

Bridgend County Borough Council

7 Bays Project

Porthcawl Regeneration

Transport and Access Strategy

July 2007

Halcrow Group Limited

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1 Introduction

1.1 *Background*

1.1.1 Halcrow Group Limited, together with CDN Planning, was commissioned in 2006 by BCBC to prepare planning guidance comprising a revised development framework, land use guidance and design codes for Sandy Bay and the former harbour environment of Porthcawl. This area is identified in the Unitary Development Plan, and was the subject of Supplementary Planning Guidance (SPG) published in 2004.

1.1.2 The role and benefits of the Planning Guidance were set out in the 2004 SPG document and remain unchanged. Essentially, these are to:

- realise the potential of Porthcawl Waterfront, centre and environs, as a focus for residents, visitors, shoppers and workers (Porthcawl represents a major regional tourism asset);
- retain and reinforce the positive attributes of the area and enhance its attractiveness;
- provide a flexible, but guiding, framework for both public and private investment;
- establish planning guidance that will assist in establishing a consensus for change; and
- provide safe and easy movement of people and goods to and within the town by foot, cycle and motor vehicles, while minimising the environmental impact of vehicular movements.

1.1.3 The regeneration/development proposals now sit within a wider initiative known as the 7 Bays Project and are identified as the 7 Bays Project: Porthcawl Waterfront. The regeneration area is shown in Figure 1.1 with the current development proposals shown in Figure 1.2.

1.1.4 Subject to consultation it is expected that the Planning Guidance will be adopted as Supplementary Planning Guidance (SPG) and will be a material consideration in the assessment of future planning applications.

1.1.5 The proposed regeneration has the potential to confirm Porthcawl as a place in which people will want to live, invest, work and spend leisure time. A key aim is to ensure that development proposals, when submitted, are in accord with the guidance, promote sustainable patterns of development, and are of high quality.

1.1.6 In support of the development of the revised planning guidance Halcrow were also commissioned to prepare a Transport and Access Strategy for the project.

1.1.7 This document considers the transport impacts of the proposed development in accordance with a brief prepared in association with BCBC. It then proposes transport infrastructure, and strategies for Parking, Public Transport, Walking and Cycling, which will be essential to integrate the regeneration areas with the existing transport network of the town. A copy of the study brief is included as Appendix A

1.1.8

Full details of the Transport Assessment are reported in Chapter 2. Chapter 3 describes the proposed Parking Strategy, Chapter 5 the Public Transport Strategy and Chapter 6 the Walking & Cycling Strategy

2 Transport Assessment

2.1 Introduction

2.1.1 The brief, which is re-produced as Appendix A, defined the following elements to be considered in the Transport Assessment:

- traffic generation by component
- traffic generation for the site as a whole
- details of the likely mode split
- the potential for travel plans at individual and group level
- the most likely traffic distribution for morning and evening peak periods including the affects of seasonal variation
- the likely critical impact
- the application of appropriate traffic growth
- any further critical time periods for consideration

2.2 Traffic Generation by Component

2.2.1 The mix of development defined in the existing SPG formed the base for assessment of the potential highway conditions. This was expanded to include test scenarios with greater numbers of residential units than included in the SPG in order to understand what, in highway terms, might be the limiting residential capacity of the regeneration area. These are summarised in the Table 2.1.

Land Use	Size
Superstore	50,000 sqft
Retail	20,000 sqft
Residential	800/1200/1600 residential unit scenarios
Marina	400 berth
Library	Not known
Restaurant	Not known
Temporary Events Centre	Not known
School	Not known

2.2.2 To assess the trip generation of each component an analysis of data using a combination of the existing SPG figures and the TRICS 2006(b) database was undertaken. TRICS provides trip rates for a variety of land uses and enables the breakdown of surveys by very specific criteria. For the purposes of this assessment it was determined that the sites used should exclude surveys in the following locations:

- Suburban areas;
- Edge of town; and
- Neighbourhood centres.

2.2.3 The following locations were included in the assessment:

- Town centre; and
- Edge of town centre.

2.2.4 It was considered that by selecting the areas close to the town centre the results would reflect the location and trip profiles of the proposed development more closely than neighbourhood centres and suburban areas.

2.2.5 The 2004 TRICS database was used to provide data for each of the land uses identified in the SPG. These were individually reassessed using TRICS 2006(b) database with the higher predictions used in this assessment. The weekday AM and PM peak hour traffic generation predictions for each element are reported below.

Supermarket

2.2.6 Trip rates derived using TRICS 2006(b) are lower than those used in the original SPG. A ‘worst case’ approach was therefore adopted and the higher rate used thus giving confidence in the robustness of the assessment. The trip rates used are shown in Table 2.2 and full TRICS output data are provided in Appendix B.

Table 2.2: Supermarket Trip Rate taken from SPG				
	Trip Rate per 100 m²		Traffic from 50k ft² store	
	Arrivals	Departures	Arrivals	Departures
AM Peak (0800 – 0900)	4.35	2.45	242	137
PM Peak (1700 – 1800)	7.78	8.21	434	458

Residential

2.2.7 The original SPG proposed 800 dwellings for the development. For this TA Halcrow were asked to assess scenarios with 800, 1200 and 1600 dwellings. An initial assessment for the 1600 dwellings was undertaken to give an indication of the ability of the road network to operate with this level of development. If that number could be accommodated on the highway network then lower numbers of units would have a lesser impact. The analysis was not intended to be an indicator that a 1600 unit development should be progressed. Ultimately the scale of development would be determined having regard to a full range of other factors.

2.2.8 There are data for many different housing types within the TRICS database and it was necessary to agree a mix of housing for which to assess the traffic implications. The intention is to provide a mix of residential properties, include retirement homes, holiday properties, flats and town houses. Consequently separate trip rates were derived for each housing types. At this stage a final mix of housing types had not been defined so it was agreed that for assessment purposes the mix shown in Table 2.3 would be used.

Table 2.3: Residential Development Types	
Residential Type	Number of units
Private Flats	266
Retirement Flats	266
Holiday Flats	266
Town Houses	800

2.2.9 Data relating to traffic generation for flats is not extensive and indicates that they can be expected to be low. To ensure that the analysis was robust, trip rates using a greater number of Town Houses were used to balance any potential short fall.

2.2.10 For flats it was noted no data was available from the SPG for traffic generation for a weekend. TRICS 2006(b) does however contain data for weekend trip rates for the types of flats being considered for Porthcawl and it was therefore, considered appropriate to include the more complete data sets. The trip rates used are shown in Table 2.4 and full TRICS output data are provided in Appendix C.

Table 2.4: Trip Rates for Private Flats - TRICS 2006(b)				
	Trip Rate per household		Traffic from 266 flats	
	Arrivals	Departures	Arrivals	Departures
AM Peak (0800 – 0900)	0.05	0.19	13	51
PM Peak (1700 – 1800)	0.16	0.08	43	21

2.2.11 For retirement flats the trip rates used are shown in Table 2.5 and full TRICS output data are provided in Appendix D.

Table 2.5: Trip Rates for Retirement Flats –TRICS 2006(b)				
	Trip Rate per household		Traffic from 266 flats	
	Arrivals	Departures	Arrivals	Departures
AM Peak (0800 – 0900)	0.03	0.05	8	13
PM Peak (1700 – 1800)	0.06	0.04	16	11

2.2.12 For holiday flats the trip rates used are shown in Table 2.6 and full TRICS output data are provided in Appendix E.

Table 2.6: Trip Rates for Holiday Flats - TRICS 2006(b)					
		Trip Rate per household		Traffic from 266 flats	
		Arrivals	Departures	Arrivals	Departures
AM	Peak (0800 – 0900)	0.03	0.03	8	8
PM	Peak (1700 – 1800)	0.01	0.06	27	16

2.2.13

Town houses are likely to have the highest trip generation per household as typically they have a higher level of car ownership than the other types of households being considered. Given the limited job market in the town it is also to be expected that a high proportion of the occupants will work some distance from Porthcawl; therefore requiring the use of a private motor vehicle. To reflect the higher proportion of trips associated with this land use the Houses Privately Owned category within the TRICS database was used as it has a higher trip rate than the Mixed Private Housing category used in the SPG. For town houses the trip rates are shown in Table 2.7 and full TRICS output data are provided in Appendix F.

Table 2.7: Private Housing Trip Rate taken from TRICS 2006 (b)					
		Trip Rate per household		Traffic from 550 units	
		Arrivals	Departures	Arrivals	Departures
AM	Peak (0800 – 0900)	0.17	0.44	136	352
PM	Peak (1700 – 1800)	0.46	0.25	368	200

2.2.14

From the residential analysis it was apparent that there is a characteristic of peak spread across the periods 0700 – 0900 and 1700 – 2000. This is symptomatic of the length of journey undertaken with those employed in Cardiff and Swansea tending to leave for work in advance of those employed more locally. Whilst the peak periods are the traditional 0800 – 0900 and 1700 – 1800 the profile is much shallower than would normally be expected. This has been supported by the 2006 count data obtained for the study and in discussions with BCBC officers.

Marina

2.2.15

Trip generation for the proposed 400 berth marina was assessed using the figures previously used in the SPG. Those rates were taken from the TRICS database of 2004 and are shown in Table 2.8. They are higher than are suggested by the TRICS 2006 database where more sites have been added. The TRICS 2006 output is re-produced as Appendix G for comparison.

Table 2.8: Marina Rate taken from SPG					
		Trip Rate per berth		Traffic for 400 berths	
		Arrivals	Departures	Arrivals	Departures
AM	Peak (0800 – 0900)	0.03	0.02	12	8
PM	Peak (1700 – 1800)	0.04	0.04	16	16

2.2.16 Table 2.8 shows that peak hour traffic generation for a 400 berth marina is relatively low and this is a characteristic of marina operation. Typically boat users are able to travel outside traditional peak hours and also may leave their car in port for a number of days. Therefore the parking accumulation for an operational marina may be a more significant factor than the traffic generation.

2.2.17 Subsequent to the analysis proposals for the marina were revised to refurbishment and upgrade of the existing harbour. Retention of the traffic assessed as likely from the Marina proposal will realise a more robust analysis of the impact of the regeneration proposals, therefore that has been retained.

Library

2.2.18 A library is proposed for inclusion as part of the development proposals. However, council officers agree that it would not generate additional traffic and therefore it is not considered in the assessment of highway conditions.

Restaurant

2.2.19 Restaurant facilities are to be included within the development but are ancillary and complimentary to the residential use. Restaurant trips are intrinsically linked with those of the residential development and that any additional generation in the peak periods will be minimal.

Leisure

2.2.20 As part of the regeneration the site the funfair will be redeveloped. However an area may be reserved where travelling fairs and other similar attractions can be placed. The traffic generation for these areas is not included as part of the transport assessment as council officers do not wish to design the highway network to cater for the maximum traffic impact that might be expected during specific events or periods such as a Bank Holiday. To do so would lead to an overprovision of facilities disproportionate to the requirements of the area during most of the year. Traffic generation for a Temporary Events Centre has not therefore been included in the assessment.

2.3 *Traffic Generation for Development*

2.3.1 To estimate likely traffic generation for the whole development a series of spreadsheets were produced to enable the different aspects of the development to be added together. In this section the different stages and justification for each stage is explained.

2.3.2 Traffic count data was provided by BCBC for the following junctions:

- The Portway / Eastern Promenade priority junction
- A4229 / A4106 roundabout
- Eastern Promenade / Link Road to Portway R'bout
- Northways / Eastern Avenue
- New Road / Bridgend Road
- A4106 / Tyn-Y-Caeau Lane Roundabout
- A48 / A4106 Roundabout
- A4229 / Heol-Y-Splot
- B4283 / A4229 Roundabout
- A4229 / M4 Junction 36 Roundabout

2.3.3 In addition some Automatic Traffic Count (ATC) data was provided for various sites across Porthcawl and the surrounding area.

2.3.4 The traffic flow diagram, Figure 2.1, shows the base data derived from the counts.

2.3.5 Traffic growth factors derived from TEMPRO database were applied to the base data to give estimates of likely traffic flows in the future years, 2008 and 2018. These are shown on Figures 2.2 and 2.3 respectively, and are the assumed opening and future years used for testing. It was agreed that a low growth rate would be appropriate as the proposals represent the vast majority of the likely future development for the area until 2018. Indeed, use of any growth rates in this situation will give a robust assessment of potential future traffic flows.

2.3.6 The growth rates used are shown in Table 2.9.

Table 2.9: Growth Rate for Traffic Data	
Year	Growth Rate
2006 – 2008	1.023
2006 – 2018	1.140

2.3.7 At present Porthcawl does not have a large food store in an easily accessible location and consequently it is to be expected that the proposed superstore will have a significant impact on the traffic generation for the area. Part of this impact will be a reduction in the numbers of trips made to retail stores outside the town to fulfil the demand for these facilities.

2.3.8 The retail capacity of Porthcawl has been the subject of previous investigations including those reported in the 1998 by CCRE (formerly Colliers Erdman Lewis). That report indicated that of the total potential convenience goods shopping in Porthcawl, based on expenditure only, 30% remained within Porthcawl. As a means of assessing the number of trips leaving Porthcawl to shop, this expenditure value provides a good proxy against which to determine trips. Therefore it has been assumed that the expenditure is linked with the number of trips so that where 30% of expenditure remains within Porthcawl, so will 30% of the trips. This means that 70% of all trips from Porthcawl for convenience goods were undertaken to destinations elsewhere within BCBC.

2.3.9 It is intended that regeneration of Porthcawl will provide the town with a more competitive retail offer and thus reduce the trips leaving Porthcawl. It is recognised that not all shoppers will wish to shop at the new store and therefore for the purpose of this assessment it has been assumed that 70% of total trips will remain in Porthcawl with 30% continuing to travel elsewhere.

2.3.10 To reflect this shift it was necessary to identify those trips associated with convenience shopping for all of Porthcawl and quantify them. To do this data derived for supermarket developments was used to give an overall estimate of trip numbers for a 50,000 ft² store as shown in Table 2.2.

2.3.11 The estimate was then combined with a gravity model of Porthcawl without the development in place. To reflect that 70% of trips were currently leaving Porthcawl boundary, only 70% of the 50,000 ft² store traffic generation was used. The percentage split of retail by origin/destination from wards in Porthcawl is shown in Table 2.10 with more detail in Appendix H.

Table 2.10: Percentage Supermarket attraction by area taken from Gravity Model	
Ward	Percentage
Nottage	19
Rest Bay	12
Porthcawl West	28
Porthcawl East	27
Newton	10
Cornelly	3

2.3.12 This enables the traffic from each ward that currently leaves Porthcawl for convenience goods shopping to be calculated. The use of specific stores is related to the CCRE report whereby they identified those stores receiving the greatest amount of convenience shopping from the Porthcawl area. Figure 2.4 shows the superstore trips that can be removed from the network.

2.3.13 The basic assumptions for distribution of these trips through the network were that Co-op and Sainsbury would be accessed via Cornelly with Tesco traffic utilising the A4106, Bridgend Road. The Porthcawl West traffic was assumed to be split 50/50 between Lias Road and South Road and was derived from site observations. The breakdown of supermarket trips by origin and destination can be seen in Appendix I. Figure 2.5 shows base flows with convenience shopping trips to the existing Co-op, Sainsbury and Tesco stores removed.

2.3.14 Altering the layout of the Portway Road/Lias Road roundabout from a 6 to 4 arm junction will also lead to a re-distribution of traffic flows that can be seen in Figure 2.6. These were then added to the base flows from 2006 and are shown in figure 2.7.

2.3.15 The flows for a 50,000 ft² superstore, were then added to the network. This used a gravity model, which assumed the new development to be in place, to create a trip profile. The gravity model is shown in Appendix J. The trips

were assigned to the network by origin/destination and are shown in Figure 2.8.

2.3.16 For residential flows a journey to work (JTW) analysis was undertaken using the existing origin/destination for the Porthcawl East and West wards. As these two wards are in a similar location to the proposed development, close to the town centre, this offers an appropriate proxy against which to assign traffic. An explanation of the methodology and results are contained within Appendix K.

2.3.17 From the JTW analysis an origin/destination matrix was derived for trips between wards within Porthcawl and also for trips outside the town. This analysis is detailed in Appendix K. This traffic was assigned to the network according to this matrix and is shown in figure 2.9.

2.3.18 For marina traffic, whilst a number of trips may come from within Porthcawl, the best way of representing them on the network was to include them as traffic coming from outside of Porthcawl. In this way there would be a more robust assessment of likely highway impacts than if the traffic were to be split over all of Porthcawl. The results of this trip distribution can be seen in Figure 2.10.

2.3.19 The superstore, residential and marina flows were subsequently added to the base traffic flows and are shown in Figure 2.11. The development traffic flows were also added to the 2008 and 2018 scenarios and are shown in Figures 2.12 and 2.13 respectively.

2.4 Mode Split

2.4.1 An analysis of journeys made by existing residents of Porthcawl East and West wards provides an insight into their existing choice of travel mode. The results of the analysis can be seen in Appendix K. A summary of the existing mode split is shown in Table 2.11.

Table 2.11: Journey to Work Mode Split		
Mode	Number by Mode	Percentage by Mode
Car Driver	1382	66
Car Passenger	167	8
Bus	86	4
Cycle	0	0
Taxi	18	1
Pedestrian	409	19
Motorcycle	24	1
Other	21	1

Source: 2001 census data for Porthcawl East & West Wards

2.4.2 Analysis of the census data shows that Porthcawl has 19% of residents in the central wards travelling to work by foot, whilst 66% use a private motor vehicle. This indicates that Porthcawl already has significant levels of travel by modes other than private motor vehicles. The aim of the public transport strategy that is detailed in Chapter 5 will be to identify ways of ensuring that

residents of the proposed development have even greater opportunities for sustainable travel.

- 2.4.3 It was agreed with Council officers that trip rate reductions for mode share would not be used in this analysis. This ensures that the analysis is robust, and represents a ‘worst case’ assessment. It also compensates for any underestimation that may have occurred due to uncertainty over the potential housing development mix.

2.5 Traffic Impact

- 2.5.1 To assess the impact of the proposed development on the surrounding highway network, junction modelling was undertaken using Arcady, Picady and LINSIG traffic engineering programs. The detailed results of the analyses are provided in Appendix L. To graphically represent the effect of the development on the highway network, a VISSIM micro- simulation model was also developed. The latter is described in detail in Appendix M.

