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Foreword

Torfaen County Borough Council recognises the status Blaenavon and the surrounding area has gained and in looking to the future, has commissioned this Study to examine ways in which travel to and around the town and it's World Heritage Site can be improved in a safe and sustainable manner. These improvements will reflect the requirements of the Council's Transport Plan, Regeneration Strategy and Development Plan aspirations.

This document is therefore intended to summarise and recommend short, medium and long term improvements to aspects such as public transport, tourism, walking and cycling etc to support town centre vitality, improved community access, commercial growth and visitor attractiveness. The document has undergone extensive preliminary scoping consultation with the local community, stakeholders and other partners. It is intended that this Study will support future efforts of the Council to secure the resources which are not yet in place, but which will be needed to bring its recommendations into effect.

Summary

Overview

In April 2004 Capita Symonds were commissioned by Torfaen County Borough Council to assess the current traffic and transportation situation in and around Blaenavon town centre and undertake a report detailing the analysis and subsequent recommendations (with costs) for the town. The recommendations are in line with the Local Transport Plan and the Blaenavon Industrial Landscape World Heritage Site objectives, and have been prioritised for implementation as and when funding becomes available to Torfaen County Borough Council and its partners.

This report will be a key document in establishing funding and delivering future regeneration works within the World Heritage Site of Blaenavon and is supported by separate Figures, Appendices and Executive Summary documents.

Objectives

The key transport issues in Blaenavon are accessibility and town dynamics. As a World Heritage Site, Blaenavon attracts a large volume of visitors, but evidence has shown that the large majority of tourists do not go into Blaenavon Town or visit all the attractions. Therefore both the town and the residents currently fail to fully benefit from economic growth that would be expected from an area with World Heritage status.

It is important to ensure that future tourist, residential and industrial developments in Blaenavon do not adversely affect accessibility to and around the town. Hence it is vital that successful strategies are produced for traffic management throughout the town and wider area, incorporating all car parks and existing and future road layouts. Management strategies will assist in the future planning of annual and one-off major events in Blaenavon and take into account estimated traffic growth and expected vehicular numbers in accord with parking issues and sustainable travel.

Methodology

Origin-Destination, Automatic Traffic Counts, Junction Classified Counts, public transport and parking surveys were undertaken in April and May 2004, together with updating inventories of the existing highway network, traffic and pedestrian signing and Traffic Regulation Orders. The data has been analysed statistically and/or qualitatively to develop recommendations for Torfaen County Borough Council. The results show that overall there is spare capacity in some car parks; there is minimal rat running through the town centre; poor provision of pedestrian and cycleway signage and a lack of integration between the tourist attraction sites.

Recommendations

Based on the results from this study a number of recommendations have been proposed and discussed with Torfaen County Borough Council, its partners and Traders in Blaenavon. The full recommendations are outlined in Section 15.0 and prioritised under Section 16.0 (see also Figure 16, Proposals Plan). The main recommendations, costed at 2005 prices are estimated at:

- **Introduce a one way system northbound on Broad Street**
£20,000 approx (widespread public support)

- **Encourage parking to be spread more evenly between the sites**
Ongoing
- **Employ a Town Ranger to deal with parking issues**
£30,000/annum
- **Undertake signing improvements for all car park locations and pedestrian routes**
Up to £20,000 (phased approach possible)
- **Locate cycle racks at the listed attractions and around the town centre**
Up to £5,000 (phased approach possible)
- **Establish coach parking on the town centre periphery at Rifle Green Car Park**
Approximately £1,500
- **Redesign Abergavenny Rd / North St / Upper Waun St Junction**
To improve safety, visibility, accessibility into the town centre plus additional parking £140,000
- **Establish a bike trailer service on bus route 30**
Approximately £6,000 per bus
- **Investigate the availability and cost of introducing a Vintage Bus Service for the main tourist attractions**
Ongoing
- **Install engineering measures on Broad Street, Varteg Road, Upper Hill Street and Ton Mawr Road (visual, horizontal and/or vertical measures)**
Up to £100,000 (phased approach possible)
- **Create a safe crossing point on Church Road and increase visibility**
Under World Heritage Centre funding
- **Provide Town Centre Gateways**
Up to £10,000
- **Establish Safe Routes To Schools**
Ongoing
- **Consider piloting a cycle-pool scheme**
£3,500
- **Provide crossing points on the A4043 to the south and southeast of the town**
Up to £20,000
- **Investigate establishing a cycle route through the town centre, connecting into the possible bike pool scheme**
Up to £1,500
- **Locate CCTV cameras in four identified locations**
Up to £7,000
- **Provide additional disabled parking bays to meet Parking Guidelines**
Existing provision is significantly below standard
- **Improve condition of Public Rights of Way and promote routes**
Greater signing, improved personal safety and resurfacing works required

1.0 Introduction

Background and Objective

- 1.1 Capita Symonds were commissioned by Torfaen County Borough Council to conduct a study of the existing traffic and transportation situation in Blaenavon (Figure 1). A copy of the brief is attached as Appendix A. Included within this report is an outline plan of action for integrating transport needs, incorporating anticipated growth and future town developments, to ensure that future accessibility to and within the town is sustainable and appropriate for the needs of both residents and tourists. This is a key document setting out how the regeneration of Blaenavon can be delivered.
- 1.2 The two key activities within Blaenavon are that of accessibility (to shops, primary schools, visitor attractions) and the dynamics of the town itself (as a community and a tourist attraction based on cultural heritage).

Methodology

- 1.3 Data collection has been undertaken in various formats to assess the current traffic and transportation situation in Blaenavon; Origin-Destination surveys, on and off-street parking surveys, Junction Classified Counts, Automatic Traffic Counts, surveys of existing Traffic Regulation Orders, signing, accessibility surveys and photographs from site visits. The collected data has been analysed, highlighting precise measures and features to form the basis for the proposals outlined in Section 15.0, Recommendations. Desktop research was undertaken with the help of Torfaen County Borough Council and their partners within the community: the Community Council and the Traders Association.
- 1.4 Self-completion questionnaires were left at various locations within the town centre and also with the Big Pit gift shop and the Tourist Information Centre at the Iron Works. Questionnaire surveys were also undertaken in Blaenavon at bus stops. Details are given under Section 2.0, Consultation and 4.0, Public Transport.
- 1.5 The recommendations (detailing typical costs) have been developed in consultation with officers of the Council and subsequently prioritised under Section 16.0, in terms of short, medium and long-term time periods. A2 proposal plans are included under Figure 16 illustrating the issues outlined in Section 15.0 and 16.0. All recommendations are consistent with the conservation aims and objective of the Blaenavon Industrial Landscape World Heritage Site.
- 1.6 It is intended that the parking surveys, Automatic Traffic Count, Origin - Destination and Junction Classified Count be repeated periodically together with questionnaires to find trends and changes over time in response to the work carried out by Torfaen County Borough Council under the phased approach (outlined in Figure 16). This data can be employed as an effective monitoring tool.
- 1.7 The Blaenavon Traffic & Transportation Study includes data on the A4043 approach to the town. However, little focus is given to the A4043 in this study, other than for the collection of statistical traffic information, as this information is to be detailed in a forthcoming North Torfaen Strategic Highway Improvement Study, covering Pontypool to Blaenavon.
- 1.8 Plans and information set out in the Unitary Development Plan strategy for Torfaen, which includes the regeneration and revitalisation of the urban areas in the north of

Torfaen, including the World Heritage Site, and also Torfaen's Local Transport Plan and subsequent Annual Progress Reports have been taken into account whilst developing this report.

2.0 Questionnaire Responses

2.1 To understand existing travel patterns and highway issues of concern to the public, a series of interviews were undertaken and self completion questionnaires provided.

Existing Bus User Survey

2.2 To ascertain existing travel trends and users' perception of services and facilities in Blaenavon, a questionnaire survey was undertaken at three bus stops in Blaenavon Town Centre:

- Market Street
- High Street
- Lion-street

2.3 Surveys took place on Tuesday 25th June 2004, between 07:00 and 18:00 hours to provide coverage over a typical working day.

2.4 A sample survey sheet is included in Appendix B. The results, in terms of public transport, are summarised in Section 4.0.

Existing Travel Habits Survey

2.5 In addition to the survey of existing bus users, it is also important to identify the modal choice of visitors to, and residents of, Blaenavon.

2.6 In order to reflect potential differences in habits, it is important to record responses over a typical working week. This would be difficult to achieve utilising an enumerator - administered questionnaire survey due to resource and cost issues. It was therefore decided to provide questionnaires for self-completion at key locations, which reflected the probable destinations of residents and visitors (Table 2.1).

Survey Location Field	Number Of Responses
Morris Butchers	66
Big Pit	45
Blaenavon Library	9
Blaenavon Iron Works	5
Railway Shop	2
Bookshop	1
Mike George Fruit & Veg	0
Nappiland General Store	0
Total	128

Table 2.1: Survey Location and Response Rate

2.7 Each potential location was contacted to request their participation in the survey and request their publicity to visitors/customers. Each location was extremely cooperative and this assistance is gratefully acknowledged in facilitating the surveys.

2.8 Questionnaire collection boxes were left at each site with a supply of blank questionnaire sheets. Instructions were left to display the questionnaires from Saturday 22nd May to Friday 28th May 2004 (inclusive).

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- 2.9 In view of the self-completion methodology, it was important to produce a questionnaire that did not appear too long, which may dissuade a potential participant. Questions were a mix of multiple choice to speed completion, whilst two open questions were included to provide an opportunity for respondents to list potential improvements or issues which were not covered elsewhere. A sample survey sheet is included in Appendix C.
- 2.10 60% of the respondents were residents with 40% being tourists, providing a good mix of results. During site visits, discussions were also held on-street with a number of residents shopping in the town centre. The local viewpoint given was often that off-loading along Broad Street is a large problem due to conflict with 2-way traffic that is permitted along the narrow street. Further perceptions were that the footways are extremely narrow, exacerbated by the works being carried out on the town building frontages, illegally parked cars and vehicles mounting the footway to pass other moving and stationary vehicles.
- 2.11 Previous public consultation with residents of Blaenavon, as part of implementing the signals at the Church Road/ Prince Street junction in 1999, highlighted a number of comments relevant to this study:
- Regeneration of town centre required urgently
 - Waste bins
 - Toilets
 - Benches
 - Shopping facilities
 - Cleanliness
 - Increase signing to town centre and parking areas
 - Implement traffic-calming (Broad Street in particular)
 - Prevent parking on-streets / lack of enforcement
 - Reverse one-way system on King Street
 - Provide a street map in the town centre, listing shops and routes to other attractions
 - Pedestrianisation of the town
 - Change signing to encourage all visitors (coach, cycle and car, etc.) to turn into the town centre rather than continuing straight up to Big Pit
- 2.12 These issues, to varying degrees, have been incorporated into the Blaenavon Traffic & Transportation Study.

3.0 Parking Summary

- 3.1 All parking locations in this section are shown in Figure 2a and 2b. Where reference is made to photographs, these are shown in Appendix D (photograph locations are shown in Appendix E).
- 3.2 12-hour surveys (07:00 to 19:00) were undertaken on the Bank Holiday of Monday April 12th 2004 (Table 3.1) at the Big Pit Car Parks (7-10) and off-street undefined parking area (29), at the Pontypool and Blaenavon Railway Car Park (5), at the three Garn Lakes Car Park (3, 4 & 6), at the Iron Works Central Car Park (1) and disabled spaces (2) on site. The Bank Holiday was chosen as the survey date to represent a worse case scenario at the tourist centres and on the day of survey there was very good weather. The remaining off-street car parks of Blaenavon Town Centre (Table 3.2) and 28 on-street locations (Table 3.3, 1-28) were surveyed on Friday 7th May 2004. It was assumed that an average weekday would represent a worst-case scenario for the town centre parking surveys.
- 3.3 The total parking capacity of the car parks and streets surveyed within Blaenavon is 681; 120 on-street spaces in the town, capacity for approximately 50 vehicles 'on-street' at Big Pit, and 511 off-street parking spaces around Blaenavon (363 at tourists sites and 148 at town centre car parks). All spaces are operated long term and are free of charge at this time. The occupancy and duration of stay data for all surveyed parking sites is provided in Appendix F.

Off-street Survey

	Location	Capacity	Peak No. Vehicles	% Occupied (Peak)	Duration (<1hr)
1	Iron Works - Main Car Park	41	12	29	78%
2	Iron Works - Disabled Parking	2	1	50	-
3	Garn Lakes - Overspill Car Park	60	1	2	100%
4	Garn Lakes - lakeside Car Park	30	2	7	88%
5	Garn Lakes - Railway Station Car Park	80	21	26	71%
6	Garn Lakes -Whistle Road Car Park	8	3	38	91%
7	Big Pit - Top Car Park	37	41	111	19%
8	Big Pit - Middle Car Park	63	60	95	23%
9	Big Pit - Bottom Car Park	42	44	105	22%
10	Big Pit - Coach Car Park	8 coaches	31 cars	-	16%

Table 3.1: Summary of Off-Street Parking Data (Monday April 12th 2004)

11	Blaenavon Car Park - Market Street (small) Car Park	20*	15	75	57%
12	Blaenavon Car Park - Market Street (large) Car Park	30*	18	60	40%
13	Blaenavon Car Park - Ivor Street Car Park	9	6	67	25%
14	Blaenavon Car Park - Prince Street Car Park	22	5	23	55%
15	Blaenavon Car Park - Lion-street (Southside) Car Park	31 + 1 disabled	32	97	55%
16	Blaenavon Car Park - Lion-street (Northside) Car Park	9	9	100	48%
17	Blaenavon Car Park - Broad Street / Queen Street Car Park	16	9	56	46%
18	Blaenavon Car Park - Burford Street Car Park	10	8	80	35%

*Capacity and survey data pre-dates renovation works

Table 3.2: Summary of Off-street Parking Data (Friday May 7th 2004)

- 3.4 A summary of supply and demand for off-street parking in and around Blaenavon is provided in Table 3.1 and 3.2 above. The tourist site car park with the highest capacity is Garn Lakes (5) with 80 spaces; the lowest capacity car park is the Iron Works disabled parking site with 2 spaces. The town centre car park with the highest capacity is Lion Street, Southside (15) with 33 spaces; the lowest capacity car parks are Ivor Street (13) and Lion Street, Northside (16) with 9 spaces.
- 3.5 In general, the car parks with the highest levels of demand (occupancy) were the tourist sites, away from the town centre, with the lowest demand being at the Garn Lakes sites:
- Number of vehicles per day
 - Highest - Big Pit (8) at 155 vehicles¹¹
 - Lowest - Iron Works (2) at 1 vehicle¹¹¹/Garn Lakes (3) at 2 vehicles
 - Average duration of stay
 - Highest – Iron Works (2) at 5.5 hours
 - Lowest – Garn Lakes (3) at 30 minutes
- 3.6 An overview of the town centre car parks is included for a comparison against the tourist site car park profiles.
- Number of vehicles per day

¹¹ Photograph 51

¹¹¹ Photograph 46,47

- Highest - Lion-street, Southside (15) at 96 vehicles
 - Lowest - Ivor Street Car Park (13) at 12 vehicles
- Average duration of stay
 - Highest - Burford Street Car Park (18) at 4 hours
 - Lowest - Prince Street Car Park (14) at 1.5 hours^{uv}
 - Duration of stay
 - Longest – Market Street (small) (11)/ Lion-street, north (16) both had 1 vehicle for the duration of the survey, Burford Street (18) had 2 vehicles for the duration of the survey and Market Street (12)^v had 3 vehicles for the duration of the survey.
- 3.7 Demand levels and average durations of stay at the tourist sites are generally much higher than in the town centre. However, it is important to note that less of the car park spaces at tourist sites are in demand (i.e. high levels of spare capacity at Garn Lakes and the Iron Works). The tourist site car park with the lowest total duration of stay for all vehicles parked was Garn Lakes (3) at 1 vehicle-hour. Prince Street Car Park (14) had the lowest total duration of stay for the town centre locations at 27 vehicle-hours, yet it is one of the largest car parks.
- 3.8 The average occupancy for all car parks surveyed was 146 vehicles (at 26% of capacity) with peak occupancy at 318 vehicles (56% of capacity). The demand level, in terms of occupancy, at the tourist sites are as follows:
- Peak occupancy
 - Highest - Big Pit (8) at 60
 - Lowest - Iron Works (2)/Garn Lakes (3) at 1
 - Average occupancy
 - Highest - Big Pit (8) at 26
 - Lowest - Iron Works (2)/Garn Lakes (4&6) at 1^{vt}
 - Peak occupancy as a proportion of capacity
 - Highest - Big Pit Coach Parking (10^u used as overflow parking for cars) at 388%^{vt}/ Big Pit (7) at 111%^{vt}
 - Lowest - Garn Lakes (3) at 2%
- 3.9 The above results show that there is a high demand for parking at Big Pit, but little demand at the Iron Works and Garn Lakes sites.
- 3.10 In comparison to the tourist sites above, the demand level, in terms of occupancy, in the town centre car parks are as follows:
- Peak occupancy
 - Highest – Lion Street, south (15) at 21
 - Lowest - Prince Street (14) at 5
 - Average occupancy

^u Photograph 60

^v Photograph 42

^{vt} Photograph 46,47

^{vt} Photograph 48

^{vt} Photograph 49

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- Highest – Lion Street, south (15) at 32
 - Lowest - Prince Street (14) at 3
 - Peak occupancy as a proportion of capacity
 - Highest – Lion Street, Northside (16) at 100%
 - Lowest - Prince Street (14) at 23%
- 3.11 Prince Street Car Park (there are currently plans to regenerate this site - paragraph 3.36) is under occupied compared to the Lion Street Car Parks which are in prime locations for residents and visitors using the town.
- 3.12 At three of the car parks surveyed demand exceeded capacity: Big Pit (7) and (9) 111% and 105% respectively and also the coach car park (10). Capacity was reached at the Lion Street, northside (16). Capacity was surveyed at over 85% (the acceptable threshold) at a further two car parks; Big Pit (8) with 95% and Lion Street, Southside (15) which reached 97%.
- 3.13 Taking all car parks into account, the highest number of vehicles parked at any one time park between 13:00-14:00 hours (50% of capacity), with 47% of capacity reached between 14:00-15:00 hours (265 vehicles parked) and 44% reached between 12:00-13:00 hours (253 vehicles). Hence the peak demand for off-street parking falls during mid-day. The tourist sites dominate this peak by accounting for 76% of the peak hour demand. When taking only the town centre car parks into account the demand levels peak between 10.00-11.00 hours and 12.00-13.00 hours (see Appendix F).
- 3.14 915 vehicles were surveyed in total for the off-street parking surveys, 607 of those vehicles (66%) parked at the tourist locations. 34% of vehicles were parked within the town centre.
- 3.15 Only 3% (16 vehicles) parked for 6 or more hours at the tourist sites. Of the two vehicles that remained for 8-9 hours, one was parked at Garn Lakes (5) and one was parked at Big Pit (8). It should also be noted that a vehicle was surveyed in one of the two disabled parking bays at the Iron Works for 5.5 hours between 10:00 and 15:00 hours.
- 3.16 Tourist sites:
- 33% (200 vehicles) parked for less than 1 hour
 - 16% of vehicles were parked on the undefined areas at Big Pit (on-street)
 - This was the busiest day of the year for Big Pit and hence visitor numbers were extremely high. On average days the overflow of vehicles is not present.
 - Five locations had over 70% of vehicles parked for less than 1 hour (including parking in the coach area and parking on-street at Big Pit), see Table 3.1
 - The Big Pit tour accounts for approximately 1 hour, plus a minimum of 1 hour for the further exhibitions, hence the duration of stay in these car parks was between 2-3 hours. However, it should be noted that at each car park approximately 20-30% of vehicles stayed longer than 3 hours.
- 3.17 There is a relatively high turnover of vehicles at the Iron Works and Garn Lakes Car Parks, where there is excess capacity. However, the Big Pit Car Parks were above capacity and duration of stays were much longer. Therefore, to encourage a better

distribution of tourist parking demand it is recommended that a vintage shuttle bus system between car parks be promoted (Recommendation P1/PT2).

- 3.18 Turnover at the Town Centre Car Parks initially appears to be higher than at the tourist sites with 48% (149 vehicles) parked for less than 1 hour. At all the town centre locations, the highest proportion of vehicles parked at any one time was less than 60%, with the majority of vehicles leaving within the 2 hours. Ivor Street Car Park (13) appears to be an exception to the rule in this instance, with a higher proportion of vehicles parked for over 3 hours. However, it can be assumed that the majority, if not all, of vehicles using the Ivor Street Car Park were from the associated residential development, Ivor Gardens. With existing under utilisation and high levels of short stay, more control of this private car park will be required if enforcement of on street parking restrictions commences (Recommendation P4-6).

On-street Survey

	Location	Capacity	Peak No. Vehicles	% Occupied (Peak)	Duration (<1hr)
1	Broad Street - Queen Street to Lion Street (East side)	6	8	133	82%
2	Broad Street – Lion Street to Burford Street (East side)*	0	0	-	-
3	Broad Street - Burford Street to Cross Street (East side)*	0	0	-	-
4	Broad Street - Cross Street to Commercial Street (East side)	8	11	138	82%
5	Broad Street - Cross Street to Commercial Street (East side)*	0	1	-	100%
6	Ivor Street (West side)	3	7	233	97%
7	Ivor Street (East side)*	0	3	-	100%
8	Broad Street - Cross Street to Burford Street (West side)	4	9	225	93%
9	Broad Street - Burford Street to Cross Street (West side)*	0	1	-	100%
10	Lion Street (South side)*	0	3	-	100%
11	Lion Street (North side)*	0	2	-	83%
12	Broad Street – Lion Street to Queen Street (West side)*	0	1	-	100%
13	High Street - Church Road to Institute (West side)	8	11	138	75%
14	High Street - Institute to Burford Street (West side)	16	12	75	41%
15	High Street - Burford Street to Lion Street (West side)	6	8	133	53%
16	High Street – Lion Street to Upper Waun Street (West side)	12	8	67	38%
17	Upper Waun Street (South side)	15	12	80	52%
18	Upper Waun Street (North side)	0		-	

	Location	Capacity	Peak No. Vehicles	% Occupied (Peak)	Duration (<1hr)
	side)*		0		38%
19	High Street - Upper Waun Street to Lion-street (East side)	6	5	83	62%
20	High Street – Lion Street to Burford Street (East side)	5	4	80	41%
21	High Street - Burford Street to Institute (East side)	12	9	75	50%
22	High Street - Institute to Church Road (East side)	5	5	100	100%
23	Market Street (North side)*	0	2	-	100%
24	Market Street (South side)*	0	0	-	-
25	Hill Street (East side)*	0	0	-	-
26	Hill Street (West side)*	0	0	-	-
27	New William Street (Northside)	0	15	107	40%
28	New William Street (Southside)*	14	2	-	100%
29	Big Pit - On-street/ Undefined Areas	50	50	100	14%

* Parking prohibited

Table 3.3: Summary of On-street Parking Data

3.19 A summary of supply and demand for on-street parking in Blaenavon town centre is provided in Table 3.3. Analysis of section 29, Big Pit on-street parking¹², has been included within the off-street section above. The section of road with the highest capacity is south of Burford Street (14) on the west side of High Street (capacity approximately 16 vehicles)¹³. The lowest capacity section (6) is on the west side of Ivor Street (3 vehicles)¹⁴. Figure 5 depicting the TRO around Blaenavon illustrates the restricted parking areas and hence should be referred to with Figure 2a of the parking data.

3.20 Demand for parking appears to vary throughout the town:

- Peak occupancy
 - Highest - New William Street (27) at 15
 - Lowest - Broad Street (5,9&12) at 1
- Average occupancy
 - Highest - New William Street (27) at 9
 - Lowest - New William Street (28)/High Street (20)/Lion Street (10&11) all at 1
- Peak occupancy as a proportion of capacity
 - Highest - Ivor Street, Westside (6) at 233%

¹² Photograph 50

¹³ Photograph 5

¹⁴ Photograph 37

- Lowest - High Street (16) at 67%
- 3.21 The data shows that New William Street had a high volume of on-street parking during the 12 hour survey period. It can be assumed that residents account for the majority of this due to the non-commercial nature of the street and proximity to the town. This was confirmed on numerous site visits. The data also shows that High Street has the highest parking capacity but the lowest demand. The data also showed that illegal parking generally occurs when people park to use the convenience stores on Ivor Street and Broad Street.
- 3.22 Capacity was reached at six of the on-street sections: Broad Street (x2), High Street (x2), New William Street and Ivor Street. The times fluctuate, with peak trends differing between the sites:
- Broad Street – 11:00-12:00 hours (4), however generally all day (8)
 - High Street – the general commuter residential pattern of 07:00-07:30 and 18:30-19:00 hours (beginning and end of survey, respectively). There is also a peak at 09:00-09:30 hours (15&22), corresponding to the school-run (in close proximity to Blaenavon Secondary School).
 - New William Street – 18:00-19:00 hours, relating to the residential nature of the street
 - Ivor Street – generally all day apart from 11:00-14:00 hours
- 3.23 The average on-street parking occupancy was found to be 66 vehicles, accounting for 55% of capacity. Peak occupancy was 139 vehicles, which is actually 116% capacity. Therefore it does not seem feasible to rely on any of the current street parking for further capacity, and a review of the TRO and enforcement levels is required. Clear signing will be necessary to direct the expected increase of visitors to the car parks or encourage greater use of public transport, cycling and walking. (Recommendation P4-6).
- 3.24 71% of vehicles (495) parked for less than 1 hour in the on-street locations, with 85% of vehicles staying for less than 2 hours. Only 48 vehicles (7%) remained parked for over 4 hours. This indicates a high turnover of parked vehicles and the 1 hour parking restrictions being observed.
- 3.25 The following on-street parking areas were observed to have more than 75% of vehicles parked for less than 1 hour; Broad Street (1,4,5,8,9&12), Ivor Street (6&7), Lion Street (10&11), High Street (13&22) and New William Street (27&28). Areas with vehicles parked for longer (2 or more hours) were on High Street (14-16, 19-21) and Upper Waun Street (18&19), which are all located in the same vicinity to the northwest of the town centre, representing a larger residential area.
- 3.26 Durations of stay and number of vehicles in on-street locations surveyed were as follows:
- Number of vehicles per day
 - Highest - Broad Street, Cross St. - Burford St., west (8) at 107 vehicles
 - Lowest - Broad Street, Cross St. - Commercial St., east (5 – prohibited location) at 1 vehicle
 - Average duration of stay
 - Highest - Burford Street Car Park (27) at 2.5 hours

- Lowest - Broad Street/lvor Street/High Street (5,9,12,7&22 respectively) at 15 minutes
 - Duration of stay
 - Longest – New William Street, north (27) had 4 vehicles and Upper Waun Street, south (17) had had 1 vehicle for 12-12.5 hours
- 3.27 There is a high turnover of vehicles parking in on-street locations, with durations of stay ranging from 15 minutes in the commercial areas to 2.5 hours on the residential roads.
- 3.28 When not taking into account the parking within restricted areas, the lowest number of legally parked vehicles is on High Street (22&19), which also has the least number of total hours that vehicles are parked and lowest average duration of stay. These observations have been supported during site visits.
- 3.29 There were TROs restricting parking over 14 of the on-street locations surveyed (Table 3.3): 13 sections were 'no waiting at any time' and 1 was 'no waiting at any time 8am to 8pm'. Vehicles were found to be parking illegally on Lion Street north and south (10&11 respectively)^{χ¹¹}, Broad Street (5,9&12)^{χ¹¹}, New William Street (27)^{χ¹⁰} and Market Street (23)^{χ¹⁰}.
- 3.30 Six of the streets with TROs did not have any vehicles parked at any time during the survey (2, 3 & 23-26). The other eight locations had illegal parking (5, 7, 9-12,18 & 29) with 1, 4, 9, 25, 12, 2, 8 and 7 vehicles (respectively) parked in total throughout the survey period. At half of the sites (2, 7, 9, 12) the vehicles were parked for less than 30 minutes. Vehicles were parked for over 1 hour at 2 of the sites; 2 vehicles on Lion Street, north (11), for up to 1.5 hours and 1 vehicle on Upper Waun Street (18) for up to 8 hours, with 6 vehicles on Upper Waun Street parking illegally for more than 30 minutes.

Renovation

Blaenavon Project Team

- 3.31 The car park renovation plans for Market Street, Broad Street and the new Boot Lane Car Parks provide 103 parking spaces in total - a 56% increase on the total number of spaces present at the moment in these areas. There is also provision being made for 8 disabled spaces (at 8% of the new spaces provided), which is 88% more than were provided before the renovation works/plans.
- 3.32 The two Town Centre Car Parks adjacent to Market Street have recently been renovated by Torfaen County Borough Council and provide a total of 49 spaces including 5 disabled bays. The plans for Broad Street show that the existing car park to the north of the town is to be extended and landscaped to provide 39 spaces (59% increase) including 3 disabled bays.

^{χ¹¹} Photograph 53, 54

^{χ¹¹} Photograph 31, 39, 44, 69-71

^{χ¹⁰} Photograph 63

^{χ¹⁰} Photograph 68

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- 3.33 The Blaenavon Project Team have proposed a new car park off Boot Lane, and envisage that it will be multi-purpose; in addition to providing 15 parking spaces it will also have the capacity to be used as events space.
- 3.34 All regeneration projects for Blaenavon should meet the material, branding and identity outlined in all approved Blaenavon design and marketing documents.
- 3.35 A Major Events Strategy is required for Blaenavon to manage the expected visitor numbers in terms of traffic flow and parking capacity (Recommendation M10). Under this strategy new and/or flexible sites for car parking may be highlighted along with temporary road closures to assist the flow of traffic to and around the town (see paragraphs 6.101 - 6.104). A program of sustainable transport to and around Blaenavon should also be implemented in association with such a strategy, in order to control the number of private vehicles accessing the town during a main event.

Boundless Parks, Naturally!

- 3.36 The External Works Department, together with the Countryside and Environmental Projects Division within Torfaen County Borough Council have outlined plans under the 'Boundless Parks, Naturally!' Dispersed Gateways Feasibility Study, for the car parks around Blaenavon to be strategic gateways into the World Heritage landscape. The document details further information on the renovation and establishment of the gateways. The car parks listed, that have special relevance to this study are the Iron Works (1), Garn Lakes Lower (3), Whistle Road (6), Garn Lakes Upper (4), Prince Street (14) and Blaenavon Railway (5) Car Parks. The small car park area off Garn Road has also been highlighted.
- 3.37 A further gateway site listed in the document is Rifle Green Car Park. Formerly a lorry park, this is situated off Abergavenny Road north of the town centre, and as such, is outside the original study boundary as specified in the brief (Appendix A). However, due to the location and size of the car park it should be seen as an important structure in terms of formulating strategies and establishing recommendations for Blaenavon as a whole.
- 3.38 Physical Regeneration Fund bid has been submitted for Broad Street and includes recycling, cycle racks and disabled parking facilities.
- 3.39 The car park 'gateways' can be used as orientation points with large map boards located at each site clearly illustrating walking and cycling routes, landscape features, other gateways and local attractions. There may also be scope to include information on local services. It is also important for the number of parking spaces at each site to be publicised, which could be in the form of leaflets distributed at local venues and neighbouring accommodation as well as being made available on the Internet. It is also possible for road signs on route to each car park to display capacity levels.
- 3.40 A general Parking Strategy, in line with the proposed Major Events Strategy above, could be introduced to monitor usage at all sites around the town centre and beyond, encompassing the whole of the World Heritage Site. Enforcement matters should be dealt with under the Parking Strategy, especially within the Town Centre Car Parks.

Coach Parking

- 3.41 There are currently no dedicated coach parking spaces in Blaenavon Town Centre and although Broad Street (town centre) is currently a bus route, it would not be

advisable to encourage coaches to travel through the narrow streets, adding to the congestion and vehicle-vehicle, pedestrian-vehicle conflicts. Therefore, the best option for encouraging coaches to bring visitors to the town is by providing suitable parking areas on the town centre periphery, with the preferred sites being Rifle Green Car Park, and the development of a coach parking area to the rear of the World Heritage Centre (Figure 19). The latter outline design can accommodate nine coaches adjacent to an existing pedestrian access to the southern side of Church Road.

- 3.42 There are coach-parking areas at Big Pit (10) and the Iron Works (1); approximately 12 spaces and one layover bay and one drop-off bay respectively. However, there were a number of private vehicles recorded in the coach parking area at Big Pit during the survey.
- 3.43 All the coach parking areas, including proposals for a coach drop off area opposite the World Heritage Centre, should be regulated through Torfaen County Borough Council. Enforcement and signing will be required. All signing must be in accord with the World Heritage Site style and be sensitive to sign clutter issues.
- 3.44 It is estimated that the World Heritage Centre will attract approximately 25,000 visitors per year (mainly school trips associated with coach travel). Therefore it is envisaged by the Blaenavon Project Partnership that a 1-way system of parking (6 cars) including bays for coaches and disabled parking (4 spaces), be implemented opposite. The coaches would undertake a kerbside drop-off westbound on Church Street, preventing visitors from having to cross the road. There would then be a link off the footway into the site, directly to the World Heritage Centre entrance. Coaches could then continue up to Rifle Green Car Park in the north, park opposite the centre in the bay, loop round Gilchrist-Thomas Industrial Estate to wait in the link road or park in the rear of the World Heritage Centre (Figure 19). Collection would then have to be either in the proposed parking area opposite the World Heritage Centre or kerbside (eastbound), both requiring pedestrians to cross Church Road and a Puffin Crossing recommended. Due to the narrow footway adjacent to the World Heritage Centre (1.2m wide), push button units should be mounted on swan neck or crank neck poles. These would be located to the back of footway to minimise obstruction.
- 3.45 Alternatively, parking for smaller (30 seater) coaches at Prince Street Car Park could be provided in association with the creation of a pedestrian route through the churchyard.
- 3.46 There is scope for Torfaen County Borough Council Countryside Division to work with volunteers, the Church, the World Heritage Centre and Countryside Team Wardens to develop and maintain a pathway through the churchyard leading up to the World Heritage Centre entrance, bypassing the road. Information on the history and architecture of the church could be provided to enrich the experience and link the walk to the town. The present alternative is for visitors to walk along the narrow footway on Prince Street and Church Road. The route through the church yard would be a much safer route for pedestrians, particularly those under accompaniment and the disabled.
- 3.47 The latter solution for visitors will create a safe and enjoyable walkway, reducing the need for mass crossing to occur on Church Road while simultaneously aiding traffic flow on Church Road and through the Prince Street signals.

