SD101

Blaenau Gwent County Borough Council

North Ebbw Vale Access Study

Final Report | October 2009

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Project No: CG/4102 Doc Ref: CG/4102 Rev:

Client: Blaenau Gwent County Borough Council

Issue Date: October 2009

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North Ebbw Vale Access Study

Final Report

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Issue Record

Rev	Date	Description/Comments	Author/Prepared by:	Approved for issue by:

EXECUTIVE SUMMARY

Ebbw Vale, and in particular north Ebbw Vale, is currently undergoing a large amount of change. Many significant improvements are taking place and more are planned for the future. These will influence traffic flow and distribution in the area and will therefore effect highway network operation. Changes include:

- The construction of a Peripheral Distributor Road (PDR) - This will provide a link from the south of 'The Works', by-passing the town centre to the north of Ebbw Vale linking into the existing road system (comprising Steel Works Road, Cemetery Road and onto Cemetery Road Roundabout);

- Dualling of the A465 Brynmawr to Tredegar (due for completion by 2014) - providing a connection to the A465 (Heads of the Valleys Road), which forms part of the Trans-European Transport Networks (TENS), from Cemetery Road Roundabout is important, in order to enable high quality, modern access to 'The Works' and to other developments in north Ebbw Vale.

- Development proposals for north Ebbw Vale as part of the Local Development Plan process and changes to existing land uses e.g. movement of Coleg Gwent from College Road to 'The Works' learning campus.

In addition, opportunities exist to take advantage of significant funding at a European level (Convergence Funding) and also at a regional level (Heads of the Valleys Programme and Regional Transport Plan), to support access improvements to facilitate regeneration. The key to unlocking this money in many cases is demonstration of preparatory works and scheme development, as well as the identification and attainment of appropriate match funding.

In light of this, Blaenau Gwent County Borough Council commissioned a study to investigate the effect on the highway network of the changes to the north Ebbw Vale area and the production of options for the optimal operation of the highway network. This included:

- On-line highway improvements linking the PDR and Cemetery Road Roundabout;

- Options for a revised Cemetery Road Roundabout, taking into consideration the highway links to the A465 and the PDR;

- On-line improvements linking Cemetery Road Roundabout and the dualled A465.

In order to develop options for assessment, a review was undertaken of all baseline traffic and accident data, the existing highway network and the potential new developments and land use proposals for north Ebbw Vale.

As a consequence of this, a number of options and complementary measures were developed and assessed using a WelTAG Stage 1 appraisal framework. This resulted in the formation of the following Preferred Option:

- Improvements to Cemetery Road Roundabout including an additional Roundabout at the college entrance:

- Double Signalisation of the A4047 / College Road and A4046 / Beaufort Road junctions;

- Adaption of Libanus Road Gyratory to double signalised junction and movement of bus stops to Beaufort Road.

With a limited window of opportunity for the main funding sources e.g. closure of the current Convergence Programme in 2013, the Preferred Option will need to be developed quickly. It is critical that the next stages to implementation of the Preferred Option (outlined design, further feasibility, traffic modelling and consultation) are progressed as soon as possible in order to put together an appropriate funding package.

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1. Introduction

1.1 Background to study

1.1.1 Ebbw Vale and in particular north Ebbw Vale is currently undergoing a large amount of change. Many significant improvements are taking place and more are planned for the future. These will influence traffic flow and distribution in the area and will therefore effect highway network operation.

1.1.2 A sustainability framework and master plan for 'The Works' (former site of the Ebbw Vale Steel Works) is being developed, which will look at the redevelopment of the area.

1.1.3 As part of the redevelopment of 'The Works' a new Peripheral Distributor Road (PDR) is being constructed. This will provide a link from the south of 'The Works' by-passing the town centre to the north of Ebbw Vale linking into an existing road system (comprising Steel Works Road, Cemetery Road and onto Cemetery Road Roundabout). The introduction of the PDR will have the potential to influence traffic flow levels within the town centre, and also significantly affect traffic flow and traffic patterns along the existing highway network of Cemetery Road and Cemetery Roundabout.

1.1.4 Providing a connection to the A465 (Heads of the Valleys Road) from Cemetery Road Roundabout is important, in order to enable both access to 'The Works' and to Ebbw Vale Town Centre which reflects the new road layout of the A465 once the proposed plans for dualling of this section of the trunk road are undertaken (dualling of the A465 Brynmawr to Tredegar is currently in Phase 2 of the WAG Trunk Road Forward Programme, with a proposed start date of between April 2011 and April 2014).

1.1.5 Development proposals also exist for northwest of Cemetery Roundabout linking to the A465 at the Rassau Industrial Estate Roundabout. Any development within this area is likely to affect the traffic flows along this part of the network.

1.1.6 In light of all these factors, Blaenau Gwent CBC requires a study to investigate the effect on the highway network and the production of outline options for the optimal operation of the highway network. Output from this study will compliment the master plan development, through liaison between Capita Symonds and the Ebbw Vale Sustainability Framework team. Furthermore, options for the development of highway schemes will be timely to feed into the Sewta Regional Transport Plan, roads scheme programme.

1.1.7 For the purposes of the project, the study area is defined as Steelworks Road, Cemetery Road, Cemetery Road Roundabout, Waun-Y-Pound Road, Waun-Y-Pound Road to the A465 (Bryn-Serth Road), the A4047 between Bryn-Serth Road and College Road and College Road (A4046) (the highway network within the study area is indicated on drawing CG/4102/02). Consideration of measures implemented within the study area on areas outside of the study region may also be considered, for example, impact on the A4046 through Ebbw Vale town centre.

1.2 Study Aim

1.2.1 The study has the following aim:

'To define the optimal strategic highway network for North Ebbw Vale, taking into consideration the proposed future developments within the study area.'

1.3 Outline of Report Content

1.3.1 This report is structured as follows:

- Chapter 2 provides an outline of the existing policy and relevant studies conducted within the study area;
- Chapter 3 presents a review of the baseline traffic and accident data collected, including a review of the public transport network;
- Chapter 4 provides a review of the existing highway network outlining observational information gained and issues relating to the existing network operation;
- Chapter 5 presents the proposed future developments within the study area along with comment on their potential effect on the highway network;
- Chapter 6 outlines option development including a review of the outline / preliminary design work that has already been conducted within the study area;
- Chapter 7 presents the appraisal undertaken on the options for the study area;
- Chapter 8 outlines the emerging preferred option for the study area;
- Chapter 9 provides commentary on the potential implementation programme of the emerging preferred option and possible sources of funding; and
- Chapter 10 provides conclusions and future recommendations.

2. Policy and Existing Studies Review

2.1 Introduction

2.1. This chapter provides a review of the some of the relevant policy that will influence the study area within north Ebbw Vale. The findings of existing studies relating to the study area have also been reviewed as consideration will need to be given to these when developing the strategic highway network for north Ebbw Vale.

2.2 Policy

Blaenau Gwent Unitary Development Plan (Adopted July 2006)

2.2.1 The Unitary Development Plan is the current valid development plan within Blaenau Gwent. The Council is undertaking the process of producing an updated version of this plan (a Local Development Plan), which is due to be placed in deposit between November 2009 and January 2010.

2.2.2 The UDP (July 2006) provides an outline of some of the key land designations and proposals within the local authority. Land designations within the plan that will have an impact on traffic generation and movement or will need to be considered within the study area are summarised in Table 2.1.

Table 2.1 – UDP Land Designations and Proposals

Proposal No /Development Type	Name	Size
Industrial		
E2 (6) Industrial Proposal (B1, B2,B8)	Bryn Serth Road	12.55 hectares
E2 (5) Industrial Proposal (B1, B2,B8)	Rhyd-y-Blew	26.60 hectares
E2 (7) Industrial Proposal (B1, B2, B8)	North of Waun- Y- Pound	7.95 hectares
E2 (8) Industrial Proposal (B1, B2, B8)	Waun- Y- Pound	6.94 hectares
E2 (9) Industrial Proposal (B1, B2, B8)	Letchworth Road	0.49 hectares
Retail / Office		
S9 (3) Retail / Office Hotel (C1) Retail (A1) Warehousing only	Crown Business Park Tredegar	2.0ha
S9 (5) Retail / office Hotel (C1),Retail (A1) Warehouse only, Commercial (A2) (A3) (C2)	N.E of Leos Ebbw Vale	2.4ha
Play Area Provision		
R4 (H)	Ebbw Vale Leisure Centre	
Historic Parks, Gardens & Woodlands		
EN10 (B)	The Gorsedd Circle, Ebbw Vale	
Local Landscaped Areas		

EN19 (B)	Valley Road, Ebbw Vale	
Housing		
H2 (44) Housing Commitment	45 Yard	3.5 hectares, 100 units
H2 (42) Housing Proposal	Tredegar Road	0.1 hectares, 21 units
H2 (13) Housing Proposal	Adjacent Gwaun Helyg	14 hectares, 25 units
H2 (15) Housing Proposal	Glanyrafon School	15 hectares, 20 units

2.2.3 The UDP also contains a number of key policies which will need to be considered when developing proposals for the local highway network within the study area. These are summarised in Appendix A.

Blaenau Gwent CBC Local Transport Plan (2000-2005)

2.2.4 Drafted in 2000, this document set out the transport policies for Blaenau Gwent CBC. These policies were developed in line with those presented in the Unitary Development Plan.

2.2.5 This document will be replaced by the forthcoming South East Wales Regional Transport Plan when it is adopted in December 2009.

South East Wales Transport Alliance (Sewta): Regional Transport Plan and Highways Strategy Study

2.2.6 Currently in final draft form, the Regional Transport Plan (RTP) for the Sewta region is due to be approved in its final version in December 2009.

2.2.7 The Regional Transport Plan will replace the Local Transport Plan within Blaenau Gwent as the overarching transport policy document. Policies for the direction of transport within Blaenau Gwent will be included within this document.

2.2.8 The thrust of Sewta policy regarding highways is to protect the assets already in place and make best use of them. They do agree that some investment in the highways network will be necessary.

2.2.9 The Sewta regional highway development and management policies balance the competing needs of all road users i.e. pedestrians, cyclists, buses, cars and lorries.

2.2.10 Sewta has established a strategic hierarchy of roads and intends to give priority to keeping traffic moving. Sewta has a number of highway policies:

HIP1: Sewta supports the management and maintenance of the regional road network to a uniform high standard.

HIP2: Sewta supports control of access to the regional roads network in the interest of highway safety and capacity.

HIP3: Sewta supports selective improvements to the regional highway system through make-better-use proposals.

HIP4: Sewta support selective improvements to the national highway system where they are to the overall benefit to RTP objectives.

HIP5: Sewta supports measures to ensure that the transport system is more resilient and less susceptible to the influences of climate change.

HIA1: Sewta will work with highway authorities to ensure highways are maintained and improved with minimum impact on the built, national and historic environment.

HIA2: Sewta will work with highway maintenance authorities to implement the highway asset management plan as required by the Traffic Management Act to a uniform high standard.

HIA3: Sewta will develop a model traffic order, together with examples.

HIA4: Sewta will develop a make-better-use programme to improve journey time reliability, reduce congestion, keep traffic moving, reduce the negative impact of traffic on people and the environment and support public transport proposals.

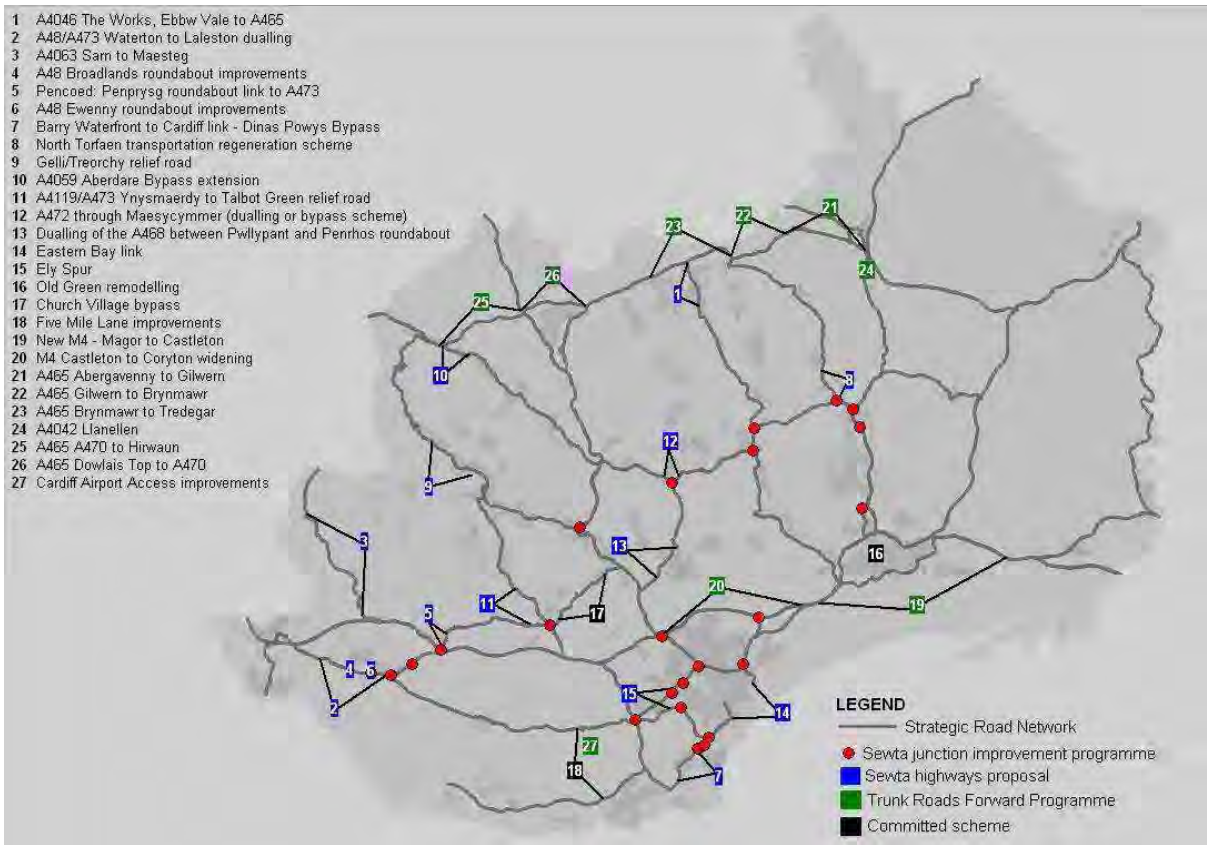
2.2.11 The Sewta Highway Strategy and the RTP lists a number of key highway schemes for investment (these are also shown on Figure 2.1):

- M4/A48/A467 Tredegar Park Improvement (phase 2);
- A48 Broadlands Roundabout Improvements
- A48 Ewenny Roundabout Improvements
- A48 / A473 Waterton to Laleston dualling
- A468 Pwllypant to Penrhos Roundabout dualling
- A472 Maesycymmer dualling/ bypass
- A472 / A4043 New Inn to Blaenavon (North Torfaen Transporttion Regeneration Scheme);
- A4058 / A4061 Upper Rhondda Fawr to Pontypridd (Gelli / Treorchy Releif Road)
- **A4046 The Works to Ebbw Vale to A465 (Phases 1+2)**
- A4051 Malpas
- A4059 Aberdare bypass extension
- A4063 Sarn to Maesteg
- A4119- A473 Ynysmaerdy to Talbot Green Relief Road
- Barry Waterfront to Cardiff Link (Dinas Powys Bypass)
- Eastern Bay Link, Cardiff
- Ely Spur, Cardiff
- Old Green remodelling, Newport.

2.2.12 As can be seen from the list the A4046 The Works Ebbw Vale to A465 is included. This highlights the importance of undertaking further feasibility investigations into proposals for this area, to ensure that that a scheme is developed ready for implementation when funding for the Regional Transport Plan is awarded.

2.2.13 Sewta has also indentified the need for ‘Making Better Use’ (MBU) schemes that will generally be of a much smaller scale, dealing with local pinch-points on the regional roads network.

Figure 2.1: Sewta Highway Strategy Study Network



NB schemes listed in the figure are not ordered in any priority.

2.2.14 The highways strategy also emphasises the need to ensure that incorporating bus priority measures are a standard consideration in the design of any new road schemes along public transport corridors.

2.3 Other Complementary Studies

Master Plan Study, North Ebbw Vale, ERM, 2009

2.3.1 This study develops a master plan for the northern area of Ebbw Vale. The output of the study is the identification of land allocations for inclusion with the Blaenau Gwent CBC Local Development Plan. The preferred land allocations from this master plan have been used within this study, to help establish the future traffic generators and the impact of development upon the strategic highway network (chapter 5).

Town Links Study Ebbw Vale: Main Report, November 2008, ERM / Alan Baxter Associates

2.3.2 This urban design study outlines improvements to physical links between Ebbw Vale and The Works master plan site. It identifies six areas between the town and the site that will become key links between the two as the master plan comes to fruition. These are:

- The Walk (focus on this area on or after the PDR has been built);

- Market Square;
- Cemetery Road;
- The Croft and the Crescent;
- Christ Church and Ty Llwyn;
- Parkway station and Festival Park.

2.3.3 Visions to improve these areas in terms of pedestrian and cycle movement, quality of public realm and biodiversity are presented in the study.

2.3.4 The two areas of most relevance to this highways study are:

- Cemetery Road; and
- The Croft and the Crescent.

2.3.5 Within the study options for landscaping Cemetery Road and highlighting pedestrian desire lines and potential cycle lanes have been investigated. Further, an option for the alteration of Libanus Road into a staggered junction are also presented. The proposed improvements to Cemetery Road once the PDR has been constructed are outlined in Table 2.2.

2.3.6 Proposed improvements to the Croft and the Crescent are outlined in Table 2.3.

Table 2.2: Cemetery Road Proposals (Town Links Study Ebbw Vale: Main Report, 2008)

Project / Intervention	Objective	Level of Physical / financial intervention	Implementation	Delivery Priority	Regeneration Effect	Threats
Avenue planting and improved landscaping	Create a green corridor that connects Ebbw Vale and The Works	Medium	Master plan phase 3, with PDR; planting can start immediately	Medium	Long-term regeneration	Delay / changes in design of PDR.
Improved and formalised pedestrian crossing	Improve safety of pedestrian crossing	Medium	PDR	High	Long-term regeneration	Highway capacity and requirements
On-footway cycle lanes	Improved cycle facilities	High	Master plan phase 3, with PDR	Medium	Long-term regeneration	Highway requirement, costs and topography
Landmark feature / public art	Improve identification, creating an area of local recognition and orientation	Medium/ low	Immediately / in conjunction with PDR design	Low	Early win & long term regeneration	Cost-benefit
Remove gyratory	Simplify highway and create sense of place at gateway	High	PDR	High	Long-term regeneration	Cost, statutory services
Landscape maintenance	Increase appreciation of landscape and discourage anti-social behaviour	Low	Immediately	High	Early win	
Review lighting	Improve safety	Low	Incrementally	Medium	Early win	
General maintenance	Increase appreciation of public realm and discourage anti-social behaviour	Medium	Immediately	High	Early win	Cost management

Table 2.3 Croft and Crescent Road Proposals (Town Links Study Ebbw Vale: Main Report, 2008)

Project / Intervention	Objective	Level of Physical / financial intervention	Implementation	Delivery Priority	Regeneration Effect	Threats
Remove footbridge and build new access	Temporary pedestrian access to town centre, free developable land for Northgate three	Medium	Master plan phase 1, with Northgate Three	High	Early win	
Remove concrete slab fencing along Main Street North	Increase Visual connection	Low	Immediately	High	Early win	Residents of The Crescent may have objections
Widen footway	Accommodate cyclist and pedestrians	Low	Immediately	High	Early win & long-term regeneration	
Repair stairs	Improve pedestrians access	Low	Immediately	High	Early win	
Close pedestrian tunnel and redesign carriageway to priority access and accommodate footway	Improve safety and enhance public realm; traffic calming	Medium	Immediately	High	Early win	
Architectural features lighting	Strengthen local character and legibility	Medium	Immediately	High	Early win	Owership, maintenance, heritage consent
Extended paving, declutter, raised surface, new seating	Upgrade public realm	Medium	Immediately	Medium	Early win and long- term regeneration	
Public art project with school or rugby club	Creating sense of ownership	Medium / low	Immediately	Low	Long-term regeneration	
Widen eastern footway of Station Approach through removing footway on western side of station approach	Improve safety and pedestrian access	Medium	Immediately	Medium	Early win & long-term regeneration	Cost-benefit
Raised and shared	Improved pedestrian safety by traffic	Medium	Immediately	Medium	Early win &	

surface	calming; increase perception of space at shop fronts				long-term regeneration	
Improve lighting and remove wall along the memorial	Improve safety and pedestrian access	Medium	Immediately	Medium	Early win	
Redevelopment with office / residential or mixed-use	Upgrade to location	High	Long-term	Medium	Long-term regeneration	Ownership, cost-benefit
Redevelopment with residential use or mixed-use	Upgrade the location; improve passive surveillance (safety)	High	Immediately	Medium	Long-term regeneration	Ownership
Sign posts and general lighting	Improve safety, legibility and way-finding	Low	Immediately	High	Early win	
General Maintenance	Increase appreciation of public realm and discourage anti-social behaviour	Medium	Immediately	High	Early win	Cost management

3. Baseline Data

3.1 Introduction

3.1.1 This chapter provides a review of a range of baseline data which already exists or has been collected within the study area.

3.1.2 Firstly, the chapter provides a review of the existing traffic data that is available within the study area to provide an overview of the general dominant traffic movements and an indication of traffic flow levels.

3.1.3 Secondly, the chapter presents the existing accident data that is available from the past five years, indicating any accident cluster sites.

3.1.4 Lastly, the chapter describes the public transport network within Ebbw Vale and the bus services that currently operate within the study area.

3.2 Traffic Data

3.2.1 There is a range of existing traffic data available for the north Ebbw Vale area, indicating the level of traffic flow and also the general movement of traffic within the area.

3.2.2 Manual classified counts, junction counts and automatic traffic data exists for a variety of roads within north Ebbw Vale.

3.2.3 In addition, the Traffic Assessment for The Works provides analysis of junction capacity now and into the future.

Automatic Traffic Counts

3.2.4 Table 3.1 and 3.2 shows 12 hour automatic count flow data for College Road collected in 2007 (east and westbound) with Table 3.3 and 3.4 showing 12 hour flow automatic traffic count data for Steelworks Road (east and westbound).

Table 3.1 – A4046 College Road Ebbw Vale (Site 1026) 12 Hour Data (31st January to 6th February 2007), Southbound

	AM Peak		PM Peak		Total Flow for Day
	Peak Hour	Flow (total vehicles)	Peak Hour	Flow (total vehicles)	
Monday	09:00	552	17:00	548	6557
Tuesday	09:00	552	17:00	556	6586
Wednesday	09:00	579	17:00	592	6951
Thursday	09:00	598	17:00	575	7004
Friday	09:00	560	15:00	603	7340
Saturday	11:00	515	13:00	605	6086
Sunday	11:00	424	13:00	407	4284

Total Flow for Week: **44808**

Table 3.2 A4046 College Road Ebbw Vale (Site 1026) 12 Hour Data (31st January to 6th February 2007), Northbound

	AM Peak		PM Peak		Total Flow for Day
	Peak Hour	Flow	Peak Hour	Flow	
Monday	11:00	460	16:00	610	6957
Tuesday	08:00	514	17:00	639	7034
Wednesday	08:00	949	16:00	655	7240
Thursday	08:00	485	17:00	688	7329
Friday	11:00	512	15:00	705	7840
Saturday	11:00	517	12:00	623	6240
Sunday	11:00	455	12:00	497	4582

Total Flow for Week: **47222**

Table 3.3 Steelworks Road Ebbw Vale (Site 1024) 12 Hour Data (1st February to 7th February 2007), Southbound

	AM Peak		PM Peak		Total Flow for Day
	Peak Hour	Flow (total vehicles)	Peak Hour	Flow (total vehicles)	
Monday	11:00	119	17:00	166	1719
Tuesday	08:00	112	17:00	175	1716
Wednesday	08:00	124	17:00	191	1727
Thursday	11:00	114	17:00	185	1815
Friday	11:00	112	15:00	174	1843
Saturday	11:00	133	16:00	160	1449
Sunday	11:00	83	13:00	108	1059

Total Flow for Week: 11328

Table 3.4 Steelworks Road Ebbw Vale (Site 1024) 12 Hour Data (1st February to 7th February 2007), Northbound

	AM Peak		PM Peak		Total Flow for Day
	Peak Hour	Flow (total vehicles)	Peak Hour	Flow (total vehicles)	
Monday	08:00	157	15:00	130	1463
Tuesday	08:00	149	16:00	131	1483
Wednesday	08:00	150	17:00	131	1506
Thursday	08:00	155	17:00	133	1567
Friday	08:00	133	15:00	131	1551
Saturday	11:00	108	12:00	106	1221
Sunday	11:00	75	14:00	96	902

Total Flow for Week: 9693

3.2.5 Steelworks Road has an overall lower traffic flow level than College Road. This is to be expected as at present Steelworks road is not a main artery road, unlike College Road which provides a link to Coleg Gwent Ebbw Vale campus and the A465 Heads of the Valleys Road. It is also the final section of the A4046, which provides a link from the base of the Ebbw Valley to the A465.

3.2.6 College Road has a higher northbound traffic flow than southbound, indicating that the more dominant movement is to travel northbound, possibly to access the College and then further up to the A465. Both southbound and northbound traffic flows have higher PM peak traffic flows, than AM peak flows. College Road may therefore be generally busier during the evening periods.

3.2.7 Flows along College Road are shown to be highest on a Friday (both north and southbound), with peak hourly flows shown to be at 13:00 on a Saturday southbound and 15:00 northbound on a Friday. This high level of traffic at 15:00 on a Friday could be large numbers of workers leaving early and accessing the A465, combined with school and college traffic.

3.2.8 With the proposed movement of the College to The Works site, traffic flow levels could be reduced and changes to peak periods experienced as traffic accessing the college site is removed from College Road.

3.2.9 Steelworks Road has a higher southbound traffic flow than northbound. PM peak flows are highest for southbound traffic and AM peaks highest for Northbound traffic. This indicates a dominant movement of traffic northbound in the morning and southbound in the evening period.

3.2.10 Friday is the peak day for southbound traffic flow along Steelworks Road with Thursday showing the highest 12 hour traffic flow for northbound traffic.

3.2.11 The implementation of the PDR will affect the future traffic flows along Steelworks Road. The northern section of the Steelworks Road from its intersection with the proposed PDR to Libanus Road Roundabout is likely to see an increase in traffic

flows. However, the lower southern section of Steelworks Road it likely to see significant reduction in traffic flow levels, as traffic moves on to the PDR. Consideration may therefore need to be given to on carriageway measures along the north section of Steelworks Road to enable efficient flows of increased traffic levels.

3.2.12 The PDR could also have the potential to reduce traffic levels along the A4046 as it travel through Ebbw Vale Town Centre.

Manual Classified Counts (MCC)

3.2.13 Two Manual Classified Counts (MCC) have been undertaken in north Ebbw Vale in recent years (2006 and 2007). These have been undertaken along B4478 Eureka Place and the A4046 Waun-y-Pound Road. Results of the MCC's are shown in Table 3.5 to 3.8.

Table 3.5 B4478 EUREKA PLACE on B4478 From A465 HOV S/B toward Cwm 04/10/07 (Thursday) 12 hour Manual Classified Count (07:00-19:00)

Time	PCL	MCL	CAR	LGV	BUS	HGV	Total
07:00-08:00	1	0	17	6	0	0	24
08:00-09:00	0	0	60	7	0	0	67
09:00-10:00	1	0	58	4	0	0	63
10:00-11:00	0	0	69	9	3	0	81
11:00-12:00	0	1	63	5	0	1	70
12:00-13:00	0	0	54	12	0	1	67
13:00-14:00	1	2	62	11	0	0	76
14:00-15:00	0	1	75	9	0	0	85
15:00-16:00	0	0	118	9	1	0	128
16:00-17:00	2	1	111	9	0	0	123
17:00-18:00	1	0	88	18	0	0	107
18:00-19:00	0	0	57	5	0	0	62
Total	6	5	832	104	4	2	**953**

Table 3.6 B4478 EUREKA PLACE on B4478 From Cwm N/B toward A465 HOV 04/10/07 (Thursday) 12 hour Manual Classified Count (07:00-19:00)

Time	PCL	MCL	CAR	LGV	BUS	HGV	Total
07:00-08:00	1	1	26	4	1	0	33
08:00-09:00	0	0	58	5	1	1	65
09:00-10:00	1	0	58	11	0	0	70
10:00-11:00	0	1	46	6	1	0	54
11:00-12:00	0	0	64	8	0	0	72
12:00-13:00	1	0	63	8	0	1	73
13:00-14:00	0	0	67	6	0	0	73
14:00-15:00	0	0	69	12	2	0	83
15:00-16:00	0	2	89	11	1	1	104
16:00-17:00	0	0	114	10	0	0	124
17:00-18:00	0	0	106	6	0	0	112
18:00-19:00	1	2	85	3	0	0	91

Total	4	6	845	90	6	3	**954**

Table 3.7 A4046 Waun-y-Pound Road from Ebbw Vale W/B 06/10/2006 (Friday) 12 hour Manual Classified Count (07:00-19:00)

Time	PCL	MCL	CAR	LGV	BUS	HGV	Total
07:00-08:00	0	1	205	38	3	4	251
08:00-09:00	0	0	398	66	13	9	486
09:00-10:00	0	1	288	52	3	12	356
10:00-11:00	0	0	376	48	4	13	441
11:00-12:00	3	2	487	42	5	20	559
12:00-13:00	0	3	583	38	3	14	641
13:00-14:00	0	1	505	46	6	8	566
14:00-15:00	0	2	497	51	6	5	561
15:00-16:00	1	0	597	43	5	5	651
16:00-17:00	0	0	479	26	2	2	509
17:00-18:00	0	0	479	26	2	2	509
18:00-19:00	0	1	318	13	4	1	337
Total	4	11	5212	489	56	95	**5867**

Table 3.8 A4046 Waun-y-Pound Road E/B toward Ebbw Vale 06/10/2006 (Friday) 12 hour Manual Classified Count (07:00-19:00)

Time	PCL	MCL	CAR	LGV	BUS	HGV	Total
07:00-08:00	0	1	150	22	3	1	177
08:00-09:00	0	0	282	36	5	5	328
09:00-10:00	0	2	295	48	11	9	365
10:00-11:00	0	3	391	50	6	18	468
11:00-12:00	0	0	398	27	5	10	440
12:00-13:00	0	5	516	46	3	9	579
13:00-14:00	0	3	445	45	4	9	506
14:00-15:00	0	0	520	39	3	11	573
15:00-16:00	1	2	499	28	5	11	546
16:00-17:00	0	0	465	30	5	5	505
17:00-18:00	0	1	398	32	4	3	438
18:00-19:00	3	0	345	15	3	2	368
Total	**4**	**17**	**4704**	**418**	**57**	**93**	**5293**

Key

PCL: Pedal Cycle **MCL:** Motor Cycle: **CAR:** Motor Car / LGV Light Goods Vehicle **BUS:** Bus **HGV**: Heavy Goods Vehicle

3.2.14 Eureka Place is a 'B' road providing a parallel route through the town centre to the A4046. Tables 3.5 and 3.6 show that the road has an equal flow of south and northbound traffic, with highest traffic flows witnessed in the evening peak periods. The AM peak hour for westbound traffic flows is 10:00-11:00 and 09:00-10:00 for north bound. The PM peak is 15:00-16:00 southbound and 16:00-17:00 northbound.

3.2.15 In terms of classification of vehicle, the highest flows are from car and light goods vehicles, with 0.2% HGV's southbound and 0.3% northbound.

3.2.16 Changes to the strategic highway network in north Ebbw Vale could potentially influence traffic levels along Eureka Place. As this highway is classified as a 'b' road, ideally, any changes to the strategic highway with this area should not seek to increase traffic levels along this road.

3.2.17 Waun-Y-Pound Road is an 'A' road providing a link to a number of trip generators including Ebbw Vale Comprehensive School, a supermarket and Rassau Industrial Estate. There is potential for traffic flows to increase along this road if additional development occurs within north Ebbw Vale.

3.2.18 Waun-Y-Pound Road has a higher westbound traffic flow and westbound AM and PM peak flows comparable to that expected of a road providing direct access into a comprehensive school (08:00-09:00 and 15:00-16:00). Eastbound peaks are slightly different, at 10:00-11:00 AM and PM peak of 14:00-15:00.

3.2.19 There is potential for Ebbw Vale Comprehensive school to move from its current location, which could influence the peak flows along Waun-y-Pound Road in the future.

