

# SAVELL BIRD & AXON

*Transport & Traffic Consultants*

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**Ivy Barclay Trust**

**100-102 ARLINGTON  
ROAD & 16 – 18  
DELANCEY ST NW1**

**Transport Statement**

**November 2006**

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## **1 INTRODUCTION**

- 1.1 Savell Bird & Axon are retained by Ivy Barclay Trust to provide traffic and transportation advice in relation to the proposed redevelopment of 100-102 Arlington Road & 16 – 18 Delancey Street, Camden, NW1.
- 1.2 The site currently consists of an A3 use public house and a D2 use snooker hall. The proposals for the site envisage enlarging the ground floor A3 use and providing 10 residential units on the three levels above.
- 1.3 We have considered the impact of the proposed redevelopment in terms of its effect on trip generation, car parking, and servicing in the vicinity of the site.
- 1.4 The report is based on our knowledge of the area and experience gained working on similar developments in London.
- 1.5 The remainder of the report is set out as follows:

- |           |   |                                |
|-----------|---|--------------------------------|
| Section 2 | - | Existing Situation             |
| Section 3 | - | Policy Background              |
| Section 4 | - | Development Proposals          |
| Section 5 | - | Public Transport Accessibility |
| Section 6 | - | Effect of Proposals            |
| Section 7 | - | Summary and Conclusions        |

## **2 EXISTING SITUATION**

### **Site Location**

- 2.1 The site is located in the London Borough of Camden within a short walking distance of both Camden tube station and Mornington Crescent tube station.
- 2.2 The site is situated on the corner of Arlington Road and Delancey Street, in the London Borough of Camden.
- 2.3 Its location with respect to the highway network is shown in **Figure 1** and tube and rail facilities is shown at **Figure 1**, and in greater detail at **Figure 2**.

### **Arlington Road**

- 2.4 Arlington Road is situated parallel to Camden High Street approximately half way between Camden tube station and Mornington Crescent tube station.
- 2.5 Arlington Road is a two-way road with a wide carriageway and good footway provision on both sides. No waiting at any time restrictions exist immediately outside the site and resident's only parking is in operation throughout the rest of Arlington Road.

### **Delancey Street**

- 2.6 Delancey Street is a one way street between Camden High Street and Parkway. It has a wide carriageway with pedestrian crossing facilities and good footway provision on both sides. Waiting restrictions exist on its southern side with residents only parking on the northern side.

**Existing Floor Areas**

2.7 The floor areas for the existing site are detailed below.

**Building 1 (Public House)**

A3 use - 256 sqm GEA

C3 use - 56 sqm GEA

**Building 2 (Snooker Hall)**

D2 use - 385 sqm GEA

### **3 POLICY BACKGROUND**

#### **National Policy**

##### **PPG13**

- 3.1 Planning Policy Guidance note 13 (PPG13) : Transport (March 2001), gives guidance on the integration of planning and transport at the national, regional, strategic and local level to:-

- *Promote more sustainable choices;*
- *Promote accessibility to jobs...by public transport, cycling and walking, and reduce the need to travel, especially by car.*

- 3.2 PPG13 also states that:

*" Mixed use development can provide very significant benefits, in terms of promoting vitality and diversity and in promoting walking as a primary mode of transport..."*

- 3.3 Further guidance states:-

*"A key planning objective is to ensure that jobs...are accessible by public transport, walking and cycling. This is important for all, but especially for those who do not have regular use of a car..."*

##### **PPG4**

- 3.4 Planning Policy Guidance note 4 (PPG4) Industrial and Commercial Development and Small Firms, states that:

*"Many urban areas contain large amounts of land, once used for industrial purposes but now under used or vacant. Getting this land back in to beneficial use is important to the regeneration of towns and cities. Optimum use should be made of potential sites and existing premises in...urban areas, taking in to account such factors as accessibility by public transport."*

### **Local Policy**

#### **Camden Unitary Development Plan (CUDP)**

3.5 The Council considers that:

*"...one of the council's main strategies to minimise travel demand by car is to guide the location of development to areas well served by public transport."*

3.6 The CUDP states at Policy TR16:

*"The council will encourage car free housing developments in locations:*

- a) which are easily accessible by public transport;*
- b) where there is a range of amenities by public transport;*
- c) where there is a range of amenities, including shops and leisure activities;  
and*
- d) Within a controlled parking zone..."*

### **Summary**

3.7 The site is well located for a mixed use re-development and complies with the national and local planning policies set out above.

