

Port Road Wenvoe

Residential Development



Transport Assessment

on behalf of

Redrow Homes (South Wales)

August 2012

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1 Introduction

- 1.1 Traffic and Transport Planning (TTP) has been instructed by Redrow Homes (South Wales) to prepare a Transport Assessment (TA) in support of a planning application for a proposed residential development on Port Road Wenvoe.
- 1.2 A Transport Scoping Statement (TSS) was submitted to the Vale of Glamorgan in February 2012 (Appendix A). Following discussions with Officers of the Highways Department the parameters identified in the TSS form the basis for the TA. This will include:
- Policy Context – the transport and planning policy framework;
 - Existing transport conditions – describing existing highways, traffic and non-car modes;
 - Proposed Residential Development;
 - Travel Demand Assessment– trip generation and distribution;
 - Junction Capacity Analysis – impact of the development on the capacity of the Morfa Lane and St Andrews Road roundabouts;
 - Transport Implementation Strategy – the contribution of the proposed development to sustainable travel.
- 1.3 Further discussions took place with Officers after these parameters had been agreed and as a result the TA will include ‘sensitivity’ tests using 85% TRICS trip rates.

2 Policy Context

- 2.1 The Transport Assessment has been prepared in the context of relevant land-use and transport planning policies:
- **Planning Policy Wales (PPW) Edition 4**
 - **Technical Advice Note 18 Transport (TAN18)**
 - **Wales Parking Standards 2008**
 - **Vale of Glamorgan Deposit Local Plan 2011 - 2026**
- 2.1.1 **Planning Policy Wales (PPW) Edition 4** was published in February 2011. **Chapter 8 (Transport)** identifies the objectives for sustainable development which includes:
- *reducing the need to travel, especially by private car, by locating development where there is good access by public transport, walking and cycling;*
 - *locating development near other related uses to encourage multi-purpose trips and reduce the length of journeys;*
 - *improving accessibility by walking, cycling and public transport;*
 - *ensuring that transport is accessible to all, taking into account the needs of disabled and other less mobile people;*
 - *supporting the provision of high quality public transport;*
 - *supporting traffic management measures;*
 - *promoting walking and cycling;*
 - *supporting necessary infrastructure improvements;*
 - *ensuring that, as far as possible, transport infrastructure does not contribute to land take, urban sprawl or neighbourhood severance.*

2.1.2 **Technical Advice Note 18: Transport (TAN18)** published in March 2007 includes important guidance on land-use planning and transportation requirements. It aims to increase the number of people who walk and cycle through raising awareness and improving infrastructure by providing:

- travel planning projects;
- high standards of infrastructure;
- safe walking and cycle routes to high quality facilities at public transport interchanges;
- safe traffic free walking and cycling routes within communities;
- route and destination signage;
- 20 mph zones;
- high quality cycle parking and storage facilities.

2.1.3 **Wales Parking Standards 2008** has been prepared in the context of Planning Policy Wales, TAN 18 and Manual for Streets and details parking requirements according to land use and type of development. The Standards have been adopted by the Vale of Glamorgan.

2.1.4 **The Vale of Glamorgan Deposit Local Plan 2011 - 2026** sets out a number of policies relevant to new development and transport:

- Policy MD1: Development will be favoured where it has access to or will promote the use of sustainable modes of transport;
- Policies MD2/MD3 : Development will be favoured where it will provide a safe and accessible environment for all users, giving priority to pedestrians, cyclists and public transport users;
- Policy MD4: Community infrastructure may include the provision or improvement of transport infrastructure and services for pedestrians, cyclists, public transport and vehicular traffic.
- Policy MG2: Housing Allocation – the land at Wenvoe is allocated for 150 houses
- Policy MG6: Residential Development in Key Service Centres and Primary Settlements. Wenvoe is defined in the Deposit Local Plan as a Primary Settlement Area where new development will be permitted when it has no impact on the amenity and character of the locality by way of noise, traffic congestion and parking. This TA will show that the proposed development will have no significant impact on parking or traffic congestion.

3 Existing Transport Conditions

3.1 Highways

3.1.1 The proposed development site is located on the west of Port Road (A4050) between the St Andrews Road and Morfa Lane roundabouts. To the south the site is bounded by Pugh's Garden Centre and to the north by residential development. Port Road is a single carriageway highway subject to a 50mph speed limit. The road is lit with footways on both sides but there are no designated cycle lanes.

- 3.1.2 St Andrew Road roundabout has three approach roads: Port Road South, Port Road North and St Andrews Road which is a lightly trafficked rural highway serving a few properties. Some 50 metres south of the roundabout on the west side of Port Road South an access road leads to Pugh’s Garden Centre and some dwellings. Vehicles leaving the access road have to turn left onto Port Road South and negotiate the roundabout.
- 3.1.3 Morfa Lane roundabout has four approach roads: Port Road South, Old Port Road, Port Road North and Morfa Lane. Old Port Road runs northwards through Wenvoe and re-joins route A4050 some 900metres north of the Morfa Lane roundabout. Morfa Lane serves a few residential properties and is very lightly trafficked.
- 3.1.4 Some 65 metres south of the roundabout a residential access serves three properties on the west side of route A4050. There are no controls on turning movements to or from route A4050 associated with the use of this access road.

3.2 Traffic

- 3.2.1 Traffic movements at St Andrews Road roundabout have been provided by the Vale of Glamorgan. A turning count survey at the Morfa Lane roundabout has been carried out on behalf of TTP by Northern Link Traffic Data Consultancy (NLTDC). The peak hour flows are shown in Figures 1 – 4:

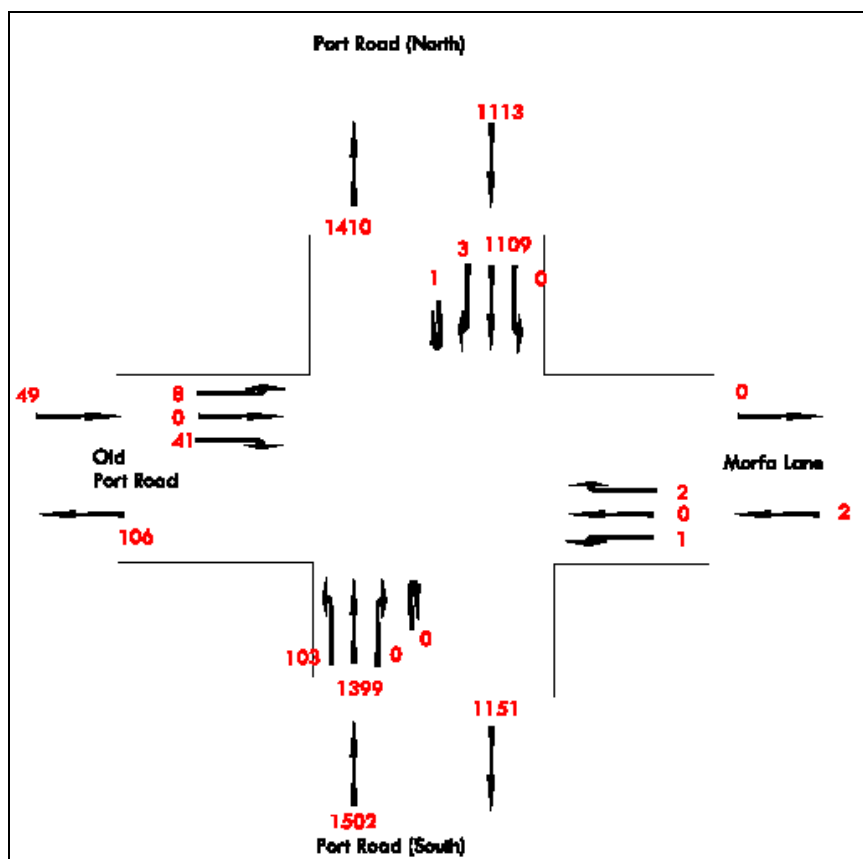


Fig 3.1 Morfa Roundabout AM peak hour February 2012

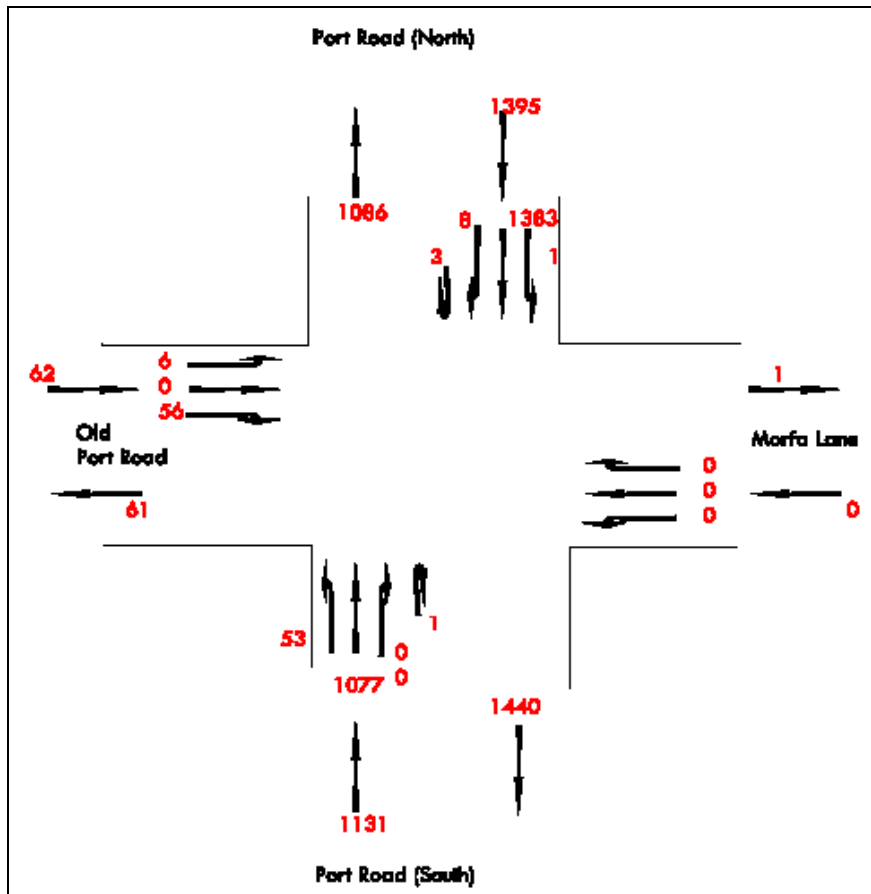


Fig 3.2 Morfa Roundabout PM peak hour February 2012

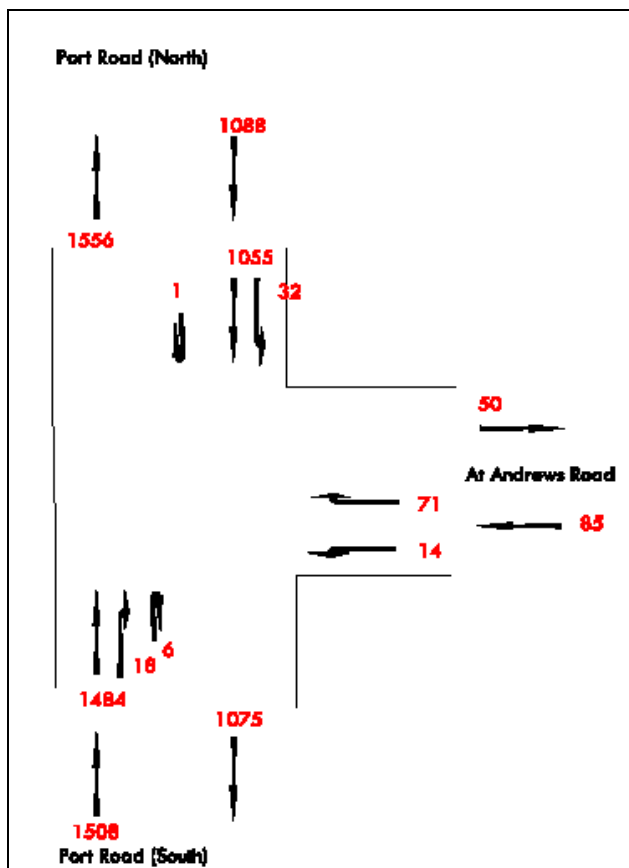


Fig 3.3 St Andrews Roundabout AM peak hour September 2011

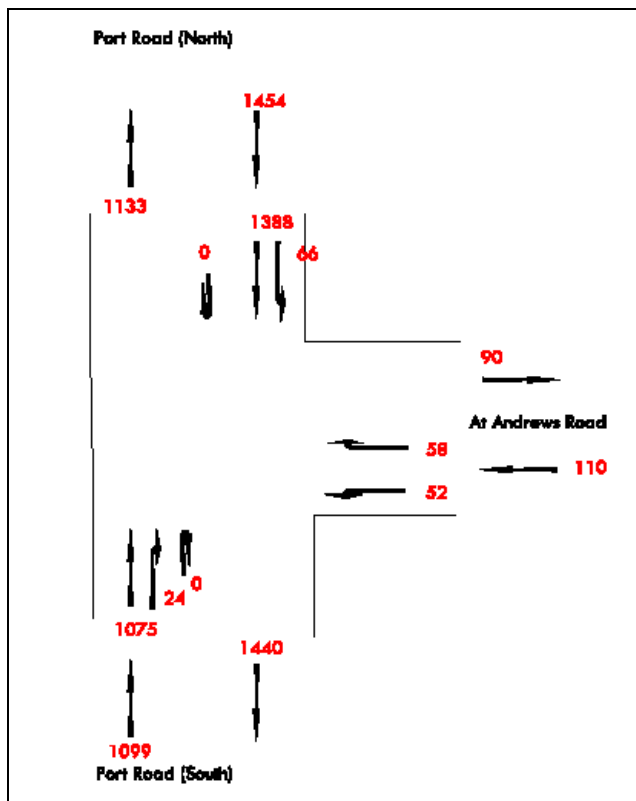


Fig 3.4 St Andrews Roundabout PM peak hour September 2011

3.2.2 The recorded flows at the two roundabouts are detailed in Appendix B and summarised below:

Table 3.1 Morfa Lane Roundabout Peak Hour Approach Traffic Flows Feb 2012								
	Port Road South		Old Port Road		Port Road North		Morfa Lane	
	N'bnd	S'bnd	E'bnd	W'bnd	N'bnd	S'bnd	W'bnd	E'bnd
AM Peak hour	1502	1151	49	106	1410	1113	2	0
PM peak hour	1131	1440	62	61	1086	1395	0	1

Table 3.2 St Andrews Road Roundabout Peak Hour Approach Traffic Flows						
	Port Road South		Port Road North		St. Andrews Road	
	N'bnd	S'bnd	N'bnd	S'bnd	W'bnd	E'bnd
AM peak hour	1508	1075	1556	1088	85	50
PM peak hour	1099	1440	1133	1454	110	90

The traffic count data shows no congestion issues on Port Road adjacent to the development site or at the Morfa Lane and St Andrews Road roundabouts. There is a good match also between the two sets of AM and PM peak hour traffic data.

- 3.2.3 At the Morfa Lane roundabout the majority of traffic movements are restricted to straight through on Port Road:

Table 3.3 Morfa Lane Roundabout Peak Hour Current movement breakdown				
	Port Road South	Old Port Road	Port Road North	Morfa Lane
AM Peak hour	56.4%	1.8%	41.8%	0%
PM peak hour	43.7%	2.4%	53.9%	0%

This movement split will be used for the distribution of trips generated by the proposed development.

- 3.2.4 Personal Injury Accident (PIA) records for the period January 2006 to December 2011 have been provided by the Vale of Glamorgan (Appendix C). These show that during the five year period seven accidents were recorded on the length of Port Road adjacent to the proposed development which includes the Morfa Lane and St Andrews Road roundabouts. All accidents were classified as 'slight' in terms of severity. One accident occurred at the St Andrews Road roundabout and another on Port Road adjacent to the proposed development site. The remainder were at the Morfa Lane roundabout.



Fig 3.5 Location of road accidents

3.2.5 Five of the accidents were caused by minor rear-end shunts. One on Morfa Lane roundabout was due to a driver failing to see a cyclist who was in the vehicle's blind spot. The final accident resulted from a light goods vehicle entering the junction and the driver failing to see a heavy goods vehicle already on the roundabout. The Personal Injury Accident records show no underlying road safety issues on Port Road adjacent to the development site or at the Morfa Lane and St Andrews Road roundabouts.

3.3 Non-car travel modes