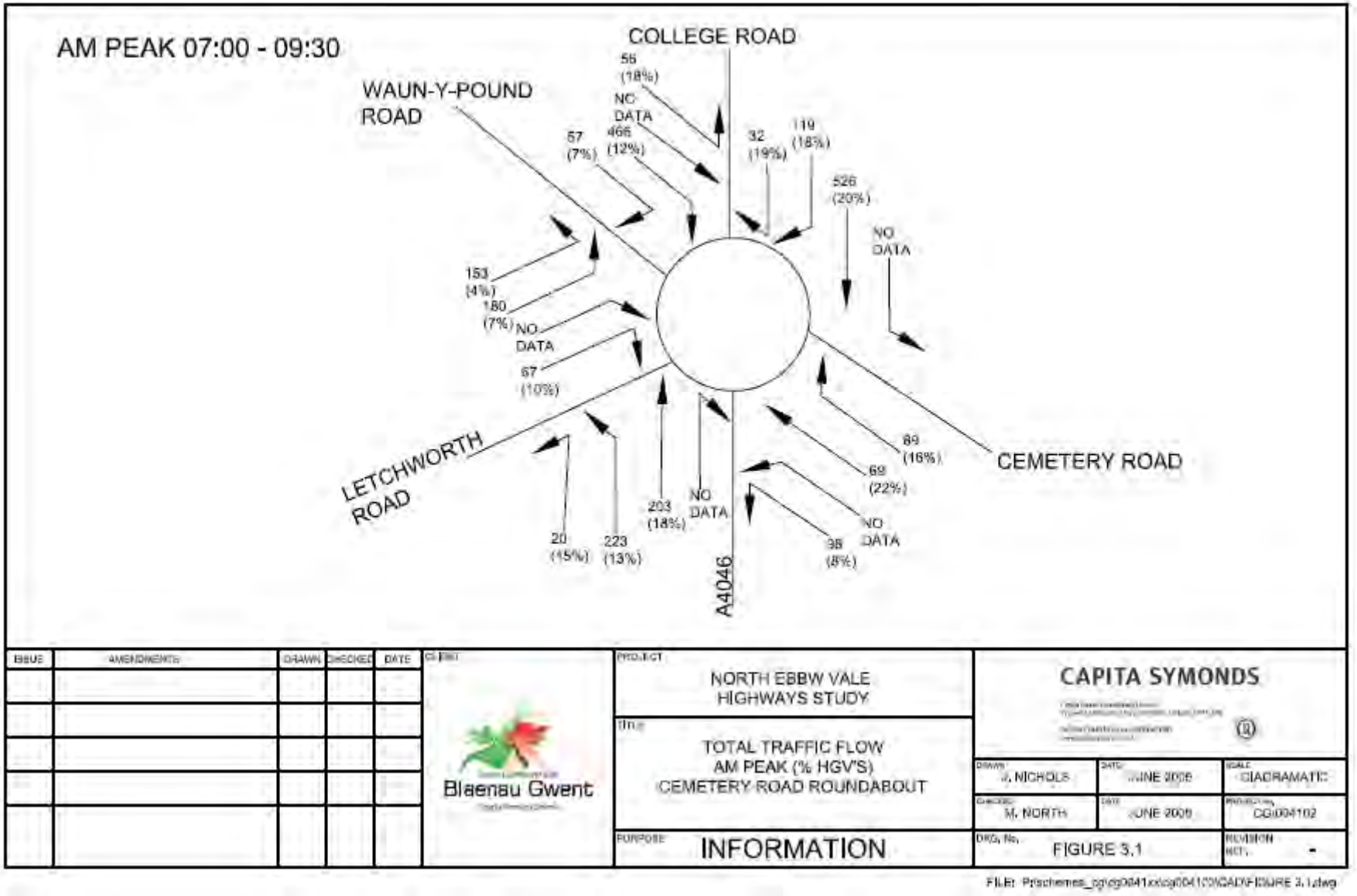
3.2.20 The percentage of HGV's travelling along Waun-Y-Pound Road is 1.6% westbound and 1.8% eastbound. This could be due to the vehicles using this road to access Rassau Industrial Estate. If land to the north of Waun-Y-Pound Road is developed, the percentage of HGV's travelling along this road could increase, due to servicing of any new land uses.

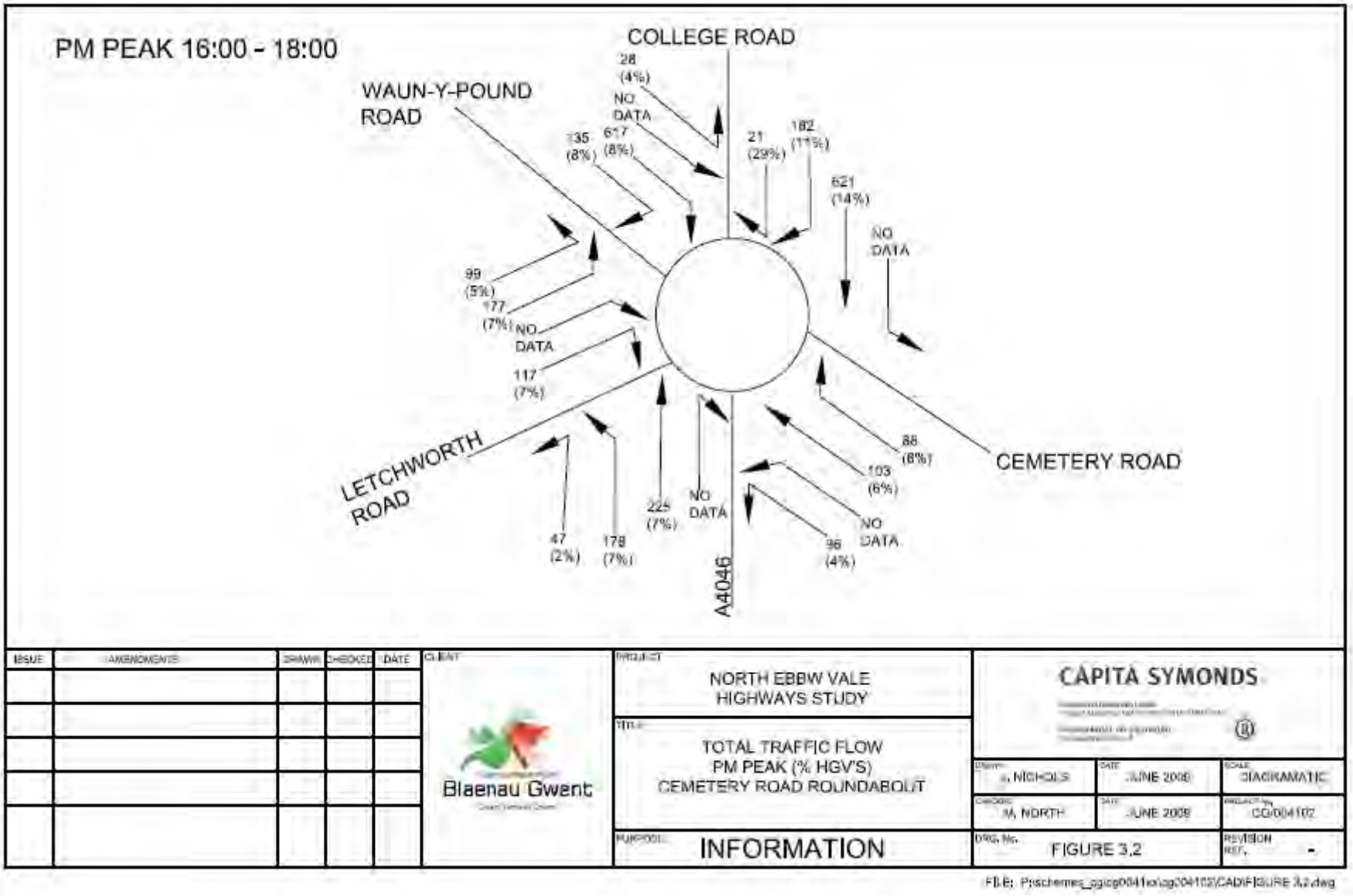
3.2.21 The highest flows on Waun-Y-Pound Road are during the evening peak periods for both east and westbound traffic.

Junction Counts (JCC)

3.2.22 A junction count was carried out on the Cemetery Road five arm roundabout in 2006. This shows the key traffic movements at this central node in the highway network within Ebbw Vale. The operation of this junction will be important to facilitate new development within north Ebbw Vale and an important connecting node from the existing highway network into the proposed PDR.

3.2.23 Junction flow diagrams in figure 3.1 and figure 3.2 show the total traffic flows and percentage HGV's for the AM and PM peaks at each arm of the roundabout.


AM PEAK 07:00 - 09:30
COLLEGE ROAD
WAUN-Y-POUND ROAD
LETCHWORTH ROAD
CEMETERY ROAD
A4046
55 (18%)
NO DATA
57 (7%)
466 (12%)
32 (19%)
119 (18%)
526 (20%)
NO DATA
153 (4%)
180 (7%)
NO DATA
67 (10%)
89 (16%)
69 (22%)
NO DATA
203 (18%)
NO DATA
20 (15%)
223 (13%)
38 (8%)
ISSUE
AMENDMENTS
DRAWN
CHECKED
DATE
CLIENT
Blaenau Gwent
PROJECT
NORTH EBBW VALE HIGHWAYS STUDY
TITLE
TOTAL TRAFFIC FLOW AM PEAK (% HGV'S) CEMETERY ROAD ROUNDABOUT
PURPOSE
INFORMATION
CAPITA SYMONDS
DRAWN J. NICHOLS
DATE JUNE 2009
SCALE DIAGRAMATIC
CHECKED M. NORTH
DATE JUNE 2009
PROJECT No. CG/094102
DRG. No. FIGURE 3.1
REVISION NO. -


PM PEAK 16:00 - 18:00
COLLEGE ROAD
WAUN-Y-POUND ROAD
LETCHWORTH ROAD
CEMETERY ROAD
A4046
28 (4%)
NO DATA
135 (8%)
617 (8%)
21 (29%)
182 (11%)
621 (14%)
NO DATA
99 (5%)
177 (7%)
NO DATA
117 (7%)
88 (8%)
103 (6%)
NO DATA
NO DATA
225 (7%)
47 (2%)
178 (7%)
96 (4%)
ISSUE
AMENDMENTS
DRAWN
CHECKED
DATE
CLIENT
Blaenau Gwent
PROJECT
NORTH EBBW VALE HIGHWAYS STUDY
TITLE
TOTAL TRAFFIC FLOW PM PEAK (% HGV'S) CEMETERY ROAD ROUNDABOUT
PURPOSE
INFORMATION
CAPITA SYMONDS
S. NICHOLS
JUNE 2009
DIAGRAMATIC
M. NORTH
JUNE 2009
CG/004102
DRG. No.
FIGURE 3.2
REVISION REF.
-
FILE: P:\schemes_cg\cg0041\e\cg004102\CAD\FIGURE 3.2.dwg

3.2.24 The dominant AM peak movement is southbound along College Road exiting the roundabout at the A4046. This is the continuation of the dominant north south route through the valley and through Ebbw Vale town centre so is to be expected. Other key movements include:

- Travelling south along Waun-Y-Pound Road onto the A4046 southbound;
- Travelling north along the A4046 and turning right into College Road and travelling straight on into Waun-Y-Pound Road (this again supports the north – south flow of traffic).

3.2.25 Exiting Cemetery Road when travelling northbound the dominant movement is to join the A4046 south or College Road north. This will be an important traffic movement to consider when analysing the impact of the PDR from and to The Works.

3.2.26 The PM peak echo's that of the AM in terms of dominant traffic movements, with most traffic travelling north south or vice versa (from Waun-Y-Pound Road / College Road to A4046 or A4046 to College Road / Waun-Y-Pound Road).

3.2.27 In the PM peak more cars travel north along the A4046 and onto College Road than in the AM peak. In the AM peak the dominant traffic movement going north on the A4046 is to exit onto Waun-Y-Pound Road. This may be explained by the traffic gaining access to Ebbw Vale Comprehensive in the AM peak.

3.2.28 Figures 3.1 and 3.2 show that there are higher traffic flows in the PM peak at this roundabout compared with the AM Peak.

3.2.29 These dominant traffic movements will need to be considered for both the AM and PM peak for the redesign of the Cemetery Road roundabout, in terms of future land use proposals to the north (changes to existing land uses and additional development) and connection into the PDR. New land use developments within north Ebbw Vale could have a large potential impact on these dominant traffic movements at Cemetery Road Roundabout and along the connecting roads.

3.2.30 These traffic movements will also be important to consider when defining the strategic highway network for north Ebbw Vale.

3.2.31 Cemetery Road Roundabout is an important node on the north Ebbw Vale strategic highway network. No official traffic count queue data is available, internally, however comment is provided in the following section from The Works Traffic Assessment (TA) relating to junction analysis. Increased travel flows at this roundabout are likely to affect its operational capacity and the design of this node will be critical in the future operational capacity of the strategic highway network within north Ebbw Vale.

3.2.32 North and south flows along the A4046 and capacity to allow traffic to access the A465 (once it is dualled) will also be an important movement to consider in defining the highway network.

<u>The Works: Transport Assessment, February 2007 (ERM and Halcrow)</u>

3.2.33 A Transport Assessment (TA) was conducted in 2007 to investigate the potential impacts on the surrounding highway network, of the phased redevelopment of the former Ebbw Vale Steelworks site. The implemention of the PDR is stated to be at phase 3 of the redevelopment of The Works (2012-2014).

3.2.34 The TA states that once all phases of the redevelopment are completed (2018) the fully operational scheme is expected to generate 16,000 private trips per day, 12% generated in the AM peak and 10% in the PM peak.

3.2.35 Car trips are estimated to account for around 47% of all the person trips made to and from the site, the remainder being made by bus and rail.

3.2.36 As part of the TA, traffic surveys were conducted between 07:00 and 09:00 and 16:00 and 18:00 on the 13th June 2006, 11 July 2006 and 11 September 2006 at the following locations:

- A4046 College Road / A4047 Beaufort Road;
- A4046 College Road / Letchworth Road / Cemetery Road;
- Cemetery Road / Beaufort Road / B4486 Steelworks Road / Libanus Road;
- A4046 Park Road / Victoria Road;
- Park Road / Festival Drive / Station Road / The Boulevard;
- A4046 Station Road / Dyffryn Road B4486; and
- A4046 Park Road / Festival Drive priority junction.

3.2.37 Analysis was undertaken of these junctions in the existing situation (without the redevelopment of The Works). Table 3.9 shows the existing situation analysis results for those junctions which are applicable to the study area of this report.

Table 3.9 – Existing Situation Junction Analysis (Source: Transport Assessment, The Works, February 2007, ERM and Halcrow)

Junction	Modelling Tool	Results / Comments
A465 / A4046	ARCADY	No operational problems at present
A4046 College Road / A4047 Beaufort Road	PICADY	Operates within capacity
College Road / Letchworth Road / Cemetery Road	ARCADY	Operates within capacity in AM peak, close to capacity in PM peak.
Cemetery Road / Beaufort Road / B4486 Steelworks Road / Libanus Road	ARCADY	No operational problems at present
A4046 Park Road / Victoria Road	PICADY	Significant reserve capacity, no operational issues

3.2.38 The TA undertook analysis of the key junctions on the surrounding highway network to The Works to establish the impact once the redeveloped site is fully operational. The results of this analysis for junctions which are applicable to the study area of this report are provided in Table 3.10.

Table 3.10 – **Predicted Road Traffic Impacts, Key Network Junction Analysis** (Source: Transport Assessment, The Works, February 2007, ERM and Halcrow)

Junction	Modelling Tool	Results / Comments	Mitigating Measures
A465 Heads of the Valleys / A4046 College Road	ARCADY	No operational problems at this junction up to 2019.	N/A
A4046 College Road / A4047 Beaufort Road	PICADY	Over capacity in 2019, so early phased years modelled. At 2011 junction reaching capacity and problems for right turns entering A4047. 2014 more severe problems and significant delays.	Signalisation of Junction. LINSIG modelling shows junction operates within Capacity in 2019 once signalised.
A4046 College Road / Letchworh Road / Cemetery Road (Cemetery Road Roundabout)	ARCADY	Over capacity in 2019. In 2011 operates in capacity during morning peak apart from Waun-Y-Pound Road and Park Road arm.	Radical solution for redesign of the roundabout needed, as difficult to achieve capacity improvements within current layout and need to purchase significant surrounding land. Redesign in current layout does not give sufficient capacity required.
Cemetery Road / Beaufort Road / B4486 Steelworks Road / Libanus Road	ARCADY	No operational issues up to 2019	N/A
A4046 Park Road / Victoria Road	PICADY	No operational issues up to 2019	N/A
New junctions off PDR	PICADY	No operational issues up to 2019	N/A

3.2.39 In summary, the TA provides a good identification of the areas of the highway network that are likely to be affected by redevelopment at 'The Works'. These are:

- Cemetery Road Roundabout; and
- A4046 College Road / A4047 Beaufort Road junction.

3.2.40 The analysis undertaken within the TA does not include the potential traffic generated as a consequence of redevelopment of land to the north of Ebbw Vale (around Bryn-Serth Road) or the redevelopment of the College and School site on College Road and Waun-Y-Pound Road. However, the TA provides a good indication of areas of the network which are likely to perform badly once increased traffic is generated within North Ebbw Vale. We can therefore assume that the areas highlighted by the

TA for The Works are also likely to be impacted by the additional proposed development to the North of Ebbw Vale.

3.3 Accidents

3.3.1 Figure 3.3 shows accident statistic information for Ebbw Vale for the period 2004 to 2008. Information displayed shows accident locations and is spilt by type of accident (fatal, serious and slight).

3.3.2 The highest proportion of accidents to occur are classified as slight, with two fatal accidents and 18 serious accidents.

3.3.3 There is evidence of a cluster of accidents along the main north south route through the town centre (A4046), along Steelworks Road and A4046 at the southern end of the town centre. There is also a cluster of slight accidents on Cemetery Road Roundabout, College Road, and Waun-Y-Pound Roundabout with the A4047.

3.3.4 The accident evidence supports a dominant north south traffic movement through Ebbw Vale, with clusters of accidents appearing along the main north south routes.

3.3.5 Both of the two fatal accidents have occurred along Church Street (B4478).

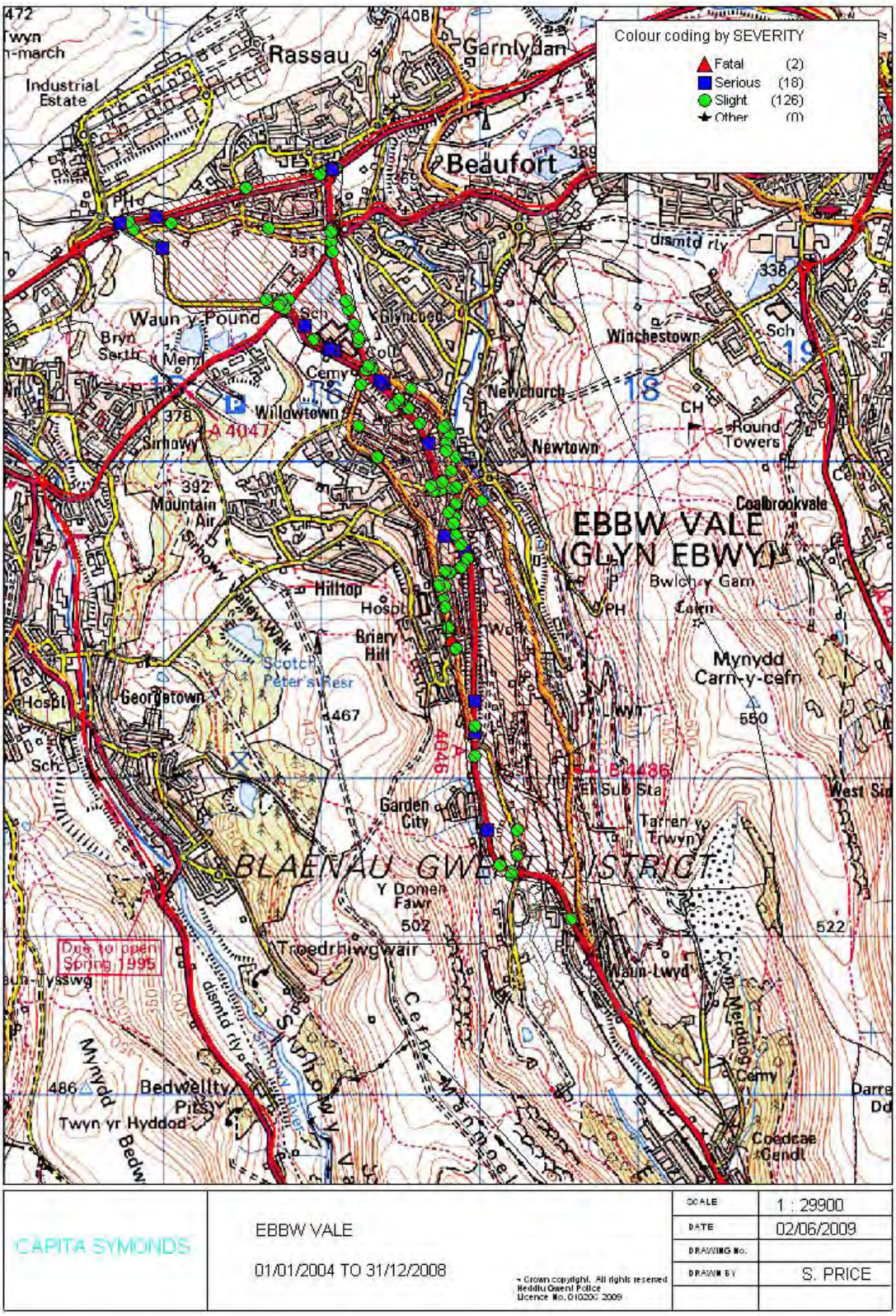
3.3.6 Changes to the design of Cemetery Road Roundabout and any on carriageway measures implemented on the defined strategic highway network for north Ebbw Vale should seek to try to address these clusters of accidents. Increased traffic flow along a highway network can lead to an increase in accidents and with the potential for new development within north Ebbw Vale this is an aspect that should be considered.

3.3.7 With the introduction of the PDR, the clusters of accidents seen throughout the valley along the A4046 may decrease, particularly through the town centre, where traffic levels may drop. It will be important that consideration is given to measures to constrain traffic speeds along this section of highway if traffic levels do drop (congestion can often act as a natural form of traffic calming).

3.3.8 The evidence of clusters of accidents should help to inform the definition of the strategic highway network for north Ebbw Vale and also identify areas of the network where potential safety improvements need to be made.

3.3.9 Operating a highway network which has a reduction in accidents is beneficial in terms of the safety of the users of the highway network, but can also be beneficial to those that may suffer financially as a consequence of an accident occurring. Accidents can often cause delays and interrupt the flow of the network. An optimal highway network for north Ebbw Vale will seek to try to reduce the number and severity of accident occurrence.

Figure 3.3 – Accident Data Map for Ebbw Vale (2004 to 2008)



3.4 Public Transport

Train

3.4.1 Last year a new rail link to Ebbw Valley was opened, providing a station at Ebbw Vale Parkway. The Ebbw Valley Railway line, provides connections from Ebbw Vale to Llanhilleth, Newbridge, Crosskeys, Risca/Pontymister, Rogerstone and Cardiff.

3.4.2 Ebbw Vale Parkway is located at the southern end of Ebbw Vale, some distance from the town centre, but close to the southern end of the The Works. Investigative studies are progressing to examine the future possible extension of the railway line into The Works to provide a better connection to the land uses within The Works and Ebbw Vale town centre.

3.4.3 The current frequency of services between Ebbw Vale and Cardiff Central are as follows:

- Monday-Saturday: 1 train per hour (First train, 06:40, last train, 22:40);
- Sunday: 1 train every 2 hours (First train, 08:40, last train, 2040).

3.4.4 Frequency of services between Cardiff Central and Ebbw Vale are as follows:

- Monday-Saturday:1 train per hour (first train, 06:35, last train, 22:35);
- Sunday: 1 train every 2 hours (first train, 07:40, last train, 19:30).

Bus

3.4.5 These are the main bus services that currently operate within, to or from Ebbw Vale:

- X4 - Abergavenny (Nevill Hall Hospital) to Tredegar;
- E3 – Brynmawr – Abertillery – Ebbw Vale – Brynmawr;
- E4 – Brynmawr – Ebbw Vale – Abertillery – Brynmawr;
- 22 – Ebbw Vale – Pontypool – Cwmbran;
- E2 – Ebbw Vale – Hilltop (Circular);
- E8 – Ebbw Vale – Rassau – Garn Lydan;
- X45 – Hereford – Abergavenny – Brynmawr – Merthyr – Cardiff;
- X18 – Ebbw Vale – Newbridge – Risca – Newport;
- E11 – Ebbw Vale- Ysguborwon – Tredegar
- 52 – Ebbw Vale – Bangor Road / Frost Road

3.4.6 Table 3.11 provides a summary of the frequency of the bus services.

Table 3.11 – Bus Services Within, To or From Ebbw Vale

Bus Service	Operator	Frequency	First Service (in Ebbw Vale)	Last Service (in Ebbw Vale)
X4 - Abergavenny (Nevill Hall Hospital) to Tredegar	Clarkes Coaches	Monday - Saturday: 3 Services per day Sunday: 5 services per day	08:10	22:10
X4 – Tredegar to Abergavenny (Nevill Hall Hospital)	Clarkes Coaches	Monday to Saturday: 3 Services per day Sunday: 5 services per day	06:15	20:15
E3 – Brynmawr – Abertillery – Ebbw Vale – Brynmawr	Stage Coach	Monday to Saturday (no Sunday service): Approx. every hour.	08:55	22:47
E4– Brynmawr – Ebbw Vale – Abertillery – Brynmawr	Stage Coach	Monday to Saturday (no Sunday service): Approx. every hour	08:05	22:23
22 – Ebbw Vale – Pontypool – Cwmbran	Stage Coach	Monday to Saturday (no Sunday service): Approx. every hour	07:40	18:45
E2 – Ebbw Vale – Hilltop (Circular)	Stage Coach	Monday to Saturday (no Sunday service): Approx. every 30 minutes	07:55	17:55
E8 – Ebbw Vale – Rassau – Garn Lydan	Stage Coach	Monday to Saturday (no Sunday service): Approx. every 30 minutes	08:20	23:20
X45 – Hereford – Abergavenny – Brynmawr – Merthyr – Cardiff	Stage Coach	Monday to Saturday (no Sunday service): Every 30 mins from 9:30 to 18:30, then every hour thereafter.	09:30	21:30
X45 – Cardiff – Merthyr – Brynmawr – Abergavenny - Hereford	Stage Coach	Monday to Saturday (no Sunday service): Approx. every 30 minute from 06:26 to 20:25 and then every hour thereafter.	06:26	23:25
X18 – Ebbw Vale – Newbridge – Risca - Newport	Stage Coach	Monday to Saturday (no Sunday service): Approx. hourly	07:25	19:22
X18 – Newport – Risca – Newbridge – Ebbw Vale	Stage Coach	Monday to Saturday (no Sunday service): Approx. hourly	07:12	19:12
E11 – Ebbw Vale – Ysguborwon – Tredegar	Clarkes Coaches	Monday to Saturday (not B/H). Approx. Hourly	08:35	17:35
52 – Ebbw Vale – Bangor Road / Frost Road	G&H Executive Minibuses	Monday, Thursday & Friday (not B/H) 3 services per day	09:30	14:00

3.4.7 Coverage of bus services locally within Ebbw Vale and from Ebbw Vale to other local destinations is good, with links to towns within the Ebbw Valley, across the heads of the valleys and to strategic destinations such as Cardiff. However, there is a major gap in service provision on a Sunday, when only one of the bus services is in operation.

3.4.8 Those bus services which travel through the study area of north Ebbw Vale include the following:

- X4 Abergavenny (Nevil Hall Hospital) to Tredegar – within study area travels into Ebbw Vale along Waun-Y-Pound Road, onto A4046 into town centre and through Libanus Road Roundabout towards Beaufort.
- E3 & E4 Brynmawr – Abertillery – Ebbw Vale -Brynmawr – within the study area travels along A4046 into Ebbw Vale town centre, then through Libanus Road Roundabout and towards Beaufort.
- 22 Ebbw Vale – Pontypool – Cwmbran - within the study area the service has a bus stop on Waun-Y-Pound Road, travelling through Cemetery Road Roundabout and travelling along the A4046 through Ebbw Vale town centre and down the valley to Aberbeeg.
- E11 Ebbw Vale – Ysguborwon – Tredegar – within the study area the service travels along Waun-Y-Pound Road and through Cemetery Road Roundabout onto Eureka Place.
- E8 – Ebbw Vale - Rassau – Garn Lydan – within the study area the route passes through Libanus Road Roundabout via Beaufort Road and Libanus Road.
- 52 – Ebbw Vale – Bangor Road / Frost Road – within the study area the route passes through Libanus Road Roundabout via Beaufort Road and Libanus Road.

3.4.9 These bus services could potentially be affected by the definition of a strategic highway network for the area. Services may need to divert from their current network patterns to service new land uses or alter their route in order to meet with the new strategic highway network layout. Consideration of the use of the highway network within north Ebbw Vale by bus services should be given when defining the optimal highway network along with consideration to the location of bus stops that may need to be changed or new bus stops added to the highway network to service new land use developments.

3.4.10 The following bus stops are currently located within the study area (these are shown on drawing CG/4102/02):

- Waun-Y-Pound Road, near to the comprehensive school south of the controlled pedestrian crossing. Two covered shelters, either side of highway.
- Libanus Road Roundabout – East side of roundabout on section of carriageway between Cemetery Road and Steelworks Road. Covered shelter and bus bay.
- A4047 outside Morrison's Supermarket – Two each side of highway, one with bus bay, both with covered shelters.

3.4.11 Future public transport opportunities exist with the potential introduction of the PDR. The PDR would hopefully reduce the traffic flows along the A4046 within Ebbw Vale town centre opening up potential opportunity to regenerate and reconfigure the existing bus station arrangement.

3.5 Summary

- Existing traffic data demonstrates a dominant north south (and vice versa) movement of traffic along the A4046, especially through Cemetery Road Roundabout;
- The TA for 'The Works' highlight that there may be future operational problems with Cemetery Road Roundabout and the junction of the A4046 College Road and A4047 Beaufort Road with the addition of the traffic from the new development. Mitigation measures have been designed for the latter (signalisation) which alleviate the problems, however, a radical measure is needed for the mitigation of future operational issues at Cemetery Road Roundabout;
- Accident data suggested limited negative influence on the operation of the network;
- Some public transport routes utilise the highway network within the study area. Theses could be affected by future development within North Ebbw Vale (diverted to serve new developments) and also through definition of the strategic highway network for the area.

4. Existing Highway Network

4.1 Introduction

4.1.1 A site visit was conducted in order to undertake some informal observations of the existing network operation and its key characteristics. Data from this is presented within the chapter, with comment provided on the operation of key nodes on the network.

4.1.2 This chapter also includes an overview of the characteristics of the highway network with issues related to existing network operation outlined.

4.2 Site Visit

4.2.1 A site visit was undertaken on the Thursday 25th June 2009 between the hours of 08:30am to 10:00am. During this site visit informal observations of the following aspects were made:

- The flow and movement of traffic at Cemetery Road Roundabout;
- The flow and movement of traffic at Libanus Road Roundabout;
- The flow and movement of traffic at the Roundabout of the A4047 / A4046 / Bryn-Serth Road;
- Location of bus stops and pedestrian crossings;
- Photos of the highway network within the study area;
- Potential key trip generators and any visible changes to land uses;
- Traffic flow, movement and operation of Steelworks Road, Cemetery Road, Waun-Y-Pound Road, A4046 College Road and Bryn-Serth Road.

4.2.2 Traffic was observed between the hours of 8:30am and 9:00am at Cemetery Road Roundabout. Traffic was free flowing with some queuing evident at the Cemetery Road Arm and Waun-Y-Pound arm due to the dominant north-south straight over movement of traffic travelling north from the A4046 to College Road or vice-versa southbound (this blocks the exiting traffic from the Waun-Y-Pound and Cemetery Road arm). The average estimated number of cars queuing was around three on Cemetery Road and five on Waun-Y-Pound.

4.2.3 Libanus Road roundabout was observed to be free flowing with no queues forming on any of the junction arms.

4.2.4 The roundabout at the intersection of the A4047 / A4046 / Bryn-Serth Road was also observed to be free flowing with no visible queues at the time of the site visit. This roundabout is heavily affected by the surrounding land use developments, with a large Morrison's supermarket located off the A4047. Traffic exits from the supermarket onto Bryn-Serth Road and then directly onto the roundabout. Therefore a large majority of the traffic on the Bryn-Serth Road arm of the roundabout has travelled only the short distance from the supermarket slip road as opposed from Rassau Industrial Estate.

4.2.5 The traffic on the remainder of the highway network within the study area flowed freely at the time of the site visit.

4.2.6 Photograph 4.1 to 4.4 provide pictorial reference of Cemetery Road Roundabout, Libanus Road Roundabout and the roundabout at the intersection the A4047 / A4046

/ Bryn-Serth Road. Drawing CG/4102/02 provides an outline of the highway network included within the study area.

DRG. No. CG/4102/02 | REVISION REF.

KEY

- HIGHWAY NETWORK INCLUDED WITHIN STUDY
- BUS STOP
- PEDESTRIAN CROSSING

KEY TRIP GENERATOR

1. MORRISONS SUPERMARKET
2. EBBW VALE COMPREHENSIVE SCHOOL
3. COLEG GWENT EBBW VALE CAMPUS
4. TESCO SUPERMARKET
5. FOCUS (DIY) STORE
6. LEISURE CENTRE, CIVIC CENTRE & HEALTH CENTRE
7. WAUN-Y-POUND INDUSTRIAL ESTATE
8. FIRE STATION
9. KFC FAST FOOD DRIVE THROUGH & RESTAURANT
10. NEW SHELTERED HOUSING COMPLEX FOR THE ELDERLY

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ISSUE	AMENDMENTS	DRAWN	CHECK	DATE

CLIENT: Cyngor Bwrdeistref Sirol Blaenau Gwent County Borough Council

PROJECT: NORTH EBBW VALE HIGHWAYS STUDY

TITLE: EXISTING HIGHWAY NETWORK AND LAND USES

PURPOSE: INFORMATION

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DRAWN	DATE	SCALE
Y. K. WONG	JULY 2009	1:7500@A2
CHECKED: M. NORTH	DATE: JULY 2009	PROJECT No.: CG 4102
DRG. No.: CG/4102/02		REVISION REF.

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Photograph 4.1 – Cemetery Road Roundabout (view West)

Photograph 4.2 – Cemetery Road Roundabout (view south)

Photograph 4.3 – Libanus Road Roundabout (view North)

Photograph 4.4 – Libanus Road Roundabout (view South)

Photograph 4.5 – Roundabout at intersection of A4047 / A4046 / Bryn-Serth Road (view west)

Photograph 4.6 - Roundabout at intersection of A4047 / A4046 / Bryn-Serth Road (view south)

4.2.7 There are two controlled pedestrian crossings within the study area, these are located at:

- Waun-Y-Pound Road – South of the entrance to the comprehensive school.
- College Road – North of the entrance to Coleg Gwent.

4.2.8 A zebra crossing is located at Libanus Road Roundabout. These crossings are marked on drawing CG/4102/02.

4.2.9 The following existing key trip generators were identified within the study area (marked on drawing CG/4102/02):

- Coleg Gwent – College Road (due to move to The Works);
- Ebbw Vale Comprehensive – Waun-Y-Pound Road (Possible merger with a nearby Comprehensive and therefore closure at current site or merger and movement of school to The Works);
- Civic Centre, Leisure Centre and Health Care Centre on Cemetery Road;
- Fire station (essential access to be retained) Cemetery Road;
- Morrison Supermarket – A4047;
- KFC – Waun-Y-Pound Road;
- Tesco Supermarket – A4046;
- New sheltered housing complex for the elderly on College Road;
- Factory development off A4047;
- Waun-Y-Pound industrial estate.