Motorcycle Parking

- 3.48 There are no dedicated parking spaces for motorcycles in Blaenavon or at the surrounding tourist destinations. Careful consideration is required regarding the location, type and number of facilities which may be provided.

Pedal Cycle Parking

- 3.49 There are no stands or lockers within Blaenavon or at the tourist sites for parking cycles. Quality cycle infrastructure is important to attract and encourage cyclists to the area and to facilitate access to, and interlinks between, the town and tourist attractions from the National Cycle Network Route 46 and other circular tracks in the area. Cycle racks and other infrastructure proposed for Blaenavon should be of a quality design, to the specifications documented by the Torfaen County Borough Council for the World Heritage Site (Recommendation P10).

Disabled Parking

- 3.50 At present there are no parking spaces for disabled people in the town centre, with only eight planned within the regeneration works. None of the proposals have included plans for directional signing to the disabled bays. It should also be noted that the signing for disabled parking on site at the Iron Works is not obvious from the highway. The two disabled bays are only apparent if visitors drive into the first car park and see the location sign (Photograph 30). The disabled parking board at the Iron Works occasionally blocks the vehicle entrance or alternatively is not displayed at all, hence confusing visitors.
- 3.51 To provide 'access for all' adequate disabled parking spaces should be provided and enforced. Improvement to the signage of disabled parking bays is also required. This could be incorporated through orientation boards. All tourist attractions should have disabled parking bays and adequate parking provision should also be made within the town centre (Recommendation D1).
- 3.52 It is important that all attractions are Disability Discrimination Act compliant and enable all visitors to access the attractions regardless of ability. Spaces for blue badge holders should be provided as close to the facilities as possible.

4.0 Public Transport

4.1 Public transport can play a vital role in realising the potential of the World Heritage Site of Blaenavon, providing two main benefits:

- Facilitating access to and from Blaenavon for persons without access to a private car
- Minimising the negative impacts associated with increased travel (such as congestion and pollution)

4.2 In this section, the current level of public transport provision and main issues for providing an enhanced service in Blaenavon are identified.

Existing Provision

4.3 Route Coverage

Five regular bus routes serve Blaenavon^{xi}, providing a direct link with all towns between Brynmawr and Newport. Journeys with an origin or destination outside this core corridor require a change of service. Figure 3 (a-c) illustrates existing bus routes in and around Blaenavon.

4.4 There are no direct rail links or long distance coach services to/from Blaenavon.

4.5 Due to the structure of service patterns there is little demand for bus/bus interchange within Blaenavon itself, as users are more likely to catch a direct service or change at an alternative location to access destinations outside the Brynmawr Newport corridor. These include:

- Brynmawr Bus Station – Linking the Heads of the Valleys travel through service 30
- Cwmbran Bus Station – Linking local traffic with strategic routes 13/14, 30 and X24
- Newport Bus Station – Linking traffic originating from M4 Corridor and long distance coach services through 30 and X24
- Pontypool Town Hall – Linking traffic from the mid valleys through services 30 and X24

Whilst there is limited demand for interchange, the convergence of routes in Broad Street presents an opportunity to provide a focal point for bus services in Blaenavon. This could be achieved at relatively low cost through the provision of high quality shelters, possibility combined with CCTV to increase user perception of security.

Service Patterns

4.6 In contrast to many towns in South East Wales, Blaenavon enjoys a high frequency service (X24), with 4 buses per hour to/from Newport operating between 07:00 and 18:00 hours Monday to Saturday, after which an hourly service is provided until 22:20. An hourly service is provided between 11:30 and 22:30 hours on a Sunday.

^{xi} Photograph 31, 44, 50, 67

This Blaenavon to Newport service is the third fastest growing route in the UK (BBC News 30/06/2005).

- 4.7 An additional service (30) also provides an hourly service from Newport to Blaenavon, continuing to Brynmawr. During the period 1st March to 30th November, this service also calls at the Big Pit Mining Museum on a 2-hourly basis between 10:55 and 16:55 hours^{χ^{uu}}. A summary of existing routes and frequencies is contained in Table 4.1.
- 4.8 The majority of services operate on a fully commercial basis. The only exceptions being: Service 13/14 and 30, which are fully subsidised, while Service 30 is subsidised between Brynmawr to Blaenavon and Pontypool to Newport on selected services.

Service number	Route	Days of operation	Daytime Frequency	1st	Last	Operator
Principal Services						
13/14	Cwmbran - Pontypool - Blaenavon – Forge Side	Mon to Sat	Hourly	08:30	17:15	Phil Anslow
23	Blaenavon - Varteg Hill – Pontypool – Cwmbran - Newport	Mon to Sat	3 journeys	06:37	21:30	Stagecoach
23	Blaenavon - Varteg Hill – Pontypool – Cwmbran - Newport	Sun & BHM	Hourly	11:34	21:35	Stagecoach
30	Brynmawr - Blaenavon - Pontypool - Croesyceiliog - Newport	Mon to Sat	Hourly	07:45	17:45	Stagecoach
31	Blaenavon - Pontypool - Cwmbran – Newport	Mon to Sat	Hourly	18:00	21:55	Stagecoach
X24	Blaenavon - Varteg Hill – Pontypool – Cwmbran - Newport	Mon to Sat	4 per hour	06:37	22:30	Stagecoach
College/Market services (Limited Operation)						
10	Blaenavon - Pontypool College	College days only	1 journey	08:00	16:05	Stagecoach
66	Blaenavon - Usk College	College days only	1 journey	08:00	N/A	Stagecoach
40	Pontnewydd - Blaenavon – Abergavenny	Tue & Fri	1 journey	09:20	14:10	Stagecoach

Table 4.1: Blaenavon Bus Services - Summary of Route and Service Patterns

- 4.9 The Council is currently undertaking a Bus Subsidy Review on existing bus contracts. It has been highlighted that the Forge Side to Newport evening service has had very low patronage for an extended time and the Council, in best value terms, should carefully consider this situation.

Vehicle Provision

- 4.10 A variety of vehicles operate on the main routes, however service X24 is considered a flagship route by its operator and has benefited from a recent vehicle improvement programme. This has resulted in the introduction of a dedicated fleet of eight low floor vehicles, which are fully compliant with the Disability Discrimination Act 1995. All vehicles have been painted in a common livery, advertising service details and utilise low emission engines – minimising environmental impact.

- 4.11 The majority of the remaining services are operated utilising 21-25 seat midi buses, most of which are not compliant with the Disability Discrimination Act, although this is not legally required for all vehicles until 2016.

Infrastructure

- 4.12 The Regional Public Transport Strategy identifies a network of strategic bus corridors that link locations of regional significance. Blaenavon is located on one of these corridors and has benefited from the completion of a Sewta bus corridor improvement scheme in April 2004.

- 4.13 As a result, all stops within the area of interest (the locations of which are illustrated in Figure 4), excluding Big Pit where they are privately owned, have the following features:

- Flag sign giving location, route number(s), telephone enquiry number and provision for display of timetable information
- 180mm high raised boarding platform (where technically feasible)
- Provision of crossing point with dropped kerbs, adjacent to bus stop (where required)
- Improved lighting at stop

- 4.14 In addition, key stops have also been fitted with glazed shelters with internal illumination and provision for future installation of real time information^{χ_{υυ}}.

- 4.15 Since completion of the bus stop upgrades there has been evidence of vandalism, although this has mainly occurred at locations with limited natural surveillance^{χ_{υζ}}.

Information

- 4.16 The provision of accurate service information through a variety of different media is vital to enable travellers to plan their journey with confidence. Information is provided through the following channels:

- *Telephone Enquiry Service* – Traveline Cymru provide service, route and timetable information. The contact number is displayed on all buses, bus stop flags and printed timetables.

^{χ_{υυ}} Photograph 94

^{χ_{υζ}} Photograph 89

- *Internet Information* – Web based service information and a journey planner are available at www.traveline-cymru.org.ok, with links provided on the Council and tourist attraction websites. National Express Coach services also provide timetable information.
- *Personal Printed Timetables/Maps* – An A6 size timetable booklet is published by the main operator (Stagecoach in South Wales), which also includes details of other operators. The former TIGER consortium also produced a regional transport map that indicated linkages with strategic services.
- *'At stop' printed timetable information* – Following the installation of timetable cases under the package of improvements outlined above, the Gwent Joint Passenger Transport Unit are responsible for the production and installation of printed timetable information at each stop.
- *Orientation Boards* – There is scope to provide timetable information on the gateway car park orientation boards in collaboration with the Torfaen County Borough Council Countryside Division. This information would have to be updated regularly, depending on the nature of the information provided.

There is currently no Real Time Passenger Information system operational within Torfaen, although stops at which a shelter is provided are capable of being equipped with real time display units should such a system come online.

Ticketing

4.17 Given the necessity of changing services for journeys outside the core corridor, it is important to facilitate as smooth a transfer as possible. The availability (or otherwise) of through tickets or multimodal passes can be a major influence on the decision to utilise public transport.

4.18 A range of different ticketing schemes is currently in operation:

- **Bus Only Schemes**
 - Network Rider – enable travel on most services in South Wales, including Stagecoach, Glyn Williams Travel, Newport Transport and Cardiff Bus. Daily and weekly options are available, priced at £5.00 and £15.25 respectively.
 - All Wales Concessionary Fare Scheme – Provides free travel on all local bus services throughout Wales for persons who are registered disabled or aged 60 years or over.
 - Stagecoach Explorer Ticket – Daily ticket, £5.00 all Stagecoach UK services (except London).
 - National Express – Integrated tickets are available through their website.
- **Bus Rail Schemes**
 - Freedom Of Wales Flexi Pass – Provides combined bus and rail travel throughout a specified period (usually 7 or 14 days), with rail entitlement limited to a specified number of days. Tickets are priced from £30.00.
 - PlusBus – Provides local bus travel following a rail journey on the same date. Accepted on Stagecoach and Phil Anslow services.

However, the scheme coverage limits bus travel to Abersychan from Pontypool Rail Station – requiring a further change to reach Blaenavon.

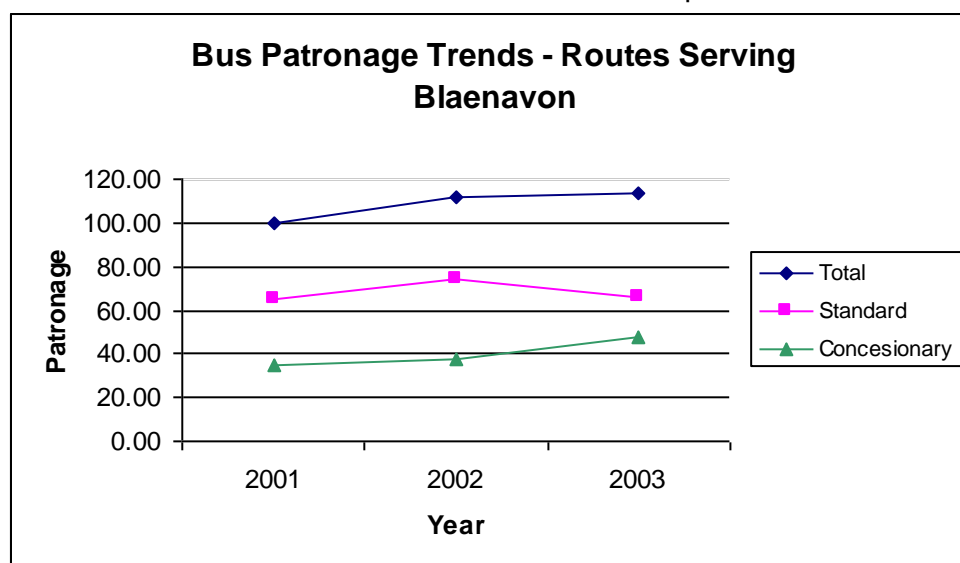
- 4.19 An integrated 'smartcard' is being developed for the Gwent region, however initially these will only be issued as part of the All Wales Concessionary Scheme.

Patronage

- 4.20 Accurate patronage information is difficult to obtain for journeys originating or terminating within the subject area due to the following reasons:

- *Commercial Confidentiality* – Bus services operated in an around Blaenavon are primarily commercial. The disclosure of detailed information could provide a competitive advantage to another company.
- *Data Availability* – although most vehicles are fitted with electronic ticket machines (ETM) the data is usually published in a format that indicates total patronage over the whole route. It is possible to obtain raw data that indicates journeys between two given points, however data refinement is extremely labour intensive and results are still subject to the confidentiality considerations outlined above.

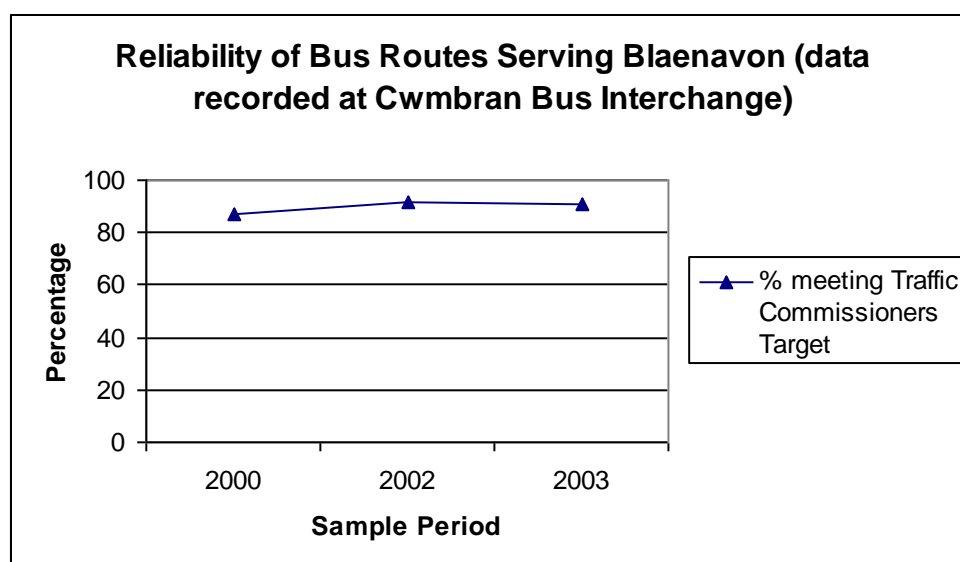
- 4.21 Patronage data has been obtained which indicates the patronage trends of all routes operating to and from Blaenavon. Data is collected during a common 31-day sample period each October. The results are illustrated in Graph 4.1 below.



Graph 4.1: Bus Patronage Trends (2001-2003)

- 4.22 The results from Graph 4.1 above indicate that total patronage has increased since 2001, although this is mainly attributable to the increased concessionary travel.
- 4.23 Anecdotal evidence from Stagecoach indicates the introduction of improved vehicles and frequency enhancements has provided a positive impact on patronage on the corridor as a whole.

- Hence the Reliability
- 4.24 Historical data indicating bus service reliability has been collected at Cwmbran Bus Station between 2000 and 2003. These provide an indication of the reliability of routes operating on the Blaenavon Corridor.
- 4.25 The Traffic Commissioner defines a 'late' service as one which arrives more than one minute early or more than 5 minutes late. This standard was utilised as the benchmark for reliability analysis.
- 4.26 Data is collected over two working days (Tuesday and Friday) between 07:00 and 19:00 hours. The actual arrival time of each service is recorded and compared to the scheduled arrival time.
- 4.27 The number of services meeting the Traffic Commissioners target is compared to the total number recorded, establishing the percentage reliability. Survey results are indicated in Graph 4.2.



Graph 4.2: Bus Route Reliability

- 4.28 The results indicated that routes serving Blaenavon showed high levels of reliability along the corridor.

Existing Bus User Survey

- 4.29 A total of 124 responses were collected, with the location split indicated in Table 4.2. The majority of the results are from surveys of the local population rather than tourists.

Location	Number Of Responses
Market Street	78
High Street	37
Lion-street	9
Total	124

Table 4.2: Interview Location

Question 1 – Respondent Origin and Destination

- 4.30 Most respondents (96%) originated in Blaenavon, whilst the remainder originated in Brynmawr, Cwmbran and Pontypool.
- 4.31 The destination of respondents indicated greater variability, with the most common destinations being Cwmbran and Pontypool. The top ten destinations are listed in Table 4.3. Direct bus links are available to all locations with the exception of Cardiff.

Q1 Destination	Number Of Responses	Percentage
Cwmbran	29	23.4
Pontypool	28	22.6
Forge Side	13	10.5
Newport	12	9.7
Brynmawr	11	8.9
Blaenavon	14	11.3
Abersychan	4	3.2
Cardiff	2	1.6
Cwmavon	2	1.6
Abergavenny	2	1.6

Table 4.3: Respondent Destinations

Question 2 - Where are you visiting today?

- 4.32 Of those respondents indicating where they were visiting, the majority were visiting the Town Centre or related locations, whilst the remaining fifth were visiting family or home (Table 4.4).

Q2 Destination	Number Of Responses	Percentage
Town Centre	17	60.71
Home	5	17.86
Surgery	2	7.14
Bookshop(s)	2	7.14
Family	1	3.57
Food shops	1	3.57
Total	28	100.00

Table 4.4: Destination Activities

Question 3 - How did you travel to the stop today?

- 4.33 Most respondents walked to the stop (72%), whilst almost one-quarter indicated they had arrived by bus (Table 4.5). This may indicate interchange with another service or the survey took place on the return bus leg of their journey. The high level of pedestrian travel to the stop indicates the importance of locating stops in close proximity to the main travel generators.

Q3 Arrival Mode	Number Of Responses	Percentage
Walk	89	72
Bus	29	23
Car	5	4
Taxi	1	1
Total	124	100%

Table 4.5: Mode of Travel to Bus Stop

Question 4 - What was the most important reason for using this method of transport?

- 4.34 Although respondents cited a high level of captivity to public transport, with the lack of an alternative providing the single most common reason for travel, followed by convenience, a quarter of users cited cost and as the most important reason. However, the majority of users (87%) were aged 60 or over and hence entitled to free travel (Table 4.6).

Q4 Reason	Number Of Responses	Percentage
Lack of an alternative	52	42.62
Convenience	32	26.23
Cost	30	24.59
A lack of parking at destination	3	2.46
Reliability	2	1.64
Time	2	1.64
Better for the environment	1	0.82
Total	122	100

Table 4.6: Respondent Reason For Travel

Question 5 - Which of the following best describes the purpose of your journey?

- 4.35 The most common journey purpose was shopping, cited by 44% of respondents, with work and education combined accounting for almost one quarter of responses (Table 4.7).

Q5 Purpose	Number Of Responses	Percentage
Shopping	55	44.35
Personal	20	16.13
Work Related	20	16.13
Recreational	13	10.48
Educational	8	6.45
Family/Social	8	6.45
Total	124	100

Table 4.7: Journey Purpose

Question 6 - How do you consider your journey could be improved?

- 4.36 One fifth of respondents provided additional information in this section, which may indicate the majority are generally satisfied with existing provision. Of those that expressed an opinion, the following comments were recorded (Table 4.8):

Q6 Suggested Improvements	Number Of Responses
Lower Fares	4
Seats at stops	3
More DDA compliant vehicles	3
More frequent	3
More reliable	3
Good as they are	2
More early morning buses	2
Shelters exposed in bad weather	2
Speed of buses too fast	2
Better bus connection to big pit	1
Heating is always on	1
Cleaner buses	1
Dedicated buses for school children	1
Total	28

Table 4.8: Suggested Improvements

Question 7 - What improvements (if any) would you like to see in and around Blaenavon?

- 4.37 Respondents were also asked to identify general areas for improvements, with 26 respondents raising a number of concerns. These are summarised in Table 4.9.

Q7 General Improvement Issues	Number Of Responses
Traffic Concerns (including enforcement of parking)	11
More shops	10
More Police/anti-social concerns/CCTV	9
Better cleansing (including dog fouling)	6
More for young people	4
Bus service issues	3
Better toilets	3
Better signage	2
More seating	2
Need to complete existing work	2
More parks	1

Table 4.9: Improvement Issues

- 4.38 Existing traffic arrangements, including the narrow road width and speed of vehicles travelling through the town centre were the single most common concern, closely followed by a desire for more shops. Anti-social concerns, including a desire for more police or CCTV featured in 9 responses, with a further 4 comments indicating a lack of facilities for young people.

Question 9 - User Perception

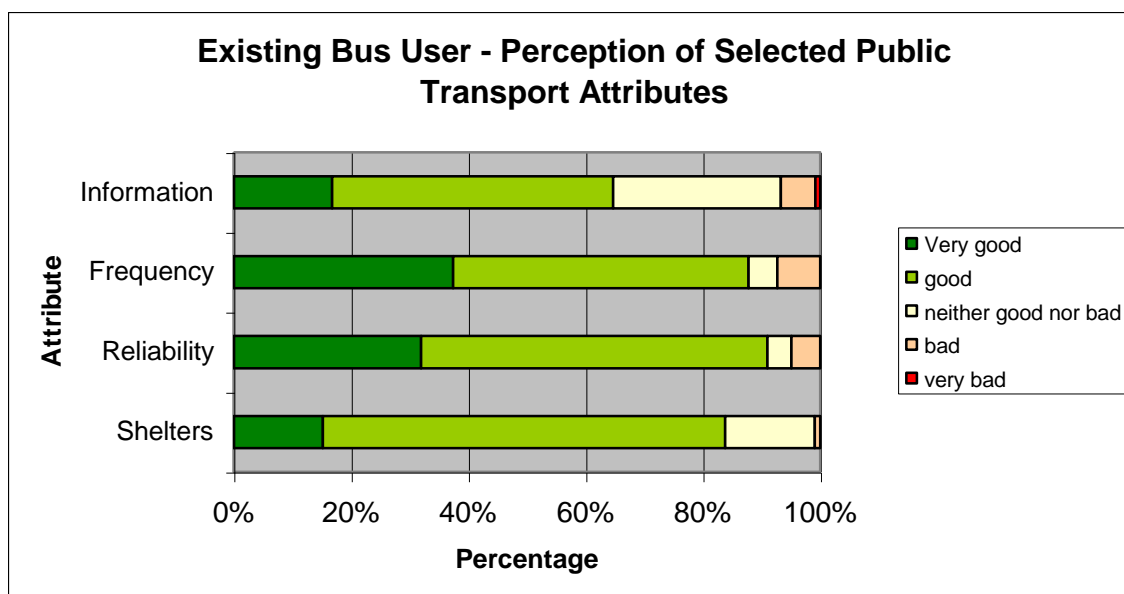
4.39 Users were asked to rate various attributes (refer Section 2.0, Consultation, for methodology) relating to public transport, highway provision and general facilities. The results of each are detailed below.

Public Transport

4.40 In addition to travel and socio economic information, respondents were asked to rate existing facilities and provision. Each attribute was rated on a five point Likert scale, (1 = very good, 2 = good, 3 = neither good nor bad, 4 = bad and 5= very bad). The number of responses in each category was then weighted (1, 0.5, 0, -0.5, -1) respectively, enabling a total level of satisfaction to be calculated. This resulted in a satisfaction rating in the range 1 to -1. Respondents with no experience of a given attribute were excluded from calculations to remove bias.

4.41 A value of 1 would indicate all of the respondents considered the attribute very good, where as -1 would indicate all respondents considered the attribute very bad. A value between 0 and 1 indicates a positive satisfaction, whereas a value between -0 and -1 indicates a negative response.

4.42 User satisfaction of existing provision was high; with over 60% of respondents rating each attribute as either 'good' or 'very good', these are illustrated in Graph 4.3.



Graph 4.3: User Perception

4.43 Service frequency received the highest rating of 0.59. This may be attributable to the recent enhancements to service X24, which operates every 15 minutes.

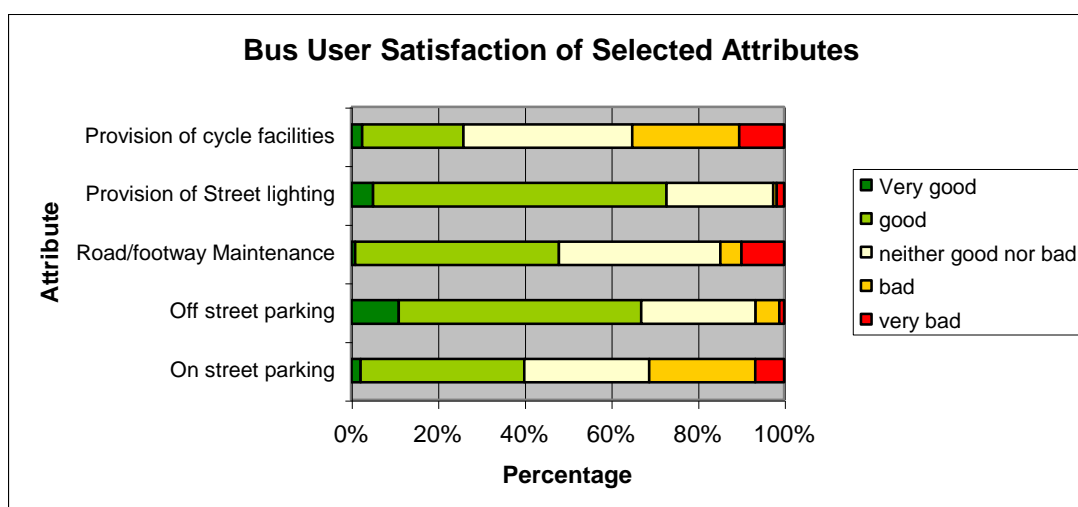
4.44 Shelters and reliability received positive ratings of 0.35 and 0.37 respectively and reflect the recent completion of the bus corridor improvement scheme.

4.45 Service reliability was also positively rated at 0.30. The full response rates are illustrated in Table 4.10.

	Very good	Good	Neither good nor bad	Bad	Very bad	Satisfaction Rating
Shelters	16	72	16	1	0	0.35
Reliability	39	72	5	6	0	0.30
Frequency	46	62	6	9	0	0.59
Information	20	57	34	7	1	0.37

Table 4.10: Public Transport Satisfaction Responses

4.46 Highway and Cycle Provision
 Respondents demonstrated a greater variability in their rating of highway provision (Graph 4.4).



Graph 4.4: Highway Provision Satisfaction Levels

4.47 Whilst off-street parking and street lighting provision were positively rated at 0.35 and 0.37 respectively, the ratings for on-street parking and road/footway maintenance were relatively neutral at 0.02 and 0.03. Cycle provision was rated slightly negatively at -0.08, however 38% of respondents indicated no experience of this attribute. Full results are outlined in Table 4.11 below.

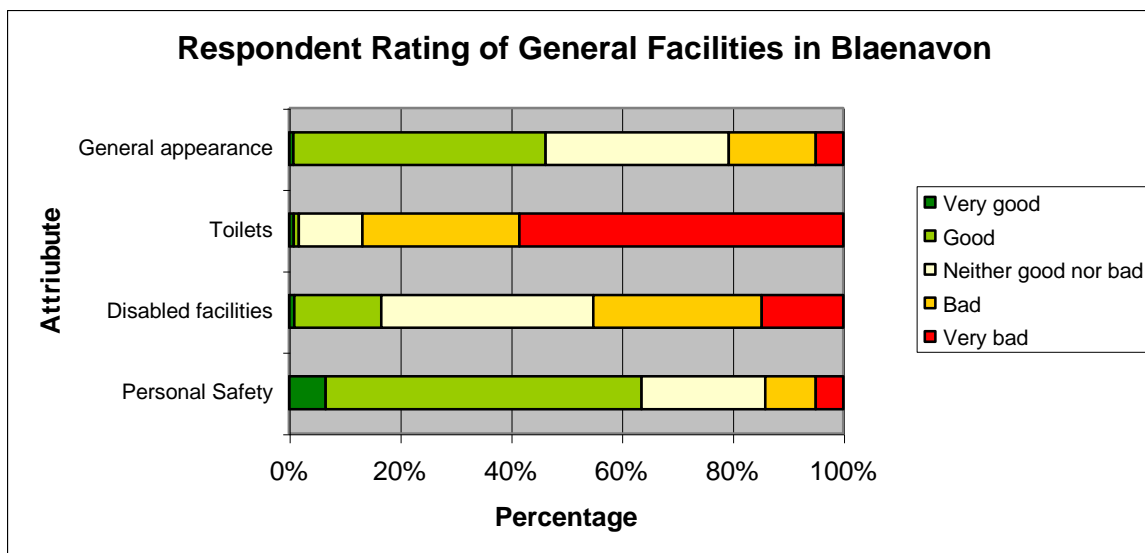
	Very good	Good	Neither good nor bad	Bad	Very bad	Satisfaction Rating
On-street parking	2	34	26	22	6	0.02
Off-street parking	10	51	24	5	1	0.35
Road/footway Maintenance	1	48	38	5	10	0.03
Provision of Street lighting	6	80	29	1	2	0.37
Provision of cycle facilities	2	18	30	19	8	-0.08

Table 4.11: Respondent Rating of Highway and Cycle Provision

General Facilities

4.48 Graph 4.5 and Table 4.12 below show that whilst personal safety and the general appearance of Blaenavon were positively rated at 0.26 and 0.11 respectively, the provision of disabled facilities was considered bad at -0.21, while the greatest dissatisfaction was recorded for toilet facilities, which received a rating of -0.71.

4.49 The responses were as follows:



Graph 4.5: Facility Satisfaction Levels

Attribute	Very good	Good	Neither good nor bad	Bad	Very bad	Satisfaction Rating
Personal Safety	8	69	27	11	6	0.26
Disabled facilities	1	16	39	31	15	-0.21
Toilets	1	1	13	32	66	-0.71
General appearance	1	55	40	19	6	0.11

Table 4.12: Respondent Rating of General Facilities in Blaenavon

Respondent Profile

4.50 Respondents were also asked to provide socio-economic information to provide a profile of existing users.

Question 10 - Respondent Gender

4.51 The majority of respondents were female, accounting for 58% of replies.

Question 11 – In which age group would you describe yourself?

4.52 Table 4.12 below shows that over 40% of respondents were aged over 60. This high representation may be due to their qualification for free travel under the All Wales Concessionary Scheme. Respondents in the three remaining age groups were relatively evenly distributed.

Age Group	No. of Responses	Percentage
16-29	27	22
30-44	27	22
45-59	19	15
60-75	44	35
75+	7	6

Table 4.13: Respondent Age

Question 12 – Which of the following best describes your employment situation?

- 4.53 Approximately one-third of respondents were employed (full or part time) or classed as student (Table 4.14). Half of respondents were retired or a house person, with 15% unemployed. The relatively low percentage of respondents in full time employment would be expected, given that the survey was undertaken between 07:00 and 18:00 hours, which provides a relatively small window in which commuters would be expected to travel and a larger window for all other users.

Age Group	No. of Responses	Percentage
House person	37	30
Retired	28	23
Unemployed	19	15
Part time employed	15	12
Full time employed	12	10
Student	13	10

Table 4.14 Employment Profile

Question 13 - Do you have a driving licence?

- 4.54 Respondent captivity to public transport was further demonstrated by the low number of persons holding a full driving licence, accounting for less than one third of responses (Table 4.15 below).

Licence Held	No. of Responses	Percentage
No	88	71
Yes	36	29

Table 4.15: Respondents Holding a Full Driving Licence

Existing Travel Habits Survey

- 4.55 A total of 128 responses were collected of which 59% were collected at town centre locations, with tourist locations accounting for 41% of responses.

Question 1 – Where did you travel from today?

- 4.56 Respondent origins demonstrated a high variability, with 54 different responses, ranging from Blaenavon to the USA. Origins recorded more than once are listed in Table 4.16.

Origin	No. of Reponses	Percentage
Blaenavon	21	16.4
Not indicated	18	14.1
Pontypool	10	7.8
Newport	5	3.9
Cwmbran	5	3.9
Cardiff	4	3.1
Local	4	3.1
Home	3	2.3
Griffithstown	3	2.3
Forge Side	2	1.6
Chepstow	2	1.6
Builth Wells	2	1.6
Brecon	2	1.6
Abersychan	2	1.6
Abergavenny	2	1.6
Goytre Nr. Pontypool	2	1.6
Herefordshire	2	1.6
Merthyr Tydfil	2	1.6

Table 4.16: Respondent Origins

Question 2 – Where are you visiting today?

- 4.57 Respondents were asked to indicate which of seven local destinations they were visiting on that day. An additional category of 'Other' was also provided to identify additional venues. By indicating all locations it was possible to determine the level of multi site visits.

Location	No. of Reponses
Town Centre	60
Big Pit	47
Bookshops	18
Other	15
Blaenavon Iron Works	7
Blaenavon Railway	7
Community Heritage Museum	2
Blaenavon Workman's Hall	0
Total	156

Table 4.17: Number of Respondents Visiting Named Destinations

- 4.58 The town centre was the most commonly visited location, which would be expected given the majority of questionnaires were collected from town centre venues. Big Pit Mining Museum was the most popular tourist attraction, which may due to the provision of free entry. The Blaenavon Railway is only open on weekends, which may explain its relatively low percentage of visits.
- 4.59 Further analysis was undertaken to determine the number of multi venue visits. The results of which are illustrated in Table 4.18.

