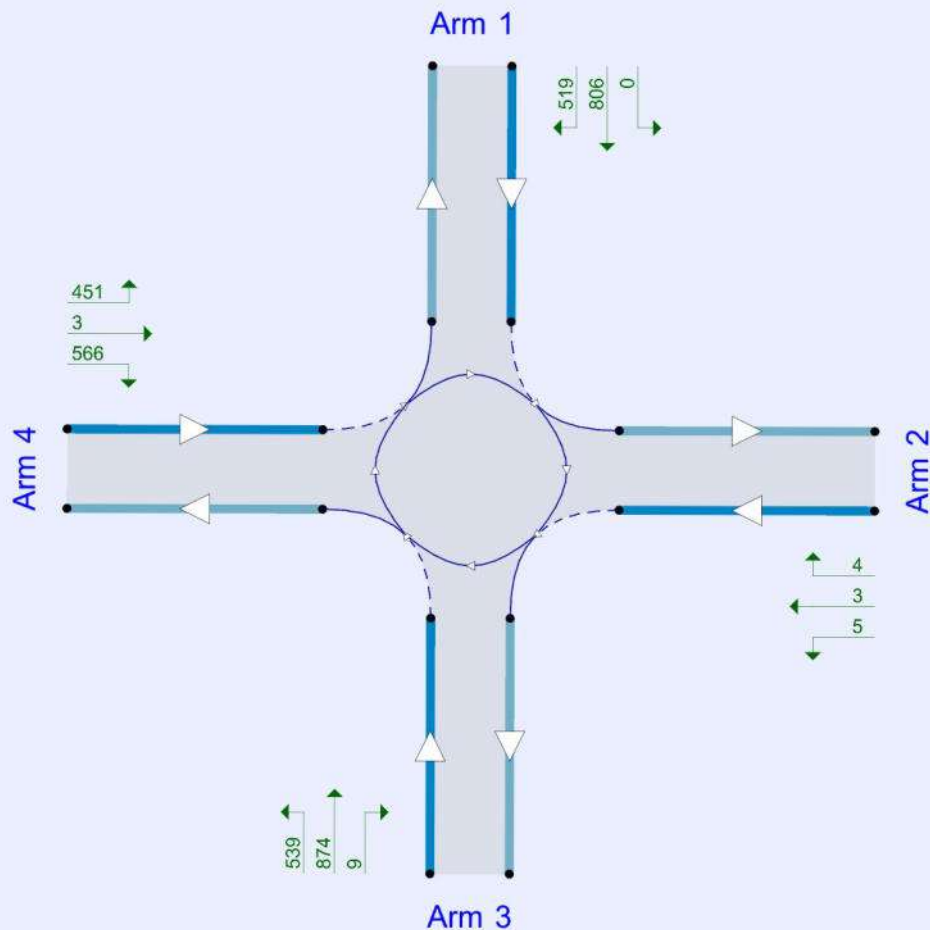
## File summary

### File Description

|                    |                           |
|--------------------|---------------------------|
| <b>Title</b>       | Caversham Road Roundabout |
| <b>Location</b>    | Reading                   |
| <b>Site number</b> |                           |
| <b>Date</b>        | 14/12/2021                |
| <b>Version</b>     |                           |
| <b>Status</b>      | Preliminary               |
| <b>Identifier</b>  |                           |
| <b>Client</b>      |                           |
| <b>Jobnumber</b>   | 600353                    |
| <b>Enumerator</b>  |                           |
| <b>Description</b> |                           |

## Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

## Analysis Options

| Calculate Queue Percentiles | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|-----------------------------|-----------------------------|---------------|-----------------------------|-----------------------|
|                             |                             | 0.85          | 36.00                       | 20.00                 |

## Demand Set Summary

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline                      | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D2 | 2021 Baseline                      | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |
| D3 | 2028 Future Baseline               | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D4 | 2028 Future Baseline               | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

## Analysis Set Details

| ID | Name            | Network flow scaling factor (%) |
|----|-----------------|---------------------------------|
| A1 | Existing Layout | 100.000                         |

# Existing Layout - 2021 Baseline, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 6.65               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 6.65              | A           |

## Arms

### Arms

| Arm | Name             | Description | No give-way line |
|-----|------------------|-------------|------------------|
| 1   | Caversham Bridge |             |                  |
| 2   | Waterman Place   |             |                  |
| 3   | Caversham Road   |             |                  |
| 4   | Richfield Avenue |             |                  |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Entry only | Exit only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|------------|-----------|
| 1   | 4.66                             | 8.97                | 14.9                            | 64.0                 | 38.0                              | 14.1                               |            |           |
| 2   | 2.70                             | 5.05                | 2.0                             | 7.0                  | 38.7                              | 37.0                               |            |           |
| 3   | 5.95                             | 8.34                | 30.0                            | 9.4                  | 39.0                              | 33.1                               |            |           |
| 4   | 4.96                             | 9.97                | 24.0                            | 35.0                 | 39.0                              | 17.6                               |            |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|-----|-------------|--------------------------|
| 1   | 0.789       | 2276                     |
| 2   | 0.441       | 856                      |
| 3   | 0.729       | 2222                     |
| 4   | 0.837       | 2567                     |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1229                    | 100.000            |
| 2   |            | ✓            | 11                      | 100.000            |
| 3   |            | ✓            | 1015                    | 100.000            |
| 4   |            | ✓            | 871                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |     |
|------|----|-----|----|-----|-----|
|      | 1  | 2   | 3  | 4   |     |
| From | 1  | 3   | 12 | 799 | 415 |
|      | 2  | 0   | 0  | 5   | 6   |
|      | 3  | 605 | 11 | 12  | 387 |
|      | 4  | 384 | 2  | 464 | 21  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      | 1  | 2 | 3 | 4 |   |
| From | 1  | 0 | 4 | 4 | 4 |
|      | 2  | 0 | 0 | 0 | 0 |
|      | 3  | 6 | 3 | 0 | 7 |
|      | 4  | 4 | 0 | 8 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.74    | 7.79          | 2.9             | A       |
| 2   | 0.49    | 252.30        | 0.7             | F       |
| 3   | 0.60    | 5.12          | 1.6             | A       |
| 4   | 0.48    | 3.72          | 1.0             | A       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 925                   | 383                       | 1974              | 0.469 | 922                 | 0.9             | 3.547     | A                             |
| 2   | 8                     | 1286                      | 290               | 0.029 | 8                   | 0.0             | 12.777    | B                             |
| 3   | 764                   | 334                       | 1979              | 0.386 | 761                 | 0.7             | 3.136     | A                             |
| 4   | 656                   | 473                       | 2171              | 0.302 | 654                 | 0.5             | 2.511     | A                             |

**09:00 - 09:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1105                  | 458                       | 1914              | 0.577 | 1103                | 1.4             | 4.602     | A                             |
| 2   | 10                    | 1539                      | 178               | 0.055 | 10                  | 0.1             | 21.332    | C                             |
| 3   | 912                   | 399                       | 1931              | 0.473 | 911                 | 0.9             | 3.749     | A                             |
| 4   | 783                   | 567                       | 2093              | 0.374 | 782                 | 0.6             | 2.910     | A                             |

**09:15 - 09:30**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1353                  | 561                       | 1833              | 0.738 | 1347                | 2.8             | 7.614     | A                             |
| 2   | 12                    | 1881                      | 28                | 0.438 | 10                  | 0.6             | 190.984   | F                             |
| 3   | 1118                  | 487                       | 1867              | 0.599 | 1115                | 1.6             | 5.071     | A                             |
| 4   | 959                   | 693                       | 1987              | 0.483 | 958                 | 1.0             | 3.702     | A                             |

**09:30 - 09:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1353                  | 562                       | 1833              | 0.738 | 1353                | 2.9             | 7.795     | A                             |
| 2   | 12                    | 1887                      | 25                | 0.487 | 11                  | 0.7             | 252.302   | F                             |
| 3   | 1118                  | 490                       | 1865              | 0.599 | 1117                | 1.6             | 5.116     | A                             |
| 4   | 959                   | 695                       | 1985              | 0.483 | 959                 | 1.0             | 3.716     | A                             |

**09:45 - 10:00**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1105                  | 459                       | 1913              | 0.577 | 1111                | 1.4             | 4.698     | A                             |
| 2   | 10                    | 1547                      | 175               | 0.057 | 13                  | 0.1             | 22.556    | C                             |
| 3   | 912                   | 403                       | 1928              | 0.473 | 915                 | 1.0             | 3.788     | A                             |
| 4   | 783                   | 569                       | 2091              | 0.374 | 784                 | 0.6             | 2.925     | A                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 925                   | 384                       | 1972              | 0.469 | 927                 | 0.9             | 3.587     | A                             |
| 2   | 8                     | 1293                      | 287               | 0.029 | 8                   | 0.0             | 12.942    | B                             |
| 3   | 764                   | 336                       | 1977              | 0.386 | 765                 | 0.7             | 3.161     | A                             |
| 4   | 656                   | 476                       | 2169              | 0.302 | 656                 | 0.5             | 2.525     | A                             |

# Existing Layout - 2021 Baseline, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 7.67               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 7.67              | A           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D2 | 2021 Baseline | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1211                    | 100.000            |
| 2   |            | ✓            | 12                      | 100.000            |
| 3   |            | ✓            | 1274                    | 100.000            |
| 4   |            | ✓            | 877                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |   |     |     |
|------|----|-----|---|-----|-----|
|      | 1  | 2   | 3 | 4   |     |
| From | 1  | 2   | 0 | 752 | 457 |
|      | 2  | 4   | 0 | 5   | 3   |
|      | 3  | 815 | 8 | 12  | 439 |
|      | 4  | 394 | 3 | 464 | 16  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      | 1  | 2 | 3 | 4 |   |
| From | 1  | 0 | 4 | 3 | 1 |
|      | 2  | 0 | 0 | 0 | 0 |
|      | 3  | 1 | 0 | 0 | 4 |
|      | 4  | 1 | 0 | 3 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.73    | 7.27          | 2.7             | A       |
| 2   | 0.44    | 197.96        | 0.6             | F       |
| 3   | 0.76    | 8.47          | 3.2             | A       |
| 4   | 0.54    | 4.44          | 1.2             | A       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 912                   | 378                       | 1978              | 0.461 | 908                 | 0.9             | 3.429     | A                             |
| 2   | 9                     | 1278                      | 293               | 0.031 | 9                   | 0.0             | 12.648    | B                             |
| 3   | 959                   | 361                       | 1958              | 0.490 | 955                 | 1.0             | 3.647     | A                             |
| 4   | 660                   | 631                       | 2039              | 0.324 | 658                 | 0.5             | 2.656     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1089                  | 452                       | 1919              | 0.567 | 1087                | 1.3             | 4.410     | A                             |
| 2   | 11                    | 1529                      | 183               | 0.059 | 11                  | 0.1             | 20.903    | C                             |
| 3   | 1145                  | 433                       | 1907              | 0.601 | 1143                | 1.5             | 4.796     | A                             |
| 4   | 788                   | 755                       | 1935              | 0.407 | 788                 | 0.7             | 3.199     | A                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1333                  | 553                       | 1840              | 0.725 | 1328                | 2.6             | 7.122     | A                             |
| 2   | 13                    | 1869                      | 33                | 0.401 | 11                  | 0.5             | 158.095   | F                             |
| 3   | 1403                  | 528                       | 1837              | 0.763 | 1396                | 3.2             | 8.199     | A                             |
| 4   | 966                   | 921                       | 1796              | 0.538 | 964                 | 1.2             | 4.404     | A                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1333                  | 554                       | 1839              | 0.725 | 1333                | 2.7             | 7.271     | A                             |
| 2   | 13                    | 1875                      | 30                | 0.437 | 13                  | 0.6             | 197.963   | F                             |
| 3   | 1403                  | 530                       | 1835              | 0.764 | 1402                | 3.2             | 8.467     | A                             |
| 4   | 966                   | 926                       | 1792              | 0.539 | 966                 | 1.2             | 4.443     | A                             |

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1089                  | 453                       | 1918              | 0.568 | 1094                | 1.4             | 4.492     | A                             |
| 2   | 11                    | 1537                      | 179               | 0.060 | 13                  | 0.1             | 21.972    | C                             |
| 3   | 1145                  | 437                       | 1904              | 0.602 | 1152                | 1.6             | 4.927     | A                             |
| 4   | 788                   | 761                       | 1930              | 0.409 | 790                 | 0.7             | 3.230     | A                             |

**16:30 - 16:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 912                   | 379                       | 1977              | 0.461 | 914                 | 0.9             | 3.470     | A                             |
| 2   | 9                     | 1285                      | 290               | 0.031 | 9                   | 0.0             | 12.811    | B                             |
| 3   | 959                   | 364                       | 1957              | 0.490 | 961                 | 1.0             | 3.696     | A                             |
| 4   | 660                   | 635                       | 2036              | 0.324 | 661                 | 0.5             | 2.675     | A                             |

# Existing Layout - 2028 Future Baseline, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 11.91              | B            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 11.91             | B           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D3 | 2028 Future Baseline | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1318                    | 100.000            |
| 2   |            | ✓            | 11                      | 100.000            |
| 3   |            | ✓            | 1089                    | 100.000            |
| 4   |            | ✓            | 935                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |     |
|------|----|-----|----|-----|-----|
|      |    | 1   | 2  | 3   | 4   |
| From | 1  | 3   | 13 | 857 | 445 |
|      | 2  | 0   | 0  | 5   | 6   |
|      | 3  | 649 | 12 | 13  | 415 |
|      | 4  | 412 | 2  | 498 | 23  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      |    | 1 | 2 | 3 | 4 |
| From | 1  | 0 | 4 | 4 | 0 |
|      | 2  | 0 | 0 | 0 | 0 |
|      | 3  | 6 | 3 | 0 | 7 |
|      | 4  | 4 | 0 | 8 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC      | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|--------------|---------------|-----------------|---------|
| 1   | 0.81         | 10.55         | 4.1             | B       |
| 2   | 999999999.00 | 1425.76       | 6.1             | F       |
| 3   | 0.65         | 5.93          | 2.0             | A       |
| 4   | 0.53         | 4.18          | 1.2             | A       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 992                   | 411                       | 1951              | 0.509 | 988                 | 1.1             | 3.818     | A                             |
| 2   | 8                     | 1379                      | 249               | 0.033 | 8                   | 0.0             | 14.961    | B                             |
| 3   | 820                   | 358                       | 1961              | 0.418 | 817                 | 0.8             | 3.335     | A                             |
| 4   | 704                   | 508                       | 2142              | 0.329 | 702                 | 0.5             | 2.646     | A                             |

#### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1185                  | 492                       | 1887              | 0.628 | 1182                | 1.7             | 5.217     | A                             |
| 2   | 10                    | 1650                      | 129               | 0.077 | 10                  | 0.1             | 30.073    | D                             |
| 3   | 979                   | 428                       | 1910              | 0.513 | 978                 | 1.1             | 4.097     | A                             |
| 4   | 841                   | 608                       | 2058              | 0.408 | 840                 | 0.7             | 3.129     | A                             |

#### 09:15 - 09:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1451                  | 602                       | 1801              | 0.806         | 1442                | 4.0             | 10.044    | B                             |
| 2   | 12                    | 2015                      | 0                 | 999999999.000 | 0                   | 3.1             | 1425.764  | F                             |
| 3   | 1199                  | 515                       | 1846              | 0.649         | 1196                | 1.9             | 5.848     | A                             |
| 4   | 1029                  | 743                       | 1945              | 0.529         | 1028                | 1.2             | 4.151     | A                             |

#### 09:30 - 09:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s)  | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|------------|-------------------------------|
| 1   | 1451                  | 603                       | 1800              | 0.806         | 1451                | 4.1             | 10.546     | B                             |
| 2   | 12                    | 2024                      | 0                 | 999999999.000 | 0                   | 6.1             | -35678.450 | ?                             |
| 3   | 1199                  | 518                       | 1844              | 0.650         | 1199                | 2.0             | 5.927      | A                             |
| 4   | 1029                  | 745                       | 1943              | 0.530         | 1029                | 1.2             | 4.175      | A                             |

#### 09:45 - 10:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1185                  | 494                       | 1886              | 0.628 | 1194                | 1.8             | 5.410     | A                             |
| 2   | 10                    | 1664                      | 123               | 0.080 | 34                  | 0.1             | 51.207    | F                             |
| 3   | 979                   | 445                       | 1897              | 0.516 | 982                 | 1.1             | 4.196     | A                             |
| 4   | 841                   | 611                       | 2056              | 0.409 | 842                 | 0.7             | 3.147     | A                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 992                   | 413                       | 1950              | 0.509 | 995                 | 1.1             | 3.880     | A                             |
| 2   | 8                     | 1388                      | 245               | 0.034 | 9                   | 0.0             | 15.246    | C                             |
| 3   | 820                   | 360                       | 1959              | 0.418 | 821                 | 0.8             | 3.367     | A                             |
| 4   | 704                   | 511                       | 2140              | 0.329 | 705                 | 0.5             | 2.660     | A                             |

# Existing Layout - 2028 Future Baseline, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 14.03              | B            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 14.03             | B           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D4 | 2028 Future Baseline | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1298                    | 100.000            |
| 2   |            | ✓            | 12                      | 100.000            |
| 3   |            | ✓            | 1367                    | 100.000            |
| 4   |            | ✓            | 939                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |   |     |     |
|------|----|-----|---|-----|-----|
|      | 1  | 2   | 3 | 4   |     |
| From | 1  | 2   | 0 | 806 | 490 |
|      | 2  | 4   | 0 | 5   | 3   |
|      | 3  | 874 | 9 | 13  | 471 |
|      | 4  | 422 | 3 | 497 | 17  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      | 1  | 2 | 3 | 4 |   |
| From | 1  | 0 | 4 | 3 | 1 |
|      | 2  | 0 | 0 | 0 | 0 |
|      | 3  | 1 | 0 | 0 | 4 |
|      | 4  | 1 | 0 | 3 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC      | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|--------------|---------------|-----------------|---------|
| 1   | 0.79         | 9.69          | 3.8             | A       |
| 2   | 999999999.00 | 1426.30       | 6.7             | F       |
| 3   | 0.83         | 11.81         | 4.8             | B       |
| 4   | 0.59         | 5.20          | 1.5             | A       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 977                   | 404                       | 1957              | 0.499 | 973                 | 1.0             | 3.727     | A                             |
| 2   | 9                     | 1369                      | 253               | 0.036 | 9                   | 0.0             | 14.726    | B                             |
| 3   | 1029                  | 387                       | 1940              | 0.531 | 1025                | 1.1             | 3.991     | A                             |
| 4   | 707                   | 676                       | 2001              | 0.353 | 705                 | 0.6             | 2.828     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1167                  | 484                       | 1894              | 0.616 | 1164                | 1.6             | 5.027     | A                             |
| 2   | 11                    | 1638                      | 135               | 0.080 | 11                  | 0.1             | 28.950    | D                             |
| 3   | 1229                  | 463                       | 1885              | 0.652 | 1226                | 1.9             | 5.549     | A                             |
| 4   | 844                   | 809                       | 1890              | 0.447 | 843                 | 0.8             | 3.506     | A                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1429                  | 592                       | 1809              | 0.790         | 1421                | 3.7             | 9.296     | A                             |
| 2   | 13                    | 2000                      | 0                 | 999999999.000 | 0                   | 3.4             | 1426.305  | F                             |
| 3   | 1505                  | 557                       | 1816              | 0.829         | 1494                | 4.6             | 11.056    | B                             |
| 4   | 1034                  | 982                       | 1745              | 0.592         | 1031                | 1.5             | 5.126     | A                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s)  | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|------------|-------------------------------|
| 1   | 1429                  | 593                       | 1808              | 0.791         | 1429                | 3.8             | 9.690      | A                             |
| 2   | 13                    | 2009                      | 0                 | 999999999.000 | 0                   | 6.7             | -33523.838 | ?                             |
| 3   | 1505                  | 560                       | 1814              | 0.830         | 1504                | 4.8             | 11.806     | B                             |
| 4   | 1034                  | 988                       | 1740              | 0.594         | 1034                | 1.5             | 5.203      | A                             |

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1167                  | 486                       | 1892              | 0.617 | 1175                | 1.7             | 5.193     | A                             |
| 2   | 11                    | 1651                      | 129               | 0.084 | 37                  | 0.1             | 50.526    | F                             |
| 3   | 1229                  | 482                       | 1870              | 0.657 | 1240                | 2.0             | 5.928     | A                             |
| 4   | 844                   | 827                       | 1875              | 0.450 | 847                 | 0.8             | 3.581     | A                             |

**16:30 - 16:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 977                   | 406                       | 1955              | 0.500 | 980                 | 1.0             | 3.785     | A                             |
| 2   | 9                     | 1377                      | 250               | 0.036 | 9                   | 0.0             | 14.996    | B                             |
| 3   | 1029                  | 390                       | 1938              | 0.531 | 1032                | 1.2             | 4.069     | A                             |
| 4   | 707                   | 681                       | 1997              | 0.354 | 708                 | 0.6             | 2.852     | A                             |

# Existing Layout - 2028 Future Baseline + Development, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 13.66              | B            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 13.66             | B           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1347                    | 100.000            |
| 2   |            | ✓            | 11                      | 100.000            |
| 3   |            | ✓            | 1158                    | 100.000            |
| 4   |            | ✓            | 1033                    | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |     |
|------|----|-----|----|-----|-----|
|      | 1  | 2   | 3  | 4   |     |
| From | 1  | 3   | 13 | 857 | 474 |
|      | 2  | 0   | 0  | 5   | 6   |
|      | 3  | 649 | 12 | 13  | 484 |
|      | 4  | 441 | 2  | 567 | 23  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      | 1  | 2 | 3 | 4 |
| From | 1  | 0 | 4 | 4 |
|      | 2  | 0 | 0 | 0 |
|      | 3  | 6 | 3 | 0 |
|      | 4  | 4 | 0 | 8 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC      | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|--------------|---------------|-----------------|---------|
| 1   | 0.85         | 14.38         | 5.7             | B       |
| 2   | 999999999.00 | 1465.39       | 6.2             | F       |
| 3   | 0.70         | 7.00          | 2.4             | A       |
| 4   | 0.59         | 4.74          | 1.5             | A       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1014                  | 463                       | 1910              | 0.531 | 1009                | 1.2             | 4.134     | A                             |
| 2   | 8                     | 1452                      | 216               | 0.038 | 8                   | 0.0             | 17.269    | C                             |
| 3   | 872                   | 379                       | 1946              | 0.448 | 868                 | 0.9             | 3.541     | A                             |
| 4   | 778                   | 508                       | 2142              | 0.363 | 775                 | 0.6             | 2.789     | A                             |

#### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1211                  | 554                       | 1839              | 0.659 | 1208                | 2.0             | 5.902     | A                             |
| 2   | 10                    | 1738                      | 91                | 0.109 | 10                  | 0.1             | 44.200    | E                             |
| 3   | 1041                  | 454                       | 1891              | 0.550 | 1039                | 1.3             | 4.482     | A                             |
| 4   | 929                   | 608                       | 2058              | 0.451 | 928                 | 0.9             | 3.373     | A                             |

#### 09:15 - 09:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1483                  | 678                       | 1741              | 0.852         | 1469                | 5.4             | 13.150    | B                             |
| 2   | 12                    | 2117                      | 0                 | 999999999.000 | 0                   | 3.1             | 1465.393  | F                             |
| 3   | 1275                  | 546                       | 1824              | 0.699         | 1271                | 2.4             | 6.854     | A                             |
| 4   | 1137                  | 743                       | 1945              | 0.585         | 1135                | 1.5             | 4.698     | A                             |

#### 09:30 - 09:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s)  | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|------------|-------------------------------|
| 1   | 1483                  | 679                       | 1740              | 0.852         | 1482                | 5.7             | 14.377     | B                             |
| 2   | 12                    | 2132                      | 0                 | 999999999.000 | 0                   | 6.2             | -21137.250 | ?                             |
| 3   | 1275                  | 550                       | 1821              | 0.700         | 1275                | 2.4             | 7.003      | A                             |
| 4   | 1137                  | 745                       | 1943              | 0.585         | 1137                | 1.5             | 4.738      | A                             |

**09:45 - 10:00**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1211                  | 556                       | 1837              | 0.659 | 1226                | 2.1             | 6.265     | A                             |
| 2   | 10                    | 1757                      | 82                | 0.121 | 34                  | 0.1             | 105.700   | F                             |
| 3   | 1041                  | 473                       | 1877              | 0.555 | 1045                | 1.3             | 4.626     | A                             |
| 4   | 929                   | 611                       | 2055              | 0.452 | 931                 | 0.9             | 3.402     | A                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1014                  | 465                       | 1909              | 0.531 | 1018                | 1.2             | 4.218     | A                             |
| 2   | 8                     | 1462                      | 212               | 0.039 | 9                   | 0.0             | 17.746    | C                             |
| 3   | 872                   | 382                       | 1943              | 0.449 | 874                 | 0.9             | 3.583     | A                             |
| 4   | 778                   | 511                       | 2139              | 0.364 | 779                 | 0.6             | 2.809     | A                             |