4.3 Current Highway Network

4.3.1 Details of the characteristics of the highway network within the study area are summarised in Table 4.1. This information is taken from the Travel Plan produced for The Works. Data is missing within this table for the A4047 and Bryn-Serth Road.

Table 4.1 Characteristics of Existing Road Network **(**Source: Phase One Travel Plan-Consultation Draft, Former Steelworks Site, Ebbw Vale, 7th April, 2008)

Road Name / Number	Description	Approximate Carriageway Width (m)	Footpath West	Footpath East	Speed Limit
A4046	South of A465	7.3	No	No	National
A4046	South of its junction with A4047	7.3	No	Yes	30
A4046	College Road	7.3	Yes	Yes	30
Waun- Y-Pound Road		7.3	Yes	Yes	30
A4047 Beaufort Road		7.3	Yes	Yes	30
Letchworth Road		7.3	Yes	Yes	30
Cemetery Road		7.3	Yes	Yes	30
Libanus Road		7.3	Yes	Yes	30
Steelworks Road	Roundabout to the Dingle	7.3	Yes	Yes	30
Steelworks Road	The Dingle and Ash Grove (Ty Llwyn)	7.3	Yes	No	30
Steelworks Road	Ash Grove and north of Waun Llwyn	7.3	Yes	No	National

4.3.2 During the site visit, photographs were taken of the highway network within north Ebbw Vale and observations made of the operation of the network and any distinctive features. A description of the highway network included within the study area follows.

4.3.3 ***Steelworks Road –*** From its intersection with Libanus Road Roundabout, Steelworks Road is a two way urban carriageway, free flowing on the day of the site visit. As the road approaches the entrance to The Works, it passes through an arched bridge which acts a pinch point in the network, as the width of the highway reduces. The highway then opens back out to a wide carriageway as is approaches The Works, where it will join with the proposed PDR.

Photograph 4.7: Steelworks Road (from Junction with Libanus Road Roundabout view south)

Photograph 4.8 Steelworks Road (from Junction with Libanus Road Roundabout view North)

Photograph 4.9 – Arch Bridge Pinch Point on Steelworks Road

Photograph 4.10 – Steelworks Road South bound towards The Works

Photograph 4.11 – Steelworks Road (point of connection with proposed PDR)

4.3.4 ***Cemetery Road*** – This is a two way urban highway which provides a connection between Cemetery Road roundabout and Libanus Road roundabout. The road was observed to be free flowing on the day of the site visit. There are no obvious pinch points on this part of the network, however, there are a number of accesses onto the road from side roads from surrounding land uses e.g. Health Centre, Civic Centre, Leisure Centre, Fire station. Further, Lilian Grove has an on carriageway white lined right turn ghost island marked on the carriageway to allow access into this side road. As Cemetery Road meets with Cemetery Road Roundabout, the northbound lane splits into a right and a left hand lane.

Photograph: 4.12 Cemetery Road Southbound	**Photograph: 4.13** Cemetery Road as meets Libanus Road Roundabout
	

Photograph 4.14 Cemetery Road Northbound

4.3.5 ***Waun-Y-Pound Road*** – This is a two way urban road providing access between Cemetery Road Roundabout and the A4047 (and further to Bryn-Serth Road providing access to Rassau Industrial Estate). The two major land uses that this road services is Ebbw Vale Comprehensive School and Coleg Gwent, however access is provided from Waun-Y-Pound Road to the KFC fast food restaurant and Morrison's Supermarket. There is a traffic light controlled pedestrian crossing and two bus stops located along the road.

Photograph 4.15: Waun-Y-Pound Road at Intersection with Cemetery Road Roundabout	**Photograph 4.16:** Waun-Y-Pound Road Northbound past Coleg Gwent
	

Photograph 4.17: Waun-Y-Pound Road Northbound towards intersection with A4047	**Photograph 4.18:** Waun-Y-Pound Road Southbound past Ebbw Vale Comprehensive
	

4.3.6 ***College Road-*** This road provides a strategic connection from the A465 Heads of the Valleys Road to Cemetery Road Roundabout. It is an urban two way carriageway, intersected by the A4047 which provides access across the valley from Tredegar to Beaufort and onto Brynmawr. Some key major land uses along this section of highway include access to College Gwent and the construction of a new sheltered housing complex for the elderly. North of the entrance to the college is a controlled pedestrian crossing. As college road meets with Cemetery Road roundabout the southbound carriage splits into a left and right had lane.

Photograph 4.19: College Road Northbound, entrance to Coleg Gwent	**Photograph 4.20** College Road Northbound
	

4.3.7 ***A4047 (between Bryn-Serth Road and College Road)-*** This urban two way carriageway provides a link between the roundabout at Bryn-Serth Road and College Road. Two major land uses are accessed from this section of highway, Morrison's Supermarket and a factory / industrial unit. The road has two bus stops (one with a bay).

Photograph 4.21 A4047 Eastbound (view of bus bay and highway)	**Photograph 4.22** A4047 Westbound
	

4.3.8 ***Bryn-Serth Road -*** This is an inter-urban link road at present providing access from Rassau Industrial Estate to Ebbw Vale. There are nodes included within this highway which will provide future access into development land either side of the highway. The carriageway is two way. From Bryn-Serth Road travelling southbound access to Morrison's supermarket can be gained; further, traffic exiting the supermarket does so onto Bryn-Serth road (left turn only).

Photograph 4.23 Bryn-Serth Road Northbound	**Photograph 4.24** Bryn-Serth Road Northbound (access into Morrison's)
	

4.4 Network Issues

4.4.1 From consultation with Blaenau Gwent CBC transportation and highway officers the following issues were outlined with relation to the operation of the existing highway network within North Ebbw Vale:

- There is currently a number of infringements in relation to right turning vehicles out of exit junctions at Morrison's Supermarket, in particular, right turning vehicles at exit junction on Bryn-Serth Road (See photograph 4.25);

- Right turning vehicles on College Road (A4046) northbound into A4047 Beaufort Road can sometimes cause queues during the peak periods (see photograph 4.26);
- Right turning vehicles southbound on College Road (A4046) into A4047 towards Morrison supermarket can sometimes cause queues during the peak periods (See photograph 4.27);
- Queues on Waun-Y-Pound Road southbound towards Cemetery Road Roundabout can form during the evening peak period (15:30-17:00) (see photograph 4.28 for example queuing);
- Queues on A4046 Northbound on approach to Cemetery Road Roundabout can form during evening peak period (approximately 17:00) (See photograph 4.29);
- Exit from Tesco supermarket onto A4046 is no right turn. This is due to change, when planning application for expansion of Tesco is implemented;
- Libanus Road roundabout is currently utilised mainly by locals, however, this will change when the PDR is complete and problems may occur;
- As the A4046 passes through Ebbw Vale Town Centre at 'The Market Square' right turning traffic (when travelling northbound) can cause congestion, causing queues along A4046.

4.4.2 When defining the strategic highway network for Ebbw Vale and considering the impact of new development within the study area, the above issues with the existing network have been considered.

Photograph 4.25 Right Turning Vehicle (Infringement) Morrison's Exit onto Bryn-Serth Road	**Photograph 4.26** Queues of right turning Vehicles on College Road (A4046) into Beaufort Road (A4047).
	

Photograph 4.27 Right turning vehicles southbound on College Road (A4046) into A4047

Photograph 4.28 Queues on Waun-Y-Pound Road

Photograph 4.29 Queues on A4046 Northbound on approach to Cemetery Road Roundabout

4.5 Summary

4.5.1 The existing characteristics of the highway network within north Ebbw Vale provide a good base for defining the strategic highway network. Consideration of the existing highway network and its operational issues assists in highlighting those areas where future intervention may be needed, especially with the possible introduction of new development within North Ebbw Vale.

5. Future Developments

5.1 Introduction

5.1.1 The north of Ebbw Vale is an area that is currently facing a large amount of change, with the potential introduction of new development and changes to existing land uses. This chapter highlights some of the changes to existing land uses that are due to occur in the study area. Comment is also provided on the potential impact of the introduction of new developments and changes to land use in terms of possible traffic generation and traffic movement. (Please note, the developments detailed and the change of land uses described are correct at the time of writing, however these are subject to change over the coming years as the Local Development Plan progresses).

5.2 Changes to Current Land Uses

5.2.1 There are a range of existing major land uses within North Ebbw Vale, these include:

- Morrison's Supermarket;
- KFC Fast Food Drive through and restaurant;
- Ebbw Vale Comprehensive School;
- Coleg Gwent;
- Waun-Y-Pound Industrial Estate;
- Civic Centre, Leisure Centre and Health Centre;
- Cemetery on Waun-Y-Pound Road.

(These are shown on plan CG 4102/02 in Chapter 4)

5.2.2 During consultation with Blaenau Gwent CBC officers and the Blaenau Gwent CBC Development Plans Manager potential forthcoming changes to land uses were outlined:

- Coleg Gwent is due to move to a purpose built learning campus to be located within 'The Works'. This will leave the existing site on College Road free for redevelopment.
- Potential for the Civic Centre, Leisure Centre and Health Centre to be moved to a alternative new site (yet to be identified), leaving the existing site open to redevelopment and a change of use.
- Potential for Ebbw Vale Comprehensive school to be moved from its existing site and merged within another local comprehensive school and located on an alternative site (possibly 'The Works'). This would leave the current site vacant for redevelopment.

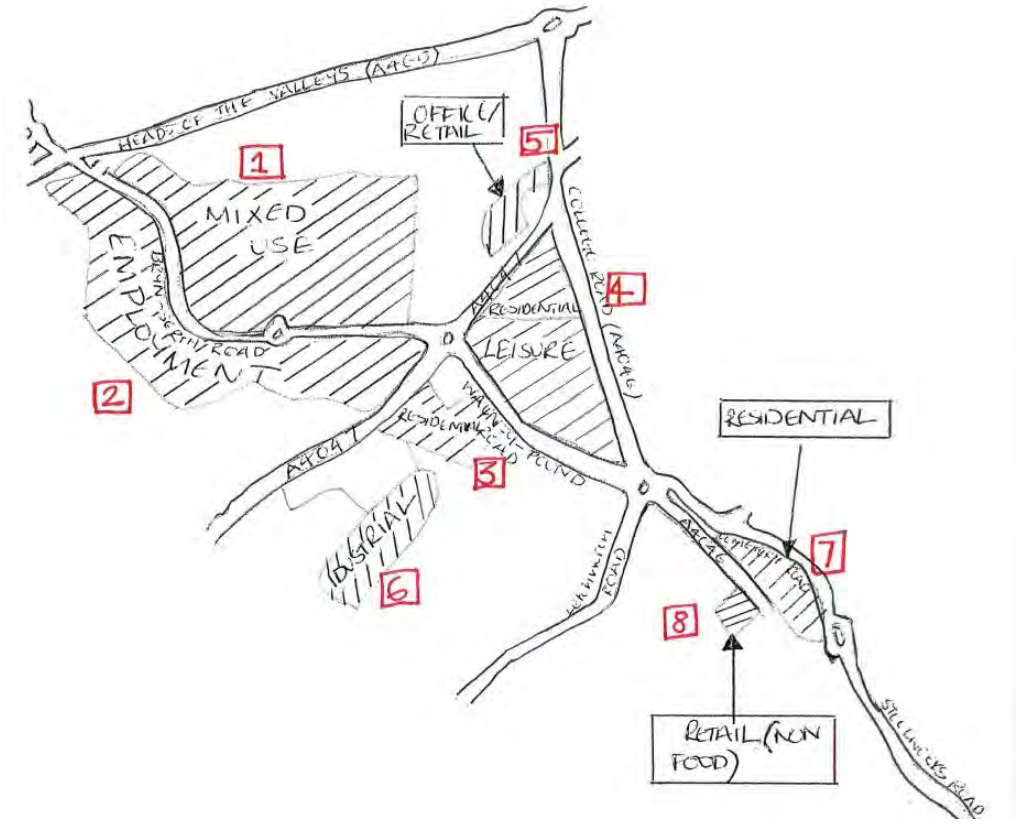
5.3 Future Land Use Allocations for Development

5.3.1 In order to gain information on the future land use allocations within North Ebbw Vale, that are to be included within the Local Development Plan, a meeting was held with consultants ERM who are conducting a study for Blaenau Gwent CBC to develop a master plan for North Ebbw Vale. The output of the master plan study is to identify preferred land allocations for inclusion within the Local Development Plan.

5.3.2 The preferred land allocations for north Ebbw Vale have been indicated as follows (see Figure 5.1):

- Mixed Use Site, Bryn-Serth Road (Rhyd-y-Bleu) (Figure ref: 1): This 26.60 Ha site, is proposed to be classified as a mixed use containing a range of land uses, including: education; commercial; leisure; outdoor pursuits; a centre of excellence etc.
- Employment Site, Bryn-Serth Road (Figure ref: 2): A 12:55 ha site defined for use for office and commercial leisure purposes. This site is included within the current Unitary Development Plan.
- Residential Site, Waun-Y-Pound Road (Blue Lake) (Figure ref: 3): This proposal would be for residential units to be located at the north end of Waun-Y-Pound Road. This proposal has been presented as part of the Master plan work and therefore the number of units to be located on the site are yet to be developed.
- Formal Leisure / Residential Site, College Road / Waun-Y-Pound Road / A4047 (Figure ref: 4): This triangle of development land, is the existing location of Coleg Gwent, Ebbw Vale Comprehensive and open land. Once the college and school have relocated, this area of land will be free for re-development. It is proposed that leisure usage is provided on the College / School part of the site, with Residential provided on the open land. However, this may be interchangeable, depending on developer interest and timings for the movement of the college and school.
- Office / Retail Site, A4047 (Figure ref: 5): On this 2.4 ha site the UDP proposes the location of a hotel (C1), retail (A1) and Warehouse only commercial (A2).
- Industrial Site, Expansion of Waun-Y-Pound Industrial Estate, A4047 (Figure ref: 6): A 6.94 ha site to allow the expansion of Waun-y-Pound Industrial Estate, allowing class B1, B2 and B3 development (possible waste facility).
- Residential Site, Cemetery Road (Figure ref: 7): With the potential movement of the Civic Centre, Leisure Centre and Health Centre to alternative sites, the land would be left free for redevelopment. It is proposed that housing is provided on this site, the number of units yet to be determined;
- Retail (A1 Non-Food) Site, Gas Holder Site, (Figure ref: 8): This 0.6ha site is defined in the UDP for retail, non-food usage;
- Residential Site, Adjacent Gwaun Helyg (not shown on plan): This is a 1.4 hectare site for the provision of 25 units (current application for 74 houses).
- Residential Site, Tredegar Road (not shown on plan): This is a 0.1 ha site for the provision of 21 units.

Figure 5.1 Proposed New Land Use Developments and Changes to Land Uses



5.3.3 A master plan for 'The Works' has been developed which provides an outline of the different land uses that will be implemented at the site. These are outlined as follows:

- Residential units up to a maximum of 520, including affordable and live/work units, and a range of residential units / dwellings in the form of houses and apartments;
- Associated mixed use of up to 12,500 sq m including local amenities and services for retail, food and drink, leisure, office (use class A1,A2,A3 and B1) and day centre (use class D1). The maximum size of unit (use class A1,A2 and A3) will not exceed 250 sqm;
- Hospital (use class C2) up to 16,450 sq m;
- Learning Campus (use Class D1) up to 14,000 sq m;
- Employment use (Use Class B1) up to 60,413 sq m;
- Theatre up to 2,000 sq m (use Class: sui generis);
- Leisure Centre (use Class D2) up to 1,485 sq m and sport pitches up to 1.6 hectares;
- Primary school and associated play areas (use class D1) up to 2 hectares.
- Open green space as extension to Wetland Park and associated education and training facilities 1 hectare (lower sidings).
- Railway terminus.
- Associated car parking, public transport facilities and highway infrastructure (including PDR) and improvements including a new public bridge and town centre link, associated landscaping and public squares and associated engineering, enabling and earthworks to facilitate the development.

5.3.4 The implementation of the redevelopment of 'The Works' will be phased. Table 5.1 outlines the phased programme for construction.

Table 5.1 – Construction Phasing for 'The Works'

Element	Phase				
	One (2008-2010)	Two (2010-2012)	Three (2012-2014)	Four (2014-2016)	Five (2016-2018)
Hospital	16,450m^2				
Residential Units	75-90	75-80	110-145	98-125	31-38
Commercial Units	850m^2-1300m^2	1,500m^2-2,300m^2	21,200m^2-29,800m^2	23,100m^2-30,250m^2	25,200m^2-36,000m^2
Learning Campus	9,000m^2	6,000m^2			
Theatre	2,000m^2				
General Offices	1,274m^2				
Station Square	Complete				
Internal Roading	Partial	Partial		Complete	
Peripheral Distributor Road			Complete		
General Offices Square		Complete			
Terminus Station		Complete			
Rail Line Extension		Complete			
Primary School		16,000m^2			
Leisure Centre			4,800m^2		
Sports Pitches			Partial	Partial	
Basement square			Complete		
Stack Basements				Complete	
Hospital Square					Complete

5.4 Impact of New Development on Existing Highway Network

5.4.1 The proposed developments and changing land uses in north Ebbw Vale are likely to have an impact on the existing highway network. These developments will be the driving force behind changes to the definition of the strategic highway network within north Ebbw Vale and for the necessary highway improvements that might be needed to allow the network to operate efficiently with the increased generated traffic.

5.4.2 Table 5.2 outlines some of the potential impacts on the local highway network and its operation from the proposed new developments.

5.4.3 Figures 5.2 through to 5.9 show the impact on traffic flow of the new developments diagrammatically. The two residential development sites at Gwaun Helyg and Tredegar Road are listed in Table 5.2, but not detailed diagrammatically as they are outside of the study area and unlikely to have a large impact on the operation of the highway network.

5.4.4 Figure 5.10 and 5.11 show different phases of development where changes to land use are due to occur. Figure 5.10 shows the impact of the movement of the College and Comprehensive School from their current site, but no new replacement

development, and Figure 5.11 the movement of the civic centre, health centre and leisure centre with the land left vacant and no new replacement development.

5.4.5 Finally, Figure 5.12 shows the combined impact on the highway network of all the new developments and proposed changes to land uses being implemented.

Table 5.2 Potential Impacts on Highway Network from New Development

Development	Size	User Types	Journey Types	Likely Peak Hours of travel for Development	Roads / Key Junctions Likely to be Effected by Development	Comments
Mixed Use Site, Bryn-Serth Road (Rhyd-y-Blew) (Figure 5.2)	26.60 ha	Mixed: Commuters, students, visitors, locals.	Mixed: commuting, leisure (tourism related), access to local amenities etc.	Approximately 9am and 5 pm. Possible increase in traffic generated on weekends from tourism related uses.	- Bryn-Serth Road, - Cemetery Road Roundabout, - A4047 / Bryn-Serth Road Roundabout, - A4047, - Waun-Y-Pound Road, - Bryn-Serth Road / Rassau Industrial Estate Roundabout. - A4047 / A4046 College Road Junction	Likely to lead to increase traffic generation and higher traffic flow levels along Bryn- Serth Road. Mixed travelling times to development as different uses. Likely to affect Bryn-Serth / A4047 Roundabout and possibly Cemetery Road roundabout operation. May increase traffic levels for those accessing the A465 East or West bound (once dualled). Increase traffic levels on Rassau Industrial Estate Roundabout.

Development	Size	User Types	Journey Types	Likely Peak Hours of travel for Development	Roads / Key Junctions Likely to be Effected by Development	Comments
Employment Site, (Office and Commercial Leisure) Bryn-Serth Road (Figure 5.3)	12.55ha	Commuters.	Commuting to and from place of employment.	Approximately 9am and 5pm (likely to be weekday based).	- Bryn-Serth Road, - Cemetery Road Roundabout, - A4047 / Bryn-Serth Road Roundabout, - A4047, - Waun-Y-Pound Road, - Bryn-Serth Road / Rassau Industrial Estate Roundabout (access on to A465). - A4047 / A4046 College Road Junction	Greatest impact on highway network during peak hours, as commuters access the site (during weekdays). Possible impact on level of traffic on access nodes to A465, also effect operation of Bryn-Serth / A4047 Roundabout and Cemetery Road Roundabout.
Residential Site (Blue Lake), Waun-Y-Pound Road (Figure 5.4)	3.6ha	Residents and visitors.	Commuting, local trips to access amenities etc.	Likely to be between 8 and 9am as residents travel to work / school and 5-6pm as they return home.	Dependent on access to development. Likely to be - - A4047 / Bryn-Serth Roundabout, - Waun-Y-Pound Road, - Bryn-Serth Road (to access A465 once dualled), - Cemetery Road Roundabout. - A4047 / A4046 College Road Junction	Likely to be biggest impact during peak periods, however local journeys undertaken throughout the day to surrounding amenities. Size of development will influence impact.

Development	Size	User Types	Journey Types	Likely Peak Hours of travel for Development	Roads / Key Junctions Likely to be Effected by Development	Comments
Leisure / Residential Site, College Road / Waun-Y-Pound Road / A4047 (Figure 5.5)	15.7ha	Residents, visitors and locals.	Commuting, local trips to access amenities, tourism / leisure trips.	Likely to be between 8 and 9am as residents travel to work/school and 5-6pm as they return home. Also possible increase in weekend / evening traffic generation accessing leisure uses.	- A4047, - A4047 junction with A4046 College Road, - College Road, - Waun-Y-Pound Road, - Cemetery Road Roundabout, - A4047/Bryn-Serth Road Roundabout.	The location of the leisure or residential sections of development on this site are interchangeable. Depending on access created to the development, this could have an effect on the impact on different junctions, from different user types, with different travel patterns.
Retail Site, A4047 (Figure 5.6)	2.4 ha	Commuters, shoppers.	Commuting, leisure (access to shops / retail outlets).	Dependent on mix of site likely to be 9 am and 5pm. However, if more retail orientated, could be steady flow of traffic throughout day and evening, and weekend traffic. Possible increase in HGV traffic if deliveries to retail usage.	- A4047, - A4047 junction with A4046 College Road (particularly right turning traffic), - College Road.	Dependent on mixed of use at development impact could vary. More office accommodation likely to lead to impact mainly distributed during the peak hours in weekdays. More retail based will lead to a spread of traffic through the day, with possible increased traffic generation on the weekend.

Development	Size	User Types	Journey Types	Likely Peak Hours of travel for Development	Roads / Key Junctions Likely to be Effected by Development	Comments
Industrial Site, Expansion of Waun-Y-Pound Industrial Estate, A4047 (Possible Waste) (Figure 5.7)	6.94 ha	Possible commuters, industrial traffic.	Industrial and commuting.	Increase in HGV traffic generated by expansion. Possible peaks of between 8-9am and 5-6pm, however dependent on mix of development (effect delivery types and times and employee travel patterns).	- A4047, - A4047 / Bryn-Serth Road Roundabout.	Dependent on site usage, the travel patterns may differ. More industrial usages likely to see increase in HGV traffic, with limited commuter travel. Factory based expansion is likely to generate more employees and therefore greater emphasis on commuter travel patterns.
Residential Site, Cemetery Road (Figure 5.8)	5.1ha	Residents and visitors.	Commuting, local trips to access amenities etc.	Likely to be between 8 and 9am as residents travel to work / school and 5-6pm as they return home.	- Cemetery Road, - Cemetery Road Roundabout, - Libanus Road Roundabout, - A4046 (dependent on access to site).	The size and type of units built will affect travel patterns and traffic generation levels. Access to the site could also impact upon which parts of the network are affected most by the development.
Retail (A1 Non-Food) Site, Gas Holder Site, (Figure 5.9)	0.6 ha	Shoppers.	Retail related journeys, shoppers and possible deliveries.	Likely to be steady stream of users throughout day, and an increase in traffic levels on weekend.	- A4046, - Cemetery Road Roundabout.	Slightly outside of the study area, but limited potential to impact on strategic highway network in north Ebbw Vale. Opening hours will effect traffic movement.

Development	Size	User Types	Journey Types	Likely Peak Hours of travel for Development	Roads / Key Junctions Likely to be Effected by Development	Comments
Residential Site, Adjacent Gwaun Helyg	1.4 ha	Residents and visitors.	Commuting, local trips to access amenities etc.	Likely to be between 8 and 9am as residents travel to work / school and 5-6pm as they return home.	- Gwaun Helyg Road, - Cemetery Road Roundabout.	Slightly outside of the study area, but limited potential impact on strategic highway network in north Ebbw Vale. Number and type of units built will affect travel patterns and traffic generation.
Residential Site, Tredegar Road	0.1 ha	Residents and visitors.	Commuting, local trips to access amenities etc.	Likely to be between 8 and 9am as residents travel to work / school and 5-6pm as they return home.	- Tredegar Road.	Slightly outside of the study area, small development unlikely to impact on strategic highway network in north Ebbw Vale.

KEY

Slight Increase in traffic Flow

Moderate Increase in traffic Flow

Significant Increase in traffic Flow

Slight decrease in traffic Flow

Moderate decrease in traffic Flow

Significant decrease in traffic Flow

Slight Issue with Junction Operation

Moderate Issue with Junction Operation

Significant Issue with Junction Operation

Figure 5.2 Mixed Usage Site - Bryn Serth Road

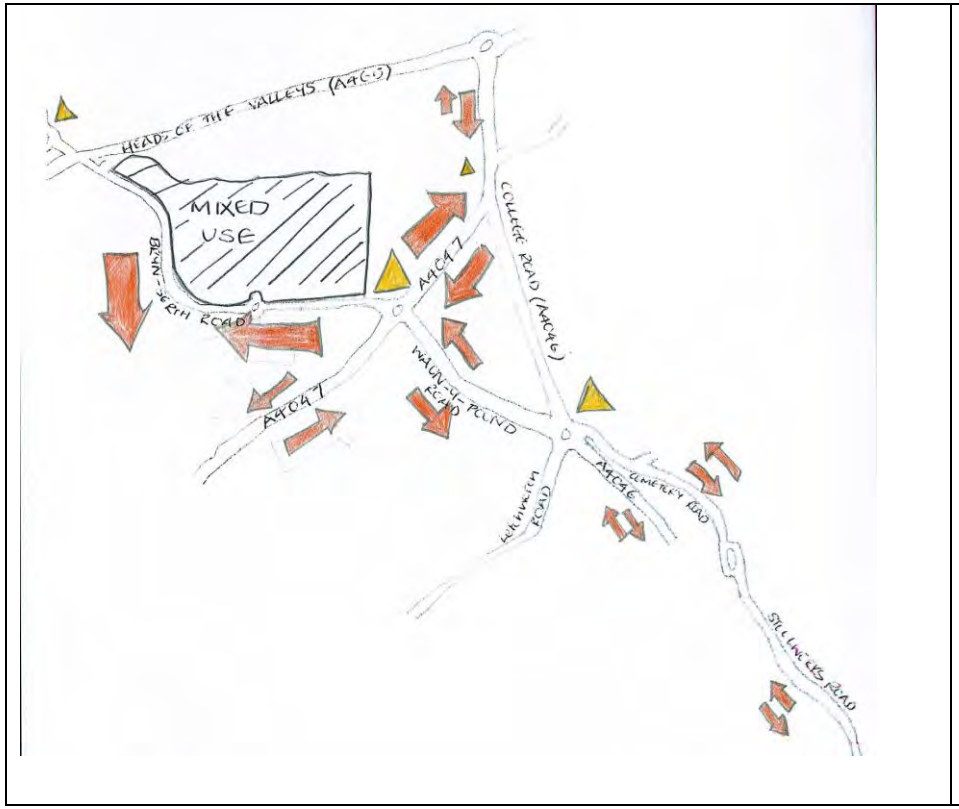


Figure 5.3 Employment Site - Bryn Serth Road

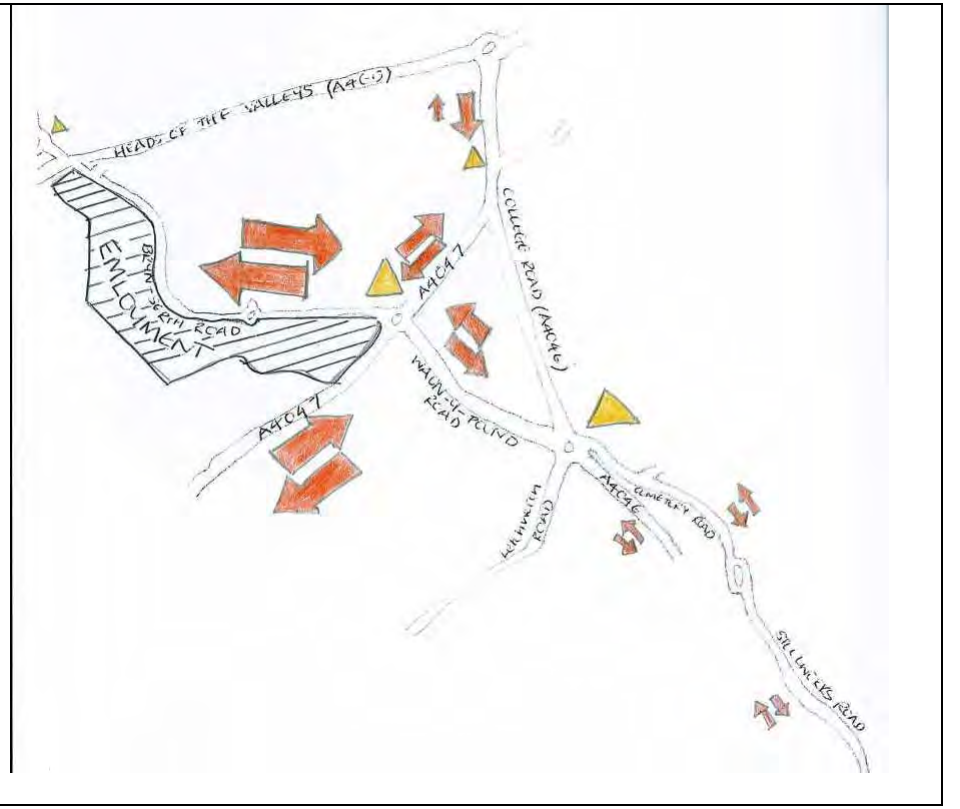


Figure 5.4 *Residential Site, Waun-Y-Pound Road*

Figure 5.5 *Leisure / Residential Site, College Road / Waun-Y-Pound Road / A4047*

