Proposed residential development at

Hirwaun Road,

Penywaun

Transport Statement

August 2024

Applicant:	**Newydd Housing**
Project no:	**T24.137**
Document ref no:	**T23.137.TS.D1**
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Project name:	**Hirwaun Road**

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CONTENTS

APPENDICES

1 INTRODUCTION

1.1 Background

1.1.1 Asbri Transport Limited have been instructed by Newydd Housing Ltd to produce a Transport Statement to be submitted in support of proposed residential development at Hirwaun Road, Penywaun.

1.1.2 The development proposes the redevelopment of the site to provide 17 residential dwellings with a mix of 1 and 2-bedroom properties.

1.2 Purpose of the Report

1.2.1 The purpose of this Transport Statement is to detail the likely transport characteristics of the proposed development. The report also considers the on-site layout regarding parking provision and provision for service vehicle access.

1.3 Structure of the report

1.3.1 Following this introductory chapter, the report is structured as follows:

- Section 2: Existing Situation;
- Section 3: Development Proposals;
- Section 4: Transport Characteristics and Development Impacts; and,
- Section 5: Conclusion.

2 EXISTING CONDITIONS

2.1 Introduction

2.1.1 The site is situated on a parcel of land located to the north of Hirwaun Road.

2.1.2 The location of the site is detailed in Figure 2-1**,** below.

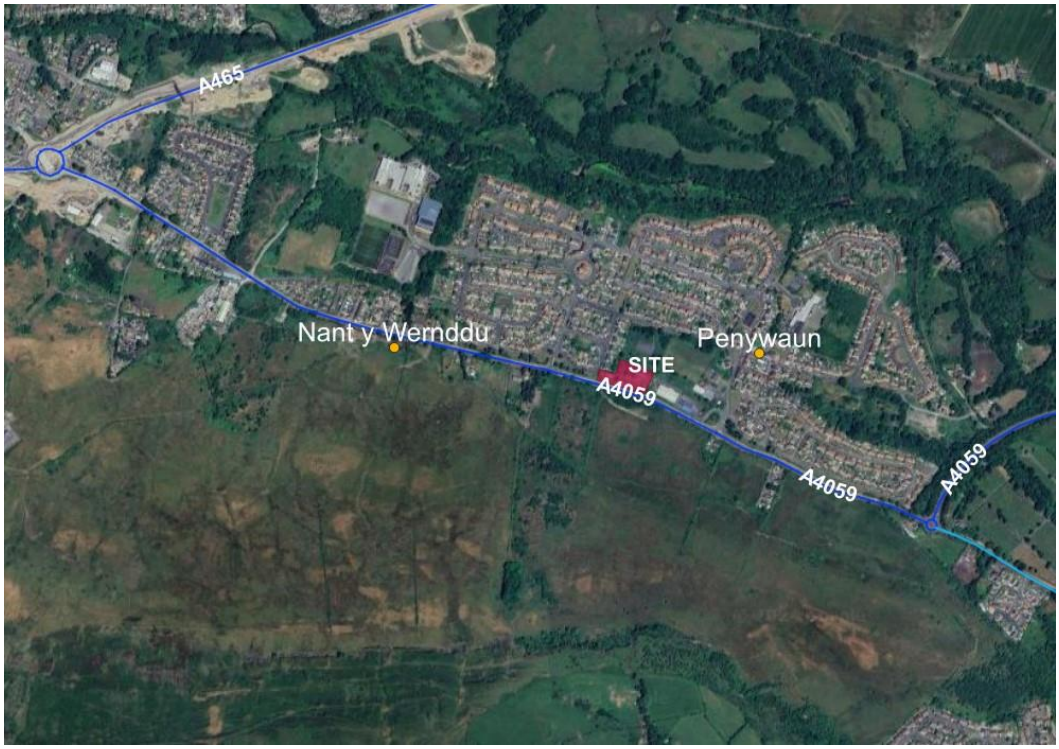


Figure 2-1 - Site Location

2.2 Highway Network

2.2.1 The local highway network within the vicinity of the development site is shown in Figure 2-2**.**

gure 2-2 - Local Highway Network

Hirwaun Road

2.2.2 Hirwaun Road is a two-way single carriageway located to the south of the development site. It runs in a broadly east-west direction between Hirwaun and Aberdare.

2.2.3 The north of Hirwaun Road is predominantly occupied by residential development, served by a combination of priority and signal-controlled junctions. There is street-lighting present and footways on the northern side of the carriageway.

2.2.4 The carriageway is subject to a 40mph speed limit in the vicinity of the site.

2.3 Highway Safety

2.3.1 Personal Injury Collision (PIC) data has been collected from obtained from Welsh Government Stats Wales for the most recent 5-year period available (2019-2023).

Figure 2-3 - PIC Plot

Year	Severity				Pedestrians	Cyclists	Casualties	Vehicles
	Fatal	Serious	Slight	Total				
2019	0	0	0	0	0	0	0	0
2020	0	0	1	1	0	0	1	4
2021	0	1	1	2	2	0	8	6
2022	0	0	0	0	0	0	0	0
2023	0	0	1	1	0	0	1	1
Total	**0**	**1**	**3**	**4**	**2**	**0**	**10**	**11**

Table **Error! No text of specified style in document.**.1 PIC Analysis summary

2.3.2 It can be observed from the above that in the latest 5-year period available, a total of 4 collision have occurred; 3 slight and 1 serious. Of these, 2 have involved pedestrians. The collisions involved a total of 11 vehicles and caused 10 casualties.