# Existing Layout - 2028 Future Baseline + Development, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 17.09              | C            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 17.09             | C           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1327                    | 100.000            |
| 2   |            | ✓            | 12                      | 100.000            |
| 3   |            | ✓            | 1435                    | 100.000            |
| 4   |            | ✓            | 1037                    | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |   |     |     |
|------|----|-----|---|-----|-----|
|      | 1  | 2   | 3 | 4   |     |
| From | 1  | 2   | 0 | 806 | 519 |
|      | 2  | 4   | 0 | 5   | 3   |
|      | 3  | 874 | 9 | 13  | 539 |
|      | 4  | 451 | 3 | 566 | 17  |

## Vehicle Mix

### Heavy Vehicle Percentages

| From | To |   |   |   |   |
|------|----|---|---|---|---|
|      |    | 1 | 2 | 3 | 4 |
|      | 1  | 0 | 4 | 3 | 1 |
|      | 2  | 0 | 0 | 0 | 0 |
|      | 3  | 1 | 0 | 0 | 4 |
|      | 4  | 1 | 0 | 3 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC      | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|--------------|---------------|-----------------|---------|
| 1   | 0.84         | 12.71         | 5.0             | B       |
| 2   | 999999999.00 | 1463.13       | 6.7             | F       |
| 3   | 0.88         | 16.95         | 7.1             | C       |
| 4   | 0.66         | 6.13          | 1.9             | A       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 999                   | 456                       | 1916              | 0.521 | 995                 | 1.1             | 3.975     | A                             |
| 2   | 9                     | 1442                      | 221               | 0.041 | 9                   | 0.0             | 16.968    | C                             |
| 3   | 1080                  | 408                       | 1924              | 0.561 | 1075                | 1.3             | 4.303     | A                             |
| 4   | 781                   | 676                       | 2001              | 0.390 | 778                 | 0.6             | 2.997     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1193                  | 546                       | 1845              | 0.647 | 1190                | 1.8             | 5.590     | A                             |
| 2   | 11                    | 1725                      | 96                | 0.112 | 10                  | 0.1             | 41.826    | E                             |
| 3   | 1290                  | 489                       | 1866              | 0.691 | 1286                | 2.2             | 6.300     | A                             |
| 4   | 932                   | 808                       | 1890              | 0.493 | 931                 | 1.0             | 3.825     | A                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1461                  | 667                       | 1749              | 0.835         | 1449                | 4.8             | 11.815    | B                             |
| 2   | 13                    | 2103                      | 0                 | 999999999.000 | 0                   | 3.4             | 1463.127  | F                             |
| 3   | 1580                  | 588                       | 1794              | 0.881         | 1562                | 6.6             | 14.884    | B                             |
| 4   | 1142                  | 978                       | 1748              | 0.653         | 1138                | 1.9             | 5.984     | A                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s)  | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|------------|-------------------------------|
| 1   | 1461                  | 669                       | 1748              | 0.836         | 1460                | 5.0             | 12.713     | B                             |
| 2   | 13                    | 2116                      | 0                 | 999999999.000 | 0                   | 6.7             | -20596.842 | ?                             |
| 3   | 1580                  | 592                       | 1790              | 0.882         | 1578                | 7.1             | 16.954     | C                             |
| 4   | 1142                  | 988                       | 1740              | 0.656         | 1142                | 1.9             | 6.134      | A                             |

**16:15 - 16:30**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1193                  | 549                       | 1843              | 0.647 | 1205                | 1.9             | 5.882     | A                             |
| 2   | 11                    | 1743                      | 88                | 0.122 | 37                  | 0.2             | 101.446   | F                             |
| 3   | 1290                  | 510                       | 1850              | 0.697 | 1309                | 2.4             | 7.013     | A                             |
| 4   | 932                   | 831                       | 1871              | 0.498 | 936                 | 1.0             | 3.943     | A                             |

**16:30 - 16:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 999                   | 459                       | 1914              | 0.522 | 1002                | 1.1             | 4.049     | A                             |
| 2   | 9                     | 1452                      | 217               | 0.042 | 9                   | 0.0             | 17.409    | C                             |
| 3   | 1080                  | 412                       | 1922              | 0.562 | 1085                | 1.3             | 4.414     | A                             |
| 4   | 781                   | 682                       | 1996              | 0.391 | 782                 | 0.7             | 3.029     | A                             |

| Junctions 10                                                                                                                                                     |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| ARCADY 10 - Roundabout Module                                                                                                                                    |  |  |  |  |  |  |  |  |  |
| Version: 10.0.1.1519<br>© Copyright TRL Software Limited, 2021                                                                                                   |  |  |  |  |  |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL Software:<br>+44 (0)1344 379777 software@trl.co.uk trlsoftware.com           |  |  |  |  |  |  |  |  |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution |  |  |  |  |  |  |  |  |  |

**Filename:** Caversham Road Roundabout Pre-Post Peak ARCADY.j10

**Path:** S:\Shared Folders\Projects\600353 - River Academy Reading\5 - TP\4 - Working\ARCADY\Caversham Road Roundabout

**Report generation date:** 14/12/2021 21:34:56

- »Existing Layout - 2021 Baseline, AM
- »Existing Layout - 2021 Baseline, PM
- »Existing Layout - 2028 Future Baseline, AM
- »Existing Layout - 2028 Future Baseline, PM
- »Existing Layout - 2028 Future Baseline + Development, AM
- »Existing Layout - 2028 Future Baseline + Development, PM

#### Summary of junction performance

|       | AM                                                   |             |           |              |     | PM     |             |           |              |     |
|-------|------------------------------------------------------|-------------|-----------|--------------|-----|--------|-------------|-----------|--------------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC          | LOS | Set ID | Queue (PCU) | Delay (s) | RFC          | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |              |     |        |             |           |              |     |
| Arm 1 | D1                                                   | 3.3         | 8.49      | 0.77         | A   | D2     | 2.4         | 6.79      | 0.71         | A   |
| Arm 2 |                                                      | 0.5         | 287.34    | 0.40         | F   |        | 0.4         | 115.73    | 0.30         | F   |
| Arm 3 |                                                      | 2.2         | 6.20      | 0.68         | A   |        | 3.0         | 7.98      | 0.75         | A   |
| Arm 4 |                                                      | 1.1         | 4.21      | 0.52         | A   |        | 1.2         | 4.69      | 0.55         | A   |
|       | Existing Layout - 2028 Future Baseline               |             |           |              |     |        |             |           |              |     |
| Arm 1 | D3                                                   | 5.0         | 11.93     | 0.83         | B   | D4     | 3.3         | 8.78      | 0.77         | A   |
| Arm 2 |                                                      | 3.9         | 1411.79   | 999999999.00 | F   |        | 6.7         | 1419.45   | 999999999.00 | F   |
| Arm 3 |                                                      | 2.9         | 7.63      | 0.73         | A   |        | 4.5         | 11.03     | 0.82         | B   |
| Arm 4 |                                                      | 1.4         | 4.85      | 0.57         | A   |        | 1.6         | 5.56      | 0.61         | A   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |              |     |        |             |           |              |     |
| Arm 1 | D5                                                   | 5.8         | 13.84     | 0.86         | B   | D6     | 3.7         | 9.83      | 0.79         | A   |
| Arm 2 |                                                      | 3.9         | 1422.89   | 999999999.00 | F   |        | 6.7         | 1431.64   | 999999999.00 | F   |
| Arm 3 |                                                      | 3.4         | 8.75      | 0.77         | A   |        | 4.9         | 11.92     | 0.83         | B   |
| Arm 4 |                                                      | 1.5         | 5.03      | 0.58         | A   |        | 1.9         | 6.24      | 0.65         | A   |

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

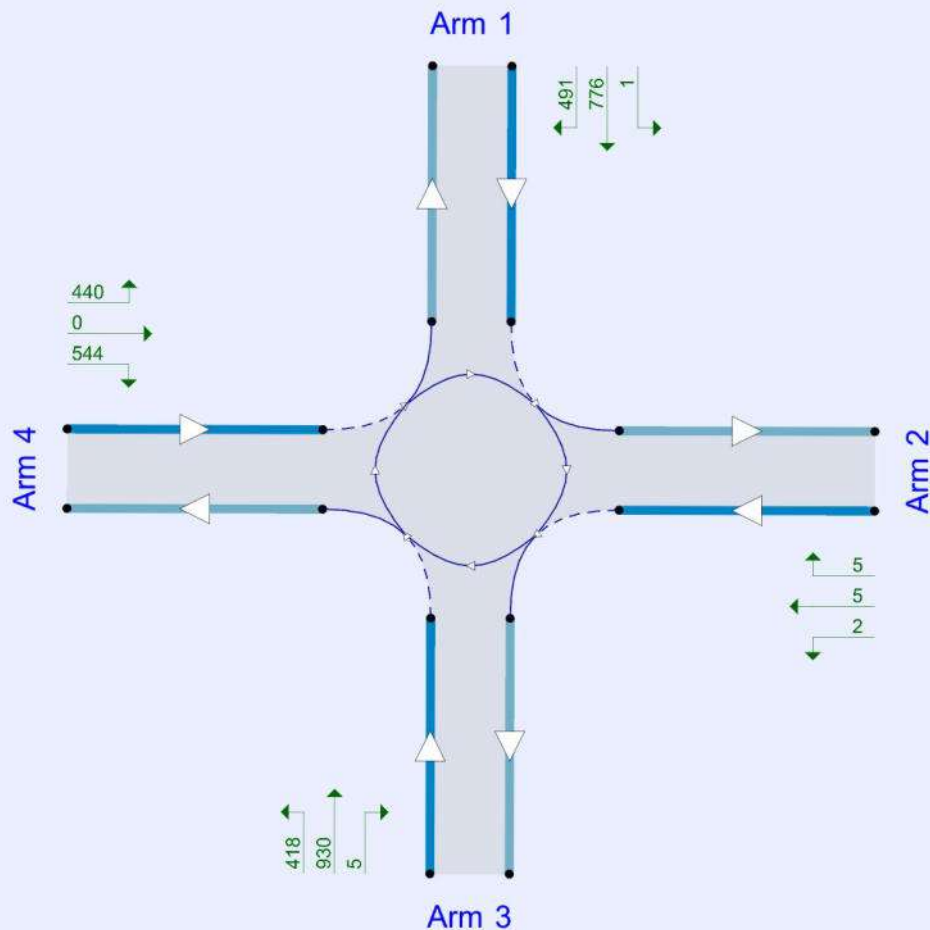
## File summary

### File Description

|                    |                           |
|--------------------|---------------------------|
| <b>Title</b>       | Caversham Road Roundabout |
| <b>Location</b>    | Reading                   |
| <b>Site number</b> |                           |
| <b>Date</b>        | 14/12/2021                |
| <b>Version</b>     |                           |
| <b>Status</b>      | Preliminary               |
| <b>Identifier</b>  |                           |
| <b>Client</b>      |                           |
| <b>Jobnumber</b>   | 600353                    |
| <b>Enumerator</b>  |                           |
| <b>Description</b> |                           |

### Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

## Analysis Options

| Calculate Queue Percentiles | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|-----------------------------|-----------------------------|---------------|-----------------------------|-----------------------|
|                             |                             | 0.85          | 36.00                       | 20.00                 |

## Demand Set Summary

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline                      | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D2 | 2021 Baseline                      | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |
| D3 | 2028 Future Baseline               | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D4 | 2028 Future Baseline               | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

## Analysis Set Details

| ID | Name            | Network flow scaling factor (%) |
|----|-----------------|---------------------------------|
| A1 | Existing Layout | 100.000                         |

# Existing Layout - 2021 Baseline, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 7.16               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 7.16              | A           |

## Arms

### Arms

| Arm | Name             | Description | No give-way line |
|-----|------------------|-------------|------------------|
| 1   | Caversham Bridge |             |                  |
| 2   | Waterman Place   |             |                  |
| 3   | Caversham Road   |             |                  |
| 4   | Richfield Avenue |             |                  |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Entry only | Exit only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|------------|-----------|
| 1   | 4.66                             | 8.97                | 14.9                            | 64.0                 | 38.0                              | 14.1                               |            |           |
| 2   | 2.70                             | 5.05                | 2.0                             | 7.0                  | 38.7                              | 37.0                               |            |           |
| 3   | 5.95                             | 8.34                | 30.0                            | 9.4                  | 39.0                              | 33.1                               |            |           |
| 4   | 4.96                             | 9.97                | 24.0                            | 35.0                 | 39.0                              | 17.6                               |            |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|-----|-------------|--------------------------|
| 1   | 0.789       | 2276                     |
| 2   | 0.441       | 856                      |
| 3   | 0.729       | 2222                     |
| 4   | 0.837       | 2567                     |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1313                    | 100.000            |
| 2   |            | ✓            | 7                       | 100.000            |
| 3   |            | ✓            | 1175                    | 100.000            |
| 4   |            | ✓            | 875                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |     |
|------|----|-----|----|-----|-----|
|      | 1  | 2   | 3  | 4   |     |
| From | 1  | 2   | 12 | 924 | 375 |
|      | 2  | 1   | 0  | 5   | 1   |
|      | 3  | 722 | 20 | 13  | 420 |
|      | 4  | 459 | 4  | 402 | 10  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      | 1  | 2 | 3 | 4 |   |
| From | 1  | 0 | 4 | 4 | 4 |
|      | 2  | 0 | 0 | 0 | 0 |
|      | 3  | 6 | 3 | 0 | 7 |
|      | 4  | 4 | 0 | 8 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.77    | 8.49          | 3.3             | A       |
| 2   | 0.40    | 287.34        | 0.5             | F       |
| 3   | 0.68    | 6.20          | 2.2             | A       |
| 4   | 0.52    | 4.21          | 1.1             | A       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 988                   | 337                       | 2010              | 0.492 | 985                 | 1.0             | 3.638     | A                             |
| 2   | 5                     | 1295                      | 286               | 0.018 | 5                   | 0.0             | 12.821    | B                             |
| 3   | 885                   | 292                       | 2009              | 0.440 | 881                 | 0.8             | 3.380     | A                             |
| 4   | 659                   | 569                       | 2091              | 0.315 | 657                 | 0.5             | 2.650     | A                             |

**09:00 - 09:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1180                  | 403                       | 1958              | 0.603 | 1178                | 1.6             | 4.789     | A                             |
| 2   | 6                     | 1549                      | 174               | 0.036 | 6                   | 0.0             | 21.475    | C                             |
| 3   | 1056                  | 349                       | 1967              | 0.537 | 1055                | 1.2             | 4.183     | A                             |
| 4   | 787                   | 680                       | 1997              | 0.394 | 786                 | 0.7             | 3.140     | A                             |

**09:15 - 09:30**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1446                  | 493                       | 1886              | 0.766 | 1439                | 3.3             | 8.237     | A                             |
| 2   | 8                     | 1893                      | 22                | 0.344 | 6                   | 0.4             | 212.504   | F                             |
| 3   | 1294                  | 426                       | 1911              | 0.677 | 1290                | 2.2             | 6.114     | A                             |
| 4   | 963                   | 832                       | 1871              | 0.515 | 962                 | 1.1             | 4.180     | A                             |

**09:30 - 09:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1446                  | 494                       | 1886              | 0.767 | 1445                | 3.3             | 8.488     | A                             |
| 2   | 8                     | 1900                      | 19                | 0.403 | 7                   | 0.5             | 287.341   | F                             |
| 3   | 1294                  | 428                       | 1910              | 0.677 | 1294                | 2.2             | 6.203     | A                             |
| 4   | 963                   | 834                       | 1868              | 0.516 | 963                 | 1.1             | 4.205     | A                             |

**09:45 - 10:00**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1180                  | 405                       | 1957              | 0.603 | 1187                | 1.6             | 4.909     | A                             |
| 2   | 6                     | 1559                      | 169               | 0.037 | 8                   | 0.0             | 22.593    | C                             |
| 3   | 1056                  | 352                       | 1965              | 0.538 | 1060                | 1.2             | 4.243     | A                             |
| 4   | 787                   | 684                       | 1994              | 0.394 | 788                 | 0.7             | 3.162     | A                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 988                   | 338                       | 2009              | 0.492 | 991                 | 1.0             | 3.688     | A                             |
| 2   | 5                     | 1302                      | 283               | 0.019 | 5                   | 0.0             | 12.991    | B                             |
| 3   | 885                   | 294                       | 2008              | 0.441 | 886                 | 0.8             | 3.413     | A                             |
| 4   | 659                   | 572                       | 2088              | 0.315 | 660                 | 0.5             | 2.667     | A                             |

# Existing Layout - 2021 Baseline, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 7.08               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 7.08              | A           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D2 | 2021 Baseline | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1178                    | 100.000            |
| 2   |            | ✓            | 12                      | 100.000            |
| 3   |            | ✓            | 1256                    | 100.000            |
| 4   |            | ✓            | 868                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |   |     |     |
|------|----|-----|---|-----|-----|
|      | 1  | 2   | 3 | 4   |     |
| From | 1  | 2   | 1 | 724 | 451 |
|      | 2  | 5   | 0 | 2   | 5   |
|      | 3  | 868 | 5 | 19  | 364 |
|      | 4  | 389 | 0 | 468 | 11  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      | 1  | 2 | 3 | 4 |   |
| From | 1  | 0 | 4 | 3 | 1 |
|      | 2  | 0 | 0 | 0 | 0 |
|      | 3  | 1 | 0 | 0 | 4 |
|      | 4  | 1 | 0 | 3 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.71    | 6.79          | 2.4             | A       |
| 2   | 0.30    | 115.73        | 0.4             | F       |
| 3   | 0.75    | 7.98          | 3.0             | A       |
| 4   | 0.55    | 4.69          | 1.2             | A       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 887                   | 378                       | 1978              | 0.448 | 884                 | 0.8             | 3.353     | A                             |
| 2   | 9                     | 1257                      | 303               | 0.030 | 9                   | 0.0             | 12.251    | B                             |
| 3   | 946                   | 355                       | 1963              | 0.482 | 942                 | 0.9             | 3.577     | A                             |
| 4   | 653                   | 674                       | 2003              | 0.326 | 652                 | 0.5             | 2.716     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1059                  | 452                       | 1919              | 0.552 | 1057                | 1.2             | 4.260     | A                             |
| 2   | 11                    | 1504                      | 194               | 0.056 | 11                  | 0.1             | 19.646    | C                             |
| 3   | 1129                  | 425                       | 1912              | 0.591 | 1127                | 1.5             | 4.659     | A                             |
| 4   | 780                   | 807                       | 1892              | 0.413 | 779                 | 0.7             | 3.299     | A                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1297                  | 553                       | 1840              | 0.705 | 1292                | 2.4             | 6.667     | A                             |
| 2   | 13                    | 1838                      | 46                | 0.286 | 12                  | 0.3             | 102.461   | F                             |
| 3   | 1383                  | 519                       | 1844              | 0.750 | 1377                | 3.0             | 7.755     | A                             |
| 4   | 956                   | 985                       | 1742              | 0.549 | 954                 | 1.2             | 4.646     | A                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1297                  | 554                       | 1839              | 0.705 | 1297                | 2.4             | 6.785     | A                             |
| 2   | 13                    | 1844                      | 44                | 0.302 | 13                  | 0.4             | 115.731   | F                             |
| 3   | 1383                  | 522                       | 1842              | 0.751 | 1383                | 3.0             | 7.975     | A                             |
| 4   | 956                   | 990                       | 1738              | 0.550 | 956                 | 1.2             | 4.692     | A                             |

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1059                  | 453                       | 1918              | 0.552 | 1064                | 1.3             | 4.329     | A                             |
| 2   | 11                    | 1512                      | 190               | 0.057 | 12                  | 0.1             | 20.342    | C                             |
| 3   | 1129                  | 429                       | 1909              | 0.591 | 1135                | 1.5             | 4.774     | A                             |
| 4   | 780                   | 813                       | 1886              | 0.414 | 782                 | 0.7             | 3.336     | A                             |

**16:30 - 16:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 887                   | 379                       | 1977              | 0.449 | 889                 | 0.8             | 3.389     | A                             |
| 2   | 9                     | 1263                      | 300               | 0.030 | 9                   | 0.0             | 12.397    | B                             |
| 3   | 946                   | 358                       | 1961              | 0.482 | 948                 | 1.0             | 3.623     | A                             |
| 4   | 653                   | 678                       | 1999              | 0.327 | 654                 | 0.5             | 2.733     | A                             |

# Existing Layout - 2028 Future Baseline, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 11.30              | B            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 11.30             | B           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D3 | 2028 Future Baseline | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1408                    | 100.000            |
| 2   |            | ✓            | 7                       | 100.000            |
| 3   |            | ✓            | 1261                    | 100.000            |
| 4   |            | ✓            | 939                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |     |
|------|----|-----|----|-----|-----|
|      | 1  | 2   | 3  | 4   |     |
| From | 1  | 2   | 13 | 991 | 402 |
|      | 2  | 1   | 0  | 5   | 1   |
|      | 3  | 775 | 21 | 14  | 451 |
|      | 4  | 493 | 4  | 431 | 11  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      | 1  | 2 | 3 | 4 |   |
| From | 1  | 0 | 4 | 4 | 0 |
|      | 2  | 0 | 0 | 0 | 0 |
|      | 3  | 6 | 3 | 0 | 7 |
|      | 4  | 4 | 0 | 8 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC      | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|--------------|---------------|-----------------|---------|
| 1   | 0.83         | 11.93         | 5.0             | B       |
| 2   | 999999999.00 | 1411.79       | 3.9             | F       |
| 3   | 0.73         | 7.63          | 2.9             | A       |
| 4   | 0.57         | 4.85          | 1.4             | A       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1060                  | 361                       | 1991              | 0.532 | 1055                | 1.2             | 3.937     | A                             |
| 2   | 5                     | 1388                      | 245               | 0.022 | 5                   | 0.0             | 15.019    | C                             |
| 3   | 949                   | 313                       | 1994              | 0.476 | 946                 | 1.0             | 3.634     | A                             |
| 4   | 707                   | 610                       | 2057              | 0.344 | 705                 | 0.6             | 2.810     | A                             |

#### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1266                  | 432                       | 1935              | 0.654 | 1263                | 1.9             | 5.482     | A                             |
| 2   | 6                     | 1661                      | 125               | 0.050 | 6                   | 0.1             | 30.355    | D                             |
| 3   | 1134                  | 374                       | 1949              | 0.582 | 1132                | 1.5             | 4.666     | A                             |
| 4   | 844                   | 730                       | 1956              | 0.432 | 843                 | 0.8             | 3.416     | A                             |

#### 09:15 - 09:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1550                  | 528                       | 1859              | 0.834         | 1539                | 4.8             | 11.174    | B                             |
| 2   | 8                     | 2025                      | 0                 | 999999999.000 | 0                   | 2.0             | 1411.790  | F                             |
| 3   | 1388                  | 454                       | 1891              | 0.734         | 1383                | 2.8             | 7.439     | A                             |
| 4   | 1034                  | 890                       | 1822              | 0.568         | 1032                | 1.4             | 4.805     | A                             |

#### 09:30 - 09:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1550                  | 530                       | 1858              | 0.834         | 1550                | 5.0             | 11.930    | B                             |
| 2   | 8                     | 2037                      | 0                 | 999999999.000 | 0                   | 3.9             | 570.882   | F                             |
| 3   | 1388                  | 457                       | 1889              | 0.735         | 1388                | 2.9             | 7.628     | A                             |
| 4   | 1034                  | 894                       | 1819              | 0.568         | 1034                | 1.4             | 4.849     | A                             |

#### 09:45 - 10:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1266                  | 434                       | 1934              | 0.655 | 1278                | 2.0             | 5.745     | A                             |
| 2   | 6                     | 1677                      | 117               | 0.054 | 22                  | 0.1             | 43.296    | E                             |
| 3   | 1134                  | 383                       | 1943              | 0.583 | 1139                | 1.5             | 4.790     | A                             |
| 4   | 844                   | 737                       | 1950              | 0.433 | 846                 | 0.8             | 3.457     | A                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1060                  | 363                       | 1990              | 0.533 | 1063                | 1.2             | 4.010     | A                             |
| 2   | 5                     | 1397                      | 241               | 0.022 | 5                   | 0.0             | 15.312    | C                             |
| 3   | 949                   | 315                       | 1992              | 0.477 | 951                 | 1.0             | 3.683     | A                             |
| 4   | 707                   | 613                       | 2053              | 0.344 | 708                 | 0.6             | 2.832     | A                             |

