Traffic Impact Assessment for Proposed Residential Development at Whitechurch Road, Rathfarnham, Dublin 14

For Dungrey Ltd

TRANSPORT INSIGHTS

Final Report

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Appendices

1. Introduction

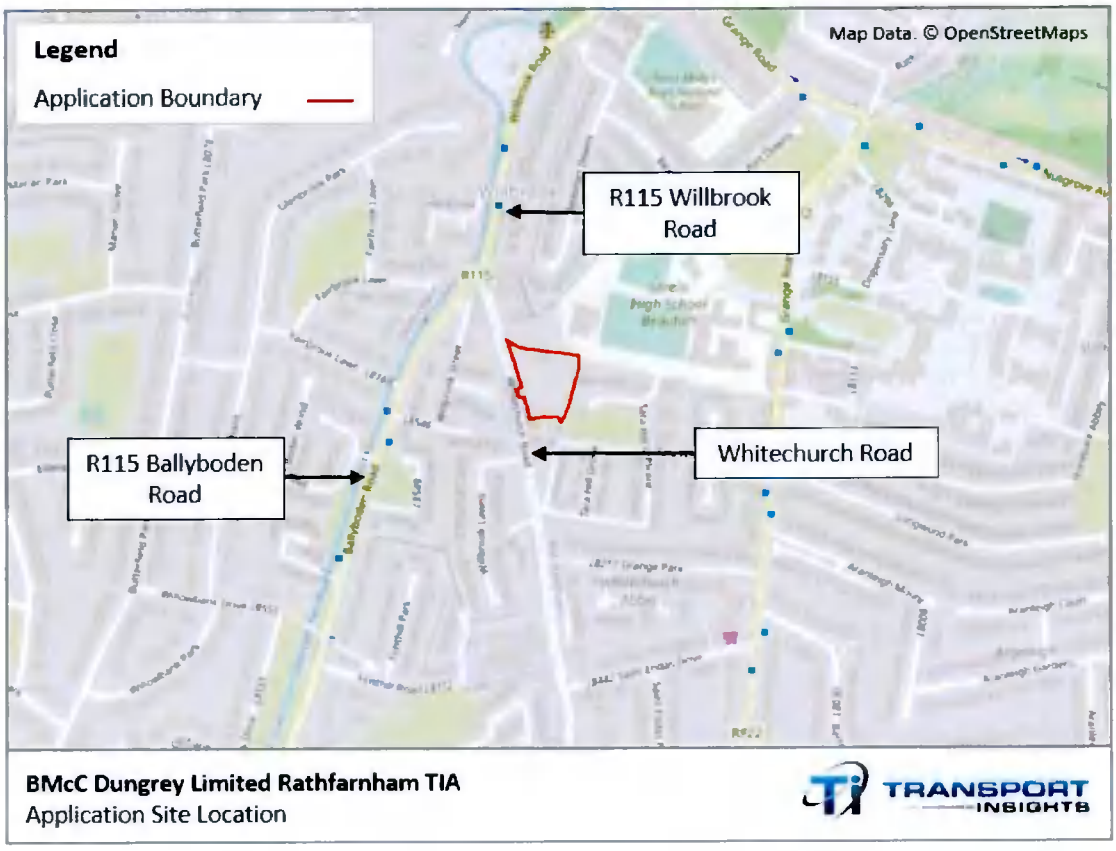
1.1 Overview

Transport Insights has been commissioned by Dungrey Limited to provide transport engineering design support and to undertake a Traffic Impact Assessment (TIA) in relation to a proposed residential development at the site of Silveracre Bungalow and No. 6, Whitechurch Road, Rathfarnham, Dublin 14.

1.2 Site Location

The following Figure 1.1 illustrates the site's location with respect to key road infrastructure within its vicinity.

Figure 1.1 Proposed Development Site Location



As can be seen from the preceding Figure 1.1, the proposed development site is located directly to the east of Whitechurch Road. The site is bound by the Campbell Packaging Ltd site to the immediate north, to the northeast by lands belonging to Loreto High School, to the east by the Tara Hill residential area and to the south and southeast by residential dwellings. The site is currently accessed via a 3-arm priority junction with Whitechurch Road which provides access to the existing bungalow's driveway and the driveway to No. 6.

1.3 Summary of Proposed Development

The proposed development consists of the following:

- 22 no. houses;
- ca. 580 sqm Public Open Space; and
- a new vehicular site access/ egress with Whitechurch Road.

In addition to the above, 44 no. car parking spaces, all of which will be wired to accommodate electric vehicle charging, (2 no. spaces per unit), shall be provided to meet the needs of residents and visitors of the proposed development.

1.4 TIA Scope and Approach

The assessment approach underpinning this TIA is consistent with Transport Infrastructure Ireland's *Traffic and Transport Assessment Guidelines* (May 2014). The design of the proposed development site is consistent with industry best practice, namely the *Design Manual for Urban Roads and Streets* (*DMURS*, 2013).

1.5 Report Structure

The remainder of this Report is structured as follows:

- **Section 2** provides an overview of planning policy and guidance of relevance to this TIA;
- **Section 3** describes the proposed development's receiving environment, which has been informed by a site assessment and traffic survey data collection and analysis;
- **Section 4** provides an overview of the proposed development;
- **Section 5** provides details of traffic growth forecasting, trip generation and assignment, and traffic impact assessment and findings;
- **Section 6** provides a summary to the TIA Report.

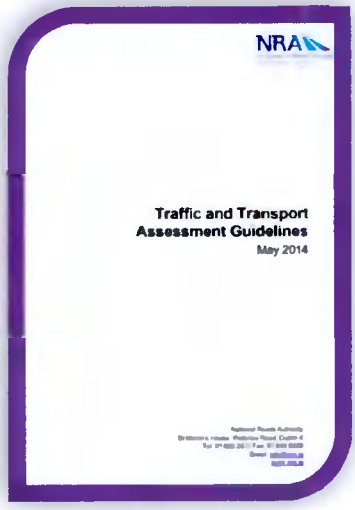
2. Planning Policy and Guidance Overview

2.1 Introduction

This section of the TIA Report provides an overview of national, regional, and local planning policy and guidance deemed relevant to the proposed development.

2.2 National Guidance

Traffic and Transport Assessment Guidelines (May 2014)



TII's *Traffic and Transport Assessment (TTA) Guidelines* provides guidelines and best practice in relation to the preparation of a Transport Assessment.

In relation to the assessment, the *TTA Guidelines* advises that:

> *"The Traffic and Transport Assessment should be written as an impartial assessment of the traffic impacts of a scheme and it should not be seen to be a "best case" promotion of the development. All impacts, whether positive or negative, should be recorded. The level of detail to be included within the report should be sufficient to enable an experienced practitioner to be able to follow all stages of the assessment process and to reach a similar set of results and conclusions."*

Section 2.1 of the Guidelines sets out thresholds for production of a Traffic and Transport Assessment, with thresholds for developments provided in Table 2.1. It is noted from Table 2.1 that where "*traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists or the location is sensitive*", more detailed analysis of a proposed development's traffic impacts may be required.

Design Manual for Urban Roads and Streets (2013)

The *Design Manual for Urban Roads and Streets* (*DMURS*) was jointly published by the Department of Transport, Tourism and Sport and Department of Environment, Community and Local Government in 2013.

The principles, approaches and standards set out in the Manual apply to the design of all urban roads and streets (streets and roads with a speed limit of 60 km/ h or less). The design of the Whitechurch Road/ site access junction and development's internal site layout has been guided by design guidance contained within *DMURS*.

2.3 Regional Policy

Transport Strategy for the Greater Dublin Area 2016-2035 (2016)

The *Transport Strategy for the Greater Dublin Area 2016-2035* was published by the National Transport Authority in April 2016 following its approval by the Minister for Transport, Tourism and Sport and represents the key policy/ strategy document of relevance to the current development proposal. The *Strategy* provides a framework for the planning and delivery of transport infrastructure and services over the next two decades. It also provides the overarching transport planning policy framework for the region.

The *Strategy* sets out the necessary transport provision, for the period up to 2035 to deliver the objectives of existing national transport policy. Section 5.5 of the *Strategy* describes proposed bus infrastructure:

> *"As part of the Strategy process, a number of studies have been undertaken which have identified those routes where the demand for travel necessitates significant levels of infrastructural investment in order to minimise delays to bus services. Arising from this analysis, a "Core Bus Network" was identified for the overall region. This core network represents the most important bus routes in the region, and are generally characterised by a high frequency of bus services, high passenger volumes and with significant trip attractors located along the route. The identified core network comprises sixteen radial bus corridors, three orbital bus corridors and six regional bus corridors."*

Development of the core bus network has subsequently been advanced by the National Transport Authority (NTA) within the *BusConnects* programme, described below.

BusConnects: Bus Network Redesign and Core Bus Corridors Project

The *BusConnects* programme was launched by the National Transport Authority (NTA) in May 2017 and is described as[1] *"a plan to fundamentally transform Dublin's bus system, so that journeys by bus will be fast, reliable, punctual, convenient and affordable. It will enable more people to travel by bus than ever before, and allow bus commuting to become a viable and attractive choice for employees, students, shoppers and visitors."*

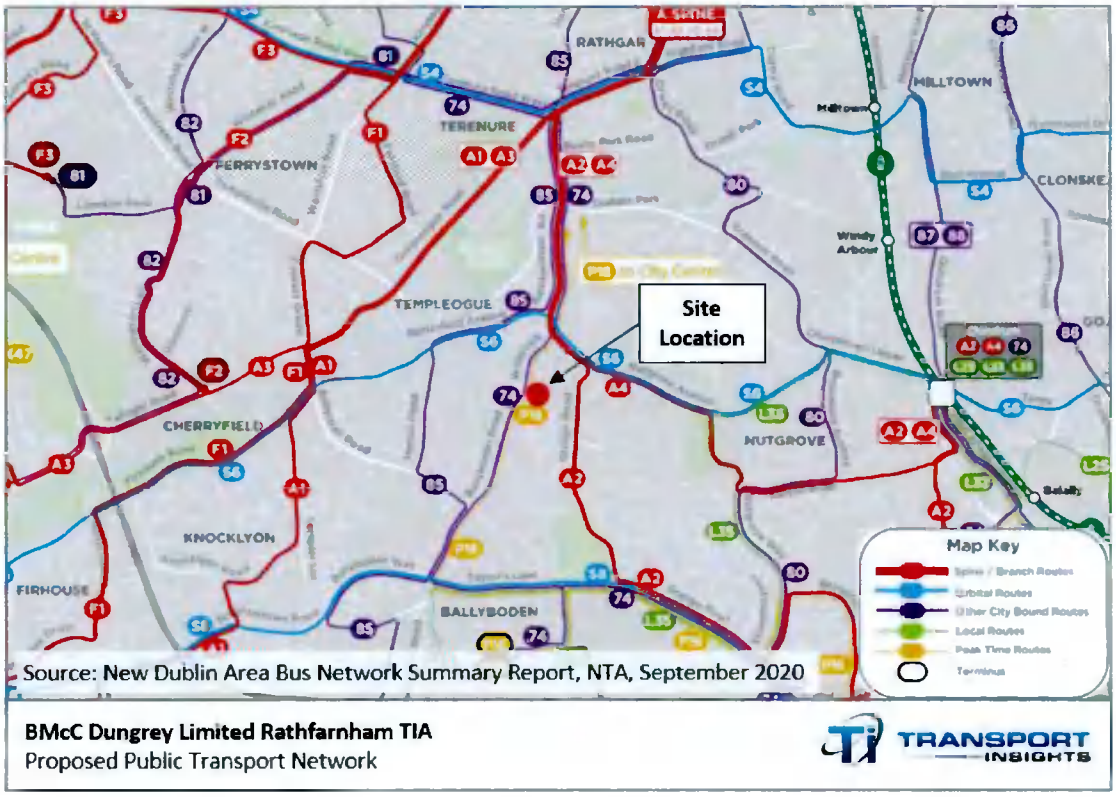
The *BusConnects* programme contains three key elements:

- Dublin Area Bus Network Redesign Project;
- fare and ticketing enhancements; and
- better quality bus infrastructure, including the Core Bus Corridors Project.

The revised proposed bus network plan emerging from the *Dublin Area Bus Network Redesign Project* was published by the NTA in September 2020 and includes substantial changes in the bus network in the application site's vicinity. Figure 2.1 (overleaf) presents the proposed bus network in the application site's surround, with their details set out in Table 2.1.

[1] https://www.busconnects.ie/about/

Figure 2.1 BusConnects: Proposed Bus Network in Application Site's Vicinity



As can be seen in the preceding figure, substantial changes are proposed to the bus services in the application site's vicinity. The existing route 61 will be replaced by route 74 which will operate between Dundrum (Dundrum Luas stop) and Dublin City Centre. Routes 74 and P18 are proposed to operate with ca. 300 metres (3-minutes walking) of the proposed development. Route 74 will offer a weekday peak frequency of 30 minutes while P18 will provide a peak hour only service between Whitechurch and Dublin City Centre.

Orbital route S6 will operate on Grange Road 550 metres to the north of the site between Tallaght and Blackrock DART Station. This orbital route will enable access to numerous other bus routes, both radial and orbital, Luas Red Line services at Tallaght, and Luas Green Line services at Dundrum. Routes A2 and A4 will also operate on Grange Road and will provide direct access to Dublin City Centre. These routes will combine with routes A1 and A2 at Terenure forming the A-spine, thus providing a high frequency bus service between Terenure and Swords/ Dublin Airport and DCU via Dublin City Centre.

Details of the proposed routes are presented within Table 2.1 (overleaf).