2.3.3 Further detailing of each collision is below in **Table 2.2.**

Ref.	Date	Severity	Pedestrians	Pedal cycles	Total Vehicles (includes cyclists)	Total Casualties	Summary
2000524	08/06/20	Slight	0	0	4	1	Van or goods vehicle (3.5t & under) proceeding normally along the carriageway, not on bend has front collision with the back of car slowing down or stopping. Car waiting to turn right has not impact and goods vehicle 7.5t+ is waiting to proceed normally but is held us has rear impact.
2100076	23/01/21	Slight	0	0	3	6	Car proceeding normally along the carriageway, not on bend has front impact with front of car slowing down or stopping and back of car slowing down or stopping.
2100517	06/07/21	Serious	2	0	3	2	Car proceeding normally along the carriageway, not on bend has front impact with wall or fence off carriageway. Car slowing down or stopping has rear impact with front of car proceeding normally along the carriageway.
2300775	09/09/23	Slight	0	0	1	1	Information not yet available on Crash Map

Table **Error! No text of specified style in document.**.2 PIC analysis details

2.3.4 A review of this data shows that there is not an accident or road safety issue on this section of Hirwaun Road which would be exacerbated by the introduction of a new junction to serve the development.

2.3.5 This analysis does not demonstrate that there is an issue with rear shunt type collisions, with two such collisions occurring in a 5year period.

2.4 Active Travel

2.4.1 Active travel infrastructure within the vicinity of the site is detailed in Figure 2-4**.**

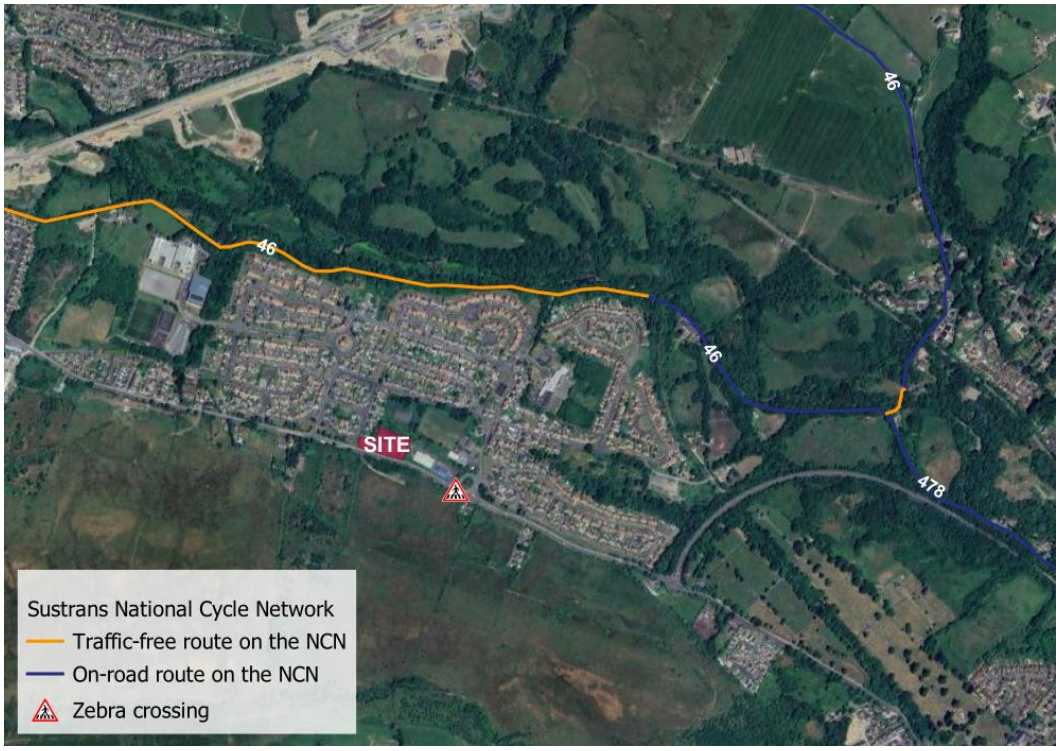


Figure 2-4 - Active Travel Provision

Pedestrians

2.4.2 There is good quality footway provision along Hirwaun Road, linking the proposed site to local areas, amenities and public transport nodes. Many of the junctions benefit from informal crossing points with dropped kerbs and/or tactile paving while there is a push-button pelican crossing at the Hirwaun Road/Arfryn junction.

Cyclists

2.4.3 NCN Route 46 is located to the north of the side, most easily accessible by travelling east from the site and north along Gwladys Street. NCN Route 46 provide a direct connection to Hirwaun and Glynneath to the northwest.

2.4.4 NCN Route 46 meets NCN Route 478 to the southeast, of which heads southeast into Aberdare and Mountain Ash, continuing southeast to Abercynon.

2.5 Active Travel Network Map

2.5.1 In accordance with the Active Travel Wales (Wales) Act 2013, an Active Travel Network Map (ATNM) has been produced which contains details of the proposed new routes and improvements to existing active travel routes that the Council will seek to deliver over the next 15 years. Proposals are subject to feasibility assessments.

2.5.2 The ATNM within the vicinity of the site is shown in **Figure 2-5** which shows that there are proposals for future improvements to the north of the site.