# Existing Layout - 2028 Future Baseline, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 13.55              | B            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 13.55             | B           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D4 | 2028 Future Baseline | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1262                    | 100.000            |
| 2   |            | ✓            | 12                      | 100.000            |
| 3   |            | ✓            | 1356                    | 100.000            |
| 4   |            | ✓            | 931                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |   |     |     |
|------|----|-----|---|-----|-----|
|      | 1  | 2   | 3 | 4   |     |
| From | 1  | 2   | 1 | 776 | 483 |
|      | 2  | 5   | 0 | 2   | 5   |
|      | 3  | 930 | 5 | 20  | 401 |
|      | 4  | 417 | 0 | 502 | 12  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      | 1  | 2 | 3 | 4 |   |
| From | 1  | 0 | 4 | 3 | 1 |
|      | 2  | 0 | 0 | 0 | 0 |
|      | 3  | 1 | 0 | 0 | 4 |
|      | 4  | 1 | 0 | 3 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC      | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|--------------|---------------|-----------------|---------|
| 1   | 0.77         | 8.78          | 3.3             | A       |
| 2   | 999999999.00 | 1419.45       | 6.7             | F       |
| 3   | 0.82         | 11.03         | 4.5             | B       |
| 4   | 0.61         | 5.56          | 1.6             | A       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 950                   | 404                       | 1957              | 0.486 | 946                 | 1.0             | 3.629     | A                             |
| 2   | 9                     | 1346                      | 263               | 0.034 | 9                   | 0.0             | 14.152    | B                             |
| 3   | 1021                  | 380                       | 1945              | 0.525 | 1016                | 1.1             | 3.930     | A                             |
| 4   | 701                   | 721                       | 1963              | 0.357 | 699                 | 0.6             | 2.900     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1135                  | 484                       | 1894              | 0.599 | 1132                | 1.5             | 4.818     | A                             |
| 2   | 11                    | 1611                      | 147               | 0.074 | 11                  | 0.1             | 26.448    | D                             |
| 3   | 1219                  | 455                       | 1890              | 0.645 | 1216                | 1.8             | 5.415     | A                             |
| 4   | 837                   | 863                       | 1845              | 0.454 | 836                 | 0.8             | 3.639     | A                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1389                  | 592                       | 1809              | 0.768         | 1382                | 3.3             | 8.492     | A                             |
| 2   | 13                    | 1968                      | 0                 | 999999999.000 | 0                   | 3.4             | 1419.453  | F                             |
| 3   | 1493                  | 544                       | 1825              | 0.818         | 1483                | 4.3             | 10.425    | B                             |
| 4   | 1025                  | 1047                      | 1691              | 0.606         | 1022                | 1.5             | 5.473     | A                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s)  | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|------------|-------------------------------|
| 1   | 1389                  | 593                       | 1808              | 0.769         | 1389                | 3.3             | 8.781      | A                             |
| 2   | 13                    | 1976                      | 0                 | 999999999.000 | 0                   | 6.7             | -37574.287 | ?                             |
| 3   | 1493                  | 547                       | 1823              | 0.819         | 1492                | 4.5             | 11.033     | B                             |
| 4   | 1025                  | 1053                      | 1685              | 0.608         | 1025                | 1.6             | 5.562      | A                             |

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1135                  | 486                       | 1892              | 0.600 | 1142                | 1.6             | 4.948     | A                             |
| 2   | 11                    | 1622                      | 141               | 0.076 | 37                  | 0.1             | 43.457    | E                             |
| 3   | 1219                  | 481                       | 1872              | 0.651 | 1229                | 1.9             | 5.794     | A                             |
| 4   | 837                   | 883                       | 1828              | 0.458 | 840                 | 0.9             | 3.727     | A                             |

**16:30 - 16:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 950                   | 407                       | 1955              | 0.486 | 952                 | 1.0             | 3.677     | A                             |
| 2   | 9                     | 1354                      | 260               | 0.035 | 9                   | 0.0             | 14.391    | B                             |
| 3   | 1021                  | 383                       | 1943              | 0.525 | 1024                | 1.1             | 4.005     | A                             |
| 4   | 701                   | 727                       | 1959              | 0.358 | 702                 | 0.6             | 2.925     | A                             |

# Existing Layout - 2028 Future Baseline + Development, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 12.42              | B            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 12.42             | B           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1431                    | 100.000            |
| 2   |            | ✓            | 7                       | 100.000            |
| 3   |            | ✓            | 1303                    | 100.000            |
| 4   |            | ✓            | 964                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |     |
|------|----|-----|----|-----|-----|
|      | 1  | 2   | 3  | 4   |     |
| From | 1  | 2   | 13 | 991 | 425 |
|      | 2  | 1   | 0  | 5   | 1   |
|      | 3  | 775 | 21 | 14  | 493 |
|      | 4  | 500 | 4  | 449 | 11  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      | 1  | 2 | 3 | 4 |
| From | 1  | 0 | 4 | 4 |
|      | 2  | 0 | 0 | 0 |
|      | 3  | 6 | 3 | 0 |
|      | 4  | 4 | 0 | 8 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC      | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|--------------|---------------|-----------------|---------|
| 1   | 0.86         | 13.84         | 5.8             | B       |
| 2   | 999999999.00 | 1422.89       | 3.9             | F       |
| 3   | 0.77         | 8.75          | 3.4             | A       |
| 4   | 0.58         | 5.03          | 1.5             | A       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1077                  | 374                       | 1980              | 0.544 | 1072                | 1.2             | 4.102     | A                             |
| 2   | 5                     | 1418                      | 231               | 0.023 | 5                   | 0.0             | 15.905    | C                             |
| 3   | 981                   | 330                       | 1982              | 0.495 | 977                 | 1.0             | 3.792     | A                             |
| 4   | 726                   | 609                       | 2057              | 0.353 | 723                 | 0.6             | 2.850     | A                             |

#### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1286                  | 448                       | 1922              | 0.669 | 1283                | 2.1             | 5.827     | A                             |
| 2   | 6                     | 1697                      | 109               | 0.058 | 6                   | 0.1             | 35.099    | E                             |
| 3   | 1171                  | 394                       | 1934              | 0.606 | 1169                | 1.6             | 4.983     | A                             |
| 4   | 867                   | 729                       | 1956              | 0.443 | 866                 | 0.8             | 3.487     | A                             |

#### 09:15 - 09:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1576                  | 548                       | 1843              | 0.855         | 1562                | 5.6             | 12.693    | B                             |
| 2   | 8                     | 2068                      | 0                 | 999999999.000 | 0                   | 2.0             | 1422.891  | F                             |
| 3   | 1435                  | 478                       | 1874              | 0.766         | 1428                | 3.3             | 8.449     | A                             |
| 4   | 1061                  | 890                       | 1822              | 0.583         | 1059                | 1.5             | 4.972     | A                             |

#### 09:30 - 09:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1576                  | 549                       | 1842              | 0.855         | 1575                | 5.8             | 13.843    | B                             |
| 2   | 8                     | 2082                      | 0                 | 999999999.000 | 0                   | 3.9             | 592.333   | F                             |
| 3   | 1435                  | 482                       | 1871              | 0.767         | 1434                | 3.4             | 8.750     | A                             |
| 4   | 1061                  | 894                       | 1819              | 0.584         | 1061                | 1.5             | 5.027     | A                             |

**09:45 - 10:00**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1286                  | 450                       | 1921              | 0.670 | 1301                | 2.2             | 6.180     | A                             |
| 2   | 6                     | 1717                      | 100               | 0.063 | 22                  | 0.1             | 54.267    | F                             |
| 3   | 1171                  | 404                       | 1927              | 0.608 | 1178                | 1.7             | 5.156     | A                             |
| 4   | 867                   | 737                       | 1950              | 0.445 | 869                 | 0.9             | 3.533     | A                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1077                  | 376                       | 1979              | 0.544 | 1081                | 1.3             | 4.187     | A                             |
| 2   | 5                     | 1428                      | 227               | 0.023 | 5                   | 0.0             | 16.271    | C                             |
| 3   | 981                   | 332                       | 1980              | 0.496 | 983                 | 1.1             | 3.849     | A                             |
| 4   | 726                   | 614                       | 2053              | 0.353 | 727                 | 0.6             | 2.874     | A                             |

# Existing Layout - 2028 Future Baseline + Development, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | untitled | Standard Roundabout |                       | 1, 2, 3, 4 | 14.31              | B            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 14.31             | B           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 1270                    | 100.000            |
| 2   |            | ✓            | 12                      | 100.000            |
| 3   |            | ✓            | 1373                    | 100.000            |
| 4   |            | ✓            | 996                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |   |     |     |
|------|----|-----|---|-----|-----|
|      | 1  | 2   | 3 | 4   |     |
| From | 1  | 2   | 1 | 776 | 491 |
|      | 2  | 5   | 0 | 2   | 5   |
|      | 3  | 930 | 5 | 20  | 418 |
|      | 4  | 440 | 0 | 544 | 12  |

## Vehicle Mix

### Heavy Vehicle Percentages

| From | To |   |   |   |   |
|------|----|---|---|---|---|
|      |    | 1 | 2 | 3 | 4 |
|      | 1  | 0 | 4 | 3 | 1 |
|      | 2  | 0 | 0 | 0 | 0 |
|      | 3  | 1 | 0 | 0 | 4 |
|      | 4  | 1 | 0 | 3 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC      | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|--------------|---------------|-----------------|---------|
| 1   | 0.79         | 9.83          | 3.7             | A       |
| 2   | 999999999.00 | 1431.64       | 6.7             | F       |
| 3   | 0.83         | 11.92         | 4.9             | B       |
| 4   | 0.65         | 6.24          | 1.9             | A       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 956                   | 436                       | 1932              | 0.495 | 952                 | 1.0             | 3.740     | A                             |
| 2   | 9                     | 1384                      | 247               | 0.037 | 9                   | 0.0             | 15.129    | C                             |
| 3   | 1034                  | 386                       | 1941              | 0.533 | 1029                | 1.2             | 4.004     | A                             |
| 4   | 750                   | 721                       | 1963              | 0.382 | 747                 | 0.6             | 3.015     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1142                  | 522                       | 1864              | 0.612 | 1139                | 1.6             | 5.058     | A                             |
| 2   | 11                    | 1655                      | 127               | 0.085 | 11                  | 0.1             | 30.895    | D                             |
| 3   | 1234                  | 462                       | 1885              | 0.655 | 1231                | 1.9             | 5.582     | A                             |
| 4   | 895                   | 863                       | 1845              | 0.485 | 894                 | 1.0             | 3.859     | A                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1398                  | 637                       | 1773              | 0.789         | 1390                | 3.6             | 9.419     | A                             |
| 2   | 13                    | 2021                      | 0                 | 999999999.000 | 0                   | 3.4             | 1431.643  | F                             |
| 3   | 1512                  | 553                       | 1819              | 0.831         | 1501                | 4.7             | 11.147    | B                             |
| 4   | 1097                  | 1046                      | 1691              | 0.648         | 1093                | 1.8             | 6.105     | A                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC           | Throughput (PCU/hr) | End queue (PCU) | Delay (s)  | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|---------------|---------------------|-----------------|------------|-------------------------------|
| 1   | 1398                  | 640                       | 1771              | 0.790         | 1398                | 3.7             | 9.833      | A                             |
| 2   | 13                    | 2031                      | 0                 | 999999999.000 | 0                   | 6.7             | -30873.252 | ?                             |
| 3   | 1512                  | 556                       | 1817              | 0.832         | 1511                | 4.9             | 11.919     | B                             |
| 4   | 1097                  | 1053                      | 1685              | 0.651         | 1096                | 1.9             | 6.239      | A                             |

**16:15 - 16:30**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1142                  | 525                       | 1862              | 0.613 | 1150                | 1.6             | 5.227     | A                             |
| 2   | 11                    | 1669                      | 121               | 0.089 | 37                  | 0.1             | 56.516    | F                             |
| 3   | 1234                  | 488                       | 1866              | 0.661 | 1246                | 2.0             | 6.016     | A                             |
| 4   | 895                   | 884                       | 1827              | 0.490 | 899                 | 1.0             | 3.974     | A                             |

**16:30 - 16:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 956                   | 438                       | 1930              | 0.495 | 959                 | 1.0             | 3.797     | A                             |
| 2   | 9                     | 1392                      | 243               | 0.037 | 9                   | 0.0             | 15.433    | C                             |
| 3   | 1034                  | 389                       | 1938              | 0.533 | 1037                | 1.2             | 4.083     | A                             |
| 4   | 750                   | 727                       | 1959              | 0.383 | 751                 | 0.6             | 3.046     | A                             |

| Junctions 10                                                                                                                                                     |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| ARCADY 10 - Roundabout Module                                                                                                                                    |  |  |  |  |  |  |  |  |  |
| Version: 10.0.1.1519                                                                                                                                             |  |  |  |  |  |  |  |  |  |
| © Copyright TRL Software Limited, 2021                                                                                                                           |  |  |  |  |  |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL Software:                                                                    |  |  |  |  |  |  |  |  |  |
| +44 (0)1344 379777 software@trl.co.uk trlsoftware.com                                                                                                            |  |  |  |  |  |  |  |  |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution |  |  |  |  |  |  |  |  |  |

**Filename:** Beresford Road, Portman Road Mini-Roundabout Peak.j10

**Path:** S:\Shared Folders\Projects\600353 - River Academy Reading\5 - TP\4 - Working\ARCADY\Beresford Road Portman

**Report generation date:** 14/12/2021 20:34:04

- »Existing Layout - 2021 Baseline, AM
- »Existing Layout - 2021 Baseline, PM
- »Existing Layout - 2028 Future Baseline, AM
- »Existing Layout - 2028 Future Baseline, PM
- »Existing Layout - 2028 Future Baseline + Development, AM
- »Existing Layout - 2028 Future Baseline + Development, PM

#### Summary of junction performance

|       | AM                                                   |             |           |      |     | PM     |             |           |      |     |
|-------|------------------------------------------------------|-------------|-----------|------|-----|--------|-------------|-----------|------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC  | LOS | Set ID | Queue (PCU) | Delay (s) | RFC  | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |      |     |        |             |           |      |     |
| Arm 1 | D1                                                   | 3.7         | 20.54     | 0.80 | C   | D2     | 32.2        | 131.62    | 1.05 | F   |
| Arm 2 |                                                      | 2.5         | 34.57     | 0.73 | D   |        | 8.0         | 95.80     | 0.94 | F   |
| Arm 3 |                                                      | 7.1         | 28.26     | 0.89 | D   |        | 5.0         | 21.21     | 0.84 | C   |
|       | Existing Layout - 2028 Future Baseline               |             |           |      |     |        |             |           |      |     |
| Arm 1 | D3                                                   | 5.6         | 29.15     | 0.86 | D   | D4     | 63.6        | 246.28    | 1.14 | F   |
| Arm 2 |                                                      | 4.2         | 56.39     | 0.84 | F   |        | 12.7        | 138.46    | 1.00 | F   |
| Arm 3 |                                                      | 13.9        | 51.56     | 0.96 | F   |        | 8.3         | 33.31     | 0.91 | D   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |      |     |        |             |           |      |     |
| Arm 1 | D5                                                   | 8.9         | 43.71     | 0.92 | E   | D6     | 89.0        | 377.74    | 1.20 | F   |
| Arm 2 |                                                      | 8.0         | 96.90     | 0.94 | F   |        | 19.4        | 190.30    | 1.06 | F   |
| Arm 3 |                                                      | 21.5        | 74.54     | 1.00 | F   |        | 11.8        | 45.88     | 0.94 | E   |

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

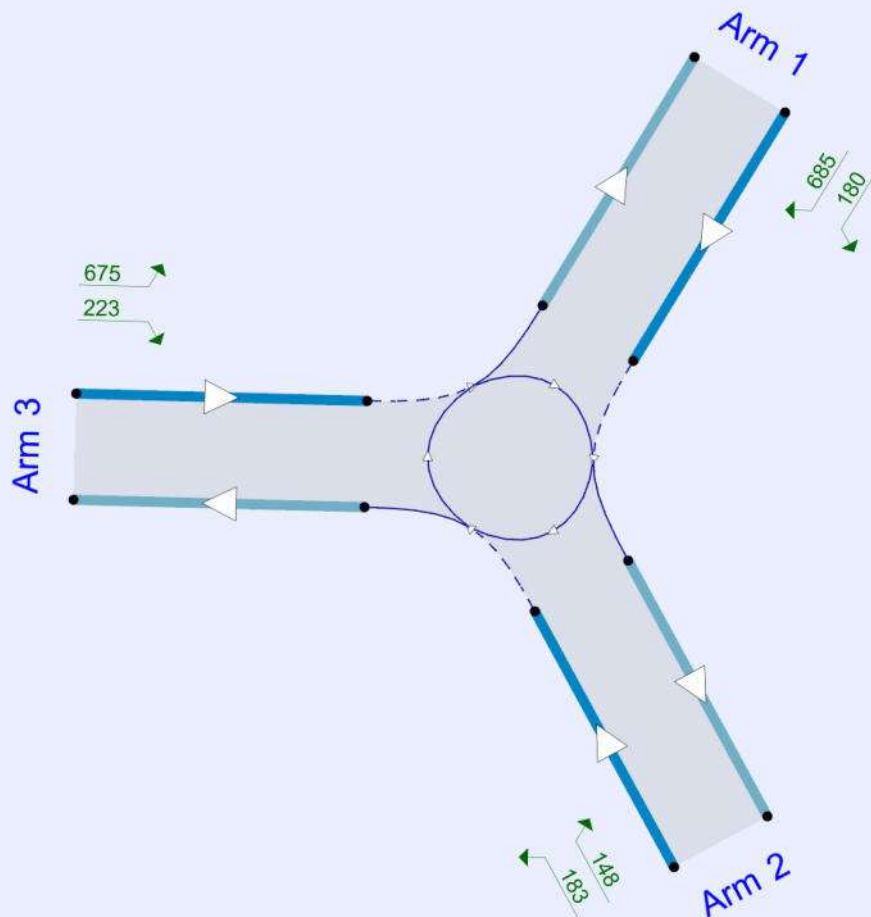
## File summary

### File Description

|                    |                                               |
|--------------------|-----------------------------------------------|
| <b>Title</b>       | Beresford Road / Portman Road Mini-Roundabout |
| <b>Location</b>    | Reading                                       |
| <b>Site number</b> |                                               |
| <b>Date</b>        | 14/12/2021                                    |
| <b>Version</b>     |                                               |
| <b>Status</b>      | (new file)                                    |
| <b>Identifier</b>  |                                               |
| <b>Client</b>      |                                               |
| <b>Jobnumber</b>   | 600353                                        |
| <b>Enumerator</b>  | Preliminary                                   |
| <b>Description</b> |                                               |

## Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

## Analysis Options

| Mini-roundabout model | Calculate Queue Percentiles | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|-----------------------|-----------------------------|-----------------------------|---------------|-----------------------------|-----------------------|
| JUNCTIONS 9           |                             |                             | 0.85          | 36.00                       | 20.00                 |

## Demand Set Summary

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline                      | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D2 | 2021 Baseline                      | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |
| D3 | 2028 Future Baseline               | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D4 | 2028 Future Baseline               | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

## Analysis Set Details

| ID | Name            | Network flow scaling factor (%) |
|----|-----------------|---------------------------------|
| A1 | Existing Layout | 100.000                         |

# Existing Layout - 2021 Baseline, AM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 85% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 26.40              | D            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 26.40             | D           |

## Arms

### Arms

| Arm | Name           | Description |
|-----|----------------|-------------|
| 1   | Cow Lane       |             |
| 2   | Beresford Road |             |
| 3   | Portman Road   |             |

### Mini Roundabout Geometry

| Arm | Approach road half-width (m) | Minimum approach road half-width (m) | Entry width (m) | Effective flare length (m) | Distance to next arm (m) | Entry corner kerb line distance (m) | Gradient over 50m (%) | Kerbed central island |
|-----|------------------------------|--------------------------------------|-----------------|----------------------------|--------------------------|-------------------------------------|-----------------------|-----------------------|
| 1   | 3.32                         | 3.32                                 | 3.86            | 0.1                        | 15.89                    | 15.66                               | 0.0                   |                       |
| 2   | 2.85                         | 2.85                                 | 3.42            | 0.6                        | 11.12                    | 8.72                                | 0.0                   |                       |
| 3   | 3.65                         | 3.65                                 | 5.81            | 22.2                       | 17.03                    | 12.76                               | 0.0                   |                       |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|-----|-------------|--------------------------|
| 1   | 0.638       | 953                      |
| 2   | 0.591       | 721                      |
| 3   | 0.685       | 1153                     |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 620                     | 100.000            |
| 2   |            | ✓            | 246                     | 100.000            |
| 3   |            | ✓            | 867                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      | 1  | 2   | 3   |     |
| From | 1  | 2   | 86  | 532 |
|      | 2  | 103 | 0   | 143 |
|      | 3  | 730 | 135 | 2   |
|      |    |     |     |     |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      | 1  | 2 | 3 |   |
| From | 1  | 0 | 0 | 1 |
|      | 2  | 0 | 0 | 0 |
|      | 3  | 0 | 0 | 0 |
|      |    |   |   |   |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.80    | 20.54         | 3.7             | C       |
| 2   | 0.73    | 34.57         | 2.5             | D       |
| 3   | 0.89    | 28.26         | 7.1             | D       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 467                   | 102                       | 888               | 0.526 | 462                 | 1.1             | 8.454     | A                             |
| 2   | 185                   | 400                       | 485               | 0.382 | 183                 | 0.6             | 11.828    | B                             |
| 3   | 653                   | 78                        | 1099              | 0.594 | 647                 | 1.4             | 7.862     | A                             |

#### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 557                   | 123                       | 875               | 0.637 | 555                 | 1.7             | 11.262    | B                             |
| 2   | 221                   | 480                       | 438               | 0.505 | 220                 | 1.0             | 16.397    | C                             |
| 3   | 779                   | 94                        | 1089              | 0.716 | 775                 | 2.4             | 11.349    | B                             |

**09:15 - 09:30**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 683                   | 148                       | 858               | 0.795 | 675                 | 3.6             | 19.087    | C                             |
| 2   | 271                   | 584                       | 376               | 0.720 | 266                 | 2.3             | 31.178    | D                             |
| 3   | 955                   | 113                       | 1075              | 0.888 | 939                 | 6.4             | 23.938    | C                             |

**09:30 - 09:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 683                   | 150                       | 857               | 0.797 | 682                 | 3.7             | 20.539    | C                             |
| 2   | 271                   | 590                       | 373               | 0.727 | 270                 | 2.5             | 34.570    | D                             |
| 3   | 955                   | 115                       | 1074              | 0.889 | 952                 | 7.1             | 28.265    | D                             |

**09:45 - 10:00**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 557                   | 126                       | 873               | 0.639 | 565                 | 1.8             | 12.079    | B                             |
| 2   | 221                   | 488                       | 432               | 0.511 | 227                 | 1.1             | 17.932    | C                             |
| 3   | 779                   | 97                        | 1087              | 0.717 | 797                 | 2.7             | 13.122    | B                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 467                   | 104                       | 887               | 0.526 | 470                 | 1.1             | 8.765     | A                             |
| 2   | 185                   | 406                       | 481               | 0.385 | 187                 | 0.6             | 12.308    | B                             |
| 3   | 653                   | 80                        | 1098              | 0.594 | 657                 | 1.5             | 8.249     | A                             |

# Existing Layout - 2021 Baseline, PM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 84% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 77.93              | F            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 77.93             | F           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D2 | 2021 Baseline | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 765                     | 100.000            |
| 2   |            | ✓            | 292                     | 100.000            |
| 3   |            | ✓            | 816                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0   | 147 | 618 |
|      | 2  | 117 | 4   | 171 |
|      | 3  | 608 | 208 | 0   |
|      |    |     |     |     |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      |    | 1 | 2 | 3 |
| From | 1  | 0 | 0 | 1 |
|      | 2  | 0 | 0 | 0 |
|      | 3  | 0 | 0 | 0 |
|      |    |   |   |   |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 1.05    | 131.62        | 32.2            | F       |
| 2   | 0.94    | 95.80         | 8.0             | F       |
| 3   | 0.84    | 21.21         | 5.0             | C       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 576                   | 158                       | 852               | 0.676 | 568                 | 2.0             | 12.450    | B                             |
| 2   | 220                   | 459                       | 450               | 0.489 | 216                 | 0.9             | 15.169    | C                             |
| 3   | 614                   | 90                        | 1091              | 0.563 | 609                 | 1.3             | 7.390     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 688                   | 190                       | 832               | 0.827 | 679                 | 4.2             | 22.477    | C                             |
| 2   | 263                   | 548                       | 397               | 0.661 | 259                 | 1.8             | 25.430    | D                             |
| 3   | 734                   | 107                       | 1079              | 0.680 | 730                 | 2.1             | 10.222    | B                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 842                   | 230                       | 806               | 1.045 | 778                 | 20.3            | 71.935    | F                             |
| 2   | 321                   | 629                       | 350               | 0.919 | 305                 | 5.9             | 64.476    | F                             |
| 3   | 898                   | 126                       | 1066              | 0.843 | 888                 | 4.7             | 19.086    | C                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 842                   | 233                       | 804               | 1.047 | 794                 | 32.2            | 131.619   | F                             |
| 2   | 321                   | 642                       | 342               | 0.940 | 313                 | 8.0             | 95.795    | F                             |
| 3   | 898                   | 130                       | 1064              | 0.844 | 897                 | 5.0             | 21.211    | C                             |