No. of Locations Visited	No. of Respondents	Percentage
One	100	78.1
Two	19	14.8
Three	3	2.3
Four	6	4.7
Total	128	100.0

Table 4.18: Multi Venue Site Analysis

- 4.60 The majority of respondents were only visiting one venue, of these 58 were visiting the town centre – generally for work or shopping purposes, while a further 32 visited Big Pit only. A couple of respondents indicated they were also visiting tourist attractions outside Torfaen, citing Caerleon and Caerphilly Castle.

Question 3 – How did you travel to Blaenavon Today?

Q3 Arrival Mode	No. of Respondents	Percentage
Car	104	82
Walk	18	14
Bus	4	3
Cycle	1	1
Total	127	100

Table 4.19: Number of Respondents Visiting Named Destinations

- 4.61 The car was the most common mode of transport, accounting for 82% of respondents. The majority of respondents who indicated they had walked were local residents visiting the town centre. Public transport only accounted for 3% of journeys and a solitary cyclist was recorded.

Question 4 – What was the most important reason for using this method of transport?

Q4 Reason	No. of Respondents	Percentage
Convenience	69	55
Time	25	20
The lack of an alternative	13	10
Cost	8	6
Better for the environment	4	3
A lack of parking at destination	4	3
Reliability	2	2
Other	1	1
Total	126	100

Table 4.20: Respondent Reasons for Modal Choice

- 4.62 Respondents cited 'convenience' as the most important reason for their choice of mode, accounting for over half of all responses, while 'time', was the next most common, followed by 'the lack of an alternative' and 'cost'.

- 4.63 Environmental and parking concerns were not significant motivators in determining modal choice.

Question 5 – Which best describes the purpose of your journey today?

Q5 Purpose	No. of Respondents	Percentage
Shopping	46	36
Tourism	34	27
Family/Social	14	11
Work Related	13	10
Recreational	13	10
Educational	5	4
Other	3	2
Total	128	100

Table 4.21: Purpose of Journey

- 4.64 The most common journey purpose was shopping accounting for over one-third of respondents and just over one quarter of respondents cited 'tourism'. The remaining respondents cited a combination of work, education, family and recreation reasons for their journey.

Question 6 – How do you consider facilities on your journey could have been improved?

- 4.65 Just under half (63) of respondents raised a number of issues relating to their journey, these are summarised in Table 4.22.

Q6 Suggested Improvements	No. of Responses
Parking concerns	20
Highway quality	15
Improved signage	7
Highway routing amendments	6
Cleansing improvements	4
Bus service enhancements	3
Safety/security concerns	3
Reduced road works	3
More shops/attractions	3
Good as they are	3
Pedestrianised route	1
Designated view points	1

Table 4.22: Journey Issues

- 4.66 Parking concerns were cited by 20 respondents, most of who lived locally, while a further 15 requested improvements to the quality of the highway. There were few issues with pedestrian routes.

Question 7: What improvements (if any) would you like to see in and around Blaenavon?

- 4.67 Respondents were also asked to identify general areas for improvements, with seven respondents raising a number of concerns. These are summarised in Table 4.23.

Q7 General Improvement Issues	No. of Responses
Highway Concerns	23
More Shops	18
Parking	18
Enforcement/security concerns	10
Tourist Attraction improvements	3
Cleansing	3
Disabled Access improvements	2
Improved Toilets	2
Pedestrian improvements	1

Table 4.23: Responses on Improvement Issues

Conclusions

- 4.68 In general terms Blaenavon enjoys a good bus service, which provides a frequent link to the main centres of Brynmawr, Cwmbran, Newport and Pontypool, with existing arrangements demonstrating high levels of satisfaction by existing users.
- 4.69 Bus infrastructure has also benefited from a recent improvement package, which allied to the new fleet of low vehicles, provides a good image of public transport.
- 4.70 There are however, a number of areas in which existing provision could be enhanced – to the benefit of both residents and visitors (Section 15.0, Recommendations).

Community Transport

- 4.71 Torfaen County Borough Council have recognised that there is a need to increase responsibility towards shopmobility, and in Blaenavon the council are working with the Disabled Access Group (DAG) looking at future improvement projects.
- 4.72 The new Disability Advice Centre on Ivor Street should be included within consultation on the plans to regenerate Blaenavon in order to cater for visitors and residents with disabilities, in line with the 1999 standards that came into force in October 2004 (see section 9.39).

Taxis

- 4.73 No taxi ranks currently exist in Blaenavon and there are no taxi firms with their own individual shops. The taxi system operates by residents calling for taxis to collect them at their point of origin and taxis being based at the operator's own houses.
- 4.74 Observed demand for taxis is highest in the town centre, in the vicinity of the Constitutional Club and the public houses on Broad Street. A possible location for a taxi rank is between the Constitutional Club and Market Street (small) Car Park, which would provide a central location. Alternative sites are Broad Street/Queen

Street Car Park and Prince Street Car Park. Both have space available although the former has the advantage of being closer to Broad Street.

- 4.75 However, as the existing taxi system works well, there is little requirement for a taxi rank at present.

5.0 Traffic Regulation Orders

5.1 There are currently two Traffic Regulation Orders covering Blaenavon Town Centre, shown in Figure 5 and detailed under Appendix G:

- Traffic Regulation Order on 8th August 1994
 - Prohibition of waiting at any time
 - Prohibition of waiting 8am-8pm
 - 1 hr limited waiting, no return within 1 hr, 8am-6pm Monday to Saturday
- Traffic Regulation Order on 13th March 2002
 - 1 hr limited waiting, no return within 1 hr, 8am-6pm Monday to Friday

5.2 There are 27 streets in Blaenavon that are covered by the above Traffic Regulation Orders:

Prohibition of waiting at any time

Broad Street
Buford Street
Church Road
Commercial Street
Cross Street
Cwmavon Road
Duke Street
Greenfield Place
High Street
Hill Street
Hillside Avenue
Ivor Street
James Street^{XX}
Lower Hill Street
Market Street
Mary Street
Morgan Street
New William Street
Old James Street
Old William Street
Park Street
Prince Street^{XX¹}
Queen Street
Ton-Bach Street
Ton-Mawr Street
Upper Coedcae Road
Woodland Street

Prohibition of waiting 8am-8pm

^{XX} Photograph 66

^{XX¹} Photograph 58, 59

Lion Street
 Broad Street
 Ton-Mawr Street/ Ton-Mawr Road

1 hr limited waiting, no return within 1 hr, 8am-6pm Monday to Saturday
 Broad Street

1 hr limited waiting, no return within 1 hr, 8am-6pm Monday to Friday
 Broad Street

- 5.3 There is also an experimental 1 hour loading bay for goods vehicles on Church Road in close proximity to the signals at the Ivor Street junction, which benefits the local community and traders.

Validity and Extent of existing Traffic Regulation Orders

- 5.4 The following roads have been highlighted as needing attention (Appendix G + K / Recommendation T1/M3):

- New William Street
 - Parking on the footway
- Broad Street, south towards Commercial Street
 - 1 hr limited waiting, no return within 1 hr, 8am-6pm Monday to Saturday sign^{XXU} is not located within the lining area
 - No markings in parking area.
- Prince Street
 - Single lining for approximately 30m
- Park Street
 - Lining not present^{XXU}
- High Street
 - Parked cars over TRO area on faded lining
- Church Road
 - Experimental loading bay, the sign is in poor condition (requires cleaning)
- Broad Street, Queen Street to Market Street (East and West)
 - Vehicles parked over TRO

- 5.5 Loading on Church Road makes it difficult for vehicles, especially lorries, to queue on the southbound approach to the signalised junction. However, there remains a good view of the signal head even if traffic has to queue beyond the lorries in the loading bay and there is no conflict with on-coming vehicles.

- 5.6 It was observed during site visits that vehicles are regularly parked on the double yellow lines of Ivor Street in front of the Co-op convenience store. This causes problems for vehicles parking opposite at the rear of the chemist shop. Parking on the double yellow lines also extends on Ivor Street (west) in front of the residential units (Ivor Gardens 1-12).

- 5.7 The on-street parking at Broad Street for the Spar is beneficial to customers and the economy of the small convenience store itself. However, the parked cars tend to force other vehicles, especially buses, up the kerbs and onto the already narrow

^{XXU} Photograph 69

^{XXU} Photograph 6

footways, hence proving to be dangerous to pedestrians. The main problem is not the parking in the bays itself, but the severe lack of adherence to the parking restrictions outside of the bays (Recommendation T1).

- 5.8 The volume of vehicles that park illegally on the A4043 Cwmavon Road, (especially westbound) interfere with the smooth free-flow of traffic in both directions. Drivers can experience a significant delay on this stretch of road due to waiting for oncoming vehicles to pass before attempting to overtake a parked car. Double yellow lines are present on this road and it was observed that generally it is residents that are parking on the roadside and footway (Recommendation T1).

Parking at the Workman's Hall becomes problematic at weekends, with vehicles contravening parking restrictions (see paragraph 5.4). Greater enforcement of all parking restrictions is strongly suggested (Recommendation A10).

- 5.9 Blaenavon Police Station is manned part-time and it is noted that a Community Safety Officer has begun to operate since Traffic Wardens have been deployed elsewhere. Congestion can be evident in roads such as Broad Street where delivery vehicles frequently conflict with buses for example, and it can be concluded that a greater Police presence would have tangible benefits (Recommendation T3).

6.0 Traffic Flows

Automatic Traffic Count Data

- 6.1 Six Automatic Traffic Counts were carried out during the months of April and May 2004 throughout Blaenavon (Figure 6) to obtain classified traffic flow information (Appendix H) around and through the town and out to tourist destination locations.
- 6.2 The data collected can now be used as base year flow data to assess future counts that may be carried out on an annual basis to monitor traffic movements and levels over the years.
- 6.3 The six traffic counts that took place are:
- I. **Llanover Road** - Friday 7th May 2004 to Thursday 13th May 2004
 - II. **Cwmavon Road** - Wednesday 21st April 2004 to Tuesday 27th April 2004
 - III. **Church Road** - Wednesday 21st April 2004 to Tuesday 27th April 2004
 - IV. **Gilchrist-Thomas Industrial Estate** - Friday 7th May 2004 to Tuesday 11th May 2004
 - V. **Abergavenny Road** - Thursday 13th May 2004 to Wednesday 19th May 2004
 - VI. **Big Pit Road** - Thursday 13th May 2004 to Wednesday 19th May 2004
- 6.4 The peak flow times are 08:00-09:00 and 16:00-17:00 hours.
- 6.5 For the purpose of this study Heavy Goods Vehicle flows have been specified separately (Class 5-11, Figure 6) and also given as an average flow and an average proportion of Heavy Goods Vehicle to total vehicle flow.

Location I

DATE	Westbound			Eastbound		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
07/05/04	55 [3]	55 [1]	693 [30]	23 [5]	59 [1]	650 [33]
08/05/04	34 [1]	31 [1]	602 [17]	12 [1]	42 [1]	533 [16]
09/05/04	9 [0]	51 [0]	551 [4]	7 [0]	49 [0]	521 [0]
10/05/04	78 [2]	52 [4]	681 [35]	26 [5]	67 [2]	652 [39]
11/05/04	65 [3]	40 [2]	592 [33]	30 [6]	53 [1]	585 [30]
12/05/04	74 [3]	50 [4]	635 [40]	25 [4]	86 [1]	610 [31]
13/05/04	76 [1]	45 [4]	713 [34]	29 [5]	60 [1]	679 [38]
Average	56 [2]	46 [2]	638 [28]	22 [4]	59 [1]	604 [27]
HGV*	4%	4%	4%	18%	2%	5%

Table 6.1: Llanover Road Automatic Traffic Count Data

Note for all tables

- Value shown is the total number of vehicles passing that point
- Value shown in brackets is the total number of Heavy Goods Vehicles
- * Average Heavy Goods Vehicles percentage of total flow in that location

6.6 The following conclusions can be taken from Table 6.1:

- Daily flows are generally even but westbound flows, towards Blaenavon Town Centre and Hillside Schools and Nursery, are on average 5% higher.
- Westbound flows are generally higher during the AM peak.
- Eastbound flows are always noticeably higher during the PM peak.
- The highest recorded flow was 86 vehicles/hour during the PM peak travelling eastbound (Wednesday).
- There is on average 1242 vehicles/day passing through this point.

Location II

DATE	Westbound			Eastbound		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
21/04/04	290 [22]	300 [5]	3468 [183]	277 [17]	253 [15]	3066 [131]
22/04/04	299 [23]	343 [9]	3602 [189]	290 [18]	282 [15]	3311 [136]
23/04/04	323 [24]	299 [9]	3811 [193]	302 [20]	285 [11]	3409 [146]
24/04/04	116 [7]	211 [3]	2855 [76]	125 [3]	182 [1]	2491 [56]
25/04/04	65 [2]	162 [0]	2270 [31]	40 [0]	133 [1]	2029 [25]
26/04/04	318 [22]	308 [14]	3363 [188]	284 [19]	246 [12]	3148 [159]
27/04/04	302 [19]	317 [13]	3464 [183]	282 [14]	283 [7]	3300 [156]
Average	245 [17]	277 [8]	3262 [149]	229 [13]	238 [9]	2965 [116]
HGV	7%	3%	5%	6%	4%	4%

Table 6.2: Cwmavon Road Automatic Traffic Count Data

6.7 The following conclusions can be taken from Table 6.2:

- Daily flows are higher westbound, into Blaenavon (9%).
- Westbound flows are generally higher during the AM peak.
- Eastbound flows are generally even, but on average flows are slightly higher during the PM peak.
- The highest recorded flow was 323 vehicles/hour during the PM peak, westbound (Friday).
- There is an average 6227 vehicles/day passing through this point.

Location III

DATE	Westbound			Eastbound		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
21/04/04	350 [11]	269 [15]	3380 [203]	233 [17]	338 [15]	3295 [176]
22/04/04	353 [19]	298 [14]	3536 [210]	215 [20]	340 [17]	3410 [181]
23/04/04	371 [23]	266 [14]	3716 [221]	239 [23]	350 [12]	3649 [176]
24/04/04	143 [12]	188 [5]	2842 [122]	89 [9]	222 [3]	2639 [40]
25/04/04	63 [0]	150 [2]	2186 [34]	48 [2]	235 [2]	2163 [30]
26/04/04	367 [21]	262 [21]	3398 [217]	235 [15]	369 [13]	3260 [181]
27/04/04	382 [21]	287 [15]	3599 [220]	229 [14]	363 [15]	3550 [196]
Average	290 [15]	246 [12]	3237 [175]	184 [14]	317 [11]	3138 [140]
HGV	5%	5%	5%	8%	4%	5%

Table 6.3: Church Road AUTOMATIC TRAFFIC COUNT Data

6.8 The following conclusions can be taken from Table 6.3:

- Daily flows are fairly balanced, however westbound flows towards Abergavenny Road, Garn Lakes and Gilchrist-Thomas Industrial Estate, are 3% higher.
- Westbound flows are always noticeably higher during the AM peak on weekdays, but considerably lower during the weekend. On average AM peak flows were 15% higher than PM peak flows.
- Eastbound flows are considerably higher each day during the PM peak (42%), and even more noticeably during the weekend.
- More vehicles appear to travel westbound and eastbound during the PM peak on Saturday and Sunday.
- The highest recorded flow at location III was 382 vehicles/hour during the AM peak, westbound (Tuesday).
- There was an average 6375 vehicles/day passing through this point.

Location IV

DATE	Westbound			Eastbound		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
07/05/04	105 [4]	50 [3]	1062 [85]	30 [5]	127 [9]	995 [105]
08/05/04	36 [1]	16 [1]	500 [20]	21 [0]	52 [3]	498 [24]
09/05/04	21 [0]	21 [0]	319 [4]	3 [0]	77 [2]	335 [8]
10/05/04	108 [6]	58 [6]	1004 [84]	38 [6]	169 [9]	933 [103]
11/05/04	98 [5]	50 [8]	980 [90]	27 [6]	153 [11]	982 [115]
Average	53 [3]	39 [4]	773 [57]	24 [3]	116 [7]	729 [71]
HGV	6%	10%	7%	13%	6%	10%

Table 6.4: Gilchrist-Thomas Industrial Estate AUTOMATIC TRAFFIC COUNT Data

6.9 The following conclusions can be taken from Table 6.4:

- Daily flows for the 5 days surveyed are generally even, with westbound flows into the estate being 6% higher on average.
- Westbound flows are higher during the AM peak by 26%.
- Eastbound flows are higher during the PM peak (82%). Hence a high volume of traffic leaves the industrial estate during the PM peak (Monday, Tuesday, Thursday) than arrives during the AM peak eastbound and westbound. Hence much traffic must enter the site outside of peak hours.
- The highest recorded flow was 169 vehicles/hour during the PM peak, eastbound.
- Eastbound flows during the AM peak are the lowest recorded flows for either direction during the AM and PM peak.
- There was an average 1502 vehicles/day passing through this point.

Location V

DATE	Westbound			Eastbound		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
13/05/04	110 [8]	164 [7]	1786 [74]	193 [5]	195 [4]	2291 [73]
14/05/04	116 [10]	184 [7]	1887 [93]	166 [7]	216 [3]	2311 [69]
15/05/04	42 [2]	161 [3]	1729 [47]	96 [1]	133 [1]	2146 [36]
16/05/04	31 [1]	181 [2]	1670 [17]	58 [2]	174 [2]	2021 [20]
17/05/04	109 [7]	184 [6]	1728 [81]	171 [5]	209 [4]	2187 [76]
18/05/04	117 [9]	187 [7]	1903 [75]	178 [9]	199 [2]	2349 [75]
19/05/04	121 [13]	152 [5]	1850 [81]	174 [7]	188 [5]	2296 [75]
Average	92 [7]	173 [5]	1793 [67]	148 [5]	188 [3]	2229 [61]
HGV	8%	3%	4%	3%	2%	3%

Table 6.5: Abergavenny Road Automatic Traffic Count Data

6.10 The following conclusions can be taken from Table 6.5:

- Daily flows are much higher eastbound, out of Blaenavon towards Abergavenny (20%).
- Westbound flows into Blaenavon are higher during the PM peak by 47%.
- Eastbound flows are similar during the AM and PM peak hours, but higher during the PM peak.
- Weekend flows are only slightly lower when compared to weekday flows in both directions.
- The highest recorded flow was 216 vehicles/hour during the PM peak, eastbound.
- Eastbound flows during the AM peak are the lowest recorded flows for either direction during the AM and PM peak.
- There was an average 4022 vehicles/day passing through this point.

Location VI

DATE	Westbound			Eastbound		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
13/05/04	16 [0]	11 [1]	162 [22]	4 [0]	36 [5]	148 [21]
14/05/04	13 [1]	5 [1]	153 [16]	1 [0]	31 [2]	140 [14]
15/05/04	11 [0]	12 [1]	178 [14]	3 [0]	32 [1]	170 [11]
16/05/04	9 [0]	8 [0]	198 [8]	1 [0]	64 [0]	198 [8]
17/05/04	17 [1]	5 [1]	148 [20]	2 [1]	20 [2]	135 [19]
18/05/04	18 [0]	7 [1]	157 [23]	0 [0]	30 [2]	142 [21]
19/05/04	17 [0]	10 [1]	160 [26]	2 [0]	30 [3]	149 [27]
Average	14 [0.3]	8 [1]	165 [18]	2 [0.1]	35 [2]	155 [17]
HGV	2%	13%	11%	14%	6%	11%

Table 6.6: Big Pit Access Road Automatic Traffic Count Data

6.11 The following conclusions can be taken from Table 6.6:

- Westbound flows, into the site, are higher during the AM peak to account for staff arriving for work.
- Eastbound flows, out of the site, are higher during the PM peak. 58% more vehicles exit the site eastbound during the PM peak than at any other time.
- The 1 hour PM peak eastbound flow also accounts for a high proportion of the daily traffic exiting the site (23%).
- Weekend flows are only slightly lower when compared to weekday flows in both directions.
- The highest recorded flow was 64 vehicles/hour during the PM peak, eastbound on the Sunday. Generally, visitors arrive to Big Pit after the network AM peak, but trips do fall within the network PM peak.
- There was an average 320 vehicles/day passing through this point, hence 160 vehicles enter the site on an average day and 160 depart. However, site visits have shown that residents at Forge Side (south of Blaenavon Town Centre, and east of Big Pit) use the narrow access track linking the 2 sites. Hence the number of vehicles accessing the Big Pit site is not directly correlated to the number of visitors or vehicles parked. It should also be noted that there is a bus service that loops into the site also (see Section 4.0, Public Transport).

6.12 Overall, the Automatic Traffic Count data (Figure 6) has shown that:

- Traffic flows are generally greatest through Blaenavon in an east (Pontypool) to the west (Abergavenny) direction, with approximately 1000 vehicles/day travelling out to Kays and Kears Industrial Estate, Garn Lakes and towards Brynmawr.
- Westbound flows are heaviest during the AM peak and eastbound flows are heaviest during the PM peak, indicating commuter travel patterns.

- No link improvements are currently required to increase capacity of the road network within Blaenavon at present, although with forecast growth in tourist numbers, this should be reviewed in 10 years (Recommendation F5).

HGV Routes

- 6.13 Following from the Automatic Traffic Count Tables (6.1-6.6), Appendix H and Figure 6, the following assessment of Heavy Goods Vehicles movements through Blaenavon has been undertaken.
- 6.14 LOCATION I, Llanover Road (Table 6.1)
- Heavy Goods Vehicles account for 4% of the total vehicle flow during peak hours westbound and 5% eastbound. However, total flows are exceptionally low eastbound during the AM peak eastbound and hence Heavy Goods Vehicles flows account on average for 18% of vehicle flows.
 - The highest Heavy Goods Vehicles flow was during the AM peak, eastbound, at 20% (6).
 - There were minimal Heavy Goods Vehicles movements during the Sunday in either direction.
 - There were approximately 55 Heavy Goods Vehicles /day passing this location on average.
- 6.15 LOCATION II, Cwmavon Road (Table 6.2)
- Heavy Goods Vehicles account for 5% on average westbound (7% during the AM peak) and 4% eastbound (6% during the AM peak). Therefore Heavy Goods Vehicles movements along Cwmavon Road are highest during the AM network peak, 08:00-09:00.
 - The highest Heavy Goods Vehicles flow was during the AM peak, westbound, at 7% (24).
 - There were few Heavy Goods Vehicles movements during the Sunday in either direction during the peak hours.
 - There were approximately 265 HGV/day passing this location on average.
- 6.16 LOCATION III, Church Road (Table 6.3)
- Heavy Goods Vehicles account for 5% on average westbound and 5% eastbound (8% during the AM peak), hence there are high Heavy Goods Vehicles movements eastbound along Church Road towards Pontypool during the AM network peak.
 - The highest Heavy Goods Vehicles flow (21) was recorded on 3 separate occasions westbound during the AM peak (Monday and Tuesday) and the PM peak (Monday), accounting for approximately 7% of the total flow.
 - There were minimal HGV flows recorded during the Sunday in both directions eastbound and on the Saturday during both the AM and PM peaks.
 - There were approximately 315 Heavy Goods Vehicles /day passing this location on average.
- 6.17 LOCATION IV, Gilchrist-Thomas Industrial Estate (Table 6.4)
- Heavy Goods Vehicles account for 7% of flows westbound (10% during the PM peak) and 10% eastbound (13% during the AM peak), yet in actual vehicle numbers, on average, more HGV enter and leave the industrial estate during the PM peak.

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- The highest Heavy Goods Vehicles flow recorded was 11, eastbound during the PM peak.
 - There were few Heavy Goods Vehicles movements during the weekend.
 - There were approximately 128 Heavy Goods Vehicles /day passing this location on average.
- 6.18 LOCATION V, Abergavenny Road (Table 6.5)
- Heavy Goods Vehicles account for 4% of flows westbound (8% during the AM peak) and 3% eastbound.
 - The highest HGV flow recorded was 13, westbound during the AM peak on a Wednesday.
 - There were noticeably less Heavy Goods Vehicles movements during the weekend.
 - There were approximately 128 Heavy Goods Vehicles /day passing this location on average.
- 6.19 LOCATION VI, Big Pit Access Road (Table 6.6)
- Heavy Goods Vehicles account for 11% of flows westbound (13% during the PM peak) and 11% eastbound (14% during the AM peak). The proportions are so high because of the low volume of vehicles accessing and leaving the site.
 - There are more Heavy Goods Vehicles movements on average during the PM peak.
 - The highest Heavy Goods Vehicles flow recorded was 5, eastbound during the PM.
 - There were no Heavy Goods Vehicles movements during peak hours on the Sunday, and few movements all day, with approximately 50% reduction in HGV flows on the Saturday.
 - There were approximately 35 Heavy Goods Vehicles /day passing this location on average.
- 6.20 Overall conclusions from the Automatic Traffic Count data are:
- Generally the highest proportion of Heavy Goods Vehicles travel is from A4043 to Gilchrist-Thomas Industrial Estate and vice-versa.
 - There are a high proportion of Heavy Goods Vehicles on Llanover Road to cars, but in actual vehicle terms the number of HGV on this route is relatively low. It is more than likely that Heavy Goods Vehicles use this road for access.
 - A large proportion of Heavy Goods Vehicles travel to the B4248 or Gilchrist-Thomas Industrial Estate.
 - Of the 128 Heavy Goods Vehicles /day to and from Gilchrist-Thomas Industrial Estate on average (including those to and from Big Pit), half of these HGV travel from or to the south/southeast using Church Road. It can be assumed that the remaining Heavy Goods Vehicles traffic travels west along the B4248 or north on the B4246.
 - Traffic modelling of the A465 Heads of the Valleys Dualling Scheme shows minimal increases in traffic along the B4248 as a consequence. This route does not carry significant Heavy Goods Vehicle movements between Blaenavon and the A465. The change in altitude and poor alignment limit potential highway improvements. However, Appendix N highlights the poor maintenance state of this road between Blaenavon and the county boundary and that resurfacing work is required (Paragraph 8.20 / Recommendation M9).

Origin-Destination Surveys

- 6.21 The Origin - Destination surveys were carried out in Blaenavon for 12 hours between 7am and 7pm on Thursday 22nd April 2004 using eight locations:
- Three screen lines within Blaenavon – Church Road, High Street and Broad Street
 - Five survey boundary locations - Cwmavon Road, Varteg Road, Estate Road, Garn Road and Abergavenny Road
- 6.22 The eight Origin - Destination survey locations are shown in Figure 2a, the three screen lines being in the centre of Blaenavon (High Street and Broad Street) with Church Road bypassing the actual town centre. High Street and Broad Street run parallel and the screen lines are both south of Burford Street which run at right angles between the roads, so as to match the vehicles travelling in a loop around the centre – i.e. stopping at the convenience stores. The Broad Street and High Street screen lines were used to assess the level of traffic rat-running through the town centre, away from the Church Road route (with the third screen line). The five boundary locations are situated at the southern entrances to Blaenavon, Cwmavon Road (SE) and Varteg Road (S), the northern entrances, Abergavenny Road (N) and Garn Road (NW) and also at the Gilchrist-Thomas Industrial Estate. The boundary locations are to assess the direction (origins/destinations) of the main through-flow of traffic and also to assess the approach of the traffic accessing the town centre.
- 6.23 Following data collection out on site, the data was initially analysed (Appendix I and Figure 7) employing 50 minute matching periods. Therefore, movements of those vehicles that crossed one of the boundary survey lines could be accounted for if those same vehicles then crossed at least one other boundary survey location within 50 minutes. The vehicles that do not cross another boundary line within 50 minutes of the first line are unable to be matched in the survey. Those unmatched vehicles (58% in and 50% out) are either:
- Staying longer than the 50 minute match period
 - Have not been counted due to error
 - Were within the cordon prior to the start of the survey
 - Entered the cordon immediately prior to the end of the survey
 - Exited Blaenavon via an alternative route
- 6.24 Therefore the values given in this analysis are to be taken as indicative.
- 6.25 The following results have been taken directly from the Origin - Destination data and are a summary of the complete analysis tables in Appendix I, which tabulates the following scenarios:
- Base 1
 - 5 boundary lines and 3 screen lines
 - Base 1A
 - 5 boundary lines and 1 screen line (Church Road)
 - Base 1B
 - 5 boundary lines and 1 screen line (High Street)
 - Base 1C
 - 5 boundary lines and 1 screen line (Broad Street)

- Base 2
 - 5 boundary lines (at Cwmavon Road, Varteg Road, Church Road, High Street and Broad Street)
- Base 3
 - 6 boundary lines (at Church Road, High Street, Broad Street, Estate Road, Garn Road and Abergavenny Road)
- Base 4
 - 3 boundary lines (at Church Road, High Street and Broad Street)
- Base 5
 - 2 boundary lines (at High Street and Broad Street)

6.26 Summaries of the following analysis of Base 1, 1A-C and Base 2-5 are included as simplistic diagrams under Figure 8.

Base 1 & 1A-C

6.27 Cwmavon Road (in)

2615 vehicles travelled into Blaenavon via Cwmavon Road during the 12 hour survey period. 50% of these vehicles were matched travelling into the town centre and/or out through a boundary survey line within 50 minutes.

- Estate Road (out)
 - Approximately 50% of the vehicles matched left via Estate Road.
 - Approximately 75% of the vehicles from Cwmavon Road to Estate Road crossed one of the 3 screen lines.
 - 100% of these crossed the Church Road screen line.
 - **Hence traffic from Cwmavon Road to Estate Road use Church Road only.**
- Garn Road (out)
 - Approximately 4% of the vehicles matched left via Garn Road.
 - Approximately 80% of the vehicles from Cwmavon Road to Garn Road crossed one of the 3 screen lines.
 - Approximately 70% of these crossed the Church Road screen line.
 - Approximately 20% of these crossed the High Street screen line.
 - Approximately 10% of these crossed the Broad Street screen line.
 - **Hence the majority of traffic from Cwmavon Road to Garn Road uses Church Road.**
- Abergavenny Road (out)
 - Approximately 25% of the vehicles matched left via Abergavenny Road.
 - Approximately 65% of the vehicles from Cwmavon Road to Abergavenny Road crossed one of the 3 screen lines.
 - Approximately 85% of these crossed the Church Road screen line.
 - Approximately 15% of these crossed the High Street screen line (very small amount).

- Hence the majority of traffic from Cwmavon Road to Abergavenny Road appears to use Church Road. Therefore, taking into account the traffic to Estate Road, Garn Lakes and Abergavenny Road, through traffic from Cwmavon Road is using Church Road and not travelling through the town centre. Therefore any movement restrictions in the town centre will have little impact on through traffic, just local traffic.
- Varteg Road (out)
 - Approximately 6% of the vehicles matched left via Varteg Road.
 - Approximately 10% of the vehicles from Cwmavon Road to Varteg Road crossed one of the 3 screen lines.
 - Approximately 50% of these crossed the Broad Street screen line.
 - Approximately 25% of these crossed the Church Road screen line.
 - Approximately 25% of these crossed the High Street screen line.
 - Hence the majority of traffic from Cwmavon Road to Varteg Road (90%) did not appear to cross any of the 3 screen lines and probably drove straight out (left turn from A4043 into Varteg Road). Approximately 50% of the traffic that did cross a screen line in the town centre (5% of total traffic) crossed at Broad Street. However, of those vehicles crossing the Broad Street screen line, a large majority of these have crossed the other 2 screen lines also (a loop into and out of the town centre).
- Cwmavon Road (out)
 - Approximately 20% of the vehicles matched also left via Cwmavon Road.
 - Approximately 60% of the vehicles from Cwmavon Road that returned to Cwmavon Road crossed one of the 3 screen lines.
 - Approximately 50% of these crossed the Church Road screen line.
 - Approximately 50% of these crossed the Broad Street screen line.
 - Hence vehicles travelling both to and from Blaenavon via Cwmavon Road within a 50 minute time period cross either Church Road or Broad Street (not High Street). There is overlapping hence vehicles generally cross more than one screen line within Blaenavon Town Centre during the 50 minute time period. The crossing of Church Road screen line implies that the vehicles travel to Gilchrist-Thomas industrial Estate or the northern end of the town.

6.28 Varteg Road (in)

1375 vehicles travelled into Blaenavon via Varteg Road during the 12 hour survey period. 50% of these vehicles were matched travelling into the town centre and/or out through a boundary survey line within 50 minutes.

- Estate Road (out)
 - Approximately 30% of the vehicles matched left via Estate Road.

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- Approximately 80% of the vehicles from Varteg Road to Estate Road crossed one of the 3 screen lines.
 - Approximately 100% of these crossed the Church Road screen line.
 - **Hence traffic from Varteg Road to Estate Road use Church Road.**
 - Garn Road (out)
 - Approximately 5% of the vehicles matched left via Garn Road.
 - Approximately 70% of the vehicles from Varteg Road to Garn Road crossed one of the 3 screen lines.
 - Approximately 100% of these crossed the Church Road screen line.
 - **Hence the majority of traffic from Varteg Road to Garn Road uses Church Road.**
 - Abergavenny Road (out)
 - Approximately 35% of the vehicles matched left via Abergavenny Road.
 - Approximately 75% of the vehicles from Varteg Road to Abergavenny Road crossed one of the 3 screen lines.
 - Approximately 95% of these crossed the Church Road screen line.
 - **Hence the majority of traffic from Varteg Road to Abergavenny Road uses Church Road. A marginal amount of traffic may also be using Broad Street (i.e. to stop at a convenience store, etc.).**
 - Cwmavon Road (out)
 - Approximately 25% of the vehicles matched left via Cwmavon Road.
 - Approximately 25% of the vehicles from Varteg Road to Cwmavon Road crossed one of the 3 screen lines.
 - Approximately 60% of these crossed the Church Road screen line.
 - Approximately 40% of these crossed the Broad Street screen line.
 - **Hence the majority of traffic from Varteg Road to Cwmavon Road did not cross at a screen line, traffic that did either crossed Broad Street or Church Road; travelling into town (delivery/shopping/private) or presumably to Gilchrist-Thomas Industrial Estate.**
 - Varteg Road (out)
 - Approximately 5% of the vehicles matched also left via Varteg Road.
 - Approximately 60% of the vehicles from Varteg Road that returned to Varteg Road crossed one of the 3 screen lines.
 - 100% of these crossed the Church Road screen line.
 - 100% of these crossed the Broad Street screen line.
 - Approximately 30% of these crossed the High Street screen line.
 - **Hence vehicles travelling both to and from Blaenavon via Varteg Road (minimum amount) within a 50 minute time period cross at least 2 of the 3 screen lines. Approximately one third of all traffic from Varteg Road travelling into the town entered via High Street.**

6.29 Abergavenny Road (in)

1283 vehicles travelled into Blaenavon via Abergavenny Road during the 12 hour survey period. 50% of these vehicles were matched travelling into the town centre and/or out through a boundary survey line within 50 minutes.