## **4 DEVELOPMENT PROPOSALS**

- 4.1 The new build proposals will increase the gross floor area from 697 sqm to 1,465 sqm. The architect's indicative ground floor layout proposals for the site are shown at **Figure 3**.
- 4.2 The proposed uses on the site remain similar in traffic generating terms to the existing situation (predominantly A3 usage), with the addition of 10 small residential units contained within the site.
- 4.3 The purpose of the scheme is to improve the appearance and image of the site and to make it a more efficient and desirable development. As a result of these proposals the internal layout of the site will be improved.
- 4.4 No car parking is proposed on the site in accordance with London Borough of Camden's preference for car-free housing.



## **5 TRANSPORT ACCESSIBILITY**

### **Public Transport In Vicinity of Site**

- 5.1 **Figure 2** shows the close proximity of the proposed development to public transport facilities.

### ***Underground Connections***

- 5.2 As previously noted, the site is located within close proximity of Camden tube station and Mornington Crescent tube station which are served by the Northern Line.

### ***British Rail Connections***

- 5.3 Both Mornington Crescent and Camden tube stations provide access to Euston station and Kings Cross station within a 5 minute journey time.
- 5.4 Kings Cross and Euston in turn provide frequent services along the east coast, west coast and midland mainline.

### ***Bus Connections***

- 5.5 The site is also well served by bus services. From the site it is possible to walk to bus stops on Camden High Street which provide services to:

- Route 24 – Hampstead Heath/Pimlico/Grosvenor Road
- Route 27 – Chalk Farm/Turnham Green
- Route 29 – North Circular Road/Tottenham Court Road/Whitehall
- Route 168 – Elephant & Castle

- Route 253 – Euston Station/The Narrowgate/Hackney Central
- Route C2 – Regent Street
- Route 274 – Regents Park/Marylebone/Oxford Street

## **6 EFFECT OF PROPOSALS**

- 6.1 The proposed development is well located in the London Borough of Camden. It has excellent public transport links being within easy walking distance of Camden & Mornington Crescent tube stations and local bus services.

### **Vehicular Access and Generation**

- 6.2 We have not undertaken any junction analysis as it is considered that the proposal will not have a significant traffic generating effect.

### **Trip Generation of Existing Development**

- 6.3 No survey information is available in relation to person and/or vehicle movements to/from the building at the present time.
- 6.4 Therefore, in order to estimate the number of trips generated by the current public house and snooker hall, we have undertaken a spreadsheet assessment using information derived from the TRAVL database.
- 6.5 The assumptions incorporated into the spreadsheet assessment were as follows:
- A3 usage floor space = 697 sqm GFA (The current site houses 256m<sup>2</sup> of A3 use, a 385m<sup>2</sup> snooker hall and a small 53m<sup>2</sup> residential unit. However we have assumed 697m<sup>2</sup> of A3 use in order to give a robust assessment. It has been noted by Camden Council that the snooker hall currently does not generate a significant amount of traffic and should therefore be discounted, however for the purposes of this assessment, we have assumed the level of traffic that could potentially be generated by the snooker hall).
  - Two-way number of person trips per 100 sqm (between 07:00 and 24:00) = 144.8 (source TRAVL Database – see **Appendix A**)

- Trip rate profile derived from the TRICS database
- Modal Split derived from TRAVL Database
- 0% of trips undertaken by car – given that the existing building includes no car parking
- 0% of trips undertaken by motorcycle.
- 0% of trips undertaken by cycle
- 82% of trips undertaken by foot
- 18% of trips undertaken by public transport (bus, tube, train, taxi etc)

6.6 Inspection of the spreadsheet indicates that the former use of the site would have generated in the order of 1009 trips (two-way) to/from the site each day.