Table 2.1 Proposed Public Transport Services in Application Site's Vicinity

Route No.	Route	Weekday Peak Frequency
P18*	Whitechurch - City Centre	1 AM Service 1 PM Service
74	Dundrum - Whitechurch - Crumlin - City Centre	30 minutes
85	Tallaght - Ballyboden - Harold's Cross - Parnell Square	10 minutes
A2	Airport - City Centre - Ballinteer - Dundrum	12 minutes
A4	Swords - City Centre - Dundrum	12 minutes
S6	Tallaght - Dundrum - UCD - Blackrock	15 minutes
S8	Tallaght - Sandyford - Dún Laoghaire	15 minutes

**AM and PM Peak Hour Only Service*

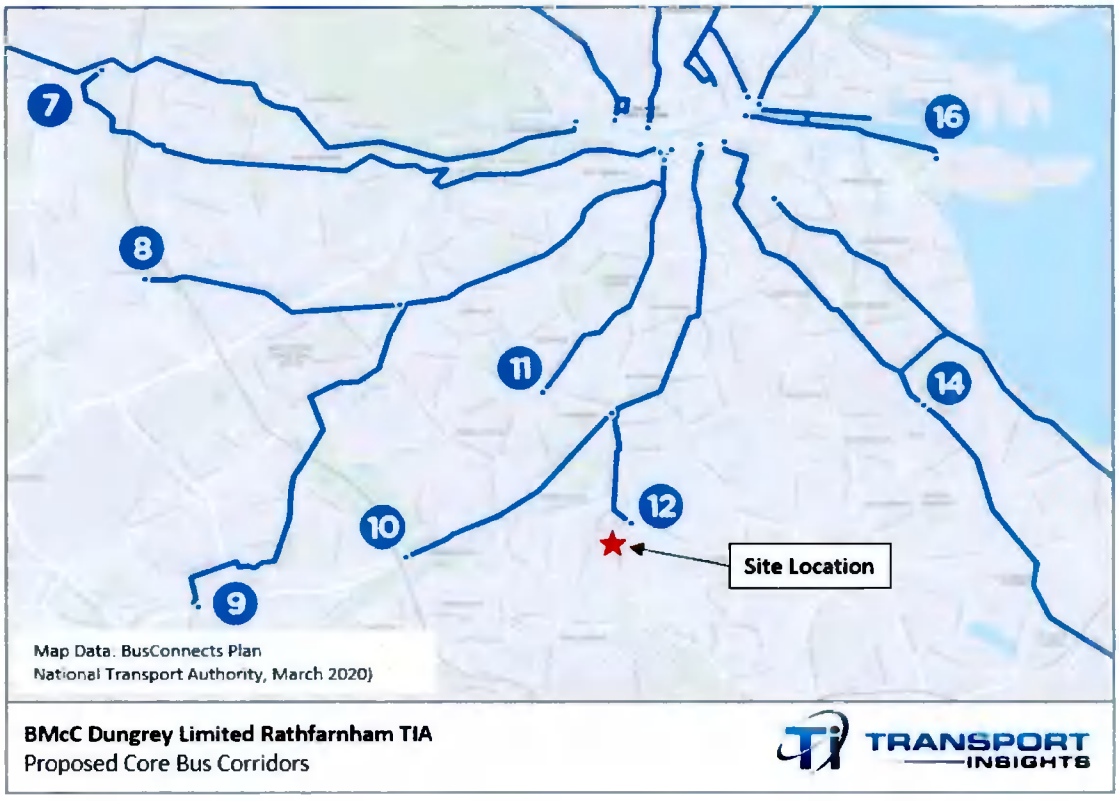
Proposed Improvements to Urban Bus Infrastructure

In addition to the revised planned bus services emerging from the New Dublin Area Bus Network Project, it is proposed to implement a network of core bus corridors to enhance bus priority throughout the network.

The site is located ca. 550 metres to the south of the proposed BusConnects Core Bus Corridor 12, which will tie in with existing bus infrastructure and connect Rathfarnham to Dublin City Centre via Terenure and Rathmines. The emerging preferred route for this corridor (in addition to other corridors running through north Dublin City), published by the National Transport Authority in March 2020, is shown in the following Figure 2.2. The alignment of Corridor 12 in the application site's general vicinity was confirmed via the preferred route published in November 2020.

When implemented, proposed bus priority enhancement measures along this corridor are forecast to contribute to reduced travel times towards Dublin City Centre and result in more attractive travel times to destinations to the east of the site, in addition to improved journey time reliability.

Figure 2.2 Proposed BusConnects Core Bus Corridors

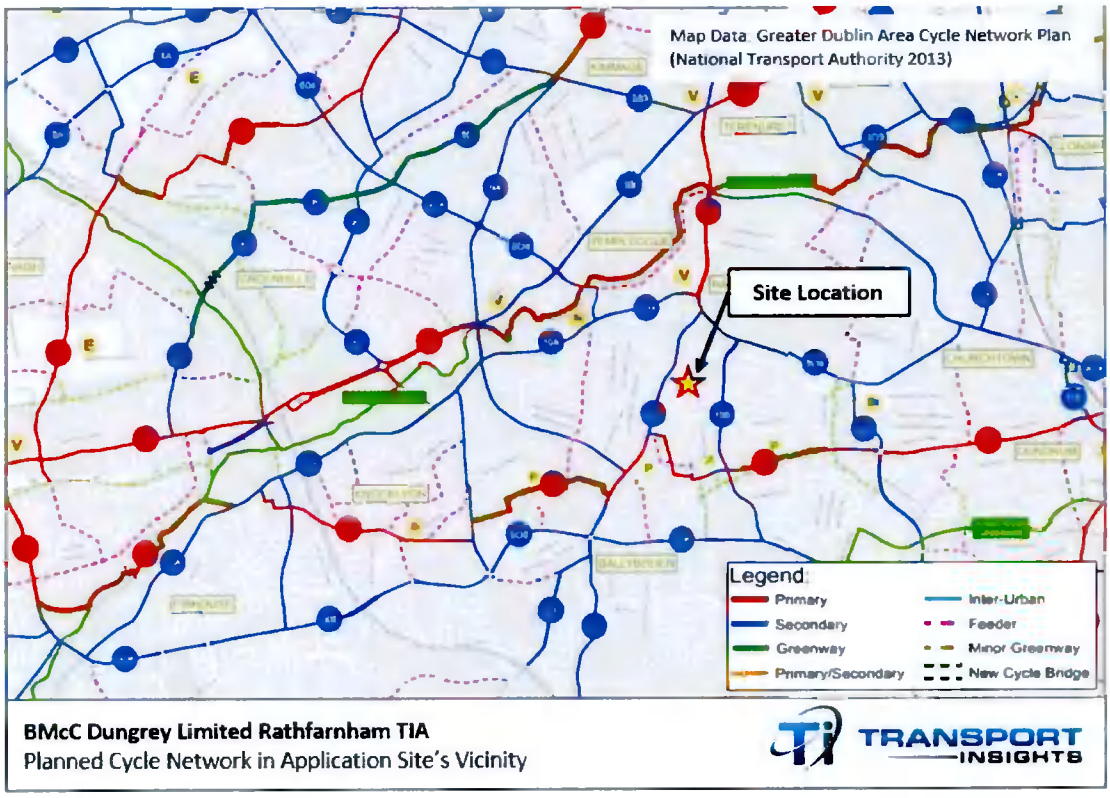


Greater Dublin Area Cycle Network Plan (2013)

The proposed development site is currently served by well-developed cycle infrastructure. There are existing cycle tracks and cycle lanes on much of Ballyboden Road and Willbrook Road which connect the proposed development site Grange Road to the north. On Grange Road there is an existing cycle track on the northern side of the vehicular carriageway and a mandatory bus lane which also accommodates cyclists on the southern side of the carriageway. Cycling infrastructure to the north of Rathfarnham Village also connects the site to south Dublin City Centre via Terenure, Rathmines and Ranelagh.

The above-mentioned cycling infrastructure in the site's environs shall be enhanced by planned future schemes. The planned layout of cycle infrastructure network within Dublin has been set out within the Greater Dublin Area Cycle Network Plan, published by the National Transport Authority in 2013. The proposed network in the application site's vicinity is illustrated in Figure 2.3 which follows.

Figure 2.3 Planned Greater Dublin Area Cycle Network[2]



As can be seen from the preceding figure, the proposed development site is ideally located to benefit from high-quality cycling infrastructure. Ballyboden Road and Willbrook Road shall form part of secondary route 10 which will connect the development site to secondary orbital route SO4 on Grange Road to the north and secondary orbital route SO6 to on Taylor's Lane and Ballyboden Way to the south. A section of the primary orbital route SO5 is also formed by Ballyboden Road.

In the vicinity of Rathfarnham Village, route 10 becomes a primary radial route which links the proposed development site to Dublin City and other orbital and radial routes with the overall cycling network. Notably, route 10 also connects to the Dodder Greenway which will also connect the site to locations such Templeogue, Firhouse to the southwest and Ballsbridge and Dublin Docklands to the northeast.

An overview of other planned cycle routes in the vicinity of the proposed development site are:

- Radial Route 10: Route 10 will run from Camden Street through Rathmines, Rathgar and Terenure to Rathfarnham;

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2 Greater Dublin Area Cycle Network Plan (National Transport Authority, December 2013)

- Orbital Route SO4: from Dundrum to Greenhills and Walkinstown via Churchtown, Nutgrove, Rathfarnham and Templeogue;
- Orbital Route SO5: Dundrum to Tallaght via Ballyboden and Knocklyon and Firhouse; and
- Orbital Route SO6: Dun Laoghaire to Tallaght via Ballycullen and Old Bawn.
- Dodder Valley way: Dublin City Centre (Docklands) to Bohernabreena via Ballsbridge, Rathfarnham, Templeogue, Firhouse

Overall, the proposed cycle network improvements result in the site being ideally located to benefit from high-quality cycle infrastructure, which will contribute to substantial increase in attractiveness and uptake of cycling for both leisure and commuting for both radial trips to areas between the site and Dublin City Centre, and orbital trips to areas such as Dundrum, Dun Laoghaire and Templeogue. This is particularly true of the Dodder Greenway which offers increased safety and amenity to those who may be apprehensive about cycling on heavily trafficked roads.

2.4 Local Policy – South Dublin County Development Plan 2016-2022

The *South Dublin County Council Development Plan 2016-2022* provides the overarching planning framework for development in the South Dublin authority area until 2022. Of primary importance from a traffic and transportation perspective are sustainable travel accessibility and development car and cycle parking standards, outlined hereunder.

Overarching Transport Planning Related Objectives

Chapter 6 of the Plan outlines the Council's policies and objectives as they relate to transport and mobility. Of relevance to the development proposal are the following transport planning related policies within the current Plan, reproduced below:

- **TM1 Objective 2**: *"To spatially arrange activities around, and improve access to, existing and planned public transport infrastructure and services."*
- **TM2 Objective 1:** *"To secure the implementation of major public transport projects as identified within the relevant public transport strategies and plans for the Greater Dublin Area."*
- **TM3 Objective 2:** *"To ensure that connectivity for pedestrians and cyclists is maximised in new communities and improved within existing areas in order to maximise access to local shops, schools, public transport services and other amenities, while seeking to minimise opportunities for anti-social behaviour and respecting the wishes of local communities."*
- **TM3 Objective 3:** *"To ensure that all streets and street networks are designed to prioritise the movement of pedestrians and cyclists within a safe and comfortable environment for a wide range of ages, abilities and journey types."*

- **TM7 Objective 1:** *"To carefully consider the number of parking spaces provided to service the needs of new development."*
- **TM7 Objective 2:** *"To effectively design and manage parking to ensure the efficient turnover of spaces."*
- **TM7 Objective 3:** *"To ensure that car parking does not detract from the comfort and safety of pedestrians and cyclists or the attractiveness of the landscape."*

Cycle Parking Provision

Section 11.4.1 of the Plan provides recommendations in relation to the provision of cycle parking. However, due to the nature of the proposed development i.e. that it is comprised of house units that will each include a rear garden, it is envisaged that bicycle parking within the development will be fully accommodated within the curtailment of each residential unit. However, in order to accommodate cycle parking for residents of the mid-terrace houses who do not wish to bring bicycles through their residences, a secure bicycle parking store is also proposed to be provided within the site. Short-term visitor cycle parking is also proposed to be provided.

Car Parking

Parking standards are outlined within Section 11.4.2 of the current Plan (Tables 11.24) for residential and developments and are presented for two separate zones. The proposed development site is deemed to be located in Zone 1 and the applicable car parking standards and the maximum quantum of car parking spaces required to serve the proposed development are summarised in Table 2.2 which follows.

Table 2.2 South Dublin County Development Plan – Maximum Car Parking Rates

Dwelling Type	No. of Bedrooms	Zone 1 Rate	No. of Houses	Max. Car Parking Spaces
House	3+ bedrooms	2 spaces	22	44

As can be seen from the preceding Table 2.2, according to the Plan, the proposed development requires up to 44 no. on-site car parking spaces.

Further to the quantum of car parking required, SDCC's car parking standards also contain a requirement for a provision of 5% accessible parking as required by Part M of Building Regulations 2010 and 100% of parking spaces enabled for electric vehicle parking. It should be noted that these provisions are inclusive of the figures outlined above. Section 4 of this Report presents the proposed

car parking provision and assesses the suitability of the provision to serve the demands of the proposed development.

3. Existing Site Context

3.1 Introduction

To assess the proposed development's potential traffic impact, an appreciation of the existing situation first needs to be established. Existing conditions outlined within this section of the TIA Report represent an evidence-based review, and has been informed by:

- a high-level desktop review of the study area and its surrounding transport network, including road infrastructure, facilities for pedestrians and cyclists, and public transport infrastructure and services;
- a site assessment, undertaken on the afternoon of Tuesday 27 July 2021 to confirm facilities and operating conditions for all road users on adjoining roads and junctions; and
- analysis of classified junction count survey data collected for the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction over a 24-hour (00:00hrs – 11:59hrs) period on Thursday 01 June 2017 to determine existing background traffic conditions on the adjoining road network.