- 2.5.2 This junction modelling was carried out by first undertaking an assessment of the existing situation at the site using the count data collected by the Council in September 2006. It was agreed with BCBC that the following junctions would be assessed:

- Eastern Promenade P1
- Portway Roundabout P2
- A4106 Roundabout P3
- Griffin Park Junction P4
- New Road Roundabout P5
- New Road Junction P6
- Newton Nottage Road Roundabout P7

- 2.5.3 In addition to the junctions above it was requested that a percentage impact on the M4 junction 37 be calculated to determine whether there was a greater than 10% impact on completion of the development. The methodology and results of this additional assessment are detailed in section 2.9.

2.6 Existing Junction Operation

- 2.6.1 This section details the existing conditions of the highway network and provides the results of the modelling of the existing junctions.

- 2.6.2 The highway network in Porthcawl does not generally experience congestion and traffic is free flowing. There are however, a limited number of times during the year when flow into the town result in congestion, typically on Bank Holidays and weekends during the summer months. This is primarily associated with the attraction of the fairground and the beaches at Rest Bay, Sandy Bay and Trecco Bay.

- 2.6.3 As previously indicated, Halcrow were not required to identify measures to accommodate the peak demand which only occurs on a few days each year as providing for these would not represent a wise investment of public funds. Consequently the assessment focussed on mitigation of the impact of the regeneration proposals on a typical day of the year, to reflect the way Porthcawl operates for the majority of time.

2.6.4 The junctions were assessed for their existing operational performance so that the existing conditions could be better understood. The results for each assessment are given in section 2.7. The junction reference numbers that identify their locations are shown on the traffic flow diagrams.

2.7 Existing Junction Assessment

2.7.1 The results of the existing junction assessments are shown in Tables 2.12 – 2.18.

Table 2.12: P1 - Eastern Promenade/Portway						
Arm	AM			PM		
	Queue	RFC	Delay	Queue	RFC	Delay
Eastern Promenade Left Turn	0	0.035	0.5	0.1	0.066	1.0
Eastern promenade Right Turn	0	0.0	0	0	0.023	0.3
Esplanade Right Turn	0	0.031	0.5	0.1	0.058	0.9

Table 2.13: P2 - A4106 Portway/Lias Road						
Arm	AM			PM		
	Queue	RFC	Delay	Queue	RFC	Delay
Eastern Promenade	0.2	0.183	0.05	0.2	0.194	0.05
Car Park	0	0	0	0	0	0
Portway South	0.3	0.203	0.05	0.3	0.204	0.05
Doctors Car Park	0.1	0.052	0.05	0	0.041	0.05
Lias Road	0.3	0.227	0.05	0.3	0.249	0.06
A4106 Portway	0.3	0.257	0.03	0.3	0.206	0.03

Table 2.14: P3 - A4106/A4229						
Arm	AM			PM		
	Queue	RFC	Delay	Queue	RFC	Delay
A4106 Newton Nottage Road East	0.7	0.415	0.06	0.8	0.445	0.07
A4106 Portway	0.3	0.249	0.04	0.3	0.249	0.03
Newton Nottage Road West	1.2	0.543	0.08	0.4	0.308	0.06
A4229 Pyle Road	1.1	0.516	0.08	1.4	0.595	0.08

Table 2.15: P4 - The Eastern Promenade/Portway Link						
Arm	AM			PM		
	Queue	RFC	Delay	Queue	RFC	Delay
Eastern Promenade North	0	0.08	0.11	0	0.031	0.11
Eastern Promenade South	0	0.042	0.11	0.1	0.090	0.13
Portway Link	0	0.035	0.09	0	0.039	0.10

Table 2.16: P5 - Eastern Promenade/New Road						
Arm	AM			PM		
	Queue	RFC	Delay	Queue	RFC	Delay
New Road	0.1	0.101	0.04	0.1	0.099	0.04
Eastern Avenue Newton	0.1	0.128	0.05	0.2	0.132	0.05
Eastern Promenade	0.2	0.142	0.04	0.3	0.202	0.04

Table 2.17: P6 - New Road/Aldenhams Road						
Arm	AM			PM		
	Queue	RFC	Delay	Queue	RFC	Delay
New Road West	0.2	0.133	0.06	0.2	0.139	0.06
Aldenhams Road	0.2	0.141	0.08	0.2	0.186	0.08
New Road East	0.4	0.311	0.11	0.4	0.308	0.11

Table 2.18: P7 - New Road/Bridgend Road roundabout						
Arm	AM			PM		
	Queue	RFC	Delay	Queue	RFC	Delay
A4106 West	0.7	0.412	0.06	0.4	0.27	0.06
Tyn-Y-Caeau Lane	0	0.020	0.14	0	0.014	0.14
A4106 Bridgend Road East	0.5	0.328	0.06	0.9	0.465	0.06
Bridgend Road South	0.6	0.378	0.06	0.2	0.189	0.06

2.7.2 As expected the assessment shows that all the junctions currently operate with ample reserve capacity.

2.8 Future Year Junction Assessment

2.8.1 It was agreed that the initial assessment of future year operation should consider the impact of the scenario including 1600 residential units. Thus if

the junctions would operate effectively the number of houses included could be reduced sequentially until such time as they were to operate within capacity.

2.8.2 The regeneration proposals envisage alterations to the road network to the extent that some junctions would be removed and new ones added. The section of The Portway south of Lias Road will be extinguished as a through route and all traffic will be diverted to the Eastern Promenade, which will become the primary access to the Esplanade and Rest Bay. Consequently, the existing roundabout (P1) will be reduced from 6 arms to 4 arms and considerably reduced in size, whilst providing a gateway to the town. That junction is referenced N1 in subsequent analysis.

2.8.3 In addition, a new junction is proposed on Eastern Promenade near Griffin Park to access the eastern development area. It is referenced N3 in the analysis.

2.8.4 The future year assessment for 2018 has been undertaken for 1600 dwellings, split by type as show, in Table 2.3. The traffic flows used in the assessment are shown in Figure 2.13. The results of the 2018 assessments are shown in Tables 2.19 – 2.23.

Table 2.19: N1 – Portway New Junction, 2018 with Development

Arm	AM			PM		
	Queue	RFC	Delay	Queue	RFC	Delay
Portway	2.0	0.672	0.15	2.0	0.669	0.16
Eastern Promenade Link	1.6	0.622	0.14	1.7	0.635	0.14
Development Link	0.5	0.323	0.09	1.2	0.541	0.12
Lias Road	0.4	0.272	0.08	0.4	0.266	0.09

Table 2.20: N3 – Eastern Promenade Roundabout, 2018 with Development

Arm	AM			PM		
	Queue	RFC	Delay	Queue	RFC	Delay
Eastern Promenade North	0.4	0.307	0.07	0.7	0.414	0.09
Development Site Access	0.3	0.232	0.08	0.2	0.165	0.07
Eastern Promenade South	0.7	0.413	0.09	0.9	0.487	0.11
Portway Link	0.8	0.447	0.08	2.1	0.682	0.15

Table 2.21: P3 - A4106/A4229, 2018 with Development						
	AM			PM		
Arm	Queue	RFC	Delay	Queue	RFC	Delay
A4106 Newton Nottage Road East	1.0	0.499	0.09	1.2	0.538	0.1
A4106 Portway	0.7	0.415	0.05	0.5	0.354	0.04
Newton Nottage Road West	2.3	0.702	0.18	0.6	0.357	0.07
A4229 Pyle Road	2.0	0.670	0.15	2.2	0.689	0.14

Table 2.22: P5 - Eastern Promenade/New Road roundabout, 2018 with Development						
	AM			PM		
Arm	Queue	RFC	Delay	Queue	RFC	Delay
New Road	0.2	0.162	0.04	0.2	0.163	0.04
Eastern Avenue Newton	0.2	0.165	0.05	0.2	0.178	0.05
Eastern Promenade	0.2	0.191	0.04	0.5	0.319	0.05

Table 2.23: P7 – A4106/Bridgend Road roundabout, 2018 with Development						
	AM			PM		
Arm	Queue	RFC	Delay	Queue	RFC	Delay
A4106 West	1.2	0.539	0.09	0.4	0.294	0.05
Tyn-Y-Caeau Lane	0	0.027	0.21	0.0	0.017	0.12
A4106 East	0.6	0.394	0.07	1.3	0.558	0.10
Bridgend Road	0.8	0.451	0.08	0.3	0.221	0.06

2.8.5 The results show that the junctions will operate within capacity in 2018 with the proposed development in place.

2.8.6 The design and layout of the proposed roundabouts N1 and N3 were prepared in conjunction with the development of the Future Year VISSIM model that is detailed in Chapter 3. Preliminary layouts of the junctions are shown in Figures 3.4 and 3.5.

2.9 Additional Key Junctions

2.9.1 In addition to the junctions within Porthcawl that were assessed and reported above, Council officers requested that two further key junctions, A48/A4106 junction and M4 Junction 37, should also be considered in the TA.

2.9.2 In order to undertake this assessment a percentage impact, by arm, on each junction was calculated using the existing count data and the proposed

development flows. Vehicle turning proportions were derived from the existing count data and it was assumed that all flows on the A4106 Bridgend Road would use the A48/A4106 junction and that all flows on the A4229 Pyle Road would go through M4 Junction 37. The percentage impact by arm for both junctions is shown in table 2.24 and 2.25 below:

Table 2.24: Percentage impact by arm A48/A4106				
	Arm	2006 Flow	Development Flow	% Impact
AM Peak	A48 East	867	50	13
	A4106 Bridgend Road	573	152	27
	A48 West	702	0	0
PM Peak	A48 East	1123	127	11
	A4106 Bridgend Road	329	86	26
	A48 West	624	0	0

Table 2.25: Percentage impact by arm M4 Junction 37				
	Arm	2006 Flow	Development Flow	% Impact
AM Peak	A4229 North	770	16	2
	M4 East	448	20	4
	A4229 South	921	127	14
	M4 West	550	10	2
PM Peak	A4229 North	764	31	4
	M4 East	794	58	7
	A4229 South	557	77	14
	M4 West	644	26	4

2.9.3 It is predicted that there will be an impact in excess of 10% on some approaches to these junctions as a result of the proposed regeneration of Porthcawl. Importantly the assumptions used in the analysis make this a particularly robust analysis as growth was added to base flows even though the development itself will comprise the greater part of the predicted growth for the town during the assessment period. In addition no reduction was made for the use of modes other than the private motor vehicle, nor was any account taken of peak spreading.

2.9.4 For the A48/A4106 junction the main impact of the development is on the A4106 and the A48 east arm. To assess the future operation of the junction two scenarios have been tested using the 2018 traffic flows both with and without the development traffic added.

2.9.5 The 2018 traffic flows were derived from September 2006 count data with NRTF Low Growth applied. The junction was assessed both with and without the development and the results are shown in Tables 2.26 and 2.27.

Table 2.26: P8 – A48/A4106 2018 Base						
	AM			PM		
Arm	Queue	RFC	Delay	Queue	RFC	Delay
A48 East	0.6	0.375	0.04	0.8	0.459	0.04
A4106 Bridgend Road	1.5	0.610	0.12	0.4	0.293	0.07
A48 West	0.7	0.415	0.06	0.5	0.322	0.04

Table 2.27: P8 – A48/A4106 2018 with Development						
	AM			PM		
Arm	Queue	RFC	Delay	Queue	RFC	Delay
A48 East	1.0	0.511	0.05	0.5	0.354	0.03
A4106 Bridgend Road	0.6	0.369	0.08	0.9	0.482	0.09
A48 West	0.5	0.331	0.04	0.6	0.393	0.05

2.9.6 The results show that the proposed development will have little impact on the operation of the A48/A4106 junction in 2018 and that the junction will not require upgrade.

2.9.7 For M4 Junction 37, three scenarios have been assessed to determine the impact the proposed development has on the operation of the junction. Initially its operation with 2006 counted Flows was assessed, and then its operation with those flows factored to 2018 both with and without the development was considered. The results of the assessments are shown in tables 2.28 – 2.30.

Table 2.28: P11 – M4 Junction 37 - 2006 Existing Flows						
	AM			PM		
Arm	Queue	RFC	Delay	Queue	RFC	Delay
A4229 North	0.6	0.359	0.04	0.5	0.353	0.04
M4 East	0.3	0.225	0.04	0.9	0.479	0.06
A4229 South	0.6	0.389	0.04	0.4	0.263	0.04
M4 West	0.5	0.324	0.05	0.6	0.360	0.05

Table 2.29: P11 – M4 Junction 37 2018 without Development						
	AM			PM		
Arm	Queue	RFC	Delay	Queue	RFC	Delay
A4229 North	0.7	0.429	0.05	0.7	0.422	0.05
M4 East	0.4	0.271	0.04	1.5	0.601	0.09
A4229 South	0.8	0.459	0.04	0.5	0.317	0.04
M4 West	0.7	0.401	0.06	0.8	0.439	0.06

Table 2.30 P11 – M4 Junction 37 2018 with Development						
	AM			PM		
Arm	Queue	RFC	Delay	Queue	RFC	Delay
A4229 North	0.8	0.453	0.05	0.8	0.455	0.05
M4 East	0.4	0.286	0.04	2.0	0.671	0.12
A4229 South	1.0	0.509	0.05	0.5	0.355	0.04
M4 West	0.8	0.431	0.07	0.9	0.475	0.06

2.9.8 The results show that the junction will operate satisfactorily in its current form in 2018 with the development in place.

2.10 Junction Assessments – Conclusion

2.10.1 The analysis shows that the existing and proposed junctions could all operate satisfactorily with 1600 dwellings in the development mix indicated in table 2.3. However, the assessment is not an indication that the development should progress with 1600 dwellings. Whilst it might be considered a maximum quantum of development other considerations may determine the desirable level and mix to form the catalyst for regeneration of the town without adversely affecting its inherent character.

2.11 VISSIM Micro-Simulation Model

2.11.1 VISSIM is a microscopic, real-time and behaviour-based simulation model that has been developed to model urban traffic and public transport operations under a variety of network configurations. Differing lane arrangements and traffic signal timings can be input, which enables the software to simulate real life urban traffic systems and test discrete alterations to these systems. VISSIM is therefore a useful tool in the evaluation of highway-based measures, particularly in congested networks where modelling the interaction between junctions is crucial.

2.11.2 The model is a highly technical tool and a full report of its development to assess the existing and predicted traffic conditions in Porthcawl is included in Appendix M

2.11.3 The AM and PM peak period validated VISSIM base models for Porthcawl both meet, or exceed, the criteria for DMRB validity and good practice guidelines. They are therefore able to offer a realistic reproduction of traffic conditions within the town centre for the peak periods on a weekday.

2.11.4 The models will be useful as a tool to assist in the re-generation of Porthcawl. It is intended that developers will be encouraged to utilise the models to predict the effects of their proposals and to assist in the development and testing of changes that are likely to be required to critical junctions on the network.

2.11.5 The future year models developed to demonstrate the effects of the development traffic indicate that the scheme proposed with removal of the southern section of Portway and the construction of new roundabouts (N1 & N3) will operate efficiently with the currently anticipated level of development in Porthcawl. This scheme will not cause significant capacity issues on any part of the network.

- 2.11.6 The proposal to operate both those junctions under traffic signal control would result in significant capacity problems and a large increase in delay for vehicles on the network. As a consequence it is not recommended that this scheme is adopted.
- 2.11.7 The combination of a roundabout at Lias Road/Portway (N1) and traffic signals at Griffin Park (N3) offers a useful alternative to take forward to public consultation. This may be attractive to residents as it would allow greater control of traffic at Griffin Park with the facility to discourage use of New Road by through traffic.
- 2.11.8 The two sets of junction options are illustrated in Figures 2.14 & 2.15

3 Parking Strategy

PART A – REGENERATION SCHEME

3.1 *Introduction*

3.1.1 The availability and ease of parking plays a major role in our travel choices and how frequently we use our cars. By using them more frequently and often for journeys where it would be more appropriate to walk, cycle or use public transport, there are major consequences for the road network in respect to congestion, safety, and economic and environmental sustainability. Parking and its availability is a key factor affecting these travel choices.

3.1.2 In this Part A, a parking strategy is developed for the Porthcawl Regeneration Area. The following elements are covered:

- Policy Review
- Review of Existing Facilities
- Assessment of the effect of the development on Parking
- Identify development car park needs
- Identify town centre car park needs
- Parking Enforcement Regime

3.2 *Policy Review*

3.2.1 The strategy is set within the context of a number of policy documents at the national, regional and local level. Where appropriate, policy that applies to England has also been reviewed. The policy documents reviewed include:

- Planning Policy Wales (2002) – Welsh Assembly Government;
- Planning Policy Statement 3 (PPS3) (November 2006) – Department for Communities and Local Government (applicable to England);
- Better Places to Live by Design: A Companion Guide to PPG3 (September 2001) – Ministry for Housing, Planning and Regeneration;
- Planning Policy Guidance: 13 Transport PPG13 (March 2001) - Department for Communities and Local Government, (applicable to England);
- Manual for Streets (2007) – Department for Transport, Department for Communities and Local Government and Welsh Assembly Government
- South Wales Parking Guidelines (revised edition 1993) (SWPG) – Gwent County Council, South Glamorgan County Council, Mid Glamorgan County Council, and West Glamorgan County Council and Llanelli Borough Council
- Planning Policy Wales Technical Advice Note 18 (TAN18) - Welsh Assembly Government

- Parking Policies for Bridgend County Borough (January 2004) – Bridgend County Borough Council.

3.2.2 Full details of the review of parking policy are included in Appendix N

3.3 Summary of Policy Review

3.3.1 It is clear from the review that parking is seen as a key element in managing car use. However, limiting the amount of parking below predicted demand is unlikely, on its own, to limit car ownership, use or parking demand.

3.3.2 Most of the reference documents consider residential parking but it is only the South Wales Parking Guidelines that provides specific maximum rates. The Guidance suggests that an upper threshold for parking should be 1.5 spaces per dwelling as an average, although there is debate about how this average should be applied.

3.3.3 For residential developments the guidance suggests that the key factors affecting car ownership and the demand for parking within them are:

- Accessibility of the site to services via walking, cycling, public transport; and
- The lifestyle of the residents. E.g. there is likely to be a greater demand for parking from family housing than for elderly residents.

3.3.4 Provision below demand can work successfully when adequate on-street parking controls are present and where it is possible for residents to reach day-to-day destinations such as jobs, schools and shops without the use of a car.