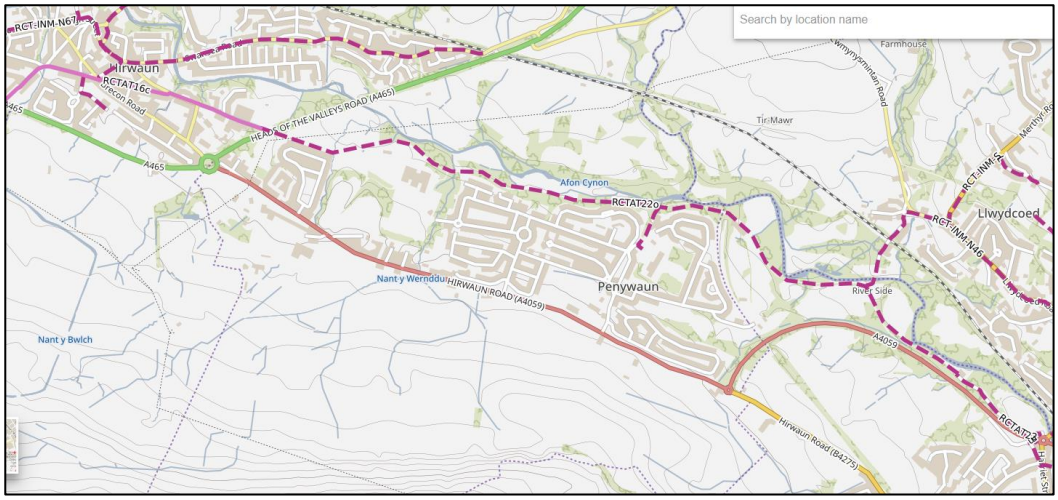


Figure 2-5 Active Travel Network Map

2.6 Public Transport

2.6.1 The site is well served by public transport with a range of bus stops within walking distance. The CIHT Planning for Walking document states that;

"For bus stops in residential areas, 400m has traditionally been regarded as a cut-off point and, in town centres, 200m. People will walk up to 800m to get to a railway station, which reflects the greater perceived quality or importance of rail services."

2.6.2 Public transport infrastructure within the vicinity of the site is shown in **Figure 2-6**.

Figure 2-6 Public transport infrastructure within close proximity of the site

2.6.3 The nearest bus stop to the sites is located adjacent to the site on Hirwaun Road. A westbound bus stop is located approximately 275m from the site, with signalised crossing points across Arfryn and Hirwaun Road.

2.6.4 This bus stops are served by various services, providing links to Aberdare, Glynneath and Merthyr Tydfil; service times are summarised in **Table 2.3.**

Route No.	Destination	Frequency
8	Glynhafod to Merthyr	Mon-Fri: Every Hour from 0548-1845
	Merthyr to Glynhafod	Mon-Fri: Every Hour from 0628-1929
9	Glynhafod to Merthyr	Mon-Fri: Every Hour from 0646-2004
	Merthyr to Glynhafod	Mon-Fri: Every Hour from 0753-2104

Table 2.3 Bus services within proximity

2.6.5 As shown above, during the day there are bus services approximately 30mins throughout the day.

2.6.6 From Merthyr Tydfil bus station, it is a short walk to Merthyr rail station from where there are regular services to Cardiff Central and the national rail network.

2.7 Local Amenities

2.7.1 There are a number of publications which suggest guidance for appropriate walking and cycling distances to facilities. For reference, a number of quotes from relevant documents have been summarised as follows.

- Walking as a mode of travel predominates for journeys of less than two miles whilst cycling is more convenient for longer journeys, typically of up to five miles for regular journeys. (Paragraph 4.1.4, Active Travel Design Act, Welsh Government)

- Two miles is 'a distance that could easily be walked by the majority of people' (Paragraph 2.2, TA91/05 Provision for Non-motorised Users, DfT)

- Walking is used to access a wide variety of destinations including places of work, normally within a range of up to 2 miles (Paragraph 2.3, TA91/05 Provision for Non-motorised Users, DfT)

- Cycling is used for accessing a variety of different destinations, including places of work, up to a range of around 5 miles. Cycling is also undertaken as a leisure activity, often over much longer distances (Paragraph 2.11, TA91/05, DfT)

- 80% of journeys shorter than 1 mile (1.6km) are made wholly on foot (Section 2.1, Planning for Walking, CIHT).

- Five miles is a distance that could easily be cycled by the majority of people (Paragraph 2.9, TA91/05, DfT)

2.7.2 For commuter journeys, a trip distance of over five miles is not uncommon and Novice and occasional leisure cyclists will cycle longer distances where the cycle ride is the primary purpose of their journey. A round trip on a waymarked leisure route could easily involve distances of 20 to 30 miles. Experienced cyclists will often be prepared to cycle longer distances for whatever journey purpose (Paragraph 1.5.1, LTN02/08, DfT)

2.7.3 Therefore, for the purposes of this Transport Assessment, journeys of up to 3.2km have been considered as a reasonable and appropriate distance.

2.7.4 The local amenities within walking distance of the proposed development are outlined below in **Table 2.4.** These are also shown in Figure 2-7**.**

Facility	Distance (m)	Walk Time (minutes)	Cycle Time (minutes)
Penywaun Club & Institute Ltd	350	4	3
Penywaun Community Centre	400	5	3
Colliers Arms	450	5	4
Penywaun Newsagents	500	6	4
Penywaun Fish Bar	500	6	4
Alans Convenience Store	500	6	4
Penywaun Primary School	700	8	6
Ysgol Gyfun Rhydywaun	900	11	7
Burger Express	1600	19	13
The Llwyncelyn Unn	1700	20	14
Dare Community Sports Hall	1800	22	14
One Stop Hirwaun	2200	26	18
Prince of Wales pub	2300	28	18