3.2 Site Location and Access Arrangements

Site Location and Layout

As outlined within Section 1.2 and shown at Figure 1.1 of this Report, the proposed development site is located at lands to the immediate east of Whitechurch Road, Rathfarnham. The site currently incorporates a single bungalow and adjacent lands along with a number of derelict buildings. The site is currently accessed at 2 no. locations. Silveracre Bungalow is accommodate via a direct driveway access from Whitechurch Road while access to No. 6 is facilitated by an existing gated access.

3.3 Local Road Network

Whitechurch Road

The site is accessed via Whitechurch Road, a two-way local road with a single lane in each direction. Whitechurch Road connects Taylor's Lane at its southern end to the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction at its northern end. Whitechurch Road has a typical carriageway width of ca. 5.8 metres, with a broken white centreline in the vicinity of the proposed development site. The vehicular carriageway of Whitechurch Road includes ca. 1.3 metres wide advisory cycle lanes on both sides in the vicinity of the subject site. There is a pedestrian footpath provided along the length of the western side of Whitechurch Road which varies between 1.2 and 1.8 metres in width. The eastern side of the vehicular carriageway features a footpath along the length of the site which varies in width between 0.7 metres (to the immediate north of the existing vehicular access to the site) and 2.5 metres (in the location of the proposed site access junction).

Street lighting is present on Whitechurch Road and a posted 50 km/ h speed limit is in operation. There are various warning signs present warning drivers of pedestrians, cyclists, junctions, traffic signals and a crest in the road.

In terms of horizontal alignment, Whitechurch Road in the vicinity of the proposed development site is straight. In terms of vertical alignment the vehicular carriageway slopes upwards to the south of the subject and is relatively flat to the north.

Ballyboden Road (R115)

Ballyboden Road (R115) is a two-way regional road with a single lane in each direction. Ballyboden Road connects Edmondstown Road at its southern end to the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction at its northern end. In the vicinity of the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction, the vehicular carriageway is ca. 12.0 metres wide and incorporates a mandatory

shared bus and cycle lane (which is in operation from 07:00hrs – 09:30hrs, Monday to Friday), a single vehicular lane in each direction, and ca. 1.8 metres wide mandatory cycle lane. On approach to the abovementioned junction, the bus lane ends to accommodate lane dualling for right-turning vehicles. Footpaths are provided on both sides of the vehicular carriageway with footpath widths measuring ca. 2.0 metres and 1.8 metres on the western and eastern sides of the carriageway respectively.

Public lighting is present along both sides of Ballyboden Road and a posted 50 km/ h speed limit is in operation. In terms of vertical alignment, Ballyboden Road is flat and undulating. The road's carriageway is for the most part straight, featuring a gentle bend eastward in the vicinity of the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction.

Willbrook Road (R115)

Willbrook Road (R115) is a two-way regional road with a single lane in each direction connecting the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction at its southern end to the 3-arm Grange Road/ Willbrook Road/ Rathfarnham Road junction at its northern end. In the vicinity of the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction, the vehicular carriageway is ca. 7.0 metres wide featuring a single traffic lane and a single 1.5 metres wide advisory cycle lane in each direction. Footpaths are provided on both sides of the vehicular carriageway with footpath measuring ca. 1.5 metres wide.

Public lighting is present along both sides of the carriageway and a posted 50 km/ h speed limit is in operation. Ballyboden Road is flat and undulating, and features a series of 3 no. gentle bends along its length.

3-arm Whitechurch Road/ Ballyboden Road/ Willbrook Road Signalised Junction

Whitechurch Road intersects with R115 to form the 3-arm Whitechurch Road/ Ballyboden Road/ Willbrook Road Signalised Junction with Whitechurch Road forming the minor arm of the junction and Ballyboden Road and Willbrook Road forming the major arms. The junction features both pedestrian crossing and road traffic signals. It is also noted that the junction also features a short bypass lane, approximately 11.0 metres in length to allow traffic to turn left from Willbrook Road onto Whitechurch Road while being unimpeded by straight through traffic which may be stopped at the lights ahead. It was also noted that this bypass lane features flashing amber arrows which remain on and only become red when the pedestrian signal on this arm shows green.

The approach to the junction from Whitechurch Road features a single lane only for both right-turning and left-turning traffic. The approach to the junction from Ballyboden Road features lane dualling with the offside lane reserved for right-turning traffic onto Whitechurch Road, as indicated by both road markings and signage.

The southern (Ballyboden Road) and eastern (Whitechurch Road) arms of the junction feature pedestrian crossing facilities in the form of pedestrian crossing signals, tactile paving and dropped kerbs. There are no pedestrian crossing facilities on the northern (Willbrook Road) arm of the junction. It is also noted that there are also no pedestrian facilities of any kind including footpaths at the northern end of Whitechurch Road on the northern side of the vehicular carriageway.

A classified turning count traffic survey was undertaken at this junction, with a summary of its results included within Section 3.6 of this Report.

3.4 Public Transport – Existing Bus Services

The proposed development site is served by a number of bus routes serving stops located on Whitechurch Road and Grange Road namely the 61, 16/16D, 17/17D and 75/75A. Furthermore, the 15B and 15D are available from Butterfield Avenue approximately 750 metres (9 minutes' walk) from the proposed development site. Currently available services are presented in Figure 3.1 below, with details in relation to their proximity to the site and peak/ off-peak frequencies set out in the subsequent Table 3.1.

Figure 3.1 Current Bus Network in Application Site's Vicinity

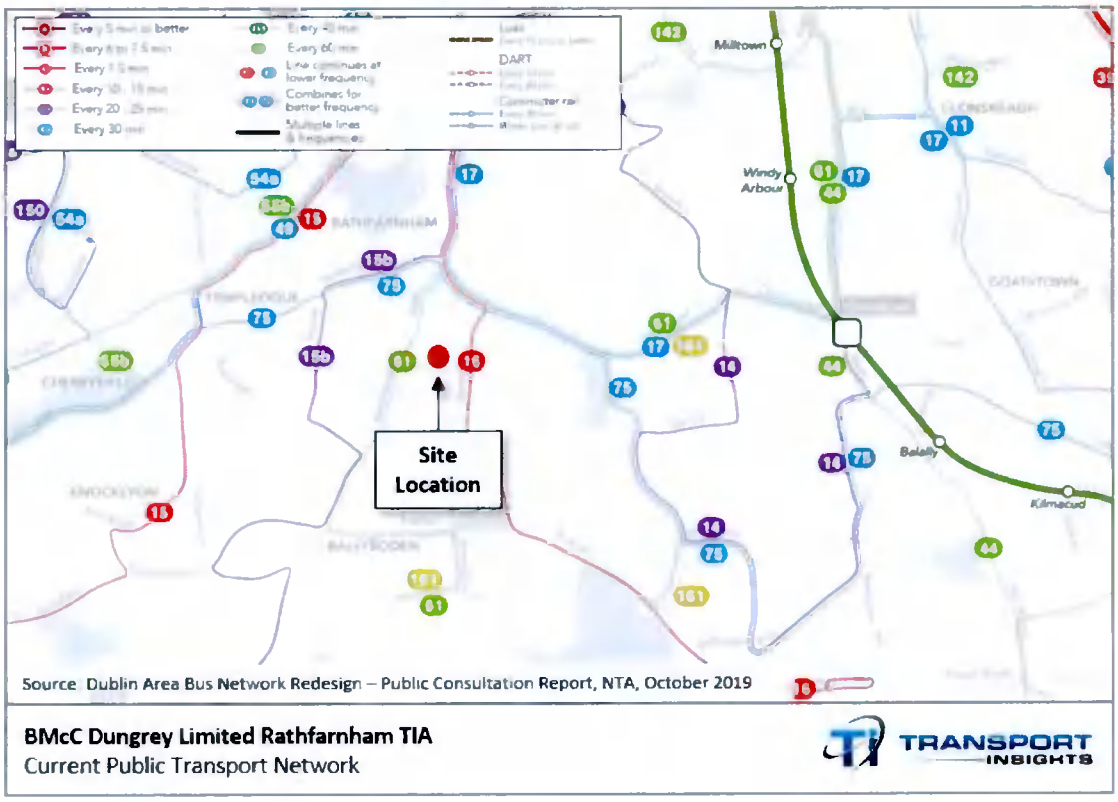


Table 3.1 Current Public Transport Services in Application Site's Vicinity

Route No.	Route	Weekday Off-Peak Frequency	Average Weekday Peak Frequency	Distance to Nearest Stops
61	Whitechurch – Nutgrove Ave – Milltown – Ranelagh - Eden Quay	75 minutes	60 minutes	230 metres
16/16D	Ballinteer – Grange Road – Terenure – Harold's Cross – O'Connell Street – Drumcondra – Santry – Dublin Airport	15 minutes	10 minutes	550 metres
17/17D	Rialto – Rathfarnham – UCD - Blackrock	20 minutes	30 minutes	700 metres
75/ 75A	Tallaght – Dun Laoghaire	30 minutes	20 minutes	700 metres
15B	Ringsend – Aungier Street – Rathmines – Terenure – Stocking Avenue	20 minutes	15 minutes	750 metres

Route No.	Route	Weekday Off-Peak Frequency	Average Weekday Peak Frequency	Distance to Nearest Stops
15D	Ringsend – Aungier Street – Rathmines – Terenure – Whitechurch	N/A	1 AM Service (to Dublin City) 2 PM Services (from Dublin City)	750 metres

As can be seen in the preceding Table 3.1, the immediate area of the application site is served by several bus routes. The 61 and 15B connect the proposed site to Dublin City as do 16/16D which also connect the site to Dublin Airport and Santry. The 75/ 75A and 17/17D serve stops on Grange Road to the north of the site and provide orbital services to major destinations such as Tallaght, Dundrum, Dun Laoghaire, Sandyford/ Stillorgan, Rialto, Blackrock and UCD.

3.5 Pedestrian and Cycle Provision

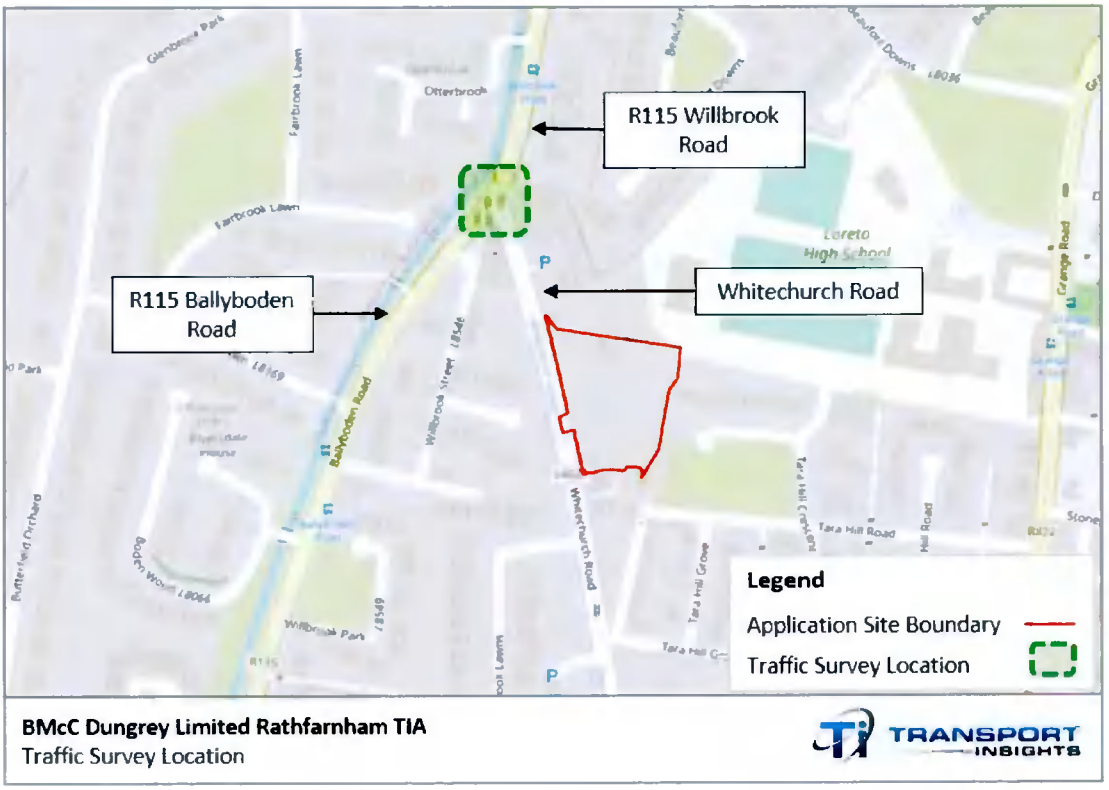
As noted in Section 3.3, pedestrian footpaths are provided along both sides of Ballyboden Road and Willbrook Road and the western side of Whitechurch Road. Willbrook Road features advisory cycle lanes on both sides of the vehicular carriageway while a cycle track is present on the eastern edge of Ballyboden Road and a mandatory bus lane which also accommodates cyclists is provided on the western side. Whitechurch Road features advisory cycle lanes on both sides of the vehicular carriageway in the vicinity of the subject site which connect to the cycling infrastructure provisions on Ballyboden Road and Willbrook Road.