#### **Trip Generation of Proposed Development**

6.7 The assumptions incorporated into the spreadsheet assessment were as follows:

- A3 usage floor space = 445 sqm GFA
- C3 usage floor space = 1019 sqm GFA
- Two-way number of person trips per 100 sqm (between 07:00 and 24:00) for A3 = 144.8 (source TRAVL Database – see **Appendix B**)
- Two-way number of person trips per 100 sqm (between 07:00 and 24:00) for C3 = 7.5 (source TRAVL Database)
- Trip rate profile derived from the TRICS database
- Modal Split derived from TRAVL database

- Modal Split for A3 usage part of development as existing
- 0% of trips for C3 usage undertaken by car – given that the existing building includes no car parking
- 0% of trips for C3 usage undertaken by motorcycle.
- 0% of trips for C3 usage undertaken by cycle
- 47% of trips for C3 usage undertaken by foot
- 53% of trips for C3 usage undertaken by public transport (bus, tube, train, taxi etc)

6.8 Inspection of the spreadsheet indicates that the proposed use of the site would result in a reduction of the number of two-way trips to the site, generating in the order of 720 trips each day.

#### **Car Parking**

6.9 PPG13 states that,

*"The availability of car parking has a major influence on the means of transport people choose for their journeys."*

6.10 As noted at section 4, the development proposal does not include any on-site, off-street parking provision for the proposed residential units.

6.11 If considered necessary or appropriate by the local planning authority, our client would be willing to accept a legal (S106) agreement to prevent future residents from being able to purchase residential parking permits. Given the site's location with respect to local services/facilities and its excellent accessibility to public transport, we consider that the site is ideally located for car free development.

6.12 With respect to the commercial element, again the development proposal does not include any off-street car parking provision in accordance with the council's

maximum car parking standards. Arlington Road has some spare on-street parking capacity sufficient to meet any demand likely to be generated by the proposed A3 use. Furthermore it is pertinent to note that the potential impact on parking associated with the proposed A3 use is likely to be less than that associated with the existing snooker/bingo hall on site.

### **Servicing**

- 6.13 At present the existing site does not allow for or cater for any specific servicing arrangements within the site. Currently deliveries for the public house are undertaken to/from the road immediately outside the site, via the use of a cellar door located on the footpath. There is adequate provision along the carriageway for this to occur without any detriment to highway safety. Furthermore deliveries associated with the existing public house are infrequent and generally occur outside of peak hours.
- 6.14 This arrangement is likely to continue in the future, analysis of other similar sites shows that there are likely to be around 4-5 deliveries per day and these will tend to be transit vans and small to medium sized rigid vans. Our client would be prepared to draw up a "Servicing Management Plan" within the section 106 agreement (in association with London Borough of Camden) restricting these deliveries in order to ensure that the effects of servicing the commercial element of the site results in no discernable impact on residential amenity.
- 6.15 There are no proposals for additional servicing arrangements within the site; however it is considered that it is not necessary for additional arrangements to be made as the main nature of the site will not be changed by the development proposals.

## **7 SUMMARY AND CONCLUSION**

7.1 The Ivy Barclay Trust propose to redevelop 100 - 102, Arlington Road and 16 - 18 Delancey Street to improve and extend the existing A3 use and provide an additional 10 residential units on the site.