Table 2.4 Local amenities within proximity

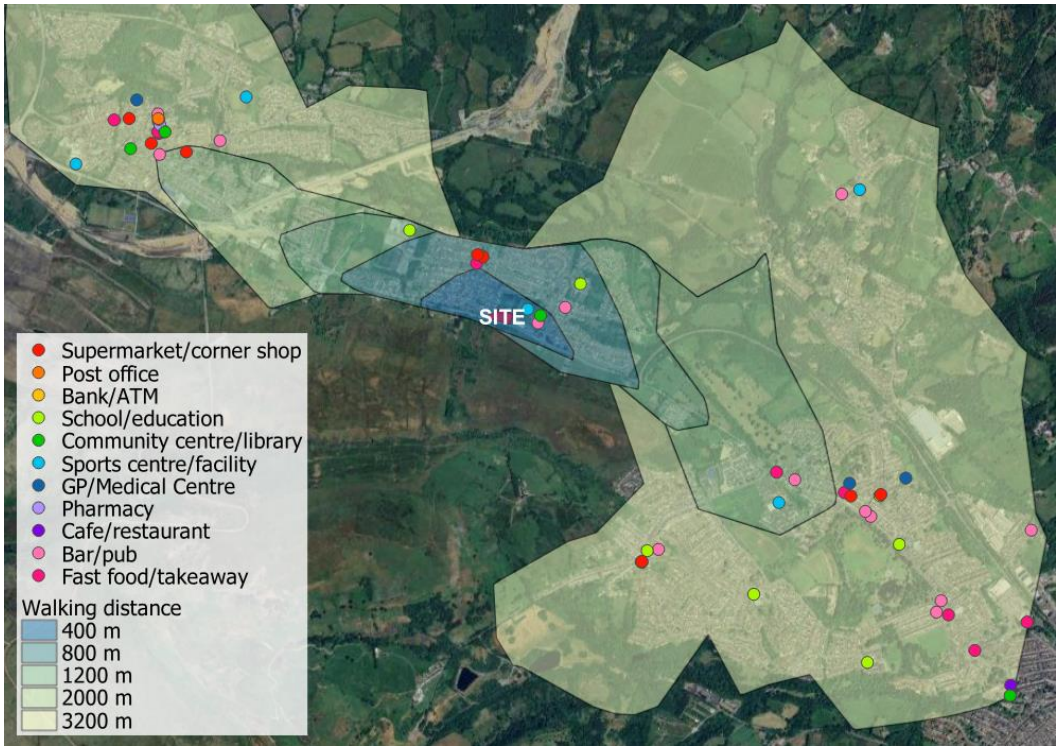


Figure 2-7 Local amenities within proximity

2.7.5 It can be seen from the above that there is a limited range of amenities located within proximity of the site, but the village of Penywaun offers schools and local corner shops.

Aberdare town centre is located 2.9km from the site and Hirwaun town centre is located 2.3km from the development site.

3 DEVELOPMENT PROPOSALS

3.1 Introduction

3.1.1 It is proposed to redevelop the currently vacant site with 17 residential properties, served via a new access from Hirwaun Road. It is proposed that there will be 6 1-bedroom flats, and 11 2-bedroom houses provided within the development.

3.2 Means of Access

Vehicular

3.2.1 Vehicular access to the site will be via a simple new priority junction from Hirwaun Road.

3.2.2 A General Arrangement has been produced by LeTrucco design, showing a junction at this location. This is shown in Figure 3.1 and Appendix A.

Figure 3.1 – Proposed Access

3.2.3 The proposed access is shown with visibility splays of 2.4m x 90m, which are suitable for a road with a 40mph speed limit.

3.2.4 Forward visibility for westbound traffic is also good, and as such the presence of a vehicle waiting to turn right should not present a significant hazard.

Pedestrian Access

3.2.5 Pedestrian access will be via the 2m footways either side of the access road.

Design Considerations

3.2.6 RCTCBC provided pre-application comments on the proposed development, and in particular the location and design of the vehicular access. Their comments are summarised below;

The proposed new single point of access served off the principal route A4059 in close proximity to the two existing access points serving Penywaun Estate will increase delays on the principal route and increase hazards to the detriment of safety of all highway users.

The number of priority junctions providing access to the all-purpose trunk roads should be minimised.

There is a general presumption against further individual accesses to "Principal" roads, which would create additional further hazards, to the detriment of safety and free flow of traffic.

The previous planning permissions (2008 & 2014) for the site included an approved access off Glan Y Bont which was designed and conditioned to access the application site and acceptable for the number of additional dwellings proposed.

Manual for Streets is guidance note regarding design of streets with slow speeds and active frontage and not a principal route A4059 with 40Mph speed limit.

3.2.7 For the avoidance of doubt, while the pre-application response seeks to push the application towards using an alternative access route from Glan Y Bont, that is not possible due to a number of design constraints, and does not form part of this proposal.