3.6 Traffic Survey Data Collection and Analysis

Traffic Survey Timing and Specification

Due to the restriction of movement associated with the on-going Covid-19 pandemic, new traffic surveys were not undertaken to support this application. Existing conditions on the surrounding road network have however been determined by a 24-hour (00:00hrs – 11:59hrs) classified junction turning count survey of the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction which was undertaken on Thursday 01 June 2017. Figure 3.2 (overleaf) illustrates the traffic survey location.

Figure 3.2 R148 – Traffic Survey Location



Traffic Survey Results

A summary of the survey results for the AM and PM peak hours as determined from analysis of the survey results (08:00-08:59hrs and 17:30-18:29hrs respectively) is presented within the following Table 3.2 for light vehicle (LV) and heavy vehicle (HV) categories. From the survey results presented in this table, it is apparent that a total of:

- 1,145 no. vehicles were recorded passing through this junction during the AM peak hour (08:00-08:59hrs); and
- 1,086 no. vehicles were recorded passing through this junction during PM peak hour (17:30-18:29hrs).

Table 3.2 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction Traffic Survey Results (Approach Flows)

Time Period	AM Peak Hour (08:00-08:59Hrs)			PM Peak Hour (17:30-18:29Hrs)		
	LV	HV	Total	LV	HV	Total
Willbrook Road (N)	231	5	236	572	3	575
Whitechurch Road (E)	294	2	296	162	1	163

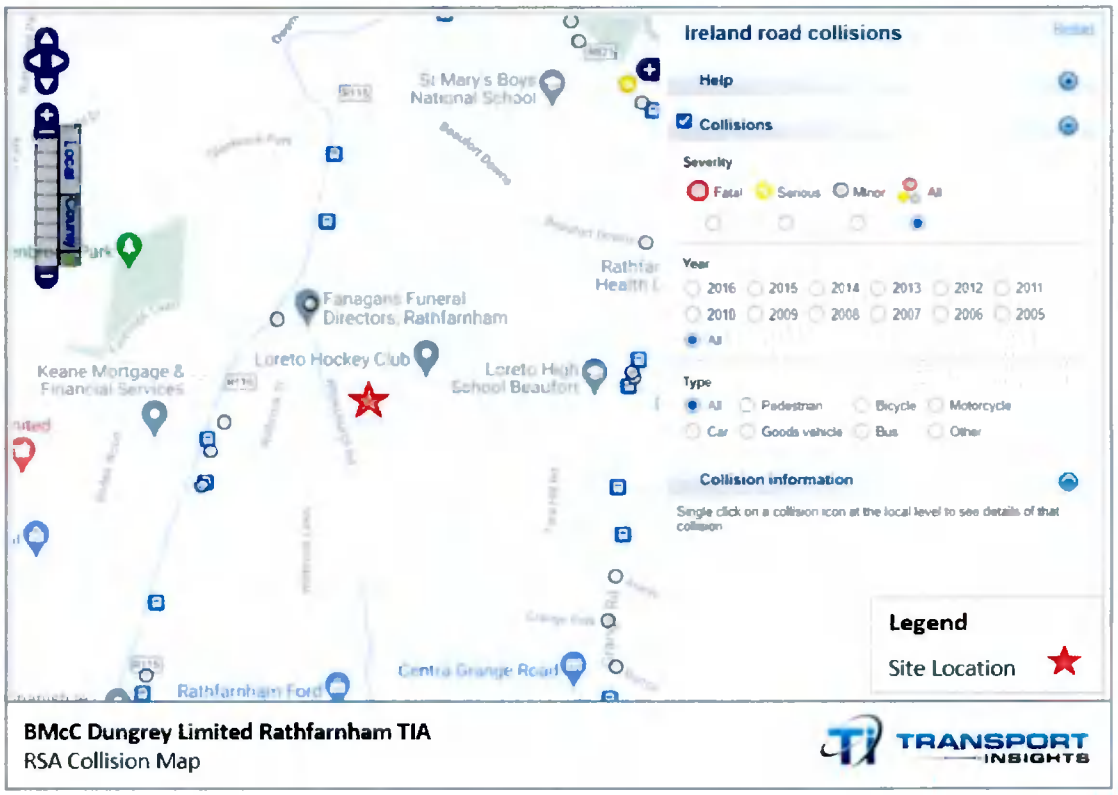
Time Period	AM Peak Hour (08:00-08:59Hrs)			PM Peak Hour (17:30-18:29Hrs)		
	LV	HV	Total	LV	HV	Total
Ballyboden Road (S)	611	2	613	343	5	348
Total Approach Flow	**1,136**	**9**	**1,145**	**1,077**	**9**	**1,086**

Full traffic survey results for the traffic count summarised in the preceding Table 3.2 are included within Appendix A of this Report.

3.7 Road Traffic Collision Data Analysis

Data from the Road Safety Authority's (RSA) traffic collision database was reviewed to assess the safety performance of roads within the vicinity of the site. The database contains information on all reported collisions by severity of injury incurred (i.e. fatal, serious or minor) and by year the collision occurred. Figure 3.3 below illustrates the location of all the collisions which occurred in the vicinity of the site during the twelve-year period from 2005 to 2016 inclusive.

Figure 3.3 RSA Collision Data Map (2005-2016)



BMcC Dungrey Limited Rathfarnham TIA
RSA Collision Map

As illustrated by the above figure, no traffic collisions of any severity were recorded in the immediate vicinity of the site over the 12-year period. 2 no. minor collisions recorded in the vicinity of the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road junction.

The available data outlined above indicates that there are no location-specific road safety concerns of relevance to the proposed development considering the volume of traffic on the road network.

4. Description of Proposed Development

4.1 Introduction

This section of the TIA report describes key physical attributes of the proposed development, including site access and internal site layout arrangements, proposed car and cycle parking facilities, and provision for pedestrians.

4.2 Proposed Development Overview

Figure 4.1 below presents the proposed site layout plan, prepared by BBA Architecture.

Figure 4.1 Proposed Site Layout Plan*

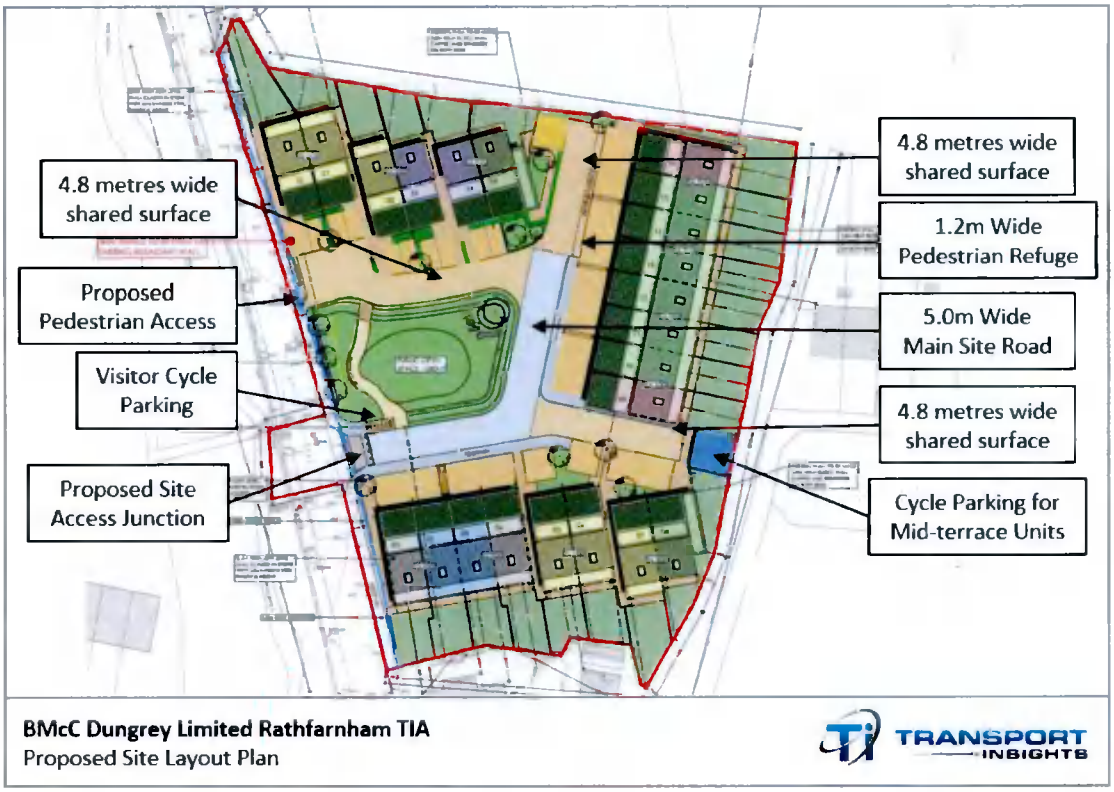


*Image courtesy of BBA Architecture (Drawing No. D-122-PL-SL-102 – General Arrangements Site Layout), with supplemental annotation by Transport Insights. To-scale versions of the preceding Figure 4.1 is included within the overall planning pack of drawings.

As illustrated in the preceding Figure 4.1, the proposed residential development comprises:

- 22 no. houses;
- ca. 580 sqm Public Open Space; and
- a new vehicular access/ egress with Whitechurch Road.

In addition to the above, 44 no. car parking spaces (2 no. spaces per unit), shall be provided to meet the needs of residents and visitors of the proposed development. Further information in relation to traffic characteristics of the development proposal is provided in the remainder of this section of the Report.

Due to the nature of the proposed development i.e. that it is comprised of house units that will each include a rear garden, it is envisaged that bicycle parking within the development will be fully accommodated within the curtailment of each residential unit. However, in order to accommodate cycle parking for residents of the mid-terrace houses who do not wish to bring bicycles through their residences, a secure bicycle parking store is also proposed to be provided within the site. Short-term visitor cycle parking is also proposed to be provided.

4.3 Proposed Site Access and Layout Arrangements

Proposed Vehicular Access Arrangements

As part of the proposed development, the existing vehicular accesses shall be closed and a new vehicular access/ egress to/ from Whitechurch Road shall be created. The proposed vehicular access shall be 5.0 metres wide and incorporates 5.0 metre corner radii in order to facilitate the movements of infrequent larger vehicles such as a refuse lorry, in accordance with DMURS guidance.

Furthermore, it is proposed that a raised table will be provided along the site access arm of the junction to maintain pedestrian priority on the adjoining public footpath. The raised table shall have a 2.0-metres wide (noting the existing footpath width) flat top with 1:10 entry/ exit gradients.

Visibility Splay Analysis

As per Section 1.4 of this Report, the visibility splay requirements at the proposed new site access junction with Whitechurch Road were determined according to DMURS standards, i.e. with an 'x' distance of 2.4 metres and 'y' distance of 49 metres, corresponding to the Stopping Sight Distances (SSD) for a design speed of 50 km/ h on the adjoining Whitechurch Road, which is noted to accommodate bus routes.

A visibility splay analysis was undertaken to demonstrate that there are no obstructions within the visibility envelope for vehicles egressing the proposed development via the proposed new site access junction. A to-scale visibility splay drawing is included at Appendix B. The analysis has confirmed sightlines to be satisfactory in both directions along Whitechurch Road in accordance with the posted 50 km/ h speed limit.

Pedestrian Access and Facilities

A new pedestrian-only access is located at the western boundary of the proposed development site with Whitechurch Road, in order to enhance the pedestrian environment and permeability of the

proposed development site. In addition, pedestrian access will also be facilitated at the main site access junction via 1.8 metres wide pedestrian access on the southern side of the vehicular carriageway of the site access road which connects to existing pedestrian facilitates on Whitechurch Road. Pedestrian facilities are also provided within the site in the form of footpaths, having a minimum with of 1.8 metres. 3 no. shared surface area shall also be created, with details outlined overleaf.

Proposed Internal Site Layout

The main thoroughfare through the development site is proposed to incorporate a 5.0-metre-wide vehicular carriageway, which is within the range (5.0 to 5.5 metres) for a standard carriageway width for a local street as per Section 4.4.1 of DMURS. Additionally, three shared surfaces are proposed within the subject site. The shared surface at the northern end of the development also includes a 1.2 metres wide pedestrian refuge area. These are proposed as having a maximum width of 4.8 metres and will accommodate vehicular traffic, cyclists and pedestrians in a mixed environment.

To actively manage traffic speeds within the development and ensure an appropriate and safe environment is provided for pedestrians and cyclists within the site, a raised table is proposed at the main site access junction.

Car Parking

There will be 44 no. car parking bays provided within the proposed development site, all of which will be wired for electric vehicle charging. All car parking is proposed in the form of on-street perpendicular car parking bays. These bays are 4.8 metres long * 2.4 metres wide as per DMURS, however, the size of the car parking bays have been increased from the standard dimensions in certain locations i.e. adjacent to the shared surfaces in order to facilitate vehicles manoeuvres while also maintain narrower vehicular carriageway widths, in accordance with the principles of DMURS. Accessible car parking will be accommodated in parking spaces to the front of their respective dwellings, which are deemed to have adequate room to the rear and sides in addition to being provided within a low-speed environment which will allow mobility impaired users to safely access and egress their vehicles.

Cycle Parking

Each of the proposed houses are proposed to include a rear garden and, as such, bicycle parking within the development will be fully accommodated within the curtailment of each residential unit. In order to accommodate cycle parking for residents of the mid-terrace houses who do not wish to bring bicycles through their residences, a secure bicycle parking store is also provided within the site which will have a capacity of 4 no. cycle parking spaces per terraced house, equating to a provision of 32 no. spaces in total. 12 no. short-term visitor cycle parking spaces have also been provided in the vicinity of the site access junction in the form of 6 no. Sheffield stands.