3.3.5 Many documents promote shared use/unallocated parking as a more efficient use of land. They state that it would be desirable to meet at least some, and in certain cases all, of the parking demand in residential and mixed use areas with on-street parking, which could be controlled.

3.3.6 Developers should be allowed to use their discretion to reduce parking levels below maximum standards, however if there is concern about “over-spill” then the developers should contribute to on-street parking controls. Where the introduction of controlled parking or its amendment is required to facilitate development, local authorities should be supportive of developers request to make or amend Road Traffic Regulation Orders where this is appropriate. It is also essential that prior to occupation future residents should be made aware of the level of parking available in the development.

3.3.7 Guidance also suggests that a mix of housing types with a complementary mix of parking provision should be provided across the planned area to cater for anticipated differences in lifestyle.

3.3.8 In order to reduce car ownership the provision of well designed cycle and motorcycle parking are advocated as are travel plans personal travel planning initiatives such as MODUS and car clubs.

3.4 Review of Census Data

3.4.1 An indication of the likely future demand for parking for the site may be gleaned by reviewing the current car ownership, the accessibility of the site,

and the types of residents. This can be done by reviewing the Census data for 2001.

3.4.2 The current census data for Porthcawl is split into four wards. Porthcawl South East incorporates the area around the site and has therefore been used for this analysis. The following tables provide census data on Porthcawl South East, for car ownership, age groups, household tenure, household type and travel to work, and is compared with Bridgend and Wales,

3.4.3 In Table 3.1 car ownership levels are presented for 2001 when for every household in the ward there were 1.12 cars. Therefore, it can be assumed that, as an average, the demand for residential parking per household is 1.12 spaces compared to 1.08 in Bridgend and 1.10 in Wales.

Table 3.1 Car Ownership – Porthcawl South East (PSE), Bridgend, Wales

	Number of Households (PSE)	% of Households (PSE)	% of Households (Bridgend)	% of Households (Wales)
All Households	3011	100%	100%	100%
No car or van	747	25%	26%	26%
1 car or van	1372	46%	47%	46%
2 cars or vans	739	25%	23%	23%
3 cars or vans	117	4%	4%	4%
4 or more cars or vans	36	1%	1%	1%
Total cars or vans	3371	1.12	1.08	1.10

3.4.4 In respect to age groups 22% of the population is aged between 65 to 89 compared to 16% in Bridgend and 17% in Wales. These results are given in Table 3.2

Table 3.2 Age Groups – Porthcawl South East (PSE)

	Number of Households (PSE)	% of Households (PSE)	% of Households (Bridgend)	% of Households (Wales)
All People	6762	100%	100%	100%
Aged 0-15	1180	17%	20%	20%
Aged 16 - 64	4064	60%	63%	62%
Aged 65 - 89	1481	22%	16%	17%
Aged 90 and over	37	1%	1%	1%

Table 3.2 Age Groups – Porthcawl South East (PSE)

	Number of Households (PSE)	% of Households (PSE)	% of Households (Bridgend)	% of Households (Wales)
Mean age of population in the area	43.53	43.53	39.26	39.5
Median age population in the area	45	45	39	39

3.4.5

Table 3.3 compares data by Household tenure.

Table 3.3 Household Tenure – Porthcawl South East (PSE),

	Number of Households (PSE)	% of Households (PSE)	% of Households (Bridgend)	% of Households (Wales)
All Households	3007	100%	100%	100%
Owns outright	1181	39%	34%	34%
Owns with a mortgage or loan	1175	39%	43%	37%
Shared ownership	7	0%	0%	0%
Council	246	8%	11%	14%
Housing Assoc/RSL	30	1%	3%	4%
Private landlord or agency	265	9%	5%	7%
Rented: Other	103	3%	3%	3%

3.4.6

As a summary in respect to household tenure:

- 39% of households are owned outright compared to 34% in Bridgend and Wales
- 78% of households are owner occupied compared to 77% in Bridgend and 71% in Wales
- Only 1% of households are rented from a Housing Associations with 9% rented from a private landlord

3.4.7

Table 3.4 below provides a comparison of data by Household type.

Table 3.4 Household Type – Porthcawl South East (PSE),

	No. of Households - PSE	% of Households (PSE)	% of Households (Bridgend)	% of Households (Wales)
All Households	3161	100%	100%	100%
Unshared Dwelling	3146	100%	100%	100%
House or Bungalow	2634	83%	90%	88%
Detached	999	32%	22%	27%
Semi-detached	1176	37%	40%	32%
Terraced	459	15%	29%	29%
Flat, Maisonette/ Apartment	427	14%	10%	11%
In a Purpose-Built Block	259	8%	7%	8%
Converted or Shared House	115	4%	1%	2%
In Commercial Building	53	2%	1%	1%
Caravan/Mobile or Temp Structure	85	3%	0%	0%
Shared Dwelling	15	0%	0%	0%

3.4.8

As a summary in respect to household type:

- 83% of households are houses or bungalows compared to 90% in Bridgend and 88% in Wales
- 14% of households are flats, maisonettes or apartments compared to 10% in Bridgend and 11% in Wales
- 3% live in a caravan or other mobile structure

3.4.9

Table 3.5 below compares Travel to work data for residents of Porthcawl South East.

Table 3.5 Travel to Work – Porthcawl South East (PSE)

	Number of Households (PSE)	% of Households (PSE)	% of Households (Bridgend)	% of Households (Wales)
All aged 16-74 in employment	2636	100%	100%	100%
Work mainly at or from home	225	9%	7%	10%
Underground, Metro, Light Rail or Tram	4	0%	0%	0%
Train	19	1%	1%	1%
Bus, Mini Bus or Coach	68	3%	4%	5%
Motorcycle, Scooter or Moped	21	1%	1%	1%
Driving a Car or Van	1753	67%	65%	61%
Passenger in a Car or Van	189	7%	11%	9%
Taxi or Minicab	19	1%	1%	1%
Bicycle	30	1%	1%	1%
On foot	282	11%	9%	10%
Other	26	1%	0%	1%
Average distance (km) to fixed place of work	18.15		14.74	14.82
Public transport users in households: With car/van	65	71%	69%	69%
Public transport users in households: No car/van	25	27%	29%	29%

3.4.10 As a summary in respect to travel to work:

- 11% of people get to work by foot, compared to 9% in Bridgend and 10% in Wales
- 3% use a bus compared to 4% in Bridgend and 5% in Wales
- 67% drive a car or van to work compared with 65% in Bridgend and 61% in Wales
- The average distance travelled to work is 18.15 compared to 14.74 in Bridgend and 14.82 in Wales.

3.5 *Summary of Census Data*

3.5.1 As a summary, the following table has been put together which shows the area where there are key differences.

3.5.2 When comparing against Bridgend and Wales, Porthcawl South East has an older population and proportionately more people own their own home. In respect to rented accommodation a higher proportion of people rent from private landlords. There are also proportionately more people living in flats and maisonettes and travelling to work by car which corresponds to the higher car ownership. Although less people use the bus to get to work more people travel on foot. Table 3.6 below summarises the data

		% of Households (PSE)	% of Households (Bridgend)	% of Households (Wales)
Age groups	Aged 65 - 89	22%	16%	17%
Car Ownership	Cars/household	1.12	1.08	1.10
Household Tenure	Owned outright	39%	34%	34%
	Owner occupied	78%	77%	71%
	Rented: Housing Assoc	1%	3%	4%
	Rented: Private landlord	9%	5%	7%
Household Type	House or Bungalow	83%	90%	88%
	Flat, Maisonette or Apartment	14%	10%	11%
Travel to Work	On foot	11%	9%	10%
	Driving a Car or Van	67%	65%	61%
	Bus, Mini Bus or Coach	3%	4%	5%
	Average distance (km) travelled to fixed place of work	18.15	14.74	14.82

3.6 Review Existing facilities

3.6.1 The existing parking supply in Porthcawl can be separated into 4 key areas:

- Off street parking
 - Public
 - Private
- On street Parking

3.7 Off street parking – public

3.7.1 There are three public car parks in Porthcawl that provide off-street parking. These with their capacity figures at January 2005 were supplied by Bridgend County Borough Council and are re-produced in Table 3.7.

Car park	Location	Capacity
John Street	West of John Street with good pedestrian access to the retail area	80
Hillsboro' Place north	East of John Street and Hillsboro' Place with pedestrian access to John Street at the extreme north but no central exit	263
Hillsboro' Place South	East of John Street and Hillsboro' Place with pedestrian access to John Street via Dock Street	77
Total		440

3.8 Off street parking – private non residential

3.8.1 Several private non residential car parks also provide off-street parking in the town and are shown in Table 3.8. The capacity figures have been taken from the Oscar Faber report Bridgend County Borough Parking Strategy, Final Report 1997.

Car park	Location	Capacity
Salt Lake	Between the Eastern Promenade and Portway. This temporary car park is open during the summer months. Much of the area to the south of the site covered in grass, the remainder having a gravel surface.	2000
Somerfield	Multi-story car park with access from Mary Street	121
Seabank Hotel	Western end of The Esplanade	123
Other (1)	Around John Street/Lias Road junction	125
Other (2)	unspecified	231
Total		2600

3.8.2 Bridgend CC have provided details of monthly ticket sales and revenue for the public car parks which are presented in Table 3.9

Table 3.9 St Johns Car Park: Comparison of monthly ticket sales and revenue, 2005 and 2006

	Apr		May		Jun		Jul		Aug		Sept		Oct	
	Value	Tickets	Value	Tickets	Value	Tickets	Value	Tickets	Value	Tickets	Value	Tickets	Value	Tickets
2005	5965	5305	7516	6534	7591	6510	7435	6262	9132	7317	6731	5838	5876	5204
2006	6060	6536	7262	7895	7105	7460	7565	7785	8221	8569	5929	6476	6259	7255
% Diff	1.6%	23%	-3.4%	21%	-6.4%	15%	1.8%	24%	-10.0%	17%	-11.9%	11%	6.5%	39%

3.8.3 These figures show a gradual growth in ticket sales at Johns Street car park, however in some cases there is not a corresponding increase in revenue. Data to explain this is not currently available. For Hillsboro car park there is a decline in ticket sales in the months of August, September and October as shown in Table 3.10.

Table 3.10 Hillsboro Car Park: Comparison of monthly ticket sales and revenue 2005 and 2006

	Apr		May		Jun		Jul		Aug		Sept		Oct	
	Value	Tickets	Value	Tickets	Value	Tickets	Value	Tickets	Value	Tickets	Value	Tickets	Value	Tickets
2005	13054	11018	18110	14531	17663	14280	17484	13756	26828	20255	16084	13049	11842	10081
2006	16825	13129	19030	15060	18889	14306	21528	15891	23380	17552	14713	11797	13518	9987
% Diff	28.9%	19%	5.1%	4%	6.9%	0.2%	23.1%	16%	-12.9%	-13%	-8.5%	-10%	14.2%	-1%

3.8.4 As data is not available on the usage of the car parks by time of day, conclusions cannot be drawn into capacity levels/constraints.

3.8.5 The data does, however, provide an understanding of how the car parks are used in respect to length of stay and seasonality as shown in Figures 3.1 and 3.2. In Johns Street car park, the majority of parking is up to 2 hours (%) whilst only a small percentage of visitors use Hillsboro' car park for parking over 3 hours. Both car parks are used for relatively short stays. Although there is no survey data to show the trip purpose of the car park users it could be assumed that, as the parking is for short periods, the majority are likely to be for visiting the retail stores in the town centre.

3.8.6 In respect to seasonality, the summer months are the busiest time for both car parks with August being the busiest of year for both short and long stay car parks. This would confirm that there is a tourism element to the demand for parking in these months.

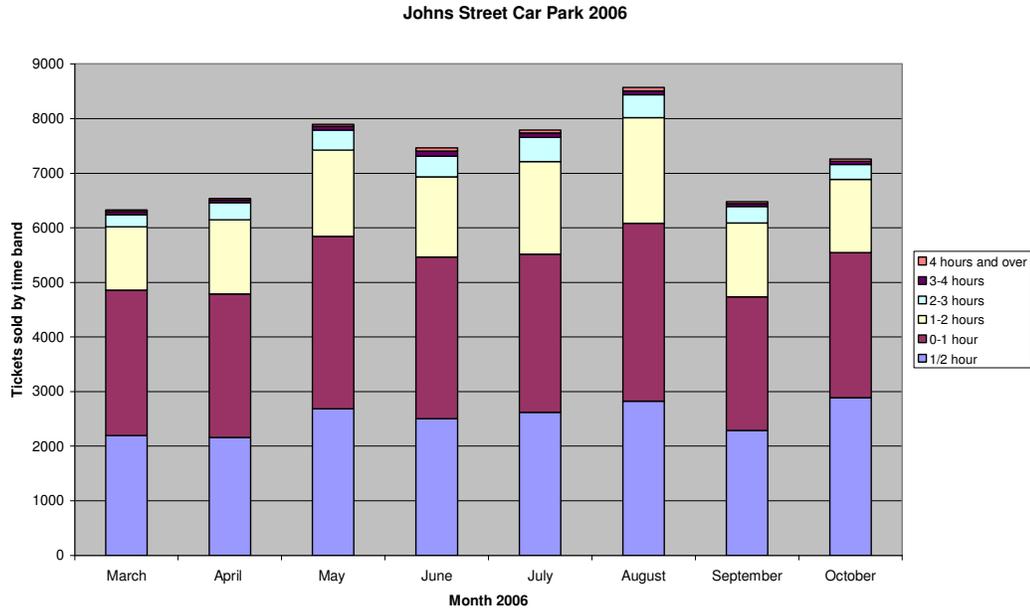


Figure 3.1: John Street Car Park

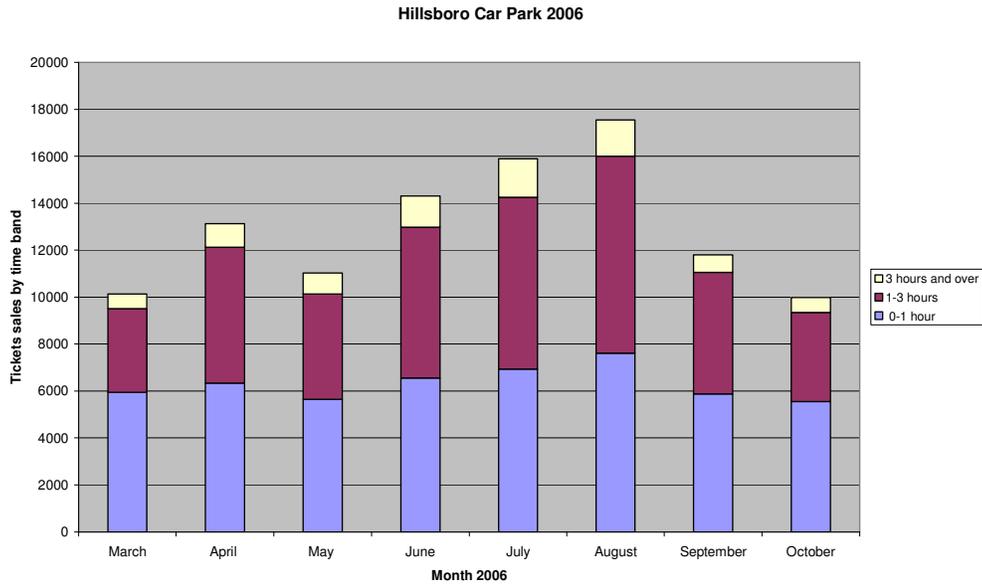


Figure 3.2: Hillsboro Car Park

3.9 On-street Parking

3.9.1 There are no parking controls along the residential streets in Porthcawl; therefore there is a provision of on-street parking. Representatives of Bridgend County Borough Council have highlighted that in the peak summer season there are parking issues on these streets.

3.10 Assess effect of development

3.10.1 As the SWPG is under revision, a review was undertaken of other parking guidance from similar authorities. Torbay has been used as an appropriate comparator.

3.10.2 Table 3.11 shows this comparison and, whereas SWPG has higher levels of residential parking, Torbay has higher levels of provision of visitor parking.

Table 3.11 Comparison of SWPG & Torbay standards

<i>Dwelling</i>	<i>Spaces per Unit SWPG</i>	<i>Spaces per Unit Torbay</i>	<i>Visitor Spaces SWPG</i>	<i>Visitor Spaces Torbay</i>
One Bed	1	1	1 /3-5 units	1/2 units
Two bed	1.5 - 2	1	1/3-5 units	1/2 units
Three bed (Flat)	2 – 3	1	1/3-5 units	1/2 units
Three bed (House)	3	1 - 2	1/3-5 units	1/2 units
Elderly	0.5 - 1	0.5	1/3-5 units	1/2 units
Holiday	1	1	0	0

3.11 Identify development car park needs - Residential

3.11.1 A range of development densities were considered for the regeneration area. Option B “medium density” is being taken forward. Using the upper and lower parking guidelines applicable in South Wales and Torbay, the levels of parking that might be required to support the regeneration proposals have been calculated. A combination option has also been analysed, this combines the guidance of the Torbay standards for the residential parking and SWPG for the visitor parking. These are summarised in Table 3.12.

Table 3.12 Parking spaces by Residential Type

	<i>Option B-High Parking Values</i>			<i>Option B - Low Parking Values</i>		
	SWPG	Torbay	Comb.	SWPG	Torbay	Comb.
Town House	1262	841	841	1262	421	421
Apartments	1218	761	761	913	761	761
Visitors	245	368	245	147	368	147
Total	2724	1969	1847	2322	1548	1328
Average spaces per unit	2.04	1.48	1.38	1.74	1.16	1.00

3.11.2 With the higher parking values the total parking spaces ranges from 2724 for the SWPG, to 1847 for the Combination option. For the lower values the total parking spaces range from 2322 for the SWPG to 1328 for the combination option.

The average number of spaces per unit ranges from 2.04 to 1.00. This would be based on allocated parking and is therefore maximum levels e.g. not every three bedroom house would have 3 cars (SWPG high parking levels)

3.12 *Parking Requirements for Each Plot*

3.12.1 Using these parameters of SWPG, Torbay and Combination Option the parking requirements for each of the plots is summarised in the Table 3.13 below.