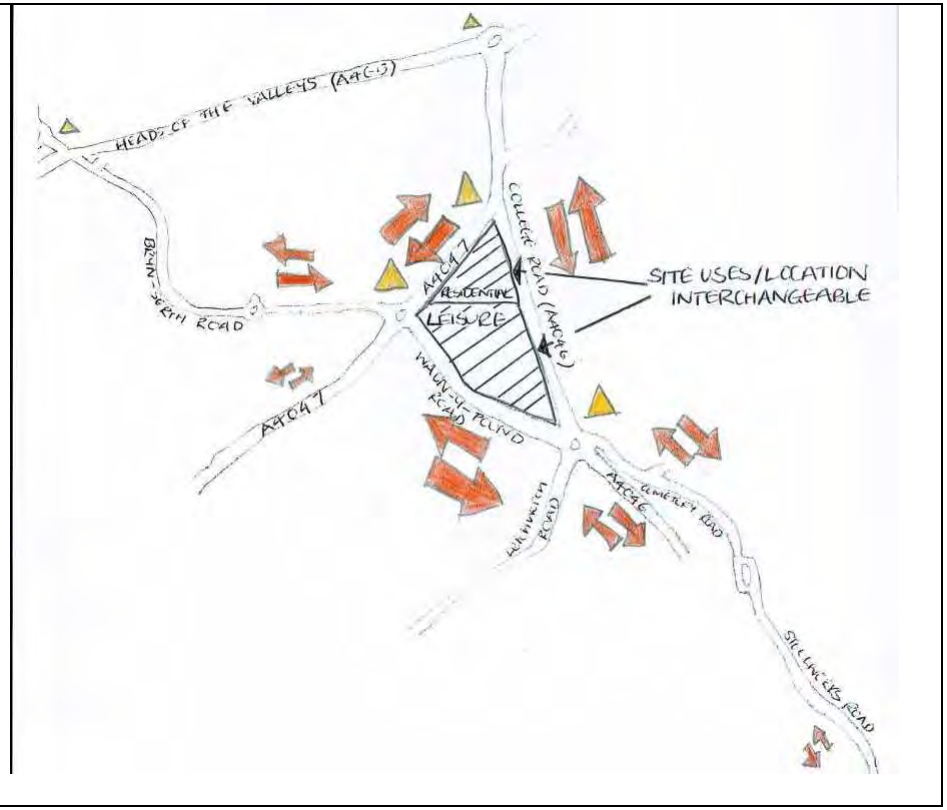


***Figure* 5.6** *Office / Retail Site, A4047*

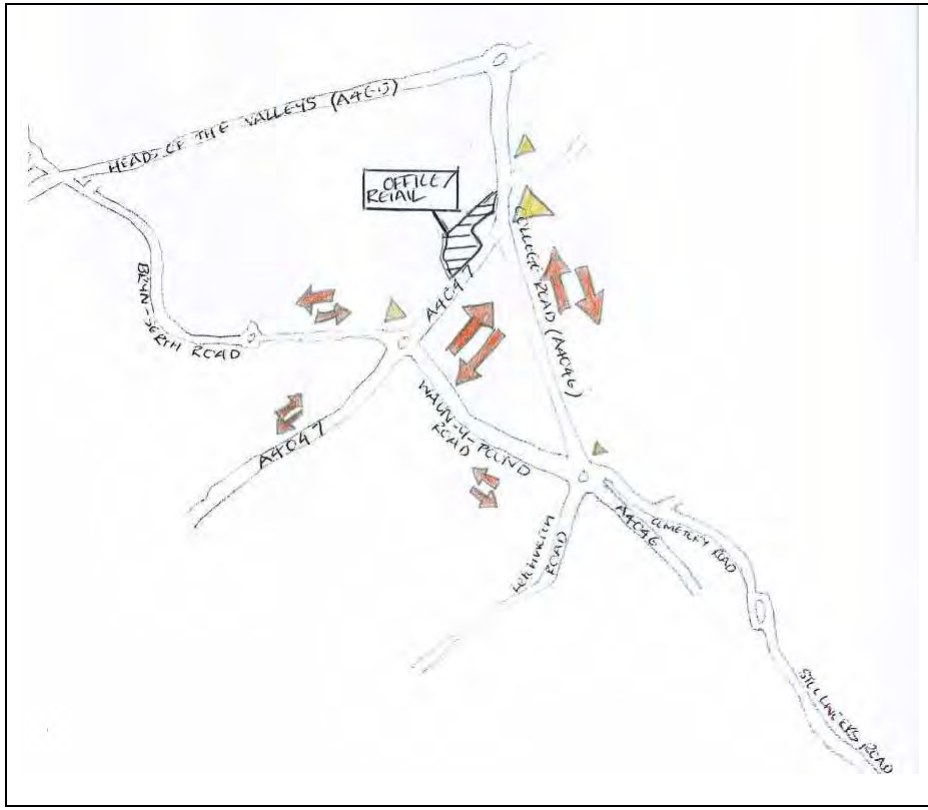


***Figure* 5.7** *Industrial Site, Expansion of Waun-Y-Pound Industrial Estate, A4047*

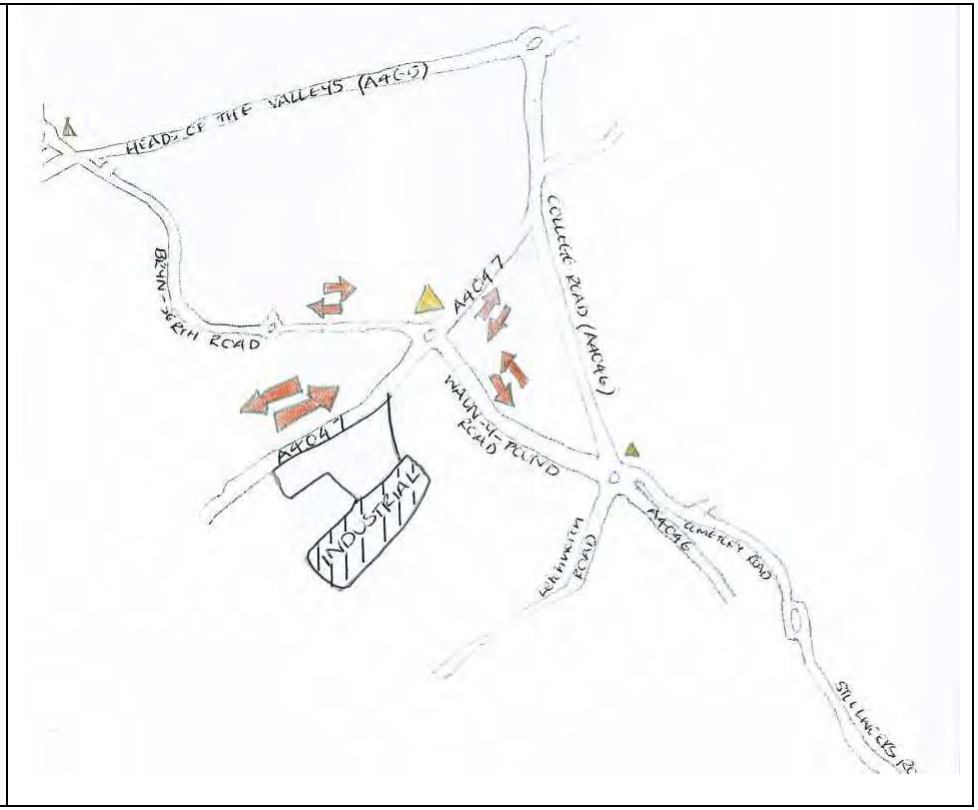


Figure 5.8 *Residential Site, Cemetery Road*

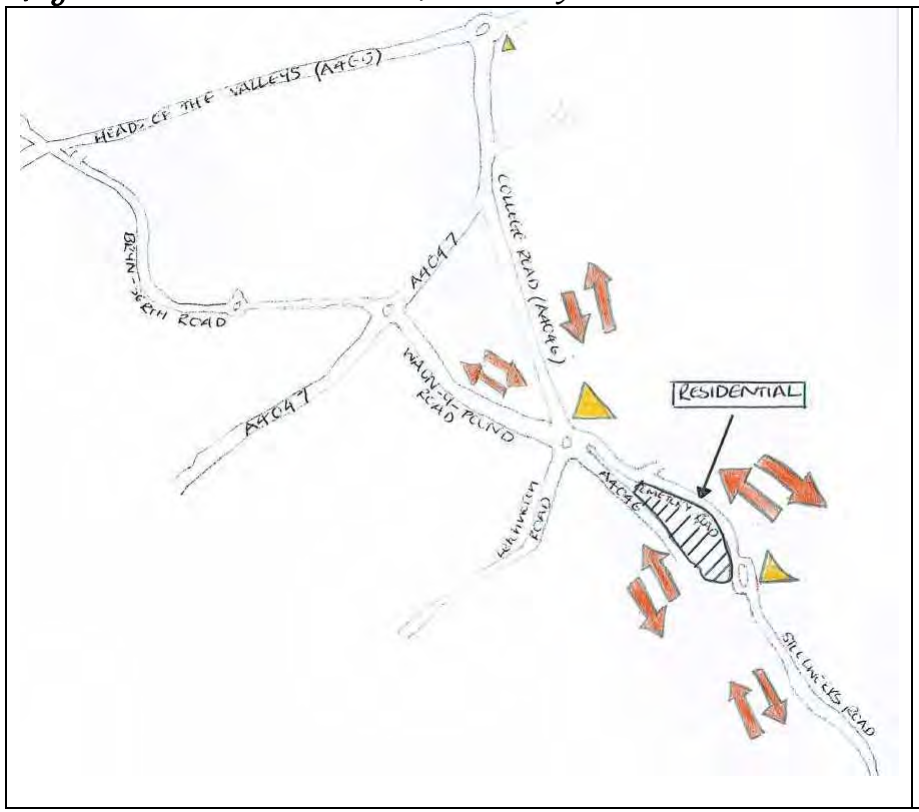


Figure 5.9 *Retail (A1 Non-Food) Site, Gas Holder Site*

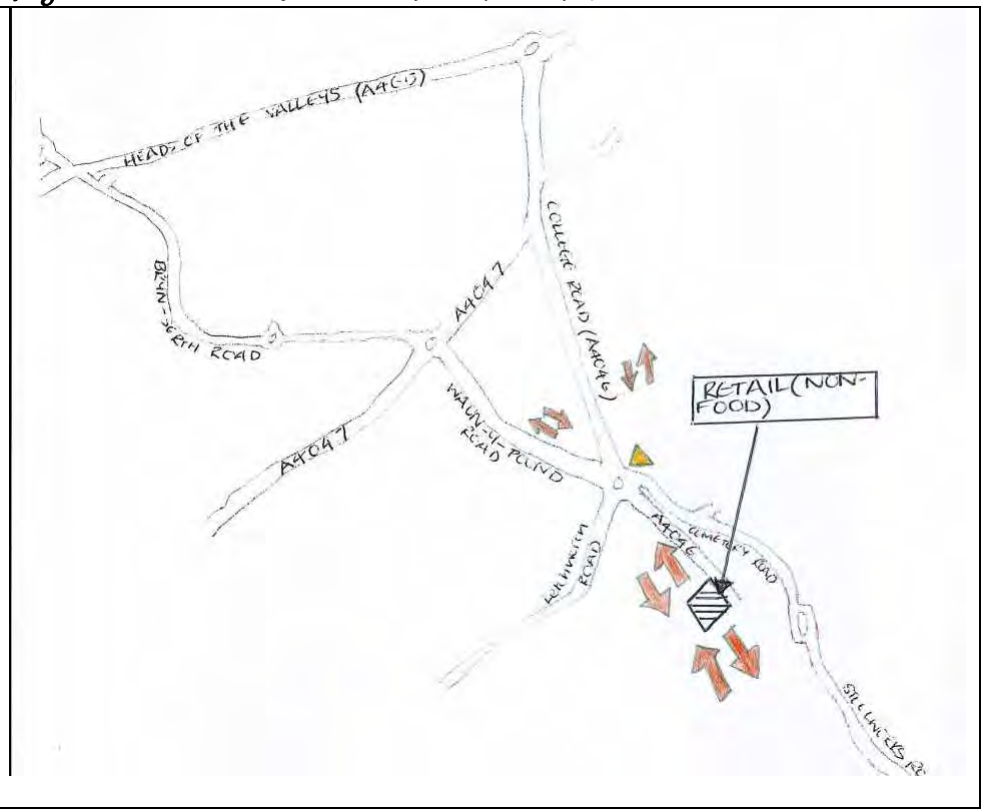


Figure 5.10 *- Relocation of College and Comprehensive School, Land Left Vacant*

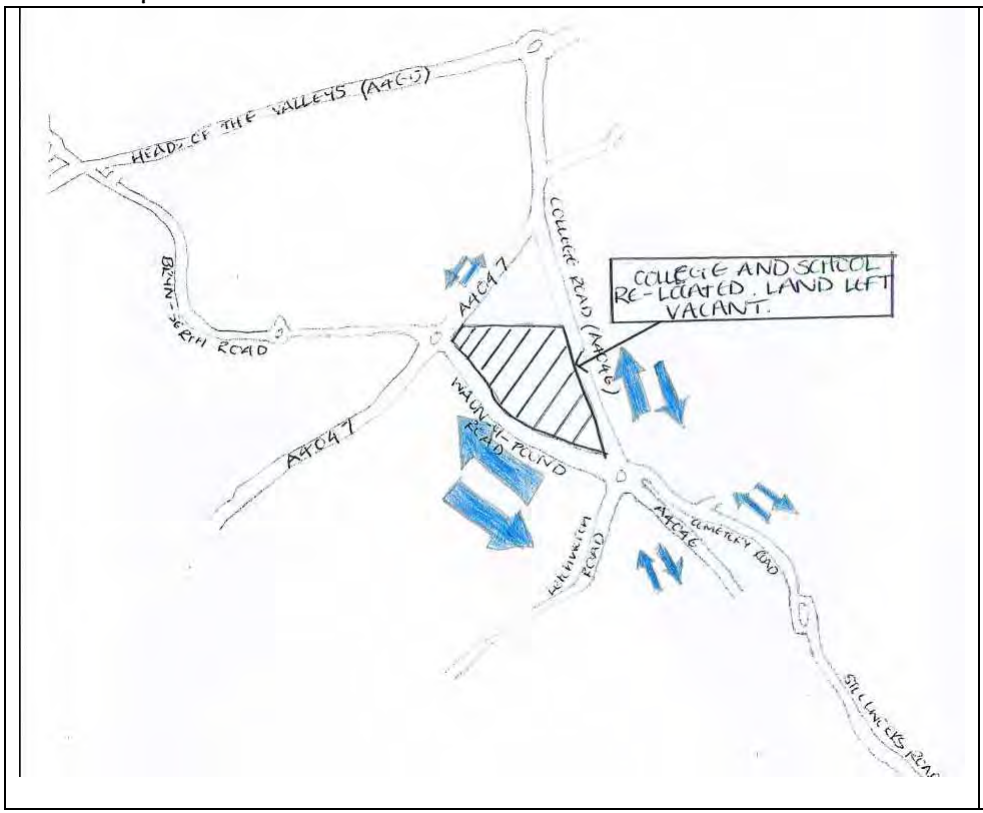


Figure 5.11 *- Relocation of Civic Centre, Leisure Centre and Health Centre, Land Left Vacant*

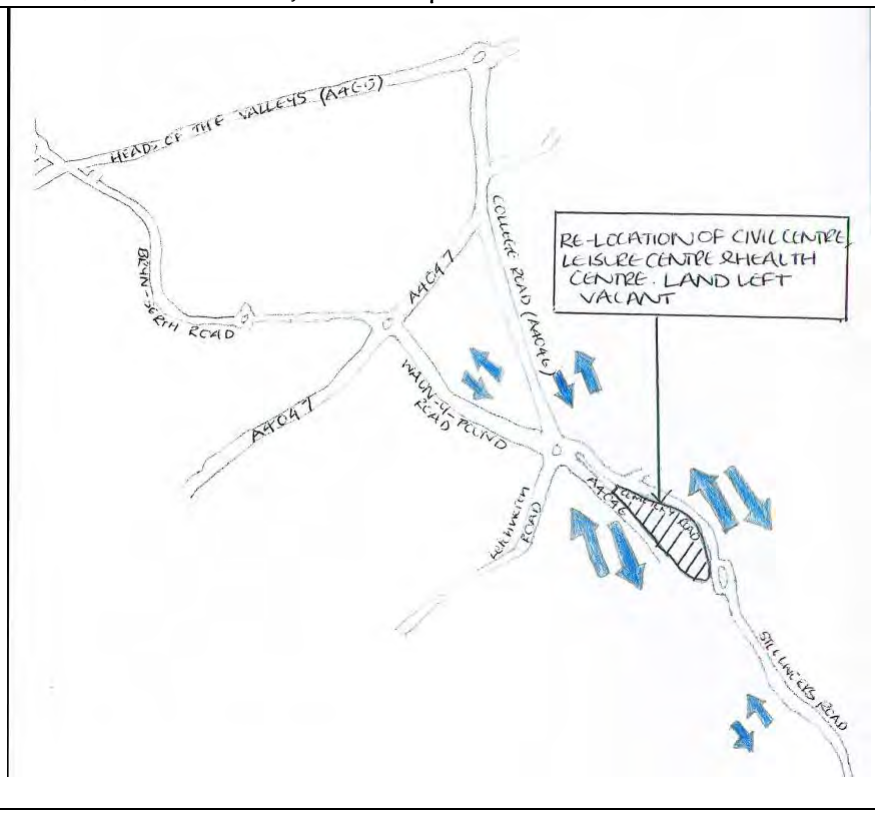
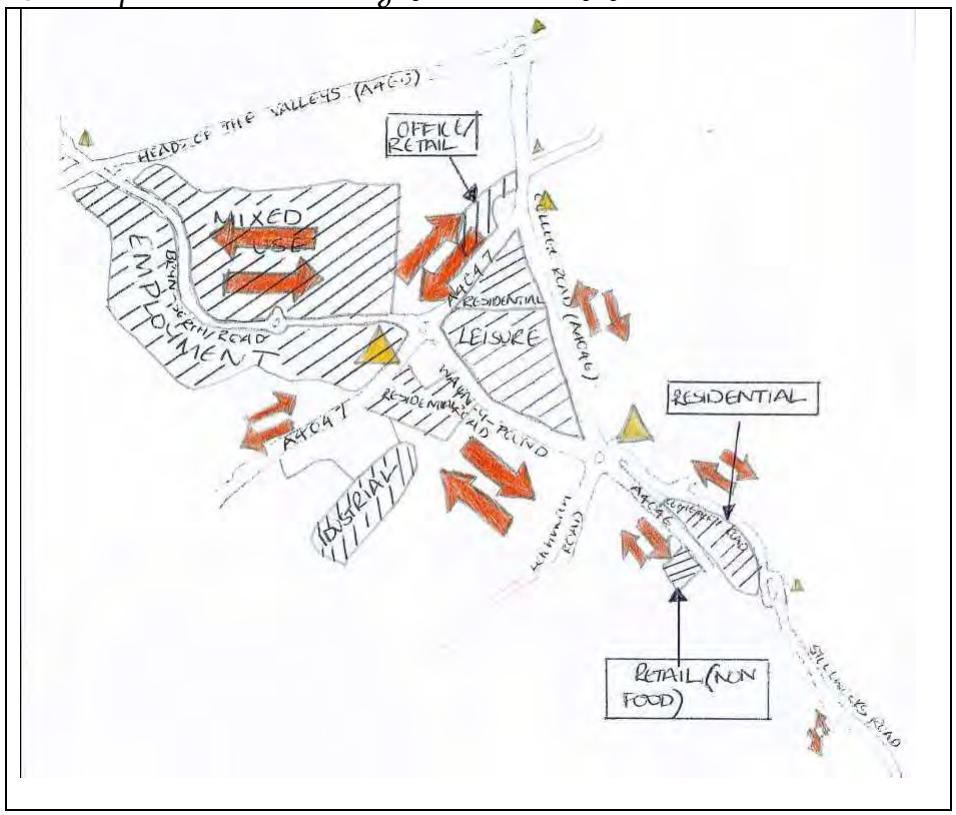


***Figure 5.12** Combined Impact of all Proposed new Development and Changes to Land Uses*



5.5 Summary

5.5.1 This chapter has provided an overview of the existing land uses within the study area along with a review of the proposed changes to existing land uses and the potential new development that could be implemented.

5.5.2 The likely impact on the strategic highway network for north Ebbw Vale of the changes to existing land uses and new development have been defined. The next chapter proposes a set of options that will aid in mitigating any issues relating to highway network operation that may occur as a consequence of the changes to land uses in north Ebbw Vale.

6. Option Development

6.1 Introduction

6.1.1 The brief for this study outlines that options should be developed for the following aspects:

- On-line highway improvements linking the PDR and Cemetery Road Roundabout;
- Options for a revised Cemetery Road Roundabout taking into consideration the highway links to the A465 and the PDR;
- On-line improvements linking Cemetery Road Roundabout and the dualled A465.

6.1.2 Options have been developed to meet these requirements.

6.2 Methodology

6.2.1 Measures developed needed to address a range of issues raised by the baseline data, these included:

- Consideration of the current bus operating highway network;
- Consideration of key current and future traffic movements within the network;
- The type and size of the future development and the user trip patterns likely to be generated by the development;
- Dominant traffic movements at key junctions, now and in the future;
- Key junctions and nodes on the network indentified as being at capacity or near to capacity;
- Current highway network conditions;
- Changes to the current highway network (dualling of the A465 and implementation of the PDR);
- Accident data trends; and
- Previous study findings, designs and option development for existing junctions / nodes on the highway network.

6.2.2 All these factors were considered when producing the options for appraisal.

6.3 Key Options for Appraisal

6.3.1 The following key options were developed for appraisal to meet the study brief requirements.

Do Minimum Option

Option 1: Do Minimum – No Changes to Existing Highway Network in North Ebbw Vale
Within this option no changes would be made to the existing highway network but the new proposed developments would be implemented. This option forms the base option to the appraisal process. It indicates a picture of the likely effects of not undertaking any future improvements to the highway network in response to the proposed future development within the study area.

Cemetery Road Options

Option 2: Enlargement of the Existing Cemetery Road Roundabout
This option would see the enlargement of the existing Cemetery Road Roundabout in its current location. All junction arms would remain, with slight alterations to alignment. Figure 6.1 shows this design.

Option 3: Improvements to Cemetery Road Roundabout including an additional Roundabout at the College Entrance
This option includes the addition of a second roundabout to the existing Cemetery Road roundabout (see figure 6.2). A new roundabout would be included in the area where the current entrance to the college is located, and would have four arms, serving College Road, a new road to link to Waun-Y-Pound Road, a link to the PDR via Cemetery Road (crossing the playing fields) and a link to the existing Cemetery Road roundabout. The existing Cemetery Road roundabout would be altered to have just four arms allowing access to Letchworth Road, the A4046, College Road and an access to the cemetery only along Waun-Y-Pound Road. No access would be provided to Cemetery Road from Cemetery Road Roundabout.

Option 4: Improvements to Cemetery Road Roundabout including an Additional Northern Roundabout
This option includes the addition of a second roundabout to the north of the existing Cemetery Road roundabout (see figure 6.3). The new northern roundabout would include four arms providing access to College Road, College Road directly into Cemetery Road, a new road into the lower half of Waun-Y-Pound Road and a link to the existing A4047 / Bryn-Serth Road Roundabout. The existing Cemetery Road roundabout would remain with arms to the new Waun-Y-Pound Road roundabout link (no access to upper Wan-Y-Pound Road), Letchworth Road and the A4046. No arms to Cemetery Road or College Road would be provided off Cemetery Road Roundabout.

Libanus Road Options

Option 5: Adaption of Libanus Road Gyratory to Double Signalised Junction and Movement of Bus Stops to Beaufort Road.
Libanus Road Gyratory would be adapted to a straight through double signalised staggered junction (see figure 6.4). Steelworks Road to Cemetery Road would be straight through with two signalised junctions allowing access from Libanus Road (the town centre) and Beaufort Road. The bus stop currently located on Libanus Road Roundabout would be relocated to Beaufort Road.

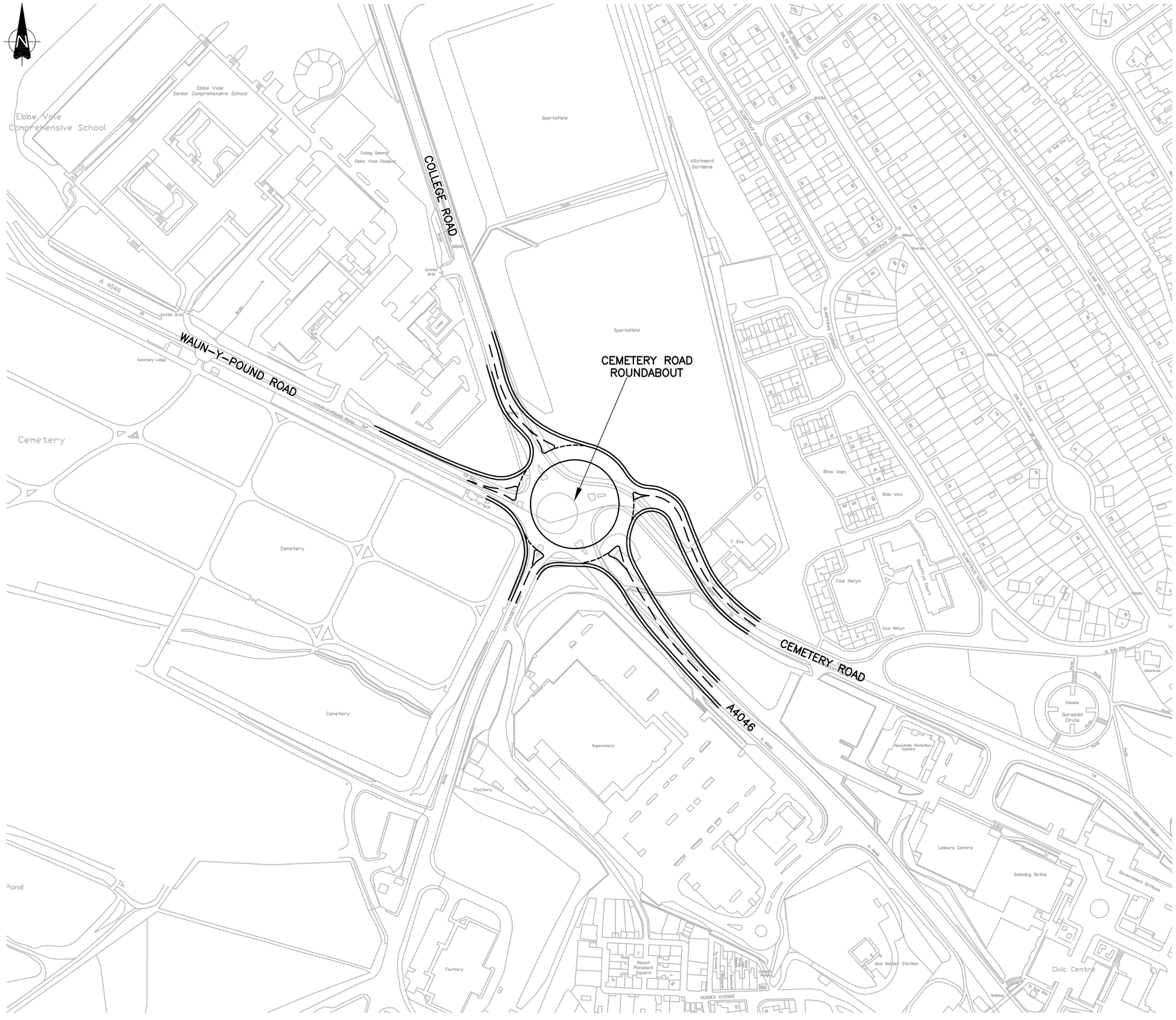
Option 6: Lining and Signing Safety Improvements to Libanus Road Gyratory
This low cost option would include minor amendments to the lining and signage at Libanus Road Gyratory to improve the safety of road users.

College Road (A4046/A4047 Junctions) Options

Option 7: Double Signalisation of A4047/ College Road Junction and A4046 / Beaufort Road Junction
With this option, both the junction of the A4046 College Road with the A4047 Beaufort Road and the A4047 junction with the A4046 College Road would be signalised (see figure 6.5). Appropriate pedestrian crossing facilities would be included in the relevant junction arms.

Option 8: No Signalisation of A4047 / College Road Junction and A4046 / Beaufort Road Junction

No signalisation would be implemented at the A4047/ College Road junction or the junction of the A4046 and Beaufort Road. The existing road layout at these junctions would remain.



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ISSUE	AMENDMENTS	DRAWN	CHECK	DATE

CLIENT

Cyngor Bwrdeistref Sirol
Blaenau Gwent
County Borough Council

PROJECT

NORTH EBBW VALE
HIGHWAYS STUDY

TITLE

OPTION 2
ENLARGEMENT OF
EXISTING ROUNDABOUT

PURPOSE

INFORMATION

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DRAWN	DATE	SCALE
Y. K. WONG	AUGUST 2009	1:2500@A3
CHECKED	DATE	PROJECT No.
M. NORTH	AUGUST 2009	CG 4102

DRG. No. FIGURE 6.1	REVISION REF.

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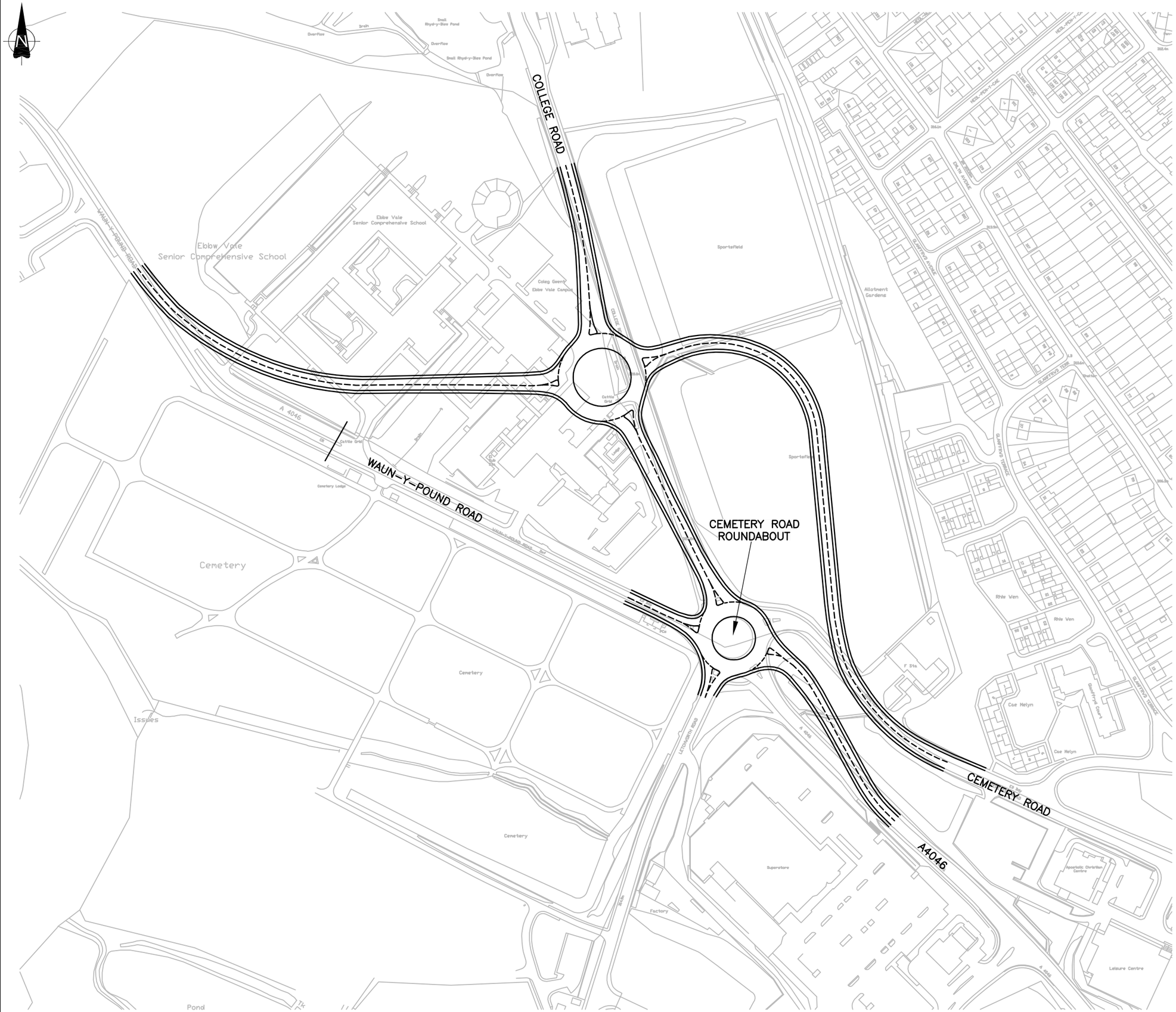

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Cyngor Bwrdeistref Sirol
Blaenau Gwent
County Borough Council

PROJECT

NORTH EBBW VALE
HIGHWAYS STUDY

TITLE

OPTION 3
ADDITIONAL ROUNDABOUT AT
COLLEGE ENTRANCE

PURPOSE

INFORMATION

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Y. K. WONG	AUGUST 2009	1:2500@A3
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M. NORTH	AUGUST 2009	CG 4102

DRG. No. FIGURE 6.2 REVISION REF.

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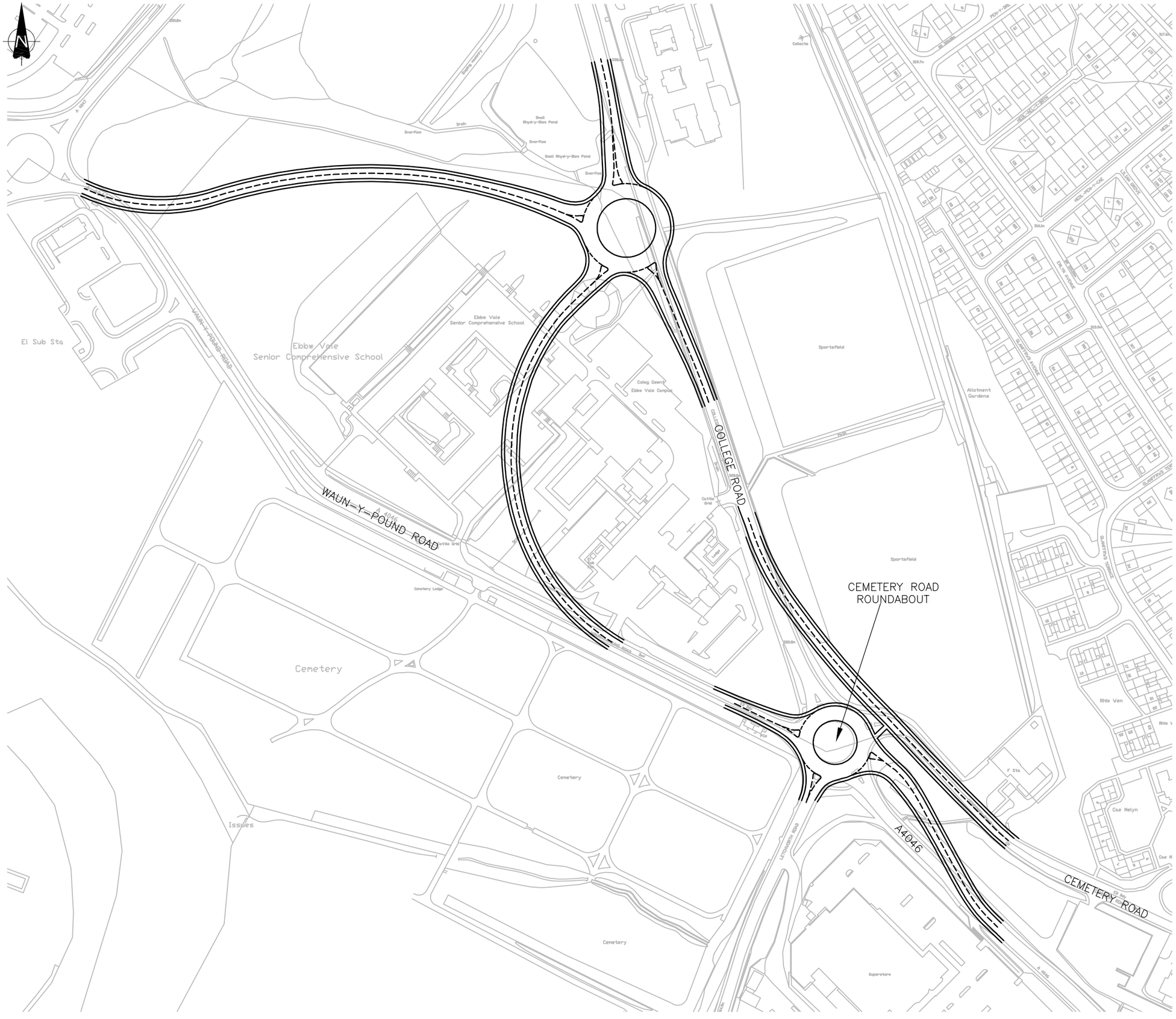

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NORTH EBBW VALE
HIGHWAYS STUDY

TITLE

OPTION 4
ADDITIONAL NORTHERN ROUNDABOUT

PURPOSE

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Y. K. WONG	AUGUST 2009	1:2500@A3
CHECKED	DATE	PROJECT No.
M. NORTH	AUGUST 2009	CG 4102

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Figure 6.4: Adaption of Libanus Road Gyratory to Double Signalised Junction and Movement of Bus Stops to Beaufort Road.