Deliveries and Servicing

Refuse and emergency vehicles shall access the site via the proposed main vehicular access junction with Whitechurch Road and service each individual residential unit before egressing the site via the same junction. The site includes a number of cul-de-sac roads which a refuse truck will reverse into for a short distance, ca. 12 metres and use to turn around. All residential units and the locations at which residents will leave their waste bins i.e., kerbside in front of their respective units, are deemed well within reach of refuse vehicles and accessible to refuse collectors.

A swept path analysis has been undertaken to demonstrate the suitability of the proposed site layout in accommodating a large refuse vehicle (3-axle, 9.86 metres in length), and a fire tender (DB32 fire appliance, 8.68 metres in length) to access, circulate within and egress the proposed development site.

See Appendix C for a to-scale version of the swept path analysis outputs for the proposed development site. The analysis has confirmed the proposed development to be satisfactory in accommodating the needs of these vehicles.

5. Traffic Impact Assessment

5.1 Introduction

This section of the TIA sets out the approach pursued in assessing the proposed development's traffic impacts and its findings. The assumed year of opening (YoO) for the proposed development is 2023. Two time periods are considered, the AM peak hour (08:00-08:59hrs) and the PM peak hour (17:30-18:29hrs), each of which represent the peak periods on the local road network as established from the traffic survey detailed in Section 3.6.

Additionally, the traffic generation analysis was based on the industry standard TRICS (Trip Rate Information Computer System) database.

5.2 Do-Nothing Scenario

In order to determine the impact of the development proposals on the local road network, it is first necessary to develop a without development or Do-Nothing scenario for the base year (2017), the assumed Year of Opening (YoO), YoO+5 (2028) and YoO+15 (2038). Traffic levels in the do-nothing scenario comprises forecast background traffic flows, which are assumed to grow organically over the assessment period.

Committed Developments

A review of committed developments (developments with planning permission, but not yet delivered) in the vicinity of the development site has not identified any of sufficient proximity/ scale to be deemed relevant to this assessment.

Forecast Background Traffic Flows

Background traffic flows on the surrounding road network as set out within Table 3.1 have been adjusted through application of appropriate growth factors to determine YoO, YoO+5 and YoO+15 traffic flows. For this assessment, growth factors have been determined from the TII's *Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections*, May 2019. Information within these guidelines is provided for the region into which the proposed development site falls, the Dublin Metropolitan region as per the *Guidelines*, from 2016-2030 and from 2030-2040 for low, central and high sensitivity growth scenarios.

This information is provided for LVs and HVs and was used to determine the future year do-nothing traffic flows. Central growth factors were assumed for this assessment to determine future year background traffic flows on the surrounding road network. These factors are set out in Table 5.1, which follows.

Table 5.1 TII Traffic Growth Factors (Central) – Dublin Metropolitan Area

Year	Annual Growth Factor – LV	Annual Growth Factor – HV
2016 - 2030	1.0162	1.0295
2030 - 2040	1.0051	1.0136

Based on the TII 'central' growth factors in the preceding Table 5.1, approach flows set out in Table 3.1 have been factored and then added to committed development traffic flows to obtain future year traffic volumes in the do-nothing scenario, which is detailed in Table 5.2 (AM and PM peak hours respectively) for the development's assumed year of opening (2023), the year of opening + 5 years (2028) and year of opening + 15 years (2038).

Table 5.2 Do-Nothing Scenario – 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction – AM and PM Peak Periods

Link	AM Peak Hour 08:00 - 08:59				PM Peak Hour 17:30 - 18:29			
	Base Flows	YoO (2023)	YoO+5 (2028)	YoO+15 (2038)	Base Flows	YoO (2023)	YoO+5 (2028)	YoO+15 (2038)
Willbrook Road (N)	236	260	283	305	575	633	687	739
Whitechurch Road (E)	296	326	354	381	163	180	195	210
Ballyboden Road (S)	613	675	732	787	348	384	416	448
Total Junction Approach Flows	**1,145**	**1,262**	**1,368**	**1,473**	**1,086**	**1,197**	**1,298**	**1,397**

As can be seen from the preceding Table 5.2, it is forecast that there will be a total of 1,262 no. vehicles through the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction during the AM peak hour and 1,197 no. vehicles in the PM peak hour in the development's assumed YoO (i.e. 2023). For YoO+5 years (i.e. 2028), it is forecast that there will be a total of 1,368 no. vehicles through the junction during the AM peak hour and 1,298 no. vehicles during the PM peak hour. In the YoO+15 years (i.e. 2038), it is forecast that there will be a total of 1,473 no. vehicles through the junction during the AM peak hour and 1,397 no. vehicles during the PM peak hour.

5.3 Trip Generation

Traffic generation data has been derived from the industry standard TRICS database, based on corresponding land uses of 'Houses Privately Owned' for suburban & edge of town locations. As the analysed time periods (relating to the determined adjoining road network peak) do not precisely

correspond to the TRICS traffic generation time periods, in order to provide a robust assessment, the time periods with the greatest trip rates were used to calculate the development's trip generation potential.

The outputs of the traffic generation calculation are summarised in Table 5.3 for the AM peak hour (08:00-08:59hrs) and PM peak hour (17:30-18:29hrs). Raw TRICS data is included as Appendix D.

Table 5.3 TRICS Trip Rates and Corresponding Number of Trips

Time Period	AM Peak		PM Peak	
Direction	In	Out	In	Out
TRICS Land Use - Houses Privately Owned	0.152	0.394	0.369	0.187
Number of Trips (22 no. units)	4	9	9	5
Total Trip Generation	13		14	

As can be seen from the preceding Table 5.3 the proposed development is not expected to generate significant levels of additional traffic volumes during either peak hour with 13 no. and 14 no. trips predicted to be generated during the AM and PM peak hours respectively.

5.4 Trip Distribution and Assignment

The traffic survey outlined in Section 3.6 captured the flow of vehicles 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road junction at the flow of vehicles heading north and south on Whitechurch Road at this location. It is assumed that due to the nature of the development (i.e., residential) and the nature of the surrounding area, which is also residential, vehicle trips generated by the proposed development site are assumed to follow the same distribution patterns as were observed by the traffic survey.

Based on the survey data, of the 9 no. trips predicted to depart the proposed development site in the AM peak hour, 4 no. of these will turn south and head towards Taylor's Lane. Of the 5 no. trips generated by the proposed development site which head north on Whitechurch Road towards the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road junction, 1 no. of these will turn north onto Willbrook Road and 4 no. will turn south onto Ballyboden Road. Similarly of the 4 no. trips predicted to arrive to the proposed development site in the AM peak hour, 2 no. vehicles are calculated to arrive from both the north and the south. Of the vehicles arriving from the north on Whitechurch Road, 1 no. of these will do so via turning onto Whitechurch Road from Willbrook Road and 1 no. from Ballyboden Road.

Therefore, a total of 7 no. trips generated by the proposed development will travel through the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road junction in the AM peak hour.

In the PM peak hour, of the 9 no. trips predicated to arrive at the site. 5 no. will arrive from Whitechurch Road from the north, with the remaining 4 no. vehicles arriving from the direction of Taylor's Lane to the south. Based on the surveyed traffic through the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road junction, of these 5 no. trips, 3 no. vehicles are calculated to reach Whitechurch Road via Ballyboden Road and 2 no. are calculated to reach Whitechurch Road via Willbrook Road. Of the 5 no. vehicles projected to depart the site in the PM peak hour, 2 no. are predicted to head south on Whitechurch Road toward Taylor's Lane with the remaining 3 no. heading north towards the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road junction. It is predicted that all 3 no. of these vehicles will then turn onto Ballyboden Road.

Therefore, a total of 8 no. trips generated by the proposed development will travel through the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road junction in the PM peak hour.

5.5 Do-Something Scenario

The do-something scenario represents the sum of the background traffic (factored up in accordance with TII Guidelines) and traffic generated by the proposed development. The following Tables 5.4 to 5.6 provide an overview of traffic flows through the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction in the assumed YoO (2023), YoO + 5 years (2028) and YoO + 15 years (2038) do-something scenario and the percentage traffic impact on the junction.

Table 5.4 YoO (2023) Do-Something Scenario - AM and PM Peak Hour Traffic Impacts

Link	AM Peak Hour 08:00 - 08:59			PM Peak Hour 17:30 - 18:29		
	YoO Do Nothing Flows	YoO Do Something Flows	% Impact	YoO Do Nothing Flows	YoO Do Something Flows	% Impact
Willbrook Road (N)	260	261	0.4%	633	635	0.3%
Whitechurch Road (E)	326	331	1.5%	180	183	1.7%
Ballyboden Road (S)	675	676	0.1%	384	387	0.8%
Total Junction Approach Flow	**1,262**	**1,269**	**0.6%**	**1,197**	**1,205**	**0.7%**

Table 5.5 YoO+5 (2028) Do-Something Scenario - AM and PM Peak Hour Traffic Impacts

Link	AM Peak Hour 08:00 - 08:59			PM Peak Hour 17:30 - 18:29		
	YoO+5 Do Nothing Flows	YoO+5 Do Something Flows	% Impact	YoO+5 Do Nothing Flows	YoO+5 Do Something Flows	% Impact
Willbrook Road (N)	283	284	0.4%	687	689	0.3%
Whitechurch Road (E)	354	359	1.4%	195	198	1.5%
Ballyboden Road (S)	732	733	0.1%	416	419	0.7%
Total Junction Approach Flow	**1,368**	**1,375**	**0.5%**	**1,298**	**1,306**	**0.6%**

Table 5.6 YoO+15 (2038) Do-Something Scenario - AM and PM Peak Hour Traffic Impacts

Link	AM Peak Hour 08:00 - 08:59			PM Peak Hour 17:30 - 18:29		
	YoO+15 Do Nothing Flows	YoO+15 Do Something Flows	% Impact	YoO+15 Do Nothing Flows	YoO+15 Do Something Flows	% Impact
Willbrook Road (N)	305	306	0.3%	739	741	0.3%
Whitechurch Road (E)	381	386	1.3%	210	213	1.4%
Ballyboden Road (S)	787	788	0.1%	448	451	0.7%
Total Junction Approach Flow	**1,473**	**1,480**	**0.5%**	**1,397**	**1,405**	**0.6%**

As shown in the preceding Tables 5.4 to 5.6, in the do-something scenario, it is forecast that there will be a total of 1269 no. vehicles through the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction in the assumed YoO (2023) during the network AM peak hour and 1205 no. vehicles in the network PM peak hour. When comparing these figures to the equivalent do-nothing scenario traffic flows, this represents a traffic impact of 0.6% and 0.7% for the AM and PM peak hours respectively. This traffic impact reduces to 0.5% and 0.6% respectively in the YoO+5 as background traffic grows. In the YoO+15, the traffic impact is predicated to remain at 0.5% and 0.6% in the AM and PM peak hour periods respectively.

As the percentage increase in traffic on 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction is substantially below the 5% threshold set out in the TTA Guidelines as requiring more

detailed traffic impact analysis, **the proposed development is not anticipated to have any material impact on the operation of the adjoining road network**.

6. Summary and Conclusion

6.1 Summary

Overview

Transport Insights has been commissioned by Dungrey Limited to provide transport engineering design support and to undertake a Traffic Impact Assessment (TIA) in relation to a proposed residential development at the site of Silveracre Bungalow, Whitechurch Road, Rathfarnham, Dublin 14.

Proposed Development

The proposed development consists of the following:

- 22 no. houses;
- ca. 580 sqm Public Open Space; and
- a new vehicular access/ egress with Whitechurch Road.

In addition to the above, 44 no. car parking spaces (2 no. spaces per unit), shall be provided to meet the needs of residents and visitors of the proposed development.

Each of the proposed houses are proposed to include a rear garden and, as such, bicycle parking within the development will be fully accommodated within the curtailment of each residential unit. In order to accommodate cycle parking for residents of the mid-terrace houses who do not wish to bring bicycles through their residences, a secure bicycle parking store is also provided within the site which will have a capacity of 4 no. cycle parking spaces per terraced house, equating to a provision of 32 no. spaces in total. 12 no. short-term visitor cycle parking spaces have also been provided in the vicinity of the site access junction in the form of 6 no. Sheffield stands.

Site Access Arrangements

As part of the proposed development, it is proposed to close the existing vehicular access to the subject site and to create a new direct vehicular access to the site from Whitechurch Road. The proposed vehicular access is 5.0 metres wide and incorporates 5.0 metre corner radii in order to facilitate the movements of infrequent larger vehicles such as a refuse lorry, which in accordance with DMURS guidance. The vehicular access will also incorporate a pedestrian raised table to maintain pedestrian priority on the adjoining public footpath

Sightlines at the proposed vehicular access are in excess of 49 metres in both directions long Whitechurch Road when measured from a point 2.4 metres from the edge of the mainline carriageway edge, which is accordance with DMURS requirements.

Traffic Impact Assessment

Peak period traffic conditions on the surrounding road network have been determined via a traffic survey of the 3-arm Willbrook Road/ Whitechurch Road/ Ballyboden Road Junction and development traffic generation analysis. Compared to the do-nothing scenario, in the proposed development's assumed year of opening (2023), year of opening + 5 (2028) and year of opening +15 years (2038), the results of its traffic impact analysis for the proposed development presented are as follows:

- AM peak increase in traffic of 0.6% and PM peak increase of 0.7% in 2023;
- AM peak increase in traffic of 0.5% and PM peak increase of 0.6% in 2028; and
- AM peak increase in traffic of 0.5% and PM peak increase of 0.6% in 2038.

As the percentage increase in traffic on Whitechurch Road is substantially below the 5% threshold set out in the TTA Guidelines as requiring more detailed traffic impact analysis (see Section 1.4 of this Report), **the proposed development is not predicted to materially impact on the operation of the adjoining road network.**

6.2 Conclusion

In conclusion, the proposed development accords with best practice as set out within the relevant design guidelines and standards and has been demonstrated to have has a minimal impact on the operation of the adjoining road network.