<i>Plot</i>	<i>Option B–High parking values</i>			<i>Option B – Low parking values</i>		
	<i>SWPG</i>	<i>Torbay</i>	<i>Combination</i>	<i>SWPG</i>	<i>Torbay</i>	<i>Combination</i>
1	111	83	78	107	50	40
2	58	43	41	55	26	21
3	52	39	36	50	23	19
4	85	64	59	81	38	31
5	218	164	153	209	98	78
6	156	113	106	133	88	75
7	259	186	175	217	152	132
8	138	99	93	114	82	71
9	118	85	80	98	70	60
10	160	120	112	153	72	58
11	164	118	111	138	96	83
12	23	17	16	22	10	8
13	52	38	35	44	31	26
14	43	31	29	36	25	22
15	55	40	37	46	33	28
16	103	74	69	85	61	53
17	313	217	205	231	217	195
20	177	128	120	149	103	89
21	83	60	56	69	49	42
22	107	77	72	90	63	55
23	119	83	78	88	83	74
24	53	38	36	44	32	28
25	35	25	24	29	21	18
26	13	9	8	10	9	8
27	27	20	18	22	17	14
Total	2724	1969	1847	2322	1548	1328

3.13 Allocated Unallocated

3.13.1 In many of policy documents, unallocated parking is advocated as a more efficient way of using parking space. The following example shows how this is calculated.

3.13.2 In Table 3.14 below a comparison is made between allocated and unallocated parking. Assumptions are made on car ownership for a 5 bedroom house.

	Running Total unallocated	Running Total allocated
19% have no car	0	19
54% have 1 car	54	73
23% have 2 cars	100	119
4% have 3 or more cars	112	131
Parking demand per household	1.1	1.31

3.13.3 If all of the parking spaces are unallocated then demand would be 1.1 spaces per dwelling. However, if each dwelling is allocated one space then overall demand would be 1.30 spaces /dwelling, an additional demand of 0.3 cars per dwelling.

3.14 Identify town centre car park needs

3.14.1 A number of elements of the development plan will have an effect on town centre car park needs. These include the:

- Supermarket - 4645m² (50,000ft²)
- Retail Outlets - 1858m² (20,000ft²)

Supermarket and Retail Outlets

3.14.2 The development is proposed to incorporate a supermarket to be located on the site of the Hillsboro’ Place South car park.

3.14.3 South Wales standards are currently under review. Those used by a number of other local authorities are listed in Table 3.15 for comparison.

Authority	Supermarket	Retail – (less than 2000m ²)
SWPG	1 per 10 m ² GFA	1 space per 20-40 m ² GFA
Stroud	1 per 10 m ² GFA	
Wiltshire	1 per 14 m ² GFA	
Torbay	1 per 14 m ² GFA	1 per 20 m ² GFA
Scottish executive	1 per 15 m ² GFA	
Durham	1 per 20 m ² GFA	
Essex	1 per 20 m ² GFA	

3.14.4 At present Council officers use a standard of 1 space per 14m² for supermarkets whilst for other retail uses a rate of 1 space per 30m² is recommended. Using these rates 347 spaces would be needed for the supermarket and 65 spaces for the other new retail uses, a total of 412. After applying a conservative allowance for 15% for cross visitation between the new stores and the town centre, the total parking requirement for the new retail uses would be 412 – 62 = 350 spaces.

3.14.5 An alternative method of identifying parking demand is by deriving a parking accumulation using estimates of trip generation data from the TRICS database. The resultant parking accumulation is shown in Table 3.16. The data used for the Transport Assessment has also been used for this analysis.

<i>Time</i>	<i>Weekday (Fri)</i>	<i>Weekend (Sat)</i>
0600 - 0700	0	0
0700 - 0800	14	0
0800 - 0900	106	97
0900 - 1000	193	164
1000 - 1100	216	213
1100 - 1200	213	222
1200 - 1300	206	195
1300 - 1400	231	192
1400 - 1500	249	210
1500 - 1600	227	195
1600 - 1700	208	148
1700 - 1800	187	116
1800 - 1900	129	52
1900 - 2000	74	0
2000 - 2100	2	0
2100 - 2200	0	0

- 3.14.6 Peak demand for parking using this analyse would be 249 spaces, however a rule of thumb would be that parking supply should be 20% above this, a total of 299 spaces. Using Supermarket data for both the supermarket and other retail outlets the total spaces would be 416. After applying the same cross visitation discount, the total parking requirement for the new retail uses using TRICS accumulation would be 354 spaces.
- 3.14.7 Both methods suggest parking requirement for the new retail uses of approximately 350 spaces.

3.15 Parking Enforcement Regime

- 3.15.1 A strategy for controlling parking in the regeneration area will involve a number of schemes that will relate to on-street and off –street parking.

3.16 Off street Parking

- 3.16.1 With the introduction of the development the Hillsboro' Place North and Hillsboro Place South car parks will be merged into a single facility that will serve the supermarket and the town centre. Currently these car parks are long stay while John Street car park in the town centre is short stay. It is suggested that this should continue as a strategy for the town.

- 3.16.2 Typically, supermarkets wish their customers to have free use of their car park. There are already a number of strategies in place in the borough that deal with supermarket parking. The requirements that developers will need to adhere to are detailed in the Executive Summary that is at the front of this document

3.17 Controlled Parking Zones – Residential on-street parking

- 3.17.1 CPZ's can be used as a tool for the more effective management of car parking spaces. A CPZ provides a set of waiting restrictions over a specified road network. The scheme helps to prevent general parking with the designated zones and provides parking for residents with permits, during the operating hours of the scheme, anyone not in possession of a Residents Permit is only allowed to park for the relevant waiting period without incurring an excess charge. The scheme does not guarantee a resident a parking space outside their house, but they should be able to park within their own Designated Zone. The CPZ therefore allows the use of residential streets for non residential parking for certain times of the day.
- 3.17.2 The scheme would normally limit the number of bays specifically designated for exclusive use for residents parking with most being available to anyone on a shared basis. Experience has shown that better use of existing kerb space is achieved by allowing vacant residents parking bays to be used for a strictly time limited wait by other drivers. In places where bays are strictly for residents only this is sometimes very inconvenient for residents as there is then no recognised parking place for their visitors which includes not only family but repair services etc
- 3.17.3 Halcrow have previously provided detailed proposals relating to the rules which should be used in the County Borough in respect to CPZ's. As summary of this report a framework for the CPZ would include:

- Any vehicle parking in a designated bay should have a permit.
- Controlled Parking Zones normally operate between 8am and 6pm Monday to Saturday, however in the case of Porthcawl, this may be extended to Sundays with the increased demand for parking during the summer months.
- Parking bays may be parallel to the kerb or angled to it.
- The minimum size for a bay, parallel to the kerb, should be 1.8 metres wide by 5.5 metres long
- The recommendation in the report is for two permits per household, however in a situation where there is a new development there is an opportunity to introduce more stricter controls of one permit per household
- Permits will be renewed on an annual basis

3.17.4 Currently responsibility for the enforcement of Traffic Orders in the County Borough lies with the South Wales Police and, more specifically, with the traffic wardens employed by the police. Previously there were two traffic wardens in Porthcawl however there are currently only four wardens to cover the whole of the county borough.

3.17.5 The County council is reviewing the introduction of CPZ's to Bridgend. There are three main areas of cost: administration, capital and policing. The administration and capital costs are within the control of the council however cost of policing is currently outside the remit of the council although ways in which they may assist South Wales Police on this matter are currently being investigated.

3.17.6 A way forward would be for the council to decriminalise parking, which involves the transfer of parking enforcement powers from the police and traffic wardens to the local councils through powers provided in the Road Traffic Act 1991 and this is also under consideration.

PART B – VISITOR PARKING

3.18

Introduction

3.18.1 The Brief for the Transport and Access Strategy (TAS) required the preparation of a Parking Strategy, which included review of opportunities to provide for peak levels of visitor parking.

3.18.2 It has been concluded in the assessment of parking for the regeneration proposals that on a few peak weekends each year there would be a shortfall of public parking available for use by visitors to the town and that this shortfall could potentially be met by the provision of seasonal facilities.

3.18.3 As a consequence Halcrow were commissioned to carry out a simplified appraisal of potential opportunities to provide the additional parking capacity. This short study was to consider the potential constraints to use of the sites, and to identify the costs and implications of the options.

3.18.4 The study was to focus on a number of potential sites that had been identified by the authority.

3.19

Aims of the Assessment

3.19.1 The key aims to the assessment were:

- *To estimate the likely demand for additional parking in Porthcawl over and above that which can be supplied within the regeneration area.*
- *To provide a comparative analysis of options to satisfy the excess demand associated with visitors and tourism, including the identification of appropriate sites for additional or temporary parking, traffic and parking management systems, access arrangements, construction, maintenance and operating costs.*

3.20

Tasks in Detail

3.20.1 In summary the assessment addressed the following:

The level of unmet demand for visitor parking

3.20.2 Estimate the likely demand for additional parking provision generated by visitors and tourism, including the numbers of occasions each year when that demand is likely to occur;

3.20.3 Prepare a parking ‘balance sheet’ for the regeneration area comparing existing and proposed supply and demand for town centre, tourism and visitor parking, and identifying the potential shortfall. This ‘balance sheet’ to exclude residential parking needs which will be deemed to be met within the development plots and/or residential areas.

Comparison of the options

3.20.4 Consider the type and quality of provision of facilities that might be appropriate to provide additional seasonal parking capacity, and the management systems that will be required.

3.20.5 The following sites, which are shown on Figure 3.3, were identified by the authority for comparative analysis:

- Newton Nottage – north east of roundabout;
- Newton Nottage – south west of roundabout;
- Boulevard de St. Sebastian sur Loire;
- Heol-y-Goedwig;
- Rest Bay;
- Newton beach;
- Sandy Bay (interim); and
- Stormy Down (or A N Other remote site).

3.20.6 For each site consider the following:

- Existing land–uses and means of access;
- The number of cars and coaches that can be accommodated;
- The cost of providing the required access and facilities;
- How people will get safely between the site and the trip destination(s);
- Additional transport requirements associated with the above;
- The potential traffic impact of each site;
- The role for management systems in directing traffic to available space;
- The costs of construction, operation and maintenance; and
- Environmental issues.

3.21 *Assessment of Unmet Demand*

3.21.1 To underpin the sustainability of the project the parking provision for each element of the development is proposed to meet the average demands with no further capacity to meet the exceptional demands which occur on a limited number of days each year. Additional parking capacity will be required to meet the demands of visitors on these days.

3.21.2 Historically Porthcawl had a significant influx of seasonal visitors but, with shift in holiday aspirations of the public, the increasing focus on foreign travel, and the passing of the traditional “miners fortnight”, the town’s role has changed significantly. Nevertheless there are peak visitor demands which occur on summer weekends and Bank Holidays and typically these total up to 10 days per year. To accommodate these occasions there are a number of car park facilities. In addition the aspiration is that the resort, through quality regeneration initiatives, will become increasingly popular to visitors.

3.22 *Visitor Parking Capacity*

3.22.1 Whilst there are other parking facilities in the town, current provision within the study area is met by the following car parks:

- Hillsboro Place – a surfaced car park on the eastern edge of the town centre which also serves the adjacent Health Centre;
- Salt Lake – an open area in private control and having a part gravel/ part grass surface. It provides the main capacity for seasonal peak parking;

- Eastern Promenade – a wide single carriageway road to the west of Sandy bay that accommodates parallel parking on both sides;
- Cosy Corner – adjacent to the harbour at the junction of the Esplanade and Eastern Promenade. It has a small capacity for sea front/promenade parking; and
- Mackworth Road – parking facility at its southern end; adjacent to the eastern boundary of the fun fair.
- West Drive - on highway parking

3.22.2 The Planning Guidance envisages that the major parking facility at Porthcawl Waterfront will be in the commercial core, adjacent to the proposed superstore. The Eastern Promenade, will be re-constructed with a lower parking capacity than at present, some being lost to provide appropriate coach drop off/pick up facilities. Cosy Corner will remain in its current form. The sites of the Salt Lake and Mackworth Road car parks will be redeveloped whilst some additional facilities will be provided along the seafront and at Foreshore Park.

3.22.3 It is accepted that there is a shortfall in the provision needed to accommodate the seasonal peaks in parking demand. Table 3.17 below gives a comparison of the existing and future parking capacities and identifies the shortfall that will need to be provided outside the regeneration area.

Table 3.17: Comparison of Existing and Future Parking Capacity

CAR PARK	CURRENT			FUTURE			
	Capacity	Average Demand	Peak Demand	Proposed Capacity	Average Demand	Peak Demand	Shortfall
Hillsboro	340	175	340	-	-	-	
Salt Lake	1330*	100	1000**	-	-	-	
Eastern Promenade/Cosy Corner	165	70	165	63	63	63	
Mackworth Road	100	20	100	-	-	-	
West Drive	170	100	170	170	100	170	
New Superstore	-	-	-	350	425	350	
New Town Centre Car Park	-	-	-	340		340	
Seafront	-	-	-	35	25	35	
Foreshore Park	-	-	-	51	33	51	
Existing Leisure Demand	-	-	-	-	100	1000	1000
New Leisure Demand	-	-	-	-	100***	250***	250
TOTAL	2105	465	1775	1009	846	2259	1250

* The estimated capacity of Salt Lake is 1773 spaces if it were re-surfaced and formally marked. This has been reduced by 25% to 1330 spaces to account for ad hoc parking due to non-marking of spaces and gravel/grass surface.

- ** Current peak use that occurs on up to 10 days/year suggested from survey by BCBC and data from site owners.
- *** Assumes that the new leisure facility will increase current leisure element by 100% and 25% during average weekdays and seasonal peaks respectively. These figures will need to be revisited when greater detail of the precise nature of the proposed tourist use is available.

3.22.4 The table shows that at times of average demand there is likely to be an excess of supply when compared to demand of 16%. An excess of 10% is usually considered to be a reasonable operating reserve which avoids excess circulation and waiting for spare spaces to become available.

3.22.5 At peak times and allowing a generous increase of 25% visitor parking over and above current demand, there would be a shortfall of 1250 spaces which would need to be provided in temporary facilities outside the regeneration area.

3.23 Appraisal Assumptions

3.23.1 This section defines the assumptions and methodology used to assess the means of access between the temporary visitor parking areas (at peak periods) and the seafront and the operating costs of providing a shuttle bus service to make that trip.

Assumptions

Generic

3.23.2 **Destination:** the destination of these trips is assumed to be the junction of the Eastern and Sandy Bay Promenades. This is considered to be the most convenient and appropriate point of arrival for the majority of day visitors and tourists.

Walking

3.23.3 **Average walking speed:** 4 kph. This is based on typical walking speeds with a slight factoring down to account for accompanying small children and carrying typical sea-side possessions.

3.23.4 **Walking threshold:** 20 minutes or less is within most people's walking threshold; 21-29 minutes is borderline; whilst more than 30 minutes is beyond the threshold for most. These assumptions based on the limited data that is available on this topic

3.23.5 **Maximum walking distance:** 150 metres between parked vehicle and bus stop.

Shuttle bus

3.23.6 **Average vehicle operating speed:** is considered to be 20kph (inclusive of stops). This is based on typical average speeds for buses in urban areas. In this situation it may be lower because many passengers will be carrying belongings and looking after children, and the roads may be congested or there may be conflicting parking manoeuvres. However, other factors could facilitate a quicker average speed such. These could include tidal flow, no fare collection and highway arrangements that do not require buses to re-enter the flow of traffic each time they stop.

3.23.7 **Bus Frequency:** a 10 minute frequency (i.e. 10 minute intervals between each bus service at any particular bus stop on route). However, this will be increased up to 13 minute intervals where this facilitates the reduction in number of vehicles required.

- 3.23.8 **Days of operation:** 49 days per year based on the following:
- Easter, Spring and May Bank Holiday weekends 7 days
 - Summer holiday period July and August 42 days
- This is considered to be particularly generous but the cost estimates will, as a consequence, be robust. All anecdotal evidence suggests that 10 – 12 days per year are more likely.
- 3.23.9 **Hours of operation:** 10 hour day approximating 9am to 7pm (may need to vary between April and September or extend into evening depending on site attractions)
- 3.23.10 **Minimum number of drivers:** 2 - this provides cover for driver breaks and is only relevant to total costs and service frequency assumptions.
- 3.23.11 **The vehicle:** a new low floor single deck vehicle. It is considered that ease of access, inclusiveness and attractiveness will be important to the Council.
- 3.23.12 **Operator:** the service would be contracted from a local bus operator, and there will be the ability for the contract to operate for a limited time period each year.
- 3.23.13 **Cost per vehicle:** £200 per day (10 hours) including drivers and fuel. Conservative estimate based on high quality vehicle. Vehicles and drivers are likely to be available as peak demand being during the working week and outside school holidays.
- 3.23.14 **Contract type:** Guaranteed cost service as typical for Park and Ride facilities. There will be no fare revenue as earnings will come from parking charges.

3.24 *Methodology*

Mode of travel between car park and Eastern Promenade

- 3.24.1 The approach to determining appropriate means of access to the Eastern Promenade involved the following factors:
- Maximum and minimum walking distance from parking area to Eastern Promenade;
 - Distance from parking area to Eastern Promenade by bus;
 - Maximum wait for bus;
 - Maximum walking distance from parking space to bus stop;
 - Journey time threshold assumptions for walking;
 - Average walking speed;
 - Average bus speed; and
 - Maximum and minimum journey times by bus and foot
- 3.24.2 The journey time calculation is as follows:
- Journey Time = Distance (metres) / Average Speed (metres/second)
- However, journey time additionally incurs 2.5 minute walk time for 150 metre walk to bus stop + 10 minutes representing maximum waiting time for 10 minute service frequency.

Operating Costs

- 3.24.3 The approach to calculating total annual operating costs is based on the following key factors:
- Distance of round - trip on bus route
 - Journey time of round-trip
 - Daily contract cost per vehicle (including driver, fuel etc)
 - Number of buses required for operation at required frequency
 - Cost per day
 - Total days operation.
- 3.24.4 Table 3.25 shows the calculation of total annual cost for operating the bus service on the basis of the above assumptions between each identified visitor parking locations and the site.
- 3.24.5 Using the journey time calculation the number of buses is determined based on the journey time of completing the bus route from the car park to the site and back. If the journey time is 10 minutes then the vehicle requirement is 1. If the journey time is 20 minutes, vehicle requirement is 2 and so on.