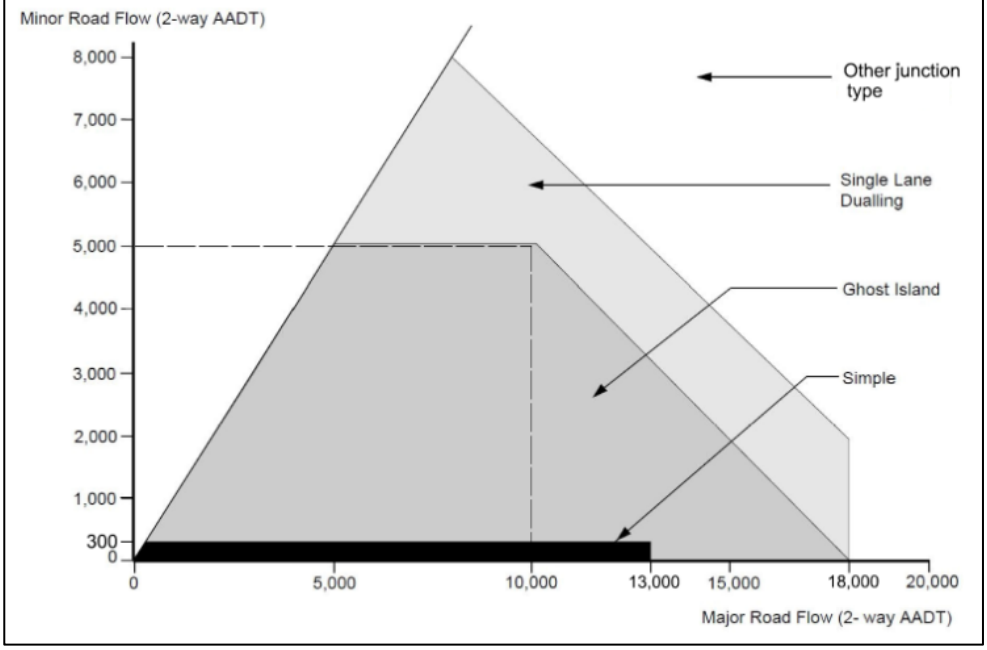
DMRB

3.2.8 Design Manual for Roads and Bridges (DMRB) document CD123 Geometric design of at-grade priority and signal-controlled junctions contains details of the design standards for junctions. While the document is intended to apply to Trunk roads, it is often used as the basis for designs on local roads with a speed limit of 40mph or more. The design

principles give weight to both unencumbered movement and safety on typically high-speed routes.

3.2.9 With regards to priority junctions, the need for a main carriageway ghost island right turn lane is outlined in Figure 2.3.1 of the document (extracted in Figure 3.2 below), where the requirements are based on the daily traffic flows of both the major and minor arms.

Figure 2.3.1 Approximate priority junction provision on single carriageway roads based on flows only



3.2.10 This demonstrates that where the minor road flows are less than approximately 300 two-way movements per day, a simple priority junction is acceptable, i.e., no right-turn facility is required.

3.2.11 The observed AADT on Hirwaun Road will be confirmed following the undertaking of surveys in September 2024. Data referenced by RCTCBC suggests that the 2021 AADT was in the region of 16000 vehicles.

***Manual* for Streets**

3.2.12 Manual for Streets (MfS) and Manual for Streets 2 (MfS2) set out the design guidance for local streets, and is typically used for roads with a speed limit of 40mph or less, although it is explicitly noted that there is no reason why the principles cannot be applied to non-trunk roads with higher speeds.

3.2.13 The preface to MfS2 states "*The Strict application of DMRB to non-trunk routes is rarely appropriate for highway design in built up areas, regardless of traffic volume.*"

3.2.14 At para 9.4.7, MfS2 states that the limit of 500 two-way movements on the minor arm set out in a now superseded version of DMRB should not be applied uncritically, and that significantly higher flows would be possible without impacting mainline capacity.

3.2.15 MfS also highlights the negative impact of right-turn lanes in respect of the impact on increasing crossing distances for pedestrians, which should also be considered in the planning balance, where the needs of vulnerable road users and those seeking to use active travel modes should be placed above the desire to protect free traffic movement.

Rhondda Cynon Taf

3.2.16 RCT Highway Design Guide, Section A considers Residential Roads, Footpaths and Cycleways.

3.2.17 There is no specific guidance in relation to the form of junction selected, with references to both DMRB and MfS being applicable depending on road type.

3.2.18 The response from RCTCBC states that the provision of the priority junction will result in an increase in hazards to the detriment of safety and free flow of traffic on a primary route. While the general position is understood, it is considered that this location, with good forward visibility and the presence of a number of residential accesses and other priority junctions, the addition of a further junction would not materially impact on the operation of the A4059.

3.2.19 As noted, the application of DMRB to non-trunk roads should not be undertaken uncritically, and there has been significant research as well anecdotal evidence highlighting that the figures within Figure 2.3.1 are somewhat arbitrary, and that there is no evidence that providing a priority junction outside of these will have a negative impact.

Servicing & Emergency Vehicles

3.2.20 It is intended that refuse vehicles will turn within the site as shown in Appendix A, allowing them to enter and leave in a forward gear.

3.3 Parking

3.3.1 Parking will be provided within the site, as shown in the site layout. Parking is provided in line with the RCTCBC Parking Standards, which allow a maximum of 2 spaces per 2-bedroom property and one for each of the flats.

4 TRANSPORT CHARACTERISTICS

4.1 Introduction

4.1.1 In order to assess the impact of the site on the existing transport infrastructure, it is necessary to assess the likely level of vehicular trips generated by the proposed development.

4.1.2 This section of the report, therefore outlines the methodology used to predict traffic generation for the proposed development, and provides an estimate of future trips to/from the development site.

4.2 Trip Generation

4.2.1 The vehicle trip generation rates for the proposed residential dwellings have been obtained from the TRICS 7.11.2 trip generation database. The trip generation has been calculated for total vehicle to ascertain a proposed vehicle trip generation.

- Land use: Residential
- No. of dwellings: 5-20
- Survey says: Monday-Friday
- Location of development: UK, excluding Greater London and Northern Ireland

4.2.2 The TRICS analysis found 6 directly comparable sites to the proposed development. The vehicle trip rates and resultant vehicles are presented in **Table 4.1,** below with the full output included in **Appendix B.**

Mode	Time Period	Total Trip Rate			Trip Generation (17 dwellings)		
		Arrivals	Departures	Total	Arrivals	Departures	Total
Total vehicles	08:00-09:00	0.212	0.258	0.470	4	4	8
	17:00-18:00	0.348	0.182	0.530	6	3	9
	Daily	**2.386**	**2.495**	**4.881**	**41**	**42**	**83**

Table 4.1 TRICS residential trip rates

4.2.3 The proposed development is likely to generate up to 8 two-way vehicle movements during the AM network peak hour of 08:00-09:00 and up to 9 two-way vehicle movements during the PM network peak hour of 17:00-18:00. This equates to an additional vehicle movement approximately every 7 minutes. Over the course of the day, the development is likely to generate up to 83 two-way vehicle movements.