7.2 The proposal complies with local and national policy objectives.

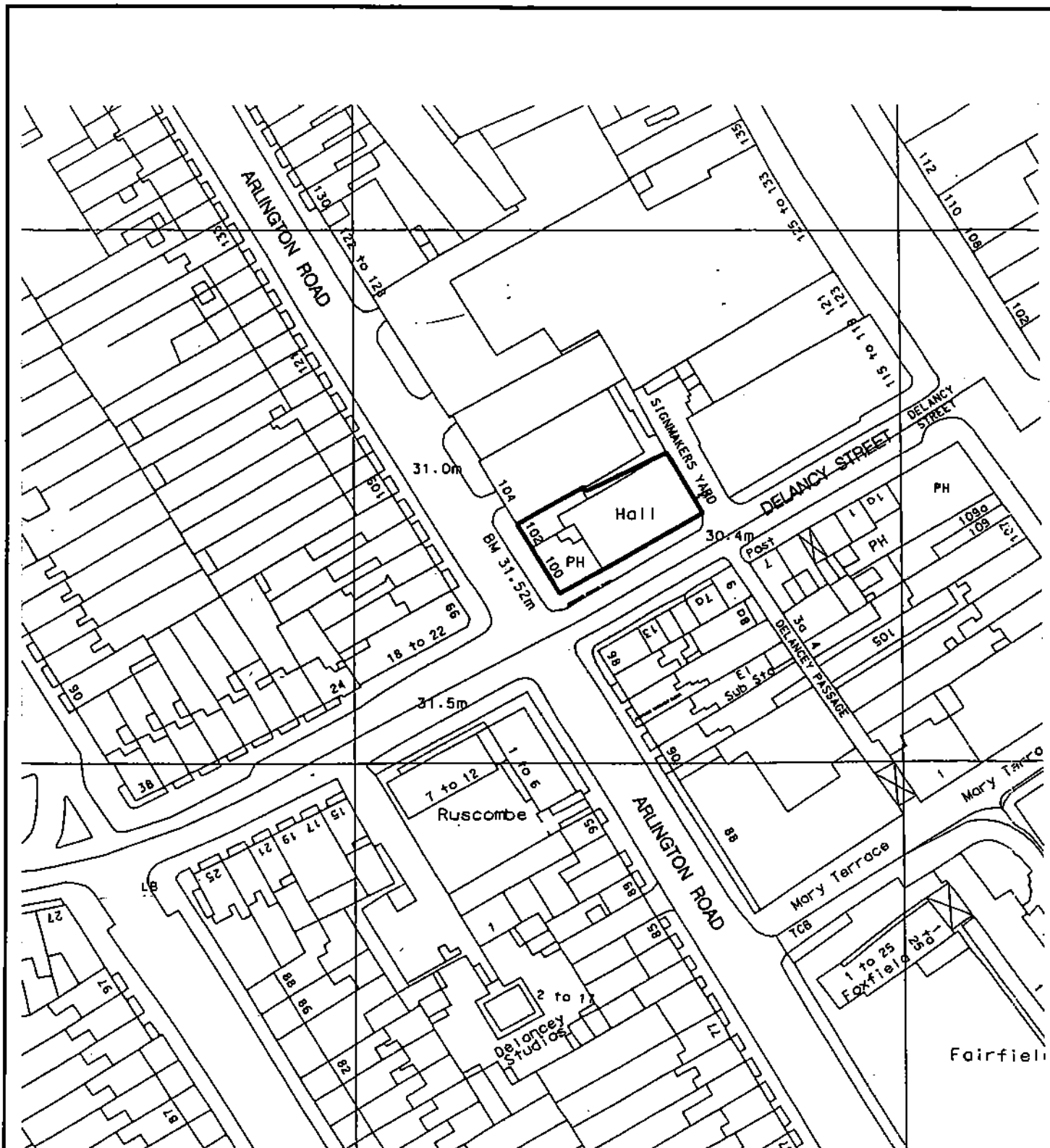
7.3 Given the location of the site, close to Camden and Mornington Crescent Stations, the existing public transport infrastructure is more than sufficient to accommodate the small increase in public transport users as a result of the proposed car-free development.

### **Conclusion**

7.4 We therefore conclude that there are no traffic or transport reasons why this development should not be granted planning approval.







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100-102 Arlington Road

Site Location Plan

Savell  
Bird  
&  
Axon

|        |          |          |          |              |                 |           |
|--------|----------|----------|----------|--------------|-----------------|-----------|
| DRAWN: | DATE:    | CHECKED: | DATE:    | SCALES:      | DRAWING NUMBER: | REVISION: |
| LPG    | 30.06.04 | CC       | 30.06.04 | 1:1000 at A4 | FIGURE 2        | .         |