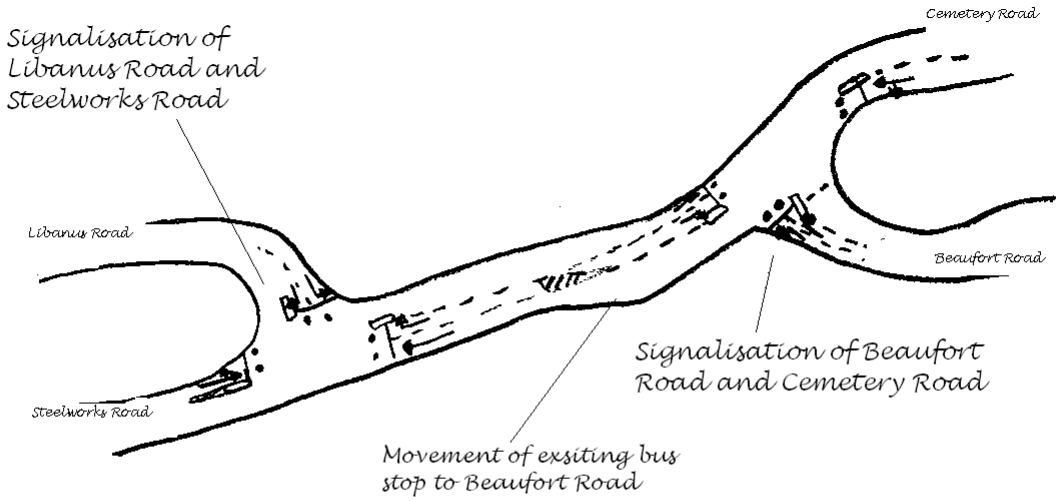
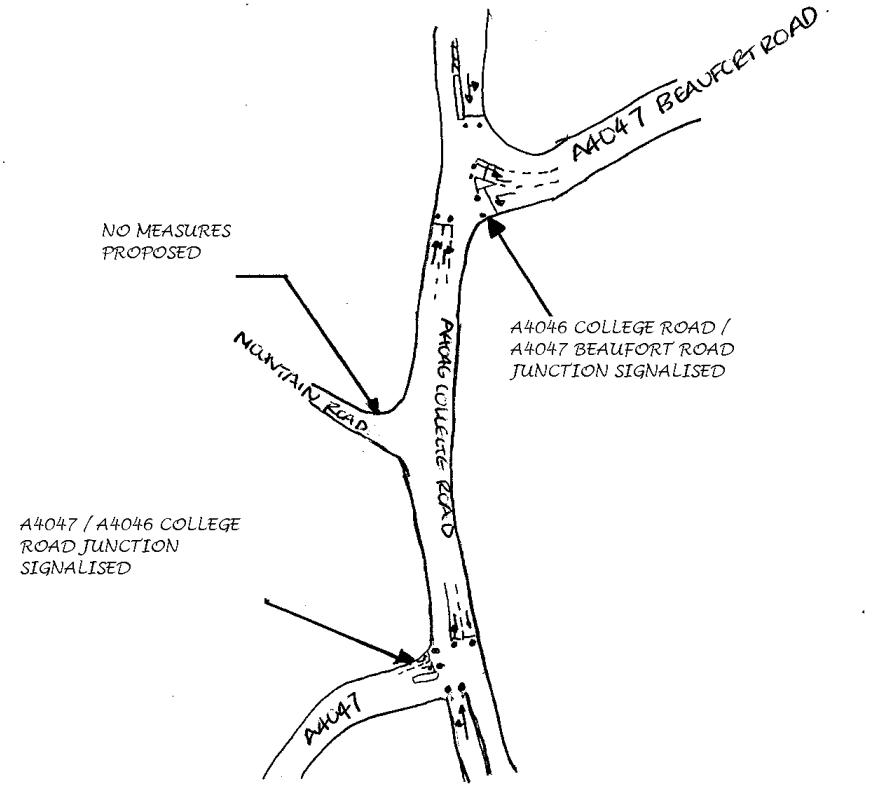


Figure 6.5 Double Signalisation of A4047/ College Road Junction and A4046 / Beaufort Road Junction



6.4 Complementary Measures

6.4.1 Alongside the eight key options, a number of other complementary measures are proposed. These are not proposed to be assessed as part of this study as in many cases they are development related, and therefore are best appraised once the development details are known in full and detailed options to meet the demands of the development can be formed. Further, some are minor on-carriageway measures which will need to be implemented as good practice alongside the preferred option.

6.4.2 The following complementary measures are proposed for the study area. The location of the measures is highlighted on Figure 6.6.

Complementary Measure 1 – Double Yellow Lines Along Cemetery Road and Steelworks Road

Both these roads will see an increase in traffic once the PDR is implemented. Therefore, in order to allow free flowing traffic movements and ensure the safety of road users, double yellow lines restricting on road parking should be implemented along both Cemetery Road and Steelworks Road.

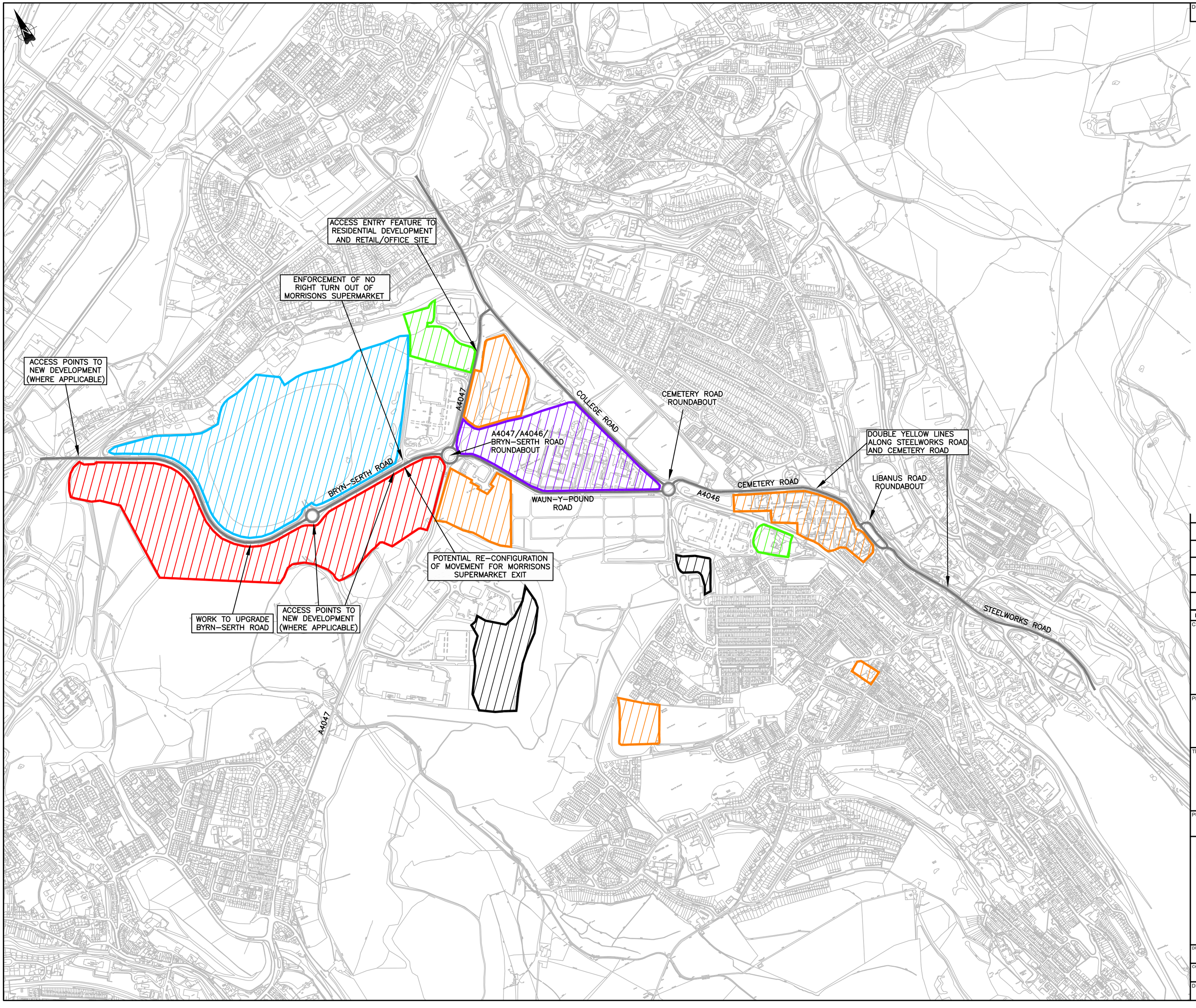
Complementary Measure 2 – Inclusion of Access Entry Point on A4047 to allow Entry to the Residential Development Site and Expansion of the Retail / Office Site
Both the new residential site and the expansion retail / office site along the A4047 will require access points from the main highway network. In line with the implementation of this development (and specific requirements of the development) access measures should be developed. This could include a mini roundabout being located on the A4047 to enable access to both sites.

Complementary Measure 3 – Enforcement of the Morrison's Supermarket Exit 'No Right Turn'
As and when new development is introduced along Bryn–Serth Road, traffic levels will increase. Ensuring that traffic does not exit the Morrisons' supermarket illegally (right turn) onto Bryn-Serth Road, will ensure the safety of road users and also reduce queuing within Morrisons' supermarket.

Complementary Measure 4 – Potential Reconfiguration or Movement of Morrison's Supermarket Exit onto Bryn-Serth Road
As and when the new development on Bryn-Serth Road is implemented, reconfiguration of the Morrison's Supermarket exit may be needed. With increased traffic levels along Bryn-Serth Road, queues may form on the Bryn-Serth Road / A4047 Roundabout, blocking the exit of traffic from the supermarket. Measures will need to be undertaken to ensure traffic exits safety and easily from the supermarket, movement of the exit junction may be needed to achieve this.

Complementary Measure 5 – Work to Upgrade Bryn-Serth Road
As and when the new development on Bryn-Serth Road is implemented, upgrades to the road may need to be undertaken to cope with the additional traffic. This may include improvements to the condition of the carriageway, inclusion of joint usage footways (cyclists and pedestrians) and relevant safety improvements.

Complementary Measure 6 – Access points to new development along Bryn-Serth Road
As and when new development is undertaken on Bryn-Serth Road, new access points may need to be created on the network. Any access (junction, roundabout etc) will require a road safety audit due to the gradient and alignment of the existing highway.



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KEY

- HIGHWAY NETWORK INCLUDED WITHIN STUDY
- OFFICE / RETAIL
- MIXED USE
- EMPLOYMENT
- INDUSTRIAL
- RESIDENTIAL
- LEISURE

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ISSUE	AMENDMENTS	DRAWN	CHECK	DATE

CLIENT: Cyngor Bwrdeistref Sirol Blaenau Gwent County Borough Council

PROJECT: NORTH EBBW VALE HIGHWAYS STUDY

TITLE: COMPLEMENTARY MEASURES

PURPOSE: INFORMATION

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DRAWN	DATE	SCALE
Y. K. WONG	AUGUST 2009	1:7500@A2
CHECKED: M. NORTH	DATE: AUGUST 2009	PROJECT No.: CG 4102

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7. Option Appraisal

7.1 Appraisal Methodology

7.1.1 Each option developed was appraised using the WelTAG methodology (Welsh Transport Planning Appraisal Guidance). This is the appraisal guidance developed by the Welsh Assembly Government to appraise all transport strategies, plans and schemes.

7.1.2 The WelTAG stage 1 appraisal methodology uses a standard Appraisal Summary Table (AST) to appraise options against a range of set criteria. Each option is appraised against these criteria in terms of the scale of their impact and their distribution. Standard criteria for assessment include:

- **Economic Impacts**
  - Transport Economic Efficiency
  - Economic Activity and Location Impacts (EALI)

- **Environmental Impacts**
  - Noise
  - Local Air Quality
  - Greenhouse Gas Emissions
  - Landscape and Townscape
  - Bio-diversity
  - Soil
  - Heritage
  - Water

- **Social**
  - Transport Safety
  - Personal Security
  - Permeability
  - Physical Fitness
  - Social Inclusion

(Within the appraisal summary table for assessment of options for this study, each of these objectives have been aligned to the relevant Sewta Regional Transport Plan objectives).

7.1.3 In addition to the standard criteria, individual transport planning objectives are developed, which assess options against the specific objectives that are trying to be achieved by a project.

7.1.4 For this study, objectives were developed which reflected the local priorities of the north Ebbw Vale area and which linked directly to the objectives of the Sewta Highways Strategy. This ensured that options that score highly on appraisal are reflective of the overall Sewta objectives for progression of highways schemes. Sewta states in its consultative draft Regional Transport Plan that it will only invest in new highway schemes where it can be shown to support its objectives. This therefore allows alignment of chosen options with future funding opportunities.

7.1.5 The transport planning objectives chosen include the following (in brackets is the Sewta Highways Strategy objective to which they relate if relevant):

- To make better use of the existing road system (a Sewta objective);
- To support an integrated and sustainable approach towards land use planning (Objective H3);
- To provide an efficient, reliable and sustainable highways network (Objective H4);
- To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN) (Objective H6);
- Effect on key surrounding land uses / developable land;
- Implication on operation of bus network e.g. change of route, movements of bus stop, number of people affected by potential change of route;
- Effect on the traffic flow or key traffic movements with the study area;
- Contribution to the wider regeneration of the area.

7.1.6 In addition to the assessment of schemes against set criteria, the key risks for implementation of schemes were highlighted within the appraisal summary tables. This allowed for a more objective view to be taken relating to the realities of achieving preferred options.

7.1.7 Options 1 to Option 8 were WelTAG stage 1 appraised. Complementary measures have not been appraised, as these options should be undertaken as a matter of good practice and in many cases are directly related to implementation of new development and will be required as part of planning permission.

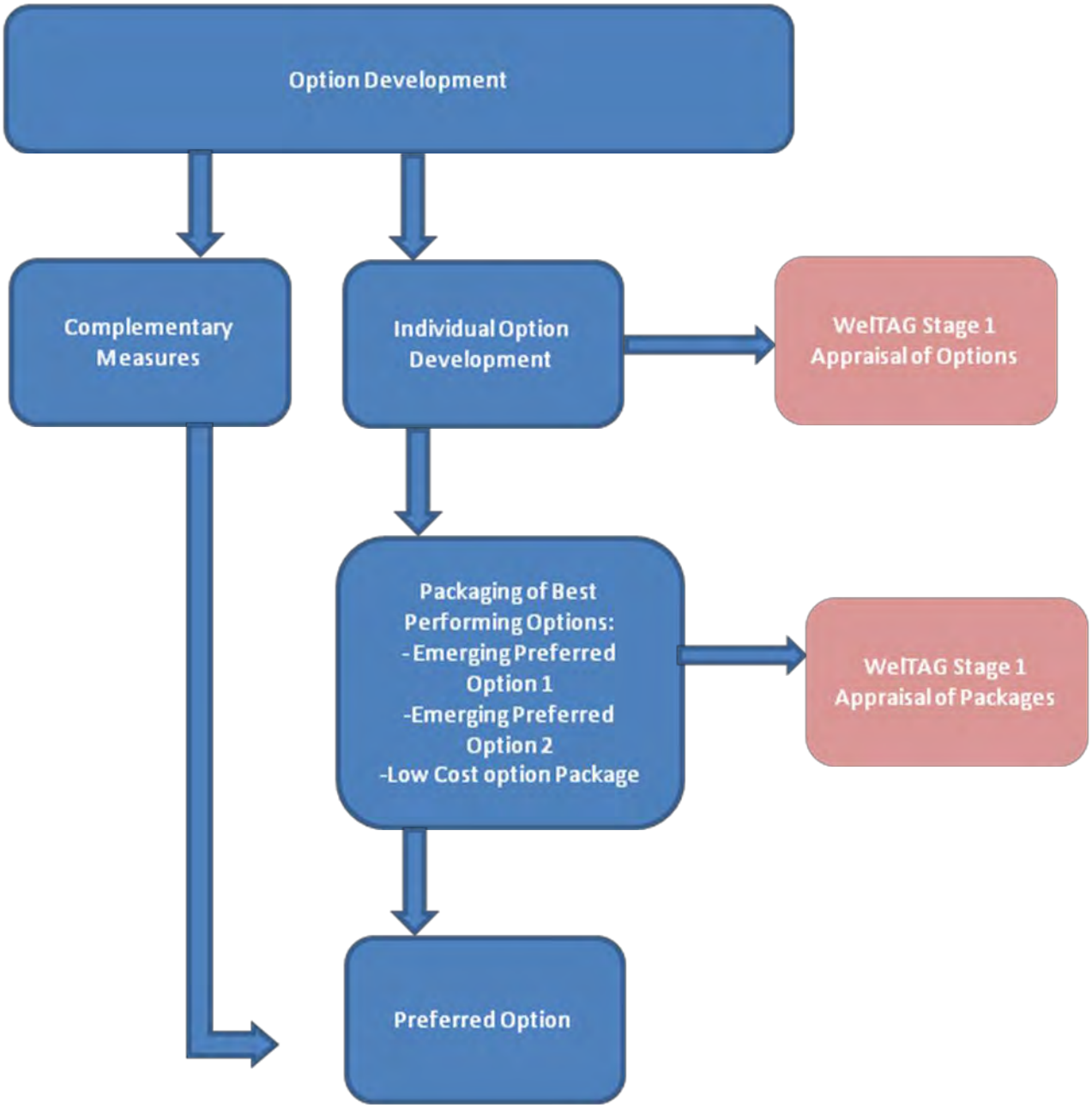
7.1.8 Measures that perform highly at Stage 1 WelTAG appraisal were packaged together for further WelTAG appraisal. This resulted in the appraisal of 3 key packages:

- Emerging Preferred Option 1;
- Emerging Preferred Option 2; and
- The low cost Option Package.

7.1.9 The package that performed best at WelTAG stage 1 appraisal forms the Preferred Option for implementation.

7.1.10 Figure 7.1 outlines diagrammatically the appraisal process undertaken.

Figure 7.1 Flow Diagram of Appraisal Process



7.2 Option Appraisal Results

7.2.1 Results presented in this section do not include any traffic modelling with assessment based on existing traffic data, informal observation and collected baseline data. Detailed traffic modelling would need to be undertaken on any option that is taken forward, to gather quantifiable information relating to its potential effectiveness.

7.2.2 Further, consideration would need to be given to the risks outlined as schemes develop.

7.2.3 Costs provided are preliminary estimates based on conceptual designs and do not take into account any additional costs that may occur as a consequence of ground investigations, the type and specification requirements of materials to be used and any unforeseen costs or increases in cost that may arise when detailed design work is undertaken. No contingences have been included within the cost estimates and no element of risk added to the estimation. No allowance has been made for statutory undertakers, plant (existing or proposed) or contaminated ground conditions. These costs would need to be re-evaluated when further surveys and detailed design work is undertaken, at which time these costs could increase or decrease.

7.2.4 Each option was appraised with the full implementation of all new proposed development being introduced within north Ebbw Vale.

7.2.5 Individual appraisal summary tables for each option are presented in Appendix B, with a summary of the appraisal results provided in Table 7.1 (and packages in Table 7.2).

Table 7.1 Option Appraisal Results

	Scheme (Options)							
	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8
Economy								
Transport Economic Efficiency	Moderate Adverse	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	Moderate Beneficial	Moderate Beneficial	Slight adverse
EALI	Severe Adverse	Slight beneficial	Moderate Beneficial	Slight beneficial	Slight beneficial	Neutral	Moderate Beneficial	Slight adverse
Environment/Sustainability								
Noise	Moderate Adverse	Slight adverse	Moderate Adverse	Moderate Adverse	Slight adverse	Slight adverse	Slight adverse	Slight adverse
Local Air Quality	Severe Adverse	Neutral	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Slight adverse
Greenhouse Gas Emissions	Severe Adverse	Neutral	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Slight adverse
Landscape and Townscape	Moderate Adverse	Slight adverse	Moderate Adverse	Moderate Adverse	Slight adverse	Slight adverse	Slight adverse	Slight adverse
Biodiversity	Moderate Adverse	Slight adverse	Moderate Adverse	Moderate Adverse	Moderate Adverse	Neutral	Slight adverse	Slight adverse
Heritage	Moderate Adverse	Slight adverse	Slight adverse	Slight adverse	Neutral	Neutral	Neutral	Neutral
Water Environment	Neutral	Slight adverse	Moderate Adverse	Moderate Adverse	Neutral	Neutral	Neutral	Neutral
Soil	Neutral	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Neutral
Social								
Transport Safety	Moderate Adverse	Slight beneficial	Moderate Beneficial	Moderate Beneficial	Slight beneficial	Moderate Beneficial	Moderate Beneficial	Slight adverse
Personal Security	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Permeability	Moderate Adverse	Moderate Adverse	Moderate Adverse	Moderate Adverse	Slight adverse	Neutral	Moderate Beneficial	Moderate Adverse
Physical Fitness	Slight adverse	Neutral	Neutral	Neutral	Neutral	Neutral	Slight beneficial	Slight adverse
Social Inclusion	Slight adverse	Slight beneficial	Slight beneficial	Slight beneficial	Neutral	Neutral	Slight beneficial	Slight adverse
Transport Planning Objectives								
To make better use of the existing road system.	Severe Adverse	Slight beneficial	Slight adverse	Slight adverse	Moderate Beneficial	Large Beneficial	Moderate Beneficial	Moderate Adverse
To support an integrated and sustainable approach towards land use planning	Moderate Adverse	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Slight beneficial	Slight adverse
To provide an efficient, reliable and sustainable highways network	Severe Adverse	Slight adverse	Moderate Beneficial	Moderate Beneficial	Slight beneficial	Slight beneficial	Moderate Beneficial	Moderate Adverse
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	Moderate Adverse	Slight adverse	Large Beneficial	Slight beneficial	Slight beneficial	Slight beneficial	Moderate Beneficial	Slight adverse
Effect on key surrounding land uses / developable land.	Moderate Adverse	Moderate Adverse	Moderate Beneficial	Moderate Adverse	Slight beneficial	Neutral	Slight beneficial	Slight adverse
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.	Moderate Adverse	Neutral	Slight beneficial	Slight adverse	Neutral	Neutral	Neutral	Slight adverse
Effect on the traffic flow or key traffic movements with the study area.	Moderate Adverse	Slight adverse	Moderate Beneficial	Slight adverse	Moderate Beneficial	Moderate Beneficial	Moderate Beneficial	Moderate Adverse
Contribution to the wider regeneration of the area.	Moderate Adverse	Slight beneficial	Moderate Beneficial	Slight beneficial	Moderate Beneficial	Slight beneficial	Moderate Beneficial	Slight adverse
Risks								
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc	Risk of not attracting the development to north Ebbw Vale without highway improvements. Risks to adverse stakeholder reaction to increasing congestion on network e.g. local chamber of commerce, local communities. Risks to negative economic impact on town centre as increasing congestion in north Ebbw Vale reduces access to town centre services.	Unlikely to be a good future long term option as will only give increased capacity for a limited period before new development causes increased traffic flow. Potential problems with stakeholder buy-in if loss of hard standing to fire station. Potential high cost if ground conditions are difficult under playing flied.	Ground conditions for alternative alignment of PDR over playing fields (possible mine shafts) Large capital outlay to scheme Reliant on land of existing school and college (these landuses both need to move to alternative locations, only college movement is confirmed) Future modelling needed on option to confirm would cope with all traffic generated by all future possible development options.	Risk of negative effect on regeneration of town centre from less direct highway link Dominant traffic movements of existing Cemetery Road Roundabout are made less direct. Modelling needed to ensure that option can allow future capacity to met all the potential development in the area. Risks from stakeholder buy in if access to cemetery is reduced. Access to future land developments e.g. residential development on Waun-Y-Pound road, may lead to need to alter the new network in future years (additional cost and distribution). Reliant on land of existing school and college (these land uses both need to move to alternative locations, only college movement is confirmed)	Cost of scheme in terms of benefit created in additional capacity (modelling would need to be undertaken to establish how much extra capacity is generated by the design). Movement of bus stop may be opposed by users and bus operators.	May be need in future to do further works to increase capacity of junction (further modelling work needed to establish this). Lining and signing measures alone may not give the capacity needed at the junction.	Traffic modelling work will need to be undertaken on any design to ensure that no adverse queuing results as a consequence of the design. Pedestrian and cycling facilities must be incorporated into the design to ensure all benefits are realised.	This option could harm the future regeneration of the area and ability to attract inward investment and development. Improvements at this junction may become a condition to further development and therefore this option if pursued may stop planned development opportunities.

Key

Option 1: Do Minimum – No Changes to Existing Highway Network in North Ebbw Vale

Option 2: Enlargement of the Existing Cemetery Road Roundabout

Option 3: Improvements to Cemetery Road Roundabout including an additional Roundabout at the College Entrance

Option 4: Improvements to Cemetery Road Roundabout including an Additional Northern Roundabout

Option 5: Adaption of Libanus Road Gyratory to Double Signalised Junction and Movement of Bus Stops to Beaufort Road.

Option 6: Lining and Signing Safety Improvements to Libanus Road Gyratory

Option 7: Double Signalisation of A4047/ College Road Junction and A4046 / Beaufort Road Junction

Option 8: No Signalisation of A4047 / College Road Junction and A4046 / Beaufort Road Junction

Option Appraisal Results

Option 1: Do Minimum

7.2.6 This option presents the scenario of no highway improvements being undertaken within the study area. With implementation of new development and changes to existing land uses, this would quickly result in the network reaching capacity and thus increased congestion, increased journey times and a decrease in journey reliability. The stage 1 WelTAG appraisal results for this option reflects this negative outcome, with slight adverse to severe adverse results for the majority of criteria.

7.2.7 The option would have large risks, with a negative economic impact on the town centre as access becomes difficult due to increasing traffic levels, and may discourage further new investment into the area.

Option 2: Enlargement of Existing Cemetery Road Roundabout

7.2.8 Within this option the location of the roundabout would remain, with enlargement and slight alteration to the alignment of some arms. All access links off the roundabout would remain.

7.2.9 This option would provide an increase in capacity and therefore may aid in allowing increased traffic flow created by potential new development. However, it is unlikely that the extra capacity required to accommodate all future development into the long term would be created by this design. Therefore, this option could result in spending capital for only a limited improvement and further improvements (and applications for funding) needing to be undertaken into the future.

7.2.10 This option does perform well in terms of making better use of the existing network and in terms of its economic impact. However, it performs adversely against many of the Transport Planning objectives, such as providing an efficient, reliable and sustainable highway network, as benefits created are likely to be for a limited period only.

Option 3: Improvements to Cemetery Road Roundabout including an additional Roundabout at the College Entrance

7.2.11 This option includes the addition of a second roundabout to the existing Cemetery Road Roundabout located within the area of the existing college entrance.

7.2.12 This option performs well in terms of its impact on the economy, and on Transport Planning objectives such as providing an efficient, reliable and sustainable highway network, ensuring a high level of accessibility to the regional network and the TEN, its effect on developable land, effect on key traffic flows within the study area and contribution to wider regeneration.

7.2.13 The option also has a beneficial effect on transport safety.

7.2.14 Importantly this option allows for increased access to all potential new development sites, allows good access from the PDR to the A465 and vice versa and allows key dominant traffic movements at Cemetery Road Roundabout to remain. Users will still

be able to access the town centre and also Waun-Y-Pound Road and the potential developments within this area.

7.2.15 As with all the options, there is a slight negative impact on the environment as new road building is likely to facilitate increased car usage.

7.2.16 The capital outlay for this scheme is likely to be high, however, this option has the potential to accommodate the increased traffic flow generated by all the proposed new development within North Ebbw Vale.

7.2.17 Risks to implementation of this option include, ground conditions for the alternative alignment of the PDR link across the playing fields and the reliance on the land where the comprehensive school and college are currently located (the movement of the College is confirmed, however movement of the Comprehensive school is not).

Option 4: Improvement to Cemetery Road Roundabout including an Additional Northern Roundabout

7.2.18 This option provides similar benefits to that outlined for option 3, however the option is likely to provide a reduction in access to the town centre, due to its design. Direct access from the A4046 College Road to the town centre is removed by the redesign of Cemetery Road Roundabout, with users instead needing to use a separate new link between the two proposed roundabouts. This therefore reduces the ability for dominant traffic movements to be facilitated (north – south along the A4046 College Road into and from the town centre).

7.2.19 Further, this option prevents direct access to developments proposed for the north of Waun-y-Pound Road and access to the cemetery is reduced. This therefore leads to the option having less of a benefit in terms of its access to the wider regional highway network and also in terms of its impact on the wider regeneration of the area.

7.2.20 The risks to implementation of this option include the reduction in regeneration benefits to the town centre, risks from a lack of stakeholder support if access to the cemetery is reduced and a reduction in access to some of the future proposed development sites. This option (as option 3) is reliant upon land where the college and comprehensive school are currently located becoming vacant.

Option 5: Adaption of Libanus Road Gyratory to Double Signalised Junction and Move of Bus Stops to Beaufort Road.

7.2.21 This option would see the adaption of the Libanus Road gyratory to a double signalised junction. This would provide priority to users of the PDR into Cemetery Road roundabout and the wider regional network, whilst also providing access to users from the side roads of Beaufort Road and Libanus Road into the main network.

7.2.22 This option performs well in terms of impact on the economy and also in terms of meeting transport planning objectives. The option allows for making better use of the existing highway network without new road building as well as aiding an efficient, reliable and sustainable network, providing good access to the regional network, allowing key dominant traffic movements to continue and contribution to the wider regeneration of the area by providing good access to development sites.

7.2.23 This option does have a slight adverse impact on the environment, but has benefits in terms of transport safety.

7.2.24 This option would have a higher capital cost than option 6 but may could result in providing capacity for the longer term.

7.2.25 Risks to implementation of this option include possible opposition to movement of the bus stop from users and bus operators (although no bus routes would need to alter in order to service the bus stops in the alternative location on Beaufort Road).

Option 6: Lining and Signage Improvements to Libanus Road Gyratory

7.2.26 This option would see the implementation of a range of improvements to lining and signage in order to direct users move safety around the gyratory.

7.2.27 This option performs well in terms of impact on the economy (due to its low capital cost) and provides improvements to transport safety. Further, the option meets many of the transport planning objectives including making better use of the existing highway network, providing and allowing key traffic flow movements within the study area to be maintained.

7.2.28 The risk to the implementation of this option is that it may not provide the future capacity benefits that may be needed at this gyratory once all proposed developments are introduced. Therefore, further capital outlay may be needed in the future, which may be at a higher cost than if the option is implemented as a package, as economies of scale will be lost.

Option 7: Double Signalisation of A4047 / College Road Junction and A4046 / Beaufort Road

7.2.29 This option performs highly in terms of its impact on the economy, social objectives and transport planning objectives. In particular it will have moderate beneficial impacts upon transport safety, permeability, making better use of the existing highway, providing an efficient, reliable and sustainable highway network, providing access into the regional network and TEN, allowing key dominant traffic flow movements and helping to aid regeneration to the wider area.

7.2.30 These two junctions are key nodes in the access from the town centre and areas of new development within north Ebbw Vale onto the A465. These junctions would benefit from an increase in capacity to facilitate increased level of traffic flow generated by new development.

7.2.31 Cycling and pedestrian facilities will need to be designed into this option to allow increased permeability, as will further modelling work to ensure the correct phasing is implemented to allow maximum throughput.

Option 8: No signalisation of A4047/ College Road Junction and A4046/ Beaufort Road Junction

7.2.32 This option has a slight adverse to moderate adverse impact on nearly all criteria. This option is likely to lead to increased congestion on key nodes on the highway network, leading to negative impacts on regeneration, inward investment and journey times.

7.3 Package Appraisal Results

7.3.1 From the results of the appraisal of individual options it can be seen that the three options that have performed best at appraisal are:

- Option 3 (Cemetery Road Roundabout);
- Option 5 (Libanus Road Roundabout); and
- Option 7 (A4047 / A4046 College Road).

7.3.2 These options have been packaged together to form Emerging Preferred Option 1. This package also includes the implementation of all complementary measures).

7.3.3 In addition, two other well performing packages of measures for appraisal have been formed for assessment. These are:

- Emerging Preferred Option 2: this consists of option 3,6 and 7 plus complementary measures. This provides a less costly option than emerging preferred option 1, with only lining and signage works undertaken at Libanus Road Roundabout.
- Low Cost option package: This consists of options 2,6 and 8 providing some intervention into the highway network at a low cost.

7.3.4 Each of these packages was WelTAG stage 1 appraised. The individual appraisal summary tables for each of the packages is provided in Appendix A. Table 7.2 provides a summary of the appraisal results for the packages.

7.3.5 As with appraisal of the individual options, traffic modelling work should be undertaken on the preferred package to ensure that the benefits of the option are quantifiable and that the amount of capacity needed to facilitate increased development is achieved.

7.3.6 Costs for the packages are a summation of those provided for the individual options, and are estimations based on conceptual designs.