3.25 *Sensitivity analysis*

Mode of travel between car park and Eastern Promenade

- 3.25.1 There is significant sensitivity to access requirements and likely preference in relation to the following variables:

- Average speed assumptions (walking and bus)
- Service level requirements in relation to frequency, and public awareness of this
- Propensity to walk rather than wait for the shuttle (dependent on many factors including quality of walking route, reliability of bus service, amount of possessions to carry etc).

Operating Costs

- 3.25.2 There is significant sensitivity to costs in relation to the following:
- Average speed assumption
 - Service level requirements in relation to frequency.
- 3.25.3 If average speed turns out to be 28kph or above, the Newton Nottage, Boulevard de St. Sebastian sur Loire and Heol-y-Goedwig sites could be served with a single vehicle at a 10 minute service frequency. In addition, Stormy Down could then be operating a 9 minute service frequency with three vehicles.
- 3.25.4 If average speed is assumed at 15kph, the Newton Nottage, Boulevard de St. Sebastian sur Loire and Heol-y-Goedwig sites would require two vehicles to operate within a 10 minute service frequency. The Stormy Down site would then require a fourth vehicle to operate the same level of service.
- 3.25.5 If a service level frequency of 15 minutes was accepted, the Newton, Boulevard de St. Sebastian sur Loire, Rest Bay and Heol-y-Goedwig sites could be comfortably served with a single vehicle operating at an average speed of 20kph.

Capital Costs

3.25.6 An indicative estimate of likely capital costs has been included in the assessment, with the exception of land costs.

3.26 Appraisal

3.26.1 This section considers the type and quality of provision of facilities that might be appropriate to provide the additional parking capacity, needed at seasonal peak periods. It identifies the number of spaces, that could be provided at each site and the parking management systems that may be required.

3.26.2 The following sections describe the sites and the main issues associated with use of each them. A table showing the comparison of the features of each site is included at the end of the chapter.

3.26.3 Some aspects of the assessments are based on travel to a destination at the junction of the Eastern and Sandy Bay Promenades. This has been assumed as a suitable point for a shuttle bus to set down and pick up passengers and the most popular or convenient point of arrival for those visiting the town for the day.

3.26.4 The sites considered in the comparative assessment are:

- Boulevard de St. Sebastian sur Loire;
- Newton Nottage – north east of roundabout;
- Newton Nottage –south west of roundabout;
- Heol-y-Goedwig;
- Rest Bay;
- Newton beach;
- Stormy Down; and
- Sandy Bay – Interim Site.

3.27 Boulevard de St. Sebastian sur Loire.

3.27.1 The potential facility is the A4061 Boulevard de St. Sebastian sur Loire between the Newton Nottage roundabout and the Boulevard de St. Sebastian sur Loire/Lias Road roundabout.

3.27.2 This section of route is a dual carriageway and in order to facilitate use as a parking area the left lane of each carriageway would be converted for use for kerbside parallel parking. To restrict use of the carriageway a series of build-outs are proposed that where appropriate will also form bus stopping points as shown on Figure 3.4. Due to the longitudinal form of the parking facility and to regulate its use the site could be split into sections with four appearing to be an optimal number as follows:

- **Section A** – a length from The Boulevard de St. Sebastian sur Loire/Lias Road roundabout northwards for a distance of approximately 160m would provide approximately 25 parking spaces per carriageway. The distance to the western end of Sandy Bay varies from 330m to 490m

- **Section B** – from Section A northwards for a distance of 300m, providing approximately 47 spaces per carriageway. The distance to the western end of Sandy Bay varies from 490m to 790m
- **Section C** – from the northern end of Section B northwards for a distance of 300m, providing approximately 48 spaces per carriageway. The distance to the western end of Sandy Bay varies from 790m to 1090m.
- **Section D** – from the northern boundary of section C northwards for a distance of 275m would provide approximately 45 parking spaces per carriageway. The distance to the western end of Sandy Bay varies between 1090m and 1365m.

3.27.3 In total the four sections would provide 334 parking spaces.

3.27.4 Should the need for a shuttle bus be identified, bus stops located at the boundary of each section would result in a maximum walking distance to any stop of 150m, approximately 2.5 minutes walk time.

Means of access to the site

3.27.5 Journey time analysis suggests that means by which people would travel to the site from Boulevard de St. Sebastian sur Loire will depend on:

- The availability of a shuttle bus;
- The frequency of the service (analysis based on 10 minute frequency);
- Parking position along the route; and
- Table 3.18 shows the maximum and minimum journey times to the site from each section of Boulevard de St. Sebastian sur Loire, by bus and foot.

**Table 3.18
Journey time comparison (Boulevard de St. Sebastian sur Loire)**

Journey Time	Boulevard de St. Sebastian sur Loire			
	Section A (mins)	Section B (mins)	Section C (mins)	Section D (mins)
Bus - Minimum	1	2	3	4
Bus - Maximum	14	15	16	17
Foot - Minimum	5	7	12	16
Foot - Maximum	7	12	16	20

3.27.6 Minimum journey times are significantly lower by bus but these are based on the fortunate occurrence of parking right by a bus stop and getting straight out of the car onto the bus. The difference between minimum and maximum walking times is far less than those for bus, depending purely on the parking position within the section of the route.

3.27.7 From Sections A and B the maximum journey time by foot is less than that by bus, while for Section C the times are the same. From Section D the maximum journey time is higher by foot than by bus, but still within the 20 minute threshold.

- 3.27.8 The conclusion is that a linear parking facility on Boulevard de St. Sebastian sur Loire could operate without the need for a bus service and that, even if a service was provided, the majority of those parking on the route may still choose to walk based purely on journey time analysis. Clearly there are other factors to take into account such as what people are carrying, the prevailing weather conditions, and how these affect their propensity to wait rather than walk. These factors are important but outside the scope of this study.
- 3.27.9 The northern part of the Boulevard de St. Sebastian sur Loire is within a Landscape Conservation Area according to the proposals maps of Bridgend County Borough UDP (PDF Southern Porthcawl). This area is likely to refer to the Pant-yr-iaras Landscape Conservation Area.
- 3.27.10 Use of the parking facility could be implemented sequentially with the use of a suitable system of signing. However such a system would require a monitoring capability to oversee use. Essential to safe operation will be that use of the nearside lane by through traffic is prevented. Regular build-outs and marking of parking spaces should convey the necessary information to motorists. Access to parking spaces and use of the bus stops will impede through traffic but will also act as traffic calming thus moderating vehicle speeds.
- 3.27.11 A potential disadvantage of the proposal is that motorists may circulate in the hope of finding the nearest available space to their destination rather than making use of the first available space that they find. This could lead to unnecessary traffic movement around the local network.
- 3.27.12 The estimated costs of implementing these works as a complete facility are £496,000. Should the carriageway be converted for parking section by section as described above the corresponding costs are Section A - £117,500; Sections B and C - £141,000 each and Section D - £126,000; giving a total cost of £525,500.
- 3.27.13 Operational costs
The operational costs of providing a shuttle service between the parking on Boulevard de St. Sebastian sur Loire and the Eastern Promenade is £9,800 per annum. This is based on a single vehicle operation and a compromise of service frequency to 13 minute intervals. In order to get the target 10 minute shuttle frequency, the operational cost doubles to £19,600 with the requirement of a second vehicle. The service frequency would then be every 6.5 minutes. Demand flow is outside the scope of this study but it is considered doubtful that this level of service could be justified.

3.28 *Newton Nottage – north east of roundabout*

- 3.28.1 The site is comprised of a series of grassed fields, surrounded by trees, to the north-east of the roundabout of the A4229 and the A4106 and is easily accessible from all directions. The site is approximately 1600m by bus from the western end of Sandy Bay, with a walking route that is approximately 1400m in length. The site covers a total area of approximately 32,400m² with the possibility of expansion into an additional area to the north if necessary. The site as proposed has a potential parking capacity in the region of 685 vehicles.

Means of access to the site

3.28.2 Journey time analysis suggests that how people would to travel to the site from Newton Nottage depends on the following:

- The availability of a shuttle bus
- The frequency of the service (analysis based on 10 minute frequency)

3.28.3 The table below shows the maximum and minimum journey times to the site from Newton Nottage – north east, by bus and foot:

Table 3.19 – Journey time comparison (Newton North East)

Journey Time	Journey time (mins)
Bus minimum	5
Bus maximum	17
Foot minimum	21
Foot maximum	25

3.28.4 It is considered that if a shuttle service was provided from Newton Nottage to the site at a 10 minute frequency, most people would use it rather than walk. If the parking was provided without a shuttle service, in the absence of nearer parking alternatives, people may be willing to walk to the Eastern Promenade.

3.28.5 The site is not in the ownership of BCBC. Previous consideration of a facility in this location considered only the field adjacent to the A4106/ A4229 Newton Nottage roundabout, which provided approximately 150 spaces. As this is insufficient to satisfy potential demand an increased area that includes the field to the north has been considered, and this gives a total area of approximately 32,400m². Access to the area can be gained from the roundabout, as shown on Figure 3.5, and information regarding availability and operation could be provided by a system of variable message and static signing.

3.28.6 If a shuttle bus is not provided to transport visitors to the town centre and beach, pedestrians would need to cross A4106 Newton Nottage Road to access a new footpath to be provided alongside Boulevard de St Sebastian sur Loire.

3.28.7 The site is within a Landscape Conservation Area according to the proposals maps of Bridgend County Borough UDP (PDF Newton Nottage). This area is likely to refer to the Pant-yr-iarde Landscape Conservation Area.

3.28.8 It has been assumed that beyond provision of a surfaced and kerbed access to the site other works would be limited to preparation of the area by re-grading the surface to remove peaks and troughs. Some additional and revised signing will be required to advise motorists of the operation of the site. The estimated costs of these works are £171,500.

Operational costs

3.28.9 The operational costs of providing a shuttle service between the parking at Newton Nottage and the site is £9,800 per annum. This is based on a single

vehicle operation and a compromise of service frequency to 13 minute intervals. In order to get the target 10 minute shuttle frequency, the operational cost doubles to £19,600 with the requirement of a second vehicle. The service frequency would then be every 6.5 minutes. Demand flow is outside the scope of this study but it is considered doubtful that this level of service could be justified.

3.29 Newton Nottage –south west of roundabout

3.29.1 The site is a single grass field to the south west of the roundabout of the A4229 and A4106 and is easily accessible from all directions. The site is approximately 1550m by bus from the western end of Sandy Bay, with a walking route of around 1350m. The site covers an area of approximately 20,000m² providing for a capacity of approximately 490 vehicles on an informal arrangement.

Means of access to the site

3.29.2 Journey time analysis suggests that how people would to travel to the site from Newton Nottage depends on the following:

- The availability of a shuttle bus
- The frequency of the service (analysis based on 10 minute frequency)

3.29.3 The table below shows the maximum and minimum journey times to the site from Newton Nottage – south west, by bus and foot:

Table 3.20 – Journey time comparison (Newton South West)

	Journey time (mins)
Bus minimum	5
Bus maximum	18
Walking minimum	18
Walking maximum	23

3.29.4 It is considered that if the shuttle service was provided from Newton Nottage to the site at a 10 minute frequency, most people would use it rather than walk. However, if the parking was provided without the shuttle service, in the absence of nearer parking alternatives, people may be willing to walk to the site from Newton Nottage.

3.29.5 Access to the site for both visitors and, if provided, a shuttle bus service is from the A4106/A4229 Newton Nottage roundabout. An indicative layout is shown on Figure3.6. Pedestrian access to the site could be via a footpath link through Heol-y-Goedwig to Northways and Eastern Promenade, which would require a crossing facility at the northern end of Boulevard de St Sebastian sur Loire. Some additional and revised signing will be required to advise motorists of the operation of the site. The estimated cost of establishing this facility is £160,800.

3.29.6 This site is located within the conservation area of Nottage Court., which is identified as a Landscape Conservation Area in the Bridgend County

Borough Unitary Development Plan. (See Newton Nottage PDF). It is not in the ownership of BCBC.

Operational costs

3.29.7 The operational costs of providing a shuttle service between the parking at Newton Nottage and the site is £9,800 per annum. This is based on a single vehicle operation and a compromise of service frequency to 13 minute intervals. In order to get the target 10 minute shuttle frequency, the operational cost doubles to £19,600 with the requirement of a second vehicle. The service frequency would then be every 6.5 minutes. Demand flow analysis is outside the scope of this study but it is considered doubtful that this level of service could be justified.

3.30 Heol-y-Goedwig

3.30.1 The site is directly to the south east of the roundabout of the Newton Nottage roundabout junction of the A4229 and the A4106. It is currently used as a scenic park incorporating a lake and children’s play area. The area under consideration is 1400m by bus from the western end of Sandy Bay beach, which is a walking distance of approximately 1300m . The site covers an area of 15077m2, which has a potential capacity of 390 vehicles. A possible expansion of the area to include that around the children’s play area would provide for an additional 470 vehicles on an informal facility.

Means of access to the site

3.30.2 Journey time analysis suggests that how people would to travel to the site from Heol-y-Goedwig depends on the following:

- The availability of a shuttle bus
- The frequency of the service (analysis based on 10 minute frequency)

3.30.3 The table below shows the maximum and minimum journey times to the site from Heol-y-Goedwig, by bus and foot:

Table 3.21 – Journey time comparison (Heol-y-Goedwig)

	Journey time (mins)
Bus minimum	5
Bus maximum	17
Walking minimum	15
Walking maximum	20

3.30.4 It is considered that if shuttle service was provided from Heol-y-Goedwig to the site at a 10 minute frequency, most people would use it rather than walk. However, if the parking was provided without the shuttle service, in the absence of nearer parking alternatives, people may be willing to walk to the site from Heol-y-Goedwig.

3.30.5 Access to the facility can be gained from the south eastern side of the Newton Nottage roundabout. An indicative access arrangement that includes access for a shuttle bus service is shown on Figure 3.7. Pedestrian access to the beach area is available via the existing footpath links past the lake to Northways and Eastern Promenade. Similar signing arrangements to

those for the other possible sites that are adjacent to the roundabout are required. The estimated cost of providing these facilities are £78,500 for the area adjacent to the roundabout with a further sum of £56,200 required to provide the additional area.

- 3.30.6 The site is not in the ownership of BCBC and is within a Landscape Conservation Area according to the proposals maps of Bridgend County Borough UDP (see PDF Southern Porthcawl). This area is likely to refer to the Pant-yr-iards Landscape Conservation Area.

Operational costs

- 3.30.7 The operational costs of providing a shuttle service between the parking at Heol-y-Goedwig and the site is £9,800 per annum. This is based on a single vehicle operation and a compromise of service frequency to 13 minute intervals. In order to get the target 10 minute shuttle frequency, the operational cost doubles to £19,600 with the requirement of a second vehicle. The service frequency would then be every 6.5 minutes. Demand flow analysis is outside the scope of this study but it is considered doubtful that this level of service could be justified.

3.31

Rest Bay

- 3.31.1 The site is situated along the coastline approximately 1.7km to the northwest of Porthcawl town centre and is comprised of an existing gravel car park, a sports field and part of a surrounding grass field. The sports field is currently used for peak visitor use and there is the potential to increase the capacity with use of the adjoining fields to the east, an additional area of approximately 22,300m². The most convenient bus route to the assumed destination point at Sandy Bay is approximately 3.1km long and runs along the coastline. There are two possible walking routes to site; the shortest, which involves walking through the town centre, is 2.74km long, whereas a longer, but more attractive route follows the coastline via Cosy Corner and on to Sandy Bay is 3.25km long. The site covers a total area of 72,700m² that could accommodate approximately 1575 vehicles in its current format with the majority of the area subject to ad hoc parking. The currently used areas are estimated to accommodate 1085 vehicles; the additional fields therefore able to provide space for an additional 490 vehicles set out either as an additional sports pitch or retained as agricultural grazing.

Means of access to the site

The table below shows the maximum and minimum journey times to the site from Rest Bay, by bus and foot:

3.31.2 **Table 3.22 – Journey time comparison (Rest Bay)**

	Journey time (mins)
Bus minimum	8
Bus maximum	20
Walking minimum	41
Walking maximum	46

3.31.3 It is considered that Rest Bay is beyond the walking threshold. A shuttle service would therefore be required to provide access to and from the site.

3.31.4 Current access to the car park from Newton Nottage is via Fulmar Road and Mallard Way to the coast road. Use of an additional parking area will significantly increase traffic along Fulmar Road, which is the main access route to the residential area on its north side and has residential frontages on both sides. Some preparation of the additional area proposed for parking use has been assumed, although only a limited amount of improvement works to the entry and exit tracks is envisaged to accommodate a shuttle bus service. The proposed access arrangements are indicated on Figure 3.8. Site access information is assumed would be imparted by a combination of variable message and fixed signing. The estimated cost of extending the existing area that is used for parking and providing an enhanced system of signing is £77,500

3.31.5 This site is not within a designated area; however it borders an Amenity Open Space. (See PDF Rest Bay)

Operational costs

3.31.6 The operational costs of providing a shuttle service between the parking at Rest Bay and the site is £19,600 per annum. This is based on a two vehicle operation at a 10 minute service frequency.

3.32 Newton beach

3.32.1 The site is approximately 2km east of Porthcawl town centre and is currently an area of wasteland. It is understood that BCBC are currently progressing proposals to develop enhance the area, which include for the provision of a formal car park. There are two possible walking routes to the site; the first, which is substantially shorter, cuts through the Trecco Bay caravan park and the eastern section of the proposed development area, a distance of approximately 1.62km. The second is a more attractive route along the coastline via Rhych Point and is approximately 2.24km long. Any shuttle buses serving the site would have a difficult, indirect route along New Road with a distance of 3.3km. The site covers an area of 9,500m² and has the capability of providing for 290 vehicles as a formal car park.

Means of access to the site

3.32.2 Journey time analysis suggests that how people would to travel to the site from Newton Beach depends on the following:

- The availability of a shuttle bus

- The frequency of the service (analysis based on 10 minute frequency)

3.32.3

The table below shows the maximum and minimum journey times to the site from Newton Beach, by bus and foot:

Table 3.23 – Journey time comparison (Newton Beach)

	Journey time (mins)
Bus minimum	9
Bus maximum	21
Walking minimum	24
Walking maximum	27

3.32.4

It is considered that if shuttle service was provided from Newton Beach to the site at a 10 minute frequency, most people would use it rather than walk. The route that a shuttle bus would take is in part that which visitor traffic will use, therefore at times of peak use the desired 10 minute frequency of the service may be compromised. However, if the parking was provided without the shuttle service, in the absence of nearer parking alternatives, some people may be willing to walk to the town from Newton Beach.