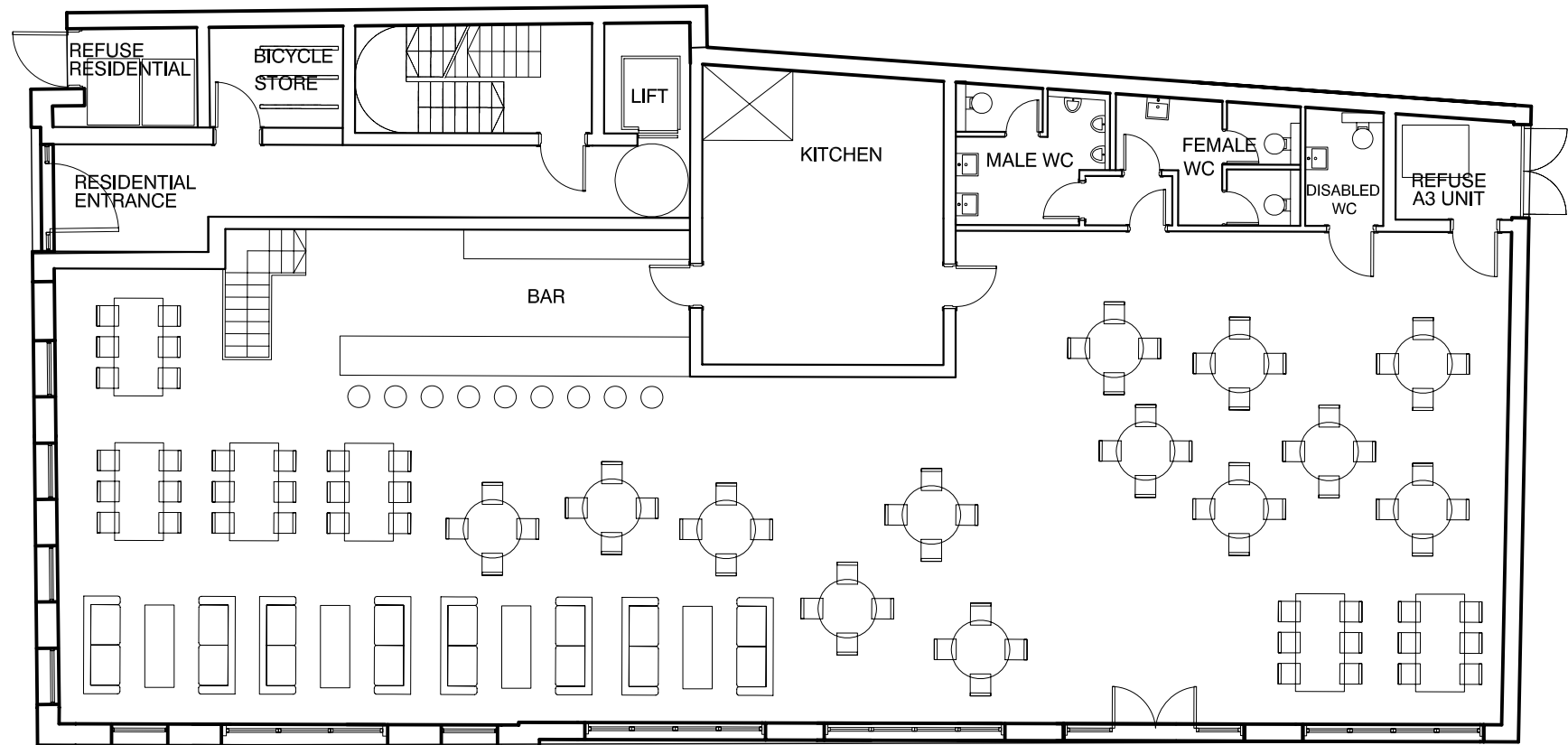


Figure 3 Proposed Ground Floor

## Land-use : A3 Public House/D2 Snooker Hall

| Modal Target (%) |     | Development Content | Person Trips | Rate  | Trips |
|------------------|-----|---------------------|--------------|-------|-------|
| Car Driver       | 0   | 897 sqm             | Two-way      | 144.7 | 1009  |
| Car passenger    | 0   |                     |              |       |       |
| M/Cyc            | 0   |                     |              |       |       |
| Public Transport | 18  |                     |              |       |       |
| Foot             | 82  |                     |              |       |       |
| P/Cyc            | 0   |                     |              |       |       |
|                  | 100 |                     |              |       |       |