3.3.1 Pedestrian access to the site is available currently from Port Road to Clos Llanfair. The site is within a short walking distance of Gwenfo Church of Wales Primary School and St Mary's Parish Church in Old Port Road. The local Premier convenience store is also located in Old Port Road.

Destination	Approx walking distance
St Mary's Church	400m
Wenvoe Arms	520m
Premier convenience store	550m
Gwenfo Primary School	690m
Port Road bus stops	400m

3.3.2 There are no cycle lanes on Port Road or Old Port Road although the Vale of Glamorgan has a long term programme to install lanes on Route A.4050.

3.3.3 Bus services 86, 90, 96 and X91 serving Barry and Cardiff are routed along Port Road. Timetables are detailed in Appendix D and summarised below:

Service	Key destination and journey time	Frequency per hour during day	First service from Wenvoe (Mon-Fri)	Last service to Wenvoe (Mon-Fri)
86	Wenvoe– Culverhouse Cross	Thursday and Saturday only One trip	Dep. 10.20 Arrive 10.25	Dep 12.25 Arrive 12.30
90	Barry Waterfront – Culverhouse Cross	1	7.28	19.05
	Culverhouse Cross – Barry Waterfront	1	7.38	19.40
96	Cardiff – Barry	2	8.08	23.07
	Barry - Cardiff	2	7.06	23.05
X91	Cardiff – Cardiff Airport	variable	8.20	18.25
	Cardiff Airport - Cardiff		7.30	19.53

Services X91 and 96 are operated by Cardiff Bus, service 86 by Caring Coaches and service 90 by Watts Coaches.

- 3.3.4 Bus stops are located near to both roundabouts. The walking distance from the centre of the proposed development to the bus stops is around 400 metres. This is less than the 600-1000 metres walking distance threshold regarded as a suitable measure of accessibility for rural areas and is comparable to the 300 -500 metres for urban areas:

TABLE 7.2 INDICATIVE CRITERIA FOR ACCEPTABLE WALKING DISTANCE
<i>Aspect of travel Time and (Distance)</i>
Walking to facilities (urban) 20 mins (1 - 1.5kms)
Walking to facilities (rural) 30 mins (2 - 3 kms)
Walking to bus stop (urban) 5 mins (300-500 metres)
Walking to bus stop (rural) 10 mins (600-1000 metres)
Walking to railway station 10 mins (600-1000 metres)
<i>(Application of Accessibility Methodology to Land-Use Planning National Assembly for Wales/ Steer Davies Gleaves 2001)</i>

4 Proposed Residential Development

4.1 Development

- 4.1.1 Wenvoe is defined in the Deposit Local Plan as a Primary Settlement Area where new development will be permitted when it has no impact on the amenity and character of the locality by way of noise, traffic congestion and parking.
- 4.1.2 The proposed development site comprises 6.42 hectares (15.86 acres) and is bounded on the east by Route A4050 (Port Road). There will be around 150 houses with a mix of private and affordable homes.
- 4.1.3 The final layout of the development has yet to be prepared and will be fully discussed and agreed with the Vale of Glamorgan.