TRANSPORT INSIGHTS
Transport Planning Consultants

Appendix A Traffic Survey Data

Transport Insights Limited, Suite 30, 21 Lower Baggot Street, Dublin 2, D02 X658, Ireland
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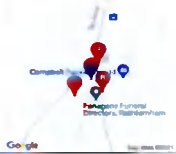
Idaso

Survey Name: HDR 21 119 Whitechurch Road / R115 Ballyboden Road
Site: 1328
Location: Ballyboden Rd / Whitechurch Rd
Date: Thu 01-Jun-2017

	A => A									A => B									A => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	BV (BIA	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	BV (BIA	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	BV (BIA	TOT	PCU
00.00	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4	2	1	20	0	0	0	0	23	20.8
00.15	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	0	0	11	0	0	0	0	11	11
00.30	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4	0	0	7	0	0	0	0	7	7
00:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	0	0	10	0	0	0	0	10	10
M/TOT	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	13	13	2	1	48	0	0	0	0	51	46.8
01.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	6	5.4
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	3	2.2
01:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	0	0	4	0	0	0	0	4	4
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
M/TOT	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	1	1	14	0	0	0	0	16	14.6
02.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	3.3
02:15	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2	1.3	0	0	1	0	0	0	0	1	1
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
M/TOT	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2	1.3	0	0	6	1	0	1	0	8	9.3
03:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	4	0	0	0	0	4	4
03:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	3	0	0	0	0	3	3
03.30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	1
03.45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	2	0	0	0	0	3	2.2
M/TOT	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4	1	0	10	0	0	0	0	11	10.2
04.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	1
04.15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	1
04.45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0
M/TOT	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4	0	0	2	0	0	0	0	2	2
05.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05.15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	4	2.4
05.30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	2	0	0	0	0	3	2.1
05.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	6
M/TOT	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	3	0	10	0	0	0	0	13	10.6
06.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	5	0	0	0	0	5	5
06.15	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	0	0	7	0	0	0	1	8	9
06.30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	0	0	7	2	0	0	0	9	9
06.45	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	0	0	5	3	0	0	1	9	9
M/TOT	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9	9	0	0	24	5	0	0	2	31	31
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	1	0	0	6	6.5
07.15	0	0	0	0	0	0	0	0	0	1	0	7	2	0	0	0	10	8.2	2	0	20	2	0	0	1	25	23.4
07.30	0	0	0	0	0	0	0	0	0	1	0	5	1	0	0	0	7	6.2	1	0	14	1	0	0	2	18	17.2
07:45	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	7	0	0	17	4	0	1	1	23	24.3
M/TOT	0	0	0	0	0	0	0	0	0	2	0	19	3	0	0	0	24	22.4	3	0	65	8	1	1	4	82	81.4
08:00	0	0	0	0	0	0	0	0	0	0	0	11	1	0	0	0	12	12	2	0	26	1	1	0	0	30	28.9
08.15	0	0	0	0	0	0	0	0	0	0	0	8	1	0	0	0	9	9	3	0	49	5	1	0	0	58	56.1
08.30	0	0	0	0	0	0	0	0	0	1	0	15	1	0	0	0	17	16.2	1	0	45	0	0	0	2	48	47.2
08:45	0	0	0	0	0	0	0	0	0	1	0	19	1	0	0	0	21	20.2	1	0	44	4	1	0	0	50	49.7
M/TOT	0	0	0	0	0	0	0	0	0	2	0	53	4	0	0	0	59	57.4	7	0	164	10	3	0	2	186	181.9
09:00	0	0	0	0	0	0	0	0	0	0	0	8	1	0	0	0	9	9	5	0	31	6	0	0	1	63	59
09.15	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	10	0	1	43	4	1	0	1	50	49.9
09.30	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5	0	0	35	4	0	0	0	39	39
09:45	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	7	1	0	49	3	0	0	1	54	53.2
M/TOT	0	0	0	0	0	0	0	0	0	0	0	30	1	0	0	0	31	31	6	1	178	17	1	0	3	206	201.1
10:00	0	0	0	0	0	0	0	0	0	0	0	8	1	0	0	0	10	10	0	0	34	0	0	0	2	36	36
10.15	0	0	0	0	0	0	0	0	0	0	0	6	2	0	0	0	8	8	2	0	51	5	2	0	0	60	59.4
10:30	0	0	0	0	0	0	0	0	0	0	0	7	1	0	0	0	8	8	1	0	42	4	0	0	0	47	46.2
10:45	0	0	0	0	0	0	0	0	0	0	0	16	1	0	0	0	17	17	0	0	52	4	0	1	0	57	58.3
M/TOT	0	0	0	0	0	0	0	0	0	0	0	38	5	0	0	0	43	43	3	0	179	13	2	1	2	200	199.9
11:00	0	0	0	0	0	0	0	0	0	2	0	14	1	1	0	0	18	16.9	3	0	39	2	1	0	1	46	44.1
11.15	0	0	0	0	0	0	0	0	0	1	0	12	2	1	0	0	16	15.7	0	0	54	1	0	0	0	55	55
11:30	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	12	12	1	0	43	3	0	0	0	47	46.2
11:45	0	0	0	0	0	0	0	0	0	1	0	10	0	0	0	0	11	10.1	3	1	57	5	1	0	0	67	64.5
M/TOT	0	0	0	0	0	0	0	0	0	4	0	48	3	2	0	0	57	54.8	7	3	193	11	2	0	1	215	209.8
12:00	0	0	0	0	0	0	0	0	0	0	0	20	1	0	0	0	21	21	1	2	63	4	3	0	2	75	74.5
12:15	0	0	0	0	0	0	0	0	0	0	0	10	2	0	0	0	12	12	2	1	54	3	1	0	0	61	59.3
12:30	0	0	0	0	0	0	0	0	0	1	0	12	0	0	0	0	13	12.3	0	0	58	5	1	0	0	64	64.5
12:45	0	0	0	0	0	0	0	0	0	0	0	16	2	1	0	0	19	19.5	2	1	84	4	0	0	0	91	88.8
M/TOT	0	0	0	0	0	0	0	0	0	1	0	58	5	1	0	0	65	64.7	5	4	259	16	5	0	2	291	287.1
13:00	0	0	0	0	0	0	0	0	0	1	0	10	1	0	0	0	12	11.2	2	1	71	8	1	0	0	83	81.7
13:15	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	19	18	1	1	74	0	1	0	1	78	77.1
13:30	0	0	0	0	0	0	0	0	0	0	0	13	2	0	0	0	15	15	1	0	64	2	0	0	0	67	67.2
13:45	0	0	0	0	0	0	0	0	0	1	1	17	0	1	0	1	20	19.7	6	0	74	7	2	1	0	90	87.5
M/TOT	0	0	0	0	0	0	0	0	0	2	0	58	3	1	0	1	65	63.9	10	2	283	18	4	1	1	299	293.1
14:00	0	0	0	0	0	0	0	0	0	3	1	12	3	0	0	0	19	16	5	2	57	4	0	1	0	69	65.1
14:15	0	0	0	0	0	0	0	0	0	0	0	13	1	0	0	0	14	14	2	0	55	2	1	0	0	60	58.9
14:30	0	0	0	0	0	0	0	0	0	0	0	16	2	0	0	0	18	18	7	3	64	6	1	0	1	82	75.1
14:45	0	0	0	0	0	0	0	0	0	1	0	15	2	0	0	0	18	17.2	6	1	77	3	0	0	0	87	81.6
M/TOT	0	0	0	0	0	0	0	0	0	4	1	56	8	0	0	0	69	65.2	20	6	253	15	2	1	1	298	280.7
15:00	0	0	0	0	0	0	0	0	0	0	0	7	2	1	0	0	10	10.5	5	1	83	4	0	0	0	93	88.4
15:15	0	0	0	0	0	0	0	0	0	1	0	22	3	0	0	0	26	25.2	4	0	64	7	0	0	1	76	74.8
15:30	0	0	0	0	0	0	0	0	0	2	0	17	4	0	0	0	23	21.4	1	1	68	4	0	0	1	75	73.6
15.45	0	0	0	0	0	0	0	0	0	0	0	17	1	0	0	0	18	18	3	0	80	8	0	0	0	91	88.6
M/TOT	0	0	0	0	0	0	0	0	0	3	0	63	10	1	0	0	77	75.1	13	2	297	23	0	0	2	337	325.4
16:00	0	0	0	0	0	0	0	0	0	3	0	16	2	0	0	0	21	18.6	2	0	89	9	1	0	0	101	99.9
16:15	0	0	0	0	0	0	0	0	0	1	1	13	1	0	0	0	16	14.6	6	2	106	6	1	0	0	121	113.8
16:30	0	0	0	0	0	0	0	0	0	2	0	24	0	0	0	0	26	24.4	12	0	84	9	0	0	1	106	98.4
16:45	0	0	0	0	0	0	0	0	0	1	0	16	2	0	0	0	19	18.2	7	3	103	9	1	0	0	125	118.3
M/TOT	0	0	0	0	0	0	0	0	0	7	1	69	5	0	0	0	82	75.8	27	5	384	33	3	0	1	453	429.8
17.00	0	0	0	0	0	0	0	0	0	2	0	18	1	0	0	0	21	18.4	12	0	131	7	0	0	0	150	140.4
17:15	0	0	0	0	0	0	0	0	0	4	0	15	0	0	0	0	19	18.8	20	1	113	8	0	0	0	142	125.4
17:30	0	0	0	0	0	0	0	0	0	5	0	20	0	0	0	0	25	21	18	4	112	3	1	0	1	139	122.7
17:45	0	0	0	0	0	0	0	0	0	5	0	20	1	0	0	0	26	22	26	5	126	4	0	0	0	161	137.2
M/TOT	0	0	0	0	0	0	0	0	0	16	0	73	2	0	0	0	91	79.3	76	10	482	22	1	0	1	592	525.7
18:00	0	0	0	0	0	0	0	0	0	5	0	20	0	0	0	0	25	21	25	4	115	1	0	0	0	145	122.6
18:15	0	0	0	0	0	0	0	0	0	20	0	19	1	0	0	0	40	24	27	2	114	1	0	0	1	145	132.2
18:30	0	0	0	0	0	0	0	0	0	8	0	11	0	0	0	0	19	12.6	18	3	110	4	3	0	2	140	125.3
18:45	0	0	0	0	0	0	0	0	0	1	0	15	0	0	0	0	16	15.3	15	1	105	5	0	0	1	127	114.4
M/TOT	0	0	0	0	0	0	0	0	0	34	0	65	1	0	0	0	100	72.8	85	10	444	11	3	0	4	557	484.5
19.00	0	0	0	0	0	0	0	0	0	2	0	16	2	0	0	0	20	18.4	18	3	79	3	1	0	0	104	88.3
19:15	0	0	0	0	0	0	0	0	0	6	0	16	1	0	0	0	23	18.2	13	2	87	2	0	0	0	104	92.4
19:30	0	0	0	0	0	0	0	0	0	2	0	13	1	0	0	0	16	14.4	8	0	72	1	0	0	0	81	74.8
19:45	0	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	19	19	13	2	65	3	0	0	1	84	72.4
M/TOT	0	0	0	0	0	0	0	0	0	10	0	64	4	0	0	0	78	70	52	7	303	9	1	0	1	373	327.7
20:00	0	0	0	0	0	0	0	0	0	1	0	18	1	0	0	0	20	18.2	10	1	67	0	0	0	0	78	69.4
20:15	0	0	0	0	0	0	0	0	0	1	0	10	0	0	0	0	11	10.2	5	1	62	2	0	0	0	70	65.4
20.30	0	0	0	0	0	0	0	0	0	2	0	12	1	0	0	0	15	13.4	8	1	61	3	0	0	1	74	67
20:45	0	0	0	0	0	0	0	0	0	1	0	20	0	0	0	0	21	20.2	1	1	40	0	0	0	0	42	40.6
M/TOT	0	0	0	0	0	0	0	0	0	5	0	60	2	0	0	0	67	63	24	4	230	5	0	0	1	264	242.4
21:00	0	0	0	0	0	0	0	0	0	4	0	14	1	0	0	0	19	15.8	5	0	46	1	0	0	0	52	48
21:15	0	0	0	0	0	0	0	0	0	1	0	5	0	0	0	0	6	5.2	0	0	51	1	0	0	0	52	52
21 30	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	10	3	0	34	1	0	0	1	39	36.6
21:45	0	0	0	0	0	0	0	0	0	3	0	16	0	0	0	0	19	16.6	5	0	38	1	0	0	0	44	40
M/TOT	0	0	0	0	0	0	0	0	0	8	0	45	1	0	0	0	54	47.6	13	0	169	4	0	0	1	187	176.8
22:00	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	7	3	0	43	0	0	0	0	46	41.6
22.15	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4	3	1	39	1	0	0	0	44	41
22.30	0	0	0	0	0	0	0	0	0	1	0	7	0	0	0	0	8	7.3	2	0	25	1	0	0	1	29	27.4
22 45	0	0	0	0	0	0	0	0	0	2	0	7	0	0	0	0	9	7.4	0	0	28	0	0	0	0	28	28
M/TOT	0	0	0	0	0	0	0	0	0	3	0	25	0	0	0	0	28	25.4	8	1	135	2	0	0	1	147	140
23:00	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	7	1	1	24	0	0	0	0	26	24.6
23.15	0	0	0	0	0	0	0	0	0	0	1	7	0	0	0	0	8	7.4	0	0	21	1	0	0	0	22	22
23.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	31	0	0	0	1	33	31.2
23:45	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	0	0	19	0	0	0	0	19	19
M/TOT	0	0	0	0	0	0	0	0	0	0	1	17	0	0	0	0	18	17.4	2	1	95	1	0	0	1	100	97.8
24 TOT	0	0	0	0	0	0	0	0	0	101	3	875	87	5	0	1	1043	962.1	368	86	4267	234	28	5	31	6919	6611.5