Source: TRAVL Database

Table 1 : Trip Generation - Existing Development

|       | Arr | Dep | Arr        | Dep       | Arr        | Dep          | Arr  | Dep   | Arr | Dep | Arr | Dep | Arr | Dep |
|-------|-----|-----|------------|-----------|------------|--------------|------|-------|-----|-----|-----|-----|-----|-----|
| Time  | All | All | Car Driver | Car Pass. | Motorcycle | Public Trans | Walk | Cycle |     |     |     |     |     |     |
|       |     |     | 0          | 0         | 0          | 0            | 0    | 0     | 18  | 18  | 82  | 82  | 0   | 0   |
| 12:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 01:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 02:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 03:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 04:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 05:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 06:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 07:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 08:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 09:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 10:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 11:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 12:00 | 73  | 71  | 0          | 0         | 0          | 0            | 0    | 0     | 13  | 13  | 80  | 58  | 0   | 0   |
| 13:00 | 31  | 31  | 0          | 0         | 0          | 0            | 0    | 0     | 6   | 6   | 28  | 28  | 0   | 0   |
| 14:00 | 8   | 8   | 0          | 0         | 0          | 0            | 0    | 0     | 1   | 1   | 6   | 6   | 0   | 0   |
| 15:00 | 8   | 8   | 0          | 0         | 0          | 0            | 0    | 0     | 1   | 1   | 6   | 5   | 0   | 0   |
| 16:00 | 81  | 57  | 0          | 0         | 0          | 0            | 0    | 0     | 11  | 10  | 50  | 47  | 0   | 0   |
| 17:00 | 102 | 102 | 0          | 0         | 0          | 0            | 0    | 0     | 18  | 18  | 84  | 84  | 0   | 0   |
| 18:00 | 77  | 77  | 0          | 0         | 0          | 0            | 0    | 0     | 14  | 14  | 63  | 63  | 0   | 0   |
| 19:00 | 43  | 45  | 0          | 0         | 0          | 0            | 0    | 0     | 8   | 8   | 35  | 37  | 0   | 0   |
| 20:00 | 27  | 27  | 0          | 0         | 0          | 0            | 0    | 0     | 5   | 5   | 23  | 23  | 0   | 0   |
| 21:00 | 49  | 49  | 0          | 0         | 0          | 0            | 0    | 0     | 9   | 9   | 40  | 40  | 0   | 0   |
| 22:00 | 20  | 22  | 0          | 0         | 0          | 0            | 0    | 0     | 4   | 4   | 18  | 18  | 0   | 0   |
| 23:00 | 0   | 18  | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 3   | 0   | 13  | 0   | 0   |
| 24 Hr | 499 | 510 | 0          | 0         | 0          | 0            | 0    | 0     | 90  | 82  | 409 | 418 | 0   | 0   |

## Land-use : A3 Public House

| Modal Target (%) |     | Development Content | Person Trips | Rate  | Trips |
|------------------|-----|---------------------|--------------|-------|-------|
| Car Driver       | 0   | 445 sqm             | Two-way      | 144.8 | 623   |
| Car passenger    | 0   |                     |              |       |       |
| M/Cyc            | 0   |                     |              |       |       |
| Public Transport | 18  |                     |              |       |       |
| Foot             | 82  |                     |              |       |       |
| P/Cyc            | 0   |                     |              |       |       |
|                  | 100 |                     |              |       |       |

Source: TRAVL Database

Table 2 : Trip Generation - Proposed A3 Element

|       | Arr | Dep | Arr        | Dep       | Arr        | Dep          | Arr  | Dep | Arr | Dep | Arr | Dep | Arr   | Dep | Acc     |
|-------|-----|-----|------------|-----------|------------|--------------|------|-----|-----|-----|-----|-----|-------|-----|---------|
| Time  | All | All | Car Driver | Car Pass. | Motorcycle | Public Trans | Walk |     |     |     |     |     | Cycle |     | Parking |
|       |     |     | 0          | 0         | 0          | 0            | 0    | 0   | 18  | 18  | 82  | 82  | 0     | 0   | 0       |
| 12:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 01:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 02:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 03:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 04:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 05:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 06:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 07:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 08:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 09:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 10:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 11:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 0   | 0   | 0   | 0     | 0   | 0       |
| 12:00 | 46  | 45  | 0          | 0         | 0          | 0            | 0    | 0   | 8   | 8   | 38  | 37  | 0     | 0   | 0       |
| 13:00 | 20  | 20  | 0          | 0         | 0          | 0            | 0    | 0   | 4   | 4   | 16  | 16  | 0     | 0   | 0       |
| 14:00 | 5   | 5   | 0          | 0         | 0          | 0            | 0    | 0   | 1   | 1   | 4   | 4   | 0     | 0   | 0       |
| 15:00 | 5   | 4   | 0          | 0         | 0          | 0            | 0    | 0   | 1   | 1   | 4   | 3   | 0     | 0   | 0       |
| 16:00 | 39  | 36  | 0          | 0         | 0          | 0            | 0    | 0   | 7   | 7   | 32  | 30  | 0     | 0   | 0       |
| 17:00 | 65  | 65  | 0          | 0         | 0          | 0            | 0    | 0   | 12  | 12  | 53  | 53  | 0     | 0   | 0       |
| 18:00 | 49  | 49  | 0          | 0         | 0          | 0            | 0    | 0   | 9   | 9   | 40  | 40  | 0     | 0   | 0       |
| 19:00 | 28  | 29  | 0          | 0         | 0          | 0            | 0    | 0   | 5   | 5   | 23  | 24  | 0     | 0   | 0       |
| 20:00 | 18  | 18  | 0          | 0         | 0          | 0            | 0    | 0   | 3   | 3   | 14  | 14  | 0     | 0   | 0       |
| 21:00 | 31  | 31  | 0          | 0         | 0          | 0            | 0    | 0   | 6   | 6   | 26  | 26  | 0     | 0   | 0       |
| 22:00 | 13  | 14  | 0          | 0         | 0          | 0            | 0    | 0   | 2   | 2   | 10  | 11  | 0     | 0   | 0       |
| 23:00 | 0   | 10  | 0          | 0         | 0          | 0            | 0    | 0   | 0   | 2   | 0   | 8   | 0     | 0   | 0       |
| 24 Hr | 318 | 326 | 0          | 0         | 0          | 0            | 0    | 0   | 57  | 59  | 261 | 267 | 0     | 0   | 0       |