4.2 Access

- 4.2.1 This will be via a T-junction constructed on Port Road and located approximately halfway between the two roundabouts. Vehicular movements will be restricted to left-in and left-out. A key feature will be a central island in Port Road which will prevent potentially hazardous right turning movements taking place. The access road serving the proposed development will be a single carriageway highway and will be lit with footways on both sides.
- 4.2.2 The road layout will ensure that refuse vehicles can service all properties.

4.3 Pedestrians

- 4.3.1 Two public rights-of-way cross the site and these will be retained and integrated within the development as agreed with the Vale of Glamorgan:

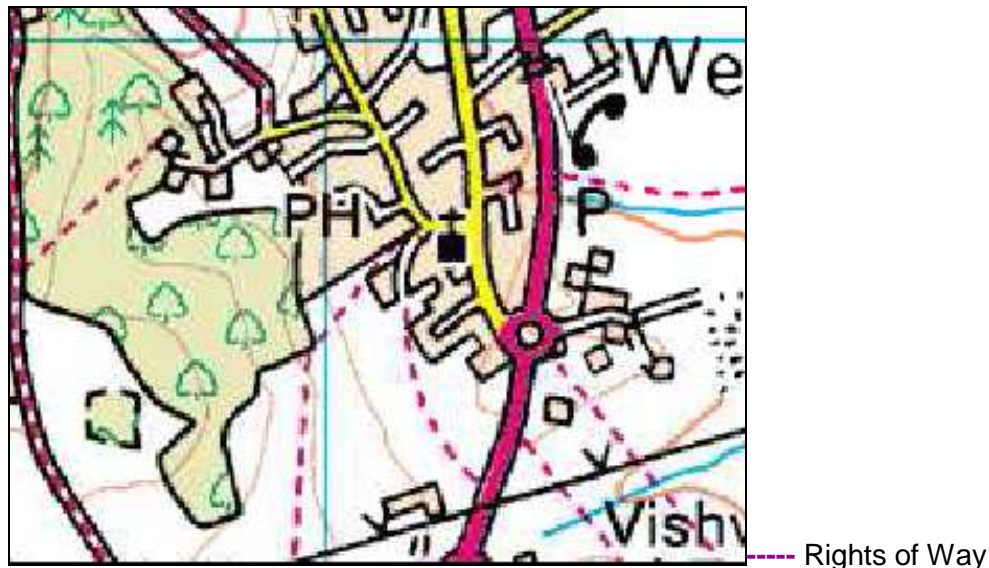


Fig 4.1 Rights of Way

- 4.3.2 Pedestrian accesses will link Port Road and Clos Llanfair. Footways are on both sides of Port Road for access to bus stops. There are footways also in Clos Llanfair.

4.4 Cycling

- 4.4.1 Cycle accesses will be from Port Road and Clos Llanfair and cycle parking facilities will be provided in all dwellings.

4.5 Car Parking

- 4.5.1 Provision of car parking will be in line with the Wales Parking Standards 2008 which have been adopted by the Vale of Glamorgan. The standards define a number of different development zones and the proposed development site will be in the following category:

Zone 4 (Suburban or Near Urban)

Zone 4 encompasses the outer edges of the largest towns; suburban locations in towns; the whole of smaller settlements offering a range of local facilities. There is an at least hourly bus service to the town centre and there may also be a railway station in the town. Local facilities include a local centre within 400m walking distance.

Some other basic amenities such as a doctor's surgery are also available within the same walking distance

A residential development constructed within Zones 2 – 6 is defined as requiring:

Type of Development	Residents	Visitors
Houses	1 (max 3 spaces)	1 per 5 units

Single garages will have internal dimensions of 6 x 3m and driveways will be at least 6m long with a minimum width of 3.6m. The total number of spaces required for the proposed development and location of visitor parking will be agreed with the Vale of Glamorgan.

5 Travel Demand

5.1 Generated trips

5.1.1 Vehicular trips that will be generated by the proposed residential development have been determined by interrogating TRICS (2012a v 6.9.2) a national database of surveyed development sites (Appendix E). This shows that the trip rates for the mixed residential development will be:

	Private			Affordable		
	in	out	combined	in	out	combined
AM peak hr	0.152	0.425	0.577	0.101	0.198	0.299
PM peak hr	0.395	0.231	0.636	0.228	0.146	0.374

5.1.2 For the purpose of this TA it has been assumed that 30% of the development will be affordable homes:

- Affordable - 45 homes
- Private - 105 houses

5.1.3 Vehicular trips generated by the proposed development will be:

	Private			Affordable			Total		
	in	out	combined	in	out	combined	in	out	combined
AM peak hr	16	45	63	5	9	14	21	54	75
PM peak hr	42	25	67	10	7	17	52	32	84

5.1.4 A sensitivity test has been carried out using 85% trip rates for private and affordable homes (Appendix E):

	Private			Affordable		
	in	out	combined	in	out	combined
AM peak hr	0.203	0.543	0.746	0.172	0.241	0.413
PM peak hr	0.463	0.296	0.759	0.429	0.314	0.743

5.1.5 The vehicle trips will be:

Table 5.4 Weekday Vehicle Trips for 85% trip rates									
	Private			Affordable			Total		
	in	out	combined	in	out	combined	in	out	combined
AM peak hr	21	57	78	8	11	19	29	68	97
PM peak hr	49	31	80	19	14	33	68	45	113

5.2 Trip Distribution

5.2.1 This will follow a similar pattern to north-south traffic on Port Road. The current flows on Port Road are:

Table 5.5 Port Road South of Morfa Lane Roundabout Weekday Peak Flows			
	southbound	northbound	combined
AM peak hr	1151	1502	2653
PM peak hr	1440	1131	2571