Table 7.2 Package Appraisal Summary Results

	Packages		
	Emerging Preferred Option 1	Emerging Preferred Option 2	Low Cost Option Package
Economy			
Transport Economic Efficiency	Moderate Beneficial	Moderate Beneficial	Slight beneficial
EALI	Large Beneficial	Moderate Beneficial	Slight beneficial
Environment/Sustainability			
Noise	Moderate Adverse	Moderate Adverse	Slight adverse
Local Air Quality	Moderate Adverse	Moderate Adverse	Slight adverse
Greenhouse Gas Emissions	Moderate Adverse	Moderate Adverse	Slight adverse
Landscape and Townscape	Slight adverse	Slight adverse	Slight adverse
Biodiversity	Moderate Adverse	Moderate Adverse	Slight adverse
Heritage	Neutral	Neutral	Neutral
Water Environment	Slight adverse	Slight adverse	Slight adverse
Soil	Slight adverse	Slight adverse	Slight adverse
Transport Safety	Moderate Beneficial	Moderate Beneficial	Slight beneficial
Personal Security	Neutral	Neutral	Neutral
Permeability	Slight beneficial	Slight beneficial	Moderate Adverse
Physical Fitness	Slight beneficial	Slight beneficial	Neutral
Social Inclusion	Slight beneficial	Slight beneficial	Neutral
Transport Planning Objectives			
To make better use of the existing road system.	Slight beneficial	Slight beneficial	Moderate Beneficial
To support an integrated and sustainable approach towards land use planning	Moderate Adverse	Moderate Adverse	Slight adverse
To provide an efficient, reliable and sustainable highways network	Large Beneficial	Slight beneficial	Slight beneficial
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	Large Beneficial	Slight beneficial	Slight adverse
Effect on key surrounding land uses / developable land.	Large Beneficial	Moderate Beneficial	Slight beneficial
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.	Neutral	Moderate Beneficial	Neutral
Effect on the traffic flow or key traffic movements within the study area.	Large Beneficial	Slight beneficial	Slight beneficial
Contribution to the wider regeneration of the area.	Large Beneficial	Moderate Beneficial	Slight beneficial
Risks			
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc	Reliant on relocation of existing school and college (these land uses both need to move to alternative locations, only college movement is confirmed) Ground conditions for alternative alignment of PDR over playing fields (possible mine shafts) Future modelling needed on option to confirm would cope with all traffic generated by all future possible development options. Movement of bus stops may be opposed by users and bus operators.	Reliant on relocation of existing school and college (these land uses both need to move to alternative locations, only college movement is confirmed) Ground conditions for alternative alignment of PDR over playing fields (possible mine shafts) Future modelling needed on option to confirm would cope with all traffic generated by all future possible development options. Possible that future work may be needed at Libanus Road Roundabout if further development undertaken. This will be an additional cost and may lose the economies of scale of undertaking the measure as a package. Lower cost option but may not give the long term benefits to accommodate all future development proposed for the study area.	Benefits provided by options will be for a limited period only before traffic levels increase and the benefits are lost. Further cost in the future when additional works may need to be undertaken to create more capacity. Gaining secondary funding to undertake the additional work may be difficult.

Key

Emerging Preferred Option 1: Implementation of improvements to Cemetery Road Roundabout including an additional roundabout at the college entrance (option 3), adaption of Libanus Road Roundabout into a Double signalised junction (option 5) and Double signalisation of the A4046 / A4047 Beaufort road junction and A4047 / A4046 College Road junction (Option 7). Also included is the implementation of complementary measures.

Emerging Preferred Option 2: Implementation of improvements to Cemetery Road Roundabout including an additional roundabout at the college entrance (option 3), lining and signing improvements at Libanus Road Roundabout (Option 6) and Double signalisation of the A4046 / A4047 Beaufort road junction and A4047 / A4046 College Road junction (Option 7). Also included is the implementation of complementary measures.

Low Cost Option Package: This package would consist of the implementation of the enlargement of Cemetery Road roundabout (Option 2), lining and signage improvements at Libanus Road Roundabout (Option 6) and no signalisation or improvements to the junction of the A4046 (College Road) with the A4047 or the junction of A4047 with the A4046 (College Road) (Option 8). Complementary measures would be implemented.

Emerging Preferred Package 1

7.3.7 This package would see the implementation of a second roundabout to the north of the existing Cemetery Road Roundabout located within the area of the current college entrance, with alterations in the alignment of the PDR and the existing Cemetery Road Roundabout, signalisation of both the junctions of the A4047 with the A4046 (College Road) and the A4046 (College Road) with the A4047 (Beaufort Road) and double signalisation of Libanus Road Gyratory.

7.3.8 This package performs well in terms of its impact on the economy and the transport planning objectives, in particular:

- Providing an efficient, reliable and sustainable highways network;
- Ensuring a high level of accessibility throughout the region and wider into the TEN;
- The effect on surrounding land uses and developable land;
- The effect on traffic flow and key traffic movements; and
- The packages contribution to the wider regeneration of the area.

7.3.9 This package does have a slight to moderate adverse impact on the environment, as improvements to the highway network will allow increased traffic flow levels which will negatively affect noise levels, local air quality and biodiversity.

7.3.10 This package will provide moderate beneficial impacts in terms of safety and slight beneficial impacts in terms of permeability, physical fitness and social inclusion (the latter three mainly relating to the signalisation of the two junctions on the A4046/A4047).

7.3.11 Although this package, has the highest potential capital cost, it is likely to meet all future demands on the highway network and cause less disruption in the long term as the package allows improvements to the whole network within the study area.

Emerging Preferred Package 2

7.3.12 This package consists of a second roundabout to the north of the existing Cemetery Road Roundabout located within the area of the existing college entrance, with alterations in the alignment of the PDR and the existing Cemetery Road Roundabout, signalisation of both the junctions of the A4047 with the A4046 (College Road) and lining and signage improvements at Libanus Road Roundabout.

7.3.13 This package has moderate beneficial impacts on the economy and moderate to slight beneficial impacts on the transport planning objectives, in particular:

- A moderate beneficial impact on key surrounding land uses / developable land;
- A moderate beneficial impact on the operation of the local bus network; and
- A moderate beneficial impact onto the contribution to the wider regeneration of the area.

7.3.14 As with emerging preferred package 1 this package does have a moderate to slight adverse impact on the environment, with increased traffic levels having a negative impact on local air quality, noise and biodiversity.

7.3.15 This package will provide benefits in terms of facilitating increased capacity within the network to allow implementation of new development. This package will also be at a lower capital cost than Emerging Preferred Package 1. However, with only lining and

signage improvements to Libanus Road Roundabout, the necessary capacity for traffic flow from the PDR, passing through Libanus Road Roundabout, may not be sufficient in the longer term (especially if new development is implemented to the north).

7.3.16 Therefore, this package may result in further works in the future needing to be undertaken at Libanus Road Roundabout to create the additional required capacity. This could be more costly, as the economies of scale of undertaking construction improvements to the gyratory with other works (as under Emerging Preferred Option 1) will be lost if undertaken alone at a future time.

Low Cost Option Package

7.3.17 This package provides some intervention to the existing highway network to facilitate increased capacity but at a lower cost than Emerging Preferred Option 1 or 2. This package consists of the enlargement of Cemetery Road Roundabout and lining and signing improvements to Libanus Road Roundabout. No changes would be implemented to the two A4046 / A4047 junctions.

7.3.18 Assessment shows that this package performs poorly in terms of its impact on permeability and has a slight adverse impact on ensuring a high level of accessibility through to the regional network and into the TEN (this is mainly due to the key junctions of the A4047 / A4046 not being improved within this package).

7.3.19 The impact upon the environment is only likely to be slightly adverse under this option as less capacity is likely to be created on the network thus artificially constraining traffic flow.

7.3.20 This package does have a slight beneficial impact on the economy, mainly due to its lower capital cost, however regeneration benefits are likely to be lower under this package, with future inward investment possible slowed or stopped by a lack of capacity in the road network.

7.3.21 This package does make good use of the existing highway network without the need for new road building.

7.3.22 This package, although low cost, is likely to provide short term improvements in capacity and is unlikely to facilitate the longer term capacity needed to allow all future proposed development within the study area.

7.4 Conclusion

7.4.1 This chapter has provided a review of the methodology used to appraised the options and packages of options, as well as presenting the results of the appraisal.

7.4.2 From all the individual options assessed option 3 (improvements to Cemetery Road Roundabout including an additional roundabout at the College Entrance) option 5 (Adaption of Libanus Road Roundabout to a double signalised junction and movement of bus stop to Beaufort Road) and option 7 (double signalisation of A4047 / College Road junction and A4046 / Beaufort Road junction) perform best, with these options packaged to produce the Emerging Preferred Option 1. This package (along with two other packages of options) were further appraised.

7.4.3 Although, Emerging Preferred Option 1, has the highest capital cost it is likely to provide long term benefit and provide the required capacity in the network to facilitate all future proposed development within the study area (however, further traffic modelling work should be undertaken to confirm this). This package is presented as the Preferred Option in the next chapter.

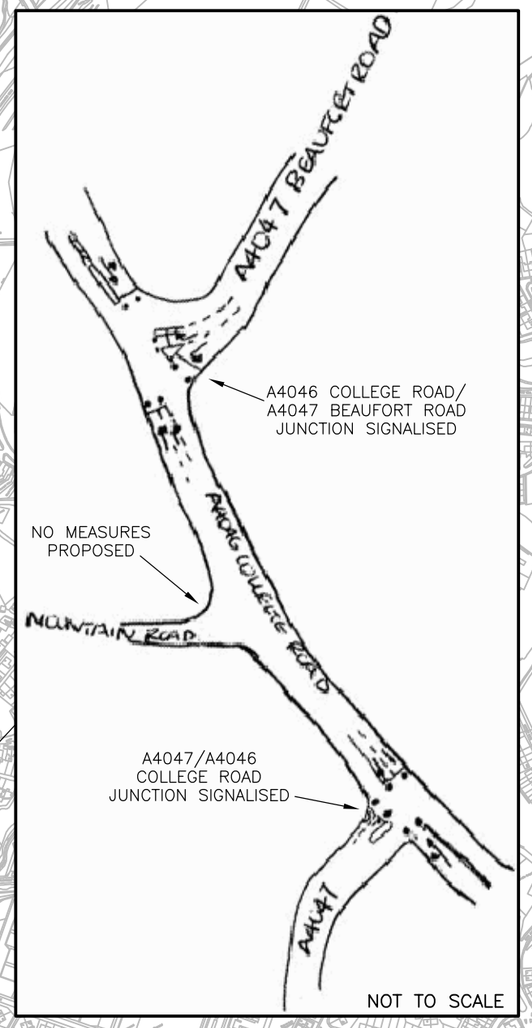
8. Preferred Option

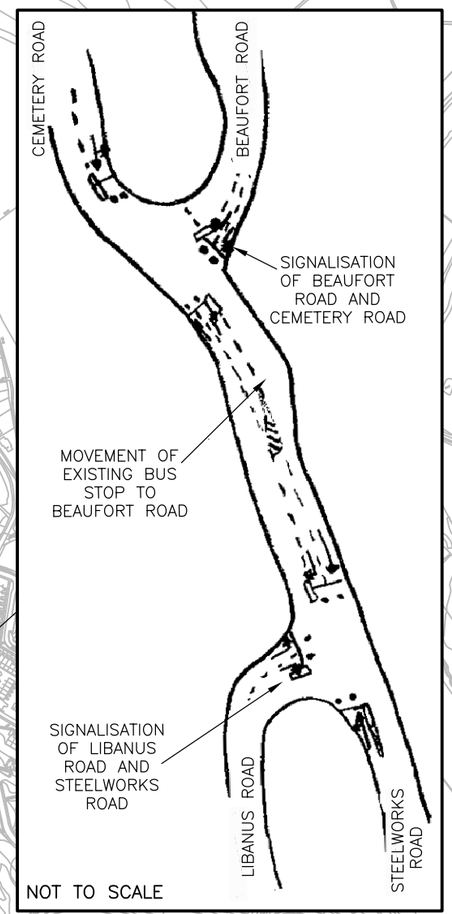
8.1 Option Description

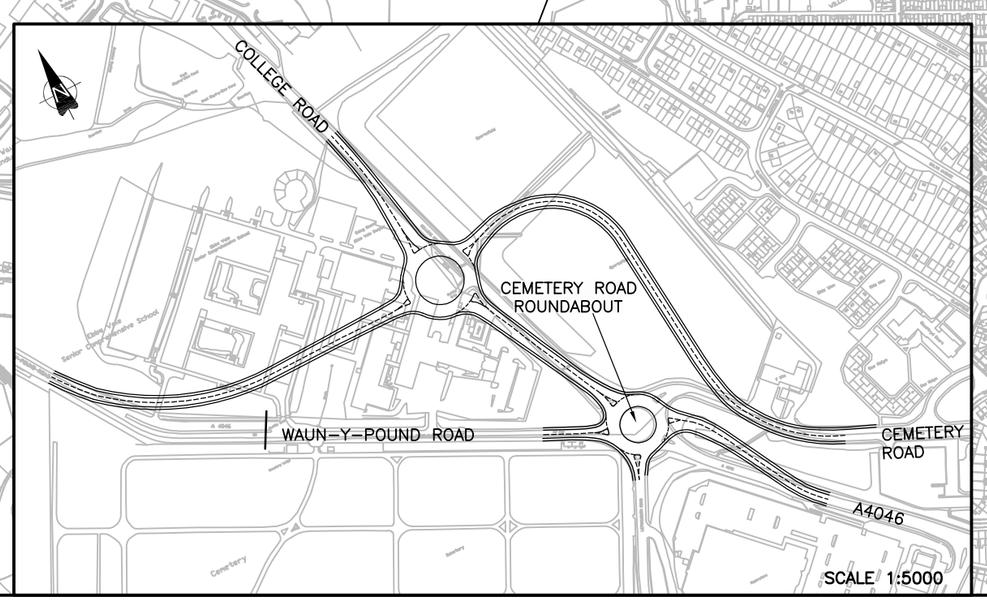
8.1.1 Appraisal results have concluded that the preferred option for the development of the strategic highway within North Ebbw Vale includes:

- Improvements to Cemetery Road Roundabout including an additional Roundabout at the college entrance;
- Double Signalisation of A4047 / College Road junction and A4046 / Beaufort Road;
- Adaption of Libanus Road Gyratory to double signalised junction and movement of bus stops to Beaufort Road;
- Complementary measures:
  - Double yellow lines along Cemetery Road and Steelworks Road;
  - Inclusion of access entry point on A4047 to allow entry to the residential development site and expansion of the retail / office site;
  - Enforcement of the Morrison's Supermarket exit 'No Right Turn';
  - Potential reconfiguration or movement of Morrison's Supermarket exit onto Bryn-Serth Road;
  - Work to upgrade Bryn-Serth Road;
  - Access points to new development along Bryn-Serth Road.

8.1.2 The preferred option is show in figure 8.1.







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DRG. No. FIGURE 8.1 | REVISION REF.

ISSUE	AMENDMENTS	DRAWN	CHECK	DATE

CLIENT: Cyngor Bwrdeistref Sirol Blaenau Gwent County Borough Council

PROJECT: NORTH EBBW VALE HIGHWAYS STUDY

TITLE: PREFERRED OPTION

PURPOSE: INFORMATION

CAPITA SYMONDS
Capita Gwent Consultancy Limited
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DRAWN	DATE	SCALE
Y. K. WONG	AUGUST 2009	1:7500@A2
CHECKED: M. NORTH	DATE: AUGUST 2009	PROJECT No.: CG 4102

DRG. No. FIGURE 8.1 | REVISION REF.

FILE: P:\schemes_cg\cg0041xx\cg004102\CAD\

8.2 Cost Estimate

8.2.1 Tables 8.1 to 8.3 outlines a breakdown of estimated costs for the implementation of the Preferred Option. These are then summarised in table 8.4 to provide a total cost. The costs provided relate only to the main options within the Preferred Option and do not include any costs for implementation of complementary measures.

8.2.3 Costs provided are estimates based on conceptual designs and do not take into account any additional costs that may occur as a consequence of ground investigations, the type and specification requirements of materials to be used and any unforeseen costs or increases in cost that may arise when detailed design work is undertaken. No contingences have been included within the cost estimates and no element of risk added to the estimation. No allowance has been made for statutory undertakers, plant (existing or proposed) or contaminated ground conditions. These costs would need to be re-evaluated when further surveys and detailed design work is undertaken, at which time these costs could increase or decrease.

Table 8.1 Estimated Costs for Improvements to Cemetery Road Roundabout including an Additional Roundabout at the College Entrance

Cost	Price
Earthworks	496,550
Drainage	507,344
Pavements	539,728
Structures	N/A
Resurfacing Existing	33,696
Others	422,787
Preliminaries	420,022
Total	**2,420,127**

Table 8.2 Estimated Costs for the Adaption of Libanus Road Gyratory to Double Signalised Junction and Movement of Bus Stops to Beaufort Road

Cost	Price
Set of Signal Heads	£75,000
Associated duct work etc	£37,500
Anti Skid on main road	£6,480
Pedestrian Refuge	£3,000
Relocate existing Bus Stop	£4,000
Signage Allowance	£23,796
Preliminaries	£31,453
TOTAL	**£181,229**

Table 8.3 Estimated Costs of Signalisation of the A4047 / College Road Junction and A4046 / Beaufort Road Junction

Cost	Price
Set of Signal Heads	£75,000
Associated duct work etc	£37,500
Anti Skid on main road	£6,480
Pedestrian Refuge	£1,500
Signage Allowance	£23,796
Sub Total	£144,276
Preliminaries	£30,298
TOTAL	**£174,574**

Table 8.4 Preferred Option Total Estimated Cost

Elements	Cost
Improvements to Cemetery Road Roundabout including an Additional Roundabout at the College Entrance	2,420,127
Adaption of Libanus Road Gyratory to Double Signalised Junction and Movement of Bus Stops to Beaufort Road	181,229
Signalisation of the A4047 / College Road Junction and A4046 / Beaufort Road Junction	174,574
TOTAL	**£2,775,930**

8.3 Option Benefits

8.3.1 The preferred option has the following benefits:

- It provides the best performing combination of measures when appraised using WelTAG stage 1 appraisal methodology;
- It will facilitate the long term inward investment in the area, by providing the capacity in the network to allow all proposed developments to be undertaken;
- It provides connectivity between the PDR and the TEN (A465). It aligns with the proposed changes to the A465 once dualling is undertaken to establish a connective highway network within North Ebbw Vale;
- It allows for the facilitation of wider regeneration by not only providing access to the proposed new development sites, but serving those sites which are already in existence or are due to expand e.g. The Works and continuing good access to the Town Centre.
- It meets the Sewta objective of making better use of the existing highway network, with only minimal new road building needed, in order to provide the future capacity required.
- The package provides an efficient, reliable and sustainable highways network, directly addressing a Sewta Highways Strategy objective;
- The option will not negatively influence the operation of the existing bus network;
- The option facilitates the current dominant flow of traffic and future dominant traffic flow movements that will be established once development is implemented and the PDR is complete.

8.3.2 This option may also result in the following associated benefits:

- With implementation of both the PDR and the preferred option, less traffic will be travelling along the existing A4046, as a bypass for the town centre is provided. This may lead to the opportunity to make improvements to the urban fabric of the town centre to allow for regeneration and greater priority for pedestrians and cyclists.
  More outdoor areas may be able to be created for communities to gather and interact and the expansion of local restaurants, cafés and other entertainment and retail establishments.
- Improvements may also be able to be undertaken to the current arrangement of the bus stops / station in the town centre: Less traffic on the A4046 may allow for the redesign of the facility to provide better access for users and better connectivity with the rest of the town centre.

8.4 Option Risks

8.4.1 There are a number of risks that are associated with the preferred option. As further work is undertaken, these risks may diminish or be realised. These risks should be taken into account when considering implementation.

- As with all highway improvements, there is the potential for a negative impact on the environment as highway improvements often lead to greater traffic flow. In particular, this can cause increased noise, emissions (and lower air quality) and effect biodiversity. The moderate to slight adverse impact upon environmental factors shown by the WelTAG appraisal for the Preferred Option could be realised if mitigating measures are not undertaken. Further, demonstration of sustainability of the option will be needed in order to address the cross cutting themes required for EU funding.
- The preferred option design is reliant on the land where the existing comprehensive and college are located becoming vacant. At the time of writing only the movement of the college to a new location (The Works site) has been confirmed. If the Comprehensive school does not move, then the second roundabout required for the redesign of Cemetery Road Roundabout will need to be re-located.
- Ground conditions for all the proposed works will need to be investigated. In particular the ground conditions under the existing playing fields east of College Road, as it is reported that mine shafts exist under this area, which may need reinforcement work before highway works can be undertaken. This could increase the cost of the option and / or cause delays in implementing the works.
- The movement of the bus stops proposed by this option, could be opposed by users and the bus operators. Consultation work will need to be undertaken with the key stakeholders before the preferred option is designed in final form.
- Future traffic modelling work will need to be undertaken into the operation of the preferred option and the future capacity that can be created. It may be that as a result of traffic modelling, slight adaptions may be needed to designs to ensure the most efficient network is constructed. There is a risk that traffic modelling data may result in the conclusion that in less capacity is being created in the network by the preferred option than has been assumed.

8.4.2 These risks need to be investigated fully before funding bids are prepared so that risks can be removed and firmer cost estimates produced.

9.0 Implementation and Funding

9.1 Implementation

9.1.1 The stages of implementation of the Preferred Option could be undertaken in a variety of combinations depending on surrounding developments and other external factors.

9.1.2 Cemetery Road Roundabout represents a crucial node on the network and baseline data indicates that it is also the part of the network which is currently likely to reach capacity first, even without the proposed new developments. Improvements to this node within the Preferred Option are dependent however on the following factors:

- The land that the College and the Comprehensive school occupy being vacated; and
- Implementation of PDR (this is due to be introduced at phase 3 (2012-2014) of the development of The Works but is yet to receive funding). This will allow the maximum benefit to be achieved in relation to the new access into Cemetery Road created by the second roundabout at the college entrance (however the PDR being in place is not contingent on making the proposed changes to Cemetery Road Roundabout).

9.1.3 Ideally the signalisation of the A4047 / A4046 College Road junction and A4046 / A4047 Beaufort Road Junction should be implemented at the same time or soon after changes to Cemetery Road Roundabout. This junction has been shown, in baseline data collected for this study to suffer from future capacity issues. Signalisation will also allow for efficient access to the A465. Improvements to these junctions should be implemented in time for the opening of the new dualled section of the A465 to allow for efficient operation of the network from the A465 to the proposed PDR and also in time for the opening of proposed new developments along Bryn-Serth Road. It is a possibility that these junctions could be included as a condition to new development provided within this area.

9.1.4 Lastly, improvements to Libanus Road Roundabout should be undertaken. The improvements are not as vital as improvements to other sections of the network as baseline data collected as part of this study (Traffic Assessment for The Works, February 2007) does not indicate that this junction suffers from capacity issues into the future (however, this only took account of new traffic generated by The Works and not any other additional developments in north Ebbw Vale). This junction will need to be adapted ideally when the PDR is constructed in order to allow for the increased traffic flow that may be generated through the gyratory. However, adaption of Libanus Road Roundabout may increase in priority if other developments within the study area progress quicker than the implementation of the PDR.

9.1.5 The implementation of the Preferred Option (particularly the changes to signalisation of the A4047/A4046 junctions and adaption of Libanus Road gyratory) will be heavily effected by the rate, type, timing and location of new development within the study area.

9.1.6 In terms of implementation of the complementary measures, only one is not directly linked to development or changes in land use, this is double yellow lines along Cemetery Road. This should be introduced as soon as the PDR becomes operational. All other complementary measure will need to be assessed,

investigated and implemented directly in line with the development proposals to which they relate.

9.1.7 An example programme for implementation of the changes to Cemetery Roundabout has been produced and is shown in Figure 9.1. This example is a high level estimation of how long key stages in the implementation of the preferred option for Cemetery Road Roundabout may take.

9.1.8 Figure 9.1 provides a programme, which reflects the need to progress the preferred option quickly in order to fit with funding windows. For example, the current WEFO funding programme is due to close in 2013 and all schemes will need to be physically and financially complete by the close of the funding programme.

9.1.9 Figure 9.1 is an example programme for the implementation of the preferred option for Cemetery Road Roundabout only. This programme could be adapted for the other proposed elements within the preferred option. However, key stages and time taken to undertake key stages may need to be reviewed and altered. If the preferred package is undertaken as a whole, then timescales presented for stages within the programme provided in Figure 9.1 would need to be reviewed, for example, construction times would need to be extended as phasing of works would be required.

9.1.10 The programme presented would need to be continually reviewed and updated as and when further work is undertaken on the preferred option. In addition development of the scheme will need to be compliant with Sewta stage gate processes, WelTAG, funding requirements and all statutory requirements. These will need to be considered in programming of implementation.

Figure 9.1 Example Programme for Implementation of Preferred Option for Cemetery Road Roundabout

	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Surveys / Site investigations												
Outline Design												
Public Consultation												
Planning												
Detailed Design												
Tender												
Construction												
Project Close out												

Notes:

1 The development of the scheme will need to be compliant with:

1) Sewta Stage Gate process
2) WelTAG
3) Funding requirements
4) Other statutory requirements

9.2 Funding

9.2.1 There are a range of available sources of funding that could be used to finance the Preferred Option and complementary measures.

9.2.2 Capital funding would need to be sought for implementation of the Preferred Option and the complementary measures with very little revenue funding required other than routine maintenance costs which should be covered by existing Council budgets. This section therefore focuses on capital funding sources.

9.2.3 Within this section some of the potential sources of funding which could be utilised are outlined, along with a summary of the requirements that accompany the funding.

European Funding: ERDF Convergence Fund

Source: Welsh European Funding Office (WEFO)
Timescale: Current programme available from 2007-2013
Requirements: Restricted to specific areas in Wales (West Wales and the Valleys). Blaenau Gwent is located in the Convergence zone. Favour is given to strategic schemes. Need to demonstrate that a scheme meets crossing cutting themes of equal opportunities and environmental sustainability. Bids should also try to meet one of the appropriate strategic frameworks.

There are strict audit requirements to all EU funding.

Outline: Convergence funding is split into two main categories, ERDF (European Regional Development Fund) and ESF (European Social Fund). ERDF would be the applicable stream for highways schemes with a bid for highway improvements being placed under ERDF Convergence priority 3 developing strategic infrastructure for a modern economy, or potentially priority 5 theme 1 physical regeneration, if tied into a wider physical improvements to urban fabric schemes.

This source of funding will not provide 100% of the resources required, Convergence Funding has to be match funded.

Heads of the Valleys Regeneration Fund

Source: Welsh Assembly Government
Timescale: Until 2020
Requirements: Scheme to be located within the defined Heads of the Valleys area. Blaenau Gwent is wholly located within this area.

Outline: The Heads of the Valleys programme is a 15 year regeneration strategy developed in partnership with five local authorities (RCTCBC, MTCBC, CCBC, BGCBC and TCBC). The regeneration strategy aims to tackle comprehensively the root causes of economic inactivity. Funding is available for transportation schemes which aid regeneration in an area.

The five priority themes to funding are:

- An attractive and well used natural, historic and built environment;
- A vibrant and economic landscape offering new opportunities;
- A well educated skilled and healthier population;

- An appealing and coherent tourism and leisure experience;
- Public confidence in a shared and bright future.

Regional Transport Plan (Transport Grant) (South East Wales Transport Alliance)

Source: Welsh Assembly Government
Timescale: 2010/11 – 2015/16 (5 year programme)
Requirements: Transport schemes located in south east Wales. Schemes need to meet with the Sewta objectives, be promoted by working groups and approved by the Programme Group. Sewta will only support and fund highway schemes that meet their Highways Strategy objectives.

Outline: In 2010/11, the existing Transport Grant funding will be provided by WAG as Regional Transport Plan funding and provided direct to the four regional transport consortia. This fund will be available for use by local authorities to fund transport schemes. This source can be used to fund 100% of a scheme.

Section 106

Source: Private Developers
Timescales: Ongoing
Requirements: Individual guidelines set by Councils. Current economic status may affect developers willingness to invest and contribute to mitigating measures at the current time.

Outline: Section 106 of the Town and Country Planning Act 1980 can be used to secure funding to help mitigate the effects of development, including impacts on the highway network. Contribution may be negotiated to secure improvements or a contribution secured towards specific improvements.

In many cases the improvements which are funded by developers are those which are identified by the Transport Assessment undertaken on the development. The Council are responsible for negotiating with the developer for the contribution.

This source of funding could be utilised to implement the complementary measures.

Section 278

Source: Private Developers
Timescales: Ongoing
Requirements: Funds for works within the public highway to mitigate highway objections to developments.

Outline: Where a development requires works to be carried out on the existing highway, an agreement can be completed between a developer and the Council under section 278 of the Highways Act 1980. For example, the construction of a new access / junction, improvements of the highway/junctions, safety related works, improved facilities for pedestrians and cyclists.

Under a section 278 agreement, the Council may provide the works at the developers expense or may allow the developer to provide the works directly, subject to an approval and an inspection process. Each agreement is tailored to a specific site and / or works.

This source of funding could be utilised to provide the complementary options.

Safe Routes in Communities
Source: Welsh Assembly Government
Timescales: Ongoing (Yearly Bidding)
Requirements: A scheme must demonstrate benefit to the community, improvements to walking and cycling accessibility and be tied to a travel plan. Any highway improvements would need to demonstrate a link to improving safety for cyclists and pedestrians.

Outline: Funding which is available to bid for on a yearly basis to help improve walking and cycling links to communities across Wales and is available to all local authorities. This fund could be utilised to implement some of the smaller on carriageway complementary measures which will improve safety for pedestrians and cyclists, for example, along Bryn-Serth road.

Local Road Safety Grant
Source: Welsh Assembly Government
Timescales: Ongoing
Requirements: Local authorities are required to submit annual information on projects that they have undertaken using the grant for that year. Collision and casualty statistics before and after the implementation of engineering measures are to be provided, together with information relating to the evaluation of education, training and publicity initiatives.

Outline: The Local Road Safety Grant was introduced in 2000 and is provided to local authorities each year by the Welsh Assembly Government to contribute to solutions to road safety problems. The grant is in addition to local authorities own highway and traffic engineering budgets.

This budget could be utilised to improve junctions or key nodes on the network where an existing safety issue exists.

10. Conclusion and Recommendations

10.1 Conclusion

10.1.1 This study has:

- Gathered together a range of baseline data to present a picture of the operation of the existing highway network, safety on the existing network, the characteristics of the existing network, and identified key nodes in the existing network;
- Reviewed relevant national, regional and local policy related to the study area;
- Identified (using existing traffic flow data and informal observation) the dominant traffic flow movements on the existing highway network;
- Identified key issues in the operation of the existing network;
- Identified the future possible changes to existing land use developments and future new developments proposed for the study area;
- Qualitatively assessed the potential impact on the highway network in terms of traffic flow and movement from changes in land use;
- Proposed and developed options for improvements to the existing highway network (in particular changes to the design of Cemetery Road Roundabout, on carriageway measures along Cemetery Road and on carriageway measures to link the PDR with the A465);
- WelTAG stage 1 appraised all individual proposed options and packages of options;
- Recommended a list of complementary measures for implementation;
- Recommended a Preferred Option for implementation to the strategic highway network within North Ebbw Vale;
- Outlined the risks associated with implementation of the Preferred Option and provided estimated costs;
- Commented on the implementation phasing of the preferred option and provided a summary of the potential sources of funding available.

10.1.2 The preferred option recommend for implementation by this study is:

- Improvements to Cemetery Road Roundabout including an additional Roundabout at the College entrance;
- Double Signalisation of A4047 / College Road junction and A4046 / Beaufort Road;
- Adaption of Libanus Road gyratory to double signalised junction and movement of bus stops to Beaufort Road;
- Complementary measures:
    - Double Yellow Lines along Cemetery Road and Steelworks Road;
    - Inclusion of access entry point on A4047 to allow entry to the residential development site and expansion of the retail / office site;
    - Enforcement of the Morrison's Supermarket Exit 'No Right Turn';
    - Potential Reconfiguration or movement of Morrison's supermarket exit onto Bryn-Serth Road;
    - Work to upgrade Bryn-Serth Road;
    - Access points to new development along Bryn-Serth Road.

10.2 Key Recommendations

10.2.2 There are a number of key recommendations for taking forward the outcomes of this study. These are summarised in this section.

Recommendation 1: Traffic Modelling of the Preferred Option

10.2.3 The Preferred Option and individual options within the Preferred Option Package have not been traffic modelled, as it was outside the remit of this study. In order to ensure that quantifiable evidence is collected which confirms that the Preferred Option provides the required level of capacity within the highway network to accommodate all proposed developments and changes in land use, traffic modelling should be undertaken.

10.2.4 As part of the traffic modelling, new traffic count data may need to be collected.

10.2.5 Traffic modelling should be undertaken as a priority to inform whether any tweaks are needed with proposed options in order to provide additional capacity or meet traffic flow demands.

10.2.6 Traffic modelling may also provide the quantifiable evidence which may be required to be included within any business case development needed for funding bids.

Recommendation 2: Outline Design Work (including Survey Work)

10.2.7 Upon the successful completion of traffic modelling, further outline design work should be undertaken to develop all the measures within the Preferred Option. This should include ground investigations surveys, topographical surveys and any other related investigations.

10.2.8 This work will allow for designs to be developed which reflect the constraints within the study area and should also allow for more certainty to be developed in cost estimates.

10.2.9 Outline designs should take account of input from all key stakeholders and therefore should be undertaken in tandem with recommendation 3.

Recommendation 3: Consultation with Key Stakeholders

10.2.10 During the process of developing outline designs, all key stakeholders, including public transport operators should be consulted to ensure that relevant designs reflect all user requirements.

10.2.11 Exhibitions could be held to get input from the public, along with workshops for key user groups and technical experts.

10.2.12 Outline designs may then need to be altered to reflect stakeholder input.

Recommendation 4: Preparation of Funding Bid Documentation

10.2.13 Investigations should be undertaken into the requirements of the various sources of funding which are available. This will include establishing what documentation needs to be completed for funding bid submission and the applicability of the funding source to the required usage.

10.2.14 In keeping with the Sewta Programme and Project Management system, relevant stage gate information should be produced if the scheme is to be funded as part of the Regional Transport Plan funding.

10.2.15 In order to submit for some sources of funding, detailed project plans and businesses cases may need to be developed. Further, work on developing more accurate costs may also need to be undertaken.

Recommendation 5: Production of Final Designs, Re-evaluation of Cost Estimations and Programme

10.2.16 Upon the successful receipt of funding, detailed designs should be developed which allow for the cost of options to be re-evaluated and more accurately presented. At the same time, a detailed programme for phasing of works should be produced which will guide the implementation of the Preferred Option.

Appendix A – Relevant UDP Policies

Transport

- **T1 STRATEGIC TRANSPORT POLICY**.