## Land-use : C3 Residential

| Modal Target (%) |     | Development Content | Person Trips           | Rate | Trips |
|------------------|-----|---------------------|------------------------|------|-------|
| Car Driver       | 0   | 1019 sqm            | Two-way                | 7.5  | 76    |
| Car passenger    | 0   |                     |                        |      |       |
| M/Cyc            | 0   |                     | Source: TRAVL Database |      |       |
| Public Transport | 53  |                     |                        |      |       |
| Foot             | 47  |                     |                        |      |       |
| P/Cyc            | 0   |                     |                        |      |       |
|                  | 100 |                     |                        |      |       |

Table 3 : Trip Generation - Proposed Residential Element

|       | Arr | Dep | Arr        | Dep       | Arr        | Dep          | Arr  | Dep   | Arr | Dep | Arr | Dep | Arr | Dep |
|-------|-----|-----|------------|-----------|------------|--------------|------|-------|-----|-----|-----|-----|-----|-----|
| Time  | All | All | Car Driver | Car Pass. | Motorcycle | Public Trans | Walk | Cycle |     |     |     |     |     |     |
|       |     |     | 0          | 0         | 0          | 0            | 0    | 0     | 53  | 53  | 47  | 47  | 0   | 0   |
| 12:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 01:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 02:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 03:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 04:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 05:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 06:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 07:00 | 1   | 2   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 1   | 0   | 1   | 0   | 0   |
| 08:00 | 2   | 7   | 0          | 0         | 0          | 0            | 0    | 0     | 1   | 4   | 1   | 3   | 0   | 0   |
| 09:00 | 2   | 3   | 0          | 0         | 0          | 0            | 0    | 0     | 1   | 1   | 1   | 1   | 0   | 0   |
| 10:00 | 0   | 1   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 11:00 | 2   | 2   | 0          | 0         | 0          | 0            | 0    | 0     | 1   | 1   | 1   | 1   | 0   | 0   |
| 12:00 | 3   | 1   | 0          | 0         | 0          | 0            | 0    | 0     | 2   | 1   | 1   | 1   | 0   | 0   |
| 13:00 | 3   | 3   | 0          | 0         | 0          | 0            | 0    | 0     | 2   | 1   | 2   | 1   | 0   | 0   |
| 14:00 | 3   | 2   | 0          | 0         | 0          | 0            | 0    | 0     | 1   | 1   | 1   | 1   | 0   | 0   |
| 15:00 | 3   | 1   | 0          | 0         | 0          | 0            | 0    | 0     | 2   | 0   | 1   | 0   | 0   | 0   |
| 16:00 | 4   | 3   | 0          | 0         | 0          | 0            | 0    | 0     | 2   | 1   | 2   | 1   | 0   | 0   |
| 17:00 | 4   | 2   | 0          | 0         | 0          | 0            | 0    | 0     | 2   | 1   | 2   | 1   | 0   | 0   |
| 18:00 | 3   | 2   | 0          | 0         | 0          | 0            | 0    | 0     | 1   | 1   | 1   | 1   | 0   | 0   |
| 19:00 | 2   | 2   | 0          | 0         | 0          | 0            | 0    | 0     | 1   | 1   | 1   | 1   | 0   | 0   |
| 20:00 | 4   | 6   | 0          | 0         | 0          | 0            | 0    | 0     | 2   | 3   | 2   | 3   | 0   | 0   |
| 21:00 | 2   | 1   | 0          | 0         | 0          | 0            | 0    | 0     | 1   | 0   | 1   | 0   | 0   | 0   |
| 22:00 | 1   | 1   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 23:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0   | 0   | 0   | 0   | 0   | 0   |
| 18 Hr | 40  | 37  | 0          | 0         | 0          | 0            | 0    | 0     | 21  | 19  | 19  | 17  | 0   | 0   |