4.3 Potential Impact

4.3.1 It is envisaged that the proposed development due to the forecast low level of peak hour traffic generation will have a marginal impact on the local highway network during the AM and PM peak hour periods, or throughout the course of the day.

4.3.2 In order to quantify the impact, the operation of the junction will be assessed using the industry standard Junctions 9 Software package following the receipt of survey data.

4.3.3 It is expected that this exercise will demonstrate that the increase in vehicles turning right into the site will be negligible in the context of the existing operation of the A4059.

5 CONCLUSION

5.1 Summary

5.1.1 This Transport Statement accompanies a proposed residential development of 17 residential dwellings at Hirwaun Road, Penywaun.

5.1.2 The site is well located within a residential area, with easy access to a range of amenities and services. Bus stops are located close to the site and there are opportunities for active travel from the site.

5.1.3 Servicing and parking can be accommodated within the site in accordance with local design standards.

5.1.4 Access is proposed via a new priority junction from Hirwaun Road, of the sort which already exist in the locality, and which is capable of operating safely. The proposed development will result in a minor change in the level of traffic movements on Hirwaun Road, but will not materially impact its operation.

5.2 Conclusion

5.2.1 The proposed residential development will result in a small number of additional movements, by both vehicle and active travel modes, which can be safely accommodated within the existing infrastructure.

5.2.2 It is considered that there are no highways or transport reasons to preclude the grant of planning permission.

Appendix A

A0 DRAWING SHEET

BRYN RHOS

HIRWAUN ROAD

GER-Y-BONT

SUDDS

EXISTING TREES TO BE RETAINED WHERE POSSIBLE

BRICK FACED RETAINING WALL TO STRUCTURAL ENGINEERS DESIGN AND DETAILS

POSITION AND EXTENT OF EXISTING ADIT - TO BE GROUTED TO SPECIALISTS DETAILS.

PROPOSED PUBLIC OPEN SPACE AND VIEWING PLATFORM OVER ADJACENT VALLEY VIEWS.

EXISTING PROPERTIES TO BRYN RHOS

REAR GARDENS TO EXISTING PROPERTIES

REAR GARDEN AREAS STEPPED WITH ROLL OVERS AND RETAINING WALL - GABION BASKETS OR CRIB LOCK

2.1M HIGH POWDER COATED MESH FENCING AND ACCESS GATES PROVIDING MAINTENANCE ACCESS TO SUDDS AREA.

SECTION A-A

SECTION B-B

SECTION C-C

200.15+

+203.48

201.66+

202.30+

202.92+

203.11+

+203.00

205.95+

+205.56

+205.97

+206.05

+206.02

+206.66

4 5 6 7 3 2 1 8 - 13 17 16 15 14

+206.400 +206.550 +206.420 +206.760 +206.750 +207.050

EXISTING TREES AND LANDSCAPING TO BE RETAINED WHERE POSSIBLE

ACCESS PATH TO MAINTAIN SUDDS AREAS - COMPACTED GRANULAR HOG FINISH.

EXISTING PALISADE FENCING RETAINED TO LEFT HAND SIDE OF ACCESS AND REMOVED WITHIN VISION SPLAYS.

1.8M HIGH - 900MM WIDE TIMBER GATE

700mm HIGH TIMBER PICKET FENCE AND ACCESS GATES

EXISTING GRADIENTS RETAINED AND PLANTED WITH ENHANCED BIODIVERSITY LANDSCAPING

NEW ACCESS FORMED OFF GER-Y-BONT TO ADOPTABLE STANDARDS AND TO CIVILS ENGINEERS DESIGN AND DETAILS.

2.4 X 90M VISION SPLAYS FROM CENTRE LINE OF NEW ACCESS ROAD

EXISTING PALISADE FENCING RETAINED TO LEFT HAND SIDE OF ACCESS AND REMOVED WITHIN VISION SPLAYS.

NEW STRONG LANDSCAPING ALONG VERGE WITH EXISTING FOLIAGE RETAINED WHERE POSSIBLE

4M OVERALL DRAINAGE EASEMENTS.