INTEGRATED TRANSPORT STRATEGY TO DEVELOP AN INTEGRATED TRANSPORT STRATEGY PRIORITY WILL BE GIVEN TO: -
(B) PROMOTE A TRANSPORT NETWORK WHICH HAS REGARD TO THE SAFETY OF ALL ROAD USERS, REDUCES CONGESTION AND WHICH CAUSES MINIMAL DISTURBANCE TO AMENITY THROUGH DANGER, NOISE AND AIR POLLUTION; AND
C) CO-ORDINATING LAND USE CHANGE WITH TRANSPORT PROVISION SO AS TO MINIMISE THE NEED TO TRAVEL AND TO LOCATE NEW DEVELOPMENT WHERE IT CAN BE ACCOMMODATED BY THE HIGHWAY NETWORK AND BE SERVED BY PUBLIC TRANSPORT AND PEDESTRIAN AND CYCLE ROUTES

- **T2 TRANSPORT PROPOSALS**

LAND WILL BE SAFEGUARDED TO ACCOMMODATE THE FOLLOWING TRANSPORT PROPOSALS:
(A) DUALLING OF THE A465 HEADS OF THE VALLEYS ROAD
(B) PARK AND RIDE FACILITIES IN RELATION TO THE RE-OPENING OF THE EBBW VALE . NEWPORT/CARDIFF PASSENGER RAILWAY LINE.

- **T3 MAJOR HIGHWAY SCHEMES**

MAJOR HIGHWAY IMPROVEMENT SCHEMES WILL BE UNDERTAKEN AT THE FOLLOWING LOCATIONS AS INDICATED ON THE PROPOSALS MAP:-
(A) A4046 . CWM-BY-PASS
(B) A4046 EBBW VALE TOWN CENTRE . A PACKAGE SCHEME MAINLY TO IMPROVE PUBLIC TRANSPORT

- **T4 HIGHWAY CONSIDERATIONS IN NEW DEVELOPMENT**

NEW DEVELOPMENT WILL BE PERMITTED PROVIDED THAT IT CAN BE ADEQUATELY SERVED FROM THE EXISTING HIGHWAY NETWORK. IF IT CANNOT, THE SCHEME SHOULD BE DESIGNED TO ENSURE THAT:
(A) HIGHWAY SAFETY WILL NOT BE PREJUDICED; AND
(B) ENVIRONMENTAL HARM IS AVOIDED.

(New development will not be acceptable if it will create or add significantly to safety or environmental problems on the existing highway network, or, if it does not make provision for appropriately designed new highways and transportation facilities within the development).

- **T5 PUBLIC TRANSPORT**

PRIORITY WILL BE GIVEN TO THE PROMOTION OF GREATER USE OF PUBLIC TRANSPORT AND THE BETTER INTEGRATION OF RAIL, BUS AND CAR TRAVEL BY: -
(A) FAVOURING DEVELOPMENT PROPOSALS THAT INCLUDE THE PROVISION OF PARK AND RIDE FACILITIES ASSOCIATED WITH RAIL TRAVEL.
(B) SEEKING TO ENSURE THAT APPROPRIATE PROVISION FOR

PUBLIC TRANSPORT ACCESS AND OPERATION IS MADE AT THE PLANNING STAGE OF NEW DEVELOPMENT.
(C) SEEKING TO ENSURE THE INTRODUCTION OF PUBLIC TRANSPORT SERVICES INTO NEW DEVELOPMENT AT AN EARLY STAGE BEFORE TRAVEL PATTERNS BECOME ESTABLISHED.
(D) PERMITTING APPROPRIATE FACILITIES RELATED TO PUBLIC TRANSPORT.

- **T7 PEDESTRIAN SAFETY**

THE SAFETY, CONVENIENCE AND ATTRACTIVENESS OF PEDESTRIAN ROUTES WILL BE IMPROVED AND NEW ROUTES CREATED. PRIORITY WILL BE GIVEN TO LINKED URBAN SCHEMES WHICH IMPROVE ACCESSIBILITY TO COMMUNITY FACILITIES AND PUBLIC TRANSPORT.

- **T8 NEW DEVELOPMENTS AND PEDESTRIAN ROUTES**

WITHIN NEW DEVELOPMENTS PROVISION SHOULD BE MADE FOR SAFE, CONVENIENT AND PLEASANT PEDESTRIAN ROUTES CONSISTENT WITH CRIME PREVENTION MEASURES. THE LINE OF EXISTING FOOTPATHS WILL NORMALLY BE SAFEGUARDED EITHER BY INTEGRATION INTO THE OVERALL SCHEME, OR BY DIVERSION WHERE AN ALTERNATIVE ROUTE IS AVAILABLE.

- **T9 CYCLE ROUTE DEVELOPMENT**

NEW DEVELOPMENTS AND HIGHWAY IMPROVEMENTS SHOULD HAVE REGARD TO THE NEEDS OF CYCLISTS THROUGH THE PROVISION OF CYCLE TRACKS, CYCLE CROSSINGS AT MAIN ROADS AND CYCLE PARKING FACILITIES.
A CYCLE ROUTE NETWORK IS BEING DEVELOPED AND THERE ARE PROPOSALS TO CONSTRUCT CYCLE ROUTES THROUGHOUT BLAENAU GWENT AS INDICATED ON THE PROPOSALS MAP

(New developments and highway improvements should take account of the needs of cyclists.
In assessing what provision is required for cyclists, consideration will be given to:-
(a) the scale and character of development;
(b) the degree to which the facility will add to the quality of the scheme, in particular highway safety;
(c) the relationship between the project and the planned network of cycle routes.)

Design and Development

- **D1 LAYOUT AND DESIGN**

DEVELOPMENT WILL BE PERMITTED WHERE:-
(D) SATISFACTORY VEHICULAR AND PEDESTRIAN ACCESS TO THE SITE CAN BE ACHIEVED. ALL NEW ROADS WILL CONFORM TO THE STANDARDS SET OUT IN THE AUTHORITY'S ROADS DESIGN GUIDE.

PARKING PROVISION SHOULD CONFORM WITH THE COUNCIL'S ADOPTED GUIDELINES.
(In addition reference to the following documents should be made:-
a) Design Guide for Residential and Industrial Estate Roads in Gwent 1990.
b) Parking Guidelines (Revised Edition) 1993, prepared by - The Standing Conference on Regional Policy in South Wales)

- **D2 RESIDENTIAL AND INDUSTRIAL ESTATES ROADS**

ALL NEW DEVELOPMENTS WHICH INVOLVE ALTERATIONS TO OR HAVE A MATERIAL EFFECT ON THE EXISTING HIGHWAY NETWORK WILL BE REQUIRED TO MEET THE STANDARDS SET OUT IN THE DESIGN GUIDE FOR RESIDENTIAL AND INDUSTRIAL ROADS PREPARED BY THE HIGHWAY AUTHORITY

Environment

- **EN11 THROUGH-ROUTES AND GATEWAYS**

NEW PROPOSALS FRONTING MAJOR THROUGH-ROUTES AND AT THE IDENTIFIED GATEWAYS INTO BLAENAU GWENT WILL BE REQUIRED TO INCORPORATE A HIGH STANDARD OF DESIGN AND LANDSCAPING.

Limited resources will be concentrated to produce environmental improvements at the gateways and along the main through-routes and natural valley forms listed below:
(a) **Highways**: A465, A467, A4048, A4046.
(b) **Waterways**: The Rivers Sirhowy, Ebbw, Ebbw Fach and Tillery.

Appendix B – Appraisal Summary Tables (Options and Packages)

Stage 1 WelTAG Appraisals:

Option Description:

Option 1: Do Minimum – No Changes to Existing Highway Network in North Ebbw Vale
Within this option no changes would be made and the existing highway network would remain in its current form, but the new proposed development would be implemented.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Cost of implementing the option would be zero. Potential cost from increased traffic congestion, travel delays to the user and potential cost of increase accident levels from an over capacity network.	North Ebbw Vale	Moderate Adverse
EALI	O1,O2,O7, O11, H1, H2	Potential negative impact on surrounding area, such as town centre as increase congestion on local network deters visitors and users. Delays for local companies in terms of employees travel to work and deliveries. Potential to deter future inward investment as network is congested.	North Ebbw Vale	Severe Adverse
Environment/Sustainability				
Noise	O8, O15,	Increase in noise from higher traffic levels. Possible standing traffic from congestion.	North Ebbw Vale	Moderate Adverse
Local Air Quality	O8, O15,	Increasing pockets of congestion likely to contribute to decreasing air quality as there is an increase in emissions.	North Ebbw Vale	Severe Adverse
Greenhouse Gas Emissions	O17, O16	Increasing pockets of congestion likely to contribute to increasing greenhouse gas emissions from queuing traffic.	North Ebbw Vale	Severe Adverse
Landscape and Townscape	O14, O15, H7	Potential negative effect on town and landscape from increased traffic congestion and queuing vehicles.	North Ebbw Vale	Moderate Adverse
Biodiversity	O4	Potential for negative impact on local biodiversity as increased congestion, leads to increased emissions negatively effecting local biodiversity.	North Ebbw Vale	Moderate Adverse
Heritage	O15	Increased levels of traffic, queuing traffic and congestion will have negative impact on local heritage sites.	Local Heritage sites within North Ebbw Vale	Moderate Adverse
Water Environment	None	No impact likely	N/A	Neutral
Soil	None	No impact likely	N/A	Neutral
Social				
Transport Safety	O12	Potential for increase in accident levels as traffic levels and congestion increase.	North Ebbw Vale	Moderate Adverse
Personal Security	O5	Likely to be no impact	N/A	Neutral
Permeability	O2, O10, O14	Negative severance impact to pedestrians, as traffic levels and congestion increases on the network.	North Ebbw Vale	Moderate Adverse
Physical Fitness	O13	Possible decrease in physical fitness for local community members as walking and cycling become harder and less safe to undertake on an ever congested network.	Local Community in Ebbw Vale	Slight adverse
Social Inclusion	O1, O2	Increased congestion could lead to decrease in accessibility to local services.	Local Community in Ebbw Vale	Slight adverse
Transport Planning Objectives				
To make better use of the existing road system.	O9	This option will not make any improvement to the existing road network	North Ebbw Vale	Severe Adverse
To support an integrated and sustainable approach towards land use planning	H3	Lack of improvement to highway network will not support the new proposed developments.	North Ebbw Vale	Moderate Adverse
To provide an efficient, reliable and sustainable highways network	H4	The road network will become less efficient, reliable and sustainable as increasing traffic levels try to negotiate an inappropriate highway network.	North Ebbw Vale	Severe Adverse
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	Accessibly levels are likely to decrease as congestion hinders the flow of the network within the study area and to surrounding areas (including access to the A465).	North Ebbw Vale	Moderate Adverse
Effect on key surrounding land uses / developable land.		Likely to make any remaining surrounding land less attractive to development as network is unable to cope with additional traffic. May delay development being undertaken as traffic impact assessments highlight the negative impacts of increasing travel levels, with no mitigating measures undertaken.	North Ebbw Vale	Moderate Adverse
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		Bus network may need to divert to avoid congestion hotspots reducing service levels. Delays to operating network from congested highway.	Public Transport users in North Ebbw Vale	Moderate Adverse
Effect on the traffic flow or key traffic movements within the study area.		Likely to lead to lots of alternative less appropriate routes being taken by users to avoid congested areas on strategic network. Increasing traffic flows will cause a slower network and restricted movement to users in some areas.	North Ebbw Vale	Moderate Adverse
Contribution to the wider regeneration of the area.		Likely to be negative impact on wider regeneration, as higher levels of congestion hinders inward investment and prevents access to the town centre area from North Ebbw Vale.	Ebbw Vale	Moderate Adverse
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		Risk of not attracting the development to north Ebbw Vale without highway improvements. Risks to adverse stakeholder reaction to increasing congestion on network e.g. local chamber of commerce, local communities. Risks to negative economic impact on town centre as increasing congestion in north Ebbw Vale reduces access to town centre services.		

NOTES:

Measurement	Qualitative at Stage 1, quantitative as far as practicable at stage 2
Assessment	Statement of impact
Distribution	Statement of locational impact
Significance	Quantify measure where appropriate or include qualitative measure using a Likert scale as defined in table 6.2 WelTAG (mostly qualitative assumed for this assessment)

For Example

- Large Beneficial
- Moderate Beneficial
- Slight beneficial
- Neutral
- Slight adverse
- Moderate Adverse
- Severe Adverse

Stage 1 WelTAG Appraisals:

Option Description:

Option 2: Enlargement of the Existing Cemetery Road Roundabout
This option would see the enlargement of the existing Cemetery Road Roundabout in its current location. All junction arms would remain, with slight alterations to alignment.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Estimated Cost : £1.2 Million Possible slight improvement in journey times due to increased capacity at node. Limited ongoing costs, just future routine maintenance.	North Ebbw Vale	Slight beneficial
EALI	O1,O2,O7, O11, H1, H2	Possible increase in access for users and deliveries to businesses within the area. Improvements to access may encourage inward investment.	North Ebbw Vale	Slight beneficial
Environment/Sustainability				
Noise	O8, O15,	Increase in capacity at node likely to lead to increased traffic levels in area and increase in noise.	North Ebbw Vale	Slight adverse
Local Air Quality	O8, O15,	Increase in capacity at node likely to lead to increased traffic levels in area and increased emissions. However, queuing could be reduced, with less static traffic leading to less emissions. Effect likely to be neutralised.	North Ebbw Vale	Neutral
Greenhouse Gas Emissions	O17, O16	Increase in capacity at node likely to lead to increased traffic levels in area and increased emissions. However, queuing could be reduced, with less static traffic leading to less emissions. Effect likely to be neutralised.	North Ebbw Vale	Neutral
Landscape and Townscape	O14, O15, H7	Increase in urbanised structures could negatively effect landscape. A sensitive and landscaped design may reduce impact on townscape.	North Ebbw Vale	Slight adverse
Biodiversity	O4	Likely negative impact on loss, damage or disturbance of fauna and flora species, ecosystems and habitats from construction of new roundabout.	North Ebbw Vale	Slight adverse
Heritage	O15	Structure likely to add to urbanisation of the area, thus negatively effecting the heritage of the area.	Area of local heritage importance within north Ebbw Vale	Slight adverse
Water Environment	None	Increase in tarmac surface, leading to increased surface run-off, possibly negatively effect local water courses and rivers.	Local watercourses and rivers within North Ebbw Vale	Slight adverse
Soil	None	Possible impact on soil from any excavation work undertaken as part of a construction project.	Localised to areas of construction.	Slight adverse
Social				
Transport Safety	O12	New design and enlargement to roundabout may lead to improvements in safety for road users.	Users of Cemetery Road Roundabout	Slight beneficial
Personal Security	O5	Unlikely to impact on personal security.	N/A	Neutral
Permeability	O2, O10, O14	A large and more heavily trafficked roundabout is likely to be more of a severance feature than existing roundabout.	Community of North Ebbw Vale	Moderate Adverse
Physical Fitness	O13	Unlikely to impact on physical fitness.	N/A	Neutral
Social Inclusion	O1, O2	Increases in capacity at roundabout may lead to slight improvements to access to key services within the town centre.	Community of North Ebbw Vale	Slight beneficial
Transport Planning Objectives				
To make better use of the existing road system.	O9	This option would make improvements to the existing highway network without any new road building.	North Ebbw Vale	Slight beneficial
To support an integrated and sustainable approach towards land use planning	H3	Would help to aid development of new land uses. However, would encourage unsustainable access to new development.	North Ebbw Vale	Slight adverse
To provide an efficient, reliable and sustainable highways network	H4	This option would only slightly increase traffic flow, possibly not to the level required to allow for all future possible development. Therefore may not lead to an efficient or reliable network long term.	North Ebbw Vale	Slight adverse
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	May provide improved access in region and to TEN for limited time, before node is again at capacity with future development.	North Ebbw Vale	Slight adverse
Effect on key surrounding land uses / developable land.		Possible impact on fire station with loss of hard standing. Also, possible issues with mine shafts under playing fields.	North Ebbw Vale	Moderate Adverse
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		Unlikely to negatively impact on bus operating network, no service should have to change route. Possible problems for bus network into future if node reaches its capacity again after enlargement.	North Ebbw Vale	Neutral
Effect on the traffic flow or key traffic movements within the study area.		Increased traffic flows likely to be supported by new development for a limited period before further development leads to the node being at capacity. Traffic flow movements will be able to remain as is.	North Ebbw Vale	Slight adverse
Contribution to the wider regeneration of the area.		Increase capacity at the roundabout may encourage and allow inward investment and development, However, this may be for a limited period before the node is at capacity if future development is undertaken.	North Ebbw Vale	Slight beneficial
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		Unlikely to be a good future long term option as will only give increased capacity for a limited period before new development causes increased traffic flow. Potential problems with stakeholder buy-in if loss of hard standing to fire station. Potential high cost if ground conditions are difficult under playing flied.		

NOTES:

Measurement	Qualitative at Stage 1, quantitative as far as practicable at stage 2
Assessment	Statement of impact
Distribution	Statement of locational impact
Significance	Quantify measure where appropriate or include qualitative measure using a Likert scale as defined in table 6.2 WelTAG
	(mostly qualitative assumed for this assessment)
	For Example

Large Beneficial
Moderate Beneficial
Slight beneficial
Neutral
Slight adverse
Moderate Adverse
Severe Adverse

Stage 1 WelTAG Appraisals:

Option Description:

Option 3: Improvements to Cemetery Road Roundabout including an additional Roundabout at the College Entrance
This option includes the addition of a second roundabout to the existing Cemetery Road roundabout. A new roundabout would be included in the area where the current entrance to the college is located, and would have four arms, serving College Road, a new road to link to Waun-Y-Pound Road, a link to the PDR via Cemetery Road (crossing the playing fields) and a link to the existing Cemetery Road roundabout. The existing Cemetery Road Roundabout would be altered to have just four arms allowing access to Letchworth Road, the A4046, College Road and an access to the cemetery only along Waun-Y-Pound Road. No access would be provided to Cemetery Road from Cemetery Road Roundabout.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Estimated Cost : £2.4 Million Improvements in journey times due to increased capacity at node. Option has large capital cost (possible ground works as PDR crosses the playing fields). Limited ongoing costs, apart from routine maintenance.	North Ebbw Vale	Slight beneficial
EALI	O1,O2,O7, O11, H1, H2	Option will allow for increased capacity facilitating the provision of new development, providing inward investment into the area. Likely to be increase in access to town centre and surrounding services.	North Ebbw Vale	Moderate Beneficial
Environment/Sustainability				
Noise	O8, O15,	Increase in capacity at node likely to lead to increased traffic levels in area and increase in noise.	North Ebbw Vale	Moderate Adverse
Local Air Quality	O8, O15,	Increase in capacity at node likely to lead to increased traffic levels in area and increased emissions. However, queuing could be reduced, with less static traffic leading to lower emission levels. Overall impact likely to be slight decrease in air quality as higher overall traffic levels.	North Ebbw Vale	Slight adverse
Greenhouse Gas Emissions	O17, O16	Increase in capacity at node likely to lead to increased traffic levels in area and increased emissions. However, queuing could be reduced, with less static traffic leading to lower emission levels. Overall impact likely to be slight increase in greenhouse gas emissions as higher overall traffic levels.	North Ebbw Vale	Slight adverse
Landscape and Townscape	O14, O15, H7	Increase in urbanised structures could negatively effect landscape, this option includes a number of new features such as a second roundabout and future road building. A sensitive and landscaped design may reduce impact on townscape.	North Ebbw Vale	Moderate Adverse
Biodiversity	O4	Likely negative impact on loss, damage or disturbance of fauna and flora species, ecosystems and habitats from construction of new roundabout and new highway links.	North Ebbw Vale	Moderate Adverse
Heritage	O15	Structure likely to add to urbanisation of the area, thus negatively effecting the heritage of the area.	Area of local heritage importance within North Ebbw Vale	Slight adverse
Water Environment	None	Increase in tarmac surface, leading to increased surface run-off, possible negative effect on local water courses and rivers.	Local watercourses and rivers within North Ebbw Vale (River Ebbw)	Moderate Adverse
Soil	None	Possible impact on soil from any excavation work undertaken as part of a construction project.	Localised to areas of construction.	Slight adverse
Social				
Transport Safety	O12	New design may lead to improvements in safety, from improvements in capacity and congestion. Any new designs will need to meet current safety standards.	User of North Ebbw Vale highway network	Moderate Beneficial
Personal Security	O5	Unlikely to impact on personal security.	N/A	Neutral
Permeability	O2, O10, O14	A second roundabout is likely to add to severance, as is a new fast flowing section of highway.	Community of North Ebbw Vale	Moderate Adverse
Physical Fitness	O13	Unlikely to impact on physical fitness.	N/A	Neutral
Social Inclusion	O1, O2	Increases in capacity and new access routes lead to slight improvements and the availability of some key services, thus aiding social inclusion.	Community of North Ebbw Vale	Slight beneficial
Transport Planning Objectives				
To make better use of the existing road system.	O9	This option would involves building new sections of highway network, added to existing network.	North Ebbw Vale	Slight adverse
To support an integrated and sustainable approach towards land use planning	H3	The provision of better access by car to developments, may lead to the encouragement of access to developments using unsustainable modes. A need to tie in access to new developments by alternative modes such as public transport, walking and cycling.	North Ebbw Vale	Slight adverse
To provide an efficient, reliable and sustainable highways network	H4	This option will provide a more efficient highway network within North Ebbw Vale, allowing fast access to a range of land uses into the future.	North Ebbw Vale	Moderate Beneficial
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	This option promotes accessibility throughout the region and into the wider TEN (A465). This options ties in with the new dualling options for the A465, allowing fast access to users from along the Ebbw valley (A4046),to this trunk road. Users of the A4046 northbound and southbound are able to access straight through to new roundabout and onto A465.	User of North Ebbw vale highway network	Large Beneficial
Effect on key surrounding land uses / developable land.		This options retains key areas and sections of land of a size, shape and location that could be developed in the future.	North Ebbw Vale	Moderate Beneficial
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		The bus stop on Waun-Y-Pound Road would need to be moved in order to service new land uses (with movement of college and school this should have limited impact). Those services using Waun-Y-Pound road would need to alter their route to use new link (this will service future new developments better). The routes of many of the other existing services would remain as is. The only future adaption's may be to introduce new services or changes to routes of existing services to allow access to new developments as and when built.	Users of Public Transport Services in Ebbw Vale	Slight beneficial
Effect on the traffic flow or key traffic movements within the study area.		The dominant traffic flow movements would be able to remain i.e. north-south along the valley. Access to Cemetery Road from Cemetery Road roundabout would be stopped with users needing to divert to the second roundabout before gaining access (however access into Cemetery Road from Cemetery Road Roundabout is not the dominant movement at the existing roundabout). Access to Waun-Y-Pound Road will be reduced, but access to cemetery retained. With school and college moved this should have limited impact. Quicker and easier access for southbound traffic from A465, A4046 onto PDR and into potential new development along Bryn-Serth Road.	North Ebbw Vale	Moderate Beneficial
Contribution to the wider regeneration of the area.		Improved access to key landuses and a reduction in congestion on key links likely to encourage inward investment into Ebbw Vale, as well as an improvement in the access to the TEN (A465). This likely to aid in regeneration of North Ebbw Vale. Option likely to allow increased capacity into the future.	North Ebbw Vale	Moderate Beneficial
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		Ground conditions for alternative alignment of PDR over playing fields (possible mine shafts) Large capital outlay to scheme Reliant on land of existing school and college (these landuses both need to move to alternative locations, only college movement is confirmed) Future modelling needed on option to confirm would cope with all traffic generated by all future possible development options.		

NOTES:

Measurement	Qualitative at Stage 1, quantitative as far as practicable at stage 2
Assessment	Statement of impact
Distribution	Statement of locational impact
Significance	Quantify measure where appropriate or include qualitative measure using a Likert scale as defined in table 6.2 WelTAG (mostly qualitative assumed for this assessment)

For Example

- Large Beneficial
- Moderate Beneficial
- Slight beneficial
- Neutral
- Slight adverse
- Moderate Adverse
- Severe Adverse

Stage 1 WelTAG Appraisals:

Option Description:

Option 4: Improvements to Cemetery Road Roundabout including an Additional Northern Roundabout
This option includes the addition of a second roundabout to the north of the existing Cemetery Road roundabout. The new northern roundabout would include four arms providing access to College Road, College Road directly into Cemetery Road, a new road into the lower half of Waun-Y-Pound Road and a link to the existing A4047 / Bryn-Serth Road Roundabout. The existing Cemetery Road Roundabout would remain with arms to the new Waun-Y-Pound Road to roundabout link (no access to upper Waun-Y-Pound Road), Letchworth Road and the A4046. No arms to Cemetery Road or College Road would be provided off Cemetery Road Roundabout.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Estimated Cost : £2.9 million Improvements in journey times due to increased capacity at node. Limited ongoing costs, apart from routine maintenance.	North Ebbw Vale	Slight beneficial
EALI	O1,O2,O7, O11, H1, H2	Option will allow for increased capacity facilitating the provision of new development, providing inward investment into the area. May be less benefit to town centre, as access from A4046 southbound from A465 is not direct to town centre.	North Ebbw Vale	Slight beneficial
Environment/Sustainability				
Noise	O8, O15,	Increase in capacity at node likely to lead to increased traffic levels in area and increase in noise.	North Ebbw Vale	Moderate Adverse
Local Air Quality	O8, O15,	Increase in capacity at node likely to lead to increased traffic levels in area and increased emissions. However, queuing could be reduced, with less static traffic leading to lower emission levels. Overall impact likely to be slight decrease in air quality as higher overall traffic levels.	North Ebbw Vale	Slight adverse
Greenhouse Gas Emissions	O17, O16	Increase in capacity at node likely to lead to increased traffic levels in area and increased emissions. However, queuing could be reduced, with less static traffic leading to lower emission levels. Overall impact likely to be slight increase in greenhouse gas emissions as higher overall traffic levels.	North Ebbw Vale	Slight adverse
Landscape and Townscape	O14, O15, H7	Increase in urbanised structures could negatively effect landscape, this option includes a number of new features such as a second roundabout and future road building. A sensitive and landscaped design may reduce impact on townscape.	North Ebbw Vale	Moderate Adverse
Biodiversity	O4	Likely negative impact on loss, damage or disturbance of fauna and flora species, ecosystems and habitats from construction of new roundabout and new highway links.	North Ebbw Vale	Moderate Adverse
Heritage	O15	Structure likely to add to urbanisation of the area, thus negatively effecting the heritage of the area.	Area of local heritage importance within North Ebbw Vale	Slight adverse
Water Environment	None	Increase in tarmac surface, leading to increased surface run-off, possible negative effect on local water courses and rivers.	Local watercourses and rivers within North Ebbw Vale (River Ebbw)	Moderate Adverse
Soil	None	Possible impact on soil from any excavation work undertaken as part of a construction project.	Localised to areas of construction.	Slight adverse
Social				
Transport Safety	O12	New design may lead to improvements in safety, from improvements in capacity and congestion. Any new design will need to meet current safety standards.	User of North Ebbw vale highway network	Moderate Beneficial
Personal Security	O5	Unlikely to impact on personal security.	N/A	Neutral
Permeability	O2, O10, O14	New road links and second roundabout likely to act as severance features. Pedestrians and cyclist features need to be included within design.	User of North Ebbw vale highway network	Moderate Adverse
Physical Fitness	O13	Unlikely to impact on physical fitness.	N/A	Neutral
Social Inclusion	O1, O2	Increases in capacity and new access routes may lead to slight improvements in the availability of some key services, thus aiding social inclusion. However, access to town centre and from town centre to A4046 north is altered under this option which may effect access to services for some users.	Community of North Ebbw Vale	Slight beneficial
Transport Planning Objectives				
To make better use of the existing road system.	O9	This options involves the construction of new links and a new roundabout into the existing highway network.	North Ebbw Vale	Slight adverse
To support an integrated and sustainable approach towards land use planning	H3	The provision of better access by car to developments, may lead to the encouragement of access to developments using unsustainable modes. A need to tie in access to new developments by alternative modes such as public transport, walking and cycling.	North Ebbw Vale	Slight adverse
To provide an efficient, reliable and sustainable highways network	H4	This option will increase capacity and therefore improve the efficiency of the highway network within the area.	North Ebbw Vale	Moderate Beneficial
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	This option will improve accessibility to the TEN (A465) from the A4046, however the route from the town centre to the A465 will become less direct. Access from some developments into the town centre will be less efficient under this design, with no direct access onto Cemetery Road Roundabout from Bryn-Serth Road / A4047	User of North Ebbw vale highway network	Slight beneficial
Effect on key surrounding land uses / developable land.		Access to cemetery will be restricted under this design, a new entrance will need to be formed. Sections of land will be left which will be of a size and shape which will be difficult to develop under this design e.g. section of land between A4046 and new link of Waun-Y-Pound Road. Access to proposed residential development at top of Waun-Y-Pound Road will be difficult under this design.	North Ebbw Vale	Moderate Adverse
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		Existing bus stops on Waun-Y-Pound Road will need to be moved with closure of road (this should have limited impact with movement of school and college). Buses which travel along Waun-Y-Pound road will need to divert to the new link off the A4047 / Bryn-Serth Roundabout and onto new roundabout before travelling along new alternative link to Waun-Y-Pound Road to access the town centre (service X4 , 22, and E11 affected). Servicing proposed new residential development on Waun-Y-Pound Road will be difficult under this option.	Users of Public Transport Services in Ebbw Vale	Slight adverse
Effect on the traffic flow or key traffic movements within the study area.		Access to town centre from the A4046 and development proposed along Bryn-Serth road will become less direct. One of the dominant movements of the Cemetery Road roundabout from Waun-Y-Pound Road to A4046 to town centre and vice versa will be made less direct, with new link taking traffic to second roundabout before travelling back on self to A4047. Further traffic travelling along the A4046 (College Road) to the town centre (the other dominant traffic movement on the existing Cemetery Road Roundabout) will be affected.	North Ebbw Vale	Slight adverse
Contribution to the wider regeneration of the area.		Option likely to support regeneration of wider North Ebbw Vale, however, town centre regeneration effects may not be felt as highway access into the town centre becomes less direct under this option from both the A4046 and A4047 / Bryn-Serth Road.	North Ebbw Vale	Slight beneficial
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		Risk of negative effect on regeneration of town centre from less direct highway link Dominant traffic movements of existing Cemetery Road Roundabout are made less direct. Modelling needed to ensure that option can allow future capacity to meet all the potential development in the area. Risks from stakeholder buy in if access to cemetery is reduced. Access to future land developments e.g. residential development on Waun-Y-Pound road, may lead to need to alter the new network in future years (additional cost and distribution). Reliant on land of existing school and college (these land uses both need to move to alternative locations, only college movement is confirmed)		

NOTES:

Measurement	Qualitative at Stage 1, quantitative as far as practicable at stage 2
Assessment	Statement of impact
Distribution	Statement of locational impact
Significance	Quantify measure where appropriate or include qualitative measure using a Likert scale as defined in table 6.2 WelTAG (mostly qualitative assumed for this assessment) For Example Large Beneficial Moderate Beneficial Slight beneficial Neutral Slight adverse Moderate Adverse Severe Adverse

Stage 1 WelTAG Appraisals:

Option Description:

Option 5: Adaption of Libanus Road Gyratory to Double Signalised Junction and Movement of Bus Stops to Beaufort Road.
Libanus Road Gyratory would be adapted to a straight through double signalised staggered junction. Steelworks Road to Cemetery Road would be straight through with two signalised junctions allowing access from Libanus Road (the town centre) and Beaufort Road. The bus stop currently located on Libanus Road Roundabout would be relocated to Beaufort Road.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Estimated Cost : £185,000 Capital cost to implementation of the option. Likely to be minimal ongoing costs, just routine maintenance.	North Ebbw Vale	Slight beneficial
EALI	O1,O2,O7, O11, H1, H2	Possible improvements in traffic flow, which could encourage inward investment and development in the area.	North Ebbw Vale	Slight beneficial
Environment/Sustainability				
Noise	O8, O15,	Increase in traffic at junction due to PDR. Signalised junction may cause queuing traffic which may lead to an increase in noise.	North Ebbw Vale	Slight adverse
Local Air Quality	O8, O15,	Increase in traffic at junction due to PDR, which may increase emissions and decrease air quality. Also signalised junction may cause queuing traffic which may lead to an increase in emissions.	North Ebbw Vale	Slight adverse
Greenhouse Gas Emissions	O17, O16	Increase in traffic at junction due to PDR, which may increase emissions. Also signalised junction may cause queuing traffic which may lead to an increase in emissions.	North Ebbw Vale	Slight adverse
Landscape and Townscape	O14, O15, H7	Throughroad design will be more intrusive than current gyratory, which has green area in design. Throughroad and junctions might be more urbanised.	North Ebbw Vale	Slight adverse
Biodiversity	O4	Construction works likely to have a negative impact on loss, damage or disturbance of fauna and flora species, ecosystems and habitats.	North Ebbw Vale	Moderate Adverse
Heritage	O15	New design of junction is unlikely to effect the local heritage of the area. The war memorial will be retained in the design.	Area of local heritage importance within North Ebbw Vale	Neutral
Water Environment	None	The tarmac surfaces are likely to cover the same area under new design as is there at present. Therefore unlikely to impact on local water courses.	Local watercourses and rivers within North Ebbw Vale (River Ebbw)	Neutral
Soil	None	Possible impact on soil from any excavation work undertaken as part of a construction project.	Localised to areas of construction.	Slight adverse
Social				
Transport Safety	O12	Possible safety improvement to junction from new design.	North Ebbw Vale	Slight beneficial
Personal Security	O5	Unlikely to impact on personal security.	North Ebbw Vale	Neutral
Permeability	O2, O10, O14	Option may appear to users as less permeable as current gyratory, with fixed junctions and crossing points for users.	Local Community in North Ebbw Vale	Slight adverse
Physical Fitness	O13	Unlikely to impact on physical fitness	North Ebbw Vale	Neutral
Social Inclusion	O1, O2	Unlikely to impact upon social inclusion.	Local community in North Ebbw vale	Neutral
Transport Planning Objectives				
To make better use of the existing road system.	O9	Will redesign an existing section of highway without the need for new sections of road to be built.	North Ebbw Vale	Moderate Beneficial
To support an integrated and sustainable approach towards land use planning	H3	If new design improves traffic flow then increased traffic levels may occur. This may lead to users accessing developments using unsustainable means.	North Ebbw Vale	Slight adverse
To provide an efficient, reliable and sustainable highways network	H4	Dominant traffic from PDR given priority, improving the efficiency and reliability of journey for these users.	North Ebbw Vale	Slight beneficial
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	Will help link PDR into TEN (A465) and help link PDR into regional road network, by giving priority at junction to traffic on the PDR going north or south.	North Ebbw Vale	Slight beneficial
Effect on key surrounding land uses / developable land.		Under this design, if required a new piece of developable land is created to the north of the junction, between Libanus Road and Cemetery Road.	North Ebbw Vale	Slight beneficial
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		Unlikely to effect current bus services who use this part of the network as route will remain the same. Movement of bus stop to Beaufort Road away from junction, again is unlikely to cause to much distruption to users. May be slight negative impact from change in design, through services held at traffic lights, however overall, impact likely to be neutral.	Users of Public transport in Ebbw Vale	Neutral
Effect on the traffic flow or key traffic movements within the study area.		This design will give priority to dominant traffic movement connected to the PDR, with controlled access onto the main through route from side roads. The option will therefore support dominant traffic movements.	North Ebbw Vale	Moderate Beneficial
Contribution to the wider regeneration of the area.		Will improve the access to the PDR and connection of PDR into The Works and other areas of development within North Ebbw Vale. This likely to support inward investment and regeneration.	North Ebbw Vale	Moderate Beneficial
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		Cost of scheme in terms of benefit created in additional capacity (modelling would need to be undertaken to establish how much extra capacity is generated by the design). Movement of bus stop may be opposed by users and bus operators.		