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 688                   | 194                       | 829               | 0.829 | 790                 | 6.6             | 89.536    | F                             |
| 2   | 263                   | 639                       | 344               | 0.764 | 279                 | 3.8             | 62.906    | F                             |
| 3   | 734                   | 116                       | 1074              | 0.683 | 745                 | 2.2             | 11.302    | B                             |

#### 16:30 - 16:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 576                   | 161                       | 850               | 0.677 | 593                 | 2.2             | 14.992    | B                             |
| 2   | 220                   | 479                       | 438               | 0.502 | 231                 | 1.0             | 18.239    | C                             |
| 3   | 614                   | 96                        | 1087              | 0.565 | 618                 | 1.3             | 7.730     | A                             |

# Existing Layout - 2028 Future Baseline, AM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 85% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 44.23              | E            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 44.23             | E           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D3 | 2028 Future Baseline | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 665                     | 100.000            |
| 2   |            | ✓            | 264                     | 100.000            |
| 3   |            | ✓            | 930                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 2   | 92  | 571 |
|      | 2  | 111 | 0   | 153 |
|      | 3  | 783 | 145 | 2   |
|      |    |     |     |     |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      |    | 1 | 2 | 3 |
| From | 1  | 0 | 0 | 1 |
|      | 2  | 0 | 0 | 0 |
|      | 3  | 0 | 0 | 0 |
|      |    |   |   |   |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.86    | 29.15         | 5.6             | D       |
| 2   | 0.84    | 56.39         | 4.2             | F       |
| 3   | 0.96    | 51.56         | 13.9            | F       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 501                   | 110                       | 883               | 0.567 | 495                 | 1.3             | 9.253     | A                             |
| 2   | 199                   | 428                       | 468               | 0.425 | 196                 | 0.7             | 13.103    | B                             |
| 3   | 700                   | 84                        | 1095              | 0.639 | 693                 | 1.7             | 8.809     | A                             |

#### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 598                   | 131                       | 869               | 0.688 | 594                 | 2.1             | 13.054    | B                             |
| 2   | 237                   | 514                       | 417               | 0.569 | 235                 | 1.3             | 19.527    | C                             |
| 3   | 836                   | 101                       | 1084              | 0.771 | 830                 | 3.2             | 13.876    | B                             |

#### 09:15 - 09:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 732                   | 157                       | 853               | 0.859 | 720                 | 5.1             | 25.301    | D                             |
| 2   | 291                   | 623                       | 353               | 0.823 | 281                 | 3.6             | 45.101    | E                             |
| 3   | 1024                  | 120                       | 1070              | 0.957 | 992                 | 11.1            | 36.260    | E                             |

#### 09:30 - 09:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 732                   | 160                       | 851               | 0.861 | 730                 | 5.6             | 29.153    | D                             |
| 2   | 291                   | 631                       | 348               | 0.835 | 288                 | 4.2             | 56.386    | F                             |
| 3   | 1024                  | 123                       | 1068              | 0.959 | 1013                | 13.9            | 51.555    | F                             |

#### 09:45 - 10:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 598                   | 139                       | 864               | 0.692 | 611                 | 2.4             | 14.971    | B                             |
| 2   | 237                   | 528                       | 409               | 0.580 | 248                 | 1.5             | 23.766    | C                             |
| 3   | 836                   | 106                       | 1080              | 0.774 | 877                 | 3.7             | 20.627    | C                             |

#### 10:00 - 10:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 501                   | 112                       | 882               | 0.568 | 505                 | 1.4             | 9.735     | A                             |
| 2   | 199                   | 436                       | 463               | 0.429 | 201                 | 0.8             | 13.893    | B                             |
| 3   | 700                   | 86                        | 1094              | 0.640 | 708                 | 1.8             | 9.495     | A                             |

# Existing Layout - 2028 Future Baseline, PM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 84% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 136.67             | F            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 136.67            | F           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D4 | 2028 Future Baseline | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 820                     | 100.000            |
| 2   |            | ✓            | 312                     | 100.000            |
| 3   |            | ✓            | 875                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |
|------|----|-----|-----|
|      | 1  | 2   | 3   |
| From | 1  | 0   | 158 |
|      | 2  | 125 | 4   |
|      | 3  | 652 | 223 |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |
|------|----|---|---|
|      | 1  | 2 | 3 |
| From | 1  | 0 | 0 |
|      | 2  | 0 | 0 |
|      | 3  | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 1.14    | 246.28        | 63.6            | F       |
| 2   | 1.00    | 138.46        | 12.7            | F       |
| 3   | 0.91    | 33.31         | 8.3             | D       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 617                   | 169                       | 845               | 0.731 | 607                 | 2.6             | 14.691    | B                             |
| 2   | 235                   | 490                       | 431               | 0.544 | 230                 | 1.1             | 17.526    | C                             |
| 3   | 659                   | 95                        | 1088              | 0.606 | 653                 | 1.5             | 8.171     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 737                   | 203                       | 823               | 0.895 | 721                 | 6.5             | 31.488    | D                             |
| 2   | 280                   | 582                       | 377               | 0.744 | 275                 | 2.6             | 33.531    | D                             |
| 3   | 787                   | 114                       | 1075              | 0.732 | 782                 | 2.6             | 12.110    | B                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 903                   | 245                       | 797               | 1.133 | 785                 | 35.9            | 112.191   | F                             |
| 2   | 344                   | 634                       | 346               | 0.992 | 318                 | 8.9             | 86.962    | F                             |
| 3   | 963                   | 132                       | 1063              | 0.907 | 944                 | 7.4             | 26.877    | D                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 903                   | 249                       | 794               | 1.137 | 792                 | 63.6            | 236.085   | F                             |
| 2   | 344                   | 639                       | 343               | 1.001 | 328                 | 12.7            | 138.464   | F                             |
| 3   | 963                   | 136                       | 1060              | 0.909 | 959                 | 8.3             | 33.305    | D                             |

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 737                   | 210                       | 819               | 0.900 | 806                 | 46.3            | 246.275   | F                             |
| 2   | 280                   | 651                       | 337               | 0.834 | 305                 | 6.6             | 114.179   | F                             |
| 3   | 787                   | 126                       | 1066              | 0.738 | 808                 | 3.0             | 14.964    | B                             |

#### 16:30 - 16:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 617                   | 173                       | 843               | 0.732 | 789                 | 3.3             | 100.950   | F                             |
| 2   | 235                   | 637                       | 345               | 0.682 | 252                 | 2.4             | 43.790    | E                             |
| 3   | 659                   | 104                       | 1081              | 0.609 | 664                 | 1.6             | 8.736     | A                             |

# Existing Layout - 2028 Future Baseline + Development, AM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 85% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 66.58              | F            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 66.58             | F           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 711                     | 100.000            |
| 2   |            | ✓            | 286                     | 100.000            |
| 3   |            | ✓            | 953                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |         |
|------|----|-----|---------|
|      | 1  | 2   | 3       |
| From | 1  | 2   | 115 594 |
|      | 2  | 133 | 0 153   |
|      | 3  | 806 | 145 2   |

## Vehicle Mix

### Heavy Vehicle Percentages

| From | To |   |   |
|------|----|---|---|
|      | 1  | 2 | 3 |
|      | 0  | 0 | 1 |
|      | 0  | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.92    | 43.71         | 8.9             | E       |
| 2   | 0.94    | 96.90         | 8.0             | F       |
| 3   | 1.00    | 74.54         | 21.5            | F       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 535                   | 109                       | 883               | 0.606 | 529                 | 1.5             | 10.098    | B                             |
| 2   | 215                   | 445                       | 458               | 0.470 | 212                 | 0.9             | 14.434    | B                             |
| 3   | 717                   | 100                       | 1084              | 0.662 | 710                 | 1.9             | 9.435     | A                             |

#### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 639                   | 131                       | 869               | 0.735 | 635                 | 2.6             | 15.171    | C                             |
| 2   | 257                   | 534                       | 406               | 0.634 | 254                 | 1.6             | 23.278    | C                             |
| 3   | 857                   | 120                       | 1071              | 0.800 | 850                 | 3.7             | 15.771    | C                             |

#### 09:15 - 09:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 783                   | 155                       | 854               | 0.916 | 763                 | 7.6             | 34.010    | D                             |
| 2   | 315                   | 642                       | 342               | 0.921 | 298                 | 5.9             | 64.952    | F                             |
| 3   | 1049                  | 141                       | 1057              | 0.993 | 1003                | 15.3            | 46.151    | E                             |

#### 09:30 - 09:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 783                   | 158                       | 852               | 0.919 | 778                 | 8.9             | 43.714    | E                             |
| 2   | 315                   | 654                       | 335               | 0.941 | 307                 | 8.0             | 96.901    | F                             |
| 3   | 1049                  | 145                       | 1054              | 0.996 | 1025                | 21.5            | 74.541    | F                             |

#### 09:45 - 10:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 639                   | 143                       | 862               | 0.742 | 662                 | 3.1             | 19.949    | C                             |
| 2   | 257                   | 557                       | 392               | 0.656 | 281                 | 2.1             | 37.664    | E                             |
| 3   | 857                   | 132                       | 1062              | 0.807 | 924                 | 4.7             | 34.014    | D                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 535                   | 112                       | 881               | 0.607 | 541                 | 1.6             | 10.856    | B                             |
| 2   | 215                   | 455                       | 452               | 0.476 | 220                 | 0.9             | 15.791    | C                             |
| 3   | 717                   | 104                       | 1082              | 0.663 | 728                 | 2.0             | 10.463    | B                             |

# Existing Layout - 2028 Future Baseline + Development, PM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 84% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 205.77             | F            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 205.77            | F           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 865                     | 100.000            |
| 2   |            | ✓            | 335                     | 100.000            |
| 3   |            | ✓            | 898                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      | 1  | 2   | 3   |     |
| From | 1  | 0   | 180 | 685 |
|      | 2  | 148 | 4   | 183 |
|      | 3  | 675 | 223 | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

| From | To |   |   |
|------|----|---|---|
|      | 1  | 2 | 3 |
|      | 0  | 0 | 1 |
|      | 0  | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 1.20    | 377.74        | 89.0            | F       |
| 2   | 1.06    | 190.30        | 19.4            | F       |
| 3   | 0.94    | 45.88         | 11.8            | E       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 651                   | 169                       | 845               | 0.771 | 639                 | 3.1             | 16.718    | C                             |
| 2   | 252                   | 506                       | 422               | 0.597 | 247                 | 1.4             | 19.925    | C                             |
| 3   | 676                   | 112                       | 1076              | 0.628 | 669                 | 1.6             | 8.717     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 778                   | 203                       | 824               | 0.944 | 753                 | 9.3             | 41.131    | E                             |
| 2   | 301                   | 596                       | 369               | 0.817 | 293                 | 3.6             | 43.030    | E                             |
| 3   | 807                   | 133                       | 1062              | 0.760 | 802                 | 3.0             | 13.562    | B                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 952                   | 243                       | 798               | 1.193 | 792                 | 49.4            | 147.593   | F                             |
| 2   | 369                   | 627                       | 350               | 1.052 | 332                 | 12.6            | 111.735   | F                             |
| 3   | 989                   | 151                       | 1049              | 0.942 | 962                 | 9.8             | 33.594    | D                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 952                   | 248                       | 795               | 1.198 | 794                 | 89.0            | 321.664   | F                             |
| 2   | 369                   | 629                       | 350               | 1.055 | 342                 | 19.4            | 190.303   | F                             |
| 3   | 989                   | 155                       | 1047              | 0.945 | 980                 | 11.8            | 45.879    | E                             |

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 778                   | 213                       | 817               | 0.952 | 808                 | 81.4            | 377.744   | F                             |
| 2   | 301                   | 640                       | 343               | 0.878 | 332                 | 11.8            | 185.051   | F                             |
| 3   | 807                   | 150                       | 1050              | 0.769 | 840                 | 3.6             | 19.441    | C                             |

**16:30 - 16:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 651                   | 173                       | 842               | 0.773 | 832                 | 36.2            | 257.499   | F                             |
| 2   | 252                   | 659                       | 332               | 0.760 | 284                 | 3.9             | 86.821    | F                             |
| 3   | 676                   | 129                       | 1065              | 0.635 | 683                 | 1.8             | 9.607     | A                             |

| Junctions 10                                                                                                                                                     |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| ARCADY 10 - Roundabout Module                                                                                                                                    |  |  |  |  |  |  |  |  |  |
| Version: 10.0.1.1519                                                                                                                                             |  |  |  |  |  |  |  |  |  |
| © Copyright TRL Software Limited, 2021                                                                                                                           |  |  |  |  |  |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL Software:                                                                    |  |  |  |  |  |  |  |  |  |
| +44 (0)1344 379777 software@trl.co.uk trlsoftware.com                                                                                                            |  |  |  |  |  |  |  |  |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution |  |  |  |  |  |  |  |  |  |

**Filename:** Beresford Road, Portman Road Mini-Roundabout Pre-Post Peak.j10

**Path:** S:\Shared Folders\Projects\600353 - River Academy Reading\5 - TPV4 - Working\ARCADY\Beresford Road Portman

**Report generation date:** 14/12/2021 20:37:36

- »Existing Layout - 2021 Baseline, AM
- »Existing Layout - 2021 Baseline, PM
- »Existing Layout - 2028 Future Baseline, AM
- »Existing Layout - 2028 Future Baseline, PM
- »Existing Layout - 2028 Future Baseline + Development, AM
- »Existing Layout - 2028 Future Baseline + Development, PM

### Summary of junction performance

|       | AM                                                   |             |           |      |     | PM     |             |           |      |     |
|-------|------------------------------------------------------|-------------|-----------|------|-----|--------|-------------|-----------|------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC  | LOS | Set ID | Queue (PCU) | Delay (s) | RFC  | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |      |     |        |             |           |      |     |
| Arm 1 | D1                                                   | 2.5         | 15.06     | 0.72 | C   | D2     | 54.9        | 204.65    | 1.11 | F   |
| Arm 2 |                                                      | 2.0         | 27.64     | 0.68 | D   |        | 6.4         | 80.93     | 0.90 | F   |
| Arm 3 |                                                      | 5.2         | 21.53     | 0.85 | C   |        | 3.9         | 16.93     | 0.80 | C   |
|       | Existing Layout - 2028 Future Baseline               |             |           |      |     |        |             |           |      |     |
| Arm 1 | D3                                                   | 3.3         | 19.04     | 0.78 | C   | D4     | 93.0        | 393.52    | 1.21 | F   |
| Arm 2 |                                                      | 3.1         | 40.09     | 0.77 | E   |        | 9.5         | 111.45    | 0.96 | F   |
| Arm 3 |                                                      | 8.9         | 34.87     | 0.92 | D   |        | 5.8         | 24.09     | 0.87 | C   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |      |     |        |             |           |      |     |
| Arm 1 | D5                                                   | 3.6         | 20.09     | 0.79 | C   | D6     | 124.3       | 541.59    | 1.27 | F   |
| Arm 2 |                                                      | 4.6         | 55.13     | 0.85 | F   |        | 9.1         | 106.39    | 0.95 | F   |
| Arm 3 |                                                      | 13.4        | 50.62     | 0.96 | F   |        | 6.2         | 25.40     | 0.87 | D   |

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

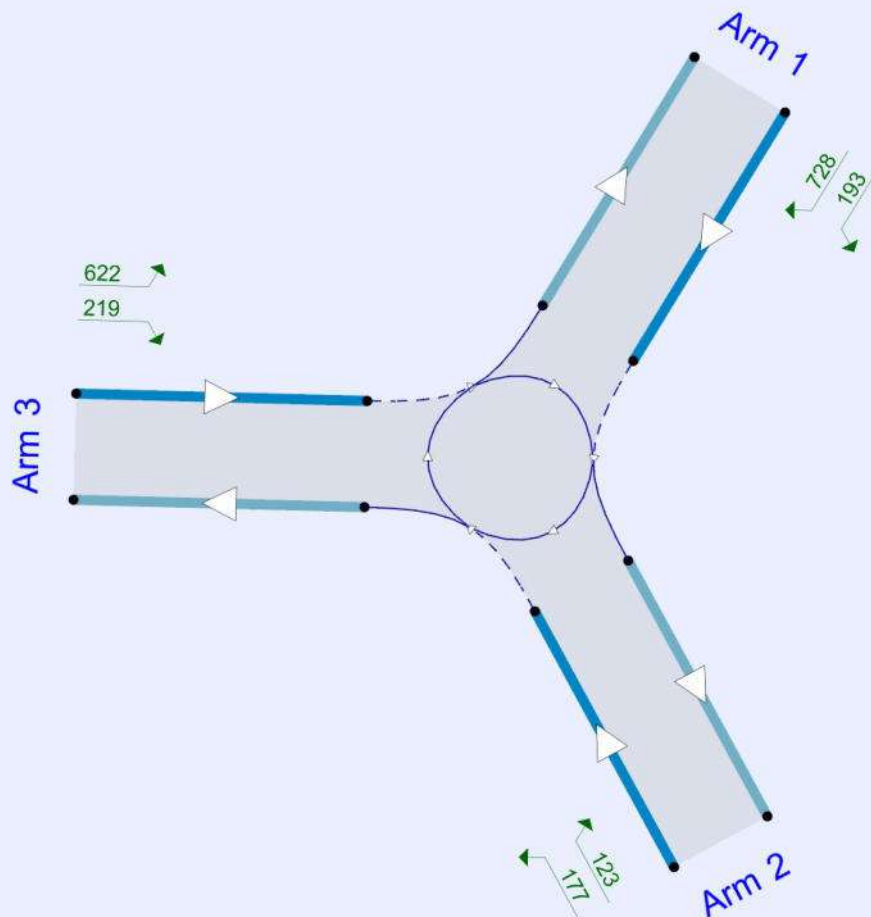
## File summary

### File Description

|                    |                                               |
|--------------------|-----------------------------------------------|
| <b>Title</b>       | Beresford Road / Portman Road Mini-Roundabout |
| <b>Location</b>    | Reading                                       |
| <b>Site number</b> |                                               |
| <b>Date</b>        | 14/12/2021                                    |
| <b>Version</b>     |                                               |
| <b>Status</b>      | (new file)                                    |
| <b>Identifier</b>  |                                               |
| <b>Client</b>      |                                               |
| <b>Jobnumber</b>   | 600353                                        |
| <b>Enumerator</b>  | Preliminary                                   |
| <b>Description</b> |                                               |

## Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

## Analysis Options

| Mini-roundabout model | Calculate Queue Percentiles | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|-----------------------|-----------------------------|-----------------------------|---------------|-----------------------------|-----------------------|
| JUNCTIONS 9           |                             |                             | 0.85          | 36.00                       | 20.00                 |

## Demand Set Summary

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline                      | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |
| D2 | 2021 Baseline                      | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |
| D3 | 2028 Future Baseline               | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |
| D4 | 2028 Future Baseline               | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |

## Analysis Set Details

| ID | Name            | Network flow scaling factor (%) |
|----|-----------------|---------------------------------|
| A1 | Existing Layout | 100.000                         |

# Existing Layout - 2021 Baseline, AM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 84% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 20.28              | C            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 20.28             | C           |

## Arms

### Arms

| Arm | Name           | Description |
|-----|----------------|-------------|
| 1   | Cow Lane       |             |
| 2   | Beresford Road |             |
| 3   | Portman Road   |             |

### Mini Roundabout Geometry

| Arm | Approach road half-width (m) | Minimum approach road half-width (m) | Entry width (m) | Effective flare length (m) | Distance to next arm (m) | Entry corner kerb line distance (m) | Gradient over 50m (%) | Kerbed central island |
|-----|------------------------------|--------------------------------------|-----------------|----------------------------|--------------------------|-------------------------------------|-----------------------|-----------------------|
| 1   | 3.32                         | 3.32                                 | 3.86            | 0.1                        | 15.89                    | 15.66                               | 0.0                   |                       |
| 2   | 2.85                         | 2.85                                 | 3.42            | 0.6                        | 11.12                    | 8.72                                | 0.0                   |                       |
| 3   | 3.65                         | 3.65                                 | 5.81            | 22.2                       | 17.03                    | 12.76                               | 0.0                   |                       |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|-----|-------------|--------------------------|
| 1   | 0.638       | 953                      |
| 2   | 0.591       | 721                      |
| 3   | 0.685       | 1153                     |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 555                     | 100.000            |
| 2   |            | ✓            | 252                     | 100.000            |
| 3   |            | ✓            | 830                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      | 1  | 2   | 3   |     |
| From | 1  | 2   | 71  | 482 |
|      | 2  | 99  | 0   | 153 |
|      | 3  | 685 | 145 | 0   |
|      |    |     |     |     |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      | 1  | 2 | 3 |   |
| From | 1  | 0 | 0 | 1 |
|      | 2  | 0 | 0 | 0 |
|      | 3  | 0 | 0 | 0 |
|      |    |   |   |   |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.72    | 15.06         | 2.5             | C       |
| 2   | 0.68    | 27.64         | 2.0             | D       |
| 3   | 0.85    | 21.53         | 5.2             | C       |

### Main Results for each time segment

#### 07:45 - 08:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 418                   | 108                       | 884               | 0.473 | 414                 | 0.9             | 7.678     | A                             |
| 2   | 190                   | 361                       | 508               | 0.374 | 187                 | 0.6             | 11.166    | B                             |
| 3   | 625                   | 75                        | 1101              | 0.567 | 620                 | 1.3             | 7.397     | A                             |

#### 08:00 - 08:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 499                   | 130                       | 870               | 0.573 | 497                 | 1.3             | 9.691     | A                             |
| 2   | 227                   | 434                       | 465               | 0.487 | 225                 | 0.9             | 14.934    | B                             |
| 3   | 746                   | 90                        | 1091              | 0.684 | 743                 | 2.1             | 10.245    | B                             |

**08:15 - 08:30**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 611                   | 158                       | 852               | 0.717 | 607                 | 2.4             | 14.521    | B                             |
| 2   | 277                   | 529                       | 408               | 0.679 | 273                 | 2.0             | 25.878    | D                             |
| 3   | 914                   | 110                       | 1078              | 0.848 | 903                 | 4.9             | 19.395    | C                             |

**08:30 - 08:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 611                   | 159                       | 851               | 0.718 | 611                 | 2.5             | 15.061    | C                             |
| 2   | 277                   | 533                       | 406               | 0.683 | 277                 | 2.0             | 27.643    | D                             |
| 3   | 914                   | 111                       | 1077              | 0.849 | 913                 | 5.2             | 21.529    | C                             |

**08:45 - 09:00**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 499                   | 132                       | 868               | 0.575 | 503                 | 1.4             | 10.064    | B                             |
| 2   | 227                   | 439                       | 462               | 0.491 | 231                 | 1.0             | 15.857    | C                             |
| 3   | 746                   | 92                        | 1089              | 0.685 | 758                 | 2.3             | 11.223    | B                             |

**09:00 - 09:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 418                   | 110                       | 883               | 0.473 | 420                 | 0.9             | 7.873     | A                             |
| 2   | 190                   | 366                       | 505               | 0.376 | 191                 | 0.6             | 11.539    | B                             |
| 3   | 625                   | 77                        | 1100              | 0.568 | 629                 | 1.3             | 7.687     | A                             |

# Existing Layout - 2021 Baseline, PM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 85% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 108.06             | F            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 108.06            | F           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D2 | 2021 Baseline | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 814                     | 100.000            |
| 2   |            | ✓            | 278                     | 100.000            |
| 3   |            | ✓            | 780                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0   | 159 | 655 |
|      | 2  | 109 | 4   | 165 |
|      | 3  | 575 | 204 | 1   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      |    | 1 | 2 | 3 |
| From | 1  | 0 | 0 | 1 |
|      | 2  | 0 | 0 | 0 |
|      | 3  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 1.11    | 204.65        | 54.9            | F       |
| 2   | 0.90    | 80.93         | 6.4             | F       |
| 3   | 0.80    | 16.93         | 3.9             | C       |