5.2.2 The average trips generated by the proposed development will be:

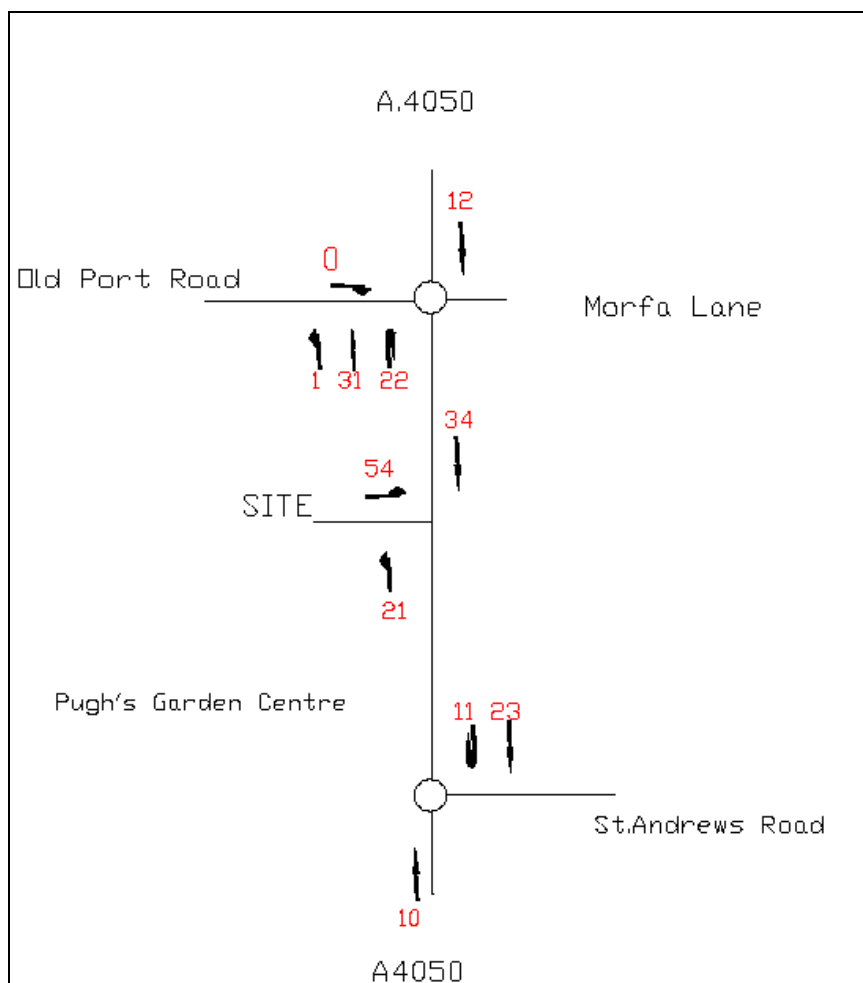


Fig 5.1 Development - average trip distribution AM peak hour

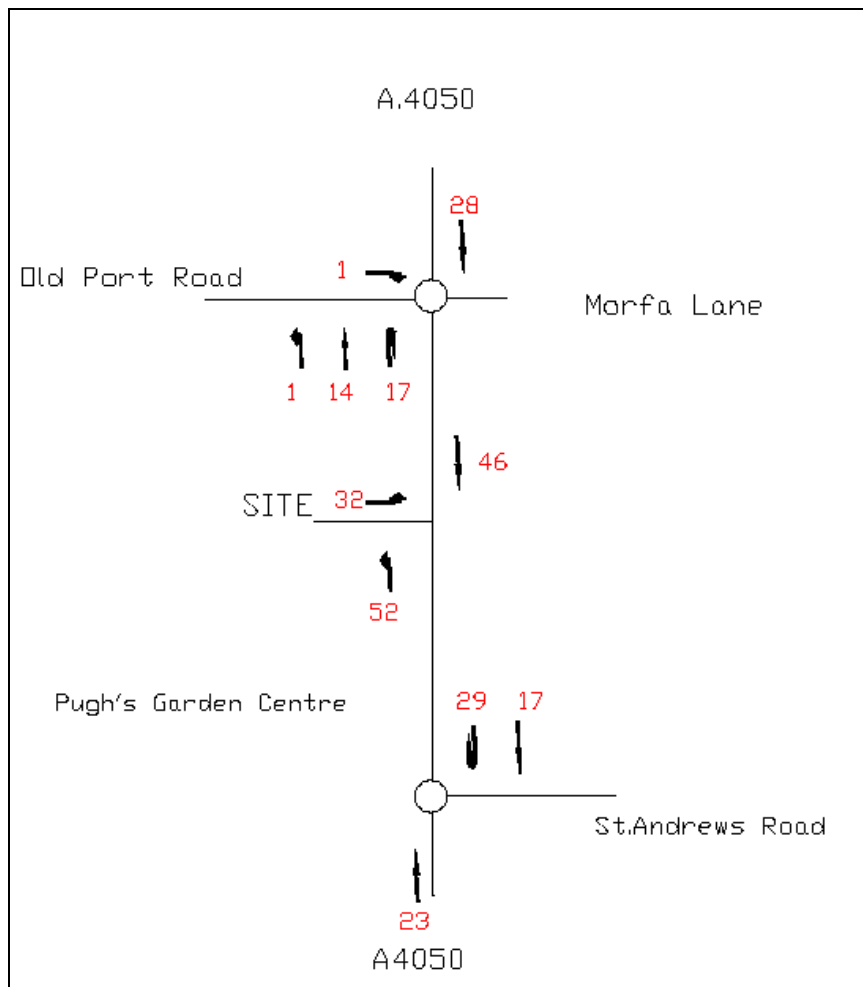


Fig 5.2 Development – average trip distribution PM peak hour

5.2.3 Trips generated by the proposed residential development will increase flows on Port Road by less than 5%. This is not significant and assumes that all trips generated by the proposed development will be designated as ‘new’:

	southbound			northbound			combined		
	Current flows	New flows	% change	Current flows	New flows	% change	Current flows	New flows	% change
AM peak hr	1151	34	+3.0%	1502	54	+3.7%	2653	88	+3.3%
PM peak hr	1440	46	+3.2%	1131	32	+2.8%	2571	78	+3.0%