NOTES:

Measurement	Qualitative at Stage 1, quantitative as far as practicable at stage 2
Assessment	Statement of impact
Distribution	Statement of locational impact
Significance	Quantify measure where appropriate or include qualitative measure using a Likert scale as defined in table 6.2 WelTAG (mostly qualitative assumed for this assessment)

For Example

- Large Beneficial
- Moderate Beneficial
- Slight beneficial
- Neutral
- Slight adverse
- Moderate Adverse
- Severe Adverse

Stage 1 WelTAG Appraisals:

Option Description:

Option 6: Lining and Signing Safety Improvements to Libanus Road Gyratory
This low cost option would include minor amendments to the lining and signage at Libanus Road Gyratory to improve the safety of road users.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Estimated Cost : £4,000 Minimal capital cost to implementation of the option. Likely to be minimal ongoing costs, just routine maintenance. Possible journey time savings for users, as they will be directed through junction quicker and easier. Possible savings from reductions in accidents (delays to user and cost) for safety improvements.	North Ebbw Vale	Moderate Beneficial
EALI	O1,O2,O7, O11, H1, H2	Likely to have limited impact on surrounding area in terms of attracting inward investment. Possible improvement in traffic flow at junction may help towards regeneration of area from improved access to key services.	North Ebbw Vale	Neutral
Environment/Sustainability				
Noise	O8, O15,	Possible increase in traffic flow at junction, which may cause an increase in noise in local area.	North Ebbw Vale	Slight adverse
Local Air Quality	O8, O15,	Possible increased traffic flow at junction, which may cause an increase in emissions and a decrease in the air quality in the local area of the junction,	North Ebbw Vale	Slight adverse
Greenhouse Gas Emissions	O17, O16	Possible increase traffic flow at junction, which may cause an increase in emissions in the local area of the junction,	North Ebbw Vale	Slight adverse
Landscape and Townscape	O14, O15, H7	Possible impact of increased signage and lines making environment more urban. This may have an impact on the townscape in this area.	North Ebbw Vale	Slight adverse
Biodiversity	O4	Unlikely to have an impact on local biodiversity.	North Ebbw Vale	Neutral
Heritage	O15	Unlikely to impact on the heritage of the area. War memorial will remain in current location.	North Ebbw Vale	Neutral
Water Environment	None	Unlikely to impact upon the local water environment.	Local water courses within north Ebbw Vale	Neutral
Soil	None	Possible impact on soil from any excavation work undertaken as part of putting in signage.	North Ebbw Vale	Slight adverse
Social				
Transport Safety	O12	Improvements in safety from lining and better signage directing users more safely around the gyratory.	North Ebbw Vale	Moderate Beneficial
Personal Security	O5	Unlikely to effect personal security.	North Ebbw Vale	Neutral
Permeability	O2, O10, O14	Permeability likely to be unaffected by the measure.	Local community in North Ebbw Vale	Neutral
Physical Fitness	O13	Unlikely to effect physical fitness	North Ebbw Vale	Neutral
Social Inclusion	O1, O2	Unlikely to effect social inclusion	North Ebbw Vale	Neutral
Transport Planning Objectives				
To make better use of the existing road system.	O9	This option directly makes better use of the existing highway network.	North Ebbw Vale	Large Beneficial
To support an integrated and sustainable approach towards land use planning	H3	This option will make navigation of the gyratory easier for car users, this may encourage unsustainable modes of travel to access new land use developments.	North Ebbw Vale	Slight adverse
To provide an efficient, reliable and sustainable highways network	H4	This option will make the gyratory more efficient and reliable.	North Ebbw Vale	Slight beneficial
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	Easy through flow of this gyratory for users of the PDR will enable better access to the wider regional network and the TEN (A465).	North Ebbw Vale	Slight beneficial
Effect on key surrounding land uses / developable land.		This option is unlikely to effect any surrounding land uses.	North Ebbw Vale	Neutral
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		This option will have no impact on the operation of the bus network.	North Ebbw Vale	Neutral
Effect on the traffic flow or key traffic movements within the study area.		Likely to give priority to those users who are using the PDR to access north Ebbw Vale or those using the PDR to access The Works. This will be the dominant traffic movement at the gyratory. This will improve traffic throughput.	North Ebbw Vale	Moderate Beneficial
Contribution to the wider regeneration of the area.		Greater priority for users of the PDR at the gyratory and better access to developments in north Ebbw Vale may aid in the regeneration of the area.	North Ebbw Vale	Slight beneficial
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		May be need in future to do further works to increase capacity of junction (further modelling work needed to establish this). Lining and signing measures alone may not give the capacity needed at the junction.		

NOTES:

Measurement	Qualitative at Stage 1, quantitative as far as practicable at stage 2
Assessment	Statement of impact
Distribution	Statement of locational impact
Significance	Quantify measure where appropriate or include qualitative measure using a Likert scale as defined in table 6.2 WelTAG (mostly qualitative assumed for this assessment)

For Example

- Large Beneficial
- Moderate Beneficial
- Slight beneficial
- Neutral
- Slight adverse
- Moderate Adverse
- Severe Adverse

Stage 1 WelTAG Appraisals:

Option Description:

Option 7: Double Signalisation of A4047/ College Road Junction and A4046 / Beaufort Road Junction
Within this option, both the junction of the A4046 College Road with the A4047 Beaufort Road and the A4047 junction with the A4046 College Road would be signalised. Appropriate pedestrian crossing facilities would be included in the relevant junction arms.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Estimated Cost : £175,000 Capital cost to implementation of the option. Likely to be minimal ongoing costs, just routine maintenance. Likely to be journey time savings for users and possible reductions in accidents.	North Ebbw Vale	Moderate Beneficial
EALI	O1,O2,O7, O11, H1, H2	Increase throughput at this vital node and through to the link to the TEN (A465) from Ebbw Vale is likely to aid in attracting inward investment into the area. There will also be better access to key services for users.	North Ebbw Vale	Moderate Beneficial
Environment/Sustainability				
Noise	O8, O15,	Likely increase in traffic at junction, traffic lights will cause stop-start of vehicles which may increase noise in the local area.	North Ebbw Vale	Slight adverse
Local Air Quality	O8, O15,	Likely increase in traffic at junction from increased capacity, which will led to increased emissions and a decrease in local air quality.	North Ebbw Vale	Slight adverse
Greenhouse Gas Emissions	O17, O16	Likely increase in traffic at junction from increased capacity, which will lead to increased emissions.	North Ebbw Vale	Slight adverse
Landscape and Townscape	O14, O15, H7	Traffic lights will make landscape and environment more urban.	North Ebbw Vale	Slight adverse
Biodiversity	O4	Construction works could have a possible negative impact on loss, damage or disturbance of fauna and flora species, ecosystems and habitats.	North Ebbw Vale	Slight adverse
Heritage	O15	This measure is unlikely to effect local heritage.	North Ebbw Vale	Neutral
Water Environment	None	This measure is unlikely to effect local watercourses, as there will be no increase in non-permeable surfaces and thus no increase in surface run-off.	North Ebbw Vale	Neutral
Soil	None	Possible impact on soil from any excavation work undertaken as part the construction project.	North Ebbw Vale	Slight adverse
Social				
Transport Safety	O12	Traffic lights will formalise the right turn movements at both these junctions making the manoeuvre safer for all road users. Traffic lights will also act as a natural traffic calming feature.	North Ebbw Vale	Moderate Beneficial
Personal Security	O5	This measure is unlikely to effect personal security	North Ebbw Vale	Neutral
Permeability	O2, O10, O14	The traffic lights will allow controlled crossing for pedestrians and cyclists therefore making the junctions more permeable to users.	North Ebbw Vale	Moderate Beneficial
Physical Fitness	O13	Better crossing facilities at these two key junctions may encourage more walking and cycling trips to be undertaken within this area. This will aid in improving physical fitness.	Community of North Ebbw Vale	Slight beneficial
Social Inclusion	O1, O2	Better crossing facilities at these two key junctions may improve access to key services within the area for the local community, especially for those without access to the private car.	Community of North Ebbw Vale	Slight beneficial
Transport Planning Objectives				
To make better use of the existing road system.	O9	This measure will increase capacity within the existing network without new road building.	North Ebbw Vale	Moderate Beneficial
To support an integrated and sustainable approach towards land use planning	H3	The increased capacity at this junction may encourage increased car usage in the area. However, better pedestrian and cyclist facilities at the junction would encourage sustainable journeys to land use developments.	North Ebbw Vale	Slight beneficial
To provide an efficient, reliable and sustainable highways network	H4	This option would help improve the reliability and efficiency of the current highway network, allowing increased traffic throughput.	North Ebbw Vale	Moderate Beneficial
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	This option would allow increased access along a key route (A4046) to the wider region and the TEN (A465).	North Ebbw Vale	Moderate Beneficial
Effect on key surrounding land uses / developable land.		This option will not take up any developable land and should allow increased access (by car, foot and bicycle) to surrounding land uses.	North Ebbw Vale	Slight beneficial
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		Unlikely to effect the operation of the local bus network, no routes will need to be changed and no bus stops moved.	North Ebbw Vale	Neutral
Effect on the traffic flow or key traffic movements within the study area.		Will help in facilitating the movement of traffic through two busy junctions, and will give priority to the dominant north - south movements on the network in this area, without disadvantaging the right turning traffic and traffic accessing the A4046 from the A4047.	North Ebbw Vale	Moderate Beneficial
Contribution to the wider regeneration of the area.		Better traffic movement along this key node will give better linkage between the PDR and the A465. This will encourage inward investment and aid in the regeneration of North Ebbw Vale, as well as supporting the surrounding existing development proposals e.g. The Works.	North Ebbw Vale	Moderate Beneficial
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		Traffic modelling work will need to be undertaken on any design to ensure that no adverse queuing results as a consequence of the design. Pedestrian and cycling facilities must be incorporated into the design to ensure all benefits are realised.		

NOTES:

Measurement	Qualitative at Stage 1, quantitative as far as practicable at stage 2
Assessment	Statement of impact
Distribution	Statement of locational impact
Significance	Quantify measure where appropriate or include qualitative measure using a Likert scale as defined in table 6.2 WelTAG (mostly qualitative assumed for this assessment)

For Example

- Large Beneficial
- Moderate Beneficial
- Slight beneficial
- Neutral
- Slight adverse
- Moderate Adverse
- Severe Adverse

Stage 1 WelTAG Appraisals:

Option Description:

Option 8: No Signalisation of A4047 / College Road Junction and A4046 / Beaufort Road Junction
No signalisation would be implemented of the A4047/ College Road junction or the junction of the A4046 and Beaufort Road. The existing road layout at these junctions would remain.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Estimated Cost of this option would be zero. No capacity or revenue cost to the option. Likely to be no journey time savings for users and less journey time reliability as new development is implemented within the area.	North Ebbw Vale	Slight adverse
EALI	O1,O2,O7, O11, H1, H2	Likely to be negative impact on the economy of surrounding area, as junction capacity is reached and delays are caused. This could negatively impact on attracting development to the North Ebbw Vale area. May also delay employees travelling to work and deliveries to key services and businesses in the town centre.	North Ebbw Vale	Slight adverse
Environment/Sustainability				
Noise	O8, O15,	Increased queuing at junction as it reaches capacity with new developments, which may cause increased noise in local area.	North Ebbw Vale	Slight adverse
Local Air Quality	O8, O15,	Increased queuing at junction as it reaches capacity with new developments, which may cause an increase in emissions and a decrease in local air quality.	North Ebbw Vale	Slight adverse
Greenhouse Gas Emissions	O17, O16	Increased queuing at junction as it reaches capacity with new developments, which may cause an increase in emissions	North Ebbw Vale	Slight adverse
Landscape and Townscape	O14, O15, H7	Queuing traffic and congestion may cause a negative impact on the landscape as junction begins to reach capacity with new development.	North Ebbw Vale	Slight adverse
Biodiversity	O4	Increased emissions from queuing traffic (as junction reaches capacity with new development) may negatively effect surrounding flora and fauna.	North Ebbw Vale	Slight adverse
Heritage	O15	Unlikely to impact on heritage of the area.	North Ebbw Vale	Neutral
Water Environment	None	Unlikely to impact on water environment.	Local watercourses in North Ebbw vale	Neutral
Soil	None	Unlikely to be any impact on soil.	North Ebbw Vale	Neutral
Social				
Transport Safety	O12	Safety levels at junctions may decrease as the junctions become busier and drivers take chances to pull out due to lengthy queuing.	North Ebbw Vale	Slight adverse
Personal Security	O5	Unlikely to be effected by this measure.	North Ebbw Vale	Neutral
Permeability	O2, O10, O14	An uncontrolled congested junction will be difficult for pedestrians to navigate and thus will increasingly become a severance feature.	North Ebbw Vale	Moderate Adverse
Physical Fitness	O13	Increased severance of junction may effect the number of people undertaking journeys by foot. This may negatively influence fitness levels. Further, cycling may become less appealing at the busy junction.	Local Community within North Ebbw Vale	Slight adverse
Social Inclusion	O1, O2	A reduction in permeability of the junction may lead to a decrease in accessibility to some key services within the local area, especially for those without access to a private car.	Local Community within North Ebbw Vale	Slight adverse
Transport Planning Objectives				
To make better use of the existing road system.	O9	This option will not make better use of the existing road system. The existing road system is likely to become worse in terms of operation.	North Ebbw Vale	Moderate Adverse
To support an integrated and sustainable approach towards land use planning	H3	Local land use developments likely to become less accessibile by foot if key junctions are less permeable.	North Ebbw Vale	Slight adverse
To provide an efficient, reliable and sustainable highways network	H4	This option will not provide a more efficient network. The junction is likely to become increasingly congested causing delays and effecting journey reliability.	North Ebbw Vale	Moderate Adverse
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	This option is likely to reduce future accessibility to the network within the region and to the TEN (A465) as delays are caused at the congested junctions with new development.	North Ebbw Vale	Slight adverse
Effect on key surrounding land uses / developable land.		This option may reduce the reliability of the network within the area, thus may discourage investment and future development.	North Ebbw Vale	Slight adverse
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		Bus network may suffer delays if the junctions become congested, with further development within the area, especially at peak periods.	North Ebbw Vale	Slight adverse
Effect on the traffic flow or key traffic movements within the study area.		This option is likely to lead to increased congestion at these junctions as development is implemented in the area. This may lead to less appropriate more local routes being utilised, spreading out the impact of the traffic generated as part of the new development.	North Ebbw Vale	Moderate Adverse
Contribution to the wider regeneration of the area.		Increased congestion on an important node on the local network may discourage inward investment and negatively effect the regeneration of the area.	North Ebbw Vale	Slight adverse
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		This option could harm the future regeneration of the area and ability to attract inward investment and development. Improvements at this junction may become a condition to further development and therefore this option if pursued may stop planned development opportunities.		

NOTES:

Measurement	Qualitative at Stage 1, quantitative as far as practicable at stage 2
Assessment	Statement of impact
Distribution	Statement of locational impact
Significance	Quantify measure where appropriate or include qualitative measure using a Likert scale as defined in table 6.2 WelTAG (mostly qualitative assumed for this assessment)

For Example

- Large Beneficial
- Moderate Beneficial
- Slight beneficial
- Neutral
- Slight adverse
- Moderate Adverse
- Severe Adverse

Stage 1 WelTAG Appraisals:

Option Description:

Emerging Preferred Option 1 : Implementation of improvements to Cemetery Road Roundabout including an additional roundabout at the college entrance (option 3), adaption of Libanus Road Roundabout into a Double signalised junction (option 5) and double signalisation of the A4046 / A4047 Beaufort Road junction and A4047 / A4046 College Road junction (Option 7). Also included is the implementation of complementary measures.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Estimated Cost : £2,760,000 (not including Complementary Measures) Capital cost to implementation of the option. Likely to be minimal ongoing costs, just routine maintenance. Likely to be journey time savings for users and possible reductions in accidents.	North Ebbw Vale	Moderate Beneficial
EALI	O1,O2,O7, O11, H1, H2	Improvements to highway network are likely to facilitate new development and encourage inward investment into the area. This option retains good access to the town centre, a reliable connection between the PDR and the A465 as well as allowing access to the new development sites along Bryn-Serth Road.	North Ebbw Vale	Large Beneficial
Environment/Sustainability				
Noise	O8, O15,	Improvements to the highway network are likely to increase traffic flow levels which will generate an increase in noise levels.	North Ebbw Vale	Moderate Adverse
Local Air Quality	O8, O15,	Improvements to the highway network are likely to increased traffic flow levels which will generate increase emissions and may lead to a decrease in local air quality.	North Ebbw Vale	Moderate Adverse
Greenhouse Gas Emissions	O17, O16	Improvements to the highway network are likely to increased traffic flow levels which will generate increase emissions.	North Ebbw Vale	Moderate Adverse
Landscape and Townscape	O14, O15, H7	Some of the highway improvements implemented may lead to a more urbanised environment which may negatively effect the landscape. Further, higher traffic levels may negatively effect the landscape.	North Ebbw Vale	Slight adverse
Biodiversity	O4	This option will involve the construction of new highway links as well as other construction works which are likely to have a negative impact on loss, damage or disturbance of fauna and flora species, ecosystems and habitats.	North Ebbw Vale	Moderate Adverse
Heritage	O15	This option is unlikely to have an impact on the local heritage of the area, as long as the design is sympathetic to the environment.	North Ebbw Vale	Neutral
Water Environment	None	This option will lead to the increase in non-permeable work surfaces which may cause increased surface run-off and thus effect local watercourses.	Local watercourses within North Ebbw Vale (River Ebbw)	Slight adverse
Soil	None	Possible impact on soil from any excavation work undertaken as part the construction project.	North Ebbw Vale	Slight adverse
Social				
Transport Safety	O12	Option likely to reduce congestion and improve safety on some vital nodes on the network e.g.Cemetery Road Roundabout, Libanus Road Roundabout and A4046/A4047.	North Ebbw Vale	Moderate Beneficial
Personal Security	O5	This option is unlikely to have an impact on personal security.	North Ebbw Vale	Neutral
Permeability	O2, O10, O14	At places this option will improve permeability e.g. pedestrians crossings at A4047 / A4046 junctions, Libanus Road roundabout. However, in other areas permeability will be decreased, e.g. Cemetery Road roundabout.	North Ebbw Vale	Slight beneficial
Physical Fitness	O13	In areas where permeability are increased, this could led to a slight increase in the numbers walking and / or cycling which may aid in improving physical fitness.	Local community within North Ebbw Vale	Slight beneficial
Social Inclusion	O1, O2	In areas where permeability is increased, there may be an increase in access to key services, especially for those without access to private car.	Local community within North Ebbw Vale	Slight beneficial
Transport Planning Objectives				
To make better use of the existing road system.	O9	At both Libanus Road roundabout and the junctions of the A4046 / A4047 better use is made of the existing highway. However, the changes to Cemetery Road roundabout will lead to new road building.	North Ebbw Vale	Slight beneficial
To support an integrated and sustainable approach towards land use planning	H3	This option allows greater access for the car and thus may encourage unsustainable access to land use developments.	North Ebbw Vale	Moderate Adverse
To provide an efficient, reliable and sustainable highways network	H4	This option will enable an efficient and reliable network be to implemented, which will provide the capacity required for future new development.	North Ebbw Vale	Large Beneficial
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	Good access is provided under this option from the PDR to the TEN (A465), and to the regional network. Key nodes are improved to allow effective throughput along these key routes.	North Ebbw Vale	Large Beneficial
Effect on key surrounding land uses / developable land.		Good access is provided to all future sites that may be developed. Further, pockets of land which are left by the new design of Cemetery Road Roundabout and Libanus Road Roundabout will be of a size and shape that will facilitate future development.	North Ebbw Vale	Large Beneficial
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		Current operating routes will not need to be adapted to facilitate this option. Two bus stops on Waun-Y-Pound Road will need to be moved (however the impact of this should be limited with the movement of the school and college), and one on Libanus Road Roundabout to Beaufort Road which should make access easier for users.	North Ebbw Vale	Neutral
Effect on the traffic flow or key traffic movements within the study area.		The dominant north-south movements within the valley will be supported with this option, as will greater and more direct access from the PDR up to the A465. Access will be retained from Cemetery Road into the town centre, as will the existing dominant movement of traffic from the A4046 to the A4047 / Bryn-Serth Road Roundabout (and vice versa).	North Ebbw Vale	Large Beneficial
Contribution to the wider regeneration of the area.		This option will facilitate the wider regeneration of the area by providing good access to all existing and future key land uses and developments, including good connection from the A465 to the PDR. Access to the town centre will be retained therefore, hopefully spreading the regeneration benefits of increased investment in north Ebbw Vale.	North Ebbw Vale	Large Beneficial
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		Reliant on relocation of existing school and college (these land uses both need to move to alternative locations, only college movement is confirmed) Ground conditions for alternative alignment of PDR over playing fields (possible mine shafts) Future modelling needed on option to confirm would cope with all traffic generated by all future possible development options. Movement of bus stops may be opposed by users and bus operators.		

NOTES:

Measurement	Qualitative at Stage 1, quantitative as far as practicable at stage 2
Assessment	Statement of impact
Distribution	Statement of locational impact
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For Example

- Large Beneficial
- Moderate Beneficial
- Slight beneficial
- Neutral
- Slight adverse
- Moderate Adverse
- Severe Adverse

Stage 1 WelTAG Appraisals:

Option Description:

Emerging Preferred Option 2: Implementation of improvements to Cemetery Road Roundabout including an additional roundabout at the college entrance (option 3), lining and singing improvements at Libanus Road Roundabout (option 6) and Double signalisation of the A4046 / A4047 Beaufort Road junction and A4047 / A4046 College Road junction (Option 7). Also included is the implementation of complementary measures.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Estimated Cost : £2,579,000 (not including Complementary Measures) Capital cost to implementation of the option, likely to be less than EMP1 as only lining and signage at Libanus Road. Likely to be minimal ongoing costs, just routine maintenance. Likely to be journey time savings for users and possible reductions in accidents.	North Ebbw Vale	Moderate Beneficial
EALI	O1,O2,O7, O11, H1, H2	Improvements to highway network are likely to facilitate new development and encourage inward investment into the area. This option retains good access to the town centre, as well as allowing access to the new development sites along Bryn-Serth Road. Limited improvements to Libanus Road Roundabout may lead to possible future capacity issues and journey time reliability when travelling from the PDR to the A465, which may influence inward investment to the area in the long term.	North Ebbw Vale	Moderate Beneficial
Environment/Sustainability				
Noise	O8, O15,	Improvements to the highway network are likely to increase traffic flow levels which will generate an increase in noise levels.	North Ebbw Vale	Moderate Adverse
Local Air Quality	O8, O15,	Improvements to the highway network are likely to increase traffic flow levels which will generate increased emissions and may lead to a decrease in local air quality.	North Ebbw Vale	Moderate Adverse
Greenhouse Gas Emissions	O17, O16	Improvements to the highway network are likely to increase traffic flow levels which will generate increased emissions.	North Ebbw Vale	Moderate Adverse
Landscape and Townscape	O14, O15, H7	Some of the highway improvements implemented may lead to a more urbanised environment which may negatively effect the landscape. Further, higher traffic levels may negatively effect the landscape.	North Ebbw Vale	Slight adverse
Biodiversity	O4	This option will involve the construction of new highway links as well as other construction works which are likely to have a negative impact on loss, damage or disturbance of fauna and flora species, ecosystems and habitats.	North Ebbw Vale	Moderate Adverse
Heritage	O15	This option is unlikely to have an impact on the local heritage of the area, as long as the design is sympathetic to the environment.	North Ebbw Vale	Neutral
Water Environment	None	This option will lead to the increase in non-permeable work surfaces which may cause increased surface run-off and thus effect local watercourses.	Local watercourses within North Ebbw Vale (River Ebbw)	Slight adverse
Soil	None	Possible impact on soil from any excavation work undertaken as part of the construction project.	North Ebbw Vale	Slight adverse
Social				
Transport Safety	O12	Option likely to reduce congestion and improve safety on some vital nodes on the network e.g., Cemetery Road Roundabout, Libanus Road Roundabout and A4046/A4047. Into the future if traffic flows increase on Libanus Road Roundabout, then the measures implemented may reduce in effectiveness.	North Ebbw Vale	Moderate Beneficial
Personal Security	O5	This option is unlikely to have an impact on personal security.	North Ebbw Vale	Neutral
Permeability	O2, O10, O14	At places this option will improve permeability e.g. pedestrians crossings at A4047 / A4046 junctions. However, in other areas permeability will be decreased, e.g. Cemetery Road Roundabout.	North Ebbw Vale	Slight beneficial
Physical Fitness	O13	In areas where permeability are increased, this could lead to a slight increase in the numbers walking and / or cycling which may aid in improving physical fitness.	Local community within North Ebbw Vale	Slight beneficial
Social Inclusion	O1, O2	In area where permeability is increased, there may be an increase in access to key services, especially for those without access to private car.	Local community within North Ebbw Vale	Slight beneficial
Transport Planning Objectives				
To make better use of the existing road system.	O9	At both Libanus Road Roundabout and the junctions of the A4046 / A4047 better use is made of the existing highway. However, the changes to Cemetery Road Roundabout will lead to new road building.	North Ebbw Vale	Slight beneficial
To support an integrated and sustainable approach towards land use planning	H3	This option allows greater access to the car and thus may encourage unsustainable access to land use developments.	North Ebbw Vale	Moderate Adverse
To provide an efficient, reliable and sustainable highways network	H4	The reliability of the network into the future when future development is implemented may be at risk under this option, as lining and signage improvement to Libanus Road Roundabout may not be enough to give the required future capacity. However, in short to medium term the option will provide a reliable and effecient highways network.	North Ebbw Vale	Slight beneficial
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	In short to medium term this will be ensured under this option. However, access to the TEN (A465) from the PDR may be effected if future development leads to capacity issues at Libanus Road Roundabout, if lining and signing measures do not create the adequate level of through flow.	North Ebbw Vale	Slight beneficial
Effect on key surrounding land uses / developable land.		Good access is provided to all future sites that may be developed. Further, pockets of land which are left by the new design of Cemetery Road Roundabout which will be of a size and shape that will facilitate future development. No land will be made available at Libanus Road Roundabout for future development under this option.	North Ebbw Vale	Moderate Beneficial
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		Current operating routes will not need to be adapted to facilitate this option. Two bus stops on Waun-Y-Pound Road will need to be moved (however the impact of this should be limited with the movement of the school and college). The bus stop on Libanus Road Roundabout would remain.	North Ebbw Vale	Moderate Beneficial
Effect on the traffic flow or key traffic movements within the study area.		In the short to medium term this option will support all key dominant traffic movement and allow for increased traffic flows. However, in the long term with further development, the measures at Libanus Road Roundabout may not be enough to provide the future capacity required. This may cause congestion at this vital node which is crucial in the operation of the PDR.	North Ebbw Vale	Slight beneficial
Contribution to the wider regeneration of the area.		This option will facilitate the wider regeneration of the area by providing good access to existing and future key land uses and developments in the medium to short term. Access to the town centre will be retained therefore, hopefully spreading the regeneration benefits of increased investment in north Ebbw Vale. However, if capacity at Libanus Road becomes a constraint on the network this may hamper future development.	North Ebbw Vale	Moderate Beneficial
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		Reliant on relocation of existing school and college (these land uses both need to move to alternative locations, only college movement is confirmed) Ground conditions for alternative alignment of PDR over playing fields (possible mine shafts) Future modelling needed on option to confirm would cope with all traffic generated by all future possible development options. Possible that future work may be needed at Libanus Road Roundabout if further development undertaken. This will be an additional cost and may lose the economies of scale of undertaking the measure as a package. Lower cost option but may not give the long term benefits to accommodate all future development proposed for the study area.		

NOTES:

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For Example

- Large Beneficial
- Moderate Beneficial
- Slight beneficial
- Neutral
- Slight adverse
- Moderate Adverse
- Severe Adverse

Stage 1 WelTAG Appraisals:

Option Description:

Low Cost Option Package : This package would consist of the implementation of the enlargement of Cemetery Road roundabout (Option 2), lining and signage improvements at Libanus Road Roundabout (Option 6) and no signalisation or improvements to the junction of the A4046 (College Road) with the A4047 or the junction of A4047 with the A4046 (College Road) (Option 8). Complementary measures would be implemented.

Criteria	RTP Objective	Assessment	Distribution	Significance
Economy				
Transport Economic Efficiency	O1, O6,	Estimated Cost: £1,204,000 (not including Complementary Measures) Capital cost to this option will be lower than other packages. Minimal ongoing cost just routine maintenance. Possible small journey time benefits and accident savings. However, these may be for a limited period before the network begins to become congested.	North Ebbw Vale	Slight beneficial
EALI	O1,O2,O7, O11, H1, H2	Possible regeneration benefits from improved access on the highway that may encourage inward investment. These improvements will only provide limited capacity, so may prevent future investment.	North Ebbw Vale	Slight beneficial
Environment/Sustainability				
Noise	O8, O15,	Increase in traffic flow may lead to increase in noise levels.	North Ebbw Vale	Slight adverse
Local Air Quality	O8, O15,	Increase in traffic flow may lead to increased emissions and decreasing air quality	North Ebbw Vale	Slight adverse
Greenhouse Gas Emissions	O17, O16	Increase in traffic flow may lead to increased emissions.	North Ebbw Vale	Slight adverse
Landscape and Townscape	O14, O15, H7	Physical measures unlikely to impact greatly on landscape. Increased traffic levels may have negative impact.	North Ebbw Vale	Slight adverse
Biodiversity	O4	Enlargement of the Cemetery Road Roundabout could have a negative impact on loss, damage or disturbance of fauna and flora species, ecosystems and habitats.	North Ebbw Vale	Slight adverse
Heritage	O15	Measures unlikely to have an impact on local heritage.	Local heritage sites within Ebbw Vale	Neutral
Water Environment	None	Increase in non permeable surface as part of Cemetery Road Roundabout measures may cause increased surface run-off which may negatively effect local watercourses.	Local water courses in Ebbw Vale (River Ebbw)	Slight adverse
Soil	None	Possible impact on soil from any excavation work undertaken as part the construction project.	North Ebbw Vale	Slight adverse
Social				
Transport Safety	O12	Possible small improvement to safety at Libanus Road Roundabout and Cemetery Road Roundabout from proposed measures.	North Ebbw Vale	Slight beneficial
Personal Security	O5	This package of measures is unlikely to effect personal security.	North Ebbw Vale	Neutral
Permeability	O2, O10, O14	Improvements to Cemetery Road Roundabout and Libanus Road Roundabout are unlikely to improve permeability. No improvements to the A4046 / A4047 junctions will lead to a decrease in permeability as users find it difficult to cross busy junctions.	Local community of Ebbw Vale	Moderate Adverse
Physical Fitness	O13	These options are unlikely to effect physical fitness.	Local community of Ebbw Vale	Neutral
Social Inclusion	O1, O2	This package of options are unlikely to effect social inclusion.	Local community of Ebbw Vale	Neutral
Transport Planning Objectives				
To make better use of the existing road system.	O9	This package of measures would make better use of the existing road system.	North Ebbw Vale	Moderate Beneficial
To support an integrated and sustainable approach towards land use planning	H3	This package of measures would improve access to land use developments by car and therefore may discourage sustainable modes of access.	North Ebbw Vale	Slight adverse
To provide an efficient, reliable and sustainable highways network	H4	This package of measures would provide limited benefits for a short period of time, providing improvements in reliability. However, these may diminish as traffic levels increase.	North Ebbw Vale	Slight beneficial
To ensure a high level of accessibility throughout the region and wider into the Trans European Network (TEN)	H6	Under this option access would not be improved to the TEN (A465).	North Ebbw Vale	Slight adverse
Effect on key surrounding land uses / developable land.		This option will improve access to surrounding land use but for a limited period. Increased traffic on the key nodes may reduce their efficiency and there ability to serve new developments.	North Ebbw Vale	Slight beneficial
Implication on operation of bus network e.g. change of route, movements of bus stop, number of people effected by potential change of route.		There will be no impact on the operation of the bus operating network under this option in terms of movement of bus stops or diversion of routes. In the longer term buses may suffer delays at key nodes if they operate at capacity.	North Ebbw Vale	Neutral
Effect on the traffic flow or key traffic movements within the study area.		May provide limited benefit for a short period before increased traffic levels lead to key nodes reaching capacity. Dominant traffic movements can still be facilitated by these designs.	North Ebbw Vale	Slight beneficial
Contribution to the wider regeneration of the area.		Possible limited benefits from some improvements in access. However these may diminish if traffic levels increase and nodes reach capacity.	North Ebbw Vale	Slight beneficial
Risks				
Implementation Risks e.g. local ground conditions, funding, stakeholder buy-in etc		Benefits provided by options will be for a limited period only before traffic levels increase and the benefits are lost. Further cost in the future when additional works may need to be undertaken to create more capacity. Gaining secondary funding to undertake the additional work may be difficult.		

NOTES:

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For Example

Large Beneficial
Moderate Beneficial
Slight beneficial
Neutral
Slight adverse
Moderate Adverse
Severe Adverse

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