### Main Results for each time segment

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 613                   | 156                       | 853               | 0.718 | 603                 | 2.4             | 14.014    | B                             |
| 2   | 209                   | 486                       | 434               | 0.482 | 206                 | 0.9             | 15.546    | C                             |
| 3   | 587                   | 84                        | 1096              | 0.536 | 583                 | 1.1             | 6.959     | A                             |

#### 16:30 - 16:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 732                   | 187                       | 833               | 0.878 | 718                 | 5.8             | 28.556    | D                             |
| 2   | 250                   | 579                       | 379               | 0.659 | 246                 | 1.8             | 26.440    | D                             |
| 3   | 701                   | 100                       | 1084              | 0.647 | 699                 | 1.8             | 9.272     | A                             |

#### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 896                   | 228                       | 807               | 1.110 | 793                 | 31.6            | 100.042   | F                             |
| 2   | 306                   | 639                       | 343               | 0.891 | 293                 | 5.1             | 59.573    | F                             |
| 3   | 859                   | 119                       | 1071              | 0.802 | 851                 | 3.7             | 15.799    | C                             |

#### 17:00 - 17:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 896                   | 230                       | 806               | 1.112 | 803                 | 54.9            | 204.652   | F                             |
| 2   | 306                   | 647                       | 339               | 0.904 | 301                 | 6.4             | 80.927    | F                             |
| 3   | 859                   | 122                       | 1069              | 0.803 | 858                 | 3.9             | 16.931    | C                             |

#### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 732                   | 190                       | 832               | 0.880 | 817                 | 33.7            | 197.525   | F                             |
| 2   | 250                   | 658                       | 332               | 0.752 | 261                 | 3.5             | 55.731    | F                             |
| 3   | 701                   | 106                       | 1080              | 0.649 | 709                 | 1.9             | 9.905     | A                             |

#### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 613                   | 158                       | 852               | 0.719 | 736                 | 2.9             | 55.077    | F                             |
| 2   | 209                   | 593                       | 371               | 0.565 | 218                 | 1.4             | 24.704    | C                             |
| 3   | 587                   | 89                        | 1092              | 0.538 | 590                 | 1.2             | 7.210     | A                             |

# Existing Layout - 2028 Future Baseline, AM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 84% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 30.31              | D            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 30.31             | D           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D3 | 2028 Future Baseline | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 595                     | 100.000            |
| 2   |            | ✓            | 270                     | 100.000            |
| 3   |            | ✓            | 891                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      | 1  | 2   | 3   |     |
| From | 1  | 2   | 76  | 517 |
|      | 2  | 106 | 0   | 164 |
|      | 3  | 735 | 156 | 0   |
|      |    |     |     |     |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      | 1  | 2 | 3 |   |
| From | 1  | 0 | 0 | 1 |
|      | 2  | 0 | 0 | 0 |
|      | 3  | 0 | 0 | 0 |
|      |    |   |   |   |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.78    | 19.04         | 3.3             | C       |
| 2   | 0.77    | 40.09         | 3.1             | E       |
| 3   | 0.92    | 34.87         | 8.9             | D       |

### Main Results for each time segment

#### 07:45 - 08:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 448                   | 116                       | 879               | 0.510 | 444                 | 1.0             | 8.276     | A                             |
| 2   | 203                   | 387                       | 492               | 0.413 | 201                 | 0.7             | 12.228    | B                             |
| 3   | 671                   | 80                        | 1098              | 0.611 | 665                 | 1.5             | 8.202     | A                             |

#### 08:00 - 08:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 535                   | 139                       | 864               | 0.619 | 533                 | 1.6             | 10.885    | B                             |
| 2   | 243                   | 465                       | 447               | 0.544 | 241                 | 1.1             | 17.348    | C                             |
| 3   | 801                   | 96                        | 1087              | 0.737 | 796                 | 2.7             | 12.203    | B                             |

#### 08:15 - 08:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 655                   | 168                       | 846               | 0.775 | 649                 | 3.2             | 17.866    | C                             |
| 2   | 297                   | 566                       | 387               | 0.769 | 290                 | 2.9             | 35.125    | E                             |
| 3   | 981                   | 116                       | 1073              | 0.914 | 960                 | 7.8             | 27.851    | D                             |

#### 08:30 - 08:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 655                   | 171                       | 844               | 0.776 | 655                 | 3.3             | 19.041    | C                             |
| 2   | 297                   | 571                       | 384               | 0.775 | 296                 | 3.1             | 40.095    | E                             |
| 3   | 981                   | 118                       | 1072              | 0.915 | 977                 | 8.9             | 34.875    | D                             |

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 535                   | 144                       | 861               | 0.621 | 541                 | 1.7             | 11.592    | B                             |
| 2   | 243                   | 472                       | 442               | 0.549 | 250                 | 1.3             | 19.421    | C                             |
| 3   | 801                   | 100                       | 1084              | 0.739 | 825                 | 3.0             | 14.980    | B                             |

#### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 448                   | 118                       | 877               | 0.511 | 450                 | 1.1             | 8.556     | A                             |
| 2   | 203                   | 393                       | 489               | 0.416 | 205                 | 0.7             | 12.798    | B                             |
| 3   | 671                   | 82                        | 1097              | 0.612 | 676                 | 1.6             | 8.674     | A                             |

# Existing Layout - 2028 Future Baseline, PM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 85% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 197.66             | F            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 197.66            | F           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D4 | 2028 Future Baseline | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 872                     | 100.000            |
| 2   |            | ✓            | 298                     | 100.000            |
| 3   |            | ✓            | 836                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |
|------|----|-----|-----|
|      | 1  | 2   | 3   |
| From | 1  | 0   | 170 |
|      | 2  | 117 | 4   |
|      | 3  | 616 | 219 |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |
|------|----|---|---|
|      | 1  | 2 | 3 |
| From | 1  | 0 | 0 |
|      | 2  | 0 | 0 |
|      | 3  | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 1.21    | 393.52        | 93.0            | F       |
| 2   | 0.96    | 111.45        | 9.5             | F       |
| 3   | 0.87    | 24.09         | 5.8             | C       |

### Main Results for each time segment

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 656                   | 167                       | 846               | 0.776 | 644                 | 3.2             | 16.989    | C                             |
| 2   | 224                   | 519                       | 414               | 0.541 | 220                 | 1.1             | 18.111    | C                             |
| 3   | 629                   | 89                        | 1092              | 0.577 | 624                 | 1.3             | 7.615     | A                             |

#### 16:30 - 16:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 784                   | 200                       | 825               | 0.950 | 758                 | 9.8             | 42.508    | E                             |
| 2   | 268                   | 611                       | 360               | 0.744 | 262                 | 2.5             | 34.902    | D                             |
| 3   | 752                   | 106                       | 1080              | 0.696 | 748                 | 2.2             | 10.733    | B                             |

#### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 960                   | 243                       | 798               | 1.203 | 792                 | 51.7            | 153.526   | F                             |
| 2   | 328                   | 639                       | 344               | 0.955 | 309                 | 7.3             | 77.620    | F                             |
| 3   | 920                   | 125                       | 1067              | 0.863 | 908                 | 5.4             | 21.086    | C                             |

#### 17:00 - 17:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 960                   | 246                       | 796               | 1.206 | 795                 | 93.0            | 334.602   | F                             |
| 2   | 328                   | 641                       | 342               | 0.959 | 319                 | 9.5             | 111.450   | F                             |
| 3   | 920                   | 130                       | 1064              | 0.865 | 919                 | 5.8             | 24.093    | C                             |

#### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 784                   | 205                       | 822               | 0.954 | 813                 | 85.6            | 393.523   | F                             |
| 2   | 268                   | 656                       | 334               | 0.803 | 286                 | 5.0             | 83.192    | F                             |
| 3   | 752                   | 116                       | 1073              | 0.700 | 765                 | 2.4             | 12.160    | B                             |

#### 17:30 - 17:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 656                   | 170                       | 845               | 0.777 | 835                 | 41.1            | 276.199   | F                             |
| 2   | 224                   | 673                       | 324               | 0.693 | 234                 | 2.5             | 43.613    | E                             |
| 3   | 629                   | 95                        | 1088              | 0.579 | 633                 | 1.4             | 7.998     | A                             |

# Existing Layout - 2028 Future Baseline + Development, AM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 83% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 41.17              | E            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 41.17             | E           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 07:45              | 09:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 605                     | 100.000            |
| 2   |            | ✓            | 293                     | 100.000            |
| 3   |            | ✓            | 917                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |
|------|----|-----|-----|
|      | 1  | 2   | 3   |
| From | 1  | 0   | 82  |
|      | 2  | 129 | 0   |
|      | 3  | 761 | 156 |

## Vehicle Mix

### Heavy Vehicle Percentages

| From | To |   |   |
|------|----|---|---|
|      | 1  | 2 | 3 |
|      | 0  | 0 | 1 |
|      | 0  | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.79    | 20.09         | 3.6             | C       |
| 2   | 0.85    | 55.13         | 4.6             | F       |
| 3   | 0.96    | 50.62         | 13.4            | F       |

### Main Results for each time segment

#### 07:45 - 08:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 455                   | 116                       | 879               | 0.518 | 451                 | 1.1             | 8.413     | A                             |
| 2   | 221                   | 390                       | 491               | 0.450 | 217                 | 0.8             | 13.033    | B                             |
| 3   | 690                   | 96                        | 1087              | 0.635 | 684                 | 1.7             | 8.779     | A                             |

#### 08:00 - 08:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 544                   | 139                       | 864               | 0.629 | 541                 | 1.7             | 11.173    | B                             |
| 2   | 263                   | 468                       | 444               | 0.593 | 261                 | 1.4             | 19.373    | C                             |
| 3   | 824                   | 115                       | 1074              | 0.768 | 819                 | 3.1             | 13.790    | B                             |

#### 08:15 - 08:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 666                   | 167                       | 847               | 0.787 | 659                 | 3.4             | 18.686    | C                             |
| 2   | 323                   | 570                       | 384               | 0.839 | 312                 | 4.0             | 44.569    | E                             |
| 3   | 1010                  | 137                       | 1059              | 0.954 | 979                 | 10.8            | 35.830    | E                             |

#### 08:30 - 08:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 666                   | 170                       | 844               | 0.789 | 665                 | 3.6             | 20.093    | C                             |
| 2   | 323                   | 575                       | 381               | 0.846 | 320                 | 4.6             | 55.130    | F                             |
| 3   | 1010                  | 141                       | 1056              | 0.956 | 999                 | 13.4            | 50.620    | F                             |

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 544                   | 147                       | 859               | 0.633 | 551                 | 1.8             | 12.042    | B                             |
| 2   | 263                   | 476                       | 440               | 0.599 | 275                 | 1.6             | 23.330    | C                             |
| 3   | 824                   | 121                       | 1070              | 0.771 | 864                 | 3.6             | 20.206    | C                             |

**09:00 - 09:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 455                   | 119                       | 877               | 0.519 | 458                 | 1.1             | 8.724     | A                             |
| 2   | 221                   | 396                       | 487               | 0.453 | 223                 | 0.8             | 13.809    | B                             |
| 3   | 690                   | 98                        | 1085              | 0.636 | 698                 | 1.8             | 9.450     | A                             |

# Existing Layout - 2028 Future Baseline + Development, PM

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 85% of the total flow for the roundabout for one or more time segments] |

## Junction Network

### Junctions

| Junction | Name     | Junction type   | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|-----------------------|-----------|--------------------|--------------|
| 1        | untitled | Mini-roundabout |                       | 1, 2, 3   | 267.63             | F            |

### Junction Network

| Driving side | Lighting       | Road surface   | In London | Network delay (s) | Network LOS |
|--------------|----------------|----------------|-----------|-------------------|-------------|
| Left         | Normal/unknown | Normal/unknown |           | 267.63            | F           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 16:15              | 17:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 921                     | 100.000            |
| 2   |            | ✓            | 300                     | 100.000            |
| 3   |            | ✓            | 842                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |
|------|----|-----|-----|
|      | 1  | 2   | 3   |
| From | 1  | 0   | 193 |
|      | 2  | 123 | 0   |
|      | 3  | 622 | 219 |

## Vehicle Mix

### Heavy Vehicle Percentages

| From | To |   |   |
|------|----|---|---|
|      | 1  | 2 | 3 |
|      | 0  | 0 | 1 |
|      | 0  | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 1.27    | 541.59        | 124.3           | F       |
| 2   | 0.95    | 106.39        | 9.1             | F       |
| 3   | 0.87    | 25.40         | 6.2             | D       |

### Main Results for each time segment

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 693                   | 164                       | 848               | 0.818 | 677                 | 4.0             | 19.734    | C                             |
| 2   | 226                   | 536                       | 404               | 0.559 | 221                 | 1.2             | 19.179    | C                             |
| 3   | 634                   | 91                        | 1091              | 0.581 | 628                 | 1.4             | 7.701     | A                             |

#### 16:30 - 16:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 828                   | 197                       | 827               | 1.001 | 785                 | 14.7            | 56.949    | F                             |
| 2   | 270                   | 621                       | 354               | 0.762 | 264                 | 2.7             | 37.499    | E                             |
| 3   | 757                   | 108                       | 1079              | 0.702 | 753                 | 2.3             | 10.935    | B                             |

#### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1014                  | 239                       | 801               | 1.267 | 798                 | 68.8            | 200.913   | F                             |
| 2   | 330                   | 632                       | 348               | 0.950 | 313                 | 7.2             | 76.802    | F                             |
| 3   | 927                   | 128                       | 1065              | 0.870 | 913                 | 5.7             | 21.970    | C                             |

#### 17:00 - 17:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 1014                  | 242                       | 799               | 1.270 | 798                 | 122.7           | 436.151   | F                             |
| 2   | 330                   | 632                       | 348               | 0.950 | 323                 | 9.1             | 106.389   | F                             |
| 3   | 927                   | 132                       | 1062              | 0.873 | 925                 | 6.2             | 25.401    | D                             |

#### 17:15 - 17:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 828                   | 202                       | 824               | 1.005 | 822                 | 124.3           | 541.595   | F                             |
| 2   | 270                   | 650                       | 337               | 0.801 | 287                 | 4.9             | 79.222    | F                             |
| 3   | 757                   | 117                       | 1072              | 0.706 | 772                 | 2.5             | 12.513    | B                             |

**17:30 - 17:45**

| Arm | Total Demand<br>(PCU/hr) | Circulating flow<br>(PCU/hr) | Capacity<br>(PCU/hr) | RFC   | Throughput<br>(PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised<br>level of service |
|-----|--------------------------|------------------------------|----------------------|-------|------------------------|-----------------|-----------|----------------------------------|
| 1   | 693                      | 167                          | 846                  | 0.819 | 840                    | 87.7            | 455.679   | F                                |
| 2   | 226                      | 664                          | 328                  | 0.688 | 236                    | 2.4             | 41.890    | E                                |
| 3   | 634                      | 97                           | 1087                 | 0.583 | 638                    | 1.4             | 8.104     | A                                |

| Junctions 10                                                                                                                                                     |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| ARCADY 10 - Roundabout Module                                                                                                                                    |  |  |  |  |  |  |  |  |  |
| Version: 10.0.1.1519                                                                                                                                             |  |  |  |  |  |  |  |  |  |
| © Copyright TRL Software Limited, 2021                                                                                                                           |  |  |  |  |  |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL Software:                                                                    |  |  |  |  |  |  |  |  |  |
| +44 (0)1344 379777 software@trl.co.uk trlsoftware.com                                                                                                            |  |  |  |  |  |  |  |  |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution |  |  |  |  |  |  |  |  |  |

**Filename:** Rivermead Roundabout Peak ARCADY.j10

**Path:** S:\Shared Folders\Projects\600353 - River Academy Reading\5 - TP\4 - Working\ARCADY\Rivermead Richfield

**Report generation date:** 14/12/2021 20:26:05

- »Existing Layout - 2021 Baseline, AM
- »Existing Layout - 2021 Baseline, PM
- »Existing Layout - 2028 Future Baseline, AM
- »Existing Layout - 2028 Future Baseline, PM
- »Existing Layout - 2028 Future Baseline + Development, AM
- »Existing Layout - 2028 Future Baseline + Development, PM

### Summary of junction performance

|       | AM                                                   |             |           |      |     | PM     |             |           |      |     |
|-------|------------------------------------------------------|-------------|-----------|------|-----|--------|-------------|-----------|------|-----|
|       | Set ID                                               | Queue (PCU) | Delay (s) | RFC  | LOS | Set ID | Queue (PCU) | Delay (s) | RFC  | LOS |
|       | Existing Layout - 2021 Baseline                      |             |           |      |     |        |             |           |      |     |
| Arm 1 | D1                                                   | 0.0         | 4.17      | 0.03 | A   | D2     | 0.0         | 4.06      | 0.03 | A   |
| Arm 2 |                                                      | 1.7         | 7.17      | 0.62 | A   |        | 2.0         | 7.96      | 0.67 | A   |
| Arm 3 |                                                      | 0.2         | 8.54      | 0.18 | A   |        | 0.4         | 10.11     | 0.27 | B   |
| Arm 4 |                                                      | 2.1         | 8.32      | 0.67 | A   |        | 1.7         | 7.13      | 0.62 | A   |
|       | Existing Layout - 2028 Future Baseline               |             |           |      |     |        |             |           |      |     |
| Arm 1 | D3                                                   | 0.0         | 4.39      | 0.04 | A   | D4     | 0.0         | 4.26      | 0.03 | A   |
| Arm 2 |                                                      | 2.0         | 8.16      | 0.66 | A   |        | 2.6         | 9.36      | 0.72 | A   |
| Arm 3 |                                                      | 0.3         | 9.20      | 0.20 | A   |        | 0.4         | 11.32     | 0.31 | B   |
| Arm 4 |                                                      | 2.6         | 9.85      | 0.72 | A   |        | 2.0         | 8.18      | 0.67 | A   |
|       | Existing Layout - 2028 Future Baseline + Development |             |           |      |     |        |             |           |      |     |
| Arm 1 | D5                                                   | 0.0         | 4.77      | 0.04 | A   | D6     | 0.0         | 4.62      | 0.03 | A   |
| Arm 2 |                                                      | 2.9         | 10.64     | 0.74 | B   |        | 3.9         | 12.85     | 0.80 | B   |
| Arm 3 |                                                      | 0.3         | 10.40     | 0.22 | B   |        | 0.5         | 13.31     | 0.34 | B   |
| Arm 4 |                                                      | 4.0         | 13.61     | 0.80 | B   |        | 2.9         | 10.71     | 0.75 | B   |

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

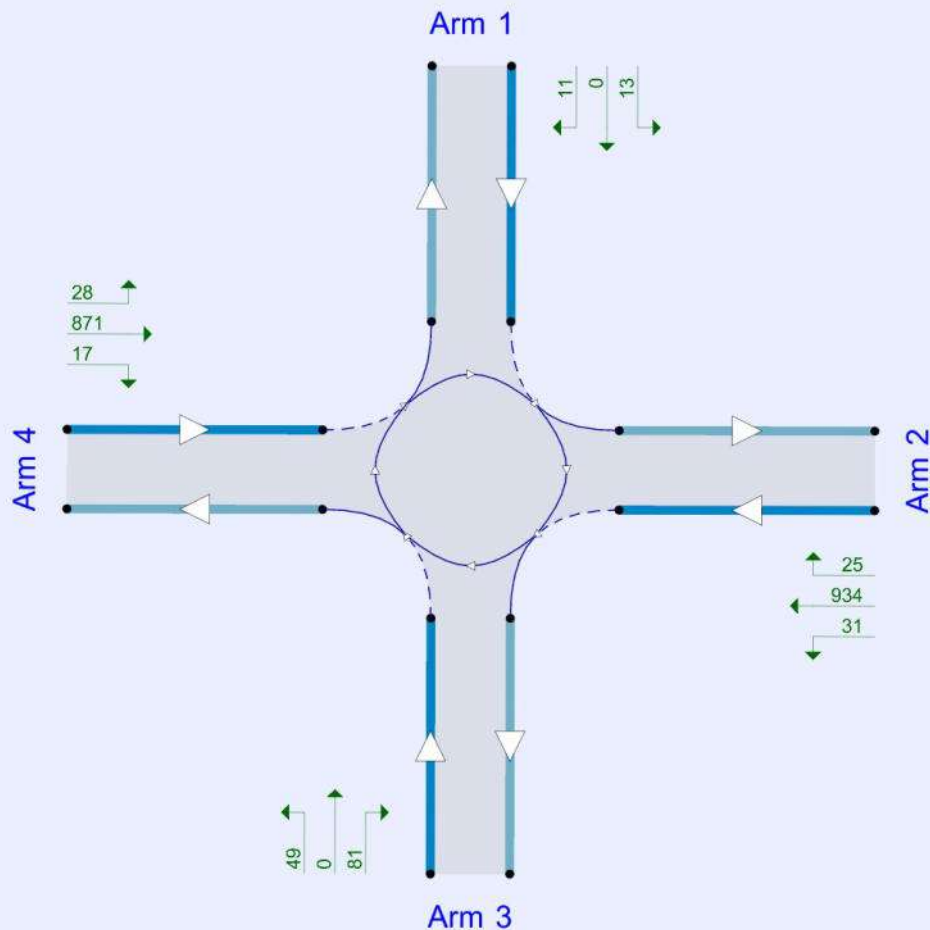
## File summary

### File Description

|                    |                                         |
|--------------------|-----------------------------------------|
| <b>Title</b>       | Rivermead / Richfield Avenue Roundabout |
| <b>Location</b>    | Reading                                 |
| <b>Site number</b> |                                         |
| <b>Date</b>        | 14/12/2021                              |
| <b>Version</b>     |                                         |
| <b>Status</b>      | Preliminary                             |
| <b>Identifier</b>  |                                         |
| <b>Client</b>      |                                         |
| <b>Jobnumber</b>   | 600353                                  |
| <b>Enumerator</b>  |                                         |
| <b>Description</b> |                                         |

### Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

### Analysis Options

| Calculate Queue Percentiles | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|-----------------------------|-----------------------------|---------------|-----------------------------|-----------------------|
|                             |                             | 0.85          | 36.00                       | 20.00                 |

### Demand Set Summary

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline                      | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D2 | 2021 Baseline                      | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |
| D3 | 2028 Future Baseline               | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D4 | 2028 Future Baseline               | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

### Analysis Set Details

| ID | Name            | Network flow scaling factor (%) |
|----|-----------------|---------------------------------|
| A1 | Existing Layout | 100.000                         |

# Existing Layout - 2021 Baseline, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 7.76               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 7.76              | A           |

## Arms

### Arms

| Arm | Name                 | Description | No give-way line |
|-----|----------------------|-------------|------------------|
| 1   | Rivermead            |             |                  |
| 2   | Richfield Avenue (E) |             |                  |
| 3   | Tessa Road           |             |                  |
| 4   | Richfield Avenue (W) |             |                  |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Entry only | Exit only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|------------|-----------|
| 1   | 3.67                             | 5.52                | 12.6                            | 32.3                 | 24.0                              | 40.0                               |            |           |
| 2   | 3.40                             | 6.09                | 12.0                            | 8.5                  | 27.0                              | 29.0                               |            |           |
| 3   | 3.53                             | 3.53                | 0.0                             | 4.6                  | 24.0                              | 24.5                               |            |           |
| 4   | 4.00                             | 6.22                | 4.3                             | 24.0                 | 24.0                              | 39.0                               |            |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|-----|-------------|--------------------------|
| 1   | 0.610       | 1469                     |
| 2   | 0.581       | 1410                     |
| 3   | 0.456       | 915                      |
| 4   | 0.600       | 1433                     |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D1 | 2021 Baseline | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 26                      | 100.000            |
| 2   |            | ✓            | 768                     | 100.000            |
| 3   |            | ✓            | 90                      | 100.000            |
| 4   |            | ✓            | 833                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |    |     |
|------|----|----|-----|----|-----|
|      | 1  | 2  | 3   | 4  |     |
| From | 1  | 0  | 15  | 1  | 10  |
|      | 2  | 38 | 10  | 72 | 648 |
|      | 3  | 3  | 44  | 1  | 42  |
|      | 4  | 29 | 756 | 43 | 5   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |    |   |   |
|------|----|---|----|---|---|
|      | 1  | 2 | 3  | 4 |   |
| From | 1  | 0 | 0  | 0 | 0 |
|      | 2  | 2 | 0  | 5 | 5 |
|      | 3  | 0 | 14 | 0 | 5 |
|      | 4  | 0 | 5  | 4 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.03    | 4.17          | 0.0             | A       |
| 2   | 0.62    | 7.17          | 1.7             | A       |
| 3   | 0.18    | 8.54          | 0.2             | A       |
| 4   | 0.67    | 8.32          | 2.1             | A       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 20                    | 643                       | 1077              | 0.018 | 20                  | 0.0             | 3.404     | A                             |
| 2   | 578                   | 45                        | 1384              | 0.418 | 575                 | 0.7             | 4.649     | A                             |
| 3   | 68                    | 533                       | 672               | 0.101 | 67                  | 0.1             | 6.479     | A                             |
| 4   | 627                   | 72                        | 1390              | 0.451 | 624                 | 0.9             | 4.898     | A                             |