- Estate Road
 - Approximately 10% of the vehicles matched left via Estate Road.
 - Approximately 30% of the vehicles from Abergavenny Road to Estate Road crossed one of the 3 screen lines.
 - Approximately 100% of these crossed the Church Road screen line.
 - **Hence traffic from Abergavenny Road to Estate Road use Church Road. Furthermore, 1/3 of this traffic proceeded to use High Street as well, and 30% crossed the Broad Street screen line.**
- Garn Road (out)
 - Approximately 15% of the vehicles matched left via Garn Road.
 - Approximately 5% of the vehicles from Abergavenny Road to Garn Road crossed one of the 3 screen lines.
 - Approximately 50% of these crossed the Church Road screen line.
 - Approximately 50% of these crossed the Broad Street screen line.
 - **Hence traffic from Abergavenny Road to Garn Road does not use the screen lines within Blaenavon town centre.**
- Varteg Road (out)
 - Approximately 20% of the vehicles matched left via Varteg Road.
 - Approximately 70% of the vehicles from Abergavenny Road to Varteg Road crossed one of the 3 screen lines.
 - Approximately 80% of these crossed the Church Road screen line.
 - Approximately 10% of these crossed the Broad Street screen line.
 - Approximately 10% of these crossed the High Street screen line.
 - **Hence traffic from Abergavenny Road to Varteg Road use Church Road in general. There are a few vehicles that use High Street/ Broad Street.**
- Cwmavon Road (out)
 - Approximately 35% of the vehicles matched left via Cwmavon Road.
 - Approximately 70% of the vehicles from Abergavenny Road to Cwmavon Road crossed one of the 3 screen lines.
 - Approximately 60% of these crossed the Church Road screen line.
 - Approximately 40% of these crossed the Broad Street screen line.
 - **Hence the majority of traffic from Abergavenny Road to Cwmavon Road uses Church Road, with a small proportion using Broad Street and few using High Street. It should be noted that it appears vehicles are crossing 2 screen lines or more.**

- It should also be noted at this point that any traffic not on the main route (Church Road) to the northwest travels through High Street, and that the minority of traffic to the southeast is not using the main route, but taking Broad Street.
- Abergavenny Road (out)
 - Approximately 20% of the vehicles matched also left via Abergavenny Road.
 - Approximately 25% of the vehicles from Abergavenny Road that returned to Abergavenny Road crossed one of the 3 screen lines.
 - Approximately 90% of these crossed the Church Road screen line.
 - Approximately 10% of these crossed the Broad Street screen line.
 - **majority of vehicles travelling back out of Abergavenny Road during the 50 minute time period do not cross any of the screen lines.**

6.30 Garn Road (in)

580 vehicles travelled into Blaenavon via Garn Road during the 12 hour survey period. 50% of these vehicles were matched travelling into the town centre and/or out through a boundary survey line within 50 minutes.

- Estate Road (out)
 - Approximately 1% of the vehicles matched left via Estate Road.
 - Approximately 0% of the vehicles from Garn Road to Estate Road crossed one of the 3 screen lines.
 - **Hence there is little traffic from Brynmawr entering Estate Road for Gilchrist-Thomas Industrial Estate. This is backed up from additional survey data.**
- Abergavenny Road (out)
 - Approximately 29% of the vehicles matched left via Abergavenny Road.
 - None of the vehicles from Garn Road to Abergavenny Road crossed one of the 3 screen lines.
 - **Hence, traffic from Garn Road to Abergavenny Road, do not access Blaenavon town centre.**
- Varteg Road (out)
 - Approximately 35% of the vehicles matched left via Varteg Road.
 - Approximately 5% of the vehicles from Garn Road to Varteg Road crossed one of the 3 screen lines.
 - Approximately 75% of these crossed the Church Road screen line.
 - Approximately 25% of these crossed the High Street screen line.
 - **Hence only a very low proportion (5%) of traffic appears to cross any of the screen lines between Garn Road (N) and Varteg Road (S) within the 50 minute time period.**
- Cwmavon Road (out)
 - Approximately 15% of the vehicles matched left via Cwmavon Road.

- Approximately 70% of the vehicles from Garn Road to Cwmavon Road crossed one of the 3 screen lines.
 - Approximately 60% of these crossed the Church Road screen line.
 - Approximately 35% of these crossed the Broad Street screen line.
 - Approximately 5% of these crossed the High Street screen line.
- **Hence the majority of traffic from Garn Road to Cwmavon Road uses Church Road, with a small proportion using Broad Street.**
- Garn Road (out)
 - Approximately 20% of the vehicles matched also left via Garn Road.
 - No traffic was matched at a screen line.
 - **Hence vehicles travelling both to and from Blaenavon via Garn Road did not enter the Town Centre.**

6.31 Estate Road (in)

1213 vehicles travelled out of Estate Road from Gilchrist-Thomas Industrial Estate during the 12 hour survey period. 60% of these vehicles were matched travelling into the town centre and/or out through a boundary survey line within 50 minutes.

- Garn Road (out)
 - Approximately 1% of the vehicles matched left via Garn Road.
 - Approximately 30% of the vehicles from Estate Road to Garn Road crossed one of the 3 screen lines.
 - 100% of these crossed the Church Road screen line.
 - **Hence little traffic travelled from Estate Road to Garn Road, and approximately 1/3 of vehicles that undertake this movement, do so via Church Road.**
- Abergavenny Road (out)
 - Approximately 9% of the vehicles matched also left via Abergavenny Road.
 - Approximately 30% of the vehicles from Estate Road to Abergavenny Road crossed one of the 3 screen lines
 - Approximately 90% of these crossed the Church Road screen line.
 - Approximately 10% of these crossed the Broad Street screen line.
 - **Hence little traffic travelled from Estate Road to Abergavenny Road during the 50 minute time period.**
- Varteg Road (out)
 - Approximately 20% of the vehicles matched left via Varteg Road.
 - Approximately 60% of the vehicles from Estate Road to Varteg Road crossed one of the 3 screen lines.
 - 100% of these crossed the Church Road screen line.
 - **Hence traffic from Estate Road to Varteg Road use Church Road only.**
- Cwmavon Road (out)
 - Approximately 60% of the vehicles matched left via Cwmavon Road.

- Approximately 65% of the vehicles from Estate Road to Cwmavon Road crossed one of the 3 screen lines.
 - Approximately 97% of these crossed the Church Road screen line.
- **Hence the majority of traffic from Estate Road to Cwmavon Road uses Church Road.**
- Estate Road (out)
 - Approximately 10% of the vehicles matched also returned to Gilchrist-Thomas Industrial Estate via Estate Road.
 - Approximately 20% of the vehicles from Estate Road that returned to Estate Road crossed one of the 3 screen lines.
 - Approximately 100% of these crossed the Church Road screen line.
 - **Hence few vehicles travel into Blaenavon and returned. Those that do, travel via Church Road.**

6.32 From the above data and the data in Appendix H and Figure 7 and 8, it is possible to see that:

- 37% of inbound traffic travelled from Cwmavon Road
- 20% of inbound traffic travelled from Varteg Road
- 18% of inbound traffic travelled from Abergavenny Road
- 17% of inbound traffic travelled from Estate Road
- 8% of inbound traffic travelled from Garn Road

6.33 Within the 12 hour survey, the following proportions of traffic left Blaenavon via the 5 boundaries:

- 32% outbound traffic to Cwmavon Road
- 23% outbound traffic to Abergavenny Road
- 19% outbound traffic to Estate Road
- 18% outbound traffic to Varteg Road
- 8% outbound traffic to Garn Road

6.34 The results show that Cwmavon Road had the highest traffic flows (in and out) and there is minimal rat running through the town centre by through traffic. Therefore, highway improvement to the town centre (Recommendations A5/F1/S2) will not impact on through traffic patterns.

Base 2

6.35 The analysis in Base 2 takes account of all the internal movements at the south of Blaenavon Town Centre.

6.36 General

The total inbound flow is negligibly higher than the outbound flow (5%).

- Inbound – Church Road and Cwmavon Road had the highest volume of vehicles by some considerable margin (approximately 65% of the total flow) and High Street accounts for the least amount of flow (6% of total).

- Outbound – Church Road had the highest volume outbound (i.e. heading towards the North) and High Street again had the lowest flow (4%). All outbound flows appear to be similarly proportionate to the inbound flows.

6.37 Cwmavon Road (in)

- Approximately 70% of the vehicles matched travel through Church Road from Cwmavon Road.
- Approximately 15% of the vehicles matched travel through Broad Street from Cwmavon Road.

6.38 Varteg Road (in)

- Approximately 70% of the vehicles matched travel through Church Road from Varteg Road.
- Approximately 20% of the vehicles matched travel through Cwmavon Road from Varteg Road.

6.39 Church Road (in)

- Approximately 55% of the vehicles matched travel through Cwmavon Road from Church Road.
- Approximately 20% of the vehicles matched travel through Varteg Road from Church Road.
- Approximately 15% of the vehicles matched travel back along Church Road, indicating round trips into the south of the town utilising the one-way system.

6.40 High Street (in)

- Approximately 35% of the vehicles matched travel through Church Road from High Street.
- Approximately 35% of the vehicles matched travel through Cwmavon Road from High Street.
- Approximately 20% of the vehicles matched travel through Varteg Road from High Street.

6.41 Broad Street (in)

- Approximately 38% of the vehicles matched travel through Cwmavon Road from Broad Street.
- Approximately 25% of the vehicles matched travel back along Broad Street, indicating round trips into the south of the town utilising the one-way system.
- Approximately 20% of the vehicles matched travel through Church Road from Broad Street.

6.42 Hence, taking traffic volumes of significance to be over 10% of total flow, the following traffic patterns have been observed:

- **Cwmavon Road (in) – Church Road/ Broad Street (out)**
- **Varteg Road (in) – Church Road/ Cwmavon Road/ Broad Street (out)**
- **Church Road (in) – Cwmavon Road/ Varteg Road/ Church Road (out)**
- **High Street (in) – Church Road/ Cwmavon Road/ Varteg Road (out)**
- **Broad Street (in) – Cwmavon Road/ Broad Street/ Church Road/ Varteg Road (out)**

6.43 The above data represents the spread of traffic proportions from each road and also shows that little traffic actually used High Street for rat running (being less than 10%

of the total flow from any road - generally less than 5%, which is supported by on-site observations). It is also possible to summarise that, as with Base 1 data above, vehicles that cross Church Road/ Broad Street/ High Street and then return by the same road they came in may have used the convenience stores in the town. Therefore, alterations to the flow pattern of traffic in the town centre would not adversely affect through traffic movements (Recommendation A5).

Base 3

6.44 The analysis in Base 3 takes account of all the internal movements to the north of Blaenavon Town Centre.

6.45 General

The total outbound flow is again negligibly higher than the inbound flow (3%).

- Inbound – Church Road (40%) appears to have had the highest proportion of inbound traffic, with High Street noticeably having the least amount of traffic followed by Cwmavon Road.
- Outbound – Church Road (35%) had the highest volume outbound (i.e. heading towards Cwmavon Road and Varteg Road in the South), High Street and Garn Road had the lowest flows. All outbound flows appear to be similarly proportionate to the inbound flows. There does appear to be slight overlapping of the proportions, therefore it can be assumed that some of the matched vehicles crossed more than 2 boundary points. For example, vehicles from Estate Road loop into town and back, crossing Estate Road/ Church Road/ High Street/ Broad Street/ Church Road/ Estate Road (see Figure 7).

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- 6.46 **Garn Road (in)**
- Approximately 40% of the vehicles matched travel through Abergavenny Road from Garn Road.
 - Approximately 25% of the vehicles matched travel through Church Road from Garn Road.
- 6.47 **Estate Road (in)**
- Approximately 90% of the vehicles matched travel through Church Road from Estate Road
 - Little traffic travels from Estate Road through Garn Road or High Street.
- 6.48 **Abergavenny Road (in)**
- Approximately 50% of the vehicles matched travel through Church Road from Abergavenny Road.
 - Little traffic travels from Abergavenny Road through Estate Road or High Street.
- 6.49 **Church Road (in)**
- Approximately 50% of the vehicles matched travel through Estate Road from Church Road.
 - Approximately 30% of the vehicles matched travel through Abergavenny Road from Church Road.
- 6.50 **High Street (in)**
- Approximately 30% of the vehicles matched travel through Garn Road (using Upper Waun Street) from High Street.
 - Approximately 30% of the vehicles matched travel through Broad Street (using Lion-street/ Burford Street) from High Street.
 - Approximately 20% of the vehicles matched travel back along High Street, indicating round trips to the north of the town.
 - No traffic travelled to Estate Road within the 50 minute time period.
- 6.51 **Broad Street (in)**
- Approximately 40% of the vehicles matched travel back along Broad Street to the South. It is possible that these trips utilised the Lion-street or Broad Street car parks, indicating short shopping trips/library trips.
 - Approximately 25% of the vehicles matched travel through Abergavenny Road from Broad Street. Hence using Lion-street and Upper Waun Street (or, possibly, using King Street to the north of Broad Street).
 - Little traffic travelled to Estate Road or Garn Road.
- 6.52 **Hence the following traffic patterns have been observed:**
- **Garn Road (in)** – Abergavenny Road/ Garn Road/ Church Road/ Broad Street (out)
 - **Estate Road (in)** – Church Road (out)
 - **Abergavenny Road (in)** – Church Road/ Broad Street/ Abergavenny Road (out)
 - **Church Road (in)** – Estate Road/ Abergavenny Road/ Church Road (out)
 - **High Street (in)** – Garn Road/ Broad Street/ High Street/ Abergavenny Road (out)

- **Broad Street (in) – Broad Street/ Abergavenny Road/ Church Road/ High Street (out)**

- 6.53 The above data shows a greater spread of flows between the destinations than Base 2.
- 6.54 **Matched Data (in)**
Over 55% of the in-flows from Garn Road, Estate Road, Abergavenny Road and Church Road have been matched, with approximately 80% matched from Estate Road.
- 6.55 **Unmatched Data (in)**
There remained a large proportion of unmatched data although a higher number of vehicles were matched compared to the Base 2 analysis. However, Broad Street and High Street matches were significantly lower (13% and 30% respectively).
- 6.56 **Matched Data (out)**
Over 70% of vehicles were matched at Estate Road.
- 6.57 **Unmatched Data (out)**
Unmatched data was high at (50%). Hence it is suggested that the majority of vehicles may actually have entered 1 of the 6 boundary points and stopped in the north end of the town for over 50 minutes, i.e. residents/commuters into Blaenavon rather than for retail purposes or the school run.

Base 4

- 6.58 The analysis in Base 4 takes account of all the internal movements within Blaenavon Town Centre.
- 6.59 **General**
The inbound and outbound flows generally match. 4346 vehicles travelled inbound with 61%, 11% and 28% on Church Road, High Street and Broad Street respectively. There were 4345 vehicles travelling outbound with 66%, 7% and 27% on each of the 3 roads (as above). High Street never carried a significant proportion of traffic.
- **Inbound – Church Road (>60%) appears to have had the highest proportion of inbound traffic (loading from Garn Road, Estate Road, Abergavenny Road), Broad Street had 30% of the traffic flow (from King Street, Queen Street, Lion-street).**
 - **Outbound - Church Road (>65%) appears to have had the highest proportion of traffic travelling outbound (loading from Cwmavon Road, Varteg Road), Broad Street had 30% of the traffic flow again (from Church Road, Cwmavon Road, Varteg Road).**
- 6.60 **Church Road (in)**
- Approximately 70% of the vehicles travel back along Church Road, indicating round trips into the south of the town utilising the one-way system.
 - Approximately 30% of the vehicles matched travel through Broad Street from Church Road.

6.61 High Street (in)

- Approximately 70% of the vehicles matched travel through Church Road from High Street. Hence this traffic takes a right turn onto Church Road at the High Street junction.
- Approximately 30% of the vehicles matched travel through Broad Street from High Street. Hence this traffic turns left onto Church Road from the High Street junction.

6.62 Broad Street (in)

- Approximately 60% of the vehicles matched travel through Church Road from Broad Street. Hence this traffic turns left from Commercial Street at the Church Road/ Prince Street junction and then immediately right up Church Road.
- Approximately 40% of the vehicles matched travel back along Broad Street, indicating round trips with short durations of stay into Broad Street from the North, using the one-way system through Commercial Street and Ivor Street.

6.63 Matched Data (in)

The majority of traffic on Church Road travelled straight through Blaenavon, shown by only 30% of vehicles being matched in the town. Traffic on High Street generally travelled through Blaenavon, but 40% hit another screen line (25% of these were on Broad Street, using the town, as opposed to Church Road). Of the vehicles that were matched after entering at Broad Street there was an approximate 50/50 split between travelling back on Broad Street/travelling up Church Road.

6.64 Unmatched Data (in)

The majority of vehicles that entered at Broad Street were not matched within the time period.

6.65 Matched and Unmatched Data (out)

All 3 sites showed matches of less than 40% for the outward journey during the 50 minute time period, hence the majority of vehicles that travelled out of Blaenavon were not matched going in (did not cross a survey line on either of Church Road/ Broad Street/ High Street). Hence traffic travelled in/out from one of the other 5 survey lines, from the residential areas of the town or from the town itself (due to shoppers, etc., staying longer than the 50 minute time period).

Base 5

6.66 The analysis in Base 5 takes account of movements across High Street and Broad Street only.

6.67 The data was assessed for this survey but not fully analysed due to the depth of examination for Base 1, 1A-C and 2-4. Base 5 basically illustrates that a high number of vehicles travelled up High Street from Church Road and across at Lion Street (or Burford Street), down Broad Street and out on Church Road/Varteg Road, to the west and south, or Market Street to the A4043 in the east. The analysis also shows that a vast majority of vehicles from Broad Street do the opposite manoeuvre.

Traffic Flow/Movement Patterns

6.68 The following Diagrams (6.1-6.2) show observed AM and PM peak traffic flows through Blaenavon and movement patterns in the town centre in their simplest form,

using the 2004 base data. The majority of the low vehicle flows in the town centre can be attributed to local usage.

- 6.69 Diagrams 6.3-6.4 summarise a section of the origin destination survey results in diagrammatic form with screen line points on Broad Street and High Street. The results show minimal rat running at present through the town for traffic with an origin and destination on the A4043 - B4246 and A4043 - B4248.

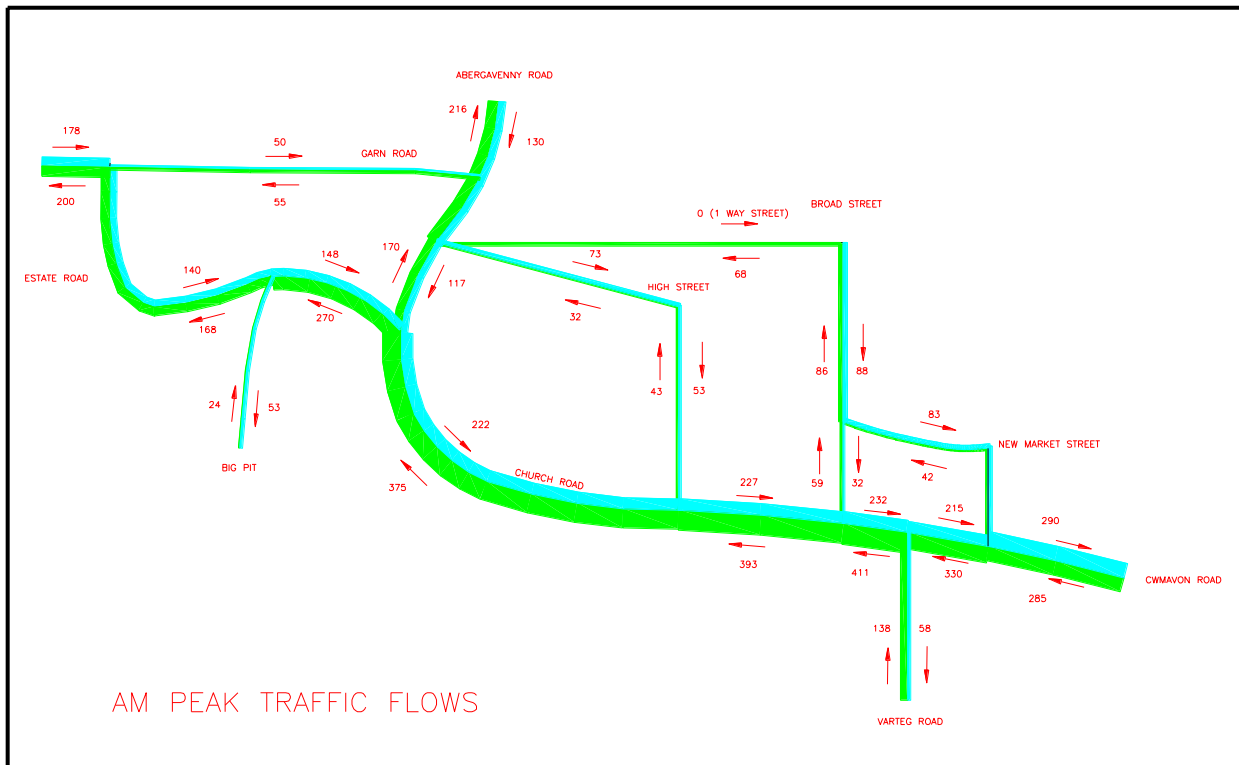


Diagram 6.1: AM Peak Traffic Flows through Blaenavon

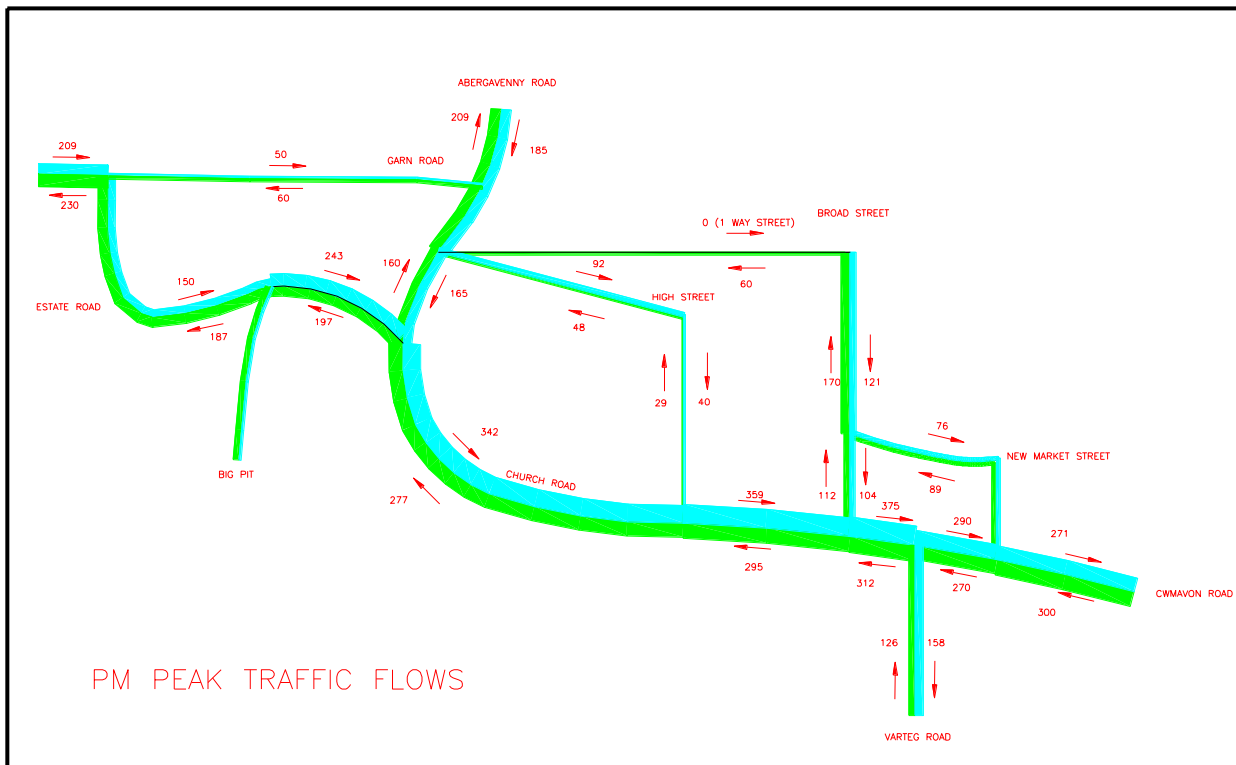


Diagram 6.2: PM Peak Traffic Flows through Blaenavon

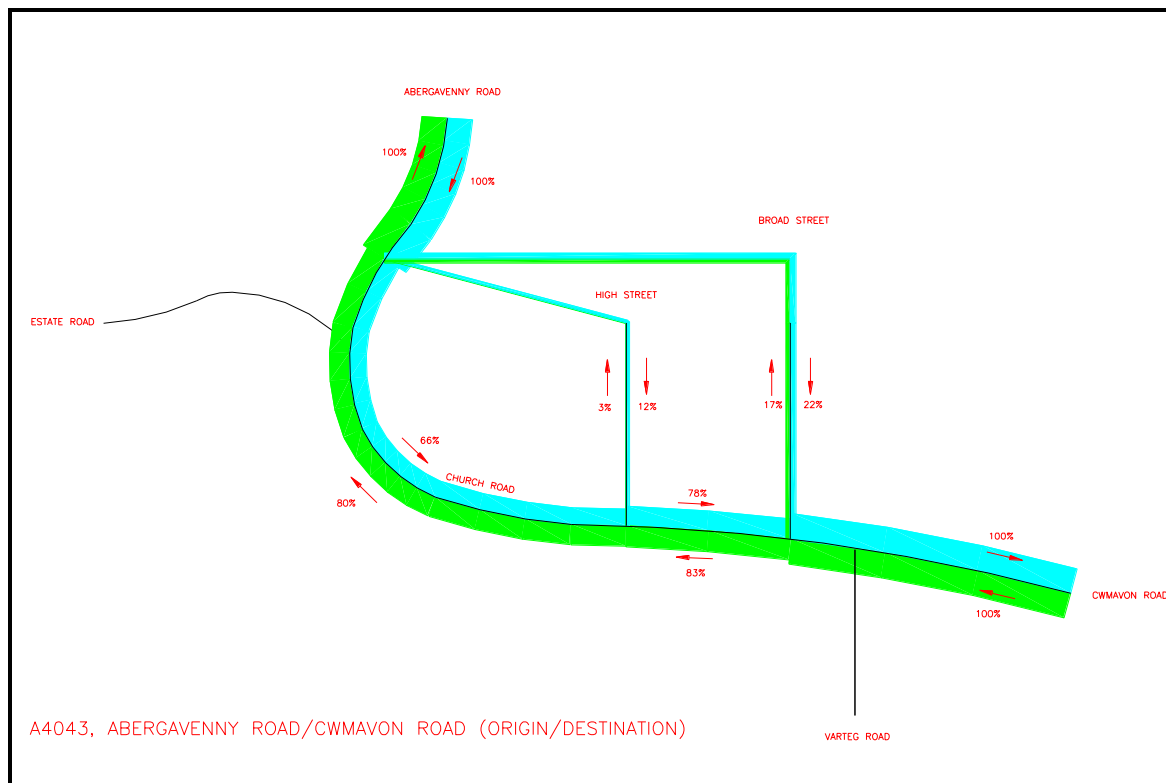


Diagram 6.3: Origin - Destination Survey Data, A4043 Cwmavon Road – Abergavenny Road Traffic Flows through Blaenavon

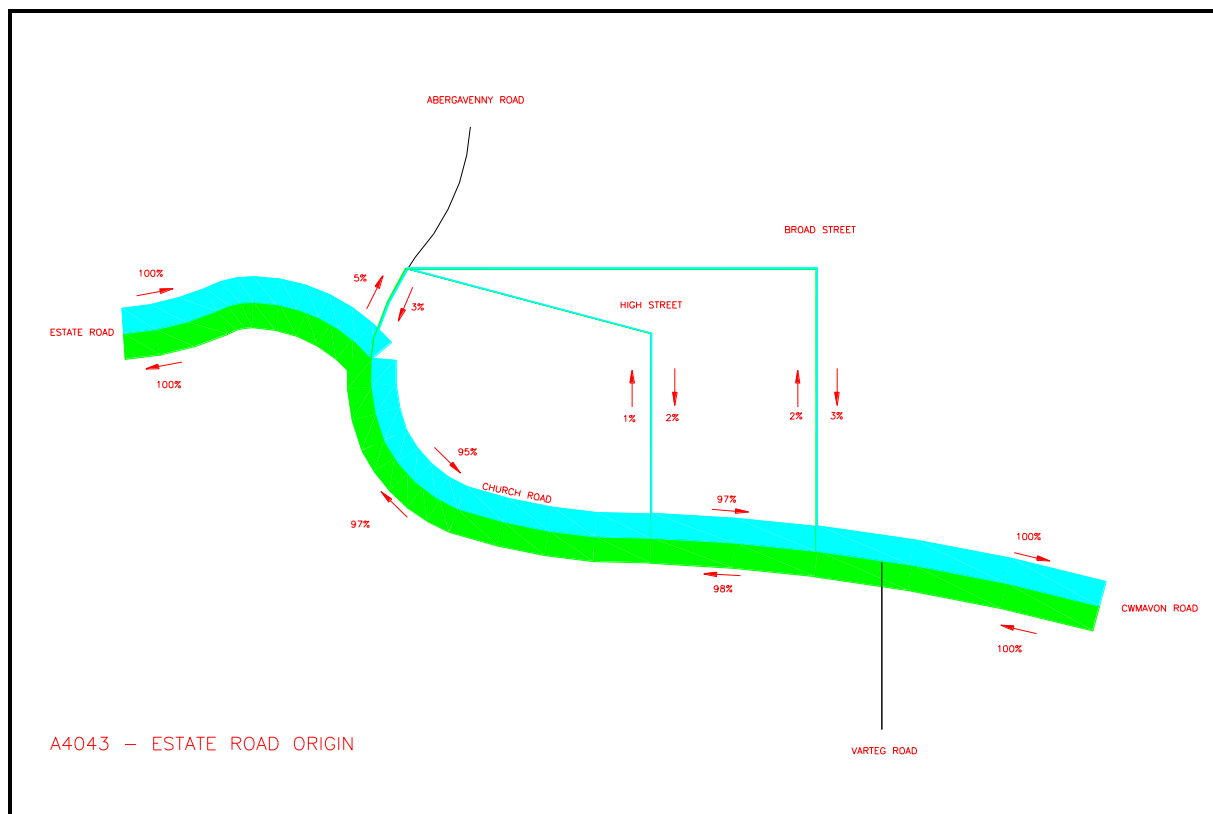


Diagram 6.4: Origin - Destination Survey Data, A4043 Cwmavon – Estate Road Traffic Flows through Blaenavon (Estate Road Origin)

Link Capacity

- 6.70 Existing Automatic Traffic Count data has been growthed to 2016 using National Road Traffic Forecast (NRTF) Central Growth for the three main roads through Blaenavon: Cwmavon Road (Location 2), Church Road (Location 4), and Abergavenny Road (Location 5).

Year	Westbound			Eastbound		
	AM	PM	Daily	AM	PM	Daily
2004	245	277	3262	229	238	2965
2016	294	333	3918	275	286	3561

Table 6.8: Cwmavon Road 2016 Predicted Traffic Growth

Year	Westbound			Eastbound		
	AM	PM	Daily	AM	PM	Daily
2004	290	246	3237	184	317	3138
2016	348	296	3888	221	381	3769

Table 6.9: Church Road 2016 Predicted Traffic Growth

Year	Westbound			Eastbound		
	AM	PM	Daily	AM	PM	Daily
2004	92	173	1793	148	188	2229
2016	111	208	2153	178	226	2677

Table 6.10: Abergavenny Road 2016 Predicted Traffic Growth

- 6.71 In accordance with the Table 2 of Technical Advice Note 79/99 in the Design Manual for Roads and Bridges (DMRB) Volume 5, the hourly capacities of urban roads are:

Two way single carriageway – Busiest direction flow (assumes a 60/40 directional split)

	6.1m	6.75m	7.3m	9.0m
UAP3	900	1110	1300	1530

One-way hourly flows in each direction, UAP3 – Variable standard road carrying mixed traffic with frontage access, side roads, bus stops and at grade pedestrian crossings

- 6.72 Therefore, based on the predicted growth using national central forecasts, there is considerable spare link capacity on the strategic road network. With forecast increases in tourist numbers, a review of this capacity should accordingly be undertaken in 10 years (Recommendation F5).

Future Growth

- 6.73 The future demand for parking in Blaenavon is based on a number of factors including tourism, expansion of the residential areas/population growth, increases in car ownership and industry, Torfaen County Borough Council policies, traffic growth and the vitality of the town centre.