KEY SCHEDULE

- DENOTES SITE APPLICATION BOUNDARY
- **TYPE A: GARDEN FENCE** DENOTES 1800MM HIGH TREATED CLOSE BOARDED FENCE.
- **TYPE B: RAILINGS** DENOTES 2.1 POWDER COATED MESH RAILINGS AND GATES - COLOUR GREEN
- **TYPE C: RAILINGS** DENOTES 900MM HIGH TIMBER PICKET STYLE FENCES AND GATES.
- **TYPE D: REAR GARDEN WALLS** DENOTES 1.8M HIGH FACING BRICKWORK BOUNDARY WALLS TO KEY POSITIONS.
- **TYPE E: RETAINING WALLS WITH FENCE** DENOTES FACING BRICKWORK RETAINING WALLS [HEIGHT VARIES] WITH 1800MM TREATED CLOSE BOARDED FENCE ONTOP.
- DENOTES AREA IN 'TOBERMORE' PERMEABLE PAVING SYSTEM AS DENOTED - COLOUR: MULTI RED / BRINDL
- DENOTES 2.4M X 4.8M 'TOBERMORE' PERMEABLE PAVING SYSTEM PARKING BAYS WITH 50MM X 100MM PC CONCRETE PATH EDGING TO DELINEATE BAYS.
- DENOTES AREA OF NEW 2M WIDE TARMACADAM FOOTWAYS TO PERIMETER OF SITE.
- DENOTES AREA OF NEW TARMACADAM ACCESS ROAD INTO SITE.
- DENOTES AREAS OF 450 X 450MM P.C CONC. PAVING SLABS TO FORM PATIO AREAS AND 900MM MIN FOOTPATHS TO TO CURTILAGE OF HOUSES AND 1200MM WIDE TO TO CURTILAGE OF FLATS.
- DENOTES 1.8M HIGH - 900MM WIDE TIMBER GATE WITH A SECURITY LOCK. IN COMPLIANCE WITH BS8300 - NOTE GATE TO BE SIMILAR HEIGHT TO ADJACENT WALL/GATE IF APPLICABLE.
- DENOTES AREAS OF INFORMAL PLANTING / LANDSCAPING AREAS . AS PER TREE / SPECIES MIX IN LANDSCAPING SCHEDULE.
- DENOTES AREAS OF RAIN GARDENS TO ASSIST SUDDS DRAINAGE DESIGN & BIDOVERSITY AS PER TREE / SPECIES MIX IN LANDSCAPING SCHEDULE.
- DENOTES NEW TREE PLANTING (REFER TO LANDSCAPE DRAWING FOR TYPES AND SCHEDULES)
- DENOTES 2.9M DIAMETER ROTARY DRYER SET IN CONCRETE. - PROVIDING 4M MIN. OF LINE FOR 2 BED DWELLINGS. 6M MIN. FOR 3 BED DWELLINGS.
- DENOTES PAVED CONCRETE HARDSTANDING FOR COMMUNAL BIN STORE HOSTING REFUSE BINS TO SUIT LA REQUIREMENTS
- DENOTES ROBUST TREATED TIMBER FRAMED SHED WITH 1NO./2NO. SHEFFIELD OR SIMILAR TYPE STEEL FRAMED BIKE RACK, BOTH BOLTED TO 150MM THICK CONCRETE BASE - PROVIDING SPACE FOR 1NO/2NO BICYCLES AND 1M² GARDEN STORE SPACE. PERMANENT LOCK TO BE PROVIDED TO SHED DOOR. CONFORMING TO BS 3621:2004.
- SB DENOTES POSITION OF IBSTOCK OR SIMILAR SWIFT BOX IN SMOOTH RED - TO BE INSTALLED AT MIN. 5M FROM EXTERNAL GROUND LEVEL
- BB DENOTES POSITION OF IBSTOCK BAT BRICK (TYPE A) OR SIMILAR - REFER TO INDIVIDUAL ELEVATIONS FOR EXACT LOCATION

PLOT SCHEDULE

2P 1B FLAT TYPE	-	6
4P 2B HOUSE TYPE	-	11
TOTAL NUMBER OF UNITS	-	17

PARKING SCHEDULE - SITE 1 (NORTH)

UNIT TYPE	No.s	TOTAL SPACES
4 PERSON 2 BEDROOM HOUSE TYPE - (MIN 1 SPACE EACH)	11	22
2 PERSON 1 BEDROOM FLAT TYPE - (MIN 1 SPACE EACH)	6	6
Sub Total	-	28
VISITORS (5%)		2
TOTAL	-	30

REFER TO CONSULTING ENGINEERING DRAWINGS FOR PLOT FINISHED FLOOR LEVELS AND DRAINAGE DETAILS.
REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR DETAILS OF LANDSCAPING PROPOSALS.

DENOTES 2.4M X 4.8M PARKING BAY.

LTH DENOTES 'LIFE TIME HOME' COMPLIANT PARKING SPACE.

NORTH

SITE LAYOUT 1:150

0 2.5 5 7.5 10 12.5 m

SCALE 1:250

Revisions
REV A Aug 24
Plot 3 amended to floor plan rearrangement.

Scale	1:150 @ A0
Revision	A
Date	Aug 24
Checked	KML
Drawing No	LT2402.04.01
Drawing Title	Proposed Site Layouts
Job Title	Land off Hirwaun Road
Client	Newydd H A
Drawing Purpose	PLANNING

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Appendix B

Asbri Transport Mulberry Drive Cardiff Licence No: 317901

Calculation Reference: AUDIT-317901-240801-0815

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	WS	WEST SUSSEX	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	3 days
08	NORTH WEST		
	MS	MERSEYSIDE	2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
Actual Range: 24 to 80 (units:)
Range Selected by User: 9 to 80 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 20/09/23

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Wednesday	4 days
Thursday	2 days
Friday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	8 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town	8

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	8

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	9 days - Selected
Servicing vehicles Excluded	18 days - Selected

Secondary Filtering selection:

Use Class:

C3	8 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	5 days
5,001 to 10,000	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	4 days
25,001 to 50,000	3 days
50,001 to 75,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	4 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	6 days
No	2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	8 days

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 CA-03-M-01 MIXED HOUSES & FLATS CAMBRIDGESHIRE
BANNOLD ROAD
WATERBEACH

Edge of Town
Residential Zone
Total No of Dwellings: 52
Survey date: WEDNESDAY 20/06/18 Survey Type: MANUAL

2 ES-03-M-15 MIXED HOUSES EAST SUSSEX
FIELD END
MARESFIELD

Edge of Town
Residential Zone
Total No of Dwellings: 80
Survey date: WEDNESDAY 13/03/19 Survey Type: MANUAL

3 MS-03-M-02 TERRACED MERSEYSIDE
LOVEL ROAD
LIVERPOOL
SPEKE
Edge of Town
Residential Zone
Total No of Dwellings: 27
Survey date: FRIDAY 21/06/13 Survey Type: MANUAL