**09:00 - 09:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 23                    | 771                       | 999               | 0.023 | 23                  | 0.0             | 3.688     | A                             |
| 2   | 690                   | 54                        | 1379              | 0.501 | 689                 | 1.0             | 5.463     | A                             |
| 3   | 81                    | 638                       | 624               | 0.130 | 81                  | 0.2             | 7.217     | A                             |
| 4   | 749                   | 86                        | 1382              | 0.542 | 747                 | 1.2             | 5.930     | A                             |

**09:15 - 09:30**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 29                    | 942                       | 894               | 0.032 | 29                  | 0.0             | 4.157     | A                             |
| 2   | 846                   | 66                        | 1372              | 0.617 | 843                 | 1.7             | 7.106     | A                             |
| 3   | 99                    | 781                       | 559               | 0.177 | 99                  | 0.2             | 8.515     | A                             |
| 4   | 917                   | 105                       | 1370              | 0.669 | 914                 | 2.1             | 8.204     | A                             |

**09:30 - 09:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 29                    | 946                       | 892               | 0.032 | 29                  | 0.0             | 4.167     | A                             |
| 2   | 846                   | 66                        | 1371              | 0.617 | 846                 | 1.7             | 7.169     | A                             |
| 3   | 99                    | 783                       | 558               | 0.178 | 99                  | 0.2             | 8.544     | A                             |
| 4   | 917                   | 106                       | 1370              | 0.670 | 917                 | 2.1             | 8.323     | A                             |

**09:45 - 10:00**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 23                    | 776                       | 996               | 0.023 | 23                  | 0.0             | 3.703     | A                             |
| 2   | 690                   | 54                        | 1378              | 0.501 | 693                 | 1.1             | 5.521     | A                             |
| 3   | 81                    | 641                       | 623               | 0.130 | 81                  | 0.2             | 7.248     | A                             |
| 4   | 749                   | 87                        | 1381              | 0.542 | 752                 | 1.3             | 6.027     | A                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 20                    | 648                       | 1074              | 0.018 | 20                  | 0.0             | 3.414     | A                             |
| 2   | 578                   | 45                        | 1384              | 0.418 | 579                 | 0.8             | 4.697     | A                             |
| 3   | 68                    | 536                       | 670               | 0.101 | 68                  | 0.1             | 6.511     | A                             |
| 4   | 627                   | 72                        | 1390              | 0.451 | 629                 | 0.9             | 4.965     | A                             |

# Existing Layout - 2021 Baseline, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 7.70               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 7.70              | A           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D2 | 2021 Baseline | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 22                      | 100.000            |
| 2   |            | ✓            | 850                     | 100.000            |
| 3   |            | ✓            | 122                     | 100.000            |
| 4   |            | ✓            | 765                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |    |     |
|------|----|----|-----|----|-----|
| From |    | 1  | 2   | 3  | 4   |
|      | 1  | 0  | 12  | 0  | 10  |
|      | 2  | 23 | 17  | 29 | 781 |
|      | 3  | 0  | 76  | 0  | 46  |
|      | 4  | 26 | 722 | 16 | 1   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
| From |    | 1 | 2 | 3 | 4 |
|      | 1  | 0 | 0 | 0 | 0 |
|      | 2  | 0 | 0 | 5 | 1 |
|      | 3  | 0 | 2 | 0 | 2 |
|      | 4  | 0 | 2 | 2 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.03    | 4.06          | 0.0             | A       |
| 2   | 0.67    | 7.96          | 2.0             | A       |
| 3   | 0.27    | 10.11         | 0.4             | B       |
| 4   | 0.62    | 7.13          | 1.7             | A       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 17                    | 623                       | 1089              | 0.015 | 17                  | 0.0             | 3.355     | A                             |
| 2   | 640                   | 20                        | 1398              | 0.458 | 637                 | 0.8             | 4.758     | A                             |
| 3   | 92                    | 623                       | 631               | 0.146 | 91                  | 0.2             | 6.794     | A                             |
| 4   | 576                   | 87                        | 1381              | 0.417 | 573                 | 0.7             | 4.524     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 20                    | 747                       | 1014              | 0.020 | 20                  | 0.0             | 3.620     | A                             |
| 2   | 764                   | 24                        | 1396              | 0.547 | 763                 | 1.2             | 5.735     | A                             |
| 3   | 110                   | 747                       | 575               | 0.191 | 109                 | 0.2             | 7.888     | A                             |
| 4   | 688                   | 104                       | 1371              | 0.502 | 687                 | 1.0             | 5.354     | A                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 24                    | 913                       | 912               | 0.027 | 24                  | 0.0             | 4.054     | A                             |
| 2   | 936                   | 30                        | 1393              | 0.672 | 933                 | 2.0             | 7.854     | A                             |
| 3   | 134                   | 913                       | 499               | 0.269 | 134                 | 0.4             | 10.043    | B                             |
| 4   | 842                   | 127                       | 1357              | 0.621 | 840                 | 1.6             | 7.063     | A                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 24                    | 916                       | 910               | 0.027 | 24                  | 0.0             | 4.061     | A                             |
| 2   | 936                   | 30                        | 1393              | 0.672 | 936                 | 2.0             | 7.961     | A                             |
| 3   | 134                   | 916                       | 498               | 0.270 | 134                 | 0.4             | 10.109    | B                             |
| 4   | 842                   | 128                       | 1357              | 0.621 | 842                 | 1.7             | 7.131     | A                             |

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 20                    | 751                       | 1011              | 0.020 | 20                  | 0.0             | 3.633     | A                             |
| 2   | 764                   | 24                        | 1396              | 0.547 | 767                 | 1.2             | 5.822     | A                             |
| 3   | 110                   | 751                       | 573               | 0.192 | 110                 | 0.2             | 7.949     | A                             |
| 4   | 688                   | 105                       | 1370              | 0.502 | 690                 | 1.0             | 5.415     | A                             |

**16:30 - 16:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 17                    | 628                       | 1086              | 0.015 | 17                  | 0.0             | 3.364     | A                             |
| 2   | 640                   | 20                        | 1398              | 0.458 | 641                 | 0.9             | 4.819     | A                             |
| 3   | 92                    | 628                       | 629               | 0.146 | 92                  | 0.2             | 6.845     | A                             |
| 4   | 576                   | 88                        | 1381              | 0.417 | 577                 | 0.7             | 4.575     | A                             |

# Existing Layout - 2028 Future Baseline, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 8.98               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 8.98              | A           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D3 | 2028 Future Baseline | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 28                      | 100.000            |
| 2   |            | ✓            | 824                     | 100.000            |
| 3   |            | ✓            | 96                      | 100.000            |
| 4   |            | ✓            | 893                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |    |     |
|------|----|----|-----|----|-----|
| From |    | 1  | 2   | 3  | 4   |
|      | 1  | 0  | 16  | 1  | 11  |
|      | 2  | 41 | 11  | 77 | 695 |
|      | 3  | 3  | 47  | 1  | 45  |
|      | 4  | 31 | 811 | 46 | 5   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |    |   |   |
|------|----|---|----|---|---|
| From |    | 1 | 2  | 3 | 4 |
|      | 1  | 0 | 0  | 0 | 0 |
|      | 2  | 2 | 0  | 5 | 5 |
|      | 3  | 0 | 14 | 0 | 5 |
|      | 4  | 0 | 5  | 4 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.04    | 4.39          | 0.0             | A       |
| 2   | 0.66    | 8.16          | 2.0             | A       |
| 3   | 0.20    | 9.20          | 0.3             | A       |
| 4   | 0.72    | 9.85          | 2.6             | A       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 21                    | 689                       | 1049              | 0.020 | 21                  | 0.0             | 3.502     | A                             |
| 2   | 620                   | 48                        | 1382              | 0.449 | 617                 | 0.8             | 4.909     | A                             |
| 3   | 72                    | 571                       | 655               | 0.110 | 72                  | 0.1             | 6.727     | A                             |
| 4   | 672                   | 77                        | 1387              | 0.485 | 668                 | 1.0             | 5.219     | A                             |

#### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 25                    | 826                       | 965               | 0.026 | 25                  | 0.0             | 3.828     | A                             |
| 2   | 741                   | 57                        | 1376              | 0.538 | 739                 | 1.2             | 5.907     | A                             |
| 3   | 86                    | 685                       | 603               | 0.143 | 86                  | 0.2             | 7.590     | A                             |
| 4   | 803                   | 92                        | 1378              | 0.583 | 801                 | 1.4             | 6.516     | A                             |

#### 09:15 - 09:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 31                    | 1009                      | 854               | 0.036 | 31                  | 0.0             | 4.375     | A                             |
| 2   | 907                   | 70                        | 1369              | 0.663 | 904                 | 2.0             | 8.055     | A                             |
| 3   | 106                   | 837                       | 533               | 0.198 | 105                 | 0.3             | 9.158     | A                             |
| 4   | 983                   | 113                       | 1365              | 0.720 | 979                 | 2.6             | 9.630     | A                             |

#### 09:30 - 09:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 31                    | 1014                      | 851               | 0.036 | 31                  | 0.0             | 4.390     | A                             |
| 2   | 907                   | 70                        | 1369              | 0.663 | 907                 | 2.0             | 8.163     | A                             |
| 3   | 106                   | 840                       | 532               | 0.199 | 106                 | 0.3             | 9.200     | A                             |
| 4   | 983                   | 113                       | 1365              | 0.720 | 983                 | 2.6             | 9.854     | A                             |

#### 09:45 - 10:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 25                    | 833                       | 961               | 0.026 | 25                  | 0.0             | 3.847     | A                             |
| 2   | 741                   | 58                        | 1376              | 0.538 | 744                 | 1.2             | 5.996     | A                             |
| 3   | 86                    | 689                       | 601               | 0.144 | 87                  | 0.2             | 7.635     | A                             |
| 4   | 803                   | 93                        | 1377              | 0.583 | 807                 | 1.5             | 6.666     | A                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 21                    | 695                       | 1045              | 0.020 | 21                  | 0.0             | 3.515     | A                             |
| 2   | 620                   | 48                        | 1382              | 0.449 | 622                 | 0.9             | 4.975     | A                             |
| 3   | 72                    | 576                       | 652               | 0.111 | 72                  | 0.1             | 6.768     | A                             |
| 4   | 672                   | 78                        | 1387              | 0.485 | 674                 | 1.0             | 5.309     | A                             |

# Existing Layout - 2028 Future Baseline, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 8.91               | A            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 8.91              | A           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name        | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D4 | 2028 Future Baseline | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 24                      | 100.000            |
| 2   |            | ✓            | 911                     | 100.000            |
| 3   |            | ✓            | 130                     | 100.000            |
| 4   |            | ✓            | 820                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |    |     |
|------|----|----|-----|----|-----|
| From |    | 1  | 2   | 3  | 4   |
|      | 1  | 0  | 13  | 0  | 11  |
|      | 2  | 25 | 18  | 31 | 837 |
|      | 3  | 0  | 81  | 0  | 49  |
|      | 4  | 28 | 774 | 17 | 1   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
| From |    | 1 | 2 | 3 | 4 |
|      | 1  | 0 | 0 | 0 | 0 |
|      | 2  | 0 | 0 | 5 | 1 |
|      | 3  | 0 | 2 | 0 | 2 |
|      | 4  | 0 | 2 | 2 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.03    | 4.26          | 0.0             | A       |
| 2   | 0.72    | 9.36          | 2.6             | A       |
| 3   | 0.31    | 11.32         | 0.4             | B       |
| 4   | 0.67    | 8.18          | 2.0             | A       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 18                    | 667                       | 1062              | 0.017 | 18                  | 0.0             | 3.446     | A                             |
| 2   | 686                   | 22                        | 1397              | 0.491 | 682                 | 1.0             | 5.060     | A                             |
| 3   | 98                    | 668                       | 611               | 0.160 | 97                  | 0.2             | 7.141     | A                             |
| 4   | 617                   | 93                        | 1378              | 0.448 | 614                 | 0.8             | 4.786     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 22                    | 799                       | 982               | 0.022 | 22                  | 0.0             | 3.749     | A                             |
| 2   | 819                   | 26                        | 1395              | 0.587 | 817                 | 1.4             | 6.280     | A                             |
| 3   | 117                   | 800                       | 550               | 0.212 | 117                 | 0.3             | 8.460     | A                             |
| 4   | 737                   | 111                       | 1366              | 0.539 | 736                 | 1.2             | 5.805     | A                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 26                    | 977                       | 873               | 0.030 | 26                  | 0.0             | 4.251     | A                             |
| 2   | 1003                  | 32                        | 1391              | 0.721 | 999                 | 2.5             | 9.162     | A                             |
| 3   | 143                   | 978                       | 469               | 0.305 | 142                 | 0.4             | 11.209    | B                             |
| 4   | 903                   | 136                       | 1352              | 0.668 | 900                 | 2.0             | 8.057     | A                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 26                    | 981                       | 871               | 0.030 | 26                  | 0.0             | 4.262     | A                             |
| 2   | 1003                  | 32                        | 1391              | 0.721 | 1003                | 2.6             | 9.357     | A                             |
| 3   | 143                   | 982                       | 467               | 0.306 | 143                 | 0.4             | 11.319    | B                             |
| 4   | 903                   | 137                       | 1351              | 0.668 | 903                 | 2.0             | 8.175     | A                             |

#### 16:15 - 16:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 22                    | 805                       | 978               | 0.022 | 22                  | 0.0             | 3.764     | A                             |
| 2   | 819                   | 26                        | 1395              | 0.587 | 823                 | 1.5             | 6.417     | A                             |
| 3   | 117                   | 806                       | 548               | 0.213 | 118                 | 0.3             | 8.552     | A                             |
| 4   | 737                   | 112                       | 1366              | 0.540 | 740                 | 1.2             | 5.897     | A                             |

**16:30 - 16:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 18                    | 672                       | 1059              | 0.017 | 18                  | 0.0             | 3.460     | A                             |
| 2   | 686                   | 22                        | 1397              | 0.491 | 688                 | 1.0             | 5.145     | A                             |
| 3   | 98                    | 673                       | 608               | 0.161 | 98                  | 0.2             | 7.206     | A                             |
| 4   | 617                   | 94                        | 1377              | 0.448 | 619                 | 0.8             | 4.848     | A                             |

# Existing Layout - 2028 Future Baseline + Development, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 11.99              | B            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 11.99             | B           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D5 | 2028 Future Baseline + Development | AM               | ONE HOUR             | 08:45              | 10:15               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 28                      | 100.000            |
| 2   |            | ✓            | 922                     | 100.000            |
| 3   |            | ✓            | 96                      | 100.000            |
| 4   |            | ✓            | 990                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |    |     |
|------|----|----|-----|----|-----|
| From |    | 1  | 2   | 3  | 4   |
|      | 1  | 0  | 16  | 1  | 11  |
|      | 2  | 41 | 11  | 77 | 793 |
|      | 3  | 3  | 47  | 1  | 45  |
|      | 4  | 31 | 908 | 46 | 5   |

## Vehicle Mix

### Heavy Vehicle Percentages

| From | To |   |    |   |   |
|------|----|---|----|---|---|
|      |    | 1 | 2  | 3 | 4 |
|      | 1  | 0 | 0  | 0 | 0 |
|      | 2  | 2 | 0  | 5 | 5 |
|      | 3  | 0 | 14 | 0 | 5 |
|      | 4  | 0 | 5  | 4 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.04    | 4.77          | 0.0             | A       |
| 2   | 0.74    | 10.64         | 2.9             | B       |
| 3   | 0.22    | 10.40         | 0.3             | B       |
| 4   | 0.80    | 13.61         | 4.0             | B       |

### Main Results for each time segment

#### 08:45 - 09:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 21                    | 761                       | 1005              | 0.021 | 21                  | 0.0             | 3.658     | A                             |
| 2   | 694                   | 48                        | 1382              | 0.502 | 690                 | 1.0             | 5.419     | A                             |
| 3   | 72                    | 644                       | 621               | 0.116 | 72                  | 0.1             | 7.131     | A                             |
| 4   | 745                   | 77                        | 1387              | 0.537 | 741                 | 1.2             | 5.791     | A                             |

#### 09:00 - 09:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 25                    | 912                       | 913               | 0.028 | 25                  | 0.0             | 4.056     | A                             |
| 2   | 829                   | 57                        | 1376              | 0.602 | 827                 | 1.6             | 6.837     | A                             |
| 3   | 86                    | 772                       | 563               | 0.153 | 86                  | 0.2             | 8.223     | A                             |
| 4   | 890                   | 92                        | 1378              | 0.646 | 887                 | 1.9             | 7.646     | A                             |

#### 09:15 - 09:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 31                    | 1113                      | 790               | 0.039 | 31                  | 0.0             | 4.738     | A                             |
| 2   | 1015                  | 70                        | 1369              | 0.741 | 1010                | 2.9             | 10.346    | B                             |
| 3   | 106                   | 943                       | 485               | 0.218 | 105                 | 0.3             | 10.316    | B                             |
| 4   | 1090                  | 113                       | 1365              | 0.798 | 1082                | 3.9             | 12.942    | B                             |

#### 09:30 - 09:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 31                    | 1120                      | 786               | 0.039 | 31                  | 0.0             | 4.767     | A                             |
| 2   | 1015                  | 70                        | 1369              | 0.742 | 1015                | 2.9             | 10.637    | B                             |
| 3   | 106                   | 948                       | 483               | 0.219 | 106                 | 0.3             | 10.397    | B                             |
| 4   | 1090                  | 113                       | 1365              | 0.798 | 1090                | 4.0             | 13.612    | B                             |

**09:45 - 10:00**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 25                    | 923                       | 906               | 0.028 | 25                  | 0.0             | 4.087     | A                             |
| 2   | 829                   | 58                        | 1376              | 0.602 | 834                 | 1.6             | 7.026     | A                             |
| 3   | 86                    | 779                       | 560               | 0.154 | 87                  | 0.2             | 8.299     | A                             |
| 4   | 890                   | 93                        | 1377              | 0.646 | 898                 | 2.0             | 7.999     | A                             |

**10:00 - 10:15**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 21                    | 769                       | 1000              | 0.021 | 21                  | 0.0             | 3.677     | A                             |
| 2   | 694                   | 48                        | 1382              | 0.502 | 696                 | 1.1             | 5.521     | A                             |
| 3   | 72                    | 650                       | 619               | 0.117 | 72                  | 0.1             | 7.187     | A                             |
| 4   | 745                   | 78                        | 1387              | 0.538 | 748                 | 1.2             | 5.936     | A                             |

# Existing Layout - 2028 Future Baseline + Development, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name                                    | Junction type       | Use circulating lanes | Arm order  | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1        | Rivermead / Richfield Avenue Roundabout | Standard Roundabout |                       | 1, 2, 3, 4 | 11.84              | B            |

### Junction Network

| Driving side | Lighting       | Network delay (s) | Network LOS |
|--------------|----------------|-------------------|-------------|
| Left         | Normal/unknown | 11.84             | B           |

## Traffic Demand

### Demand Set Details

| ID | Scenario name                      | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|----|------------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D6 | 2028 Future Baseline + Development | PM               | ONE HOUR             | 15:15              | 16:45               | 15                        |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------------------|--------------------|
| 1   |            | ✓            | 24                      | 100.000            |
| 2   |            | ✓            | 1008                    | 100.000            |
| 3   |            | ✓            | 130                     | 100.000            |
| 4   |            | ✓            | 917                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |     |    |     |
|------|----|----|-----|----|-----|
|      | 1  | 2  | 3   | 4  |     |
| From | 1  | 0  | 13  | 0  | 11  |
|      | 2  | 25 | 18  | 31 | 934 |
|      | 3  | 0  | 81  | 0  | 49  |
|      | 4  | 28 | 871 | 17 | 1   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      | 1  | 2 | 3 | 4 |   |
| From | 1  | 0 | 0 | 0 | 0 |
|      | 2  | 0 | 0 | 5 | 1 |
|      | 3  | 0 | 2 | 0 | 2 |
|      | 4  | 0 | 2 | 2 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|-----|---------|---------------|-----------------|---------|
| 1   | 0.03    | 4.62          | 0.0             | A       |
| 2   | 0.80    | 12.85         | 3.9             | B       |
| 3   | 0.34    | 13.31         | 0.5             | B       |
| 4   | 0.75    | 10.71         | 2.9             | B       |

### Main Results for each time segment

#### 15:15 - 15:30

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 18                    | 739                       | 1018              | 0.018 | 18                  | 0.0             | 3.598     | A                             |
| 2   | 759                   | 22                        | 1397              | 0.543 | 754                 | 1.2             | 5.619     | A                             |
| 3   | 98                    | 740                       | 578               | 0.169 | 97                  | 0.2             | 7.627     | A                             |
| 4   | 690                   | 93                        | 1378              | 0.501 | 686                 | 1.0             | 5.278     | A                             |

#### 15:30 - 15:45

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 22                    | 886                       | 929               | 0.023 | 22                  | 0.0             | 3.967     | A                             |
| 2   | 906                   | 26                        | 1395              | 0.650 | 904                 | 1.8             | 7.368     | A                             |
| 3   | 117                   | 887                       | 511               | 0.229 | 116                 | 0.3             | 9.302     | A                             |
| 4   | 824                   | 111                       | 1367              | 0.603 | 822                 | 1.5             | 6.717     | A                             |

#### 15:45 - 16:00

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 26                    | 1082                      | 809               | 0.033 | 26                  | 0.0             | 4.598     | A                             |
| 2   | 1110                  | 32                        | 1391              | 0.798 | 1102                | 3.7             | 12.264    | B                             |
| 3   | 143                   | 1081                      | 422               | 0.339 | 142                 | 0.5             | 13.081    | B                             |
| 4   | 1010                  | 136                       | 1352              | 0.747 | 1004                | 2.9             | 10.395    | B                             |

#### 16:00 - 16:15

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 26                    | 1088                      | 806               | 0.033 | 26                  | 0.0             | 4.618     | A                             |
| 2   | 1110                  | 32                        | 1391              | 0.798 | 1109                | 3.9             | 12.848    | B                             |
| 3   | 143                   | 1088                      | 419               | 0.342 | 143                 | 0.5             | 13.307    | B                             |
| 4   | 1010                  | 136                       | 1351              | 0.747 | 1009                | 2.9             | 10.710    | B                             |

**16:15 - 16:30**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 22                    | 894                       | 924               | 0.023 | 22                  | 0.0             | 3.991     | A                             |
| 2   | 906                   | 26                        | 1395              | 0.650 | 914                 | 1.9             | 7.686     | A                             |
| 3   | 117                   | 897                       | 506               | 0.231 | 118                 | 0.3             | 9.469     | A                             |
| 4   | 824                   | 112                       | 1366              | 0.604 | 830                 | 1.6             | 6.913     | A                             |

**16:30 - 16:45**

| Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|-----|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-------------------------------|
| 1   | 18                    | 746                       | 1014              | 0.018 | 18                  | 0.0             | 3.613     | A                             |
| 2   | 759                   | 22                        | 1397              | 0.543 | 762                 | 1.2             | 5.752     | A                             |
| 3   | 98                    | 747                       | 574               | 0.170 | 98                  | 0.2             | 7.719     | A                             |
| 4   | 690                   | 94                        | 1377              | 0.501 | 693                 | 1.0             | 5.380     | A                             |