Idaso

Survey Name: HDR 21 119 Whitechurch Road / R115 Ballyboden Road
Site: 1328
Location: Ballyboden Rd / Whitechurch Rd
Date: Thu 01-Jun-2017

	B a> A								B a> B								B a> C							
TIME	PCL	MCL	CAR	LGV	OHV1	OHV2	SV (BUS	TOT	PCU	PCL	MCL	CAR	LGV	OHV1	OHV2	SV (BUS	TOT	PCU	PCL	MCL	CAR	LGV	OHV1	OHV2	SV (BUS	TOT	PCU
00:00	0	0	4	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
00:30	0	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
H/TOT	0	0	5	1	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5
01:00	0	0	3	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
H/TOT	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	3	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	1.4
03:30	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	6	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	1.4
04:00	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
H/TOT	0	0	4	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	3	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2
05:30	1	0	1	0	0	0	0	2	1.2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
05:45	0	0	4	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
H/TOT	1	0	8	0	0	0	0	9	8.2	0	0	0	0	0	0	0	0	0	0	1	5	1	0	0	0	6	6
06:00	0	0	4	1	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	2	0	6	0	0	0	0	8	6.4	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
06:30	1	0	6	0	0	0	0	7	6.2	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
06:45	3	0	12	0	0	0	0	15	12.6	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	5	5
H/TOT	6	0	28	1	0	0	0	35	30.2	0	0	0	0	0	0	0	0	0	0	0	10	2	0	0	0	12	12
07:00	3	0	11	0	0	0	0	14	11.4	0	0	0	0	0	0	0	0	0	0	0	8	2	0	0	0	10	10
07:15	2	0	9	2	0	0	0	13	11.4	0	0	0	0	0	0	0	0	0	0	0	9	2	0	0	0	11	11
07:30	6	0	18	2	0	0	0	26	21.2	0	0	0	0	0	0	0	0	0	0	0	17	1	0	0	0	18	18
07:45	7	0	12	0	0	0	0	19	13.4	0	0	0	0	0	0	0	0	0	1	1	31	2	0	0	0	35	33.6
H/TOT	18	0	50	4	0	0	0	72	57.6	0	0	0	0	0	0	0	0	0	1	1	65	7	0	0	0	74	72.6
08:00	9	1	15	2	1	0	0	28	20.7	0	0	0	0	0	0	0	0	0	1	0	63	4	0	0	0	68	67.2
08:15	12	0	26	5	0	0	0	43	33.4	0	0	0	0	0	0	0	0	0	3	0	61	0	0	0	0	64	61.6
08:30	8	0	18	2	1	0	0	29	23.1	0	0	0	0	0	0	0	0	0	1	0	43	0	0	0	0	44	43.2
08:45	6	2	14	1	0	0	0	23	17	0	0	0	0	0	0	0	0	0	1	0	36	1	0	0	0	38	37.2
H/TOT	35	3	73	10	2	0	0	123	94.2	0	0	0	0	0	0	0	0	0	6	0	203	5	0	0	0	214	209.2
09:00	3	1	15	2	0	0	0	21	18	0	0	0	0	0	0	0	0	0	0	0	31	2	0	0	0	33	31
09:15	1	1	13	0	0	0	0	15	13.8	0	0	0	0	0	0	0	0	0	0	0	28	0	1	0	0	29	29.5
09:30	0	0	9	0	0	0	0	9	9	0	0	0	0	0	0	0	0	0	1	0	16	1	0	0	0	18	17.2
09:45	2	0	12	1	1	0	0	16	14.9	0	0	0	0	0	0	0	0	0	0	1	14	0	0	0	0	15	14.9
H/TOT	6	2	49	3	1	0	0	61	55.5	0	0	0	0	0	0	0	0	0	1	1	89	3	1	0	0	95	94.1
10:00	1	0	13	0	0	0	0	14	13.2	0	0	0	0	0	0	0	0	0	0	0	20	1	0	0	0	21	21
10:15	0	0	10	2	0	0	0	12	12	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	14	14
10:30	0	0	14	0	0	0	0	14	14	0	0	0	0	0	0	0	0	0	0	0	24	0	0	0	0	24	24
10:45	0	0	15	1	0	0	0	16	16	0	0	0	0	0	0	0	0	0	0	0	17	2	0	0	0	19	19
H/TOT	1	0	52	3	0	0	0	56	55.2	0	0	0	0	0	0	0	0	0	0	0	75	3	0	0	0	78	78
11:00	0	0	5	1	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	16	16
11:15	1	0	11	2	0	0	0	14	13.2	0	0	0	0	0	0	0	0	0	0	1	7	1	0	0	0	9	8.4
11:30	1	0	9	0	0	0	0	10	9.2	0	0	0	0	0	0	0	0	0	0	0	14	2	0	0	0	16	16
11:45	0	0	15	0	0	0	0	15	15	0	0	0	0	0	0	0	0	0	1	0	8	0	0	0	0	9	9.2
H/TOT	2	0	40	3	0	0	0	45	43.4	0	0	0	0	0	0	0	0	0	1	1	45	3	0	0	0	50	48.6
12:00	1	0	13	0	0	0	0	14	13.2	0	0	0	0	0	0	0	0	0	0	0	8	1	0	0	0	9	9
12:15	0	0	10	2	1	0	0	13	13.5	0	0	0	0	0	0	0	0	0	0	1	20	3	0	0	0	24	23.4
12:30	0	0	15	1	0	0	0	16	16	0	0	0	0	0	0	0	0	0	0	0	17	2	0	0	0	19	19
12:45	0	0	11	0	0	0	0	11	11	0	0	0	0	0	0	0	0	0	1	0	27	0	0	0	0	28	27.2
H/TOT	1	0	49	3	1	0	0	54	53.7	0	0	0	0	0	0	0	0	0	1	1	72	6	0	0	0	80	78.6
13:00	2	0	11	1	0	0	0	14	12.4	0	0	0	0	0	0	0	0	0	0	0	18	1	0	0	0	19	19
13:15	0	0	9	1	0	0	0	10	10	0	0	0	0	0	0	0	0	0	0	0	15	1	0	0	0	16	16
13:30	0	0	7	1	0	0	0	8	8	0	0	0	0	0	0	0	0	0	0	0	17	3	0	0	0	20	20
13:45	0	0	15	1	0	0	0	16	16	0	0	0	0	0	0	0	0	0	0	0	24	1	0	0	0	27	27
H/TOT	2	0	42	4	0	0	0	48	46.4	0	0	0	0	0	0	0	0	0	0	0	76	6	0	0	0	82	82
14:00	0	0	15	3	0	0	0	18	18	0	0	0	0	0	0	0	0	0	0	1	19	2	0	0	0	22	21.4
14:15	0	0	12	0	1	0	0	13	13.5	0	0	0	0	0	0	0	0	0	2	0	12	3	1	0	0	18	16.9
14:30	1	0	15	0	0	0	0	16	15.2	0	0	0	0	0	0	0	0	0	0	0	23	1	0	0	0	24	24
14:45	1	0	12	2	0	0	0	15	14.1	0	0	0	0	0	0	0	0	0	0	0	39	1	0	0	0	40	40
H/TOT	2	0	54	3	1	0	0	60	58.9	0	0	0	0	0	0	0	0	0	2	1	93	7	1	0	0	104	102.3
15:00	0	0	11	2	0	0	0	13	13	0	0	0	0	0	0	0	0	0	3	0	27	4	0	0	0	34	31.6
15:15	0	0	11	2	0	0	0	13	13	0	0	0	0	0	0	0	0	0	1	0	17	2	0	0	0	20	19.2
15:30	0	0	14	0	0	0	0	14	14	0	0	0	0	0	0	0	0	0	1	0	15	3	0	0	0	19	18.2
15:45	1	0	10	0	0	0	0	11	10.2	0	0	0	0	0	0	0	0	0	0	0	21	0	1	0	0	22	22.5
H/TOT	1	0	46	4	0	0	0	51	50.2	0	0	0	0	0	0	0	0	0	5	0	80	9	1	0	0	95	91.5
16:00	1	0	17	0	0	0	0	18	17.2	0	0	0	0	0	0	0	0	0	0	0	29	2	0	0	0	31	31
16:15	0	0	7	1	0	0	0	8	8	0	0	0	0	0	0	0	0	0	1	0	17	2	0	0	0	20	19.2
16:30	1	0	9	1	0	0	0	11	10.2	0	0	0	0	0	0	0	0	0	0	0	13	1	1	0	0	15	15.5
16:45	0	0	14	0	0	0	0	14	14	0	0	0	0	0	0	0	0	0	0	0	28	2	0	0	0	30	30
H/TOT	2	0	47	2	0	0	0	51	49.4	0	0	0	0	0	0	0	0	0	1	0	87	7	1	0	0	96	95.7
17:00	1	0	12	3	0	0	0	16	15.2	0	0	0	0	0	0	0	0	0	1	1	21	0	0	0	0	23	21.4
17:15	1	0	15	2	0	0	0	18	17.2	0	0	0	0	0	0	0	0	0	1	0	32	1	0	0	0	34	33.2
17:30	2	1	12	0	0	0	0	15	12.8	0	0	0	0	0	0	0	0	0	0	0	26	0	1	0	0	27	27.5
17:45	0	0	10	0	0	0	0	10	10	0	0	0	0	0	0	0	0	0	0	0	38	1	0	0	0	39	39
H/TOT	4	1	49	5	0	0	0	59	55.2	0	0	0	0	0	0	0	0	0	2	1	117	2	1	0	0	123	121.3
18:00	1	0	11	0	0	0	0	12	11.2	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	25	25
18:15	1	0	16	0	0	0	0	17	16.2	0	0	0	0	0	0	0	0	0	1	0	22	0	0	0	0	23	22.2
18:30	1	0	12	0	0	0	0	13	12.2	0	0	0	0	0	0	0	0	0	1	0	14	2	0	0	0	17	16.2
18:45	1	0	23	0	0	0	0	24	23.2	0	0	0	0	0	0	0	0	0	0	0	41	1	0	0	0	42	42
H/TOT	4	0	62	0	0	0	0	66	62.8	0	0	0	0	0	0	0	0	0	2	0	102	3	0	0	0	107	105.4
19:00	2	0	16	2	0	0	0	20	18.4	0	0	0	0	0	0	0	0	0	0	0	18	1	0	0	0	19	19
19:15	0	0	13	0	0	0	0	13	13	0	0	0	0	0	0	0	0	0	0	0	15	4	0	0	0	19	19
19:30	2	0	8	1	0	0	0	11	9.4	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	12	12
19:45	1	0	11	0	0	0	0	12	11.2	0	0	0	0	0	0	0	0	0	1	0	16	0	0	0	0	17	16.2
H/TOT	5	0	48	3	0	0	0	56	52	0	0	0	0	0	0	0	0	0	1	0	61	5	0	0	0	67	64.3
20:00	3	0	10	0	0	0	0	13	10.8	0	0	0	0	0	0	0	0	0	2	0	16	0	0	0	0	18	16.4
20:15	0	0	6	1	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	17	2	0	0	0	19	19
20:30	1	0	7	0	0	0	0	8	7.2	0	0	0	0	0	0	0	0	0	0	0	7	2	0	0	0	9	9
20:45	0	0	13	1	0	0	0	14	14	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	10	10
H/TOT	4	0	36	2	0	0	0	42	38.8	0	0	0	0	0	0	0	0	0	2	0	49	5	0	0	0	56	54.4
21:00	0	0	9	0	0	0	0	9	9	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9	9
21:15	2	0	5	0	0	0	0	7	5.4	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
21:30	1	0	3	0	0	0	0	4	3.2	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	12	12
21:45	0	0	8	1	0	0	0	9	8	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
H/TOT	3	0	25	1	0	0	0	29	24.6	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	27	27
22:00	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	7
22:15	1	0	6	0	0	0	0	7	6.2	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
22:30	0	0	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5
22:45	0	0	6	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
H/TOT	1	0	17	1	0	0	0	19	18.2	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	20	20
23:00	0	0	6	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5
23:15	0	0	5	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
23:30	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
H/TOT	0	0	13	0	0	0	0	13	13	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	11	11
24 TOT	99	6	805	53	8	0	0	967	887.8	0	0	0	0	0	0	0	0	0	25	7	1297	74	8	0	0	1408	1306.3

Idaso

Survey Name: HOR 21 119 Whitechurch Road / R115 Ballyboden Road
Site: 1328
Location: Ballyboden Rd / Whitechurch Rd
Date: Thu 01 Jun 2017