5.2.4 The 85% trips generated by the proposed development will be:

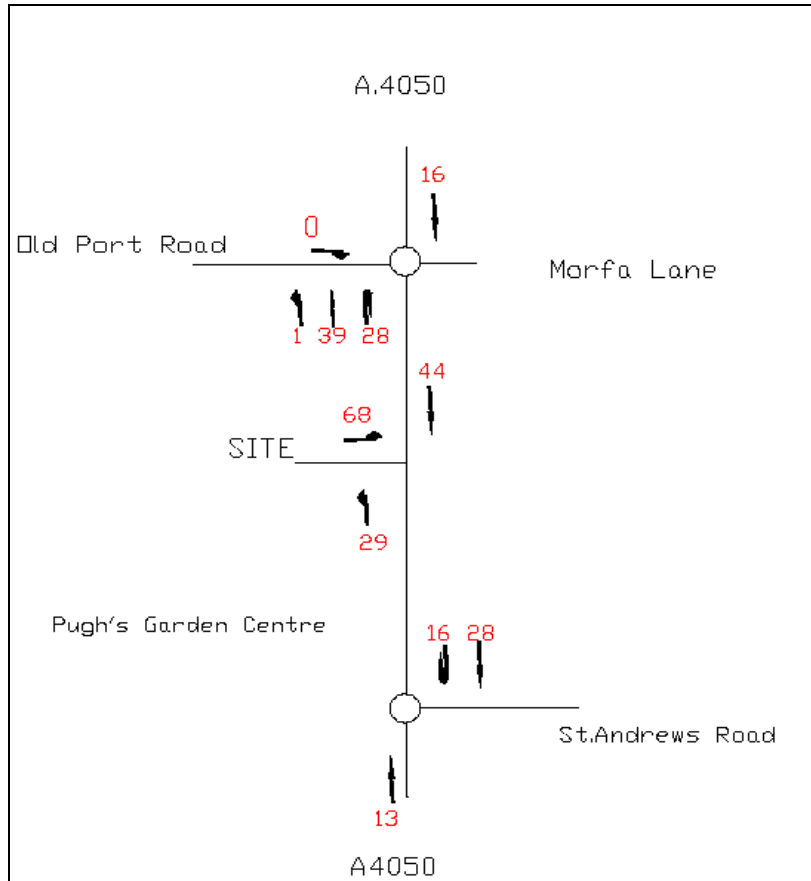


Fig 5.3 Development – 85% trip distribution AM peak hour

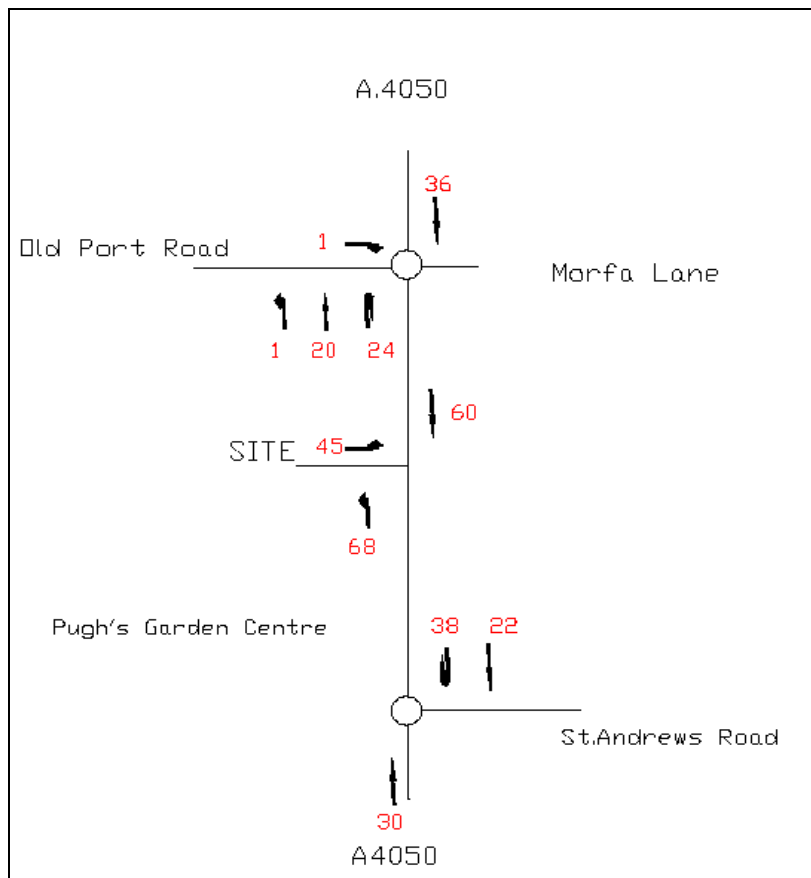


Fig 5.4 Development – 85% trip distribution PM peak hour

5.2.5 Even when considering the trips generated by the proposed residential development in the 'sensitivity' test, flows on Port Road will increase by less than 5%. Again this is not significant and as before assumes that all trips generated by the proposed development will be designated as 'new':

	southbound			northbound			combined		
	Current flows	New flows	% change	Current flows	New flows	% change	Current flows	New flows	% change
AM peak hr	1151	44	+3.8%	1502	68	+4.5%	2653	112	+4.2%
PM peak hr	1440	60	+4.2%	1131	45	+4.0%	2571	105	+4.1%

5.3 Multi-modal trips

5.3.1 To assess the full impact of the residential development on local transport facilities multi-modal trips have been identified from TRICS. The data includes public transport, pedestrian and cycle trips (Appendix A).

5.4 Buses

5.4.1 TRICS public transport data combines rail and bus trips but for the purpose of this TA it has been assumed that all public transport trips will be by bus. The trip rates are:

	Private			Affordable		
	in	out	combined	in	out	combined
AM peak hr	0.007	0.032	0.039	0.002	0.016	0.018
PM peak hr	0.019	0.006	0.025	0.010	0.010	0.020

5.4.2 Bus trips generated by the proposed development will be:

	Private			Affordable			Total Bus Trips		
	in	out	combined	in	out	combined	in	out	combined
AM peak hr	1	3	4	0	1	1	1	4	5
PM peak hr	2	1	3	0	0	0	2	1	3

Information on the patronage of the Port Road bus services is not available however there is likely to be sufficient capacity to cater for the anticipated increase in bus patronage.