**Appendix G – Traffic Count Data**

|                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                  |
|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------------------|
| TRAFFIC SURVEYS UK             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Job Number & Name: 29708 Reading |
| Site 1 - Cow Lane/Portman Road |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Client: HEXA Consulting          |
| PCU Values                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Date: Tuesday 30 November 2021   |

|               | A to A |     |      |      |     |     |     |       | A to B |     |      |      |     |     |     |       | A to C |      |      |      |     |     |     |       | B to A |     |      |      |     |     |     |       | B to B |     |      |      |     |     |     |       | B to C |      |      |      |     |     |     |       | C to A |      |      |      |     |     |     |       | C to B |     |     |     |     |     |     |      | C to C |     |     |     |     |     |     |     |     |
|---------------|--------|-----|------|------|-----|-----|-----|-------|--------|-----|------|------|-----|-----|-----|-------|--------|------|------|------|-----|-----|-----|-------|--------|-----|------|------|-----|-----|-----|-------|--------|-----|------|------|-----|-----|-----|-------|--------|------|------|------|-----|-----|-----|-------|--------|------|------|------|-----|-----|-----|-------|--------|-----|-----|-----|-----|-----|-----|------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| Times         | Cars   | LGV | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV  | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV  | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV  | OGV1 | OGV2 | PSV | M/B | Cyc | Total |        |     |     |     |     |     |     |      |        |     |     |     |     |     |     |     |     |
| 08:00 - 08:15 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 11.0   | 4.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 15.0  | 75.0   | 26.0 | 4.5  | 2.3  | 0.0 | 1.2 | 0.0 | 109.0 | 19.0   | 3.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.2 | 22.2  | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 22.0   | 7.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 29.0  | 121.0  | 28.0 | 7.5  | 4.6  | 0.0 | 0.4 | 0.2 | 161.7 | 23.0   | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 31.0 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |     |
| 08:15 - 08:30 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 10.0   | 5.0 | 1.5  | 0.0  | 0.0 | 0.0 | 0.0 | 16.5  | 82.0   | 26.0 | 12.0 | 6.9  | 0.0 | 0.4 | 0.4 | 127.7 | 13.0   | 6.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 19.0  | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 32.0   | 5.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 37.0  | 122.0  | 36.0 | 7.5  | 4.6  | 0.0 | 0.4 | 0.0 | 170.5 | 24.0   | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 27.0 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |     |
| 08:30 - 08:45 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 8.0    | 3.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 11.0  | 87.0   | 32.0 | 3.0  | 0.0  | 0.0 | 0.8 | 0.0 | 122.8 | 23.0   | 5.0 | 0.0  | 2.3  | 0.0 | 0.0 | 0.0 | 30.3  | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 25.0   | 5.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.2 | 30.2  | 147.0  | 41.0 | 9.0  | 2.3  | 0.0 | 1.6 | 0.2 | 201.1 | 40.0   | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0  | 44.8   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 08:45 - 09:00 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 27.0   | 1.0 | 0.0  | 0.0  | 0.0 | 0.4 | 0.0 | 28.4  | 89.0   | 20.0 | 7.5  | 4.6  | 0.0 | 0.8 | 0.4 | 123.3 | 24.0   | 3.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 27.0  | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 52.0   | 5.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 57.0  | 110.0  | 32.0 | 4.5  | 4.6  | 0.0 | 0.4 | 0.0 | 151.5 | 33.0   | 9.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 42.0 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |     |
| 09:00 - 09:15 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 16.0   | 4.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 20.0  | 107.0  | 24.0 | 7.5  | 4.6  | 0.0 | 0.0 | 0.0 | 143.1 | 25.0   | 4.0 | 0.0  | 0.0  | 0.0 | 0.4 | 0.0 | 29.4  | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 39.0   | 11.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 50.0  | 139.0  | 37.0 | 4.5  | 2.3  | 0.0 | 0.8 | 0.0 | 183.6 | 27.0   | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 35.0 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |     |
| 09:15 - 09:30 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 15.0   | 5.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 20.0  | 88.0   | 28.0 | 7.5  | 4.6  | 0.0 | 0.0 | 0.0 | 128.1 | 26.0   | 4.0 | 0.0  | 0.0  | 0.0 | 0.4 | 0.0 | 30.4  | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 30.0   | 2.0  | 1.5  | 0.0  | 0.0 | 0.0 | 0.2 | 33.7  | 141.0  | 43.0 | 9.0  | 0.0  | 0.0 | 0.4 | 0.0 | 193.4 | 29.0   | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0  | 37.4   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 09:30 - 09:45 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 18.0   | 3.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 21.0  | 74.0   | 26.0 | 13.5 | 0.0  | 0.0 | 0.4 | 0.0 | 113.9 | 18.0   | 6.0 | 1.5  | 0.0  | 0.0 | 0.0 | 0.0 | 21.5  | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 20.0   | 8.0  | 0.0  | 0.0  | 0.0 | 0.4 | 0.0 | 28.4  | 119.0  | 39.0 | 10.5 | 9.2  | 0.0 | 0.4 | 0.0 | 178.1 | 22.0   | 8.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 30.4 | 0.0    | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 | 2.3 |     |
| 09:45 - 10:00 | 2.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 2.0   | 15.0   | 6.0 | 1.5  | 2.3  | 0.0 | 0.0 | 0.0 | 24.8  | 107.0  | 33.0 | 4.5  | 2.3  | 0.0 | 0.0 | 0.0 | 146.8 | 13.0   | 5.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 18.0  | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 22.0   | 8.0  | 0.0  | 0.0  | 0.0 | 0.4 | 0.0 | 30.4  | 127.0  | 37.0 | 6.0  | 4.6  | 0.0 | 0.0 | 0.2 | 174.8 | 27.0   | 5.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 32.4 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |     |

|               |     |     |     |     |     |     |     |     |     |      |      |     |     |     |     |     |      |       |       |      |     |     |     |     |       |       |      |     |     |     |     |     |      |      |     |     |     |     |     |     |     |      |      |     |     |     |     |     |      |       |       |       |      |     |     |     |       |       |       |       |      |     |     |     |      |      |      |      |      |     |     |     |     |     |     |     |     |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|------|-------|-------|------|-----|-----|-----|-----|-------|-------|------|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|------|-------|-------|-------|------|-----|-----|-----|-------|-------|-------|-------|------|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 15:00 - 15:15 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 27.0 | 5.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 32.2 | 125.0 | 48.0  | 6.0  | 0.0 | 4.0 | 1.2 | 0.0 | 184.2 | 24.0  | 4.0  | 1.5 | 0.0 | 0.0 | 0.0 | 0.2 | 29.7 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 30.0 | 10.0 | 1.5 | 0.0 | 0.0 | 0.0 | 0.2 | 41.7 | 102.0 | 24.0  | 3.0   | 2.3  | 0.0 | 0.4 | 0.0 | 131.7 | 31.0  | 8.0   | 0.0   | 0.0  | 0.0 | 0.0 | 0.0 | 39.0 | 1.0  | 0.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 1.0 |     |     |     |     |
| 15:15 - 15:30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 27.0 | 5.0  | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 32.4 | 112.0 | 36.0  | 4.5  | 0.0 | 0.0 | 0.0 | 0.0 | 152.5 | 20.0  | 3.0  | 0.0 | 0.0 | 0.0 | 0.8 | 0.6 | 24.4 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 39.0 | 3.0  | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 43.5 | 106.0 | 24.0  | 12.0  | 4.6  | 0.0 | 1.6 | 0.2 | 148.4 | 32.0  | 9.0   | 0.0   | 0.0  | 0.0 | 0.8 | 0.0 | 41.8 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 |     |     |     |     |
| 15:30 - 15:45 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 27.0 | 3.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 30.0 | 120.0 | 29.0  | 6.0  | 0.0 | 0.0 | 0.4 | 0.0 | 155.4 | 21.0  | 2.0  | 1.5 | 0.0 | 0.0 | 0.4 | 0.2 | 25.1 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 38.0 | 9.0  | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 47.8 | 113.0 | 41.0  | 6.0   | 0.0  | 0.0 | 0.4 | 0.0 | 160.4 | 33.0  | 7.0   | 0.0   | 0.0  | 0.0 | 0.4 | 0.0 | 40.4 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 |     |     |     |     |
| 15:45 - 16:00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 30.0 | 4.0  | 1.5 | 0.0 | 0.0 | 0.0 | 1.2 | 0.0  | 36.7  | 110.0 | 39.0 | 6.0 | 0.0 | 0.0 | 0.4 | 0.0   | 151.4 | 24.0 | 9.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0  | 33.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 29.0 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.2   | 36.2  | 114.0 | 27.0 | 7.5 | 2.3 | 0.0 | 0.0   | 0.4   | 0.0   | 151.2 | 48.0 | 2.0 | 1.5 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 51.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16:00 - 16:15 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25.0 | 12.0 | 3.0 | 0.0 | 0.0 | 0.4 | 0.0 | 40.4 | 130.0 | 38.0  | 3.0  | 0.0 | 0.0 | 0.4 | 0.0 | 171.4 | 27.0  | 5.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 32.2 | 1.0  | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9  | 34.0 | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 42.0  | 123.0 | 23.0  | 9.0  | 0.0 | 0.0 | 0.0 | 0.0   | 155.0 | 52.0  | 6.0   | 0.0  | 0.0 | 0.0 | 0.0 | 0.2  | 58.2 | 0.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |     |     |     |
| 16:15 - 16:30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 33.0 | 6.0  | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 39.4 | 105.0 | 27.0  | 3.0  | 0.0 | 0.0 | 0.4 | 0.0 | 135.4 | 22.0  | 4.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 26.2 | 2.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 2.0  | 36.0 | 9.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0  | 45.4  | 107.0 | 28.0  | 4.5  | 2.3 | 0.0 | 0.0 | 0.0   | 141.8 | 52.0  | 4.0   | 1.5  | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  |      |      |      |     |     |     |     |     |     |     |     |
| 16:30 - 16:45 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 26.0 | 4.0  | 0.0 | 0.0 | 0.0 | 0.8 | 0.2 | 31.0 | 121.0 | 42.0  | 1.5  | 0.0 | 0.0 | 0.0 | 0.0 | 164.5 | 20.0  | 2.0  | 0.0 | 0.0 | 0.0 | 1.2 | 0.2 | 23.4 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 49.0 | 2.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 51.0 | 121.0 | 24.0  | 3.0   | 2.3  | 0.0 | 0.4 | 0.4 | 151.1 | 46.0  | 5.0   | 0.0   | 0.0  | 0.0 | 1.2 | 0.2 | 52.4 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 |     |     |     |     |
| 16:45 - 17:00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 40.0 | 5.0  | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 45.8 | 132.0 | 18.0  | 1.5  | 0.0 | 4.0 | 2.8 | 0.0 | 158.3 | 27.0  | 5.0  | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 32.4 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 30.0 | 6.0  | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 36.4 | 128.0 | 19.0  | 1.5   | 0.0  | 0.0 | 0.4 | 0.4 | 149.3 | 49.0  | 6.0   | 0.0   | 0.0  | 0.0 | 0.0 | 0.0 | 0.0  |      |      |      |      |     |     |     |     |     |     |     |     |
| 17:00 - 17:15 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 36.0 | 8.0  | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 | 43.2 | 134.0 | 22.0  | 4.5  | 0.0 | 0.0 | 0.8 | 0.2 | 161.5 | 26.0  | 2.0  | 0.0 | 0.0 | 0.0 | 0.8 | 0.2 | 29.9 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 34.0 | 8.0  | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 42.4 | 105.0 | 21.0  | 6.0   | 0.0  | 0.0 | 0.0 | 0.0 | 132.0 | 50.0  | 8.0   | 0.0   | 0.0  | 0.0 | 0.0 | 0.0 | 0.0  |      |      |      |      |     |     |     |     |     |     |     |     |
| 17:15 - 17:30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 33.0 | 3.0  | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 | 37.2 | 153.0 | 15.0  | 1.5  | 0.0 | 0.0 | 0.8 | 0.0 | 179.3 | 21.0  | 3.0  | 0.0 | 0.0 | 0.0 | 0.4 | 0.2 | 24.6 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 31.0 | 3.0 | 1.5 | 0.0 | 0.0 | 0.0 | 1.2  | 0.0   | 35.5  | 127.0 | 14.0 | 0.0 | 0.0 | 0.0 | 0.4   | 0.2   | 142.2 | 37.0  | 1.0  | 0.0 | 0.0 | 0.0 | 0.4  | 0.2  | 38.6 | 1.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |     |     |
| 17:30 - 17:45 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 33.0 | 9.0  | 0.0 | 0.0 | 0.0 | 0.8 | 0.2 | 41.0 | 132.0 | 14.0  | 1.5  | 0.0 | 0.0 | 0.4 | 0.2 | 148.1 | 26.0  | 1.0  | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 27.8 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 31.0 | 1.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 32.0 | 120.0 | 15.0  | 3.0   | 0.0  | 0.8 | 0.0 | 0.0 | 138.8 | 39.0  | 3.0   | 0.0   | 0.0  | 0.0 | 0.0 | 0.4 | 0.0  | 42.4 | 0.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |     |     |     |
| 17:45 - 18:00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 31.0 | 3.0  | 0.0 | 0.0 | 0.0 | 1.2 | 0.4 | 36.6 | 123.0 | 13.0  | 0.0  | 0.0 | 0.0 | 1.6 | 0.2 | 139.8 | 16.0  | 4.0  | 0.0 | 0.0 | 0.0 | 0.4 | 0.2 | 26.4 | 1.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0  | 22.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0   | 23.0  | 120.0 | 8.0  | 0.0 | 0.0 | 0.0 | 0.4   | 0.2   | 128.6 | 37.0  | 2.0  | 1.5 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 46.5 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |     |

|               | Cow Lane |        | Beresford Road |        | Portman Road |        |
|---------------|----------|--------|----------------|--------|--------------|--------|
| Times         | Lane 1   | Lane 2 | Lane 1         | Lane 2 | Lane 1       | Lane 2 |
| 08:00 - 08:05 | 5        |        | 3              | 0      | 1            | 1      |
| 08:05 - 08:10 | 5        |        | 2              | 0      | 7            | 1      |
| 08:10 - 08:15 | 2        |        | 2              | 0      | 4            | 0      |
| 08:15 - 08:20 | 5        |        | 1              | 0      | 6            | 1      |
| 08:20 - 08:25 | 2        |        | 1              | 0      | 1            | 1      |
| 08:25 - 08:30 | 1        |        | 2              | 0      | 5            | 1      |
| 08:30 - 08:35 | 2        |        | 1              | 0      | 7            | 1      |
| 08:35 - 08:40 | 4        |        | 1              | 0      | 7            | 1      |
| 08:40 - 08:45 | 4        |        | 2              | 0      | 6            | 1      |
| 08:45 - 08:50 | 2        |        | 2              | 0      | 1            | 1      |
| 08:50 - 08:55 | 4        |        | 3              | 0      | 3            | 2      |
| 08:55 - 09:00 | 6        |        | 2              | 0      | 7            | 1      |
| 09:00 - 09:05 | 8        |        | 3              | 0      | 4            | 1      |
| 09:05 - 09:10 | 5        |        | 2              | 0      | 8            | 2      |
| 09:10 - 09:15 | 6        |        | 3              | 0      | 5            | 2      |
| 09:15 - 09:20 | 10       |        | 8              | 1      | 4            | 3      |
| 09:20 - 09:25 | 4        |        | 3              | 0      | 8            | 1      |
| 09:25 - 09:30 | 5        |        | 5              | 0      | 11           | 3      |
| 09:30 - 09:35 | 3        |        | 3              | 0      | 2            | 1      |
| 09:35 - 09:40 | 4        |        | 3              | 0      | 5            | 2      |
| 09:40 - 09:45 | 2        |        | 5              | 0      | 21           | 1      |
| 09:45 - 09:50 | 7        |        | 3              | 0      | 3            | 3      |
| 09:50 - 09:55 | 4        |        | 3              | 0      | 2            | 1      |
| 09:55 - 10:00 | 6        |        | 2              | 0      | 10           | 1      |

2 Count in Vehicles

2 Lane 1 = Nearest Kerb

|                                |  |                    |                          |
|--------------------------------|--|--------------------|--------------------------|
| TRAFFIC SURVEYS UK             |  | Job Number & Name: | 29708 Reading            |
| Site 1 - Cow Lane/Portman Road |  | Client:            | Hexa Consulting          |
| Queue Lengths                  |  | Date:              | Tuesday 30 November 2021 |

|               | Cow Lane |        | Beresford Road |        | Portman Road |        |
|---------------|----------|--------|----------------|--------|--------------|--------|
| Times         | Lane 1   | Lane 2 | Lane 1         | Lane 2 | Lane 1       | Lane 2 |
| 15:00 - 15:05 | 19+      |        | 3              | 0      | 3            | 2      |
| 15:05 - 15:10 | 15       |        | 6              | 0      | 2            | 1      |
| 15:10 - 15:15 | 8        |        | 7              | 0      | 2            | 0      |
| 15:15 - 15:20 | 8        |        | 3              | 0      | 19           | 2      |
| 15:20 - 15:25 | 5        |        | 6              | 0      | 2            | 1      |
| 15:25 - 15:30 | 19       |        | 5              | 0      | 6            | 3      |
| 15:30 - 15:35 | 10       |        | 4              | 0      | 5            | 0      |
| 15:35 - 15:40 | 8        |        | 4              | 0      | 5            | 1      |
| 15:40 - 15:45 | 15       |        | 3              | 0      | 6            | 2      |
| 15:45 - 15:50 | 17       |        | 3              | 0      | 1            | 2      |
| 15:50 - 15:55 | 20+      |        | 6              | 0      | 3            | 3      |
| 15:55 - 16:00 | 4        |        | 12             | 0      | 6            | 3      |
| 16:00 - 16:05 | 18       |        | 9              | 0      | 4            | 2      |
| 16:05 - 16:10 | 19       |        | 8              | 0      | 14           | 1      |
| 16:10 - 16:15 | 21+      |        | 4              | 0      | 11           | 2      |
| 16:15 - 16:20 | 21+      |        | 3              | 0      | 14           | 2      |
| 16:20 - 16:25 | 22+      |        | 4              | 0      | 4            | 3      |
| 16:25 - 16:30 | 21+      |        | 7              | 0      | 0            | 4      |
| 16:30 - 16:35 | 21+      |        | 1              | 0      | 3            | 3      |
| 16:35 - 16:40 | 19+      |        | 7              | 0      | 5            | 3      |
| 16:40 - 16:45 | 20+      |        | 5              | 0      | 7            | 1      |
| 16:45 - 16:50 | 21+      |        | 5              | 0      | 4            | 1      |
| 16:50 - 16:55 | 22+      |        | 4              | 0      | 3            | 3      |
| 16:55 - 17:00 | 22+      |        | 4              | 0      | 7            | 0      |
| 17:00 - 17:05 | 22+      |        | 6              | 0      | 7            | 2      |
| 17:05 - 17:10 | 21+      |        | 4              | 0      | 11           | 1      |
| 17:10 - 17:15 | 20+      |        | 7              | 0      | 2            | 2      |
| 17:15 - 17:20 | 21+      |        | 3              | 0      | 2            | 3      |
| 17:20 - 17:25 | 20       |        | 5              | 0      | 2            | 2      |
| 17:25 - 17:30 | 7        |        | 4              | 0      | 4            | 1      |
| 17:30 - 17:35 | 18       |        | 2              | 0      | 3            | 1      |
| 17:35 - 17:40 | 21+      |        | 5              | 1      | 6            | 1      |
| 17:40 - 17:45 | 6        |        | 9              | 0      | 2            | 1      |
| 17:45 - 17:50 | 7        |        | 2              | 0      | 5            | 3      |
| 17:50 - 17:55 | 2        |        | 1              | 0      | 4            | 1      |
| 17:55 - 18:00 | 7        |        | 5              | 0      | 7            | 1      |

[illegible]

|                                          |  |                    |                          |
|------------------------------------------|--|--------------------|--------------------------|
| TRAFFIC SURVEYS UK                       |  | Job Number & Name: | 29708 Reading            |
| Site 2 - Richfield Avenue/Rivermead Road |  | Client:            | Hexa Consulting          |
| Queue Lengths                            |  | Date:              | Tuesday 30 November 2021 |

|               | Rivermead Road |        | Richfield Avenue WB |        | Tessa Road |        | Richfield Avenue EB |        |
|---------------|----------------|--------|---------------------|--------|------------|--------|---------------------|--------|
| Times         | Lane 1         | Lane 2 | Lane 1              | Lane 2 | Lane 1     | Lane 2 | Lane 1              | Lane 2 |
| 08:00 - 08:05 | 0              | 0      | 0                   | 0      | 1          | 0      | 3                   | 0      |
| 08:05 - 08:10 | 1              | 0      | 4                   | 0      | 1          | 0      | 5                   | 0      |
| 08:10 - 08:15 | 1              | 0      | 0                   | 0      | 1          | 0      | 6                   | 0      |
| 08:15 - 08:20 | 0              | 1      | 2                   | 0      | 1          | 0      | 9                   | 0      |
| 08:20 - 08:25 | 1              | 0      | 2                   | 0      | 0          | 0      | 12                  | 0      |
| 08:25 - 08:30 | 1              | 0      | 1                   | 0      | 1          | 0      | 10                  | 0      |
| 08:30 - 08:35 | 0              | 0      | 3                   | 0      | 0          | 0      | 2                   | 1      |
| 08:35 - 08:40 | 0              | 0      | 0                   | 0      | 3          | 0      | 8                   | 0      |
| 08:40 - 08:45 | 1              | 0      | 2                   | 0      | 2          | 0      | 8                   | 0      |
| 08:45 - 08:50 | 0              | 0      | 1                   | 0      | 1          | 0      | 17                  | 0      |
| 08:50 - 08:55 | 0              | 0      | 3                   | 0      | 3          | 0      | 14                  | 0      |
| 08:55 - 09:00 | 0              | 1      | 0                   | 0      | 1          | 0      | 0                   | 0      |
| 09:00 - 09:05 | 0              | 0      | 4                   | 0      | 2          | 0      | 10                  | 0      |
| 09:05 - 09:10 | 0              | 1      | 3                   | 0      | 3          | 0      | 7                   | 0      |
| 09:10 - 09:15 | 1              | 0      | 7                   | 0      | 1          | 0      | 6                   | 0      |
| 09:15 - 09:20 | 0              | 1      | 2                   | 0      | 1          | 0      | 12                  | 0      |
| 09:20 - 09:25 | 0              | 1      | 1                   | 0      | 1          | 0      | 4                   | 0      |
| 09:25 - 09:30 | 1              | 0      | 2                   | 0      | 1          | 0      | 7                   | 0      |
| 09:30 - 09:35 | 0              | 1      | 3                   | 0      | 2          | 0      | 3                   | 0      |
| 09:35 - 09:40 | 0              | 0      | 1                   | 0      | 2          | 0      | 4                   | 1      |
| 09:40 - 09:45 | 1              | 0      | 0                   | 0      | 0          | 0      | 2                   | 0      |
| 09:45 - 09:50 | 1              | 0      | 4                   | 0      | 5          | 0      | 31                  | 0      |
| 09:50 - 09:55 | 0              | 0      | 1                   | 0      | 1          | 0      | 7                   | 0      |
| 09:55 - 10:00 | 1              | 1      | 2                   | 0      | 1          | 0      | 9                   | 0      |