Tourism

- 6.74 700,000 visitors travelled to Torfaen in 2002, increasing to 744,000 in 2003 (6.3%). The following numbers of tourist cars were recorded in the County Borough:

Year	Tourist Cars	% Yearly Increase	% Increase 2000-2003
2000	145,000		
2001	149,000	2.7%	
2002	162,000	8.0%	
2003	173,000	6.8%	19.3%

Table 6.11: Tourist cars Recorded in Torfaen, 2000-2003

- 6.75 Of the 744,000 tourists in 2003, 16% (120,000) visited Big Pit, a figure which rose to 141,000 in 2004. Furthermore, Big Pit visitor figures in February/March 2005 are 25% up on the previous year.
- 6.76 The Visit Wales' general trend is a current growth of 6% per annum, which closely ties in with tourist traffic growth in Torfaen between 2000-2003 and total tourist numbers in Torfaen 2002-03.
- 6.77 However, this 6% figure excludes new facilities and attractions e.g. the World Heritage Centre, scheduled for opening in spring 2006, will cause a further increase in these tourist figures. The World Heritage Centre is predicted to receive 25,000 visitors per annum by 2008.
- 6.78 The main impact of the increase in tourism will be at the peripheral car parks serving these tourist attractions. The April Bank Holiday Monday surveyed showed that overall there was 42% spare capacity in these tourist car parks, although the Big Pit Car Park was over capacity. Based on the national average tourism increase of 6% per annum, total capacity will be reached in these car parks by 2011, if no significant sustainability measures are in place.
- 6.79 The impact of increased tourism on parking in Blaenavon itself is more complex as this will depend on the success of initiatives to attract tourists to the town and linkage of the town centre with the tourism experience.

Population

- 6.80 Table 6.12 indicates the demographics of Torfaen. The information is taken from 1991 and 2001 census data. No information is available in the census relating specifically to Blaenavon.

	Torfaen 2001 *	Torfaen 1991 "
Total Population	90,949	90,527
Unemployed	3.4%	5.97%
Under 30	30.1%	41.4%
65 +	16.8%	15.6%
Households	37,576	35,529
No car	27.2%	33.9%
1 car	46.3%	46.5%
2 + cars	26.5%	19.6%

Table 6.12: Torfaen Census Data (1991/2001)

Note: * 2001 data obtained from 2001 Census

" 1991 data obtained from 1991 Census

- 6.81 A 0.5% increase in population has been experienced across the County in the ten-year period 1991 – 2001. Forecast population growth for Torfaen is 0.25% for 2001 – 2006.

Public Transport

- 6.82 The All Wales Concessionary Fare Scheme was introduced in April 2002 which provides free local bus travel for registered disabled, women over 60 and men over 65. The scheme was expanded in April 2003, reducing the qualification age for males to 60 years of age. Since their introduction a total of 13,186 concessionary passes have been issued, resulting in a significant increase in bus patronage.

Parking

- 6.83 Limited on and off-street parking surveys were previously undertaken in the centre of Blaenavon on Friday 5th February 1999 between 0700-1900 hours. The peak demand in 1999 and 2004 is summarised in Table 6.13:

Site	Capacity	1999 Demand	2004 Demand	Difference
Lion St Car Park	32	23	32	+ 9
Broad St (Lion St to Burford St)	0	4	1	- 3
Broad St (Burford St to Cross St)	4	9	9	0
Broad St (Cross St to Commercial St)	8	8	12	+ 4
Market St Large Car Park	30	22*	18	- 4
Market St Small Car Park	20	10	15	+ 5
Total	94	76	87	11

*Four vehicles parked throughout the survey due to vandalism

Table 6.13: 1999 – 2004 Town Centre Off-street Parking Demand

- 6.84 Therefore, based on this limited data, there has been an 11 vehicle (14%) increase in the peak demand in these town centre locations between 1999 to 2004.

Parking demand in 2004 in the Town Centre Car Parks is summarised in Table 6.14. There is spare capacity in the majority of the Town Centre Car Parks. However, enforcement of on-street parking restrictions will result in a substantial increase in off street demand as existing on-street parking exceeds capacity. In conjunction with any enforcement programme, off street car park usage should be kept under review. (Recommendation T3/P4/P12).

	Capacity	2004 Peak Demand
Prince Street	22	5
Broad Street	16	9
Market Street (both)	80	33
Lion Street	32	32
Iron Works	43	13
Burford Street	10	8
Total	203	100 (49%)

Table 6.14: 2004 Town Centre Off-street Parking Demand v Capacity

Torfaen Local Transport Plan (LTP) 2000/2006

- 6.85 The Local Transport Plan promotes a balanced transport strategy taking into account local circumstances. This means that any demand management measures must be introduced both incrementally and selectively only where it can be shown that there is no adverse effect on the local economy in general and in town centres in particular. The emphasis in the plan is therefore placed on widening choice and enhancing alternatives to the private car whilst investigating the potential transport and economic effects of demand management for the medium to longer term.
- 6.86 The Council's aims in relation to parking are to:
- Identify strengths and weaknesses in current provision through surveys;
 - Use planning policies to minimise the creation of additional parking spaces in town centres;
 - Use traffic powers to regulate indiscriminate parking;
 - Financially assist Gwent Constabulary to increase the level of enforcement;
 - Undertake works to formalise residential parking arrangements where conflict with public transport or environmental concerns exist;
 - Target travel awareness promotions at residential areas in an attempt to contain parking within the level of provision;
 - Relocate on-street parking where beneficial to public transport, pedestrians and cyclists;
 - Review the provision of parking spaces for disabled people and improve circumstances where necessary if within the Council's control;
 - Improve security arrangements at car parks to reduce fear of crime where this exists;
 - Keep under review the need for parking charges;
 - Monitor progress with congestion and workplace charging initiatives undertaken in other local authority areas;
 - Implement de-criminalised parking subject to evaluation.
- 6.87 The following table indicates the forecast and target growth across Torfaen, as set out in the LTP.

	Forecast	Target Growth	2004 Growth From Base Year (1996)	Average Yearly Growth From Base Year (1996)
Torfaen	20.9% increase between and 1999 to 2016	Constrain traffic growth below 25.65% from 1996 to 2016.	22.4%	2.8%

Table 6.15: Torfaen LTP Targets

6.88 Table 6.15 indicates that Torfaen is witnessing excess traffic growth in comparison with its target growth, already with 87% of its target growth in the first eight years of a 20-year plan.

Table 6.16: Traffic Flows in Torfaen

Route No	Location	AADT 2004	AADT 2003	AADT 2002	AADT 2001	AADT 2000	AADT 1999	AADT 1998	AADT 1997	AADT 1996
TORFAEN COUNTY BOROUGH CORDON										
A 472	Hafodyrynys	16705	15111	14458	14470	13911	(12314)	11883	11766	11813
A 4042	Llanover	12256	12124	11629	11338	11151	11474	11400!	11435!	11088!
A 4042	Malpas Relief Road (WO SITE)	34549	33139	32998	(33673)	30980	30238	27709	27694	25847
A 4051	Malpas Road	25554	26280	(25778)	25242	25289	25415*	24449*	24327*	22478*
B 4236	Llanfrechfa (S of Village)	7558	8565	7197	6962	(7617)	8102*	(7640)	7407	7196
B 4246	Blaenavon (Nr Keepers Pond)	2650	2684	2692	2549	(2503)	2670*	(2541)	(2814)	(2896)
B 4248	Blaenavon Garn-yr-erw	4518	4480	4097	3911	(3931)	3754	(3683)	3473	3459
Totals		103790	102383	98849	98145	95382	93967#	89305#	88916#	84777#
Annual Growth Rate		1.4%	3.60%	0.7%	2.9%	1.5%	5.2%	0.4%	4.9%	N/A
Total Growth from 1996		22.4%	20.80%	16.6%	15.8%	12.5%	10.8%	5.3%	4.9%	N/A
BLAENAVON CORDON										
A 4043	Cwmavon South of Village	5747	6200	5563	4819*	4800	5046	4721	4795	5242
B 4246	Blaenavon (Nr Keepers Pond)	2650	2684	2692	2549	(2503)	2670*	(2541)	(2814)	(2896)
B 4248	Blaenavon Garn-yr-erw	4518	4480	4097	3911	(3931)	3754	(3683)	3473	3459
Totals		12915	13364	12352	11279	11234	11470	10945	11082	11597
Annual Growth Rate		-3.5%	8.2%	9.5%	0.4%	-2.1%	4.8%	-1.2%	-4.4%	N/A
Total Growth from 1996		11.4%	15.2%	6.5%	-2.7%	-3.1%	-1.1%	-5.6%	-4.4%	N/A

() Denotes Estimated AADT

* Denotes AADT calculated using annual growth rate

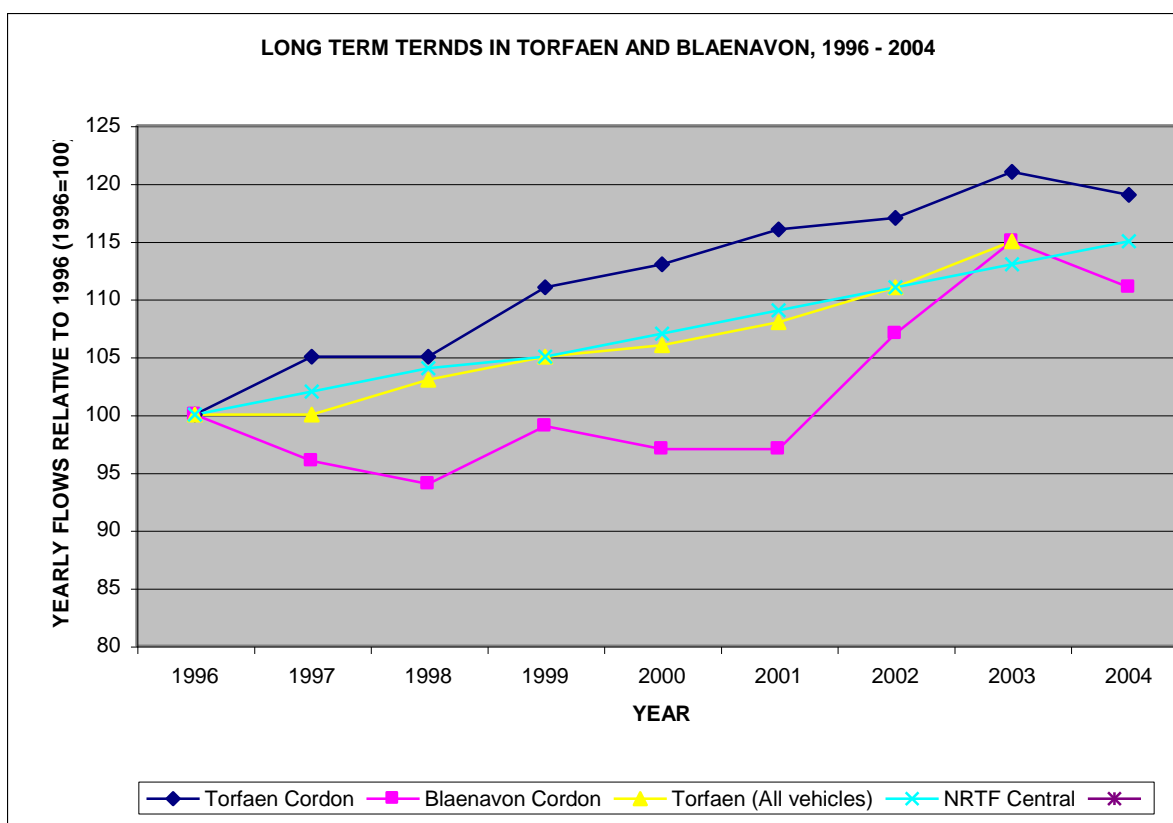
(Source: Department for Transport's National Road Traffic Survey)

	2003	2002	2001	2000	1999	1998	1997	1996
TORFAEN								
Estimated traffic flows for all motor vehicles	600	579	564	551	545	538	520	520
Annual Growth Rate	3.62%	2.70%	2.40%	1.10%	1.30%	3.50%	0%	N/A%
Total Growth from 1996	15.38%	11.40%	8.50%	6.00%	4.80%	3.50%	0%	N/A%

(Estimated traffic flows calculated in million vehicle kilometres)

Traffic Flows

- 6.89 The actual growth that has been witnessed on Torfaen roads is summarised in Table 6.16, representing Torfaen and Blaenavon traffic flows respectively as surveyed by Capita Symonds / Welsh Assembly Government. Also shown is the Department for Transport estimated traffic flows for all motor vehicles calculated in million vehicle kilometres within the County. A summary of the long term trends is highlighted in Graph 6.1.
- 6.90 Based on surveyed flows, there is an annual growth range of between -4.4% and +9.5% for the Blaenavon region over the past 8 years. Growth in Blaenavon from 1996-2004 is estimated at 11.4% compared to a county rate of 22.4%. It should be noted that between 1996-2001, flows per year were less than 1996. However, both in 2002 and 2003 there have been traffic flow increases, particularly on the A4043 in Cwmavon and B4248 at Garn-yr-Erw. In 2004 a slight drop, related to changes in flow on the A4043 was recorded. However, these figures should be used with caution due to the limited data available for Blaenavon.



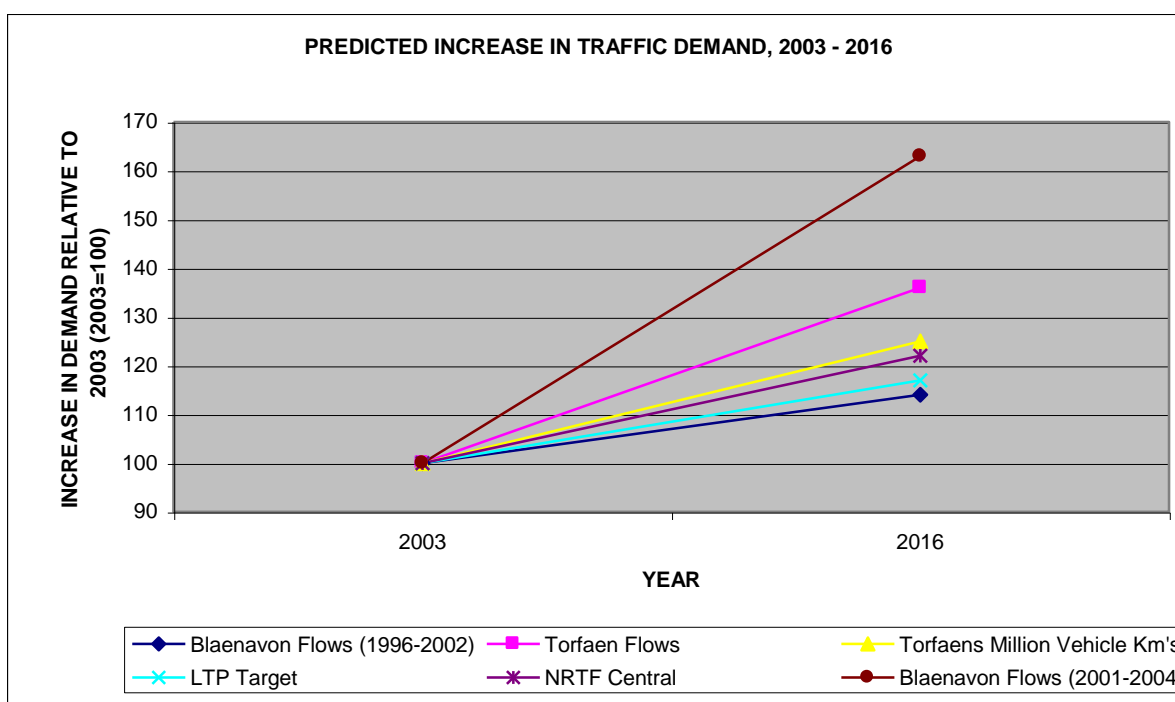
Graph 6.1: Traffic Flow Trends in Torfaen and Blaenavon (1996-2004)

- 6.91 In terms of million vehicle kilometres there is an annual growth range of between 0% and 3.6% for Torfaen between 1993-2003. Growth in Torfaen from the LTP base year of 1996 to 2004 is 15.4%.
- 6.92 For comparison purposes, the National Road Traffic Forecast (NRTF) at a central growth rate is a 22.1% increase in traffic flows from 2003 to 2016.

6.93 As a forecasting basis, using the LTP base year of 1996 and comparing to 2002, traffic demand by 2016 will have increased from 2003 by between:

- 14.1% - Blaenavon Flows (1996 – 2002)
- 36.0% - Torfaen Flows
- 24.6% - Torfaen million vehicle kilometres
- 16.7% - LTP Target
- 22.1% - NRTF Central
- 63.0% - Blaenavon Flows (2001 – 2004)

6.94 These levels of future growth are likely to have significant potential to increase demand for parking in the town centre. See graph 6.2 below.



Graph 6.2: Predicted Increase in Traffic Demand (2003-2016)

Traffic Flow Summary

6.95 There were 511 off-street parking spaces surveyed of which 363 were at tourist sites. Of the on-street spaces there were 170 in the survey of which 50 were at Big Pit. In total, of the 681 spaces in the survey there was a peak occupancy of 56% and the on-street parking was actually overcapacity (139 vehicles at 116%). Therefore, future demand relies on off-street parking provision.

6.96 Taking an average annual growth of 2-3%, capacity will be reached at the car parks in Blaenavon during the peak times in 2026 - 2018 respectively.

6.97 Growth forecasts do not necessarily translate into exactly comparable rates for parking growth. It is a policy decision for Torfaen CBC whether or not they wish to meet the forecast demand – given that it is all a circular process i.e. increase supply of parking spaces and traffic growth will continue to increase in the town centre – but all are inextricably linked to the vitality of the town centre. (Recommendations F5/T3/P4/P12).

HGV Growth Rates

6.98 Historic and forecast national HGV growth rates are summarised below:

NRTF Historic growth per annum:

Rigid HGV's 1.5% (1986-1996)

Artic HGV's 4.8% (1986-1996)

NRTF Predicted growth per annum (central)

Rigid HGV's 0.77% (2001-2006)

Rigid HGV's 0.80% (2006-2011)

Artic HGV's 2.55% (2001-2006)

Artic HGV's 2.44% (2006-2011)

The rates vary between a 0.77% and a 4.8% increase per annum.

6.99 In Blaenavon, 12-hour classified counts have been undertaken at the A4043 Cwmavon Rd / B4246 Varteg Rd / B4248 Prince Street junction in 1999 and 2004. The surveyed HGV flows at this junction are summarised in Table 6.17, below.

A4043 Cwmavon Rd

	Tuesday 4 th February 1999		Thursday 27 th April 2004		Percentage Change	
	OGV1	OGV2	Rigid HGV	Artic HGV	Rigid HGV	Artic HGV
Eastbound	90	28	96	17	6.6%	-39.3%
Westbound	120	26	94	18	-21.7%	-30.8%
Total	210	54	190	35	-9.5%	-35.2%
Total	264		225		-14.8%	

B4248 Prince Street

	Tuesday 4 th February 1999		Thursday 27 th April 2004		Percentage Change	
	OGV1	OGV2	Rigid HGV	Artic HGV	Rigid HGV	Artic HGV
Northbound	125	27	111	18	-11.2%	-33.3%
Southbound	108	27	109	19	0.9%	-29.6%
Total	233	54	220	37	-5.6%	-31.5%
Total	287		257		-10.5%	

Table 6.17: A4043 Cwmavon Rd / B4246 Varteg Rd / B4248 Prince Street Junction (0700-1900 hours)

6.100 Based on these figures, which are limited to two 12-hour counts, the national Heavy Goods Vehicles flow increases are contrary to Heavy Goods Vehicles decreases on the A4043 and B4248 of between 10-15% in the last 5 years. However, development of the Gilchrist–Thomas Industrial Estate, the British and Varteg Tip Reclamation all have the potential to increase HGV levels and this should be kept under review (Recommendation F5).

Special Events

6.101 A generic strategy should be developed to ensure the successful management of extra-generated traffic due to a 'special event' (Recommendation M10).

6.102 During special events buses should operate between the event and under utilised car parks. Additional signs should clearly identify suitable routes, parking areas and

event location. Overspill car parks should be identified to accommodate any additional demand. Parking for larger vehicles including coaches and caravans can be accommodated at the Big Pit, Iron Works, Prince Street and Rifle Green Car Parks as well as the Gilchrist-Thomas Industrial Estate, as discussed in section 3.0.

- 6.103 A joint ticketing scheme could encourage visitors to use public transport to visit the event and reduce both the volume of cars travelling around the area and the demand for parking. The scheme could be carried out in conjunction with the existing public transport provision or could involve running special services to accommodate demand.
- 6.104 Event Managers should communicate with the Police and Highways Authority to inform them of event dates and proposed traffic management.

7.0 Junction Counts

- 7.1 There were eight junction counts undertaken in Blaenavon between 07:00-19:00 hours at the following locations (Figure 9):

Tuesday 27th April 2004

- Site A - North Street/ Estate Road
- Site B - Upper Waun Street/ North Street/ King Street/ Abergavenny Road
- Site C - Broad Street/ Market Street/ Cross Street/ Ivor Street
- Site D - New Williams Street/ Cwmavon Road/ Ton Mawr Road
- Site E - Cwmavon Road/ Prince Street/ Varteg Road
- Site F - Prince Street/ Church Road/ Ivor Street
- Site G - Church Road/ High Street

Tuesday 4th May 2004

- Site H - Cwmavon Road/Capel Newydd Avenue

- 7.2 Daily and peak hour traffic data for each junction has been analysed to give an overall picture of traffic movements around the town. The morning peak has been taken as the general network peak of 08:00-09:00 hours and an evening peak of 16:00-17:00 hours. Where peak flows for a junction arm have not fallen between the network peak hours, these have been included alongside the peak hour flow (in brackets). The turning counts are all illustrated under Figure 10, Sheets A to H, and the raw data can be found under Appendix J. Section 9.0 refers the pedal cycle movements at each junction.

Site A

- 7.3 The North Street/ Estate Road junction to the northwest of the town, between 0700 – 1900 hours, had 6245 vehicles travelling through it with HGV accounting for approximately 3% of the total flow. The majority of daily traffic travels northbound from Blaenavon with 57% of that traffic turning into Estate Road. The Origin - Destination survey and Automatic Traffic Count data show that the majority of these vehicles turn into Gilchrist-Thomas Industrial Estate rather than continuing up to Garn Road.

- 7.4 Traffic flowing northbound and into Estate Road (both directions) is at its heaviest during the AM peak. Traffic turning out of Estate Road north and south is much heavier during the PM peak, with traffic turning south towards Blaenavon being 69% higher than the traffic toward Abergavenny Road.

Site B

- 7.5 The Abergavenny Road/ North Street/ King Street/ Upper Waun Street junction to the north of Blaenavon town centre, had a total flow of 4471 vehicles during the 12 hour survey period. HGV accounted for only 1% of the flow. The majority of traffic travelled from North Street to Abergavenny Street and vice versa and a noticeable amount of traffic (15%) turned from both Upper Waun Street and King Street and travelled up Abergavenny Road with 13% turning from Abergavenny Road to Upper Waun Street. However, the Automatic Traffic Count and Origin - Destination survey data show that this was not an illustration of vehicles rat-running through the town, but round trips. It should be noted that King Street is a one-way road into Upper Waun Street (Figure 10).

- 7.6 Traffic flowing northbound and out of King Street is at its heaviest during the AM peak (the latter indicating resident commuting out, with over half of the traffic heading towards Abergavenny). Traffic turning out of Upper Waun Street and on Abergavenny Road southbound is much heavier during the PM peak. The majority of traffic from Upper Waun Street travels off peak during the morning, with the peak flow of the day heading southwest. This is similar, vice versa, for traffic turning into Upper Waun Street from North Street.

Site C

- 7.7 The Broad Street/ Ivor Street/ Market Street/ Cross Street junction survey within the regenerated pedestrian area at the centre of Blaenavon Town recorded a total flow of 3284 vehicles. HGV accounted for 1% of all traffic movements. The majority of traffic travelled on Broad Street, although all three directions had flows of similar proportions. Approximately 40% of traffic through the junction turned to Broad Street (north) followed by 35% south and 25% to Market Street/ Cross Street to the east. It should be noted that Ivor Street and the south of Broad Street are part of the one-way system.

- 7.8 Traffic was at its heaviest through all arms of the junction during the PM peak except for Ivor Street to Broad Street (south) but the PM peak flows were within 10% of the AM flows. Even so, the movements to Market Street and from Ivor Street and Market Street to Broad Street (south) had flows higher than the peak PM figures during the off peak.

Site D

- 7.9 The A4043/ New William Street/ Ton Mawr junction to the southeast of the town had a total flow of 7012 vehicles recorded over 12 hours, with HGV accounting for 2% of the flow. The majority of traffic surveyed travelled on the A4043 (evenly split). Of the turning counts 38% travelled along the A4043 east (Pontypool) and 38% west (Blaenavon/ Abergavenny/ Varteg), 13% to Ton Mawr Road (School and Leisure Centre, although predominantly residential) and approximately 11% to New William Street (to the town centre via Market Street). The traffic to Ton Mawr Road generally arrived from the A4043 west (54%) and east (40%), 79% of traffic to New William Street travelled from A4043 (east).

- 7.10 Traffic from New William Street, Ton Mawr Road and the A4043 (east) to the A4043 (west) is at its heaviest during the AM peak, the remaining movements being much heavier in the PM. There is little difference between the PM peak and off peak flows for the A4043.

Site E

- 7.11 The A4043/ Prince Street/ Varteg Road junction with the Prince Street Car Park Access Road, leading westwards from the Site D survey location, is another main route junction directly south of the town centre. The total traffic flow was 7136 vehicles and HGV accounted for approximately 4%. The greatest flows through the junction are A4043 to Prince Street (31% of all traffic movements and 67% of traffic to Prince Street). 45% of all traffic through the junction travelled to Prince Street, 34% to A4043, with just 18% to Varteg Road and 3% to the car park.

- 7.12 Traffic to and from the Prince Street Car Park was approximately the same throughout the survey period. Traffic from the A4043 and Varteg Road to Prince Street was highest during the AM peak, and flows from Prince Street (vice versa)

were considerably higher in the PM peak than the AM. Traffic to Varteg Road from A4043, and vice versa, was also much heavier during the PM peak.

Site F

- 7.13 The Ivor Street/ Prince Street/ Church Road survey at the signalised junction did not include the main through traffic from Prince Street (south) to Church Road (north), but included traffic from Commercial Street (the one-way system with Ivor Street, off Broad Street). The total flow for this count was 1342 vehicles; bearing in mind that an additional 3000+ vehicles per day travel northbound from Prince Street and approximately 2600 travel southbound from North Street (not taking into account further residential movements southwards). HGV account for 1% of the total flow surveyed. The highest flows through the junction are from Church Road to Ivor Street.
- 7.14 All surveyed traffic movements through this junction were higher during the PM, but generally did not fall within the specified network peak hour.

Site G

- 7.15 The Church Road/ High Street junction to the north of Site F, and again not taking into account the main through-flow traffic, had a total flow of 819 vehicles that day. The greatest flow being from High Street to Church Road (south), followed by Church Road (north) to High Street.
- 7.16 All surveyed traffic movements through this junction were higher during the AM peak.

Site H

- 7.17 The A4043/ Capel Newydd Avenue junction to the southeast of the town and east of the Site D survey had a total flow of 5077 vehicles, with HGV accounting for 5% and the main through-flow of traffic on the A4043 at 91% of all vehicles through the junction (approximately equal in both directions). 48% of traffic through the junction travelled westbound on the A4043, 47% travelled to the A4043 (east) and only 5% of traffic from A4043 entered Capel Newydd Avenue.
- 7.18 Traffic flow from Capel Newydd Avenue was highest during the AM peak, with the traffic to the residential road from the A4043 much higher during the PM peak. Hence the traffic flows from this road are linked to commuter patterns. Traffic from the A4043 westbound was approximately similar for both peaks, with eastbound traffic being higher during the AM peak.

Summary

- 7.19 The junction count survey sites have been ranked according to the volume of traffic through the junction (it should be noted that the last 2 sites did not represent the total flow of traffic through the junction, just the turning movements to and from the minor roads):
- Site E
 - 7136 vehicles per day
 - Highest flows between A4043 and Prince Street
 - Site D
 - 7012 vehicles per day
 - Highest flows on the A4043

- Site A
 - 6245 vehicles per day
 - Highest flows into and out of Estate Road from North Street (south)
- Site H
 - 5077 vehicles per day
 - Highest flows on the A4043
- Site B
 - 4471 vehicles per day
 - Highest flows between Abergavenny Road (north) and North Street (southwest)
- Site C
 - 3284 vehicles per day
 - Highest flows into Broad Street, northbound
- Site F
 - 1342 vehicles per day
 - Highest flow from Church Road to Ivor Street
- Site G
 - 819 vehicles per day
 - Highest flow from High Street to Church Street (south)

These flows provide the basis of proposed junction improvements (Recommendation S2).

HGV Movements

7.20 The following Heavy Goods Vehicles movements have been highlighted in the junction count data (Appendix J, Figure 9 and 10).

Site A

7.21 The proportion of Heavy Goods Vehicles at the North Street/ Estate Road junction is approximately 3% of the total flow and greatest in the off-peak. The survey shows that the majority of Heavy Goods Vehicles turn into Estate Road from both directions of North Street (4% each: the southbound turn is only 26% of the northbound Heavy Goods Vehicles flow turning left). The southbound Heavy Goods Vehicles flow out of Estate Road is approximately equal to that flowing in. There were very few Heavy Goods Vehicles that travelled from Estate Road to Abergavenny Road via North Street (north).

7.22 There were no Heavy Goods Vehicles movements during the AM peak from North Street southbound to Estate Road, and no peak movements during the PM from North Street north to south, vice versa and also Estate Road to North Street (south).

Site B

7.23 The proportion of Heavy Goods Vehicles at the Abergavenny Road/ North Street/ King Street/ Upper Waun Street junction was approximately only 1% of the total flow. The survey shows that the majority of Heavy Goods Vehicles travel straight through the junction from North Street to Abergavenny Road, with a total of three Heavy Goods Vehicles over the survey period turning off into Upper Waun Street (with none

leaving Blaenavon via this route) and four Heavy Goods Vehicles travelling out of King Street turning north to Abergavenny Road.

- 7.24 There were no Heavy Goods Vehicles movements during the PM peak hour and only one Heavy Goods Vehicles during the AM peak hour from Abergavenny Road to Upper Waun Street.

Site C

- 7.25 The proportion of Heavy Goods Vehicles at the Broad Street/ Ivor Street/ Market Street/ Cross Street junction was approximately only 1% of the total flow. The survey shows that the majority of Heavy Goods Vehicles travel to Broad Street (50/50 split between straight on and left turn into Market Street) followed closely by Heavy Goods Vehicles from Ivor Street to Broad Street north and south (one-way system). It can be assumed that the majority of Heavy Goods Vehicles travelling on Market Street from Broad Street (north) would have continued to the A4043. From Site D survey data, two thirds of these Heavy Goods Vehicles turned right to travel back towards the town on the A4043 and only one third actually travelled eastbound on the A4043. There was an even likelihood of Heavy Goods Vehicles from Broad Street travelling southbound onto the one-way system turning north or south on Prince Street/ Church Road at the signalised junction. Heavy Goods Vehicles travelling northbound (based on Site G survey counts) on Broad Street continued on King Street to Abergavenny Road.

- 7.26 There were no Heavy Goods Vehicles movements during the PM peak, and only one Heavy Goods Vehicles travelled through the junction during the whole of the afternoon (Ivor Street to Broad Street North). Only Ivor Street (all turns) and Broad Street to Market Street had Heavy Goods Vehicles movements during the AM peak, and Ivor Street to Broad Street (south) had the peak Heavy Goods Vehicles flow for the morning. However, Heavy Goods Vehicle flows though the junction were very low.

Site D

- 7.27 The proportion of Heavy Goods Vehicles at the A4043/ New William Street/ Ton Mawr junction was approximately 2% of the total flow. The survey shows that 80% of Heavy Goods Vehicles travelled on the A4043 (accounting for 3% of the flow in either direction) and 3% of the HGV at the junction turned in Ton Mawr Road from A4043 (east) with 6% travelling in the opposite direction. There are no Heavy Goods Vehicles movements from Ton Mawr Road to the A4043 (west) or New William Street (and vice versa) and none from the A4043 (west) to New William Street. Hence, HGVs travelling westbound on New William Street to the town centre have originated from A4043 (east), being 1% of all Heavy Goods Vehicles at the junction.

- 7.28 HGV flows from New William Street and Ton Mawr and A4043 (east) to New William Street are highest during the AM peak.

- 7.29 During the afternoon, the westbound A4043 Heavy Goods Vehicles flows were approximately the same as those in the AM peak. The remaining HGV flows through the junction were lower in the PM overall.

Site E

- 7.30 The proportion of Heavy Goods Vehicles at the A4043/ Prince Street/ Varteg Road junction was approximately 4% of the total flow. The survey shows that the heaviest Heavy Goods Vehicles flows were from Prince Street to A4043 and Varteg Road

(accounting for 66% and 30% of total Heavy Goods Vehicles flows at the junction respectively). In total, 11 Heavy Goods Vehicles entered the Prince Street Car Park during the 12 hour survey, but only four Heavy Goods Vehicles left during that time (split 50/50 between Prince Street and A4043).

Site F

7.31 The proportion of Heavy Goods Vehicles at the Ivor Street/ Prince Street/ Church Road junction was approximately 1% of the total flow. There were no Heavy Goods Vehicles from the one-way system that travelled back on Ivor Street. The Site F data surveyed shows that there is an approximate 50/50 split between Heavy Goods Vehicles from Broad Street to Church Road (north) and Prince Street (south).

7.32 There were no Heavy Goods Vehicles recorded in the AM peak hour.

Site G

7.33 The proportion of Heavy Goods Vehicles at the Church Road/ High Street junction was approximately 1% of the total flow. The survey shows that the majority of HGV movements were from Church Road (south) to High Street and there were no HGV movements during the 12 hour survey from High Street to Church Road (north).

7.34 The majority of the Heavy Goods Vehicles movements at the junction were during the morning. There were no Heavy Goods Vehicles movements during either of the peak hours.