3.32.5

The suggested site is located at the southern end of Beach Road, which runs along the eastern boundary of Trecco Bay Caravan Park. Access to Beach Road for visitor traffic to Porthcawl would be via the A4106 Newton Nottage Road to Bridgend Road roundabout and then via Bridgend Road and Clevis Hill to Beach Road. Clevis Hill and Beach Road are both fronted by residential properties and would suffer an increase in traffic during operation of the car park. The site would require the construction of a suitable access and bus turning/pick up facility as shown on Figure 3.9. It is estimated that a cost of £450,000 is required for a fully developed car park.

3.32.6

This site is within the Glamorgan Heritage Coastline alongside the SSSI of Newton Burrows, shown in the Bridgend County Borough UDP (see Southern Porthcawl).

Operational costs

3.32.7

The operational costs of providing a shuttle service between the parking at Newton Beach and the site is £19,600 per annum. This is based on a two vehicle operation at an 8.5 minute service frequency. Alternatively, service levels could be compromised to operate the shuttle service with a single vehicle. Service frequency would then be 17 minutes and operating costs halved to £9,800 per annum.

3.33

Stormy Down

3.33.1

The site, which is approximately 8km north east of Porthcawl Town Centre, is currently used as an airfield. This distance makes walking from the site an unlikely proposition; therefore a shuttle bus service would be required although the route any bus would need to take is long and convoluted. The site covers an area of 198,246m², which is sufficient space to accommodate over 5000 vehicles. However, consideration of an area sufficient to cater for the required level of additional parking only has been considered.

Means of access to the site

3.33.2 The table below shows the maximum and minimum journey times to the site from Stormy Down, by bus and foot:

Table 3.24 – Journey time comparison (Stormy Down)

	Journey time (mins)
Bus minimum	17 minutes
Bus maximum	30 minutes
Walking minimum	1 hour 21 minutes
Walking maximum	1 hour 25 minutes

3.33.3 It is considered that Stormy Down is way beyond the walking journey time threshold. A shuttle service would therefore be required to provide access to and from the site.

3.33.4 The site suggested for use is close to the A48, approximately 2km from the M4 motorway junction 37. Visitor traffic would be required to leave the M4 to travel north on the A4229 to access the A48. The route then crosses the M4 before turning right within a dual carriageway section on to an unclassified lane that leads to the site. The route necessary for a shuttle bus service is the reverse of the foregoing to M4 junction 37 then via the A4229 to Newton Nottage roundabout and the A4106 Boulevard de St Sebastian sur Loire to the town and beach area. The estimated cost of £135,500 includes for the preparation of an area of the site sufficient to provide the parking capacity required and a bus turning area as shown on Figure 3.10, together with variable message and static signing to advise of the use of the site.

3.33.5 Although this site is not within any designated area, a review of the UDP has highlighted that the site includes a Future Mineral Development Safeguarded Area (M4) an Area of Research (M5) and a Mineral Plan Retention of Land (M12).

Operational costs

3.33.6 The operational costs of providing a shuttle service between the parking at Stormy Down and the site is £29,400 per annum. This is based on a three vehicle operation at just over a 10 minute service frequency.

3.34 Sandy Bay – Interim Site

3.34.1 The former Sandy Bay caravan site forms part of the 7 Bays Project - Porthcawl Waterfront. It is currently disused and has a system of access routes that served its former use. The potential exists to utilise the site for some level of visitor parking during the early stages of the proposed development. The site gives easy walking access to the beach and town centre and could provide for significant parking in the short term.

3.34.2

As the site could only be used as interim provision prior to the development of the eastern regeneration area it has not been included in the comparative assessment.

Table 3.25 Comparison of Sites

Comparison Criteria	Comparator	Boulevard de San Sebastian sur Loire	Newton Nottage - North East	Newton Nottage - South West	Heol-y-Goedwig	Rest Bay	Newton Beach	Stormy Down
Location	Description (e.g. adjacent to Sandy Road)	Along main route to Eastern Promenade	North East of A4229/A4106 Roundabout	South west of A4229/A4106 Roundabout	South East of A4229/A4106 Roundabout	Western edge of Nottage	East of Trecco Bay Caravan Park	8km North East of Porthcawl town centre
Current land usage		Dual carriageway	Grass field	Grass field	Scenic park	car park/playing field/grass field	wasteland	Temporary Use - Car Boot Sales Sunday Market Go-Karting
Size of site	m ²	19677m ²	8294m ²	20,003m ²	Section A - 15077m ² Section B - 22448m ² Total - 37525m ²	50401m ²	9,500m ²	38,250m ²
Number of car parking spaces - formal	no of spaces	334	915	650	Section A - 480 Section B - 625 Total - 1105	650	290	-
Number of car parking spaces - informal	no of spaces	334	685	490	Section A - 360 Section B - 470 Total - 830	490	185	1250
Suitability for coach parking	Yes/No	No	Yes	Yes	Yes	Yes	No	Yes
Maximum distance from car park to trip destination on foot	km	1407m	1691m	1563m	1354m	3086m	1783m	5390m
Minimum distance from car park to trip destination on foot	km	540m	1367m	1193m	975m	2740m (3250m along coast)	1623m (2235m along coast)	5750m
Length of complete bus route	m	4250m	4450m	4400m	4350m	6500m	5700m	18000m
Minimum Journey time by bus	Mins	1	5	5	5	8	9	17

Table 3.25 Comparison of Sites

Comparison Criteria	Comparator	Boulevard de San Sebastian sur Loire	Newton Nottage - North East	Newton Nottage - South West	Heol-y-Goedwig	Rest Bay	Newton Beach	Stormy Down
Maximum Journey time by bus	Mins	4	17	18	17	20	21	30
Minimum journey time by foot*	Mins	5	21	18	15	41	24	unrealistic
Maximum journey time by foot*	Mins	20	25	23	20	46	27	unrealistic
Requirement of shuttle bus	yes/no	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Distance from car park to trip destination by bus	km	446m to 1497m	1628m	1731m	1660m	2553m	2867m	TBC
Vehicular access to site - Highway Engineering	Description (e.g. via Sandy Road)	From Newton Nottage Roundabout	Via Newton Nottage Road West, Fulmar Rd, Mallard Way	Via Newton Nottage Road East, Bridgend Road, Clevis Crescent, Rhych Road	M4 Junction 37, A4229, A48 to Mount Pleasant Lane			
Vehicular access to site - impact on (residential streets)		None	None	None	None	Increased	Increased	None
Capital Costs	£	£496,000	£171,500	£160,800	Section A - £78,500 Section B - £56,000 Total - £134,500	£77,500	£450,000	£196,000
Operating costs	£/annum	£9,800 - single vehicle £19,600 - two vehicles	£19,600 - two vehicles	£19,600 - two vehicles	£29,400 - three vehicles			
Ownership		BCBC	Private	Private	Section A – Private Section B - BCBC	BCBC	BCBC	BCBC
Environmental Impact	SSSI or not?	North Section part of L'scape Conservation Area	Landscape Conservation Area	Landscape Conservation Area	Landscape Conservation Area	Adjacent to Amenity Open Space	Glamorgan Heritage Coast	Mineral safeguarded area

PART C – CONCLUSIONS

3.35 Regeneration Scheme

- 3.35.1 The assessment carried out for residential parking has compared the standards of the South Wales Parking Guidelines (SWPG) and Torbay, which is a tourist area considered comparable to Porthcawl together with a composite standard that combined the lower of the standard levels from each. Table 3.13 gives the resultant parking space requirements per plot for the high and low values from the SWPG, Torbay and Combined standards. The high values represent the maximum provision and it is recommended that the Combination option would be appropriate for Porthcawl.
- 3.35.2 The assessment shows that a parking provision for the proposed supermarket and to replace the existing long stay facility at Hillsboro can be provided that includes an additional 20% that is recommended above the projected requirement for peak demand. It is recommended that this provision should provide for long term parking with the John Street car park continuing its function of providing short stay parking in the town centre.
- 3.35.3 It is recommended that the council continue its review of policy regarding controlled parking zones and de-criminalised parking. The control and administration of on-street parking in Porthcawl will fall within the outcome of those reviews.

3.36 Visitor Parking

- 3.36.1 The assessment undertaken in this study provides a robust analysis of the quantum of seasonal peak parking that needs to be provided outside the Porthcawl Waterfront area. It shows that good options are available to provide that parking to meet the needs of the town. Finally it provides an objective assessment of the options which can inform Council decisions on which schemes should be taken forward to implementation.
- 3.36.2 It is understood that BCBC are progressing proposals to provide a new formal car park at Newton Beach that will provide 290 of the required shortfall parking spaces. If Newton Beach is upgraded to become more of an attraction in its own right, it has been assumed that only 145 of those spaces would form part of the required peak visitor parking provision.
- 3.36.3 With the exception of Stormy Down none of the remaining potential facilities are able to provide all of the necessary parking capacity individually. However, several of the sites in combination could provide the 1105 spaces required as shown in the following tables. The combinations assume that the whole length of Boulevard de St Sebastian sur Loire would be made available for parking:

Table 3.26

SITES	SPACES
Boulevard de St Sebastian sur Loire + Heol-y-Goedwig	1164
Boulevard de St Sebastian sur Loire + Newton Nottage South West + Heol-y-Goedwig Section A	1184
Newton Nottage North East + Newton Nottage South West	1175
Newton Nottage North East + Heol-y-Goedwig	1515
Newton Nottage South West + Heol-y-Goedwig	1320

Should use of an expanded facility at Rest Bay be progressed then the following combinations would provide the capacity required:

Table 3.27

SITES	SPACES
Rest Bay + Boulevard de St Sebastian sur Loire + Heol-y-Goedwig Section A	1184
Rest Bay + Boulevard de St Sebastian sur Loire + Newton Nottage South West	1314
Rest Bay + Newton Nottage North East	1175
Rest Bay + Newton Nottage South West + Heol-y-Goedwig Section A	1340
Rest Bay + Heol-y-Goedwig B	960

Recommendation

The combinations suggested in Table 3.26 above have the advantage that they could be served by a single bus service, which would give an economy of operating costs without introducing additional traffic on to unsuitable routes. Provision of parking along Boulevard de St Sebastian sur Loire has the highest capital cost of all of the facilities due to the current lack of footway. Therefore it is recommended that a visitor parking facility based on a combination of the Newton Nottage North East, South West and Heol-y-Goedwig sites should be investigated further.

4 Public Transport Strategy

4.1 *Introduction*

4.1.1 An integrated and effective public transport network is an important element in the strategy for the regeneration of Porthcawl. The provision of a choice of convenient travel modes will help to reduce reliance on the private car, improve accessibility to essential services and provide long-term sustainability.

4.1.2 The purpose of this strategy is to set out the steps to be taken to ensure the provision of an efficient and attractive public transport system for the people of Porthcawl, recognising the opportunity afforded by the regeneration scheme to act as a beneficial agent for change. An effective public transport network extends beyond service provision to infrastructure improvements, appropriate fare structures, security and safety.

The existing bus service network is shown on Figure 4.1 and a number of photographs are referenced in the following text that are provided as Appendix O

4.2 *Policy Context*

4.2.1 Public transport policy is addressed at national, regional and local levels:

National:

- Wales Transport Strategy (Draft in July 2006) – over-arching theme to achieve greater use of the more sustainable and healthy forms of travel. Seamless interchange is the key to increase connectivity and the reliable movement of people by modes other than the car for both local and long distance journeys. Regional Transport Plans (RTPs), developed by each of the regional Consortia will address this theme at regional and local level.
- Rail Planning Assessment, underpins WAG's long term aims and operational policies for rail service provision.
- Long Distance Bus and Coach Strategy (July 2003) - a strategy to complement the rail network in Wales.

Regional:

- Moving People - Improving Rail (Sewta policy document July 2005)
- Sewta Regional Bus Strategy (ditto - February 2006)
- Sewta's RTP encompassing the above will be submitted to the Assembly and become effective in 2008.

Local:

- Local Authority Bus Strategy (LABS - BCBC June 2003). This sits below the Sewta bus strategy and is integrated with it. The vision is to actively promote the use of public transport, particularly buses. The transport system in the county borough will serve the inclusive needs of all sections of the community where all residents have equitable access to public transport facilities. The principal points of action will be to pursue modal shift targets in favour of public transport, encourage the integration of land-use with transport in accordance with UDP policies of locating land-use development along corridors that are well-served by public transport, and to seek the integration of all transport modes, and with other community objectives.
- Bridgend Area Bus Study (BABS) in September 2001.
- The current Porthcawl masterplanning brief

4.2.2 Developing integrated transport strategies in the county borough lie at the root of UDP Policy T15 which seeks to adopt the multi-modal corridor approach to transportation planning and infrastructure improvement/investment.

4.3 ***Public Transport Strategy***

4.3.1 To tie in with the major redevelopments proposed for Porthcawl seafront area, Bridgend CBC is seeking to develop a public transport strategy, elaborating the approach described in the above documents for the benefit of Porthcawl. It should include:

- An assessment of current service provision and patronage
- Consideration of current public transport facilities and their adequacy
- Forecasts of demand based on the proposed development
- Consideration of route enhancement and development, including measures to encourage services back onto New Road
- Consideration of the need for, and location of a new bus station to serve the regeneration area and the requirements of Porthcawl in general
- Consideration of the provision and location of bus priority features
- Consideration of the safety and security of passengers at bus stops and the bus station
- To consider the provision of physical facilities and linkages to integrate existing and future modes of transport, including cycling.
- Recommendations for action

- 4.3.2 The strategic basis for the area is the Sewta bus strategy, which is generally expressed as a series of policies and standards to be sought to optimise the region's bus network.
- 4.3.3 The LABS is similarly expressed and identifies the development of principal corridors of movement in the Borough as "multi-modal routes", for concentrating investment to benefit public transport, cycling and walking. The Porthcawl-Pyle-Bridgend axis was identified in the Council's programme for early corridor treatment.
- 4.3.4 The LABS is expressed as a general, borough-wide strategy and the above corridor work is therefore part of a general Council initiative. There are no specific schemes mentioned in the strategy, which is therefore only the starting point of and relevant guidance for looking at public transport matters in Porthcawl. The improvements sought by the strategy will be introduced using other Council programmes and funding methods as opportunities permit.

4.4 *Redefining the approach*

- 4.4.1 The development of a public transport strategy for Porthcawl naturally falls into two parts, i.e. those aspects directly relating to the development site and those of more general value to the town. In order to provide timely advice to the client in support of the rapidly evolving planning brief for the regeneration area, the first section of this strategy critically examines the public transport aspects of the development brief and considers how the development site could be served by public transport.
- 4.4.2 The strategy then goes on to provide general advice on wider aspects of public transport in Porthcawl, linked to addressing the LABS objectives and the Sewta bus strategy.
- 4.4.3 This proposed way forward is a change of emphasis from the brief's original outline, but is recommended by Halcrow after consideration of the scope and timescales of the task and builds in the results of a site visit in December 2006.

4.5 *The redevelopment site*

- 4.5.1 The site lies immediately to the east of the existing town centre, its furthest point being the north-east corner of the site, is some 1.25 km from John Street, the main shopping location in Porthcawl. For an able bodied person, this should represent 15-20 minutes' walking time. Other residential quarters are located closer to the town centre and the area is generally level, making this good walking and cycling territory.
- 4.5.2 The development brief identifies a hypothetical east-west bus corridor through the site, from its north east corner to the town centre, with bus stops placed at particular locations along it. The suggested amendments to the bus service network are shown on Figure 4.2
- 4.5.3 Design standards for this route are outlined in the development brief, which identifies the corridor as comprising a 7.3m carriageway (2 x 3.65m traffic lanes) fringed by 2.0m footways and featuring landscaped strips, planted with trees. On-street parking is generally not identified, although that it might be considered acceptable is a possibility. This remains to be determined with the client and is covered in the parallel parking strategy for the area.

4.5.4 The route is also intended to have the visual attributes of a traffic calming scheme and have appropriate features distributed along it, aimed at keeping general traffic speeds below 20mph. Speed reducing features are proposed that might include with variable road widths and tight radii at bends. A calming feature proposed is the tight radius bends proposed at the crossing of the north-south Sandy Lane, with tight radius turns implied for vehicles negotiating the junction.

4.5.5 Development along the corridor is shown in the masterplan options to be higher density along the frontage of the corridor, with relatively tall buildings placed close behind the footway and main parking facilities being located behind the buildings.

4.6 *Public transport provisions for the site*

4.6.1 Four elements need be addressed in respect of public transport provision in the regeneration area

- The adequacy of the indicative route as a piece of infrastructure
- Demand for and accessibility to public transport
- Whether and how services might be provided to the area
- How might any bus links and the existence of the site itself beneficially integrate with the wider picture of public transport provision

4.6.2 As a piece of infrastructure, there are several aspects of concern evident:

4.6.3 The redevelopment site proposes establishment of a bus gate at its eastern end, the form of which demands some consideration. Design advice is available from official and professional publications, but care is needed to enable such a gate to function as intended, and let through only authorised vehicles whilst presumably not being an impediment to pedestrian and cycle movements. It will be necessary to think about enforcement measures if it is likely that significant disregard of the restrictions takes place.

4.6.4 The viability of the bus gate requires certain other fundamental issues of practicality to be resolved. The access is not presently a public highway and securing the right of access may prove to be an obstacle. Though the space is available to provide the intended access gate and right of way, its absence would render the concept of the bus route through the site unviable, leaving only the option of a self-contained shuttle service. The eastern extremity of the site would be difficult to serve by a shuttle owing to the limited physical dimensions of much of the highway infrastructure: the commercial unattractiveness of what remains capable of being served must therefore be questionable.

4.6.5 The proliferation of traffic calming features, though laudable for speed management purposes must be treated with caution in respect of the impediment presented to bus operations. Certain varieties of calming features work relatively well with buses, but vertical obstacles if considered for use must be treated carefully so as not to severely jolt the bus. It must be remembered that unlike most road vehicles likely to be in the area, a regular bus service has to repeatedly and frequently pass over these features, with resulting risks to passenger and driver comfort and safety as well as the effects on the vehicle.