	C => A									C => B									C => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	BV (BUS	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	BV (BUS	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	BV (BUS	TOT	PCU
00.00	0	0	6	0	0	0	0	6	6	1	0	2	0	0	0	0	3	2.2	0	0	0	0	0	0	0	0	0
00:15	0	0	9	1	0	0	0	10	10	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0
00 30	0	0	3	0	0	0	0	3	3	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
00.45	0	0	5	0	0	0	0	5	5	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0
H/TOT	0	0	23	1	0	0	0	24	24	1	0	7	0	0	0	0	8	7.2	0	0	0	0	0	0	0	0	0
01:00	0	0	4	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	3	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	2	0	0	0	0	2	2	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
01:45	0	0	2	0	0	0	0	2	2	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
H/TOT	0	0	11	0	0	0	0	11	11	0	0	2	0	0	0	0	2	2	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	0	0	0	0	0	0	0	0	0	0	0	0
02 15	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02 30	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02 45	0	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
H/TOT	0	0	4	0	0	0	0	4	4	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	2	0	1	0	0	0	0	3	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03 30	0	0	1	0	1	0	0	2	2.8	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
03:45	0	0	5	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	2	0	8	0	1	0	0	11	9.2	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
04:00	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.15	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	2	1	0	0	0	3	3	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
04:45	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	7	1	0	0	0	8	8	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
05:00	0	1	2	0	0	0	0	3	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	1	1	8	0	0	0	1	11	9.6	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0
05 30	3	0	4	0	0	0	0	7	4.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	1	18	0	0	0	0	19	18.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	4	3	32	0	0	0	1	40	35	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0
06.00	1	1	13	2	0	0	0	17	15.6	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
06:15	3	0	22	1	0	0	2	28	25.6	0	0	3	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0
06:30	4	0	37	3	0	0	0	44	40.8	0	0	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0	0
06 45	7	0	60	4	2	0	0	73	66.4	0	0	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0	0
H/TOT	15	1	132	10	2	0	2	162	150.4	0	0	10	2	0	0	0	12	12	0	0	0	0	0	0	0	0	0
07:00	10	0	81	3	0	0	0	95	87	1	0	1	0	0	0	0	2	1.2	0	0	0	0	0	0	0	0	0
07:15	9	0	107	5	1	0	2	124	117.3	0	0	10	0	0	0	0	10	10	0	0	0	0	0	0	0	0	0
07:30	18	2	100	8	0	0	0	128	112.4	0	0	8	1	0	0	0	9	9	0	0	0	0	0	0	0	0	0
07:45	15	4	67	6	0	0	1	93	79.8	0	0	19	1	0	0	0	20	20	0	0	0	0	0	0	0	0	0
H/TOT	52	6	356	22	1	0	3	440	395.3	1	0	38	2	0	0	0	41	40.2	0	0	0	0	0	0	0	0	0
08.00	26	4	93	3	0	0	0	126	102.8	1	0	56	0	0	0	0	57	36.2	0	0	0	0	0	0	0	0	0
08:15	35	5	76	4	0	1	1	122	92.3	0	0	59	2	0	0	0	61	81	0	0	0	0	0	0	0	0	0
08.30	31	6	79	3	0	0	0	119	90.6	0	0	80	0	0	0	0	80	81.6	0	0	0	0	0	0	0	0	0
08 45	25	1	98	3	0	0	0	127	106.4	0	0	39	0	0	0	0	39	39	0	0	0	0	0	0	0	0	0
H/TOT	117	16	346	13	0	1	1	494	392.1	1	0	234	2	0	0	0	245	237.8	0	0	0	0	0	0	0	0	0
09.00	7	1	76	4	1	0	0	89	83.3	0	0	20	1	0	0	0	21	21	0	0	0	0	0	0	0	0	0
09 15	13	2	73	3	0	0	1	92	80.4	0	0	14	1	0	0	0	15	15	0	0	0	0	0	0	0	0	0
09 30	4	0	73	5	1	0	2	85	82.3	1	1	18	0	0	0	0	20	18.6	0	0	0	0	0	0	0	0	0
09 45	2	2	58	1	0	1	1	65	63.8	0	0	16	0	0	0	0	16	16	0	0	0	0	0	0	0	0	0
H/TOT	26	5	280	13	2	1	4	331	309.5	1	1	68	2	0	0	0	72	70.6	0	0	0	0	0	0	0	0	0
10:00	4	0	61	4	1	0	0	70	67.3	0	0	9	1	1	0	0	11	11.5	0	0	0	0	0	0	0	0	0
10.15	5	1	67	3	0	0	0	76	71.4	0	0	18	4	0	0	0	22	22	0	0	0	0	0	0	0	0	0
10 30	2	0	65	3	0	0	1	70	68.4	0	0	11	1	1	0	0	13	13.5	0	0	0	0	0	0	0	0	0
10 45	2	4	54	5	1	0	0	66	62.5	0	0	20	0	0	0	0	20	20	0	0	0	0	0	0	0	0	0
H/TOT	13	5	247	14	2	0	1	282	269.6	0	0	58	6	2	0	0	66	67	0	0	0	0	0	0	0	0	0
11.00	3	0	52	4	1	0	0	60	58.1	0	0	13	0	0	0	0	13	13	0	0	0	0	0	0	0	0	0
11 15	2	0	73	6	1	0	1	83	81.9	1	0	20	0	0	0	0	21	20.1	0	0	0	0	0	0	0	0	0
11 30	2	2	58	5	0	0	1	68	66.2	0	0	12	0	0	0	0	12	12	0	0	0	0	0	0	0	0	0
11 45	1	0	67	4	1	0	0	73	71.7	1	0	10	2	0	0	0	13	12.1	0	0	0	0	0	0	0	0	0
H/TOT	8	2	250	19	3	0	2	284	277.9	2	0	55	2	0	0	0	59	57.4	0	0	0	0	0	0	0	0	0
12:00	4	0	51	0	1	0	0	56	53.3	0	0	21	3	0	0	0	24	24	0	0	0	0	0	0	0	0	0
12.15	3	0	67	2	1	0	0	73	71.1	0	0	15	2	0	0	0	17	17	0	0	0	0	0	0	0	0	0
12 30	2	0	55	5	1	0	1	64	62.9	0	0	24	2	0	0	0	26	26	0	0	0	0	0	0	0	0	0
12.45	4	0	45	5	0	0	1	55	51.8	0	0	20	0	0	0	0	20	20	0	0	0	0	0	0	0	0	0
H/TOT	13	0	218	12	3	0	2	248	239.1	0	0	80	7	0	0	0	87	87	0	0	0	0	0	0	0	0	0
13:00	1	1	48	1	0	0	0	51	49.6	0	0	26	0	0	0	0	26	26	0	0	0	0	0	0	0	0	0
13:15	2	0	64	6	0	0	0	72	70.4	1	0	35	1	0	0	0	37	36.2	0	0	0	0	0	0	0	0	0
13 30	0	0	53	2	1	1	1	60	61.8	0	0	23	0	0	0	0	23	23	0	0	0	0	0	0	0	0	0
13 45	3	0	61	4	2	0	0	72	70.6	0	0	21	1	0	0	0	22	22	0	0	0	0	0	0	0	0	0
H/TOT	6	1	226	13	3	1	1	255	252.4	1	0	105	2	0	0	0	108	107.2	0	0	0	0	0	0	0	0	0
14:00	3	0	70	3	0	0	0	76	72.6	0	0	20	1	0	0	0	22	21.4	0	0	0	0	0	0	0	0	0
14:15	2	0	68	5	0	0	0	75	73.4	0	0	24	1	0	0	0	25	25	0	0	0	0	0	0	0	0	0
14.30	3	1	56	2	1	0	0	63	60.1	0	0	22	1	0	0	0	23	23	0	0	0	0	0	0	0	0	0
14:45	1	0	63	7	0	0	1	72	71.2	0	0	33	2	0	0	0	35	35	0	0	0	0	0	0	0	0	0
H/TOT	7	1	257	17	1	0	1	284	278.3	0	1	99	5	0	0	0	105	104.4	0	0	0	0	0	0	0	0	0
15:00	2	1	70	2	1	0	0	76	74.3	0	0	19	0	0	0	0	19	19	0	0	0	0	0	0	0	0	0
15:15	4	0	68	1	1	0	0	74	71.3	1	0	19	4	0	0	0	24	23.2	0	0	0	0	0	0	0	0	0
15:30	5	0	64	0	1	0	1	71	67.8	0	0	30	2	0	0	0	32	32	0	0	0	0	0	0	0	0	0
15:45	2	0	63	5	1	0	0	71	69.9	0	1	28	3	0	0	0	32	31.4	0	0	0	0	0	0	0	0	0
H/TOT	13	1	265	8	4	0	1	292	283	1	1	96	9	0	0	0	107	105.6	0	0	0	0	0	0	0	0	0
16:00	2	1	56	0	0	0	1	60	57.8	1	0	21	1	0	0	0	23	22.2	0	0	0	0	0	0	0	0	0
16:15	5	0	66	3	0	0	0	74	70	0	0	23	1	0	0	0	24	24	0	0	0	0	0	0	0	0	0
16:30	3	0	39	1	0	0	0	43	40.8	1	0	18	1	0	0	0	20	19.2	0	0	0	0	0	0	0	0	0
16:45	3	1	56	3	1	0	1	63	62.1	0	0	29	3	1	0	0	33	32.5	0	0	0	0	0	0	0	0	0
H/TOT	11	2	217	7	1	0	2	240	230.5	2	0	91	6	1	0	0	100	98.9	0	0	0	0	0	0	0	0	0
17:00	1	0	34	4	0	0	0	39	36.2	1	0	22	1	0	0	0	24	23.2	0	0	0	0	0	0	0	0	0
17:15	6	0	56	2	1	0	0	65	60.7	0	0	28	0	0	0	0	28	28	0	0	0	0	0	0	0	0	0
17 30	4	1	53	1	1	0	0	60	56.7	1	0	39	1	0	0	0	41	40.2	0	0	0	0	0	0	0	0	0
17:45	3	0	40	1	0	0	0	44	41.6	4	0	36	2	1	0	0	43	40.3	0	0	0	0	0	0	0	0	0
H/TOT	14	1	183	8	2	0	0	208	197.2	6	0	125	4	1	0	0	136	131.7	0	0	0	0	0	0	0	0	0
18:00	10	0	41	1	1	0	1	54	44.5	1	0	34	2	0	0	0	37	36.2	0	0	0	0	0	0	0	0	0
18:15	3	1	58	3	1	0	0	66	63.5	0	0	26	3	0	0	0	29	29	0	0	0	0	0	0	0	0	0
18.30	5	1	44	3	0	0	0	53	48.4	0	0	34	0	0	0	0	34	34	0	0	0	0	0	0	0	0	0
18.45	5	0	51	0	0	0	2	58	64	1	0	27	0	0	0	0	28	27.2	0	0	0	0	0	0	0	0	0
H/TOT	23	2	204	7	2	0	3	241	222.4	2	0	121	5	0	0	0	128	126.4	0	0	0	0	0	0	0	0	0
19.00	7	1	50	0	0	0	1	59	51.8	0	0	22	2	0	0	0	24	24	0	0	0	0	0	0	0	0	0
19:15	5	0	48	0	0	0	0	53	49	0	0	17	0	0	0	0	17	17	0	0	0	0	0	0	0	0	0
19:30	10	1	44	1	0	0	1	57	48.4	0	0	18	2	0	0	0	20	20	0	0	0	0	0	0	0	0	0
19 45	5	0	56	1	0	0	0	62	58	0	0	24	0	0	0	0	24	24	0	0	0	0	0	0	0	0	0
H/TOT	27	2	200	2	0	0	2	241	210.2	0	0	81	4	0	0	0	85	85	0	0	0	0	0	0	0	0	0
20:00	5	0	52	3	0	0	1	61	57	0	0	16	0	0	0	0	16	16	0	0	0	0	0	0	0	0	0
20:15	6	2	43	1	0	0	0	52	46	1	0	11	1	0	0	0	13	12.1	0	0	0	0	0	0	0	0	0
20:30	20	0	45	1	0	0	0	66	50	1	0	25	0	0	0	0	26	25.3	0	0	0	0	0	0	0	0	0
20.45	6	0	26	0	0	0	0	32	27.1	0	0	6	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0
H/TOT	37	2	166	5	0	0	1	211	180.2	2	0	58	1	0	0	0	61	59.4	0	0	0	0	0	0	0	0	0
21:00	11	0	51	3	0	0	2	67	58.2	0	0	14	0	0	0	0	14	14	0	0	0	0	0	0	0	0	0
21:15	4	0	30	1	0	0	0	35	31.8	0	0	12	0	0	0	0	12	12	0	0	0	0	0	0	0	0	0
21:30	7	1	24	2	0	0	0	34	27.8	0	0	15	0	0	0	0	15	15	0	0	0	0	0	0	0	0	0
21.45	1	1	35	2	0	0	0	39	37.6	0	0	13	0	0	0	0	13	13	0	0	0	0	0	0	0	0	0
H/TOT	23	2	140	7	0	0	2	173	155.4	0	0	54	0	0	0	0	54	54	0	0	0	0	0	0	0	0	0
22.00	4	0	17	0	1	0	1	23	20.3	0	0	7	0	0	0	0	7	7	0	0	0	0	0	0	0	0	0
22:15	1	0	25	1	1	0	3	31	30.7	0	0	14	0	0	0	0	14	14	0	0	0	0	0	0	0	0	0
22.30	0	0	10	0	0	0	0	10	10	0	0	6	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0
22:45	1	0	14	1	0	0	0	16	13.2	0	0	5	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0
H/TOT	6	0	66	2	1	0	4	80	76.1	0	0	32	0	0	0	0	32	32	0	0	0	0	0	0	0	0	0
23:00	1	0	13	0	0	0	1	15	14.2	0	0	5	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0
23:15	0	0	12	0	0	0	0	12	12	0	0	5	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0
23:30	0	0	11	0	0	0	1	12	12	0	0	5	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0
23:45	0	0	11	0	0	0	0	11	11	0	0	3	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0
H/TOT	1	0	47	0	0	0	2	50	49.2	0	0	18	0	0	0	0	18	18	0	0	0	0	0	0	0	0	0
24 TOT	418	52	3096	183	29	3	35	4616	4264.8	28	3	1437	99	4	0	0	1831	1808.8	0	0	0	0	0	0	0	0	0

TRANSPORT INSIGHTS
Transport Planning Consultants

Appendix B Visibility Splay Drawing

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