Land-use : All Development

Table 4 : Trip Generation - Proposed Development

|       | Arr | Dep | Arr        | Dep       | Arr        | Dep          | Arr  | Dep   | Arr     | Dep | Arr | Dep | Arr | Dep | Acc |
|-------|-----|-----|------------|-----------|------------|--------------|------|-------|---------|-----|-----|-----|-----|-----|-----|
| Time  | All | All | Car Driver | Car Pass. | Motorcycle | Public Trans | Walk | Cycle | Parking |     |     |     |     |     |     |
|       |     |     |            |           |            |              |      |       |         |     |     |     |     |     | 0   |
| 12:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 0   | 0   | 0   | 0   | 0   | 0   |
| 01:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 0   | 0   | 0   | 0   | 0   | 0   |
| 02:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 0   | 0   | 0   | 0   | 0   | 0   |
| 03:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 0   | 0   | 0   | 0   | 0   | 0   |
| 04:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 0   | 0   | 0   | 0   | 0   | 0   |
| 05:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 0   | 0   | 0   | 0   | 0   | 0   |
| 06:00 | 0   | 0   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 0   | 0   | 0   | 0   | 0   | 0   |
| 07:00 | 1   | 2   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 1   | 1   | 0   | 0   | 0   | 0   |
| 08:00 | 2   | 7   | 0          | 0         | 0          | 0            | 0    | 0     | 1       | 1   | 6   | 0   | 0   | 0   | 0   |
| 09:00 | 2   | 3   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 2   | 2   | 0   | 0   | 0   | 0   |
| 10:00 | 0   | 1   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 0   | 1   | 0   | 0   | 0   | 0   |
| 11:00 | 2   | 2   | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 2   | 1   | 0   | 0   | 0   | 0   |
| 12:00 | 49  | 46  | 0          | 0         | 0          | 0            | 0    | 0     | 9       | 8   | 41  | 38  | 0   | 0   | 0   |
| 13:00 | 23  | 23  | 0          | 0         | 0          | 0            | 0    | 0     | 4       | 4   | 19  | 19  | 0   | 0   | 0   |
| 14:00 | 8   | 7   | 0          | 0         | 0          | 0            | 0    | 0     | 1       | 1   | 6   | 6   | 0   | 0   | 0   |
| 15:00 | 8   | 5   | 0          | 0         | 0          | 0            | 0    | 0     | 1       | 1   | 7   | 4   | 0   | 0   | 0   |
| 16:00 | 43  | 39  | 0          | 0         | 0          | 0            | 0    | 0     | 8       | 7   | 35  | 32  | 0   | 0   | 0   |
| 17:00 | 69  | 67  | 0          | 0         | 0          | 0            | 0    | 0     | 13      | 12  | 57  | 55  | 0   | 0   | 0   |
| 18:00 | 52  | 51  | 0          | 0         | 0          | 0            | 0    | 0     | 9       | 9   | 42  | 42  | 0   | 0   | 0   |
| 19:00 | 30  | 31  | 0          | 0         | 0          | 0            | 0    | 0     | 5       | 6   | 24  | 25  | 0   | 0   | 0   |
| 20:00 | 22  | 23  | 0          | 0         | 0          | 0            | 0    | 0     | 4       | 4   | 18  | 19  | 0   | 0   | 0   |
| 21:00 | 33  | 32  | 0          | 0         | 0          | 0            | 0    | 0     | 6       | 6   | 27  | 26  | 0   | 0   | 0   |
| 22:00 | 13  | 15  | 0          | 0         | 0          | 0            | 0    | 0     | 2       | 3   | 11  | 12  | 0   | 0   | 0   |
| 23:00 | 0   | 10  | 0          | 0         | 0          | 0            | 0    | 0     | 0       | 2   | 0   | 8   | 0   | 0   | 0   |
| 24 Hr | 358 | 362 | 0          | 0         | 0          | 0            | 0    | 0     | 64      | 65  | 294 | 297 | 0   | 0   |     |