5.5 Pedestrians

5.5.1 Pedestrian trip rates identified by TRICS are:

	Private			Affordable		
	in	out	combined	in	out	combined
AM peak hr	0.046	0.171	0.217	0.051	0.262	0.313
PM peak hr	0.136	0.072	0.208	0.203	0.102	0.305

5.5.2 Pedestrian trips generated by the proposed development will be:

	Private			Affordable					
	in	out	combined	in	out	combined	in	out	combined
AM peak	5	18	23	2	12	14	7	30	37
PM peak	14	8	22	9	5	14	23	13	36

5.6 Cycling

5.6.1 Cycle trip rates identified by TRICS are:

	Private			Affordable		
	in	out	combined	in	out	combined
AM peak	0.005	0.018	0.023	0.004	0.008	0.012
PM peak	0.016	0.012	0.028	0.012	0.018	0.030

5.6.2 Cycle trips generated by the proposed development will be:

	Private			Affordable					
	in	out	combined	in	out	combined	in	out	combined
AM peak	0	2	2	0	0	0	0	2	2
PM peak	2	1	3	0	1	1	2	2	4

6.2 Capacity Model

- 6.2.1 Observations at the Morfa Lane and St Andrews Road roundabouts indicate that currently there are no capacity problems. The impact of the proposed development on the roundabouts has been tested using the software package ARCADY which is a program accepted by the Highway Authority for predicting capacities, queues and delays at roundabouts. The junctions have been tested for a weekday morning and evening peak hour period for the base year of 2012 and the assessment year of 2015 (Appendix F).
- 6.2.2 Junction capacity is assessed using the Ratio of Flow to Capacity (RFC) which is calculated from turning movements and geometric data for the junction. A junction is generally considered to have reached capacity when the RFC is 0.85. Junctions will still be able to operate when the RFC is above this value but delays and queue-lengths will increase.
- 6.2.3 The geometrical parameters used in the ARCADY model were obtained from a topographical survey (February 2012) carried out at both roundabouts.
- 6.2.4 Tests for the base year enable the model to examine the geometric input and flow distribution to confirm that the interpretation of current conditions will be acceptable.

6.3 Design Assessment Year

- 6.3.1 The design assessment year adopted is 2015 when Redrow Homes (South Wales) consider that all house building will have been completed. The capacity tests include:
- Weekday AM peak hour
 - Weekday PM peak hour
- 6.3.2 The various scenarios to be assessed have been agreed as:
- 2012 base year
 - 2015 with no development
 - 2015 with development completed

Traffic flows for these scenarios are shown in Appendix G.

6.4 Growth Factors

- 6.4.1 Growth factors have been derived from TEMPRO (Version 6.2). The combination of car driver trip end growth for the National Transport Model (A), the TEMPRO growth factor for the Vale of Glamorgan (B) and the TEMPRO growth factor for Wales (C) provide the adjusted local peak period growth factor ($A \times B / C$):

Table 6.1 Adjusted local peak period growth factor	
AM peak	1.012
PM peak	1.013

The TEMPRO information is detailed in Appendix G.

6.4.2 These growth factors will apply to the current flows measured on the local highway network but not to the development traffic. The AM peak hour flows for Morfa Lane roundabout are:

	Port Road S	Old Port	Port Road N	Morfa Ln	Total
Port Road S	0	103	1399	0	1502
Old Port	41	0	8	0	49
Port Road N	1109	3	1	0	1113
Morfa Lane	1	0	2	0	3
Total	1151	106	1410	0	

	Port Road S	Old Port	Port Road N	Morfa Ln	Total
Port Road S	0	104	1417	0	1521
Old Port	42	0	8	0	50
Port Road N	1123	3	1	0	1127
Morfa Lane	1	0	2	0	3
Total	1166	107	1428	0	

	Port Road S	Old Port	Port Road N	Morfa Ln	Total
Port Road S	22	105	1448	0	1575
Old Port	42	0	8	0	50
Port Road N	1135	3	1	0	1139
Morfa Lane	1	0	2	0	3
Total	1200	108	1459	0	

	Port Road S	Old Port	Port Road N	Morfa Ln	Total
Port Road S	28	105	1455	0	1588
Old Port	42	0	8	0	50
Port Road N	1139	3	1	0	1143
Morfa Lane	1	0	2	0	3
Total	1210	108	1466	0	

6.4.3 The PM peak hour flows for Morfa Lane roundabout are:

	Port Road S	Old Port	Port Road N	Morfa Ln	Total
Port Road S	1	53	1077	0	1131
Old Port	56	0	6	0	62
Port Road N	1383	8	3	1	1395
Morfa Lane	0	0	0	0	0
Total	1440	61	1086	1	

	Port Road S	Old Port	Port Road N	Morfa Ln	Total
Port Road S	1	54	1091	0	1146
Old Port	57	0	6	0	63
Port Road N	1401	8	3	1	1413
Morfa Lane	0	0	0	0	0
Total	1459	62	1100	0	

	Port Road S	Old Port	Port Road N	Morfa Ln	Total
Port Road S	18	55	1105	0	1178
Old Port	58	0	6	0	64
Port Road N	1429	8	3	1	1441
Morfa Lane	0	0	0	0	0
Total	1507	63	1114	1	

Table 6.9 Morfa Lane Rbt PM peak 2015 with development 85% trip rates					
	Port Road S	Old Port	Port Road N	Morfa Ln	Total
Port Road S	25	55	1111	0	1191
Old Port	58	0	6	0	64
Port Road N	1437	8	3	1	1449
Morfa Lane	0	0	0	0	3
Total	1520	63	1120	1	

6.4.4 The AM peak hour flows for the St Andrews Road roundabout are:

Table 6.10 St Andrews Road roundabout AM peak hour 2012 with no development				
	Port Road S	Port Road N	St Andrews	Total
Port Road S	6	1484	18	1508
Port Road N	1055	1	32	1088
St Andrews	14	71	0	85
Total	1075	1556	50	

Table 6.11 St Andrews Road roundabout AM peak hour 2015 with no development				
	Port Road S	Port Road N	St Andrews	Total
Port Road S	6	1503	18	1525
Port Road N	1069	1	32	1102
St Andrews	14	72	0	86
Total	1089	1576	50	

Table 6.12 St Andrews Road roundabout AM peak hour 2015 with development average trip rates				
	Port Road S	Port Road N	St Andrews	Total
Port Road S	6	1513	18	1537
Port Road N	1092	13	32	1136
St Andrews	14	72	0	86
Total	1112	1598	50	