Site H

7.35 The proportion of Heavy Goods Vehicles at the A4043/ Capel Newydd Avenue junction was approximately 5% of the total flow. The survey shows that the main Heavy Goods Vehicles flows were on the A4043, accounting for 97% of the total HGV flow. There were no Heavy Goods Vehicles movements from Capel Newydd Avenue to the A4043 during the afternoon survey period.

Summary

7.36 The HGV flows from the Junction Classified Count sites are ranked according to volumes (%) through the junction (the last 2 sites did not represent the total flow of traffic through the junction):

- Site H
 - 5%
 - On the A4043
- Site E
 - 4%
 - Prince Street to A4043 and vice versa
- Site A
 - 3%
 - Estate Road to North Street (south) and Vice Versa
- Site I
 - 2%
 - On the A4043

The Heavy Goods Vehicles flows at the following 4 sites are all 1% of the total flow:

- Site B
 - North Street (south) to Estate Road and vice versa
- Site C
 - Broad Street southbound (South and Market Street)
- Site F
 - Evenly split throughout the junction
- Site G
 - Church Road (south) to High Street

8.0 Signing, Maintenance and Markings

Sign Survey

- 8.1 The traffic signs within Blaenavon Town Centre and at the tourist attractions have been surveyed and are listed in Appendix K (Survey Table) and shown on Figure 11a and 11b (Sign Location Plan). The survey did not detail every sign in Blaenavon (i.e. nameplates, signs within the residential areas), as the key focus was movements around the town and to tourist sites. The survey omitted speed limit roundels and TRO signs. The latter are covered under Section 5.0 and Appendix G.
- 8.2 Appendix L illustrates the tourist attraction symbols, labelled 1 to 6, listed in Appendix K, which are associated as follows:
- 1 – T103, Railway Attraction
 - 2 – T3, Workman's' Hall
 - 3 – T403, CADW (Iron Works)
 - 4 – T112, Garn Lakes
 - 5 – Big Pit (specific to area)
 - 6 – T1, Tourist Information

The book tourist attraction symbol is not a standard regulation symbol. It was created by Torfaen County Borough Council and approved by Welsh Assembly Government.

- 8.3 The condition of the highway sign stock is generally poor. The survey highlighted 23 signs that are in need of replacement/relocation or cleaning (24%), plus the sign for the loading bay on Church Road^{xxv}. There are also four locations where posts have been erected/remain without a sign (locations 23, 61, H and E). These should be removed as it spoils the street-scene aesthetics. In addition, there are 5 signs on posts that need adjusting to point in the correct direction (sign reference 15, 2, 29, 39 & 60). However, the stock of tourist signs (brown on white) is generally in good condition.
- 8.4 There was a lack of signing from either the east or west on the approach to the Garn Lakes Whistle Inn Car Park (6).
- 8.5 There are direction signs for all the remaining car parks. However, parking for the Iron Works and Tourist Information Centre is poorly signed and could easily confuse visitors (it should be noted that this car park was under capacity with less than 30% occupancy during peak hours). Also the parking signs do not indicate the nature of the parking locations in relation to the town centre and other attractions (other than at Big Pit and the lakeside car park at Garn Lakes (4)).
- 8.6 The majority of signs have been recorded in the photographs (Appendix D), including some of the signs not under the sign survey, i.e. the 577.1 (traffic-calming humps on road), 'exit' traffic directional sign and the non-standard vehicle class parking signs in the Big Pit Car Park (Photograph 48).
- 8.7 Visibility is poor around the left hand bend of High Street with Upper Waun Street. Improved signing in both directions would increase driver awareness of the road layout.

^{xxv} Photograph 57

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- 8.8 The Broad Street Top Car Park (17) in Blaenavon Town Centre is very poorly signed and the layout could do with improvements. The Blaenavon Project Team plans for this car park are detailed under Section 3.0, Parking Summary. The plans also include details of pedestrian signing from the car park.
- 8.9 There is no clear signing for the Market Street (large) Car Park (12), off Old James Street.
- 8.10 There is a significant shortage of pedestrian signs within Blaenavon. Public information boards, especially with regard to public transport and interlinks between the sites, require a better, more consistent, branded approach. The chosen style should be interlinked with the pedestrian direction signs proposed by the Blaenavon Project Partnership Team and detailed in the car park renovation plans.
- 8.11 It should be noted that some of the pedestrian/driver information boards in the Garn Lakes Car Parks were showing signs of age.
- 8.12 The final traffic directional sign for Big Pit (other than that at the entrance) is adjacent to the Estate Road junction. This can be unnerving for visitors, although the route carries straight on, as they have to drive through the industrial estate with no further guidance. This could be made easier by preparing visitors with a map detailing the drive and/or by an additional sign being located along the industrial estate or replacing the current Big Pit tourist sign adjacent to the Iron Works Car Park (1) with a similar sign that also indicates the distance. The latter option would be more advisable as it reduces sign clutter and also will be more beneficial to the majority of visitors.
- 8.13 There are no directional signs, pedestrian or traffic, on Park Street or at the Park Street Junction with Church Road.
- 8.14 Before the Blaenavon World Heritage flags were erected on the lighting columns on the A4043 it was possible to drive right through Blaenavon, especially past the town centre, without realising it. Additional signing should be provided at the Prince Street and New William Street junctions, to encourage visitors into the town.
- 8.15 There are tourist directional signs for Big Pit as far away as the M4 at Newport and A465 Heads of the Valley Road, which are both outside the Torfaen County Borough Council boundary, but are important in aiding the attraction of visitors to the World Heritage Site.
- 8.16 It is also important that external tourist signage be taken into consideration on all routes into the World Heritage Site beyond the Torfaen County Borough Boundary, especially from the M4, Abergavenny and Brynmawr. Advanced visitor signage for car parks, depicting the number of spaces, are also required for all town centre and periphery car parks.
- 8.17 A review of internal and external signing should ensure that they are all up to date and in the most advantageous and safe locations. The photographs in Appendix D demonstrate the condition of the existing signing around Blaenavon.

Carriageway Maintenance

- 8.18 The road surfaces around Garn Lakes are in extremely poor condition, especially leading into the main car park at Garn Lakes (4) – the road has large potholes.
- 8.19 The road condition through the commercial town centre (and residential areas) is also in poor condition, which does not help overall aesthetics.
- 8.20 It is important to exploit connections with the Heads of the Valley, as a form of increasing tourism to the area. Therefore it is vital that the road network through to Blaenavon is of a high standard. Analysis of the maintenance condition of the B4248 from Blaenavon to the county boundary is contained in Appendix N. The results show that 27% of the carriageway has a residual life of less than 2 years including 23% having no residual life in terms of SCRIM deficiency, the road condition is better, with only 2% having less than 0.05. Funding should be sought to improve the state of the road possibly via the Heads of the Valley fund (Recommendation M9).

Markings

- 8.21 Carriageway markings are generally acceptable throughout the survey area. However, some of the restricted parking areas require attention (see Section 5.0 and Appendix G).

9.0 Pedestrian, Cycle and Equestrian Access

Existing Situation

- 9.1 There are no pedestrian crossing points at the A4043 Cwmavon Road/New William Street Roundabout to the southeast of the town. Uncontrolled (drop kerb) crossing points are required on at least 2 of the 4 arms of the roundabout to facilitate the pedestrian desire lines from New William Street and Ton Mawr Road/ Avenue areas in the north, to the Avon Road and Riverside Drive areas to the south. Pedestrian movements are also evident further west on the A4043 between Lower Hill Street in the north and the footway on the opposite side of the road, to Bridge Street, in the south.
- 9.2 Footways throughout Blaenavon are a mixture of paving and tarmac, and the majority of footways are narrow. There are no dropped kerbs with tactile paving indicating crossing points on the main town centre roads of High Street, Park Street, Broad Street, and Church Road (apart from crossing High Street at the junction with Church Road and at the Prince Street signalised junction). The footway on the south side of Church Road is very narrow; where there is footway on the north side it is over 2 metres wide in sections. The regenerated section of Broad Street at the Market Street/ Ivor Street junction is visually aesthetic, with light-coloured paving on the wide footways and shaped stone bollards. The area accentuates the town, providing seating areas and opening the area up for pedestrians – especially those less mobile^{xxv}.
- 9.3 Between Park Street and High Street outside the Workman's Hall, which has its own staff car park, there are frequently vehicles parked on the footway. The parked cars detract greatly from a pedestrian-friendly street. There is minimal traffic and the block paving lends itself visually to a pedestrian zone, but it is not advisable for pedestrians to walk in the carriageway, especially near the junctions at either end.
- 9.4 Desire lines for the two schools have yet to be satisfactorily established. It is thought that pedestrians travelling to Blaenavon Secondary School on Park Street from the south, use the controlled crossing point at the signalised junction of Church Road and Prince Street. However, pedestrians from residential areas to the west of Blaenavon have to make a potentially dangerous crossing on Church Road where visibility is poor^{xxvi} outside the proposed World Heritage Centre. A crossing at this point will serve both the school and the World Heritage Centre. Hillside School is situated in a larger residential area of Blaenavon and pedestrian access to the school is addressed in more detail in Section 11.0. It should be noted that there are no formal crossing points on the A4043 Cwmavon Road to facilitate crossing movements. Access to both schools is also highlighted in Section 15.0, Recommendations.
- 9.5 The bus boarder in the Iron Works Car Park leads to steps straight onto Estate Road. The path for the Iron Works then continues over the road at an uncontrolled crossing point near a junction and on an overgrown narrow footpath^{xxvii}. This is unsatisfactory for the elderly, those with disabilities and buggies. It should also be noted that the pedestrian entrance to the Iron Works and Tourist Information Centre is via an

^{xxv} Photograph 39-41

^{xxvi} Photograph 7-9, 13-16

^{xxvii} Photograph 28

- uninviting gate in an eight foot high wire fence. Recommendations include the provision of a zebra crossing (Photograph 26) and removal of foliage (Section 15.0).
- 9.6 Currently there is no encouragement for visitors to travel from Big Pit or the Iron Works to the town centre. It is also advisable to encourage walking/cycling between these and other attractions such as Garn Lakes and the World Heritage Centre. Therefore, more linked advertising of the town centre, car park locations and cycle parking (where applicable) is required. There is scope for these facilities to be maintained through the Countryside Division of Torfaen County Borough Council.
- 9.7 There is no footway at Big Pit from the Forge Side link road (Photographs 73 – 79) to the main entrance. This could easily be provided in the verge, especially if sustainable links between the sites are successful (as on the surveyed Bank Holiday, when Big Pit had its highest number of visitors ever, showed overflow parking on the verges).
- 9.8 The World Heritage Centre will be situated to the west of the town on the old St. Peters School site, which is currently being renovated. Present access to St. Peters School^{xxx} is via a short flight of steep steps. It is also important to note that there is no pavement opposite the building and the sight lines for pedestrians wishing to cross the road in this location are extremely poor. Possible solutions are listed under Section 15.0.

Public Rights of Way

- 9.9 Maps of the Public Rights of Way should be made available and displayed prominently within the town centre. Existing footways and paths should be resurfaced where required. Both these measures should assist in encouraging use. New signs from the routes to tourist attractions should identify distances and approximate walking times (Recommendations A2/A3/M1/M5/M8b).
- 9.10 A Right of Way Improvements Plan has been proposed which will promote a 16km mountain trail route that links into Blaenavon and will be advertised through a 'walking pack.' Blaenavon should be promoted as a Walking Town and as a previously undiscovered centre for walking, catering for all abilities and interests. The town is ideally located as a link to the Usk Valley Walk, the Brecon Beacons National Park and the Monmouthshire and Brecon Canal. Visitors should also be encouraged to visit attractions within the wider Torfaen area, using Blaenavon as a base. Details of circular walks should be published and way markings are to be improved (see Best Foot Forward).
- 9.11 All local authorities have signed up to Heritage in Action (HERIAN), aimed at marketing the South Wales Industrial Heritage and walking/cycling. This is a Visit Wales initiative, which is a cultural focussed economic regeneration initiative for South Wales. On this theme the Industrial Heritage Trail (11km) in the core area of the World Heritage Site could link into all the attractions in the town centre and also surrounding walking and cycling routes, which are to be developed by the Torfaen County Borough Council Countryside Division.

Cycle Routes

^{xxx} Photograph 12-16

- 9.12 The topography of Blaenavon Town Centre does not lend itself to cycling; the narrow streets increase the perceived dangers to cyclists and make it difficult to provide cycle lanes. However, the National Cycle Network Route 46 runs to the south of the town^{xxx} (Figure 12) and is almost entirely off-road. It follows the line of the mineral railway and part of the canal towpath, from the north of Blaenavon, south, to Newport. Signs on this route could indicate the distance to local attractions and approximate travel times, which could also be linked into the Walking Towns promotion.
- 9.13 It is suggested that a bike pool scheme be considered, based possibly in the World Heritage Centre for tourist/visitor use around various attractions. Torfaen County Borough Council are aware of this form of tourism and is eager to explore this option fully.
- 9.14 The Gilchrist-Thomas Industrial Estate spine road is the current entrance to Big Pit and links the attraction with both the Iron Works and the town. There is scope for the road to be widened and landscaped to create parking bays (for large vehicles as well as cars) and to provide an at-grade on-carriageway cycle lane to facilitate cycle movements between Big Pit and the Iron Works. This will improve safety for cyclists.
- 9.15 The Abergavenny to Gilwern cycle track is scheduled for completion in 2007. Further cycle tracks from Blaenavon, linking to the Heads of the Valley should be pursued with the Welsh Assembly Government.
- 9.16 Both Blaenavon and Two Locks are rural key fund eligible wards and are traversable via the Sustrans cycle network. The key fund can provide up to £25,000 Automatic Traffic Count funding per ward to help create a 'cycle tour'. This could fund building/refurbishment costs to sites near the cycle path to act as a base/cycle store. A shuttle bus could operate from either end of the route, with the link being fifteen miles.

Junction Count Data: Cyclists

- 9.17 The junction count data (Section 7.0, Appendix J, Figure 9 and 10) also detail pedal cycle turning movements.

Site A

- 9.18 There were a total of 15 pedal cyclists travelling through the North Street/ Estate Road junction. The majority of these (67%) turned into Estate Road, 27% turned out of Estate Road during the survey period and 1 cyclist continued north on North Street. No cycle movements occurred during the peak hours, with 93% of all cycles travelling through the junction during the afternoon. The highest numbers of cycles carrying out a particular manoeuvre in any surveyed hour were 3 (20%): North Street to Estate Road and Estate Road to Abergavenny Road.

^{xxx} Photograph 18-19

Site B

- 9.19 There were a total of nine pedal cyclists travelling through the Abergavenny Road/ North Street/ King Street/ Upper Waun Street junction. The majority of these either travelled down North Street from King Street or to Upper Waun Street from the main road. No cycle movements occurred during the peak hours, with 89% of all cycles travelling through the junction during the afternoon.

Site C

- 9.20 There were a total of 34 pedal cycles travelling through the Broad Street/ Ivor Street/ Market Street/ Cross Street junction. The majority of these (77%) travelled from Broad Street to Market Street, to the A4043 (east) or Varteg Road. The remaining eight cyclists travelled from Market Street on the one-way system from Broad Street. In total, 91% of the cycle movements occurred during the morning, with only one cyclist travelling during the network peak; Broad Street to Market Street in the afternoon. The remaining 25 cycles from Broad Street travelled during the morning.

Site D

- 9.21 There were a total of eight pedal cyclists travelling through the A4043/ New William Street/ Ton Mawr junction. 50% of cycles travelled from A4043 westbound to New William Street. 25% of cycles travelled from Ton Mawr Road to the A4043 (east and west), one cyclist to Ton Mawr Road from the A4043 (west) and one to A4043 (east) from New William Street. No cycle movements occurred during the peak hours; with an even split travelling in the morning and afternoon. The movements to and from New William Street and A4043 (east), and Ton Mawr Road and A4043 (west) all occurred during the morning period.

Site E

- 9.22 There were a total of eight pedal cyclists travelling through the A4043/ Prince Street/ Varteg Road junction. The majority of the cycles travelled from the Prince Street Car Park Access Road (presumably from the residential areas beyond), but no cycles travelled to the Access Road during the survey period. 25% of cycles travelled from A4043 to Prince Street and one cyclist went from Varteg Road to Prince Street and vice versa. No cycle movements occurred during the peak hours. The movements from the Prince Street Car Park area to Prince Street and A4043 all occurred during the morning period.

Site F

- 9.23 There were no pedal cyclists surveyed travelling through the Ivor Street/ Prince Street/ Church Road signalised junction.

Site G

- 9.24 There were no pedal cyclists surveyed travelling through the Church Road/ High Street junction.

Site H

- 9.25 There were a total of six pedal cyclists travelling through the A4043/ Capel Newydd Avenue junction. All cyclists travelled on the A4043, of which 67% were southbound. No cycle movements occurred during the peak hours and all movements from the A4043 northbound occurred in the afternoon.

Junction Count Summary

- 9.26 The junction count survey sites have been ranked according to the volume of pedal cyclists through the junction (it should be noted that the last two sites did not represent the total main through flow of traffic through the junction):

- Site C
 - 34 cyclists per day
 - Highest flow from Broad Street to Market Street
- Site A
 - 15 cyclists per day
 - Highest flows into Estate Road
- Site B
 - 9 cyclists per day
 - Highest flows into Upper Waun Street and from King Street
- Site D
 - 8 cyclists per day
 - Highest flows from the A4043 (east)
- Site E
 - 8 cyclists per day
 - Highest flow from Prince Street Car Park Access Road
- Site H
 - 6 cyclists per day
 - Flows were on the A4043 only

No cycle movements were surveyed through the two remaining junction sites:

- Site F
- Site G

Horse Riding

- 9.27 Consideration should be given to equestrian desire lines and provision made where reasonable and appropriate, especially along routes away from the road, where new walking and cycling routes are proposed.
- 9.28 The horse riding routes around Blaenavon are external to the study boundary, but encompass Blaenavon and essentially fall within signing and management under the gateway proposals, and also opens the area up to equestrian movements. It is expected that trailers and horseboxes will be used as transport to and from Blaenavon. Torfaen County Borough Council Countryside Division within the Informal Recreation Project are currently developing ideas for parking arrangements.

- 9.29 There is currently one equestrian trail off Llanover Road (entrance to forestry area), which is a circular 45min route. There are a further two routes proposed that will lead over to the other side of the mountains, one to the north linking into Garn Lakes which has spare parking capacity. The other route leads south towards Pontypool.

Strategic Documents and Guidance

- 9.30 The Welsh Assembly Government's Walking and Cycling Strategy for Wales (December 2003), states that the promotion of walking and cycling is key to the visions of sustainable travel and a healthy population, especially that of children, and enjoyment of the environment. The aim is to reduce the number of journeys made by car under 1 mile and under 5 miles, while increasing the number of journeys made by walking and cycling and tripling the number of trips made by cycling (2000 to 2010). The strategy is also underpinned by a need to reduce environmental pressures; offering alternatives to car travel and improving public transport and road safety can facilitate this. Therefore, this Welsh Assembly Government document can be used to support recommendations and further works in Blaenavon with regards to walking and cycling improvements. (The Road Accident Record for the past 5 years in Blaenavon is documented under Section 10, and Appendix M).
- 9.31 The strategy stresses that sustainable tourism should be encouraged and made safe, i.e. in Blaenavon where sustainable travel could be facilitated between tourist attractions and links to paths and local towns (Abergavenny). In Blaenavon the NCN route 46, runs on the old railway to the south of the town and provides safe and enjoyable paths for cycling and walking, away from the main road. Where it would be necessary to have pedestrians and cyclists on the main roads through Blaenavon it is advisable for Torfaen County Borough Council to highlight the safest route and where possible implement engineering methods to promote this. Well located and comprehensive signing is an important aspect of this. Reducing fear of crime is also highlighted by WAG; CCTV and additional lighting through Blaenavon will help to keep the streets free from crime.
- 9.32 WAG states that cycle parking, in the form of covered cycle stands and lockers, is essential to both encourage and reassure cyclists and also to maintain free clearways through the streets for pedestrians.
- 9.33 The WAG vision is to increase walking and cycling, especially among children. Hence implementation of such measures to increase tourism by sustainable forms of transport in Blaenavon may lend itself to funding from Welsh Assembly Government. The Strategy Action Points in Table 15.1, Recommendations, have been taken directly from the Welsh Assembly Government (2003) document, and are relevant to further development works in Blaenavon.
- 9.34 On 1st October 2004 the second stage of the Disability Discrimination Regulations 1999 (set out in the code of practice, Rights of Access: Goods Facilities, Services and Premises, Disability Discrimination Act (1995) came into force. Services are required to be fully compliant to the needs of customers with disabilities through the implementation of auxiliary aids and services.
- 9.35 Included in the regulations regarding access to premises and the treatment of individuals with hearing/visual/mobile impairments inside premises is the removal, alteration and/or avoidance of physical features that prevent access to the service and the formation and adoption of customer-relations policies. The Disability

Discrimination Act regulations cover small shop premises and cafes, like those in Blaenavon, as well as large commercial stores, airports, hotels, etc. The improvements range from alterations such as new wider/automatic doors and ramps up to premises, to fixing handrails and/or adopting policies whereby staff assist customers with disabilities by opening doors or admitting guide dogs. The latter are all of negligible cost. These regulations will help visitors and residents in Blaenavon to access the town centre with more ease, hence boost the local economy, and are important steps to take for any new premises/public building establishing in Blaenavon.

10.0 Accident Statistics

- 10.1 During the 5 year period from 1999 to 2004 there have been 17 recorded accidents in and around Blaenavon Town Centre. 12% of these accidents (2) were serious, one of which involved a pedestrian, the remaining were classified as slight. The accident report is included in Appendix M.
- 10.2 77% of the accidents occurred in daylight hours (13) and 59% (10) occurred in dry weather conditions. There were 21 casualties in total, 29% (6) of these were pedestrians. Table 11.1 is a break down of accident numbers in each consecutive year and Table 11.2 shows the road numbers.

Year	Accidents	%
1999	3	17
2000	3	17
2001	*4	24
2002	*2	12
2003	4	24
2004	1	6
Total	17	(100)

Table 11.1: Accidents/Year

* includes a serious accident

Road	Accidents	%
B4246	*6	35
A4043	*6	35
Other	5	30
Total	17	(100)

Table 11.2: Accidents/Road

* includes a serious accident

- 10.3 The majority of accidents (65%) occurred between the A4043 Cwmavon Road, through to North Street; including one of the serious accidents. Over half (59%) of the accidents occurred at the following junctions:
- Broad Street/ Lion Street
 - Church Road/ Kennard Place
 - Cwmavon Road/ Capel Newydd Avenue
 - Cwmavon Road/ Varteg Road
 - Cwmavon Road/ Ton Mawr Road
 - Cwmavon Road/ Greenfield Place
 - Cwmavon Road/ Coed Road
 - North Street/ Gilchrist-Thomas Thomas Industrial Estate
 - Ellick Street/ Elgam Park
- 10.4 The first serious accident recorded during the 5 year period was in 2001 where a bus/coach driver misjudged the left hand bend on High Street (northbound), and collided with a pedal cyclist.
- 10.5 The second serious accident occurred in 2002 on Cwmavon Road (northbound) where a child stepped out into the road into the path of an on coming vehicle.

- 10.6 None of the accidents are clustered together and there are no general patterns with regard to carriageway conditions. The accidents that involved pedestrians were recorded as taking place at junctions or where pedestrians stepped out onto the carriageway into the path of on-coming vehicles.
- 10.7 Whilst there is not a significant road accident issue within Blaenavon, Torfaen's Road Safety Strategy 2005-2010, which aims to reduce traffic congestion and increase safety by speed management, modal transfer, highway engineering safety schemes, education, training and publicity, should be taken into account in undertaking improvements in the area. It is recommended that a Road Safety Audit accompany any highway scheme developed.

11.0 Street Scene Interaction

Carriageways and Footways

- 11.1 The only areas of the town with a block-paving surface are behind the Workman's Hall between Park Street and High Street^{xxxii} and Bethlehem Court in the town centre, off Broad Street.
- 11.2 It should be noted that tactile paving has been introduced to Blaenavon, at High Street/Church Road/Prince Street signals on safety grounds.
- 11.3 Being in a World Heritage Site, conservation standards should be given the highest priority. Footway improvements have already been carried out in the renovated areas of Market Street/Broad Street/Ivor Street, adjacent to the new car parks and Lion Street/High Street junction. Further renovation should be in keeping with the World Heritage Site style.

Street Furniture

- 11.4 There is a lack of litterbins in the main streets of Blaenavon and on the peripheral roads. However, the town centre was not particularly littered on any of the site visits. Littering was more evident further out, especially at the bus stop on Varteg Road. . The ground maintenance and vegetation management functions in Blaenavon are dealt with by Environmental Maintenance arm of the Operational Services Department, Torfaen County Borough Council.
- 11.5 There are many seating areas located around the town centre, which are in good condition
- 11.6 .As stated in section 3.0, no provision has been made for cycle parking. This is addressed in Section 15.0, Recommendations.
- 11.7 The town centre is let down by the poor shop frontages^{xxxiii}, the poor condition of the carriageway^{xxxiv} and frontage works being carried out that are taking over the highway in the town centre^{xxxv}.

Surveillance

- 11.8 CCTV cameras are proposed in four locations as marked out on Figure 13:
- The Old William Street/ Commercial Street junction by the takeaway food premises on all four corners of the junction (due to late night activities in the town usually coming to an end in this location)
 - Market Square, which has recently been refurbished (due to late night activities and close proximity to two public houses)
 - The Broad Street/ Lion-street junction from the proposed Boot Lane Car Park location to the north of the lane (due in part to closing times at the public house and activities off Boot Lane)

^{xxxii} Photograph 17

^{xxxiii} Photograph 31,41,71

^{xxxiv} Photograph 43,55,69

^{xxxv} Photograph 31

- On Boot Lane, as it is currently not perceived to be safe to walk between George Street and Duke Street (groups regularly at the steps at either end of the lane).

11.9 The inclusion of CCTV cameras will be beneficial to Blaenavon Town Centre itself, as it will help to keep vandalism down, aid Police and hence improve the overall vitality of the town for visitors and residents alike, as well as safety. The creation of a safe community will, in turn, attract further businesses to establish within the town and therefore boost the economy of Blaenavon. A CCTV control centre would be required as part of these proposals and therefore a linkage to the Pontypool system should be investigated.

Lighting

11.10 In terms of highways safety, lighting is adequate throughout the town, (see Appendix D for photographs). However, in terms of personal safety, it would be beneficial to have lighting on Boot Lane, parallel to Broad Street because it is very dark and perceived as an unsafe route. With CCTV and increased lighting on Boot Lane, undesirable behaviour will be curtailed and perceptions will be changed. The Blaenavon Physical Regeneration Fund application also includes the provision of new lighting columns. It is intended that lighting columns will eventually be consistent throughout Blaenavon. Regeneration of all car parks should include appropriate lighting.

Junction Geometry and Road Layouts

11.11 The two-way section of King Street between the Broad Street/ King Street bend and the junction with Ellick Street is potentially dangerous. Speeds are high due to the geometry, and the bend is exceptionally wide. Width reductions that incorporate wider footways for the school children and other pedestrian desire lines are desirable.

11.12 Parked vehicles (nearside, northbound) interrupt sight lines at this bend and intensify the problem. Traffic-calming measures (visual, horizontal and/or vertical) could be undertaken on this section of road to the north of the town. It may be advisable to prohibit left turns into Ellick Street (traffic to use Philip Street further west instead).

11.13 The Abergavenny Road/ North Street/ Upper Waun Street junction is particularly wide (Site B, Figure 9). Figure 18 highlights junction improvement proposals to improve safety, visibility and reduce speed (Recommendation S2).

11.14 High speeds are experienced on Ton Mawr Road and Upper Hill Street. This is a high safety risk as children walk to school (on Upper Hill Street) and play on the open area adjacent to Ton Mawr Road to the east. In addition, the gradient of either road does not lend itself to slow speeds (steep downhill southbound). Hence traffic calming is advisable in these locations, with top priority given to reducing vehicle speeds on Upper Hill Street and upgrading the warning signs on Ton Mawr Road before the bends. At the same time the parking issues on Upper Hill Street must be addressed.

11.15 Vehicles are also parked on the entire length of James Street (single side), which semi-blocks the Ton Mawr Road junction, reduces sight lines and hinders vehicle manoeuvres into the road eastbound from Hill Street.

Bethlehem Court

- 11.16 Bethlehem Court is a block-paved court area adjacent to Broad Street, used in part as a parking area by traders and shoppers, but is essentially a pedestrianised open space between the Butcher and Ironmongers^{xxxxvii}. Structural surveys have shown that vehicles parked in Bethlehem Court pose no threat to the culvert beneath. Accordingly, the Study recommends that the practice of parking in this area be considered by surrounding users and those parties enshrined in any legal Covenant, and that that agreement be revised in time to reflect the community's vision as to how this space will be used in the future. The area should then be subject to a safety appraisal to identify and remedy future potential hazards as best as can be expected.

^{xxxxvii} Photograph 44

12.0 Rail

- 12.1 The Brynmawr-Blaenavon railway was originally established in 1866 to transport coal to the Midlands. The line was extended in 1874 to meet the Great Western Railway at Abersychan and Talywain, which operated the passenger services. No passenger services have been operated since 1941 and freight traffic ceased on this line in 1954 (although coal was still transported to Newport until 1980). Hence there are now no direct rail links to Blaenavon, with Newport, Abergavenny, Pontypool and Cwmbran being the nearest main stations.

Rail/Bus Interchange

- 12.2 Newport Railway Station forms the primary interchange location for passengers originating from the South Wales Mainline, the Southwest and the Midlands. The station is situated approximately 500 metres from the bus station, and a pedestrian route is signposted. A master plan for Newport is currently being developed which may result in changes to the existing arrangements.
- 12.3 Passengers originating from the Marches Line (services from Liverpool, Manchester and Shrewsbury) may change at either Pontypool and New Inn Station or Cwmbran, although a walk of over 300m is required at each. The Cwmbran Interchange was awarded Objective One funding of £1.1m, and Transport Grant funds of £1.95m in 2004 and this will be utilised to integrate all travel modes in a new and DDA compliant structure. Passengers boarding or alighting at Pontypool and New Inn Station are currently restricted to interchange with service 30 which only operates on an hourly frequency and does not intermesh with the rail services.
- 12.4 Pontypool and New Inn Railway Station is currently the subject of a bid for Transport Grant and Objective One funding to improve facilities and access to the station, with the aim of improving interchange between all modes. It is difficult to develop the station given its challenging topography. However, it is clear that facilities for walking, cycling and public transport will need to be significantly upgraded from the current provision in order for a reliable and attractive railhead bus service linking it with Blaenavon and the World Heritage Site to become established.
- 12.5 There are currently no regular direct bus services to Abergavenny bus and rail interchanges, despite being the closest link geographically to the rail network for journeys from the north. This is in the neighbouring Monmouthshire County Council area, a joint member of the Gwent Joint Passenger Transport Unit (GJPTU) with Torfaen, which is tasked to perform the Council's public transport procurement function.
- 12.6 The GJPTU can liaise between public transport operators in order to deliver chartered, subsidised or commercial services. In the case of establishing a railhead bus service, authorities can ask operators to tender for any necessary contracts. Similar services (in terms of length of route travelled, projected passenger numbers carried and reasonable frequency of service) can cost £20k per annum from each station. It is considered that such a service would be a cornerstone in developing walking and cycling tourism in Blaenavon and this option should be closely explored (Recommendation R1).
- 12.7 Rail station security is important in delivering a comfortable and attractive travelling environment. Service Quality Improvement Regimes should be promoted with rail and station operators to establish programmes of regular cleansing and maintenance,

and include inspection of all aspects of the passengers journey from with the aim of ensuring reliability, personal safety and satisfaction.

- 12.8 Bus Quality Partnerships perform a similar function with bus operators and should also be considered (Recommendation R3).
- 12.9 Railhead bus schemes benefit from widespread publicity and promotion, via posters and leaflets through to telephone booking lines and the support of the Traveline (0870 608 2 609) public transport information service and the internet. This aspect should be carefully explored, in conjunction with all users and stakeholders (Recommendation R2/PT10).
- 12.10 Integrated, or cross-ticketing, where the rail and bus operators accept a joint ticket from the passenger for transporting them on their journey would be convenient and attractive. These issues are currently being explored in the public transport arena and this system would appear to be appropriate where a railhead shuttle bus is concerned. Success in establishing an integrated ticketing system would, it is anticipated, reap considerable benefits. (Recommendation R4/PT5).
- 12.11 A bus/rail interchange could encourage visitors to use public transport to visit Blaenavon and its tourist attractions, assisting in alleviating the volume of car traffic passing through the town, and reducing the demand for parking.
- 12.12 Re-instating a rail line through to Blaenavon would provide access to the historic setting and views through the valley. However, the associated costs are prohibitive.

13.0 Traffic Management

- 13.1 In order to preserve the historic street pattern it is in the best interest of Blaenavon not to demolish any existing buildings.
- 13.2 To improve the existing parking provision it is important that the best use of space is considered and that restrictions and regulations are enforced. There also needs to be a better understanding of residential parking, and the effect this may have on other parking demands.
- 13.3 A number of improvements have been suggested:

Broad Street

Four options for Broad Street have been developed. The positives and negatives of each have been listed:

Option 1: Do Nothing

Positives

- Traffic would not be diverted onto the adjacent residential streets
- Bus routes would not be altered
- No financial implications

Negatives

- Complaints of excessive speeding not addressed
- Congestion problems caused by unloading and illegal parking not tackled
- No improvement to the existing street-scene

Option 2: One Way Northbound (Figure 17a)

Positives

- On street parking bays
- Turnover of parking spaces would increase via a 30 minute waiting limit
- Existing excessive speeding would be reduced via traffic calming measures
- A loading bay would be provided and formalised delivery times could also be introduced.
- Improved facilities for pedestrians to cross
- This proposal received widespread support from traders and residents of Blaenavon through the consultation process
- Buses can still physically access
- Improvement to the existing street-scene

Negatives

- 88 and 121 vehicles approximately would be diverted in a weekday AM and PM peak period
- Existing Traffic Regulation Orders would have to be altered
- There will be an increase in southbound traffic on High Street, creating greater demand at High Street/Church Road junction (photograph 11) and potential queues
- Due to the close proximity of the adjacent Ivor Street/ Prince Street/ Church Road junction, TRANSYT analysis indicates there is insufficient capacity to signalise High Street/Church Road junction and link the two junctions together, without traffic blocking through in the PM peak. The PM the TRANSYT results are attached as Appendix O. On site observation noted that queues from the existing signals already extend to the High Street/Church

Road junction. Queues are further increased when lorries occupy the loading bay, which has not been taken into account in the TRANSYT analysis. Therefore, improvements at King Street/Upper Waun Street Junction (Figure 18a/b) would be required in association with this one way system.