4 MS-03-M-03 SEMI DETACHED/TERRACED MERSEYSIDE
LOVEL ROAD
LIVERPOOL
SPEKE
Edge of Town
Residential Zone
Total No of Dwellings: 24
Survey date: FRIDAY 21/06/13 Survey Type: MANUAL

5 NF-03-M-03 MIXED HOUSES NORFOLK
NORTH WALSHAM ROAD
NORTH WALSHAM

Edge of Town
Residential Zone
Total No of Dwellings: 70
Survey date: WEDNESDAY 18/09/19 Survey Type: MANUAL

6 NF-03-M-04 MIXED HOUSES & FLATS NORFOLK
HUNSTANTON ROAD
HUNSTANTON

Edge of Town
Residential Zone
Total No of Dwellings: 70
Survey date: THURSDAY 19/09/19 Survey Type: MANUAL

7 NF-03-M-39 MIXED HOUSES NORFOLK
LONDON ROAD
ATTLEBOROUGH

Edge of Town
Residential Zone
Total No of Dwellings: 61
Survey date: WEDNESDAY 14/10/20 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 WS-03-M-21 MIXED HOUSES WEST SUSSEX
CLAPPERS LANE
BRACKLESHAM BAY

Edge of Town
Residential Zone
Total No of Dwellings: 57
Survey date: THURSDAY *14/11/19* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.88

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	55	0.057	8	55	0.272	8	55	0.329
08:00 - 09:00	8	55	0.088	8	55	0.293	8	55	0.381
09:00 - 10:00	8	55	0.143	8	55	0.202	8	55	0.345
10:00 - 11:00	8	55	0.145	8	55	0.154	8	55	0.299
11:00 - 12:00	8	55	0.184	8	55	0.206	8	55	0.390
12:00 - 13:00	8	55	0.254	8	55	0.188	8	55	0.442
13:00 - 14:00	8	55	0.163	8	55	0.184	8	55	0.347
14:00 - 15:00	8	55	0.136	8	55	0.193	8	55	0.329
15:00 - 16:00	8	55	0.231	8	55	0.159	8	55	0.390
16:00 - 17:00	8	55	0.272	8	55	0.125	8	55	0.397
17:00 - 18:00	8	55	0.263	8	55	0.181	8	55	0.444
18:00 - 19:00	8	55	0.297	8	55	0.125	8	55	0.422
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.233			2.282			4.515

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	24 - 80 (units:)
Survey date date range:	01/01/13 - 20/09/23
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	3
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	55	0.002	8	55	0.007	8	55	0.009
08:00 - 09:00	8	55	0.005	8	55	0.018	8	55	0.023
09:00 - 10:00	8	55	0.005	8	55	0.002	8	55	0.007
10:00 - 11:00	8	55	0.007	8	55	0.009	8	55	0.016
11:00 - 12:00	8	55	0.007	8	55	0.009	8	55	0.016
12:00 - 13:00	8	55	0.005	8	55	0.005	8	55	0.010
13:00 - 14:00	8	55	0.007	8	55	0.005	8	55	0.012
14:00 - 15:00	8	55	0.005	8	55	0.005	8	55	0.010
15:00 - 16:00	8	55	0.016	8	55	0.009	8	55	0.025
16:00 - 17:00	8	55	0.009	8	55	0.005	8	55	0.014
17:00 - 18:00	8	55	0.014	8	55	0.016	8	55	0.030
18:00 - 19:00	8	55	0.014	8	55	0.011	8	55	0.025
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.096			0.101			0.197

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	55	0.016	8	55	0.041	8	55	0.057
08:00 - 09:00	8	55	0.052	8	55	0.132	8	55	0.184
09:00 - 10:00	8	55	0.059	8	55	0.027	8	55	0.086
10:00 - 11:00	8	55	0.027	8	55	0.036	8	55	0.063
11:00 - 12:00	8	55	0.036	8	55	0.050	8	55	0.086
12:00 - 13:00	8	55	0.043	8	55	0.025	8	55	0.068
13:00 - 14:00	8	55	0.034	8	55	0.041	8	55	0.075
14:00 - 15:00	8	55	0.050	8	55	0.086	8	55	0.136
15:00 - 16:00	8	55	0.175	8	55	0.059	8	55	0.234
16:00 - 17:00	8	55	0.104	8	55	0.075	8	55	0.179
17:00 - 18:00	8	55	0.061	8	55	0.070	8	55	0.131
18:00 - 19:00	8	55	0.068	8	55	0.091	8	55	0.159
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.725			0.733			1.458

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	55	0.007	8	55	0.050	8	55	0.057
08:00 - 09:00	8	55	0.000	8	55	0.034	8	55	0.034
09:00 - 10:00	8	55	0.007	8	55	0.014	8	55	0.021
10:00 - 11:00	8	55	0.002	8	55	0.011	8	55	0.013
11:00 - 12:00	8	55	0.005	8	55	0.007	8	55	0.012
12:00 - 13:00	8	55	0.005	8	55	0.027	8	55	0.032
13:00 - 14:00	8	55	0.018	8	55	0.009	8	55	0.027
14:00 - 15:00	8	55	0.007	8	55	0.007	8	55	0.014
15:00 - 16:00	8	55	0.034	8	55	0.025	8	55	0.059
16:00 - 17:00	8	55	0.043	8	55	0.011	8	55	0.054
17:00 - 18:00	8	55	0.032	8	55	0.016	8	55	0.048
18:00 - 19:00	8	55	0.045	8	55	0.025	8	55	0.070
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.205			0.236			0.441

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*