Table 6.13 St Andrews Road roundabout AM peak hour 2015 with development 85% trip rates				
	Port Road S	Port Road N	St Andrews	Total
Port Road S	6	1516	18	1540
Port Road N	1097	17	32	1146
St Andrews	14	72	0	86
Total	1117	1605	50	

6.4.5 The PM peak hour flows for St. Andrews Roundabout are:

Table 6.14 St Andrews Road roundabout PM peak hour 2012 with no development				
	Port Road S	Port Road N	St Andrews	Total
Port Road S	0	1075	24	1099
Port Road N	1388	0	66	1454
St Andrews	52	58	0	110
Total				

Table 6.15 St Andrews Road roundabout PM peak hour 2015 with no development				
	Port Road S	Port Road N	St Andrews	Total
Port Road S	0	1089	24	1113
Port Road N	1406	0	67	1473
St Andrews	53	59	0	112
Total	1459	1148	91	

	Port Road S	Port Road N	St Andrews	Total
Port Road S	0	1112	24	1136
Port Road N	1423	29	67	1519
St Andrews	53	59	0	112
Total	1476	1200	91	

	Port Road S	Port Road N	St Andrews	Total
Port Road S	0	1119	24	1143
Port Road N	1428	38	67	1533
St Andrews	53	59	0	112
Total	1481	1216	91	

6.5 Capacity Analysis

6.5.1 Morfa Lane

The ARCADY capacity analysis is detailed in Appendix E1 and summarised in the following tables:

	AM		PM	
	Max RFC	Max Q	Max RFC	Max Q
Port Road South	0.777	3.3	0.584	1.2
Old Port Road	0.093	0.1	0.084	0.1
Port Road North	0.556	1.2	0.694	2.2
Morfa Lane	0.011	0	0.008	0

	AM		PM	
	Max RFC	Max Q	Max RFC	Max Q
Port Road South	0.787	3.5	0.592	1.4
Old Port Road	0.095	0.1	0.087	0.1
Port Road North	0.567	1.3	0.704	2.3
Morfa Lane	0.011	0	0.008	0

Table 6.20 Morfa Lane 2015 with development average trip rate				
	AM		PM	
	Max RFC	Max Q	Max RFC	Max Q
Port Road South	0.815	4.1	0.608	1.5
Old Port Road	0.101	0.1	0.090	0.1
Port Road North	0.572	1.3	0.722	2.5
Morfa Lane	0.012	0.0	0.010	0.0

No static queues were observed during the traffic survey. There were some short periods of continuous lines of traffic on the Port Road South approach in the AM peak and on the Port Road North approach in the PM peak. The ARCADY base year provides a reasonable interpretation of the current situation.

Table 6.21 Morfa Lane 2015 with development 85% trip rate				
	AM		PM	
	Max RFC	Max Q	Max RFC	Max Q
Port Road South	0.821	4.3	0.615	1.6
Old Port Road	0.102	0.1	0.091	0.1
Port Road North	0.581	1.4	0.728	2.6
Morfa Lane	0.012	0.0	0.012	0.0

The capacity tests show that the proposed development will have no significant impact on vehicular delay and queuing at the Morfa Lane roundabout for both average and 85% trip rates.

6.5.2 St Andrews Road

The ARCADY capacity analysis is detailed in Appendix E2 and summarised in the following tables:

Table 6.22 St Andrews Road 2012 no development				
	AM		PM	
	Max RFC	Max Q	Max RFC	Max Q
Port Road South	0.7	2.3	0.508	1
Port Road North	0.526	1.1	0.704	2.4
St Andrews Road	0.103	0.1	0.182	0.2

Table 6.23 St Andrews Road 2015 no development				
	AM		PM	
	Max RFC	Max Q	Max RFC	Max Q
Port Road South	0.710	2.4	0.515	1.1
Port Road North	0.534	1.1	0.713	2.5
St Andrews Road	0.106	0.1	0.188	0.2

Table 6.24 St Andrews Road 2015 with development Average trip rates				
	AM		PM	
	Max RFC	Max Q	Max RFC	Max Q
Port Road South	0.717	2.5	0.531	1.1
Port Road North	0.549	1.2	0.735	2.7
St Andrews Road	0.109	0.1	0.199	0.2

Table 6.25 St Andrews Road 2015 with development 85% trip rates				
	AM		PM	
	Max RFC	Max Q	Max RFC	Max Q
Port Road South	0.721	2.6	0.536	1.2
Port Road North	0.555	1.2	0.742	2.8
St Andrews Road	0.110	0.1	0.201	0.2

The capacity tests for average trip rates and the sensitivity test (85%) show that the proposed development will have no significant impact on vehicular delay and queuing at the St Andrews Road roundabout.

7 Conclusion

- 7.1 The Vale of Glamorgan Deposit Local Plan identifies the land referred to in this TA as being suitable for the development of 150 houses. Wenvoe is defined as a Primary Settlement Area and new residential development will be allowed in these areas as long as it has no unacceptable impact on the amenity and character of the locality by way of noise, traffic congestion and parking. The TA demonstrates that the proposed development will not have an unacceptable impact on the area.
- 7.2 The site is located within walking distance of services and facilities available in Wenvoe including the church, the local shop and a school. The area is served by a number of bus services between Barry and Cardiff and stops are located within a short walking distance of the proposed development site
- 7.3 The Vale of Glamorgan has a long-term programme to construct a cycle facility on Port Road between Barry and Culverhouse Cross. The proposed development will provide land adjacent to Port Road for this cycleway if required together with cycle crossing facilities on the access road.
- 7.4 Dropped kerbs and tactile paving will be installed to provide appropriate crossing facilities on the access road for pedestrians, cyclists and the mobility impaired.
- 7.5 The access off Port Road will be restricted to left-in/left-out movements. As requested by the Highway Authority the impact of flows generated by the proposed development on the Morfa Lane and St Andrews Road roundabouts has been tested. This shows that the traffic associated with the development will not create adverse capacity issues at the roundabouts therefore highway improvements will not be required.
- 7.6 Parking facilities in accordance with the Wales Parking Standards 2008 and the Vale of Glamorgan advice will be provided for dwellings and visitors to the proposed development.
- 7.7 A Framework Travel Plan will be submitted with the planning application.
- 7.8 There will be no significant impact on the amenity and character of the locality and it can be concluded that there are no transport reasons why this residential development cannot proceed.