- 4.6.6 On-street parking or traffic calming features will potentially turn lengthy stretches of the route into a single lane with passing places, operation of which would be partly regulated by the traffic measures and partly by driver behaviour.
- 4.6.7 Tight turn radii are evident and it is possible that anything other than a smaller bus would be able to negotiate these turns. Occupancy of most of the carriageway width is likely to be needed and certain vehicles may not be able to undertake the turns at all.
- 4.6.8 Despite these comments, it is believed that the concept of the through route is a good idea, however the large number of contrary aspects may make this either unattractive to a bus operator, impossible to serve, or not really worth serving. Further consideration is given in design standards and parking aspects within the Planning Guidance.
- 4.6.9 In respect of demand and accessibility, it is contended that the starting point for determining the best approach to serving a new area is to look at prospective needs from the 'user accessibility' point of view. This is defined as the ease with which various facilities or service (destinations) can be reached. The relevance of this to Porthcawl's regeneration is that building up a new neighbourhood provides the best opportunity to achieve optimum standards of accessibility from the outset.
- 4.6.10 The existence of good quality public transport services is a critical part of the mix of modes needed to satisfy an area's accessibility needs. The availability of bus routes directly serving the site by running through it will address at least three distinct sets of travel demand:
- Travel within Porthcawl - As the regeneration area is relatively close to the town centre, this is likely to be mainly, though not exclusively, of value to those with mobility impairments.
 - Travel to Bridgend - Travel by bus from Porthcawl to the nearest major town generates demonstrable levels of demand already and this quantity is likely to be added to by the new development area.
 - Travel to other towns and further afield - Porthcawl is linked both directly by bus and indirectly by rail to a wide range of potential destinations in the region. As there are limitations to providing direct links from the development area to the wider catchment, accessing this area implies a degree of interchange between services, bus to bus in Porthcawl itself or bus to rail in Bridgend or other station location.
- 4.6.11 In each case, there will be different types of destination the travelling public will wish to gain access to, with education, health and routine retail journeys likely to be more concentrated within Porthcawl, and employment and leisure-related trips being more widely distributed.
- 4.6.12 The ideal way to investigate these access-based relationships is by Accession modelling, which Sewta is likely to be conducting at a strategic level in developing its RTP. It would be possible to develop accession modelling at a local level, which would enable the quality of service provision to be

- quantified. This has not been taken forward here, pending clarification of Sewta's work and indications of support from BCBC as client.
- 4.6.13 Access to bus stops assuming the route was established, would bring most of the site within 300m of a bus service. Without the route, the eastern residential areas would lie outside the 400m threshold sought by LABS as the ideal maximum walk distance to a bus stop.
- 4.6.14 BCBC's public transport manager observes that the 400m spacing of bus stops suggested for the site is double the 200m spacing usually used by the Council as a standard. It should be noted that merely altering the spacing would naturally reduce access time and improves accessibility even if service levels remained the same.
- 4.6.15 These access threshold issues assume a bus service to the area had been provided. If this did not happen, buses would need to be accessed in central Porthcawl or, if improved or reintroduced services were made available, on New Road.
- 4.6.16 The client brief expresses an interest in likely demand to be generated by the development area. It is possible to produce forecasts using TRICS software to produce estimates of total trip making, and taking a view on modal splits based on experience from at other sites. The design guide gives some indications of the scale of development and this is being refined in the parallel commission on development mix and planning guidance.
- 4.6.17 In respect of how services might be provided, current bus operations in Porthcawl sees bus routes mainly running on a clearly defined network and often at frequencies of hourly or better.
- 4.6.18 There are several ways by which this network could be amended to service the development site. From a purely operational standpoint, three possible strategies can be suggested:
- Make strategic diversions of existing (mainly interurban) services.
 - Strengthen the local service whilst leaving existing longer-distance services untouched.
 - Leave all the services alone but see what can be done to improve pedestrian access and all other accessibility measures (could include community transport).
- 4.6.19 Halcrow's recommendation would be to strengthen the local service and avoid alterations to the longer services. This is based on the understanding that:
- The introduction of diversions risks importing unreliability from one service to another, and;
 - The overall need for additional resources to maintain timetables could be greater when long distance services are extended in scope.
- 4.6.20 A preference for strengthening the local services has also been put forward by BCBC public transport rather than diverting longer distance services.

- 4.6.21 It is therefore recommended that investigation is needed into the costs of providing a dedicated service. Two options are suggested, either a development of existing local services so as not to demand re-routings of their existing operations or the provision of a new dedicated service. In order to explore these options, further dialogue with local operators and BCBC is needed: it should be noted that the main existing town service is subsidised and it is therefore more likely that a new town service would also need external support.
- 4.6.22 One ever-present option would be to do nothing to bus services. This would be consistent with making the most of walking and cycling as the alternative to car trips and make the most of the character of the area and its intended layout. However a lack of public transport services may isolate persons with mobility impairments in the development area and this community is potentially present in all sections of society and not just those traditionally regarded as 'disabled'.
- 4.6.23 The study brief expressed a preference for providing services along New Road. This could be achieved through either new or diverted services, but the desirability of serving New Road was questioned by BCBC public transport, as operators had moved away from it, following introduction of traffic calming features. Reconsideration of this issue would be possible in the event of a new local service being provided, but the diversion of inter-urban services is not recommended.
- 4.6.24 It is the Council's objective to promote integrated transport, especially among public transport modes. Objectives 3 and 6 of the LABS make this clear. While capital investment is geared towards integrated infrastructure, not much progress has been made in terms of integrated ticketing.
- 4.6.25 When considering integration aspects both infrastructure and service elements need to be borne in mind. The former should be the more straightforward to deal with, as resources permit:
- Physical juxtaposition of facilities to enable modes to operate jointly
 - Removal of barriers to reinforce the above
 - Creation of unified physical environment
 - Development of the facilities themselves. In the case of Porthcawl, bus, coach, taxi, cycle, pedestrian, mobility-impaired and car parking facilities can be drawn together and this implies some thought is given to what needs to be improved or provided to make this happen.
 - In the case of car – bus integration, car parking and pick-up drop-off could be important, with the latter being a particular issue where long distance coaches serve an area.
- 4.6.26 It is important to remember that physical integration is achieved by the foot (i.e. walking) and the eye (i.e. signage/design), so ease of walking and clear signage are prerequisites for a good standard of integration.

4.6.27 In respect of the “service” aspects of integration, mention is made of the restrictive environment for development of ticketing initiatives which must not infringe business competition regulations. However there is scope to remain legally compliant where:

- A single operator is involved
- Subsidised services are involved
- Inter-available tickets do not detract from any operator’s own offers
- Concessionary fares are by definition, inter-available
- Smart cards (in theory) could be programmed to be inter-available

4.6.28 Integrated publicity materials can be produced. This is commonplace, but may require public authority action to achieve a result.

4.6.29 Network identities may be developed in an integrated fashion, but again may require the authority to take a lead.

4.6.30 To assess these service and infrastructure strands in more detail, a site visit was undertaken in December 2006, and covered the following:

- Travelling on bus services X2 and 63 between Bridgend Bus Station and Porthcawl;
- An overall site survey carried out on foot, to gain an appreciation of the proposed regeneration site; and
- A visual site inspection of the roads, pedestrian areas and public transport facilities and infrastructure in Porthcawl.

4.6.31 A series of photographs were also taken to support this work and can be found in Appendix O with captions.

4.7 Site review of public transport provisions

4.7.1 An initial journey was made to Porthcawl by train to Bridgend railway station and bus from Bridgend bus station. Bridgend bus station is sited within approximately 400m of Bridgend Railway Station. Interchanging between the railway and bus stations was found to be easy, however there is a slight difference in levels between the railway station and the bus station, and this could present some difficulty for disabled and elderly people

4.7.2 Bridgend bus station was found to be a well maintained, fully accessible, clean and user friendly bus station with good ancillary facilities and clear visible information displays to supplement the paper based information displays. There was a strong visible staff presence to aid safety and security of passengers. This bus station formed an excellent high quality gateway to the bus network. See photographs 1 and 2.

4.7.3 Bus services X2 and 63 are operated by First Group and are the main services linking Bridgend and Porthcawl. The former was found to be a high quality and high frequency accessible coach service and is the most direct and rapid bus service between Bridgend and Porthcawl. Service 63 follows a longer route via Pyle and its railway station. Once outside Bridgend and Porthcawl the X2 and 63 and other services tend to operate in areas that are predominantly rural or semi rural in character.

- 4.7.4 In respect of carriageway widths in the built up areas of Porthcawl the bus routes generally follow narrow residential roads where high levels of on-street parking was observed for example on Northways and Woodland Avenue. The on-street parking however did not appear to seriously impede the movement of buses that were used during the site inspections, however the situation may be different at night and during the holiday season.
- 4.7.5 Traffic calming measures were noted on roads in Porthcawl that are also bus routes, for example New Road to the north of the proposed regeneration site. Vertical deflections are not recommended for bus routes. Where possible other traffic calming measures with horizontal deflections, such as chicanes, would be more suitable for buses and emergency vehicles.
- 4.7.6 During the bus journeys that were undertaken on services X2 and 63, the drivers were observed to give alighting passengers time to get out of their seats to alight after buses had stopped. This practice was welcomed because it provided passengers with a comfortable and safe journey particularly elderly and disabled people and parents with children and buggies.
- 4.7.7 The main bus stops that were identified in Porthcawl Centre are located at the following places:
- South Road;
 - Lias Road; and
 - New Road/Eastern Promenade (near the existing roundabout)
- 4.7.8 All the above stops are used by the X2 service. See photos 4, 5 and 6.
- 4.7.9 The main bus stops in Porthcawl Centre are located on **South Road**. South Road runs parallel with the southerly end of the Portway dual carriageway and is sited to the north of John Street; the main pedestrianised shopping area of Porthcawl. A subway under Portway provides an accessible route for pedestrians between the bus stops on South Road and a residential area on the east side of the dual carriageway adjoining Hutwyns Terrace.
- 4.7.10 The main components of the stops on South Road include the following:
- A long lay-by for setting down and picking up passengers and for buses to layover;
 - Three bus stands numbered 1-3;
 - Three narrow and short enclosed shelters;
 - Access kerbs at the boarding points;
 - Bus stop clearway to protect the bus stop area from obstruction by parked cars;
 - Automatic public toilet; and
 - Information cases at each stop containing timetable information

- 4.7.11 The LABS suggests that out of 18 aspects of quality, the terminal was “compliant” only in 6, although this does not necessarily indicate that it is without some advantages. From observations of the site, the following conclusions were drawn:
- Utilisation rates indicate the facility is able to cope adequately with current bus use levels, however demand for the stops on the occasions that they were visited was high and there was evidence to suggest that the shelters are not big enough to cope with passenger demand when the weather is inclement.
 - The general state of maintenance of the shelters and stops was found to be good and there was no evidence of vandalism
 - Lack of bus layover facilities did not appear to be a problem in the area
 - The LABS suggests the facility satisfies the requirements of the Disability Discrimination Acts, although a formal audit might identify more detailed issues needing remedy.
 - Issues of passenger safety and security issues, or public perceptions of this facility are unknown and worthy of investigation.
- 4.7.12 Overall the current facility is believed to offer some advantages, being located close to the town centre and capable of being improved to address identified deficiencies. On the other hand, they fall somewhat short of a modern standard of on-street terminal area and are not a particularly attractive feature of the streetscape. A strong contrast with Bridgend can now be made.
- 4.7.13 A bus stop shelter and associated infrastructure was noted on Lias Road. See photograph 5. This stop was noted to be well used however the shelter is small and insufficient to cope with demand.
- 4.7.14 Three bus stops and associated infrastructure including 2 cantilever shelters are provided on the east side of the town centre in the vicinity of the roundabout at the junction of Eastern Promenade with New Road. This location is where routes that follow New Road, Eastern Promenade and Northways converge. The stops in this location are within close proximity to the westerly edge of the proposed regeneration site which is occupied by a fairground.
- 4.7.15 Bus stops are provided throughout the bus network in the Porthcawl area and possess a range of facilities depending upon their location and level of use, for example shelters are not provided at all stops. Parked cars encroaching onto bus stop area were noted at some stops for example on Mary Street as shown in photograph 7.
- 4.7.16 BCBC wishes to understand whether there is any justification for providing a new ‘bus station’ in association with the redevelopment scheme. Some consideration of the opportunities for terminal relocation in order to serve both the regeneration area and the rest of the town is requested.

- 4.7.17 Based on the condition and operation of the current facility, development of alternative locations may not offer an equivalent quality of access to the town centre.
- 4.7.18 It is not clear that a major relocation into the redevelopment area would by itself produce significant benefits for that area without detracting from access to the town centre from elsewhere in Porthcawl. The new foodstore shown in the development area is located at a similar distance to the bus stops as the town's main shopping street and is potentially served by the through bus route even more conveniently.
- 4.7.19 The current facility would be located in close proximity to the proposed information office, which would be an ideal method of integrating information delivery and safety, to benefit bus public transport users.
- 4.7.20 The on-street location of the current facility has not caused noticeable traffic management or environmental issues, although the walking route into the main shopping area is impeded by safety barriers forcing an unhelpful detour for users. This ought to be addressed as a priority.
- 4.7.21 The justification for securing improvements to the bus terminal area must be considered against the policy background, which should express the community's needs and aspirations, the opportunities for securing improvements and the state of the current facilities. In respect of each:
- The LABS provides coherent policy support for improving Porthcawl's bus terminal area
 - The condition of the John St shelters also lends support, through their indifferent quality in comparison with what BCBC has achieved in Bridgend
 - The ability of BCBC to secure funding through normal funding allocations is unclear, however the development site does present an opportunity to address funding shortfalls
 - The masterplan does not appear to show a commercial area of similar size to central Porthcawl, which would benefit from the footfall generated by a bus terminal. This may change if the plan is altered, but for now, the justification for a change in location of the bus terminal area appears weak.
- 4.7.22 More generally within the town, some stops appeared to be in locations that appeared to be remote from junctions, desire lines and crossing points. This could be for historical reasons as stops have tended to be moved for traffic management and road safety reasons. It is highly likely that stops have been in their current locations for many decades but their relationship with the surrounding areas, and overall accessibility may not have been considered for some time irrespective of land use changes that may have taken place.
- 4.7.23 Most of the bus network in Porthcawl occupies roads that are predominantly residential in character. Some pedestrianisation of the town centre was noted on John Street the main shopping street which lies between the Esplanade and Lias Road. Vehicle access is permitted on John

Street at limited times for servicing purposes, however buses are prohibited at all times from using this street.

- 4.7.24 The site of the proposed regeneration scheme lies to the east of Porthcawl centre and the nearest existing bus routes to this site travel along Eastern Promenade and New Road. Most of area of the proposed regeneration site lies within 400 metres of New Road.
- 4.7.25 Two access roads were identified linking New Road and the regeneration site, as follows:
- Sandy Lane (west end of New Road);
 - Rhych Avenue (easterly end of New Road opposite Hookland Road)
- 4.7.26 Rhych Road is approximately 10 metres wide and is privately owned. Its main purpose appears to be for providing access to Trecco Bay caravan Park, Trecco Bay and beach and a lifeguard station near Rhych Point. See photographs 8 and 9.
- 4.7.27 There are residential properties running along the northerly boundary of the proposed regeneration site on New Road. A gap exists between these properties at a point opposite the junction of New Road with Queens Avenue as shown in photograph 10. The gap provides pedestrian access to an un-surfaced route that is sited between the backs of the houses (between Rhych Avenue and Sandy Lane) and the northerly boundary of the proposed regeneration site as shown in photograph 11.

4.8 *Recommendations for action*

4.8.1 The following recommendations are intended for further consideration to form a strategy that can be developed and delivered for the short, medium and long term. The recommendations cover infrastructure, passenger facilities, services and network issues. Integral to this approach would be public consultation and close working with bus operators, the local authority, developers and both existing and potential bus users.

4.8.2 The recommendations encompass the following:

- Bus stop audit;
- Maximising catchment areas of stops;
- Bus stops hierarchy;
- Potential improvements to key bus stops in Porthcawl;
- Tackling sources of delay to buses;
- The proposed regeneration site and bus access and penetration issues; and
- Porthcawl Shuttle Bus.

Bus stop audit

4.8.3 A bus stop audit of all the stops in Porthcawl is recommended. Part of this exercise would be to create an inventory of the existing equipment and facilities including kerb heights, traffic regulation orders as well as the quality and state of repair of the footways in the vicinity of stops. The audits

would identify desire lines between stops and adjoining land uses as well as controlled and uncontrolled crossing facilities, dropped kerbs and tactile facilities. An assessment would also be made in relation to street lighting outside daylight hours and overall visibility of stops from the perspective of safety and security of passengers.

Maximising catchment areas of stops

- 4.8.4 Using GIS based census information assessments can be made of the catchments of existing stops and potential increases that could be generated by moving stops for example nearer to junctions and key generators of patronage such as community facilities and residential and work places. Within this work the relative spacing of stops on routes can be optimised.

Stops Hierarchy

- 4.8.5 A bus stop audit would enable a stops hierarchy to be created that would form a platform for investment decisions in relation to stop and access improvements. Tied in with this should be passenger boarding and alighting surveys. Stops that allow passengers to interchange directly to other services would be considered more important within the bus network than for example, school bus and alighting only stops. The most important stops in the case of Porthcawl are likely to be those at John Street, Lias Road and Eastern Promenade/New Road

Potential improvements to the main bus stops in Porthcawl

- 4.8.6 Observations taken during the site inspections of the passengers activity at the key bus stops in Porthcawl, principally at John Street and Lias Road, indicated that there may be a strong justification to upgrade and enhance the facilities with an emphasis on providing improved shelters, passenger safety and security and information provision. In relation to John Street there appears to be open land in public ownership at the rear of the existing shelters that would enable larger individual shelters to be provided or the provision of a high quality single shelter structures similar to those shown in photographs 12 and 13 on the A6 Quality bus corridor in Stockport, Greater Manchester. Step change improvements such as those illustrated in photographs 12 and 13 would provide a major improvement for passengers Porthcawl and would be compatible with the high quality gateway bus station in Bridgend.

- 4.8.7 In relation to Lias Road there may be scope to consider making the street one way and widening the footway to enable a larger high quality shelter to be introduced with associated passenger safety and security measures and improved information. A similar approach could be adopted for the stops in the vicinity of New Road and Eastern Promenade and improved signage would be recommended here as well as a review of crossing facilities.