Count in Vehicles

Lane 1 = Nearest Kerb

|                                          |  |                    |                          |
|------------------------------------------|--|--------------------|--------------------------|
| TRAFFIC SURVEYS UK                       |  | Job Number & Name: | 29708 Reading            |
| Site 2 - Richfield Avenue/Rivermead Road |  | Client:            | Hexa Consulting          |
| Queue Lengths                            |  | Date:              | Tuesday 30 November 2021 |

|               | Rivermead Road |        | Richfield Avenue WB |        | Tessa Road |        | Richfield Avenue EB |        |
|---------------|----------------|--------|---------------------|--------|------------|--------|---------------------|--------|
| Times         | Lane 1         | Lane 2 | Lane 1              | Lane 2 | Lane 1     | Lane 2 | Lane 1              | Lane 2 |
| 15:00 - 15:05 | 0              | 2      | 2                   | 0      | 2          | 0      | 7                   | 0      |
| 15:05 - 15:10 | 0              | 0      | 4                   | 0      | 1          | 0      | 7                   | 0      |
| 15:10 - 15:15 | 0              | 0      | 1                   | 0      | 2          | 0      | 1                   | 0      |
| 15:15 - 15:20 | 0              | 0      | 2                   | 0      | 1          | 0      | 1                   | 0      |
| 15:20 - 15:25 | 0              | 0      | 3                   | 0      | 2          | 0      | 4                   | 0      |
| 15:25 - 15:30 | 1              | 0      | 0                   | 0      | 2          | 0      | 5                   | 0      |
| 15:30 - 15:35 | 0              | 0      | 0                   | 0      | 2          | 0      | 8                   | 0      |
| 15:35 - 15:40 | 0              | 0      | 5                   | 0      | 1          | 0      | 6                   | 0      |
| 15:40 - 15:45 | 0              | 1      | 1                   | 0      | 2          | 0      | 5                   | 0      |
| 15:45 - 15:50 | 0              | 0      | 5                   | 0      | 4          | 0      | 3                   | 0      |
| 15:50 - 15:55 | 0              | 0      | 0                   | 0      | 2          | 0      | 2                   | 0      |
| 15:55 - 16:00 | 0              | 1      | 3                   | 0      | 2          | 0      | 7                   | 0      |
| 16:00 - 16:05 | 0              | 0      | 1                   | 0      | 2          | 0      | 9                   | 0      |
| 16:05 - 16:10 | 0              | 0      | 1                   | 0      | 3          | 0      | 6                   | 0      |
| 16:10 - 16:15 | 0              | 0      | 0                   | 0      | 2          | 0      | 11                  | 0      |
| 16:15 - 16:20 | 1              | 0      | 1                   | 0      | 3          | 0      | 11                  | 0      |
| 16:20 - 16:25 | 0              | 1      | 2                   | 0      | 1          | 0      | 3                   | 0      |
| 16:25 - 16:30 | 1              | 1      | 20+                 | 0      | 2          | 0      | 4                   | 1      |
| 16:30 - 16:35 | 1              | 3      | 20+                 | 0      | 2          | 0      | 8                   | 0      |
| 16:35 - 16:40 | 0              | 1      | 10                  | 0      | 2          | 0      | 3                   | 0      |
| 16:40 - 16:45 | 0              | 0      | 4                   | 0      | 2          | 0      | 4                   | 0      |
| 16:45 - 16:50 | 1              | 1      | 10                  | 0      | 2          | 0      | 2                   | 0      |
| 16:50 - 16:55 | 1              | 0      | 7                   | 0      | 1          | 0      | 16                  | 0      |
| 16:55 - 17:00 | 1              | 1      | 3                   | 0      | 1          | 0      | 5                   | 2      |
| 17:00 - 17:05 | 0              | 2      | 0                   | 0      | 2          | 0      | 18                  | 1      |
| 17:05 - 17:10 | 1              | 1      | 8                   | 0      | 3          | 0      | 7                   | 0      |
| 17:10 - 17:15 | 0              | 1      | 0                   | 0      | 2          | 0      | 1                   | 0      |
| 17:15 - 17:20 | 0              | 1      | 1                   | 0      | 1          | 0      | 9                   | 0      |
| 17:20 - 17:25 | 1              | 0      | 1                   | 0      | 3          | 0      | 12                  | 0      |
| 17:25 - 17:30 | 0              | 1      | 4                   | 0      | 4          | 0      | 17                  | 0      |
| 17:30 - 17:35 | 0              | 1      | 0                   | 0      | 3          | 0      | 11                  | 0      |
| 17:35 - 17:40 | 1              | 1      | 1                   | 0      | 3          | 0      | 10                  | 1      |
| 17:40 - 17:45 | 1              | 1      | 5                   | 0      | 2          | 0      | 3                   | 0      |
| 17:45 - 17:50 | 1              | 0      | 2                   | 0      | 1          | 0      | 1                   | 0      |
| 17:50 - 17:55 | 1              | 0      | 2                   | 0      | 2          | 0      | 12                  | 0      |
| 17:55 - 18:00 | 1              | 1      | 1                   | 0      | 1          | 0      | 2                   | 0      |



|               | Caversham Bridge |        |        | Waterman Place |        | Caversham Road |        |        | Richfield Avenue |        |        |
|---------------|------------------|--------|--------|----------------|--------|----------------|--------|--------|------------------|--------|--------|
| Times         | Lane 1           | Lane 2 | Lane 3 | Lane 1         | Lane 2 | Lane 1         | Lane 2 | Lane 3 | Lane 1           | Lane 2 | Lane 3 |
| 08:00 - 08:05 | 3                | 3      | 6      | 1              |        | 5              | 18+    | 13     | 1                | 6      | 9+     |
| 08:05 - 08:10 | 10+              | 3      | 2      | 0              |        | 4              | 10     | 11     | 6                | 4      | 8+     |
| 08:10 - 08:15 | 12               | 2      | 5      | 0              |        | 3              | 10     | 3      | 4                | 5      | 7      |
| 08:15 - 08:20 | 5                | 2      | 5      | 1              |        | 3              | 4      | 13     | 2                | 4      | 8+     |
| 08:20 - 08:25 | 9                | 2      | 5      | 0              |        | 5              | 12     | 5      | 2                | 4      | 4+     |
| 08:25 - 08:30 | 4                | 4      | 4      | 0              |        | 5              | 4      | 2      | 1                | 7+     | 8+     |
| 08:30 - 08:35 | 10               | 2      | 2      | 1              |        | 3              | 17     | 3      | 4                | 7+     | 8+     |
| 08:35 - 08:40 | 4                | 2      | 9      | 1              |        | 3              | 14     | 6      | 2                | 3      | 3      |
| 08:40 - 08:45 | 12               | 2      | 6      | 0              |        | 3              | 16+    | 15+    | 2                | 7+     | 8+     |
| 08:45 - 08:50 | 11+              | 2      | 7+     | 0              |        | 4              | 14     | 8+     | 3                | 8+     | 8+     |
| 08:50 - 08:55 | 4                | 1      | 5      | 0              |        | 6              | 13     | 7      | 2                | 7+     | 4      |
| 08:55 - 09:00 | 3                | 4      | 4      | 0              |        | 7              | 12     | 5      | 3                | 5      | 8+     |
| 09:00 - 09:05 | 2                | 1      | 7      | 1              |        | 2              | 2      | 4      | 2                | 5      | 3      |
| 09:05 - 09:10 | 4                | 4      | 11     | 0              |        | 5              | 3      | 7      | 3                | 9+     | 8+     |
| 09:10 - 09:15 | 10+              | 5      | 12+    | 2              |        | 4              | 5      | 4      | 2                | 4      | 8+     |
| 09:15 - 09:20 | 5                | 1      | 8      | 0              |        | 6              | 5      | 10     | 2                | 8+     | 3      |
| 09:20 - 09:25 | 3                | 1      | 4      | 0              |        | 3              | 3      | 3      | 2                | 7+     | 2      |
| 09:25 - 09:30 | 2                | 4      | 1      | 0              |        | 4              | 2      | 0      | 0                | 4      | 4      |
| 09:30 - 09:35 | 3                | 1      | 5      | 1              |        | 3              | 1      | 3      | 2                | 3      | 3      |
| 09:35 - 09:40 | 3                | 2      | 5      | 0              |        | 3              | 4      | 4      | 1                | 2      | 3      |
| 09:40 - 09:45 | 8                | 1      | 7      | 0              |        | 5              | 8      | 5      | 1                | 6      | 8+     |
| 09:45 - 09:50 | 9                | 3      | 3      | 1              |        | 5              | 3      | 4      | 1                | 2      | 8      |
| 09:50 - 09:55 | 12+              | 2      | 12     | 1              |        | 5              | 3      | 4      | 1                | 3      | 8+     |
| 09:55 - 10:00 | 6                | 3      | 2      | 1              |        | 5              | 3      | 2      | 2                | 4      | 2      |

Count in Vehicles

Lane 1 = Nearest Kerb

|                                            |  |  |                                  |                          |
|--------------------------------------------|--|--|----------------------------------|--------------------------|
| TRAFFIC SURVEYS UK                         |  |  | Job Number & Name: 29708 Reading |                          |
| Site 3 - Richfield Avenue/Caversham Bridge |  |  | Client:                          | Hexa Consulting          |
| Queue Lengths                              |  |  | Date:                            | Tuesday 30 November 2021 |

|               | Caversham Bridge |        |        | Waterman Place |        | Caversham Road |        |        | Richfield Avenue |        |        |
|---------------|------------------|--------|--------|----------------|--------|----------------|--------|--------|------------------|--------|--------|
| Times         | Lane 1           | Lane 2 | Lane 3 | Lane 1         | Lane 2 | Lane 1         | Lane 2 | Lane 3 | Lane 1           | Lane 2 | Lane 3 |
| 15:00 - 15:05 | 8                | 1      | 11     | 0              |        | 5              | 15     | 17     | 2                | 3      | 8+     |
| 15:05 - 15:10 | 5                | 1      | 2      | 1              |        | 5              | 4      | 4      | 1                | 4      | 3      |
| 15:10 - 15:15 | 4                | 1      | 9      | 1              |        | 5              | 18     | 4      | 1                | 4      | 6      |
| 15:15 - 15:20 | 4                | 2      | 2      | 0              |        | 4              | 14     | 5      | 1                | 6      | 4      |
| 15:20 - 15:25 | 4                | 2      | 5      | 0              |        | 3              | 9      | 8      | 2                | 4      | 2      |
| 15:25 - 15:30 | 4                | 2      | 4      | 0              |        | 6              | 2      | 3      | 3                | 2      | 3      |
| 15:30 - 15:35 | 5                | 3      | 7      | 1              |        | 7              | 5      | 4      | 2                | 5      | 7      |
| 15:35 - 15:40 | 10               | 3      | 3      | 0              |        | 2              | 2      | 6      | 3                | 4      | 5      |
| 15:40 - 15:45 | 5                | 2      | 8      | 0              |        | 4              | 4      | 6      | 1                | 5      | 6      |
| 15:45 - 15:50 | 2                | 2      | 3      | 2              |        | 5              | 14     | 6      | 1                | 2      | 5      |
| 15:50 - 15:55 | 1                | 1      | 1      | 0              |        | 4              | 9      | 6      | 2                | 4      | 6+     |
| 15:55 - 16:00 | 3                | 1      | 5      | 2              |        | 4              | 8      | 4      | 2                | 2      | 8+     |
| 16:00 - 16:05 | 7                | 2      | 10     | 0              |        | 3              | 3      | 8      | 3                | 3      | 5      |
| 16:05 - 16:10 | 2                | 2      | 7      | 0              |        | 4              | 3      | 4      | 1                | 2      | 7+     |
| 16:10 - 16:15 | 7                | 1      | 3      | 0              |        | 6              | 15     | 13     | 1                | 3      | 9+     |
| 16:15 - 16:20 | 2                | 2      | 10     | 2              |        | 4              | 8      | 6      | 2                | 3      | 8+     |
| 16:20 - 16:25 | 3                | 2      | 5      | 1              |        | 4              | 4      | 3      | 2                | 4      | 8+     |
| 16:25 - 16:30 | 8                | 2      | 3      | 2              |        | 5              | 3      | 7      | 2                | 3      | 6      |
| 16:30 - 16:35 | 5                | 2      | 7      | 2              |        | 6              | 14+    | 4      | 1                | 4      | 4      |
| 16:35 - 16:40 | 8                | 2      | 12+    | 1              |        | 6              | 18+    | 13     | 1                | 2      | 7      |
| 16:40 - 16:45 | 3                | 2      | 6      | 2              |        | 7              | 16+    | 14     | 2                | 2      | 4      |
| 16:45 - 16:50 | 6                | 1      | 6      | 0              |        | 4              | 13     | 8      | 2                | 5      | 2      |
| 16:50 - 16:55 | 10               | 2      | 6      | 1              |        | 4              | 7      | 7      | 2                | 4      | 3      |
| 16:55 - 17:00 | 2                | 2      | 4      | 0              |        | 1              | 4      | 8      | 3                | 3      | 5      |
| 17:00 - 17:05 | 3                | 2      | 4      | 1              |        | 3              | 4      | 6      | 3                | 4      | 8+     |
| 17:05 - 17:10 | 8+               | 4      | 9      | 1              |        | 4              | 5      | 5      | 2                | 2      | 6      |
| 17:10 - 17:15 | 3                | 1      | 4      | 0              |        | 5              | 5      | 9      | 2                | 8+     | 8      |
| 17:15 - 17:20 | 3                | 2      | 9      | 1              |        | 2              | 5      | 4      | 1                | 3      | 5      |
| 17:20 - 17:25 | 3                | 2      | 9      | 1              |        | 7              | 13     | 4      | 1                | 3      | 8+     |
| 17:25 - 17:30 | 3                | 1      | 3      | 1              |        | 5              | 4      | 7      | 1                | 3      | 3      |
| 17:30 - 17:35 | 5                | 2      | 6      | 1              |        | 7              | 15+    | 6      | 2                | 7      | 5      |
| 17:35 - 17:40 | 3                | 2      | 5      | 1              |        | 3              | 5      | 10     | 1                | 3      | 6      |
| 17:40 - 17:45 | 2                | 2      | 1      | 1              |        | 2              | 6      | 6      | 2                | 9+     | 5      |
| 17:45 - 17:50 | 4                | 2      | 2      | 1              |        | 3              | 5      | 5      | 1                | 3      | 5      |
| 17:50 - 17:55 | 6                | 2      | 7      | 1              |        | 5              | 4      | 6      | 2                | 3      | 3      |
| 17:55 - 18:00 | 2                | 2      | 3      | 1              |        | 2              | 6      | 6      | 1                | 6      | 4      |

|               | A to A |     |      |      |     |     |     |       | A to B |      |      |      |     |     |     |       | A to C |     |      |      |     |     |     |       | B to A |      |      |      |     |     |     |       | B to B |     |      |      |     |     |     |       | B to C |      |      |      |     |     |     |       | C to A |     |      |      |     |     |     |       | C to B |      |      |      |     |     |     |       | C to C |     |     |     |     |     |     |     |     |
|---------------|--------|-----|------|------|-----|-----|-----|-------|--------|------|------|------|-----|-----|-----|-------|--------|-----|------|------|-----|-----|-----|-------|--------|------|------|------|-----|-----|-----|-------|--------|-----|------|------|-----|-----|-----|-------|--------|------|------|------|-----|-----|-----|-------|--------|-----|------|------|-----|-----|-----|-------|--------|------|------|------|-----|-----|-----|-------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| Times         | Cars   | LGV | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV  | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV  | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV  | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV | OGV1 | OGV2 | PSV | M/B | Cyc | Total | Cars   | LGV  | OGV1 | OGV2 | PSV | M/B | Cyc | Total |        |     |     |     |     |     |     |     |     |
| 08:00 - 08:15 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 161.0  | 21.0 | 3.0  | 2.3  | 2.0 | 0.0 | 0.0 | 189.3 | 18.0   | 5.0 | 0.0  | 0.0  | 2.0 | 0.0 | 0.0 | 25.0  | 109.0  | 27.0 | 13.5 | 9.2  | 4.0 | 0.0 | 0.0 | 162.7 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 121.0  | 27.0 | 7.5  | 2.3  | 2.0 | 0.8 | 0.0 | 160.6 | 9.0    | 2.0 | 1.5  | 2.3  | 0.0 | 0.0 | 0.0 | 14.8  | 139.0  | 9.0  | 3.0  | 9.2  | 0.0 | 0.4 | 0.8 | 161.4 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 08:15 - 08:30 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 133.0  | 35.0 | 12.0 | 2.3  | 4.0 | 0.0 | 0.2 | 186.5 | 19.0   | 3.0 | 1.5  | 0.0  | 2.0 | 0.0 | 0.0 | 25.5  | 107.0  | 40.0 | 12.0 | 2.3  | 0.0 | 0.4 | 0.0 | 161.7 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 108.0  | 22.0 | 3.0  | 0.0  | 0.0 | 0.8 | 0.2 | 134.0 | 11.0   | 4.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 15.9  | 95.0   | 10.0 | 1.5  | 4.6  | 0.0 | 0.0 | 0.2 | 111.3 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 08:30 - 08:45 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 137.0  | 37.0 | 9.0  | 2.3  | 4.0 | 0.4 | 0.2 | 189.9 | 11.0   | 2.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 11.0  | 94.0   | 32.0 | 13.5 | 0.0  | 6.0 | 1.2 | 0.0 | 146.7 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 106.0  | 13.0 | 3.0  | 11.5 | 4.0 | 0.4 | 0.4 | 138.3 | 9.0    | 2.0 | 1.5  | 0.0  | 0.0 | 0.0 | 0.0 | 12.5  | 119.0  | 7.0  | 3.0  | 2.3  | 0.0 | 0.4 | 0.6 | 132.3 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 08:45 - 09:00 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 154.0  | 21.0 | 4.5  | 2.3  | 6.0 | 0.8 | 0.4 | 199.0 | 12.0   | 6.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 18.0  | 107.0  | 32.0 | 16.5 | 4.6  | 0.0 | 0.8 | 0.0 | 160.9 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 93.0   | 25.0 | 4.5  | 2.3  | 2.0 | 0.0 | 0.2 | 127.0 | 7.0    | 1.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 8.0   | 131.0  | 13.0 | 4.5  | 0.0  | 2.0 | 1.2 | 1.0 | 152.7 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 09:00 - 09:15 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 160.0  | 20.0 | 16.5 | 0.0  | 6.0 | 0.8 | 0.0 | 209.3 | 11.0   | 2.0 | 1.5  | 0.0  | 0.0 | 0.0 | 0.2 | 14.7  | 96.0   | 32.0 | 3.0  | 4.6  | 2.0 | 2.0 | 0.0 | 139.6 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 72.0   | 22.0 | 10.5 | 4.6  | 0.0 | 0.0 | 0.2 | 109.3 | 14.0   | 1.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 15.0  | 113.0  | 15.0 | 4.5  | 2.3  | 0.0 | 1.2 | 0.4 | 136.4 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 09:15 - 09:30 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 137.0  | 27.0 | 10.5 | 0.0  | 6.0 | 0.8 | 0.4 | 181.7 | 10.0   | 3.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 13.0  | 105.0  | 36.0 | 9.0  | 2.3  | 4.0 | 0.4 | 0.0 | 156.7 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 89.0   | 18.0 | 6.0  | 0.0  | 0.0 | 0.4 | 0.2 | 113.6 | 4.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 4.0   | 53.0   | 10.0 | 3.0  | 4.6  | 4.0 | 0.0 | 0.6 | 75.2  | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 09:30 - 09:45 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 118.0  | 21.0 | 7.5  | 2.3  | 4.0 | 0.8 | 0.2 | 153.8 | 9.0    | 1.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 10.0  | 63.0   | 30.0 | 7.5  | 0.0  | 2.0 | 1.2 | 0.2 | 103.9 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 65.0   | 24.0 | 6.0  | 4.6  | 2.0 | 0.4 | 0.2 | 102.2 | 12.0   | 1.0 | 0.0  | 0.0  | 0.0 | 0.4 | 0.0 | 13.4  | 124.0  | 11.0 | 10.5 | 2.3  | 0.0 | 0.8 | 0.6 | 149.2 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 09:45 - 10:00 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 129.0  | 28.0 | 12.0 | 2.3  | 6.0 | 2.0 | 0.2 | 179.5 | 12.0   | 2.0 | 3.0  | 0.0  | 0.0 | 0.0 | 0.0 | 17.0  | 115.0  | 35.0 | 7.5  | 6.9  | 4.0 | 0.0 | 0.0 | 168.4 | 0.0    | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0   | 73.0   | 25.0 | 9.0  | 16.1 | 2.0 | 0.0 | 0.0 | 125.1 | 9.0    | 1.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 10.0  | 109.0  | 17.0 | 4.5  | 6.9  | 2.0 | 0.4 | 0.0 | 139.8 | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

|               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| 15:00 - 15:15 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 0. |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|

|               | Church Street |        | Caversham Bridge |        | Church Road |        |
|---------------|---------------|--------|------------------|--------|-------------|--------|
| Times         | Lane 1        | Lane 2 | Lane 1           | Lane 2 | Lane 1      | Lane 2 |
| 08:00 - 08:05 | 7+            | 6      | 10               | 18+    | 28+         |        |
| 08:05 - 08:10 | 7+            | 6      | 5                | 19+    | 26+         |        |
| 08:10 - 08:15 | 7+            | 4      | 8                | 21     | 25+         |        |
| 08:15 - 08:20 | 7+            | 4      | 3                | 20+    | 25+         |        |
| 08:20 - 08:25 | 7+            | 4      | 0                | 18+    | 26+         |        |
| 08:25 - 08:30 | 7+            | 6      | 4                | 19+    | 25+         |        |
| 08:30 - 08:35 | 7+            | 5      | 9                | 19+    | 28+         |        |
| 08:35 - 08:40 | 7+            | 6      | 0                | 18+    | 26+         |        |
| 08:40 - 08:45 | 7+            | 6      | 4                | 21+    | 25+         |        |
| 08:45 - 08:50 | 7+            | 6      | 2                | 20+    | 26+         |        |
| 08:50 - 08:55 | 7+            | 4      | 0                | 23+    | 26+         |        |
| 08:55 - 09:00 | 7+            | 6      | 1                | 21+    | 24+         |        |
| 09:00 - 09:05 | 7+            | 6      | 7                | 21+    | 26+         |        |
| 09:05 - 09:10 | 7+            | 5      | 0                | 23+    | 25+         |        |
| 09:10 - 09:15 | 7+            | 6      | 3                | 23+    | 18+         |        |
| 09:15 - 09:20 | 6+            | 2      | 10               | 20+    | 17+         |        |
| 09:20 - 09:25 | 7+            | 3      | 4                | 13     | 18+         |        |
| 09:25 - 09:30 | 7+            | 3      | 9                | 10     | 18+         |        |
| 09:30 - 09:35 | 7+            | 4      | 5                | 7      | 19+         |        |
| 09:35 - 09:40 | 7+            | 4      | 2                | 11     | 23+         |        |
| 09:40 - 09:45 | 7+            | 3      | 7                | 19+    | 24+         |        |
| 09:45 - 09:50 | 7+            | 6      | 4                | 17+    | 22+         |        |
| 09:50 - 09:55 | 7+            | 3      | 10               | 17+    | 23+         |        |
| 09:55 - 10:00 | 7+            | 3      | 4                | 15     | 22+         |        |

Count in Vehicles

Lane 1 = Nearest Kerb

|                                       |  |                    |                          |
|---------------------------------------|--|--------------------|--------------------------|
| TRAFFIC SURVEYS UK                    |  | Job Number & Name: | 29708 Reading            |
| Site 4 - Caversham Bridge/Church Road |  | Client:            | Hexa Consulting          |
| Queue Lengths                         |  | Date:              | Tuesday 30 November 2021 |

|               | Church Street |        | Caversham Bridge |        | Church Road |        |
|---------------|---------------|--------|------------------|--------|-------------|--------|
| Times         | Lane 1        | Lane 2 | Lane 1           | Lane 2 | Lane 1      | Lane 2 |
| 15:00 - 15:05 | 7+            | 5      | 8                | 22+    | 25+         |        |
| 15:05 - 15:10 | 7+            | 4      | 1                | 22+    | 23+         |        |
| 15:10 - 15:15 | 7+            | 5      | 12               | 22     | 24+         |        |
| 15:15 - 15:20 | 7+            | 4      | 4                | 17     | 24+         |        |
| 15:20 - 15:25 | 7+            | 4      | 0                | 12     | 7           |        |
| 15:25 - 15:30 | 6+            | 3      | 0                | 13     | 19          |        |
| 15:30 - 15:35 | 7+            | 3      | 0                | 10     | 22          |        |
| 15:35 - 15:40 | 7+            | 2      | 0                | 17+    | 17          |        |
| 15:40 - 15:45 | 7+            | 3      | 1                | 23+    | 24+         |        |
| 15:45 - 15:50 | 7+            | 2      | 3                | 21+    | 22+         |        |
| 15:50 - 15:55 | 7+            | 2      | 6                | 23+    | 24+         |        |
| 15:55 - 16:00 | 7+            | 5      | 1                | 18+    | 26+         |        |
| 16:00 - 16:05 | 7+            | 3      | 8                | 21+    | 24+         |        |
| 16:05 - 16:10 | 7+            | 2      | 3                | 17     | 27+         |        |
| 16:10 - 16:15 | 7+            | 5      | 1                | 22+    | 25+         |        |
| 16:15 - 16:20 | 7+            | 4      | 0                | 20+    | 26+         |        |
| 16:20 - 16:25 | 7+            | 5      | 0                | 23+    | 24+         |        |
| 16:25 - 16:30 | 7+            | 3      | 10               | 18+    | 26+         |        |
| 16:30 - 16:35 | 7+            | 4      | 3                | 12     | 28+         |        |
| 16:35 - 16:40 | 7+            | 4      | 0                | 14     | 26+         |        |
| 16:40 - 16:45 | 7+            | 5      | 6                | 16     | 26+         |        |
| 16:45 - 16:50 | 7+            | 5      | 1                | 23+    | 21          |        |
| 16:50 - 16:55 | 7+            | 3      | 1                | 13     | 14          |        |
| 16:55 - 17:00 | 7+            | 4      | 7                | 15+    | 21          |        |
| 17:00 - 17:05 | 7+            | 4      | 10               | 16+    | 19          |        |
| 17:05 - 17:10 | 7+            | 4      | 1                | 14     | 23+         |        |
| 17:10 - 17:15 | 7+            | 6      | 0                | 20+    | 25+         |        |
| 17:15 - 17:20 | 7+            | 5      | 12               | 21+    | 26          |        |
| 17:20 - 17:25 | 7+            | 6      | 0                | 23+    | 28+         |        |
| 17:25 - 17:30 | 6+            | 2      | 9                | 23+    | 24+         |        |
| 17:30 - 17:35 | 7+            | 2      | 3                | 23+    | 25          |        |
| 17:35 - 17:40 | 7+            | 3      | 3                | 24+    | 23+         |        |
| 17:40 - 17:45 | 7+            | 5      | 3                | 22+    | 25+         |        |
| 17:45 - 17:50 | 5             | 5      | 9                | 24+    | 28+         |        |
| 17:50 - 17:55 | 7+            | 2      | 5                | 23+    | 25+         |        |
| 17:55 - 18:00 | 7+            | 3      | 0                | 24+    | 26+         |        |