- On implementation, the impact on adjacent streets will require review and alterations to existing Traffic Regulation Orders undertaken if required

Option 3: One Way Southbound (Figure 17b)

Positives

- On street parking bays
- Turnover of parking spaces would increase via a 30 minute waiting limit
- Existing excessive speeding would be reduced via traffic calming measures
- A loading bay would be provided and formalised delivery times could also be introduced
- Buses can still physically access
- Improvement to the existing street-scene

Negatives

- A southbound system would result in a greater diversion of traffic with 84 and 169 vehicles in the AM and PM peaks respectively routing in this direction
- Unopposed traffic will be travelling downhill and may therefore be inclined to speed, which in a busy pedestrian areas, should be discouraged
- Existing Traffic Regulation Orders would have to be altered
- Traffic would be diverted onto the adjacent residential streets
- Improvements at King Street/Upper Waun Street Junction (Figure 18a/b) would also be required in association with this one way system
- On implementation, the impact on adjacent streets will require review and alterations to existing Traffic Regulation Orders undertaken if required

Option 4: Pedestrianisation

Positives

- Easier and safer for pedestrians to walk
- Improvements to the street-scene could be undertaken, whilst recognising that this is a historic environment where conservation has priority

Negatives

- Traffic would be diverted onto the adjacent residential streets
- Bus routes would have to be altered
- Unloading restrictions would have to be put into place
- Potential loss of passing trade for the shops
- Problems for residential access

- 13.4 Following preliminary consultation, the preferred option is to implement a one-way system northbound on Broad Street (Figure 17a), creating a safer pedestrian environment and improving the street-scene in line with the town's World Heritage Site status. In association with the one way system, the following improvements are also recommended to assist in directing traffic around Blaenavon Town Centre:

King Street/Upper Waun Street Junction

The following options have been reviewed at this junction to improve the junction layout, create parking spaces and ease vehicle circulation in the town.

Option 1: King Street/Upper Waun Street Junction Proposal: Two Way (Figure 18a)

Positives

- Reduction in traffic rerouted onto High Street due to implementation of a one way system on Broad Street, provided that traffic calming measures were also implemented on the former
- Improved junction arrangement at North Road/ Upper Waun Street junction
- Increased parking for the town with 62 spaces, including 4 disabled bays
- Improved access to Broad Street Top Car Park (17) provided

Negatives

- The ownership of the verge on 61-63 King Street requires investigation
- Increased traffic flows on King Street

Option 2: King Street/Upper Waun Street Junction Proposal: One Way (Figure 18b)

Positives

- Increased parking for the town with 43 spaces, including 3 disabled bays
- Improved junction arrangement at North Road/ Upper Waun Street junction

Negatives

- Less parking provision than Option 1.
- Will not significantly improve traffic flow circulation in the town
- Although the North Road/Upper Waun Street junction arrangement is improved, the proposed junction of King Street/Upper Waun Street is located on the inside of a bend

13.5 Due greater parking provision and improved traffic flow circulation in the town, the two way proposal as shown in Option 18a is proposed (Recommendation S2).

Summary

13.6 The benefits of altering traffic flow through Blaenavon Town Centre will be to:

- Increase footway widths
- Create an attractive pedestrian environment and overall street-scene
- Reduce traffic congestion in the town centre
- Reduce vehicle flows through the town centre
- Increase the level of enforcement control
- Create parking bays
- Create a loading bay
- Create bus stop locations
- Increase footfall through the town and hence increase the economic vitality of Blaenavon
- Establish a safer environment for pedestrians.

13.7 Negative impacts from implementing this scheme in Blaenavon could include:

- Bus movements through town to be rationalised
- Speed increases due to congestion and traffic volumes being reduced
- Adverse effects of increased traffic levels that will be experienced on High Street and King Street

13.8 Further considerations for a scheme of this magnitude are:

- Increased importance of creating a safer crossing point at the old St. Peter's school, due to expected increases in traffic.
- Improvements to signing for Market Street and Prince Street Car Parks to the south of the town, to reduce the amount of traffic travelling north for car parking spaces.
- Cycle movements
- An increase in the number of waste bins, toilets and benches, which would meet public demands. An improvement in shopping facilities and the general level of cleanliness across Blaenavon would be received favourably.
- The quality of all designs should be in line with World Heritage Site conservation standards. Some compromises may be required between highway design standards and conservation, to ensure the historic character of the town is maintained, although safety is paramount.

13.9 It is known that young drivers use Broad Street as a circuit in the evenings, which is not only highly dangerous but also disturbing for residents. Traffic calming may help to reduce such activities. However, it should be noted that it is not desirable for this behaviour to be displaced onto other residential roads in the area.

13.10 The approximate costs of a complete scheme to create a one-way system in Blaenavon Town Centre with loading bays, bus stops, wider pavements, litter bins, cycle racks, planters and engineering measures to control speeds, together with the proposed improvement at King Street/Upper Waun Street would be in the region of £160,000 (excluding signing/electrical works/resurfacing/land/stats/drainage).

14.0 Consultation

14.1 The initial consultation period for the Draft Blaenavon Traffic & Transportation Study was between January to July 2005, which was followed by further consultation exercise in February and March 2006, as the study developed.

14.2 Presentations were given to the following groups with regard to the recommendations outlined in this report:

- Torfaen County Borough Council
 - Engineering/Planning
 - Urban Regeneration
 - Countryside
 - Economic Development
 - Blaenavon Project Team
 - Education
 - Social Services

- Public Transport Operators & GJPTU
- Community Transport Operators
- Blaenavon Community Council
- Blaenavon Traders Association
- Local Businesses and Visitor Attraction Sites
- Welsh Development Agency
- Welsh Tourist Board
- CADW
- Brecon Beacons National Park

on the following dates:

14th January 2005 – Torfaen County Borough Council (all relevant departments)

30th March 2005 – Blaenavon Regeneration Partnership (Operational Group)

13th April 2005 - Blaenavon Regeneration Strategy Group

10th May 2005 – Blaenavon Traders

2nd June 2005 - Future Blaenavon Group and general public

12th July 2005 – Blaenavon Partnership Project Board

Copies of the report were deposited at the local libraries as well as being placed on Torfaen County Borough Council's website. A formal public exhibition was undertaken on 17th March 2006.

Comments from the Torfaen County Borough Council Departments have been fed directly into the revised study. Responses from external interested bodies and the general public via feedback forms and telephone have been summarised:

Initial Consultation: January to July 2005

Consultee	Comment Received	Response/Action
Mr Phil Davies 01495 792443	Parking on the forecourt of Bethlehem Chapel is prohibited under the existing lease (access only). It is consecrated ground allowing for 'ornamental purpose' only. The sewer causes the land to be unsuitable for additional weight.	Structural surveys have shown that vehicles parked in Bethlehem Court pose no threat to the culvert beneath. Accordingly, the Study recommends that the practice of parking in this area be considered by surrounding users and those parties enshrined in any legal Covenant, and that that agreement be revised in time to reflect the community's vision as to how this space will be used in the future. The area should then be subject to a safety appraisal to identify and remedy future potential hazards as best as can be expected. Action – Being investigated.
Mr + Mrs A Nummelin Browning Books 33 Broad St	1)Fig 1A: Preferred Option Broad St Frequent courier deliveries to No's 31/33/34/76 will cause obstruction 2)Fig B: Vehicle mvts exiting Broad St and Lion St to the Boot Lane link will conflict. 3)Fig D (18a): Headlights of vehicles exiting King St will shine directly into No's 18/19 Upper Waun St.	1)Specific loading arrangements will be reviewed at the detailed design stage and be subject to a Traffic Regulation Order. Action – Detailed design matter. 2)Design has been dropped. Action – No action required 3)Agree, but this arrangement provides greatest visibility. Such junction arrangements are common. Action – No action proposed
Mrs G Pressland 100 High St	1)Council Offices are generating too much traffic 2)Broad St should remain 2 way 3)Parking enforcement should be increased.	1)The Council Offices may appear busy but are protected by parking restrictions, which require additional enforcement. Action – Greater enforcement of parking restrictions 2)At the locally held presentations the majority of people were in favour of a 1-way system Action – Further detailed investigation into a possible one way system is required. 3)T1/T3 - Ensure parking restrictions are enforced. Action – Recommendations to reinstate markings/signs and increase enforcement.
Ms G Johnson 23 Broad St	1)Garn Lakes Car Park is unusable due to the state of the approach road 2)Overflow and Ironworks Car Parks often locked. 3)Broad St 1 way is essential. 4)No calming hump outside no.23 as a B+B 5)A Park & Ride scheme must include the town centre on its route to attract tourists into the town.	1)M8a – Urgent maintenance attention required to Car Park (4) Access Road at Garn Lakes. Action – Undertake maintenance when funding permits 2)P12 – Establish a management programme Action – Issue to be raised with Torfaen County Borough Council Tourism Section 3)Agree – Figure 17. Action – Detailed design work,

Consultee	Comment Received	Response/Action
		funding permitting

Consultee	Comment Received	Response/Action
		<p>4)Speed cushion location to be reviewed. Action – Detailed design matter.</p> <p>5)PT2 – A vintage bus service linking the town centre with the tourist attractions is recommended Action –As above.</p>
Mrs J Howells 80 King St	<p>1)Issue of youths at Broad St/King St Car Park is not addressed.</p> <p>2) King St/Upper Waun St improvement will result in 'Boy Racers' having a loop road track with no traffic calming and no CCTV.</p>	<p>1)P4/T3 – Recommendations include a greater traffic warden/police presence and the possibility of employing a Town Ranger Action – TCBC to consult with traffic warden/police.</p> <p>2)Any 1-way system should include traffic calming measures Action – Detailed design matter.</p>
Mr A Clark 01495 745155	<p>1)'Mountain Road to Blaenavon' sign required in Abersychan via Varteg / Talywain</p> <p>2)The study does not include the leisure centre</p> <p>3)Road repairs from Forgeside Cemetery to Blaenavon required</p> <p>4)The impact of Bus / Train Cross Ticketing on over 60's with free bus passes need clarifying.</p> <p>5)A bustler sized bus could be used as a trial for the vintage bus.</p> <p>6)Connect Forgeside / Big Pit / The Whistle Inn via a train with parking at Forgeside.</p>	<p>1)Outside the study area Action – No action intended</p> <p>2)This point was also raised at the presentation consultation. The leisure centre remains one of the tourist attractions in the town, as such will be included in any tourist sign improvements undertaken. Action – See above</p> <p>3)M8b - Resurfacing works to be undertaken as part of any Maintenance Rolling Programme, and as required as part of any specific scheme arising from this study. Action – Maintenance work to be undertaken, funding permitting</p> <p>4)Over 60's will still pay full train fare. Action – No action required</p> <p>5)A vintage bus would be a greater attraction Action – No action required</p> <p>6)The train operation would require land acquisition and considerable works at significant cost. The study proposes a vintage bus link, which would also include the town centre. Action – No action intended</p>
Capt CB James 13 Broad St	<p>1)Reopen a railway line for the public from Pontnewynydd to Blaenavon via funding from 3 open cast coal mine sites.</p> <p>2)Improve security at car parks and on street to stop vehicles being vandalised.</p> <p>3)Introduce secure car parking facilities</p> <p>4)Introduce car parking opposite the Co-op.</p>	<p>1) Not supported by SEWTA Rail Strategy. Action – No action intended</p> <p>2) P4/T1/T3 – Recommendations include a greater traffic warden/police presence and the possibility of employing a Town Ranger Action – Consultation with traffic warden/police</p> <p>3)The actions of point 2 should negate the need for this. Action – No action intended</p>

Consultee	Comment Received	Response/Action
		4) This area is private land outside the council's control, already operating as a private car park. Action – No action intended

Consultee	Comment Received	Response/Action
Blaenavon Partnership (Project Board)	<p>1)Conservation standards are of the highest priority in the World Heritage Site</p> <p>2)A 1-way Broad Street should have the highest priority</p> <p>3)Future additional parking required without property demolition</p> <p>4)Traffic calming on Church Road to assist pedestrian crossings</p> <p>5)Vintage bus proposal is welcome</p> <p>6)Improve signage in World Heritage Site style both within and outside Blaenavon</p> <p>7)Review crossing facilities on Estate Road between the Iron Works and it's associated car park</p> <p>8)Improve the access link between the Big Pit and the railway</p> <p>9)Review coach parking potential on the road to the rear of the Iron Works Car Park</p> <p>10)Review the impact of developments on the western edge of Torfaen on traffic flows within Blaenavon</p> <p>11)Include Rifle Green Car Park within the study</p>	<p>1)Agree – paragraph 11.3 Action – Standards to be included in detailed design stage</p> <p>2)A5 – Agree: Short term proposal Action – Consultation and detailed design required, subject to funding</p> <p>3)S2 – Provision of parking with junction improvement North St/ Upper Waun St / King St. Proposals also exist for Boot Lane improvements as part of a Physical Regeneration Fund bid Action – Consultation and detailed design required, subject to funding</p> <p>4)M2/A6 – Improve safety on Church Rd / crossing point required Action – Subject to funding</p> <p>5)PT2 – Agree: (Medium Term) proposal Action – Subject to funding</p> <p>6)M1/M3/M4//M5/M6a/M6b – Signs external to Torfaen County Borough Council require agreement of adjacent Highway Authorities /WAG. Action – Subject to funding and consultation</p> <p>7)A9 - Zebra crossing proposed Action – Subject to detailed design and funding</p> <p>8)A2/PT2 - Access improvements to be assessed. Possible route of Vintage Bus. Action – Subject to detailed design and funding</p> <p>9)P8 – Coach Parking potential at Rifle Green, to the front and rear of World Heritage Centre and road to the rear of the Iron Works Car Park. Action – Subject to detailed design and funding</p> <p>10)The British / Varteg Tip developments etc are still evolving. Increased flows in Blaenavon to be assessed when development profiles have been agreed. Action – Keep under review.</p> <p>11)P7 – Rifle Green Car Park to be reviewed as a coach park and recycling site Action – Subject to detailed design and funding</p>

Consultee	Comment Received	Response/Action
Mr & Mrs W A Lewis Morris Butchers 24 Broad St	1) In favour of a 1 way Broad St. 2) Short term parking / enforcement /access for deliveries required. 3) Possible loss of parking on Bethlehem Court is a concern	1) Agree – Figure 17. Action – Detailed design work, funding permitting 2) Consultation required Action – Detailed design matter. 3) Parking should be maximised in this area subject to a safe environment being guaranteed with the agreement of all parties. Action – Further investigation as developments progress.

The following comments were received at the presentations to the different groups listed on pages 9 and 10:

- **20mph zone / pedestrian zone or controlled entry times for traffic in the town centre**

Response: A one-way system on Broad Street was the public's preferred option. Pedestrianisation and controlled entry times may reduce retail trade.

Action: A one-way system on Broad Street subject to further public consultation, detailed design and funding.

- **A more formalised bus terminus**

Response: Bus operator comments - existing arrangements are satisfactory

Action: To be considered as part of any service improvements arising from the study.

- **Reduction of signing to 'de clutter' the town centre**

Response: Existing signs have been noted and alterations/improvements recommended.

Action: Rationalisation/cleaning to be undertaken subject to funding.

- **Formalised delivery times in the town centre e.g. 10-4 hours**

Response: This could result in objections from traders and possible loss of businesses.

Action: Detailed design matter, possibly part of any One Way system for instance.

- **Signs to promote free parking or guide motorists**

Response: Signing improvements are proposed to encourage tourists into the town centre.

Action: Further signing subject to funding.

- **Adjustments in on street parking waiting restriction times to improve turnover**

Response: Greater enforcement is required

Action: Consultation with traffic wardens/police

- **Projected growth scenarios and their effect upon traffic patterns/parking and congestion**

Response: A review of traffic flows on the network is undertaken annually. Growth should be monitored and a management programme for the car parks should be considered.

Action: Create a management programme and undertake a review in due course.

- **Greater detail on car parking capacity rates**
Response: Car parking demand was observed and capacity levels recorded.
Action: No action proposed.

- **Lack of enforcement with regard to on street parking**
Response: Greater enforcement is required
Action: Consultation with traffic wardens/police

- **A clear set of priorities is required for the improvements recommended**
Response: Recommendations have been split between short/medium and long term and listed in priority order in the Executive Summary.
Action: No action proposed.

- **Poor signage to Blaenavon from A465**
Response: Signs external to Torfaen County Borough Council require agreement of adjacent Highway Authorities/WAG.
Action: Subject to funding and consultation, possibly by the Heads of the Valleys project initially.

- **Design materials should be emphasised**
Response: Agree
Action: Quality of design and materials to be in accordance with the specifications set out by Torfaen County Borough Council.

- **World Heritage Site logo should be used on signs**
Response: Agree
Action: Quality of design and materials to be in accordance with the specifications set out by Torfaen County Borough Council.

- **Additional sign to Big Pit within Industrial Estate**
Response: Recommendation M6b
Action: Signing to Big Pit to be improved subject to funding.

Public Exhibition – Blaenavon Workman’s Hall

Friday 17 March 2006 10.00 – 6.00 - 37 Attendees
 - 8 Responses in box

Exhibition Responses

Originator	Comment	Responses
(1) Mr R Thomas	More speed cushions on Broad Street.	Detailed design issue, no objections in principle but needs to reflect any proposed layout.
(2) Anonymous	Review bus routes from centre of town to periphery.	Natural consequence of the study’s recommendation to develop public transport in general and intra WHS shuttle buses in particular.
(3) Anonymous	Review operation of Burford Street eg one way street / pedestrianisation / link to Lion Street car park.	Recommend investigation into these issues, in conjunction with any major link schemes affecting Broad Street.
(1) Ms J Chambers/ Ms J White	(1) Direct link from A4043 into Town Centre via King Street. (2) Car and coach park to be provided at southern end of town centre.	(1) Will result in high volumes of traffic in the town centre resulting in an uncomfortable visitor experience. (2) Restricted land availability. However, investigations should proceed as part of any shuttle service introduction.
(5) Anonymous	Junction priority narrowing at Hill Street/Upper Hill Street/Llanover Road Junction.	TCBC to consider it being added to the low priority recommendations.
(6) Mrs P Whitcombe	(1) Gate on King Street car park. (2) Traffic calming on Broad Street. (3) CCTV.	(1) Under investigation. (2) Detailed design issue associated with any Broad Street scheme. (3) See relevant recommendation (S1 – Priority 6)
(7) Mr S A Evans	(1) Supports the early introduction of the Broad Street one way system. (2) Lack of Police enforcement. (3) Parking issue on Bethlehem Court.	(1) Is a high priority recommendation (A5 – Priority 3), which has received wide support. However, further work on the impact of displaced traffic is recommended. (2) See relevant recommendation (S6 – Priority 4) (3) See relevant recommendation (T3 – Priority 5)

Exhibition Responses (Continued)

Originator	Comment	Responses
(8) Mr H Davies	(1) A one way system will negatively affect commercial trade. (2) Adversely high bus frequency in town centre. (3) Spar delivery lorries oversized for town centre environment. (4) Delete Market Street bus stop.	(1) Reduced congestion could increase footfall in the town centre, however any one way system would be subject to extensive consultation. (2) Any review of these services should be in conjunction with study recommendations, in particular those relating to shuttle service establishment. (3) Council to pursue with operator. (4) See point (2).
(9) Mrs M Williams	(1) Traffic calming for Church Road and North Street. (2) HGV's should not use Kennard Place rear service road. (3) Refuse bins obstruct pavements. (4) Contravention of parking restrictions in town centre.	(1) Traffic calming not recommended for major distributor road. (2) The Council to consider control measures as resources allow. (3) Waste management service to note. (4) See relevant recommendation (T3 – Priority 5).

Postal Responses

Originator	Comment	Response s
(P1) Mr Kellar	<p>(1) Opposes King Street car park scheme citing anti-social motoring.</p> <p>(2) Traffic calming for Broad Street.</p> <p>(3) CCTV.</p>	<p>(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement.</p> <p>(2) See relevant recommendation (A5 – Priority 3).</p> <p>(3) See relevant recommendation (S1 – Priority 6).</p>
(P2) Mrs I Lott	(1) Opposes King Street car park scheme citing anti-social motoring.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement.
(P3) Mr W Lawrence	<p>(1) Opposes King Street link road improvement, requesting traffic calming.</p> <p>(2) Requests enforcement of existing parking restrictions.</p>	<p>(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement.</p> <p>(2) See relevant recommendation (T3 – Priority 5).</p>
(P4) Mr + Mrs Howells.	(1) Opposes King Street car park scheme citing anti-social motoring.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement.
(P5) Ms M Davies	<p>(1) Opposes King Street car park scheme citing anti-social motoring.</p> <p>(2) Opposes King Street car park scheme as it will result in tree loss.</p>	<p>(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement.</p> <p>(2) Any such scheme could be complemented by sympathetic planting.</p>
(P6) Mr A Mayers	(1) Opposes King Street car park scheme citing anti-social motoring.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement.

Postal Responses (Continued)

Originator	Comment	Responses
(P7) Mr T Dean	(1) Opposes King Street car park scheme citing anti-social motoring.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement (T3 – Priority 5).
(P8) Mrs I Williams	(1) Opposes King Street car park scheme citing anti-social motoring.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement (T3 – Priority 5).
(P9) Mrs Dobbs	(1) Opposes King Street car park scheme citing anti-social motoring.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement (T3 – Priority 5).
(P10) Mr & Mrs Waite	(1) Opposes King Street car park scheme citing anti-social motoring.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement (T3 – Priority 5).
(P11) Mr D Sharpe	(1) Opposes King Street car park scheme citing anti-social motoring.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement (T3 – Priority 5).
(P12) Ms J White	Pedestrianise southern end of Broad Street.	To be considered under any major schemes proposed for this area.

Postal Responses (Continued)

<p>(P13) Cpt (R) C B James MBE</p>	<p>Agrees that interchange would improve tourism and commercial prospects across the WHS and suggests that railway infrastructure could be improved to assist, with associated walking, cycling and public transport links to the town centre and satellite town attractions. The following suggestions are made:-</p> <ul style="list-style-type: none"> (1) Former high level railway station site (just north-west of the B4246 Varteg Road rail overbridge) should be reconstructed as a focal interchange node. (2) That bus services within the WHS be reviewed in light of ongoing developments. (3) That bus infrastructure be improved at Church Road and Upper Waun Street. (4) That all improvements to public transport take into account the needs of people with disabilities. 	<ul style="list-style-type: none"> (1) The site in question is privately owned, and the scope of such a project makes it a laudable but potentially speculative private venture. The timescales involved would be considerable, and it may be impacted upon by a possible nearby residential development currently within the Planning process. Should such a project be brought forward, the Council would readily work with stakeholders to realise any potential benefits. (2) See relevant recommendations (PT2 / PT 6 / PT10 - T3 – Priority 5). (3) See relevant recommendation(s). (4) Current and future ongoing requirements of the Disability Discrimination Act will be adhered to in any improvements where reasonably practical.
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Electronic Responses

Originator	Comment	Responses
(E1) Miss K Thomas	(1) Opposes King Street car park scheme citing anti-social motoring.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement.
(E2) Miss A Rosser & Mr N Parfitt	(1) Opposes King Street car park scheme citing anti-social motoring. (2) Propose traffic calming for Broad Street.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement. (2) Detailed design issue associated with any Broad Street scheme.
(E3) Ms J Rue	(1) Opposes King Street car park scheme citing anti-social motoring.	(1) Any such scheme would be subject to local consultation, see relevant recommendation regarding enforcement.

Executive Summary Responses

Originator	Comment	Responses
(S1) Transportation Strategy Manager, Blaenau Gwent CBC	Supports study, enhancing access for Blaenau Gwent residents to the World Heritage site.	Noted.

General feedback from the exhibition was positive, with the types of schemes and recommendations being highlighted were well received. The vast majority of attendees welcomed in particular proposals for a one-way system on Broad Street, CCTV, increased enforcement of parking controls and improved linkage between the tourist attractions and the town centre.

15.0 Recommendations

15.1 The recommendations drawn from this study are outlined in the following section and represented in alphabetical order for ease of reference, using the following abbreviations:

Pedestrian, Cycle and Equestrian Access	A
Disabled Access	D
Traffic Flows	F
Signing, Maintenance & Markings	M
Parking Summary	P
Public Transport	PT
Rail	R
Accident Studies	RS
Street-Scene Interaction	S
Traffic Regulation Orders	T

These recommendations are prioritised in terms of time. The scale of reference is as follows:

Short Term = 0 to 18 months
 (Medium Term) = 18 to 60 months
 Long Term = 60+ months.

It should be noted that the recommendations will require further ongoing detailed consultation with residents and businesses. In the case of highway improvements, they will also require detailed design before actual arrangements can be determined.

Associated costs are identified in section 16.0. Such timescales are general estimates and do not take into consideration when funding would become available. The geographical spread of recommendations summarised in Figures 16a and 16b.

15.2 Pedestrian, Cycle and Equestrian Access

Table 13.1 refers to the Welsh Assembly Government strategies and targets for walking and cycling and suggest ways in which Torfaen County Borough Council can make progress towards the goals in Blaenavon, illustrated as steps towards changing attitudes and opening the area up as a previously unexplored area of interest for informal recreation.

	Strategy Action Points	Recommended Steps
Priority 1	Change public attitudes towards walking and cycling.	The Informal Recreation Project and the Countryside departments "Walking Towns Pilot Study" (Torfaen County Borough Council) aims to promote walking and cycling and provide safe routes and good facilities to encourage both residents and tourists to change their modal choice.
	Increase levels of walking and cycling both through promotion and provision of facilities.	As above
	Make walking and cycling both safer and more pleasant for all age groups.	Improvements to cycle routes by the end of 2006 (Informal Recreation Project, Torfaen County Borough Council)
	Educate cyclists to the benefits and limitations of helmets.	This could be incorporated into the schools safety training, night classes for adults could be organised and posters could be

	Strategy Action Points	Recommended Steps
		put around the schools, halls, shops and library. Also important to add into the Green Travel Plan.
	Adopt cycle parking standards and include them within the current LDP renewal process and improve provision and quality of existing parking facilities for cycles.	To be used in the Green Travel Plan for the Blaenavon area, to be developed by Torfaen County Borough Council to encourage sustainable forms of transport.
	Enhance the 'Webster' web site allowing on-line access to design guidance and best practice.	Torfaen County Borough Council could extend this to include information about routes and travel to Blaenavon (walking, cycling, train, bus) and also detail cycle parking locations and facilities within Blaenavon.
	Consider equestrian desire lines and provision.	To be considered and accommodated where appropriate when new facilities for walking and cycling are provided.
Priority 2	Deliver walking and cycling schemes through advice from Sustrans.	Difficulties arise due to topography of Blaenavon. More likely to deliver a scheme for tourists and residents wishing to visit sites by a bike – pool scheme.
	Ensure that the current LDP renewal process includes policies for the protection and enhancement of green space including policies for safeguarding disused railway lines for walking, cycling and equestrians.	In progress
	Work with the Wales Tourist Board promoting walking and cycling.	Develop a marketing strategy and work with the Visit Wales to publicise sustainable travel in Blaenavon.

Table 15.1: WAG Strategies for Walking and Cycling in relation to the regeneration goals for Blaenavon.

Recommendation A1 – Implement/promote School Travel Plans (Torfaen County Borough Council LTP) to stimulate interest in walking buses to facilitate safe and sustainable travel and healthier lifestyles for children. Schools in Blaenavon to be asked to carry out a short travel survey during registrations, detailing modes of travel and routes the children frequently use to get to and from school. *(Medium Term)*

Recommendation A2 - Linked advertising of the town centre, car park locations, cycle parking and routes is required (Figure 15). Provide simple location plans at each site to show walking and cycling routes between Heritage Site attractions to promote interconnectivity e.g. improve the signing / surfacing of the link between Big Pit and the railway. *(Medium Term)*

Recommendation A3 – Promote Public Rights of Way through information boards in central locations within town centre and new signs identifying distances and walking times between attractions. *(Medium Term)*

Recommendation A4 – Provide a gateway feature on Varteg Road adjacent to Prince Street Car Park (see Rec. F3). This will mark the entry to Blaenavon, increasing the patronage of the Prince Street Car Park, which is currently underused. Combined with traffic calming features, the gateway will result in speed reduction. *(Medium Term)*

Recommendation A5 – A one-way system northbound on Broad Street (Figure 17a) would improve the Town Centre and offer a small number of additional parking spaces, dependant on the physical nature of any scheme that would be introduced. Traffic calming measures, would be introduced to curtail any excessive speeding. The scheme will result in:

- Reduced congestion
- An improved shopping environment
- Improved road safety as a result of less conflict between pedestrians and vehicles
- Reduction in speed

This proposal received widespread support from traders and residents of Blaenavon through the consultation process. The quality of design should be in accord with the specifications set out by the Torfaen County Borough Council, recognising that this is a historic environment where conservation has priority. (*Short Term*)

Recommendation A6 – Improve safety on Church Road adjacent to the proposed World Heritage Centre development. A crossing point for school children and prospective visitors outside the World Heritage Centre is required. (See Recommendation M2). (*Short Term*)

Recommendation A7 – Establish and trial a pilot cycle-pool system using a split-site cycle-pool system to encourage all visitors from different attractions – Figure 12. (*Medium Term*)

Recommendation A8 – Provide crossing facilities at the A4043 Cwmavon Road/New William Street Roundabout and drop kerb and tactile paving on the A4043 adjacent to Lower Bridge Street, with coloured surfacing or cobbled rumble strips to warn drivers of the crossing point location. Crossing facilities at the A4043 Cwmavon Road/New William Street Roundabout will also facilitate movements for cyclists. (*Short Term*)

Recommendation A9 – Provide a new footway through the junction from Estate Road to North Street linking entrances to the Iron Works. Supplement with new pedestrian crossing on Estate Road to Iron Works car park. (*Long Term*)

Recommendation A10 – Make the street between Park Street and High Street one-way to increase pedestrian safety. Enforce parking restrictions outside Workman's Hall. This is especially important with the high number of visitors forecast for the area and interlinks with the plans to create a sustainable travel environment with a pedestrian route from the World Heritage Centre to the town centre. (*Short Term*)

Recommendation A11 – Establish a cycle route through the town centre, connecting into a possible future bike pool scheme – Figures 12/15. (*Short Term*)

Recommendation A12 – A Green Travel Plan (GTP) be developed and adopted across the Blaenavon World Heritage Site, to promote sustainable travel to and from the area. (*Medium Term*)

15.3 Disabled Access

Recommendation D1 – Improve signage of disabled parking bays and increase number of disabled bays available within town centre and at tourist attractions. There should be a greater consistency of signing at the Iron Works for disabled parking. (*Short Term*)

Recommendation D2 - Investigate the funding possibilities for Shop Mobility to hire out lightweight wheelchairs. The World Heritage Centre or the Tourist Information Centre could be used as a liaison between customers and the Mobility Shop if required. (Medium Term)

15.4 Traffic Flows (Figures 6-10)

Recommendation F1 – Consider using wider footways/engineering measures on Broad Street, north of Lion Street, to reduce traffic speeds and create a safer environment for pedestrians. (Medium Term)

Recommendation F2 – The existing Broad Street/Commercial Street/Ivor Street one-way system is adequate, but bollards on the south side of Commercial Street junction would prevent vehicles parking. Alternatively, re-engineer the junction, reducing the road width, increasing the footway width and install bollards on the footway to prevent cars parking on the footway. (Short Term)

Recommendation F3 – An engineered gateway is recommended for Varteg Road. Warning signs can be placed on the left-hand bend adjacent to the Varteg Road/Prince Street junction. Traffic calming features such as pinch points, build-outs, islands and rumble strips, together with changes of carriageway colour and/or texture and the appropriate use of signing may be used to reduce speed. Alternative options and/or a phased approach for implementation should be considered if monies become available (see Recommendation A4). (Medium Term)

Recommendation F4 – Speed reduction measures on Upper Hill Street should be investigated in the interest of child safety under any Safe Routes To Schools (SRTS) scheme. (Medium Term)

Recommendation F5 – Review traffic flows and parking patterns in Blaenavon – Figures 6/8/10-10H (Long Term)

15.5 Signing, Maintenance and Markings

Recommendation M1 – Create and implement a strategy to deal with information distribution. Information with regard to routes and parking locations can be shown on tourist boards (Appendix L / Figures 11a+11b) and highlighted on maps from the Tourist Information Centre, the World Heritage Centre, from press releases and in a downloadable format from the internet. (Short Term)

Recommendation M2 – Engineering measures on this stretch of Church Road could reduce speeds and the wall to southeast of the school could be removed and the overgrown hedge be cut back to improve sight lines (see Recommendation A6) (Short Term)

Recommendation M3 – Replacement/cleaning to be undertaken of the 23 signs highlighted, the removal of posts in the three locations specified and adjustments made to five signs (Appendix K). (Short Term)

Recommendation M4 – Compile a schedule for improving traffic signing through Blaenavon for routes to parking locations. The Origin - Destination survey data (Figures 7/8) indicates that signing would be most useful directing vehicles from:

- Estate Road, Cwmavon Road and Varteg Road into the town.
- Church Road/ Prince Street signalised junction to Market Street and Prince Street Car Park.
- Broad Street Car Park would benefit from destination signs.
- Direct traffic onto High Street, via North Street/Upper Waun Street to Lion Street Car Park, rather than to direct traffic through the town centre, avoiding Broad Street, an already congested, narrow and busy street. (*Short Term*)

Recommendation M5 – Locations to be agreed for pedestrian signs throughout Blaenavon serving the following locations:

- Broad Street Car Park (Blaenavon Regeneration plans)
- Bethlehem Court
- Market Square
- Lion Street/Broad Street junction and car park
- To the World Heritage Centre
- Broad Street at the access with Boot Lane
- Prince Street Car Park and junction
- From the Iron Works Car Park
- From the National Cycle Route
- From Big Pit to encourage walking (to the town and to Garn Lakes)
- From the World Heritage Centre, across Church Road to the town centre via Ivor Street / Broad Street
- From Prince Street to the cycle track to the south of the town

The signs should be consistent throughout, in line with the World Heritage Site brand. Figure 15 provides an overview of the main tourists pedestrian routes. (*Short Term*)

Recommendation M6a – Provide maps for visitors that give clear details of routes between all visitor attractions. (*Long Term*)

Recommendation M6b – Replace the current Big Pit tourist sign adjacent to the Iron Works Car Park (Photograph 23/24) with a similar sign that also indicates the distance. (*Short Term*)

Recommendation M7 – Improve the town centre ‘gateways’ at the Prince Street and New William Street junctions to encourage visitors into the town with any works reflecting its conservation status. Gateways at Upper Waun Street junction with North Street / Abergavenny Road and at Garn-yr-Erw should be considered. (*Short Term*)

Recommendation M8 - Resurfacing to be scheduled through the town. (*Long Term*)

Recommendation M9 – Resurfacing to be scheduled on the B4248 between Blaenavon and the county boundary. (*Long Term*)

Recommendation M10 – Develop a transportation strategy for major events being held in the town. (*Long Term*)

15.6 Parking (Figures 2a/2b)

Recommendation P1 – Encourage tourist parking at all sites in Blaenavon, by promoting car parks as gateways to World Heritage Site. Investigate provision of a

shuttle bus/park and ride service to utilise the spare capacity at Garn Lakes and the Iron Works Car Parks, and also at the Prince Street Car Park on the periphery of the town centre where visitor vehicles can be monitored by increased police presence, the town centre ranger, or local neighbourhood watch schemes. *(Long Term)*

Recommendation P2 – Implement a scheme for a footway with high kerbing at Big Pit from the Forge Side Access Road to the bus stop to prevent parking on the verge. Evaluate site to assess the potential to increase the number of parking spaces. *(Short Term)*

Recommendation P3 - Erect bollards on the pavement of Old William Street to prevent obstructive parking, widen the footway and provide parking in verge, following consultation with local residents. *(Short Term)*

Recommendation P4 – Investigate the possibility of employing a Town Environmental Ranger to assist in dealing with issues such as obstructive parking, bus facility cleansing etc in Blaenavon. (See Recommendation P6, T2, T3 also) *(Medium Term)*

Recommendation P5 – Improve signage (showing distances, disabled parking and location in respect to town centre and attractions) for Boot Lane, Market Street, Broad Street and Prince Street Car Parks to increase usage of these car parks and to reduce the volume of vehicles passing through the town centre. *(Medium Term)*

Recommendation P6 – Reassess parking in High Street and Lion Street Car Parks to create additional parking spaces, following consultation with local residents. A Ranger or parking permits are options that can be trialled. *(Long Term)*

Recommendation P7 – Establish coach parking at the periphery of the town, and attract visitors into the commercial areas of Blaenavon. Rifle Green Car Park, formerly a lorry park, is situated to the north of Blaenavon Town Centre and could also be used as a coach park to assist in reducing the volume of traffic passing through the town centre. (see Recommendation P8). *(Medium Term)*

Recommendation P8 – Coach parking in the vicinity of the World Heritage Centre to be investigated (Figure 19), as well as adjacent to the Iron Works Car Park. *(Medium Term)*

Recommendation P9 – Careful consideration is required regarding the location, type and number of facilities provided for motorcyclists. *(Long Term)*

Recommendation P10 – Provide Sheffield cycle stands at:

Location	Number
Big Pit	6-10
Tourist Information Centre	3
Iron Works Car Park	4
Prince Street Car Park	6
Broad Street Car Park	6
Library	2

The provision of cycle racks should be monitored 6 and 12 months after first installation to investigate whether or not covered stands would make a difference in

usability and if provision is right for demand (and expected future demand - so as not to create barriers to new cyclists). Design of racks and all street furniture to be approved by Torfaen County Borough Council. Supports WAG walking and cycling policy. *(Medium Term)*

Recommendation P11 – Specifications to be taken from the Blaenavon Project Team plans for pedestrian direction signs. Directional signing for cyclists including cycle rack locations, can also be developed. Routes (see Figure 15) to be marketed in the local press, on the Internet, through the Tourist Information and Heritage Centre and Visit Wales. *(Medium Term)*

Recommendation P12 – Establish a management programme detailing works, operations and financial resources to support car park operations. *(Long Term)*

15.7 Public Transport

Recommendation PT1 – Investigate the demand for, and cost/feasibility of enhancing the frequency and operation of Stagecoach bus service 40 between Blaenavon and Abergavenny with the Gwent Joint Passenger Transport Unit. A more frequent bus service would promote social inclusion and would facilitate access to the rail network. *(Medium Term)*

Recommendation PT2 – Investigate the availability and cost of introducing a vintage shuttle bus service on weekends and school summer holidays linking the main tourist attractions in Blaenavon. This would provide an added attraction in its own right and would enable a fee to be charged for its use; therefore it is unlikely to impact on the current commercial network.

Provided operational issues with the rail line crossing could be resolved, a resurfaced Big Pit – Railway Link Road could be used for bus only operation with the construction of a bus turning area within the Railway Car Park. This would facilitate a service linking:

- Town centre (for Heritage Museum, Book Town, local shops)
- Blaenavon Iron Works and Tourist Information Centre
- Big Pit
- Blaenavon Railway/Garn Lakes
- (Return in reverse order)

The service outlined above would also include a stop at the World Heritage Centre, when completed. *(Medium Term)*

Recommendation PT3 – Redesign livery of Service 30 (Figure 3a) to promote the service and attractions in Blaenavon with a view to establishing a Quality Bus Partnership between the Local Authority and the Bus Operator. *(Medium Term)*

Recommendation PT4 – Trial a 2 hourly frequency Sunday - only bike trailer service on Route 30 (around Blaenavon and to Abergavenny - Figure 3a) following success of Brecon Beacon Bike Bus. *(Long Term)*

Recommendation PT5 – Hold discussions with Bus and Train Operators to determine whether PlusBus scheme at Pontypool and New Inn Railway Station could be extended to Blaenavon. *(Medium Term)*

Recommendation PT6 – Hold discussions between Bus Operators, Torfaen County Borough Council and tourist attraction operators to ascertain whether there is scope to implement a discount scheme for combined bus travel and entry to Iron Works. *(Short Term)*

Recommendation PT7 – Upgrade bus stop infrastructure at the Big Pit (Figure 4) through installing:

- Flag sign^{xxxxv} giving location, route number(s), telephone enquiry number and provision for display of timetable information
- 180mm high raised boarding platform
- Lighting at stop
- Glazed shelter with internal illumination and provision for future installation of real time information. *(Short Term)*

Recommendation PT8 - Investigate feasibility of installing an RTPI system for services operating on the Newport- Brynmawr Corridor to promote user confidence as outlined in Torfaen Local Authority Bus Strategy (Figure 4). To improve ease of use Blaenavon Iron Works should be included in the current timetable produced by the main operator. *(Medium Term)*

Recommendation PT9 – Introduce an enhanced cleansing and maintenance programme of bus infrastructure at high profile sites in conjunction with a repair notification procedure. The Department For Transport guidance 'Get on Board: an agenda for improving personal security in bus travel - April 2002, indicates that the prompt repair of damage greatly reduces the rate of repeat damage. *(Medium Term)*

Recommendation PT 10 – To increase public awareness, promote all new public transport facilities and links to operators: Traveline, Modus, Webster, Local Transport Guide. *(Medium Term)*

15.8 Rail

Recommendation R1 – Investigate capital and revenue funding for improving railhead bus links between Blaenavon and Pontypool and New Inn Rail Station (Figure 14), and improve facilities for pedestrians and cyclists at the station. *(Medium Term)*

Recommendation R2 – Hold discussions with neighbouring Monmouthshire County Council under GJPTU, regarding feasibility of establishing a regular bus service between Abergavenny and Blaenavon. *(Short Term)*

Recommendation R3 – Establish Service Quality Improvement Regimes and Bus Quality Partnerships if possible. These are vital in securing patronage and in the promotion of public transport services (Figure 3a-3c). *(Long Term)*

Recommendation R4 – Investigate the feasibility of establishing further integrated or cross-ticketing between public transport modes serving the town. *(Medium Term)*

15.9 Accident Studies

^{xxxxv} Photograph 88

Recommendation RS1 – Undertake further analysis of the locations where accidents have occurred (Appendix M), in order to investigate the road safety engineering options available. Any scheme for improving an attraction should be accompanied by Road Safety Audits to current standards. (*Short Term*)

15.10 Street-scene Interaction

Recommendation S1 – Investigate and consult on the introduction of CCTV cameras at the Old William Street/ Commercial Street junction adjacent to the takeaway food premises on all four corners of the junction, at Market Square and the Broad Street/ Lion-street junction to improve perception of safety (Figure 13). (*Medium Term*)

Recommendation S2 – Redesign Abergavenny Road/ North Street/ Upper Waun Street junction to improve safety, visibility and reduce speed (see Figure 18a). Increased accessibility to the Town Centre and additional parking are included in the design. (*Short Term*)

Recommendation S3 – Upgrade the warning signs on Ton Mawr Street and cut back the vegetation on the approach to the roundabout on Cwmavon Road to improve sight lines for both drivers and pedestrians. (*Short Term*)

Recommendation S4 – Implement horizontal and vertical engineering measures on Ton Mawr Road. As a minimum measure, visual traffic-calming with new road surface markings/colours/textures to warn drivers to reduce speeds should be provided. (*Short Term*)

Recommendation S5 – Enforce parking restrictions at the James Street junctions to improve sight lines from the Ton Mawr Road junction with James Street (and Hill Street at the western end of James Street). (*Medium Term*)

Recommendation S6 – Structural surveys have shown that vehicles parked in Bethlehem Court pose no threat to the culvert beneath. Accordingly, the Study recommends that the practice of parking in this area be considered by surrounding users and those parties enshrined in any legal Covenant, and that that agreement be revised in time to reflect the community's vision as to how this space will be used in the future. The area should then be subject to a safety appraisal to identify and remedy potential hazards as best as can be expected. (*Short Term*)

Recommendation S7 – Monitor the Pontypool public information boards scheme to establish whether the scheme should be introduced to Blaenavon. Recommendations A3/P11 and S7 should be combined with parking, disabled and public transport information. (*Medium Term*)

Recommendation S8 – Use of pedestrian information boards in conjunction with the car park signing and leaflets. (*Short Term*)

15.11 Traffic Regulation Orders

Recommendation T1 – Reinstate missing and worn markings, clean Church Road loading bay sign and amend the Broad Street/Commercial Street Traffic Regulation Order sign location (Figure 5). Ensure parking restrictions are enforced. (*Short Term*)

Recommendation T2 – Re-evaluate Ivor Street Traffic Regulation Order (Figure 5), especially if a Town Ranger were to be employed in the town. (*Short Term*)

Recommendation T3 – Discuss with the police the need for a greater enforcement presence in the town. (*Short Term*)

Recommendation T4 – Re-evaluate Traffic Regulation Orders on Cwmavon Road and extend to Coed Road (Figure 5) to address roadside parking issues which disrupt the through flow of traffic and create a potential for accidents. (*Short Term*)

Recommendation T5 – Make the successful experimental order covering Church Road loading bay permanent (Figure 5). This may be revisited in conjunction with any One Way system introduced on Broad Street. (*Short Term*)

16.0 Conclusions

- 16.1 The total parking capacity of the car parks and streets surveyed within Blaenavon is 681 vehicles, of which 511 are off-street parking spaces around Blaenavon (363 spaces at tourists sites and 148 spaces at town centre car parks). The tourist sites had the highest levels of demand in general with the surveys of these sites being undertaken on a Bank Holiday Monday. Big Pit was the most popular tourist site with Garn Lakes and the Iron Works Car Parks having very low levels of parking, as did Prince Street Car Park in the town centre (Section 3.0). In terms of turnover, Lion Street (south) is the most popular town centre car park. The average occupancy for all car parks surveyed was 146 vehicles (at 26% of capacity) with peak occupancy at 318 vehicles (56% of capacity).
- 16.2 The average on-street parking occupancy was 66 vehicles, accounting for 55% of capacity. Peak occupancy was 139 vehicles, which is actually 116% capacity. Therefore, a review of the Traffic Regulation Order and enforcement levels is required. Clear signing will be necessary to direct the expected increase of visitors to the car parks or encourage greater use of public transport, cycling and walking.
- 16.3 There were 14 on-street locations surveyed where Traffic Regulation Order restrict parking (Section 3.0 and 5.0). Vehicles park illegally on Lion Street (north and south), Broad Street, New William Street and Market Street.
- 16.4 There are no dedicated coach parking spaces in Blaenavon Town Centre and it would not be advisable to encourage coaches to travel through the narrow streets, adding to the congestion and vehicle-vehicle, pedestrian-vehicle conflicts. Therefore, it is proposed to encourage coaches bringing visitors to the town via providing coach parking on the periphery of the town centre.
- 16.5 There are no dedicated parking spaces for motorcycles or cycle facilities in Blaenavon. It is necessary for plans to be drawn up that include provision for motorcycles and cycles with advertising strategies to expand into each tourism niche.
- 16.6 Blaenavon has a good level of bus provision and this should be targeted in relation to tourists, encouraging sustainable tourism. There may be funding opportunities from this for an RTPI system in Blaenavon. There are no direct rail links to Blaenavon.
- 16.7 The travel survey undertaken found that the majority of bus users travel from Blaenavon to Cwmbran and Pontypool for better retail facilities. The respondents also listed a number of concerns that they have, including traffic problems (encompassing enforcement of parking, speeding vehicles through the town centre and narrow streets). More shops and CCTV cameras were also suggested, and footway/road maintenance and cycle facilities were identified as poor. Overall the surveys showed that satisfaction with the general highway service is particularly low in comparison to public transport facilities (off-street parking and street lighting being an exception). It should be noted that disabled facilities and public toilets (lack of) were also highlighted as being extremely disappointing; hence further work encompassing the Blaenavon Mobility Shop and the DDA regulations is required.
- 16.8 The creation of a safe community (through CCTV and lighting improvements where necessary) will, in turn, attract further businesses to establish within the town and therefore boost the economy of Blaenavon.

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- 16.9 The existing travel habits survey, split 60/40 between town centre and tourist destinations respectively, showed a large range of respondent origins, indicating that Blaenavon has a large sphere of influence. This should be drawn upon to encourage further economic development of the town centre and highlighting an urgent need for interlinks between the tourist sites and the town centre. It should be noted that no people were surveyed visiting the Workman's Hall. Although the survey was only carried out on a small scale the results could be taken to represent a lack of interest in the Workman's Hall, which could be boosted by targeted marketing and events.
- 16.10 Interlinks between the sites within Blaenavon are poor. This could be addressed through the implementation of a cycle-pool scheme, joint marketing and the provision of maps showing the linkage between all attractions.
- 16.11 Problems with illegal parking on Broad Street have been highlighted by residents and noted during site visits, especially in front of the Spar convenience store. There are also issues with parking on Cwmavon Road. A stronger Police presence is required and a Town Ranger should be employed to patrol the streets.
- 16.12 The Automatic Traffic Count results showed that traffic flows are greatest westbound through Blaenavon from the A4043 to Abergavenny Road via Church Road, with approximately 1000 vehicles per day travelling out towards Garn Lakes and Brynmawr. There was minimal rat running recorded (Section 6.0) through the town centre. The westbound flows are heaviest during the AM peak hour and the eastbound flows are heaviest during the PM peak, indicating commuter travel patterns. Heavy Good Vehicle routes run between the A4043 in the east and Gilchrist-Thomas Industrial Estate in the west, via Church Road. Few HGVs use Abergavenny Road due to its weight restriction, and the B4248 link to Brynmawr and the Heads of the Valleys corridor is unsympathetic to this traffic due to adverse gradients and alignments. The predicted traffic flows indicate that there will be no link capacity problems in 2016 on the A4043, Church Road and Abergavenny Road.
- 16.13 Although, the tourist sign stock is in good condition the general stock of signs in Blaenavon is poor with a number needing replacing or cleaning. New and improved signing is required, including the implementation of gateways for the town centre to attract visitors into the main commercial area (Section 8.0).
- 16.14 Road crossing areas through Blaenavon have been highlighted in the study and it is proposed that a school travel survey be undertaken to obtain existing travel habits and desire lines of school children.
- 16.15 Blaenavon has narrow footways throughout the majority of the town. Footway improvements to increase footfall will require sensitive engineering measures, which have been subject to careful consideration and consultation. Aesthetics of the town are important (Section 11.0): the continuity of lighting columns, pedestrian signs, surfacing materials, bollards and traffic calming measures in the future is important in terms of sensitivity towards the overall appearance of the town.
- 16.16 The parked vehicles on the street outside the Workman's Hall detract greatly from the street aesthetics and the pedestrian friendly environment, deterring visitors to the Workman's Hall.
- 16.17 There is currently inadequate disabled parking provision within Blaenavon. The Blaenavon Project Team has addressed the disabled parking situation in Blaenavon

to some degree, with an additional eight disabled parking bays planned. This situation should be monitored alongside travel habits, etc., to gauge whether further bays are required in the future and in which locations (Section 3.0).

- 16.18 Cyclists were recorded at the majority of the surveyed junctions, the highest flow being 34 cyclists per day in the town centre (Section 9.0). It is difficult to provide cycle lanes through Blaenavon due to the width of the streets. The attraction of cycling through the town is also marred by the topography. However, the provision of cycle facilities will help link the town with NCN route 46 and other attractions. It is important to incorporate the objectives of the WAG document on walking and cycling and adopt them within a Green Travel Plan for the area of Blaenavon.
- 16.19 The accident record for the area does not highlight any singular area as a cause for concern. When required, further analysis should be undertaken and schemes subsequently implemented according to the accident cause, location and conditions on site.
- 16.20 Areas highlighted with regard to traffic calming or realignment are King Street, Broad Street, Varteg Road, Upper Hill Street, Upper Waun Street/ Abergavenny Road junction and Ton Mawr Road.
- 16.21 Structural surveys have shown that vehicles parked in Bethlehem Court pose no threat to the culvert beneath. Accordingly, the Study recommends that the practice of parking in this area be considered by surrounding users and those parties enshrined in any legal Covenant, and that that agreement be revised in time to reflect the community's vision as to how this space will be used in the future. The area should then be subject to a safety appraisal to identify and remedy future potential hazards as best as can be expected.
- 16.22 Encouragement of tourists into the town is crucial to create a thriving retail centre.
- 16.23 It is unlikely that full pedestrianisation of the town will be acceptable to residents or traders, because of the current bus routes, loading requirements and residential access. Furthermore, there are safety issues with implementing a part-pedestrianisation scheme throughout the town, indicating a pedestrian zone, as this may confuse pedestrians and motorists and become hazardous. The preferred option would be to implement a one-way system through the town centre, creating a safer pedestrian environment and improving the street-scene.
- 16.24 There needs to be greater publicity of Public Rights of Way to create awareness and encourage use. This together with improving the condition and signing of the footpaths in and around Blaenavon should assist in promoting Blaenavon as a 'walking town' and as a central base for walkers in the area. This in turn should assist in increasing visitors numbers to the town centre, benefiting local traders as well as tourist attractions and creating broad economic benefit.
- 16.25 Highlighted recommendations should be considered for provision with various internal and external funding sources. Torfaen County Borough Council should consider developing an action plan to pursue these improvements following on from this study.

Prioritisation and Costs

- 16.26 The scheme recommendations have been prioritised in terms of short, medium and long term time frames for completion (Table 16.1), relating up to 18 months, between 18 months and 60 months (5 years) and more than 5 years respectively.
- 16.27 The delivery of this study's recommendations and improvements will to a very great extent be dependent on securing funds and resources in the future, both from internal and external sources. As such, specific commencement dates or delivery timescales of individual recommendations or improvements cannot be foreseen at the time of writing. Nevertheless, the study has been written to prioritise these recommendations (short/medium/long term) to highlight the degree of benefit to the community which may be expected.
- 16.28 The three sections have been prioritised into the order that they are placed in the table, and as such are a guideline for implementation by Torfaen County Borough Council. No further starting dates or timescales have been specified for any of the recommendations. The recommendations have been subject to basic cost levels, as shown in Table 16.1 using 2005 prices. These are indicative costs only, subject to details design works.
- 16.29 The geographical spread of recommendations, as outlined in Table 16.1 are shown in Figures 16a and 16b.
- 16.30 The conclusion of the study is that Torfaen County Borough Council should, subject to contemporary legislative and financial circumstances, best construction practices and relevant consultative arrangements, consider the introduction of the suggested improvements listed in Table 16.1 Schedule of Recommendations.

Table 16.1: Schedule of Recommendations

Recommendation	Location	Approximate Costs / Resources	Groups Involved	
SHORT TERM				
M4	Compile a schedule for improving traffic signing through Blaenavon for routes to parking locations.	-	To be determined dependent on number, size and location of signs, to which other bodies may contribute.	Torfaen County Borough Council / Other bodies
M5	Locations to be agreed for pedestrian signs throughout Blaenavon.	-	£10k	Torfaen County Borough Council
A5	A one-way system northbound on Broad Street to reduce congestion, improve the shopping environment and reduce speed.	Broad Street	£75k, excluding signing/electrical works/resurfacing Officer Resource	Torfaen County Borough Council, Traders, Residents
S6	Bethlehem Court parking be considered by surrounding users and those parties enshrined in any legal Covenant, The area should then be subject to a safety appraisal to identify and remedy potential hazards as best as can be expected.	Bethlehem Court	Officer Resource	Torfaen County Borough Council / Chapel organisation
T3	Discuss with the police the need for a greater enforcement presence in the town.	TROs	-	Torfaen County Borough Council / Police
S1	CCTV cameras	Old William Street/ Commercial Street junction, Market Square, Boot Lane and the Broad Street/ Lion Street junction	Up to £70k (CCTV cameras (10x)/4 Locations) Officer Resource	Torfaen County Borough Council
M7	Improve the town centre 'gateways' with any works reflecting its conservation status	Prince Street, Upper Waun Street junctions and Garn-yr-Erw	Up to £15k Officer Resource	Torfaen County Borough Council
S2	Engineering measures	Upper Waun Street/ North Street/ Abergavenny Road junction	£140k excluding drainage/signs/land /stats/ lighting /electrical works/ resurfacing Officer Resource	Torfaen County Borough Council

Recommendation	Location	Approximate Costs / Resources	Groups Involved	
SHORT TERM				
F2	No alteration of the existing one-way system, but prevent vehicles parking at the Commercial Street junction, via bollards on the south side or re-engineering of the junction	Ivor Street/ Broad Street/ Commercial Street	Up to £5k (£175 per cast iron bollard, £100 installation) Officer Resource	Torfaen County Borough Council
M3	Replacement/cleaning to be undertaken of the 23 signs highlighted, the removal of posts in the 3 locations specified and adjustments made to 5 signs	Appendix K	Up to £1k Officer Resource	Torfaen County Borough Council
S3	Upgrade the warning signs on Ton Mawr Street and cut back vegetation	Ton Mawr Road	Up to £500 Officer Resource	Torfaen County Borough Council
T1	Reinstate the missing and worn markings, clean the Church Road loading bay sign and amend the Broad Street/Commercial Street TRO sign location	Cwmavon Road, Market Street, Park Street, High Street, Broad Street, Prince Street	Up to £1k Officer Resource	Torfaen County Borough Council
M6b	Replace the current Big Pit tourist sign on Gilchrist Road with a similar sign that also indicates the distance	Gilchrist Thomas Industrial Estate	£500 for sign Officer Resource	Torfaen County Borough Council
A8	Pedestrian crossing on A4043	Roundabout with New William Street and on approach to junction with Prince Street	Up to £25k Officer Resource	Torfaen County Borough Council
D1	Consistency with the Iron Works disabled parking and better signing and indication of disabled bay locations for visitors	Iron Works	£300 per location, number and locations to be determined	Visit Wales / Disability Advice Project and associated groups
A6	Provide a safe crossing location	Church Road	Up to £25 Officer Resource	Torfaen County Borough Council
M2	Engineering measures to reduce speeds and improve sight lines	Church Road	Up to £20k Officer Resource	Torfaen County Borough Council
A10	Make the Workman's Hall street one-way	Park Street/High Street	Up to £5k Officer Resource	Torfaen County Borough Council, Emergency Services
R2	Bus service between Blaenavon and Abergavenny	-	Approx £20k (bus link) per annum	Torfaen County Borough Council and Monmouthshire County Council

Recommendation		Location	Approximate Costs / Resources	Groups Involved
SHORT TERM				
PT6	Discussions are made between Bus Operators and Tourist Attraction Managers to ascertain whether there is scope to implement a discount scheme for combined bus travel and entry	-	Officer Resource	Torfaen County Borough Council, Visit Wales, Bus Operators
A11	Establish a cycle route through the town centre, connecting into a possible future bike pool scheme	Town Centre	Up to £1.5 – £5k (Marketing required) Officer Resource	Torfaen County Borough Council, Cycle groups
PT7	Bus stop infrastructure at the Big Pit terminus is upgraded in accordance with the above	Big Pit	£5k-£14k (full upgrade with real time information) Officer Resource	Torfaen County Borough Council / EADW
S4	Engineering measures	Ton Mawr Road	Up to £15k Officer Resource	Torfaen County Borough Council
M1	Draw up a strategy to deal with information distribution and implement	-	Ongoing Officer Resource	Torfaen County Borough Council
P2	High kerbing and footway	Big Pit	Up to £5k Officer Resource	Torfaen County Borough Council, Visit Wales
P3	Bollards, widen footway and provide parking in verge	Old William Street	Up to £15k (Plus land acquisition) Officer Resource	Torfaen County Borough Council
T2	Re-evaluate TRO	Ivor Street	£1k Officer Resource	Torfaen County Borough Council
T4	Re-evaluate TRO	Cwmavon Road, Coed Road	£1k Officer Resource	Torfaen County Borough Council, residents
S8	Use of pedestrian information boards	Bethlehem Court	Up to £3k Officer Resource	Torfaen County Borough Council
RS1	Further analysis of the accident locations	-	£2.5k Officer Resource	Torfaen County Borough Council
T5	The experimental order on Church Road loading bay should be made permanent	Church Road	£650 Officer Resource	Torfaen County Borough Council

(MEDIUM TERM)				
A2	Linked advertising of the town centre, car park locations, cycle parking and routes is required	£15k	Marketing Officer Resource	Torfaen County Borough Council, Visit Wales
P5	Signing improvements undertaken for all car parks in Blaenavon at existing sites	Various	Up to £8k (Phased approach possible)	Torfaen County Borough Council

(MEDIUM TERM)				
PT2	Vintage bus service	-	To be determined	Torfaen County Borough Council
A7 D2	Investigate the funding possibilities for Shop Mobility and establish and trial a pilot cycle-pool system	£3.5k	Investigate Officer Resource	Torfaen County Borough Council, Shop mobility, Visit Wales
P8	Coach parking in the vicinity of the World Heritage Centre to be investigated, as well as adjacent to the Iron Works Car Park.	World Heritage Centre	Investigate	Torfaen County Borough Council
P7	Establish coach parking at town centre periphery	Rifle Green Car Park	Up to £5k Officer Resource	Torfaen County Borough Council (Environmental Maint. arm of Operational Services Dept.)
PT1	Investigate the demand cost and feasibility of enhancing the frequency and operation of service 40	-	£60,000 per annum for a bus service Monday – Friday 0900 – 1700 hours Officer Resource	Torfaen County Borough Council, Bus Operators
R1	Railhead links between Blaenavon and Pontypool and New Inn station	Pontypool and New Inn station	£20k (bus link) per annum £10k walking and cycling improvements Officer Resource	Torfaen County Borough Council, bus operators
R4	Integrated/Cross-ticketing between all public transport modes serving the town	-	Investigate Officer Resource	GJPTU, Torfaen County Borough Council, public transport operators
A4/ F3	Provide a town centre gateway features to the south of the town	Varteg Road	Up to £15k Officer Resource	Torfaen County Borough Council
F4	Consider speed reduction measures on Upper Hill Street outside the school	Upper Hill Street	Up to £15k Officer Resource	Torfaen County Borough Council
P10	Sheffield cycle stands	Big Pit, Tourist Information Centre, Iron Works Car Park, Prince Street Car Park, Bethlehem Court, Broad Street Car Park, the library	Up to £5k (Phased approach possible) Officer Resource	Torfaen County Borough Council, Visit Wales
F1	Following Recommendation A5, consider engineering measures on Broad Street if deemed appropriate	Broad Street	Up to £30k (£2k-£5k per narrowing) Officer Resource	TORFAEN COUNTY BOROUGH COUNCIL, Traders, Residents
A12	A GTP be developed and adopted for Blaenavon	-	Officer Resource	Torfaen County Borough Council

(MEDIUM TERM)				
A1	Implementation/promotion of School Transport Plans (Torfaen County Borough Council LTP)	-	Ongoing Officer Resource	Torfaen County Borough Council
PT5	Possibility of extending PlusBus scheme at Pontypool and New Inn Railway Station to Blaenavon	-	Investigate Officer Resource	Torfaen County Borough Council, Bus and Train Operators
A3	Promote Public Rights of Way via information boards	Town Centre Tourist attractions	Investigate Officer Resource	Torfaen County Borough Council
P11	Pedestrian direction signs	-	Up to £10k	Torfaen County Borough Council
S7	Monitor the Pontypool pedestrian signing scheme to establish whether the scheme should be implemented in Blaenavon Recommendations A3/P11 and S7 should be combined with parking, disabled and public transport information.	-	Investigate Officer Resource	Torfaen County Borough Council
PT3	Redesign livery of Service 30 to promote the service and attractions of Blaenavon with a view to establishing a Quality Bus Partnership	-	£2k per vehicle Officer Resource	Torfaen County Borough Council, Bus Operators
PT9	Cleansing and Maintenance Programme	Public Transport Infrastructure	Up to £12k/annum Cleaning: £300 per shelter per annum Based on a two weekly cleansing regime Maintenance: £270 per shelter per annum Based on unit cost of £4000, with a 15 year life span Officer Resource	Torfaen County Borough Council
PT8	Real Time Passenger Information	Newport-Brynmaur corridor	Continue investigating. £6000 display unit/stop, £4000 onboard tracking device/vehicle No cost given or knowledge on number of radio transmitters needed to transmit information (system could utilise the Newport Back Office facilities) Assuming Stagecoach are still operating the	Sewta/Torfaen County Borough Council, Bus Operators

(MEDIUM TERM)				
			X24 and 30, most of their fleet will already be fitted with the on-board kit as part of the Newport/Monmouth system Officer Resource	
P4	Investigate the possibility of employing a Town Environmental Ranger to assist in dealing with issues such as obstructive parking in Blaenavon, bus facility cleansing etc. (See Recommendation P6, T2, T3 also)	-	£30k per annum Officer Resource	Torfaen County Borough Council / Police
S5	Enforce parking restrictions	James Street junctions (east and west)	Officer Resource	Torfaen County Borough Council
PT10	Promotion of all new public transport facilities and links to operators	-	Marketing Officer Resource	Torfaen County Borough Council, Bus Operators, PTI Cymru

LONG TERM				
M8	Resurfacing to be scheduled through the town	Broad Street	To be determined	Torfaen County Borough Council
M9	Resurfacing to be scheduled on the B4248 between Blaenavon and the county boundary.	B4248	Up to £150k (Based on 6.0m wide road, 3km long, wearing course/inlay, including traffic management) Officer Resource	Torfaen County Borough Council
M10	Develop a transportation strategy for major events being held in the town.	-	To be determined	Torfaen County Borough Council
M6a	Provide maps for visitors that give clear details of routes between visitor attractions	-	Marketing costs (Use of Internet) Officer Resource	Torfaen County Borough Council, Visit Wales
A9	Provide a new footway and crossing from Estate Road to North Street	Iron Works	Up to £40k Officer Resource	Torfaen County Borough Council, Visit Wales
P1	Encourage tourist parking at all sites in Blaenavon	Various	Ongoing (Links to other recommendations) Officer Resource	Torfaen County Borough Council
PT4	A Sunday only bike trailer service is established on Route 30	-	Approximately £6k per trailer including fixings (Marketing costs Infrastructure costs, increasing length of loading bays where required) Officer Resource	Torfaen County Borough Council, Visit Wales
P12	Establish a management regime	Car parks	Investigate Officer Resource	Torfaen County Borough Council
P6	Monitor parking in High Street and Lion Street Car Parks, following consultation with local residents. A Ranger or parking permits are alternative options	High Street, Lion Street	See Recommendation P4 Officer Resource	Torfaen County Borough Council, residents
R3	Service Quality Improvement Regimes and Bus Quality Partnerships	-	Investigate Officer Resource	Torfaen County Borough Council and public transport operators
P9	Careful consideration is required regarding the location, type and number of facilities provided for motorcyclists	Blaenavon	£200 per ground anchor Officer Resource	Torfaen County Borough Council

LONG TERM				
F5	Review traffic flows and parking patterns in Blaenavon	Blaenavon	To be investigated Officer Resource	Torfaen County Borough Council