Bus hub for Porthcawl

- 4.8.8 Although Porthcawl is a smaller settlement than Bridgend there may be a case for developing a bus station/hub within the centre that provides interchange between all services as well as layover and associated high quality passenger facilities. The difference in quality is quite marked, but this is the inevitable price of introducing a high quality element into an otherwise unremarkable transport experience.

- 4.8.9 The impetus for this could come from regeneration initiatives in Porthcawl, in particular retail, residential and leisure based development that may change the relative focus of the centre. It is not certain that the town's retail

centre of gravity will change as a result of the regeneration scheme, supporting retention of the John Street area as the focal point for buses. However if this were to change, there will need to be a future review of the bus network and service patterns to maximise overall access and penetration of bus services and help determine the optimum location for a central bus hub. Traffic modelling and traffic impact assessment work would be integral to this work.

- 4.8.10 Note that provision of a bus hub in the development would require an allocation of space sufficient to accommodate four stops (the 3 from John St and that at Lias Road), with sufficient room to provide a good quality waiting environment. So far the masterplan has not made a specific allocation.
- 4.8.11 The type of improvements that could be considered, either for the existing stops or a new bus hub include:
- Real time information equipment
 - Improved accommodation
 - Remote based Public Address
 - CCTV for security
 - Staff of electronic help / information point
 - Improved signage to assist integration with other modes
 - Completely trip/step free access in the entire central area
- 4.8.12 Identifying sources of delay and potential solutions
Reliability and regularity of bus services are two major factors that influence the attractiveness of services set against this are the overall running costs of services. Delays and causes of delays would be identified and quantified. Delays caused by indiscriminate parking at bus stops for example may appear small during each single trip, however a few seconds here and there and the associated operating costs and inconvenience that can result can be considerable when evaluated for example over a year. Various measures and techniques can be introduced to overcome these issues. For example bus boarders can be introduced and on-street parking bays. Bus boarders provide an opportunity to introduce shelters at locations where narrow footways prevent shelters being introduced. These sorts of approaches could be applied at a number of locations in Porthcawl. On-street parking bays can be effective provided space is available in areas where residential parking impedes bus movement.
- 4.8.13 The proposed development site and bus access and penetration issues
The proposed regeneration scheme to the east of Porthcawl centre could open up a number of opportunities for improving public transport. Existing services that travel along Eastern Esplanade and New Road for example could be diverted through the site; however this could have major implications in terms of taking services away from existing users who live close to established routes in established residential areas. The site does however lie within 400 metres of New Road which is a bus route and is close to the stops on Eastern Promenade. New and improved pedestrian routes between the site and existing bus routes and facilities could be developed if other opportunities that are discussed below are not taken forward.

- 4.8.14 The proposal does however provide an opportunity to develop an exclusive bus route linking the development site to the town centre. A high frequency shuttle service is envisaged that could be introduced to operate between the regeneration site and Porthcawl including a bus hub, where passengers could interchange between the shuttle and the wider bus network and services particularly the X2.
- Porthcawl bus shuttle
- 4.8.15 The shuttle service could be operated using small accessible and highly distinctive buses powered by either, clean diesel, dual fuels or totally on rechargeable batteries. Porthcawl is relatively level and the topography would be suitable for battery operated buses such as those illustrated in photographs 14 and 15 that show a successful shuttle service that operates in St Helens Town Centre in Merseyside. European funding initiatives could be considered to assist with the capital revenue for the suggested shuttle bus service.
- 4.8.16 The Porthcawl shuttle would operate on the existing highway and a designated route could be provided within the regeneration site that could be exclusively for buses, pedestrians and cycles. Exclusive access into the site could be provided directly from the highway network. This would give the shuttle buses rapid access into the site with minimum interference from other traffic and consequently shorter journeys and minimise delay. Bus gates with automatic bollards and camera control could be provided to ensure the access points into the regeneration site for the shuttle bus are enforced. A buses only link for small buses could be provided into the site from New Road using the gap that has been identified in the houses on the northerly boundary of the site.
- 4.8.17 The use of small buses for the shuttle service may open up opportunities for network enhancements in Porthcawl along streets where bus access is not permitted, for example through the pedestrian/shopping area on John Street which when visited in December 2006 appeared to be lacking in activity. See photograph 16.
- 4.8.18 Rhych Avenue could also be considered for access into the site by the shuttle bus ideally by creating a buses only route, and a parallel general carriageway and footways for other vehicles and pedestrians. This road is currently in private ownership however this is not considered to be a major obstacle provided access can still be maintained or be improved to the places that are currently served by this road such as Trecco Bay Caravan Park.
- 4.8.19 The general recommendations noted earlier, for summary purposes are:
- Consideration of the ‘through route’ carriageway design and on-street parking proposals (4.6.8)
 - Looking at accessibility analysis in conjunction with Sewta’s work (4.6.12)
 - Producing patronage forecasts once clear understanding of the detailed make-up of the site is available (4.6.16)

5 Cycling and Walking Strategy

5.1 *Introduction*

5.1.1 Cycling and walking are essential in creating an integrated and sustainable transport system. They offer healthy, convenient, cheap and clean methods of transport with many benefits for both the user and the environment. Cycling and walking are a key element of the Transport Access Strategy for Porthcawl, and consequently, early consideration of the best way to facilitate their use is essential. This Cycling and Walking strategy aims to ensure that the development of the regeneration area takes sufficient account of walking and cycling requirements in its phasing and development, especially in providing linkages to the town centre of Porthcawl and the wider cycle network.

5.2 *Policy Context*

5.2.1 This strategy is set within the context of a number of other policy documents at the national, regional and local level.

- The *Walking and Cycling Strategy for Wales* (December 2003) details the planning and delivery mechanism for both modes at the national level. The vision of the Welsh Assembly Government contained in the strategy is to halt the decline in walking and cycling and then to increase their role in how we travel in Wales. The promotion of leisure walking and cycling is an important part of realising this vision.
- At the regional level, the South East Wales Transport Alliance (Sewta) has adopted a revised Walking and Cycling Strategy for South East Wales 2006-2011. The vision for the strategy is 'to maximise the level of walking and cycling including their contribution to the prosperity, accessibility and well-being of the people in south-east Wales and the protection of the environment'. The regional strategy seeks to do this through a number of actions, including: developing walking and cycling links to and within town and city centres; developing walking and cycling links to employment sites, services establishments and leisure facilities in conjunction with travel plans; reallocating highway space for walking and cycling facilities as part of traffic management and road safety schemes.
- Bridgend County Borough Council is currently consulting on its Draft Walking and Cycling Strategy which will promote the role of walking and cycling as sustainable transport alternatives to the car for short to medium journeys. The Council will promote the role of walking and cycling as sustainable transport alternatives to the private motor car for short to medium journeys, and will promote the wider benefits associated with these activities. Porthcawl Cycle Strategy is a draft strategy produced by Groundwork Bridgend has been reviewed

and incorporated into the draft Bridgend Walking and Cycling Strategy.

5.3 *Walking and Cycling Opportunities*

- 5.3.1 Walking and cycling can be undertaken for many different purposes. Both are very convenient modes of transport for short journeys and can offer an attractive alternative to the private car. **Recreational walking and cycling** is of particular relevance to the study area. At present there is a traffic-free seafront route along West Drive, the main esplanade and the Promenade to the east. The magnificent views across the bay are a major attraction for visitors to the town. However, the route is not designed for shared use with cyclists, and does not provide adequate linkage through the amusement park to Trecco Bay. Attractive recreational walking and cycling routes outside of this area are limited. There is no adequate linkage to the town centre and the wider cycling network. As recreational walking and cycling are key elements of the proposed development, it is essential that the development is connected with wider walking and cycling links, and that access from the town centre is facilitated by appropriately planned and designed facilities.
- 5.3.2 **Cycle tourism**, whether participating in cycling as a holiday or day visit activity, represents a growing and valuable tourist market for Wales. Estimates suggest that Cycle Tourism is currently worth as much as £18 million to Wales, and that it could be worth over £34 million by 2007¹. At present, tourism cycling in Porthcawl is limited, although developing the market offers an attractive combination of economic benefits and low-impact tourism which helps to lessen the impact of the car and improve the image of a holiday destination.
- 5.3.3 The cycle tourism strategy for Wales also emphasises the need to develop a strong support infrastructure, including: the promotion of high standards of cycle route design, maintenance and mapping; the encouragement of improved public transport access for cycle tourists; and the development of an infrastructure of support facilities and services. In order to develop the potential of this market for Porthcawl, it is considered that a link to the National Cycle Network is essential in order to connect in the regional context, to maximise the opportunities presented by the coastal location.
- 5.3.4 Consideration of the role of **cycling and walking for shopping** purposes is of relevance to Porthcawl as an existing district shopping centre and also to the proposed supermarket development. It is anticipated that car parking provision associated with the new development will be limited, and facilities for pedestrians and cyclists will be introduced to encourage sustainable travel for shopping trips. The integration of these modes with local public transport services will be encouraged and schemes will be developed to facilitate their use, such as secure cycle parking, accurate Public Transport service information, home delivery services etc.
- 5.3.5 The **accessibility of employment** centres and education establishments is key to ensuring Porthcawl's transport system effectively provides for its residents. Main employers in the area are the Royal Porthcawl Golf Club,

¹ Source: 'Moving up a Gear' - A cycle tourism strategy for Wales, Welsh Assembly Government

Trecco Bay and the town centre. There is one comprehensive school and a number of primary schools in Porthcawl at present. Consideration of the contribution that walking and cycling can make to reducing reliance on the private car will be made in relation to these trips and those generated by employers in the proposed development.

5.4 *The Cycling and Walking Strategy*

5.4.1 The Cycling and Walking Strategy for the development site is structured under five integrated themes:

- increase the role of walking and cycling;
- develop routes through the site;
- contribute to the development of town and regional routes;
- provide supporting infrastructure; and
- encourage integration with public transport.

Increase the role of walking and cycling

5.4.2 The Cycling and Walking Strategy aims to promote the use of cycling and walking for trips in Porthcawl, and more specifically those generated by the new development. Through a combination of reducing the attractiveness of travel by private car and increasing the safety and convenience of more sustainable methods, the aim is to create a sustainable development with good public transport and pedestrian linkages, thereby reducing car dependency.

5.4.3 All routes through the development should be along traffic calmed streets that are safe and attractive for pedestrians and cyclists alike. The layout of road space and associated traffic calming arrangements will be sensitively designed to encourage sustainable travel. In addition to vehicular routes, developers will be required to contribute to the creation of attractive and convenient traffic-free routes through the development. These routes will ensure convenient linkages between destinations, and connections to attractions such as the marina, key open spaces (such as Foreshore Park and Griffin Park) and the residential areas. Wherever possible, these will be placed along strong desire lines. This will ensure the development enhances the connections in Porthcawl and strengthens the linkage between the seafront, regeneration area and the town centre.

5.4.4 Rather than an after-thought, provision for walkers and cyclists should be considered at the earliest opportunity. Good design of high quality links will ensure that travel by bicycle and on foot for leisure and shopping trips will be a positive and convenient choice. The Planning Guidance will include measures to moderate the speed of vehicles throughout the development area which will improve pedestrian safety and amenity.

Develop a network of routes through the development

5.4.5 The main movements for walking and cycling associated with the proposed development are anticipated to be:

- to and from the town centre;
- around the proposed marina; and

- along the Eastern Promenade, taking in the newly constructed Bay View Promenade.

5.4.6 Figure 5.1 indicates the routes proposed for walking and cycling within the development and demonstrates the permeability of the site through appropriately located footpaths and cycleways which link to the town centre from the main residential areas.

5.4.7 The linkages and connections for walking and cycling (both north-south and east-west) will be enhanced by developing the opportunity for enhanced coastal and town cycling routes:

- North-south linkages within the development have been strengthened in order to enhance the connection of the site to New Road, the foreshore and the wider context of Porthcawl. The supplementary planning guidance for the regeneration area (Porthcawl Development Framework), aims to enhance the integration of the development with the existing town of Porthcawl. One of the main objectives of the framework is 'to rediscover the town's relationship with its waterfront and to create an interface between the town and the seashore'. This is to be achieved through good design, land-use planning and the establishment of routes through the development. Access to and from Porthcawl to the north of the site for cyclists and pedestrians will be along Rhych Avenue (via a bus only route onto New Road), a traffic-free route east of Newton Primary School, or via Mackworth Road and Sandy Lane. Pedestrian routes will permeate the development site southwards to the seafront.
- There is a very strong east-west desire route emanating from Trecco Bay to the town and beyond. This has been preserved within the development framework, and has been directed along a linear route running from Rhych Point, passing the foreshore park, the new Bay View promenade and Eastern Promenade to the new marina. The route extends west along Porthcawl's existing esplanade and beyond to Rest Bay. The main east-west spine road for the development runs from the southern end of the Portway across to the eastern boundary of the site. North-south routes cross-sect this therefore it is important that adequate crossing facilities are provided for pedestrians and cyclists at all key locations.

Contribute to the development of town and regional routes

5.4.8 The design of the development area will be legible and present a coherent network of connecting routes and spaces. Routes created within the site should be extended beyond the boundary of the development to the town centre, the town's more established residential areas and indeed the regional network. The development will comprise a number of pedestrian and cycle routes that will be fully accessible from the surrounding hinterland, including access from New Road, Mackworth Road and Dock Street.

5.4.9 Although Porthcawl is not connected to the National Cycle Network at present, the national cycling organisation, Sustrans, plans to extend the network by creating an additional route between Margam and Bridgend. Figure 5.1 illustrates the proposed link into the National Cycle network along the seafront in Porthcawl.

5.5 Supporting infrastructure

5.5.1 The provision of good quality infrastructure will ensure a safe and convenient environment for pedestrians and cyclists. This will be encouraged along routes within the new development and also along the extended routes within the town, especially along John Street and the western Esplanade.

5.5.2 Pedestrian and cycle crossing points will be located along the seafront promenade to provide easy linkage to the town. Signage will be adequately and appropriately placed for pedestrians and cyclists, which will include directional signing in the form of finger posts and surface signing.

5.5.3 Cycle parking will be sheltered and secure in close proximity to the residential allocation within the development. For security reasons, cycle parking will be located in convenient spaces that are naturally overlooked. It will be required that appropriate levels of cycle parking be provided at the proposed supermarket development, leisure attractions (including the marina) and public open spaces. Well-placed cycle parking will also be required at intervals along the seafront promenade. In addition, cycle parking will be required at the bus terminus to the north of John Street.

5.5.4 The regional transport body Sewta is proposing a programme of regional branded secure cycle parking. Cycle parking provision will be based on new standards, forecast increased cycle use and pay heed to the tourism role propounded in the SPG rather than on basic minimum provision. The cycle parking standards for the development are taken from BCBC Cycling and Walking Strategy. The following table sets out the minimum level for provision of cycle parking which will be encouraged for the development and which should be provided in addition to other vehicle parking (outlined in the Parking Strategy).

Type of Development	Standard
High density residential	Long Stay (residents): one stand per bedroom
Mixed Use	Long Stay (employees): 1 stand per 5 employees Short Stay (customers): 1 stand per 40m ² public floorspace
Foodstore (over 1000m ²)	1 stand per 500m ² (staff and visitors)
Retail (up to 200m ²)	Long Stay (employees): 1 stand per 100m ² Short Stay (customer): 1 stand per 100m ²
School	Long Stay (staff): 1 stand per 5 staff Long Stay (children): 1 stand per 20 children Short Stay (visitors): 1 stand per 100 children

5.5.5 Section 106 payments provide funding for transport projects, enabling the Council to enter into agreements with developers to fund the provision of new infrastructure or improvement of the existing public transport network. Supporting infrastructure, including cycle parking in the public realm and appropriate facilities to serve the beach will be provided through developer

contributions. The delivery mechanisms for contributions can be found in the Delivery Statement of the Planning Guidance.

5.5.6 Integration with public transport
 In order to develop the potential for increasing the use of walking and cycling in Porthcawl, successful integration must be encouraged with the public transport network. Although there is no train service in Porthcawl, there is a good network of local bus services and integration to that will be sought through:

- facilitating routes to interchanges;
- improving facilities at interchanges; and
- encouraging bicycle carriage on public transport.

5.6 ***Cycling and Walking Action Plan***

5.6.1 The Strategy has been developed to improve the infrastructure and facilities for pedestrians and cyclists within the development site, and beyond into the town of Porthcawl. A number of action points arising from the Strategy contribute to the following action plan:

Cycling and Walking Action Plan
<p>Increase the role of cycling and walking as a transport mode, especially for short distance trips generated by the development</p> <ul style="list-style-type: none"> • All routes through the development should be along traffic calmed streets, sensitively designed to encourage sustainable travel. • Developers will be required to contribute to the creation of attractive and convenient traffic-free routes through the development. • Traffic-free routes will be placed along strong desire lines to ensure linkage between the seafront, regeneration area and the town centre. • The Planning Guidance will include measures to moderate the speed of vehicles throughout the development area which will improve pedestrian safety and amenity. <p>Develop a network of safe and convenient walking and cycling routes through the development</p> <ul style="list-style-type: none"> • North-south linkages within the development will be strengthened. Access for cyclists and pedestrians will be along Rhych Avenue (via a bus only route onto New Road), a traffic-free route east of Newton Primary School, or via Mackworth Road and Sandy Lane. • Crossing facilities will be provided where pedestrian and cycle routes cross-sect the spine road through the development.

Contribute to the development of town and regional routes

- Routes created within the site should be extended beyond the boundary of the development to the town centre, the town's more established residential areas and indeed the regional network.

Identify suitable supporting infrastructure

- The provision of good quality infrastructure will be encouraged along routes within the development and also along the extended routes within the town, especially along John Street and the western Esplanade.
- Pedestrian and cycle crossing points will be located along the seafront promenade to provide easy linkage to the town.
- Signage will be adequately and appropriately placed for pedestrians and cyclists, which will include directional signing in the form of finger posts and surface signing.
- Cycle parking will be sheltered and secure in close proximity to the residential allocation within the development.
- Cycle parking provision will be made for: each residential unit; at the proposed supermarket development; leisure attractions (including the marina); public open spaces; along the seafront promenade; and at the bus terminus to the north of John Street.

Ensure integration between walking and cycling and the wider public transport network

Integration to that will be sought through:

- facilitating routes to interchanges;
- improving facilities at interchanges; and
- encouraging bicycle carriage on public transport.